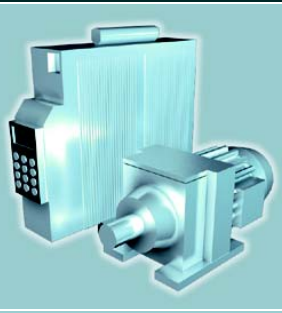
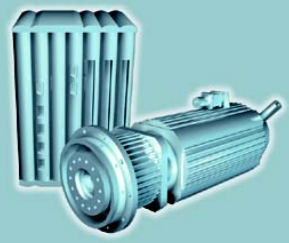
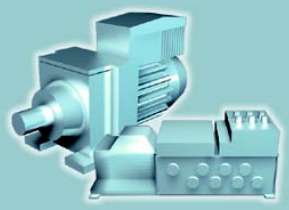
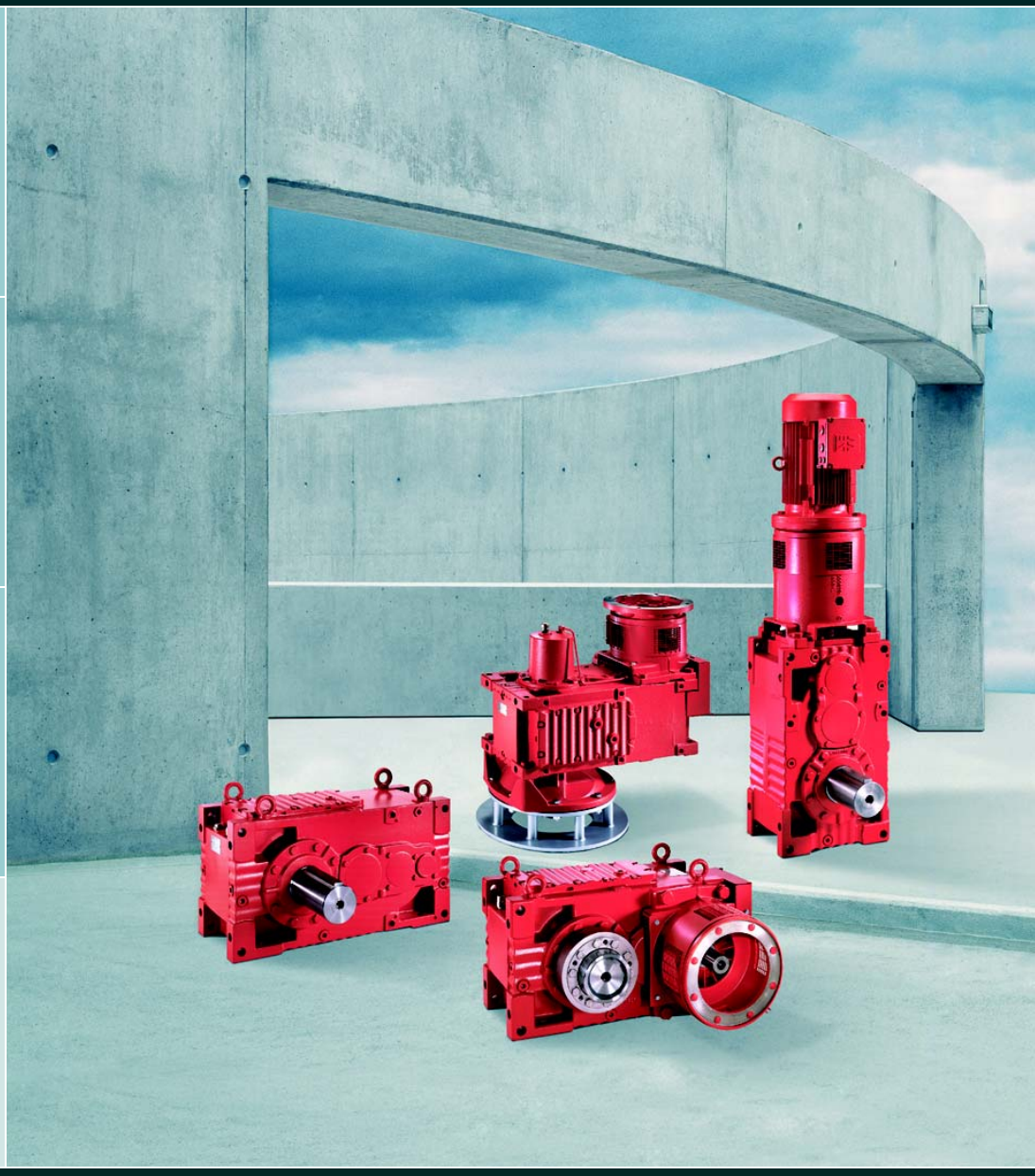
SEW EURODRIVE











Industrial Gear Units of the MC... Series

D3.B00

Edition 01/2009

11601922 / US

Catalog



SEW
EURODRIVE

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1 Introduction

1.1 The SEW-EURODRIVE Group of Companies

Global presence

Driving the world with innovative drive solutions for all industries and for every application. Products and systems from SEW-EURODRIVE are used in a multitude of applications - worldwide. SEW-EURODRIVE products are found in a variety of industries, such as automotive, building materials, food and beverage as well as metal-processing. The decision to use drive technology made by SEW-EURODRIVE stands for reliability for both functionality and investment.

Not only are we represented in all important branches of industry today – we are found all over the world: with 12 manufacturing plants, 64 assembly plants in 46 countries and our comprehensive range of services, which we consider an integrative service that continues our commitment to outstanding quality.

Always the right drive

The SEW-EURODRIVE modular concept offers millions of combinations. This wide selection enables you to choose the correct drive for all applications, each based on the required speed and torque range, space available and the ambient conditions. Gear units and gearmotors offering a unique and finely tuned performance range and the best economic prerequisites to face your drive challenges.

Our electronic components – MOVITRAC® frequency inverters, MOVIDRIVE® drive inverters and MOVIAXIS® multi-axis servo inverters – enhance the gearmotors, forming a combination that blends perfectly with the existing SEW-EURODRIVE systems program. As is the case with the mechanical systems, development, production and assembly is carried out completely by SEW-EURODRIVE. In combination with our drive electronics, these drives will provide the utmost in flexibility.

Products of the servo drive system, such as low backlash servo gear units, compact servomotors or MOVIAXIS® multi-axis servo drives provide precision and dynamics. From single-axis or multi-axis applications all the way to synchronized process sequences, servo drive systems by SEW-EURODRIVE offer a flexible and customized implementation of your application.

For economical, decentralized installations, SEW-EURODRIVE offers components from its decentralized drive system, such as MOVIMOT®, the gearmotor with integrated frequency inverter or MOVI-SWITCH®, the gearmotor with integrated switching and protection function. SEW-EURODRIVE has developed hybrid cables to provide cost-effective functional solutions, independent of the philosophy behind or the size of the system. The latest developments from SEW-EURODRIVE: MOVITRANS® – system components for contactless energy transfer, MOVIPRO® – the decentralized drive control and MOVIFIT® – the new decentralized intelligence.

Power, quality and sturdy design combined in one standard product: with SEW-EURODRIVE, high-torque industrial gear units achieve large loads. The modular concept once again provides optimum adaptation of industrial gear units to meet a wide range of the most varying applications.

Your ideal partner

Its global presence, extensive product range and broad spectrum of services make SEW-EURODRIVE the ideal partner for the machinery and plant construction industry when it comes to providing drive systems for demanding applications in all applications and branches of industry.

1.2 Products and systems from SEW-EURODRIVE

The products and systems from SEW-EURODRIVE are divided into four product groups. These four product groups are:

1. Gearmotors and frequency inverters
2. Servo drive systems
3. Decentralized drive systems
4. Industrial gear units

Products and systems used in several group applications are listed in a separate group "Products and systems covering several product groups." Consult the following tables to locate the products and systems included in the respective product group:

1. Gearmotors and frequency inverters		
Gear units / gearmotors	**Motors**	**Frequency inverters**
• Helical gear units / helical gearmotors • Parallel shaft helical gear units / parallel shaft helical gearmotors • Helical-bevel gear units / helical-bevel gearmotors • Helical-worm gear units / helical-worm gearmotors • Spiroplan® right-angle gearmotors • Drives for electrified monorail systems • Multi-speed gearmotors • Variable speed gear units / variable speed gearmotors • Aseptic gearmotors	• Asynchronous AC motors / AC brakemotors • Multi-speed AC motors / AC brakemotors • Energy efficient motors	• MOVITRAC® frequency inverters • MOVIDRIVE® inverters • Control, technology and communication options for inverters

2. Servo drive systems		
Servo gear units/servo gearmotors	**Servomotors**	**Servo drive inverters/servo inverters**
• Low backlash planetary servo gear units/planetary gearmotors • Low backlash helical-bevel servo gear units/helical-bevel gearmotors	• Synchronous servomotors/servo brakemotors	• MOVIDRIVE® servo inverters • MOVIAXIS® multi-axis servo inverter • Control, technology and communication options for servo drive inverters and servo inverters

3. Decentralized drive systems		
Decentralized drives	**Communication and installation**	**Contactless energy transfer**
• MOVIMOT® gearmotors with integrated frequency inverter • MOVIMOT® motors / brakemotors with integrated frequency inverter • MOVI-SWITCH® gearmotors with integrated switching and protection function • MOVI-SWITCH® motors / brakemotors with integrated switching and protection function	• Fieldbus interfaces • Field distributors for decentralized installation • MOVIFIT® product range – MOVIFIT® MC for controlling MOVIMOT® drives – MOVIFIT® SC with integrated electronic motor switch – MOVIFIT® FC with integrated frequency inverter	• MOVITRANS® system – Stationary components for energy supply – Mobile components for energy consumption – Line cables and installation material

4. Industrial gear units
• MC series: helical and bevel-helical gear units (up to 575,300 lb-in) • M series: helical and bevel-helical gear units (up to 1,593,100 lb-in) • CN series: helical and bevel-helical gear units (up to 5,310,400 lb-in) • X series: helical and bevel-helical gear units (up to 1,548,900 lb-in) • P series: planetary gear units (up to 3,982,800 lb-in) • Q series: planetary gear units (up to 10,620,900 lb-in)

Products and systems covering several product groups
• Operator terminals • MOVI-PLC® drive-based control system

In addition to its products and systems, SEW-EURODRIVE offers a comprehensive range of services. These include:

- Technical consulting
- Application software
- Seminars and training
- Extensive technical documentation
- International customer service

Visit our home page:

→ **www.seweurodrive.com**

The website offers a great deal of information and services.

1.3 Additional documentation

Contents of this publication

This catalog/price catalog contains the following information:

- Unit designations
- Product descriptions
- Project planning information
- Technical data
- Technical data of options and additional features
- Important information on the dimensions sheets
- Dimension sheets

Additional documentation

In addition to this "Industrial Gear Units of the MC... Series catalog, the following production selection catalogs are available from SEW-EURODRIVE.

- Gearmotors (helical, parallel shaft helical, helical-bevel and helical-worm designs as well as Spiroplan®)
- MOVIMOT® gearmotors
- Gear units (helical, parallel shaft helical, helical-bevel and helical-worm designs)

The catalogs offer the following information:

- Product descriptions
- Unit designations
- Project planning instructions for drives and gear units
- Visual representation of mounting positions
- Explanation on the order information
- Design and operating notes
- Important information on tables and dimension sheets
- Visual representation of the different types
- Overview of all permitted combinations
- Selection tables for gearmotors
- Gearmotor dimension sheets
- Technical data

Please note that the complete range of technical documentation is available on our home page:

www.seweurodrive.com

1.4 Product names and trademarks

The brands and product names in this catalog are trademarks or registered trademarks of the titleholders.

1.5 Copyright notice

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Any reproduction, modification, distribution or unintended use, in whole or in part, is prohibited.

2 Product Description and Overview of Types

2.1 General information

Nominal power, torques and input speeds

The nominal power and torques mentioned in the catalog depend on the input speed and are valid for a service factor of F_S = 1.0 and a constant, unidirectional load. If the direction of rotation changes once per minute under full load, then only 70 % of these values apply.

The overview shows nominal powers and torques for input speeds of 1800 rpm, 1500 rpm, 1200 rpm and 1000 rpm. The nominal torque is also valid for input speeds 3 % lower than synchronous speeds. For input speeds exceeding 1800 rpm, contact SEW-EURODRIVE.

Thermal rating

The thermal rating needs to be checked for every gear unit. The relevant values are listed in the selection tables.

Noise level

The noise level of all MC gear units is below the permitted values defined in VDI guideline 2159 for gear units.

Coating

The gear units are painted with "SEW blue" as standard. Special coatings are available on request.

Surface and corrosion protection

If required, all gear units can be supplied with a special surface and corrosion protection for applications in extremely humid and/or chemically aggressive environments.

Weights

Note that all weights shown in the catalog exclude the oil fill for the gear units. You will find recommended values for oil quantities depending on mounting position and gear unit design in the dimension drawings. The exact gear unit weight is given in the order-specific dimension drawing.

Low output speeds

Very low output speeds (ratios above 112:1) can be achieved by combining the MC gear unit with a SEW-EURODRIVE gear unit or gearmotor of the R…, F…, K… or S… type.

It may be necessary to limit the motor power to match the maximum permitted output torque of the MC unit.

Auxiliary drives

SEW-EURODRIVE can supply MC gear units with an auxiliary drive. This is the standard configuration for 3-stage bevel-helical gear units (MC3R…). Also refer to the separate catalog "Industrial Gear Units: Bucket Elevator Drives of the MC… and M…Series" no. 11214511.

Supply of cooling air

For gear units with cooling fans on the input shaft, it is important that there is enough space in axial and radial direction for a sufficient supply of cooling air. Also refer to the "Cooling fan" section.

International markets

SEW-EURODRIVE is a member of AGMA.

Steel frame

SEW-EURODRIVE supplies preassembled drive packages on a steel frame (swing base or base frame → chapter 6.6) for MC industrial gear units with horizontal LSS (MC2PL.., MC3PL.., MC2RL.., MC3RL..).

Sealing system

Industrial gear units can be supplied with different seal arrangements for HSS and LSS (→ chapter 6.4)

- Lip seal (basic solution)
- Double lip seal with grease nipple
- Radial labyrinth seal with grease nipple

Lubrication

The lubrication types "splash lubrication" or "bath lubrication" are used for the MC series depending on the gear unit design and mounting position (→ chapter 7). Pressure lubrication can be used as option for these gear units.

Motor adapter

The motor adapters are designed for mounting IEC or NEMA motors (→ chapter 6.5).

Modular accessories

Several accessories are available for industrial gear units. See chapters 6 and 7 for a description.

- Mounting flange (→ chapter 6.1):

  Mounting flange for hollow or solid LSS.
- Cooling fan (→ chapter 7.3):

  A cooling fan is used when the thermal rating of the gear unit is insufficient. The fan is bi-directional and can be installed in the field.
- Shrink disc:

  A shrink disc is available for all sizes of MC hollow shaft gear units.
- Motor adapter with fan:

  For mounting IEC (B5) or NEMA C-face motors with integrated cooling fan.
- Backstop (→ chapter 6.3):

  Gear unit with integrated backstop to prevent undesirable reverse rotation.
- Motor bracket (→ chapter 6.7):

  Motor mounting platform for belt driven input.
- V-belt drive (→ chapter 6.7):

  Belt driven input. Includes motor bracket, pulleys, V-belt and belt guard.
- High speed shaft (HSS) elastic coupling:

  Preselected HSS couplings are available for mounting to the input motor. Coupling selection depends on motor power and gear unit size.

- Low speed shaft (LSS) gear coupling:

  Preselected LSS gear coupling based on the nominal gear unit torque and output shaft diameter. Couplings are available for vertical and horizontal applications.
- HSS and LSS coupling guard (→ chapter 6.8):

  Coupling guard for HSS and LSS. Directly attached to the gear unit.
- Torque arm (→ chapter 6.2):

  Torque arm for shaft mounted gear units. The torque arm can be mounted to absorb tension or compression.
- Shaft end pump (→ chapter 7.5):

  (Only available for gear unit sizes 04 – 09) The shaft end pump is the preferred solution when pressure lubrication is required. All piping is external to the gear unit.
- Pressure lubrication with cooler (→ chapter 7.6, 7.8, 7.9):

  A pressure lubrication system with cooler is used when the thermal rating of the basic gear unit is not sufficient. A cooler is used in operating environments where a fan cannot be used or is not sufficient.
- Oil drain valve:

  A ball valve is mounted to the drain plug to allow for easily attaching a drain pipe to the valve when changing the gear unit oil.
- Oil heater (→ chapter 7.11):

  (Only available for gear unit sizes 04 – 09) The oil heating system ensures that the oil is in sufficient liquid condition when starting up the gear unit in cold environments.
- Sealing systems (→ chapter 6.4):

  Optional oil sealing methods are available to protect the gear unit from harsh contaminants in the operating environment.
- Temperature sensor PT100 (→ chapter 7.14):

  The PT100 temperature sensor can be used for measuring the oil bath temperature in the gear unit.
- SPM adapter (shock pulse adapter) (→ chapter 7.15):

  Adapters are installed on the gear unit housing for monitoring the vibration at various points on the gear unit.

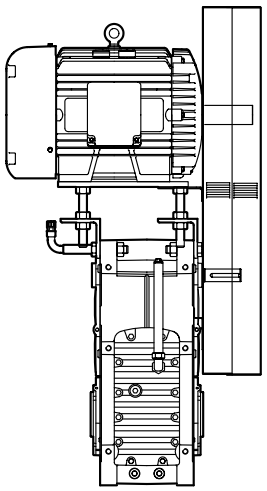
Drive packages

SEW-EURODRIVE can supply ready assembled drive packages consisting of different components, such as gear unit, motor, input and output coupling, brake, etc.

Please consult SEW-EURODRIVE.

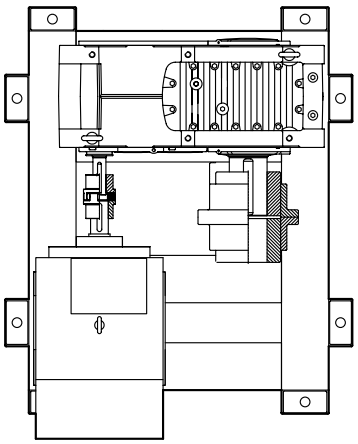
Examples

Complete **V-belt drive packages** including motor bracket, AC motor, belts, sheaves, and guard.



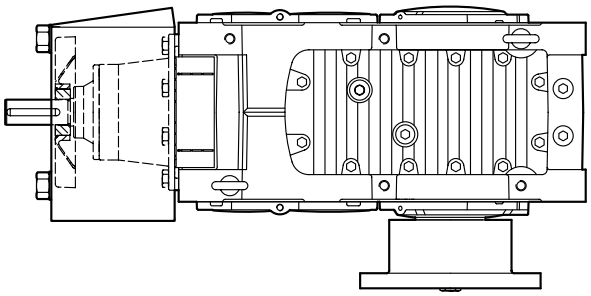
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Base plates and couplings



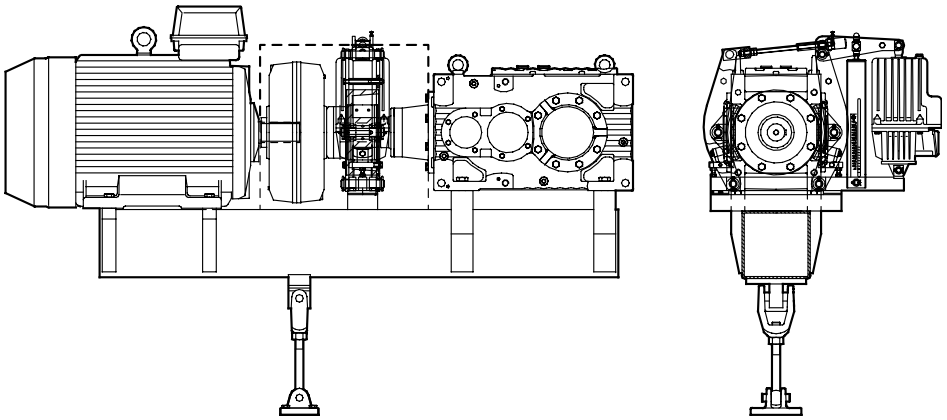
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Rigid flange coupling hubs as an alternative to shaft mounted gear units.



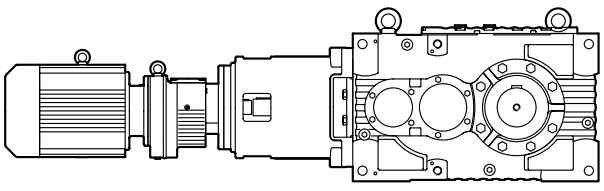
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Complete drive packages including **swing base, fluid coupling, brake, and torque arm.**



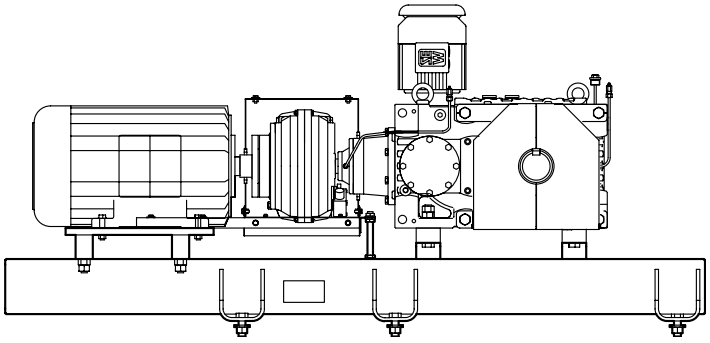
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An **SEW gearmotor** mounted to the input end of the MC.. gear unit allows for a wide range of ratios and shaft configurations.



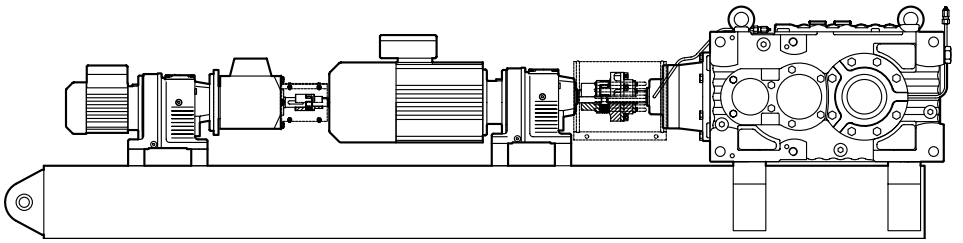
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Complete **bucket elevator drive packages** including base frame or swing base, fluid coupling, LSS coupling, auxiliary drive for full or empty buckets, backstop, overrunning clutch, fluid coupling and LSS coupling protection cover.



55334AXX

Complete **portal scraper reclaimer travel drive** for wide speed ranges of over 1:3000 including swing base with integrated torque arm with rubber bushing, main drive for high speed, auxiliary drive for low speed connected via a brake-clutch element and corresponding protection covers.



54778AXX

As an alternative, SEW-EURODRIVE can also provide a proven solution for this application using a single main drive gear unit and motor in conjunction with a MOVIDRIVE® frequency inverter with integrated IPOS$^{plus®}$ positioning and sequence control.

2.2 Basic gear unit versions

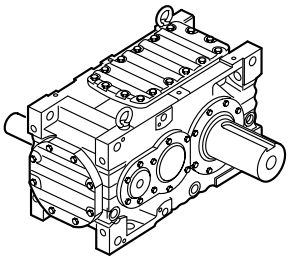
MC.. units are available as

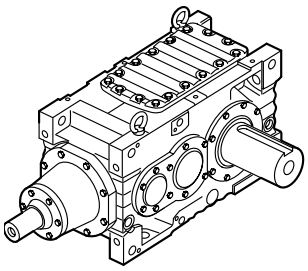
- parallel shaft helical gear units (MC.**P**..) and
- right-angle bevel-helical gear units (MC.**R**..)

in 3 gear unit designs

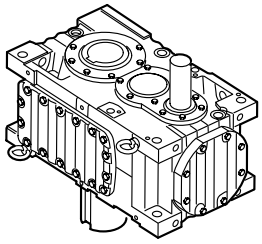
- Horizontal LSS (MC..**L**…) with "horizontally" oriented housing and horizontal LSS
- Vertical LSS (MC..**V**…) with "vertical" output shaft
- Upright mounted (MC..**E**…) with "upright" housing

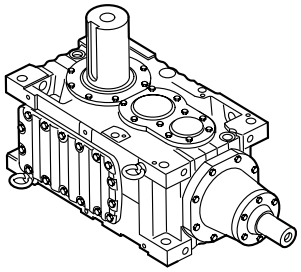
Horizontal LSS **(L)**



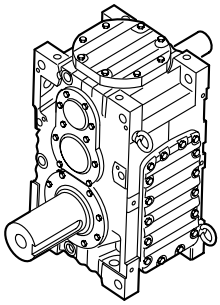


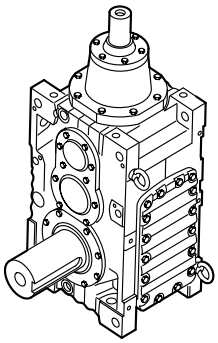
Vertical LSS **(V)**





Upright design **(E)**





with the following mounting options:

- Foot mounted (MC…**F**)
- Flange mounted (no designation)
- Shaft mounted with torque arm (MC…**T**)

Basic output shaft (LSS) versions

- Solid shaft with keyway (MC…**S**)
- Hollow shaft with keyway (MC…**H**)
- Hollow shaft for shrink disc connection (MC…**H**)

Other versions, such as

- hollow shaft with spline according DIN 5480
- shortened solid shaft without keyway for shrink fitted flange coupling hub
- through going shaft

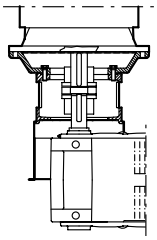
are available on request.

The following basic variations are possible for motor connection:

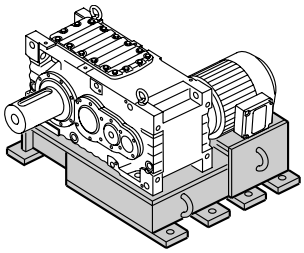
- Motor adapter with elastic coupling
- Motor scoop
- Motor bracket with V-belt drive
- For horizontal mounting position: steel construction (base frame or swing base)

Motor connection

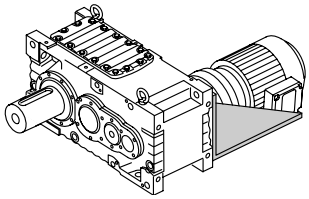
Motor adapter



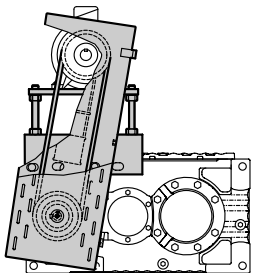
Base frame or swing base



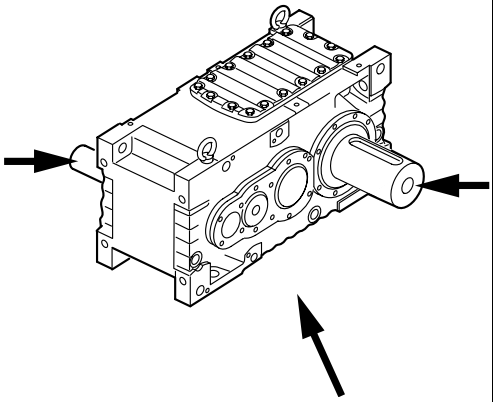
Motor scoop



Motor bracket with V-belt drive

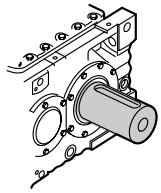


MC.P...

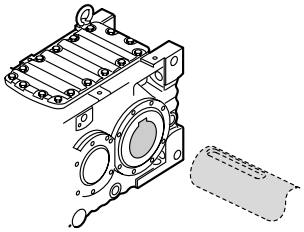


Output shaft

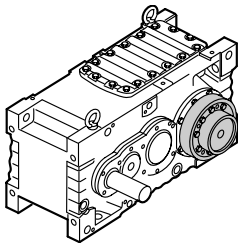
Solid shaft with keyway



Hollow shaft with keyway

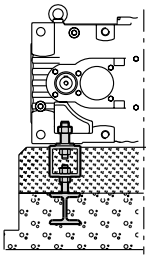


Hollow shaft for shrink disc

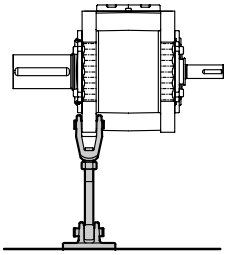


Mounting options

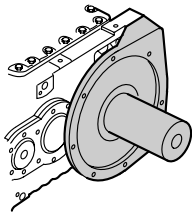
Foot mounted



Shaft mounted with torque arm

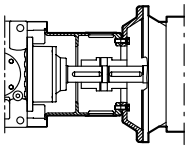


Flange mounted

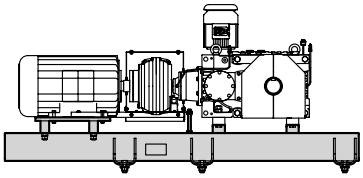


Motor connection

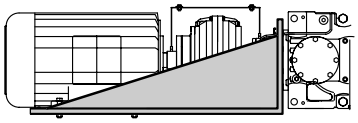
Motor adapter



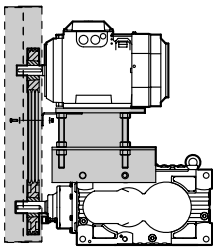
Base frame or swing base



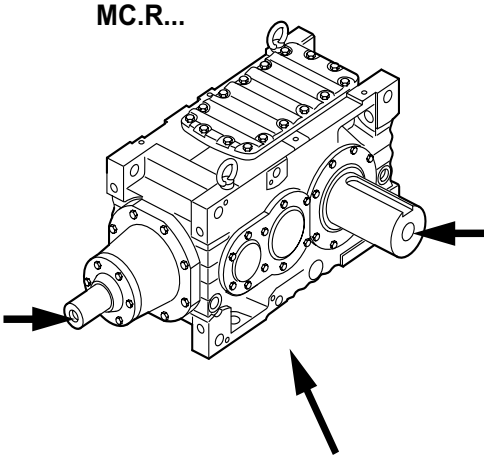
Motor scoop



Motor bracket with V-belt drive

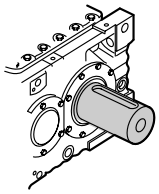


MC.R...

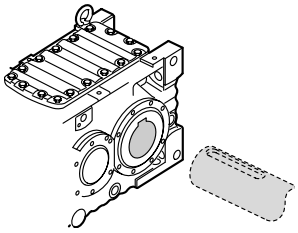


Output shaft

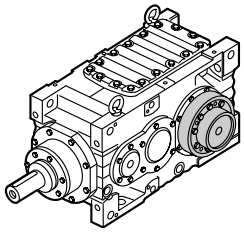
Solid shaft with keyway



Hollow shaft with keyway

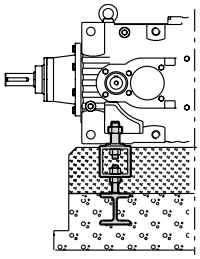


Hollow shaft for shrink disc

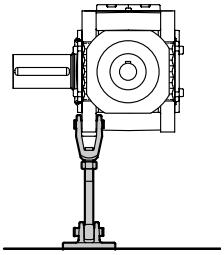


Mounting options

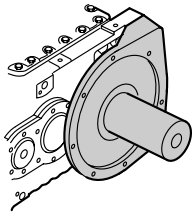
Foot mounted



Shaft mounted with torque arm

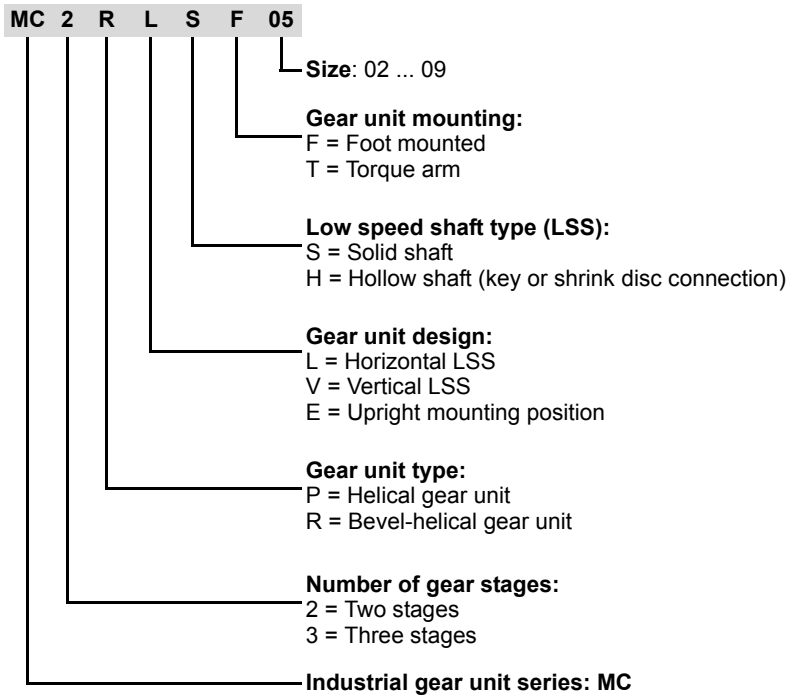


Flange mounted

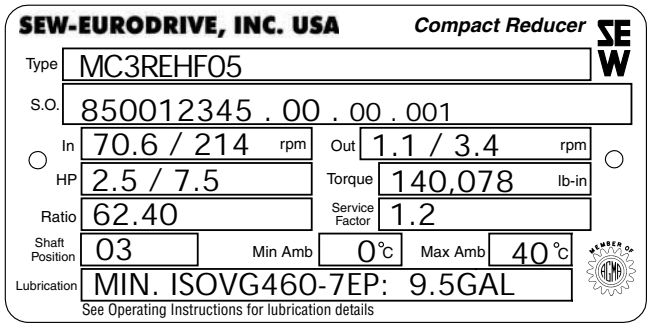


2.3 Unit designation for gear units

Sample unit designation



Example: Nameplate of the MC.. series industrial gear unit, SEW-EURODRIVE



Type	= Complete description
S.O.	= Shop order number
In	= Input speed
Out	= Output speed
HP	= Input horsepower
Torque	= Output torque
Ratio	= Gear unit's ratio
Service Factor	= Unit's service factor
Shaft Position	= Shaft orientation of gear unit
Min Amb	= Minimum ambient temperature (related to lubricant)
Max Amb	= Maximum ambient temperature (related to lubricant)
Lubrication	= Recommended lubricant and quantity

2.4 Corrosion and surface protection

General information

SEW-EURODRIVE offers various optional protective measures for operating motors and gear units under special ambient conditions.

The protective measures are made up of two groups:

- Corrosion protection KS for motors (standard)
- Surface protection OS for motors and gear units (optional)

For motors, optimum protection is offered by a combination of corrosion protection KS and surface protection OS.

In addition, special optional protective measures for the gear unit output shafts are also possible.

Corrosion protection KS

Corrosion protection KS for motors comprises the following measures:

- All external retaining screws have an anti-corrosion coating.
- The nameplates are made from polyester film.
- The flange contact surfaces and shaft ends are treated with a temporary anti-corrosion agent.
- Motors are always treated with anti-corrosion paint on the inside.
- The brakes are always protected against corrosion

NOCO-FLUID®

As standard, SEW-EURODRIVE supplies NOCO® fluid corrosion protection and lubricant with every hollow shaft gear unit. Use NOCO® fluid when installing hollow shaft gear units. This will reduce any possible fretting corrosion and facilitate possible removal later on.

Furthermore, NOCO® fluid is also suitable for protecting machined metal surfaces that do not have corrosion protection. These include parts of shaft ends or flanges. You can also order larger quantities of NOCO® fluid from SEW-EURODRIVE.

NOCO® fluid is food grade according to USDA-H1. You can tell that NOCO® fluid is a food grade oil by the USDA-H1 identification label on its packaging.

Special protective measures

Gearmotor output shafts can be treated with special optional protective measures for operation subject to severe environmental pollution or in particularly demanding applications.

Action	Protection principle	Suitable for
Output shaft made of stainless steel	Surface protection through high-quality material	Particularly exacting applications in terms of exterior surface protection (if necessary, check resistance against the cleansing agents used)

Surface protection OS

In addition to the standard surface protection OS1, also available is exterior surface protection OS2, OS3 or OS4. .

Surface protection	Coating structure	Coating thickness [mils (µm)]	Suitable for	
			Exterior	Interior
Standard OS1	-Dip primer -Single-component primer -Single-component top coat	Minimum 3.0 to 4.0 (75 to 100)	Low environmental impact	
			Atmospheres with low levels of pollution.	Unheated buildings where condensation may occur (e.g., depots, sports halls).
OS2	-Dip primer -Two-component primer -Single-component top coat	Minimum 4.0 to 5.0 (100 to 125)	Medium environmental impact	
			Urban and industrial atmospheres, moderate sulfur dioxide pollution. Coastal areas with low salinity.	Production rooms with high humidity and some air pollution (e.g., laundries)
OS3	-Dip primer -Two-component primer -Two-component top coat	Minimum 5.0 to 6.0 (125 to 150)	High environmental impact	
			Industrial areas and coastal areas with moderate salinity.	Chemical plants, shipyards.
OS4	-Dip primer -Two-component primer -Two-component top coat -Two-component clear coat	Minimum 7.5 to 9.0 (190 to 230)	Very high environmental impact	
			Industrial areas with high humidity and aggressive atmosphere.	Buildings or areas with almost permant condensation and with high pollution (e.g., food processing, breweries, dairies).

Guards and shields

Powder coating, epoxy-based coat paint (EP) is used for guards and shields.

Layer thickness 65 µm

Color shade: TM 1310 PK, warning in yellow color

Standard protection / interior

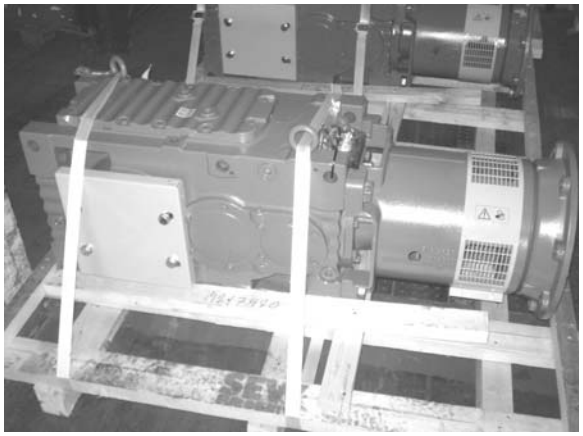
- Gear units undergo a test run with protection oil. The protection oil is drained by SEW-EURODRIVE before dispatch. The remaining layer of protection oil on the inner parts serves as basic protection.

Standard protection / exterior

- Oil seals and seal surfaces are protected by suitable grease.
- Unpainted surfaces (including spare parts) are covered with a protective coating. Before other equipment is mounted to such surfaces, the protective coating must be removed using a solvent.
- Small spare parts and loose pieces, such as screws, nuts, etc., are supplied in corrosion protected plastic bags.
- The breather plug (position → chapter "Mounting Positions") is already installed.

Standard protection / packing

Standard packing is used: The gear unit is delivered on a palette without cover



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- **If the gear unit is stored longer than 6 months, it is recommended to regularly check the protective coating of unpainted areas as well as the paint coat. Areas with removed protection coating or paint have to be repainted, if necessary.**
- **The LSS must be rotated at least one turn in such a way that the position of the roller elements in the bearings of LSS and HSS changes. This procedure has to be repeated every 6 months until startup.**

Long-term protection / interior

The following procedure is applied in addition to the "standard protection":

- A protective oil is applied to the gear unit internals during testing
- The breather plug is replaced with a screw plug (before startup, the screw plug must be replaced again by the breather plug, which is attached to the gear unit separately)

Long-term protection / exterior

- Oil seals and seal surfaces are protected through suitable grease
- Unpainted surfaces (including spare parts) are covered with a protective coating. Before other equipment is mounted to such surfaces, the protective coating must be removed using a solvent.
- Small spare parts and loose pieces, such as screws, nuts, etc., are supplied in corrosion protected plastic bags.
- The breather plug (Position → chapter "Mounting Positions") is already installed.



- **If the gear unit is stored for longer than 6 months, it is recommended to regularly check the protective coating of unpainted areas as well as the paint coat. Areas with removed protection coating or paint have to be repainted, if necessary.**
- **The LSS must be rotated at least one turn in such a way that the position of the roller elements in the bearings of LSS and HSS changes. This procedure must be repeated every 6 months until startup.**
- **The interior long-term protection has to be repeated every 24 / 36 months (according to the table "Storage and transport conditions") until startup**.

Alternative packing

Optionally, the gear unit can be supplied in a wooden box with standard gear unit protection.

3 Mounting Positions

The following features clearly define the mounting position and corresponding design of MC units:

- Mounting surface (F1...F6) → chapter 3.1
- Housing orientation (M1...M6) → chapter 3.2

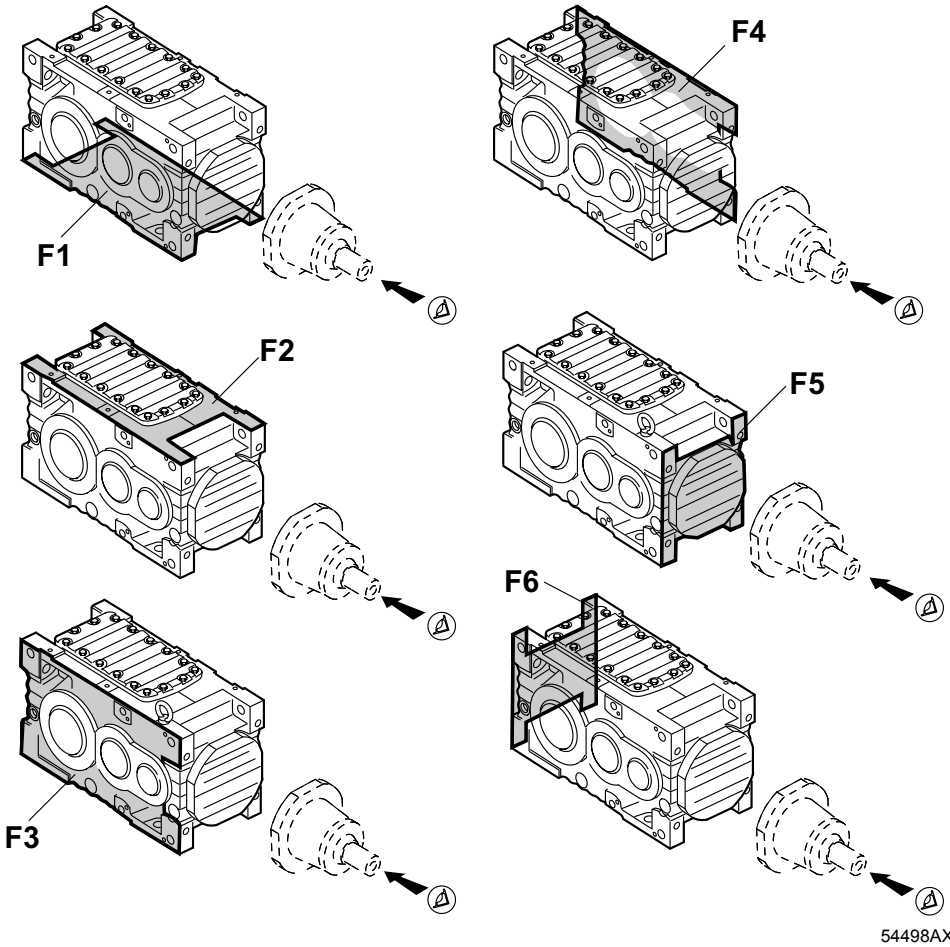
  In addition, the shaft position (0...4) has to be defined → chapter 3.5.

  The gear designs "horizontal LSS (L)", "vertical LSS (V)", "upright mounting (E)" are associated with the housing orientation

3.1 Mounting surface

Definition The mounting surface is defined as the surface(s) of the foot or flange mounted gear unit to which the customer's machine is mounted.

Designations Six different mountings surfaces have been defined (designations "F1" to "F6"):



3.2 Housing orientation M1...M6

The housing orientation is defined as the position of the housing in space and is defined using the designations M1....M6.

Each housing orientation corresponds to a certain

- gear unit design (L, V, E)
- standard mounting surface (F1...F6)

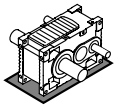
Unless specified otherwise, the **standard correlation** of

- gear unit design and
- housing orientation and
- mounting surface

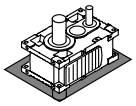
is as follows (foot mounted gear units):

Standard correlation of gear unit design and housing orientation

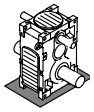
MC..**PL**: M1, F1



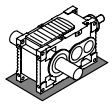
MC..**PV**: M5, F3



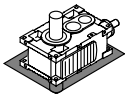
MC..**PE**: M4, F6



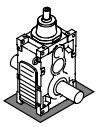
MC..**RL**: M1, F1



MC..**RV**: M5, F3



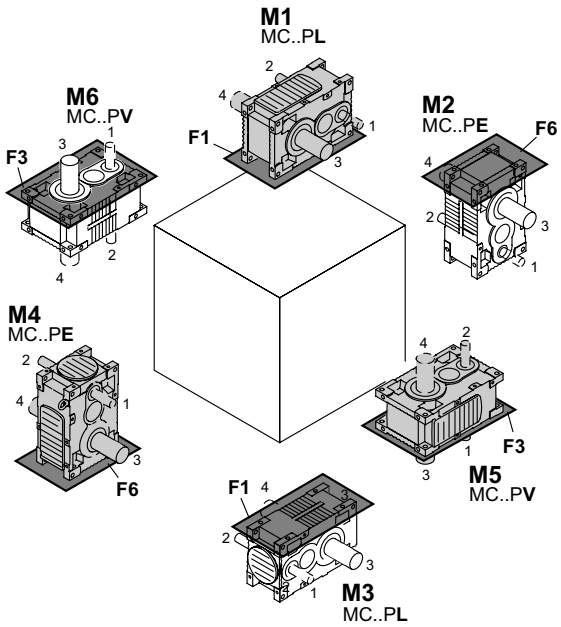
MC..**RE**: M4, F6

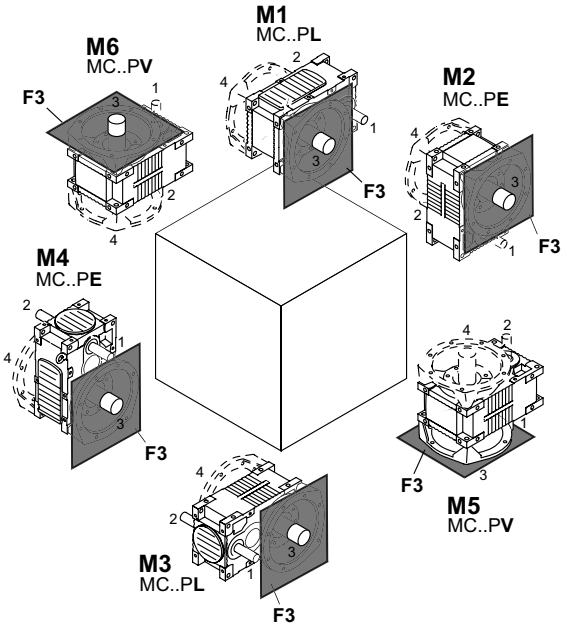


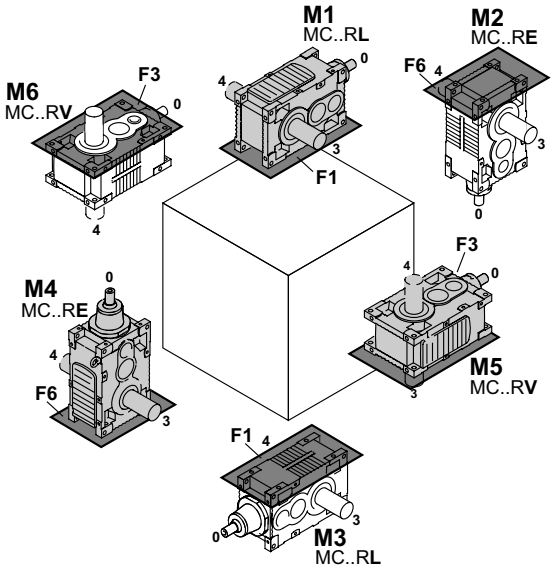
For gear units with mounting flange on the LSS, the standard position of the flange depends on the shaft position of the LSS unless specified otherwise:

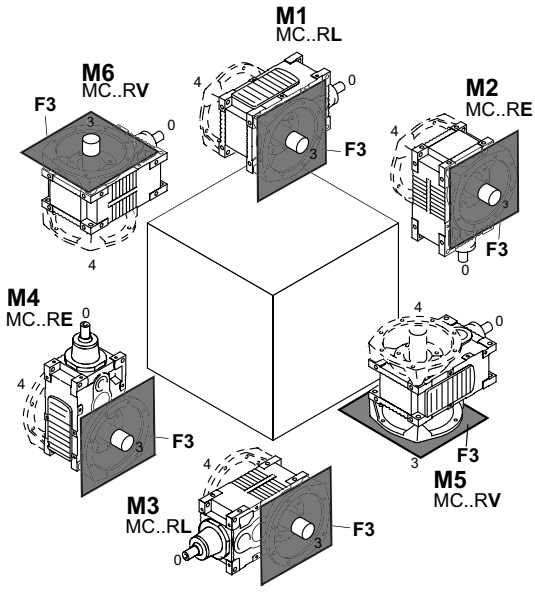
- Shaft position 3 → LSS mounting flange F3
- Shaft position 4 → LSS mounting flange F4

Housing orientation and standard mounting surface





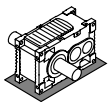
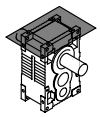
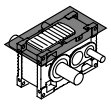
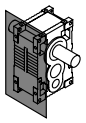
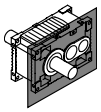
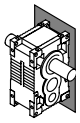
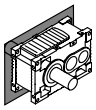
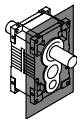
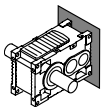
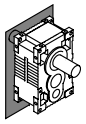
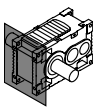
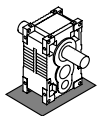




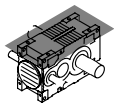
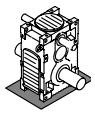
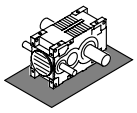
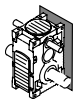
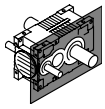
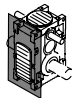
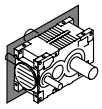
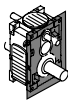
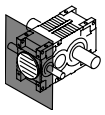
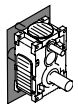
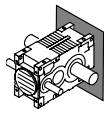
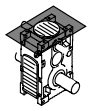
- The units marked in gray are standard design.
- Other mounting surfaces are possible in conjunction with a certain housing orientation. The following tables provide an overview of foot and shaft mounted gear units.

Housing orientation and mounting surface possibilities

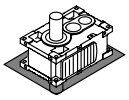
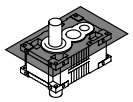
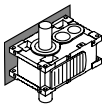
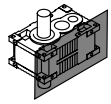
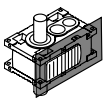
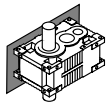
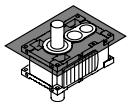
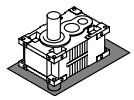
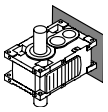
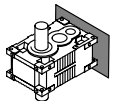
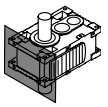
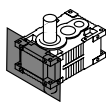
Helical gear units MC...P

Housing orientation	Mounting surface	Gear unit design		Housing orientation	Mounting surface	Gear unit design	
M1	**F1**	**MC..PL**		M2	F6	MC..PE	
M1	F2	MC..PL		M2	F1	MC..PE	
M1	F3	MC..PL		M2	F2	MC..PE	
M1	F4	MC..PL		M2	F3	MC..PE	
M1	F5	MC..PL		M2	F4	MC..PE	
M1	F6	MC..PL		M2	F5	MC..PE	

The standard assignment of housing orientation to mounting surface is printed in bold. Delivery times may be longer for variations other than the standard assignment.

Housing orientation	Mounting surface	Gear unit design		Housing orientation	Mounting surface	Gear unit design	
M3	F1	MC..PL		**M4**	**F6**	**MC..PE**	
M3	F2	MC..PL		M4	F1	MC..PE	
M3	F3	MC..PL		M4	F2	MC..PE	
M3	F4	MC..PL		M4	F3	MC..PE	
M3	F5	MC..PL		M4	F4	MC..PE	
M3	F6	MC..PL		M4	F5	MC..PE	

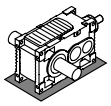
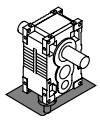
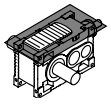
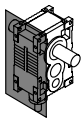
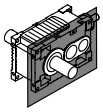
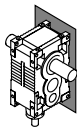
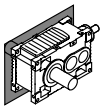
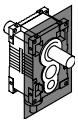
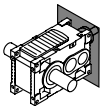
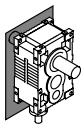
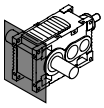
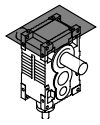
The standard assignment of housing orientation to mounting surface is printed in bold.
Delivery times may be longer for variations other than the standard assignment.

Housing orientation	Mounting surface	Gear unit design		Housing orientation	Mounting surface	Gear unit design	
M5	**F3**	**MC..PV**		M6	F3	MC..PV	
M5	F1	MC..PV		M6	F1	MC..PV	
M5	F2	MC..PV		M6	F2	MC..PV	
M5	F4	MC..PV		M6	F4	MC..PV	
M5	F5	MC..PV		M6	F5	MC..PV	
M5	F6	MC..PV		M6	F6	MC..PV	

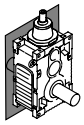
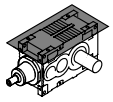
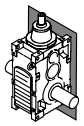
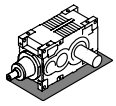
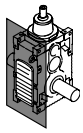
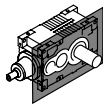
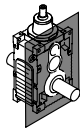
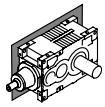
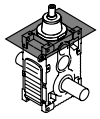
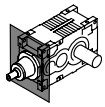
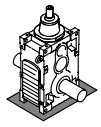
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Delivery times may be longer for variations other than the standard assignment.

Housing orientation and mounting surface possibilities

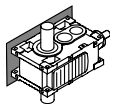
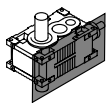
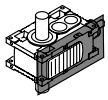
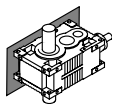
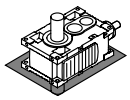
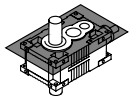
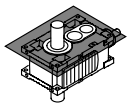
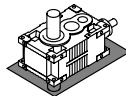
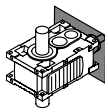
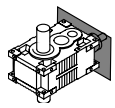
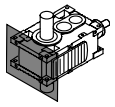
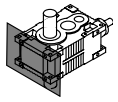
Helical gear units MC...R

Housing orientation	Mounting surface	Gear unit design		Housing orientation	Mounting surface	Gear unit design	
M1	**F1**	**MC..RL**		M2	F5	MC..RE	
M1	F2	MC..RL		M2	F1	MC..RE	
M1	F3	MC..RL		M2	F2	MC..RE	
M1	F4	MC..RL		M2	F3	MC..RE	
M1	F5	MC..RL		M2	F4	MC..RE	
M1	F6	MC..RL		M2	F6	MC..RE	

The standard assignment of housing orientation to mounting surface is printed in bold.
Delivery times may be longer for variations other than the standard assignment.

Housing orientation	Mounting surface	Gear unit design		Housing orientation	Mounting surface	Gear unit design	
M3	F6	MC..RL		**M4**	**F4**	**MC..RE**	
M3	F1	MC..RL		M4	F1	MC..RE	
M3	F2	MC..RL		M4	F2	MC..RE	
M3	F3	MC..RL		M4	F3	MC..RE	
M3	F4	MC..RL		M4	F5	MC..RE	
M3	F5	MC..RL		M4	F6	MC..RE	

The standard assignment of housing orientation to mounting surface is printed in bold.
Delivery times may be longer for variations other than the standard assignment.

Housing orientation	Mounting surface	Gear unit design		Housing orientation	Mounting surface	Gear unit design	
M5	F1	MC..RV		M6	F1	MC..RV	
M5	F2	MC..RV		M6	F2	MC..RV	
M5	**F3**	**MC..RV**		M6	F3	MC..RV	
M5	F4	MC..RV		**M6**	F4	**MC..RV**	
M5	F5	MC..RV		M6	F5	MC..RV	
M5	F6	MC..RV		M6	F6	MC..RV	

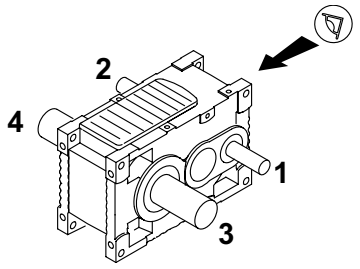
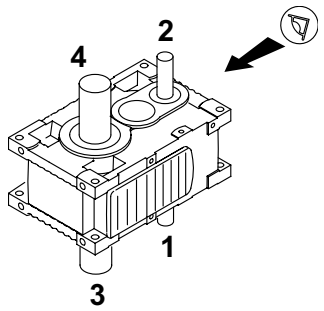
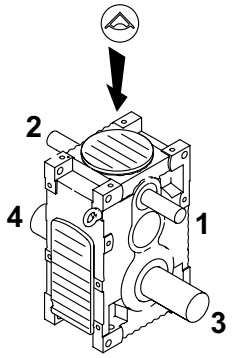
The standard assignment of housing orientation to mounting surface is printed in bold.
Delivery times may be longer for variations other than the standard assignment.

3.3 Shaft positions

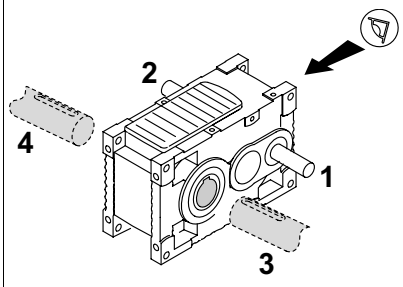
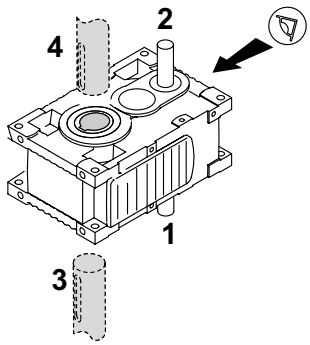
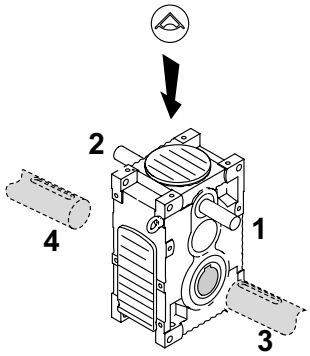
The shaft positions (0, 1, 2, 3, 4) and directions of rotation shown in the following figures apply to output shafts (LSS) of the types **solid shaft and hollow shaft**. For other shaft positions, contact SEW-EURODRIVE.

The following shaft positions (0, 1, 2, 3, 4) are possible:

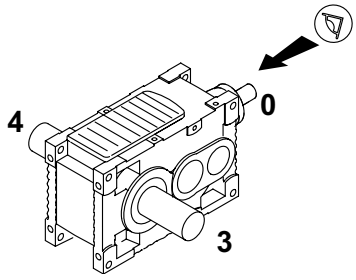
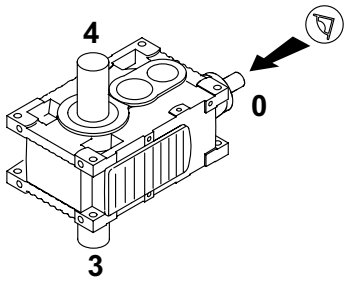
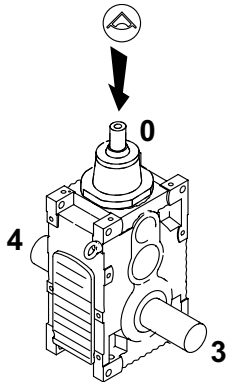
Shaft positions MC.P.S..

Housing orientation		
M1	**M5**	**M4**
Gear unit design		
Horizontal LSS (L)	**Vertical LSS (V)**	**Upright mounted (E)**
		

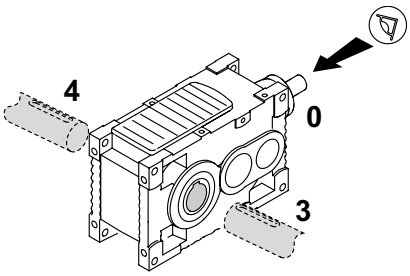
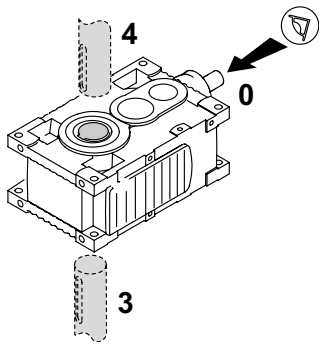
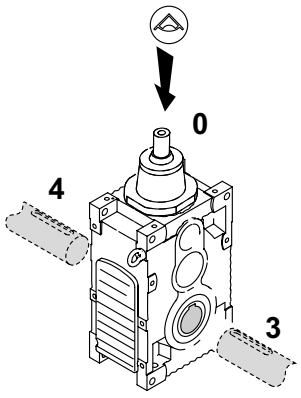
Shaft positions MC.P.H..

Housing orientation		
M1	**M5**	**M4**
Gear unit design		
Horizontal LSS (L)	**Vertical LSS (V)**	**Upright mounted (E)**
		

Shaft positions
MC.R.S..

Housing orientation		
M1	**M5**	**M4**
Gear unit design		
Horizontal LSS (L)	**Vertical LSS (V)**	**Upright mounted (E)**
		

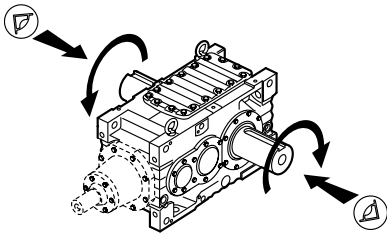
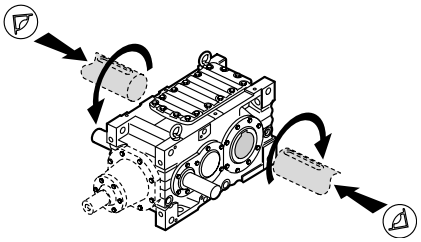
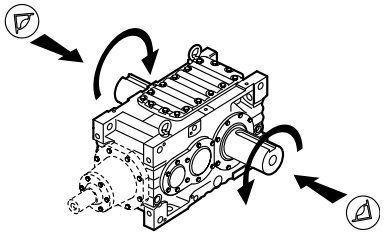
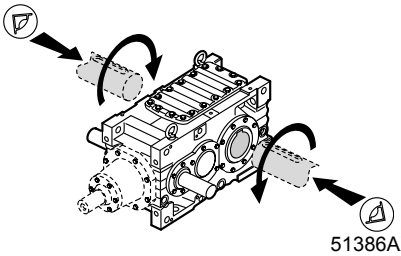
Shaft positions
MC.R.H..

Housing orientation		
M1	**M5**	**M4**
Gear unit design		
Horizontal LSS (L)	**Vertical LSS (V)**	**Upright mounted (E)**
		

3.4 Direction of rotation

Directions of rotation

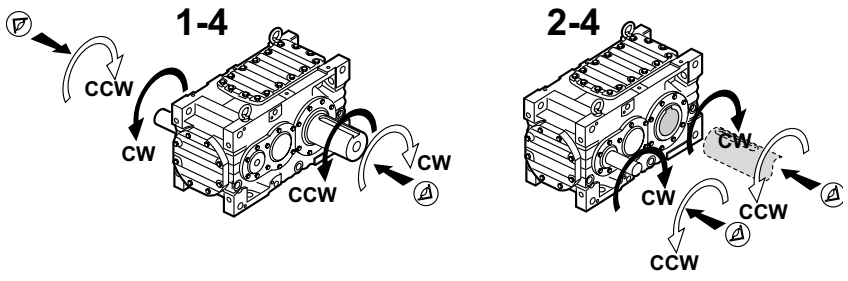
The directions of rotation of the outputs shaft (LSS) are defined as follows:

Direction of rotation	Gear unit version	
	MC.P.S.. MC.R.S..	MC.P.H.. MC.R.H..
Clockwise (CW)	 52036AXX	 51383AXX
Counter-clockwise (CCW)	 52037AXX	 51386AXX

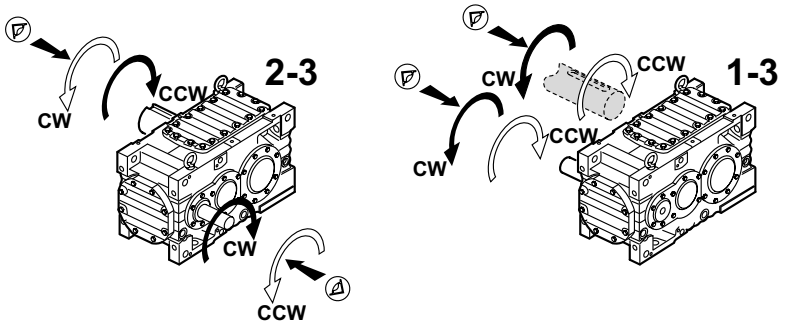
Shaft positions and corresponding directions of rotation of MC2P..

The following figures show shaft positions and corresponding directions of rotation for industrial gear units of the MC2P.. series.

Two stages



51391AXX

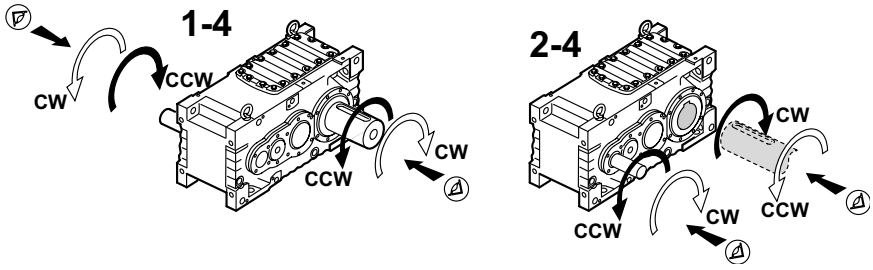


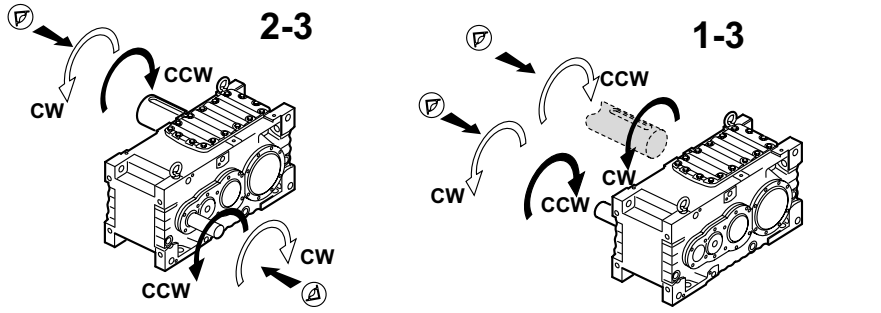
51392AXX

Shaft positions and corresponding directions of rotation of MC3P..

The following figures show shaft positions and corresponding directions of rotation for industrial gear units of the MC3P.. series.

Three stages

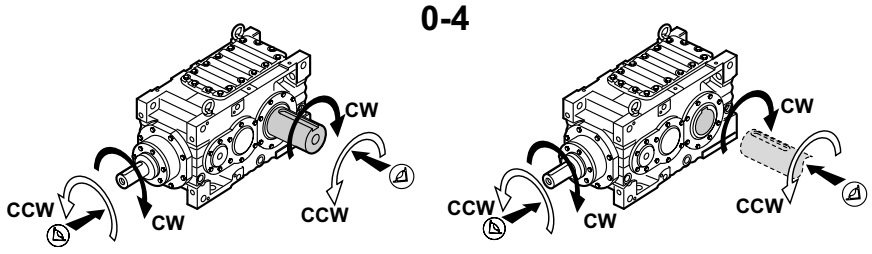


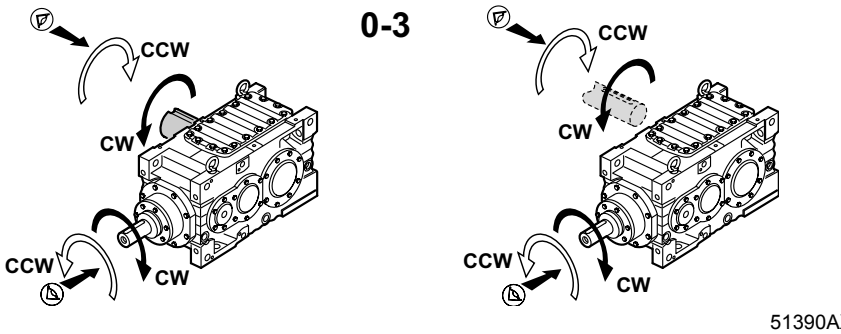


Shaft positions and corresponding directions of rotation of MC.R.. without backstop

The following figures show shaft positions and corresponding directions of rotation for industrial gear units of the MC.R.. two and three stage series without backstop.

Two and three stages

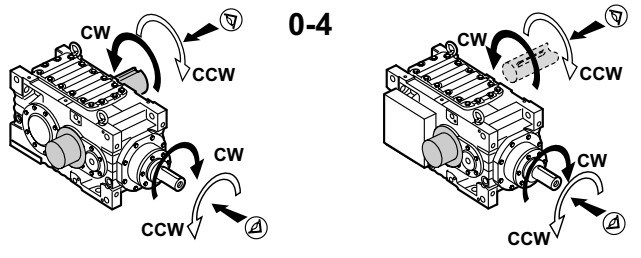




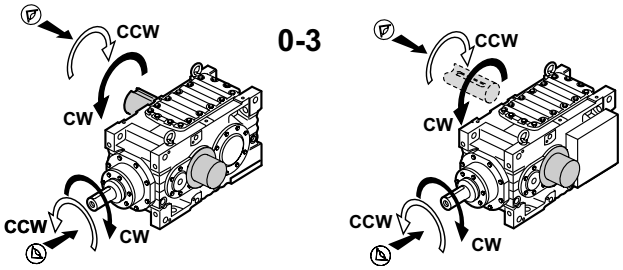
Shaft positions and corresponding directions of rotation of MC2RS.. / MC2RH.. keyway with backstop

The following figures show shaft positions and corresponding directions of rotation for two-stage gear units with backstop of the types MC.RS.. and MC.RH.. with keyway.

Two stages



55950AXX



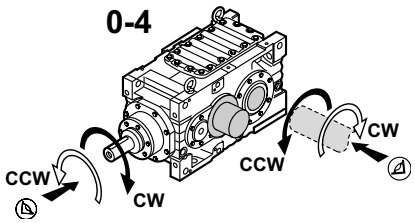
55951AXX

Only one direction of rotation is possible, which has to be defined in the order. The permitted direction of rotation is indicated on the housing.

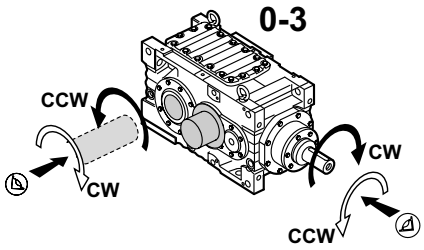
Shaft positions and corresponding directions of rotation of MC2RH.. /SD shrink disc units with backstop

Below figures show shaft positions and corresponding directions of rotation for two-stage gear units with backstop of the type MC.RS.. with shrink disc.

Two stages



55952AXX



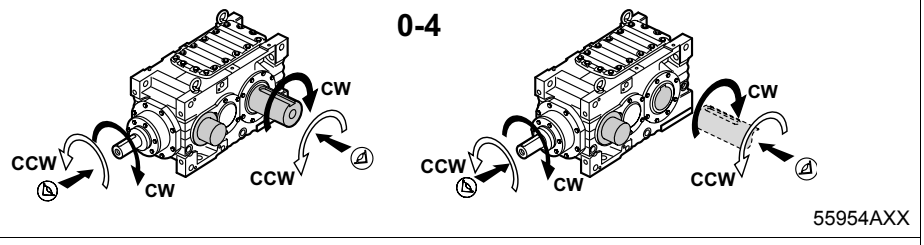
55953AXX

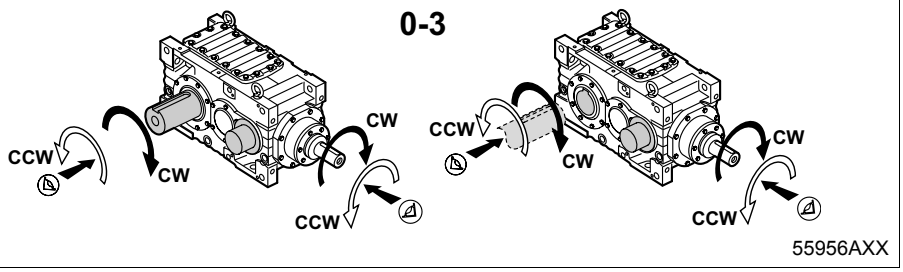
Only one direction of rotation is possible, which has to be specified in the order. The permitted direction of rotation is indicated on the housing.

Shaft positions and corresponding directions of rotation of MC3R.. industrial gear units backstop on driven machine end

The following figures show shaft positions and corresponding directions of rotation for MC.RS.. and MC.RH.. units with keyway and backstop.

Three stages



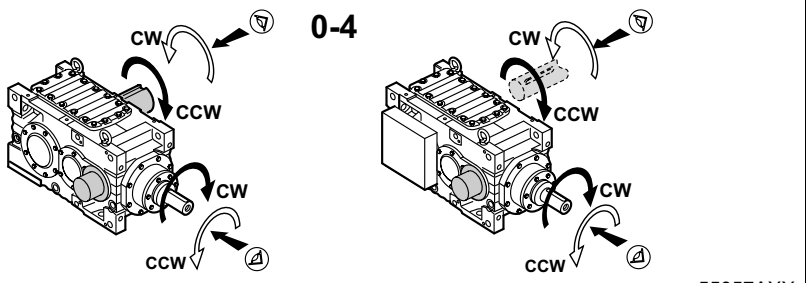


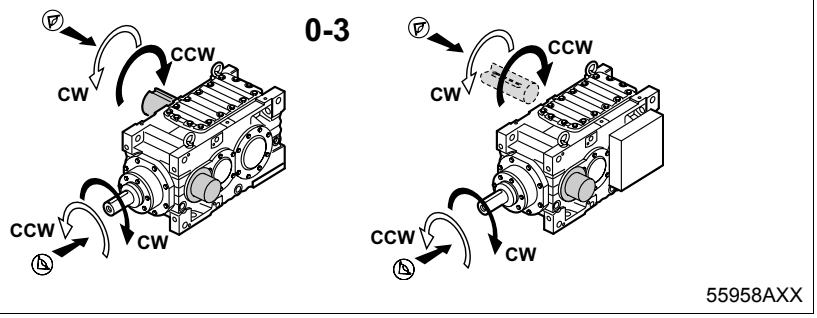
Only one direction of rotation is possible, which has to be specified in the order. The permitted direction of rotation is indicated on the housing.

Shaft positions and corresponding directions of rotation of MC3R.. Backstop opposite to driven machine end

The following figures show shaft positions and corresponding directions of rotation for MC.RS.. and MC.RH.. units with keyway and backstop.

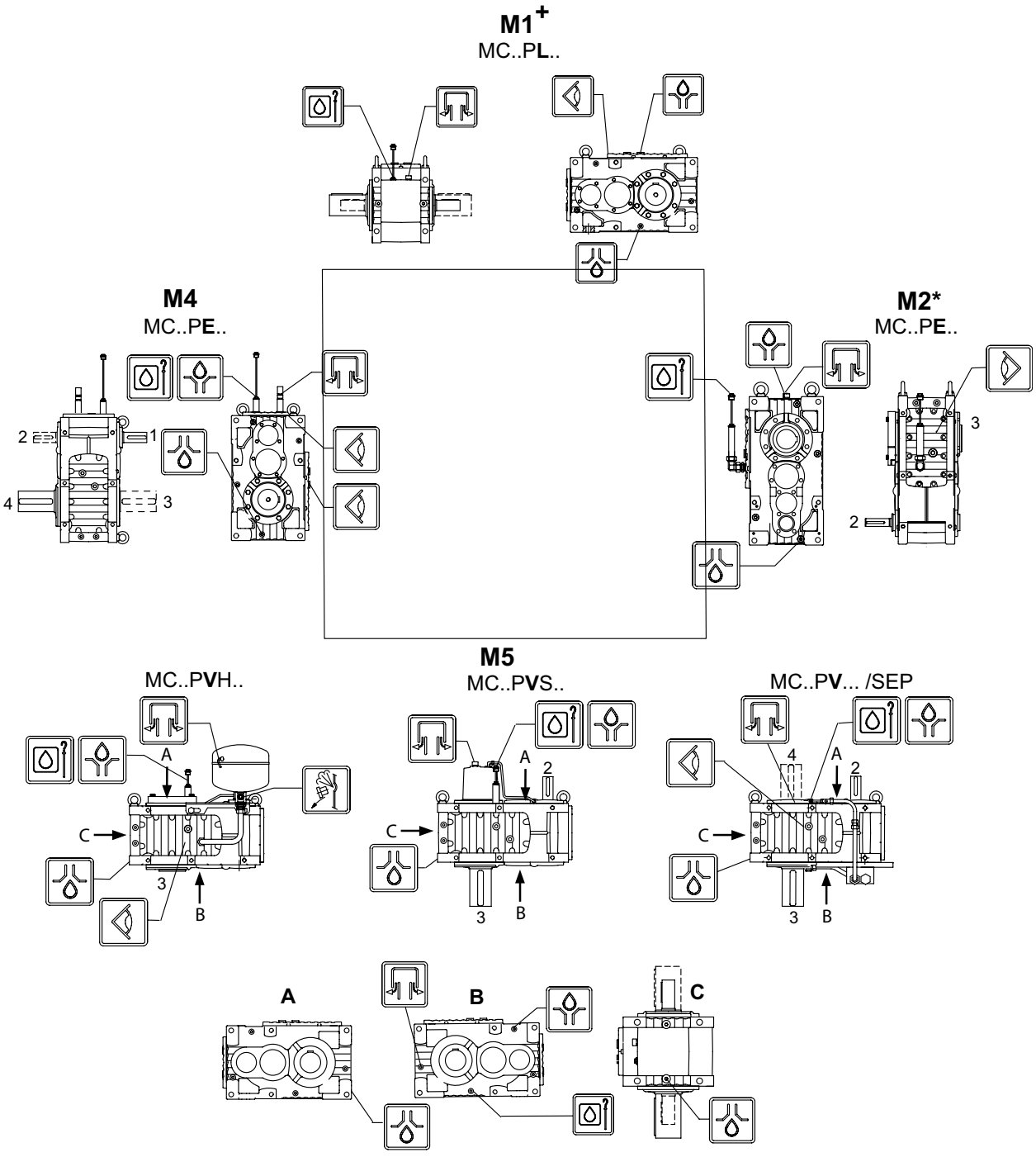
Three stages





Only one direction of rotation is possible, which has to be specified in the order. The permitted direction of rotation is indicated on the housing.

3.5 Mounting positions of MC.P.. gear units

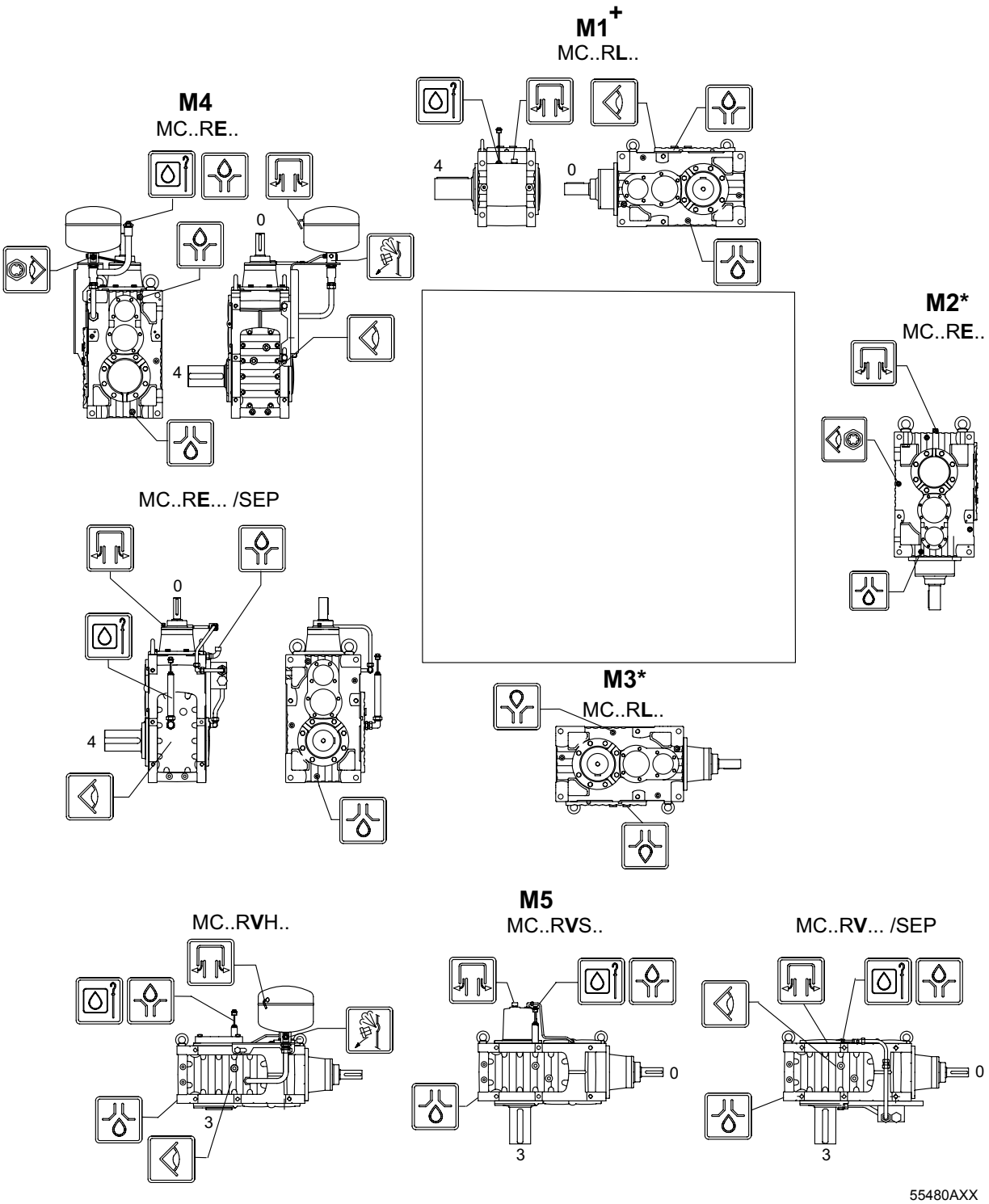


55477AXX

* = Non-standard mounting position / housing orientation. The positions of heater, dipstick, oil drain plug are typical. Refer to the order-specific dimension drawing.

\+ = In horizontal mounting position, the oil drain plug is always located on the opposite side of the output shaft.

3.6 Mounting positions of MC.R.. gear units



* = Non-standard mounting position / housing orientation. The positions of heater, dipstick, oil drain plug are typical. Refer to order-specific dimension drawing.

\+ = In horizontal mounting position, the oil drain plug is always located on the opposite side of the output shaft.

4 Project Planning for Drives

4.1 Additional documentation

In addition to the information provided in this catalog, SEW-EURODRIVE offers extensive documentation on the complete subject area of electrical drive technology. This is documentation from the "Drive Engineering – Practical Implementation" series. The current SEW-EURODRIVE documentation can be ordered or downloaded from the SEW-EURODRIVE homepage (http://www.seweurodrive.com).

Drive Engineering – Practical Implementation

The publication "Drive Engineering – Practical Implementation – Drive Arrangements with SEW-EURODRIVE Gearmotors" features extensive information on characteristics, differentiating features and application areas of SEW drives. A comprehensive collection and assignment of the most important formulas for drive calculation and detailed examples for the most frequently used applications make this documentation an important tool for the project planner and an essential addition to the SEW-EURODRIVE product catalogs.

4.2 Drive selection data

1.0 Machine on LSS (normally the driven machine)

Legend: [...] = fill in values
[X] = make your selections by ☒

1.1 Field of application/industry [...]

1.2 Application [...]

1.3 Ambient temperature [°F] [...]

normal | min. | max.

1.4 Altitude [ft] [...]

1.5 Installation [X]

- ☐ very small enclosed rooms ($v_a \leq$ 1m/s)
- ☐ small rooms ($v_a \geq$ 2m/s)
- ☐ large rooms and halls (v_a 3 ≥ m/s)
- ☐ open halls with roofs
- ☐ outdoor, unprotected

1.6 Ambient conditions [X]

- ☐ normal
- ☐ dusty
- ☐ moist
- ☐ corrosive
- ☐ dry

2.0 Load characteristics

2.1 Required speed n_2 [1/min] [...]

normal | min. | max.

2.2 Input power P_{K1} [HP] [...]

normal | min. | max.

2.3 Output torque M_{K2} [kNm] [...]

normal | min. | max.

2.4 Frequency of peak load ($M_{K2\ max.}$ or $P_{K1\ max.}$) [...]

per hour

2.5 Number of starts per hour [...]

starts

2.6 Rotation direction under load (LSS) [X]

- ☐ clockwise (CW)
- ☐ counter-clockwise (CCW)
- ☐ both directions
- ☐ reversible

2.7 Operating period/day [X]

- ☐ ≤ 3 hours
- ☐ 3 ... 10 hours
- ☐ > 10 hours

2.8 Backstop required in gear unit [X]

- ☐ No
- ☐ Yes

2.9 Exact load cycle attached [X]

- ☐ No
- ☐ Yes

3.0 Machine on HSS (normally the driving machine)

3.1 Type: [X]

☐ AC motor ☐ AC motor/inverter ☐ DC motor
☐ Hydraulic motor ☐ Servomotor

3.2 Motor power P_M [HP] [...]

normal | min. | max.

3.3 Motor speed n_M [HP] [...]

normal | min. | max.

3.4 Motor torque M_M [lb-in] [...]

normal | min. | max.

3.5 Input speed n_1 [1/min] [...]

normal | min. | max.

3.6 If electric motor: [X] [...]

- ☐ IEC
- ☐ NEMA

Motor size (IEC- or NEMA code):

3.7 Mounting of motor [X] [...]

- ☐ B3
- ☐ B5
- ☐ V1
- ☐ other:

4.0 Gear unit requirements

4.1 Gear Unit Type [X]

- ☐ Helical "P"
- ☐ Bevel-helical "R"

4.2 Gear unit design [X]

- ☐ Horizontal LSS "L"
- ☐ Vertical LSS "V"
- ☐ Upright mounted "E"

4.3 Housing orientation* [X]

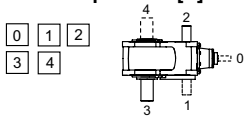
☐ M1 ☐ M4
☐ M2 ☐ M5
☐ M3 ☐ M6

4.4 Mounting surface* [X]

☐ F1 ☐ F4
☐ F2 ☐ F5
☐ F3 ☐ F6

***only to be filled in for non-standard**

4.5 Shaft position [X]



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4.6 Service factor requirement $F_{S\ min.}$ [X] [...]

on ☐ Motor power P_M /motor torque M_M

☐ Gear unit operating power P_{K1} / Operating torque M_{K1}

4.7 Bearing lifetime requirements $L_{h\ min}$ [...]

hours

4.8 Mounting of the gear unit [X]

☐ Foot

☐ Flange

☐ Torque arm

4.9 LSS connection to machine shaft of customer [X] [...]

☐ Elastic coupling (claw or pin type)

☐ Flexible coupling (gear or steel-disc type)

☐ Rigid flange coupling

☐ Barrel coupling

☐ Chain sprocket

☐ Pinion

☐ Hollow shaft - torque arm

☐ Hollow shaft - foot mounted

☐ Hollow shaft - flange mounted

☐ other:

4.10 Design of LSS gear unit [X] [...]

Design LSS (if solid shaft)

☐ Solid shaft with keyway

☐ Solid shaft without keyway

☐ Solid shaft with spline DIN 5480

☐ other:

Design LSS (if hollow shaft)

☐ Hollow shaft with keyway

☐ Hollow shaft for shrink disc connection, shrink disc included

☐ Hollow shaft with spline DIN 5480

☐ other:

4.11 HSS connection to motor [X]

☐ Customer installation (foundation base frame)

☐ Motor adapter with elastic coupling

☐ Swing base/base frame

☐ Motor bracket with V-belt drive

☐ Motor scoop (sugar scoop)

☐ other, see sketch

4.12 LSS bearing support

☐ 2 bearings, gear unit only transmits torque

☐ 1 bearing opposite to gear unit, gear unit acts as one bearing support

☐ 1 bearing next to gear unit, gear unit acts as one bearing support

4.13 Load on LSS [X] [...]

	normal	min.	max.
Axial load F_{A2} [lbs]			
Radial load F_{R2} [lbs]			
Distance from shaft shoulder [mm]			

Application angle of radial load [°]

or rotating ☐

4.14 Load on HSS [X] [...]

	normal	min.	max.
Axial load F_{A1} [lbs]			
Radial load F_{R1} [lbs]			
Distance from shaft shoulder [mm]			

Application angle of radial load [°]

or rotating ☐

4.15 Electrical supply [X] [...]

	AC 3-phase	AC 1-phase	DC		
Mains supply U_{mains}	☐	☐	☐	V	HZ
Auxiliary supply U_{aux}	☐	☐	☐	V	HZ

Protection class IP

Explosion proof requirement ☐ Yes ☐ No

4.16 Additional cooling (if required) [X]

	Allowed	Not allowed
Fan	☐	☐
Oil-air cooler	☐	☐
Oil-water cooler	☐	☐

Cooling water available ☐ No ☐ Yes

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4.3 Project planning procedure

The following flow chart schematically shows the procedure for the project planning of an industrial gear unit.

→ For drive selection data, see chapter 4.2

- Machine on LSS and ambient conditions
- Load characteristics
- Machine on HSS
- Gear unit requirement
  - Type and design
  - Service factor
  - Mounting and connection to machine on LSS
  - Loads on LSS and HSS

↓

Gear unit selection

- Calculate gear ratio: $i = \frac{n_1}{n_2}$
- Calculate input power: $P_{K1} = \frac{M_{K2} \times n_2}{9{,}550 \times \eta}$
- Specify gear unit size and reduction ratio

  For one direction of rotation under load: $P_{N1} \geq P_{K1} \times F_S$

  For two directions of rotation under load (reversing): $P_{N1} \geq P_{K1} \times F_S \times 1.43$ or $P_{N1,\,rev} \geq P_{K1} \times F_S$ with $P_{N1,\,rev} = 0{,}7\ P_{N1}$
- Calculate permitted peak load: $P_{K1\,zul} = \frac{2 \times P_{N1}}{F_F}$ or $M_{K2\,zul} = \frac{2 \times M_{N2}}{F_F}$
- Check peak load: $P_{K1max} \leq P_{K1zul}$ or $M_{K2max} \leq M_{K2zul}$
- Calculate thermal rating: $P_T = P_{TH} \times f_1 \times f_2 \times f_L \times f_T$
- Check thermal rating: $P_{K1} \leq P_T$
- Check the occurring external radial and axial shaft loads

  → for conditions mentioned in chapter 5.4: $F_{R2} \leq F_{Ra}$ and $F_{R1} \leq F_{Re}$

  → for other conditions, contact SEW-EURODRIVE

↓

Select connection to the motor (if required) → chapter 6.5 ... 6.7

↓

Select alternative sealing systems (if required) → chapter 6.4

↓

Select cooling and pressure lubrication components (if required) → chapter 7

↓

Select monitoring functions and instrumentation (if required) → chapter 7

↓

Check whether all defined requirements are met.

5 Project Planning for Gear Units

5.1 Efficiency of gear units

The efficiency of the gear unit is mainly determined by the gearing and bearing friction. Note that the starting efficiency of a gear unit is always less than its efficiency at operating speed.

The efficiency of MC.. helical and bevel-helical gear units varies depending on the number of gear stages.

Based on nominal power, the efficiency η is roughly:

- MC2P: 0.97
- MC3P: 0.955
- MC2R: 0.97
- MC3R: 0.955

5.2 Service factor F_S, peak factor F_F

Service factor F_S

The service factor takes into account the load impacts generated by the driving motor and the driven machine.

Recommended values with respect to

- field of application
- driven machine
- operating period / day

are given in the following table.

These tables are valid for **electric motors** used as driving machine.

For other types of driving machines, the following correction values apply:

- Combustion engines with four or more cylinders: F_S (selection table) + 0.25
- Combustion engines with one or three cylinders: F_S (selection table) + 0.5

Field of application/industry	Driven machine	Service factor operating period /day		
		< 3 h	3-10 h	> 10 h
Agitators and mixers	Agitators for liquids	1.00	1.25	1.50
	Agitators for liquids (variable density)	1.20	1.50	1.65
	Agitators for solids (non-uniform material)	1.40	1.60	1.70
	Agitators for solids (uniform material)	-	1.35	1.40
	Concrete mixers	-	1.50	1.50
Cableways	Material ropeways	-	1.40	1.50
	Aerial tramways	1)	1)	1)
	Surface lifts	1)	1)	1)
	Continuous aerial tramways	1)	1)	1)
	Funicular railway	1)	1)	1)
Conveyors	Bucket elevators	-	1.40	1.50
	Hoists - other	-	1.50	1.80
	Belt conveyors ≤ 134 HP	1.15	1.25	1.40
	Belt conveyors > 134 HP	1.15	1.30	1.50
	Apron feeders	-	1.25	1.50
	Screw feeders	1.15	1.25	1.50
	Shakers, reciprocating	1.55	1.75	2.00
	Escalators	1.55	1.25	1.50
	Passenger lifts	1)	1)	1)
Compressors	Reciprocating	-	1.80	1.90
	Centrifugal compressor	-	1.40	1.50
	screw-type	-	1.50	1.75
Cranes and hoists	Cranes and hoists	1)	2)	2)
Energy	Frequency converters	-	1.80	2.00
	Water wheels (low speed)	-	-	1.70
	Water turbines	-	-	1)
Fans	Heat exchangers	1.50	1.50	1.50
	Dry cooling towers	-	-	2.00
	Wet cooling towers	2.00	2.00	2.00
	Blowers (axial and radial)	1.50	1.50	1.50
Food industry	Crushers and mills	-	-	1.75
	Beet slicer	-	1.25	1.50
	Drying Drums	-	1.25	1.50
Metal mills	Winders	-	1.60	1.75
	Slitters	1.55	1.75	2.00
	Table conveyors, individual drives	1)	1)	1)
	Table conveyors, group drives	1)	1)	1)
	Table conveyors, reversing	1)	1)	1)
	Wire drawing machines	1.35	1.50	1.75
	Flattening machines	1)	1)	1)

1) Contact SEW-EURODRIVE

2) Contact SEW-EURODRIVE; dimensioning according to FEM1001

Field of application	Driven machine	Service factor operating period /day		
		< 3 h	3-10 h	> 10 h
Mills and drums	Dryers and coolers	-	1.50	1.60
	Kilns	-	-	2.00
	Ball mills	-	-	2.00
	Coal mills	-	1.50	1.75
Pumps	Centrifugal pumps	1.15	1.35	1.45
	Reciprocating (single-cylinder)	1.35	1.50	1.80
	Reciprocating (multi-cylinder)	1.20	1.40	1.50
	Spiral pumps	-	1.25	1.50
	Rotary (gear type, vane)	-	-	1.25
Lumber industry	Lumber industry	1)	1)	1)
Mining industry	Crushers	1.55	1.75	2.00
	Screens and shakers	1.55	1.75	2.00
	Slewing drives	-	1.55	1.80
	Dredgers	1)	1)	1)
Pulp and paper industry	Debarking Drums and Barkers	1.55	1.80	-
	Rolls (pick-up, wire drive, wire suction)	-	1.80	2.00
	Dryer cylinders (anti-friction bearings)	-	1.80	2.00
	Calenders (anti-friction bearings)	-	1.80	2.00
	Filters (pressure vacuum)	-	1.80	2.00
	Beaters and chippers	1.55	1.75	2.00
	Jordan mills	-	1.50	1.75
	Presses (bark, felt, size, suction)	-	-	1.75
	Reels	-	-	1.75
	Pulpers	1)	1)	1)
	Washer filters	-	-	1.50
	Yankee cylinders (dryers)	1)	1)	1)
Rubber and plastic industry	Extruders (plastic)	-	1.40	1.60
	Extruders (rubber)	-	1.50	1.80
	Rubber mills (2 in a row)	1.55	1.75	2.00
	Rubber mills (3 in a row)	-	1.50	1.75
	Warming mills	1.35	1.50	1.75
	Calenders	-	1.65	1.65
	Grinders	1.55	1.75	2.00
	Mixing mills	1)	1)	1)
	Sheeters	1.55	1.75	2.00
	Refiners	1.55	1.75	2.00
	Tubers	1)	1)	1)
Waste water treatment	Impeller areator	-	1.80	2.00
	Thickeners	1.15	1.25	1.50
	Vacuum filters	1.15	1.30	1.50
	Collectors	1.15	1.25	1.50
	Screw pump	-	1.30	1.50
	Brush areators	-	-	2.00

1) Contact SEW-EURODRIVE

Peak factor F_F

The peak factor F_F takes into account how often peak loads occur.

The permitted peak load depends on the frequency per hour and is calculated according to the following formula:

1. Based on torque

$$M_{K2\ zul} = \frac{2 \times M_{N2}}{F_F}$$

$M_{K2\ zul}$ = permitted peak torque at the gear unit output
M_{N2} = gear unit nominal torque
F_F = peak factor according to the following table

2. Based on power

$$P_{K1\ zul} = \frac{2 \times P_{N1}}{F_F}$$

$P_{K1\ zul}$ = permitted peak power at the gear unit input
P_{N1} = gear unit nominal power
F_F = peak factor according to the following table

	Frequency of peak load per hour					
	1...5	**6...20**	**21...40**	**41...80**	**81...160**	**> 160**
Peak factor F_F	1.00	1.20	1.30	1.50	1.75	2.00



The gear units may only be overloaded for a short period of time. Individual peak loads must not last for more than ten seconds.

5.3 Thermal rating P_T

The thermal rating P_T of a gear unit is the power that a gear unit can transmit continuously without exceeding a certain oil temperature. The thermal rating depends on the following factors:

- Type of lubricant used
- Ambient temperature
- Gear unit ratio
- Optional forced cooling methods (e.g. fan on HSS)
- Installation altitude of the gear unit (→ table, altitude factor f_1)
- Lubrication method of the gear unit (→ table, lubrication factor f_L)

For the following ambient conditions, the thermal rating can be directly read from the selection tables for

- ambient temperatures of 20°C or 40°C (68°F or 104°F),
- natural cooling, or for cooling with fan (or two fans for MC2P units)
- altitudes < 1000 m ($f_1 = 1$)
- respective mounting positions
- splash (horizontal mounting position) or bath lubrication (vertical and upright mounting positions)

$$P_T = P_{TH} \times f_1 \times f_2 \times f_L \times f_T$$

P_{TH} = Nominal thermal rating of the gear unit. The values given in the selection tables in chapters 10 + 11 depend on the ambient temperature and cooling method.
For
20°C: $P_{TH\,[20]}$
40°C: $P_{TH\,[40]}$
with cooling fan
20°C: $P_{TH\,[20]}$
40°C: $P_{TH\,[40]}$
with two cooling fans
20°C: $P_{TH\,[20]}$
40°C: $P_{TH\,[40]}$

f_1 = Altitude factor

f_2 = Mounting option factor
1.07 = shaft mounted with torque arm
1.00 = all other mounting options

f_L = Lubrication factor
1.0 = splash and bath lubrication
1.1 = pressure lubrication

f_T = Ambient temperature factor
The selection tables already take account of different ambient temperatures; the factor is therefore only relevant for ambient temperatures above 40°C. For ambient temperatures of 30°C, the thermal rating can be interpolated

$$P_{TH\,[30]} = \frac{P_{TH\,[20]} + P_{TH\,[40]}}{2}$$

Altitude factor f_1

	Altitude H [m above sea level]				
	0	**1000**	**2000**	**3000**	**4000**
f_1 1)	1.00	0.95	0.91	0.87	0.83

1) Intermediate values must be interpolated

Consult SEW-EURODRIVE in case of deviating conditions.

Ambient temperature factor f_T

Ambient temperature	20°C	30°C	40°C	50°C
f_T	1.0[1)]	1.0[1), 2)]	1.0[1)]	Contact SEW-EURODRIVE

1) The selection tables in chapter 5 already take account of different ambient conditions.

2) Interpolation between PTH[20] and PTH[40] in chapters 10 + 11 is possible

5.4 External radial and axial shaft loads

The permitted loads on the gear unit shaft depend on

- gear unit service factor
- required bearing lifetime
- direction of axial load (from or towards gear unit)
- application angle of radial load (rotating or at a specific position)
- position of radial load in relation to gear unit shaft shoulder
- relation of axial to radial load and vice versa

The limiting elements in a gear unit in terms of loads on the LSS depend on

- permitted load for the gear unit housing
- permitted force/stress of connection bolts of the gear unit foot or in the mounting flange
- permitted stress in the gear unit shaft
- minimum bearing life

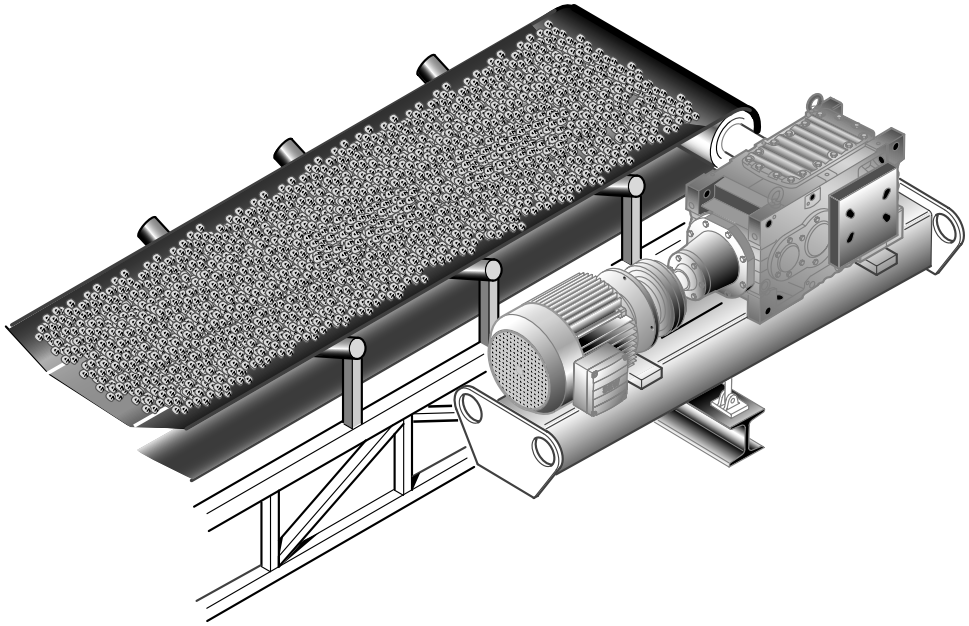
Based on these factors, the selection tables in chapters 10 + 11 show a radial load value that applies to the following conditions:

- Radial load is applied on the middle of the shaft
  - HSS: F_{RE}
  - LSS: F_{RA}
- The application angle of the radial load is applied at the most unfavourable position
- The applied axial load is 0!
- The gear unit service factor is F_S = 1.5 or higher
- The bearing life is equal or higher than a minimum value according to SEW standard

Contact SEW-EURODRIVE for deviating conditions. In many cases, higher loads can be applied.

5.5 Project planning example: Conveyor drive

Bulk material is to be transported from one point to another using a conveyor.



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Technical data and application conditions of bucket elevator gear units

- Foot-mounted gear unit with hollow shaft
- Output speed n_2 = 35 1/min
- Output torque M_{K2} = 9000 Nm
- Maximum output torque $M_{K2\ max}$ = 16 kNm
- Maximum input power $P_{K1\ max}$ = 61.4 kW
- Operating time: 16 hours per day
- The gear unit is started up once per hour (frequency of maximum output torque)
- The gear unit is to be used in a large hall under very dusty conditions and an ambient temperature range of ϑ_{amb} = 0°C ... 40°C
- Installation altitude H = 1000 m
- Min. service factor F_S = 1.4

Technical data of AC motors

- Input speed n_1 = 1500 1/min
- Motor power P_m = 45 kW

Step 1: Calculating the gear ratio

Calculate the gear unit reduction ratio i using the following formula:

$$i = \frac{n_1}{n_2} = \frac{1500\ 1/\text{min}}{35\ 1/\text{min}} = 42.86$$

i = ratio
n_1 = input speed
n_2 = required output speed

This value is used to specify the nominal gear ratio $i_N = 45$ (→ chapters 10 + 11).

Step 2: Calculating the operating power

The input power P_{K1} of the drive is calculated as follows using the output torque M_{K2} or output power P_{K2} as well as output speed n_2 and efficiency η:

$$P_{K1} = \frac{M_{K2} \times n_2}{9.550 \times \text{h}} = \frac{9\ \text{kNm} \times 35\ 1/\text{min}}{9.550 \times 0.955} = 34.54\ \text{kW}$$

P_{K1} = input power
M_{K2} = output torque
η = efficiency (→ chapter 5.1)

(where η = 0.955 for three-stage gear units)

Step 3: Specifying gear unit size and gear unit reduction ratio

The required nominal power of the gear unit P_{N1} is calculated using input power P_{K1} and service factor $F_S = 1.4$ using the following formula:

$P_{N1} \geq P_{K1} \times F_S$

$P_{N1} = 34.54\ \text{kW} \times 1.4 = 48.35\ \text{kW}$

This value is used to select the gear unit size MC3RLHF04 from the selection tables (→ chapter 11).

The selection of the gear unit provides the following technical data:

- Nominal power $P_{N1} = 55.8$ kW
- Nominal gear ratio $i_N = 45$ → exact gear ratio $i_{ex} = 44.302$
- Nominal gear unit torque $M_{N2} = 15$ kNm

Step 4: Calculating the permitted peak load

The permitted peak power $P_{K1\ zul}$ is calculated using nominal power P_{N1} and peak factor F_F (→ table, factor F_F):

$$P_{K1\ zul} = \frac{2 \times P_{N1}}{F_F} = \frac{2 \times 48.35\ kW}{0.87} = 111.6\ kW$$

$P_{K1\ zul}$ = permitted peak power on gear unit
P_{N1} = nominal power
F_F = peak factor

The permitted peak torque $M_{K2\ zul}$ is calculated using the nominal torque M_{N2} of the gear unit determined in step 3 and peak factor F_F (→ table, factor F_F).

$$M_{K2\ zul} = \frac{2 \times M_{N2}}{F_F} = \frac{2 \times 15\ kNm}{0.87} = 30\ kNm$$

$M_{K2\ zul}$ = permitted peak torque on gear unit output
M_{N2} = nominal gear unit torque
F_F = peak factor

Step 5: Checking the peak load

The maximum operating power $P_{K1\ max}$ must not exceed the permitted peak power P_{K1zul}!

$P_{K1\ max} \leq P_{K1\ zul}$
61.4 kW ≤ 111.6 kW

or

The maximum output torque $M_{K2\ max}$ must not exceed the permitted peak torque $M_{K2\ zul}$!

$M_{K2\ max} \leq M_{K2\ zul}$
16 kNm ≤ 30 kNm
This means you can use the selected gear unit size.

Step 6: Calculating the thermal rating

$P_T = P_{TH} \times f_1 \times f_2 \times f_L \times f_T = 29\ kW \times 1.0 \times 1.0 \times 1.0 = 29\ kW$

P_T = nominal thermal rating at 40°C of the gear unit
P_{TH} = thermal rating
f_1 = altitude factor
f_2 = mounting option factor
f_L = lubrication factor
f_T = ambient temperature factor

Higher thermal ratings are possible when using synthetic lubricants and special oil seals. Contact SEW-EURODRIVE in such cases.

Checking the thermal rating

The input power P_{K1} must not exceed the thermal rating P_T ($P_{K1} \leq P_T$).
Additional cooling is required if $P_{K1} > P_T$.

34.54 kW > 29 kW

→ Thermal rating not sufficient at 40°C

with one fan:

$P_T = P_{TH\ [40]} \times f_1 \times f_2 \times f_L \times f_T = 72\ kW \times 1.0 \times 1.0 = 72\ kW$

P_T = nominal thermal rating at 40°C with one fan
P_{TH} = thermal rating
f_1 = altitude factor
f_2 = mounting option factor

5.6 Project planning example: Mixer drive



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Technical data and application conditions

A liquid with constant density is to be agitated.

- Helical gear unit with parallel shafts
- Vertical mounting position, solid output shaft
- Required output speed n_2 = 51 1/min
- Gear unit output power P_{K2} = 77 kW
- Peak input torque $M_{K1\ max}$ = 1.45 kNm
- Operating time: 24 hours per day
- The gear unit is started twice per day (frequency of maximum input torque)
- The gear unit is operated outdoors under a protective roof. Ambient temperature range: 0°C … 40°C, wind velocity approx. 3 m/s, normal humidity
- Installation altitude H = 500 m
- Connected to a mixer shaft with flexible coupling; mixer shaft is supported externally, no radial and axial loads on gear unit shaft
- Foot mounted gear unit

Technical data of AC motor

- Motor power P_M = 90 kW
- Nominal speed: n_M = 1485 1/min
- IEC size 280 M, flange ∅ 550 mm, shaft ∅ 75 mm x 140 mm

Step 1: Calculating the gear ratio

Calculate the gear unit reduction ratio i using the following formula:

$$i = \frac{n_1}{n_2} = \frac{1485\ 1/\text{min}}{51\ 1/\text{min}} = 29.12$$

i = ratio
n_1 = input speed
n_2 = required output speed

The value is used to specify the nominal gear ratio i_N = 28 (→ chapter 10)

Step 2: Calculating the operating power

The input power P_{K1} of the drive is calculated as follows using the output power P_{K2} or output torque M_{K2} as well as output speed n_2 and efficiency:

$$P_{K1} = \frac{P_{K2}}{\eta} = \frac{77\ \text{kW}}{0.955} = 80.6\ \text{kW}$$

P_{K1} = operating power
P_{K2} = gear unit output power
η = efficiency (→ chapter 5.1)

Step 3: Specifying the service factor F_S

If the customer does not specify the service factor, it can be determined according to the table in chapter 5.2.

Field of application:	Agitators and mixers
Driven machine:	Agitators for liquids
Operating period per day:	> 10 h

→ F_S = 1.5

Step 4: Specifying gear unit size and exact gear ratio

The required nominal power of the gear unit P_{N1} is calculated using operating power P_{K1} and service factor F_S using the following formula:

$P_{N1} \geq P_{K1} \times F_S$

$P_{N1} \geq 80.6\ kW \times 1.5 = 120.9\ kW$

Approximate required nominal gear unit torque M_{N2}:

$$M_{N2} = \frac{P_{N1}}{n_2} = \frac{120.9\ kW}{51\ 1/min} \times 9.55 = 22.6\ kNm$$

M_{N2} = approximate required nominal gear unit torque
P_{N1} = required nominal power of the gear unit
n_2 = required output speed

Preselection on foldout page:

Torque class 25 kNm - Size 06 - Vertical - 1500 1/min

→ Chapters 10 + 11

- Nominal power: 134 kW
- Nominal ratio $i_N = 28$ → Exact ratio $i_{ex} = 29.61$
  → Output speed n_2 = 1485 1/min / 29.61 = 50.1 1/min
- Nominal gear unit torque: M_{N2} = 24.1 kNm
- Thermal rating at 40°C
  - 50 kW without fan
  - 115 kW with fan

Step 5: Calculating the permitted peak torque

The permitted peak torque $M_{K2\ zul}$ is calculated using the nominal torque M_{N2} of the gear unit determined in step 4 and factor F_F (→ table, factor F_F)

$$M_{K2\ zul} = \frac{2 \times M_{N2}}{F_F} = \frac{2 \times 24.1\ kNm}{1} = 48.2\ kNm$$

$M_{K2\ zul}$ = permitted peak torque
M_{N2} = nominal gear unit torque
n_2 = required output speed

Step 6: Checking maximum output torque

The max. output torque $M_{K2\ max}$ must not exceed the permitted output torque $M_{k2\ zul}$!

$M_{k2\ max} \leq M_{k2\ zul}$

with

$M_{K2\ max} = M_{k1\ max} \times i_{ex} \times \eta = 1.45\ kNm \times 29.61 \times 0.955 = 41\ kNm$

$M_{K2\ max}$ = maximum output torque
$M_{K1\ max}$ = maximum input torque
i_{ex} = required output speed
η = efficiency (→ chapter 5.1)

→ 41.0 kNm ≤ 48.2 kNm

This means you can use the selected gear unit size

Step 7: Calculating the thermal rating

$P_T = P_{TH} \times f_1 \times f_2 \times f_L \times f_T$

P_T = thermal rating
P_{TH} = nominal thermal rating
f_1 = altitude factor
f_2 = mounting option factor
f_L = lubrication factor
f_T = ambient temperature factor

With P_{TH} from chapters 10 and 11:

$f_1, f_2, f_L, f_T = 1.0$

Without fan at 40°C: $P_T = 50$ kW

With fan at 40°C: $P_T = 115$ kW

Result:

Thermal rating without fan: 50 kW at an ambient temperature of 40°C

Thermal rating with fan: 115 kW at an ambient temperature of 40°C

Step 8: Checking the thermal rating

The operating power P_{K1} must not exceed the thermal rating of the gear unit.

$P_{K1} \leq P_T$

Without fan: 80.6 kW > 50 kW → thermal rating not sufficient!

Result:

With fan: 80.6 kW < 115 kW → thermal rating sufficient, fan required!

Step 9: Selecting the gear unit accessories

- Oil expansion tank made from cast iron for bath lubrication
- Double radial seals on LSS (standard for vertical units)
- Motor adapter for IEC motor 280
- Elastic coupling type ROTEX 65 on input shaft; one hub mounted on gear unit, other hub bored and keywayed for connecting the respective motor
- Fan in motor adapter

6 Project Planning for Optional Accessories

6.1 Mounting flange on output shaft

Usage

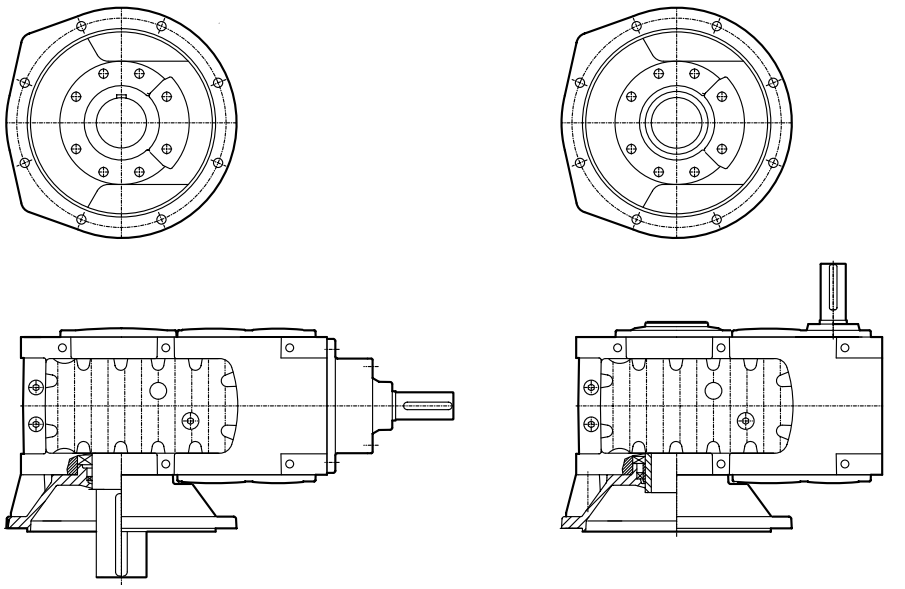
Gear units can be supplied with a mounting flange on the LSS. The mounting flange can basically be used for all three gear unit types:

- Horizontal LSS (MC.L..)
- Vertical LSS (MC.V..)
- Upright mounting position (MC.E..)

Layout

Solid shaft LSS

Hollow shaft LSS



54017AXX

Connection dimensions

The connection dimensions are shown as option "/MF" of the respective gear unit type in the section "Dimension drawing MC…."

STOP

With flange mounted gear units, observe the weight limitations of motors mounted to a motor adapter (→ section "Motor adapter").

Customer's mounting specifications

The customer mount must have the following characteristics:

- Stiff and torsionally rigid, taking into consideration
  - gear unit weight
  - motor weight
  - torque to be transmitted
  - additional forces from the customer machine acting on the gear unit (e.g. axial forces from and towards the gear unit resulting from a mixing process)
- Horizontal
- Plain
- Vibration isolating, which means that no vibrations are to be transmitted from close-by machines and elements
- No resonance vibrations must be created



The mounting surface of mounting flange and customer mount must be absolutely free of grease, oil, or other contaminants (such as small textile particles, dust, etc.)

The gear unit's LSS must be aligned as accurately as possible in relation to the customer mount. Alignment affects the lifetime of the bearing, shafts and coupling.

Following bolts of class 8.8 should be used:

MC…02..04 → M16

MC…05...07 → M20

MC…08...09 → M24

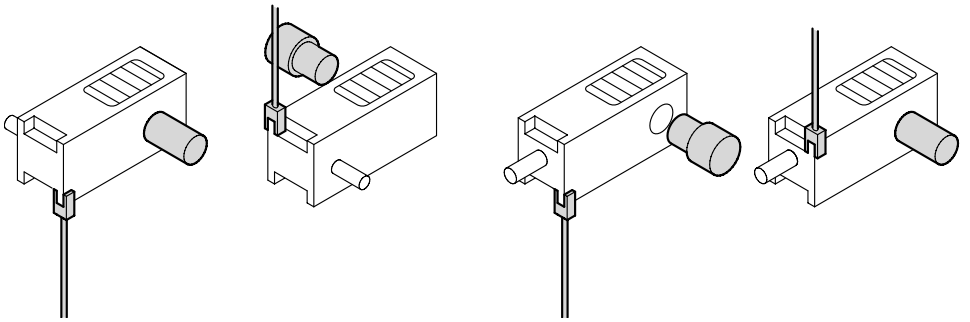
6.2 Torque arm

Mounting options

A torque arm is available as option to be mounted directly to the gear unit or the swing base.

Directly mounted to the gear unit

Always mount the torque arm on the side of the driven machine.

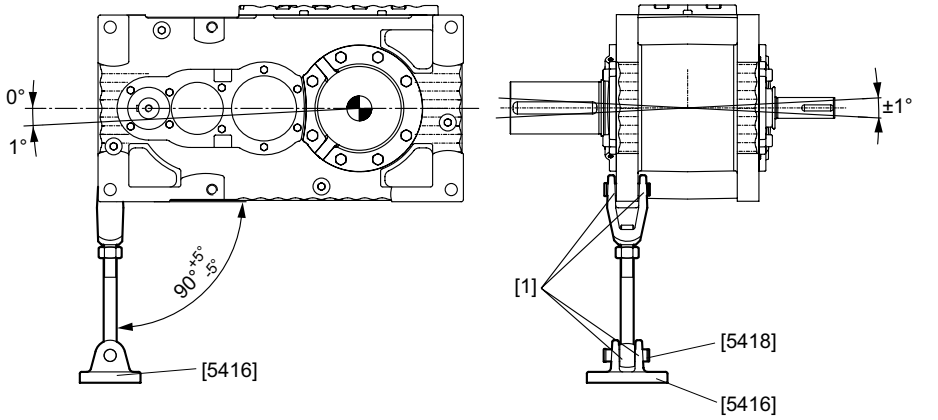


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The torque arm can be directly mounted to the gear unit to absorb tensile strain and compressive stress. Additional strain or stress to the gear unit may be caused by

- eccentricity during operation
- expansion of the driven machine due to heat.

To avoid such strain, the anchor bolt [5418] is equipped with double connection elements that allow for sufficient lateral and radial play [1].



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[1] Sufficient play

[5416] Retaining plate

[5418] Anchor bolt



It is essential that there is sufficient play [1] between torque arm and retaining plate [5416] as well as between torque arm and gear unit. This way, no bending force can act on the torque arm and the bearings of the output shaft are not subjected to additional stress.

The length of the torque arm can be selected within a certain range.

6.3 Backstop

Usage

The purpose of a backstop is to prevent undesirable reverse rotation. During operation, the backstop permits rotation in one specified direction of rotation only.

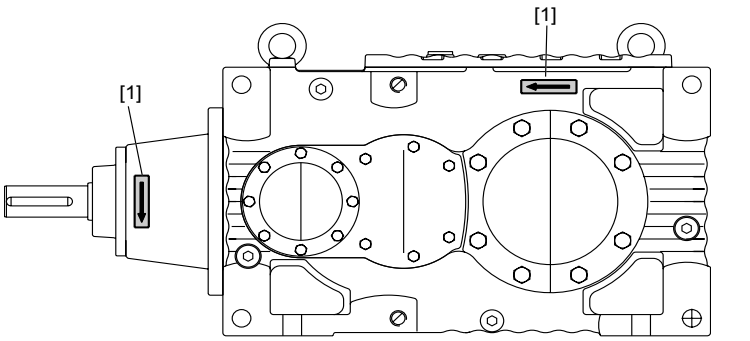
Description

The maintenance-free backstop is a centrifugally operated backstop with sprags that lift off. Once the lift-off speed is reached, the sprags completely lift off from the contact surface of the outer ring. The backstop is lubricated with gear oil.

Direction of rotation

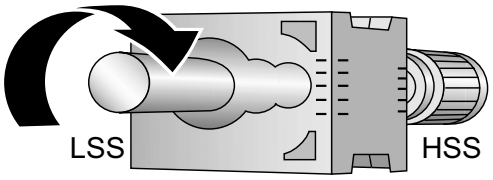
Backstops are mounted at SEW-EURODRIVE according to the specification. It is therefore important to specify the direction of rotation for the output shaft. It is also important for the customer to check that the connected electric motor rotates in the correct direction. If not, the peak torque of the electric motor may negatively influence the backstop.

The permitted direction of rotation is indicated on the housing.



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Definition of the direction of rotation



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The direction of rotation is specified as viewed onto the low speed shaft.

- Clockwise (CW)
- Counterclockwise (CCW)

Dimensioning

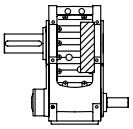
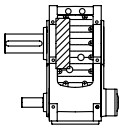
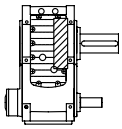
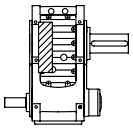
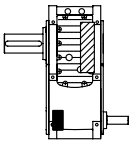
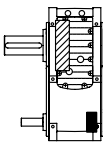
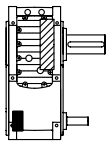
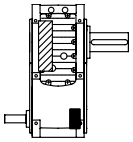
The size of the backstop is defined in such a way that the standard solution can be used for any application.

Basic rules for mechanical dimensioning

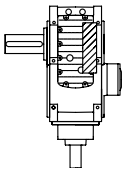
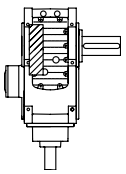
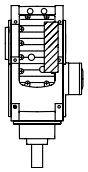
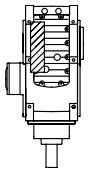
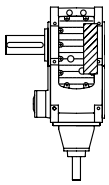
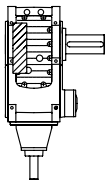
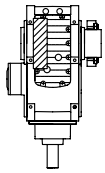
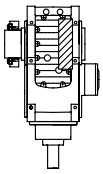
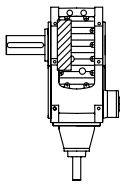
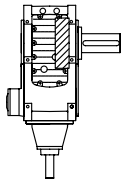
- Rotating speed of the gear unit's HSS: 0... 3000 rpm
- Maximum permitted torque of the backstop in relation to the output shaft: at least 1.8 times the nominal gear unit torque.

Design

- MC2P: 2-stage helical gear units. Backstop located at side of gear unit housing
- MC3P: 3-stage helical gear units. Backstop located inside gear unit housing.
- MC2R: 2-stage bevel-helical units. Backstop located at side of gear unit housing.
- MC3R: 3-stage bevel-helical gear units. Backstop located outside gear unit housing.

	Shaft positions			
Shaft positions	**23**	**13**[1)]	**24**[1)]	**14**
MC2P • Solid shaft • Hollow shaft with keyway • Hollow shaft with shrink disc				
MC3P • Solid shaft • Hollow shaft with keyway • Hollow shaft with shrink disc				

1) The maximum permitted external loads on the LSS are lower

	Shaft positions			
			Optional backstop and shaft position combinations	
	03	04	03[1)]	04[1)]
MC2R • Solid shaft				
MC2R • Hollow shaft with keyway				
MC3R[2)] • Solid shaft • Hollow shaft with keyway • Hollow shaft with shrink disc				
MC2R • Hollow shaft with shrink disc				
MC3R[3)] • Solid shaft • Hollow shaft with keyway • Hollow shaft with shrink disc				

1) The maximum permitted external loads on the LSS are lower

2) Position of backstop: Driven machine

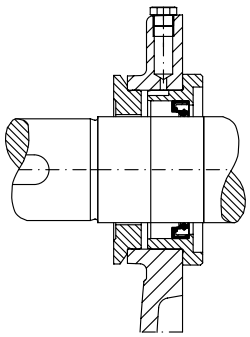
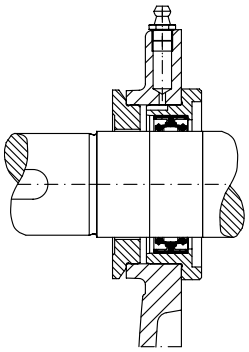
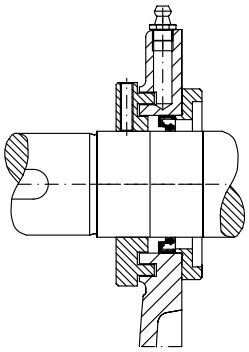
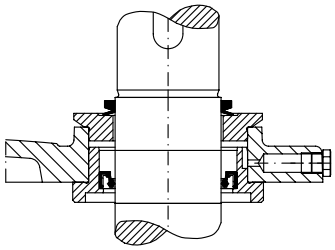
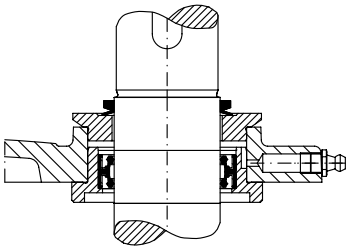
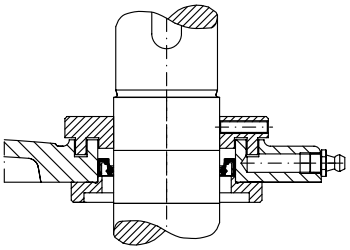
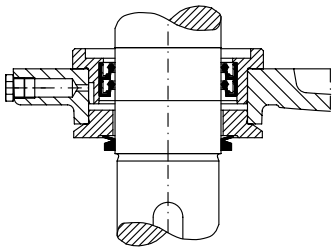
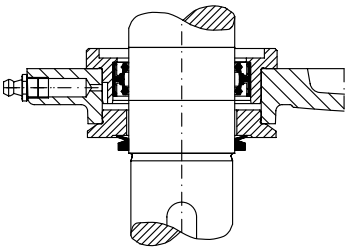
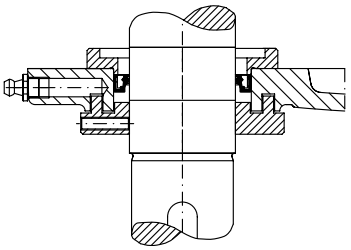
3) Position of backstop: Opposite the driven machine



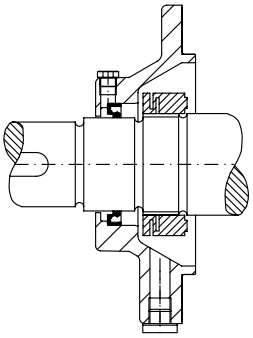
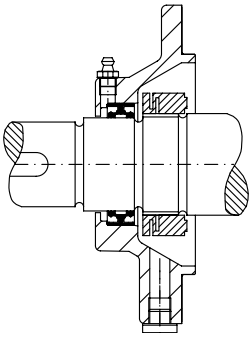
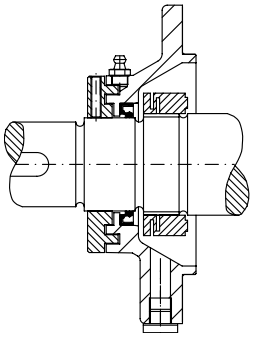
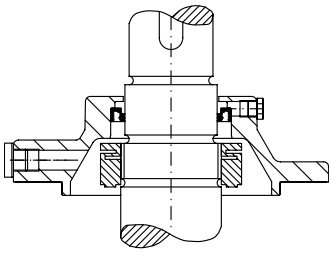
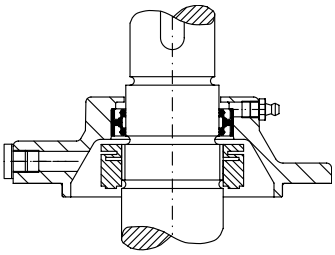
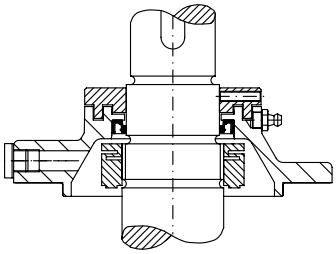
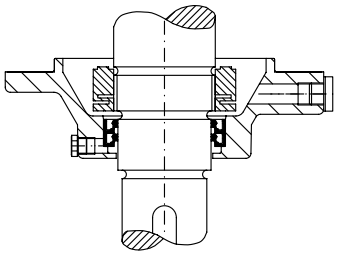
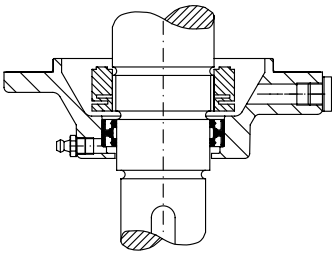
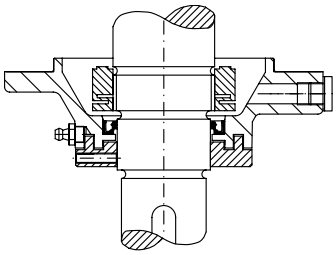
Check for inference of the backstop with the driven machine.

6.4 Sealing systems

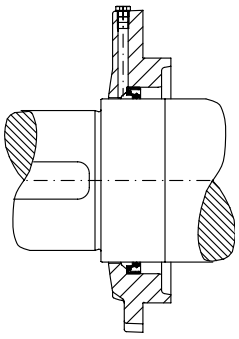
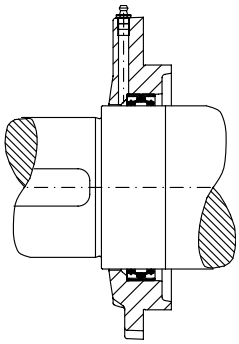
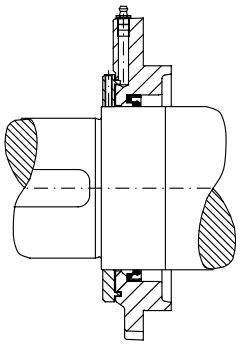
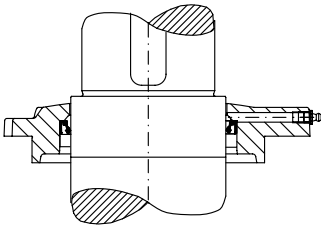
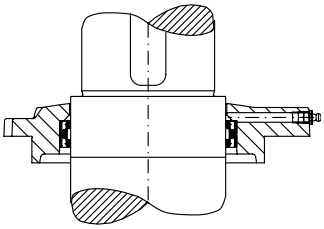
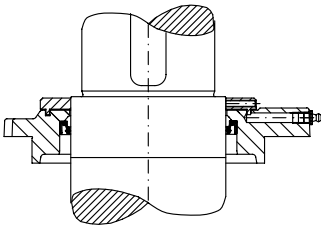
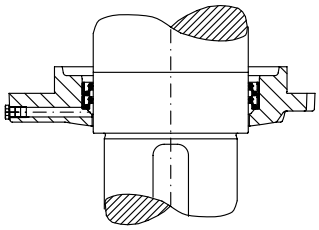
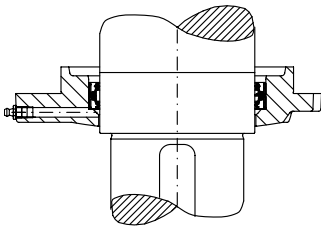
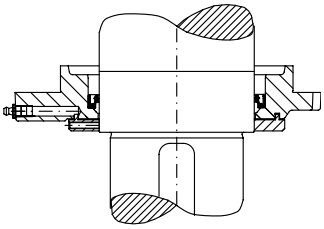
MC.P.. helical gear units, seal arrangements for HSS

	Lip seal (standard) Single lip seal with dust protection cover • Clean environment	Double lip seal with grease nipple Double lip seal with regreaseable dust protection cover • Dusty environment with abrasive particles	Radial labyrinth seal with grease nipple Single lip seal with radial grease labyrinth • Dusty environment with abrasive particles
Horizontal HSS			
Vertical HSS upwards			
Vertical HSS downwards			

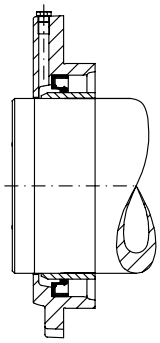
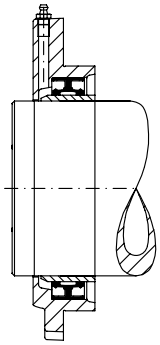
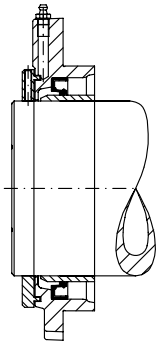
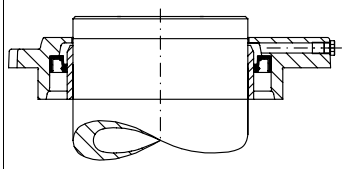
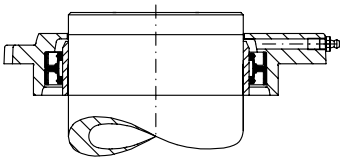
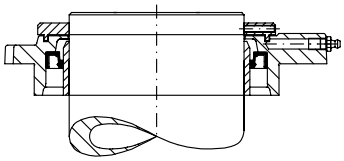
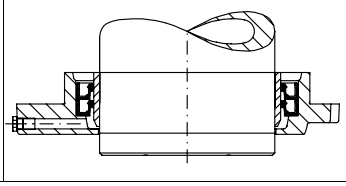
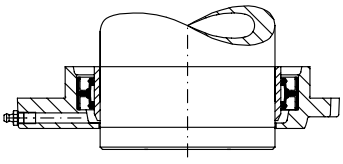
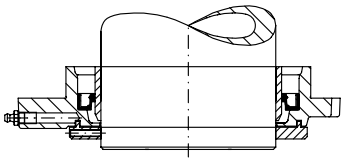
MC.R.. bevel-helical gear units, seal arrangements for HSS

	Lip seal (standard) Single lip seal with dust protection cover • Clean environment	Double lip seal with grease nipple Double lip seal with regreaseable dust protection cover • Dusty environment with abrasive particles	Radial labyrinth seal with grease nipple Single lip seal with radial grease labyrinth • Dusty environment with abrasive particle
Horizontal HSS			
Vertical HSS upwards			
Vertical HSS downwards			

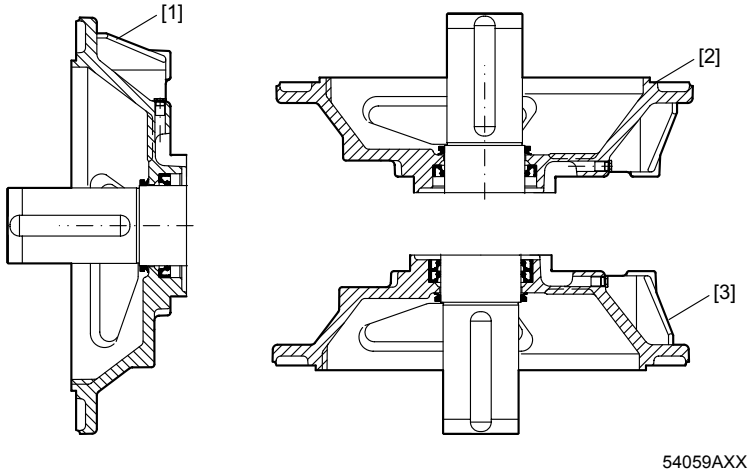
MC.P.., MC.R.. , seal arrangements for solid LSS

	Lip seal (standard) Single lip seal with dust protection cover • Clean environment	Double lip seal with grease nipple Double lip seal with regreaseable dust protection cover • Dusty environment with abrasive particles	Radial labyrinth seal with grease nipple Single lip seal with radial grease labyrinth • Dusty environment with abrasive particles
Horizontal HSS			
Vertical HSS upwards			
Vertical HSS downwards			

MC.P.., MC.R.. , seal arrangements for hollow LSS

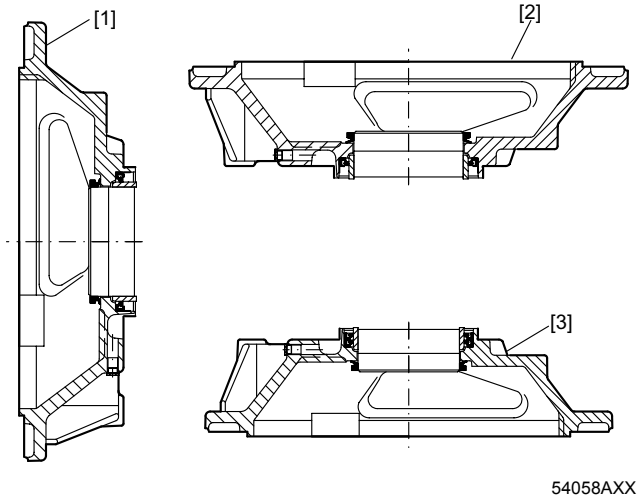
	Lip seal (standard) Single lip seal with dust protection cover • Clean environment	Double lip seal with grease nipple Double lip seal with regreaseable dust protection cover • Dusty environment with abrasive particles	Radial labyrinth seal with grease nipple Single lip seal with radial grease labyrinth • Dusty environment with abrasive particles
Horizontal HSS			
Vertical HSS upwards			
Vertical HSS downwards			

MC.P.., MC.R.. with mounting flange ("/MF"), solid LSS



Sealing solution	Gear unit design	Shaft position	Drawing number
Single lip seal (NBR) with dust protection cover and V-ring (NBR)	Horizontal LSS	All	1
	Upright mounting position	All	1
	Vertical LSS	14, 24, 04	2
Double lip seal (NBR) with dust protection cover and V-ring (NBR)	Vertical LSS	13, 23, 03	3

MC.P.., MC.R.. with mounting flange ("/MF"), hollow LSS

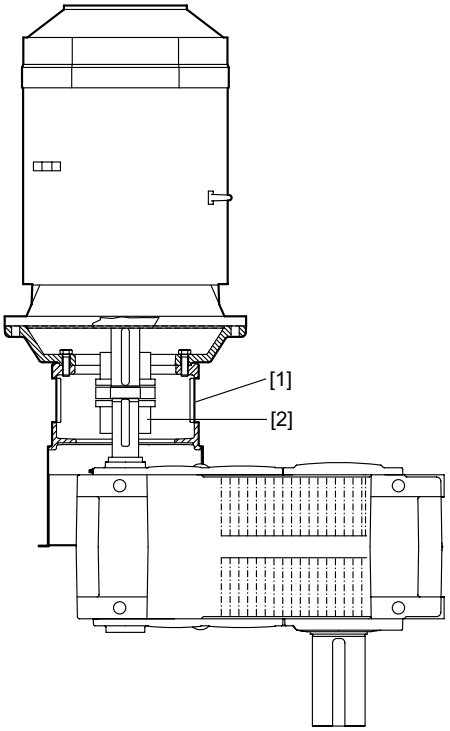


Sealing solution	Mounting position	Shaft positions	Drawing number
Single lip seal (NBR) with dust protection cover and V-ring (NBR)	Horizontal LSS	All	1
	Upright mounting	All	1
	Vertical LSS	14, 24, 04	2
Double lip seal (NBR) with dust protection cover and V-ring (NBR)	Vertical LSS	13, 23, 03	3

6.5 Motor adapters

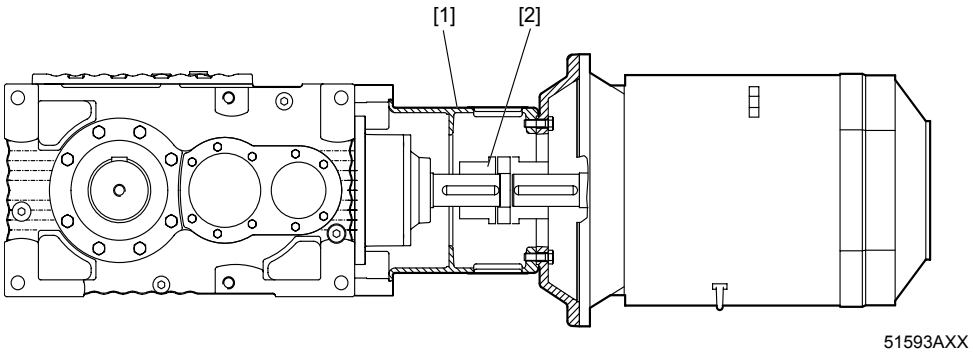
Motor adapters [1] are available for mounting

- IEC motor sizes 132 to 315
- NEMA motor sizes 213 to 505



[1] Motor adapter

[2] Coupling



[1] Motor adapter

[2] Coupling

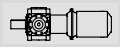
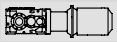
The connection dimensions are shown in the section "Dimension drawings for motor adapters."

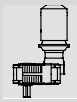
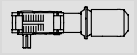
When selecting a motor, **take into account the** permitted **motor weight**, **gear unit design** and **gear unit mounting type** according to the following tables:

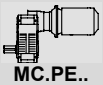
The following applies to all tables:

G_M = Motor weight

G_G = Gear unit weight

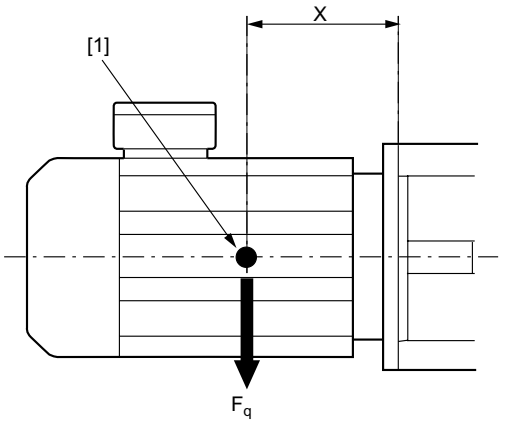
Mounting type	Type / gear unit design	
	 MC.PL..	 MC.RL..
Foot mounted	$G_M \leq G_G$	$G_M \leq G_G$
Shaft mounted	$G_M \leq 0.5G_G$	$G_M \leq G_G$
Flange mounted	$G_M \leq 0.5G_G$	$G_M \leq G_G$

Mounting type	Type / gear unit design	
	 MC.PV..	 MC.RV..
Foot mounted	$G_M \leq 1.5G_G$	$G_M \leq G_G$
Shaft mounted	$G_M \leq G_G$	$G_M \leq G_G$
Flange mounted	$G_M \leq G_G$	$G_M \leq 0.75G_G$

Mounting type	Type / gear unit design	
	 MC.PE..	 MC.RE..
Foot mounted	$G_M \leq G_G$	$G_M \leq 1.5G_G$
Shaft mounted	$G_M \leq G_G$	$G_M \leq G_G$
Flange mounted	$G_M \leq G_G$	$G_M \leq G_G$

The table only applies to stationary applications. For mobile applications (e.g. travel drives), consult SEW-EURODRIVE.

These tables only apply to the following correlation of motor size/weight F_q and dimension "x".



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[1] Center of gravity of the motor

Motor size		F_q	x
IEC	NEMA	[lb]	[in]
132S	213/215	130	7.44
132M	213/215	152	8.19
160M	254/286	238	9.25
160L	254/286	287	11.06
180M	254/286	364	12.01
180L	254/286	397	12.01
200L	324	529	13.11
225S	365	662	13.70
225M	365	728	13.70
250M	405	959	15.55
280S	444	1345	17.05
280M	445	1456	17.05
315S	505	1830	19.09
315M	505	2007	19.09
315L		2646	21.85

The maximum approved weight of the attached motor F_q has to be reduced in a linear manner if the center of gravity distance x is increased. $F_{q\,max}$ cannot be increased if the center of gravity distance is reduced.

Contact SEW-EURODRIVE in the following cases:

- If you want to retrofit motor adapters with a cooling fan (not for motor sizes 132S and 132M).

6.6 Steel frame (swing base, base plate)

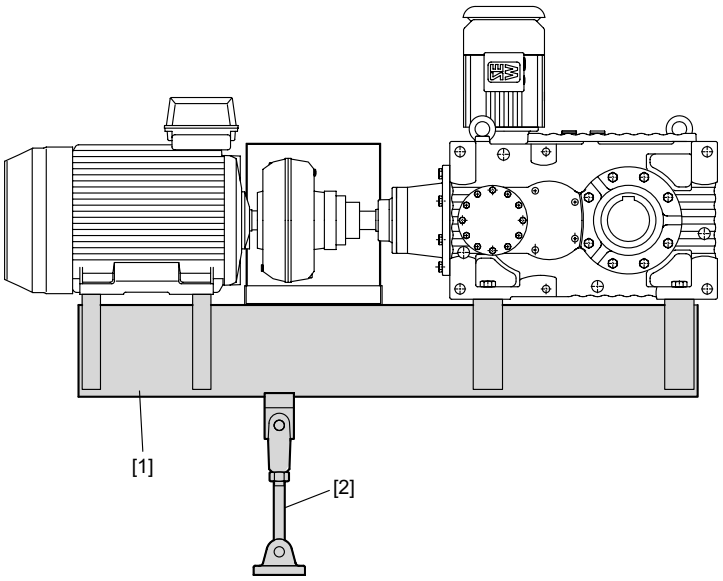
For industrial gear units of the MC series in horizontal mounting position (MC2P**L**.., MC3P**L**.., MC2R**L**.., MC3R**L**..), SEW-EURODRIVE supplies preassembled drive packages on a steel frame (swing base or base frame).

Swing base

A swing base is a steel frame [1] that accommodates gear unit, (fluid) coupling and motor (and brake, if required) such as

- hollow shaft gear unit or
- solid shaft gear unit with flange coupling on the output shaft

The swing base [1] is supported by a torque arm [2] (→ section "Torque arm").



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[1] Swing base

[2] Torque arm

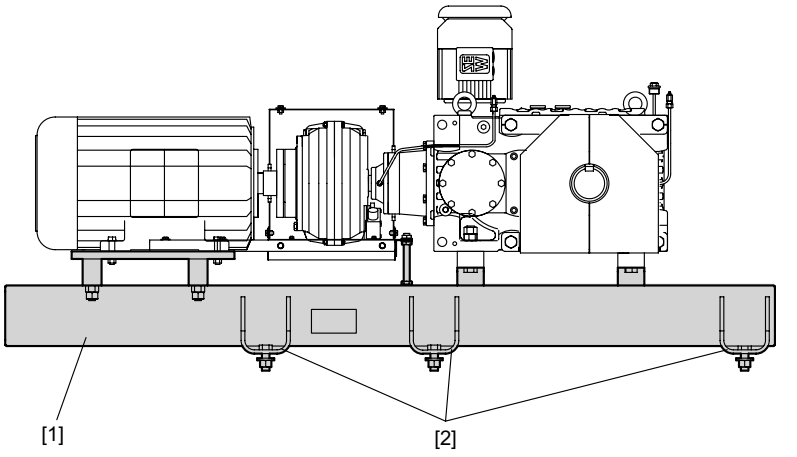


It is essential that

- **the system is dimensioned in such a way that the torque of the torque arm can be absorbed (→ section "Gear unit foundation")**
- **the swing base is not deformed during installation (hazard of damage to the gear unit and coupling)**

Base frame

A base frame is a steel frame [1] that accommodates gear unit, (fluid) coupling and motor (and brake, if required). The steel frame is supported by several foot mountings [2]. Such a frame is usually used for solid shaft gear units with elastic coupling on the output shaft.



[1] Base frame

[2] Foot mounting



It is essential that

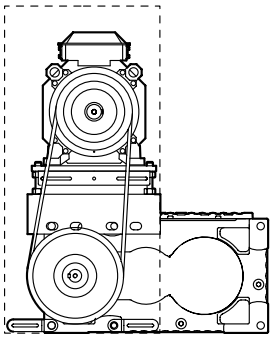
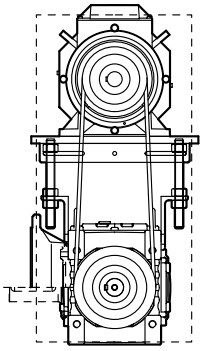
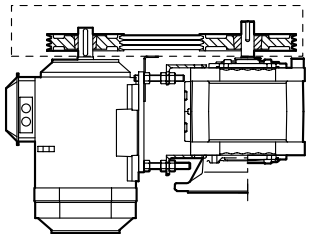
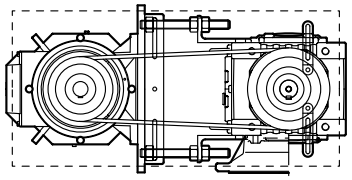
- **the support structure of the foot mounting is adequately dimensioned and rigid (→ section "Gear unit foundation")**
- **the base frame is not deformed through incorrect alignment (hazard of damage to the gear unit and coupling)**.

6.7 Motor bracket and V-belt drive

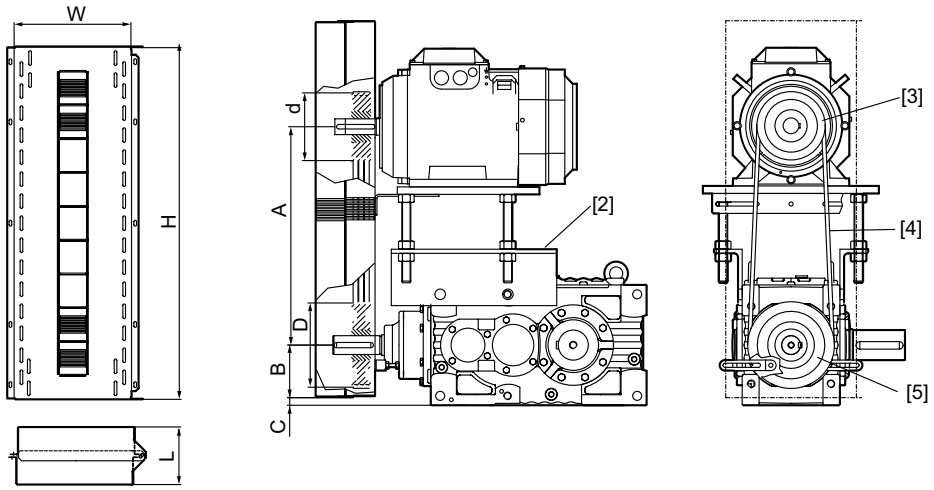
A V-belt drive is used when the overall gear ratio needs to be adjusted. The standard scope of delivery includes motor bracket, belt pulleys, V-belts and belt guard.

Observe the permitted weight for motor and gear unit specified in the following table:

G_M = Motor weight G_G = Gear unit weight

	MC2P/MC3P	MC2R/MC3R
Upright mounting: **Foot mounted $G_M \leq 0.4 \times G_G$** **Shaft mounted $G_M \leq 0.4 \times G_G$** **Flange mounted $G_M \leq 0.4 \times G_G$**	Contact SEW-EURODRIVE	Contact SEW-EURODRIVE
Horizontal LSS mounting: **Foot mounted $G_M \leq 1.0 \times G_G$** **Shaft mounted $G_M \leq 1.0 \times G_G$** **Flange mounted $G_M \leq G_G$**	 54046AXX	 54047AXX
Vertical LSS mounting: **Foot mounted $G_M \leq 0.4 \times G_G$** **Shaft mounted $G_M \leq 0.4 \times G_G$** **Flange mounted $G_M \leq G_G$**	 54052AXX	 54053AXX

The V-belt guard is provided with hinges and slots for stroboscope checking



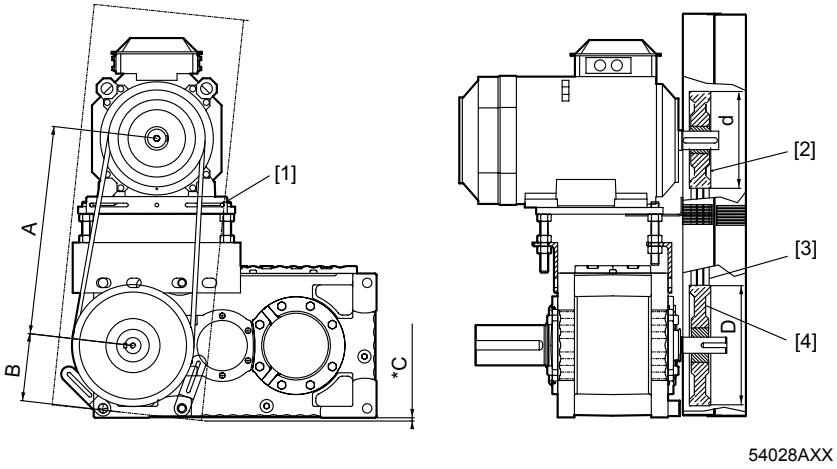
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The scope of delivery of the belt drive includes:

- Belt guard [1]
- Motor bracket [2]
- Pulley with taper bushing [3]
- V-belts [4]
- Pulley with taper bushing [5]

	W	H	L
	[mm]		
VBC1	300	1000	160
VBC2	400	1200	190
VBC3	500	1200	220
VBC4	500	1400	220
VBC5	600	1400	220
VBC6	650	1650	220

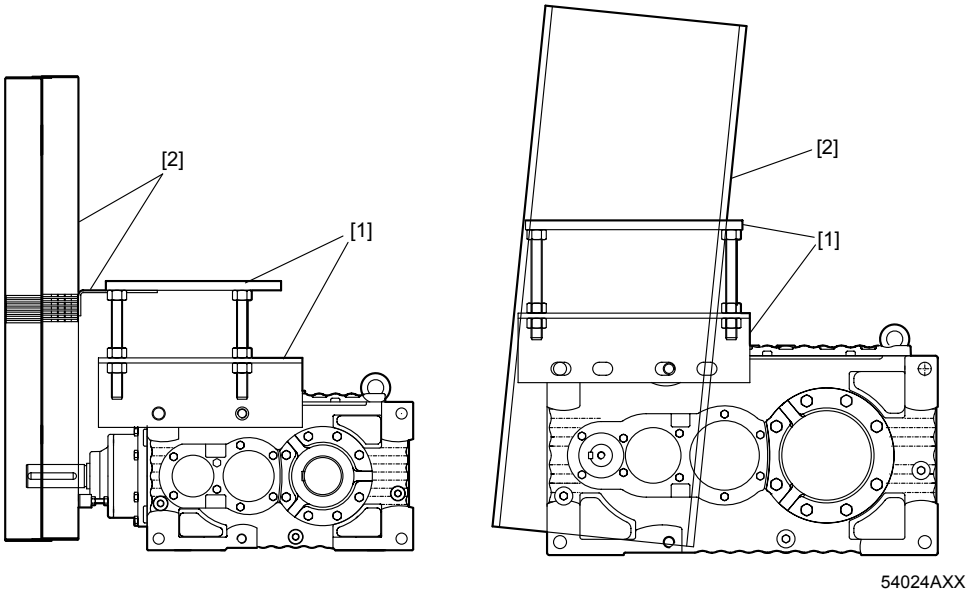
If the edge of the V-belt guard is placed below the foot line of the gear unit, then dimension *C is negative.



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[1] Motor bracket
[2] Pulley with taper bushing
[3] V-belt
[4] Pulley with taper bushing

The V-belt drive can also be delivered without V-belts, pulleys and motor. The motor bracket delivery only includes the bracket [1], the belt guard [2] can be included as optional feature.



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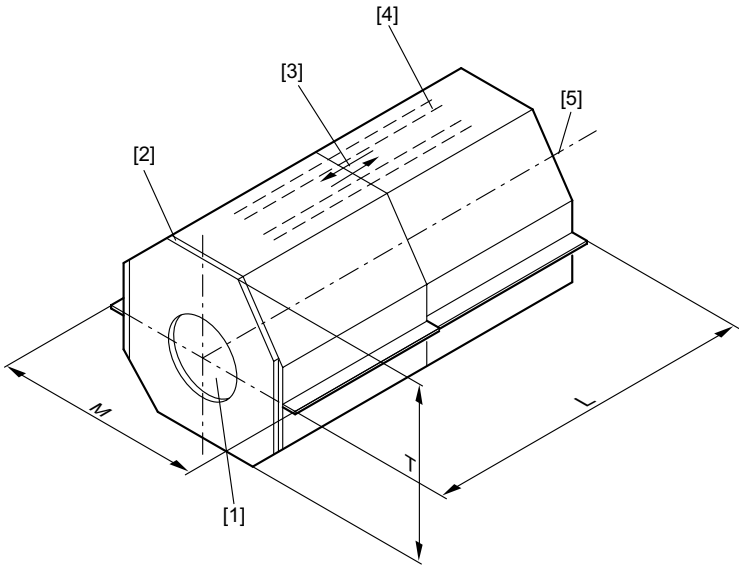
[1] Motor bracket
[2] Belt guard and fastening plates

6.8 Coupling guard

The coupling guard for the input shaft coupling can be used with or without cooling fan.

The coupling guard is directly attached to the bearing cover of the gear unit. No extra support is required for the coupling guard. The guard design complies with **European safety regulations**.

Guard size	Max. coupling diameter	Length L	Max. shaft ∅ of driving / driven shaft	Height T	Width W
	[mm]				
1	140	138 - 189	65	160	216
2	140	190 - 293	65	160	216
3	230	190 - 293	105	250	306
4	230	297 - 482	105	250	306
5	290	297 - 482	105	310	408
6	360	297 - 482	145	380	436
7	470	483 - 829	205	490	546
8	570	483 - 829	205	590	646



54274AXX

[1] Gear unit shaft (LSS, HSS)

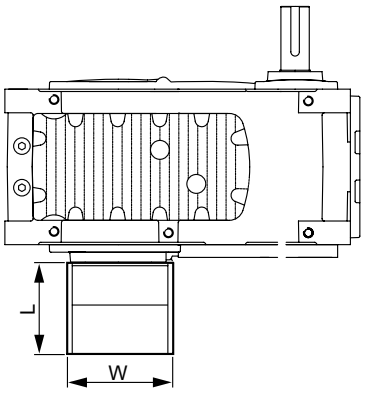
[2] Flange for mounting to gear unit

[3] Adjustable length

[4] Cooling vents

[5] Driving / driven machine

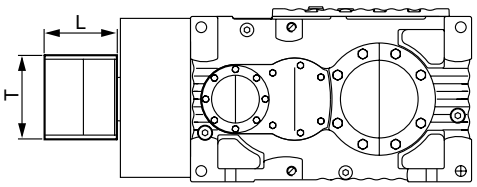
LSS coupling guard



54275AXX

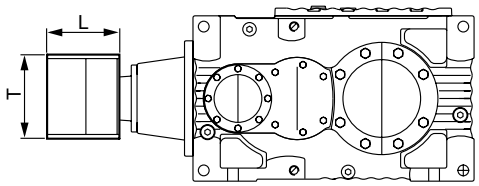
HSS coupling guard

MC..R gear unit with fan



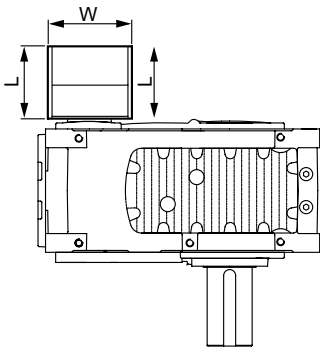
54974AXX

MC..R gear unit without fan



54975AXX

MC..P gear unit



54976AXX

7 Lubrication, Cooling and Instrumentation

The type of lubrication depends on the following factors:

- Gear unit design and mounting position
- Operating conditions
- Ambient conditions

There are three different types of lubrication:

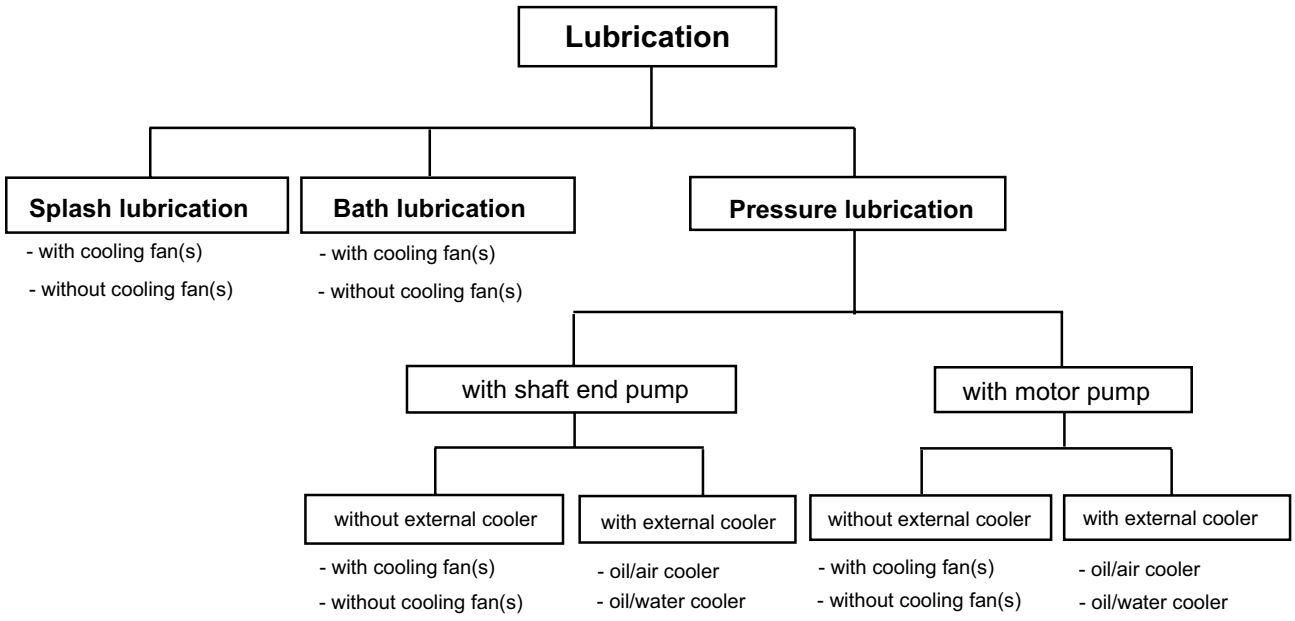
- Splash lubrication
- Bath lubrication
- Pressure lubrication

Additional cooling methods may be required depending on the required thermal rating of the gear unit.

The following cooling methods are possible as standard:

- Cooling fan on HSS
- 2 cooling fans on through going HSS (only for MC2P units)
- Pressure lubrication system with oil/water cooler
- Pressure lubrication system with oil/air cooler

The following table gives an overview of possible lubrication and cooling combinations:



The most common lubrication and cooling systems are described in the next chapters.

7.1 Splash lubrication

Splash lubrication is used for industrial gear units of the MC.. series with horizontal LSS (unit designation MC..L..). With splash lubrication, the oil level is low. The oil is splashed onto the bearings and gearing components.

If additional cooling is required, fans can be used.

7.2 Bath lubrication

Oil bath lubrication

Oil bath lubrication is used for industrial gear units of the MC.. series with vertical LSS (unit designation MC..**V**..) and upright mounting position (unit designation MC..**E**..). With oil bath lubrication, the oil level is so high that the bearings and gearing components are completely submerged in the lubricant.

Oil expansion tanks are **always** used for industrial gear units of the MC.PV.., MC.RV.. and MC.RE.. series with **oil bath lubrication. Oil expansion tanks allow the lubricant to expand when the gear unit heats up during operation.**

A steel oil expansion tank is used **disregarding the gear unit design** if the unit is installed outdoors and ambient conditions are very humid. The oil expansion tank can be used both for the version with solid shaft and hollow shaft. A membrane in the oil expansion tank separates the oil in the gear unit from the humid ambient air and this way ensures that no humidity can build up in the gear unit.

If additional cooling is required, fan cooling can be used.

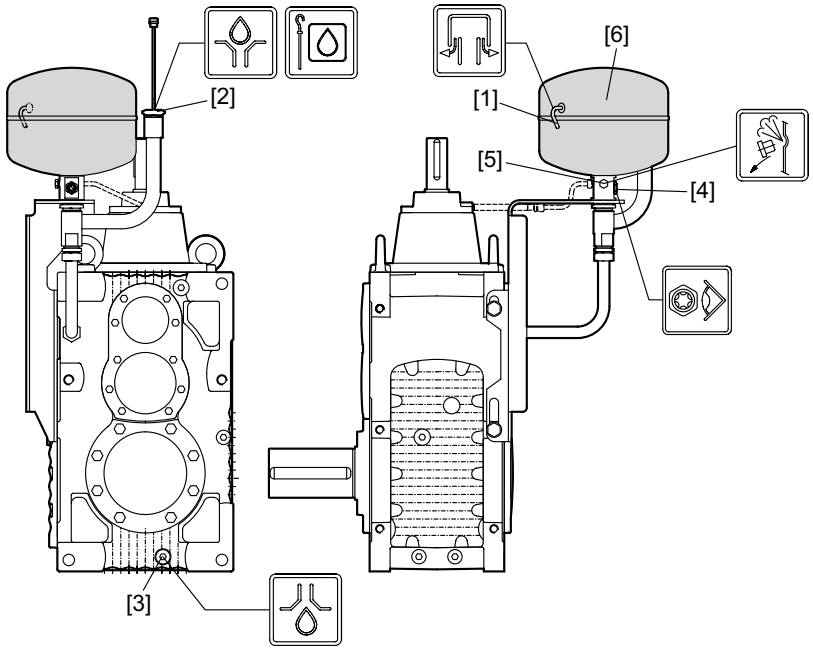
Symbols used

The following table shows which symbols are used in the subsequent figures and what they mean.

Symbol	Meaning
	Breather plug
	Inspection opening
	Oil dipstick
	Oil drain plug
	Oil filling plug
	Oil sight glass
	Air outlet screw

Oil bath lubrication, upright mounted

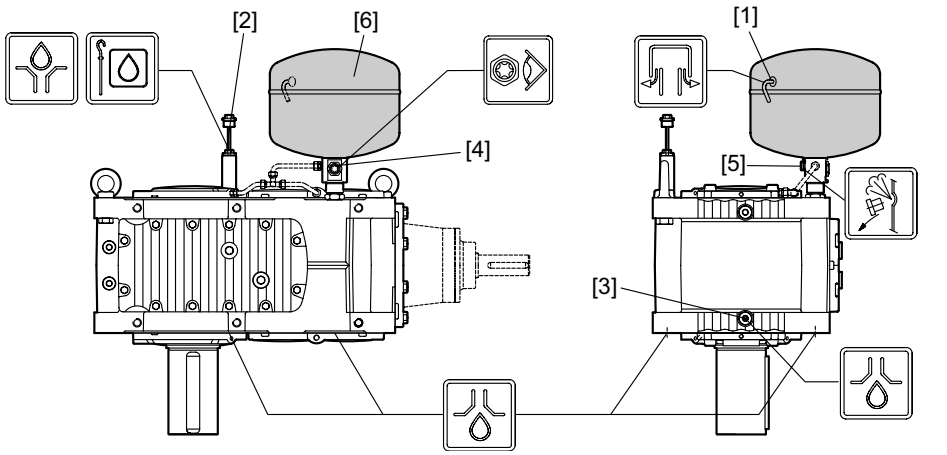
The steel oil expansion tank [6] is used for industrial gear units of the **MC series with upright mounting position** (unit designation **MC..RE..**).



[1] Breather
[2] Oil dipstick
[3] Oil drain plug
[4] Oil sight glass
[5] Air outlet screw
[6] Steel oil expansion tank

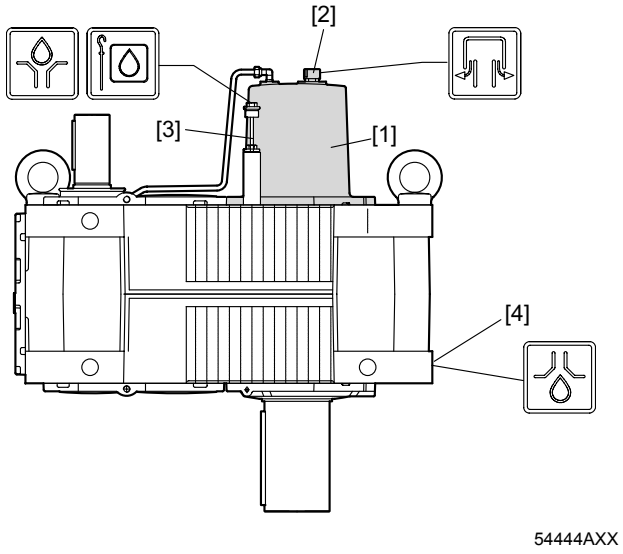
Oil bath lubrication vertical LSS

The steel oil expansion tank [6] for industrial gear units of the **MC series with vertical LSS** (unit designation **MC.PV.. / MC.RV..**) is located on the side of the assembly cover.



[1] Breather
[2] Oil dipstick
[3] Oil drain plug
[4] Oil sight glass
[5] Air outlet screw
[6] Steel oil expansion tank

In **dry environmental conditions**, a **cast iron oil expansion tank** [1] is used. This oil expansion tank is only used for the vertical mounting position with the **solid output shaft pointing downwards** (unit designation MC.P**VSF**.. or MC.R**VSF**..).

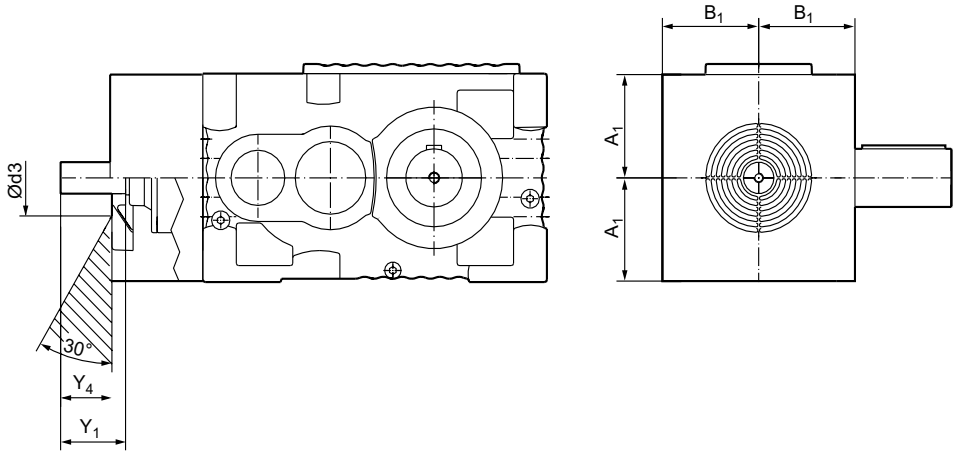


[1] Cast iron oil expansion tank
[2] Breather plug
[3] Oil dipstick
[4] Oil drain plug

7.3 Cooling fan

Fan

A fan can be mounted if the projected thermal rating of the gear unit is not sufficient. A fan can be retrofitted if ambient conditions have changed after having installed the gear unit. The direction of rotation of the gear unit does not influence the operation of the fan.



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Ensure that air intake vents are not blocked or covered!

The position of the fan(s) is shown in the dimension drawings.

7.4 Pressure lubrication

If requested, pressure lubrication is possible as lubrication method **disregarding the mounting position**.

With pressure lubrication, the oil level is low. For sizes 04 to 09, the gearing components and bearings that are not submerged in the oil bath are lubricated through a shaft end pump (→ Sec. "Shaft end pump"), or, with sizes 02 to 09, through a motor pump (→ Sec. "Motor pump").

The lubrication method "pressure lubrication" is used if

- oil bath lubrication is not desired for upright mounting position or vertical LSS
- input speeds are very high
- the gear unit must be cooled by an external oil/water system (→ section "Oil/water cooling system") or an oil/air cooling system (→ section "Oil/air cooling system")

7.5 Shaft end pump

Usage

If pressure lubrication is required (→ section "Lubrication"), the maintenance-free shaft end pump SHP with external piping is the preferred solution for gear unit sizes 04…09.

Selection

Five pump sizes can be combined with each gear unit size. The correct pump size for the application is selected depending on the

- required oil flow of the gear unit
- position of the pump (connected with HSS or intermediate shaft)
- gear unit ratio
- speed range of the gear unit



For correct pump size selection, contact SEW-EURODRIVE or use the GEAR selection program, which is available from your nearest SEW office.



A minimum input speed is required for correct functioning of the shaft end pump. It is therefore absolutely mandatory to contact SEW in case of variable input speeds (e.g. with inverter controlled drives) or when changing the input speed range of an already delivered gear unit with shaft end pump.

Pump position

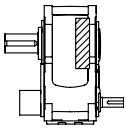
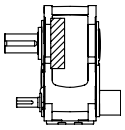
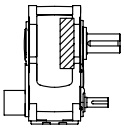
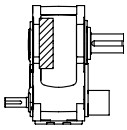
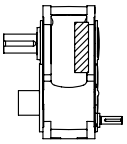
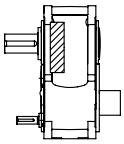
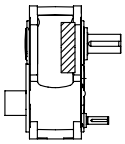
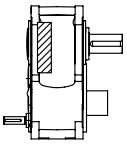
The pump is mounted externally to the gear unit and is directly driven by the input shaft (HSS) or intermediate shaft of the gear unit. A high reliability of the pump function is ensured in this way. The pump position depends on the

- number of gear unit stages
- gear unit type (helical or bevel-helical)
- shaft position of the gear unit
- LSS type

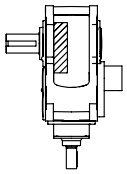
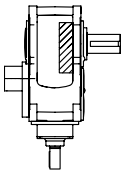
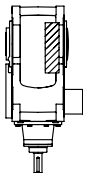
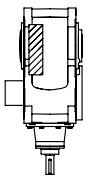
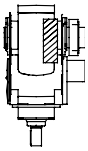
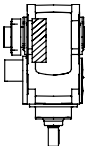
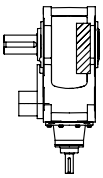
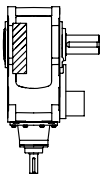
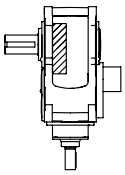
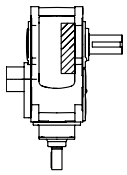


Check for interference of the shaft end pump with other surrounding structures → section "Dimension drawings", "/SEP" option.

The following tables indicate the position of the pump:

	Shaft positions			
	23	13[1)]	24[1)]	14
MC2P • Solid shaft • Hollow shaft with keyway • Hollow shaft with shrink disc				
MC3P • Solid shaft • Hollow shaft with keyway • Hollow shaft with shrink disc				

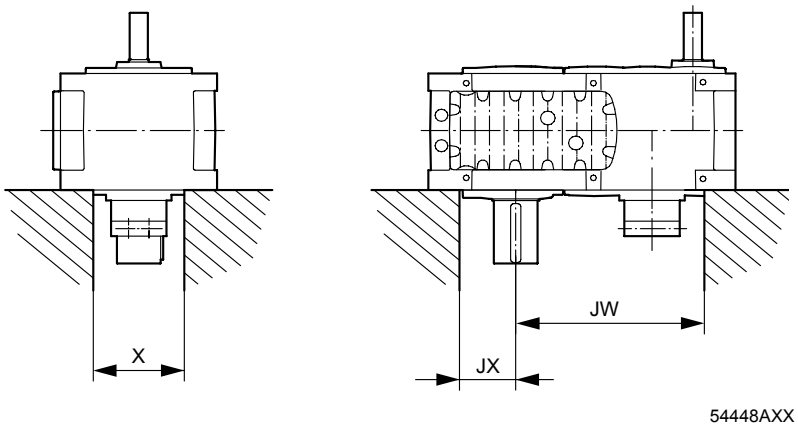
1) The maximum permitted external loads on the LSS are lower

	Shaft positions			
	03	04	03[1)]	04[1)]
MC2R • Solid shaft				
MC2R • Hollow shaft with keyway				
MC2R • Hollow shaft with shrink disc				
MC3R • Solid shaft • Hollow shaft with keyway • Hollow shaft with shrink disc				

1) The maximum permitted external loads on the LSS are lower.

Vertical design

For gear units in vertical design (MC..V), adequate space must be provided for the shaft end pump.



Gear unit size	MC2PV.., MC2RV.., MC3RV..			MC3PV..		
	X	JX	JW	X	JX	JW
04	250	162	380	250	162	488
05	250	169	420	250	169	532
06	250	182	454	250	182	574
07	250	204	499	250	204	629
08	316	219	556	316	219	696
09	386	232	611	386	232	765

7.6 Flow switch

Usage

The flow switch is an electrical switch used for controlling the correct functioning of a pressure lubrication system (→ Shaft end pump; → Motor pump) by checking the oil flow.

In deliveries since March 1st 2005, the flow switch is a standard feature for all gear units supplied with

- a motor pump
- a shaft end pump with a flow rate of 8.5 l/min or higher.

Shaft end pumps with a flow rate below 8.5 l/min are equipped with a visual flow control device (→ Visual flow indicator) as standard.

Selection

SEW-EURODRIVE selects the flow switch. As standard, a flow switch of the type DW-R-20 is used. All the following technical data refer to this type.

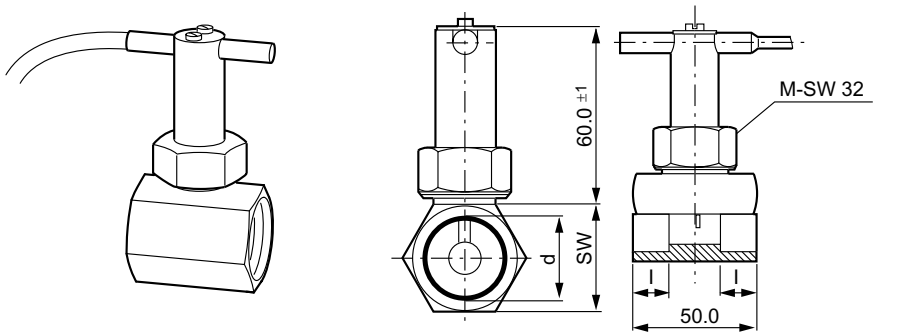
Function

The flow pushes against a circular plate attached to a pendulum. The pendulum, which is regulated by a spring, moves on its pivot. A magnet attached to the end of the pendulum operates a movable reed contact. The switch unit itself is separated from the oil.

The flow switch has two switching points:

1. Switching point HIGH (upper limit of flow rate) → contact closed - ON
2. Switching point LOW (lower limit of flow rate) → contact open - OFF

Dimensions



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	d Inner thread	NW (nominal width)	I	SW	Z	Z	L	H	Z
			[mm]						
Material				A+B+C	A+B	C	D	D	D
Dimension	R ¾ "	20	11	30	50	50	19	109	66

Material abbreviations:

A = Brass

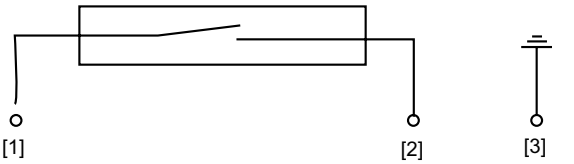
B = Nickel-plated brass

C = Stainless steel

D = Stainless steel / PVC

For determining the exact position of the flow switch, refer to the order-specific dimension drawing

Electrical connection

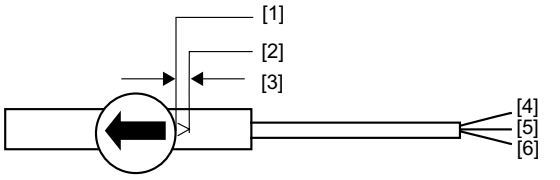


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[1] Brown

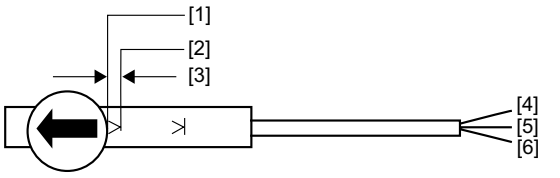
[2] Blue

[3] Yellow/green



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[1] High switching point
[2] Low switching point
[3] Setting range
[4] Blue
[5] Brown
[6] Yellow/green



56029AXX

[1] High switching point
[2] Low switching point
[3] Setting range
[4] Blue
[5] Brown
[6] Yellow/green

Power supply: 230 V; 1.5 A; 80 W, 90 V_{Amax}
Enclosure: IP 65
Maximum temperature of medium: 110°C
Maximum ambient temperature: 70°C
Maximum working pressure: 25 bar
Length of connecting cable: 1.5 m
Switch: You can use the switch as normally closed or normally open contact; SPDT switch available on request
Switch hysteresis: approx. 5 %

Type	Switching point range ON	Switching point range OFF	Maximum flow rate
	[l/min]		
DW-R-20	8.5 - 12.0	6.6 - 11.0	80

7.7 Visual flow indicator

Usage

The visual flow indicator is a simplified method of controlling the functioning of a pressure lubrication system by visually checking the oil flow. In deliveries since March 1st 2005, the visual flow indicator is a standard feature of all gear units supplied with a shaft end pump and a flow rate below 8.5 l/min.

Shaft end pumps with a flow rate above 8.5 l/min are equipped with an electrical flow switch (→ Flow switch) as standard.

Function

The oil flow in the system moves a rotating element, which is visible from outside. If the rotating element does not move, the shaft end pump needs to be checked.

For determining the exact position of the visual flow indicator, refer to the order-specific dimension drawing

7.8 Oil/water cooler with shaft end pump

Usage

An external oil/water cooling system can be used if the thermal rating of the naturally cooled gear unit or cooling with a cooling fan on the HSS is insufficient. Preconditions for using an external oil/water cooling system:

- Availability of suitable cooling water on site
- Sufficient input speed for the shaft end pump

Selection

The shaft end pump described in chapter 7.5 is completed by an oil/water plate heat exchanger.

Five heat exchanger sizes with the following cooling capacities are standardized:

(Valid for T_{water} = 20°C, T_{oil} = 60°C, V_{water} = 0.25 x V_{oil})

Type	Cooling capacity
P820	3.6 kW (with V_{oil} = 10.5 l/min)
P830	4.6 kW (with V_{oil} = 10.5 l/min)
P1540	10 kW (with V_{oil} = 18 l/min)
P2540	16 kW (with V_{oil} = 27 l/min)
P2560	26 kW (with V_{oil} = 43 l/min)

The correct cooler type and size for the application is selected depending on the

- required oil flow of the gear unit
- gear unit size
- power losses to be cooled (if additional cooling is required)
- cooling water temperature and available flow

Contact SEW-EURODRIVE for selecting the correct oil/water cooler type.

Scope of delivery

The cooling group consists of

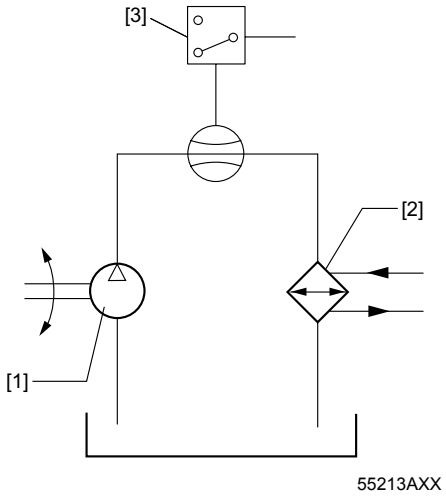
- shaft end pump
- oil/water plate heat exchanger
- flow switch

The following instrumentation can be added as option:

- Oil filter (20 µm) with internal bypass valve for filter and optical contamination indicator.
- Thermo switch with fixed or adjustable switching point:

  Serves to control the cooler

Flow diagram



[1] Shaft end pump

[2] Oil/water heat exchanger

[3] Flow switch

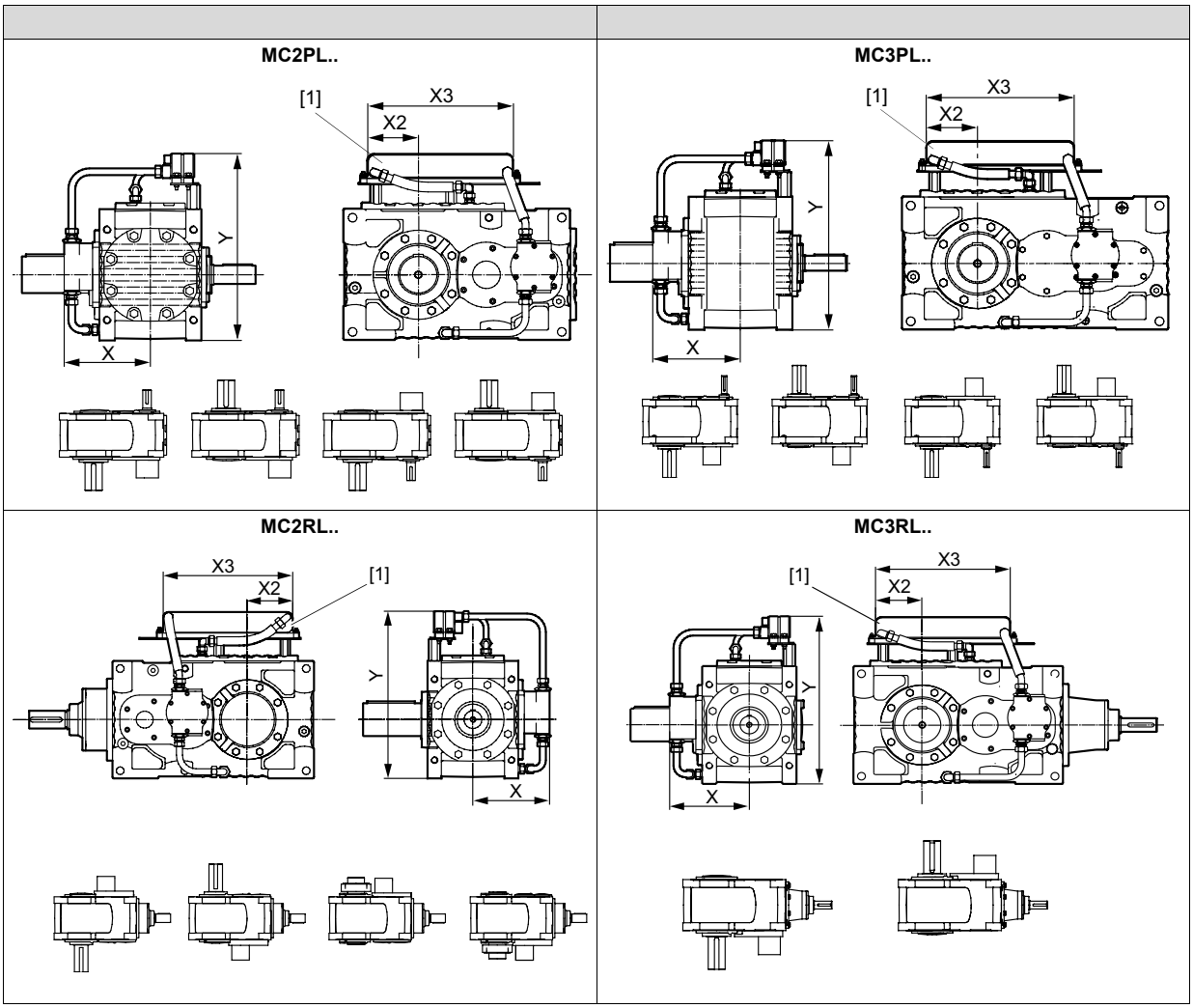
Cooling system position

The cooling system is delivered as assembled system attached to the gear unit. The position depends on

- gear unit type (MC..R.., MC..P) and number of stages
- gear unit design (MC..L, MC..V…, MC..E..)

For the exact position of the cooling system, refer to the order-specific dimension drawing; the outline drawings on the following pages can be used as a guideline.

Gear unit design "MC...L.."

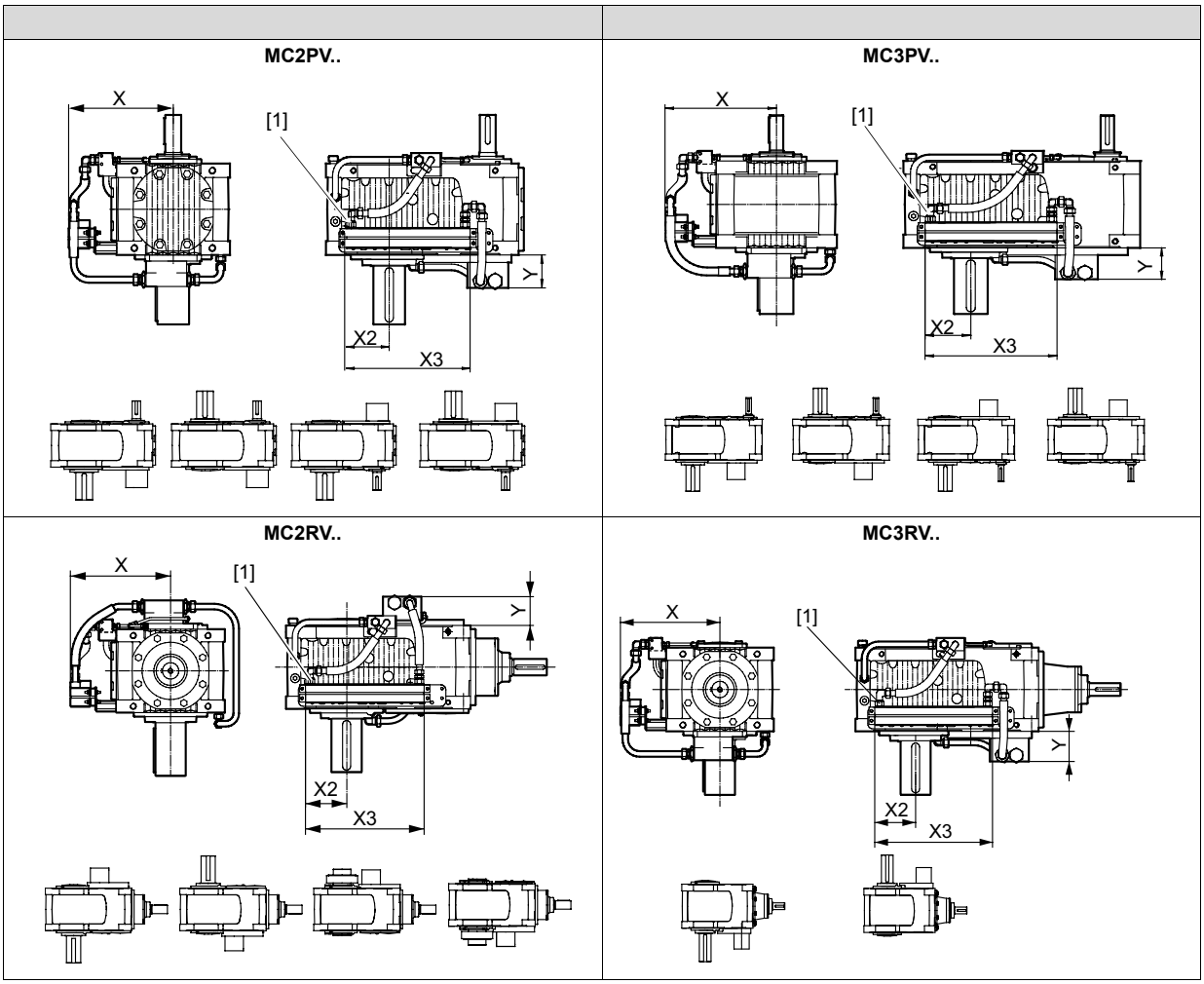


[1] Water inlet

Gear unit size	Dimensions / max. [mm]			
	X	X2	X3	Y
04	312	200	466	562
05	320	210	524	637
06	333	240	524	677
07	345	265	524	737
08	371	292	524	807
09	381	305	524	877

Size	Thread
P8..	R 1/2
P15..	R 1/2
P25..	R1

Gear unit design "MC...V.."

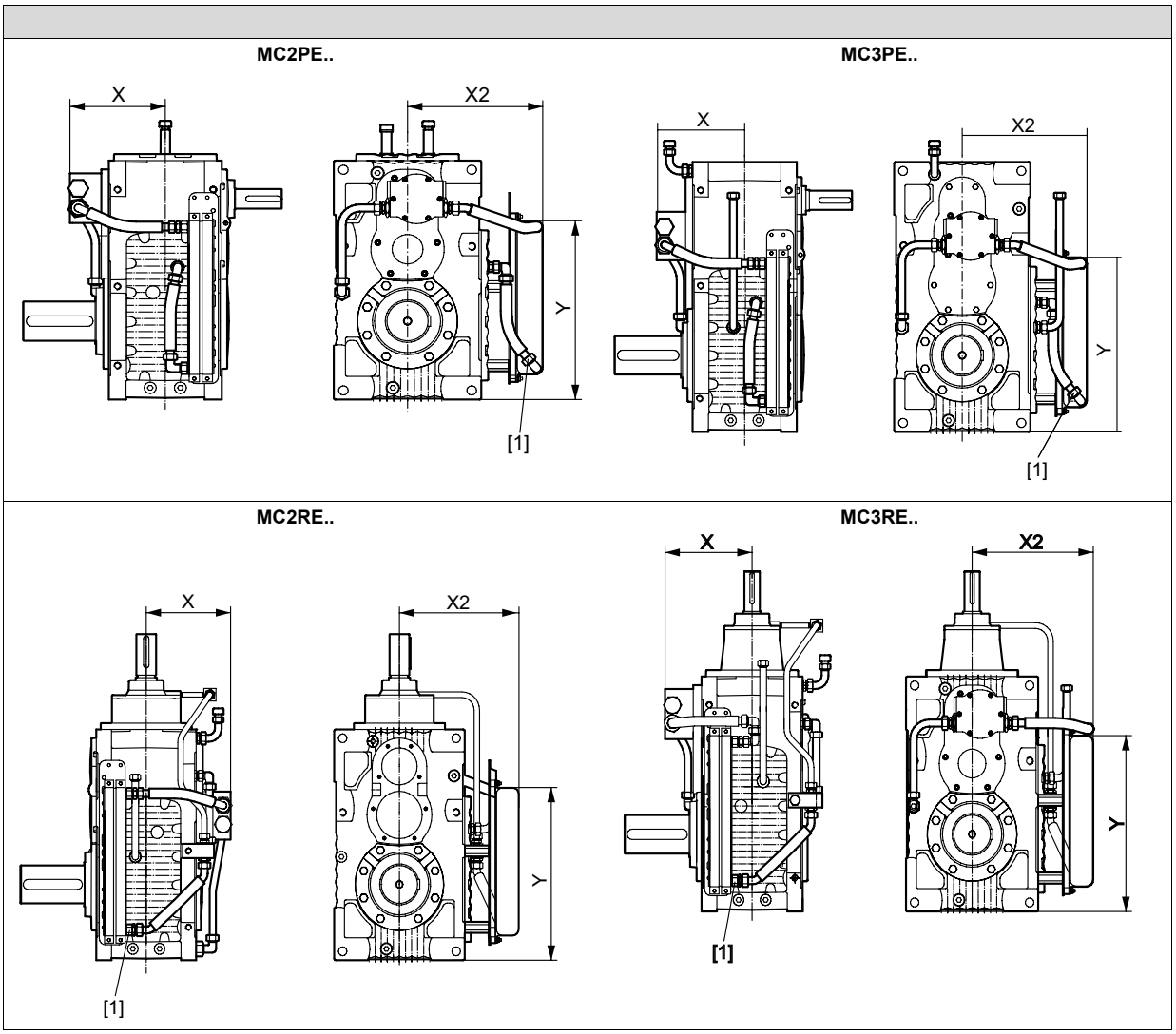


[1] Water inlet

Gear unit size	Dimensions / max. [mm]			
	X	X2	X3	Y
04	362	200	466	155
05	422	210	524	155
06	422	240	524	155
07	472	264	524	155
08	507	292	524	155
09	542	305	524	155

Size	Thread
P8..	R 1/2
P15..	R 1/2
P25..	R1

Gear unit design "MC...E.."



[1] Water inlet

Gear unit size	Dimensions / max. [mm]		
	X	X2	Y
04	312	362	496
05	320	422	554
06	333	442	554
07	345	472	554
08	371	507	554
09	381	542	554

Size	Thread
P8..	R 1/2
P15..	R 1/2
P25..	R1

7.9 Motor pump

Usage

If pressure lubrication is required (→ section "Lubrication") and a shaft end pump does not supply sufficient oil because the input speed is too low, then a motor pump can be used for sizes 04…09.

Selection

As standard, there are three standard pump types that can be combined with each gear unit size.

Type	Oil flow [l/min]	Nominal power [kW]
MFZP-1	5	0.37
UF size 1	10	0.37
UF size 2	40	2.2

The correct pump type for the application is selected depending on the required oil flow of the gear unit. The oil flow depends on the

- gear unit size
- power losses to be cooled (if additional cooling is necessary)

Contact SEW-EURODRIVE for selecting the correct pump type.

Pump position

The motor pump is delivered as assembled motor pump group, that can optionally be delivered

- attached to the gear unit, or
- separately for mounting on a customer-supplied base frame.

Scope of delivery

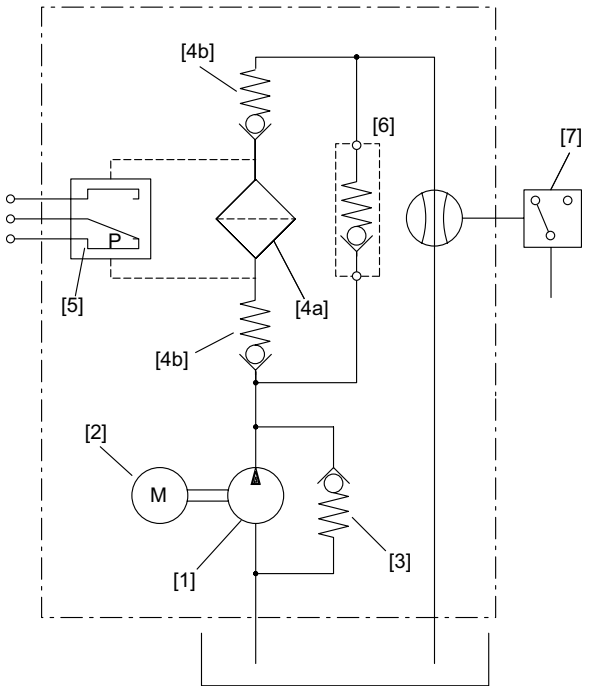
The scope of delivery of the motor pump group includes:

- Vane pump
- Directly mounted asynchronous motor, 3-phase, B5 mounting, voltage 230/400 V - 50 Hz or 440/480 V - 60 Hz
- Internal pressure switch
- Flow switch

If a UK type pump is used, the delivery will also include the following:

- Oil filter (20 µm) with internal bypass valve and optical contamination indicator

Flow diagram

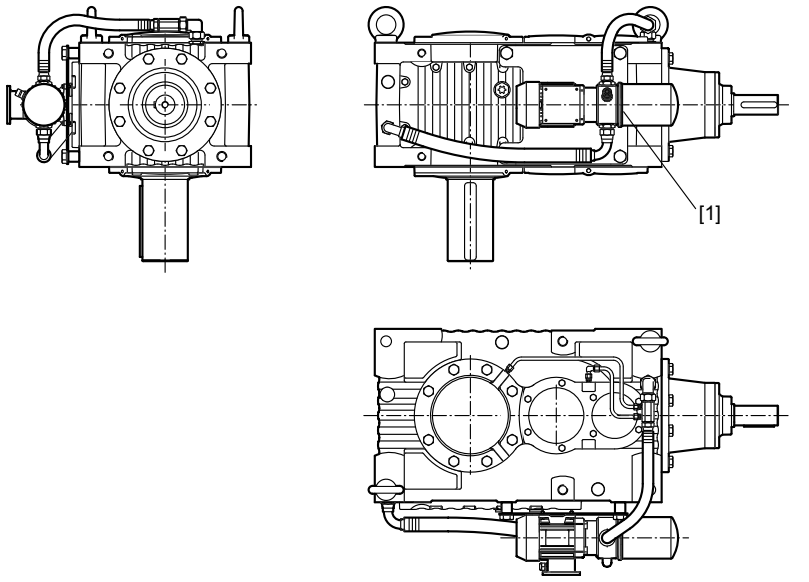


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[1] Pump
[2] Motor
[3] Internal pressure valve
[4a] Oil filter (only UK type)
[4b] Internal bypass valves
[5] Electrical contamination indicator (difference-pressure control) [optional]
[6] External bypass valve [optional]
[7] Flow switch

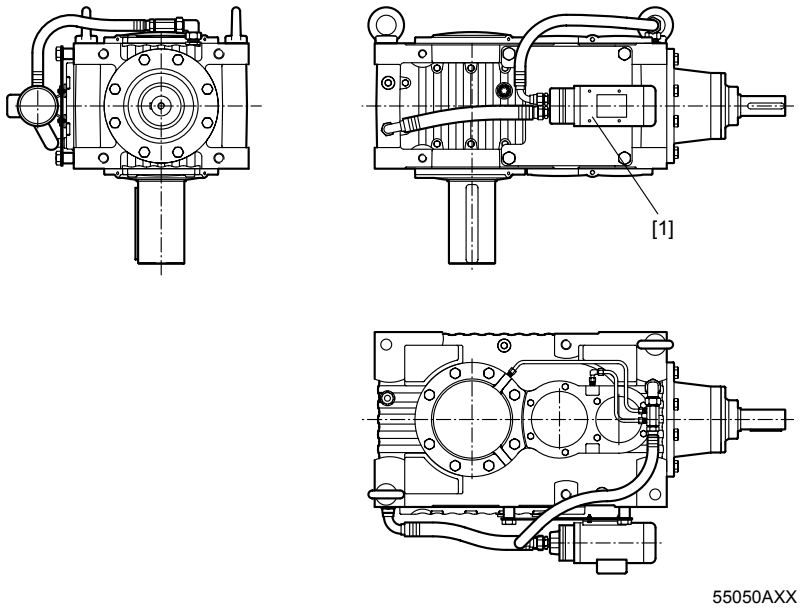
For the exact position of the motor pump, refer to the order-specific dimension drawing. Examples are shown in the following drawings.

Example:
MC..RV. gear unit



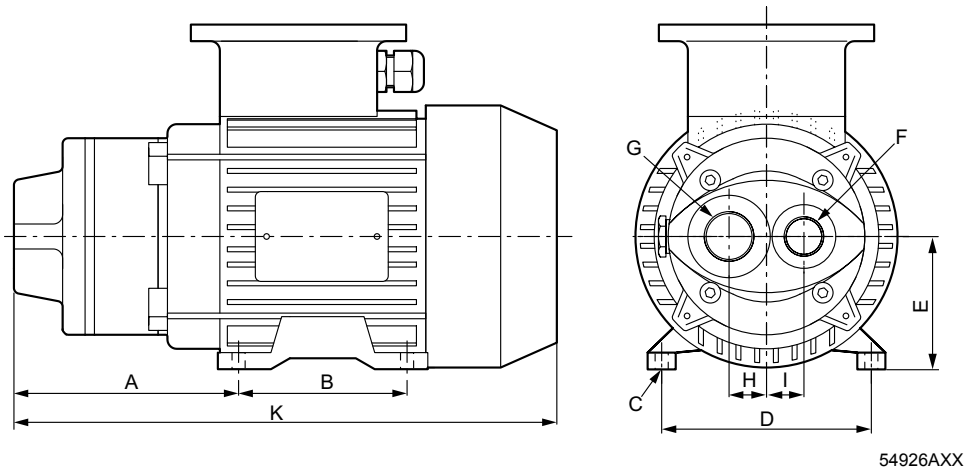
[1] UF motor pump size 1

Example:
MC..RV.. gear unit



[1] Motor pump MFZP-1

Connection dimensions MFZP-1

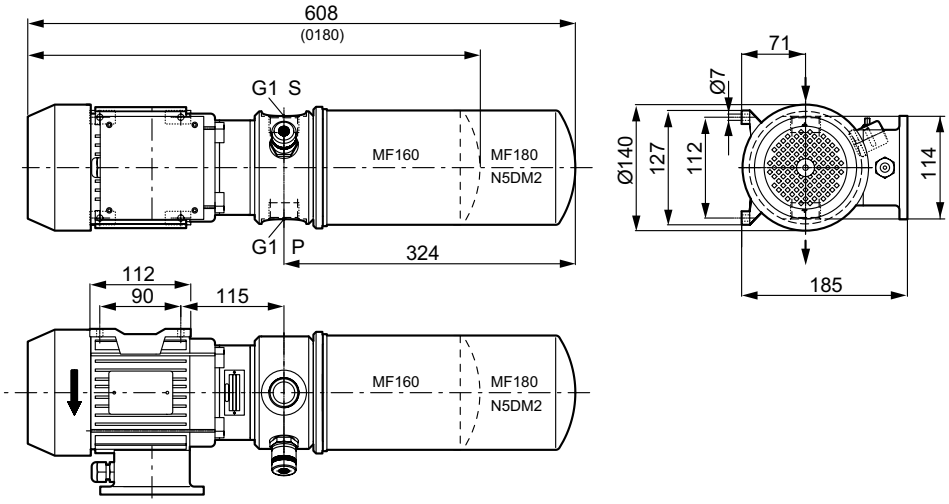


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Type	A	B	C	D	E	F	G	H	I
	[mm]								
MFZP-1/1.1/X/71	120	90	7	112	71	G 1/2	G 3/4	20	20

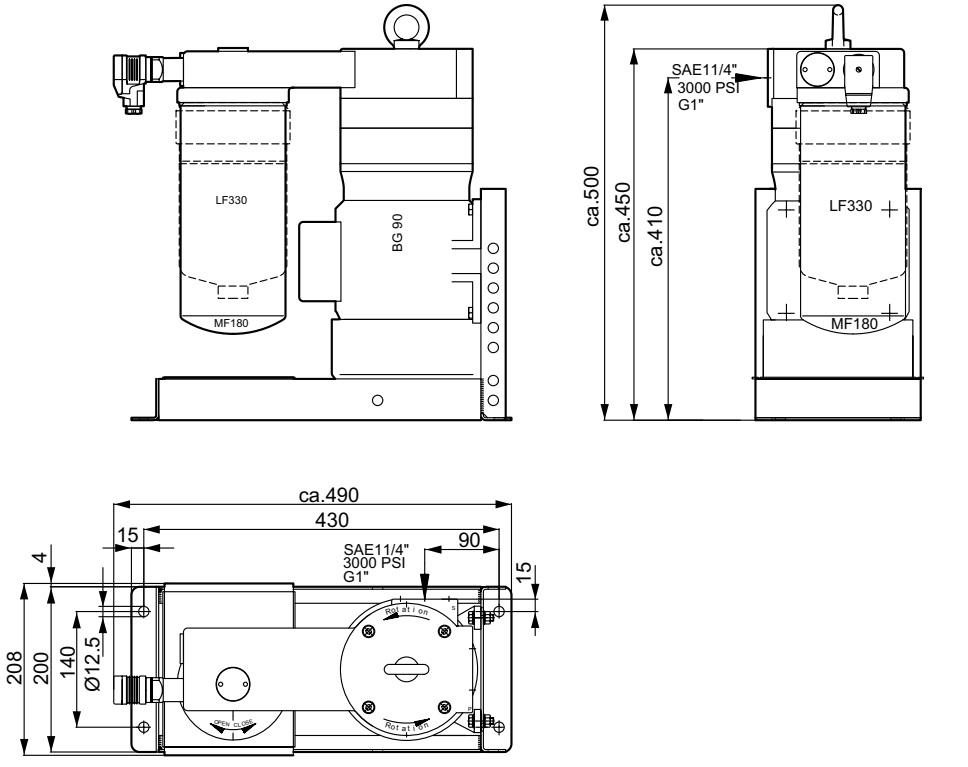
Lengths "K" of motor/pump units:
MFZP-1 with elec. motor size 71/0.37 kW/B34 small flange: approx. 320 mm

Connection dimensions UF1



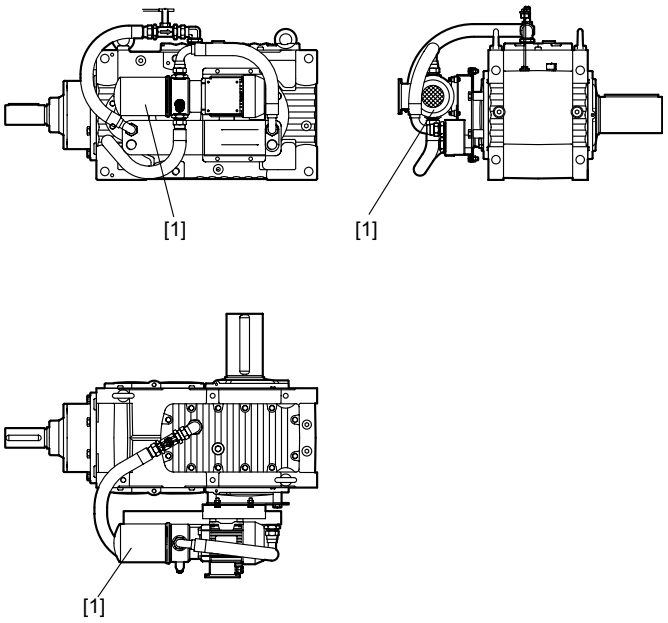
54927AXX

Connections dimensions UF2



54941AXX

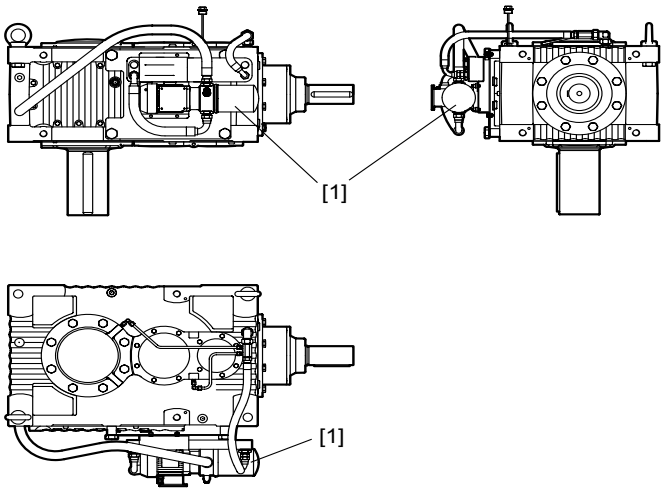
Example of MC..RL unit with UKF-1 oil/water cooler



54994AXX

[1] UKF-1 oil/water cooler

Example of MC..RV unit with UKF-1 oil/water cooler



54995AXX

[1] UKF-1 oil/water cooler

7.10 Oil/water cooler with motor pump

Usage

If the thermal rating of the naturally cooled gear unit or cooling with a cooling fan on the HSS is insufficient, then an external oil/water cooling system can be used. The precondition for using an oil/water cooling system is the availability of suitable cooling water on site.

Selection

Normally, the motor pump groups described in chapter 7.9 are completed by an oil/water plate heat exchanger.

Two heat exchanger sizes with the following cooling capacity are standard:

(Valid for T_{water} = 20°C, T_{oil} = 60°C, V_{water} = 0.25 x V_{oil})

Type	Cooling capacity
CP415-20	7 kW (with V_{oil} = 10 l/min)
CP415-60	20 kW (with V_{oil} = 40 l/min)

The correct cooler type and size for the application is selected depending on the

- required oil flow of the gear unit
- gear unit size
- power losses to be cooled
- cooling water temperature and available flow

Contact SEW-EURODRIVE for selecting the correct oil/water cooler type.

Cooling system position

The cooling system is delivered as assembled system, that can optionally be delivered

- attached to the gear unit, or
- separately for mounting on a customer-supplied base frame.

Scope of delivery

The cooling group consists of

- Vane pump
- Directly mounted asynchronous motor, 3-phase, B5 mounting, voltage 230/400 V - 50 Hz or 440/480 V - 60 Hz
- Internal pressure-limiting valve
- Oil filter (20 µm) with internal bypass valve for filter and optical contamination indicator
- Oil/water plate heat exchanger

The following instrumentation can be added as option:

- Flow switch:

  Serves to control the pump function via control of the oil flow. The flow switch trips if the flow falls below a certain value.

- Thermo switch with fixed or adjustable switching point:

  Serves to control the cooler

- Thermostatic valve in the oil circuit:

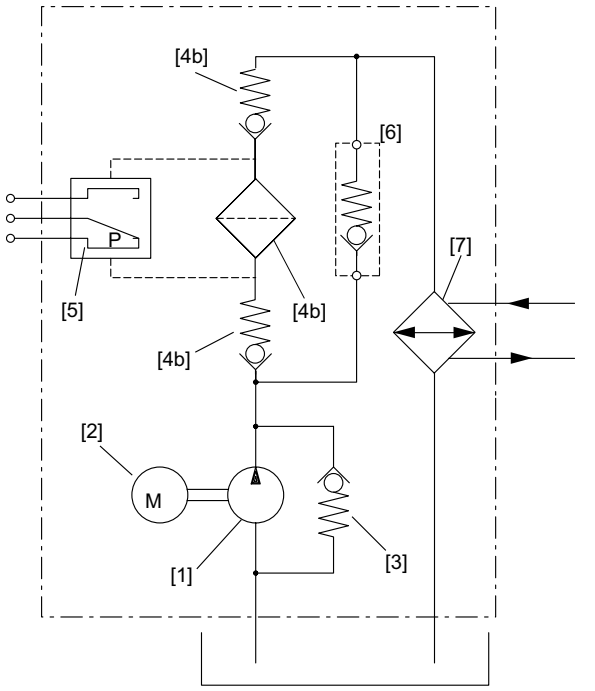
  Stabilizes the oil temperature (cooled and heated oil is mixed depending on the oil temperature).

- Thermostatic valve in the water circuit:

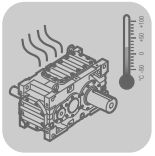
  Regulates the cooling water flow depending on the oil temperature

- Filter in the water circuit

Flow diagram



[1] Pump
[2] Motor
[3] Internal pressure valve
[4a] Oil filter (only UK type)
[4b] Internal bypass valves
[5] Electrical contamination indicator (difference-pressure control) [optional]
[6] External bypass valve [optional]
[7] Oil/water heat exchanger



Operating details heat exchanger

It is important that cooling water specifications and other operating details are observed.

- Medium:
  - Water glycol (coolants)
  - HFC operating liquids
  - Water
  - Oil

- Contamination:

  The quantity of particles in the suspension should be less than 10 mg/l. The particle size should be < 0.6 mm (spherical). Thread-like particles cause a rapid rise in pressure drops.

- Temperature range:

  –10°C to +225°C (freezing point and boiling point must be taken into consideration!)

- Pressure:

  Max. 27 bar (static)

- Corrosion:

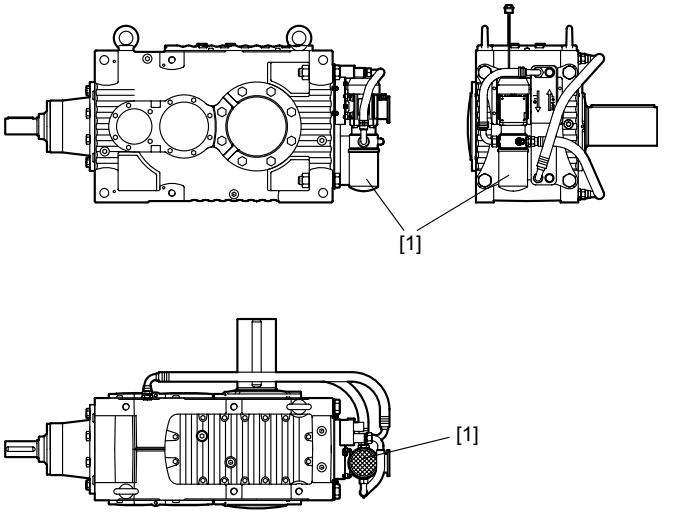
  The following critical values refer to a pH value of
  - free chlorine, CL_2 < 0.5 ppm
  - chloride ions CL
    < 700 ppm at 20°C
    < 200 ppm at 50°C

- Other critical values:
  - ph 7 ... 10
  - sulphate S_{O4}^{2-}
    < 100 ppm
  - $[H\ CO_3^-] / [SO_4^{2}] > 1$
  - ammonia, NH_3 < 10 ppm
  - free CO < 10 ppm

- The following ions are not corrosive under normal conditions:
  - phosphate
  - nitrate
  - nitrite
  - iron
  - manganese
  - sodium
  - potassium

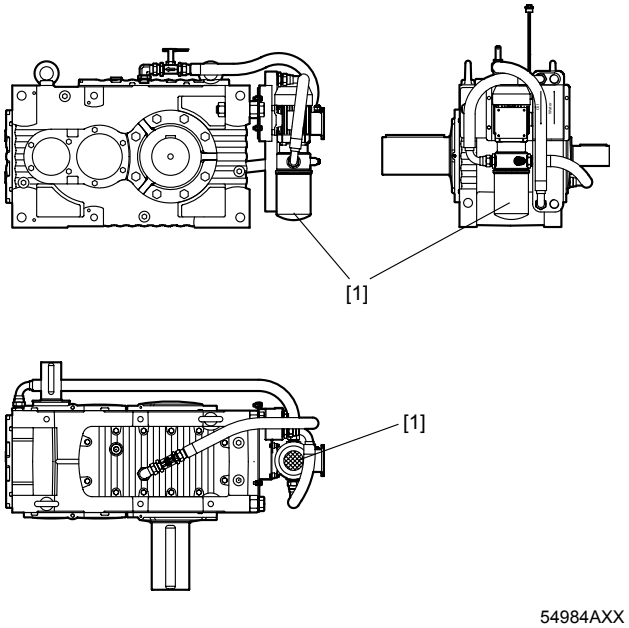
For the exact position of the cooling system, refer to the order-specific dimension drawing. Examples are shown in the following drawings.

Example of MC..RL unit with UKF-1 oil/water cooler



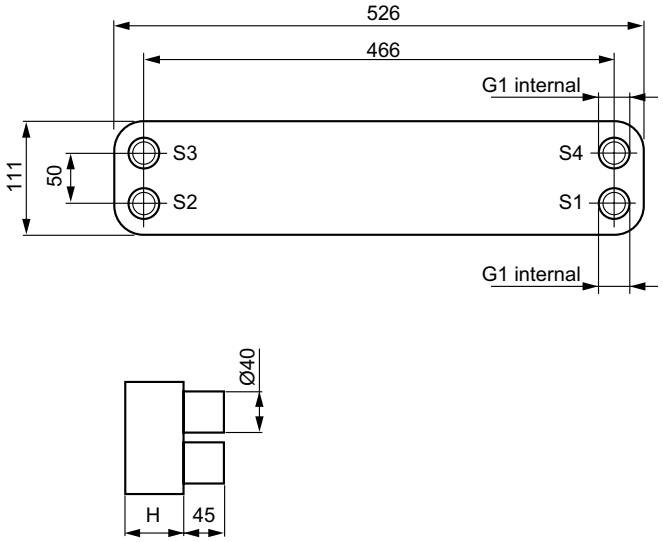
[1] UKF-1 oil/water cooler

Example of MC..PL unit with UKF-1 oil/water cooler



[1] UKF-1 oil/water cooler

Connection dimensions for heat exchanger



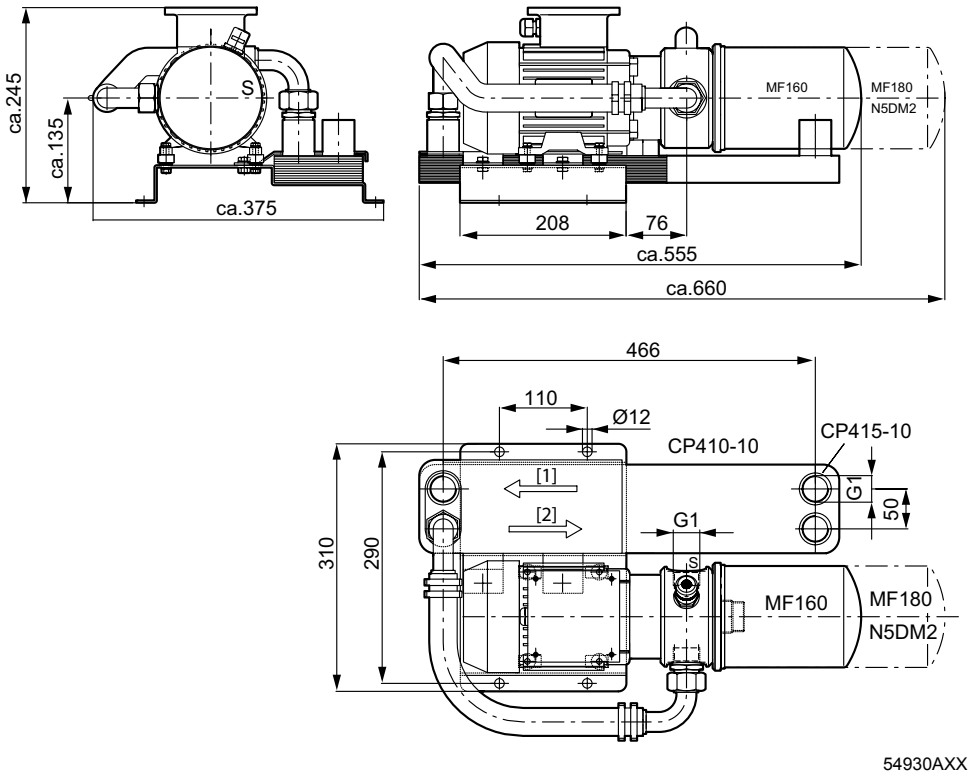
54928AEN

With H =

CP415-20: 58 mm (m = 6.5 kg)

CP415-60: 154 mm (m = 15.7 kg)

Connection dimensions for UKF1

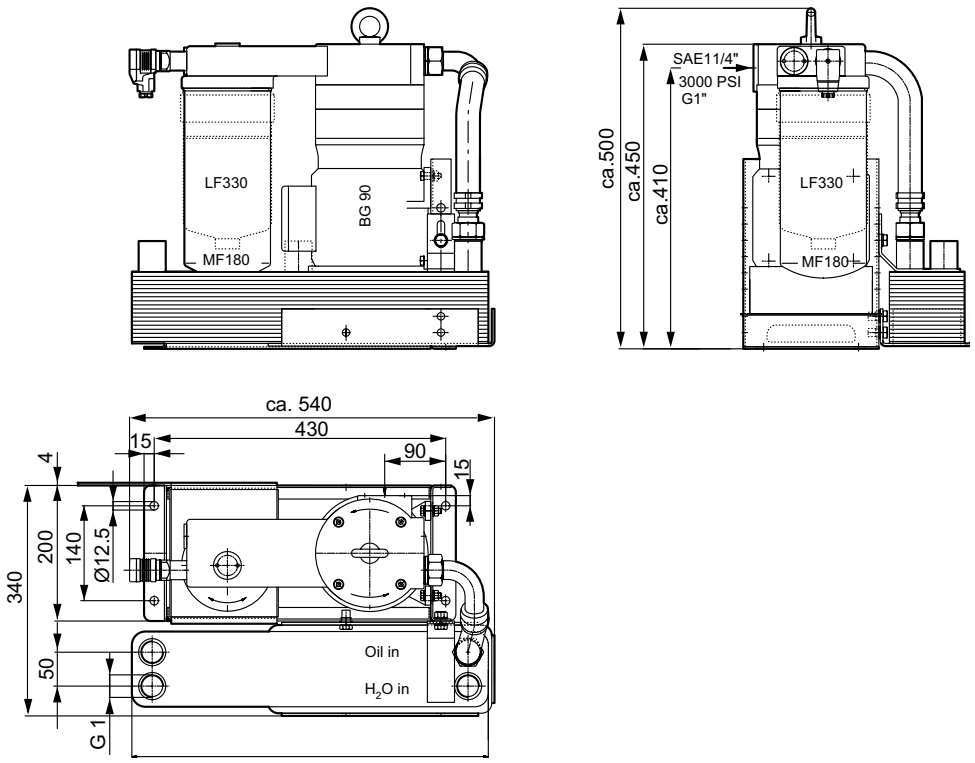


54930AXX

[1] Water

[2] Oil

Connection dimensions for UKF2



54931AXX

7.11 Oil/air cooler with motor pump

Usage

If the thermal rating of the naturally cooled gear unit or cooling with a cooling fan on the HSS is insufficient, then an external oil/air cooling system can be used.

Selection

Normally, the motor pump groups described in chapter 7.9 are completed by a fan-driven oil/air heat exchanger.

Two heat exchanger sizes with the following cooling capacity are standardized.

(Valid for T_{air} = 20°C, T_{oil} = 60°C)

Type	Cooling capacity
OK-EL4s	≈ 8 kW (with V_{oil} = 10 l/min)
OK-EL6s	≈ 20 kW (with V_{oil} = 40 l/min)

The correct cooler type and size for the application is selected depending on the

- required oil flow of the gear unit
- gear unit size
- power losses to be cooled
- temperature difference between oil and environment

Contact SEW-EURODRIVE for selecting the correct oil/air cooler type.

Cooling system position

The cooling system is delivered as assembled system, that can optionally be delivered

- attached to the gear unit, or
- separately for mounting on a customer-supplied base frame.

For the exact position of the cooling system, refer to the order-specific dimension drawing.

Scope of delivery

The cooling group consists of

- Vane pump
- Directly mounted asynchronous motor, 3-phase, B5 mounting

  Voltage 230 V / 400 V - 50 Hz or 440 V / 480 V - 60 Hz
- Internal pressure-limiting valve
- Oil filter (20 µm) with internal bypass valve for filter and optical contamination indicator
- Fan driven oil/air heat exchanger

The following features can be added as option:

- Flow switch:

  Serves to control the pump function via control of the oil flow; The flow switch trips if the flow falls below a certain value

- Thermo switch with fixed or adjustable switching point:

  Serves to control the cooler

- Thermostatic valve in the oil circuit:

  Stabilizes the oil temperature (cooled and heated oil is mixed depending on the oil temperature)

- "LFM":

  Air filter grid on the air suction element (Attention: Even with clean filter, the cooling power decreases by ≈ 8 %)

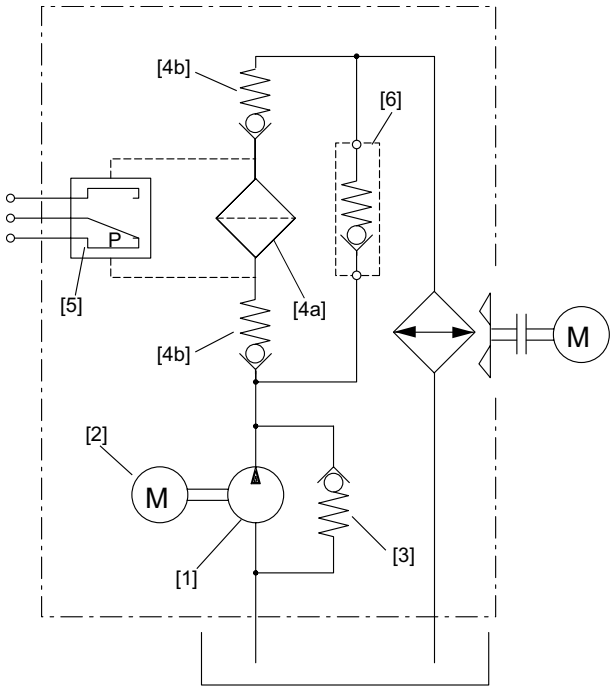
- "LFG":

  Air filter grid on the air suction element (Attention: Even with clean filter, the cooling power decreases by ≈ 5 %)

- "GP":

  Vibration absorber

Flow diagram



54936AXX

[1] Pump
[2] Motor
[3] Internal pressure valve
[4a] Oil filter (only UK type)
[4b] Internal bypass valves
[5] Electrical contamination indicator (difference-pressure control) [optional]
[6] External bypass valve [optional]
[7] Oil/air heat exchanger

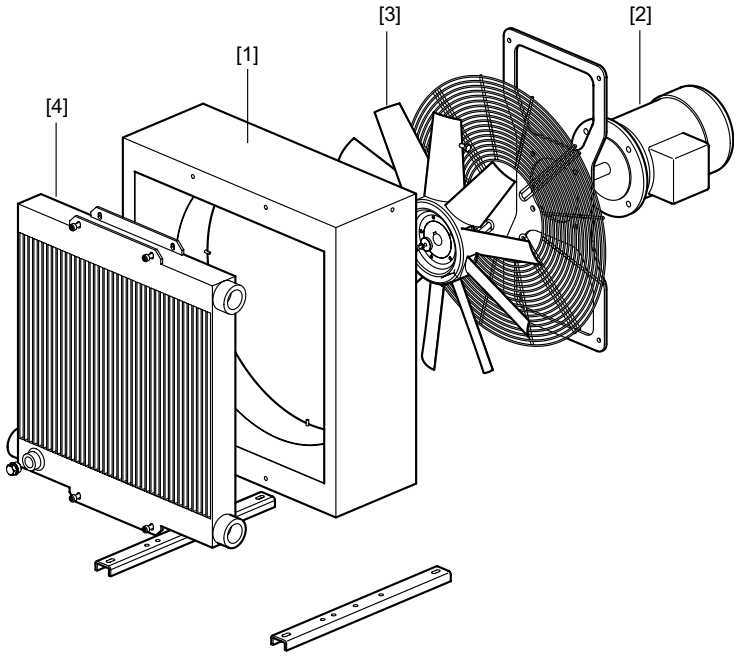
Operating details

It is important to observe the other operating details:

Cooler type	Displacement [cm^3/U]	Oil flow [l/min]	No. of poles [-] / size [-]	Motor capacity [kW] at 50 Hz	Noise level (1 m distance) [dB (A)] at 50 Hz
OK-EL4S	-	150	4 / 71	0.37	74
OK-EL6S	-	225	4 / 90	1.1	75

Cooler type	Max. operating pressure [bar]	Max. oil temperature [°C]	Max. viscosity [mm^2/s)	Size of filter	Weight [kg]
OK-EL4S	16	130	2000	-	31
OK-EL6S	16	130	2000	-	43

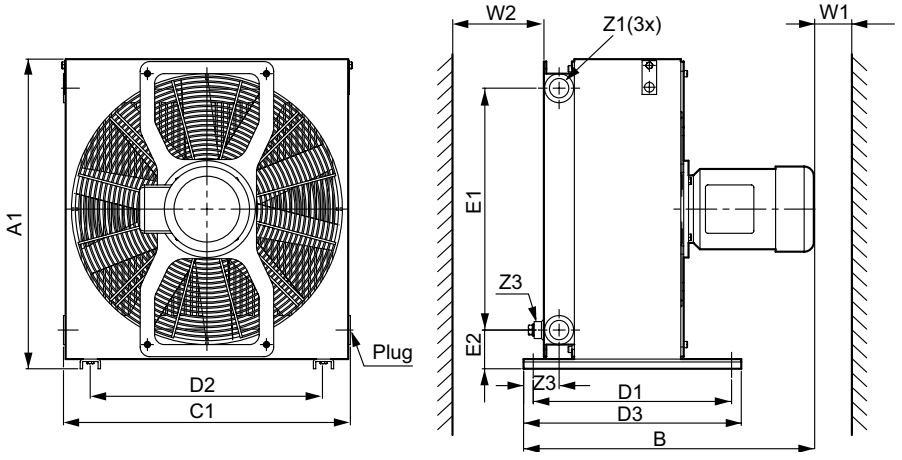
Structure of a heat exchanger



54932AXX

[1] Metal housing
[2] Motor
[3] Axial fan
[4] Heat exchanger

Connection dimensions



54933AXX

Type	A1 ±10	B ±10	C1 ±10	D1 ±2	D2 ±2	D3 ±2	E1 ±5	E2 ±5	E3 ±5	F	W1 min.[1]	W2 min.[1]	Z1	Z3
	[mm]													
OK-EL4L,S	520	502	485	410	425	450	439	51	104	9	1200	400	G 1"	-
OK-EL6L,S	640	600	550	410	482	450	500	80	74	9	1800	600	G 1 1/4"	M22x1.5

1) for smaller distances please contact our sales support

7.12 Pressure lubrication – Important selection data

If pressure lubrication with additional cooling is required, it is recommended to fill out the following form

		AC		DC		
Electrical supply	3-phase		1-phase			
Mains voltage	☐		☐	☐	V	Hz
Auxiliary voltage	☐		☐	☐	V	Hz
Protection class	IP					
Explosion proof requirement	☐ No					
	☐ Yes					

Additional cooling (if required)

	Allowed	Not allowed		
Fan	☐	☐		
Oil/air cooler	☐	☐	Cooling water available	☐ Yes
Oil/water cooler	☐	☐		☐ No

Mounting of pressure lubrication system

☐ directly attached to gear unit
☐ own foundation (customer's own construction)

Equipment for pressure lubrication systems with or without cooler

☐ Oil filter (20 µm) with internal bypass valve
- ☐ With optical contamination indicator (manual release)
- ☐ With electrical and optical contamination indicator

☐ **Pressure control**
- ☐ Visual pressure gauge
- ☐ Pressure switch
- ☐ Pressure transducer

☐ **Flow control**
- ☐ Visual
- ☐ Electrical
- ☐ Visual and electrical

☐ **Wiring for all instruments on common terminal box**

Special requirements concerning the mechanical connection of lubrication systems

☐ No
☐ Yes

Special requirements concerning piping / hose system

☐ No
☐ Yes

Pressure lubrication systems with oil/water cooler

Selection data:

Desired oil running temperature:	°C
Ambient temperature:	°C
Normal (average):	°C
Min:	°C
Max:	°C

Cooling water supply:

Temperature:	°C
Permitted temperature increase of cooling water ΔT:	K
Available water flow rate Q_{Water}:	l/h
	l/min
	l/s

Required equipment:

	Visual thermometer
	Thermo switch with fixed switching point
	Thermo switch with adjustable switching point
	Thermostatic valve in oil circuit
	Filter in water circuit

Pressure lubrication systems with oil/air cooer

Selection data:

Desired oil running temperature:	°C
Ambient temperature:	°C
Normal (average):	°C
Min:	°C
Max:	°C

Noise limitations

Max. permitted sound pressure level in 1 m distance	dB(A)

Required equipment:

	Visual thermometer
	Thermo switch with fixed switching point
	Thermo switch with adjustable switching point
	Thermostatic valve in oil circuit
	Air filter grid on the air suction

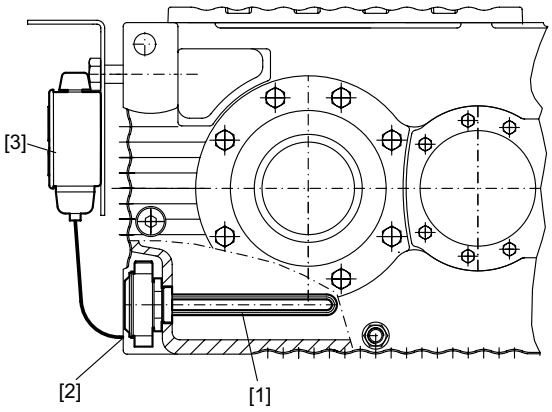
7.13 Oil heater

Oil heating is required to ensure lubrication at startup when the ambient temperature is low (e.g. cold start of the gear unit).

Activation / deactivation behaviour

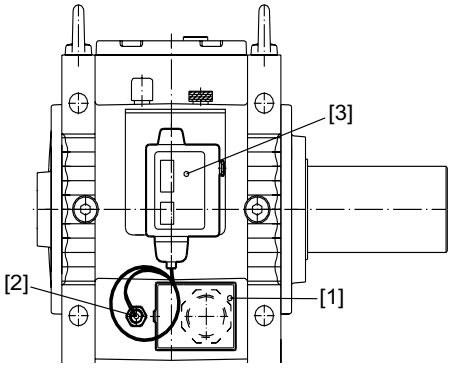
The oil heater

- is activated when the temperature set at the factory is reached
- is deactivated when the set temperature is exceeded by 8°C to 10°C



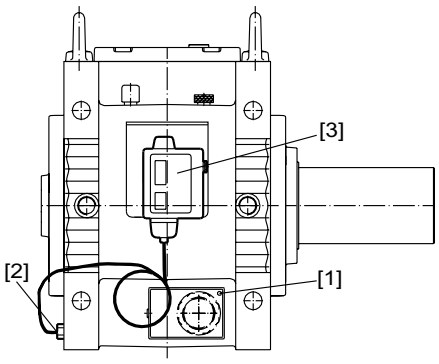
55359AXX

[1] Oil heater
[2] Temperature sensor
[3] Thermostat



50538AXX

[1] Oil heater
[2] Temperature sensor
[3] Thermostat



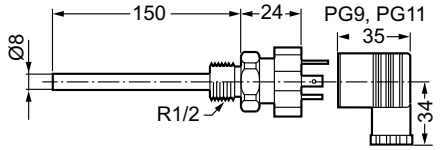
55361AXX

[1] Oil heater
[2] Temperature sensor
[3] Thermostat

7.14 Temperature sensor

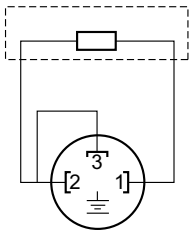
The temperature sensor PT100 can be used to measure the temperature of the oil in the gear unit.

Dimensions



50533AXX

Electrical connection



50534AXX

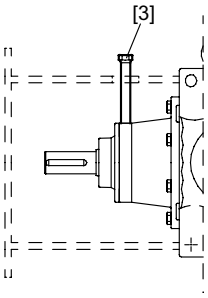
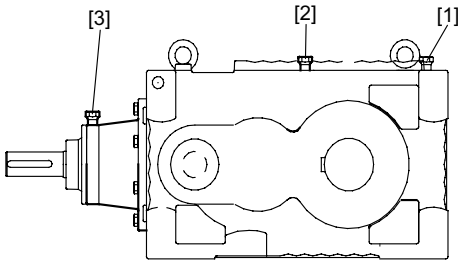
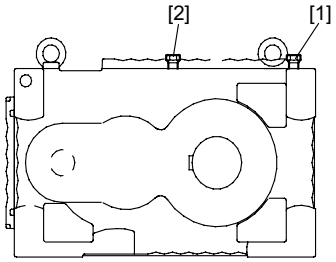
Technical data

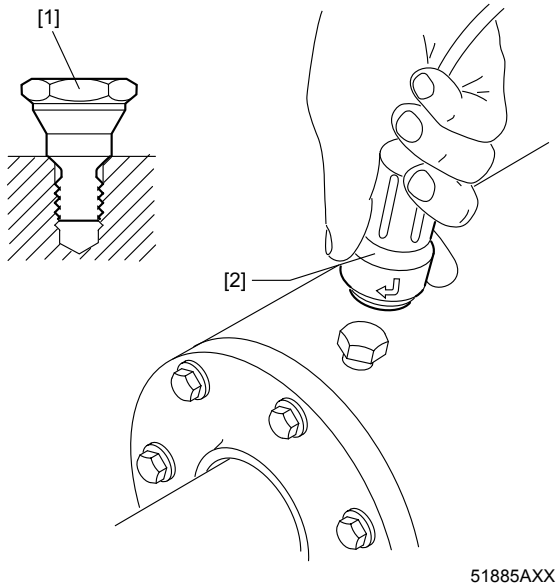
- Sensor tolerance ± (0.3 + 0.005 x t), (corresponds to DIN IEC 751 class B), t = oil temperature
- Plug connector DIN 43650 PG9 (IP65)
- The tightening torque for the retaining screw on the back of the plug connector for electrical connection is 25 Nm.

7.15 SPM adapter

SPM adapters are available for measuring the shock pulses of the gear unit bearings. Shock pulses are measured using shock pulse sensors attached to the SPM adapter.

Mounting position

MC.R..: An extended SPM adapter [3] is required if a motor flange or fan is used	**MC.R..:** SPM adapters [1] and [2] are attached on the side of the gear unit, SPM adapter [3] is attached on the pinion housing.	**MC.P..:** SPM adapters [1] and [2] are attached on the side of the gear unit.
		



51885AXX

8 Design and Operating Notes

8.1 Guideline for oil selection

General

Unless a special arrangement is made, SEW-EURODRIVE supplies the drives without oil fill.



It is therefore necessary to fill the gear unit with the correct type and quantity of oil before taking it into operation. The required information is indicated on the gear unit nameplate.

The required type and quantity of the gear unit oil depends on the following:

- gear unit size and type
- gear unit design (MC..L.., MC...V.., MC...E) and housing orientation (M1...M6)
- oil operating temperature, which depends on
  - transmitted power
  - ambient temperature
  - lubrication type (splash, bath or pressure lubrication)
  - additional cooling methods
- minimum temperature at cold start

In addition to the required viscosity, the oil must meet the following criteria:

- High viscosity index
- Must contain anti-wear, anti-rust, anti-oxidant and anti-foam additives
- Must also contain pressure-resistant additives (EP additivies)

If synthetic oils are selected due to operating temperatures or oil change intervals, SEW-EURODRIVE recommends polyalfaolefin-based (PAO) oil.

Mineral oils

Standards

Lubricating oils are grouped in ISO VG viscosity classes according to the ISO 3448 and DIN 51519 standards.

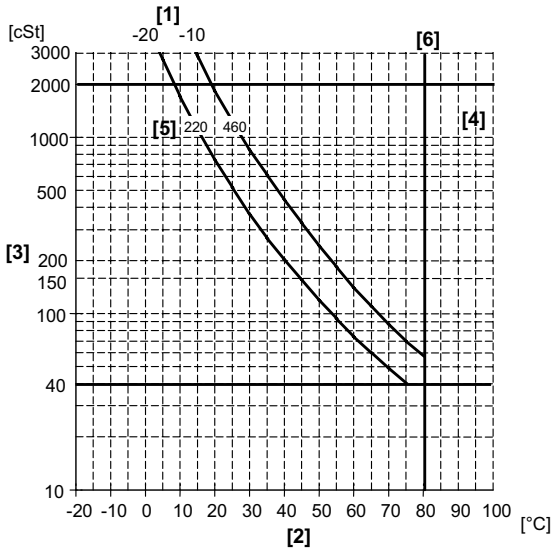
ISO class	ISO 6743-6 designation	DIN 51517-3 designation	AGMA 9005-D94 designation
220	ISO-L-CKC 220	DIN 51517-CLP 220	AGMA 5 EP
460	ISO-L-CKC 460	DIN 51517-CLP 460	AGMA 7 EP

Selecting viscosity of mineral oils

Lubrication method	Ambient temperature	Mineral ISO VG
• **Bath lubrication** • **Splash lubrication** • **Pressure lubrication with oil heater and cooler**	–15...+20 °C	220
• **Bath lubrication** • **Splash lubrication** • **Pressure lubrication with oil heater and cooler**	–5...+40 °C	460
• **Pressure lubrication with cooler**	+10...+20 °C	220
• **Pressure lubrication without cooler**	+20...+40 °C	460

Pressure lubrication with or without cooler requires that the situation at cold start is checked! When using an oil pump (pressure lubrication), the starting viscosity must be below 2000 cSt (→ figure 55052AXX).

Use an oil heater (→ chapter 7.13) if necessary.



55052AXX

[1] Pour point [°C]
[2] Gear unit's operating temperature of oil [°C]
[3] Viscosity [cSt]
[4] Viscosity index VI = 90...100
[5] ISO VG
[6] Temperature limitation 80°C

Max. running temperature of gear unit must be noticed. Max allowed running temperature is 70°C (long running temp) for ISO VG 220 and 80°C for ISO VG 460. 90°C can be used for short periods.

When needed, a cooling device must be used (fan, water/air cooling) or the oil changing interval must be shortened (see chapter "Lubrication change interval" in the operating instructions).

Selecting oil type of mineral oils

Select the oil type according to the required viscosity from the table in chapter "8.2 Lubricants."

Synthetic oils

Standard

Lubricating oils are grouped in ISO VG viscosity classes according to the ISO 3448 and DIN 51519 standards.

ISO- L-CKT 460	ISO 6743-6 designation
220	ISO-L-CKT 220
320	ISO-L-CKT 320
460	ISO-L-CKT 460

Minimum requirements are the same as for mineral oils

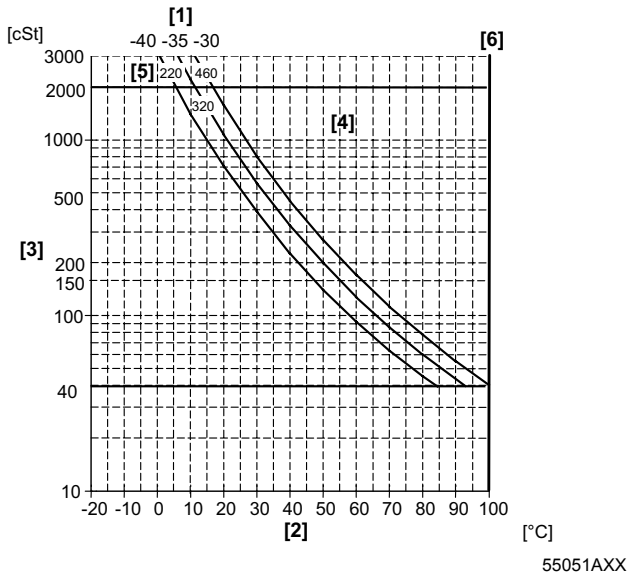
Selecting viscosity of synthetic oils

Lubrication method	Ambient temperature	Synthetic ISO VG
• **Bath lubrication** • **Splash lubrication** • **Pressure lubrication with oil heater and cooler**	–35...+30 °C	220
• **Bath lubrication** • **Splash lubrication** • **Pressure lubrication with oil heater and cooler**	–30...+40 °C	320
• **Bath lubrication** • **Splash lubrication** • **Pressure lubrication with oil heater and without cooler**	–25...+50 °C	460
• **Pressure lubrication with cooler**	+5...+30 °C	220
• **Pressure lubrication with cooler**	+10...+40 °C	320
• **Pressure lubrication without cooler**	+15...+50 °C	460



Pressure lubrication with or without cooler requires that the situation at cold start is checked! When using an oil pump (pressure lubrication), the starting viscosity must be below 2000 cSt (→ 55051AXX).

Use an oil heater (→ chapter 7.13) if necessary.



[1] Pour point [°C]
[2] Gear unit's operating temperature of oil [°C]
[3] Viscosity [cSt]
[4] Viscosity index VI = 140...180
[5] ISO VG
[6] Temperature limitation 100 °C

STOP

Max. running temperature of gear unit must be noticed. Max allowed running temperature is 70°C (long running temp) for ISO VG 220 and 80°C for ISO VG 460. 90°C can be used for short periods.

When needed, a cooling device must be used (fan, water/air cooling) or the oil changing interval must be shortened (see chapter "Lubrication change interval" in the operating instructions).

Selecting oil type of synthetic oils

Select the oil type according to the required viscosity from the table in chapter "8.2 Lubricants".

8.2 Lubricants for MC.. industrial gear units

Lubricant table

The lubricant table on the following page shows the permitted lubricants for SEW-EURODRIVE gear units. Please note the following key to the lubricant table.

Key to the lubricant table

Abbreviations and meaning of shading and notes:

CLP = Mineral oil

CLP PAO = Synthetic polyalphaolefin

= Synthetic lubricant (= synthetic anti-friction bearing grease)

= Mineral lubricant (= mineral-based anti-friction bearing grease)

1) = Ambient temperature

= please contact SEW-EURODRIVE



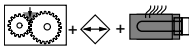
= Lubrication and cooling



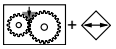
= Splash lubrication



= Bath lubrication



= Pressure lubrication with cooler and oil heater



= Pressure lubrication with cooler (without oil heater)

Lubricant table

47 0490 005

	1) °C		DIN (ISO)	ISO VG class	Mobil®	Shell	KLÜBER	ARAL	bp	TEXACO	FUCHS	Q8	Castrol	TOTAL
			CLP	VG 150			KLÜBER GEM 1-150N	Degol BG Plus 150	BP Energol GX-XF 150		Renolin CLP150Plus	Q8 Goya NT 150		
			CLP PAO	VG 150			Klübersynth GEM4-150N	Degol PAS 150 Degol GS 150	Enersyn EP-XF 150 Enersyn SG-XP 150		Renolin Unisyn CLP 150	Q8 ELGRECO 150		Carter SH 150
MC..P	+15 +20		CLP	VG 220	Mobilgear XMP220	Omala Oil F220	KLÜBER GEM 1-220N	Degol BG Plus 220	BP Energol GX-XF 220	Meropa 220	Renolin CLP220Plus	Q8 Goya NT 220	Alphamax 220 Tribol 1710/ 220 Optigear BM 220	
	+10 +20		CLP PAO	VG 220	Mobilgear SHC XMP220	Omala Oil HD 220	Klübersynth GEM4-220N	Degol PAS 220 Degol GS220	Enersyn EP -XF 220 Enersyn SG-XP 220	Pinnacle EP 220	Renolin Unisyn CLP 220	Q8 ELGRECO 220	Optigear Synthetic X 220	Carter SH 220
	-35 +30		CLP	VG 320	Mobilgear XMP320	Omala Oil F320	KLÜBER GEM 1-320N	Degol BG Plus 320	BP Energol GX-XF 320	Meropa 320	Renolin CLP320Plus	Q8 Goya NT 320	Alphamax 320 Tribol 1100 / 320 Optigear BM 320	
	+5 +30		CLP PAO	VG 320	Mobilgear SHC XMP320 Mobil SHC 632	Omala Oil HD 320	Klübersynth GEM4-320N	Degol PAS 320 Degol GS 320	Enersyn EP-XF 320 Enersyn SG-XP 320	Pinnacle EP 320	Renolin Unisyn CLP 320	Q8 ELGRECO 320	Tribol 1510/ 320 Tribol 1710/ 320 Optigear Synthetic A320 Optigear Synthetic X 320	Carter SH 320
MC..R	-30 +40		CLP	VG 460	Mobilgear XMP460	Omala Oil F460	KLÜBER GEM 1-460N	Degol BG Plus 460	BP Energol GX-XF 460	Meropa 460		Q8 Goya NT 460	Alphamax 460 Tribol 1100 / 460 Optigear BM 460	
	+10 +40		CLP PAO	VG 460	Mobilgear SHC XMP460 Mobil SHC 634	Omala Oil HD 460	Klübersynth GEM4-460N	Degol PAS 460 Degol GS 460	Enersyn EP -XF 460 Enersyn SG -XP 460	Pinnacle EP 460	Renolin Unisyn CLP 460	Q8 ELGRECO 460	Tribol 1510/ 460 Tribol 1710/ 460 Optigear Synthetic A460 Optigear Synthetic X 460	Carter SH 460
	-5 +40		CLP	VG 680	Mobilgear XMP680		KLÜBER GEM 1-680N	Degol BG Plus 680	BP Energol GX-XF 680	Meropa 680		Q8 Goya NT 680	Tribol 1100 / 680 Optigear BM 680	Renolin CLP680
	+20 +40													
	-20 +50													
	+15 +50													

8.3 Sealing grease

SEW-EURODRIVE recommends the grease types listed in below table for operating temperatures from – 30°C to +100°C.

Company	Oil
Aral	Aralub HLP2
BP	Energrease LS-EPS
Castrol	Spheerol EPL2
Chevron	Dura-Lith EP2
Elf	Epexa EP2
Esso	Beacon EP2
Exxon	Beacon EP2
Gulf	Gulf crown Grease 2
Klüber	Centoplex EP2
Kuwait	Q8 Rembrandt EP2
Mobil	Mobilux EP2
Molub	Alloy BRB-572
Optimol	Olista Longtime 2
Shell	Alvania EP2
Texaco	Multifak EP2
Total	Multis EP2
Tribol	Tribol 3030-2

8.4 Mounting / removing hollow shaft gear units with keyed connection

- Included in the scope of delivery (→ Figure 56813AXX):
  - Circlips [3], end plate [4]
- **Not** included in the scope of delivery (→ Figure 56813AXX / Figure 56814AXX / Figure 56815AXX):
  - Threaded rod [2], nut [5], retaining screw [6], ejector screw [8]

Selecting the adequate thread and length of the threaded rod as well as the retaining screw depends on the design of the customer's machine.

Thread sizes

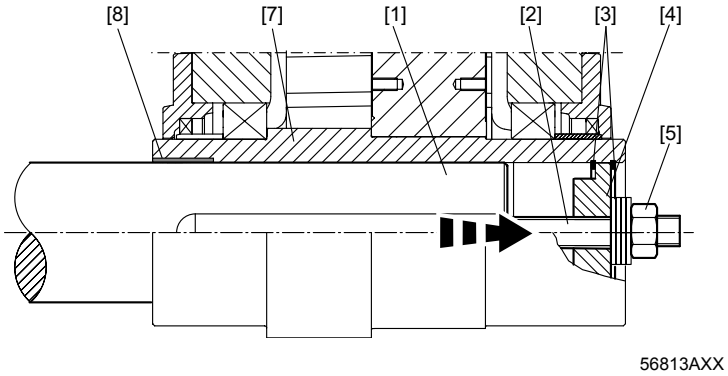
SEW-EURODRIVE recommends the following thread sizes:

Gear unit size	Thread size for • threaded rod [2] • nut (DIN 934) [5] • retaining screw [6]
02 - 06	M24
07 - 09	M30

The thread size of the ejector screw depends on the end plate [4]:

Gear unit size	Thread size of ejector screw [8]
02 - 06	M30
07 - 09	M36

Mounting the hollow shaft gear unit onto the customer's shaft

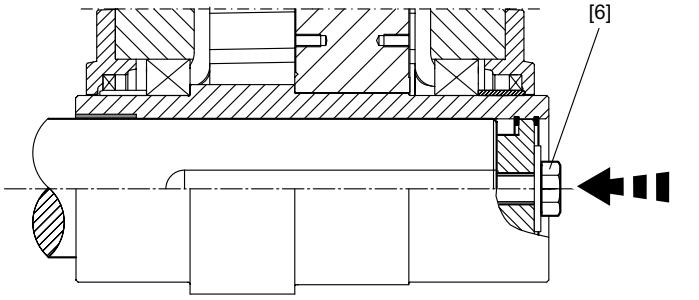


56813AXX

[1] Customer's shaft
[2] Threaded rod
[3] Circlips
[4] End plate
[5] Nut
[7] Hollow shaft
[8] Bushing

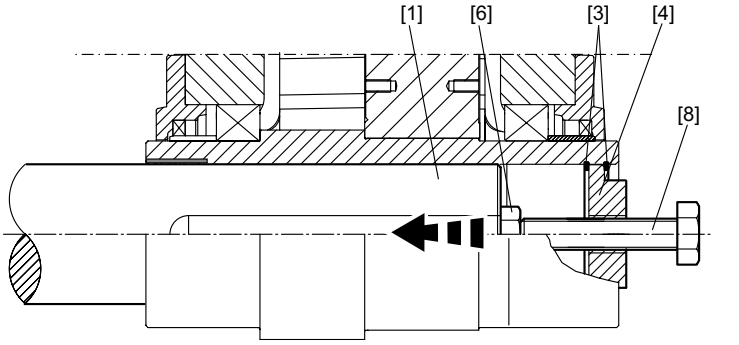
- To mount and secure the gear unit, attach the circlips [3] and the end plate [4] on the hollow shaft bore.

- Apply NOCO® fluid to the hollow shaft [7] and the shaft end of the customer's shaft [1].
- Push the gear unit onto the customer's shaft [1]. Thread the threaded rod [2] into the customer's shaft [1]. Tighten the customer's shaft [1] with the nut [5] until the shaft end of the customer's shaft [1] and the end plate [4] meet.
- Loosen the nut [5] and unscrew the threaded rod [2]. After having mounted the gear unit, secure the customer's shaft [1] using the retaining screw [6].



56814AXX

Removing the hollow shaft gear unit from the customer's shaft



56815AXX

[1] Customer's shaft
[3] Circlips
[4] End plate
[6] Retaining screw
[8] Ejector screw

- Remove the retaining screw [Figure 56814AXX, Pos. 6].
- Remove the outer circlip [3] and the end plate [4].
- Thread the retaining screw [6] into the customer's shaft [1].
- Flip the end plate [4] and remount the end plate and the outer circlip [3].
- Thread the ejector screw [8] into the end plate [4] to remove the gear unit from the customer's shaft [1].

8.5 Mounting / removing hollow shaft gear units with shrink disc

A shrink disc serves as connecting element between the hollow shaft of the gear unit and the customer's shaft. For the shrink disc type used (designation: RLK608), refer to section "Identifying shrink disc type"

- Included in the scope of delivery (→ Figure 56816AXX):
  - Circlip [3], end plate [4]
- **Not** included in the scope of delivery (→ Figure 56816AXX / Figure 56817AXX / Figure 56818AXX):
  - Threaded rod [2], nut [5], retaining screw [6], ejector screw [8]

Selecting the appropriate thread and length of the threaded rod as well as the retaining screw depends on the design of the customer's machine.

Thread sizes

SEW-EURODRIVE recommends the following thread sizes:

Gear unit size	Thread size for • threaded rod [2] • nut (DIN 934) [5] • retaining screw [6]	→ Figure 56816AXX, 56817AXX
02 - 06	M24 M30	
07 - 09		

The thread size of the ejector screw depends on the end plate [4]:

Gear unit size	Thread size of the ejector screw [8]
02 - 06	M30
07 - 09	M36

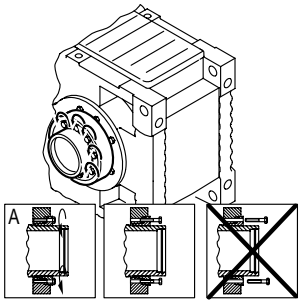
Identifying shrink disc type

Normally, the shrink disc type RLK608 is used. It has a metallic colour shade. The letters "RLK 608-…" are engraved.

Order-specific, other shrink disc types can be used. In this case please refer to the separate shrink disc-specific manual.

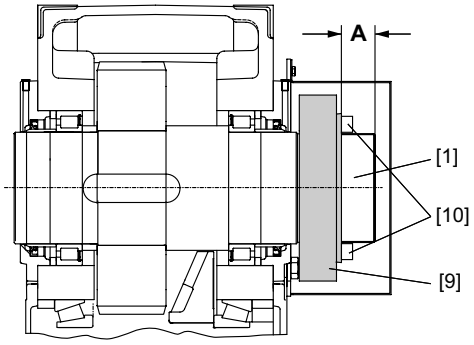
Mounting the shrink disc

- Do not tighten the locking screws [10] before the customer's shaft [1] has been mounted, else the hollow shaft could be deformed!



56810AXX

- Slide the shrink disc [9] with untightened screws onto the hub of the hollow shaft bore. Position the customer's shaft [1] in the hollow shaft bore. Next move the shrink disc [9] by dimension A (→ following figure, Sec. "Dimension A") from the shaft end of the hollow shaft:



56901AXX

[1] Customer's shaft
[10] Locking screws
[9] Shrink disc



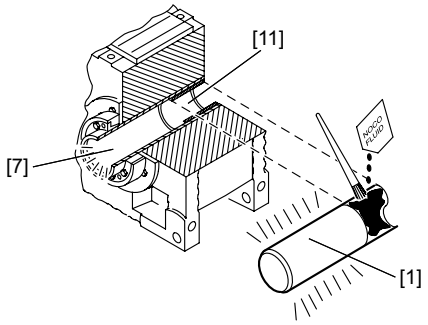
It is essential to make sure that the clamping area of the shrink disc is free from grease.

Dimension A

Gear unit size MC..	Shrink disc type RLK608 Dimension A [mm]
02	39
03	45
04	44
05	42
06	44
07	50
08	51
09	49

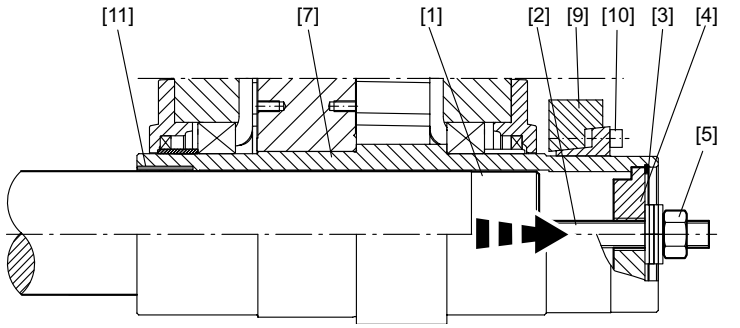
Mounting the hollow shaft gear unit onto the customer's shaft

- Before mounting the gear unit, degrease the hollow shaft bore and the customer's shaft [1].
- Apply a small amount of NOCO® fluid on the customer's shaft to the area of the bushing [11].



56811AXX

Never apply NOCO® fluid directly to the bushing as the paste might get into the clamping area of the shrink disk when the input shaft is mounted.

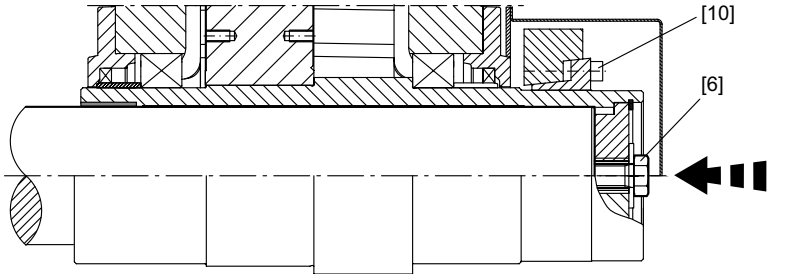


56816AXX

[1] Customer's shaft
[2] Threaded rod
[3] Circlip
[4] End plate
[5] Nut
[7] Hollow shaft
[9] Shrink disc
[10] Locking screws
[11] Bushing

- To mount and secure the gear unit, attach the circlips [3] and the end plate [4] on the hollow shaft bore.
- Push the gear unit onto the customer's shaft [1]. Thread the threaded rod [2] into the customer's shaft [1]. Tighten the customer's shaft [1] with the nut [5] until the shaft end of the customer's shaft [1] and the end plate [4] meet.

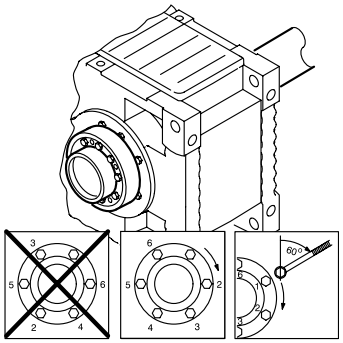
- Loosen the nut [5] and unscrew the threaded rod [2]. After having mounted the gear unit, secure the customer's shaft [1] using the retaining screw [6].



56817AXX

Tightening shrink disc type RLK608

Tighten the locking screws by hand while aligning the shrink disc. Tighten the clamping screws one by one in a clockwise direction (not crosswise) by only 1/4 revolution each.

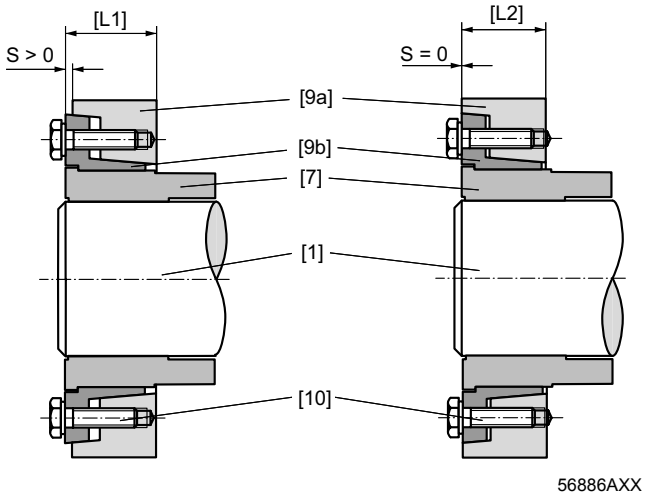


56812AXX

The screws of shrink discs with slitted cone bushing have to be tightened in such a way that you start with the screw on one side of the slit and continue with the screw on the other side of the slit.

Continue thightening the screws by 1/4 revolution in several stages until the screw side faces of the outer ring and the inner ring are in line as shown in Figure 56812AXX.

The assembly is defined by the axial movement of the cone bushing and can be done without a torque wrench.



[L1] State at time of delivery (pre assembled)
[L2] Ready for operation (final assembly)
[9a] Cone
[9b] Cone bushing
[7] Hollow shaft
[1] Customer's shaft
[10] Locking screws

Removing the shrink disc

Loosen the locking screws [10] by 1/4 revolution each in sequence evenly in several stages so as to avoid tilting of the clamping surface.

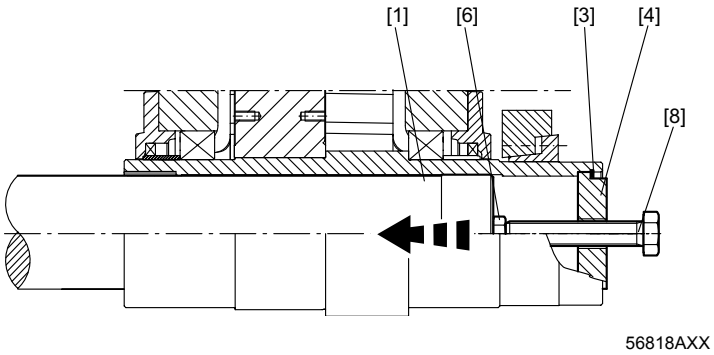
Never unscrew the locking screws completely from the tapped hole, else there is a danger of an accident occurring.

If the cone bushing and cone ring do not loosen from each other by themselves:

Take the required quantity of locking screws and bolt them evenly into the removing thread bores. Tighten the locking screws in several stages until the cone bushing is separated from the cone ring.

Remove the shrink disc from the hollow shaft.

Removing the hollow shaft gear unit from the customer's shaft



[1] Customer's shaft
[6] Retaining screw
[3] Circlip
[8] Ejector screw
[4] End plate

- Remove the retaining screw [Figure 56817AXX, Pos. 6].
- Remove the outer circlip [3] and the end plate [4].
- Thread the retaining screw [6] into the customer's shaft [1].
- Flip the end plate [4] and remount the end plate and the outer circlip [3].
- Thread the ejector screw [8] into the end plate [4] to remove the gear unit from the customer's shaft [1].

8.6 Optional hollow shaft bore diameters

Hollow shaft with keyway

The **maximum bore diameter** can be read from the following table

Gear unit size	Standard bore [mm]	Max. bore [mm]
02	80	85
03	95	100
04	105	110
05	115	120
06	125	132
07	135	140
08	150	152
09	165	165

Refer to SEW-EURODRIVE for

- smaller bores than standard for hollow shaft with keyway
- bores other than standard (smaller or larger) for hollow shaft gear units with shrink disc connection

8.7 Fastening of gear units

Not included in the scope of delivery:

- Wrench set
- Torque wrench (for shrink discs)
- Mounting device
- Shims and spacing rings if necessary
- Fasteners for input and output elements
- Lubricant (e.g. NOCO® fluid from SEW-EURODRIVE)
- For hollow shaft gear units (→ Sec. "Mounting/removal of hollow shaft gear units with keyed connection): Threaded rod, nut (DIN 934), retaining screw, ejector screw
- Securing components for the gear unit foundation

Installation tolerances

Shaft end	Flanges
Diametric tolerance in accordance with DIN 748 • ISO k6 for solid shafts with ∅ ≤ 50 mm • ISO m6 for solid shafts with ∅ > 50 mm • ISO H7 for hollow shafts for shrink disc • ISO H8 for hollow shafts with keyway • Center hole in accordance with DIN 332, shape DS..	Centering shoulder tolerance: • ISO js7 / H8

Tightening torques

Gear unit size	Screw / nut	Tightening torque screw / nut [Nm]
02	M20	315
03		
04	M24	540
05		
06	M30	1090
07		
08	M36	1900
09		

9 Important Information on Dimension Sheets

9.1 Notes on dimension sheets

Scope of delivery



= Standard parts are supplied by SEW-EURODRIVE.



= Standard parts are not supplied by SEW-EURODRIVE.

Tolerances

∅ > 130 mm → M30

Keys: according to DIN 6885 (domed type).

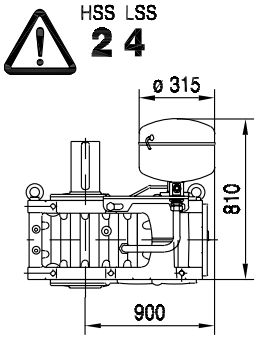
Hollow shafts

Diameter tolerance:

∅ → ISO H7 measured with plug gauge

Abbreviations for optional accessories

/BS	Backstop
/MF	Mounting flange
/SEP	Shaft end pump
/ODV	Drain valve
/SD	Shrink disc
T	Torque arm
/LSST	Through going LSS = shaft position 34 or 43
/HSST	Through going HSS = shaft position 12 or 21
/FAN	Fan
/FAN2	2 fans or HSS



55887AXX

Make sure there is sufficient space available on the driven machine.

Symbols

The following table shows which symbols are used in the subsequent figures and what they mean.

Symbol	Meaning
	Breather plug
	Inspection opening
	Oil dipstick
	Oil drain plug
	Oil filling plug
	Oil sight glass
	Air outlet screw

9.2 Notes on selection tables

Selection tables detailed

MC.PL..02, n_1 = 1800 1/min								P_{TH}						70805 lb-in	
i_N	i_{ex}	n_2 [1/min]	M_{N2} [lb-in] x1000	P_{N1} [HP]	F_{Ra} [lb] x1000	F_{Re} [lb] x1000		$P_{TH[20]}$ 68°F	$P_{TH[40]}$ 104°F	$P_{TH[20]}$ 68°F	$P_{TH[40]}$ 104°F	$P_{TH[20]}$ 68°F	$P_{TH[40]}$ 104°F		
[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]	[14]	[15]	[16]

[1] Nominal gear unit (reduction) ratio

[2] Exact gear unit reduction ratio

[3] Output speed (LSS)

[4] Nominal gear unit torque

[5] Nominal gear unit power

[6] Permitted radial load in the middle of the LSS at F_S = 1.5

[7] Permitted radial load in the middle of the HSS at F_S = 1.5

[8] Symbol for the gear unit design

[9] Nominal thermal rating of the gear unit at an ambient temperature of 68°F

[10] Nominal thermal rating of the gear unit at an ambient temperature of 104°F

[11] Nominal thermal rating of the gear unit at an ambient temperature of 68°F with one cooling fan

[12] Nominal thermal rating of the gear unit at an ambient temperature of 104°F with one cooling fan

[13] Nominal thermal rating of the gear unit at an ambient temperature of 68°F with two cooling fans

[14] Nominal thermal rating of the gear unit at an ambient temperature of 68°F with two cooling fans

[15] Dimension drawing for the basic gear unit and accessories

[16] Dimension drawing for the basic gear unit with motor adapter

Selection tables short form

Size	[2]	Nominal gear unit power P_{N1} in [hp] [4] Nominal ratio i_N [3]									
MC2P	n_1 [1/min]	7.1	8	9	10	11.2	12.5	14	16	18	20
02 [1]											

[1] Gear unit size

[2] n_1 = Input speed HSS

[3] i_n = Nominal ratio

[4] P_{N1} = Nominal power of the gear unit

10 Helical Gear Units MC...P

10.1 Selection table guide

MC2P... MC3P...	Torque class [kNm]	Gear unit design "L"  Input speed n_1 = ... 1/min				Gear unit design "V"  Input speed n_1 = ... 1/min				Gear unit design "E"  Input speed n_1 = ... 1/min			
		1800	1500	1200	1000	1800	1500	1200	1000	1800	1500	1200	1000
		Selection data on page... 🕮											
02	**8.0**	*138*	*142*	*146*	*150*	*186*	*190*	*194*	*198*	*234*	*238*	*242*	*246*
03	**11.5**	*138*	*142*	*146*	*150*	*186*	*190*	*194*	*198*	*234*	*238*	*242*	*246*
04	**15.5**	*139*	*143*	*147*	*151*	*187*	*191*	*195*	*199*	*235*	*239*	*243*	*247*
05	**20.0**	*139*	*143*	*147*	*151*	*187*	*191*	*195*	*199*	*235*	*239*	*243*	*247*
06	**25.0**	*140*	*144*	*148*	*152*	*188*	*192*	*196*	*200*	*236*	*240*	*244*	*248*
07	**35.0**	*140*	*144*	*148*	*152*	*188*	*192*	*196*	*200*	*236*	*240*	*244*	*248*
08	**46.0**	*141*	*145*	*149*	*153*	*189*	*193*	*197*	*201*	*237*	*241*	*245*	*249*
09	**65.0**	*141*	*145*	*149*	*153*	*189*	*193*	*197*	*201*	*237*	*241*	*245*	*249*

10.2 Selection tables (detailed) MC.PL..

10.2.1 MCP ..

MC.PL..02, n_1 = 1800rpm								P_{TH}						70000 lb-in	
i_N	i_{ex}	n_2 [rpm]	M_{N2} [lb-in] x1000	P_{N1} [HP]	F_{Ra} [lb] x1000	F_{Re} [lb] x1000		$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F	$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F	$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F		
7.10	**7.07**	255	61.1	253	*)	*)		52	*)	142	86	181	114		
8.00	**8.18**	220	63.6	228	*)	0.483		56	24	145	89	185	118		
9.00	**9.18**	196	65.5	209	*)	0.83		59	27	148	91	188	121		
10.00	**9.83**	183	66.6	199	*)	*)		60	28	149	93	189	122		
11.20	**11.37**	158	70.9	183	*)	0.400	**MC2PLSF02**	63	31	153	97	192	125	152	280
12.50	**12.31**	146	70.0	167	*)	*)	**MC2PLHF02**	66	32	154	98	194	127		
14.00	**14.24**	126	71.3	147	*)	0.55	**MC2PLHT02**	68	35	157	101	197	130		
16.00	**15.98**	113	66.8	122	0.78	1.20		54	21	131	75	165	98		
18.00	**17.88**	101	67.0	110	1.03	1.25		56	23	133	76	168	101		
20.00	**20.24**	89	62.0	90	1.75	1.51		58	25	135	79	169	102		
22.50	**22.30**	81	74.0	98	0.377	0.441		55	30	123	79	153	102		
25.00	**25.79**	70	70.5	81	1.45	0.70		56	32	125	82	156	103		
28.00	**28.95**	62	66.0	68	2.01	0.76		58	34	126	83	157	106		
31.50	**32.31**	56	71.1	65	1.88	0.76		59	35	127	84	158	107		
35.50	**36.27**	50	66.6	54	2.34	0.77		60	36	129	86	160	109		
40.00	**38.89**	46	75.4	58	1.85	0.365		62	36	130	87	160	109		
45.00	**44.97**	40	71.7	47	2.39	0.60	**MC3PLSF02**	63	39	131	89	162	110		
50.00	**50.47**	36	67.1	39	2.87	0.77	**MC3PLHF02**	64	39	133	90	162	111	168	281
56.00	**56.34**	32	71.9	38	2.78	0.81	**MC3PLHT02**	66	40	134	90	164	113		
63.00	**63.23**	28	68.0	32	3.24	0.85		67	42	134	91	165	114		
71.00	**71.20**	25	71.8	30	3.23	0.476		55	31	114	71	141	90		
80.00	**79.91**	23	68.4	25	3.68	0.61		56	31	115	72	142	90		
90.00	**90.45**	20	62.8	21	4.25	0.61		58	32	117	74	142	91		
100.00	**95.36**	19	68.8	21	4.03	0.61		58	32	117	74	143	91		
112.00	**107.94**	17	63.3	17.4	4.61	0.61		59	34	118	75	143	93		

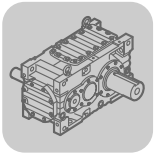
MC.PL..03, n_1 = 1800rpm														102000 lb-in	
7.10	**7.29**	247	78.3	314	1.23	0.389		67	*)	178	107	228	143		
8.00	**8.23**	219	82.4	293	1.34	1.0		71	30	182	111	232	148		
9.00	**9.28**	194	84.0	265	1.55	1.48		74	34	185	114	235	152		
10.00	**9.95**	181	87.0	256	1.29	0.203		76	35	188	117	237	153		
11.20	**11.23**	160	89.9	235	1.49	1.02	**MC2PLSF03**	79	39	190	119	240	156	154	280
12.50	**12.70**	142	89.6	207	1.60	0.56	**MC2PLHF03**	82	42	193	123	243	160		
14.00	**14.32**	126	97.1	199	1.59	0.91	**MC2PLHT03**	86	44	196	126	245	162		
16.00	**16.16**	111	95.6	173	2.01	1.59		67	27	164	94	207	123		
18.00	**17.91**	100	96.2	157	2.19	1.66		70	30	166	95	209	126		
20.00	**20.40**	88	88.4	127	2.95	1.82		72	32	169	98	212	129		
22.50	**22.65**	79	100.5	131	2.22	0.53		68	38	153	99	190	127		
25.00	**25.55**	70	101.0	117	2.62	0.71		71	39	156	102	193	129		
28.00	**28.83**	62	94.3	97	3.35	0.97		72	42	157	103	194	131		
31.50	**32.60**	55	102.1	93	3.15	1.02		74	43	158	105	197	133		
35.50	**36.78**	49	95.3	77	3.91	1.19		76	44	161	107	198	134		
40.00	**39.81**	45	104.5	78	3.39	0.55		76	46	162	109	200	135		
45.00	**44.91**	40	102.8	68	3.96	0.76	**MC3PLSF03**	79	47	164	110	201	137		
50.00	**50.67**	36	96.0	56	4.74	1.0	**MC3PLHF03**	80	50	165	111	202	139	170	281
56.00	**57.29**	31	104.0	54	4.59	1.05	**MC3PLHT03**	82	51	166	113	204	141		
63.00	**64.64**	28	97.0	44	5.4	1.20		83	52	168	114	205	142		
71.00	**71.62**	25	104.6	43	5.2	0.74		68	38	142	89	174	111		
80.00	**80.80**	22	97.8	36	6.1	0.81		70	39	143	90	176	113		
90.00	**92.02**	20	89.9	29	6.9	0.81		71	40	145	91	177	114		
100.00	**101.82**	18	99.0	29	6.8	0.81		72	42	146	93	178	115		
112.00	**115.96**	16	90.9	23	6.9	0.81		74	43	148	94	180	117		

MC.PL..04, n_1 = 1800rpm								P_{TH}						137000 lb-in	
i_N	i_{ex}	n_2 [rpm]	M_{N2} [lb-in] x1000	P_{N1} [HP]	F_{Ra} [lb] x1000	F_{Re} [lb] x1000		$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F	$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F	$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F		
7.10	**7.12**	253	99.5	409	1.27	0.62		83	*)	224	134	286	181		
8.00	**8.01**	225	103.6	379	1.56	1.12		89	*)	228	139	290	185		
9.00	**8.96**	201	107.6	352	1.81	1.52		93	40	232	143	294	189		
10.00	**9.95**	181	110.9	327	1.31	0.52		95	44	236	146	298	193		
11.20	**11.19**	161	115.6	303	1.60	1.03	**MC2PLSF04**	99	48	240	150	302	196	156	280
12.50	**12.72**	141	119.9	276	1.35	0.350	**MC2PLHF04**	103	52	244	154	306	201		
14.00	**14.31**	126	125.1	256	1.65	0.88	**MC2PLHT04**	107	56	247	158	310	204		
16.00	**16.00**	113	127.4	233	2.23	1.47		84	34	207	117	260	154		
18.00	**17.12**	105	130.1	223	2.27	1.42		87	35	208	119	261	157		
20.00	**19.25**	94	125.3	191	3.03	2.11		90	39	212	122	266	160		
22.50	**23.20**	78	122.7	157	3.28	0.381		86	47	190	123	236	158		
25.00	**26.10**	69	138.0	157	3.05	0.381		87	50	192	126	239	160		
28.00	**29.18**	62	132.1	134	3.74	0.73		90	51	194	127	241	162		
31.50	**33.39**	54	141.0	125	3.62	0.86		93	54	197	130	244	165		
35.50	**37.33**	48	132.5	105	4.44	1.0		94	56	198	133	245	166		
40.00	**40.28**	45	126.9	93	4.66	*)		95	58	200	134	247	168		
45.00	**45.30**	40	142.1	93	4.50	*)	**MC3PLSF04**	98	59	202	135	249	170		
50.00	**50.64**	36	132.5	78	5.4	0.349	**MC3PLHF04**	99	60	204	138	251	172	172	281
56.00	**57.96**	31	143.7	73	5.3	0.443	**MC3PLHT04**	102	63	207	139	252	174		
63.00	**64.79**	28	133.0	61	6.2	0.73		103	64	208	141	255	176		
71.00	**72.86**	25	144.7	59	6.0	0.55		86	47	176	110	216	138		
80.00	**81.44**	22	133.2	48	7.1	0.81		87	48	177	111	219	139		
90.00	**91.60**	20	127.3	41	7.9	0.92		89	50	180	113	220	141		
100.00	**97.56**	18	131.6	40	7.8	0.83		90	51	180	114	220	142		
112.00	**109.73**	16	127.8	35	7.9	0.92		91	52	181	115	221	143		

MC.PL..05, n_1 = 1800rpm														177000 lb-in	
7.10	**7.10**	253	138.4	570	0.407	*)		95	*)	255	153	326	205		
8.00	**8.00**	225	144.1	528	0.62	0.79		101	*)	260	158	331	211		
9.00	**8.87**	203	148.6	490	0.95	1.44		105	*)	264	162	335	215		
10.00	**9.78**	184	153.6	460	0.354	*)		109	50	268	166	339	219		
11.20	**11.01**	163	159.9	425	0.60	0.53	**MC2PLSF05**	113	54	272	172	343	224	158	280
12.50	**12.52**	144	164.7	385	0.434	*)	**MC2PLHF05**	118	59	278	176	349	228		
14.00	**14.10**	128	173.2	360	0.57	0.263	**MC2PLHT05**	122	63	282	180	353	232		
16.00	**15.64**	115	176.5	330	1.10	1.30		97	38	235	133	296	176		
18.00	**17.24**	104	177.3	301	1.44	1.33		99	40	237	135	299	178		
20.00	**19.40**	93	165.1	249	2.31	2.54		103	44	241	139	303	182		
22.50	**22.58**	80	136.6	179	3.27	0.346		98	54	219	142	274	182		
25.00	**25.41**	71	153.7	179	3.08	0.347		101	56	223	145	276	185		
28.00	**28.19**	64	170.6	179	2.94	0.346		103	59	224	148	279	186		
31.50	**32.53**	55	176.4	161	2.95	0.60		106	62	228	150	282	190		
35.50	**36.08**	50	176.3	145	3.41	0.82		109	64	229	153	284	192		
40.00	**40.62**	44	163.5	119	4.28	1.17		111	66	232	156	286	194		
45.00	**43.55**	41	160.2	109	4.33	0.64	**MC3PLSF05**	113	67	233	157	287	196		
50.00	**48.31**	37	177.3	109	4.22	0.65	**MC3PLHF05**	114	70	235	158	290	198	174	282
56.00	**55.74**	32	181.9	97	4.34	0.90	**MC3PLHT05**	117	72	237	161	292	201		
63.00	**61.84**	29	179.0	86	4.95	1.13		118	74	240	162	294	202		
71.00	**71.06**	25	184.1	77	5.1	0.334		99	54	204	126	251	160		
80.00	**78.83**	23	180.5	68	5.7	0.55		101	55	205	129	252	161		
90.00	**88.73**	20	167.8	56	6.7	0.83		102	58	207	130	253	162		
100.00	**96.36**	19	167.6	52	6.9	0.76		103	59	208	131	255	164		
112.00	**108.46**	17	169.2	46	7.4	0.89		105	60	211	133	257	165		

MC.PL..06, n_1 = 1800rpm								P_{TH}						221000 lb-in	
i_N	i_{ex}	n_2 [rpm]	M_{N2} [lb-in] x1000	P_{N1} [HP]	F_{Ra} [lb] x1000	F_{Re} [lb] x1000		$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F	$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F	$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F		
7.10	**6.82**	264	159.5	685	1.08	*)		113	*)	307	184	393	247		
8.00	**7.89**	228	182.1	676	0.247	*)		121	*)	314	192	401	255		
9.00	**8.85**	203	189.0	625	0.60	1.24		126	*)	321	197	406	260		
10.00	**9.82**	183	176.6	526	1.34	*)		131	60	325	202	412	266		
11.20	**11.37**	158	204.4	526	0.159	*)	**MC2PLSF06**	138	67	333	209	418	272	160	280
12.50	**12.04**	150	185.2	450	1.67	*)	**MC2PLHF06**	141	70	334	212	421	275		
14.00	**13.93**	129	214.3	450	0.449	*)	**MC2PLHT06**	148	76	341	217	428	282		
16.00	**15.63**	115	224.1	420	0.71	0.98		117	46	284	161	359	213		
18.00	**17.59**	102	233.0	388	0.66	0.75		121	50	288	166	363	217		
20.00	**19.91**	90	214.8	316	3.10	2.65		126	55	294	170	369	223		
22.50	**22.80**	79	164.5	214	4.91	*)		117	63	260	169	325	216		
25.00	**26.39**	68	190.4	214	4.66	*)		121	68	264	173	329	220		
28.00	**29.61**	61	213.7	214	4.37	*)		123	71	268	176	331	224		
31.50	**32.33**	56	211.6	194	4.61	*)		126	74	270	178	334	225		
35.50	**36.28**	50	230.9	189	4.50	*)		129	76	272	181	337	228		
40.00	**41.07**	44	211.7	153	5.9	0.037		131	79	276	184	339	232		
45.00	**45.96**	39	197.9	128	6.5	0.462	**MC3PLSF06**	134	82	278	186	342	235		
50.00	**51.58**	35	222.1	128	6.3	0.462	**MC3PLHF06**	137	84	280	189	345	236	176	282
56.00	**56.31**	32	220.1	116	6.6	0.72	**MC3PLHT06**	139	86	283	192	347	239		
63.00	**63.20**	28	235.1	110	6.7	0.85		141	89	286	193	349	241		
71.00	**71.10**	25	222.4	93	7.6	0.132		117	64	241	150	298	189		
80.00	**79.80**	23	236.8	88	7.8	0.248		119	66	244	153	299	190		
90.00	**90.32**	20	220.6	72	9.2	0.63		122	68	247	154	302	193		
100.00	**96.73**	19	230.7	71	9.0	0.488		122	70	247	156	303	194		
112.00	**109.49**	16	222.3	60	10.1	0.76		125	72	249	158	304	197		

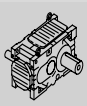
MC.PL..07, n_1 = 1800rpm														310000 lb-in	
7.10	**6.86**	262	205.2	876	0.97	*)		139	*)	378	227	484	304		
8.00	**7.73**	233	221.2	838	0.73	0.370		148	*)	385	235	492	312		
9.00	**8.68**	207	229.1	773	1.13	1.18		154	*)	393	241	499	319		
10.00	**9.65**	187	224.9	682	1.29	*)		161	74	398	248	506	326		
11.20	**10.86**	166	247.3	666	0.62	0.142	**MC2PLSF07**	168	80	405	255	512	333	162	280
12.50	**12.19**	148	237.0	569	1.76	*)	**MC2PLHF07**	174	86	412	261	518	339		
14.00	**13.73**	131	266.9	569	0.52	*)	**MC2PLHT07**	180	93	418	267	524	345		
16.00	**15.42**	117	273.2	518	1.26	0.85		142	55	349	197	441	261		
18.00	**17.66**	102	284.7	472	1.30	0.74		149	62	355	204	448	268		
20.00	**20.25**	89	295.0	426	2.18	1.71		156	68	362	211	453	275		
22.50	**22.38**	80	219.7	291	5.2	*)		142	78	319	208	398	266		
25.00	**25.20**	71	247.4	291	4.90	*)		148	82	325	212	402	270		
28.00	**28.31**	64	277.9	291	4.50	*)		150	86	327	216	406	274		
31.50	**31.86**	57	281.3	262	4.71	0.357		154	90	331	219	410	278		
35.50	**35.78**	50	316.0	262	4.23	0.357		158	93	335	223	414	280		
40.00	**41.02**	44	294.2	212	5.8	1.04		162	97	339	227	418	284		
45.00	**43.89**	41	257.7	174	7.0	0.77	**MC3PLSF07**	164	99	341	229	420	287		
50.00	**49.30**	37	289.5	174	6.6	0.77	**MC3PLHF07**	168	102	345	232	424	290	178	283
56.00	**55.47**	32	290.9	155	7.0	1.17	**MC3PLHT07**	170	106	347	235	426	292		
63.00	**62.31**	29	324.0	154	6.6	1.20		173	109	350	237	429	296		
71.00	**68.66**	26	293.9	127	8.0	0.098		143	78	296	184	365	232		
80.00	**77.12**	23	326.7	125	7.7	0.129		146	80	299	186	367	235		
90.00	**88.41**	20	302.3	101	9.6	0.70		149	84	302	190	370	237		
100.00	**99.48**	18	283.1	84	10.7	0.77		152	86	304	193	373	240		
112.00	**114.04**	16	305.2	79	11.0	0.90		154	90	307	196	375	243		



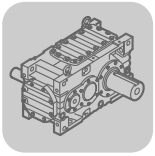
MC.PL..08, n_1 = 1800rpm								P_{TH}						407000 lb-in	
i_N	i_{ex}	n_2 [rpm]	M_{N2} [lb-in] x1000	P_{N1} [HP]	F_{Ra} [lb] x1000	F_{Re} [lb] x1000		$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F	$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F	$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F		
7.10	**7.01**	257	264.1	1103	1.89	*)		176	*)	471	283	602	380		
8.00	**7.89**	228	297.3	1103	0.87	*)		185	*)	480	292	612	389		
9.00	**8.96**	201	312.0	1020	1.19	0.85		194	*)	489	302	622	398		
10.00	**9.80**	184	290.0	866	2.23	*)		201	93	496	308	628	405		
11.20	**11.03**	163	326.5	866	1.11	*)	**MC2PLSF08**	209	101	504	318	637	414	164	280
12.50	**12.49**	144	307.6	721	2.68	*)	**MC2PLHF08**	217	109	514	326	645	422		
14.00	**14.06**	128	346.4	721	1.51	*)	**MC2PLHT08**	225	117	520	334	653	430		
16.00	**15.97**	113	370.1	678	1.48	0.73		180	70	434	248	550	327		
18.00	**17.76**	101	382.5	630	1.50	0.470		185	76	441	253	555	333		
20.00	**19.90**	90	385.9	568	2.76	1.66		192	83	448	260	562	339		
22.50	**21.70**	83	314.1	429	4.78	*)		176	95	394	255	492	327		
25.00	**24.43**	74	353.7	429	4.40	*)		181	99	400	260	496	331		
28.00	**27.74**	65	401.7	429	3.88	*)		185	105	405	266	502	337		
31.50	**31.14**	58	390.8	372	4.44	0.270		190	110	409	270	507	342		
35.50	**35.36**	51	412.1	345	4.71	0.63		196	114	414	275	511	346		
40.00	**39.60**	45	383.4	287	6.3	1.41		200	119	418	279	516	351		
45.00	**43.63**	41	385.3	262	6.2	*)	**MC3PLSF08**	202	122	421	283	519	354		
50.00	**49.55**	36	415.3	248	6.3	0.081	**MC3PLHF08**	207	126	426	287	523	358	180	283
56.00	**55.61**	32	423.8	226	6.4	0.55	**MC3PLHT08**	211	130	429	291	527	362		
63.00	**63.15**	29	418.9	197	7.5	1.16		215	134	433	295	531	366		
71.00	**69.09**	26	427.4	183	7.6	*)		177	97	367	228	452	287		
80.00	**78.46**	23	422.0	159	8.7	0.379		181	101	370	232	455	290		
90.00	**87.87**	20	393.9	133	10.4	0.99		184	103	374	235	459	294		
100.00	**97.27**	19	404.6	123	10.6	0.82		186	106	377	237	461	296		
112.00	**108.95**	17	399.0	109	11.7	1.19		189	109	380	240	464	299		

MC.PL..09, n_1 = 1800rpm														575000 lb-in	
7.10	**6.91**	260	335.4	1421	3.33	*)		201	*)	544	327	697	439		
8.00	**7.99**	225	387.9	1421	2.82	*)		215	*)	558	341	711	452		
9.00	**8.97**	201	425.5	1389	2.45	*)		225	*)	567	350	720	463		
10.00	**9.53**	189	367.2	1128	3.73	*)		231	*)	573	355	725	468		
11.20	**11.03**	163	424.7	1127	3.17	*)	**MC2PLSF09**	243	117	585	367	738	480	166	280
12.50	**11.77**	153	385.2	958	4.12	*)	**MC2PLHF09**	248	122	590	373	743	485		
14.00	**13.61**	132	445.4	958	3.55	*)	**MC2PLHT09**	259	133	602	384	755	496		
16.00	**15.27**	118	499.9	958	2.84	*)		204	*)	502	284	634	375		
18.00	**17.01**	106	510.4	878	3.22	*)		212	*)	508	291	641	384		
20.00	**19.26**	93	526.9	801	3.67	*)		220	94	518	300	650	392		
22.50	**21.63**	83	397.6	544	6.6	*)		208	113	468	303	583	388		
25.00	**25.02**	72	459.8	544	6.1	*)		216	119	475	310	591	396		
28.00	**28.08**	64	516.0	544	5.6	*)		221	125	480	316	597	401		
31.50	**30.88**	58	498.3	478	6.3	0.099		225	130	485	321	601	405		
35.50	**34.65**	52	559.2	478	5.8	0.099		231	135	491	326	606	410		
40.00	**39.22**	46	520.4	393	7.7	1.18		236	141	496	331	612	416		
45.00	**44.10**	41	545.6	367	7.3	*)	**MC3PLSF09**	241	145	500	337	617	421		
50.00	**49.49**	36	563.5	337	7.8	*)	**MC3PLHF09**	245	150	506	341	621	425	182	283
56.00	**54.43**	33	568.5	309	8.0	0.51	**MC3PLHT09**	249	154	510	345	625	429		
63.00	**61.08**	29	566.8	275	9.2	1.19		253	158	514	349	629	433		
71.00	**68.03**	26	570.3	248	9.5	*)		209	114	434	270	535	339		
80.00	**76.35**	24	571.6	222	10.7	*)		213	118	439	274	539	343		
90.00	**86.42**	21	534.6	183	12.8	0.81		219	122	443	278	543	347		
100.00	**93.94**	19	568.5	179	12.3	0.383		221	125	445	280	546	350		
112.00	**106.33**	17	533.8	149	14.4	1.11		224	129	449	284	550	354		

10.2.2 MCP ..

MC.PL..02, n_1 = 1500rpm								P_{TH}						70000 lb-in
i_N	i_{ex}	n_2 [rpm]	M_{N2} [lb-in] x1000	P_{N1} [HP]	F_{Ra} [lb] x1000	F_{Re} [lb] x1000		$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F	$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F	$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F	 
7.10	**7.07**	212	64.5	223	*)	*)		58	24	130	78	168	105	
8.00	**8.18**	183	67.4	201	*)	0.495		60	28	134	82	170	109	
9.00	**9.18**	163	66.1	176	*)	1.04		63	31	137	84	173	111	
10.00	**9.83**	153	70.3	175	*)	*)		64	32	138	86	174	113	
11.20	**11.37**	132	71.4	153	*)	0.64	**MC2PLSF02**	67	35	141	89	177	115	152 280
12.50	**12.31**	122	74.0	147	*)	*)	**MC2PLHF02**	68	36	142	90	178	117	
14.00	**14.24**	105	71.3	122	0.271	0.83	**MC2PLHT02**	71	39	145	93	181	119	
16.00	**15.98**	94	67.3	103	1.18	1.39		58	24	121	68	153	90	
18.00	**17.88**	84	67.5	92	1.46	1.44		59	27	122	70	154	93	
20.00	**20.24**	74	62.3	75	1.98	1.62		62	28	125	72	157	94	
22.50	**22.30**	67	74.5	82	0.83	0.54		58	32	114	74	141	94	
25.00	**25.79**	58	70.8	68	1.83	0.74		59	34	115	75	143	95	
28.00	**28.95**	52	65.5	56	2.32	0.76		60	35	117	76	145	97	
31.50	**32.31**	46	71.6	55	2.15	0.76		62	36	118	78	146	98	
35.50	**36.27**	41	67.1	46	2.62	0.77		63	38	119	79	148	99	
40.00	**38.89**	39	75.9	48	2.15	0.451		64	39	119	80	148	101	
45.00	**44.97**	33	71.8	39	2.71	0.69	**MC3PLSF02**	66	40	121	82	149	102	
50.00	**50.47**	30	67.6	33	3.18	0.84	**MC3PLHF02**	66	42	122	82	150	103	168 281
56.00	**56.34**	27	71.8	31	3.13	0.84	**MC3PLHT02**	67	43	123	83	152	105	
63.00	**63.23**	24	68.3	27	3.58	0.85		68	43	125	84	153	105	
71.00	**71.20**	21	72.0	25	3.59	0.474		56	32	106	66	130	82	
80.00	**79.91**	19	68.7	21	4.05	0.61		58	34	106	67	131	83	
90.00	**90.45**	17	63.2	17.3	4.63	0.61		59	34	107	67	131	84	
100.00	**95.36**	16	69.2	17.9	4.42	0.61		59	35	109	68	133	84	
112.00	**107.94**	14	63.8	14.6	5.0	0.61		60	35	109	68	133	86	

MC.PL..03, n_1 = 1500rpm														102000 lb-in
7.10	**7.29**	206	82.8	277	1.29	0.395		72	31	164	99	211	133	
8.00	**8.23**	182	86.7	257	1.43	1.08		76	35	168	102	213	135	
9.00	**9.28**	162	89.2	235	1.61	1.55		79	38	170	106	217	139	
10.00	**9.95**	151	91.9	225	1.37	0.214		80	40	173	107	219	141	
11.20	**11.23**	134	95.0	207	1.57	1.07	**MC2PLSF03**	83	43	176	110	221	143	154 280
12.50	**12.70**	118	90.1	173	1.92	1.03	**MC2PLHF03**	87	46	178	113	224	146	
14.00	**14.32**	105	102.5	175	1.68	0.97	**MC2PLHT03**	90	48	181	115	227	149	
16.00	**16.16**	93	96.2	145	2.36	1.82		71	31	152	86	190	114	
18.00	**17.91**	84	96.6	132	2.56	1.80		74	34	153	89	193	115	
20.00	**20.40**	74	89.0	106	3.32	1.96		76	35	156	91	196	118	
22.50	**22.65**	66	100.5	110	2.64	0.65		71	40	141	91	176	117	
25.00	**25.55**	59	101.5	98	3.03	0.83		74	42	143	94	178	119	
28.00	**28.83**	52	94.9	81	3.78	1.08		75	44	145	95	180	121	
31.50	**32.60**	46	102.7	78	3.59	1.13		76	46	146	97	181	122	
35.50	**36.78**	41	95.9	64	4.37	1.19		79	47	149	98	184	125	
40.00	**39.81**	38	104.5	65	3.89	0.68		79	48	149	99	184	125	
45.00	**44.91**	33	103.6	57	4.43	0.87	**MC3PLSF03**	80	50	150	101	186	127	
50.00	**50.67**	30	96.7	47	5.2	1.11	**MC3PLHF03**	83	51	153	103	188	129	170 281
56.00	**57.29**	26	104.1	45	5.1	1.16	**MC3PLHT03**	84	52	154	105	189	130	
63.00	**64.64**	23	97.7	37	6.0	1.20		86	54	156	106	190	131	
71.00	**71.62**	21	104.4	36	5.8	0.80		71	40	131	82	162	103	
80.00	**80.80**	19	98.6	30	6.7	0.81		72	42	133	83	162	103	
90.00	**92.02**	16	90.5	24	6.9	0.81		74	43	134	84	164	105	
100.00	**101.82**	15	99.6	24	6.9	0.81		74	43	135	84	165	106	
112.00	**115.96**	13	91.7	20	6.9	0.81		75	44	135	86	166	107	

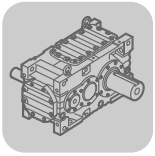


MC.PL..04, n_1 = 1500rpm								P_{TH}						137000 lb-in	
i_N	i_{ex}	n_2 [rpm]	M_{N2} [lb-in] x1000	P_{N1} [HP]	F_{Ra} [lb] x1000	F_{Re} [lb] x1000		$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F	$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F	$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F		
7.10	**7.12**	211	105.1	360	1.36	0.66		90	39	205	123	264	166		
8.00	**8.01**	187	109.4	333	1.64	1.19		94	43	211	127	268	170		
9.00	**8.96**	167	113.5	309	1.94	1.62		98	47	213	131	272	174		
10.00	**9.95**	151	117.3	288	1.36	0.54		102	50	217	135	275	177		
11.20	**11.19**	134	122.2	267	1.67	1.08	**MC2PLSF04**	106	54	221	138	279	181	156	280
12.50	**12.72**	118	126.5	243	1.45	0.378	**MC2PLHF04**	109	58	225	142	283	185		
14.00	**14.31**	105	132.1	225	1.74	0.93	**MC2PLHT04**	113	62	228	146	286	188		
16.00	**16.00**	94	132.0	201	2.64	1.68		90	39	190	107	240	142		
18.00	**17.12**	88	131.8	188	2.82	1.75		91	40	192	110	241	145		
20.00	**19.25**	78	126.2	160	3.46	2.39		95	43	194	113	245	148		
22.50	**23.20**	65	122.3	130	3.79	0.55		89	51	176	114	219	145		
25.00	**26.10**	57	137.6	130	3.58	0.55		91	52	177	115	221	148		
28.00	**29.18**	51	132.3	112	4.26	0.88		93	55	180	118	223	150		
31.50	**33.39**	45	141.9	105	4.13	0.99		95	56	182	121	225	152		
35.50	**37.33**	40	132.7	88	5.0	1.0		98	59	184	122	227	154		
40.00	**40.28**	37	126.9	78	5.2	0.107		99	60	185	123	228	156		
45.00	**45.30**	33	142.8	78	5.1	0.107	**MC3PLSF04**	101	62	186	125	231	157		
50.00	**50.64**	30	132.6	65	6.0	0.467	**MC3PLHF04**	102	63	189	127	232	158	172	281
56.00	**57.96**	26	144.3	61	5.9	0.55	**MC3PLHT04**	105	66	190	129	233	161		
63.00	**64.79**	23	133.1	51	6.9	0.85		106	67	192	130	235	162		
71.00	**72.86**	21	145.8	49	6.7	0.65		89	50	162	101	200	127		
80.00	**81.44**	18	133.1	40	7.8	0.92		90	51	164	103	201	129		
90.00	**91.60**	16	128.1	35	7.9	0.92		91	52	165	105	202	130		
100.00	**97.56**	15	131.7	33	7.9	0.92		91	54	166	105	204	131		
112.00	**109.73**	14	128.6	29	7.9	0.92		93	55	168	106	205	133		

MC.PL..05, n_1 = 1500rpm														177000 lb-in	
7.10	**7.10**	211	146.3	502	0.422	*)		103	*)	235	141	300	189		
8.00	**8.00**	188	152.4	465	0.64	0.82		107	48	239	145	306	194		
9.00	**8.87**	169	157.0	432	1.0	1.52		111	52	243	149	310	198		
10.00	**9.78**	153	162.5	405	0.361	*)		115	56	247	153	312	201		
11.20	**11.01**	136	169.0	374	0.62	0.54	**MC2PLSF05**	119	60	251	157	318	205	158	280
12.50	**12.52**	120	166.2	324	1.02	*)	**MC2PLHF05**	123	66	256	162	322	211		
14.00	**14.10**	106	182.5	316	0.64	0.325	**MC2PLHT05**	127	70	260	166	326	215		
16.00	**15.64**	96	176.8	276	1.73	1.79		102	43	216	122	274	162		
18.00	**17.24**	87	178.0	252	1.92	1.81		105	46	219	125	276	165		
20.00	**19.40**	77	166.4	209	2.70	2.75		109	50	223	129	279	168		
22.50	**22.58**	66	137.2	150	3.70	0.494		102	58	202	131	252	168		
25.00	**25.41**	59	154.4	150	3.53	0.493		105	60	205	134	255	170		
28.00	**28.19**	53	171.3	150	3.40	0.493		107	63	207	135	257	173		
31.50	**32.53**	46	176.7	134	3.45	0.76		110	66	211	139	260	176		
35.50	**36.08**	42	177.0	121	3.91	0.97		113	67	212	141	263	177		
40.00	**40.62**	37	164.5	100	4.79	1.32		114	70	215	143	264	180		
45.00	**43.55**	34	160.2	91	4.88	0.81	**MC3PLSF05**	115	71	216	145	266	181		
50.00	**48.31**	31	177.7	91	4.78	0.81	**MC3PLHF05**	118	72	217	146	268	182	174	282
56.00	**55.74**	27	182.0	81	4.93	1.07	**MC3PLHT05**	119	75	220	149	270	185		
63.00	**61.84**	24	180.2	72	5.5	1.28		122	76	221	150	272	188		
71.00	**71.06**	21	183.8	64	5.7	0.458		102	56	188	117	232	148		
80.00	**78.83**	19	181.9	57	6.3	0.66		103	59	189	118	233	149		
90.00	**88.73**	17	168.9	47	7.3	0.94		105	60	192	121	235	150		
100.00	**96.36**	16	167.9	43	7.6	0.87		106	62	193	121	236	152		
112.00	**108.46**	14	170.3	39	8.1	1.0		107	63	194	123	237	153		

MC.PL..06, n_1 = 1500rpm								P_{TH}						221000 lb-in	
i_N	i_{ex}	n_2 [rpm]	M_{N2} [lb-in] x1000	P_{N1} [HP]	F_{Ra} [lb] x1000	F_{Re} [lb] x1000		$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F	$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F	$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F		
7.10	**6.82**	220	168.3	602	1.15	*)		123	*)	283	169	362	227		
8.00	**7.89**	190	192.2	594	0.271	*)		130	*)	290	176	370	235		
9.00	**8.85**	169	199.7	550	0.62	1.30		135	64	295	181	375	240		
10.00	**9.82**	153	186.7	464	1.39	*)		139	68	300	186	380	244		
11.20	**11.37**	132	216.1	464	0.148	*)	**MC2PLSF06**	146	75	306	192	386	251	160	280
12.50	**12.04**	125	195.9	397	1.73	*)	**MC2PLHF06**	149	78	308	194	389	253		
14.00	**13.93**	108	226.7	397	0.438	*)	**MC2PLHT06**	154	83	314	201	394	259		
16.00	**15.63**	96	233.1	364	1.09	1.27		123	52	261	148	331	196		
18.00	**17.59**	85	233.5	324	1.88	1.63		127	56	267	153	335	200		
20.00	**19.91**	75	215.3	264	3.70	2.92		133	62	271	157	341	205		
22.50	**22.80**	66	164.3	178	5.6	*)		122	68	240	156	300	200		
25.00	**26.39**	57	190.2	178	5.3	*)		126	72	244	160	303	204		
28.00	**29.61**	51	213.4	178	5.1	*)		129	75	247	162	307	207		
31.50	**32.33**	46	212.1	162	5.3	*)		130	78	249	165	308	208		
35.50	**36.28**	41	232.2	158	5.2	*)		133	80	252	168	311	211		
40.00	**41.07**	37	214.3	129	6.5	0.113		135	83	255	170	314	213		
45.00	**45.96**	33	198.0	106	7.3	0.65	**MC3PLSF06**	138	86	257	173	316	216		
50.00	**51.58**	29	222.2	106	7.1	0.65	**MC3PLHF06**	141	89	260	174	319	219	176	282
56.00	**56.31**	27	220.2	97	7.4	0.91	**MC3PLHT06**	142	90	261	177	321	220		
63.00	**63.20**	24	236.6	92	7.5	1.02		145	91	263	178	323	223		
71.00	**71.10**	21	222.2	77	8.5	0.269		121	67	224	138	275	174		
80.00	**79.80**	19	238.2	74	8.7	0.369		122	70	225	141	278	177		
90.00	**90.32**	17	222.0	61	10.1	0.75		125	71	228	143	279	178		
100.00	**96.73**	16	230.5	59	10	0.62		126	72	228	143	280	180		
112.00	**109.49**	14	223.8	50	10.2	0.88		127	75	231	146	282	181		

MC.PL..07, n_1 = 1500rpm														310000 lb-in	
7.10	**6.86**	219	216.6	770	1.04	*)		152	*)	347	208	447	280		
8.00	**7.73**	194	233.8	738	0.76	0.383		158	*)	355	215	453	287		
9.00	**8.68**	173	241.8	680	1.21	1.26		165	78	362	221	460	294		
10.00	**9.65**	155	237.7	601	1.35	*)		172	83	367	228	467	300		
11.20	**10.86**	138	261.7	588	0.60	0.127	**MC2PLSF07**	177	90	374	235	472	306	162	280
12.50	**12.19**	123	250.5	501	1.85	*)	**MC2PLHF07**	184	97	380	240	479	312		
14.00	**13.73**	109	282.1	501	0.54	*)	**MC2PLHT07**	189	102	386	245	484	318		
16.00	**15.42**	97	289.0	457	1.29	0.88		152	63	322	181	406	240		
18.00	**17.66**	85	301.1	416	1.34	0.77		157	70	327	188	413	247		
20.00	**20.25**	74	298.7	360	3.37	2.20		164	76	334	193	418	252		
22.50	**22.38**	67	220.3	243	5.9	0.166		149	84	295	190	369	244		
25.00	**25.20**	60	248.1	243	5.6	0.166		153	87	299	194	373	248		
28.00	**28.31**	53	278.7	243	5.3	0.165		157	91	303	198	375	252		
31.50	**31.86**	47	281.0	218	5.5	0.58		160	95	306	202	380	256		
35.50	**35.78**	42	315.7	218	5.1	0.58		164	98	310	205	382	259		
40.00	**41.02**	37	295.7	178	6.7	1.24		168	102	314	209	386	263		
45.00	**43.89**	34	257.3	145	7.9	1.03	**MC3PLSF07**	169	105	315	211	389	264		
50.00	**49.30**	30	289.0	145	7.6	1.03	**MC3PLHF07**	172	107	318	215	392	268	178	283
56.00	**55.47**	27	291.2	130	7.9	1.42	**MC3PLHT07**	176	110	321	217	394	271		
63.00	**62.31**	24	326.1	129	7.6	1.43		178	113	323	220	397	274		
71.00	**68.66**	22	294.0	106	9.0	0.270		148	82	274	170	338	213		
80.00	**77.12**	19	328.5	105	8.7	0.285		150	84	276	173	341	216		
90.00	**88.41**	17	304.3	85	10.6	0.85		153	87	279	176	343	219		
100.00	**99.48**	15	283.6	70	11.8	0.94		156	90	282	178	345	221		
112.00	**114.04**	13	307.3	67	11.8	1.05		158	93	284	180	347	224		

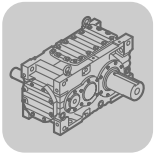


MC.PL..08, n_1 = 1500rpm								P_{TH}						407000 lb-in	
i_N	i_{ex}	n_2 [rpm]	M_{N2} [lb-in] x1000	P_{N1} [HP]	F_{Ra} [lb] x1000	F_{Re} [lb] x1000		$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F	$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F	$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F		
7.10	**7.01**	214	279.0	972	1.99	*)		189	*)	433	260	555	349		
8.00	**7.89**	190	314.2	971	0.91	*)		198	*)	443	268	565	358		
9.00	**8.96**	167	329.4	897	1.27	0.90		208	99	452	278	574	367		
10.00	**9.80**	153	306.2	762	2.36	*)		213	105	457	284	579	373		
11.20	**11.03**	136	344.8	762	1.18	*)	**MC2PLSF08**	221	113	465	291	587	381	164	280
12.50	**12.49**	120	324.8	634	2.84	*)	**MC2PLHF08**	229	121	473	299	595	389		
14.00	**14.06**	107	365.7	634	1.60	*)	**MC2PLHT08**	237	127	480	307	603	397		
16.00	**15.97**	94	390.9	597	1.56	0.77		190	80	401	228	507	300		
18.00	**17.76**	84	404.7	556	1.54	0.476		196	87	408	233	514	307		
20.00	**19.90**	75	388.0	476	3.84	2.29		202	93	413	240	519	312		
22.50	**21.70**	69	331.4	377	5.1	*)		184	102	363	235	455	302		
25.00	**24.43**	61	373.2	377	4.65	*)		188	107	369	240	459	306		
28.00	**27.74**	54	410.4	365	4.47	*)		193	113	373	244	464	311		
31.50	**31.14**	48	412.0	327	4.71	0.294		197	117	378	249	468	315		
35.50	**35.36**	42	414.6	290	5.5	0.89		201	121	382	253	473	321		
40.00	**39.60**	38	385.6	240	7.1	1.69		205	125	386	257	476	325		
45.00	**43.63**	34	387.2	219	7.1	0.072	**MC3PLSF08**	209	129	389	260	480	327		
50.00	**49.55**	30	418.4	209	7.2	0.339	**MC3PLHF08**	213	133	393	264	484	331	180	283
56.00	**55.61**	27	424.8	189	7.4	0.84	**MC3PLHT08**	216	135	397	268	488	335		
63.00	**63.15**	24	421.2	165	8.6	1.44		220	139	401	272	491	338		
71.00	**69.09**	22	427.4	153	8.7	0.055		182	102	339	211	417	264		
80.00	**78.46**	19	426.2	134	9.8	0.57		186	106	342	213	421	268		
90.00	**87.87**	17	398.0	112	11.5	1.19		189	109	346	217	424	271		
100.00	**97.27**	15	405.0	103	11.8	1.04		192	111	347	219	426	274		
112.00	**108.95**	14	401.4	91	12.9	1.39		194	114	350	221	429	276		

MC.PL..09, n_1 = 1500rpm														575000 lb-in	
7.10	**6.91**	217	354.2	1250	3.52	*)		219	*)	502	299	642	404		
8.00	**7.99**	188	409.6	1250	2.99	*)		231	*)	514	312	656	416		
9.00	**8.97**	167	449.4	1222	2.59	*)		240	*)	523	322	665	425		
10.00	**9.53**	157	388.1	993	3.93	*)		245	119	528	327	671	430		
11.20	**11.03**	136	448.8	993	3.35	*)	**MC2PLSF09**	257	130	539	338	681	443	166	280
12.50	**11.77**	127	407.0	844	4.35	*)	**MC2PLHF09**	261	135	544	343	687	447		
14.00	**13.61**	110	470.6	844	3.75	*)	**MC2PLHT09**	272	146	555	354	696	457		
16.00	**15.27**	98	528.1	844	2.99	*)		217	91	463	260	585	346		
18.00	**17.01**	88	539.1	773	3.40	*)		224	98	469	268	591	353		
20.00	**19.26**	78	530.3	672	4.51	*)		232	106	477	276	599	361		
22.50	**21.63**	69	420.1	479	7.0	*)		217	122	432	279	539	358		
25.00	**25.02**	60	485.8	479	6.5	*)		224	129	439	286	546	365		
28.00	**28.08**	53	545.2	479	5.9	*)		229	134	444	291	551	370		
31.50	**30.88**	49	526.5	421	6.7	0.102		233	138	448	295	555	374		
35.50	**34.65**	43	561.1	400	6.8	0.426		239	143	453	300	561	380		
40.00	**39.22**	38	523.3	329	8.8	1.50		244	148	459	306	566	384		
45.00	**44.10**	34	545.6	305	8.4	*)	**MC3PLSF09**	248	153	463	310	570	389		
50.00	**49.49**	30	567.1	283	9.0	0.295	**MC3PLHF09**	252	157	467	314	574	393	182	283
56.00	**54.43**	28	570.9	259	9.2	0.86	**MC3PLHT09**	256	161	471	318	578	397		
63.00	**61.08**	25	571.7	231	10.3	1.52		260	165	475	322	582	401		
71.00	**68.03**	22	570.9	207	10.9	*)		216	121	402	249	495	314		
80.00	**76.35**	20	575.0	186	11.9	0.211		220	125	405	253	499	318		
90.00	**86.42**	17	534.6	153	14.2	1.08		224	129	409	256	503	321		
100.00	**93.94**	16	566.0	149	13.8	0.66		227	130	412	259	506	323		
112.00	**106.33**	14	535.4	124	15.9	1.36		229	134	416	263	508	327		

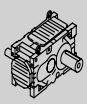
10.2.3 MCP ..

MC.PL..02, n_1 = 1200rpm								P_{TH}						70000 lb-in	
i_N	i_{ex}	n_2 [rpm]	M_{N2} [lb-in] x1000	P_{N1} [HP]	F_{Ra} [lb] x1000	F_{Re} [lb] x1000		$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F	$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F	$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F		
7.10	**7.07**	170	69.0	191	*)	*)		62	30	118	71	152	95		
8.00	**8.18**	147	70.9	169	*)	0.61		66	32	122	74	156	98		
9.00	**9.18**	131	66.4	141	0.467	1.31		67	35	123	76	157	101		
10.00	**9.83**	122	74.5	148	*)	0.046		68	36	125	78	158	102		
11.20	**11.37**	106	71.2	122	0.274	0.99	**MC2PLSF02**	71	39	127	80	161	105	152	280
12.50	**12.31**	97	74.9	119	*)	0.233	**MC2PLHF02**	72	40	129	82	162	106		
14.00	**14.24**	84	71.4	98	0.83	1.16	**MC2PLHT02**	75	43	131	83	165	109		
16.00	**15.98**	75	67.7	83	1.66	1.63		60	28	110	62	138	82		
18.00	**17.88**	67	68.0	74	1.81	1.65		63	30	111	63	141	83		
20.00	**20.24**	59	62.7	61	2.29	1.77		64	32	113	66	142	86		
22.50	**22.30**	54	74.9	66	1.44	0.67		60	35	103	67	129	86		
25.00	**25.79**	47	71.4	55	2.15	0.74		62	36	105	68	130	87		
28.00	**28.95**	41	66.9	46	2.62	0.76		63	38	106	70	131	89		
31.50	**32.31**	37	71.7	44	2.52	0.76		64	39	107	71	133	90		
35.50	**36.27**	33	67.5	37	2.99	0.77		66	40	109	72	134	91		
40.00	**38.89**	31	76.6	39	2.52	0.56		66	42	109	72	134	91		
45.00	**44.97**	27	71.9	32	3.12	0.81	**MC3PLSF02**	67	43	110	74	135	93		
50.00	**50.47**	24	68.2	27	3.58	0.84	**MC3PLHF02**	68	43	111	75	137	94	168	281
56.00	**56.34**	21	71.9	25	3.57	0.84	**MC3PLHT02**	70	44	113	76	138	95		
63.00	**63.23**	19	68.8	22	4.02	0.85		70	46	114	76	139	95		
71.00	**71.20**	17	72.2	20	4.05	0.470		59	34	97	59	118	75		
80.00	**79.91**	15	69.3	17.1	4.52	0.61		60	35	97	60	119	76		
90.00	**90.45**	13	63.8	13.9	5.1	0.61		60	36	98	62	121	76		
100.00	**95.36**	13	69.8	14.5	4.91	0.61		60	36	98	62	121	78		
112.00	**107.94**	11	64.1	11.7	5.1	0.61		62	36	99	63	121	78		
MC.PL..03, n_1 = 1200rpm														**102000 lb-in**	
7.10	**7.29**	165	88.6	237	1.38	0.417		79	38	149	89	190	119		
8.00	**8.23**	146	92.7	220	1.53	1.16		82	40	152	93	194	123		
9.00	**9.28**	129	95.0	200	1.74	1.67		84	44	154	95	197	126		
10.00	**9.95**	121	97.8	192	1.48	0.280		86	46	157	97	198	127		
11.20	**11.23**	107	101.9	177	1.67	1.12	**MC2PLSF03**	89	48	160	99	201	130		
12.50	**12.70**	95	91.0	140	2.34	1.46	**MC2PLHF03**	91	51	162	102	204	133	154	280
14.00	**14.32**	84	103.7	141	2.10	1.41	**MC2PLHT03**	94	54	165	105	207	135		
16.00	**16.16**	74	96.9	117	2.82	1.99		76	35	137	78	173	103		
18.00	**17.91**	67	97.2	106	3.04	1.97		78	38	139	79	176	105		
20.00	**20.40**	59	89.7	86	3.82	2.14		80	40	142	82	178	107		
22.50	**22.65**	53	100.5	88	3.19	0.81		75	44	129	83	160	106		
25.00	**25.55**	47	102.4	79	3.56	0.97		76	46	130	84	162	109		
28.00	**28.83**	42	95.5	65	4.33	1.17		78	47	131	86	164	110		
31.50	**32.60**	37	103.0	62	4.19	1.17		80	48	133	89	165	111		
35.50	**36.78**	33	96.6	52	4.96	1.19		82	50	135	90	166	113		
40.00	**39.81**	30	104.6	52	4.52	0.83		82	51	135	90	168	114		
45.00	**44.91**	27	104.4	46	5.1	1.01	**MC3PLSF03**	83	52	137	91	169	115		
50.00	**50.67**	24	97.4	38	5.9	1.19	**MC3PLHF03**	84	54	138	93	170	117	170	281
56.00	**57.29**	21	104.0	36	5.9	1.19	**MC3PLHT03**	86	55	139	94	172	118		
63.00	**64.64**	19	98.6	30	6.7	1.20		87	56	141	95	173	119		
71.00	**71.62**	17	104.5	29	6.6	0.80		74	42	119	74	148	94		
80.00	**80.80**	15	99.4	24	6.9	0.81		74	43	121	75	149	94		
90.00	**92.02**	13	91.5	20	6.9	0.81		75	44	122	76	149	95		
100.00	**101.82**	12	100.6	20	6.9	0.81		76	46	123	78	150	97		
112.00	**115.96**	10	92.0	15.7	6.9	0.81		78	47	123	79	152	98		



MC.PL..04, n_1 = 1200rpm								P_{TH}						137000 lb-in	
i_N	i_{ex}	n_2 [rpm]	M_{N2} [lb-in] x1000	P_{N1} [HP]	F_{Ra} [lb] x1000	F_{Re} [lb] x1000		$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F	$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F	$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F		
7.10	7.12	168	112.4	308	1.45	0.71		98	47	186	111	239	150		
8.00	8.01	150	117.1	285	1.75	1.26		102	51	190	115	243	154		
9.00	8.96	134	121.1	264	2.10	1.74		106	54	194	119	247	157		
10.00	9.95	121	125.6	247	1.43	0.56		109	58	197	122	249	161		
11.20	11.19	107	130.6	228	1.80	1.16	MC2PLSF04	111	60	200	125	253	164	156	280
12.50	12.72	94	134.7	207	1.61	0.440	MC2PLHF04	115	64	204	129	256	168		
14.00	14.31	84	140.7	192	1.92	1.02	MC2PLHT04	118	67	207	131	260	170		
16.00	16.00	75	132.2	161	3.20	2.13		95	44	173	98	219	129		
18.00	17.12	70	132.1	151	3.39	2.19		98	46	174	99	220	130		
20.00	19.25	62	126.4	128	4.06	2.63		101	48	177	102	223	134		
22.50	23.20	52	122.3	104	4.43	0.75		93	55	160	103	198	131		
25.00	26.10	46	137.6	104	4.24	0.75		95	56	161	105	201	134		
28.00	29.18	41	132.6	90	4.93	0.98		97	59	164	107	202	135		
31.50	33.39	36	142.8	84	4.80	0.99		99	60	165	109	205	138		
35.50	37.33	32	132.7	70	5.7	1.0		101	63	168	111	207	139		
40.00	40.28	30	127.0	62	6.0	0.261		102	63	168	113	208	141		
45.00	45.30	26	142.8	62	5.9	0.261	MC3LSF04	103	66	170	114	209	142		
50.00	50.64	24	132.8	52	6.8	0.62	MC3PLHF04	106	67	172	115	211	145	172	281
56.00	57.96	21	145.7	50	6.7	0.69	MC3PLHT04	107	68	173	117	213	146		
63.00	64.79	19	133.3	41	7.8	1.0		109	70	174	118	215	148		
71.00	72.86	16	146.9	40	7.5	0.79		91	52	148	93	182	115		
80.00	81.44	15	133.6	32	7.9	0.92		93	54	149	94	184	117		
90.00	91.60	13	129.3	28	7.9	0.92		94	55	150	94	185	118		
100.00	97.56	12	131.2	27	7.9	0.92		94	55	152	95	185	119		
112.00	109.73	11	129.8	23	7.9	0.92		95	56	153	97	186	121		

MC.PL..05, n_1 = 1200rpm														177000 lb-in	
7.10	7.10	169	156.2	429	0.468	*)		111	52	212	127	272	172		
8.00	8.00	150	162.7	397	0.71	0.90		117	58	217	131	278	176		
9.00	8.87	135	167.8	369	1.08	1.62		119	62	221	135	280	180		
10.00	9.78	123	173.7	347	0.388	*)		123	64	224	138	284	182		
11.20	11.01	109	180.5	320	0.68	0.61	MC2PLSF05	127	68	228	142	288	186	158	280
12.50	12.52	96	167.6	261	1.74	0.95	MC2PLHF05	131	72	232	146	292	190		
14.00	14.10	85	187.7	260	1.21	1.04	MC2PLHT05	135	76	236	150	296	194		
16.00	15.64	77	178.3	223	2.21	2.35		109	50	196	110	248	146		
18.00	17.24	70	178.9	203	2.44	2.40		111	52	198	113	251	149		
20.00	19.40	62	166.9	168	3.25	3.01		114	56	202	117	253	153		
22.50	22.58	53	137.0	120	4.30	0.70		107	63	184	119	229	153		
25.00	25.41	47	154.3	120	4.15	0.70		110	64	186	121	232	154		
28.00	28.19	43	171.1	120	4.03	0.70		111	67	188	123	233	157		
31.50	32.53	37	176.0	107	4.13	0.97		114	70	190	126	237	160		
35.50	36.08	33	178.3	98	4.54	1.16		117	71	193	127	239	161		
40.00	40.62	30	165.7	81	5.5	1.51		118	74	194	130	240	164		
45.00	43.55	28	160.1	73	5.6	1.02	MC3PLSF05	119	75	196	131	241	165		
50.00	48.31	25	177.6	73	5.5	1.02	MC3PLHF05	121	76	198	133	244	166	174	282
56.00	55.74	22	182.1	65	5.7	1.28	MC3PLHT05	123	79	200	135	245	169		
63.00	61.84	19	181.7	58	6.3	1.49		125	80	201	137	247	170		
71.00	71.06	17	183.9	51	6.5	0.61		105	60	172	106	211	134		
80.00	78.83	15	183.4	46	7.2	0.80		106	62	173	107	212	135		
90.00	88.73	14	170.0	38	8.2	1.09		107	63	174	109	213	137		
100.00	96.36	12	167.8	34	8.5	1.02		109	64	176	110	215	138		
112.00	108.46	11	171.4	31	9.0	1.15		110	66	177	111	216	139		

MC.PL..06, n_1 = 1200rpm								P_{TH}						221000 lb-in	
i_N	i_{ex}	n_2 [rpm]	M_{N2} [lb-in] x1000	P_{N1} [HP]	F_{Ra} [lb] x1000	F_{Re} [lb] x1000		$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F	$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F	$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F		
7.10	**6.82**	176	180.1	516	1.22	*)		134	62	256	152	329	205		
8.00	**7.89**	152	205.8	509	0.264	*)		141	68	263	158	335	212		
9.00	**8.85**	136	213.4	470	0.68	1.40		145	74	268	164	341	217		
10.00	**9.82**	122	199.9	397	1.47	*)		150	78	272	168	345	221		
11.20	**11.37**	106	231.3	397	0.134	*)	**MC2PLSF06**	156	84	278	174	351	228	160	280
12.50	**12.04**	100	209.6	340	1.84	*)	**MC2PLHF06**	158	86	280	176	353	229		
14.00	**13.93**	86	241.6	339	0.55	*)	**MC2PLHT06**	164	93	286	181	358	235		
16.00	**15.63**	77	233.7	292	2.61	2.05		131	60	237	134	300	177		
18.00	**17.59**	68	235.4	261	3.14	2.29		135	64	241	138	304	181		
20.00	**19.91**	60	217.5	213	4.42	3.20		139	68	245	142	308	185		
22.50	**22.80**	53	164.0	142	6.4	*)		127	75	219	141	272	181		
25.00	**26.39**	45	189.8	142	6.2	*)		131	78	221	145	276	185		
28.00	**29.61**	41	213.0	142	6.0	*)		134	80	224	148	279	188		
31.50	**32.33**	37	212.1	130	6.2	*)		135	83	227	149	280	189		
35.50	**36.28**	33	233.9	127	6.1	*)		138	86	229	152	283	192		
40.00	**41.07**	29	216.5	104	7.5	0.219		141	87	232	154	286	194		
45.00	**45.96**	26	198.0	85	8.4	0.89	**MC3PLSF06**	143	90	233	157	288	197		
50.00	**51.58**	23	222.3	85	8.2	0.89	**MC3PLHF06**	145	93	236	158	291	198	176	282
56.00	**56.31**	21	220.0	77	8.5	1.15	**MC3PLHT06**	146	94	237	161	292	200		
63.00	**63.20**	19	238.4	74	8.6	1.24		149	95	240	162	294	202		
71.00	**71.10**	17	222.3	62	9.7	0.442		125	71	202	126	251	158		
80.00	**79.80**	15	240.3	59	9.8	0.52		126	74	205	127	252	161		
90.00	**90.32**	13	223.5	49	10.2	0.91		129	75	207	130	253	162		
100.00	**96.73**	12	230.2	47	10.2	0.79		129	76	208	131	255	164		
112.00	**109.49**	11	225.3	41	10.2	1.04		131	78	209	133	257	165		

MC.PL..07, n_1 = 1200rpm														310000 lb-in	
7.10	**6.86**	175	231.9	660	1.08	*)		165	76	315	188	405	253		
8.00	**7.73**	155	250.0	632	0.81	0.407		172	83	322	194	412	260		
9.00	**8.68**	138	258.4	581	1.30	1.35		177	90	329	200	418	266		
10.00	**9.65**	124	254.3	514	1.43	*)		184	95	334	205	424	272		
11.20	**10.86**	110	279.7	502	0.66	0.143	**MC2PLSF07**	189	102	339	212	429	278	162	280
12.50	**12.19**	98	267.3	428	2.02	*)	**MC2PLHF07**	194	107	345	217	434	283		
14.00	**13.73**	87	301.0	428	0.63	*)	**MC2PLHT07**	200	113	350	223	440	288		
16.00	**15.42**	78	308.6	390	1.41	0.96		161	74	291	164	370	217		
18.00	**17.66**	68	322.1	356	1.42	0.82		168	79	298	170	375	224		
20.00	**20.25**	59	300.1	289	4.32	2.92		173	84	303	176	381	229		
22.50	**22.38**	54	219.7	194	6.9	0.467		157	91	268	173	335	223		
25.00	**25.20**	48	247.4	194	6.6	0.467		160	95	272	177	338	225		
28.00	**28.31**	42	277.9	194	6.3	0.467		164	98	275	180	342	229		
31.50	**31.86**	38	280.6	174	6.6	0.88		166	102	279	184	345	232		
35.50	**35.78**	34	315.2	174	6.2	0.88		169	105	282	186	349	236		
40.00	**41.02**	29	297.9	143	7.7	1.51		173	107	284	190	351	239		
45.00	**43.89**	27	257.3	116	9.0	1.36	**MC3PLSF07**	174	110	287	192	354	240		
50.00	**49.30**	24	289.0	116	8.7	1.36	**MC3PLHF07**	177	113	290	194	357	243	178	283
56.00	**55.47**	22	291.3	104	9.2	1.75	**MC3PLHT07**	180	115	292	197	359	245		
63.00	**62.31**	19	327.2	104	8.8	1.75		182	118	295	200	362	248		
71.00	**68.66**	17	294.0	85	10.3	0.494		153	87	249	154	307	194		
80.00	**77.12**	16	330.3	85	10	0.494		154	90	252	157	310	197		
90.00	**88.41**	14	306.7	69	11.8	1.06		157	93	255	160	312	200		
100.00	**99.48**	12	283.6	56	11.8	1.15		160	94	256	161	314	201		
112.00	**114.04**	11	309.8	54	11.8	1.25		162	97	259	164	316	204		

MC.PL..08, n_1 = 1200rpm								P_{TH}						407000 lb-in
i_N	i_{ex}	n_2	M_{N2}	P_{N1}	F_{Ra}	F_{Re}		$P_{TH[20]}$	$P_{TH[40]}$	$P_{TH[20]}$	$P_{TH[40]}$	$P_{TH[20]}$	$P_{TH[40]}$	
		[rpm]	[lb-in] x1000	[HP]	[lb] x1000	[lb] x1000		68 °F	104 °F	68 °F	104 °F	68 °F	104 °F	
7.10	**7.01**	171	298.0	830	2.15	*)		207	97	393	235	504	316	
8.00	**7.89**	152	335.6	830	0.99	*)		215	106	401	243	512	325	
9.00	**8.96**	134	352.4	768	1.34	0.96		223	114	409	251	520	333	
10.00	**9.80**	122	327.2	652	2.53	*)		228	119	416	256	527	338	
11.20	**11.03**	109	368.5	652	1.27	*)	**MC2PLSF08**	236	127	422	264	534	346	164 280
12.50	**12.49**	96	347.1	542	3.05	*)	**MC2PLHF08**	243	134	429	271	542	353	
14.00	**14.06**	85	390.9	542	1.72	*)	**MC2PLHT08**	249	141	436	278	548	359	
16.00	**15.97**	75	417.7	510	1.69	0.83		202	94	363	205	461	272	
18.00	**17.76**	68	419.7	461	2.47	0.92		208	99	370	211	467	278	
20.00	**19.90**	60	391.3	384	4.73	3.09		213	105	375	217	472	283	
22.50	**21.70**	55	331.1	301	6.1	*)		192	111	330	213	413	274	
25.00	**24.43**	49	372.9	301	5.7	*)		197	115	335	217	417	278	
28.00	**27.74**	43	412.2	293	5.5	0.031		201	121	339	223	422	283	
31.50	**31.14**	39	416.7	264	5.7	0.62		205	125	343	225	426	287	
35.50	**35.36**	34	416.1	232	6.7	1.26		209	129	347	231	430	291	
40.00	**39.60**	30	388.8	194	8.3	2.04		213	133	351	233	433	294	
45.00	**43.63**	28	390.2	177	8.3	0.416	**MC3PLSF08**	216	135	354	237	437	298	
50.00	**49.55**	24	419.8	167	8.5	0.71	**MC3PLHF08**	220	139	358	240	441	302	180 283
56.00	**55.61**	22	426.3	151	8.7	1.21	**MC3PLHT08**	223	142	361	244	444	304	
63.00	**63.15**	19	424.6	133	9.8	1.79		227	146	365	247	448	308	
71.00	**69.09**	17	429.3	123	10	0.334		188	107	308	190	380	240	
80.00	**78.46**	15	427.8	108	11.2	0.85		192	111	311	194	384	244	
90.00	**87.87**	14	400.6	90	13.0	1.46		194	114	314	197	386	247	
100.00	**97.27**	12	404.9	82	13.3	1.33		197	117	316	198	388	248	
112.00	**108.95**	11	404.4	73	14.4	1.66		200	118	319	201	390	251	

MC.PL..09, n_1 = 1200rpm														575000 lb-in
7.10	**6.91**	174	378.5	1069	3.77	*)		237	111	455	271	583	365	
8.00	**7.99**	150	437.7	1069	3.20	*)		249	123	465	282	595	377	
9.00	**8.97**	134	480.2	1045	2.79	*)		257	131	475	291	603	386	
10.00	**9.53**	126	414.8	849	4.21	*)		263	137	479	295	609	390	
11.20	**11.03**	109	479.6	849	3.58	*)	**MC2PLSF09**	274	148	489	306	620	401	166 280
12.50	**11.77**	102	434.8	721	4.66	*)	**MC2PLHF09**	278	152	495	310	624	405	
14.00	**13.61**	88	502.8	721	4.02	*)	**MC2PLHT09**	287	161	504	321	633	414	
16.00	**15.27**	79	564.2	721	3.22	*)		232	106	420	236	531	312	
18.00	**17.01**	71	568.2	652	3.84	*)		239	113	426	241	538	319	
20.00	**19.26**	62	532.6	540	5.6	*)		245	119	433	249	546	327	
22.50	**21.63**	55	449.5	410	7.5	*)		228	133	392	252	489	325	
25.00	**25.02**	48	519.8	410	6.9	*)		235	138	398	259	496	331	
28.00	**28.08**	43	560.7	394	6.9	*)		239	143	404	264	502	335	
31.50	**30.88**	39	562.6	360	7.1	0.113		243	148	408	268	506	339	
35.50	**34.65**	35	566.2	323	8.1	0.82		248	152	412	272	510	345	
40.00	**39.22**	31	527.5	266	10.1	1.91		252	157	417	278	515	349	
45.00	**44.10**	27	545.6	244	10	0.245	**MC3PLSF09**	256	161	421	282	519	354	
50.00	**49.49**	24	569.1	227	10.5	0.75	**MC3PLHF09**	260	165	425	286	523	358	182 283
56.00	**54.43**	22	570.9	207	10.9	1.34	**MC3PLHT09**	264	168	428	288	526	361	
63.00	**61.08**	20	575.0	186	11.9	1.97		268	172	432	292	530	365	
71.00	**68.03**	18	571.8	166	12.6	*)		223	127	366	227	451	284	
80.00	**76.35**	16	580.1	150	13.6	0.52		227	131	369	229	455	288	
90.00	**86.42**	14	533.5	122	16.1	1.44		231	134	373	233	457	292	
100.00	**93.94**	13	566.6	119	15.7	1.0		232	137	375	236	460	294	
112.00	**106.33**	11	535.5	99	17.9	1.70		236	141	378	239	463	298	

10.2.4 MCP ..

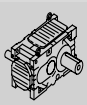
MC.PL..02, n_1 = 1000rpm								P_{TH}						70000 lb-in	
i_N	i_{ex}	n_2 [rpm]	M_{N2} [lb-in] x1000	P_{N1} [HP]	F_{Ra} [lb] x1000	F_{Re} [lb] x1000		$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F	$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F	$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F		
7.10	**7.07**	141	73.0	168	*)	*)		66	34	110	66	141	89		
8.00	**8.18**	122	71.0	141	*)	0.91		68	36	113	68	143	91		
9.00	**9.18**	109	66.7	118	0.87	1.52		71	38	114	70	146	93		
10.00	**9.83**	102	75.1	124	*)	0.325		72	39	115	71	146	94		
11.20	**11.37**	88	71.3	102	0.73	1.26	**MC2PLSF02**	75	42	118	74	149	97	152	280
12.50	**12.31**	81	75.0	99	0.244	0.55	**MC2PLHF02**	76	43	119	75	150	98		
14.00	**14.24**	70	71.5	82	1.32	1.41	**MC2PLHT02**	78	46	122	78	153	101		
16.00	**15.98**	63	68.1	69	1.91	1.76		63	31	102	58	129	75		
18.00	**17.88**	56	68.4	62	2.07	1.77		66	32	103	59	130	78		
20.00	**20.24**	49	63.0	51	2.57	1.89		67	35	105	60	131	79		
22.50	**22.30**	45	75.5	56	1.91	0.72		62	38	95	62	119	79		
25.00	**25.79**	39	71.8	46	2.44	0.74		63	39	97	63	121	80		
28.00	**28.95**	35	67.2	38	2.92	0.76		64	40	98	64	122	82		
31.50	**32.31**	31	71.9	37	2.84	0.76		66	42	99	66	123	83		
35.50	**36.27**	28	67.8	31	3.31	0.77		67	42	101	67	125	84		
40.00	**38.89**	26	76.8	33	2.85	0.66		67	43	101	67	125	84		
45.00	**44.97**	22	71.8	26	3.49	0.83	**MC3PLSF02**	68	44	102	68	126	86		
50.00	**50.47**	20	68.8	22	3.93	0.84	**MC3PLHF02**	70	46	103	70	127	87	168	281
56.00	**56.34**	18	72.2	21	3.94	0.84	**MC3PLHT02**	71	46	105	70	127	87		
63.00	**63.23**	16	69.3	18.1	4.40	0.85		72	47	105	71	129	89		
71.00	**71.20**	14	72.3	16.7	4.47	0.469		60	35	89	55	110	70		
80.00	**79.91**	13	69.6	14.3	4.94	0.61		62	36	90	56	110	70		
90.00	**90.45**	11	64.0	11.7	5.1	0.61		62	36	91	56	111	71		
100.00	**95.36**	10	70.5	12.2	5.1	0.61		62	38	91	58	111	71		
112.00	**107.94**	9.3	64.6	9.9	5.1	0.61		63	38	93	58	113	72		
MC.PL..03, n_1 = 1000rpm														**102000 lb-in**	
7.10	**7.29**	137	93.8	209	1.44	0.412		83	42	138	82	177	111		
8.00	**8.23**	122	98.4	195	1.59	1.18		86	46	141	84	180	114		
9.00	**9.28**	108	95.0	167	2.11	2.00		89	48	143	87	182	117		
10.00	**9.95**	100	103.5	169	1.55	0.269		90	50	145	90	184	118		
11.20	**11.23**	89	103.0	149	2.00	1.48	**MC2PLSF03**	93	52	148	93	186	121	154	280
12.50	**12.70**	79	91.1	117	2.73	1.82	**MC2PLHF03**	95	55	150	94	189	123		
14.00	**14.32**	70	103.7	118	2.51	1.78	**MC2PLHT03**	98	58	153	97	192	126		
16.00	**16.16**	62	97.3	98	3.23	2.15		79	39	127	71	161	95		
18.00	**17.91**	56	97.7	89	3.46	2.13		82	40	129	74	162	97		
20.00	**20.40**	49	90.2	72	4.25	2.29		84	43	131	75	165	99		
22.50	**22.65**	44	100.5	73	3.66	0.95		78	47	119	76	149	98		
25.00	**25.55**	39	103.0	66	4.01	1.10		79	48	121	78	150	101		
28.00	**28.83**	35	96.3	55	4.80	1.17		80	50	122	80	152	102		
31.50	**32.60**	31	102.8	52	4.72	1.17		82	51	123	82	153	103		
35.50	**36.78**	27	97.3	44	5.5	1.19		83	52	125	83	154	105		
40.00	**39.81**	25	104.7	43	5.1	0.97		84	54	126	83	156	106		
45.00	**44.91**	22	105.0	39	5.6	1.14	**MC3PLSF03**	86	55	127	84	157	107		
50.00	**50.67**	20	98.1	32	6.5	1.19	**MC3PLHF03**	87	56	129	86	158	109	170	281
56.00	**57.29**	17	104.0	30	6.5	1.19	**MC3PLHT03**	89	58	130	87	160	110		
63.00	**64.64**	15	99.1	25	6.9	1.20		90	59	131	89	161	110		
71.00	**71.62**	14	104.6	24	6.9	0.80		75	44	111	68	137	86		
80.00	**80.80**	12	99.7	20	6.9	0.81		76	44	111	70	138	87		
90.00	**92.02**	11	92.0	16.5	6.9	0.81		76	46	113	71	138	89		
100.00	**101.82**	9.8	101.8	16.5	6.9	0.81		78	47	114	71	139	90		
112.00	**115.96**	8.6	93.4	13.3	6.9	0.81		79	48	115	72	141	90		

MC.PL..04, n_1 = 1000rpm — P_{TH} — 137000 lb-in

i_N	i_{ex}	n_2 [rpm]	M_{N2} [lb-in] x1000	P_{N1} [HP]	F_{Ra} [lb] x1000	F_{Re} [lb] x1000		$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F	$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F	$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F		
7.10	**7.12**	140	118.5	271	1.55	0.76		103	52	173	103	221	138		
8.00	**8.01**	125	123.4	251	1.87	1.35		107	56	176	106	225	142		
9.00	**8.96**	112	128.4	233	2.16	1.81		111	59	180	110	228	146		
10.00	**9.95**	101	132.0	216	1.59	0.64		114	62	182	113	232	149		
11.20	**11.19**	89	137.5	200	1.95	1.25	**MC2PLSF04**	117	66	185	115	235	152	156	280
12.50	**12.72**	79	134.5	172	2.60	0.94	**MC2PLHF04**	121	68	189	119	237	156		
14.00	**14.31**	70	143.1	163	2.66	1.38	**MC2PLHT04**	123	71	192	122	241	158		
16.00	**16.00**	63	132.4	135	3.69	2.48		101	48	160	90	202	119		
18.00	**17.12**	58	132.5	126	3.88	2.53		102	50	161	91	204	121		
20.00	**19.25**	52	127.1	107	4.55	2.83		105	52	164	94	207	123		
22.50	**23.20**	43	122.2	87	4.98	0.93		97	58	148	95	184	122		
25.00	**26.10**	38	137.5	87	4.82	0.93		98	59	149	97	186	125		
28.00	**29.18**	34	132.7	75	5.5	0.98		101	62	152	99	188	126		
31.50	**33.39**	30	143.9	71	5.4	0.98		102	63	153	101	190	127		
35.50	**37.33**	27	133.1	59	6.4	1.0		103	66	154	103	192	130		
40.00	**40.28**	25	127.0	52	6.6	0.394		105	66	156	103	193	130		
45.00	**45.30**	22	142.9	52	6.5	0.394	**MC3PLSF04**	106	68	157	106	194	133		
50.00	**50.64**	20	133.2	43	7.5	0.75	**MC3PLHF04**	107	70	160	107	196	134	172	281
56.00	**57.96**	17	146.3	42	7.4	0.82	**MC3PLHT04**	110	71	161	109	197	135		
63.00	**64.79**	15	133.3	34	7.9	1.13		111	72	162	110	198	137		
71.00	**72.86**	14	147.5	33	7.9	0.89		93	55	137	84	169	107		
80.00	**81.44**	12	133.4	27	7.9	0.92		94	55	138	86	170	109		
90.00	**91.60**	11	130.1	23	7.9	0.92		95	56	139	87	172	110		
100.00	**97.56**	10	131.4	22	7.9	0.92		97	58	141	89	172	110		
112.00	**109.73**	9.1	131.0	20	7.9	0.92		97	59	142	90	173	111		

MC.PL..05, n_1 = 1000rpm — 177000 lb-in

7.10	**7.10**	141	165.3	378	0.470	*)		118	59	197	117	252	158		
8.00	**8.00**	125	171.7	349	0.76	0.97		122	64	201	121	256	162		
9.00	**8.87**	113	175.9	323	1.23	1.78		126	67	204	125	260	165		
10.00	**9.78**	102	183.6	305	0.401	*)		129	71	208	127	263	169		
11.20	**11.01**	91	186.8	276	0.99	1.01	**MC2PLSF05**	133	74	211	131	267	173	158	280
12.50	**12.52**	80	168.3	219	2.15	1.57	**MC2PLHF05**	137	78	215	135	271	176		
14.00	**14.10**	71	188.3	217	1.89	1.62	**MC2PLHT05**	139	82	219	138	274	180		
16.00	**15.64**	64	179.4	187	2.64	2.81		114	55	181	102	229	135		
18.00	**17.24**	58	179.4	169	2.89	2.88		117	58	184	105	232	138		
20.00	**19.40**	52	168.5	141	3.69	3.23		119	60	186	107	236	141		
22.50	**22.58**	44	136.9	100	4.81	0.88		111	66	170	110	213	141		
25.00	**25.41**	39	154.2	100	4.68	0.88		113	68	173	113	215	143		
28.00	**28.19**	35	171.0	100	4.59	0.88		115	71	174	114	217	145		
31.50	**32.53**	31	176.1	89	4.70	1.15		118	72	177	117	220	148		
35.50	**36.08**	28	179.3	82	5.1	1.33		119	75	178	118	221	149		
40.00	**40.62**	25	166.8	68	6.0	1.68		122	76	181	121	223	152		
45.00	**43.55**	23	160.2	61	6.2	1.21	**MC3PLSF05**	122	78	182	122	224	153		
50.00	**48.31**	21	177.7	61	6.2	1.21	**MC3PLHF05**	125	79	184	123	225	154	174	282
56.00	**55.74**	18	182.1	54	6.4	1.47	**MC3PLHT05**	126	82	185	125	228	157		
63.00	**61.84**	16	182.6	49	6.9	1.66		127	83	186	126	229	158		
71.00	**71.06**	14	184.0	43	7.3	0.75		107	63	158	98	196	123		
80.00	**78.83**	13	184.4	39	7.9	0.93		109	64	160	99	197	125		
90.00	**88.73**	11	171.1	32	8.9	1.22		110	66	161	101	198	126		
100.00	**96.36**	10	167.9	29	9.3	1.15		111	67	162	102	200	127		
112.00	**108.46**	9.2	173.3	26	9.3	1.27		113	68	164	103	201	129		

MC.PL..06, n_1 = 1000rpm								P_{TH}						221000 lb-in	
i_N	i_{ex}	n_2 [rpm]	M_{N2} [lb-in] x1000	P_{N1} [HP]	F_{Ra} [lb] x1000	F_{Re} [lb] x1000		$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F	$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F	$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F		
7.10	**6.82**	147	190.5	454	1.26	*)		142	71	236	139	304	190		
8.00	**7.89**	127	217.2	448	0.293	*)		148	76	243	146	311	196		
9.00	**8.85**	113	225.6	414	0.70	1.47		153	82	248	152	315	201		
10.00	**9.82**	102	210.9	349	1.58	*)		157	86	252	156	319	205		
11.20	**11.37**	88	241.2	345	0.435	*)	**MC2PLSF06**	162	91	257	161	325	211	160	280
12.50	**12.04**	83	220.9	299	1.99	*)	**MC2PLHF06**	165	94	259	162	327	212		
14.00	**13.93**	72	242.0	283	1.84	0.87	**MC2PLHT06**	169	98	264	168	333	217		
16.00	**15.63**	64	235.7	245	3.36	2.66		138	67	220	123	279	164		
18.00	**17.59**	57	236.4	219	3.77	2.84		142	70	224	127	283	168		
20.00	**19.91**	50	218.6	179	5.1	3.44		145	74	228	131	287	172		
22.50	**22.80**	44	164.3	119	7.1	*)		131	79	202	130	252	168		
25.00	**26.39**	38	190.1	119	7.0	*)		135	82	205	134	256	170		
28.00	**29.61**	34	213.3	119	6.8	*)		138	84	208	137	259	173		
31.50	**32.33**	31	212.1	108	7.0	*)		139	87	211	138	260	176		
35.50	**36.28**	28	235.4	107	6.9	*)		142	89	212	141	263	177		
40.00	**41.07**	24	218.3	88	8.3	0.313		145	91	215	143	266	180		
45.00	**45.96**	22	198.0	71	9.2	1.09	**MC3PLSF06**	146	94	217	145	267	182		
50.00	**51.58**	19	222.2	71	9.1	1.09	**MC3PLHF06**	149	95	219	148	270	184	176	282
56.00	**56.31**	18	219.9	64	9.5	1.36	**MC3PLHT06**	150	97	220	149	271	185		
63.00	**63.20**	16	239.6	62	9.5	1.43		152	99	223	150	272	188		
71.00	**71.10**	14	222.6	52	10.2	0.59		127	74	188	117	232	148		
80.00	**79.80**	13	242.1	50	10.2	0.66		129	76	190	118	233	149		
90.00	**90.32**	11	225.2	41	10.2	1.05		131	78	192	121	236	150		
100.00	**96.73**	10	230.2	39	10.2	0.94		131	79	193	121	236	152		
112.00	**109.49**	9.1	227.0	34	10.2	1.17		134	80	194	123	239	153		

MC.PL..07, n_1 = 1000rpm														310000 lb-in	
7.10	**6.86**	146	245.1	581	1.13	*)		174	87	291	173	374	233		
8.00	**7.73**	129	264.0	556	0.86	0.436		181	94	298	178	381	240		
9.00	**8.68**	115	273.1	512	1.36	1.42		186	99	303	185	388	245		
10.00	**9.65**	104	268.0	452	1.56	*)		192	105	308	190	392	251		
11.20	**10.86**	92	295.6	442	0.69	0.145	**MC2PLSF07**	197	110	314	196	397	256	162	280
12.50	**12.19**	82	282.8	377	2.10	*)	**MC2PLHF07**	202	115	319	201	402	261		
14.00	**13.73**	73	316.2	374	0.81	*)	**MC2PLHT07**	208	121	325	205	408	267		
16.00	**15.42**	65	323.6	341	1.70	1.10		169	82	270	152	342	201		
18.00	**17.66**	57	325.7	300	2.73	1.38		174	87	275	157	347	207		
20.00	**20.25**	49	302.0	243	5.0	3.48		180	91	280	162	353	212		
22.50	**22.38**	45	220.3	162	7.7	0.71		162	97	248	160	310	205		
25.00	**25.20**	40	248.1	162	7.5	0.71		165	99	252	164	314	209		
28.00	**28.31**	35	278.7	162	7.1	0.71		168	103	255	166	316	212		
31.50	**31.86**	31	282.7	146	7.4	1.10		172	106	257	170	321	215		
35.50	**35.78**	28	317.6	146	7.0	1.10		174	109	261	173	323	219		
40.00	**41.02**	24	300.5	121	8.6	1.74		177	113	264	176	326	221		
45.00	**43.89**	23	257.4	97	10	1.64	**MC3PLSF07**	180	114	266	177	327	223		
50.00	**49.30**	20	289.2	97	9.8	1.64	**MC3PLHF07**	181	117	268	180	330	225	178	283
56.00	**55.47**	18	291.4	86	10.2	2.04	**MC3PLHT07**	184	119	271	182	333	228		
63.00	**62.31**	16	327.3	86	9.9	2.04		186	122	274	185	335	231		
71.00	**68.66**	15	294.1	71	11.5	0.69		156	91	231	142	284	180		
80.00	**77.12**	13	330.4	71	11.2	0.69		158	93	233	145	287	182		
90.00	**88.41**	11	308.1	57	11.8	1.24		161	95	236	148	290	185		
100.00	**99.48**	10	283.3	47	11.8	1.34		162	98	237	150	291	186		
112.00	**114.04**	8.8	312.8	45	11.8	1.42		165	99	240	152	294	189		

MC.PL..08, n_1 = 1000rpm								P_{TH}						407000 lb-in	
i_N	i_{ex}	n_2	M_{N2}	P_{N1}	F_{Ra}	F_{Re}		$P_{TH[20]}$	$P_{TH[40]}$	$P_{TH[20]}$	$P_{TH[40]}$	$P_{TH[20]}$	$P_{TH[40]}$		
		[rpm]	[lb-in] x1000	[HP]	[lb] x1000	[lb] x1000		68 °F	104 °F	68 °F	104 °F	68 °F	104 °F		
7.10	**7.01**	143	315.2	732	2.24	*)		219	110	363	216	467	292		
8.00	**7.89**	127	354.9	732	1.02	*)		227	117	371	224	475	299		
9.00	**8.96**	112	372.2	676	1.42	1.01		235	125	378	232	483	307		
10.00	**9.80**	102	346.1	574	2.64	*)		240	130	384	237	488	312		
11.20	**11.03**	91	389.7	574	1.31	*)	**MC2PLSF08**	247	137	392	244	495	319	164	280
12.50	**12.49**	80	366.4	477	3.23	*)	**MC2PLHF08**	253	145	398	251	502	326		
14.00	**14.06**	71	412.6	477	1.83	*)	**MC2PLHT08**	259	150	404	256	508	333		
16.00	**15.97**	63	420.1	428	3.12	1.54		212	103	337	189	426	252		
18.00	**17.76**	56	420.7	385	4.00	1.67		217	107	342	194	432	257		
20.00	**19.90**	50	394.6	323	5.5	3.74		223	113	347	200	437	263		
22.50	**21.70**	46	330.8	251	7.0	0.211		198	118	306	197	382	253		
25.00	**24.43**	41	372.6	251	6.6	0.210		202	122	310	201	386	257		
28.00	**27.74**	36	414.1	246	6.4	0.339		208	127	314	205	392	261		
31.50	**31.14**	32	417.1	220	6.7	0.95		211	130	318	209	396	266		
35.50	**35.36**	28	419.4	195	7.6	1.56		215	134	322	213	398	270		
40.00	**39.60**	25	393.0	163	9.2	2.33		219	138	326	216	402	272		
45.00	**43.63**	23	387.2	146	9.4	0.79	**MC3PLSF08**	221	141	329	219	405	275		
50.00	**49.55**	20	423.7	141	9.5	0.99	**MC3PLHF08**	225	145	331	223	409	279	180	283
56.00	**55.61**	18	427.6	127	9.8	1.53	**MC3PLHT08**	228	148	335	225	412	282		
63.00	**63.15**	16	427.5	111	11.0	2.10		231	150	338	229	414	286		
71.00	**69.09**	14	430.9	103	11.2	0.57		193	113	286	177	353	223		
80.00	**78.46**	13	430.5	90	12.4	1.09		196	115	288	180	355	225		
90.00	**87.87**	11	403.4	76	14.2	1.70		198	118	291	182	358	228		
100.00	**97.27**	10	405.0	69	14.7	1.57		201	121	294	185	361	231		
112.00	**108.95**	9.2	407.9	62	15.0	1.72		202	122	296	186	362	233		

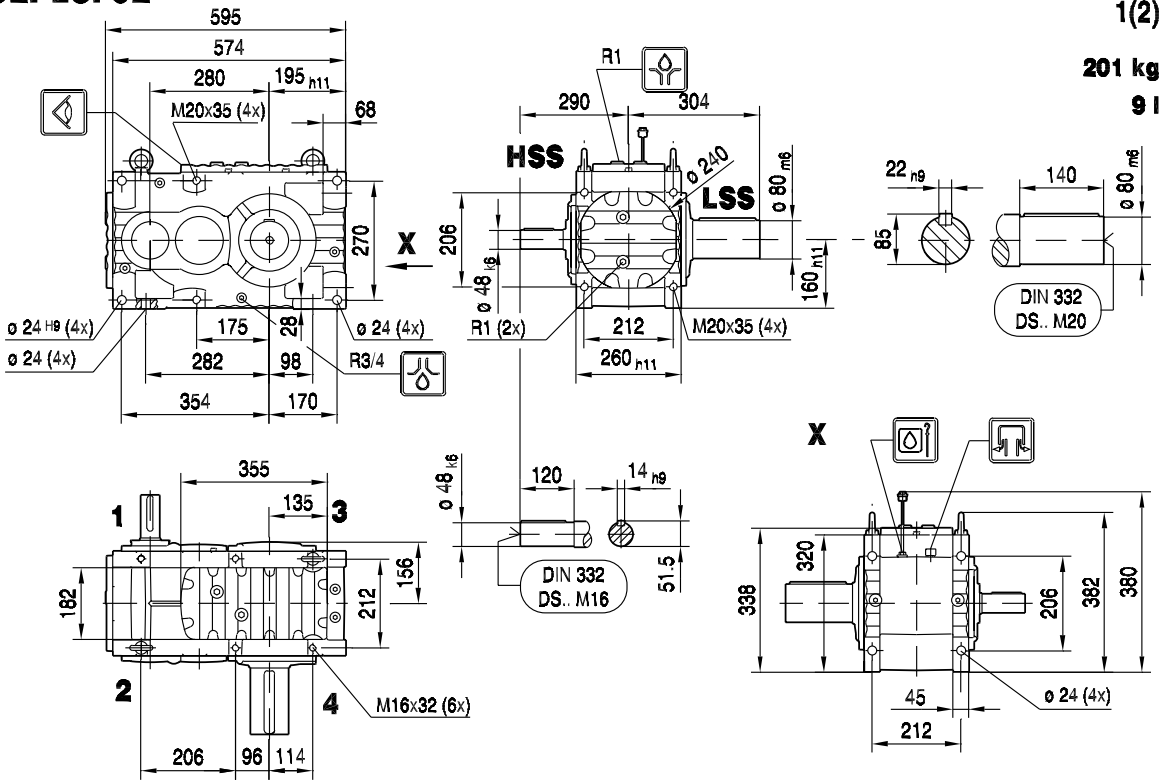
MC.PL..09, n_1 = 1000rpm														575000 lb-in	
7.10	**6.91**	145	399.9	941	3.98	*)		252	126	420	249	540	337		
8.00	**7.99**	125	462.4	941	3.37	*)		263	137	430	260	551	349		
9.00	**8.97**	112	507.2	920	2.94	*)		271	145	439	268	559	357		
10.00	**9.53**	105	438.3	748	4.44	*)		276	149	444	272	563	361		
11.20	**11.03**	91	506.9	748	3.78	*)	**MC2PLSF09**	286	160	453	283	574	370	166	280
12.50	**11.77**	85	460.0	636	4.90	*)	**MC2PLHF09**	290	164	457	287	578	374		
14.00	**13.61**	73	531.9	636	4.22	*)	**MC2PLHT09**	299	173	467	295	586	384		
16.00	**15.27**	65	569.5	606	4.20	*)		243	117	388	217	492	290		
18.00	**17.01**	59	571.6	546	4.75	*)		249	122	394	224	499	295		
20.00	**19.26**	52	535.0	452	6.6	1.07		256	130	401	231	506	302		
22.50	**21.63**	46	452.1	344	8.5	*)		236	141	363	233	455	300		
25.00	**25.02**	40	522.8	344	8.0	*)		241	146	369	240	460	307		
28.00	**28.08**	36	564.1	331	8.0	*)		247	152	374	244	465	311		
31.50	**30.88**	32	570.5	304	8.1	0.409		251	154	377	248	468	315		
35.50	**34.65**	29	567.6	270	9.3	1.20		255	160	382	252	473	319		
40.00	**39.22**	26	528.5	222	11.4	2.29		259	164	386	256	477	323		
45.00	**44.10**	23	544.4	203	11.3	0.68	**MC3PLSF09**	263	168	390	260	481	327		
50.00	**49.49**	20	575.0	191	11.7	1.10	**MC3PLHF09**	267	172	394	264	485	331	182	283
56.00	**54.43**	18	570.9	173	12.3	1.76	**MC3PLHT09**	270	174	397	267	488	334		
63.00	**61.08**	16	581.6	157	13.3	2.32		274	177	401	271	492	338		
71.00	**68.03**	15	570.9	138	14.1	0.311		228	133	339	209	418	264		
80.00	**76.35**	13	583.4	126	15.1	0.80		232	137	342	213	421	267		
90.00	**86.42**	12	533.5	102	17.7	1.74		235	139	346	216	424	271		
100.00	**93.94**	11	567.0	99	17.4	1.29		237	142	347	219	426	272		
112.00	**106.33**	9.4	535.4	83	18.0	2.00		240	145	351	221	429	276		

10.2.5 MC.PL .. [mm]

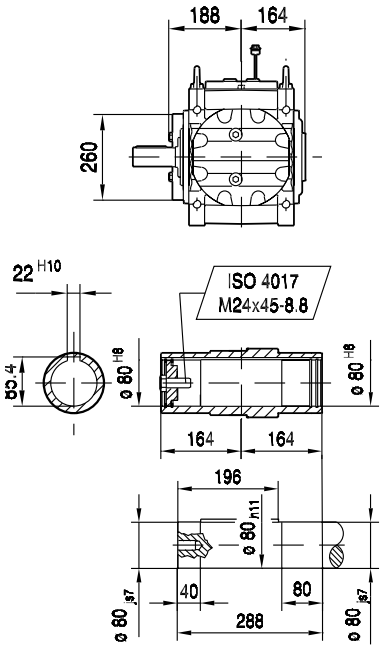
MC2PLSF02

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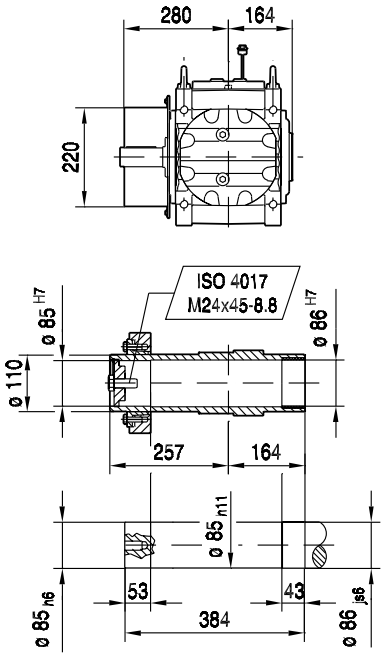
201 kg
9 l



MC2PLHF02



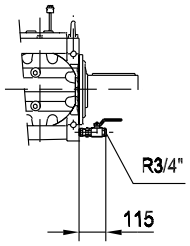
MC2PLHF02 /SD



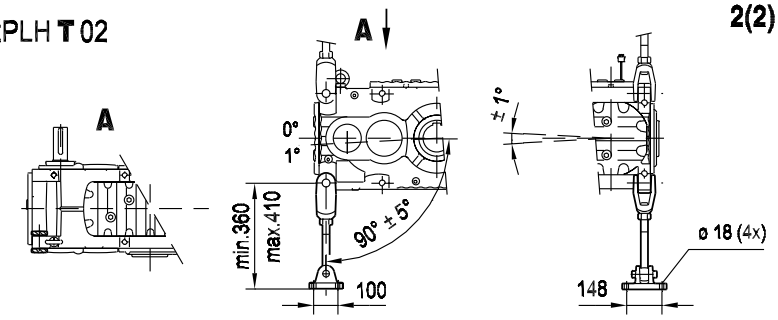
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47 033 00 03
2(2)

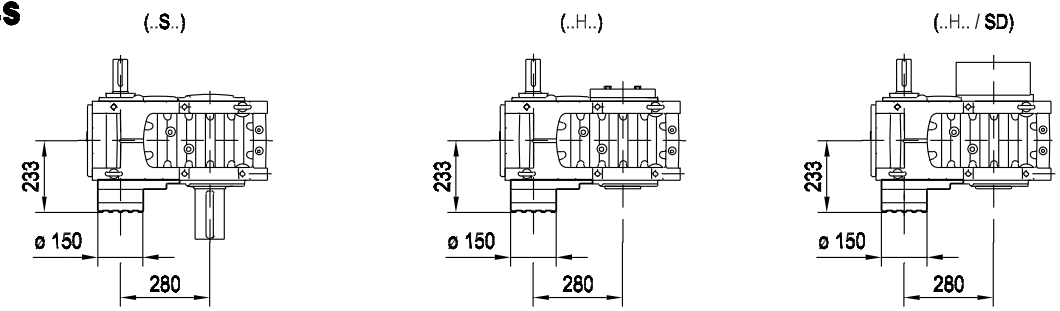
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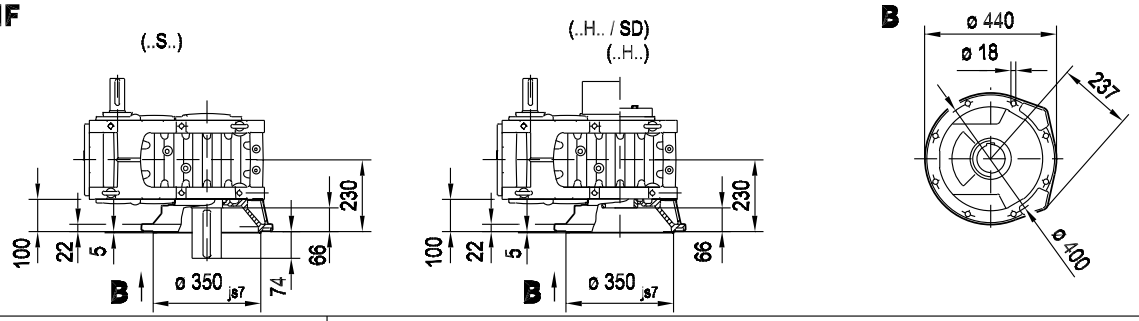
MC2PLH **T** 02



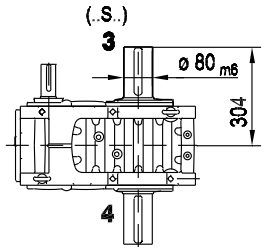
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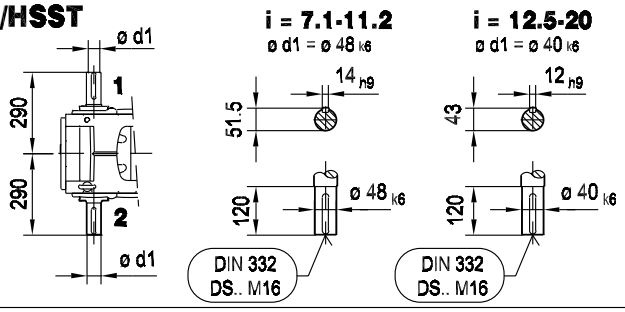
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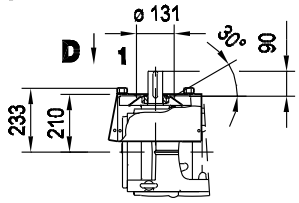
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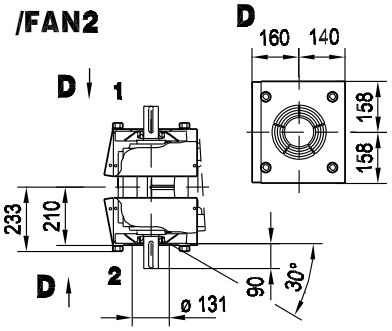
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/FAN



/FAN2

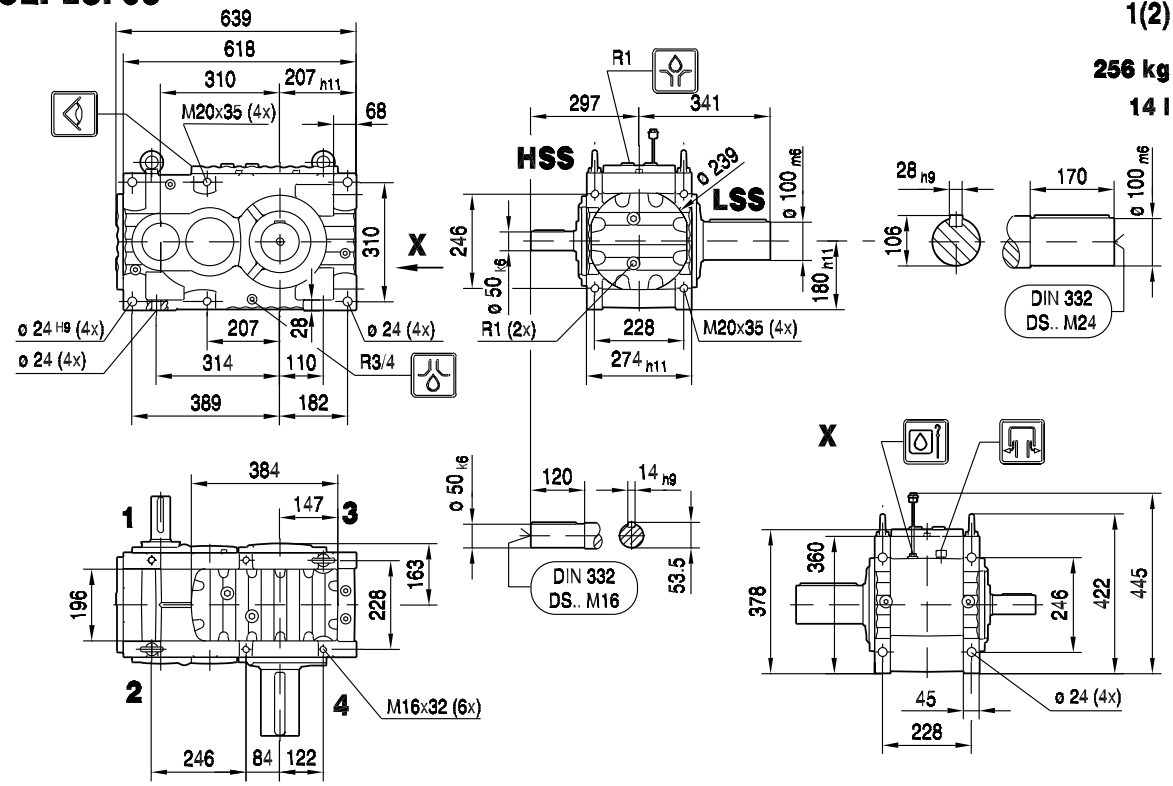


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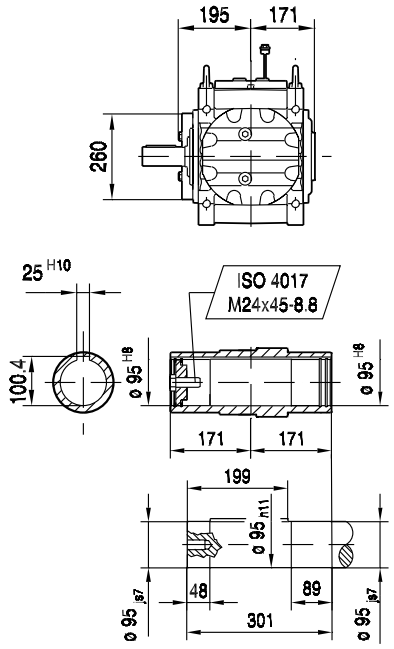
MC2PLSF03

47 034 00 03
1(2)

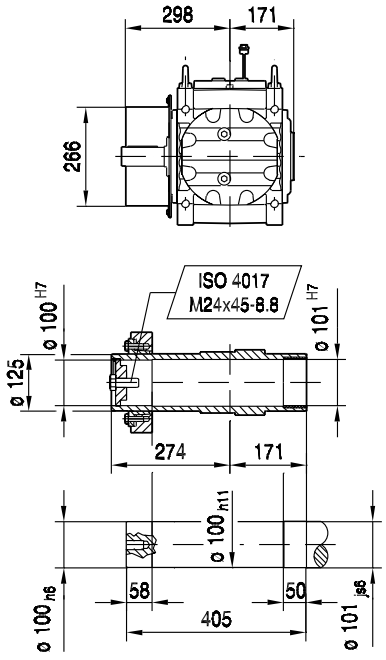
256 kg
14 l



MC2PLHF03



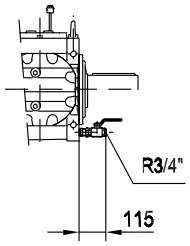
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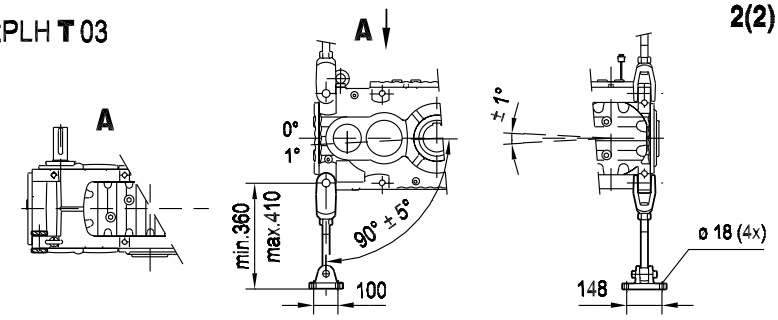
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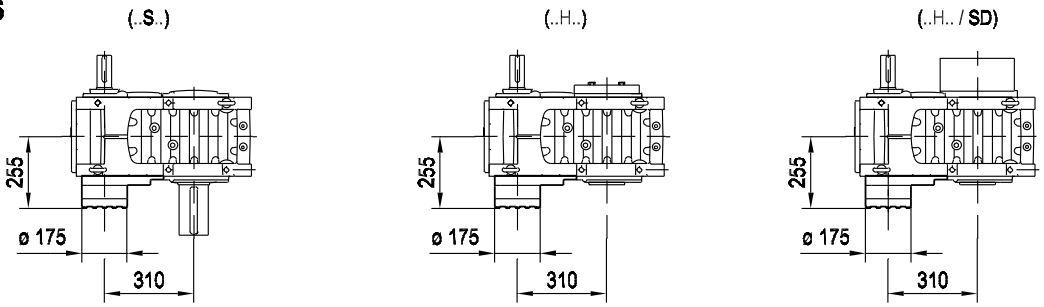
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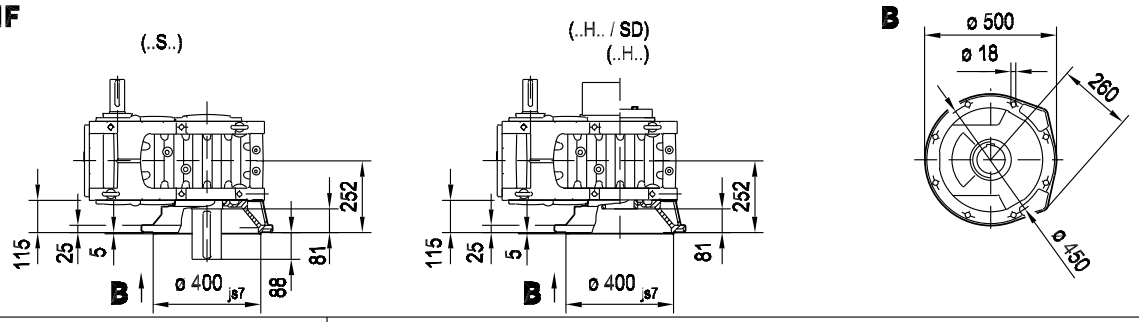
MC2PLH **T** 03



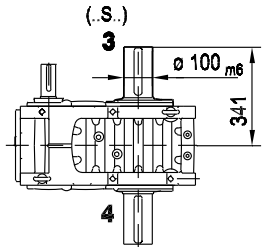
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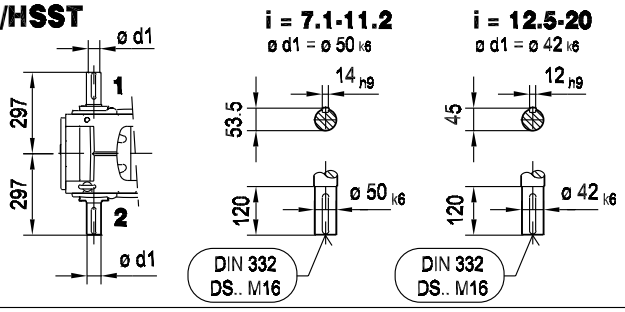
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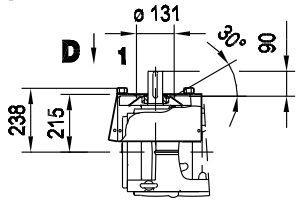
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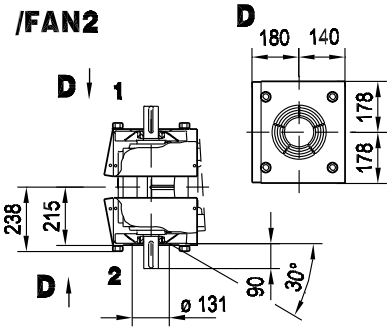
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/FAN



/FAN2

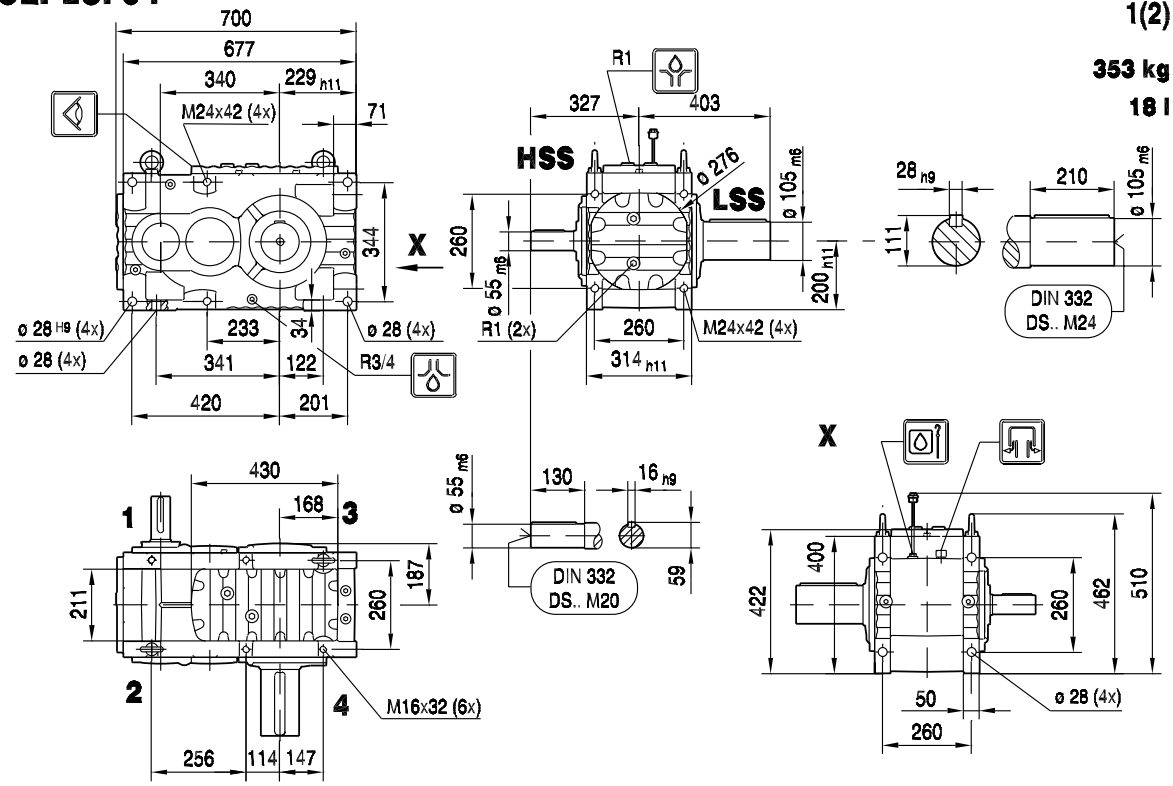


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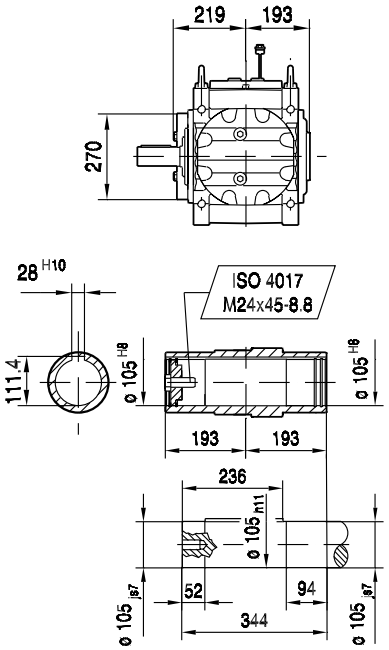
MC2PLSF04

47 035 00 03
1(2)

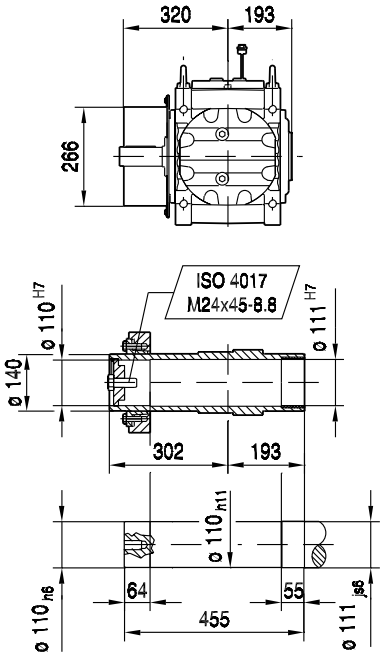
353 kg
18 l



MC2PLHF04



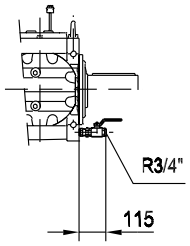
MC2PLHF04 /SD



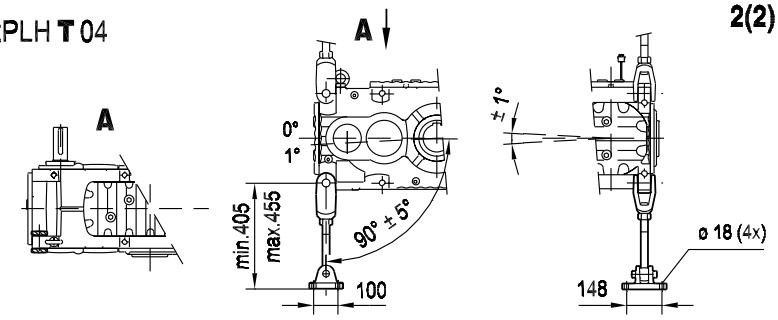
MC2PL..04

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2(2)

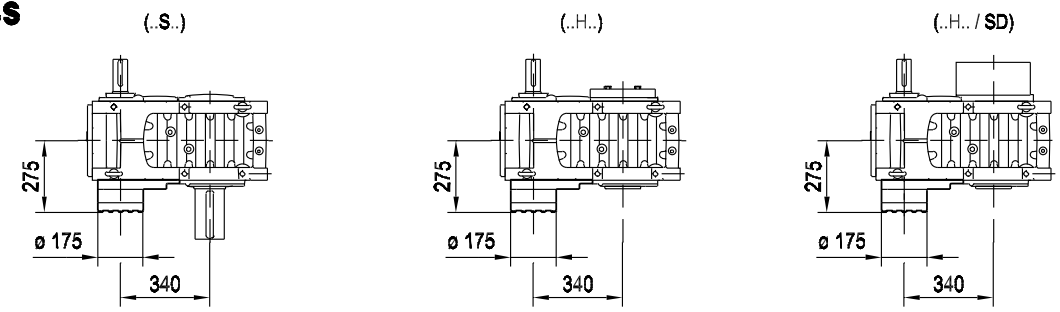
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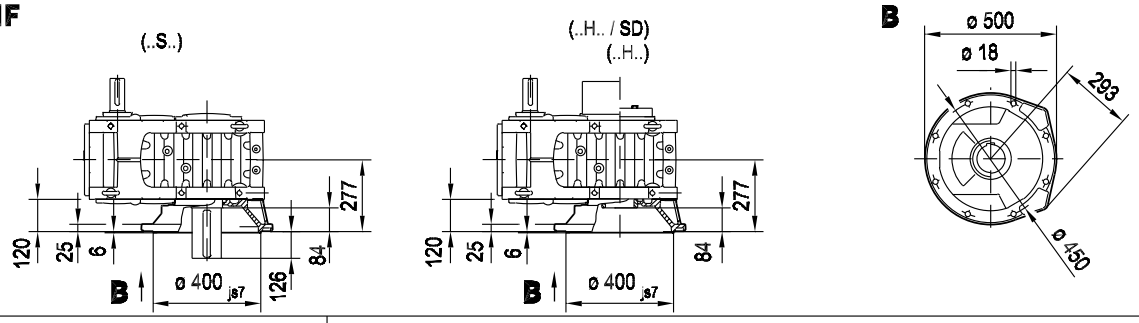
MC2PLH **T** 04



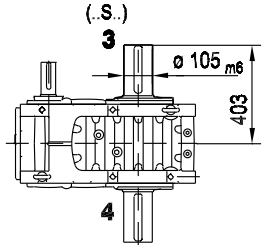
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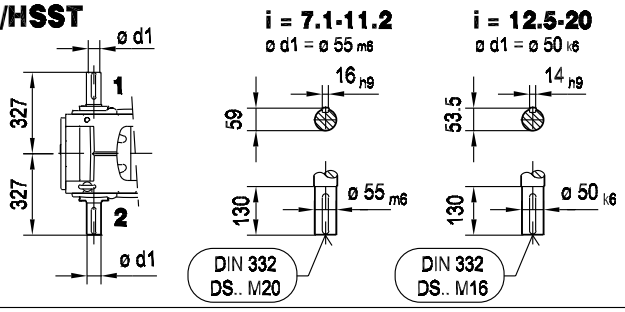
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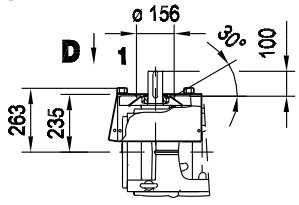
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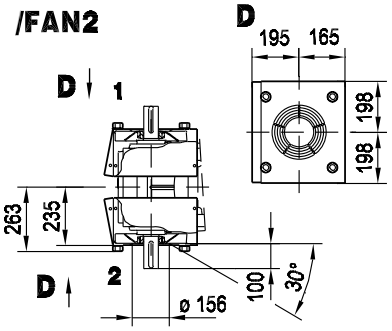
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/FAN



/FAN2

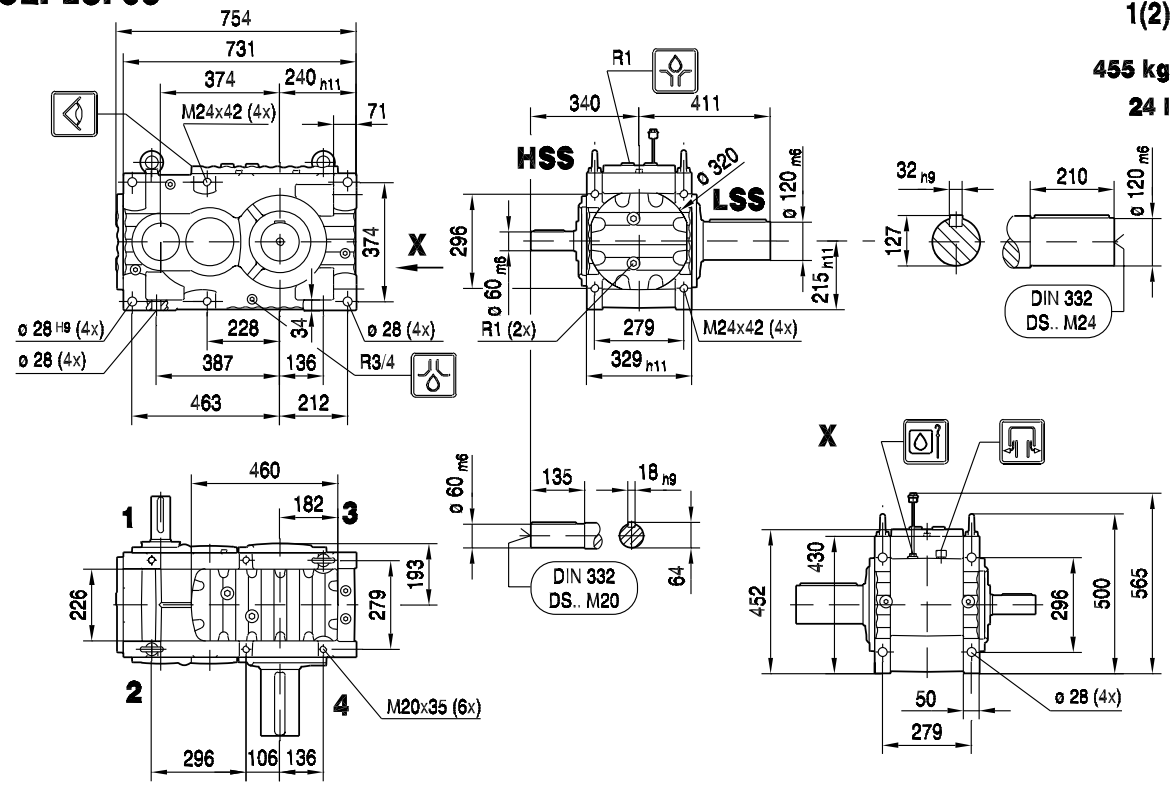


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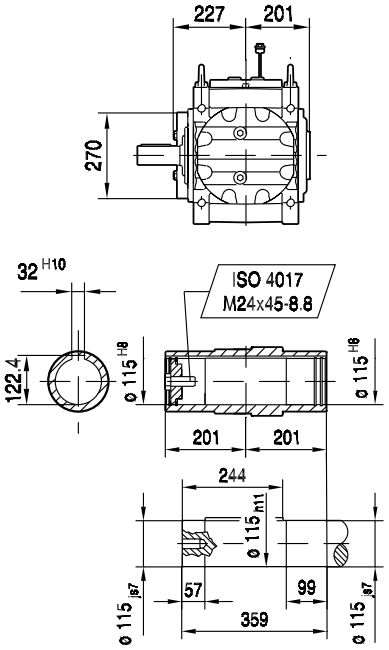
MC2PLSF05

47 036 00 03
1(2)

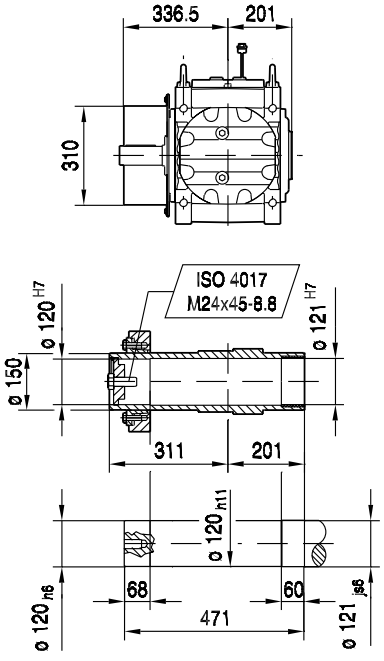
455 kg
24 l



MC2PLHF05



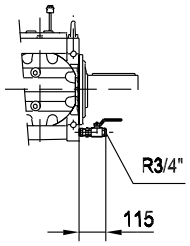
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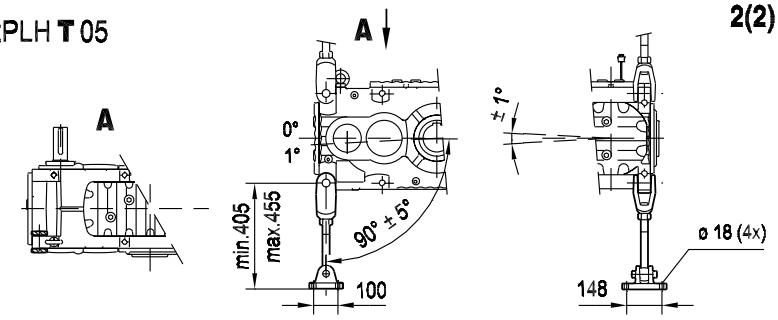
MC2PL..05

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2(2)

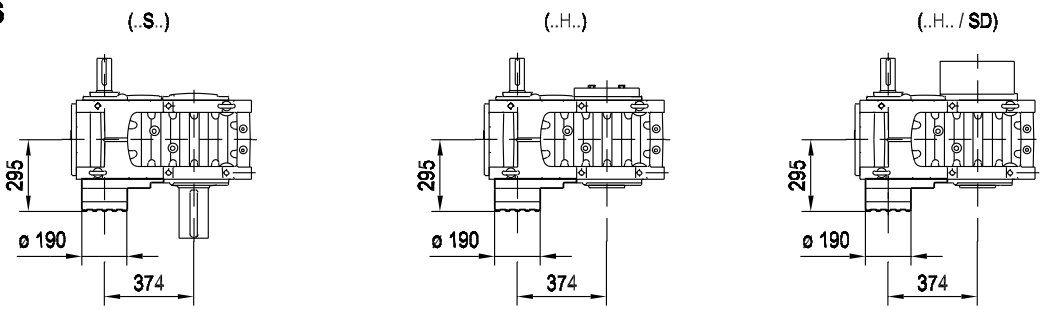
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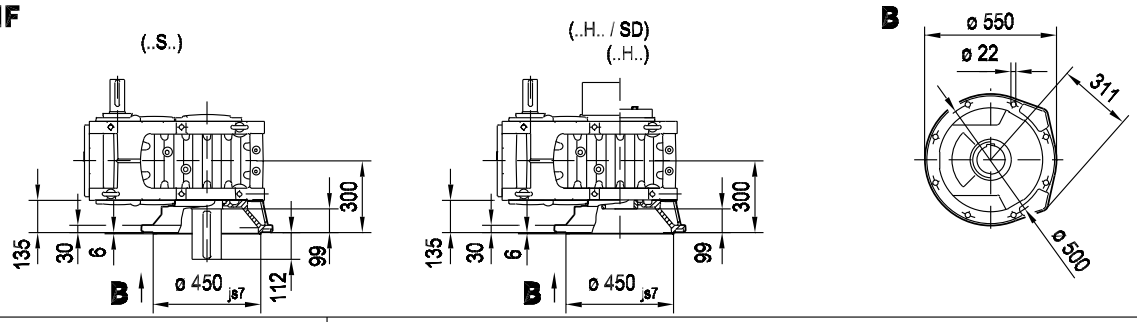
MC2PLH **T** 05



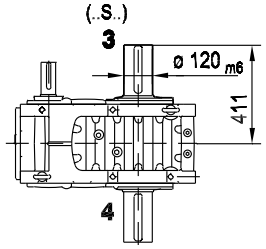
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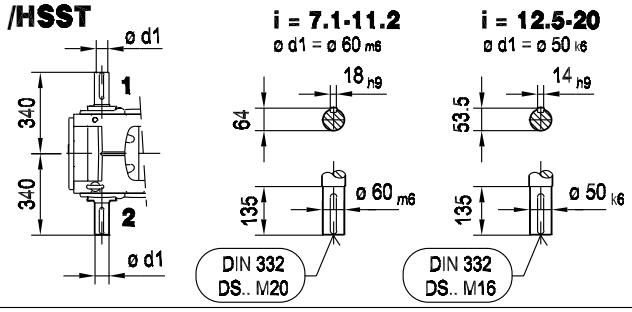
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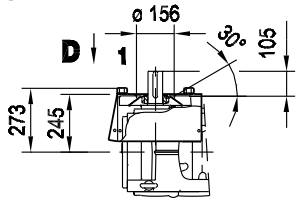
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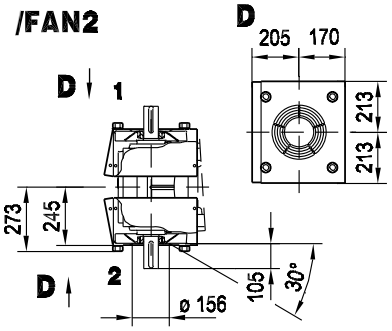
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/FAN



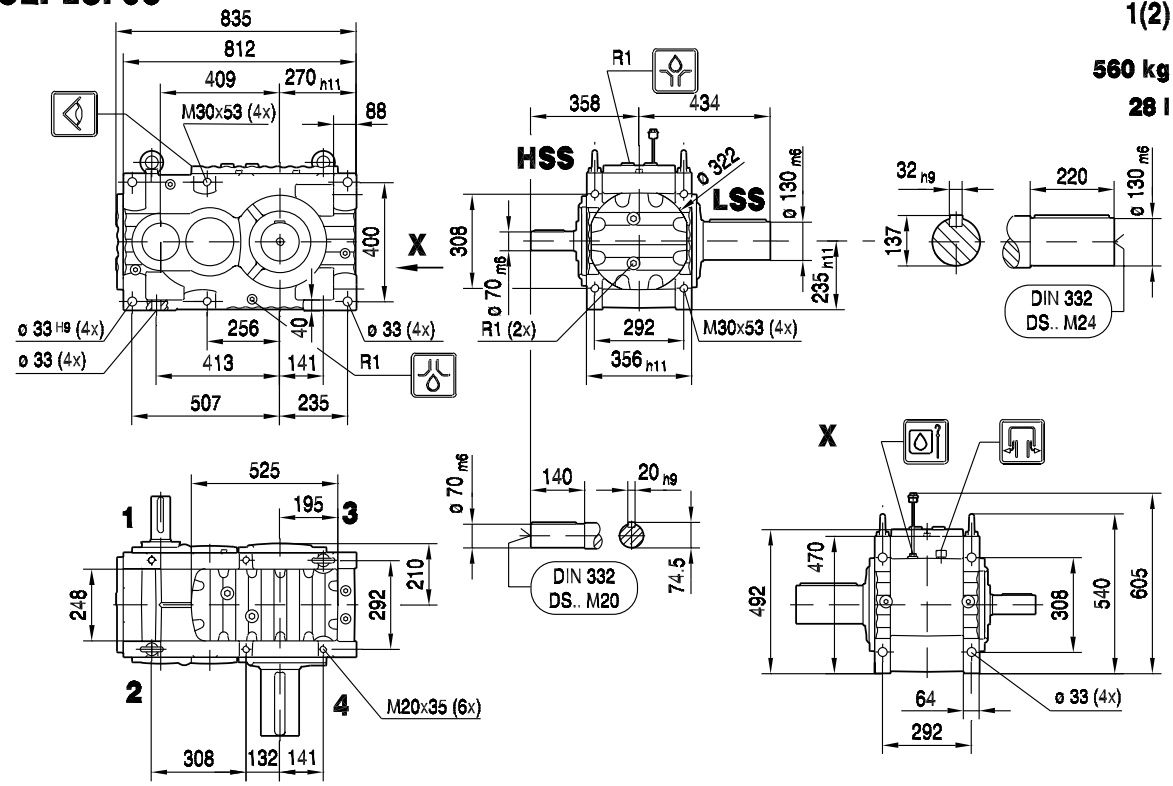
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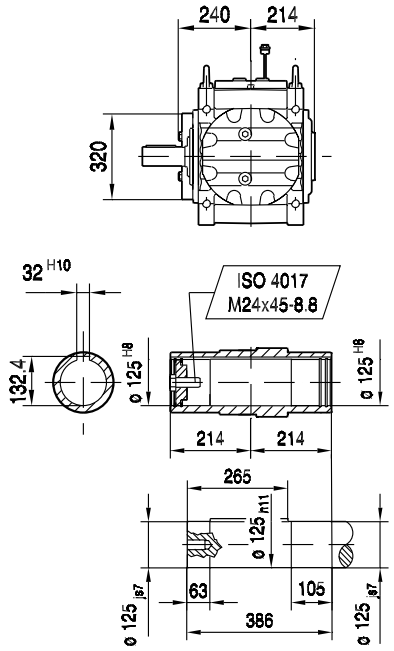
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1(2)

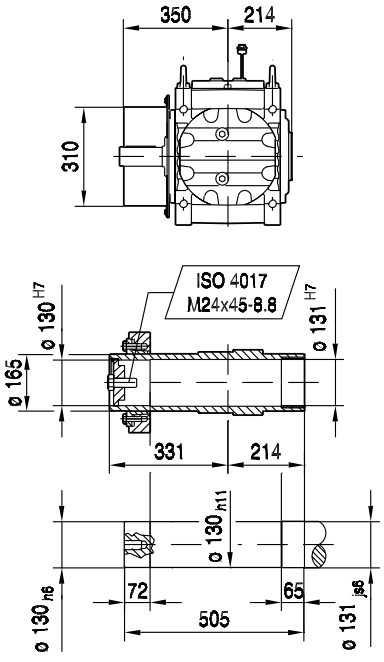
560 kg
28 l



MC2PLHF06



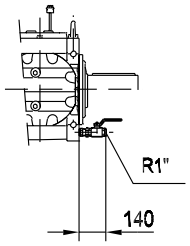
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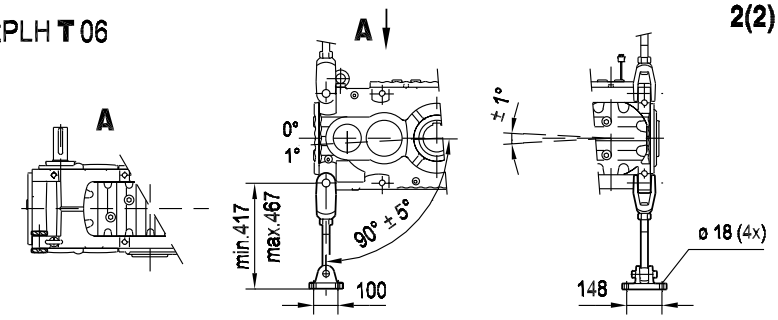
MC2PL..06

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2(2)

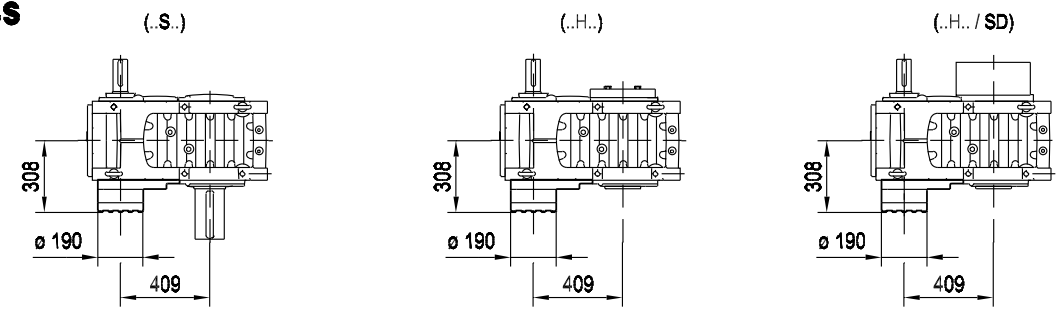
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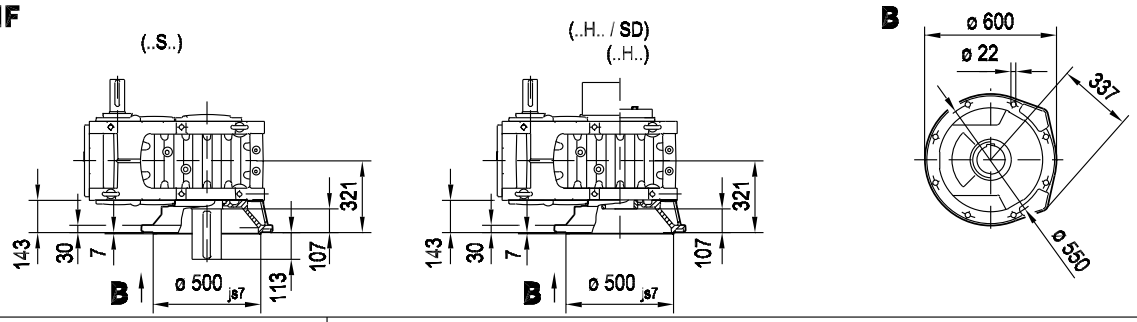
MC2PLH **T** 06



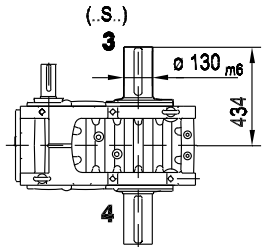
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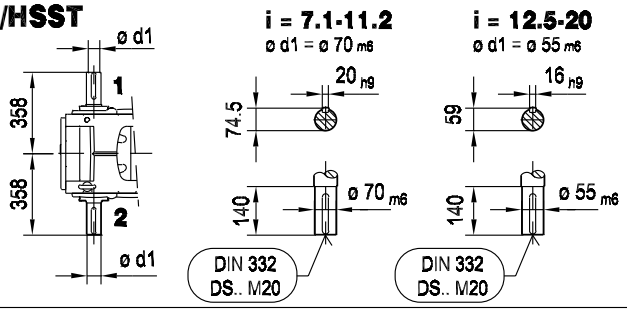
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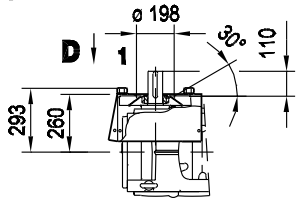
/LSST



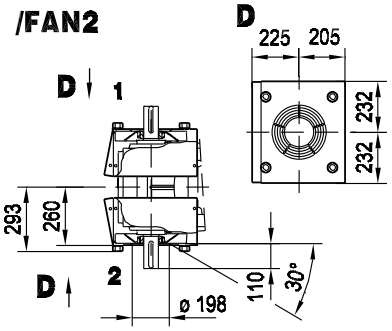
/HSST



/FAN



/FAN2

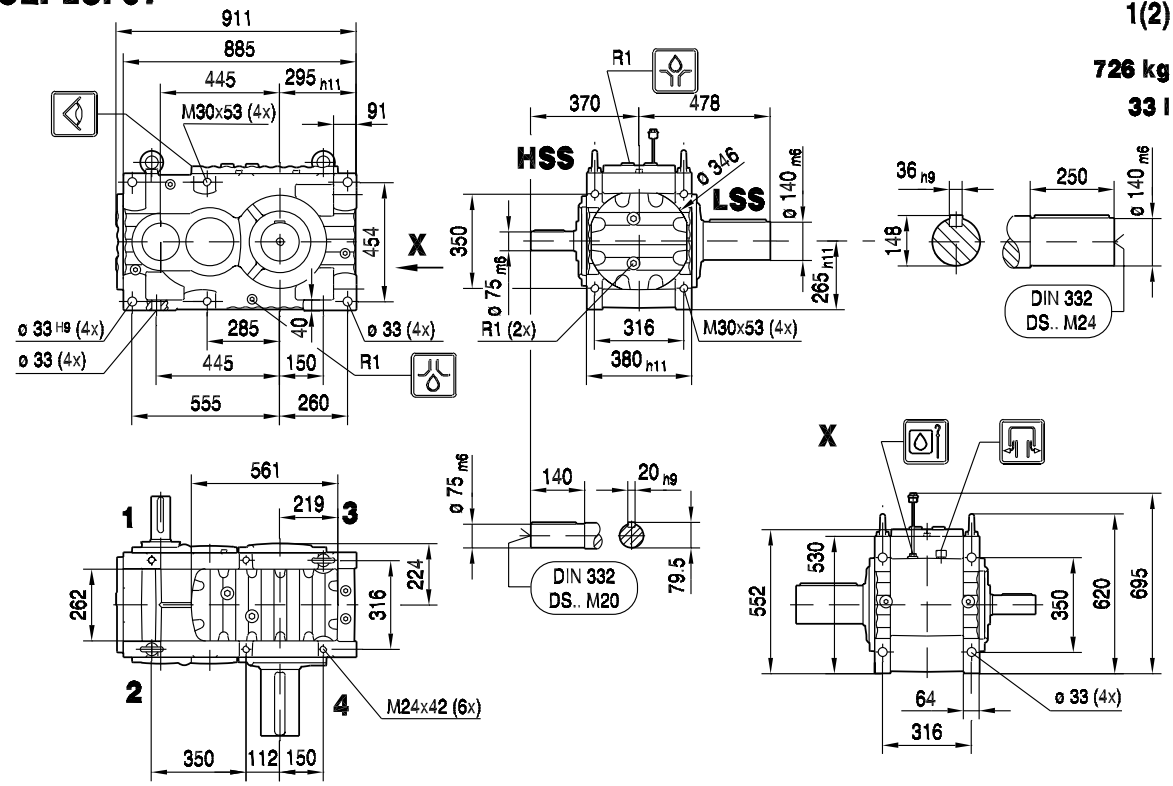


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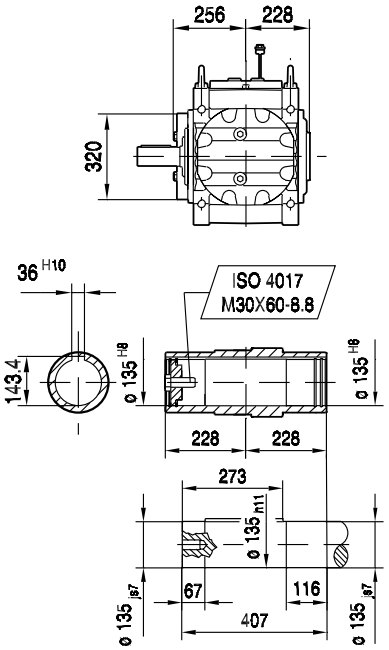
MC2PLSF07

47 038 00 03
1(2)

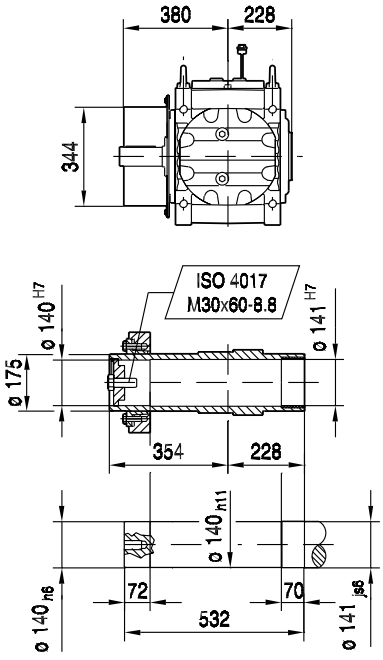
726 kg
33 l



MC2PLHF07



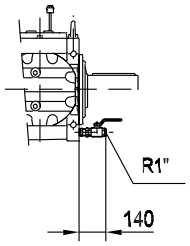
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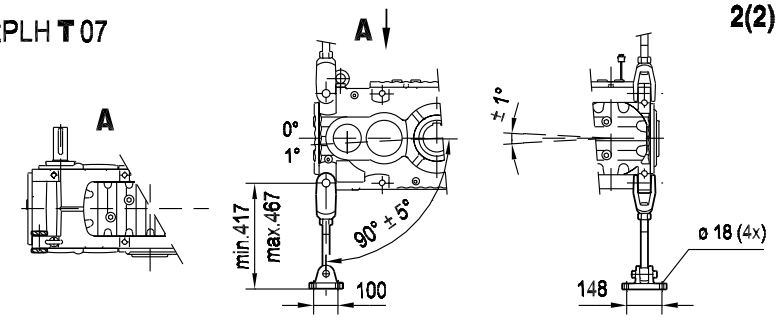
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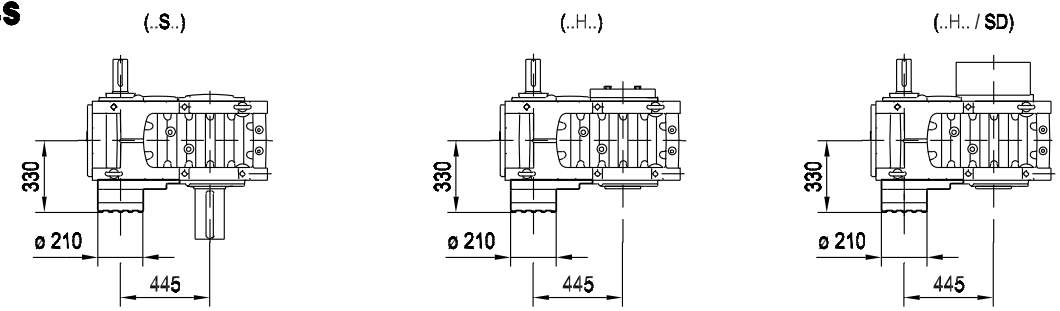
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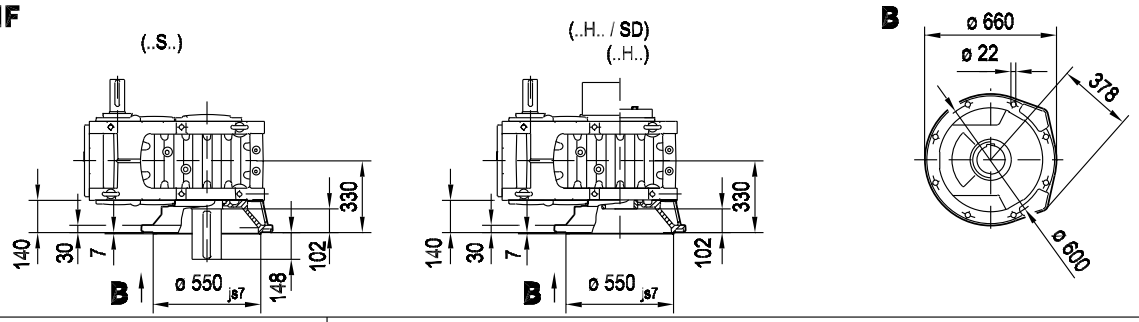
MC2PLH **T** 07



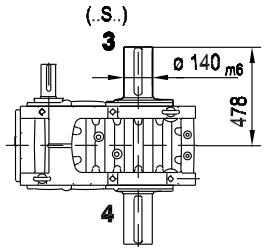
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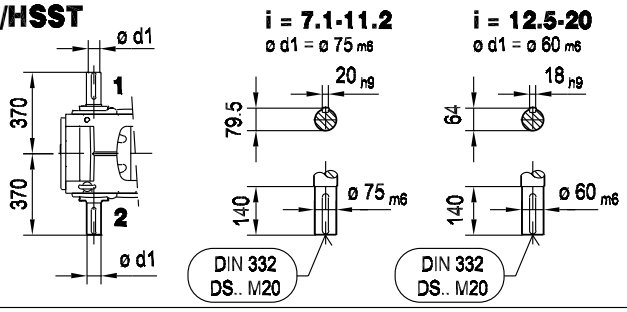
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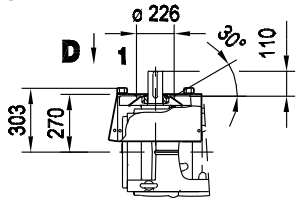
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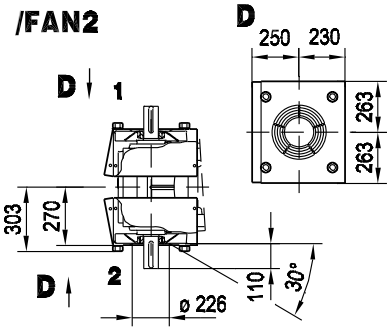
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/FAN



/FAN2

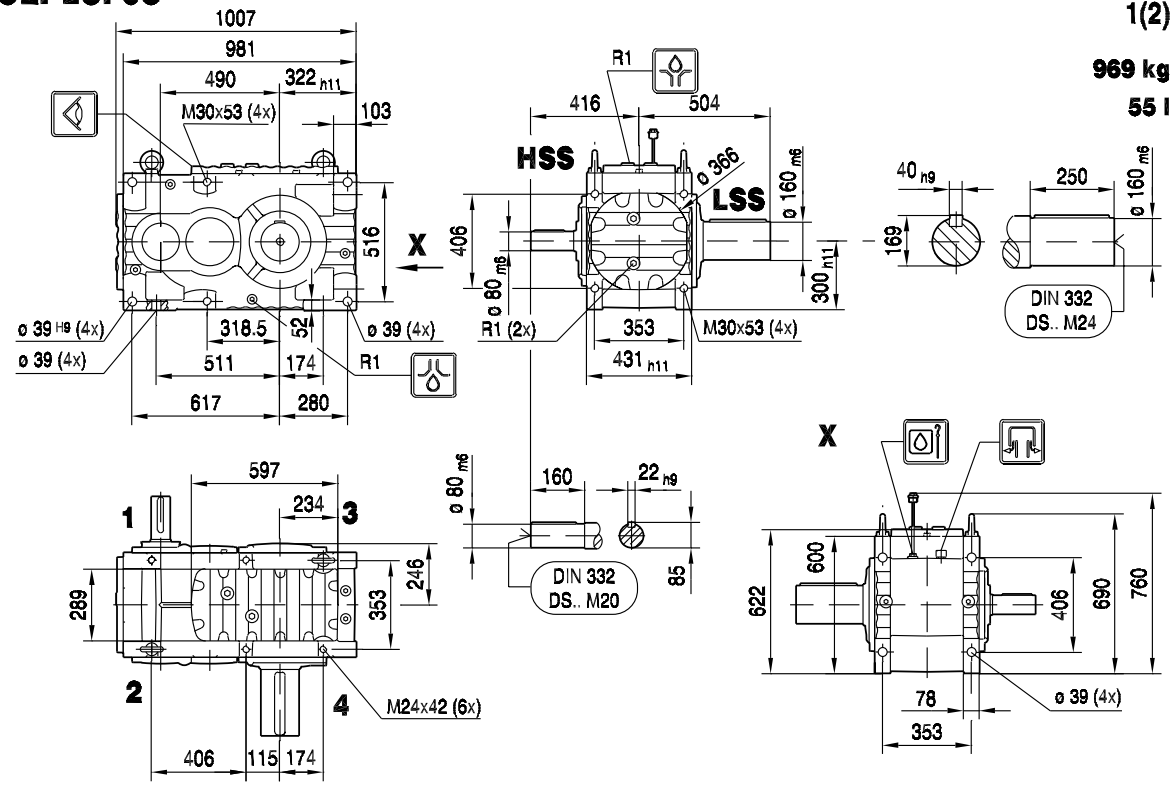


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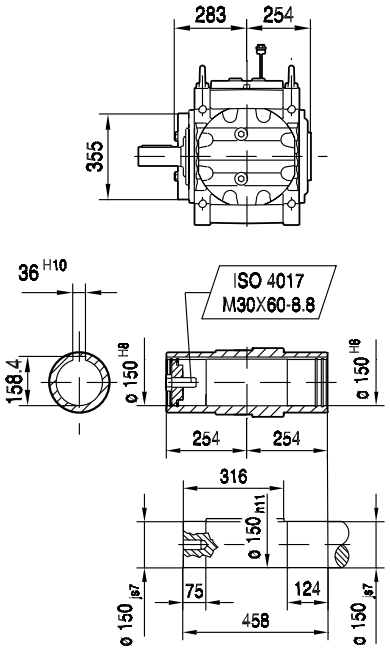
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47 039 00 03
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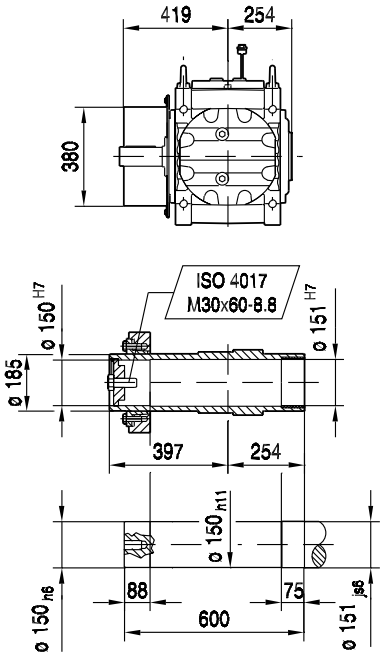
969 kg
55 l



MC2PLHF08



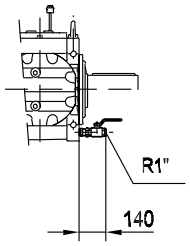
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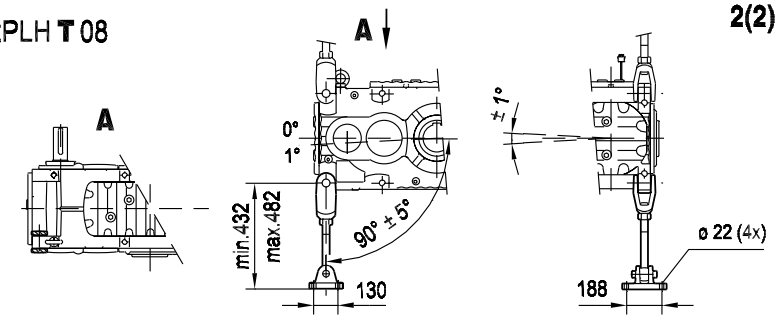
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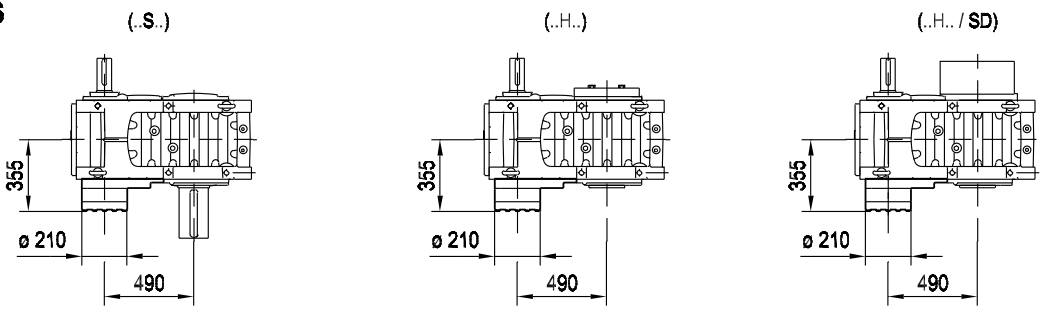
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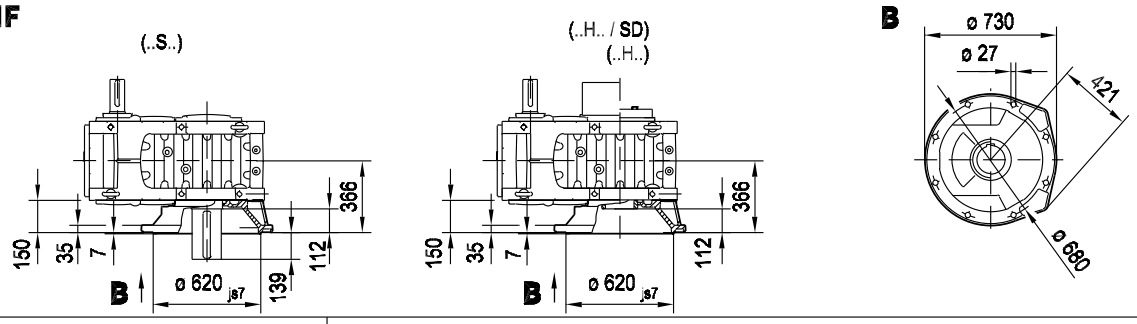
MC2PLH **T** 08



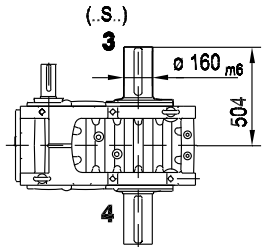
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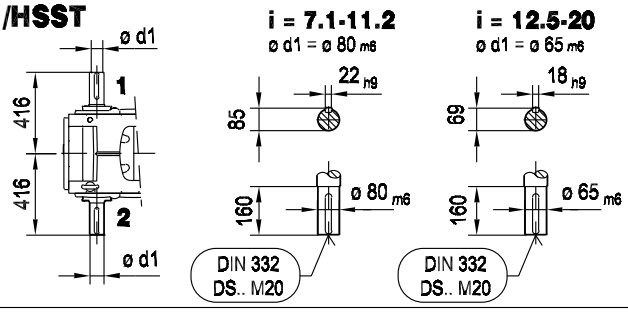
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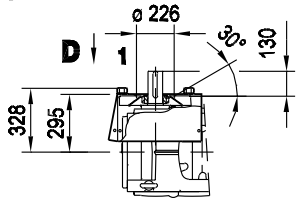
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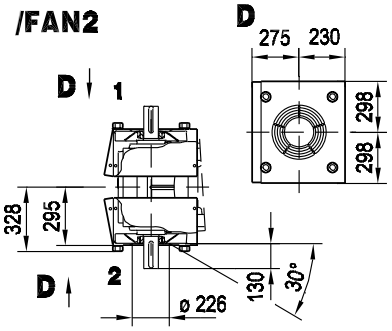
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/FAN



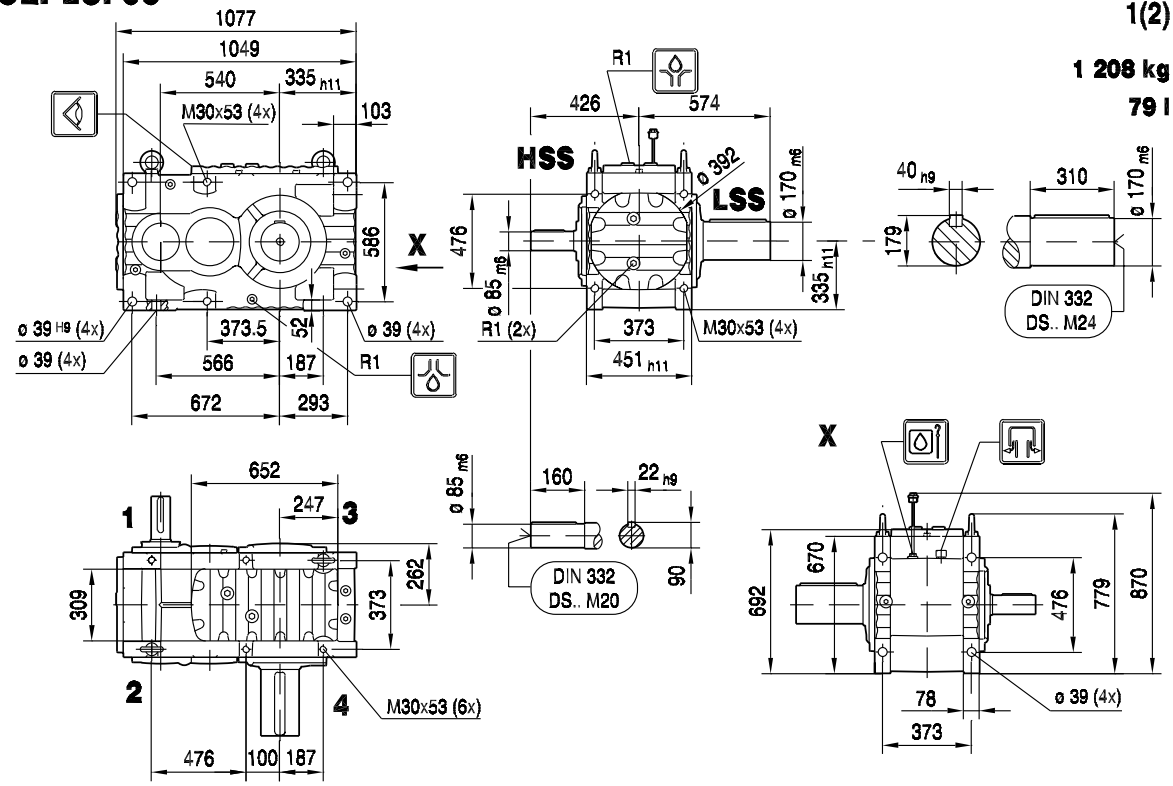
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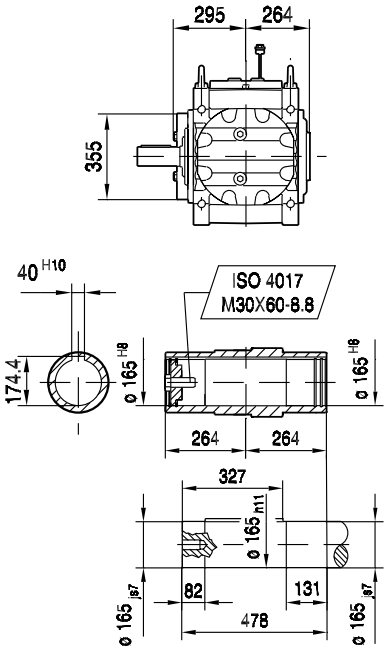
MC2PLSF09

47 040 00 03
1(2)

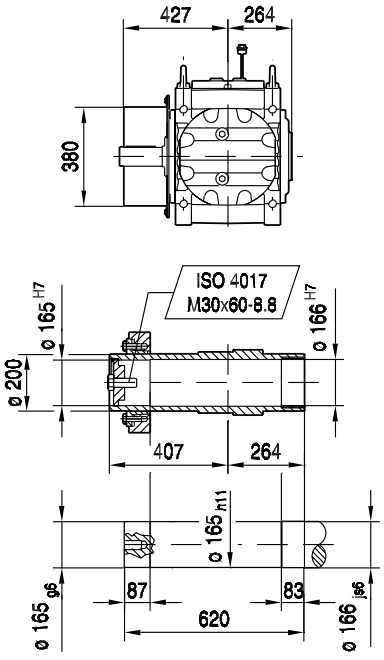
1 208 kg
79 l



MC2PLHF09



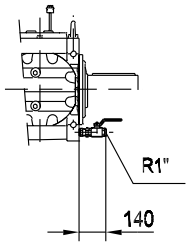
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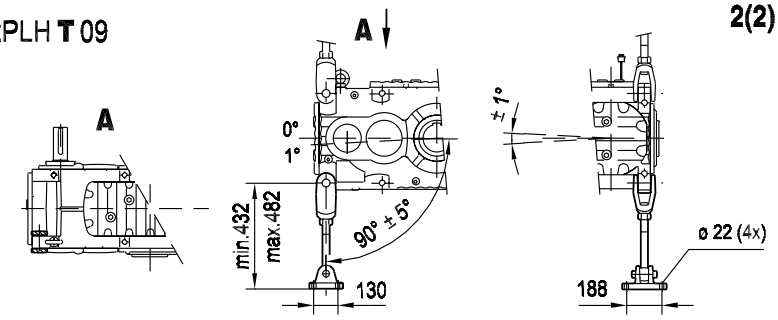
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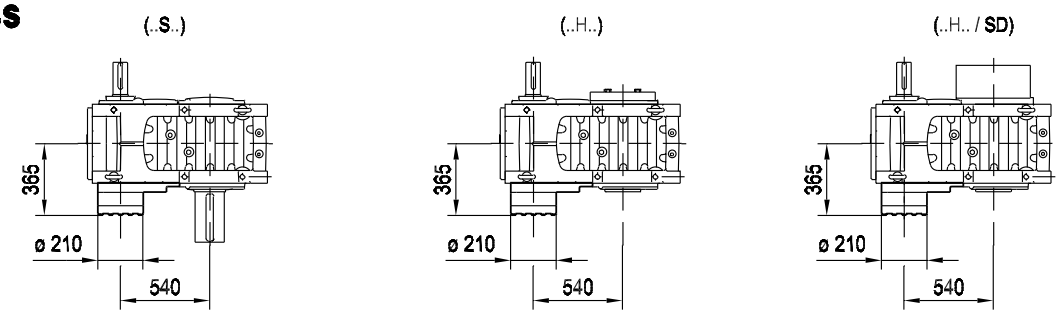
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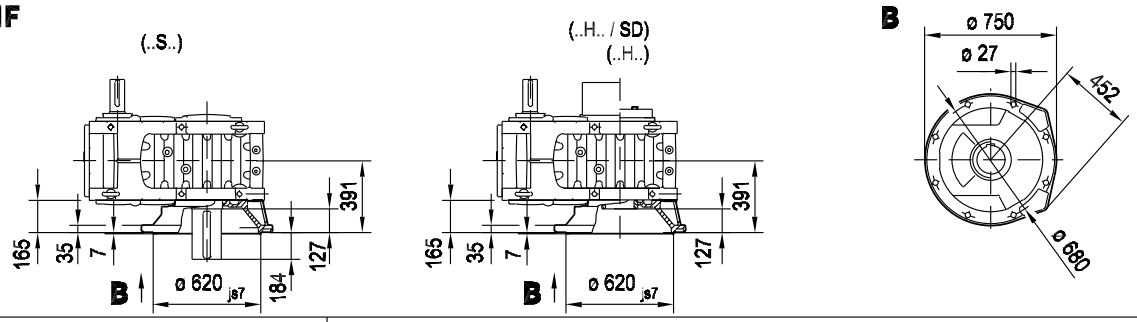
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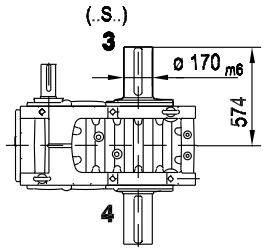
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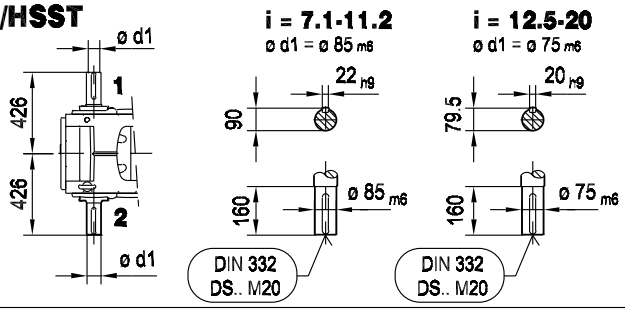
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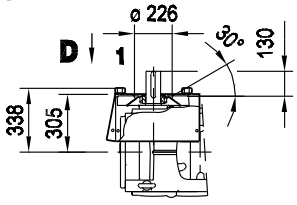
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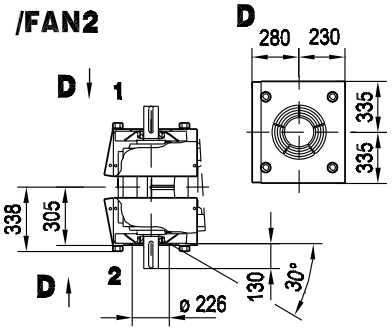
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/FAN



/FAN2

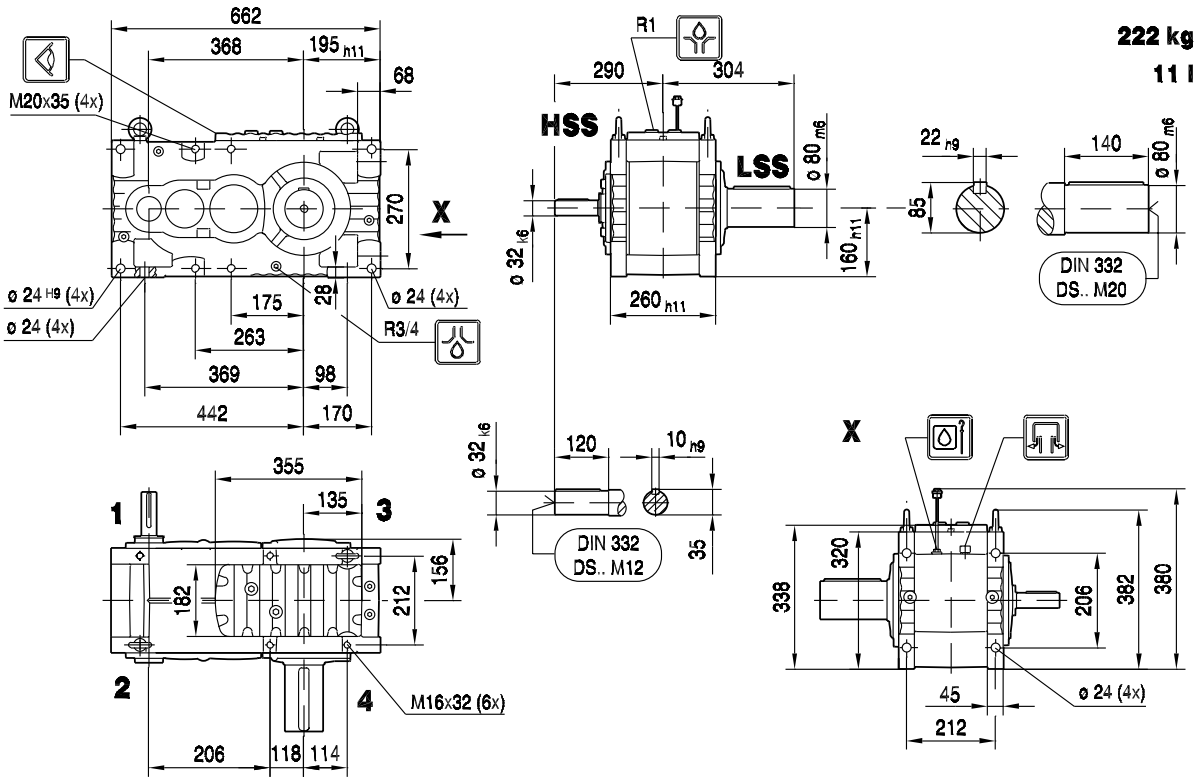


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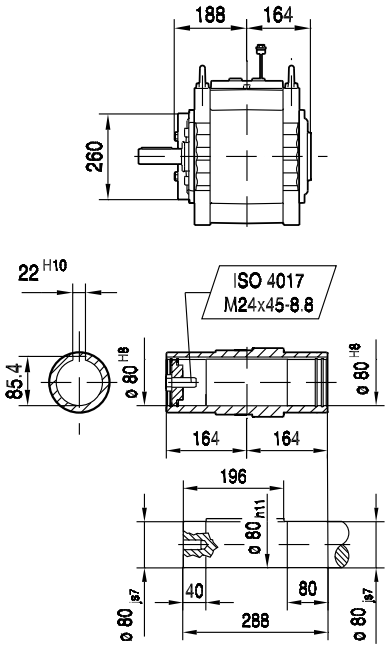
MC3PLSF02

47 041 00 03
1(2)

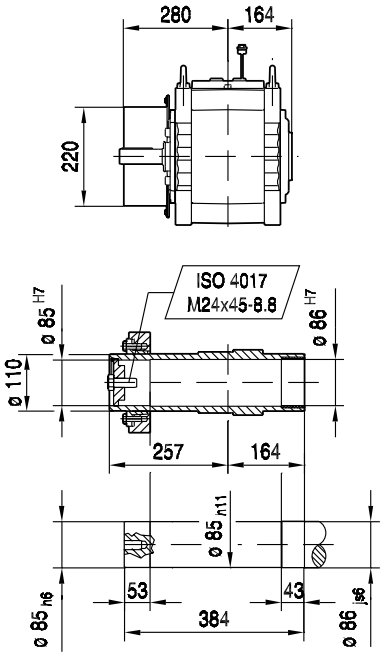
222 kg
11 l



MC3PLHF02



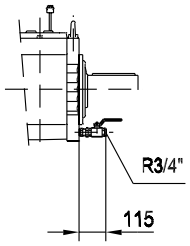
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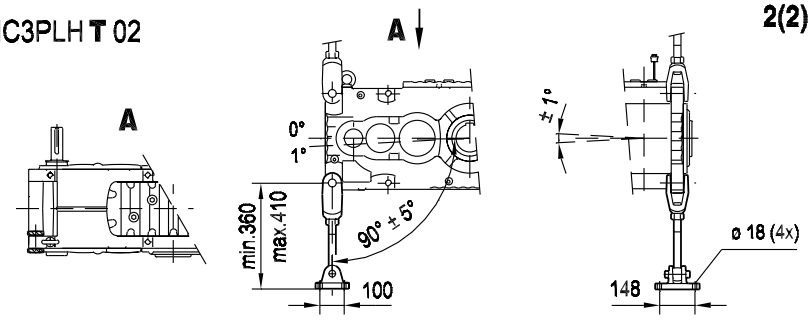
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2(2)

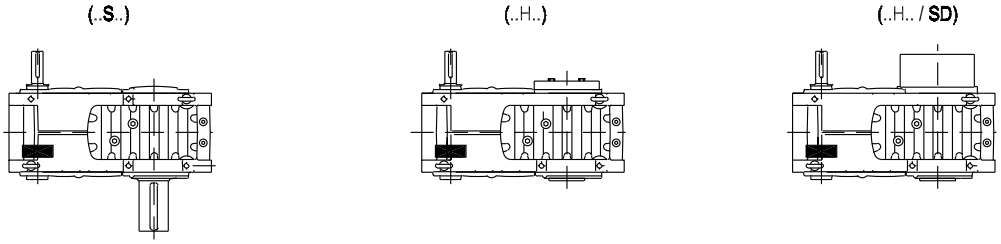
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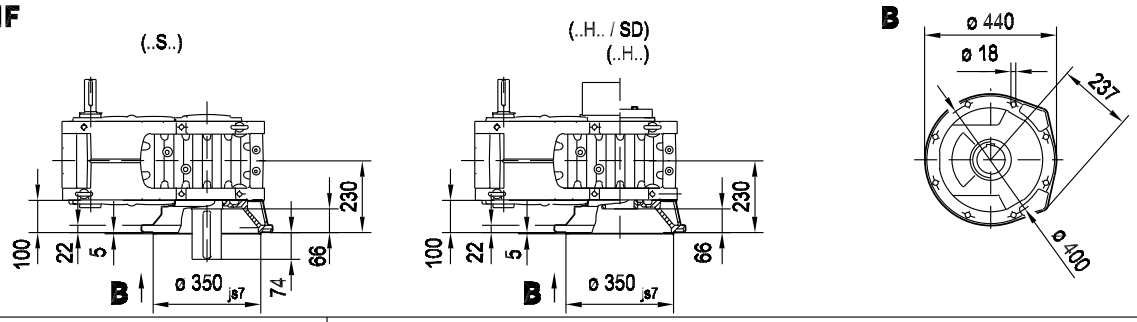
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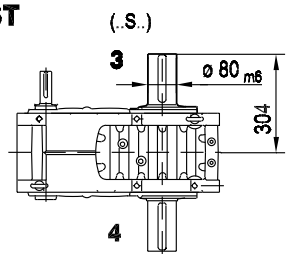
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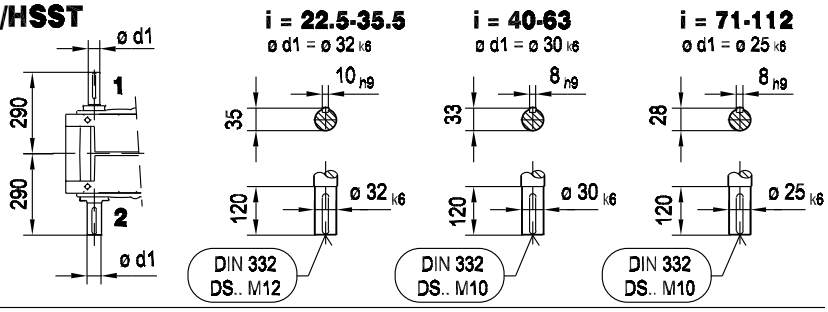
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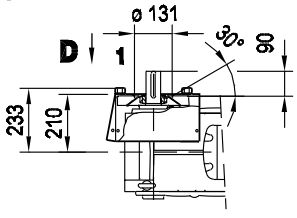
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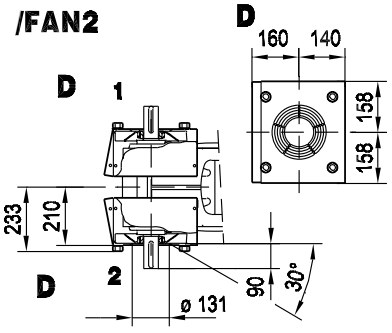
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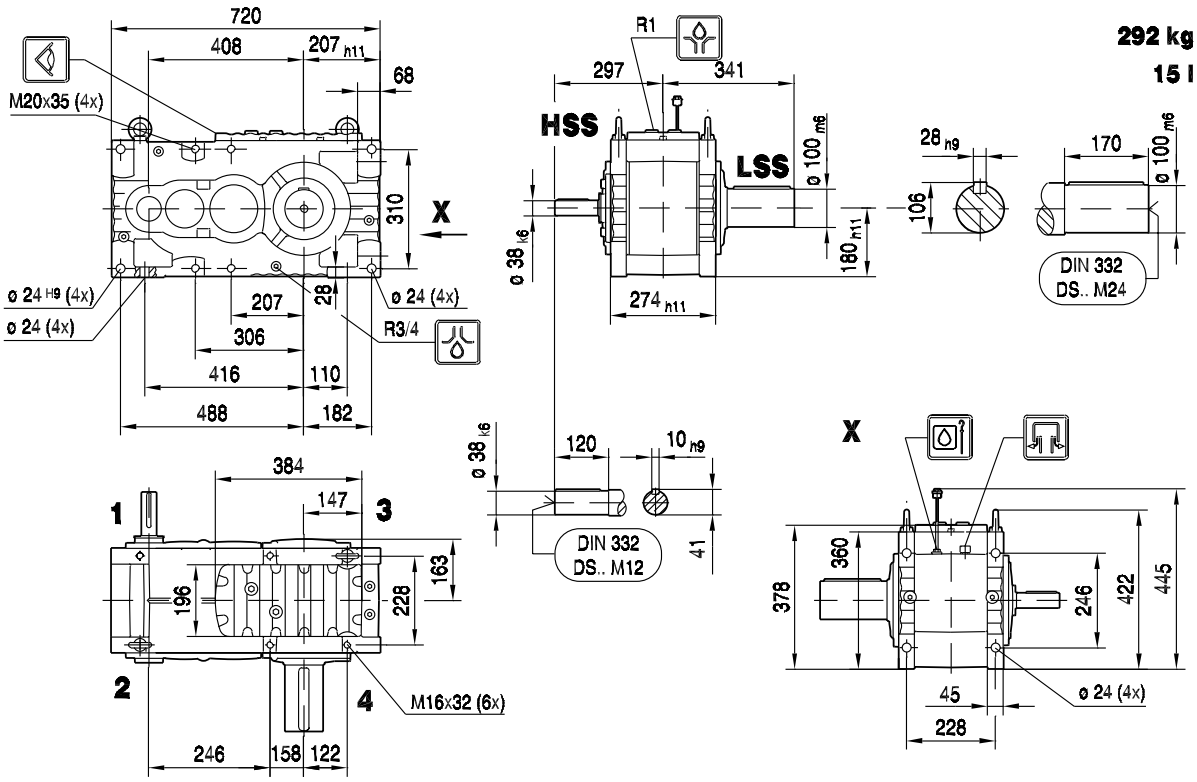
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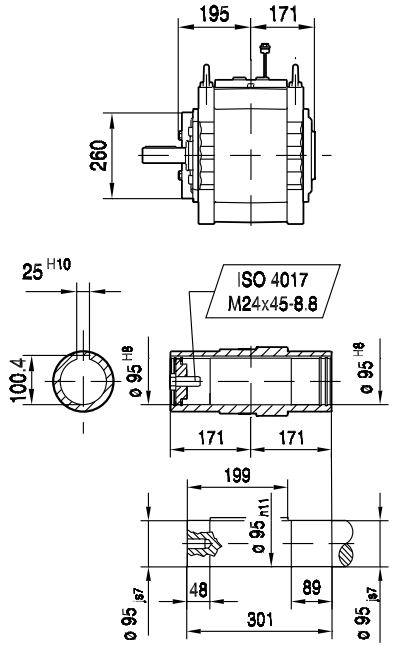
MC3PLSF03

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1(2)

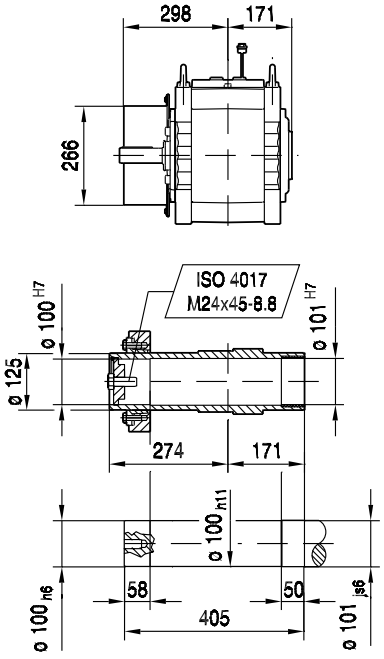
292 kg
15 l



MC3PLHF03



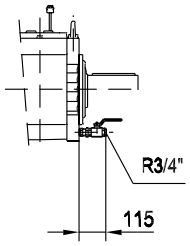
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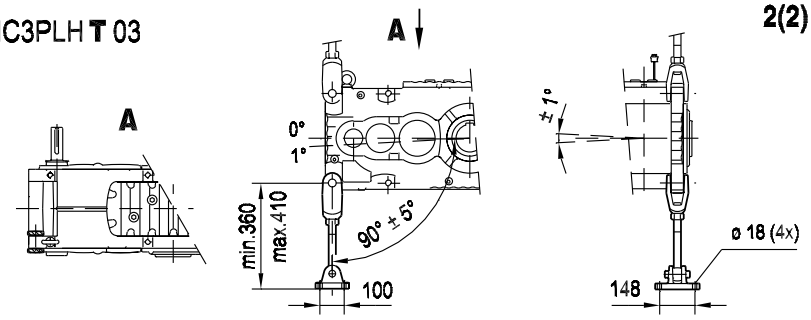
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2(2)

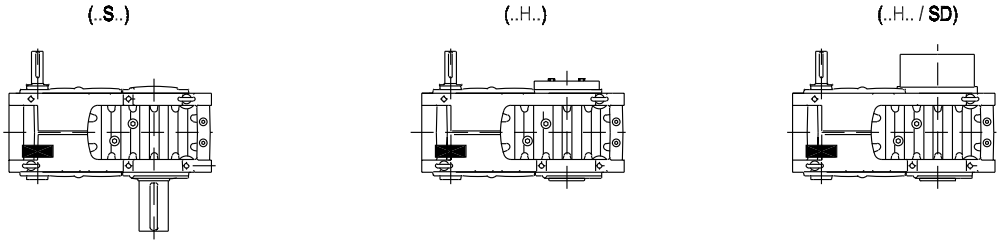
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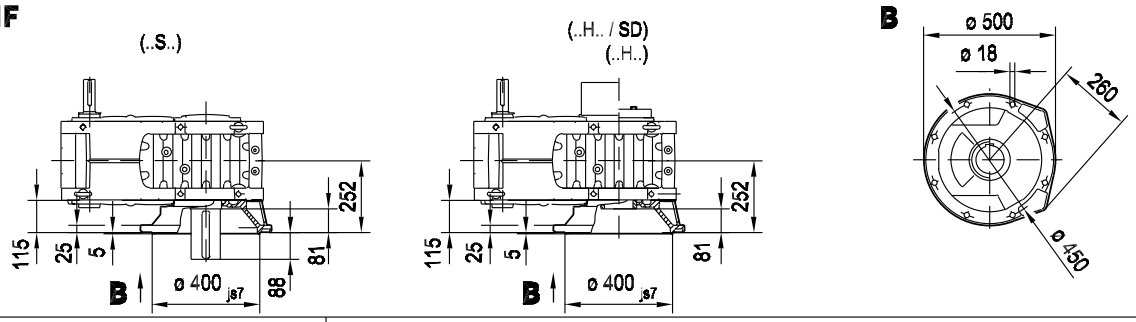
MC3PLH **T** 03



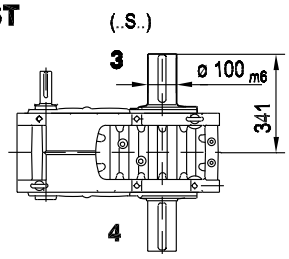
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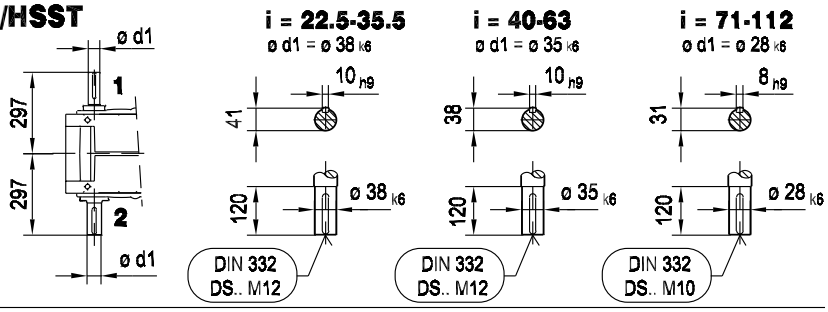
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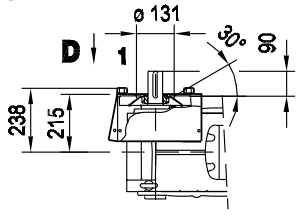
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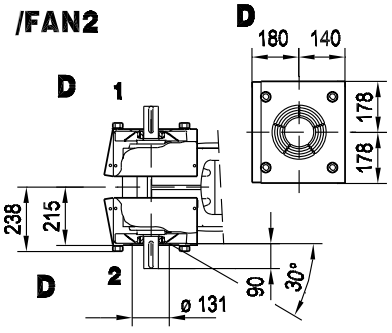
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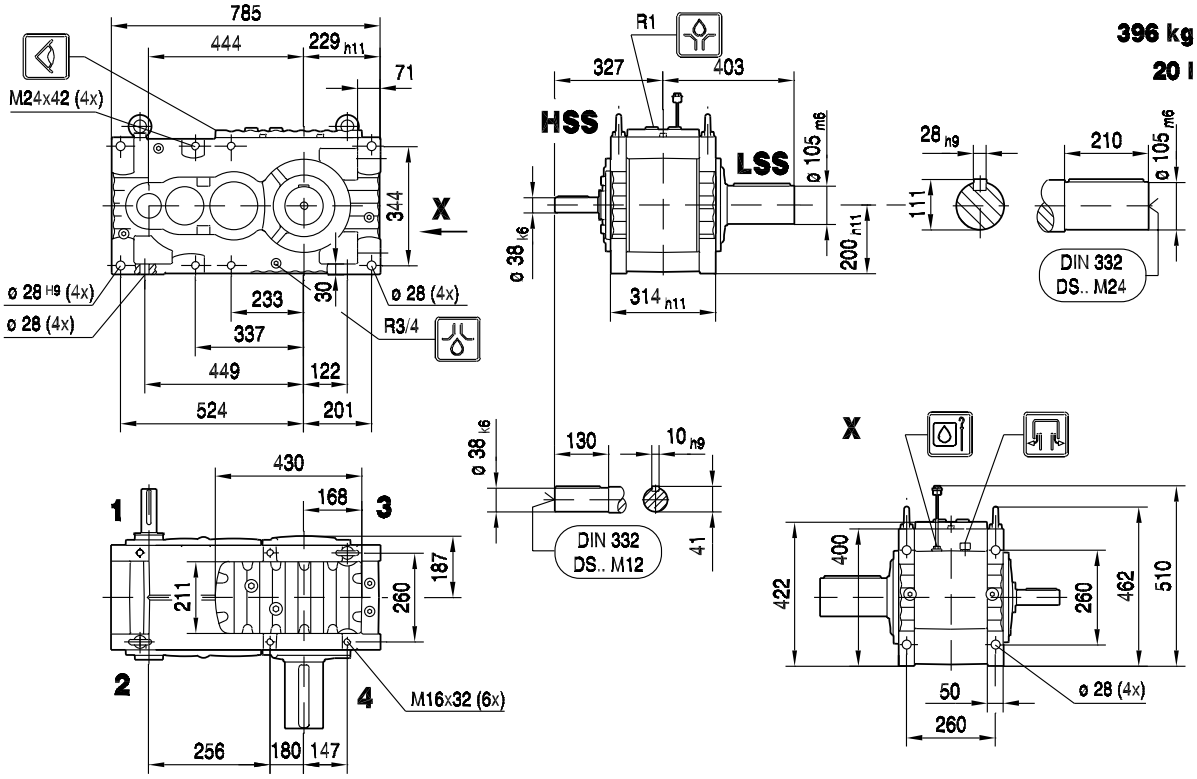
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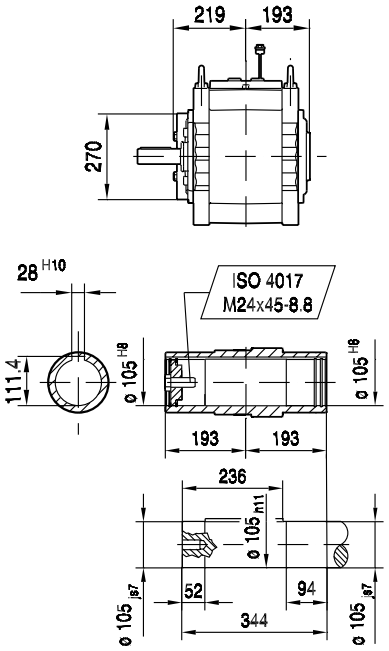
MC3PLSF04

47 043 00 03
1(2)

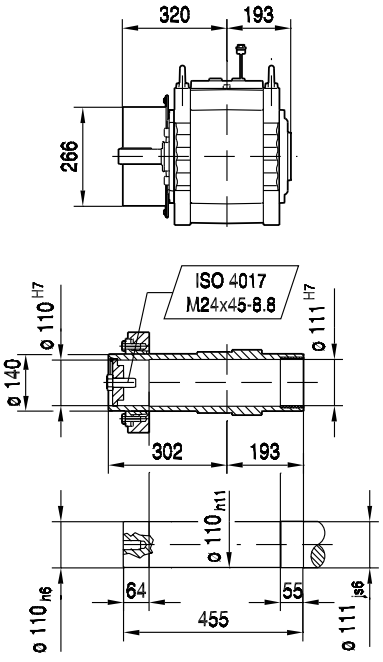
396 kg
20 l



MC3PLHF04



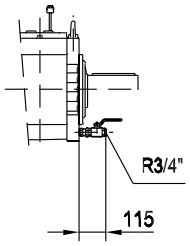
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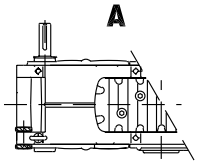
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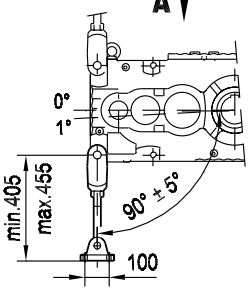
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2(2)

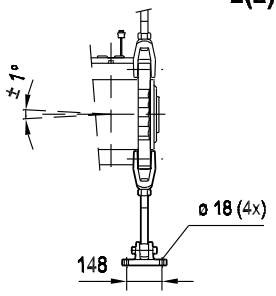
/ODV



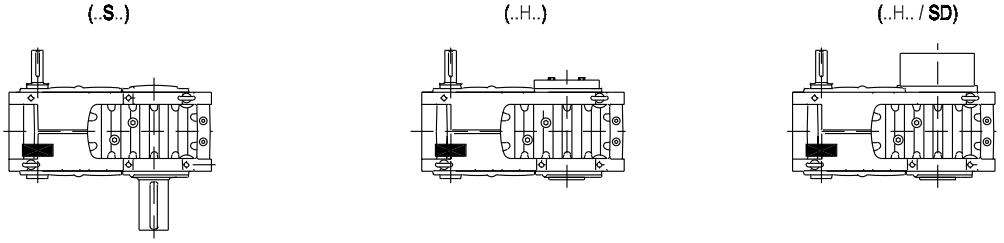
MC3PLH **T** 04



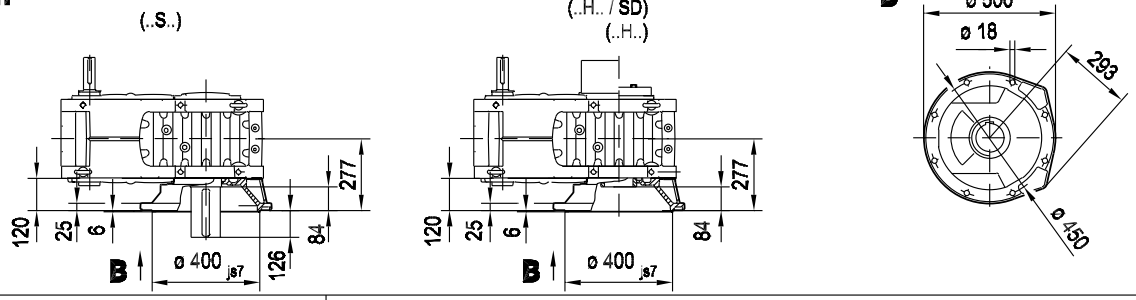




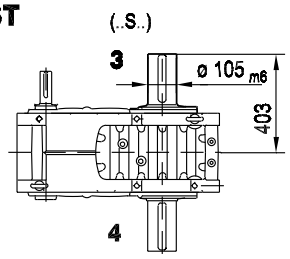
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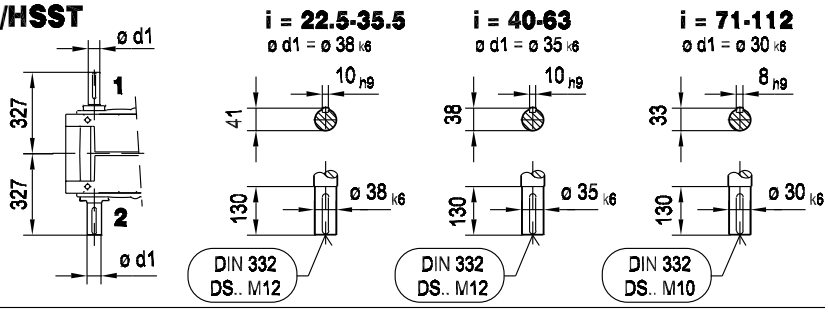
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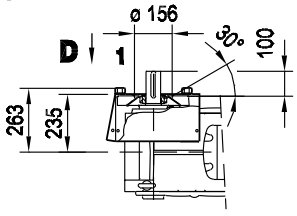
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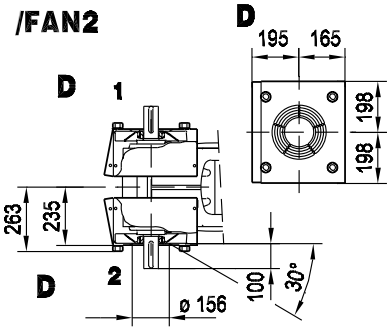
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/FAN



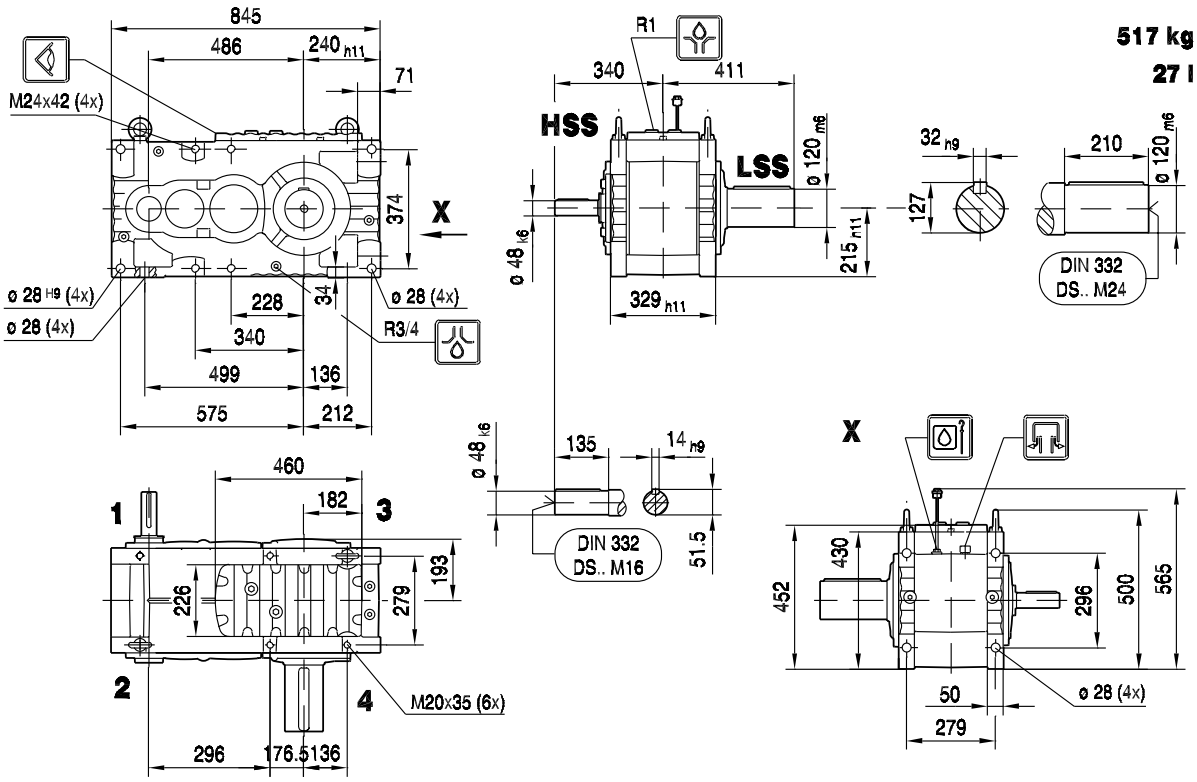
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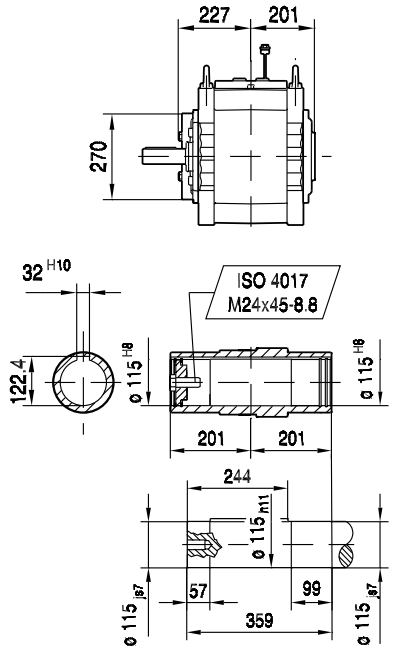
MC3PLSF05

47 044 00 03
1(2)

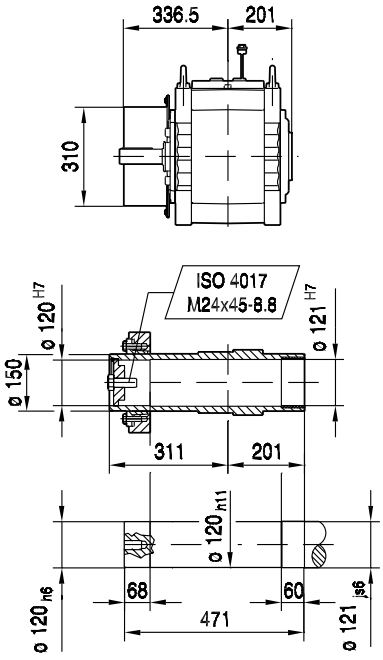
517 kg
27 l



MC3PLHF05



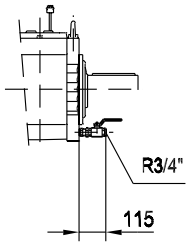
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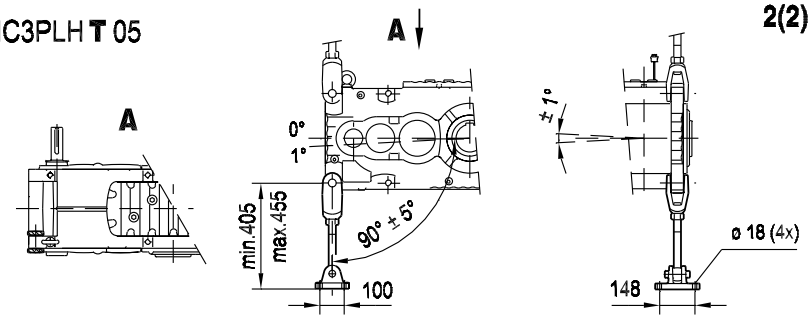
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47 044 00 03
2(2)

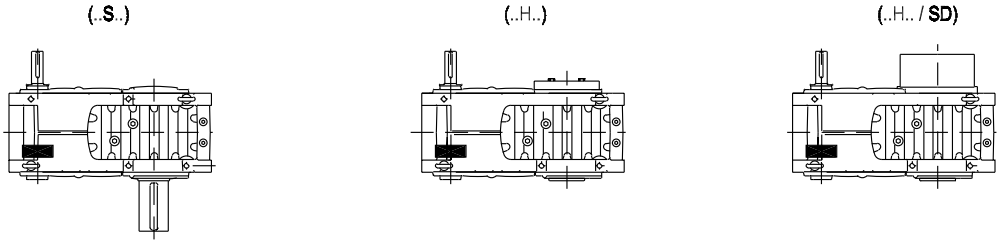
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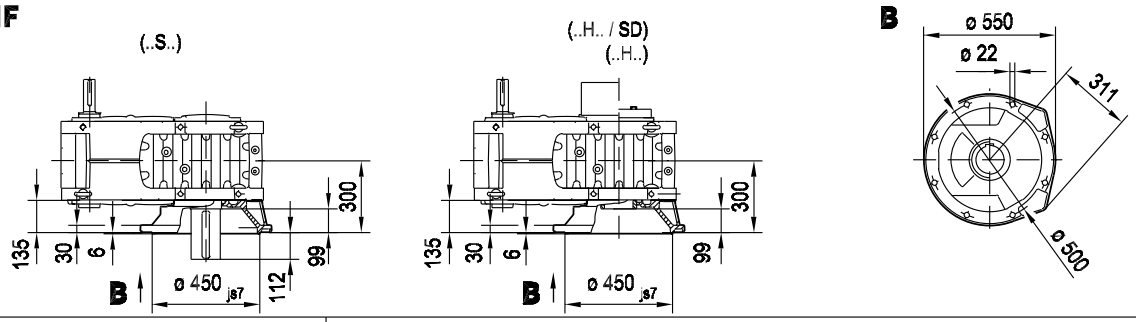
MC3PLH **T** 05



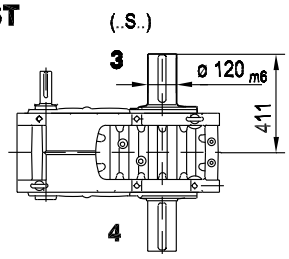
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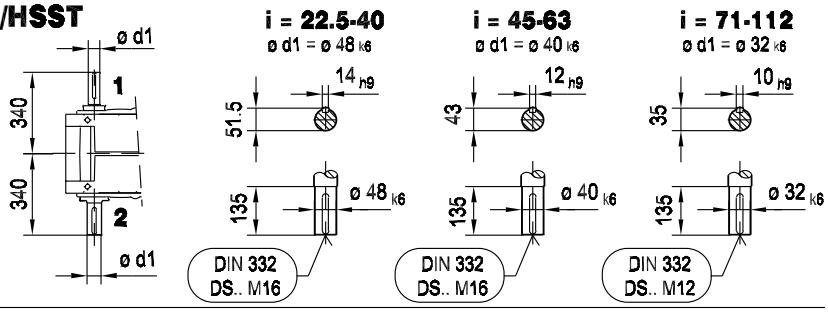
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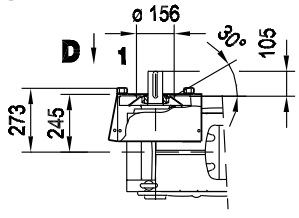
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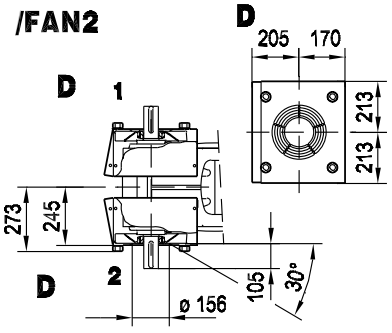
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/FAN



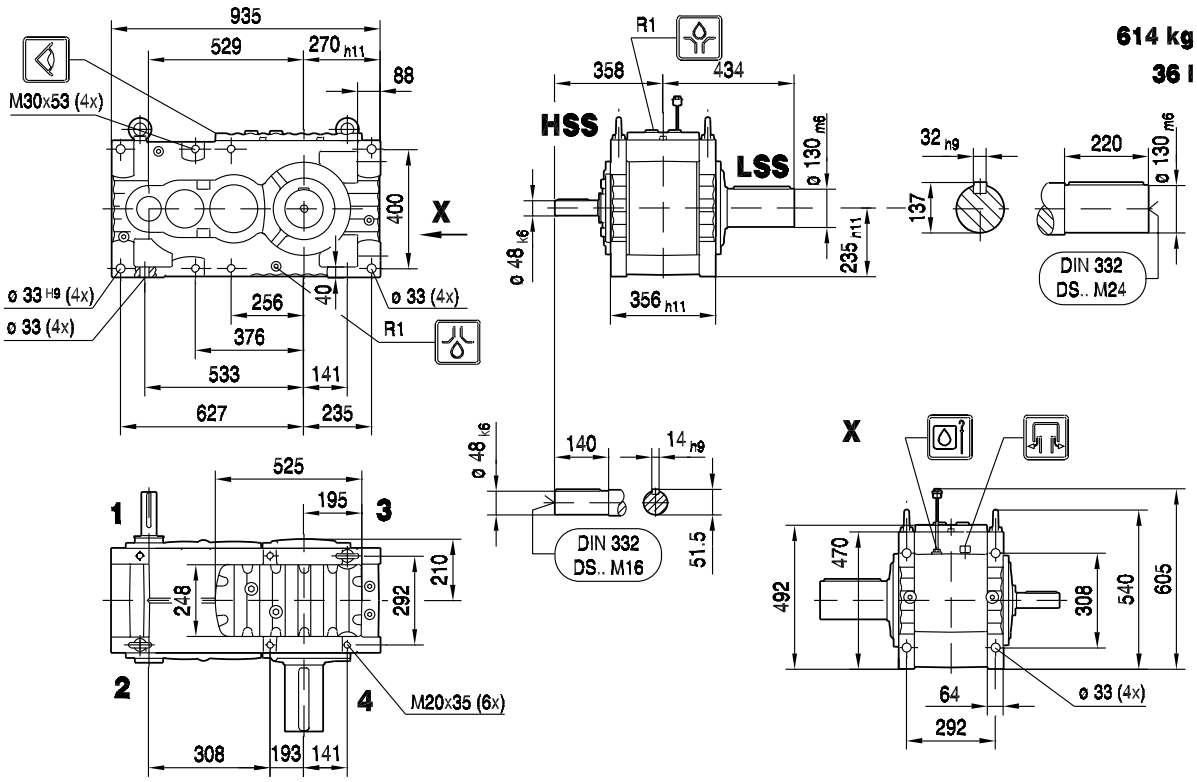
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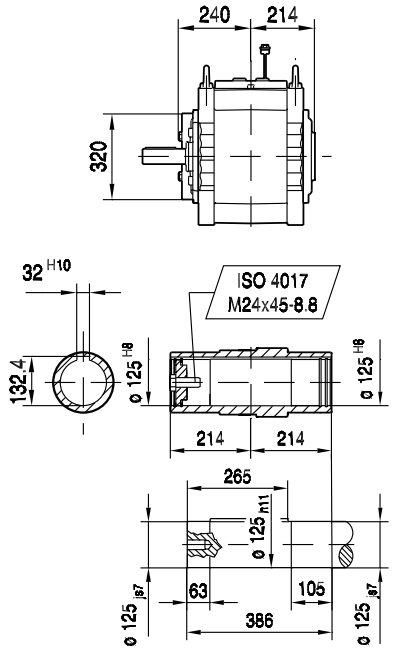
MC3PLSF06

47 045 00 03
1(2)

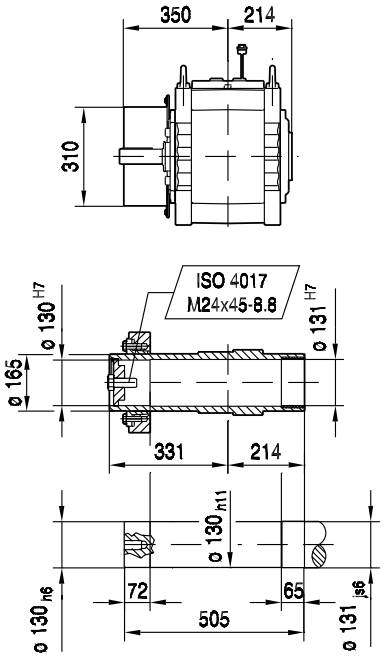
614 kg
36 l



MC3PLHF06



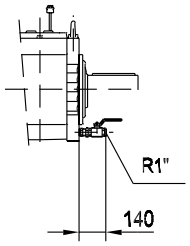
MC3PLHF06 /SD



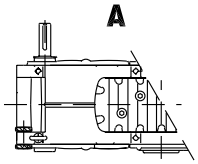
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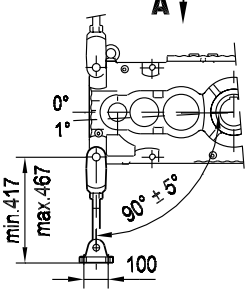
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2(2)

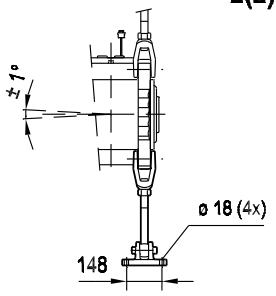
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MC3PLH **T** 06

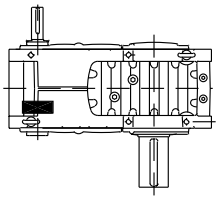




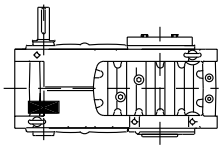


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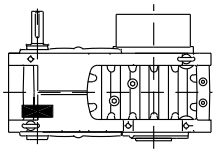
(..S..)



(..H..)

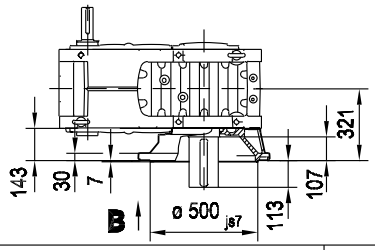


(..H.. / SD)

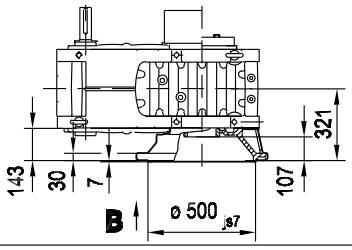


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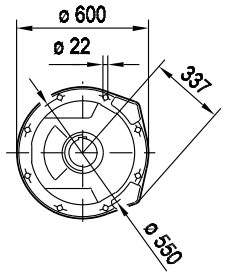
(..S..)



(..H.. / SD)
(..H..)

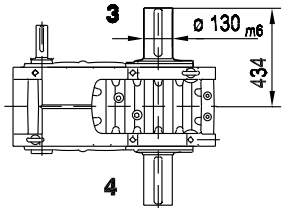


B

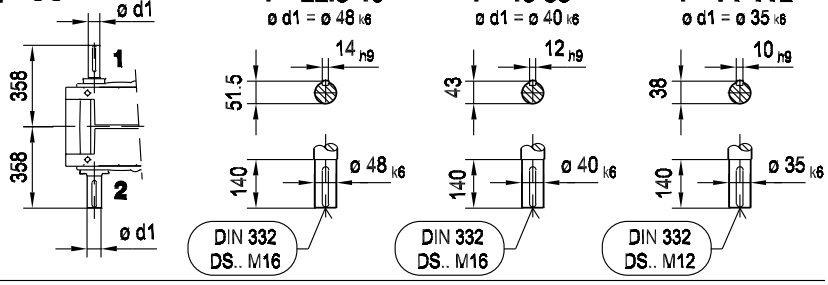


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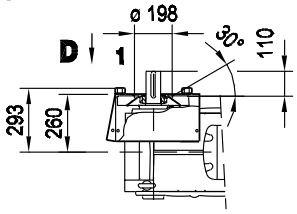
(..S..)



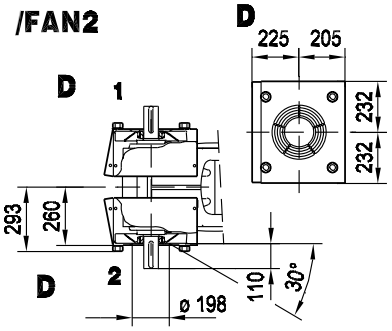
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/FAN



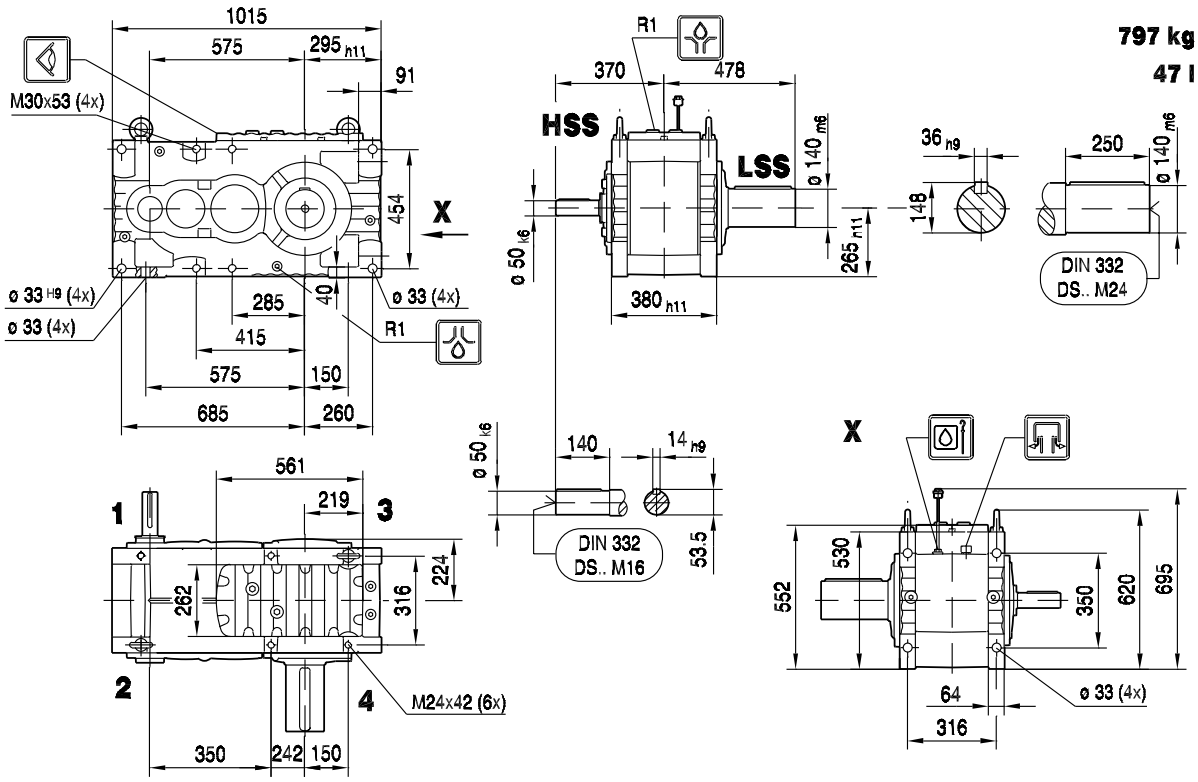
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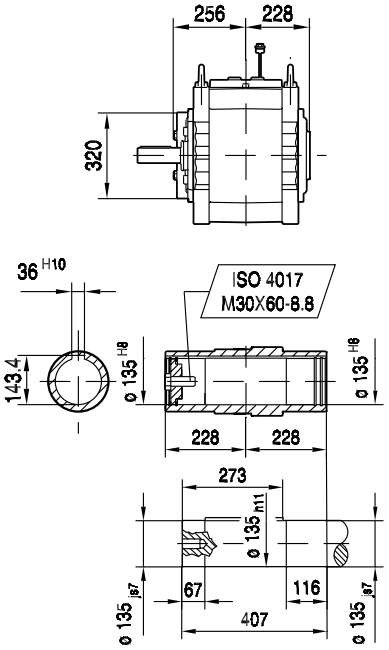
MC3PLSF07

47 046 00 03
1(2)

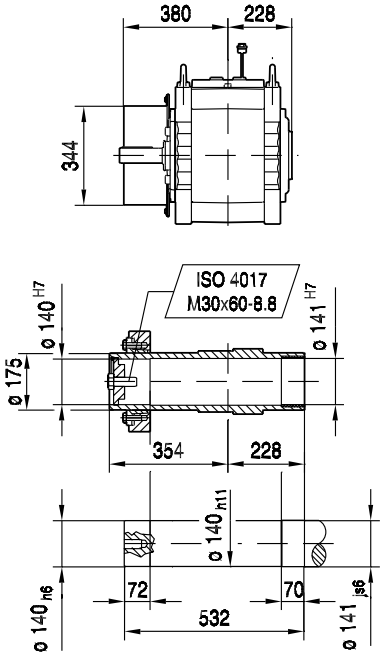
797 kg
47 l



MC3PLHF07



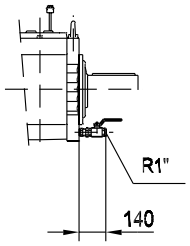
MC3PLHF07 /SD



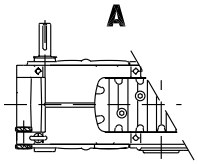
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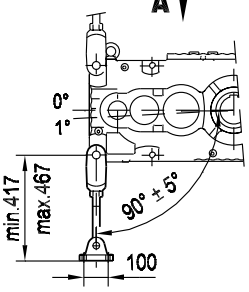
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2(2)

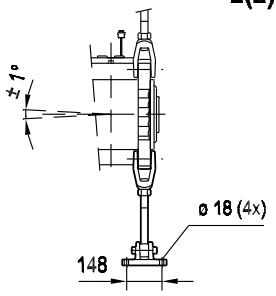
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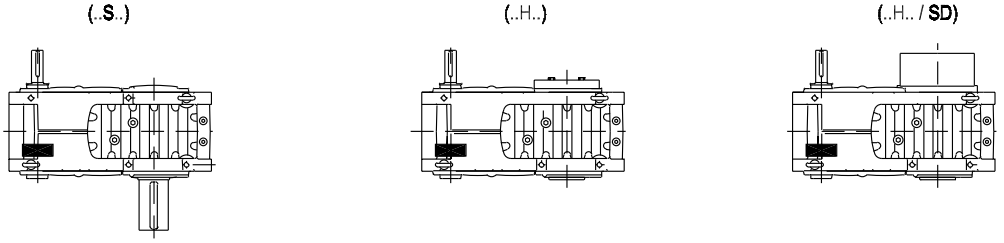
MC3PLH **T** 07



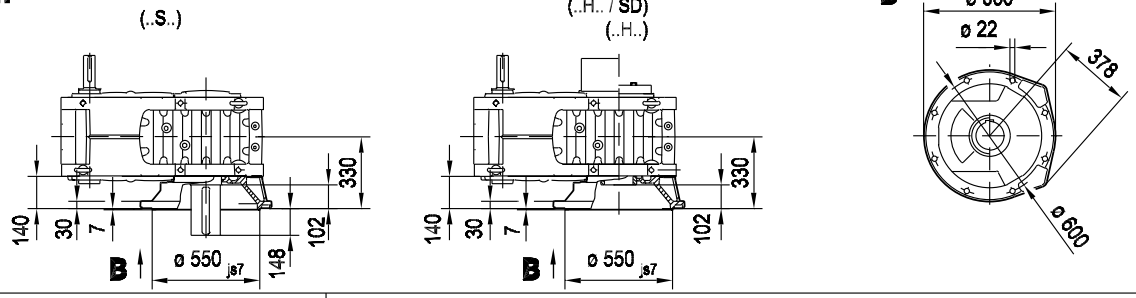




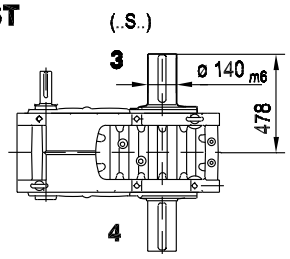
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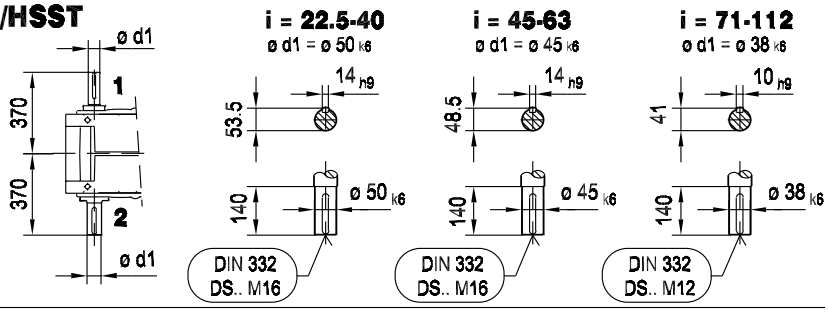
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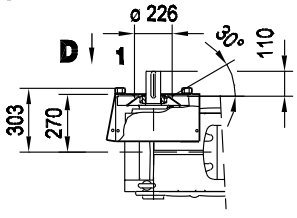
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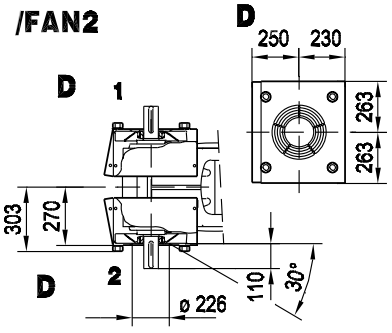
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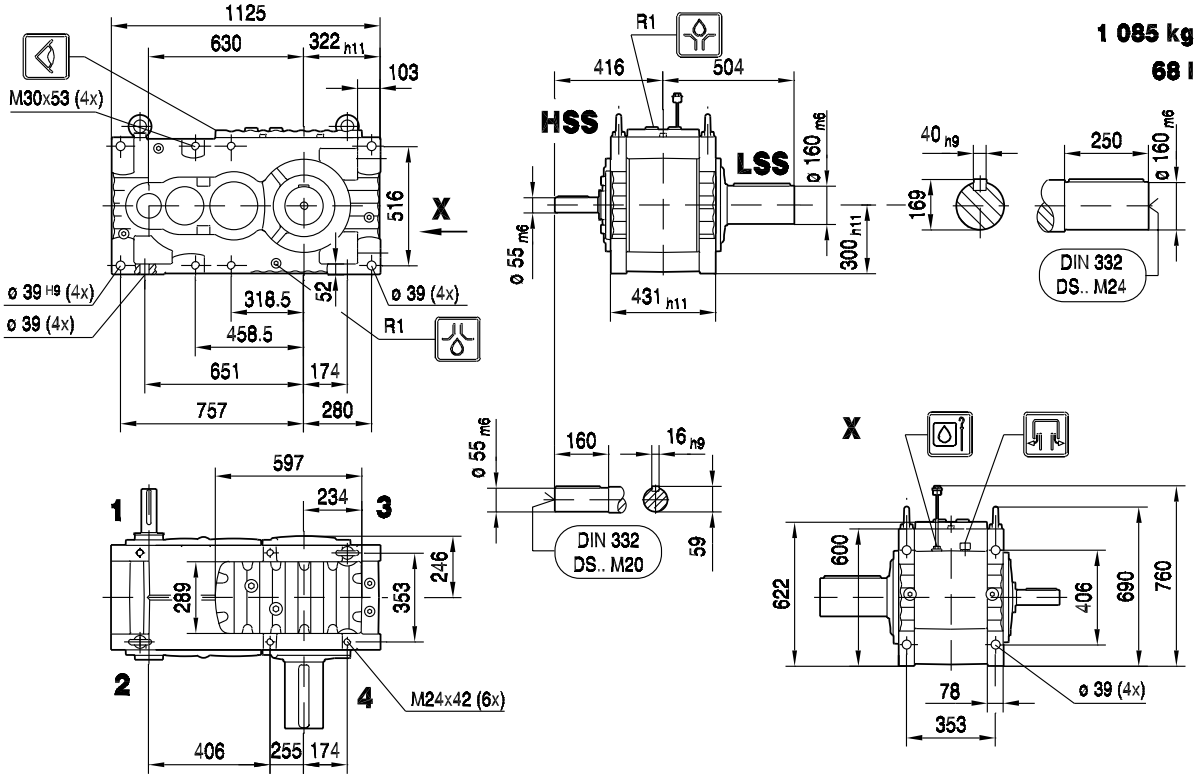
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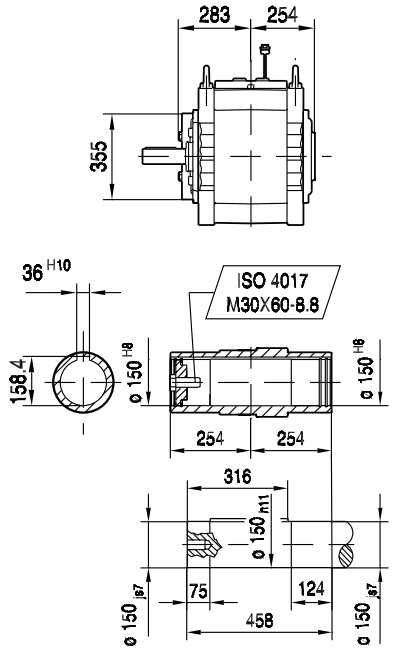
MC3PLSF08

47 047 00 03
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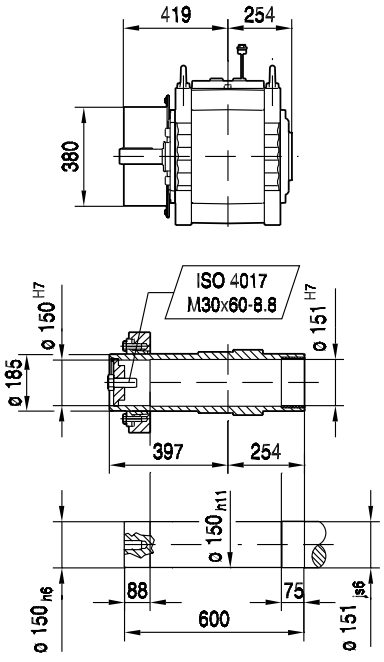
1 085 kg
68 l



MC3PLHF08



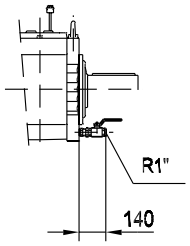
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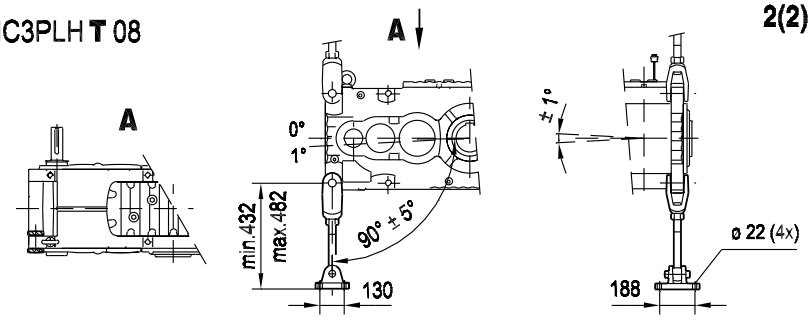
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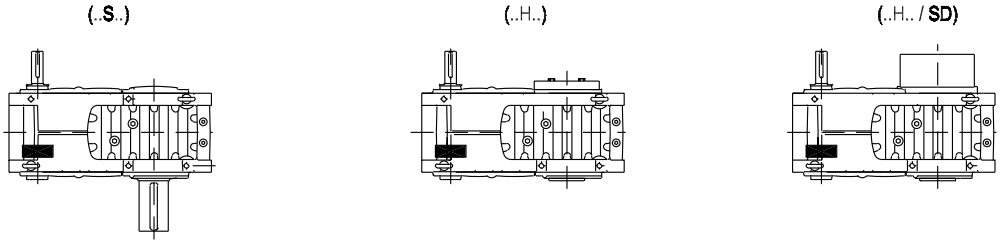
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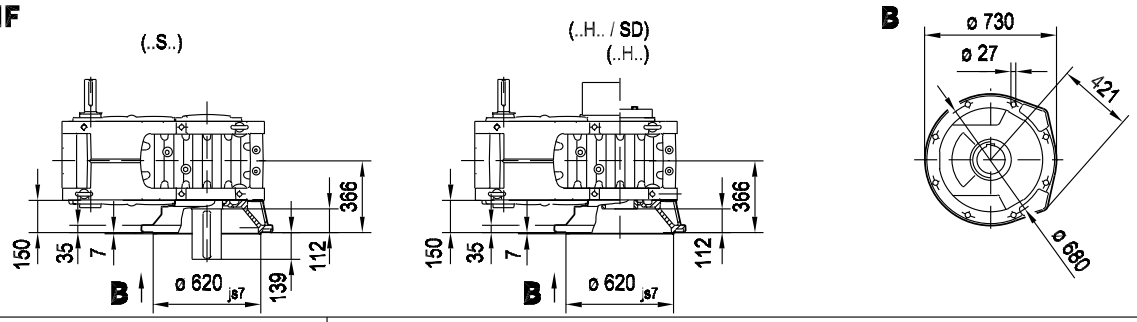
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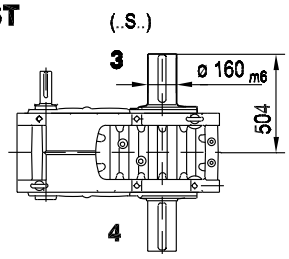
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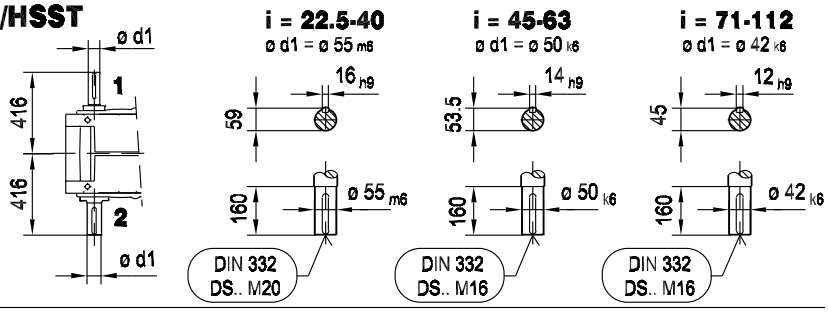
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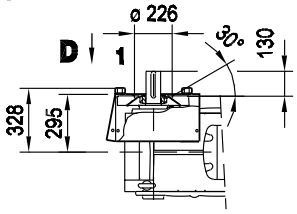
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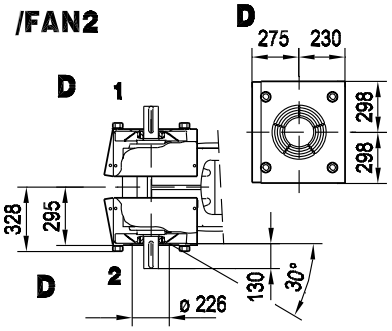
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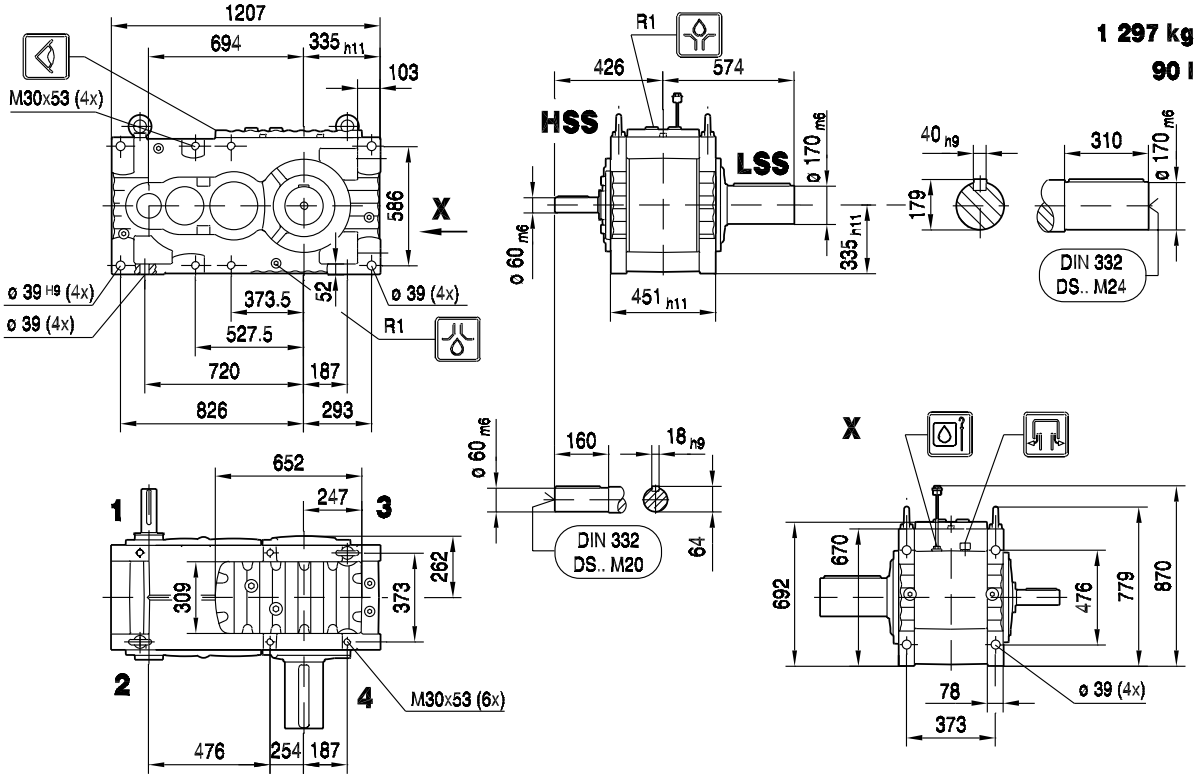
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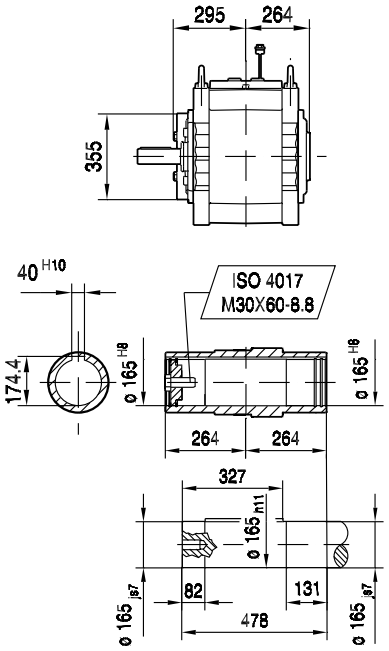
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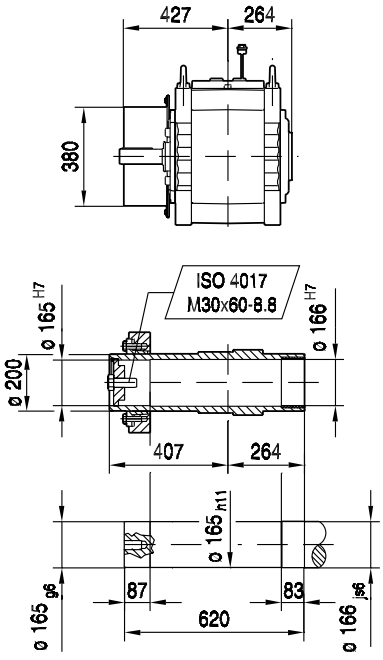
1 297 kg
90 l



MC3PLHF09



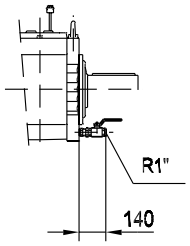
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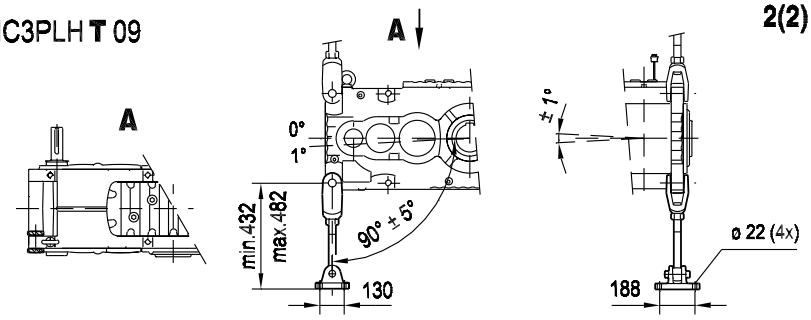
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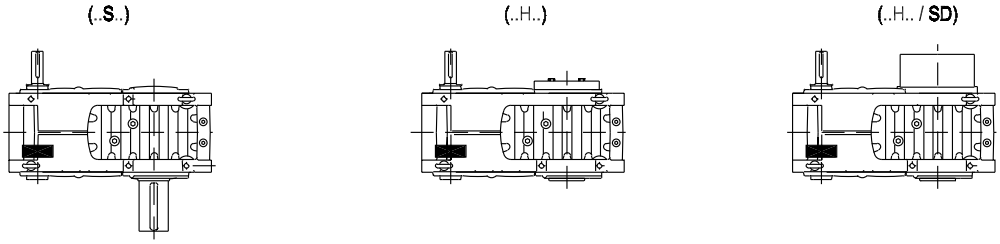
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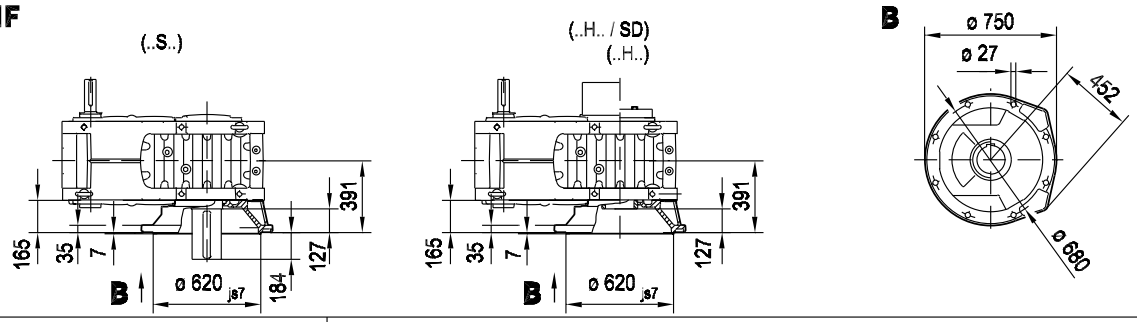
MC3PLH **T** 09



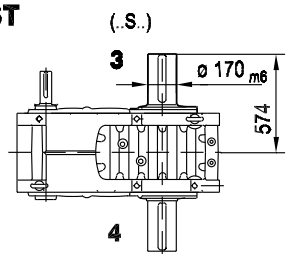
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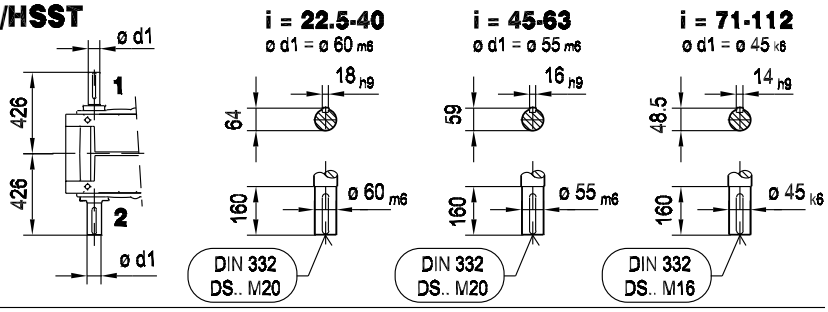
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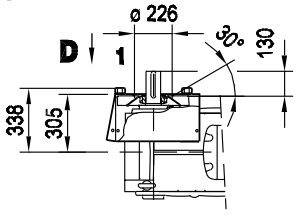
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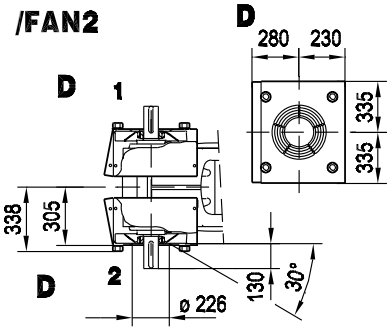
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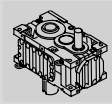


/FAN2



10.3 Selection tables (detailed) MC.PV..

10.3.1 MC.PV.., n_1 = 1800 1/min

MC.PV..02, n_1 = 1800rpm								P_{TH}							70000 lb-in
i_N	i_{ex}	n_2 [rpm]	M_{N2} [lb-in] x1000	P_{N1} [HP]	F_{Ra} [lb] x1000	F_{Re} [lb] x1000		$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F	$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F	$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F		
7.10	**7.07**	255	61.1	253	*)	*)		48	*)	134	80	-	-		
8.00	**8.18**	220	63.6	228	*)	0.483		51	*)	138	84	-	-		
9.00	**9.18**	196	65.5	209	*)	0.83		54	24	141	87	-	-		
10.00	**9.83**	183	66.6	199	*)	*)		55	25	142	89	-	-		
11.20	**11.37**	158	70.9	183	*)	0.400	**MC2PVSF02**	58	28	145	91	-	-		
12.50	**12.31**	146	70.0	167	*)	*)	**MC2PVHF02**	59	30	146	93	-	-	200	280
14.00	**14.24**	126	71.3	147	*)	0.55	**MC2PVHT02**	62	32	149	95	-	-		
16.00	**15.98**	113	66.8	122	0.78	1.20		48	19	125	71	-	-		
18.00	**17.88**	101	67.0	110	1.03	1.25		51	21	126	72	-	-		
20.00	**20.24**	89	62.0	90	1.75	1.51		52	23	129	75	-	-		
22.50	**22.30**	81	74.0	98	0.377	0.441		50	27	117	75	-	-		
25.00	**25.79**	70	70.5	81	1.45	0.70		51	28	118	78	-	-		
28.00	**28.95**	62	66.0	68	2.01	0.76		52	30	119	79	-	-		
31.50	**32.31**	56	71.1	65	1.88	0.76		54	31	121	80	-	-		
35.50	**36.27**	50	66.6	54	2.34	0.77		55	32	122	82	-	-		
40.00	**38.89**	46	75.4	58	1.85	0.365		55	34	123	82	-	-		
45.00	**44.97**	40	71.7	47	2.39	0.60	**MC3PVSF02**	56	35	125	83	-	-		
50.00	**50.47**	36	67.1	39	2.87	0.77	**MC3PVHF02**	58	36	126	84	-	-	216	281
56.00	**56.34**	32	71.9	38	2.78	0.81	**MC3PVHT02**	59	36	127	86	-	-		
63.00	**63.23**	28	68.0	32	3.24	0.85		60	38	127	87	-	-		
71.00	**71.20**	25	71.8	30	3.23	0.476		50	27	109	67	-	-		
80.00	**79.91**	23	68.4	25	3.68	0.61		51	28	110	68	-	-		
90.00	**90.45**	20	62.8	21	4.25	0.61		52	30	110	70	-	-		
100.00	**95.36**	19	68.8	21	4.03	0.61		52	30	111	70	-	-		
112.00	**107.94**	17	63.3	17.4	4.61	0.61		54	31	111	71	-	-		

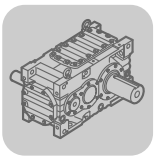
MC.PV..03, n_1 = 1800rpm															102000 lb-in
7.10	**7.29**	247	78.3	314	1.23	0.389		60	*)	169	102	-	-		
8.00	**8.23**	219	82.4	293	1.34	1.0		63	*)	173	106	-	-		
9.00	**9.28**	194	84.0	265	1.55	1.48		67	30	176	109	-	-		
10.00	**9.95**	181	87.0	256	1.29	0.203		68	32	178	111	-	-		
11.20	**11.23**	160	89.9	235	1.49	1.02	**MC2PVSF03**	71	35	181	114	-	-		
12.50	**12.70**	142	89.6	207	1.60	0.56	**MC2PVHF03**	74	38	184	117	-	-	202	280
14.00	**14.32**	126	97.1	199	1.59	0.91	**MC2PVHT03**	76	40	186	119	-	-		
16.00	**16.16**	111	95.6	173	2.01	1.59		60	24	156	89	-	-		
18.00	**17.91**	100	96.2	157	2.19	1.66		63	25	158	91	-	-		
20.00	**20.40**	88	88.4	127	2.95	1.82		66	28	161	94	-	-		
22.50	**22.65**	79	100.5	131	2.22	0.53		62	34	145	94	-	-		
25.00	**25.55**	70	101.0	117	2.62	0.71		63	35	148	97	-	-		
28.00	**28.83**	62	94.3	97	3.35	0.97		66	38	149	98	-	-		
31.50	**32.60**	55	102.1	93	3.15	1.02		67	39	150	99	-	-		
35.50	**36.78**	49	95.3	77	3.91	1.19		68	40	153	102	-	-		
40.00	**39.81**	45	104.5	78	3.39	0.55		70	42	154	102	-	-		
45.00	**44.91**	40	102.8	68	3.96	0.76	**MC3PVSF03**	71	43	156	105	-	-		
50.00	**50.67**	36	96.0	56	4.74	1.0	**MC3PVHF03**	72	44	157	106	-	-	218	281
56.00	**57.29**	31	104.0	54	4.59	1.05	**MC3PVHT03**	74	46	158	107	-	-		
63.00	**64.64**	28	97.0	44	5.4	1.20		75	47	160	109	-	-		
71.00	**71.62**	25	104.6	43	5.2	0.74		62	34	135	84	-	-		
80.00	**80.80**	22	97.8	36	6.1	0.81		63	35	137	86	-	-		
90.00	**92.02**	20	89.9	29	6.9	0.81		64	36	138	87	-	-		
100.00	**101.82**	18	99.0	29	6.8	0.81		66	38	138	87	-	-		
112.00	**115.96**	16	90.9	23	6.9	0.81		67	39	139	89	-	-		

MC.PV..04, n_1 = 1800rpm								P_{TH}						137000 lb-in	
i_N	i_{ex}	n_2 [rpm]	M_{N2} [lb-in] x1000	P_{N1} [HP]	F_{Ra} [lb] x1000	F_{Re} [lb] x1000		$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F	$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F	$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F		
7.10	**7.12**	253	99.5	409	1.27	0.62		75	*)	212	127	-	-		
8.00	**8.01**	225	103.6	379	1.56	1.12		79	*)	216	131	-	-		
9.00	**8.96**	201	107.6	352	1.81	1.52		83	36	220	135	-	-		
10.00	**9.95**	181	110.9	327	1.31	0.52		86	40	224	139	-	-		
11.20	**11.19**	161	115.6	303	1.60	1.03	**MC2PVSF04**	90	43	228	143	-	-		
12.50	**12.72**	141	119.9	276	1.35	0.350	**MC2PVHF04**	94	47	232	148	-	-	204	280
14.00	**14.31**	126	125.1	256	1.65	0.88	**MC2PVHT04**	97	50	235	150	-	-		
16.00	**16.00**	113	127.4	233	2.23	1.47		76	30	196	111	-	-		
18.00	**17.12**	105	130.1	223	2.27	1.42		78	32	197	113	-	-		
20.00	**19.25**	94	125.3	191	3.03	2.11		80	35	201	117	-	-		
22.50	**23.20**	78	122.7	157	3.28	0.381		76	42	180	117	-	-		
25.00	**26.10**	69	138.0	157	3.05	0.381		79	44	182	119	-	-		
28.00	**29.18**	62	132.1	134	3.74	0.73		80	46	185	122	-	-		
31.50	**33.39**	54	141.0	125	3.62	0.86		83	48	186	123	-	-		
35.50	**37.33**	48	132.5	105	4.44	1.0		84	50	189	126	-	-		
40.00	**40.28**	45	126.9	93	4.66	*)		86	51	190	127	-	-		
45.00	**45.30**	40	142.1	93	4.50	*)	**MC3PVSF04**	87	54	192	129	-	-		
50.00	**50.64**	36	132.5	78	5.4	0.349	**MC3PVHF04**	90	55	193	130	-	-	220	281
56.00	**57.96**	31	143.7	73	5.3	0.443	**MC3PVHT04**	91	56	196	133	-	-		
63.00	**64.79**	28	133.0	61	6.2	0.73		93	58	197	134	-	-		
71.00	**72.86**	25	144.7	59	6.0	0.55		76	43	168	105	-	-		
80.00	**81.44**	22	133.2	48	7.1	0.81		78	44	169	106	-	-		
90.00	**91.60**	20	127.3	41	7.9	0.92		79	46	170	107	-	-		
100.00	**97.56**	18	131.6	40	7.8	0.83		80	46	170	107	-	-		
112.00	**109.73**	16	127.8	35	7.9	0.92		82	47	173	109	-	-		

MC.PV..05, n_1 = 1800rpm														177000 lb-in	
7.10	**7.10**	253	138.4	570	0.407	*)		86	*)	241	146	-	-		
8.00	**8.00**	225	144.1	528	0.62	0.79		90	*)	247	150	-	-		
9.00	**8.87**	203	148.6	490	0.95	1.44		94	*)	251	154	-	-		
10.00	**9.78**	184	153.6	460	0.354	*)		98	*)	255	158	-	-		
11.20	**11.01**	163	159.9	425	0.60	0.53	**MC2PVSF05**	102	48	259	162	-	-		
12.50	**12.52**	144	164.7	385	0.434	*)	**MC2PVHF05**	106	54	263	168	-	-	206	280
14.00	**14.10**	128	173.2	360	0.57	0.263	**MC2PVHT05**	110	56	267	172	-	-		
16.00	**15.64**	115	176.5	330	1.10	1.30		86	34	223	126	-	-		
18.00	**17.24**	104	177.3	301	1.44	1.33		90	36	225	129	-	-		
20.00	**19.40**	93	165.1	249	2.31	2.54		93	40	229	133	-	-		
22.50	**22.58**	80	136.6	179	3.27	0.346		89	48	208	135	-	-		
25.00	**25.41**	71	153.7	179	3.08	0.347		91	51	211	138	-	-		
28.00	**28.19**	64	170.6	179	2.94	0.346		93	52	213	139	-	-		
31.50	**32.53**	55	176.4	161	2.95	0.60		95	55	216	143	-	-		
35.50	**36.08**	50	176.3	145	3.41	0.82		98	58	219	145	-	-		
40.00	**40.62**	44	163.5	119	4.28	1.17		99	59	220	148	-	-		
45.00	**43.55**	41	160.2	109	4.33	0.64	**MC3PVSF05**	101	60	221	149	-	-		
50.00	**48.31**	37	177.3	109	4.22	0.65	**MC3PVHF05**	103	63	224	150	-	-	222	282
56.00	**55.74**	32	181.9	97	4.34	0.90	**MC3PVHT05**	105	64	227	153	-	-		
63.00	**61.84**	29	179.0	86	4.95	1.13		107	67	228	154	-	-		
71.00	**71.06**	25	184.1	77	5.1	0.334		89	48	193	121	-	-		
80.00	**78.83**	23	180.5	68	5.7	0.55		90	50	194	122	-	-		
90.00	**88.73**	20	167.8	56	6.7	0.83		93	52	197	123	-	-		
100.00	**96.36**	19	167.6	52	6.9	0.76		93	52	198	125	-	-		
112.00	**108.46**	17	169.2	46	7.4	0.89		94	55	200	126	-	-		

MC.PV..06, n_1 = 1800rpm								P_{TH}						221000 lb-in
i_N	i_{ex}	n_2 [rpm]	M_{N2} [lb-in] x1000	P_{N1} [HP]	F_{Ra} [lb] x1000	F_{Re} [lb] x1000		$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F	$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F	$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F	
7.10	**6.82**	264	159.5	685	1.08	*)		102	*)	291	174	-	-	
8.00	**7.89**	228	182.1	676	0.247	*)		109	*)	299	182	-	-	
9.00	**8.85**	203	189.0	625	0.60	1.24		114	*)	304	188	-	-	
10.00	**9.82**	183	176.6	526	1.34	*)		118	55	308	192	-	-	
11.20	**11.37**	158	204.4	526	0.159	*)	**MC2PVSF06**	125	60	315	198	-	-	
12.50	**12.04**	150	185.2	450	1.67	*)	**MC2PVHF06**	127	63	318	201	-	-	208 / 280
14.00	**13.93**	129	214.3	450	0.449	*)	**MC2PVHT06**	133	68	323	207	-	-	
16.00	**15.63**	115	224.1	420	0.71	0.98		105	*)	270	153	-	-	
18.00	**17.59**	102	233.0	388	0.66	0.75		109	44	275	158	-	-	
20.00	**19.91**	90	214.8	316	3.10	2.65		113	50	279	162	-	-	
22.50	**22.80**	79	164.5	214	4.91	*)		105	58	247	161	-	-	
25.00	**26.39**	68	190.4	214	4.66	*)		109	60	251	165	-	-	
28.00	**29.61**	61	213.7	214	4.37	*)		111	64	255	168	-	-	
31.50	**32.33**	56	211.6	194	4.61	*)		114	66	256	169	-	-	
35.50	**36.28**	50	230.9	189	4.50	*)		117	68	259	173	-	-	
40.00	**41.07**	44	211.7	153	5.9	0.037		119	71	261	176	-	-	
45.00	**45.96**	39	197.9	128	6.5	0.462	**MC3PVSF06**	121	74	264	177	-	-	
50.00	**51.58**	35	222.1	128	6.3	0.462	**MC3PVHF06**	123	75	267	180	-	-	224 / 282
56.00	**56.31**	32	220.1	116	6.6	0.72	**MC3PVHT06**	125	78	268	182	-	-	
63.00	**63.20**	28	235.1	110	6.7	0.85		127	79	271	184	-	-	
71.00	**71.10**	25	222.4	93	7.6	0.132		106	58	229	143	-	-	
80.00	**79.80**	23	236.8	88	7.8	0.248		107	59	232	145	-	-	
90.00	**90.32**	20	220.6	72	9.2	0.63		110	62	233	148	-	-	
100.00	**96.73**	19	230.7	71	9.0	0.488		110	63	235	149	-	-	
112.00	**109.49**	16	222.3	60	10.1	0.76		113	64	237	150	-	-	

MC.PV..07, n_1 = 1800rpm														310000 lb-in
7.10	**6.86**	262	205.2	876	0.97	*)		126	*)	358	215	-	-	
8.00	**7.73**	233	221.2	838	0.73	0.370		133	*)	366	223	-	-	
9.00	**8.68**	207	229.1	773	1.13	1.18		139	*)	373	229	-	-	
10.00	**9.65**	187	224.9	682	1.29	*)		145	*)	380	236	-	-	
11.20	**10.86**	166	247.3	666	0.62	0.142	**MC2PVSF07**	152	72	385	241	-	-	
12.50	**12.19**	148	237.0	569	1.76	*)	**MC2PVHF07**	157	78	392	248	-	-	210 / 280
14.00	**13.73**	131	266.9	569	0.52	*)	**MC2PVHT07**	162	83	397	253	-	-	
16.00	**15.42**	117	273.2	518	1.26	0.85		129	*)	331	188	-	-	
18.00	**17.66**	102	284.7	472	1.30	0.74		134	55	338	194	-	-	
20.00	**20.25**	89	295.0	426	2.18	1.71		139	60	343	200	-	-	
22.50	**22.38**	80	219.7	291	5.2	*)		129	70	304	197	-	-	
25.00	**25.20**	71	247.4	291	4.90	*)		133	74	307	201	-	-	
28.00	**28.31**	64	277.9	291	4.50	*)		135	76	311	205	-	-	
31.50	**31.86**	57	281.3	262	4.71	0.357		139	80	315	208	-	-	
35.50	**35.78**	50	316.0	262	4.23	0.357		142	83	318	212	-	-	
40.00	**41.02**	44	294.2	212	5.8	1.04		146	87	322	216	-	-	
45.00	**43.89**	41	257.7	174	7.0	0.77	**MC3PVSF07**	148	89	325	217	-	-	
50.00	**49.30**	37	289.5	174	6.6	0.77	**MC3PVHF07**	150	93	327	220	-	-	226 / 283
56.00	**55.47**	32	290.9	155	7.0	1.17	**MC3PVHT07**	153	95	330	223	-	-	
63.00	**62.31**	29	324.0	154	6.6	1.20		156	98	333	227	-	-	
71.00	**68.66**	26	293.9	127	8.0	0.098		129	70	282	174	-	-	
80.00	**77.12**	23	326.7	125	7.7	0.129		131	72	284	177	-	-	
90.00	**88.41**	20	302.3	101	9.6	0.70		134	75	287	181	-	-	
100.00	**99.48**	18	283.1	84	10.7	0.77		137	78	290	182	-	-	
112.00	**114.04**	16	305.2	79	11.0	0.90		139	80	292	185	-	-	



MC.PV..08, n_1 = 1800rpm — P_{TH} — 407000 lb-in

i_N	i_{ex}	n_2 [rpm]	M_{N2} [lb-in] x1000	P_{N1} [HP]	F_{Ra} [lb] x1000	F_{Re} [lb] x1000		$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F	$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F	$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F		
7.10	**7.01**	257	264.1	1103	1.89	*)		158	*)	447	268	-	-		
8.00	**7.89**	228	297.3	1103	0.87	*)		166	*)	456	278	-	-		
9.00	**8.96**	201	312.0	1020	1.19	0.85		174	*)	465	287	-	-		
10.00	**9.80**	184	290.0	866	2.23	*)		181	*)	472	294	-	-		
11.20	**11.03**	163	326.5	866	1.11	*)	**MC2PVSF08**	188	90	480	302	-	-		
12.50	**12.49**	144	307.6	721	2.68	*)	**MC2PVHF08**	196	98	488	310	-	-	212	280
14.00	**14.06**	128	346.4	721	1.51	*)	**MC2PVHT08**	202	105	495	316	-	-		
16.00	**15.97**	113	370.1	678	1.48	0.73		161	*)	413	235	-	-		
18.00	**17.76**	101	382.5	630	1.50	0.470		166	68	420	241	-	-		
20.00	**19.90**	90	385.9	568	2.76	1.66		173	75	425	248	-	-		
22.50	**21.70**	83	314.1	429	4.78	*)		158	86	374	243	-	-		
25.00	**24.43**	74	353.7	429	4.40	*)		162	90	380	247	-	-		
28.00	**27.74**	65	401.7	429	3.88	*)		168	95	384	252	-	-		
31.50	**31.14**	58	390.8	372	4.44	0.270		172	99	389	256	-	-		
35.50	**35.36**	51	412.1	345	4.71	0.63		176	103	393	261	-	-		
40.00	**39.60**	45	383.4	287	6.3	1.41		180	107	397	266	-	-		
45.00	**43.63**	41	385.3	262	6.2	*)	**MC3VSF08**	182	110	401	268	-	-		
50.00	**49.55**	36	415.3	248	6.3	0.081	**MC3PVHF08**	186	114	405	272	-	-	228	283
56.00	**55.61**	32	423.8	226	6.4	0.55	**MC3PVHT08**	189	117	408	276	-	-		
63.00	**63.15**	29	418.9	197	7.5	1.16		193	121	412	280	-	-		
71.00	**69.09**	26	427.4	183	7.6	*)		160	87	349	216	-	-		
80.00	**78.46**	23	422.0	159	8.7	0.379		162	90	351	220	-	-		
90.00	**87.87**	20	393.9	133	10.4	0.99		166	93	355	223	-	-		
100.00	**97.27**	19	404.6	123	10.6	0.82		168	95	358	225	-	-		
112.00	**108.95**	17	399.0	109	11.7	1.19		170	98	361	228	-	-		

MC.PV..09, n_1 = 1800rpm — 575000 lb-in

7.10	**6.91**	260	335.4	1421	3.33	*)		181	*)	518	310	-	-		
8.00	**7.99**	225	387.9	1421	2.82	*)		193	*)	530	323	-	-		
9.00	**8.97**	201	425.5	1389	2.45	*)		202	*)	539	333	-	-		
10.00	**9.53**	189	367.2	1128	3.73	*)		208	*)	544	338	-	-		
11.20	**11.03**	163	424.7	1127	3.17	*)	**MC2PVSF09**	219	*)	557	349	-	-		
12.50	**11.77**	153	385.2	958	4.12	*)	**MC2PVHF09**	223	110	561	354	-	-	214	280
14.00	**13.61**	132	445.4	958	3.55	*)	**MC2PVHT09**	233	119	571	365	-	-		
16.00	**15.27**	118	499.9	958	2.84	*)		184	*)	476	270	-	-		
18.00	**17.01**	106	510.4	878	3.22	*)		190	*)	483	276	-	-		
20.00	**19.26**	93	526.9	801	3.67	*)		198	84	491	284	-	-		
22.50	**21.63**	83	397.6	544	6.6	*)		186	101	444	287	-	-		
25.00	**25.02**	72	459.8	544	6.1	*)		194	107	452	295	-	-		
28.00	**28.08**	64	516.0	544	5.6	*)		198	113	457	300	-	-		
31.50	**30.88**	58	498.3	478	6.3	0.099		202	117	461	304	-	-		
35.50	**34.65**	52	559.2	478	5.8	0.099		208	122	465	310	-	-		
40.00	**39.22**	46	520.4	393	7.7	1.18		213	126	471	315	-	-		
45.00	**44.10**	41	545.6	367	7.3	*)	**MC3PVSF09**	217	131	476	319	-	-		
50.00	**49.49**	36	563.5	337	7.8	*)	**MC3PVHF09**	221	135	480	323	-	-	230	283
56.00	**54.43**	33	568.5	309	8.0	0.51	**MC3PVHT09**	224	138	484	327	-	-		
63.00	**61.08**	29	566.8	275	9.2	1.19		228	142	488	331	-	-		
71.00	**68.03**	26	570.3	248	9.5	*)		189	103	413	256	-	-		
80.00	**76.35**	24	571.6	222	10.7	*)		193	106	417	260	-	-		
90.00	**86.42**	21	534.6	183	12.8	0.81		196	110	421	264	-	-		
100.00	**93.94**	19	568.5	179	12.3	0.383		198	113	424	267	-	-		
112.00	**106.33**	17	533.8	149	14.4	1.11		202	115	426	271	-	-		

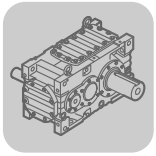
10.3.2 MC.PV.., n_1 = 1500 1/min

MC.PV..02, n_1 = 1500rpm								P_{TH}						70000 lb-in
i_N	i_{ex}	n_2 [rpm]	M_{N2} [lb-in] x1000	P_{N1} [HP]	F_{Ra} [lb] x1000	F_{Re} [lb] x1000		$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F	$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F	$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F	
7.10	**7.07**	212	64.5	223	*)	*)		51	*)	125	74	-	-	
8.00	**8.18**	183	67.4	201	*)	0.495		55	25	127	78	-	-	
9.00	**9.18**	163	66.1	176	*)	1.04		56	27	130	80	-	-	
10.00	**9.83**	153	70.3	175	*)	*)		58	28	131	82	-	-	
11.20	**11.37**	132	71.4	153	*)	0.64	**MC2PVSF02**	60	31	134	84	-	-	
12.50	**12.31**	122	74.0	147	*)	*)	**MC2PVHF02**	62	32	135	86	-	-	200
14.00	**14.24**	105	71.3	122	0.271	0.83	**MC2PVHT02**	64	35	138	89	-	-	
16.00	**15.98**	94	67.3	103	1.18	1.39		51	21	115	64	-	-	
18.00	**17.88**	84	67.5	92	1.46	1.44		54	24	117	67	-	-	
20.00	**20.24**	74	62.3	75	1.98	1.62		55	25	118	68	-	-	
22.50	**22.30**	67	74.5	82	0.83	0.54		51	30	107	70	-	-	
25.00	**25.79**	58	70.8	68	1.83	0.74		54	31	110	71	-	-	
28.00	**28.95**	52	65.5	56	2.32	0.76		55	32	111	72	-	-	
31.50	**32.31**	46	71.6	55	2.15	0.76		55	34	111	74	-	-	
35.50	**36.27**	41	67.1	46	2.62	0.77		56	34	113	75	-	-	
40.00	**38.89**	39	75.9	48	2.15	0.451		58	35	114	76	-	-	
45.00	**44.97**	33	71.8	39	2.71	0.69	**MC3PVSF02**	59	36	115	78	-	-	
50.00	**50.47**	30	67.6	33	3.18	0.84	**MC3PVHF02**	60	38	117	78	-	-	216
56.00	**56.34**	27	71.8	31	3.13	0.84	**MC3PVHT02**	60	38	117	79	-	-	
63.00	**63.23**	24	68.3	27	3.58	0.85		62	39	118	80	-	-	
71.00	**71.20**	21	72.0	25	3.59	0.474		51	28	101	62	-	-	
80.00	**79.91**	19	68.7	21	4.05	0.61		52	30	101	63	-	-	
90.00	**90.45**	17	63.2	17.3	4.63	0.61		54	31	102	64	-	-	
100.00	**95.36**	16	69.2	17.9	4.42	0.61		54	31	102	64	-	-	
112.00	**107.94**	14	63.8	14.6	5.0	0.61		54	32	103	66	-	-	

MC.PV..03, n_1 = 1500rpm														102000 lb-in
7.10	**7.29**	206	82.8	277	1.29	0.395		66	28	156	94	-	-	
8.00	**8.23**	182	86.7	257	1.43	1.08		68	31	160	97	-	-	
9.00	**9.28**	162	89.2	235	1.61	1.55		71	35	162	101	-	-	
10.00	**9.95**	151	91.9	225	1.37	0.214		72	36	164	102	-	-	
11.20	**11.23**	134	95.0	207	1.57	1.07	**MC2PVSF03**	75	39	166	105	-	-	
12.50	**12.70**	118	90.1	173	1.92	1.03	**MC2PVHF03**	78	42	169	107	-	-	202
14.00	**14.32**	105	102.5	175	1.68	0.97	**MC2PVHT03**	80	44	172	110	-	-	
16.00	**16.16**	93	96.2	145	2.36	1.82		64	28	143	82	-	-	
18.00	**17.91**	84	96.6	132	2.56	1.80		67	30	146	83	-	-	
20.00	**20.40**	74	89.0	106	3.32	1.96		68	32	148	86	-	-	
22.50	**22.65**	66	100.5	110	2.64	0.65		64	36	134	87	-	-	
25.00	**25.55**	59	101.5	98	3.03	0.83		66	38	135	89	-	-	
28.00	**28.83**	52	94.9	81	3.78	1.08		67	40	138	90	-	-	
31.50	**32.60**	46	102.7	78	3.59	1.13		70	42	139	93	-	-	
35.50	**36.78**	41	95.9	64	4.37	1.19		71	43	141	94	-	-	
40.00	**39.81**	38	104.5	65	3.89	0.68		71	43	142	95	-	-	
45.00	**44.91**	33	103.6	57	4.43	0.87	**MC3PVSF03**	72	46	143	97	-	-	
50.00	**50.67**	30	96.7	47	5.2	1.11	**MC3PVHF03**	74	47	145	98	-	-	218
56.00	**57.29**	26	104.1	45	5.1	1.16	**MC3PVHT03**	75	47	146	99	-	-	
63.00	**64.64**	23	97.7	37	6.0	1.20		76	48	148	101	-	-	
71.00	**71.62**	21	104.4	36	5.8	0.80		64	36	125	78	-	-	
80.00	**80.80**	19	98.6	30	6.7	0.81		64	38	126	79	-	-	
90.00	**92.02**	16	90.5	24	6.9	0.81		66	38	127	80	-	-	
100.00	**101.82**	15	99.6	24	6.9	0.81		67	39	129	80	-	-	
112.00	**115.96**	13	91.7	20	6.9	0.81		68	40	129	82	-	-	

MC.PV..04, n_1 = 1500rpm								P_{TH}						137000 lb-in	
i_N	i_{ex}	n_2 [rpm]	M_{N2} [lb-in] x1000	P_{N1} [HP]	F_{Ra} [lb] x1000	F_{Re} [lb] x1000		$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F	$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F	$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F		
7.10	**7.12**	211	105.1	360	1.36	0.66		82	*)	196	117	-	-		
8.00	**8.01**	187	109.4	333	1.64	1.19		84	39	200	121	-	-		
9.00	**8.96**	167	113.5	309	1.94	1.62		89	42	202	125	-	-		
10.00	**9.95**	151	117.3	288	1.36	0.54		91	46	207	129	-	-		
11.20	**11.19**	134	122.2	267	1.67	1.08	**MC2PVSF04**	95	48	209	131	-	-		
12.50	**12.72**	118	126.5	243	1.45	0.378	**MC2PVHF04**	98	52	213	135	-	-	204	280
14.00	**14.31**	105	132.1	225	1.74	0.93	**MC2PVHT04**	102	55	217	138	-	-		
16.00	**16.00**	94	132.0	201	2.64	1.68		80	35	181	102	-	-		
18.00	**17.12**	88	131.8	188	2.82	1.75		83	36	182	105	-	-		
20.00	**19.25**	78	126.2	160	3.46	2.39		86	39	185	107	-	-		
22.50	**23.20**	65	122.3	130	3.79	0.55		80	46	166	107	-	-		
25.00	**26.10**	57	137.6	130	3.58	0.55		82	47	169	110	-	-		
28.00	**29.18**	51	132.3	112	4.26	0.88		83	50	170	113	-	-		
31.50	**33.39**	45	141.9	105	4.13	0.99		86	51	173	114	-	-		
35.50	**37.33**	40	132.7	88	5.0	1.0		87	52	174	117	-	-		
40.00	**40.28**	37	126.9	78	5.2	0.107		89	54	176	117	-	-		
45.00	**45.30**	33	142.8	78	5.1	0.107	**MC3PVSF04**	90	56	177	119	-	-		
50.00	**50.64**	30	132.6	65	6.0	0.467	**MC3PVHF04**	93	58	180	121	-	-	220	281
56.00	**57.96**	26	144.3	61	5.9	0.55	**MC3PVHT04**	94	59	181	122	-	-		
63.00	**64.79**	23	133.1	51	6.9	0.85		95	60	182	123	-	-		
71.00	**72.86**	21	145.8	49	6.7	0.65		79	44	154	97	-	-		
80.00	**81.44**	18	133.1	40	7.8	0.92		80	46	156	98	-	-		
90.00	**91.60**	16	128.1	35	7.9	0.92		82	47	157	99	-	-		
100.00	**97.56**	15	131.7	33	7.9	0.92		82	48	158	99	-	-		
112.00	**109.73**	14	128.6	29	7.9	0.92		83	48	160	101	-	-		

MC.PV..05, n_1 = 1500rpm														177000 lb-in	
7.10	**7.10**	211	146.3	502	0.422	*)		93	*)	223	134	-	-		
8.00	**8.00**	188	152.4	465	0.64	0.82		97	*)	228	138	-	-		
9.00	**8.87**	169	157.0	432	1.0	1.52		101	48	231	142	-	-		
10.00	**9.78**	153	162.5	405	0.361	*)		103	51	235	145	-	-		
11.20	**11.01**	136	169.0	374	0.62	0.54	**MC2PVSF05**	107	55	239	149	-	-		
12.50	**12.52**	120	166.2	324	1.02	*)	**MC2PVHF05**	111	59	243	154	-	-	206	280
14.00	**14.10**	106	182.5	316	0.64	0.325	**MC2PVHT05**	115	62	247	157	-	-		
16.00	**15.64**	96	176.8	276	1.73	1.79		91	39	205	115	-	-		
18.00	**17.24**	87	178.0	252	1.92	1.81		94	42	208	119	-	-		
20.00	**19.40**	77	166.4	209	2.70	2.75		98	44	212	122	-	-		
22.50	**22.58**	66	137.2	150	3.70	0.494		93	52	192	125	-	-		
25.00	**25.41**	59	154.4	150	3.53	0.493		94	54	194	127	-	-		
28.00	**28.19**	53	171.3	150	3.40	0.493		97	56	197	129	-	-		
31.50	**32.53**	46	176.7	134	3.45	0.76		99	59	200	131	-	-		
35.50	**36.08**	42	177.0	121	3.91	0.97		101	60	201	134	-	-		
40.00	**40.62**	37	164.5	100	4.79	1.32		103	63	204	135	-	-		
45.00	**43.55**	34	160.2	91	4.88	0.81	**MC3PVSF05**	105	64	205	137	-	-		
50.00	**48.31**	31	177.7	91	4.78	0.81	**MC3PVHF05**	106	66	207	139	-	-	222	282
56.00	**55.74**	27	182.0	81	4.93	1.07	**MC3PVHT05**	107	68	209	141	-	-		
63.00	**61.84**	24	180.2	72	5.5	1.28		110	70	211	142	-	-		
71.00	**71.06**	21	183.8	64	5.7	0.458		91	51	178	111	-	-		
80.00	**78.83**	19	181.9	57	6.3	0.66		93	52	180	113	-	-		
90.00	**88.73**	17	168.9	47	7.3	0.94		94	54	182	114	-	-		
100.00	**96.36**	16	167.9	43	7.6	0.87		95	55	182	115	-	-		
112.00	**108.46**	14	170.3	39	8.1	1.0		97	56	185	117	-	-		



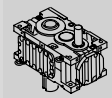
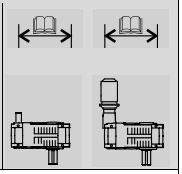
MC.PV..06, n_1 = 1500rpm								P_{TH}						**221000 lb-in**	
i_N	i_{ex}	n_2 [rpm]	M_{N2} [lb-in] x1000	P_{N1} [HP]	F_{Ra} [lb] x1000	F_{Re} [lb] x1000		$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F	$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F	$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F		
7.10	**6.82**	220	168.3	602	1.15	*)		110	*)	268	160	-	-		
8.00	**7.89**	190	192.2	594	0.271	*)		117	*)	275	168	-	-		
9.00	**8.85**	169	199.7	550	0.62	1.30		122	58	280	172	-	-		
10.00	**9.82**	153	186.7	464	1.39	*)		126	62	284	177	-	-		
11.20	**11.37**	132	216.1	464	0.148	*)	**MC2PVSF06**	131	67	291	182	-	-		
12.50	**12.04**	125	195.9	397	1.73	*)	**MC2PVHF06**	134	70	294	185	-	-	208	280
14.00	**13.93**	108	226.7	397	0.438	*)	**MC2PVHT06**	139	75	299	190	-	-		
16.00	**15.63**	96	233.1	364	1.09	1.27		111	47	249	141	-	-		
18.00	**17.59**	85	233.5	324	1.88	1.63		115	51	253	145	-	-		
20.00	**19.91**	75	215.3	264	3.70	2.92		119	55	257	149	-	-		
22.50	**22.80**	66	164.3	178	5.6	*)		110	62	228	148	-	-		
25.00	**26.39**	57	190.2	178	5.3	*)		113	66	232	152	-	-		
28.00	**29.61**	51	213.4	178	5.1	*)		115	68	235	154	-	-		
31.50	**32.33**	46	212.1	162	5.3	*)		118	70	237	157	-	-		
35.50	**36.28**	41	232.2	158	5.2	*)		119	72	239	160	-	-		
40.00	**41.07**	37	214.3	129	6.5	0.113		122	75	241	161	-	-		
45.00	**45.96**	33	198.0	106	7.3	0.65	**MC3PVSF06**	125	76	244	164	-	-		
50.00	**51.58**	29	222.2	106	7.1	0.65	**MC3PVHF06**	126	79	247	166	-	-	224	282
56.00	**56.31**	27	220.2	97	7.4	0.91	**MC3PVHT06**	129	80	248	168	-	-		
63.00	**63.20**	24	236.6	92	7.5	1.02		130	83	251	170	-	-		
71.00	**71.10**	21	222.2	77	8.5	0.269		109	60	212	131	-	-		
80.00	**79.80**	19	238.2	74	8.7	0.369		110	63	215	134	-	-		
90.00	**90.32**	17	222.0	61	10.1	0.75		113	64	216	135	-	-		
100.00	**96.73**	16	230.5	59	10	0.62		113	66	217	137	-	-		
112.00	**109.49**	14	223.8	50	10.2	0.88		115	67	219	138	-	-		

MC.PV..07, n_1 = 1500rpm														**310000 lb-in**	
7.10	**6.86**	219	216.6	770	1.04	*)		137	*)	330	197	-	-		
8.00	**7.73**	194	233.8	738	0.76	0.383		142	*)	337	204	-	-		
9.00	**8.68**	173	241.8	680	1.21	1.26		149	70	343	211	-	-		
10.00	**9.65**	155	237.7	601	1.35	*)		154	75	349	216	-	-		
11.20	**10.86**	138	261.7	588	0.60	0.127	**MC2PVSF07**	160	80	355	223	-	-		
12.50	**12.19**	123	250.5	501	1.85	*)	**MC2PVHF07**	165	86	361	228	-	-	210	280
14.00	**13.73**	109	282.1	501	0.54	*)	**MC2PVHT07**	170	91	366	233	-	-		
16.00	**15.42**	97	289.0	457	1.29	0.88		137	58	306	173	-	-		
18.00	**17.66**	85	301.1	416	1.34	0.77		142	63	311	178	-	-		
20.00	**20.25**	74	298.7	360	3.37	2.20		148	68	316	184	-	-		
22.50	**22.38**	67	220.3	243	5.9	0.166		134	75	280	181	-	-		
25.00	**25.20**	60	248.1	243	5.6	0.166		138	79	284	185	-	-		
28.00	**28.31**	53	278.7	243	5.3	0.165		141	82	287	189	-	-		
31.50	**31.86**	47	281.0	218	5.5	0.58		143	86	291	192	-	-		
35.50	**35.78**	42	315.7	218	5.1	0.58		148	89	294	196	-	-		
40.00	**41.02**	37	295.7	178	6.7	1.24		150	93	298	198	-	-		
45.00	**43.89**	34	257.3	145	7.9	1.03	**MC3PVSF07**	152	94	299	200	-	-		
50.00	**49.30**	30	289.0	145	7.6	1.03	**MC3PVHF07**	154	97	302	204	-	-	226	283
56.00	**55.47**	27	291.2	130	7.9	1.42	**MC3PVHT07**	157	99	304	207	-	-		
63.00	**62.31**	24	326.1	129	7.6	1.43		160	102	307	209	-	-		
71.00	**68.66**	22	294.0	106	9.0	0.270		133	74	260	161	-	-		
80.00	**77.12**	19	328.5	105	8.7	0.285		135	76	263	164	-	-		
90.00	**88.41**	17	304.3	85	10.6	0.85		138	79	266	166	-	-		
100.00	**99.48**	15	283.6	70	11.8	0.94		139	80	268	169	-	-		
112.00	**114.04**	13	307.3	67	11.8	1.05		142	83	271	172	-	-		

MC.PV..08, n_1 = 1500rpm								P_{TH}						407000 lb-in
i_N	i_{ex}	n_2 [rpm]	M_{N2} [lb-in] x1000	P_{N1} [HP]	F_{Ra} [lb] x1000	F_{Re} [lb] x1000		$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F	$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F	$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F	
7.10	**7.01**	214	279.0	972	1.99	*)		170	*)	412	247	-	-	
8.00	**7.89**	190	314.2	971	0.91	*)		178	*)	420	255	-	-	
9.00	**8.96**	167	329.4	897	1.27	0.90		186	*)	429	264	-	-	
10.00	**9.80**	153	306.2	762	2.36	*)		192	94	434	270	-	-	
11.20	**11.03**	136	344.8	762	1.18	*)	**MC2PVSF08**	200	102	443	278	-	-	
12.50	**12.49**	120	324.8	634	2.84	*)	**MC2PVHF08**	207	109	449	284	-	-	212 280
14.00	**14.06**	107	365.7	634	1.60	*)	**MC2PVHT08**	213	115	456	291	-	-	
16.00	**15.97**	94	390.9	597	1.56	0.77		170	72	381	216	-	-	
18.00	**17.76**	84	404.7	556	1.54	0.476		176	78	386	221	-	-	
20.00	**19.90**	75	388.0	476	3.84	2.29		182	84	393	228	-	-	
22.50	**21.70**	69	331.4	377	5.1	*)		165	93	346	223	-	-	
25.00	**24.43**	61	373.2	377	4.65	*)		169	97	350	228	-	-	
28.00	**27.74**	54	410.4	365	4.47	*)		173	101	355	232	-	-	
31.50	**31.14**	48	412.0	327	4.71	0.294		177	105	359	236	-	-	
35.50	**35.36**	42	414.6	290	5.5	0.89		181	109	363	241	-	-	
40.00	**39.60**	38	385.6	240	7.1	1.69		185	113	367	244	-	-	
45.00	**43.63**	34	387.2	219	7.1	0.072	**MC3PVSF08**	188	115	370	248	-	-	
50.00	**49.55**	30	418.4	209	7.2	0.339	**MC3PVHF08**	192	119	374	252	-	-	228 283
56.00	**55.61**	27	424.8	189	7.4	0.84	**MC3PVHT08**	194	122	377	255	-	-	
63.00	**63.15**	24	421.2	165	8.6	1.44		198	126	381	259	-	-	
71.00	**69.09**	22	427.4	153	8.7	0.055		164	91	322	200	-	-	
80.00	**78.46**	19	426.2	134	9.8	0.57		168	95	326	202	-	-	
90.00	**87.87**	17	398.0	112	11.5	1.19		170	98	329	205	-	-	
100.00	**97.27**	15	405.0	103	11.8	1.04		172	99	330	208	-	-	
112.00	**108.95**	14	401.4	91	12.9	1.39		174	102	333	211	-	-	

MC.PV..09, n_1 = 1500rpm														575000 lb-in
7.10	**6.91**	217	354.2	1250	3.52	*)		197	*)	476	284	-	-	
8.00	**7.99**	188	409.6	1250	2.99	*)		208	*)	488	296	-	-	
9.00	**8.97**	167	449.4	1222	2.59	*)		217	*)	498	306	-	-	
10.00	**9.53**	157	388.1	993	3.93	*)		221	107	502	310	-	-	
11.20	**11.03**	136	448.8	993	3.35	*)	**MC2PVSF09**	231	118	512	321	-	-	
12.50	**11.77**	127	407.0	844	4.35	*)	**MC2PVHF09**	236	122	518	326	-	-	214 280
14.00	**13.61**	110	470.6	844	3.75	*)	**MC2PVHT09**	245	131	527	335	-	-	
16.00	**15.27**	98	528.1	844	2.99	*)		196	*)	439	248	-	-	
18.00	**17.01**	88	539.1	773	3.40	*)		201	89	445	255	-	-	
20.00	**19.26**	78	530.3	672	4.51	*)		209	95	453	261	-	-	
22.50	**21.63**	69	420.1	479	7.0	*)		196	110	410	264	-	-	
25.00	**25.02**	60	485.8	479	6.5	*)		201	115	417	271	-	-	
28.00	**28.08**	53	545.2	479	5.9	*)		207	121	421	276	-	-	
31.50	**30.88**	49	526.5	421	6.7	0.102		211	125	425	280	-	-	
35.50	**34.65**	43	561.1	400	6.8	0.426		215	129	430	286	-	-	
40.00	**39.22**	38	523.3	329	8.8	1.50		220	133	436	290	-	-	
45.00	**44.10**	34	545.6	305	8.4	*)	**MC3PVSF09**	224	138	440	295	-	-	
50.00	**49.49**	30	567.1	283	9.0	0.295	**MC3PVHF09**	228	141	444	299	-	-	230 283
56.00	**54.43**	28	570.9	259	9.2	0.86	**MC3PVHT09**	231	145	447	302	-	-	
63.00	**61.08**	25	571.7	231	10.3	1.52		235	148	451	306	-	-	
71.00	**68.03**	22	570.9	207	10.9	*)		194	109	382	236	-	-	
80.00	**76.35**	20	575.0	186	11.9	0.211		198	111	385	240	-	-	
90.00	**86.42**	17	534.6	153	14.2	1.08		201	115	389	244	-	-	
100.00	**93.94**	16	566.0	149	13.8	0.66		204	118	392	247	-	-	
112.00	**106.33**	14	535.4	124	15.9	1.36		207	121	394	249	-	-	

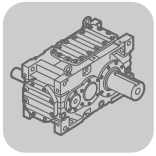
10.3.3 MC.PV.., n_1 = 1200 1/min

MC.PV..02, n_1 = 1200rpm								P_{TH}						70000 lb-in
i_N	i_{ex}	n_2 [rpm]	M_{N2} [lb-in] x1000	P_{N1} [HP]	F_{Ra} [lb] x1000	F_{Re} [lb] x1000		$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F	$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F	$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F	
7.10	**7.07**	170	69.0	191	*)	*)		56	27	113	67	-	-	
8.00	**8.18**	147	70.9	169	*)	0.61		59	30	115	70	-	-	
9.00	**9.18**	131	66.4	141	0.467	1.31		60	31	118	72	-	-	
10.00	**9.83**	122	74.5	148	*)	0.046		62	32	119	74	-	-	
11.20	**11.37**	106	71.2	122	0.274	0.99	**MC2PVSF02**	64	35	121	76	-	-	
12.50	**12.31**	97	74.9	119	*)	0.233	**MC2PVHF02**	66	36	122	78	-	-	200
14.00	**14.24**	84	71.4	98	0.83	1.16	**MC2PVHT02**	68	39	125	79	-	-	
16.00	**15.98**	75	67.7	83	1.66	1.63		55	25	105	59	-	-	
18.00	**17.88**	67	68.0	74	1.81	1.65		56	27	106	60	-	-	
20.00	**20.24**	59	62.7	61	2.29	1.77		58	28	107	62	-	-	
22.50	**22.30**	54	74.9	66	1.44	0.67		54	31	98	63	-	-	
25.00	**25.79**	47	71.4	55	2.15	0.74		55	34	99	64	-	-	
28.00	**28.95**	41	66.9	46	2.62	0.76		56	34	101	66	-	-	
31.50	**32.31**	37	71.7	44	2.52	0.76		58	35	102	67	-	-	
35.50	**36.27**	33	67.5	37	2.99	0.77		59	36	103	68	-	-	
40.00	**38.89**	31	76.6	39	2.52	0.56		59	36	103	68	-	-	
45.00	**44.97**	27	71.9	32	3.12	0.81	**MC3PVSF02**	60	38	105	70	-	-	
50.00	**50.47**	24	68.2	27	3.58	0.84	**MC3PVHF02**	62	39	106	71	-	-	216
56.00	**56.34**	21	71.9	25	3.57	0.84	**MC3PVHT02**	63	40	107	72	-	-	
63.00	**63.23**	19	68.8	22	4.02	0.85		63	40	107	72	-	-	
71.00	**71.20**	17	72.2	20	4.05	0.470		52	31	91	56	-	-	
80.00	**79.91**	15	69.3	17.1	4.52	0.61		54	31	93	58	-	-	
90.00	**90.45**	13	63.8	13.9	5.1	0.61		55	32	93	58	-	-	
100.00	**95.36**	13	69.8	14.5	4.91	0.61		55	32	94	59	-	-	
112.00	**107.94**	11	64.1	11.7	5.1	0.61		56	34	94	59	-	-	

MC.PV..03, n_1 = 1200rpm														102000 lb-in
7.10	**7.29**	165	88.6	237	1.38	0.417		71	34	141	84	-	-	
8.00	**8.23**	146	92.7	220	1.53	1.16		74	36	145	87	-	-	
9.00	**9.28**	129	95.0	200	1.74	1.67		76	39	148	90	-	-	
10.00	**9.95**	121	97.8	192	1.48	0.280		78	40	149	93	-	-	
11.20	**11.23**	107	101.9	177	1.67	1.12	**MC2PVSF03**	80	43	152	95	-	-	
12.50	**12.70**	95	91.0	140	2.34	1.46	**MC2PVHF03**	83	46	154	97	-	-	202
14.00	**14.32**	84	103.7	141	2.10	1.41	**MC2PVHT03**	84	48	157	99	-	-	
16.00	**16.16**	74	96.9	117	2.82	1.99		68	32	130	74	-	-	
18.00	**17.91**	67	97.2	106	3.04	1.97		71	34	133	75	-	-	
20.00	**20.40**	59	89.7	86	3.82	2.14		72	36	134	78	-	-	
22.50	**22.65**	53	100.5	88	3.19	0.81		67	39	122	79	-	-	
25.00	**25.55**	47	102.4	79	3.56	0.97		68	40	123	80	-	-	
28.00	**28.83**	42	95.5	65	4.33	1.17		71	43	125	82	-	-	
31.50	**32.60**	37	103.0	62	4.19	1.17		72	44	126	83	-	-	
35.50	**36.78**	33	96.6	52	4.96	1.19		74	46	129	84	-	-	
40.00	**39.81**	30	104.6	52	4.52	0.83		74	46	129	86	-	-	
45.00	**44.91**	27	104.4	46	5.1	1.01	**MC3PVSF03**	75	47	130	87	-	-	
50.00	**50.67**	24	97.4	38	5.9	1.19	**MC3PVHF03**	76	48	131	89	-	-	218
56.00	**57.29**	21	104.0	36	5.9	1.19	**MC3PVHT03**	78	50	133	90	-	-	
63.00	**64.64**	19	98.6	30	6.7	1.20		79	51	134	91	-	-	
71.00	**71.62**	17	104.5	29	6.6	0.80		66	38	114	70	-	-	
80.00	**80.80**	15	99.4	24	6.9	0.81		67	39	114	71	-	-	
90.00	**92.02**	13	91.5	20	6.9	0.81		68	40	115	72	-	-	
100.00	**101.82**	12	100.6	20	6.9	0.81		68	40	117	74	-	-	
112.00	**115.96**	10	92.0	15.7	6.9	0.81		70	42	118	75	-	-	

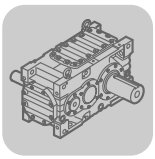
MC.PV..04, n_1 = 1200rpm								P_{TH}						137000 lb-in
i_N	i_{ex}	n_2 [rpm]	M_{N2} [lb-in] x1000	P_{N1} [HP]	F_{Ra} [lb] x1000	F_{Re} [lb] x1000		$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F	$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F	$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F	
7.10	**7.12**	168	112.4	308	1.45	0.71		89	42	177	106	-	-	
8.00	**8.01**	150	117.1	285	1.75	1.26		91	46	181	110	-	-	
9.00	**8.96**	134	121.1	264	2.10	1.74		95	48	184	113	-	-	
10.00	**9.95**	121	125.6	247	1.43	0.56		98	51	188	115	-	-	
11.20	**11.19**	107	130.6	228	1.80	1.16	**MC2PVSF04**	101	55	190	119	-	-	
12.50	**12.72**	94	134.7	207	1.61	0.440	**MC2PVHF04**	105	58	193	122	-	-	204 / 280
14.00	**14.31**	84	140.7	192	1.92	1.02	**MC2PVHT04**	107	60	197	126	-	-	
16.00	**16.00**	75	132.2	161	3.20	2.13		86	40	164	93	-	-	
18.00	**17.12**	70	132.1	151	3.39	2.19		87	42	165	94	-	-	
20.00	**19.25**	62	126.4	128	4.06	2.63		90	44	168	97	-	-	
22.50	**23.20**	52	122.3	104	4.43	0.75		83	50	152	98	-	-	
25.00	**26.10**	46	137.6	104	4.24	0.75		86	51	153	99	-	-	
28.00	**29.18**	41	132.6	90	4.93	0.98		87	52	156	102	-	-	
31.50	**33.39**	36	142.8	84	4.80	0.99		90	55	157	103	-	-	
35.50	**37.33**	32	132.7	70	5.7	1.0		91	56	158	106	-	-	
40.00	**40.28**	30	127.0	62	6.0	0.261		91	58	160	106	-	-	
45.00	**45.30**	26	142.8	62	5.9	0.261	**MC3PVSF04**	94	59	161	109	-	-	
50.00	**50.64**	24	132.8	52	6.8	0.62	**MC3PVHF04**	95	60	162	110	-	-	220 / 281
56.00	**57.96**	21	145.7	50	6.7	0.69	**MC3PVHT04**	97	62	165	111	-	-	
63.00	**64.79**	19	133.3	41	7.8	1.0		98	63	166	113	-	-	
71.00	**72.86**	16	146.9	40	7.5	0.79		82	47	141	87	-	-	
80.00	**81.44**	15	133.6	32	7.9	0.92		83	48	142	89	-	-	
90.00	**91.60**	13	129.3	28	7.9	0.92		84	50	143	90	-	-	
100.00	**97.56**	12	131.2	27	7.9	0.92		84	50	143	90	-	-	
112.00	**109.73**	11	129.8	23	7.9	0.92		86	51	145	91	-	-	

MC.PV..05, n_1 = 1200rpm														177000 lb-in
7.10	**7.10**	169	156.2	429	0.468	*)		101	48	202	121	-	-	
8.00	**8.00**	150	162.7	397	0.71	0.90		105	52	207	125	-	-	
9.00	**8.87**	135	167.8	369	1.08	1.62		107	55	209	129	-	-	
10.00	**9.78**	123	173.7	347	0.388	*)		111	58	213	131	-	-	
11.20	**11.01**	109	180.5	320	0.68	0.61	**MC2PVSF05**	114	62	216	135	-	-	
12.50	**12.52**	96	167.6	261	1.74	0.95	**MC2PVHF05**	118	66	220	139	-	-	206 / 280
14.00	**14.10**	85	187.7	260	1.21	1.04	**MC2PVHT05**	121	68	224	142	-	-	
16.00	**15.64**	77	178.3	223	2.21	2.35		98	44	186	105	-	-	
18.00	**17.24**	70	178.9	203	2.44	2.40		101	47	189	107	-	-	
20.00	**19.40**	62	166.9	168	3.25	3.01		103	50	192	110	-	-	
22.50	**22.58**	53	137.0	120	4.30	0.70		97	56	174	113	-	-	
25.00	**25.41**	47	154.3	120	4.15	0.70		99	59	177	115	-	-	
28.00	**28.19**	43	171.1	120	4.03	0.70		101	60	178	117	-	-	
31.50	**32.53**	37	176.0	107	4.13	0.97		103	63	181	119	-	-	
35.50	**36.08**	33	178.3	98	4.54	1.16		105	64	184	122	-	-	
40.00	**40.62**	30	165.7	81	5.5	1.51		106	66	185	123	-	-	
45.00	**43.55**	28	160.1	73	5.6	1.02	**MC3PVSF05**	107	67	186	125	-	-	
50.00	**48.31**	25	177.6	73	5.5	1.02	**MC3PVHF05**	109	68	188	126	-	-	222 / 282
56.00	**55.74**	22	182.1	65	5.7	1.28	**MC3PVHT05**	111	71	190	129	-	-	
63.00	**61.84**	19	181.7	58	6.3	1.49		113	72	192	130	-	-	
71.00	**71.06**	17	183.9	51	6.5	0.61		94	54	162	101	-	-	
80.00	**78.83**	15	183.4	46	7.2	0.80		95	55	164	102	-	-	
90.00	**88.73**	14	170.0	38	8.2	1.09		97	56	165	103	-	-	
100.00	**96.36**	12	167.8	34	8.5	1.02		98	58	166	105	-	-	
112.00	**108.46**	11	171.4	31	9.0	1.15		99	59	168	106	-	-	



MC.PV..06, n_1 = 1200rpm								P_{TH}						**221000 lb-in**	
i_N	i_{ex}	n_2 [rpm]	M_{N2} [lb-in] x1000	P_{N1} [HP]	F_{Ra} [lb] x1000	F_{Re} [lb] x1000		$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F	$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F	$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F		
7.10	**6.82**	176	180.1	516	1.22	*)		121	56	243	145	-	-		
8.00	**7.89**	152	205.8	509	0.264	*)		126	62	249	150	-	-		
9.00	**8.85**	136	213.4	470	0.68	1.40		130	67	255	156	-	-		
10.00	**9.82**	122	199.9	397	1.47	*)		134	71	259	160	-	-		
11.20	**11.37**	106	231.3	397	0.134	*)	**MC2PVSF06**	139	76	264	165	-	-		
12.50	**12.04**	100	209.6	340	1.84	*)	**MC2PVHF06**	142	78	266	168	-	-	208	280
14.00	**13.93**	86	241.6	339	0.55	*)	**MC2PVHT06**	146	83	271	173	-	-		
16.00	**15.63**	77	233.7	292	2.61	2.05		118	55	225	127	-	-		
18.00	**17.59**	68	235.4	261	3.14	2.29		122	58	229	131	-	-		
20.00	**19.91**	60	217.5	213	4.42	3.20		126	62	233	135	-	-		
22.50	**22.80**	53	164.0	142	6.4	*)		115	67	208	134	-	-		
25.00	**26.39**	45	189.8	142	6.2	*)		118	70	211	138	-	-		
28.00	**29.61**	41	213.0	142	6.0	*)		121	72	213	139	-	-		
31.50	**32.33**	37	212.1	130	6.2	*)		122	74	216	142	-	-		
35.50	**36.28**	33	233.9	127	6.1	*)		125	76	217	145	-	-		
40.00	**41.07**	29	216.5	104	7.5	0.219		126	79	220	146	-	-		
45.00	**45.96**	26	198.0	85	8.4	0.89	**MC3PVSF06**	129	80	223	149	-	-		
50.00	**51.58**	23	222.3	85	8.2	0.89	**MC3PVHF06**	130	83	224	152	-	-	224	282
56.00	**56.31**	21	220.0	77	8.5	1.15	**MC3PVHT06**	131	84	225	153	-	-		
63.00	**63.20**	19	238.4	74	8.6	1.24		134	86	228	154	-	-		
71.00	**71.10**	17	222.3	62	9.7	0.442		111	64	193	119	-	-		
80.00	**79.80**	15	240.3	59	9.8	0.52		114	66	194	122	-	-		
90.00	**90.32**	13	223.5	49	10.2	0.91		115	67	197	123	-	-		
100.00	**96.73**	12	230.2	47	10.2	0.79		117	68	197	125	-	-		
112.00	**109.49**	11	225.3	41	10.2	1.04		118	70	200	126	-	-		

MC.PV..07, n_1 = 1200rpm														**310000 lb-in**	
7.10	**6.86**	175	231.9	660	1.08	*)		148	70	299	178	-	-		
8.00	**7.73**	155	250.0	632	0.81	0.407		154	75	306	184	-	-		
9.00	**8.68**	138	258.4	581	1.30	1.35		160	80	311	190	-	-		
10.00	**9.65**	124	254.3	514	1.43	*)		165	86	316	196	-	-		
11.20	**10.86**	110	279.7	502	0.66	0.143	**MC2PVSF07**	170	91	322	201	-	-		
12.50	**12.19**	98	267.3	428	2.02	*)	**MC2PVHF07**	176	97	327	207	-	-	210	280
14.00	**13.73**	87	301.0	428	0.63	*)	**MC2PVHT07**	180	101	333	212	-	-		
16.00	**15.42**	78	308.6	390	1.41	0.96		145	66	278	156	-	-		
18.00	**17.66**	68	322.1	356	1.42	0.82		150	71	283	161	-	-		
20.00	**20.25**	59	300.1	289	4.32	2.92		156	76	288	166	-	-		
22.50	**22.38**	54	219.7	194	6.9	0.467		141	82	255	165	-	-		
25.00	**25.20**	48	247.4	194	6.6	0.467		143	86	257	168	-	-		
28.00	**28.31**	42	277.9	194	6.3	0.467		148	89	261	172	-	-		
31.50	**31.86**	38	280.6	174	6.6	0.88		150	91	264	174	-	-		
35.50	**35.78**	34	315.2	174	6.2	0.88		153	94	267	177	-	-		
40.00	**41.02**	29	297.9	143	7.7	1.51		156	97	271	181	-	-		
45.00	**43.89**	27	257.3	116	9.0	1.36	**MC3PVSF07**	157	99	272	182	-	-		
50.00	**49.30**	24	289.0	116	8.7	1.36	**MC3PVHF07**	160	101	275	185	-	-	226	283
56.00	**55.47**	22	291.3	104	9.2	1.75	**MC3PVHT07**	162	103	278	188	-	-		
63.00	**62.31**	19	327.2	104	8.8	1.75		165	106	280	189	-	-		
71.00	**68.66**	17	294.0	85	10.3	0.494		137	78	237	146	-	-		
80.00	**77.12**	16	330.3	85	10	0.494		139	80	239	149	-	-		
90.00	**88.41**	14	306.7	69	11.8	1.06		142	83	241	152	-	-		
100.00	**99.48**	12	283.6	56	11.8	1.15		143	84	244	153	-	-		
112.00	**114.04**	11	309.8	54	11.8	1.25		146	87	245	156	-	-		



MC.PV..08, n_1 = 1200rpm — P_{TH} — 407000 lb-in

i_N	i_{ex}	n_2 [rpm]	M_{N2} [lb-in] x1000	P_{N1} [HP]	F_{Ra} [lb] x1000	F_{Re} [lb] x1000		$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F	$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F	$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F		
7.10	**7.01**	171	298.0	830	2.15	*)		185	87	373	223	-	-		
8.00	**7.89**	152	335.6	830	0.99	*)		193	95	381	231	-	-		
9.00	**8.96**	134	352.4	768	1.34	0.96		200	102	389	239	-	-		
10.00	**9.80**	122	327.2	652	2.53	*)		205	107	394	244	-	-		
11.20	**11.03**	109	368.5	652	1.27	*)	**MC2PVSF08**	212	114	401	251	-	-		
12.50	**12.49**	96	347.1	542	3.05	*)	**MC2PVHF08**	219	121	408	257	-	-	212	280
14.00	**14.06**	85	390.9	542	1.72	*)	**MC2PVHT08**	225	127	414	264	-	-		
16.00	**15.97**	75	417.7	510	1.69	0.83		182	84	346	196	-	-		
18.00	**17.76**	68	419.7	461	2.47	0.92		186	89	351	200	-	-		
20.00	**19.90**	60	391.3	384	4.73	3.09		192	94	357	205	-	-		
22.50	**21.70**	55	331.1	301	6.1	*)		173	101	314	202	-	-		
25.00	**24.43**	49	372.9	301	5.7	*)		177	105	318	207	-	-		
28.00	**27.74**	43	412.2	293	5.5	0.031		181	109	322	211	-	-		
31.50	**31.14**	39	416.7	264	5.7	0.62		185	113	326	215	-	-		
35.50	**35.36**	34	416.1	232	6.7	1.26		188	115	330	219	-	-		
40.00	**39.60**	30	388.8	194	8.3	2.04		192	119	334	223	-	-		
45.00	**43.63**	28	390.2	177	8.3	0.416	**MC3PVSF08**	194	122	337	225	-	-		
50.00	**49.55**	24	419.8	167	8.5	0.71	**MC3PVHF08**	197	125	341	228	-	-	228	283
56.00	**55.61**	22	426.3	151	8.7	1.21	**MC3PVHT08**	201	129	343	232	-	-		
63.00	**63.15**	19	424.6	133	9.8	1.79		204	131	346	235	-	-		
71.00	**69.09**	17	429.3	123	10	0.334		169	97	292	181	-	-		
80.00	**78.46**	15	427.8	108	11.2	0.85		173	101	296	184	-	-		
90.00	**87.87**	14	400.6	90	13.0	1.46		174	102	299	186	-	-		
100.00	**97.27**	12	404.9	82	13.3	1.33		177	105	300	189	-	-		
112.00	**108.95**	11	404.4	73	14.4	1.66		180	107	303	192	-	-		

MC.PV..09, n_1 = 1200rpm — 575000 lb-in

7.10	**6.91**	174	378.5	1069	3.77	*)		213	*)	432	256	-	-		
8.00	**7.99**	150	437.7	1069	3.20	*)		224	111	443	268	-	-		
9.00	**8.97**	134	480.2	1045	2.79	*)		232	119	451	276	-	-		
10.00	**9.53**	126	414.8	849	4.21	*)		236	123	455	280	-	-		
11.20	**11.03**	109	479.6	849	3.58	*)	**MC2PVSF09**	245	133	465	291	-	-		
12.50	**11.77**	102	434.8	721	4.66	*)	**MC2PVHF09**	249	137	469	295	-	-	214	280
14.00	**13.61**	88	502.8	721	4.02	*)	**MC2PVHT09**	259	145	479	304	-	-		
16.00	**15.27**	79	564.2	721	3.22	*)		208	95	398	224	-	-		
18.00	**17.01**	71	568.2	652	3.84	*)		215	101	405	229	-	-		
20.00	**19.26**	62	532.6	540	5.6	*)		221	107	412	237	-	-		
22.50	**21.63**	55	449.5	410	7.5	*)		205	119	373	240	-	-		
25.00	**25.02**	48	519.8	410	6.9	*)		211	125	378	247	-	-		
28.00	**28.08**	43	560.7	394	6.9	*)		216	129	384	251	-	-		
31.50	**30.88**	39	562.6	360	7.1	0.113		219	133	388	255	-	-		
35.50	**34.65**	35	566.2	323	8.1	0.82		223	137	392	259	-	-		
40.00	**39.22**	31	527.5	266	10.1	1.91		227	141	396	263	-	-		
45.00	**44.10**	27	545.6	244	10	0.245	**MC3PVSF09**	231	145	400	267	-	-		
50.00	**49.49**	24	569.1	227	10.5	0.75	**MC3PVHF09**	235	149	404	271	-	-	230	283
56.00	**54.43**	22	570.9	207	10.9	1.34	**MC3PVHT09**	237	152	406	275	-	-		
63.00	**61.08**	20	575.0	186	11.9	1.97		241	154	410	278	-	-		
71.00	**68.03**	18	571.8	166	12.6	*)		201	115	347	215	-	-		
80.00	**76.35**	16	580.1	150	13.6	0.52		204	118	350	219	-	-		
90.00	**86.42**	14	533.5	122	16.1	1.44		208	121	354	221	-	-		
100.00	**93.94**	13	566.6	119	15.7	1.0		209	123	357	224	-	-		
112.00	**106.33**	11	535.5	99	17.9	1.70		212	126	359	227	-	-		

10.3.4 MC.PV.., n_1 = 1000 1/min

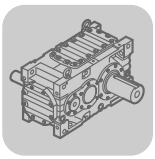
MC.PV..02, n_1 = 1000rpm								P_{TH}						70000 lb-in	
i_N	i_{ex}	n_2 [rpm]	M_{N2} [lb-in] x1000	P_{N1} [HP]	F_{Ra} [lb] x1000	F_{Re} [lb] x1000		$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F	$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F	$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F		
7.10	**7.07**	141	73.0	168	*)	*)		59	30	105	62	-	-		
8.00	**8.18**	122	71.0	141	*)	0.91		62	32	107	64	-	-		
9.00	**9.18**	109	66.7	118	0.87	1.52		64	35	109	67	-	-		
10.00	**9.83**	102	75.1	124	*)	0.325		64	35	110	67	-	-		
11.20	**11.37**	88	71.3	102	0.73	1.26	**MC2PVSF02**	67	38	113	70	-	-		
12.50	**12.31**	81	75.0	99	0.244	0.55	**MC2PVHF02**	68	39	114	71	-	-	200	280
14.00	**14.24**	70	71.5	82	1.32	1.41	**MC2PVHT02**	71	42	115	74	-	-		
16.00	**15.98**	63	68.1	69	1.91	1.76		58	28	97	54	-	-		
18.00	**17.88**	56	68.4	62	2.07	1.77		59	30	98	56	-	-		
20.00	**20.24**	49	63.0	51	2.57	1.89		60	31	99	58	-	-		
22.50	**22.30**	45	75.5	56	1.91	0.72		56	34	91	59	-	-		
25.00	**25.79**	39	71.8	46	2.44	0.74		58	35	93	60	-	-		
28.00	**28.95**	35	67.2	38	2.92	0.76		59	36	94	62	-	-		
31.50	**32.31**	31	71.9	37	2.84	0.76		59	36	94	62	-	-		
35.50	**36.27**	28	67.8	31	3.31	0.77		60	38	95	63	-	-		
40.00	**38.89**	26	76.8	33	2.85	0.66		60	39	97	64	-	-		
45.00	**44.97**	22	71.8	26	3.49	0.83	**MC3PVSF02**	62	40	97	64	-	-		
50.00	**50.47**	20	68.8	22	3.93	0.84	**MC3PVHF02**	63	40	98	66	-	-	216	281
56.00	**56.34**	18	72.2	21	3.94	0.84	**MC3PVHT02**	64	42	99	67	-	-		
63.00	**63.23**	16	69.3	18.1	4.40	0.85		64	42	99	67	-	-		
71.00	**71.20**	14	72.3	16.7	4.47	0.469		54	32	84	52	-	-		
80.00	**79.91**	13	69.6	14.3	4.94	0.61		55	32	86	54	-	-		
90.00	**90.45**	11	64.0	11.7	5.1	0.61		56	34	86	54	-	-		
100.00	**95.36**	10	70.5	12.2	5.1	0.61		56	34	87	55	-	-		
112.00	**107.94**	9.3	64.6	9.9	5.1	0.61		56	35	87	55	-	-		
MC.PV..03, n_1 = 1000rpm														**102000 lb-in**	
7.10	**7.29**	137	93.8	209	1.44	0.412		75	38	130	78	-	-		
8.00	**8.23**	122	98.4	195	1.59	1.18		78	40	134	80	-	-		
9.00	**9.28**	108	95.0	167	2.11	2.00		80	43	135	83	-	-		
10.00	**9.95**	100	103.5	169	1.55	0.269		82	44	138	84	-	-		
11.20	**11.23**	89	103.0	149	2.00	1.48	**MC2PVSF03**	83	47	139	87	-	-		
12.50	**12.70**	79	91.1	117	2.73	1.82	**MC2PVHF03**	86	50	142	90	-	-	202	280
14.00	**14.32**	70	103.7	118	2.51	1.78	**MC2PVHT03**	89	51	145	93	-	-		
16.00	**16.16**	62	97.3	98	3.23	2.15		72	35	121	68	-	-		
18.00	**17.91**	56	97.7	89	3.46	2.13		74	36	122	70	-	-		
20.00	**20.40**	49	90.2	72	4.25	2.29		75	39	125	72	-	-		
22.50	**22.65**	44	100.5	73	3.66	0.95		70	42	113	72	-	-		
25.00	**25.55**	39	103.0	66	4.01	1.10		71	43	114	74	-	-		
28.00	**28.83**	35	96.3	55	4.80	1.17		72	44	115	76	-	-		
31.50	**32.60**	31	102.8	52	4.72	1.17		74	46	118	78	-	-		
35.50	**36.78**	27	97.3	44	5.5	1.19		75	47	119	79	-	-		
40.00	**39.81**	25	104.7	43	5.1	0.97		76	48	119	79	-	-		
45.00	**44.91**	22	105.0	39	5.6	1.14	**MC3PVSF03**	78	50	121	80	-	-		
50.00	**50.67**	20	98.1	32	6.5	1.19	**MC3PVHF03**	78	51	122	82	-	-	218	281
56.00	**57.29**	17	104.0	30	6.5	1.19	**MC3PVHT03**	79	51	123	83	-	-		
63.00	**64.64**	15	99.1	25	6.9	1.20		80	52	125	84	-	-		
71.00	**71.62**	14	104.6	24	6.9	0.80		67	39	105	66	-	-		
80.00	**80.80**	12	99.7	20	6.9	0.81		68	40	106	66	-	-		
90.00	**92.02**	11	92.0	16.5	6.9	0.81		70	42	107	67	-	-		
100.00	**101.82**	9.8	101.8	16.5	6.9	0.81		70	42	109	68	-	-		
112.00	**115.96**	8.6	93.4	13.3	6.9	0.81		71	43	109	68	-	-		

MC.PV..04, n_1 = 1000rpm								P_{TH}						137000 lb-in	
i_N	i_{ex}	n_2 [rpm]	M_{N2} [lb-in] x1000	P_{N1} [HP]	F_{Ra} [lb] x1000	F_{Re} [lb] x1000		$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F	$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F	$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F		
7.10	**7.12**	140	118.5	271	1.55	0.76		94	47	164	98	-	-		
8.00	**8.01**	125	123.4	251	1.87	1.35		97	51	168	101	-	-		
9.00	**8.96**	112	128.4	233	2.16	1.81		99	54	170	105	-	-		
10.00	**9.95**	101	132.0	216	1.59	0.64		102	56	173	107	-	-		
11.20	**11.19**	89	137.5	200	1.95	1.25	**MC2PVSF04**	106	59	176	110	-	-		
12.50	**12.72**	79	134.5	172	2.60	0.94	**MC2PVHF04**	109	62	180	113	-	-	204	280
14.00	**14.31**	70	143.1	163	2.66	1.38	**MC2PVHT04**	111	64	182	115	-	-		
16.00	**16.00**	63	132.4	135	3.69	2.48		90	44	152	86	-	-		
18.00	**17.12**	58	132.5	126	3.88	2.53		91	46	153	87	-	-		
20.00	**19.25**	52	127.1	107	4.55	2.83		94	47	156	90	-	-		
22.50	**23.20**	43	122.2	87	4.98	0.93		87	52	139	90	-	-		
25.00	**26.10**	38	137.5	87	4.82	0.93		89	54	142	93	-	-		
28.00	**29.18**	34	132.7	75	5.5	0.98		90	55	143	94	-	-		
31.50	**33.39**	30	143.9	71	5.4	0.98		91	58	146	97	-	-		
35.50	**37.33**	27	133.1	59	6.4	1.0		94	59	148	98	-	-		
40.00	**40.28**	25	127.0	52	6.6	0.394		94	59	148	98	-	-		
45.00	**45.30**	22	142.9	52	6.5	0.394	**MC3PVSF04**	95	60	150	101	-	-		
50.00	**50.64**	20	133.2	43	7.5	0.75	**MC3PVHF04**	97	62	152	102	-	-	220	281
56.00	**57.96**	17	146.3	42	7.4	0.82	**MC3PVHT04**	98	64	153	103	-	-		
63.00	**64.79**	15	133.3	34	7.9	1.13		99	64	154	105	-	-		
71.00	**72.86**	14	147.5	33	7.9	0.89		83	48	130	80	-	-		
80.00	**81.44**	12	133.4	27	7.9	0.92		84	50	131	82	-	-		
90.00	**91.60**	11	130.1	23	7.9	0.92		86	51	133	83	-	-		
100.00	**97.56**	10	131.4	22	7.9	0.92		86	52	133	83	-	-		
112.00	**109.73**	9.1	131.0	20	7.9	0.92		87	52	134	84	-	-		

MC.PV..05, n_1 = 1000rpm														177000 lb-in	
7.10	**7.10**	141	165.3	378	0.470	*)		106	54	186	111	-	-		
8.00	**8.00**	125	171.7	349	0.76	0.97		110	58	190	115	-	-		
9.00	**8.87**	113	175.9	323	1.23	1.78		114	60	194	118	-	-		
10.00	**9.78**	102	183.6	305	0.401	*)		117	63	197	121	-	-		
11.20	**11.01**	91	186.8	276	0.99	1.01	**MC2PVSF05**	119	67	200	125	-	-		
12.50	**12.52**	80	168.3	219	2.15	1.57	**MC2PVHF05**	123	70	204	129	-	-	206	280
14.00	**14.10**	71	188.3	217	1.89	1.62	**MC2PVHT05**	126	74	208	131	-	-		
16.00	**15.64**	64	179.4	187	2.64	2.81		102	50	172	97	-	-		
18.00	**17.24**	58	179.4	169	2.89	2.88		105	52	174	99	-	-		
20.00	**19.40**	52	168.5	141	3.69	3.23		107	55	177	102	-	-		
22.50	**22.58**	44	136.9	100	4.81	0.88		99	59	162	105	-	-		
25.00	**25.41**	39	154.2	100	4.68	0.88		102	62	164	106	-	-		
28.00	**28.19**	35	171.0	100	4.59	0.88		103	63	166	109	-	-		
31.50	**32.53**	31	176.1	89	4.70	1.15		106	66	168	111	-	-		
35.50	**36.08**	28	179.3	82	5.1	1.33		107	67	170	113	-	-		
40.00	**40.62**	25	166.8	68	6.0	1.68		109	70	172	114	-	-		
45.00	**43.55**	23	160.2	61	6.2	1.21	**MC3PVSF05**	110	70	173	115	-	-		
50.00	**48.31**	21	177.7	61	6.2	1.21	**MC3PVHF05**	111	71	174	117	-	-	222	282
56.00	**55.74**	18	182.1	54	6.4	1.47	**MC3PVHT05**	114	74	176	119	-	-		
63.00	**61.84**	16	182.6	49	6.9	1.66		115	75	177	121	-	-		
71.00	**71.06**	14	184.0	43	7.3	0.75		97	56	150	94	-	-		
80.00	**78.83**	13	184.4	39	7.9	0.93		98	58	152	95	-	-		
90.00	**88.73**	11	171.1	32	8.9	1.22		99	59	153	97	-	-		
100.00	**96.36**	10	167.9	29	9.3	1.15		101	60	154	97	-	-		
112.00	**108.46**	9.2	173.3	26	9.3	1.27		101	62	156	98	-	-		

MC.PV..06, n_1 = 1000rpm								P_{TH}						221000 lb-in	
i_N	i_{ex}	n_2 [rpm]	M_{N2} [lb-in] x1000	P_{N1} [HP]	F_{Ra} [lb] x1000	F_{Re} [lb] x1000		$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F	$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F	$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F		
7.10	**6.82**	147	190.5	454	1.26	*)		127	63	225	133	-	-		
8.00	**7.89**	127	217.2	448	0.293	*)		133	70	231	139	-	-		
9.00	**8.85**	113	225.6	414	0.70	1.47		138	74	235	143	-	-		
10.00	**9.82**	102	210.9	349	1.58	*)		141	76	239	148	-	-		
11.20	**11.37**	88	241.2	345	0.435	*)	**MC2PVSF06**	146	82	244	153	-	-		
12.50	**12.04**	83	220.9	299	1.99	*)	**MC2PVHF06**	148	84	247	154	-	-	208	280
14.00	**13.93**	72	242.0	283	1.84	0.87	**MC2PVHT06**	153	89	251	160	-	-		
16.00	**15.63**	64	235.7	245	3.36	2.66		123	60	209	117	-	-		
18.00	**17.59**	57	236.4	219	3.77	2.84		127	63	212	121	-	-		
20.00	**19.91**	50	218.6	179	5.1	3.44		131	67	216	125	-	-		
22.50	**22.80**	44	164.3	119	7.1	*)		118	71	192	123	-	-		
25.00	**26.39**	38	190.1	119	7.0	*)		122	74	196	127	-	-		
28.00	**29.61**	34	213.3	119	6.8	*)		123	76	197	130	-	-		
31.50	**32.33**	31	212.1	108	7.0	*)		126	78	200	131	-	-		
35.50	**36.28**	28	235.4	107	6.9	*)		127	80	201	134	-	-		
40.00	**41.07**	24	218.3	88	8.3	0.313		130	82	204	135	-	-		
45.00	**45.96**	22	198.0	71	9.2	1.09	**MC3PVSF06**	131	84	207	138	-	-		
50.00	**51.58**	19	222.2	71	9.1	1.09	**MC3PVHF06**	134	86	208	139	-	-	224	282
56.00	**56.31**	18	219.9	64	9.5	1.36	**MC3PVHT06**	135	87	209	141	-	-		
63.00	**63.20**	16	239.6	62	9.5	1.43		137	89	211	143	-	-		
71.00	**71.10**	14	222.6	52	10.2	0.59		114	67	178	111	-	-		
80.00	**79.80**	13	242.1	50	10.2	0.66		117	68	181	113	-	-		
90.00	**90.32**	11	225.2	41	10.2	1.05		118	70	182	114	-	-		
100.00	**96.73**	10	230.2	39	10.2	0.94		119	71	184	115	-	-		
112.00	**109.49**	9.1	227.0	34	10.2	1.17		121	72	185	117	-	-		

MC.PV..07, n_1 = 1000rpm														310000 lb-in	
7.10	**6.86**	146	245.1	581	1.13	*)		157	78	276	164	-	-		
8.00	**7.73**	129	264.0	556	0.86	0.436		164	84	283	170	-	-		
9.00	**8.68**	115	273.1	512	1.36	1.42		168	90	288	176	-	-		
10.00	**9.65**	104	268.0	452	1.56	*)		173	94	294	181	-	-		
11.20	**10.86**	92	295.6	442	0.69	0.145	**MC2PVSF07**	178	99	299	185	-	-		
12.50	**12.19**	82	282.8	377	2.10	*)	**MC2PVHF07**	182	103	303	190	-	-	210	280
14.00	**13.73**	73	316.2	374	0.81	*)	**MC2PVHT07**	188	109	308	196	-	-		
16.00	**15.42**	65	323.6	341	1.70	1.10		152	74	256	143	-	-		
18.00	**17.66**	57	325.7	300	2.73	1.38		157	78	261	149	-	-		
20.00	**20.25**	49	302.0	243	5.0	3.48		161	83	267	154	-	-		
22.50	**22.38**	45	220.3	162	7.7	0.71		146	87	236	152	-	-		
25.00	**25.20**	40	248.1	162	7.5	0.71		149	90	239	156	-	-		
28.00	**28.31**	35	278.7	162	7.1	0.71		152	93	243	158	-	-		
31.50	**31.86**	31	282.7	146	7.4	1.10		154	95	245	161	-	-		
35.50	**35.78**	28	317.6	146	7.0	1.10		157	98	248	164	-	-		
40.00	**41.02**	24	300.5	121	8.6	1.74		160	101	251	168	-	-		
45.00	**43.89**	23	257.4	97	10	1.64	**MC3PVSF07**	161	102	252	169	-	-		
50.00	**49.30**	20	289.2	97	9.8	1.64	**MC3PVHF07**	164	105	255	172	-	-	226	283
56.00	**55.47**	18	291.4	86	10.2	2.04	**MC3PVHT07**	166	107	257	173	-	-		
63.00	**62.31**	16	327.3	86	9.9	2.04		168	109	260	176	-	-		
71.00	**68.66**	15	294.1	71	11.5	0.69		141	82	220	135	-	-		
80.00	**77.12**	13	330.4	71	11.2	0.69		142	83	221	138	-	-		
90.00	**88.41**	11	308.1	57	11.8	1.24		145	86	224	139	-	-		
100.00	**99.48**	10	283.3	47	11.8	1.34		146	87	225	142	-	-		
112.00	**114.04**	8.8	312.8	45	11.8	1.42		149	90	228	145	-	-		



MC.PV..08, n_1 = 1000rpm								P_{TH}						407000 lb-in
i_N	i_{ex}	n_2 [rpm]	M_{N2} [lb-in] x1000	P_{N1} [HP]	F_{Ra} [lb] x1000	F_{Re} [lb] x1000		$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F	$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F	$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F	
7.10	**7.01**	143	315.2	732	2.24	*)		197	99	345	205	-	-	
8.00	**7.89**	127	354.9	732	1.02	*)		204	106	353	212	-	-	
9.00	**8.96**	112	372.2	676	1.42	1.01		211	113	359	220	-	-	
10.00	**9.80**	102	346.1	574	2.64	*)		216	118	365	225	-	-	
11.20	**11.03**	91	389.7	574	1.31	*)	**MC2PVSF08**	221	123	371	232	-	-	
12.50	**12.49**	80	366.4	477	3.23	*)	**MC2PVHF08**	228	130	378	237	-	-	212
14.00	**14.06**	71	412.6	477	1.83	*)	**MC2PVHT08**	233	135	384	244	-	-	
16.00	**15.97**	63	420.1	428	3.12	1.54		190	93	321	180	-	-	
18.00	**17.76**	56	420.7	385	4.00	1.67		194	97	325	185	-	-	
20.00	**19.90**	50	394.6	323	5.5	3.74		200	102	330	190	-	-	
22.50	**21.70**	46	330.8	251	7.0	0.211		178	106	291	186	-	-	
25.00	**24.43**	41	372.6	251	6.6	0.210		182	110	295	190	-	-	
28.00	**27.74**	36	414.1	246	6.4	0.339		186	114	299	194	-	-	
31.50	**31.14**	32	417.1	220	6.7	0.95		190	118	302	198	-	-	
35.50	**35.36**	28	419.4	195	7.6	1.56		193	121	306	202	-	-	
40.00	**39.60**	25	393.0	163	9.2	2.33		197	125	310	205	-	-	
45.00	**43.63**	23	387.2	146	9.4	0.79	**MC3PVSF08**	198	126	312	208	-	-	
50.00	**49.55**	20	423.7	141	9.5	0.99	**MC3PVHF08**	202	130	315	212	-	-	228
56.00	**55.61**	18	427.6	127	9.8	1.53	**MC3PVHT08**	205	133	318	215	-	-	
63.00	**63.15**	16	427.5	111	11.0	2.10		208	135	322	217	-	-	
71.00	**69.09**	14	430.9	103	11.2	0.57		173	101	271	168	-	-	
80.00	**78.46**	13	430.5	90	12.4	1.09		177	103	275	170	-	-	
90.00	**87.87**	11	403.4	76	14.2	1.70		178	106	276	173	-	-	
100.00	**97.27**	10	405.0	69	14.7	1.57		181	109	279	176	-	-	
112.00	**108.95**	9.2	407.9	62	15.0	1.72		182	110	282	177	-	-	

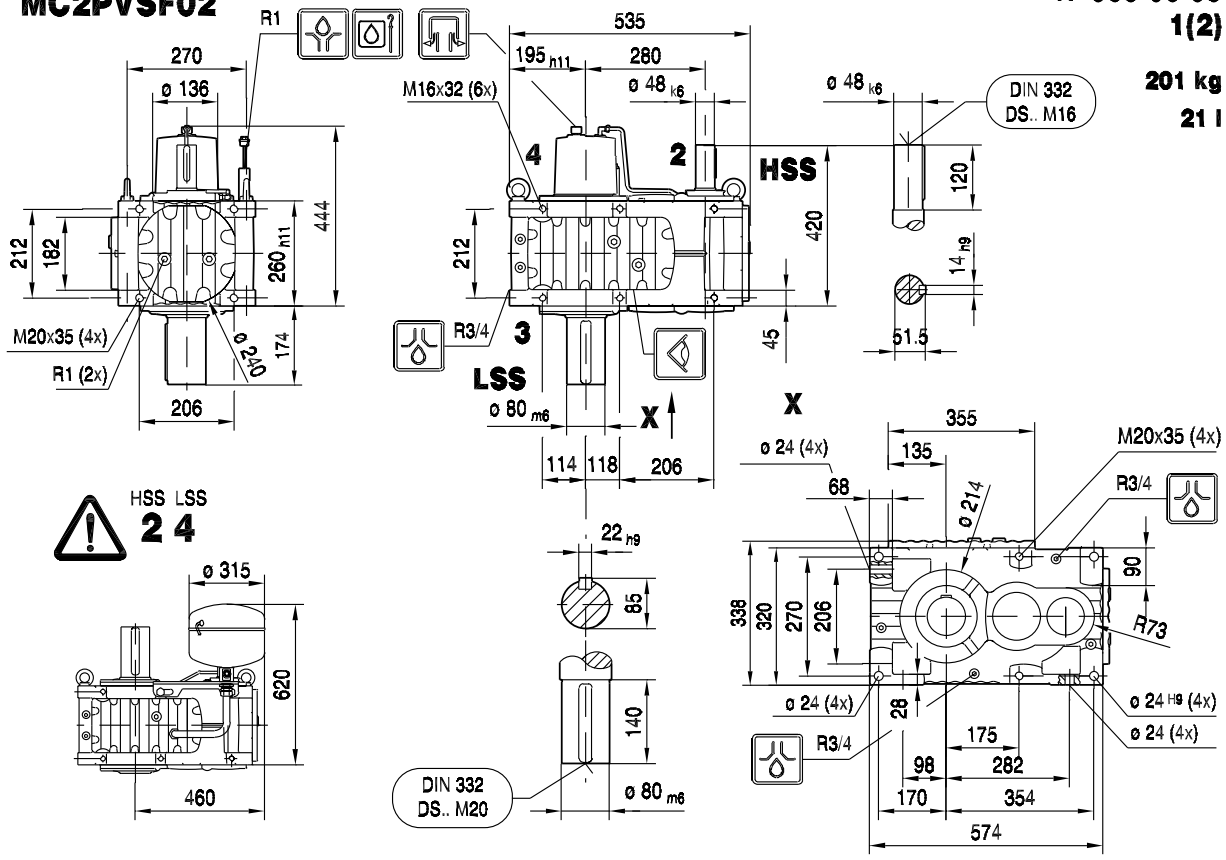
MC.PV..09, n_1 = 1000rpm														575000 lb-in
7.10	**6.91**	145	399.9	941	3.98	*)		227	114	398	236	-	-	
8.00	**7.99**	125	462.4	941	3.37	*)		237	123	409	247	-	-	
9.00	**8.97**	112	507.2	920	2.94	*)		244	130	417	255	-	-	
10.00	**9.53**	105	438.3	748	4.44	*)		248	134	421	259	-	-	
11.20	**11.03**	91	506.9	748	3.78	*)	**MC2PVSF09**	257	143	430	268	-	-	
12.50	**11.77**	85	460.0	636	4.90	*)	**MC2PVHF09**	260	148	434	272	-	-	214
14.00	**13.61**	73	531.9	636	4.22	*)	**MC2PVHT09**	270	156	443	280	-	-	
16.00	**15.27**	65	569.5	606	4.20	*)		219	105	369	207	-	-	
18.00	**17.01**	59	571.6	546	4.75	*)		224	110	374	212	-	-	
20.00	**19.26**	52	535.0	452	6.6	1.07		231	117	381	219	-	-	
22.50	**21.63**	46	452.1	344	8.5	*)		212	126	345	221	-	-	
25.00	**25.02**	40	522.8	344	8.0	*)		217	131	351	228	-	-	
28.00	**28.08**	36	564.1	331	8.0	*)		223	135	355	232	-	-	
31.50	**30.88**	32	570.5	304	8.1	0.409		225	139	358	236	-	-	
35.50	**34.65**	29	567.6	270	9.3	1.20		229	143	362	240	-	-	
40.00	**39.22**	26	528.5	222	11.4	2.29		233	148	367	244	-	-	
45.00	**44.10**	23	544.4	203	11.3	0.68	**MC3PVSF09**	236	150	370	248	-	-	
50.00	**49.49**	20	575.0	191	11.7	1.10	**MC3PVHF09**	240	154	374	251	-	-	230
56.00	**54.43**	18	570.9	173	12.3	1.76	**MC3PVHT09**	243	157	377	253	-	-	
63.00	**61.08**	16	581.6	157	13.3	2.32		245	160	381	257	-	-	
71.00	**68.03**	15	570.9	138	14.1	0.311		205	119	322	198	-	-	
80.00	**76.35**	13	583.4	126	15.1	0.80		209	122	325	202	-	-	
90.00	**86.42**	12	533.5	102	17.7	1.74		212	126	329	205	-	-	
100.00	**93.94**	11	567.0	99	17.4	1.29		213	127	330	207	-	-	
112.00	**106.33**	9.4	535.4	83	18.0	2.00		216	130	333	211	-	-	

10.3.5 MC.PV.. [mm]

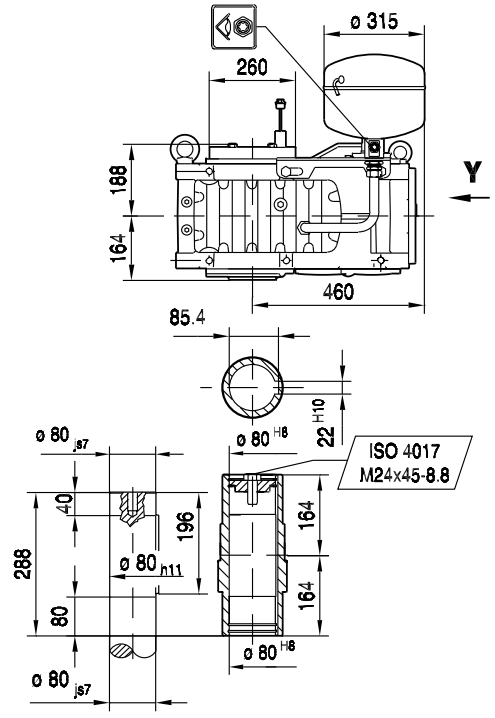
47 065 00 03
1(2)

201 kg
21 l

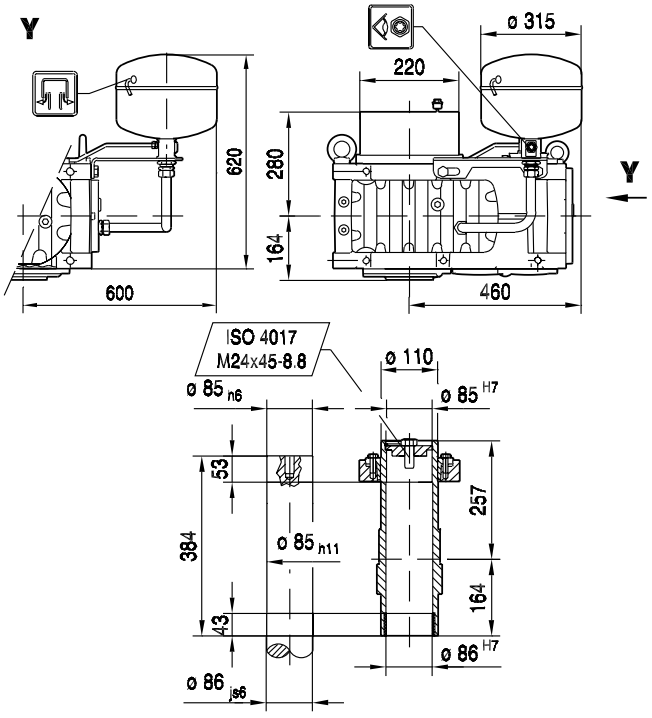
MC2PVSF02



MC2PVHF02



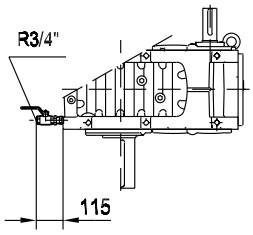
MC2PVHF02 /SD



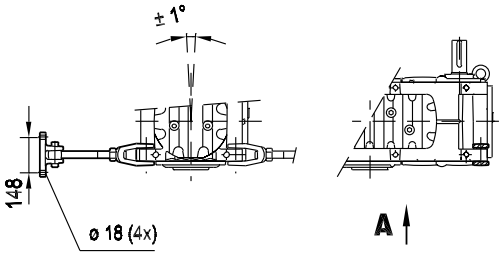
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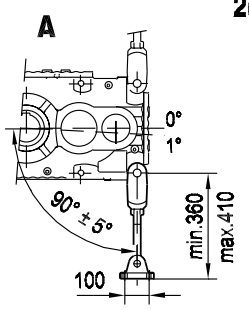
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2(2)

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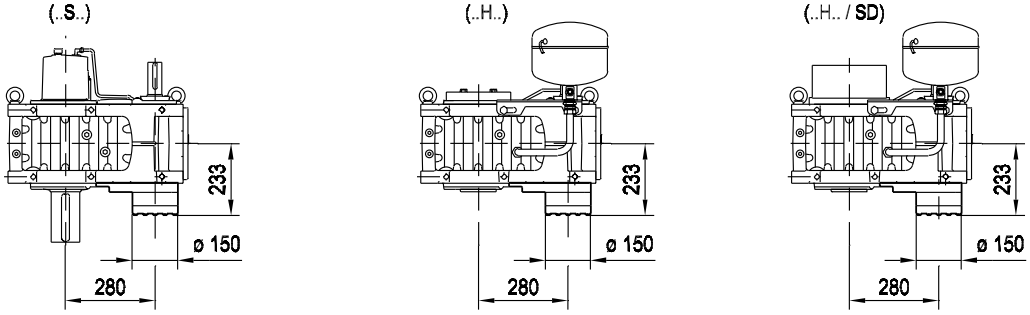


MC2PVH **T** 02

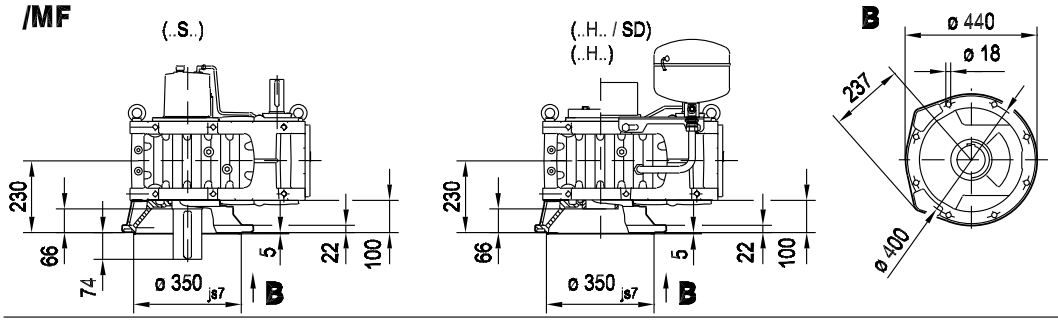




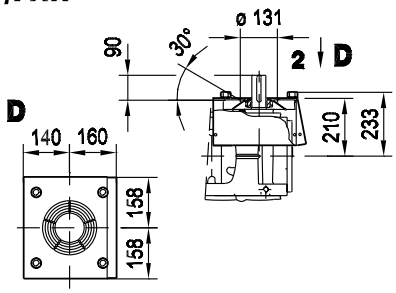
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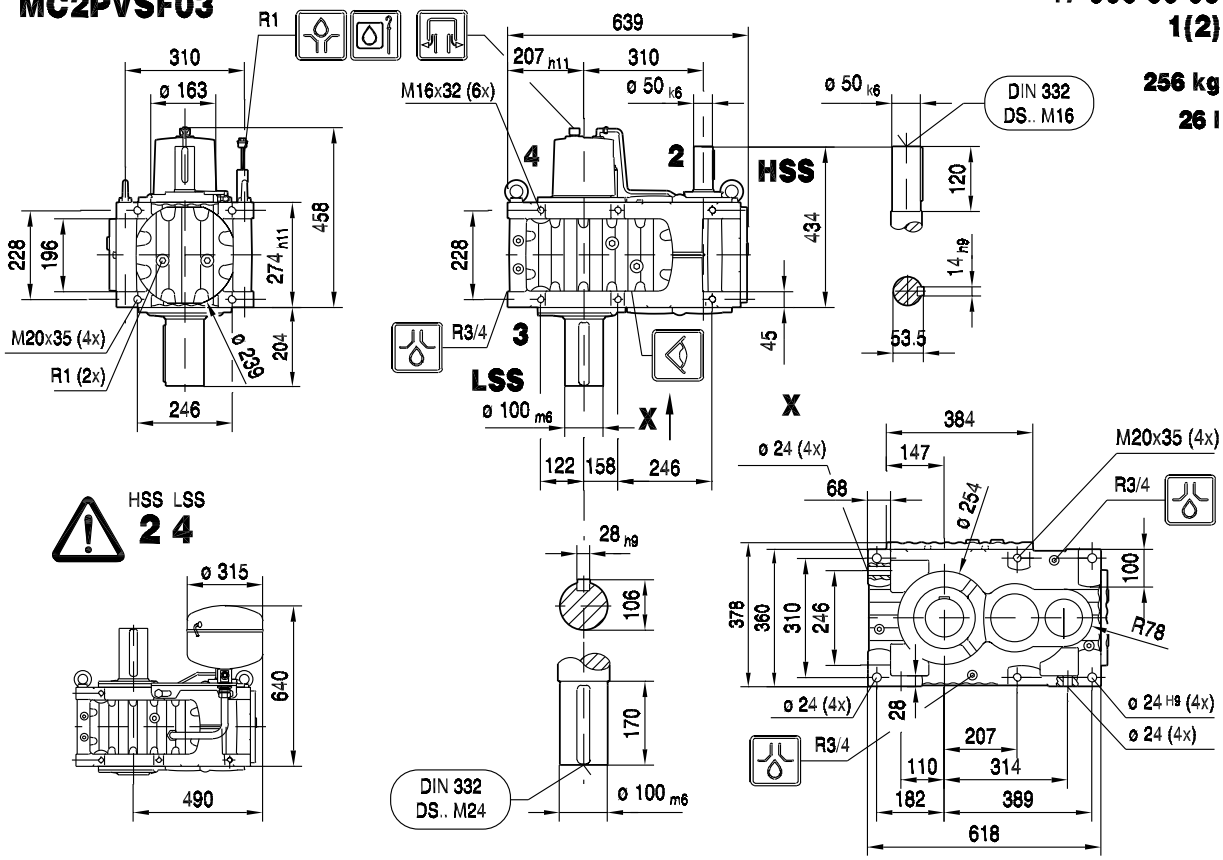
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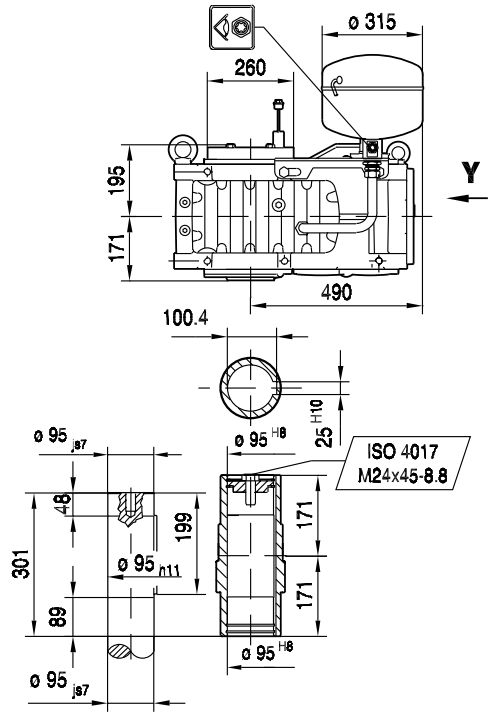
MC2PVSF03

47 066 00 03
1(2)

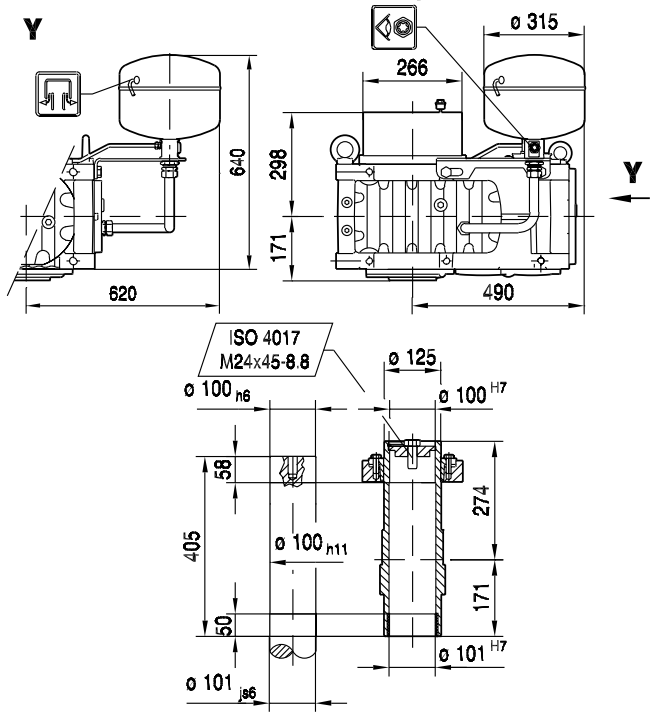
256 kg
26 l



MC2PVHF03



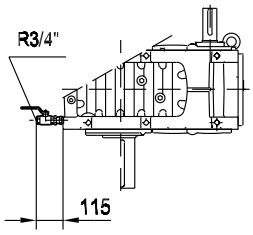
MC2PVHF03 /SD



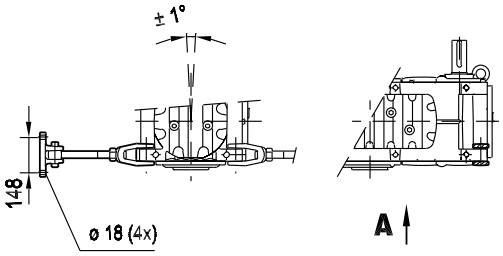
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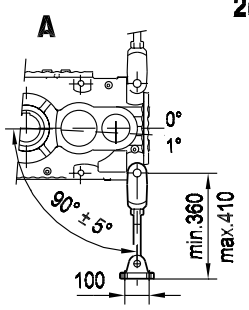
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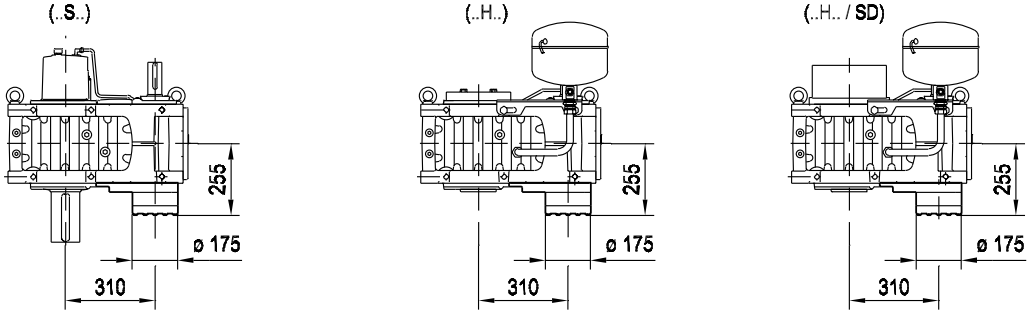


MC2PVH **T** 03

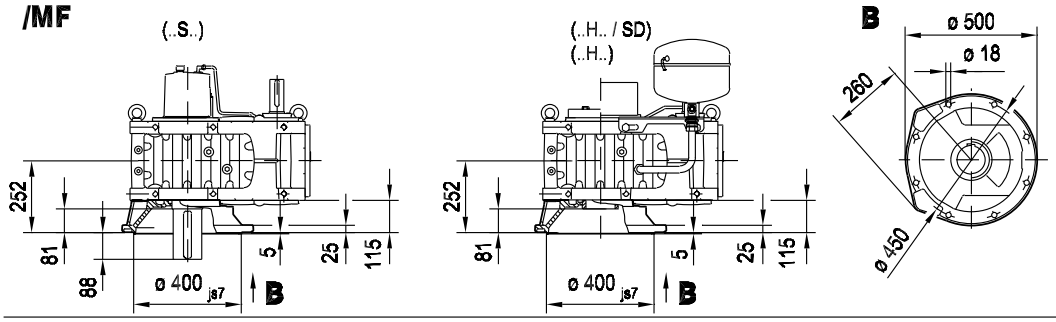




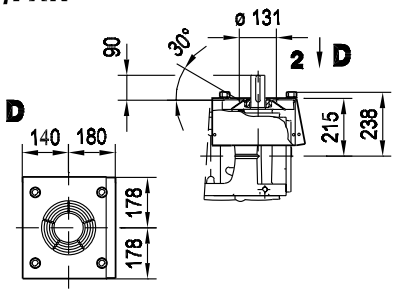
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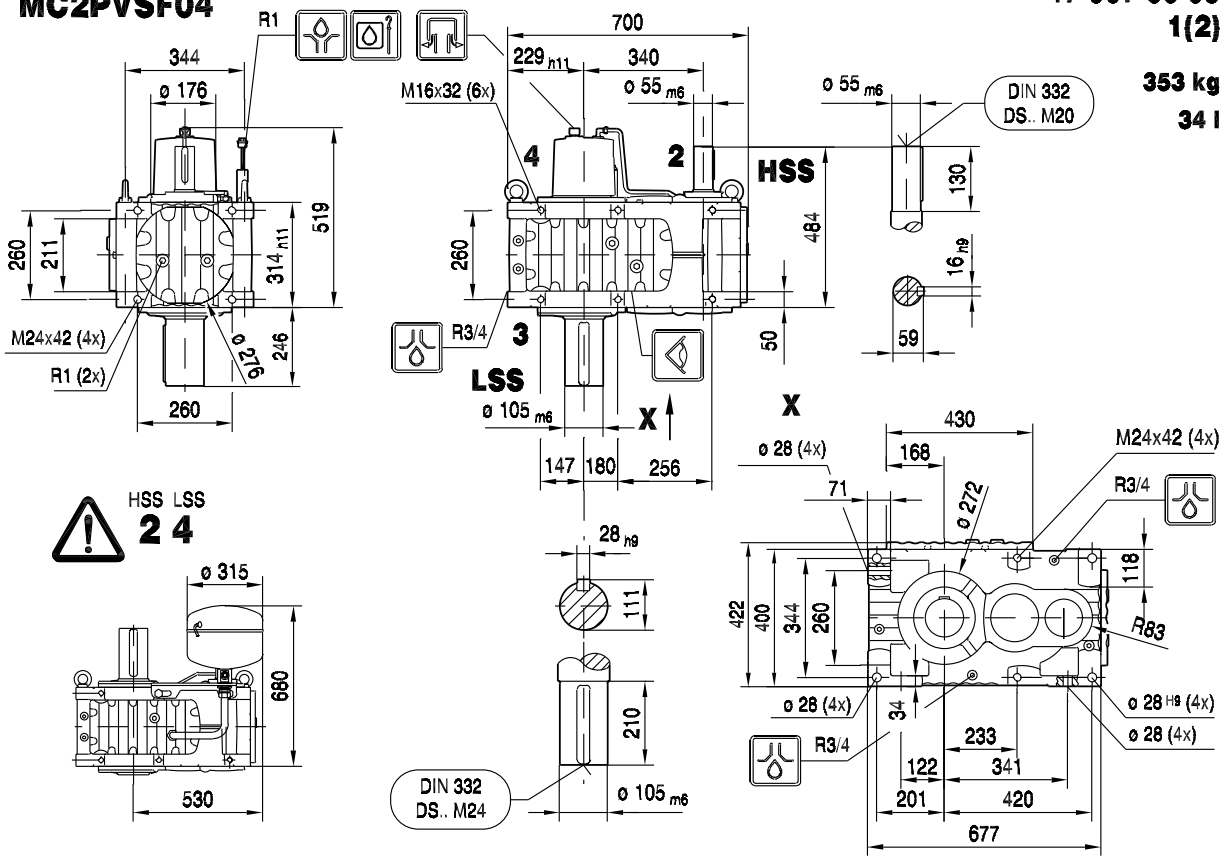


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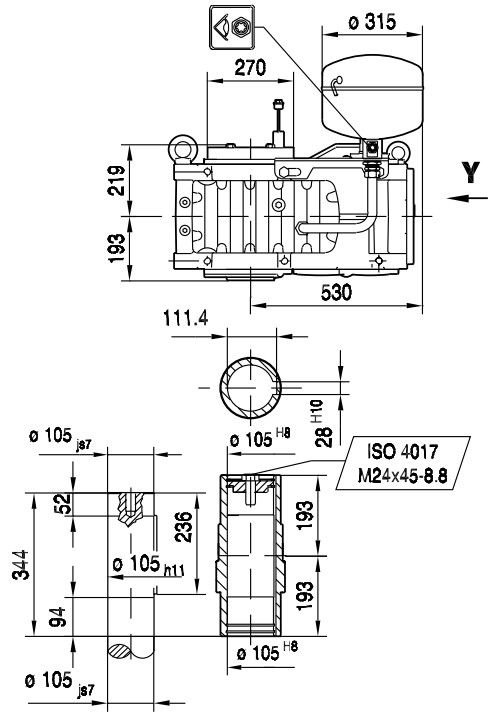


MC2PVSF04

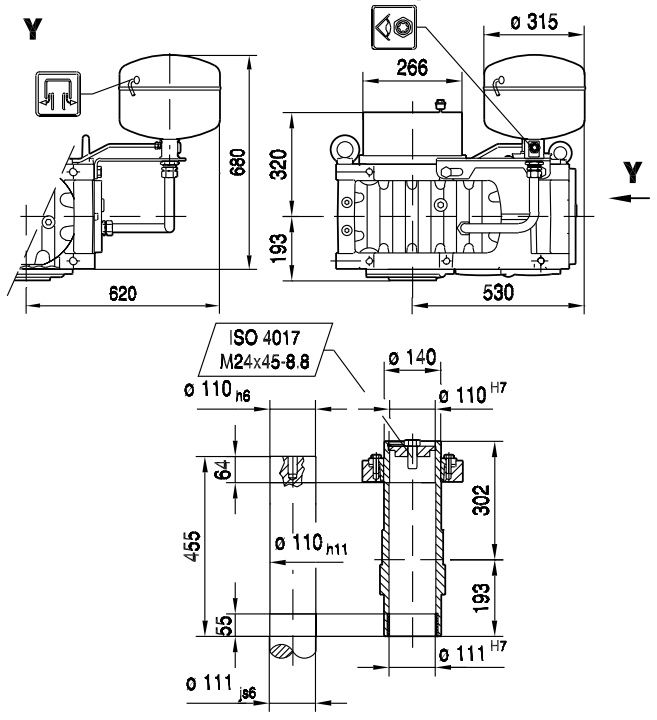
47 067 00 03
1(2)
353 kg
34 l



MC2PVHF04



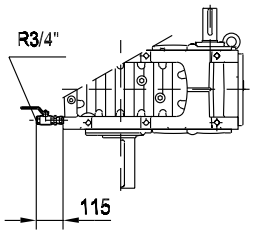
MC2PVHF04 /SD



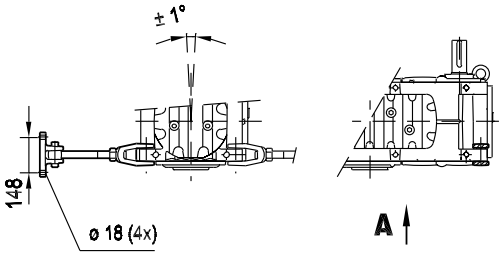
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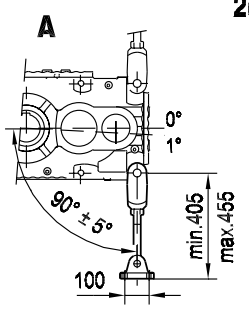
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2(2)

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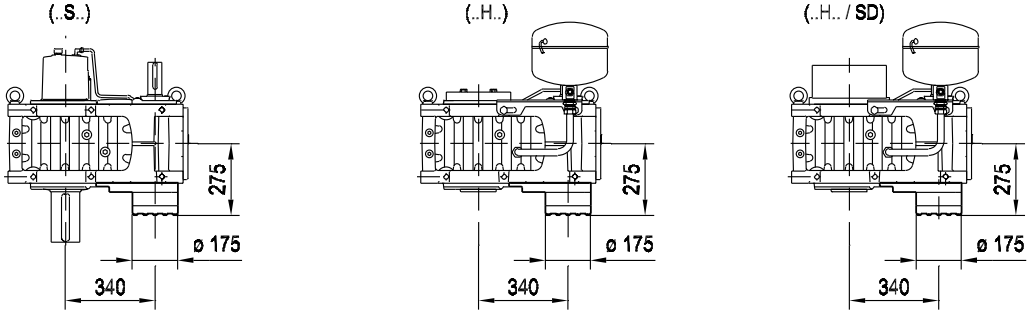


MC2PVH **T** 04

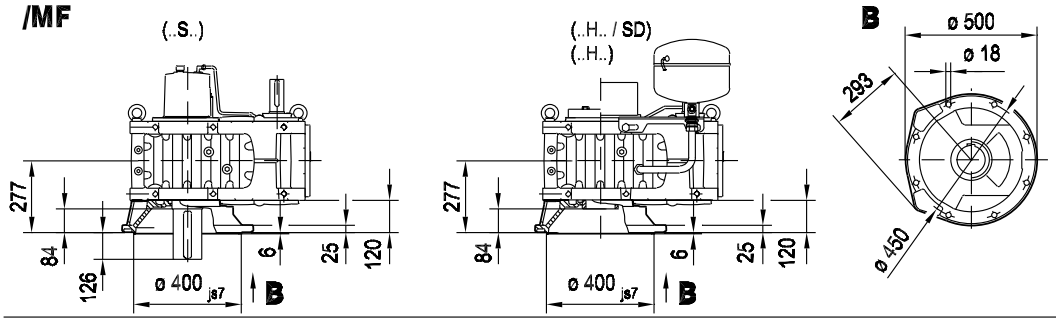




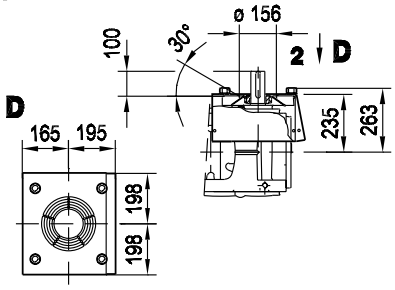
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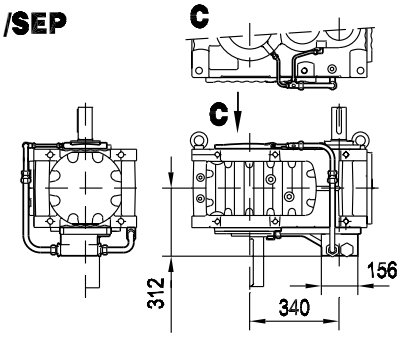
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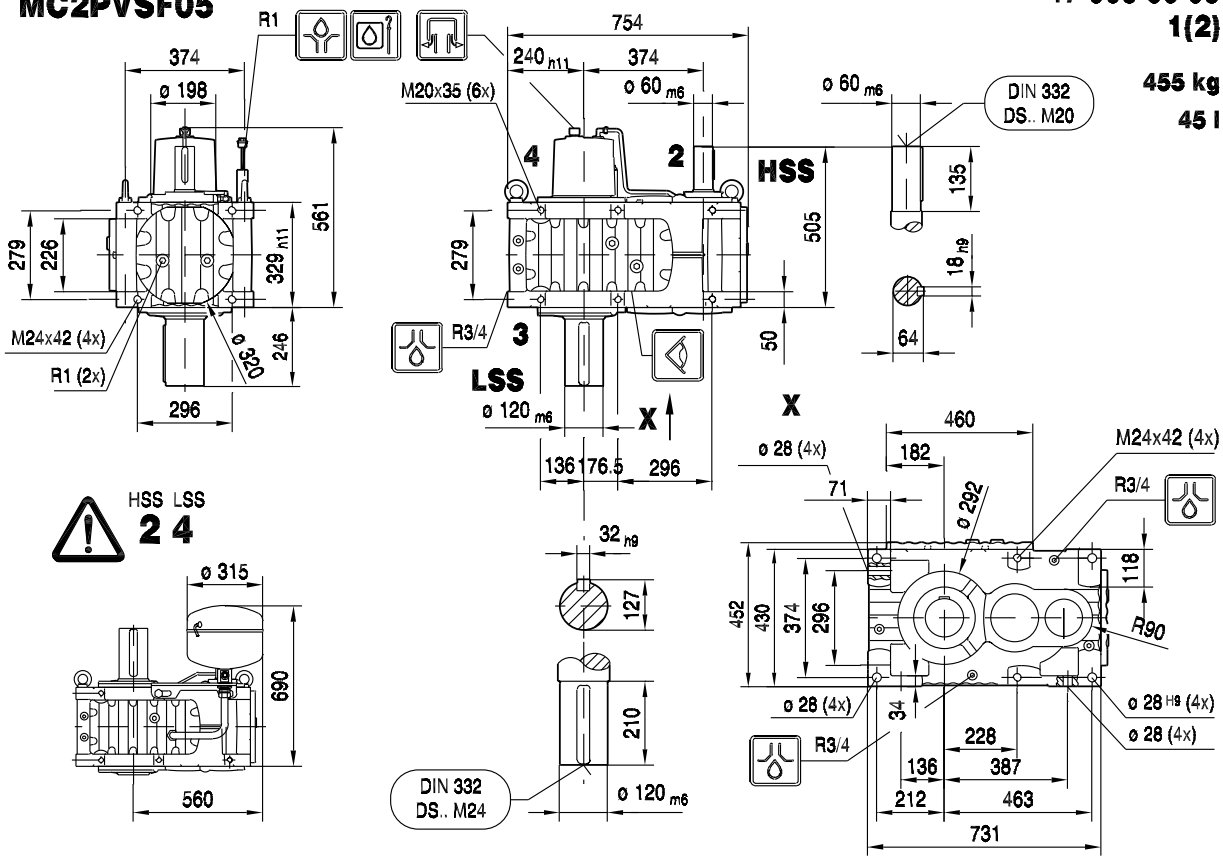


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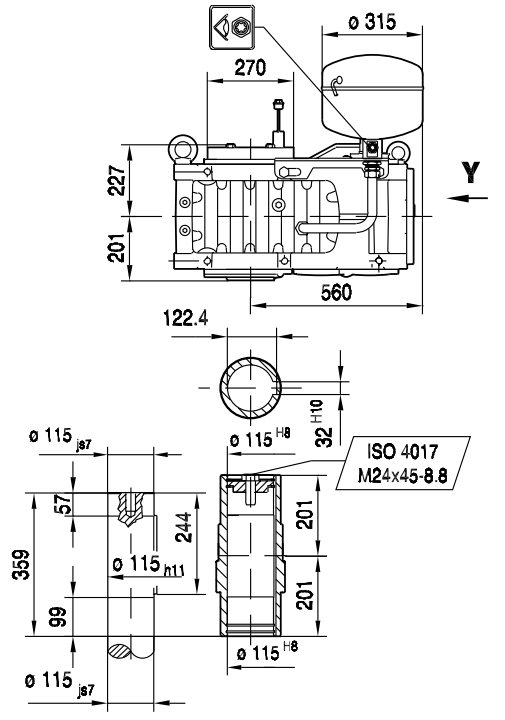


MC2PVSF05

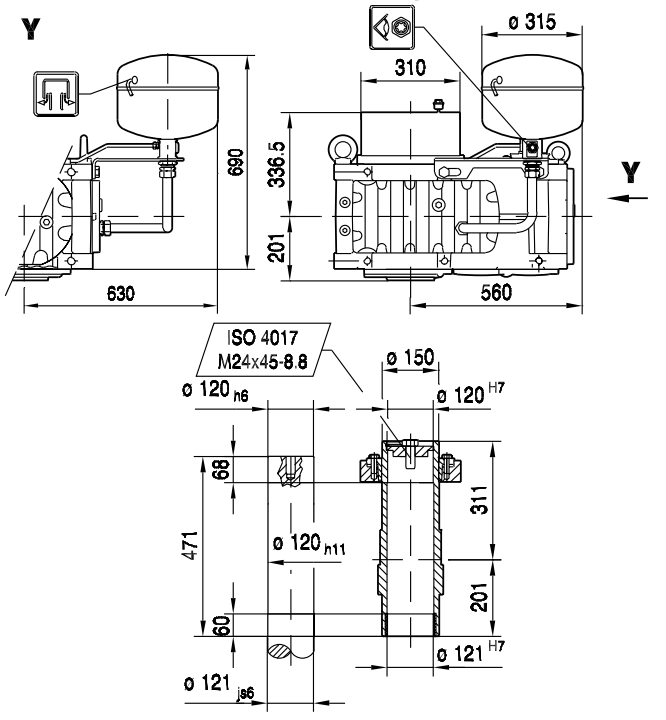
47 068 00 03
1(2)
455 kg
45 l



MC2PVHF05



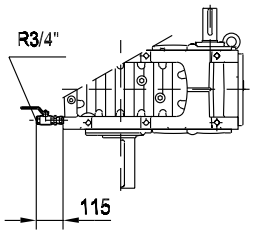
MC2PVHF05 /SD



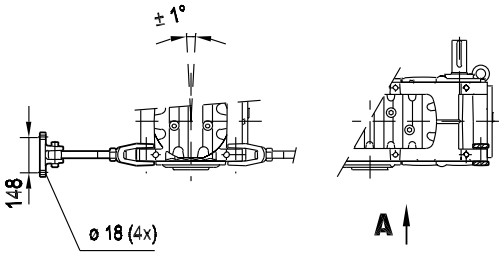
MC2PV..05

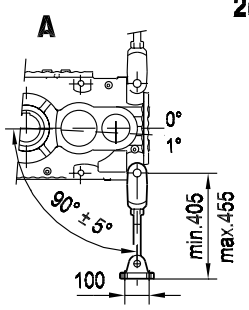
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2(2)

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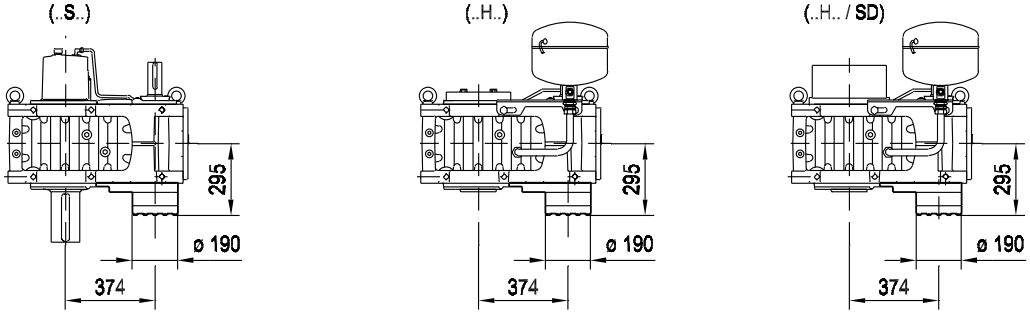


MC2PVH **T** 05

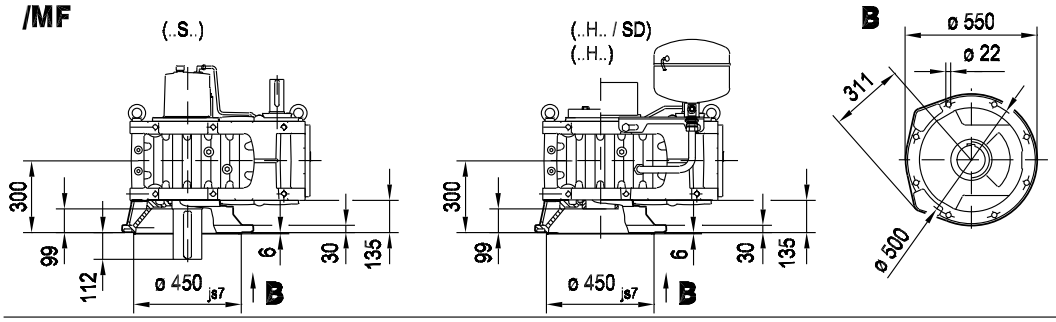




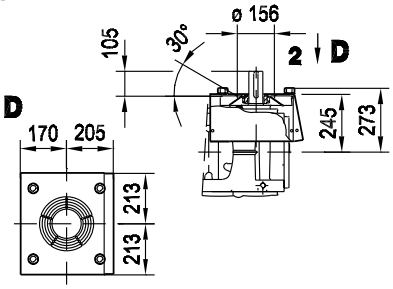
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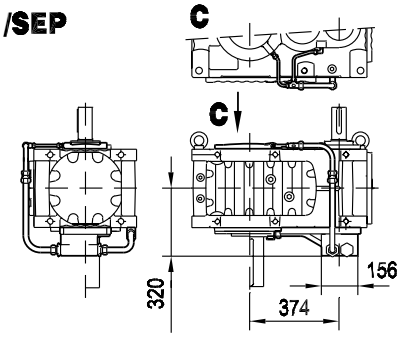
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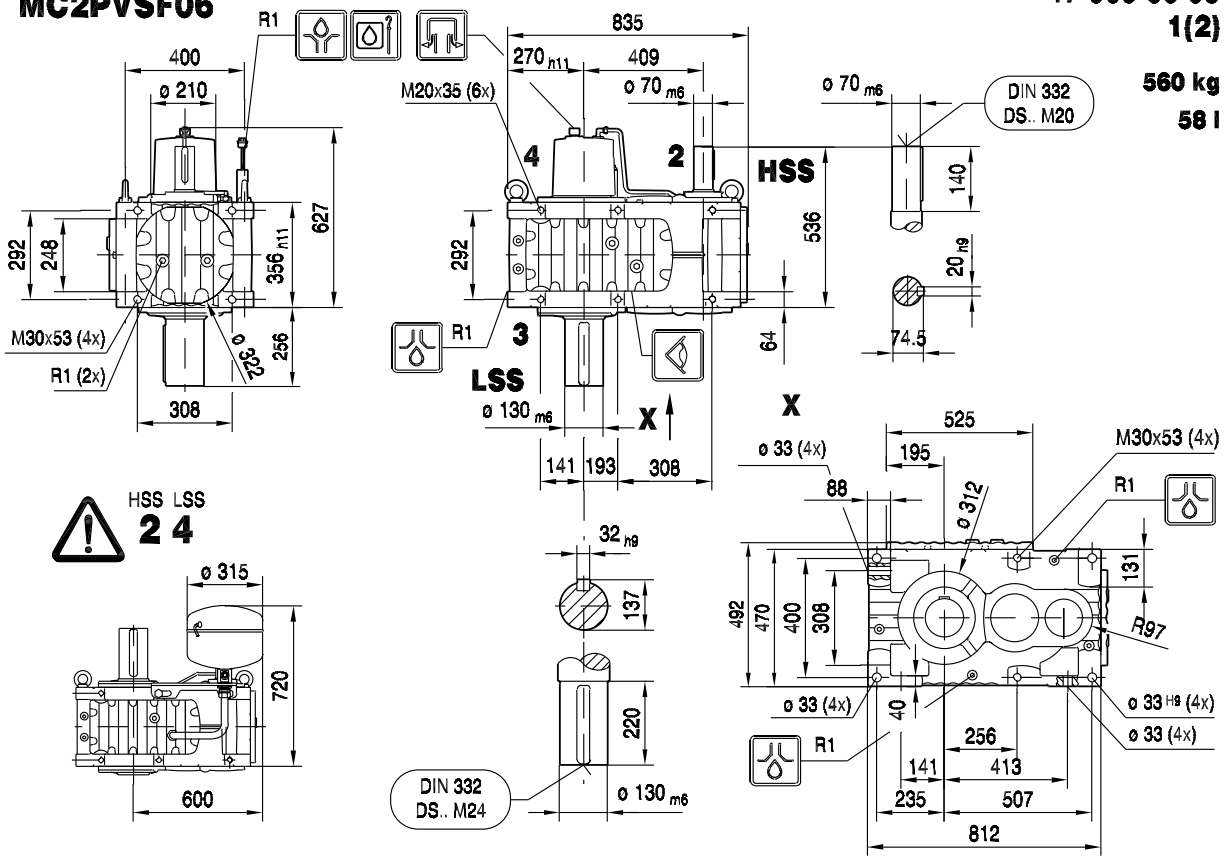


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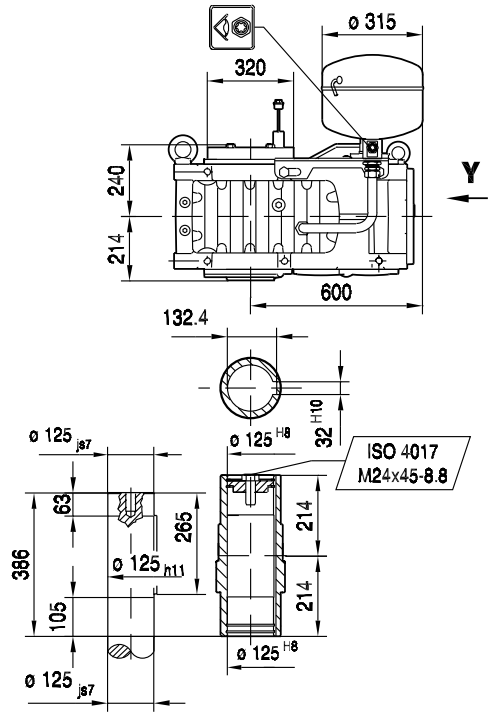
MC2PVSF06

47 069 00 03
1(2)

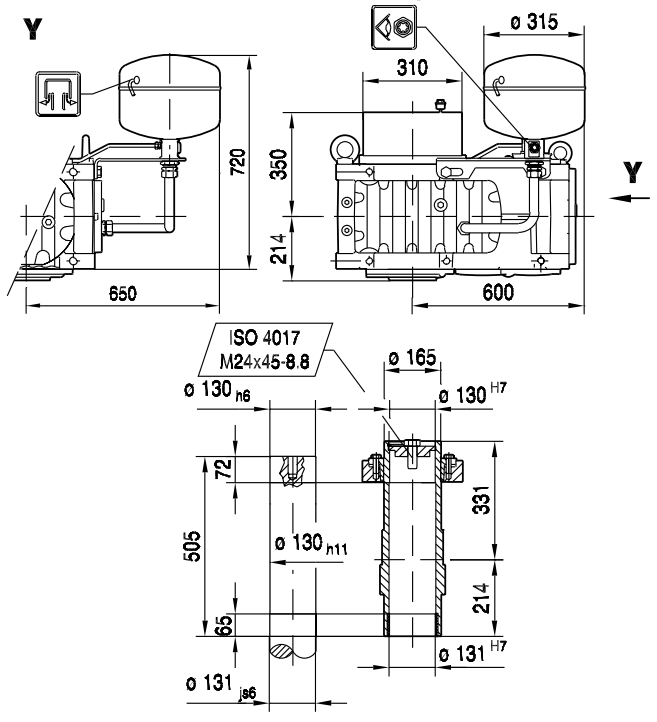
560 kg
58 l



MC2PVHF06



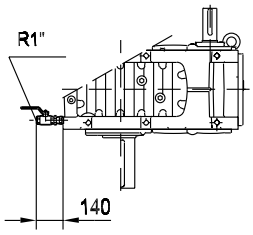
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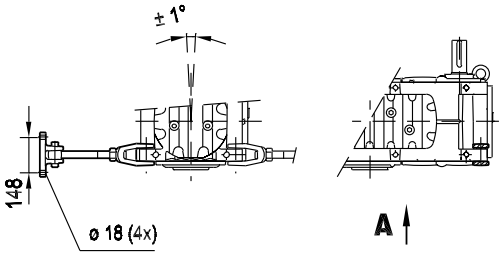
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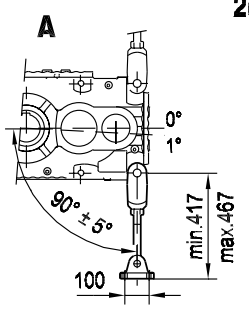
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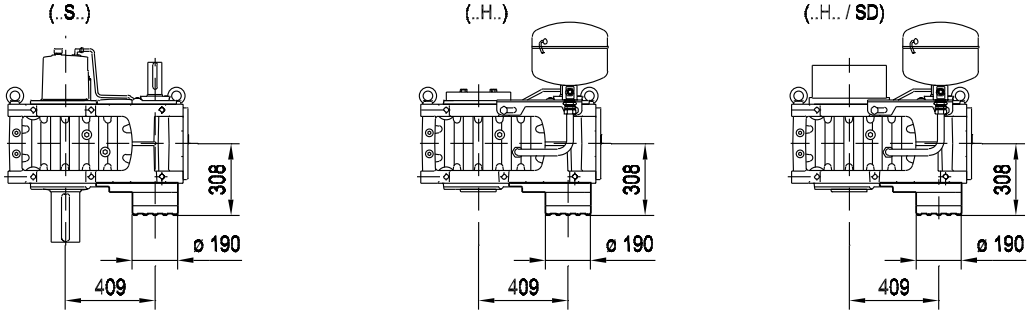


MC2PVH **T** 06

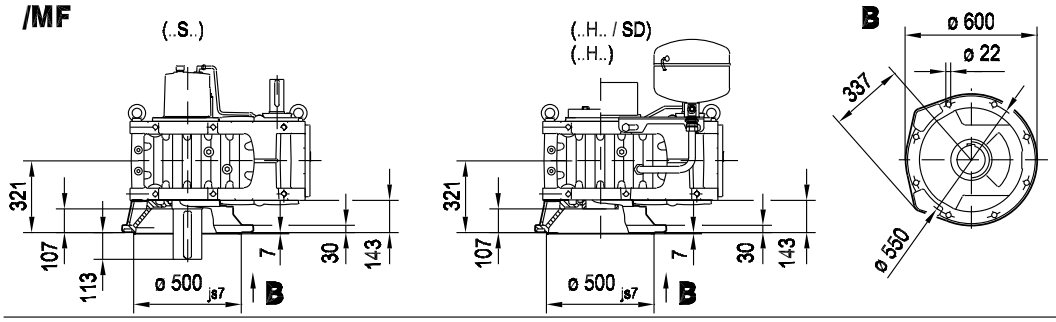




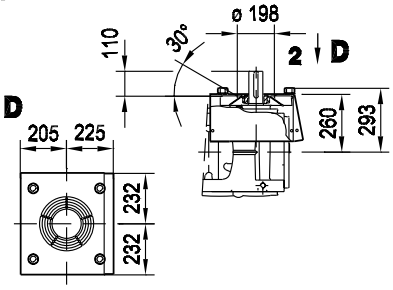
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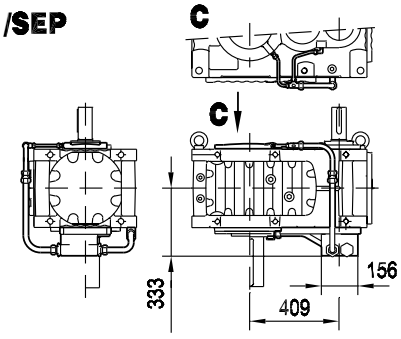
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/FAN



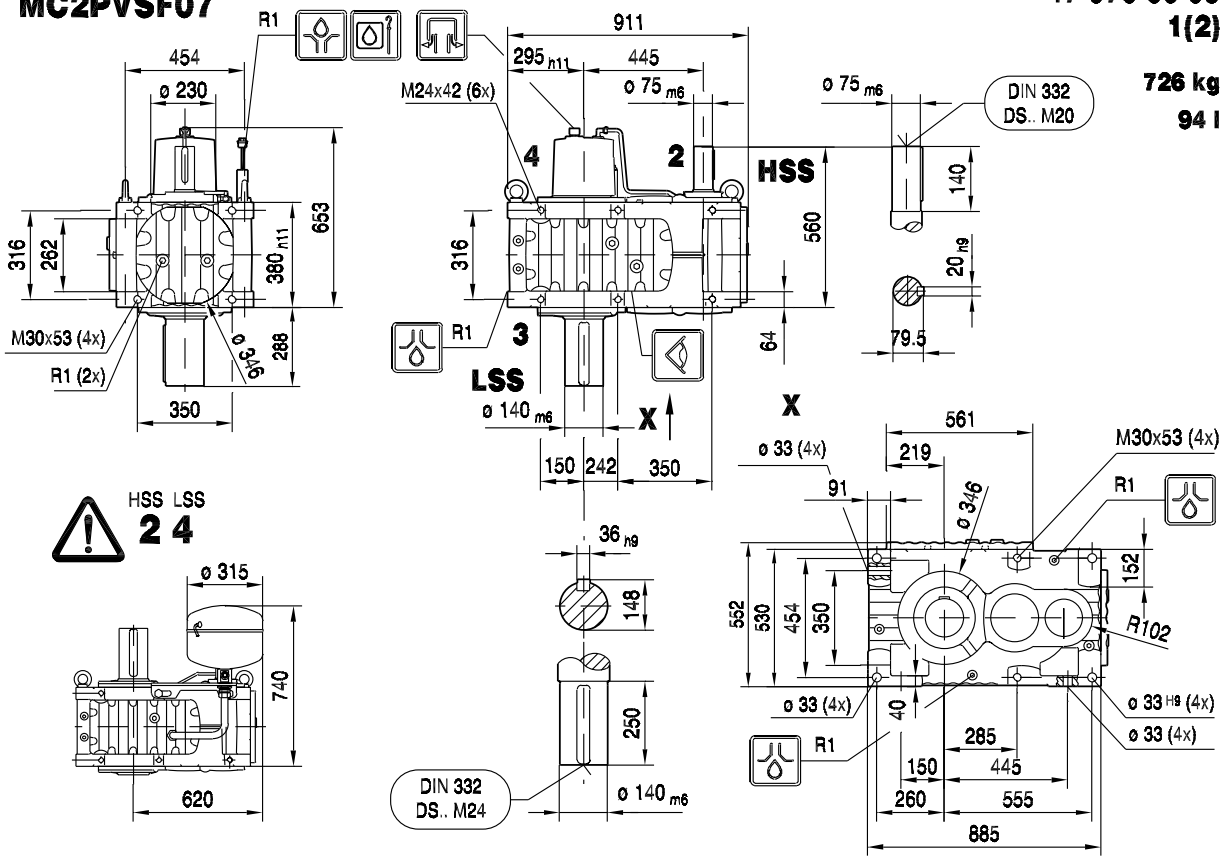
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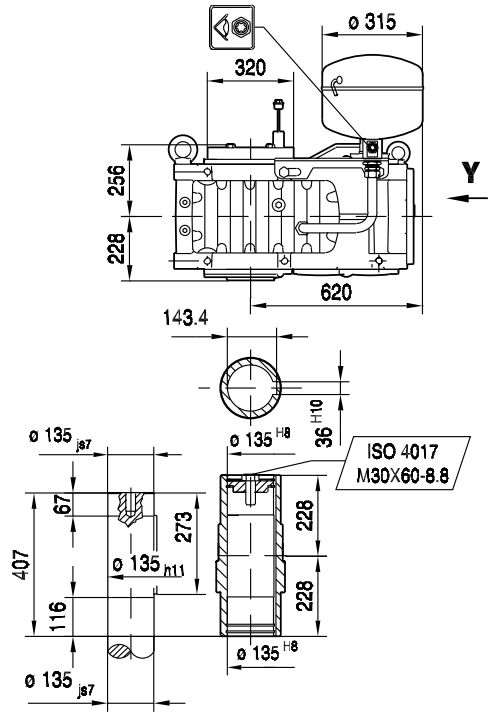
MC2PVSF07

47 070 00 03
1(2)

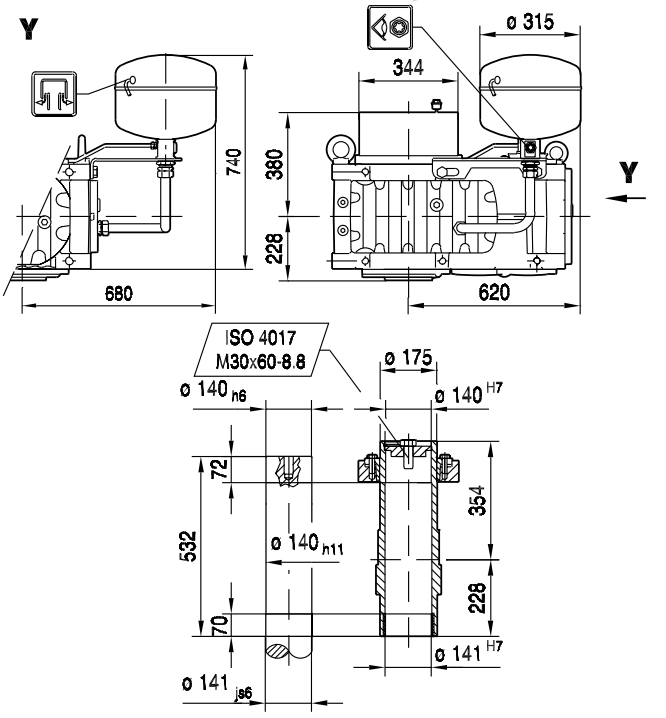
726 kg
94 l



MC2PVHF07



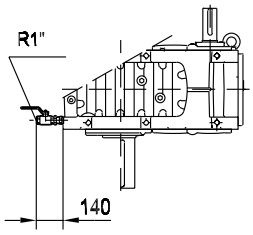
MC2PVHF07 /SD



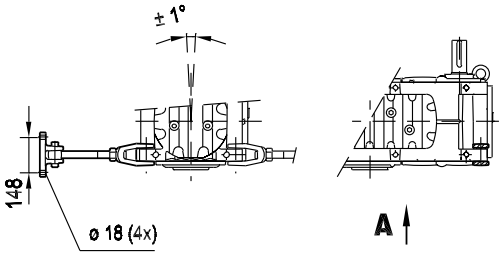
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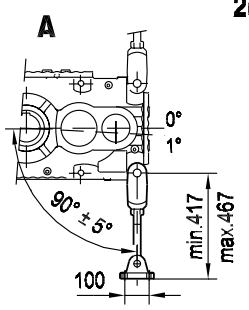
47 070 00 03
2(2)

/ODV

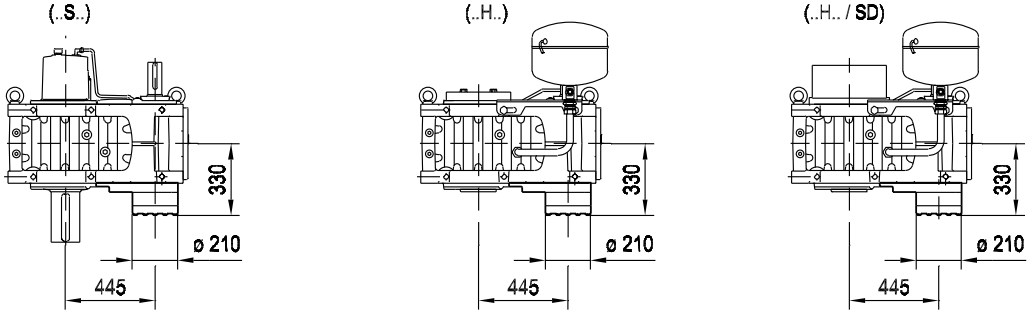


MC2PVH **T** 07

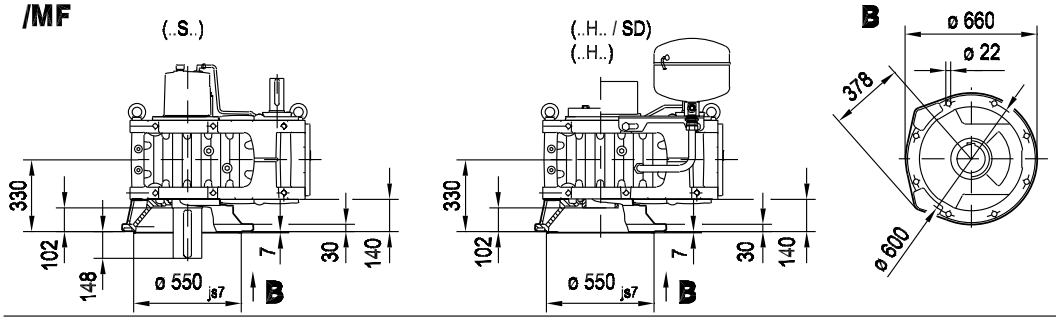




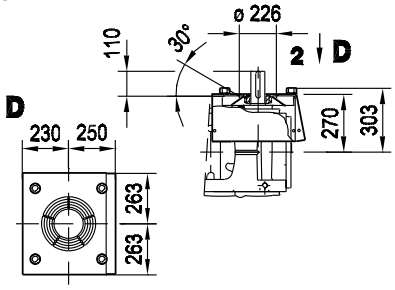
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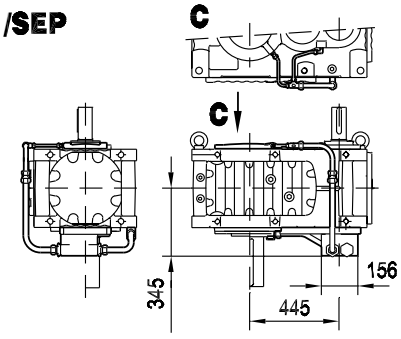
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/FAN



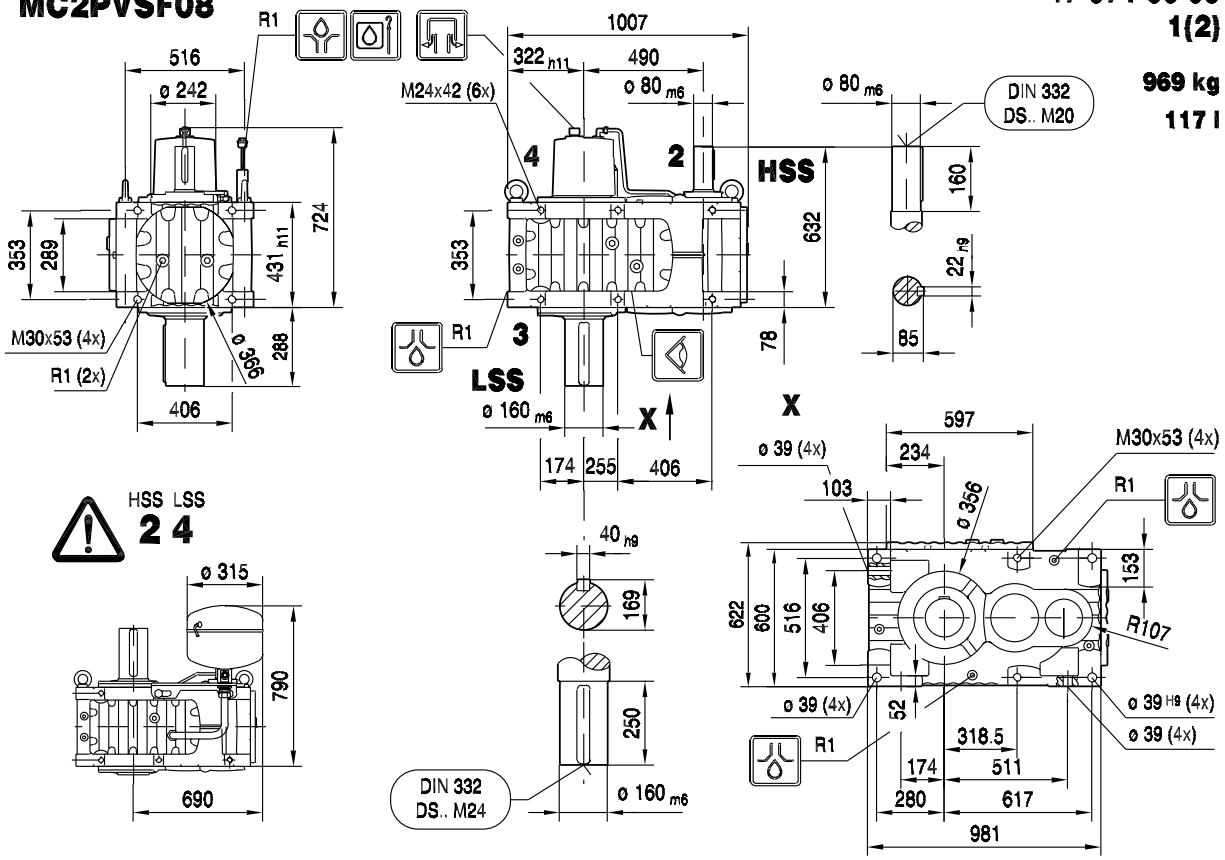
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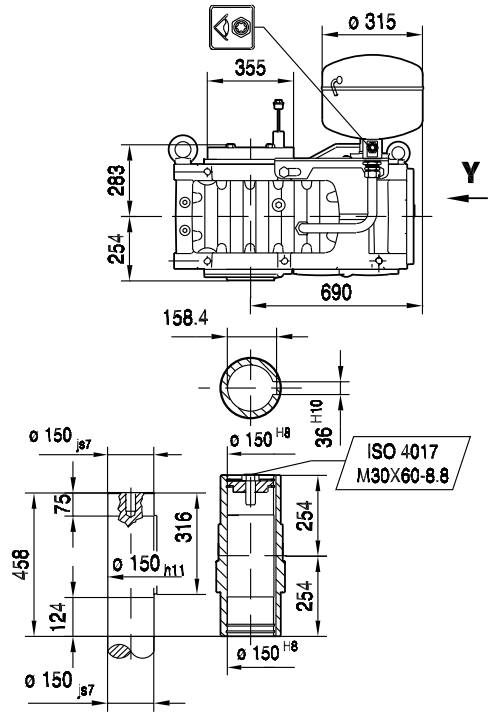
10

MC2PVSF08

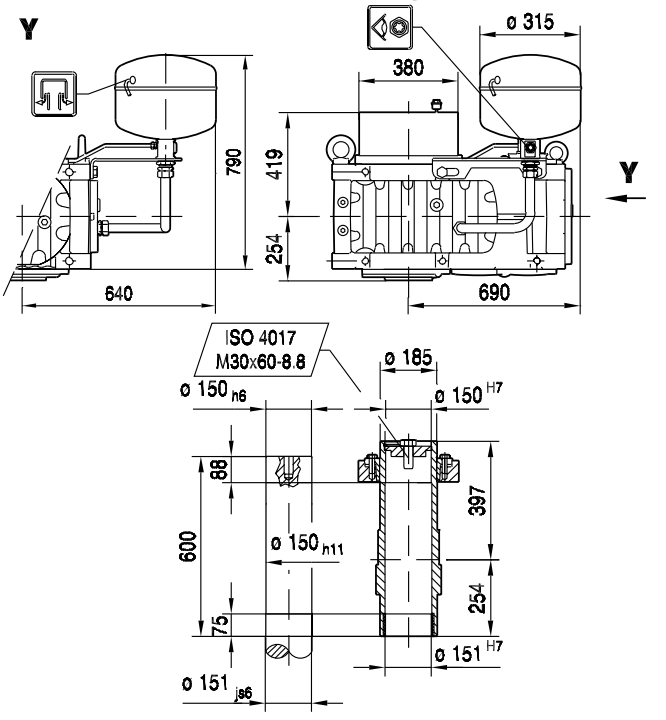
47 071 00 03
1(2)
969 kg
117 l



MC2PVHF08



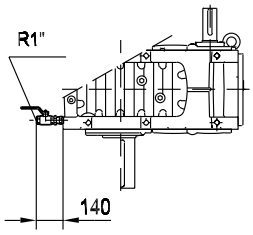
MC2PVHF08 /SD



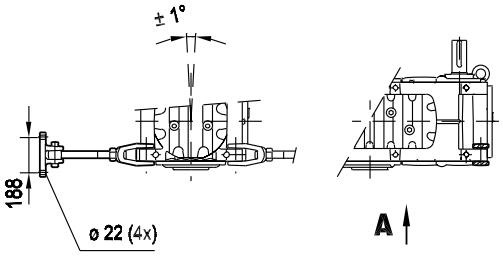
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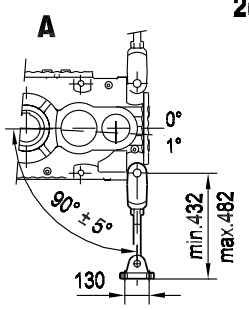
47 071 00 03
2(2)

/ODV

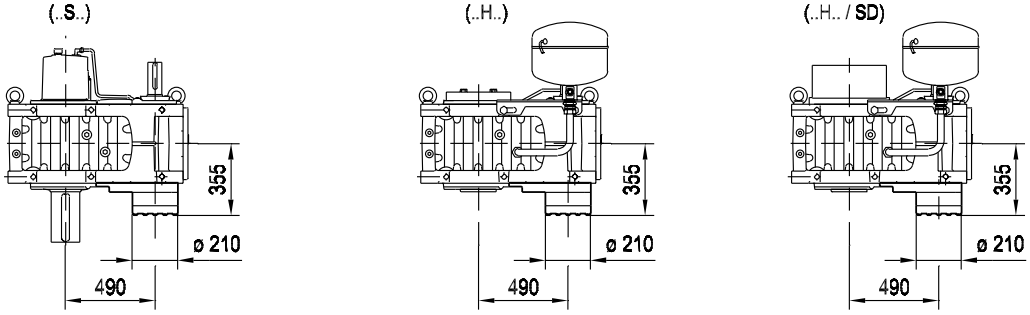


MC2PVH **T** 08

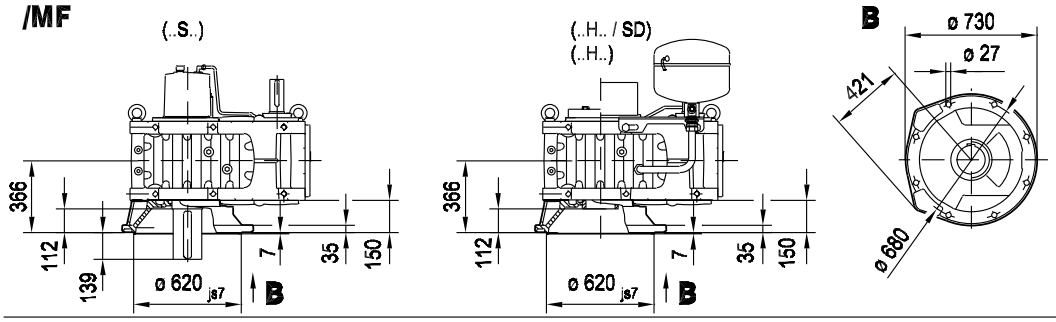




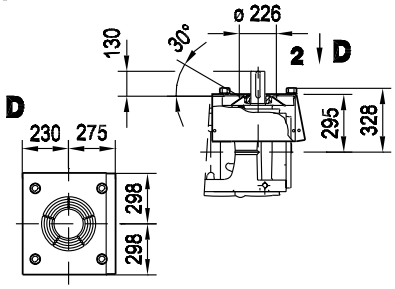
/BS



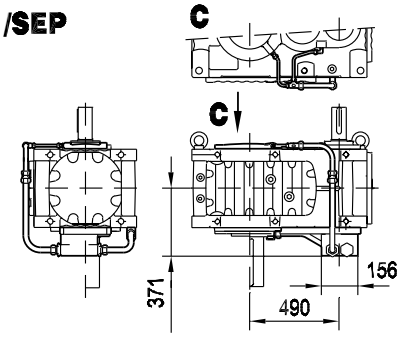
/MF



/FAN



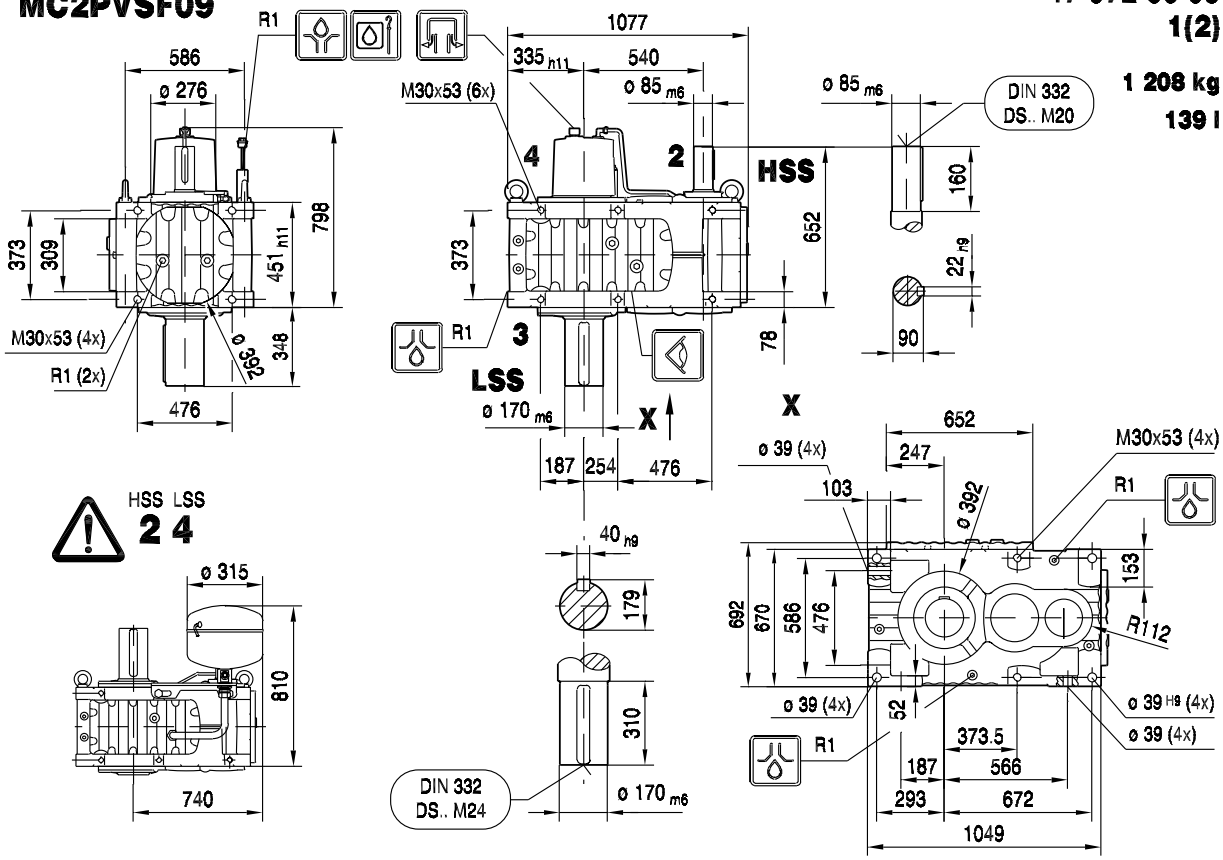
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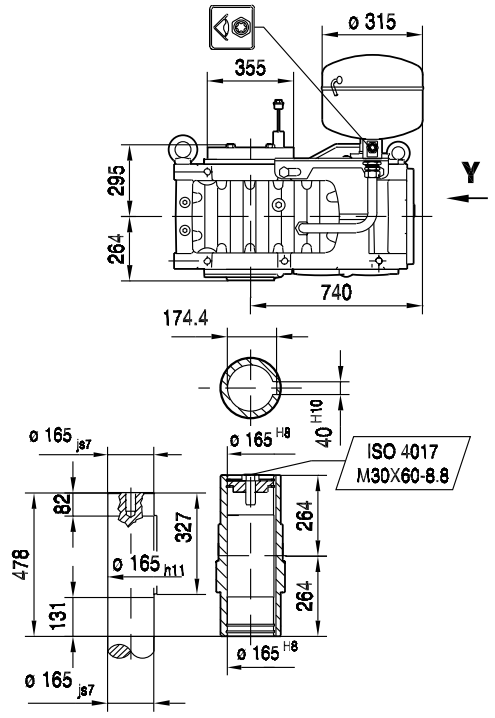
MC2PVSF09

47 072 00 03
1(2)

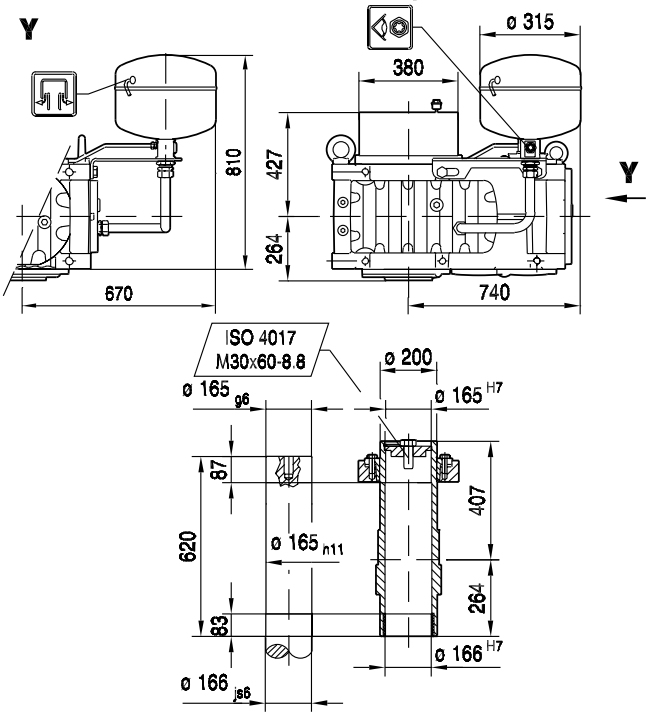
1 208 kg
139 l



MC2PVHF09



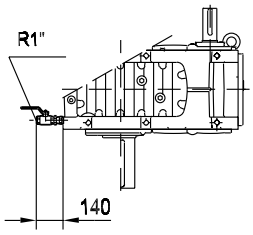
MC2PVHF09 /SD



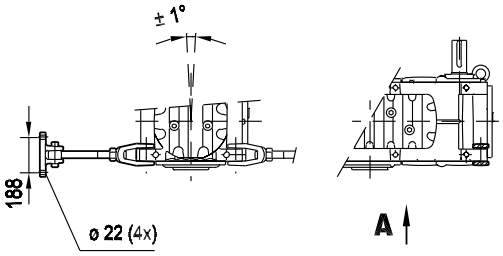
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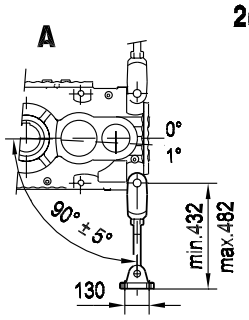
47 072 00 03
2(2)

/ODV

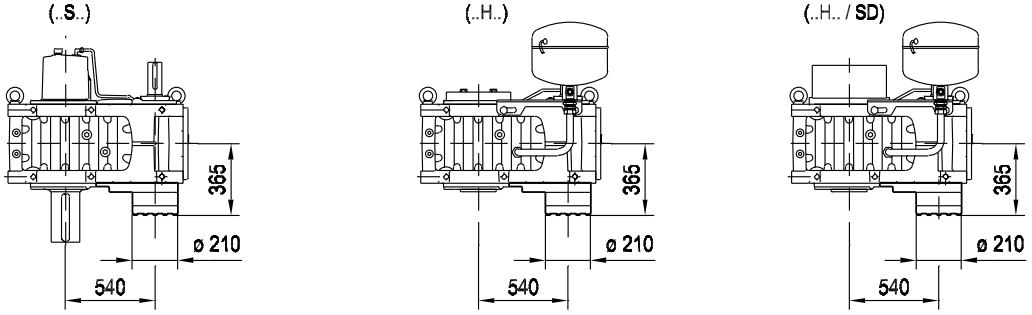


MC2PVH **T** 09

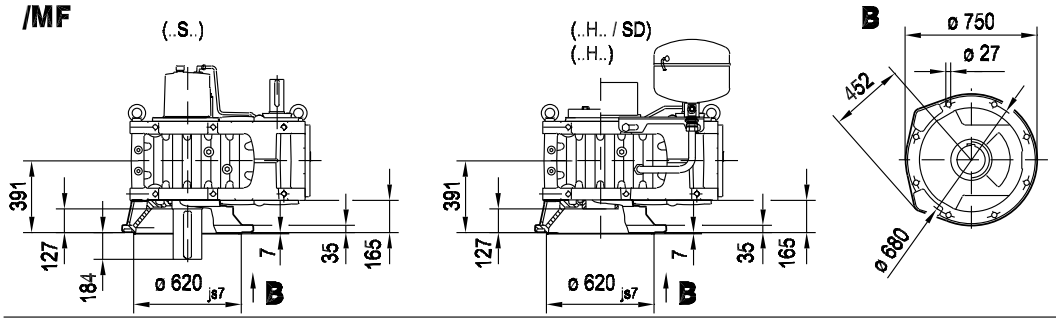




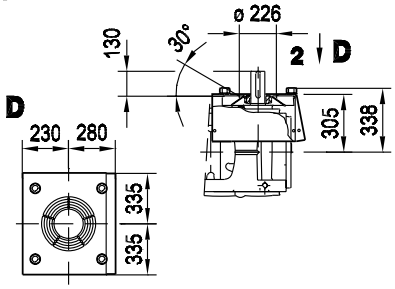
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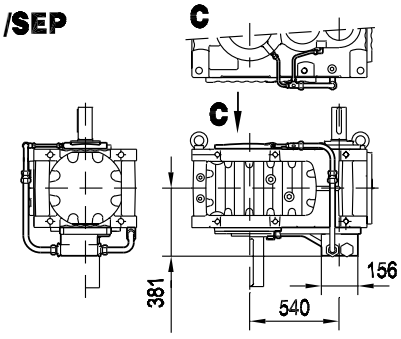
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/FAN



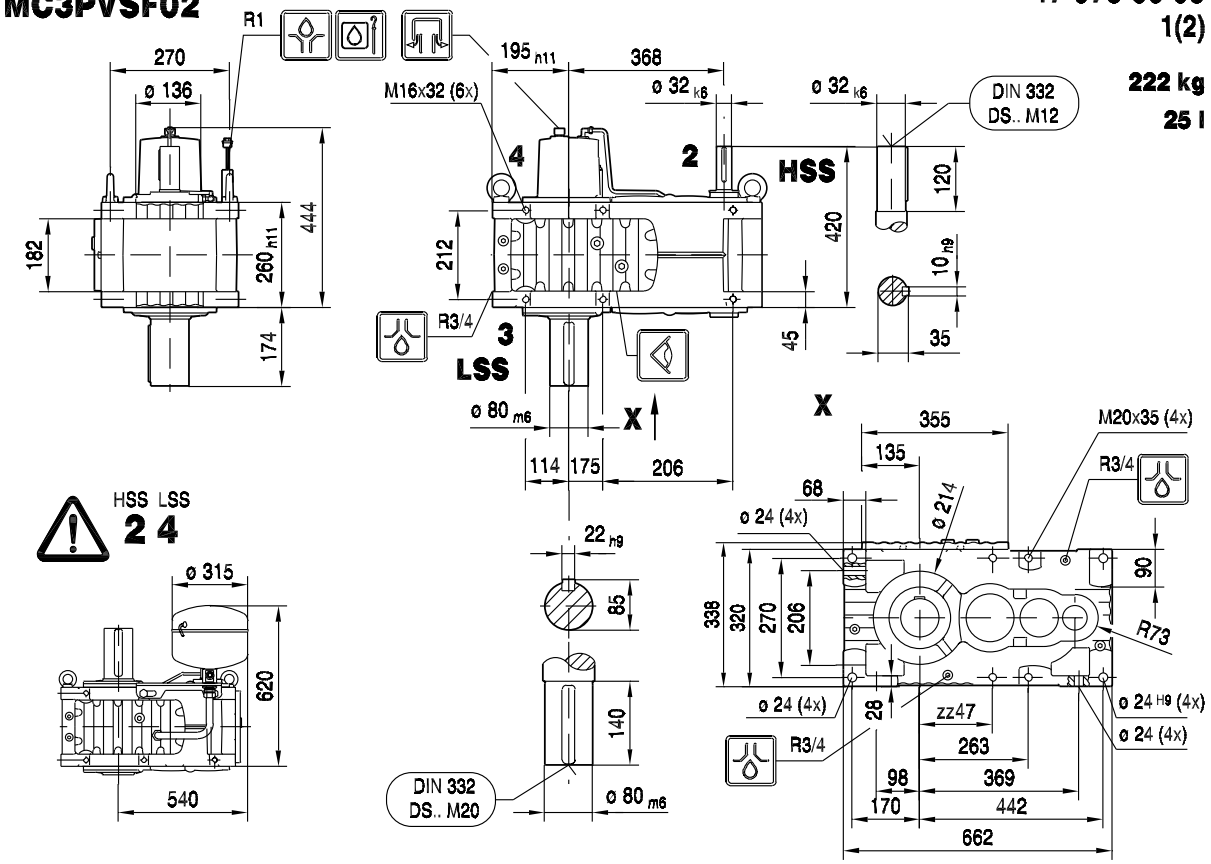
/SEP



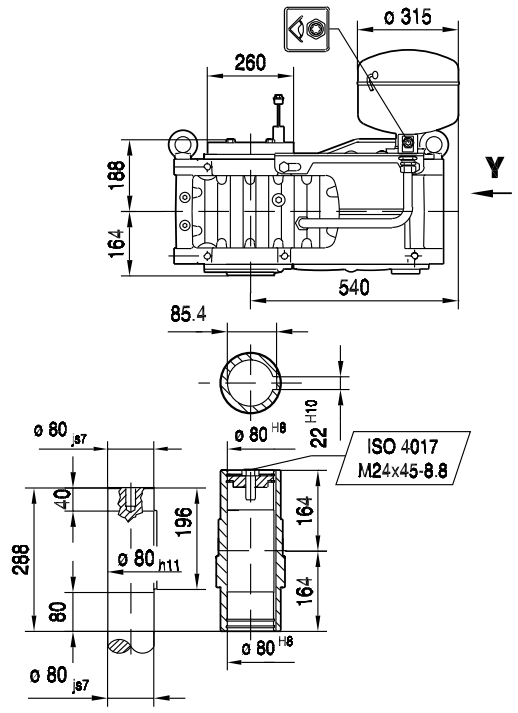
MC3PVSF02

47 073 00 03
1(2)

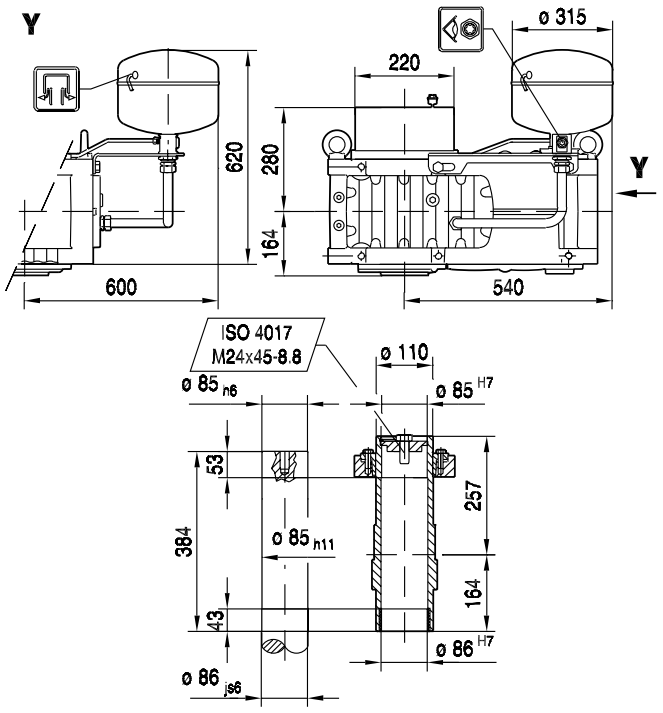
222 kg
25 l



MC3PVHF02



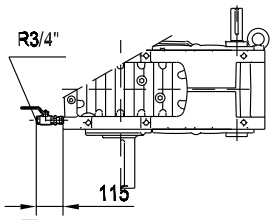
MC3PVHF02 /SD



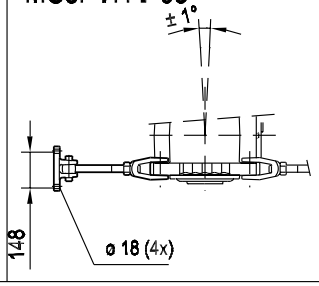
MC3PV..02

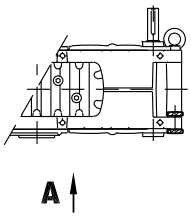
47 073 00 03
2(2)

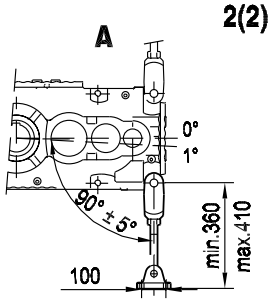
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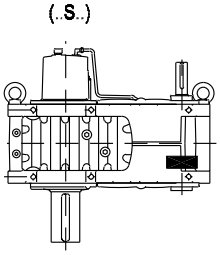
MC3PVH**T** 03

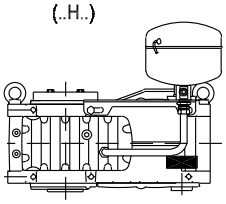


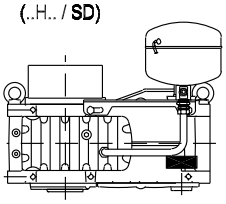




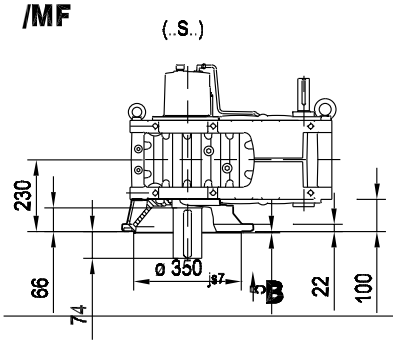
/BS

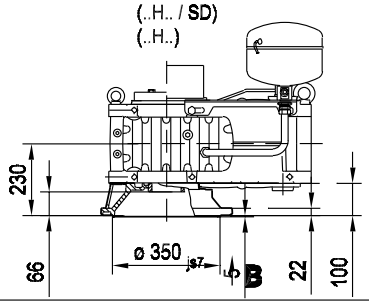


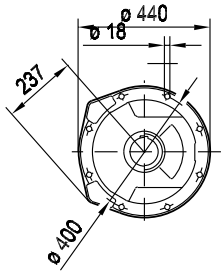




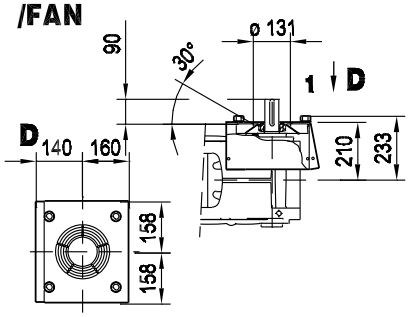
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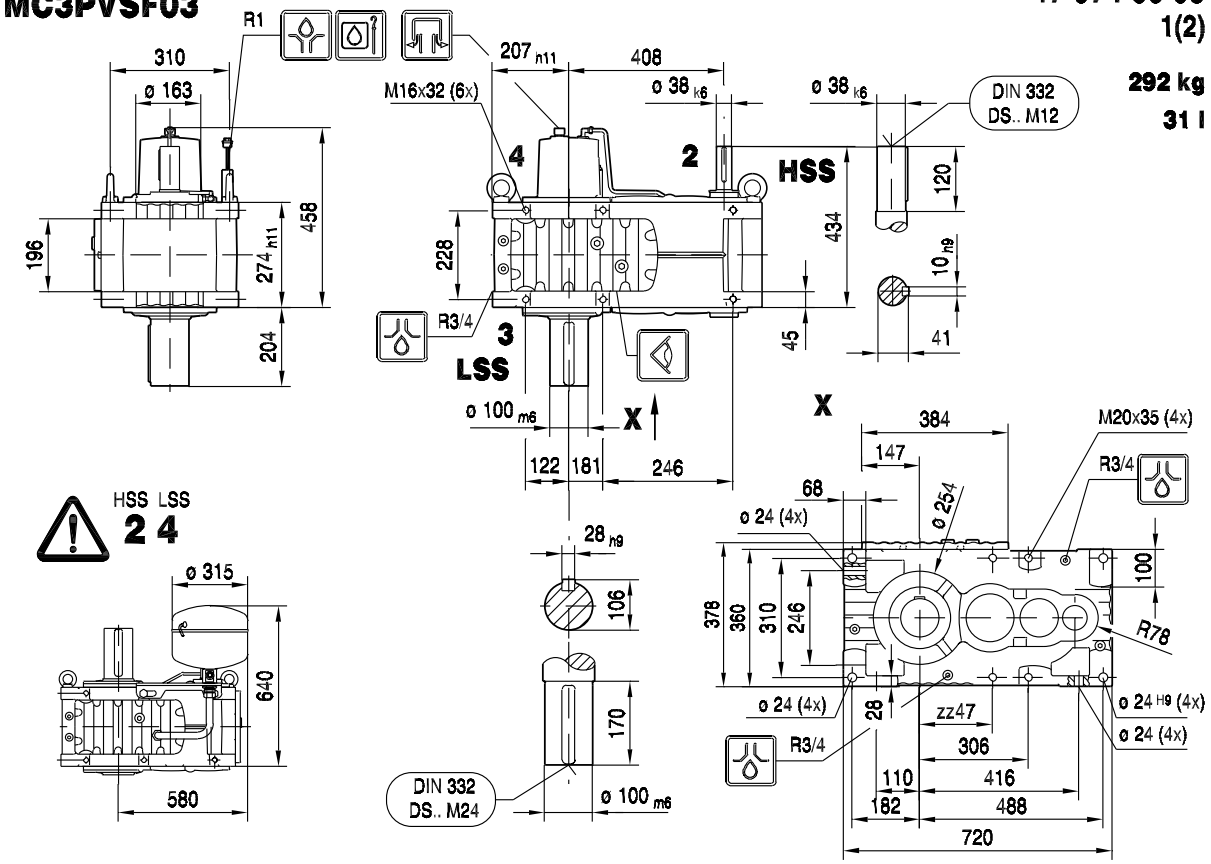
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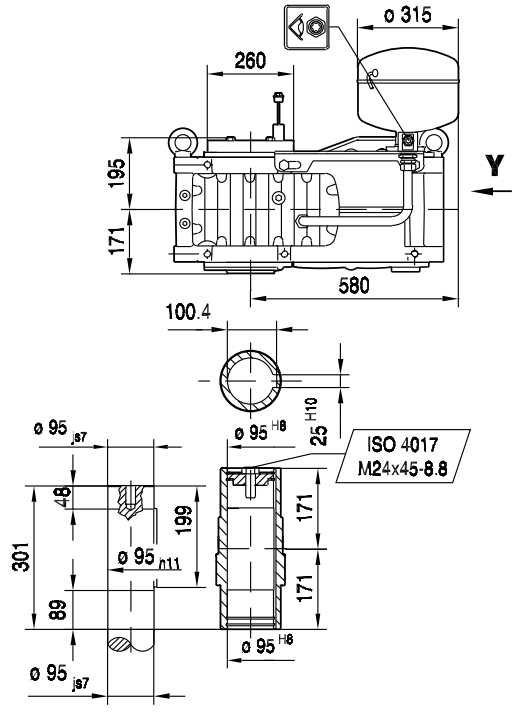
MC3PVSF03

47 074 00 03
1(2)

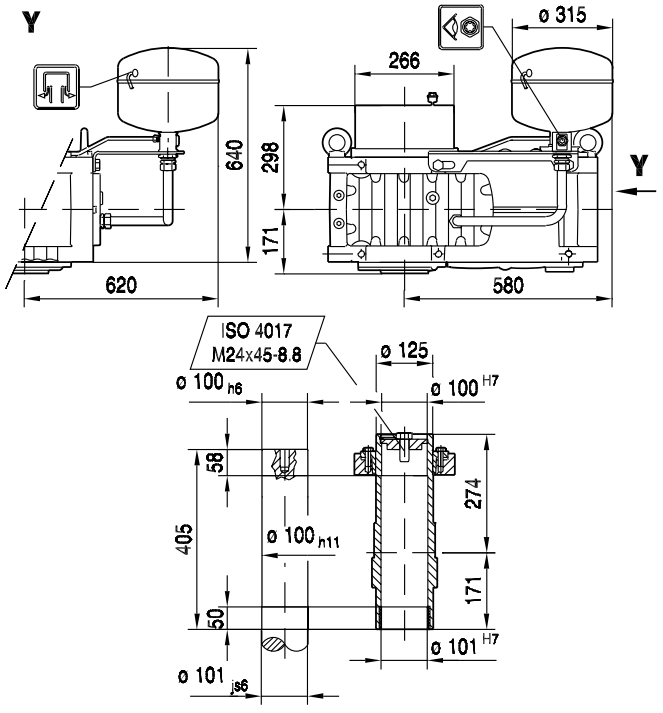
292 kg
31 l



MC3PVHF03



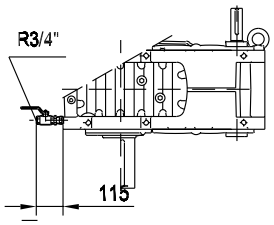
MC3PVHF03 /SD



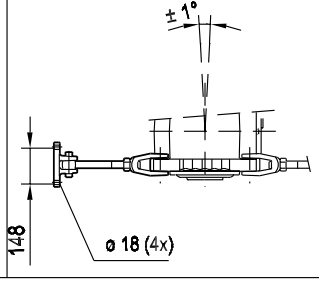
MC3PV..03

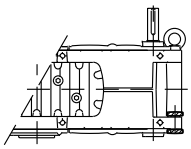
47 074 00 03
2(2)

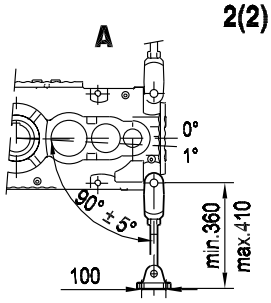
/ODV



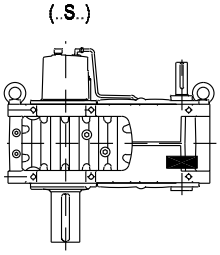
MC3PVH**T** 03

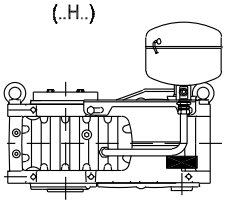


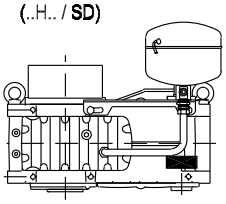




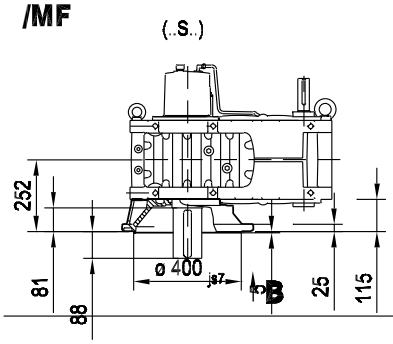
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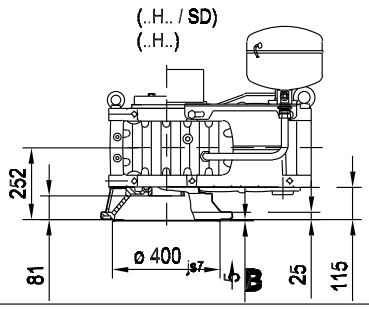


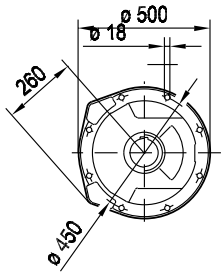




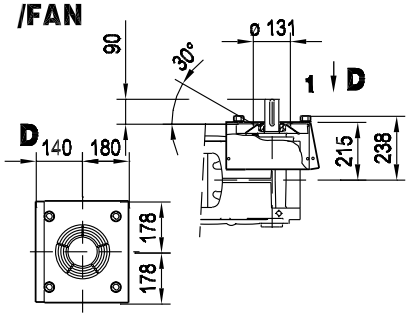
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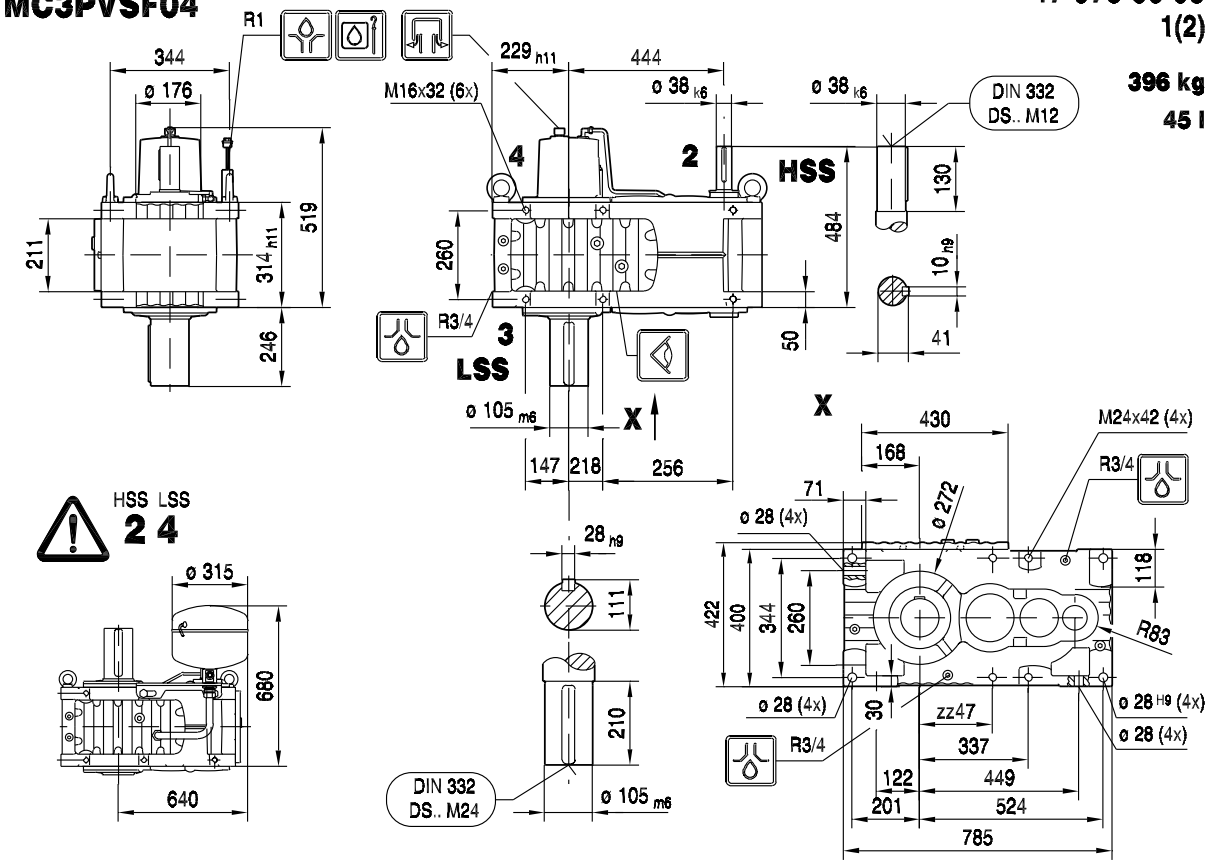
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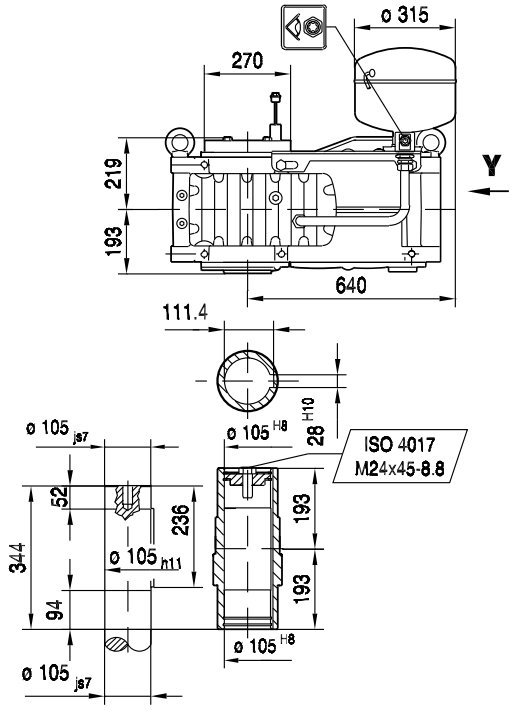
MC3PVSF04

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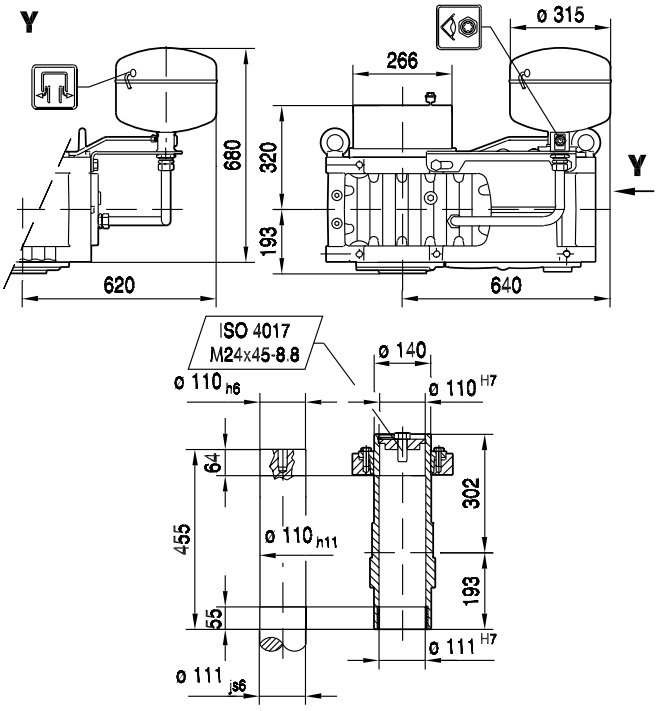
396 kg
45 l



MC3PVHF04



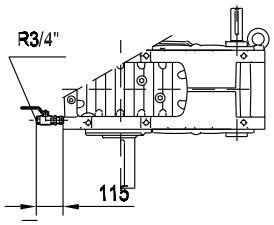
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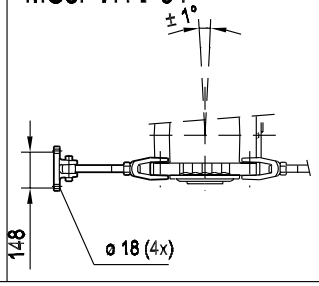
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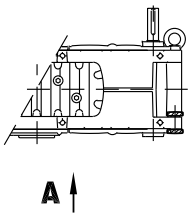
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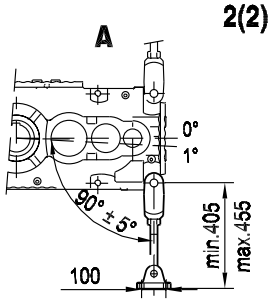
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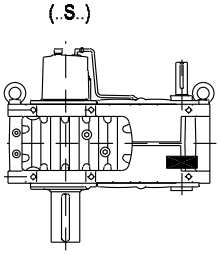
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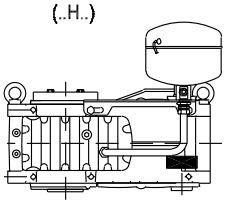


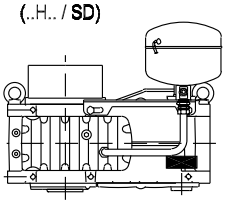




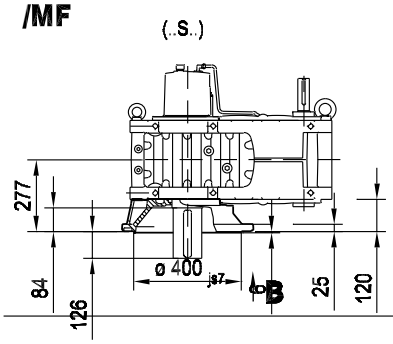
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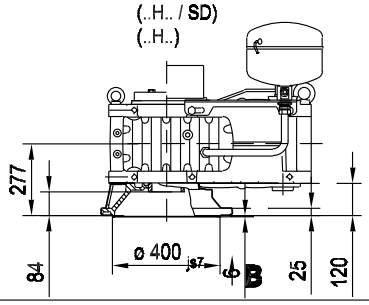


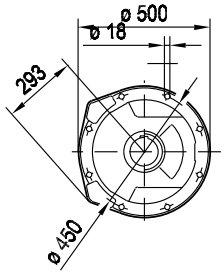




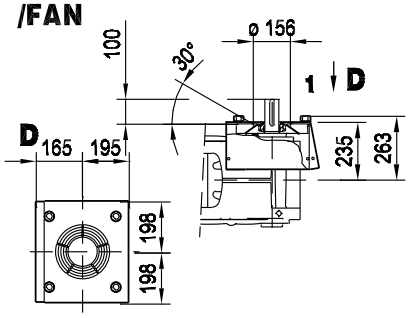
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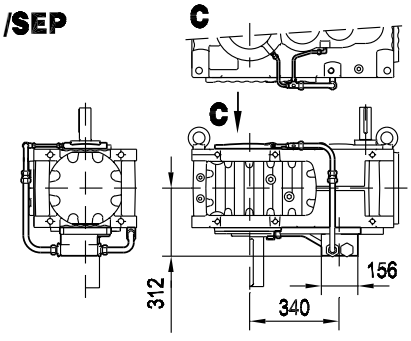




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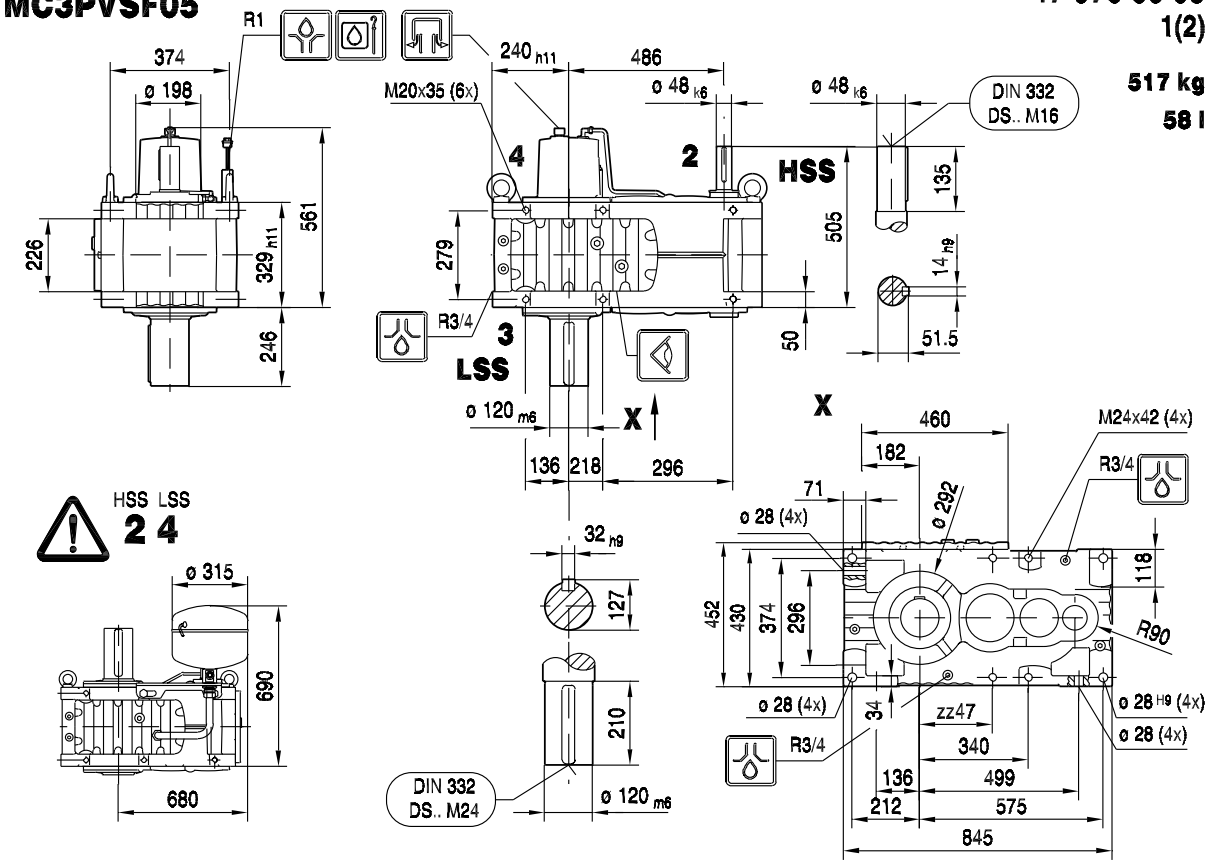
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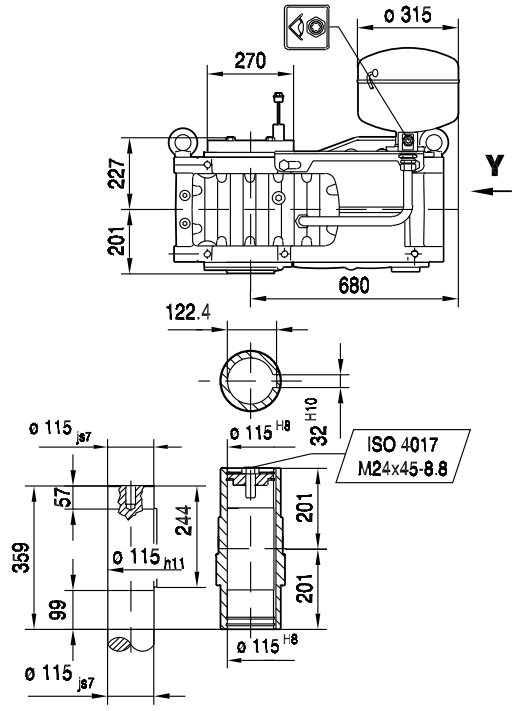
MC3PVSF05

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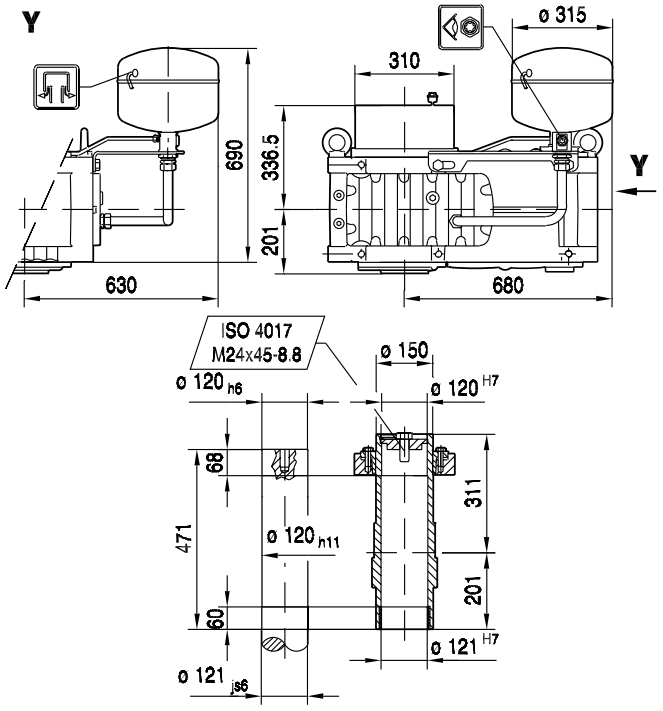
517 kg
58 l



MC3PVHF05



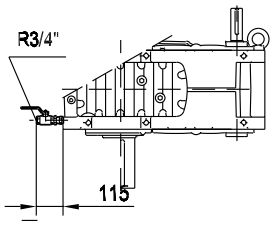
MC3PVHF05 /SD



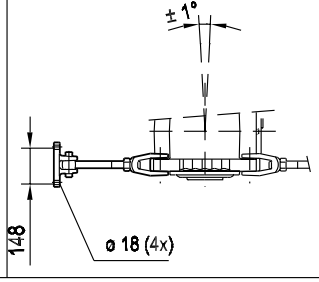
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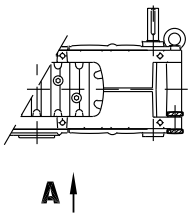
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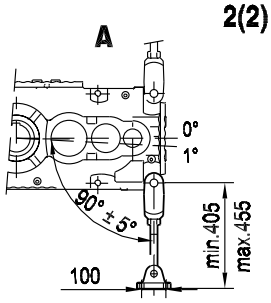
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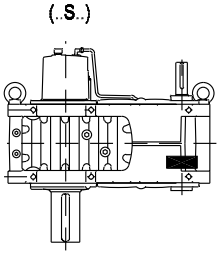
MC3PVH**T** 05

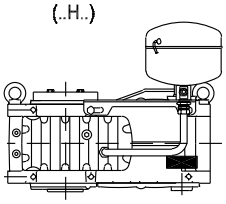


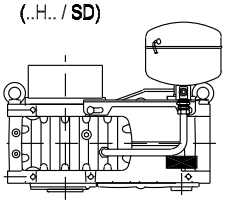




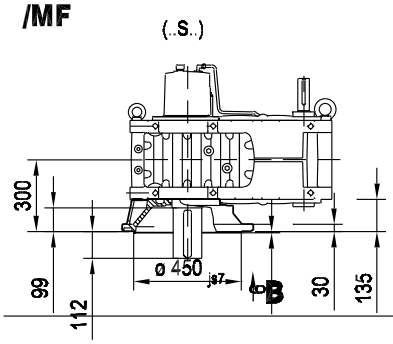
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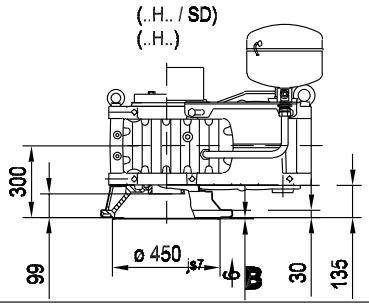


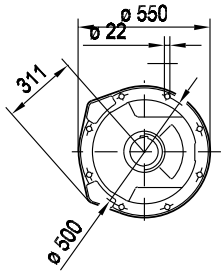




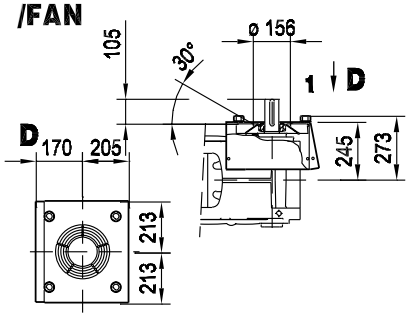
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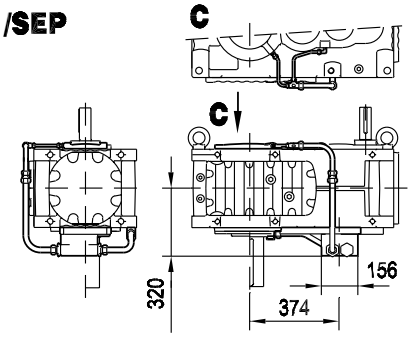




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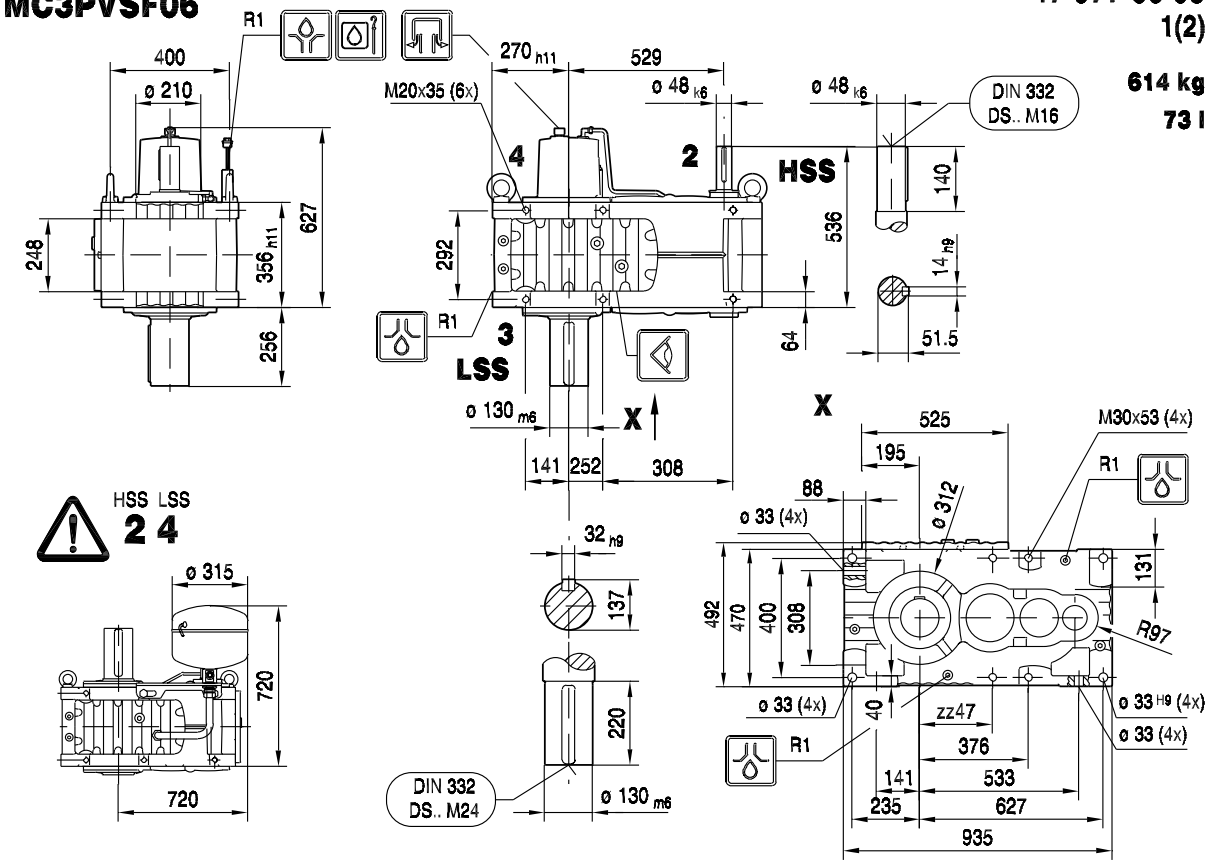


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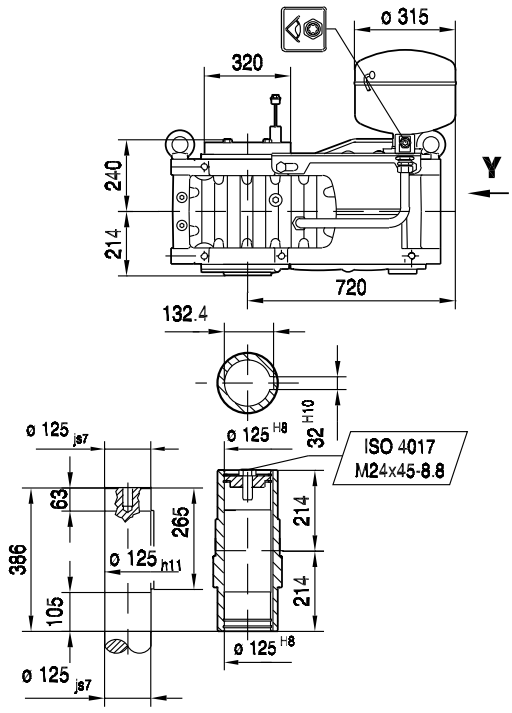
MC3PVSF06

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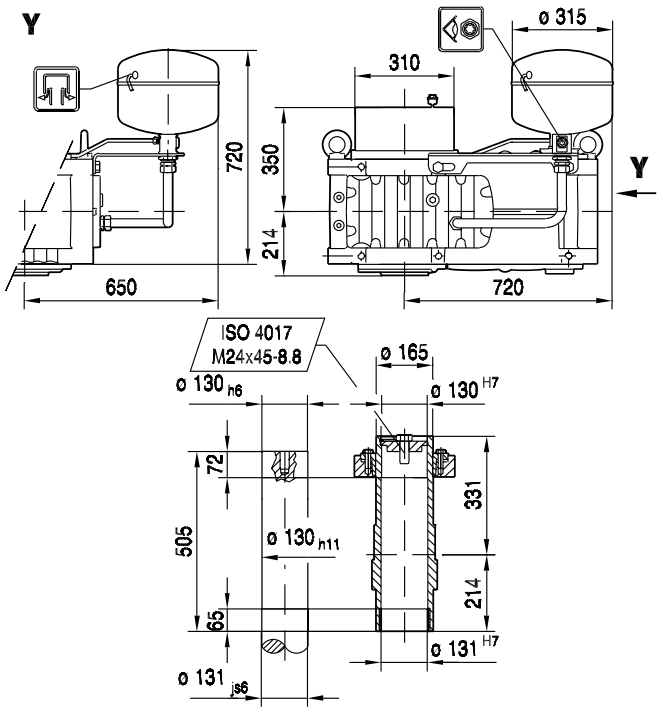
614 kg
73 l



MC3PVHF06



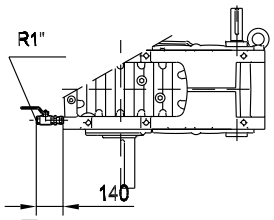
MC3PVHF06 /SD



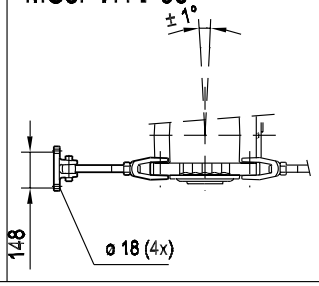
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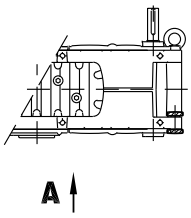
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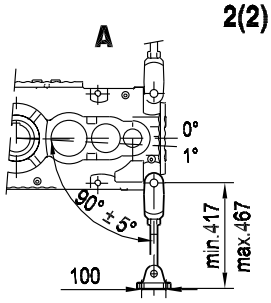
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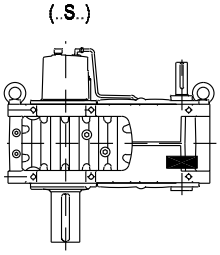
MC3PVH**T** 06

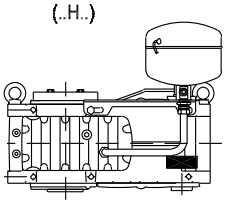


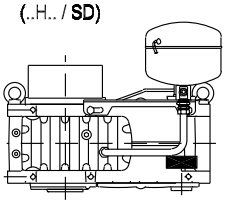




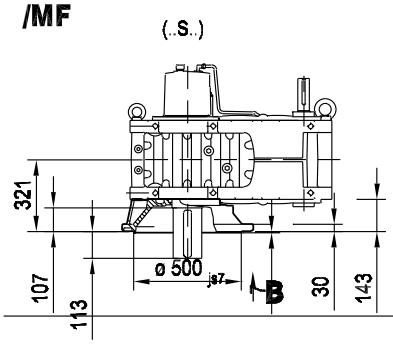
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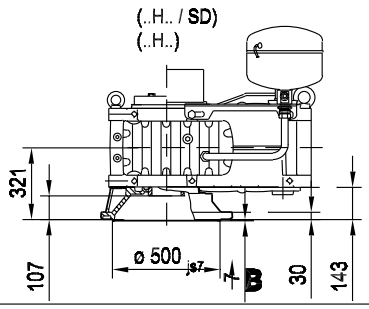


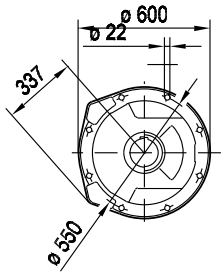




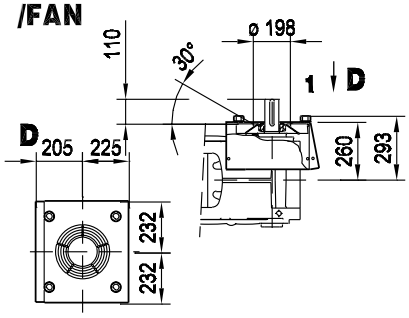
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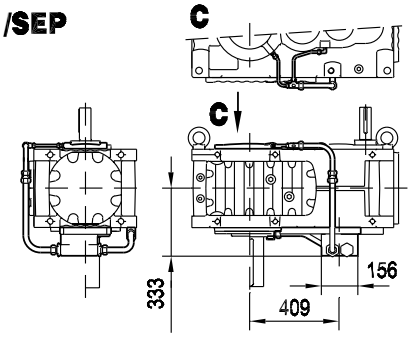




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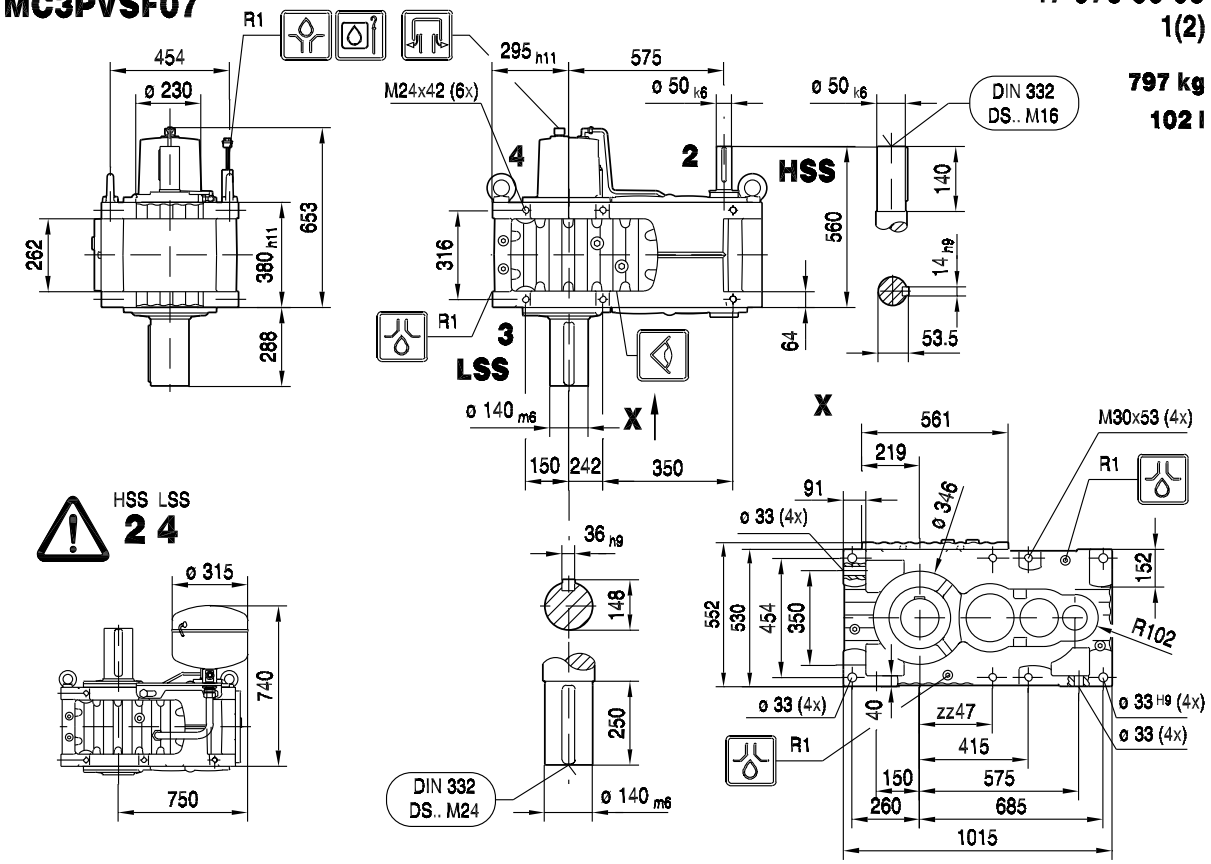
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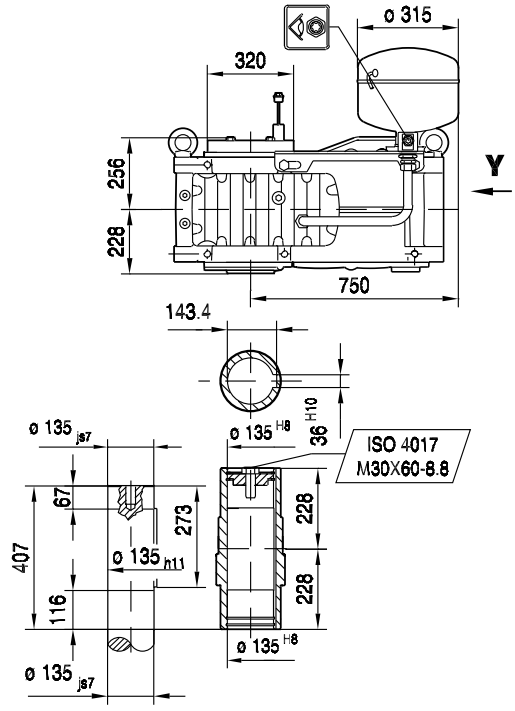
MC3PVSF07

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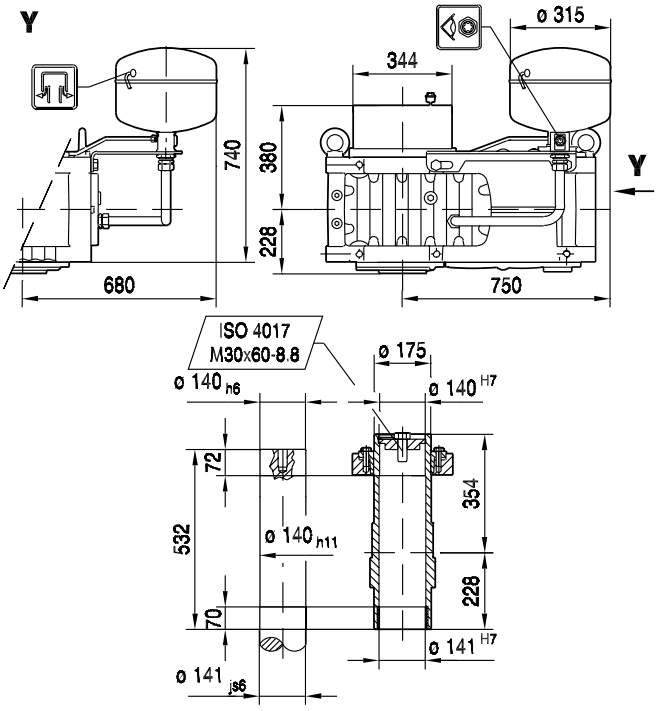
797 kg
102 l



MC3PVHF07



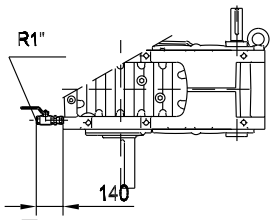
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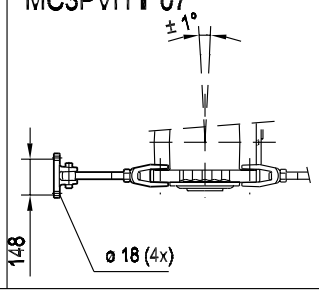
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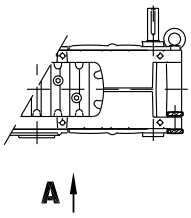
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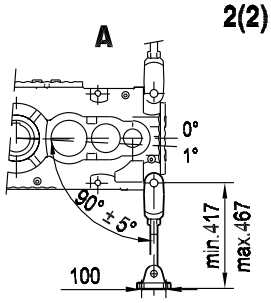
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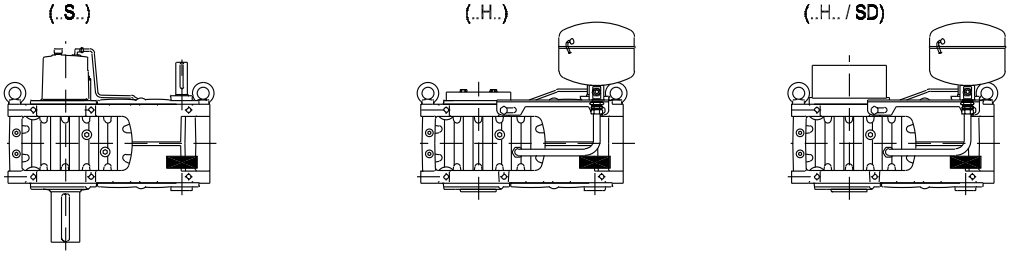
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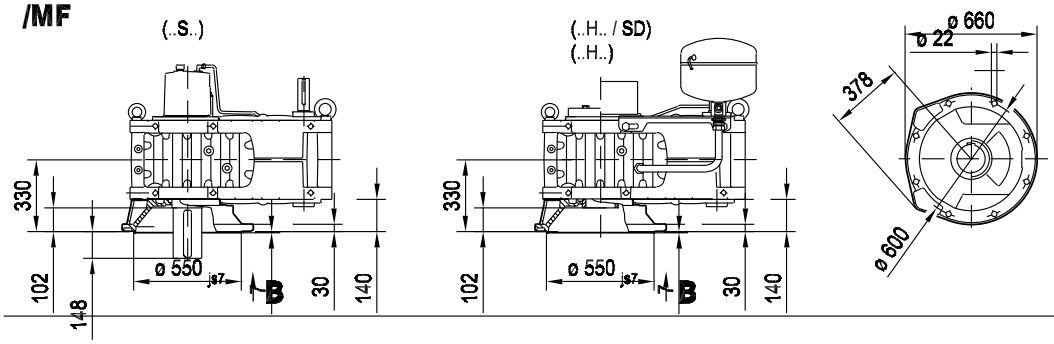




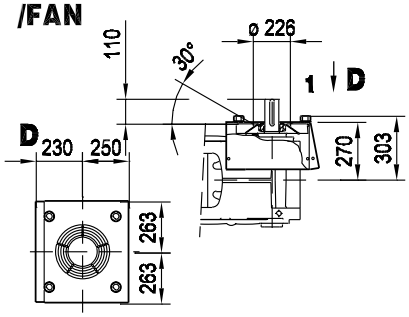
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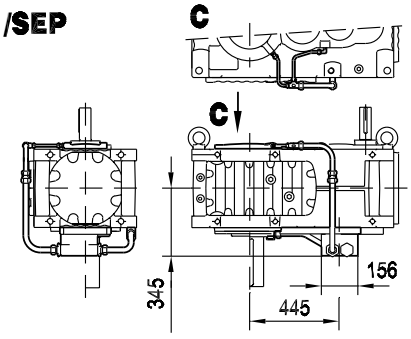
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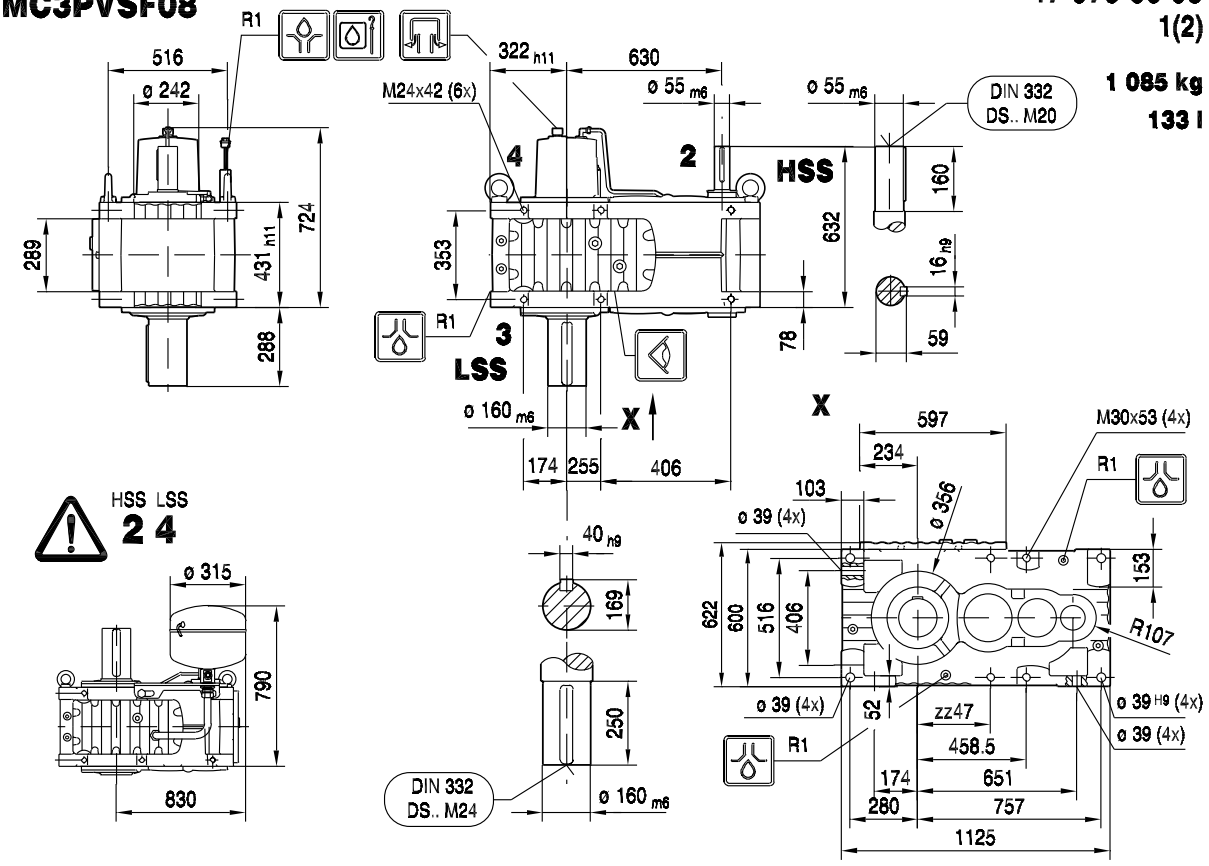
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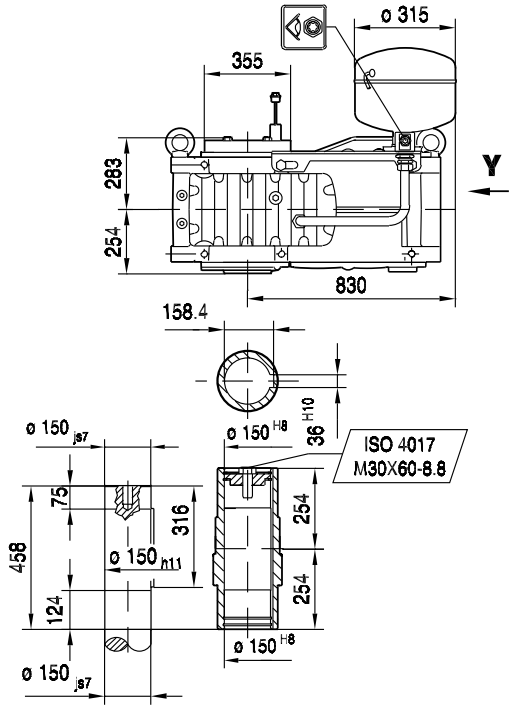
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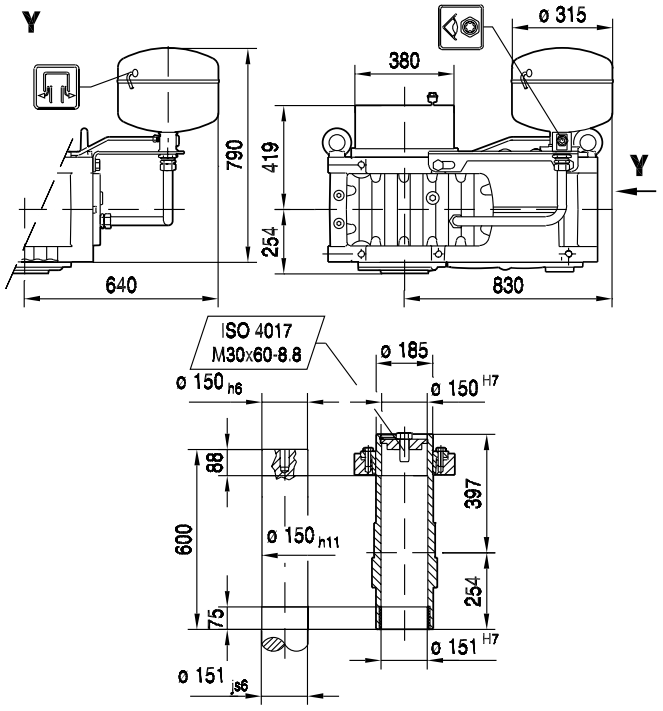
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133 l



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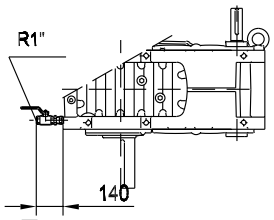
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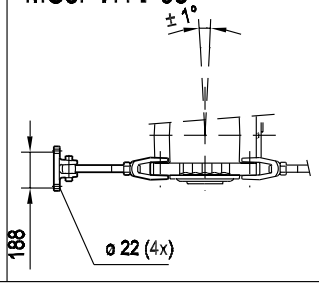
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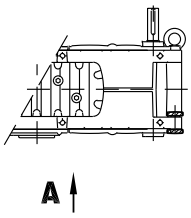
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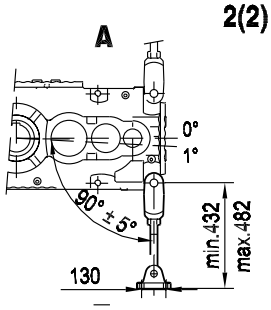
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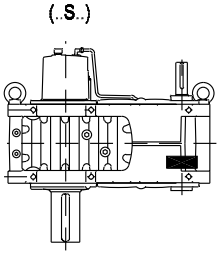
MC3PVH**T** 08

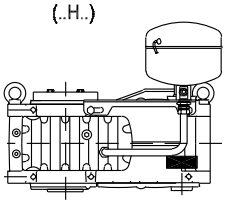


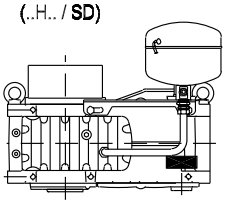




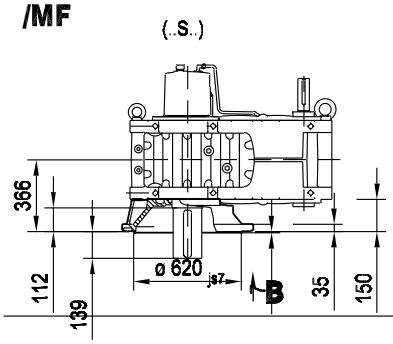
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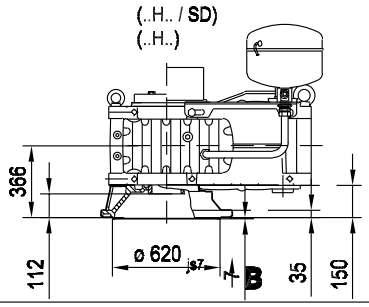


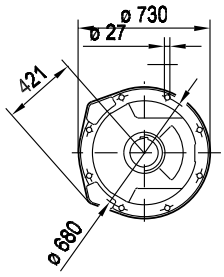




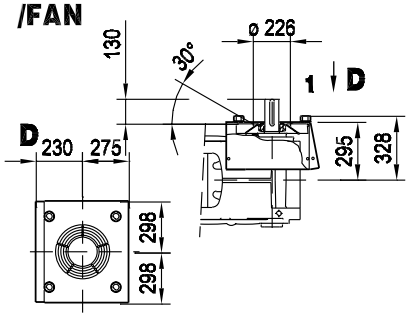
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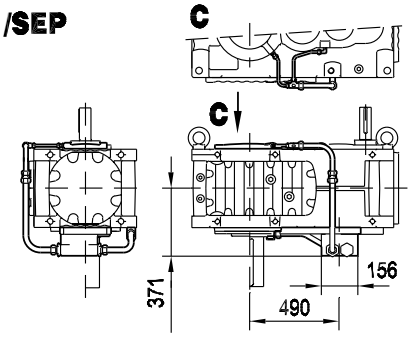




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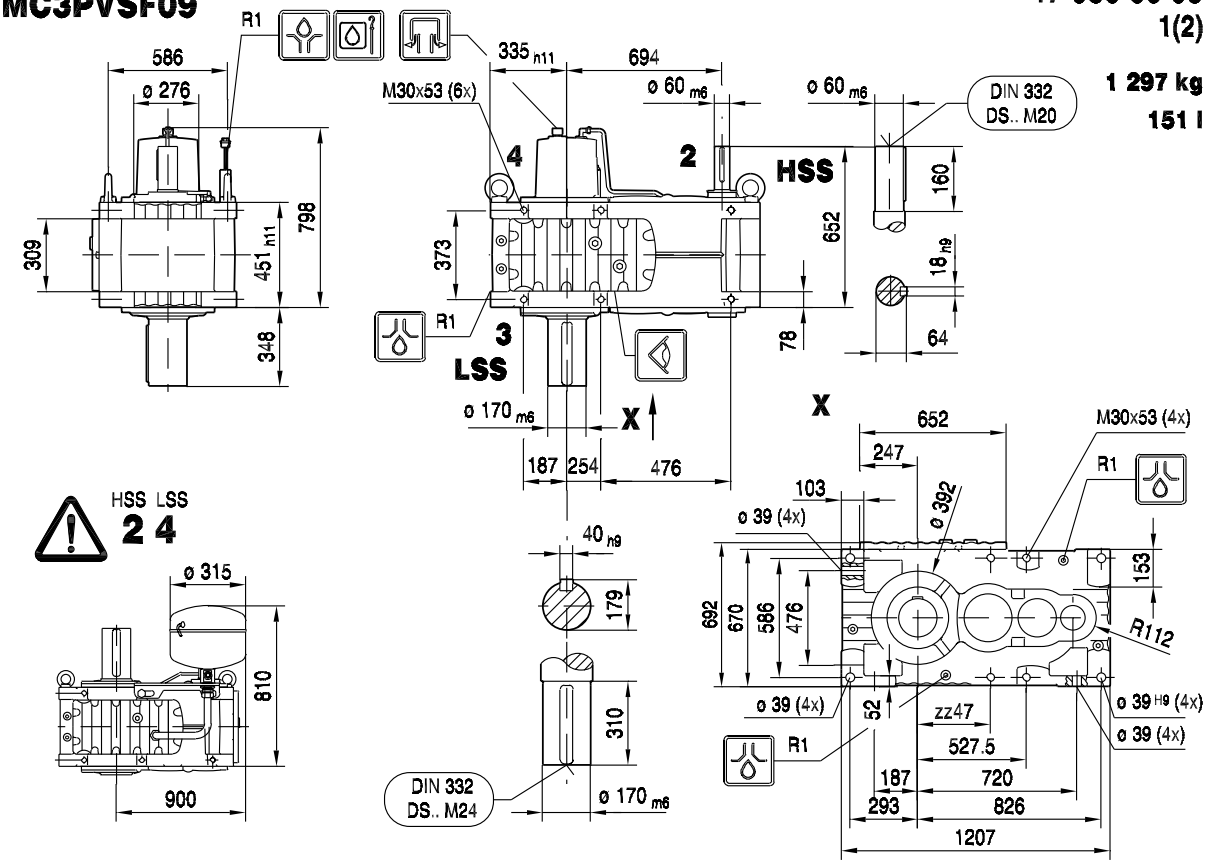
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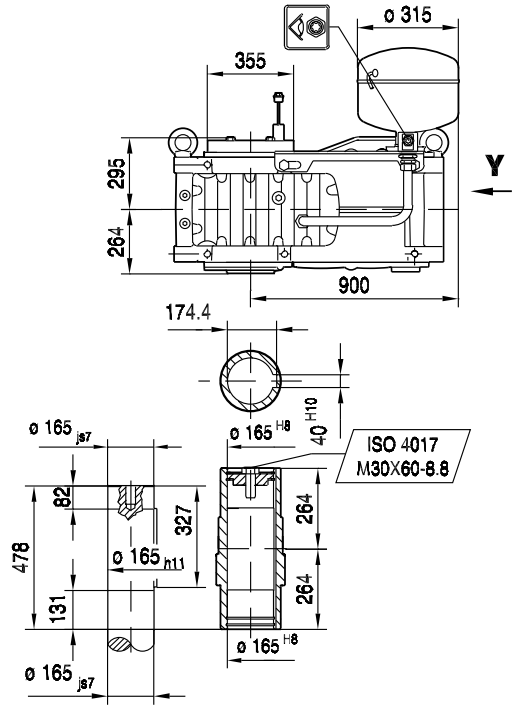
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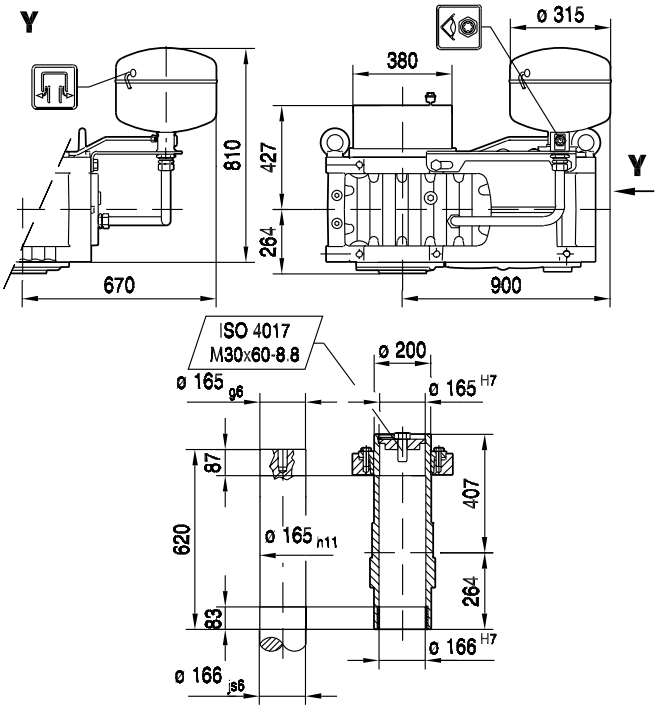
1 297 kg
151 l



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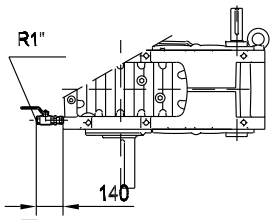
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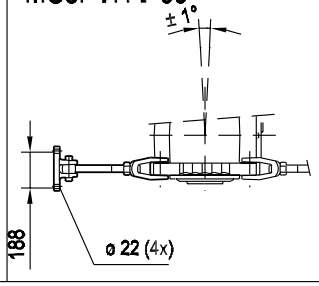
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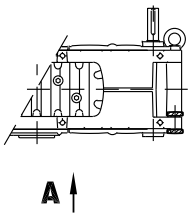
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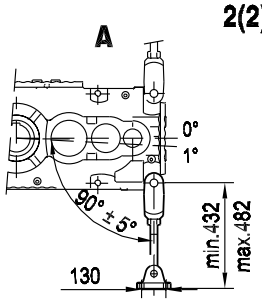
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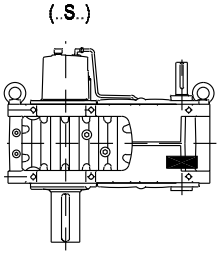
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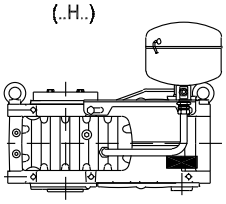


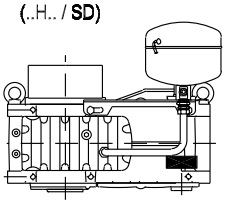




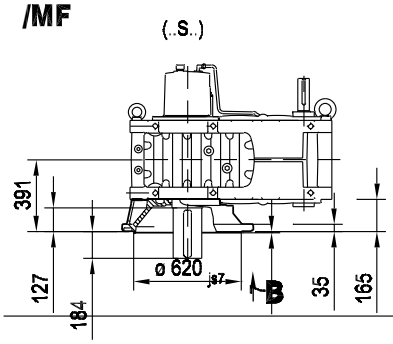
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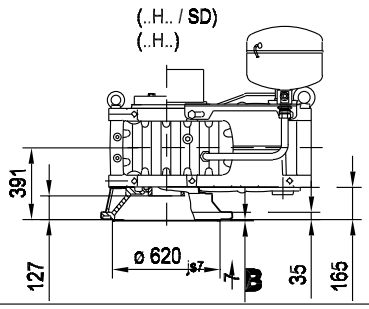


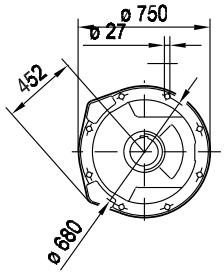




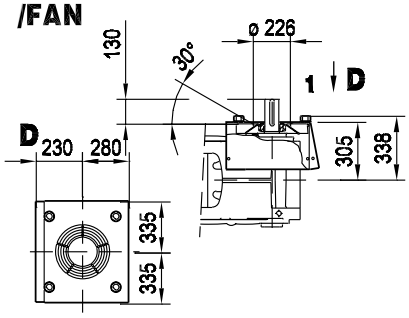
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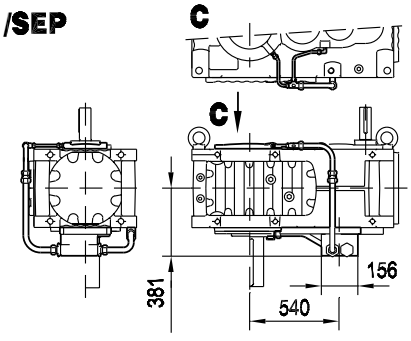




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10.4 Selection tables (detailed) MC.PE..

10.4.1 MC.PE.., n_1 = 1800 1/min.

MC.PE..02, n_1 = 1800rpm								P_{TH}								70000 lb-in
i_N	i_{ex}	n_2 [rpm]	M_{N2} [lb-in] x1000	P_{N1} [HP]	F_{Ra} [lb] x1000	F_{Re} [lb] x1000		$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F	$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F	$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F		
7.10	**7.07**	255	61.1	253	*)	*)		48	*)	134	80	173	109		
8.00	**8.18**	220	63.6	228	*)	0.483		51	*)	138	84	176	113		
9.00	**9.18**	196	65.5	209	*)	0.83		54	24	141	87	178	114		
10.00	**9.83**	183	66.6	199	*)	*)		55	25	142	89	180	115		
11.20	**11.37**	158	70.9	183	*)	0.400	**MC2PESF02**	58	28	145	91	182	119	248	280
12.50	**12.31**	146	70.0	167	*)	*)	**MC2PEHF02**	59	30	146	93	184	121		
14.00	**14.24**	126	71.3	147	*)	0.55	**MC2PEHT02**	62	32	149	95	186	123		
16.00	**15.98**	113	66.8	122	0.78	1.20		48	19	125	71	157	94		
18.00	**17.88**	101	67.0	110	1.03	1.25		51	21	126	72	160	95		
20.00	**20.24**	89	62.0	90	1.75	1.51		52	23	129	75	161	98		
22.50	**22.30**	81	74.0	98	0.377	0.441		50	27	117	75	145	97		
25.00	**25.79**	70	70.5	81	1.45	0.70		51	28	118	78	148	99		
28.00	**28.95**	62	66.0	68	2.01	0.76		52	30	119	79	149	101		
31.50	**32.31**	56	71.1	65	1.88	0.76		54	31	121	80	150	102		
35.50	**36.27**	50	66.6	54	2.34	0.77		55	32	122	82	152	103		
40.00	**38.89**	46	75.4	58	1.85	0.365		55	34	123	82	152	103		
45.00	**44.97**	40	71.7	47	2.39	0.60	**MC3PESF02**	56	35	125	83	154	105		
50.00	**50.47**	36	67.1	39	2.87	0.77	**MC3PEHF02**	58	36	126	84	154	106	264	281
56.00	**56.34**	32	71.9	38	2.78	0.81	**MC3PEHT02**	59	36	127	86	156	107		
63.00	**63.23**	28	68.0	32	3.24	0.85		60	38	127	87	157	109		
71.00	**71.20**	25	71.8	30	3.23	0.476		50	27	109	67	134	84		
80.00	**79.91**	23	68.4	25	3.68	0.61		51	28	110	68	134	86		
90.00	**90.45**	20	62.8	21	4.25	0.61		52	30	110	70	135	87		
100.00	**95.36**	19	68.8	21	4.03	0.61		52	30	111	70	135	87		
112.00	**107.94**	17	63.3	17.4	4.61	0.61		54	31	111	71	137	89		

MC.PE..03, n_1 = 1800rpm																102000 lb-in
7.10	**7.29**	247	78.3	314	1.23	0.389		60	*)	169	102	216	137		
8.00	**8.23**	219	82.4	293	1.34	1.0		63	*)	173	106	220	141		
9.00	**9.28**	194	84.0	265	1.55	1.48		67	30	176	109	223	143		
10.00	**9.95**	181	87.0	256	1.29	0.203		68	32	178	111	225	145		
11.20	**11.23**	160	89.9	235	1.49	1.02	**MC2PESF03**	71	35	181	114	228	149	250	280
12.50	**12.70**	142	89.6	207	1.60	0.56	**MC2PEHF03**	74	38	184	117	231	152		
14.00	**14.32**	126	97.1	199	1.59	0.91	**MC2PEHT03**	76	40	186	119	233	154		
16.00	**16.16**	111	95.6	173	2.01	1.59		60	24	156	89	197	117		
18.00	**17.91**	100	96.2	157	2.19	1.66		63	25	158	91	198	119		
20.00	**20.40**	88	88.4	127	2.95	1.82		66	28	161	94	201	122		
22.50	**22.65**	79	100.5	131	2.22	0.53		62	34	145	94	181	121		
25.00	**25.55**	70	101.0	117	2.62	0.71		63	35	148	97	184	122		
28.00	**28.83**	62	94.3	97	3.35	0.97		66	38	149	98	185	125		
31.50	**32.60**	55	102.1	93	3.15	1.02		67	39	150	99	186	126		
35.50	**36.78**	49	95.3	77	3.91	1.19		68	40	153	102	188	127		
40.00	**39.81**	45	104.5	78	3.39	0.55		70	42	154	102	189	129		
45.00	**44.91**	40	102.8	68	3.96	0.76	**MC3PESF03**	71	43	156	105	190	130		
50.00	**50.67**	36	96.0	56	4.74	1.0	**MC3PEHF03**	72	44	157	106	193	131	266	281
56.00	**57.29**	31	104.0	54	4.59	1.05	**MC3PEHT03**	74	46	158	107	194	133		
63.00	**64.64**	28	97.0	44	5.4	1.20		75	47	160	109	196	134		
71.00	**71.62**	25	104.6	43	5.2	0.74		62	34	135	84	166	106		
80.00	**80.80**	22	97.8	36	6.1	0.81		63	35	137	86	168	107		
90.00	**92.02**	20	89.9	29	6.9	0.81		64	36	138	87	169	109		
100.00	**101.82**	18	99.0	29	6.8	0.81		66	38	138	87	170	109		
112.00	**115.96**	16	90.9	23	6.9	0.81		67	39	139	89	170	110		

MC.PE..04, n_1 = 1800rpm								P_{TH}						137000 lb-in	
i_N	i_{ex}	n_2 [rpm]	M_{N2} [lb-in] x1000	P_{N1} [HP]	F_{Ra} [lb] x1000	F_{Re} [lb] x1000		$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F	$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F	$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F		
7.10	**7.12**	253	99.5	409	1.27	0.62		75	*)	212	127	271	172		
8.00	**8.01**	225	103.6	379	1.56	1.12		79	*)	216	131	276	176		
9.00	**8.96**	201	107.6	352	1.81	1.52		83	36	220	135	280	180		
10.00	**9.95**	181	110.9	327	1.31	0.52		86	40	224	139	283	182		
11.20	**11.19**	161	115.6	303	1.60	1.03	**MC2PESF04**	90	43	228	143	287	186	252	280
12.50	**12.72**	141	119.9	276	1.35	0.350	**MC2PEHF04**	94	47	232	148	291	190		
14.00	**14.31**	126	125.1	256	1.65	0.88	**MC2PEHT04**	97	50	235	150	294	194		
16.00	**16.00**	113	127.4	233	2.23	1.47		76	30	196	111	247	148		
18.00	**17.12**	105	130.1	223	2.27	1.42		78	32	197	113	249	149		
20.00	**19.25**	94	125.3	191	3.03	2.11		80	35	201	117	252	152		
22.50	**23.20**	78	122.7	157	3.28	0.381		76	42	180	117	225	150		
25.00	**26.10**	69	138.0	157	3.05	0.381		79	44	182	119	227	152		
28.00	**29.18**	62	132.1	134	3.74	0.73		80	46	185	122	229	154		
31.50	**33.39**	54	141.0	125	3.62	0.86		83	48	186	123	232	157		
35.50	**37.33**	48	132.5	105	4.44	1.0		84	50	189	126	233	158		
40.00	**40.28**	45	126.9	93	4.66	*)		86	51	190	127	235	160		
45.00	**45.30**	40	142.1	93	4.50	*)	**MC3PESF04**	87	54	192	129	236	161		
50.00	**50.64**	36	132.5	78	5.4	0.349	**MC3PEHF04**	90	55	193	130	239	164	268	281
56.00	**57.96**	31	143.7	73	5.3	0.443	**MC3PEHT04**	91	56	196	133	240	165		
63.00	**64.79**	28	133.0	61	6.2	0.73		93	58	197	134	241	166		
71.00	**72.86**	25	144.7	59	6.0	0.55		76	43	168	105	205	131		
80.00	**81.44**	22	133.2	48	7.1	0.81		78	44	169	106	207	133		
90.00	**91.60**	20	127.3	41	7.9	0.92		79	46	170	107	209	134		
100.00	**97.56**	18	131.6	40	7.8	0.83		80	46	170	107	209	134		
112.00	**109.73**	16	127.8	35	7.9	0.92		82	47	173	109	211	135		

MC.PE..05, n_1 = 1800rpm														177000 lb-in	
7.10	**7.10**	253	138.4	570	0.407	*)		86	*)	241	146	310	196		
8.00	**8.00**	225	144.1	528	0.62	0.79		90	*)	247	150	314	200		
9.00	**8.87**	203	148.6	490	0.95	1.44		94	*)	251	154	318	204		
10.00	**9.78**	184	153.6	460	0.354	*)		98	*)	255	158	322	208		
11.20	**11.01**	163	159.9	425	0.60	0.53	**MC2PESF05**	102	48	259	162	326	212	254	280
12.50	**12.52**	144	164.7	385	0.434	*)	**MC2PEHF05**	106	54	263	168	331	217		
14.00	**14.10**	128	173.2	360	0.57	0.263	**MC2PEHT05**	110	56	267	172	335	221		
16.00	**15.64**	115	176.5	330	1.10	1.30		86	34	223	126	282	166		
18.00	**17.24**	104	177.3	301	1.44	1.33		90	36	225	129	284	170		
20.00	**19.40**	93	165.1	249	2.31	2.54		93	40	229	133	287	173		
22.50	**22.58**	80	136.6	179	3.27	0.346		89	48	208	135	260	173		
25.00	**25.41**	71	153.7	179	3.08	0.347		91	51	211	138	263	176		
28.00	**28.19**	64	170.6	179	2.94	0.346		93	52	213	139	264	178		
31.50	**32.53**	55	176.4	161	2.95	0.60		95	55	216	143	267	181		
35.50	**36.08**	50	176.3	145	3.41	0.82		98	58	219	145	270	182		
40.00	**40.62**	44	163.5	119	4.28	1.17		99	59	220	148	272	185		
45.00	**43.55**	41	160.2	109	4.33	0.64	**MC3PESF05**	101	60	221	149	274	186		
50.00	**48.31**	37	177.3	109	4.22	0.65	**MC3PEHF05**	103	63	224	150	275	188	270	282
56.00	**55.74**	32	181.9	97	4.34	0.90	**MC3PEHT05**	105	64	227	153	278	190		
63.00	**61.84**	29	179.0	86	4.95	1.13		107	67	228	154	279	192		
71.00	**71.06**	25	184.1	77	5.1	0.334		89	48	193	121	237	152		
80.00	**78.83**	23	180.5	68	5.7	0.55		90	50	194	122	240	153		
90.00	**88.73**	20	167.8	56	6.7	0.83		93	52	197	123	241	154		
100.00	**96.36**	19	167.6	52	6.9	0.76		93	52	198	125	243	156		
112.00	**108.46**	17	169.2	46	7.4	0.89		94	55	200	126	244	157		

MC.PE..06, n_1 = 1800rpm								P_{TH}						221000 lb-in	
i_N	i_{ex}	n_2 [rpm]	M_{N2} [lb-in] x1000	P_{N1} [HP]	F_{Ra} [lb] x1000	F_{Re} [lb] x1000		$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F	$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F	$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F		
7.10	**6.82**	264	159.5	685	1.08	*)		102	*)	291	174	373	235		
8.00	**7.89**	228	182.1	676	0.247	*)		109	*)	299	182	381	243		
9.00	**8.85**	203	189.0	625	0.60	1.24		114	*)	304	188	386	248		
10.00	**9.82**	183	176.6	526	1.34	*)	**MC2PESF06**	118	55	308	192	392	252		
11.20	**11.37**	158	204.4	526	0.159	*)	**MC2PEHF06**	125	60	315	198	397	259	256	280
12.50	**12.04**	150	185.2	450	1.67	*)	**MC2PEHT06**	127	63	318	201	400	261		
14.00	**13.93**	129	214.3	450	0.449	*)		133	68	323	207	406	267		
16.00	**15.63**	115	224.1	420	0.71	0.98		105	*)	270	153	341	202		
18.00	**17.59**	102	233.0	388	0.66	0.75		109	44	275	158	346	207		
20.00	**19.91**	90	214.8	316	3.10	2.65		113	50	279	162	350	212		
22.50	**22.80**	79	164.5	214	4.91	*)		105	58	247	161	308	205		
25.00	**26.39**	68	190.4	214	4.66	*)		109	60	251	165	312	209		
28.00	**29.61**	61	213.7	214	4.37	*)		111	64	255	168	315	212		
31.50	**32.33**	56	211.6	194	4.61	*)		114	66	256	169	318	215		
35.50	**36.28**	50	230.9	189	4.50	*)		117	68	259	173	321	217		
40.00	**41.07**	44	211.7	153	5.9	0.037		119	71	261	176	323	220		
45.00	**45.96**	39	197.9	128	6.5	0.462	**MC3PESF06**	121	74	264	177	326	223		
50.00	**51.58**	35	222.1	128	6.3	0.462	**MC3PEHF06**	123	75	267	180	327	225	272	282
56.00	**56.31**	32	220.1	116	6.6	0.72	**MC3PEHT06**	125	78	268	182	330	227		
63.00	**63.20**	28	235.1	110	6.7	0.85		127	79	271	184	331	229		
71.00	**71.10**	25	222.4	93	7.6	0.132		106	58	229	143	283	180		
80.00	**79.80**	23	236.8	88	7.8	0.248		107	59	232	145	284	181		
90.00	**90.32**	20	220.6	72	9.2	0.63		110	62	233	148	287	184		
100.00	**96.73**	19	230.7	71	9.0	0.488		110	63	235	149	288	185		
112.00	**109.49**	16	222.3	60	10.1	0.76		113	64	237	150	290	186		

MC.PE..07, n_1 = 1800rpm														310000 lb-in	
7.10	**6.86**	262	205.2	876	0.97	*)		126	*)	358	215	460	290		
8.00	**7.73**	233	221.2	838	0.73	0.370		133	*)	366	223	467	296		
9.00	**8.68**	207	229.1	773	1.13	1.18		139	*)	373	229	473	303		
10.00	**9.65**	187	224.9	682	1.29	*)		145	*)	380	236	480	310		
11.20	**10.86**	166	247.3	666	0.62	0.142	**MC2PESF07**	152	72	385	241	487	316	258	280
12.50	**12.19**	148	237.0	569	1.76	*)	**MC2PEHF07**	157	78	392	248	492	322		
14.00	**13.73**	131	266.9	569	0.52	*)	**MC2PEHT07**	162	83	397	253	499	327		
16.00	**15.42**	117	273.2	518	1.26	0.85		129	*)	331	188	418	248		
18.00	**17.66**	102	284.7	472	1.30	0.74		134	55	338	194	425	255		
20.00	**20.25**	89	295.0	426	2.18	1.71		139	60	343	200	430	260		
22.50	**22.38**	80	219.7	291	5.2	*)		129	70	304	197	378	252		
25.00	**25.20**	71	247.4	291	4.90	*)		133	74	307	201	382	256		
28.00	**28.31**	64	277.9	291	4.50	*)		135	76	311	205	386	260		
31.50	**31.86**	57	281.3	262	4.71	0.357		139	80	315	208	390	263		
35.50	**35.78**	50	316.0	262	4.23	0.357		142	83	318	212	393	267		
40.00	**41.02**	44	294.2	212	5.8	1.04		146	87	322	216	397	271		
45.00	**43.89**	41	257.7	174	7.0	0.77	**MC3PESF07**	148	89	325	217	400	272		
50.00	**49.30**	37	289.5	174	6.6	0.77	**MC3PEHF07**	150	93	327	220	402	275	274	283
56.00	**55.47**	32	290.9	155	7.0	1.17	**MC3PEHT07**	153	95	330	223	405	279		
63.00	**62.31**	29	324.0	154	6.6	1.20		156	98	333	227	408	282		
71.00	**68.66**	26	293.9	127	8.0	0.098		129	70	282	174	347	220		
80.00	**77.12**	23	326.7	125	7.7	0.129		131	72	284	177	349	223		
90.00	**88.41**	20	302.3	101	9.6	0.70		134	75	287	181	353	225		
100.00	**99.48**	18	283.1	84	10.7	0.77		137	78	290	182	354	228		
112.00	**114.04**	16	305.2	79	11.0	0.90		139	80	292	185	357	231		

MC.PE..08, n_1 = 1800rpm								P_{TH}						407000 lb-in	
i_N	i_{ex}	n_2 [rpm]	M_{N2} [lb-in] x1000	P_{N1} [HP]	F_{Ra} [lb] x1000	F_{Re} [lb] x1000		$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F	$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F	$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F		
7.10	**7.01**	257	264.1	1103	1.89	*)		158	*)	447	268	573	361		
8.00	**7.89**	228	297.3	1103	0.87	*)		166	*)	456	278	581	370		
9.00	**8.96**	201	312.0	1020	1.19	0.85		174	*)	465	287	590	380		
10.00	**9.80**	184	290.0	866	2.23	*)	**MC2PESF08**	181	*)	472	294	597	385		
11.20	**11.03**	163	326.5	866	1.11	*)	**MC2PEHF08**	188	90	480	302	605	393	260	280
12.50	**12.49**	144	307.6	721	2.68	*)	**MC2PEHT08**	196	98	488	310	613	401		
14.00	**14.06**	128	346.4	721	1.51	*)		202	105	495	316	620	409		
16.00	**15.97**	113	370.1	678	1.48	0.73		161	*)	413	235	522	310		
18.00	**17.76**	101	382.5	630	1.50	0.470		166	68	420	241	528	316		
20.00	**19.90**	90	385.9	568	2.76	1.66		173	75	425	248	534	323		
22.50	**21.70**	83	314.1	429	4.78	*)		158	86	374	243	467	310		
25.00	**24.43**	74	353.7	429	4.40	*)		162	90	380	247	472	315		
28.00	**27.74**	65	401.7	429	3.88	*)		168	95	384	252	477	321		
31.50	**31.14**	58	390.8	372	4.44	0.270		172	99	389	256	481	325		
35.50	**35.36**	51	412.1	345	4.71	0.63		176	103	393	261	485	330		
40.00	**39.60**	45	383.4	287	6.3	1.41		180	107	397	266	489	333		
45.00	**43.63**	41	385.3	262	6.2	*)	**MC3PESF08**	182	110	401	268	493	337		
50.00	**49.55**	36	415.3	248	6.3	0.081	**MC3PEHF08**	186	114	405	272	498	341	276	283
56.00	**55.61**	32	423.8	226	6.4	0.55	**MC3PEHT08**	189	117	408	276	502	345		
63.00	**63.15**	29	418.9	197	7.5	1.16		193	121	412	280	504	347		
71.00	**69.09**	26	427.4	183	7.6	*)		160	87	349	216	429	272		
80.00	**78.46**	23	422.0	159	8.7	0.379		162	90	351	220	432	276		
90.00	**87.87**	20	393.9	133	10.4	0.99		166	93	355	223	436	279		
100.00	**97.27**	19	404.6	123	10.6	0.82		168	95	358	225	439	282		
112.00	**108.95**	17	399.0	109	11.7	1.19		170	98	361	228	441	284		

MC.PE..09, n_1 = 1800rpm														575000 lb-in	
7.10	**6.91**	260	335.4	1421	3.33	*)		181	*)	518	310	662	417		
8.00	**7.99**	225	387.9	1421	2.82	*)		193	*)	530	323	675	429		
9.00	**8.97**	201	425.5	1389	2.45	*)		202	*)	539	333	685	440		
10.00	**9.53**	189	367.2	1128	3.73	*)		208	*)	544	338	689	444		
11.20	**11.03**	163	424.7	1127	3.17	*)	**MC2PESF09**	219	*)	557	349	701	456		
12.50	**11.77**	153	385.2	958	4.12	*)	**MC2PEHF09**	223	110	561	354	707	461	262	280
14.00	**13.61**	132	445.4	958	3.55	*)	**MC2PEHT09**	233	119	571	365	716	471		
16.00	**15.27**	118	499.9	958	2.84	*)		184	*)	476	270	602	357		
18.00	**17.01**	106	510.4	878	3.22	*)		190	*)	483	276	609	363		
20.00	**19.26**	93	526.9	801	3.67	*)		198	84	491	284	617	371		
22.50	**21.63**	83	397.6	544	6.6	*)		186	101	444	287	554	369		
25.00	**25.02**	72	459.8	544	6.1	*)		194	107	452	295	562	375		
28.00	**28.08**	64	516.0	544	5.6	*)		198	113	457	300	567	381		
31.50	**30.88**	58	498.3	478	6.3	0.099		202	117	461	304	571	385		
35.50	**34.65**	52	559.2	478	5.8	0.099		208	122	465	310	577	390		
40.00	**39.22**	46	520.4	393	7.7	1.18		213	126	471	315	581	396		
45.00	**44.10**	41	545.6	367	7.3	*)	**MC3PESF09**	217	131	476	319	586	400		
50.00	**49.49**	36	563.5	337	7.8	*)	**MC3PEHF09**	221	135	480	323	590	405	278	283
56.00	**54.43**	33	568.5	309	8.0	0.51	**MC3PEHT09**	224	138	484	327	594	408		
63.00	**61.08**	29	566.8	275	9.2	1.19		228	142	488	331	598	412		
71.00	**68.03**	26	570.3	248	9.5	*)		189	103	413	256	508	323		
80.00	**76.35**	24	571.6	222	10.7	*)		193	106	417	260	512	326		
90.00	**86.42**	21	534.6	183	12.8	0.81		196	110	421	264	516	330		
100.00	**93.94**	19	568.5	179	12.3	0.383		198	113	424	267	519	333		
112.00	**106.33**	17	533.8	149	14.4	1.11		202	115	426	271	523	337		

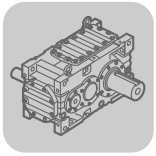
10.4.2 MC.PE.., n_1 = 1500 1/min

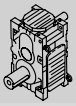
MC.PE..02, n_1 = 1500rpm								P_{TH}						70000 lb-in	
i_N	i_{ex}	n_2 [rpm]	M_{N2} [lb-in] x1000	P_{N1} [HP]	F_{Ra} [lb] x1000	F_{Re} [lb] x1000		$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F	$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F	$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F		
7.10	**7.07**	212	64.5	223	*)	*)		51	*)	125	74	160	101		
8.00	**8.18**	183	67.4	201	*)	0.495		55	25	127	78	162	103		
9.00	**9.18**	163	66.1	176	*)	1.04		56	27	130	80	165	106		
10.00	**9.83**	153	70.3	175	*)	*)	**MC2PESF02**	58	28	131	82	166	107		
11.20	**11.37**	132	71.4	153	*)	0.64	**MC2PEHF02**	60	31	134	84	169	110	248	280
12.50	**12.31**	122	74.0	147	*)	*)	**MC2PEHT02**	62	32	135	86	170	111		
14.00	**14.24**	105	71.3	122	0.271	0.83		64	35	138	89	173	114		
16.00	**15.98**	94	67.3	103	1.18	1.39		51	21	115	64	145	86		
18.00	**17.88**	84	67.5	92	1.46	1.44		54	24	117	67	146	87		
20.00	**20.24**	74	62.3	75	1.98	1.62		55	25	118	68	149	90		
22.50	**22.30**	67	74.5	82	0.83	0.54		51	30	107	70	134	90		
25.00	**25.79**	58	70.8	68	1.83	0.74		54	31	110	71	137	91		
28.00	**28.95**	52	65.5	56	2.32	0.76		55	32	111	72	137	93		
31.50	**32.31**	46	71.6	55	2.15	0.76		55	34	111	74	138	94		
35.50	**36.27**	41	67.1	46	2.62	0.77		56	34	113	75	139	95		
40.00	**38.89**	39	75.9	48	2.15	0.451		58	35	114	76	141	95		
45.00	**44.97**	33	71.8	39	2.71	0.69	**MC3PESF02**	59	36	115	78	142	97		
50.00	**50.47**	30	67.6	33	3.18	0.84	**MC3PEHF02**	60	38	117	78	143	98	264	281
56.00	**56.34**	27	71.8	31	3.13	0.84	**MC3PEHT02**	60	38	117	79	143	99		
63.00	**63.23**	24	68.3	27	3.58	0.85		62	39	118	80	145	101		
71.00	**71.20**	21	72.0	25	3.59	0.474		51	28	101	62	123	78		
80.00	**79.91**	19	68.7	21	4.05	0.61		52	30	101	63	125	79		
90.00	**90.45**	17	63.2	17.3	4.63	0.61		54	31	102	64	125	80		
100.00	**95.36**	16	69.2	17.9	4.42	0.61		54	31	102	64	126	80		
112.00	**107.94**	14	63.8	14.6	5.0	0.61		54	32	103	66	126	82		

MC.PE..03, n_1 = 1500rpm														102000 lb-in	
7.10	**7.29**	206	82.8	277	1.29	0.395		66	28	156	94	200	126		
8.00	**8.23**	182	86.7	257	1.43	1.08		68	31	160	97	202	129		
9.00	**9.28**	162	89.2	235	1.61	1.55		71	35	162	101	205	131		
10.00	**9.95**	151	91.9	225	1.37	0.214		72	36	164	102	208	134		
11.20	**11.23**	134	95.0	207	1.57	1.07	**MC2PESF03**	75	39	166	105	211	137		
12.50	**12.70**	118	90.1	173	1.92	1.03	**MC2PEHF03**	78	42	169	107	213	139	250	280
14.00	**14.32**	105	102.5	175	1.68	0.97	**MC2PEHT03**	80	44	172	110	216	142		
16.00	**16.16**	93	96.2	145	2.36	1.82		64	28	143	82	181	107		
18.00	**17.91**	84	96.6	132	2.56	1.80		67	30	146	83	184	110		
20.00	**20.40**	74	89.0	106	3.32	1.96		68	32	148	86	186	113		
22.50	**22.65**	66	100.5	110	2.64	0.65		64	36	134	87	168	111		
25.00	**25.55**	59	101.5	98	3.03	0.83		66	38	135	89	169	113		
28.00	**28.83**	52	94.9	81	3.78	1.08		67	40	138	90	170	115		
31.50	**32.60**	46	102.7	78	3.59	1.13		70	42	139	93	173	117		
35.50	**36.78**	41	95.9	64	4.37	1.19		71	43	141	94	174	118		
40.00	**39.81**	38	104.5	65	3.89	0.68		71	43	142	95	176	119		
45.00	**44.91**	33	103.6	57	4.43	0.87	**MC3PESF03**	72	46	143	97	177	121		
50.00	**50.67**	30	96.7	47	5.2	1.11	**MC3PEHF03**	74	47	145	98	178	122	266	281
56.00	**57.29**	26	104.1	45	5.1	1.16	**MC3PEHT03**	75	47	146	99	180	123		
63.00	**64.64**	23	97.7	37	6.0	1.20		76	48	148	101	181	125		
71.00	**71.62**	21	104.4	36	5.8	0.80		64	36	125	78	154	98		
80.00	**80.80**	19	98.6	30	6.7	0.81		64	38	126	79	154	99		
90.00	**92.02**	16	90.5	24	6.9	0.81		66	38	127	80	156	99		
100.00	**101.82**	15	99.6	24	6.9	0.81		67	39	129	80	157	101		
112.00	**115.96**	13	91.7	20	6.9	0.81		68	40	129	82	158	102		

MC.PE..04, n_1 = 1500rpm								P_{TH}						137000 lb-in	
i_N	i_{ex}	n_2 [rpm]	M_{N2} [lb-in] x1000	P_{N1} [HP]	F_{Ra} [lb] x1000	F_{Re} [lb] x1000		$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F	$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F	$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F		
7.10	**7.12**	211	105.1	360	1.36	0.66		82	*)	196	117	251	158		
8.00	**8.01**	187	109.4	333	1.64	1.19		84	39	200	121	255	161		
9.00	**8.96**	167	113.5	309	1.94	1.62		89	42	202	125	257	165		
10.00	**9.95**	151	117.3	288	1.36	0.54		91	46	207	129	261	169		
11.20	**11.19**	134	122.2	267	1.67	1.08	**MC2PESF04**	95	48	209	131	264	172		
12.50	**12.72**	118	126.5	243	1.45	0.378	**MC2PEHF04**	98	52	213	135	268	176	252	280
14.00	**14.31**	105	132.1	225	1.74	0.93	**MC2PEHT04**	102	55	217	138	272	178		
16.00	**16.00**	94	132.0	201	2.64	1.68		80	35	181	102	228	135		
18.00	**17.12**	88	131.8	188	2.82	1.75		83	36	182	105	229	137		
20.00	**19.25**	78	126.2	160	3.46	2.39		86	39	185	107	233	139		
22.50	**23.20**	65	122.3	130	3.79	0.55		80	46	166	107	208	138		
25.00	**26.10**	57	137.6	130	3.58	0.55		82	47	169	110	209	141		
28.00	**29.18**	51	132.3	112	4.26	0.88		83	50	170	113	212	142		
31.50	**33.39**	45	141.9	105	4.13	0.99		86	51	173	114	213	145		
35.50	**37.33**	40	132.7	88	5.0	1.0		87	52	174	117	216	146		
40.00	**40.28**	37	126.9	78	5.2	0.107		89	54	176	117	217	148		
45.00	**45.30**	33	142.8	78	5.1	0.107	**MC3PESF04**	90	56	177	119	219	149		
50.00	**50.64**	30	132.6	65	6.0	0.467	**MC3PEHF04**	93	58	180	121	220	150	268	281
56.00	**57.96**	26	144.3	61	5.9	0.55	**MC3PEHT04**	94	59	181	122	223	153		
63.00	**64.79**	23	133.1	51	6.9	0.85		95	60	182	123	224	154		
71.00	**72.86**	21	145.8	49	6.7	0.65		79	44	154	97	190	121		
80.00	**81.44**	18	133.1	40	7.8	0.92		80	46	156	98	192	122		
90.00	**91.60**	16	128.1	35	7.9	0.92		82	47	157	99	193	123		
100.00	**97.56**	15	131.7	33	7.9	0.92		82	48	158	99	193	125		
112.00	**109.73**	14	128.6	29	7.9	0.92		83	48	160	101	194	126		

MC.PE..05, n_1 = 1500rpm														177000 lb-in	
7.10	**7.10**	211	146.3	502	0.422	*)		93	*)	223	134	286	180		
8.00	**8.00**	188	152.4	465	0.64	0.82		97	*)	228	138	290	184		
9.00	**8.87**	169	157.0	432	1.0	1.52		101	48	231	142	294	188		
10.00	**9.78**	153	162.5	405	0.361	*)		103	51	235	145	298	192		
11.20	**11.01**	136	169.0	374	0.62	0.54	**MC2PESF05**	107	55	239	149	302	196		
12.50	**12.52**	120	166.2	324	1.02	*)	**MC2PEHF05**	111	59	243	154	306	200	254	280
14.00	**14.10**	106	182.5	316	0.64	0.325	**MC2PEHT05**	115	62	247	157	310	204		
16.00	**15.64**	96	176.8	276	1.73	1.79		91	39	205	115	259	154		
18.00	**17.24**	87	178.0	252	1.92	1.81		94	42	208	119	263	157		
20.00	**19.40**	77	166.4	209	2.70	2.75		98	44	212	122	266	160		
22.50	**22.58**	66	137.2	150	3.70	0.494		93	52	192	125	240	160		
25.00	**25.41**	59	154.4	150	3.53	0.493		94	54	194	127	243	162		
28.00	**28.19**	53	171.3	150	3.40	0.493		97	56	197	129	244	164		
31.50	**32.53**	46	176.7	134	3.45	0.76		99	59	200	131	247	166		
35.50	**36.08**	42	177.0	121	3.91	0.97		101	60	201	134	249	169		
40.00	**40.62**	37	164.5	100	4.79	1.32		103	63	204	135	251	170		
45.00	**43.55**	34	160.2	91	4.88	0.81	**MC3PESF05**	105	64	205	137	252	172		
50.00	**48.31**	31	177.7	91	4.78	0.81	**MC3PEHF05**	106	66	207	139	255	174	270	282
56.00	**55.74**	27	182.0	81	4.93	1.07	**MC3PEHT05**	107	68	209	141	256	176		
63.00	**61.84**	24	180.2	72	5.5	1.28		110	70	211	142	257	178		
71.00	**71.06**	21	183.8	64	5.7	0.458		91	51	178	111	220	139		
80.00	**78.83**	19	181.9	57	6.3	0.66		93	52	180	113	221	141		
90.00	**88.73**	17	168.9	47	7.3	0.94		94	54	182	114	223	142		
100.00	**96.36**	16	167.9	43	7.6	0.87		95	55	182	115	224	143		
112.00	**108.46**	14	170.3	39	8.1	1.0		97	56	185	117	225	145		

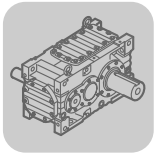


MC.PE..06, n_1 = 1500rpm								P_{TH}						**221000 lb-in**	
i_N	i_{ex}	n_2 [rpm]	M_{N2} [lb-in] x1000	P_{N1} [HP]	F_{Ra} [lb] x1000	F_{Re} [lb] x1000		$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F	$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F	$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F		
7.10	**6.82**	220	168.3	602	1.15	*)		110	*)	268	160	345	216		
8.00	**7.89**	190	192.2	594	0.271	*)		117	*)	275	168	351	223		
9.00	**8.85**	169	199.7	550	0.62	1.30		122	58	280	172	357	228		
10.00	**9.82**	153	186.7	464	1.39	*)	**MC2PESF06**	126	62	284	177	361	232		
11.20	**11.37**	132	216.1	464	0.148	*)	**MC2PEHF06**	131	67	291	182	367	239	256	280
12.50	**12.04**	125	195.9	397	1.73	*)	**MC2PEHT06**	134	70	294	185	369	240		
14.00	**13.93**	108	226.7	397	0.438	*)		139	75	299	190	374	247		
16.00	**15.63**	96	233.1	364	1.09	1.27		111	47	249	141	315	186		
18.00	**17.59**	85	233.5	324	1.88	1.63		115	51	253	145	319	190		
20.00	**19.91**	75	215.3	264	3.70	2.92		119	55	257	149	323	194		
22.50	**22.80**	66	164.3	178	5.6	*)		110	62	228	148	284	189		
25.00	**26.39**	57	190.2	178	5.3	*)		113	66	232	152	288	193		
28.00	**29.61**	51	213.4	178	5.1	*)		115	68	235	154	291	196		
31.50	**32.33**	46	212.1	162	5.3	*)		118	70	237	157	294	198		
35.50	**36.28**	41	232.2	158	5.2	*)		119	72	239	160	296	200		
40.00	**41.07**	37	214.3	129	6.5	0.113		122	75	241	161	299	202		
45.00	**45.96**	33	198.0	106	7.3	0.65	**MC3PESF06**	125	76	244	164	300	205		
50.00	**51.58**	29	222.2	106	7.1	0.65	**MC3PEHF06**	126	79	247	166	303	208	272	282
56.00	**56.31**	27	220.2	97	7.4	0.91	**MC3PEHT06**	129	80	248	168	304	209		
63.00	**63.20**	24	236.6	92	7.5	1.02		130	83	251	170	307	212		
71.00	**71.10**	21	222.2	77	8.5	0.269		109	60	212	131	261	166		
80.00	**79.80**	19	238.2	74	8.7	0.369		110	63	215	134	263	168		
90.00	**90.32**	17	222.0	61	10.1	0.75		113	64	216	135	266	169		
100.00	**96.73**	16	230.5	59	10	0.62		113	66	217	137	266	170		
112.00	**109.49**	14	223.8	50	10.2	0.88		115	67	219	138	268	173		

MC.PE..07, n_1 = 1500rpm														**310000 lb-in**	
7.10	**6.86**	219	216.6	770	1.04	*)		137	*)	330	197	424	266		
8.00	**7.73**	194	233.8	738	0.76	0.383		142	*)	337	204	430	272		
9.00	**8.68**	173	241.8	680	1.21	1.26		149	70	343	211	437	279		
10.00	**9.65**	155	237.7	601	1.35	*)		154	75	349	216	443	284		
11.20	**10.86**	138	261.7	588	0.60	0.127	**MC2PESF07**	160	80	355	223	449	291		
12.50	**12.19**	123	250.5	501	1.85	*)	**MC2PEHF07**	165	86	361	228	455	296	258	280
14.00	**13.73**	109	282.1	501	0.54	*)	**MC2PEHT07**	170	91	366	233	460	302		
16.00	**15.42**	97	289.0	457	1.29	0.88		137	58	306	173	386	228		
18.00	**17.66**	85	301.1	416	1.34	0.77		142	63	311	178	393	235		
20.00	**20.25**	74	298.7	360	3.37	2.20		148	68	316	184	398	240		
22.50	**22.38**	67	220.3	243	5.9	0.166		134	75	280	181	350	232		
25.00	**25.20**	60	248.1	243	5.6	0.166		138	79	284	185	354	236		
28.00	**28.31**	53	278.7	243	5.3	0.165		141	82	287	189	357	240		
31.50	**31.86**	47	281.0	218	5.5	0.58		143	86	291	192	361	243		
35.50	**35.78**	42	315.7	218	5.1	0.58		148	89	294	196	363	247		
40.00	**41.02**	37	295.7	178	6.7	1.24		150	93	298	198	367	249		
45.00	**43.89**	34	257.3	145	7.9	1.03	**MC3PESF07**	152	94	299	200	369	252		
50.00	**49.30**	30	289.0	145	7.6	1.03	**MC3PEHF07**	154	97	302	204	371	255	274	283
56.00	**55.47**	27	291.2	130	7.9	1.42	**MC3PEHT07**	157	99	304	207	374	257		
63.00	**62.31**	24	326.1	129	7.6	1.43		160	102	307	209	377	260		
71.00	**68.66**	22	294.0	106	9.0	0.270		133	74	260	161	321	202		
80.00	**77.12**	19	328.5	105	8.7	0.285		135	76	263	164	323	205		
90.00	**88.41**	17	304.3	85	10.6	0.85		138	79	266	166	326	208		
100.00	**99.48**	15	283.6	70	11.8	0.94		139	80	268	169	329	211		
112.00	**114.04**	13	307.3	67	11.8	1.05		142	83	271	172	330	213		

MC.PE..08, n_1 = 1500rpm								P_{TH}						407000 lb-in	
i_N	i_{ex}	n_2 [rpm]	M_{N2} [lb-in] x1000	P_{N1} [HP]	F_{Ra} [lb] x1000	F_{Re} [lb] x1000		$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F	$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F	$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F		
7.10	**7.01**	214	279.0	972	1.99	*)		170	*)	412	247	528	331		
8.00	**7.89**	190	314.2	971	0.91	*)		178	*)	420	255	536	341		
9.00	**8.96**	167	329.4	897	1.27	0.90		186	*)	429	264	544	349		
10.00	**9.80**	153	306.2	762	2.36	*)	**MC2PESF08**	192	94	434	270	551	355		
11.20	**11.03**	136	344.8	762	1.18	*)	**MC2PEHF08**	200	102	443	278	558	362	260	280
12.50	**12.49**	120	324.8	634	2.84	*)	**MC2PEHT08**	207	109	449	284	566	370		
14.00	**14.06**	107	365.7	634	1.60	*)		213	115	456	291	573	377		
16.00	**15.97**	94	390.9	597	1.56	0.77		170	72	381	216	481	286		
18.00	**17.76**	84	404.7	556	1.54	0.476		176	78	386	221	487	291		
20.00	**19.90**	75	388.0	476	3.84	2.29		182	84	393	228	493	298		
22.50	**21.70**	69	331.4	377	5.1	*)		165	93	346	223	432	286		
25.00	**24.43**	61	373.2	377	4.65	*)		169	97	350	228	436	291		
28.00	**27.74**	54	410.4	365	4.47	*)		173	101	355	232	441	295		
31.50	**31.14**	48	412.0	327	4.71	0.294		177	105	359	236	445	299		
35.50	**35.36**	42	414.6	290	5.5	0.89		181	109	363	241	449	304		
40.00	**39.60**	38	385.6	240	7.1	1.69		185	113	367	244	453	307		
45.00	**43.63**	34	387.2	219	7.1	0.072	**MC3PESF08**	188	115	370	248	456	311		
50.00	**49.55**	30	418.4	209	7.2	0.339	**MC3PEHF08**	192	119	374	252	460	315	276	283
56.00	**55.61**	27	424.8	189	7.4	0.84	**MC3PEHT08**	194	122	377	255	463	318		
63.00	**63.15**	24	421.2	165	8.6	1.44		198	126	381	259	467	322		
71.00	**69.09**	22	427.4	153	8.7	0.055		164	91	322	200	397	251		
80.00	**78.46**	19	426.2	134	9.8	0.57		168	95	326	202	400	255		
90.00	**87.87**	17	398.0	112	11.5	1.19		170	98	329	205	402	257		
100.00	**97.27**	15	405.0	103	11.8	1.04		172	99	330	208	405	260		
112.00	**108.95**	14	401.4	91	12.9	1.39		174	102	333	211	408	263		

MC.PE..09, n_1 = 1500rpm														575000 lb-in	
7.10	**6.91**	217	354.2	1250	3.52	*)		197	*)	476	284	610	384		
8.00	**7.99**	188	409.6	1250	2.99	*)		208	*)	488	296	622	396		
9.00	**8.97**	167	449.4	1222	2.59	*)		217	*)	498	306	632	405		
10.00	**9.53**	157	388.1	993	3.93	*)		221	107	502	310	637	409		
11.20	**11.03**	136	448.8	993	3.35	*)	**MC2PESF09**	231	118	512	321	648	420	262	280
12.50	**11.77**	127	407.0	844	4.35	*)	**MC2PEHF09**	236	122	518	326	652	425		
14.00	**13.61**	110	470.6	844	3.75	*)	**MC2PEHT09**	245	131	527	335	661	434		
16.00	**15.27**	98	528.1	844	2.99	*)		196	*)	439	248	555	329		
18.00	**17.01**	88	539.1	773	3.40	*)		201	89	445	255	562	335		
20.00	**19.26**	78	530.3	672	4.51	*)		209	95	453	261	570	342		
22.50	**21.63**	69	420.1	479	7.0	*)		196	110	410	264	512	339		
25.00	**25.02**	60	485.8	479	6.5	*)		201	115	417	271	519	346		
28.00	**28.08**	53	545.2	479	5.9	*)		207	121	421	276	524	351		
31.50	**30.88**	49	526.5	421	6.7	0.102		211	125	425	280	528	355		
35.50	**34.65**	43	561.1	400	6.8	0.426		215	129	430	286	532	361		
40.00	**39.22**	38	523.3	329	8.8	1.50		220	133	436	290	538	365		
45.00	**44.10**	34	545.6	305	8.4	*)	**MC3PESF09**	224	138	440	295	542	369		
50.00	**49.49**	30	567.1	283	9.0	0.295	**MC3PEHF09**	228	141	444	299	546	373	278	283
56.00	**54.43**	28	570.9	259	9.2	0.86	**MC3PEHT09**	231	145	447	302	548	377		
63.00	**61.08**	25	571.7	231	10.3	1.52		235	148	451	306	553	381		
71.00	**68.03**	22	570.9	207	10.9	*)		194	109	382	236	471	298		
80.00	**76.35**	20	575.0	186	11.9	0.211		198	111	385	240	473	302		
90.00	**86.42**	17	534.6	153	14.2	1.08		201	115	389	244	477	306		
100.00	**93.94**	16	566.0	149	13.8	0.66		204	118	392	247	480	307		
112.00	**106.33**	14	535.4	124	15.9	1.36		207	121	394	249	483	311		



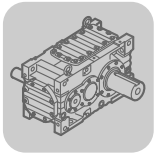
10.4.3 MC.PE.., n_1 = 1200 1/min

MC.PE..02, n_1 = 1200rpm								P_{TH}						70000 lb-in	
i_N	i_{ex}	n_2 [rpm]	M_{N2} [lb-in] x1000	P_{N1} [HP]	F_{Ra} [lb] x1000	F_{Re} [lb] x1000		$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F	$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F	$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F		
7.10	**7.07**	170	69.0	191	*)	*)		56	27	113	67	145	90		
8.00	**8.18**	147	70.9	169	*)	0.61		59	30	115	70	148	94		
9.00	**9.18**	131	66.4	141	0.467	1.31		60	31	118	72	149	95		
10.00	**9.83**	122	74.5	148	*)	0.046		62	32	119	74	150	97		
11.20	**11.37**	106	71.2	122	0.274	0.99	**MC2PESF02**	64	35	121	76	153	99	248	280
12.50	**12.31**	97	74.9	119	*)	0.233	**MC2PEHF02**	66	36	122	78	154	101		
14.00	**14.24**	84	71.4	98	0.83	1.16	**MC2PEHT02**	68	39	125	79	157	103		
16.00	**15.98**	75	67.7	83	1.66	1.63		55	25	105	59	131	78		
18.00	**17.88**	67	68.0	74	1.81	1.65		56	27	106	60	133	79		
20.00	**20.24**	59	62.7	61	2.29	1.77		58	28	107	62	135	82		
22.50	**22.30**	54	74.9	66	1.44	0.67		54	31	98	63	122	80		
25.00	**25.79**	47	71.4	55	2.15	0.74		55	34	99	64	123	83		
28.00	**28.95**	41	66.9	46	2.62	0.76		56	34	101	66	125	84		
31.50	**32.31**	37	71.7	44	2.52	0.76		58	35	102	67	126	84		
35.50	**36.27**	33	67.5	37	2.99	0.77		59	36	103	68	127	86		
40.00	**38.89**	31	76.6	39	2.52	0.56		59	36	103	68	127	87		
45.00	**44.97**	27	71.9	32	3.12	0.81	**MC3PESF02**	60	38	105	70	129	89		
50.00	**50.47**	24	68.2	27	3.58	0.84	**MC3PEHF02**	62	39	106	71	130	89	264	281
56.00	**56.34**	21	71.9	25	3.57	0.84	**MC3PEHT02**	63	40	107	72	131	90		
63.00	**63.23**	19	68.8	22	4.02	0.85		63	40	107	72	131	91		
71.00	**71.20**	17	72.2	20	4.05	0.470		52	31	91	56	113	71		
80.00	**79.91**	15	69.3	17.1	4.52	0.61		54	31	93	58	113	72		
90.00	**90.45**	13	63.8	13.9	5.1	0.61		55	32	93	58	114	72		
100.00	**95.36**	13	69.8	14.5	4.91	0.61		55	32	94	59	114	74		
112.00	**107.94**	11	64.1	11.7	5.1	0.61		56	34	94	59	115	74		

MC.PE..03, n_1 = 1200rpm														102000 lb-in	
7.10	**7.29**	165	88.6	237	1.38	0.417		71	34	141	84	181	114		
8.00	**8.23**	146	92.7	220	1.53	1.16		74	36	145	87	184	117		
9.00	**9.28**	129	95.0	200	1.74	1.67		76	39	148	90	186	119		
10.00	**9.95**	121	97.8	192	1.48	0.280		78	40	149	93	189	121		
11.20	**11.23**	107	101.9	177	1.67	1.12	**MC2PESF03**	80	43	152	95	192	123	250	280
12.50	**12.70**	95	91.0	140	2.34	1.46	**MC2PEHF03**	83	46	154	97	193	126		
14.00	**14.32**	84	103.7	141	2.10	1.41	**MC2PEHT03**	84	48	157	99	196	129		
16.00	**16.16**	74	96.9	117	2.82	1.99		68	32	130	74	165	98		
18.00	**17.91**	67	97.2	106	3.04	1.97		71	34	133	75	166	99		
20.00	**20.40**	59	89.7	86	3.82	2.14		72	36	134	78	169	102		
22.50	**22.65**	53	100.5	88	3.19	0.81		67	39	122	79	152	101		
25.00	**25.55**	47	102.4	79	3.56	0.97		68	40	123	80	154	103		
28.00	**28.83**	42	95.5	65	4.33	1.17		71	43	125	82	156	105		
31.50	**32.60**	37	103.0	62	4.19	1.17		72	44	126	83	157	106		
35.50	**36.78**	33	96.6	52	4.96	1.19		74	46	129	84	158	107		
40.00	**39.81**	30	104.6	52	4.52	0.83		74	46	129	86	160	109		
45.00	**44.91**	27	104.4	46	5.1	1.01	**MC3PESF03**	75	47	130	87	161	110		
50.00	**50.67**	24	97.4	38	5.9	1.19	**MC3PEHF03**	76	48	131	89	162	111	266	281
56.00	**57.29**	21	104.0	36	5.9	1.19	**MC3PEHT03**	78	50	133	90	164	113		
63.00	**64.64**	19	98.6	30	6.7	1.20		79	51	134	91	165	113		
71.00	**71.62**	17	104.5	29	6.6	0.80		66	38	114	70	139	89		
80.00	**80.80**	15	99.4	24	6.9	0.81		67	39	114	71	141	90		
90.00	**92.02**	13	91.5	20	6.9	0.81		68	40	115	72	142	91		
100.00	**101.82**	12	100.6	20	6.9	0.81		68	40	117	74	143	91		
112.00	**115.96**	10	92.0	15.7	6.9	0.81		70	42	118	75	143	93		

MC.PE..04, n_1 = 1200rpm								P_{TH}						137000 lb-in	
i_N	i_{ex}	n_2	M_{N2}	P_{N1}	F_{Ra}	F_{Re}		$P_{TH[20]}$	$P_{TH[40]}$	$P_{TH[20]}$	$P_{TH[40]}$	$P_{TH[20]}$	$P_{TH[40]}$		
		[rpm]	[lb-in] x1000	[HP]	[lb] x1000	[lb] x1000		68 °F	104 °F	68 °F	104 °F	68 °F	104 °F		
7.10	**7.12**	168	112.4	308	1.45	0.71		89	42	177	106	228	142		
8.00	**8.01**	150	117.1	285	1.75	1.26		91	46	181	110	231	146		
9.00	**8.96**	134	121.1	264	2.10	1.74		95	48	184	113	235	150		
10.00	**9.95**	121	125.6	247	1.43	0.56	**MC2PESF04**	98	51	188	115	237	153		
11.20	**11.19**	107	130.6	228	1.80	1.16	**MC2PEHF04**	101	55	190	119	240	156	252	280
12.50	**12.72**	94	134.7	207	1.61	0.440	**MC2PEHT04**	105	58	193	122	244	160		
14.00	**14.31**	84	140.7	192	1.92	1.02		107	60	197	126	247	162		
16.00	**16.00**	75	132.2	161	3.20	2.13		86	40	164	93	208	122		
18.00	**17.12**	70	132.1	151	3.39	2.19		87	42	165	94	209	125		
20.00	**19.25**	62	126.4	128	4.06	2.63		90	44	168	97	212	127		
22.50	**23.20**	52	122.3	104	4.43	0.75		83	50	152	98	189	125		
25.00	**26.10**	46	137.6	104	4.24	0.75		86	51	153	99	190	127		
28.00	**29.18**	41	132.6	90	4.93	0.98		87	52	156	102	193	129		
31.50	**33.39**	36	142.8	84	4.80	0.99		90	55	157	103	194	131		
35.50	**37.33**	32	132.7	70	5.7	1.0		91	56	158	106	196	133		
40.00	**40.28**	30	127.0	62	6.0	0.261		91	58	160	106	197	134		
45.00	**45.30**	26	142.8	62	5.9	0.261	**MC3PESF04**	94	59	161	109	198	135		
50.00	**50.64**	24	132.8	52	6.8	0.62	**MC3PEHF04**	95	60	162	110	200	137	268	281
56.00	**57.96**	21	145.7	50	6.7	0.69	**MC3PEHT04**	97	62	165	111	202	138		
63.00	**64.79**	19	133.3	41	7.8	1.0		98	63	166	113	204	139		
71.00	**72.86**	16	146.9	40	7.5	0.79		82	47	141	87	173	110		
80.00	**81.44**	15	133.6	32	7.9	0.92		83	48	142	89	174	111		
90.00	**91.60**	13	129.3	28	7.9	0.92		84	50	143	90	176	113		
100.00	**97.56**	12	131.2	27	7.9	0.92		84	50	143	90	176	113		
112.00	**109.73**	11	129.8	23	7.9	0.92		86	51	145	91	177	114		

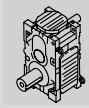
MC.PE..05, n_1 = 1200rpm														177000 lb-in	
7.10	**7.10**	169	156.2	429	0.468	*)		101	48	202	121	259	162		
8.00	**8.00**	150	162.7	397	0.71	0.90		105	52	207	125	263	166		
9.00	**8.87**	135	167.8	369	1.08	1.62		107	55	209	129	267	170		
10.00	**9.78**	123	173.7	347	0.388	*)		111	58	213	131	270	173		
11.20	**11.01**	109	180.5	320	0.68	0.61	**MC2PESF05**	114	62	216	135	274	177	254	280
12.50	**12.52**	96	167.6	261	1.74	0.95	**MC2PEHF05**	118	66	220	139	278	181		
14.00	**14.10**	85	187.7	260	1.21	1.04	**MC2PEHT05**	121	68	224	142	282	185		
16.00	**15.64**	77	178.3	223	2.21	2.35		98	44	186	105	236	139		
18.00	**17.24**	70	178.9	203	2.44	2.40		101	47	189	107	239	142		
20.00	**19.40**	62	166.9	168	3.25	3.01		103	50	192	110	241	145		
22.50	**22.58**	53	137.0	120	4.30	0.70		97	56	174	113	219	145		
25.00	**25.41**	47	154.3	120	4.15	0.70		99	59	177	115	220	148		
28.00	**28.19**	43	171.1	120	4.03	0.70		101	60	178	117	223	149		
31.50	**32.53**	37	176.0	107	4.13	0.97		103	63	181	119	225	152		
35.50	**36.08**	33	178.3	98	4.54	1.16		105	64	184	122	227	153		
40.00	**40.62**	30	165.7	81	5.5	1.51		106	66	185	123	228	156		
45.00	**43.55**	28	160.1	73	5.6	1.02	**MC3PESF05**	107	67	186	125	229	157		
50.00	**48.31**	25	177.6	73	5.5	1.02	**MC3PEHF05**	109	68	188	126	232	158	270	282
56.00	**55.74**	22	182.1	65	5.7	1.28	**MC3PEHT05**	111	71	190	129	233	160		
63.00	**61.84**	19	181.7	58	6.3	1.49		113	72	192	130	235	162		
71.00	**71.06**	17	183.9	51	6.5	0.61		94	54	162	101	200	127		
80.00	**78.83**	15	183.4	46	7.2	0.80		95	55	164	102	201	129		
90.00	**88.73**	14	170.0	38	8.2	1.09		97	56	165	103	202	130		
100.00	**96.36**	12	167.8	34	8.5	1.02		98	58	166	105	204	130		
112.00	**108.46**	11	171.4	31	9.0	1.15		99	59	168	106	205	133		



MC.PE..06, n_1 = 1200rpm								P_{TH}						**221000 lb-in**	
i_N	i_{ex}	n_2 [rpm]	M_{N2} [lb-in] x1000	P_{N1} [HP]	F_{Ra} [lb] x1000	F_{Re} [lb] x1000		$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F	$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F	$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F		
7.10	**6.82**	176	180.1	516	1.22	*)		121	56	243	145	312	196		
8.00	**7.89**	152	205.8	509	0.264	*)		126	62	249	150	319	201		
9.00	**8.85**	136	213.4	470	0.68	1.40		130	67	255	156	323	207		
10.00	**9.82**	122	199.9	397	1.47	*)	**MC2PESF06**	134	71	259	160	327	211		
11.20	**11.37**	106	231.3	397	0.134	*)	**MC2PEHF06**	139	76	264	165	334	216	256	280
12.50	**12.04**	100	209.6	340	1.84	*)	**MC2PEHT06**	142	78	266	168	335	219		
14.00	**13.93**	86	241.6	339	0.55	*)		146	83	271	173	341	224		
16.00	**15.63**	77	233.7	292	2.61	2.05		118	55	225	127	286	169		
18.00	**17.59**	68	235.4	261	3.14	2.29		122	58	229	131	290	173		
20.00	**19.91**	60	217.5	213	4.42	3.20		126	62	233	135	294	177		
22.50	**22.80**	53	164.0	142	6.4	*)		115	67	208	134	259	172		
25.00	**26.39**	45	189.8	142	6.2	*)		118	70	211	138	263	176		
28.00	**29.61**	41	213.0	142	6.0	*)		121	72	213	139	266	178		
31.50	**32.33**	37	212.1	130	6.2	*)		122	74	216	142	267	180		
35.50	**36.28**	33	233.9	127	6.1	*)		125	76	217	145	270	182		
40.00	**41.07**	29	216.5	104	7.5	0.219		126	79	220	146	272	185		
45.00	**45.96**	26	198.0	85	8.4	0.89	**MC3PESF06**	129	80	223	149	274	186		
50.00	**51.58**	23	222.3	85	8.2	0.89	**MC3PEHF06**	130	83	224	152	276	189	272	282
56.00	**56.31**	21	220.0	77	8.5	1.15	**MC3PEHT06**	131	84	225	153	278	190		
63.00	**63.20**	19	238.4	74	8.6	1.24		134	86	228	154	279	192		
71.00	**71.10**	17	222.3	62	9.7	0.442		111	64	193	119	237	150		
80.00	**79.80**	15	240.3	59	9.8	0.52		114	66	194	122	240	153		
90.00	**90.32**	13	223.5	49	10.2	0.91		115	67	197	123	241	154		
100.00	**96.73**	12	230.2	47	10.2	0.79		117	68	197	125	243	156		
112.00	**109.49**	11	225.3	41	10.2	1.04		118	70	200	126	244	157		

MC.PE..07, n_1 = 1200rpm														**310000 lb-in**	
7.10	**6.86**	175	231.9	660	1.08	*)		148	70	299	178	385	240		
8.00	**7.73**	155	250.0	632	0.81	0.407		154	75	306	184	392	247		
9.00	**8.68**	138	258.4	581	1.30	1.35		160	80	311	190	397	253		
10.00	**9.65**	124	254.3	514	1.43	*)		165	86	316	196	402	257		
11.20	**10.86**	110	279.7	502	0.66	0.143	**MC2PESF07**	170	91	322	201	408	264		
12.50	**12.19**	98	267.3	428	2.02	*)	**MC2PEHF07**	176	97	327	207	413	270	258	280
14.00	**13.73**	87	301.0	428	0.63	*)	**MC2PEHT07**	180	101	333	212	418	274		
16.00	**15.42**	78	308.6	390	1.41	0.96		145	66	278	156	351	207		
18.00	**17.66**	68	322.1	356	1.42	0.82		150	71	283	161	357	212		
20.00	**20.25**	59	300.1	289	4.32	2.92		156	76	288	166	362	217		
22.50	**22.38**	54	219.7	194	6.9	0.467		141	82	255	165	318	211		
25.00	**25.20**	48	247.4	194	6.6	0.467		143	86	257	168	322	215		
28.00	**28.31**	42	277.9	194	6.3	0.467		148	89	261	172	325	217		
31.50	**31.86**	38	280.6	174	6.6	0.88		150	91	264	174	329	221		
35.50	**35.78**	34	315.2	174	6.2	0.88		153	94	267	177	331	224		
40.00	**41.02**	29	297.9	143	7.7	1.51		156	97	271	181	334	227		
45.00	**43.89**	27	257.3	116	9.0	1.36	**MC3PESF07**	157	99	272	182	335	228		
50.00	**49.30**	24	289.0	116	8.7	1.36	**MC3PEHF07**	160	101	275	185	338	231	274	283
56.00	**55.47**	22	291.3	104	9.2	1.75	**MC3PEHT07**	162	103	278	188	341	233		
63.00	**62.31**	19	327.2	104	8.8	1.75		165	106	280	189	343	236		
71.00	**68.66**	17	294.0	85	10.3	0.494		137	78	237	146	292	185		
80.00	**77.12**	16	330.3	85	10	0.494		139	80	239	149	294	186		
90.00	**88.41**	14	306.7	69	11.8	1.06		142	83	241	152	296	189		
100.00	**99.48**	12	283.6	56	11.8	1.15		143	84	244	153	299	192		
112.00	**114.04**	11	309.8	54	11.8	1.25		146	87	245	156	300	193		

MC.PE..08, n_1 = 1200rpm — P_{TH} — 407000 lb-in

i_N	i_{ex}	n_2 [rpm]	M_{N2} [lb-in] x1000	P_{N1} [HP]	F_{Ra} [lb] x1000	F_{Re} [lb] x1000		$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F	$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F	$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F		
7.10	**7.01**	171	298.0	830	2.15	*)		185	87	373	223	479	300		
8.00	**7.89**	152	335.6	830	0.99	*)		193	95	381	231	487	308		
9.00	**8.96**	134	352.4	768	1.34	0.96		200	102	389	239	495	316		
10.00	**9.80**	122	327.2	652	2.53	*)	**MC2PESF08**	205	107	394	244	500	322		
11.20	**11.03**	109	368.5	652	1.27	*)	**MC2PEHF08**	212	114	401	251	507	329	260	280
12.50	**12.49**	96	347.1	542	3.05	*)	**MC2PEHT08**	219	121	408	257	514	335		
14.00	**14.06**	85	390.9	542	1.72	*)		225	127	414	264	520	342		
16.00	**15.97**	75	417.7	510	1.69	0.83		182	84	346	196	437	259		
18.00	**17.76**	68	419.7	461	2.47	0.92		186	89	351	200	443	264		
20.00	**19.90**	60	391.3	384	4.73	3.09		192	94	357	205	448	270		
22.50	**21.70**	55	331.1	301	6.1	*)		173	101	314	202	393	260		
25.00	**24.43**	49	372.9	301	5.7	*)		177	105	318	207	397	264		
28.00	**27.74**	43	412.2	293	5.5	0.031		181	109	322	211	401	268		
31.50	**31.14**	39	416.7	264	5.7	0.62		185	113	326	215	405	272		
35.50	**35.36**	34	416.1	232	6.7	1.26		188	115	330	219	409	276		
40.00	**39.60**	30	388.8	194	8.3	2.04		192	119	334	223	412	280		
45.00	**43.63**	28	390.2	177	8.3	0.416	**MC3PESF08**	194	122	337	225	414	283		
50.00	**49.55**	24	419.8	167	8.5	0.71	**MC3PEHF08**	197	125	341	228	418	286	276	283
56.00	**55.61**	22	426.3	151	8.7	1.21	**MC3PEHT08**	201	129	343	232	421	290		
63.00	**63.15**	19	424.6	133	9.8	1.79		204	131	346	235	425	292		
71.00	**69.09**	17	429.3	123	10	0.334		169	97	292	181	361	228		
80.00	**78.46**	15	427.8	108	11.2	0.85		173	101	296	184	363	232		
90.00	**87.87**	14	400.6	90	13.0	1.46		174	102	299	186	366	233		
100.00	**97.27**	12	404.9	82	13.3	1.33		177	105	300	189	369	236		
112.00	**108.95**	11	404.4	73	14.4	1.66		180	107	303	192	371	239		

MC.PE..09, n_1 = 1200rpm — 575000 lb-in

7.10	**6.91**	174	378.5	1069	3.77	*)		213	*)	432	256	554	347		
8.00	**7.99**	150	437.7	1069	3.20	*)		224	111	443	268	566	358		
9.00	**8.97**	134	480.2	1045	2.79	*)		232	119	451	276	574	366		
10.00	**9.53**	126	414.8	849	4.21	*)		236	123	455	280	578	370		
11.20	**11.03**	109	479.6	849	3.58	*)	**MC2PESF09**	245	133	465	291	587	381		
12.50	**11.77**	102	434.8	721	4.66	*)	**MC2PEHF09**	249	137	469	295	593	385	262	280
14.00	**13.61**	88	502.8	721	4.02	*)	**MC2PEHT09**	259	145	479	304	602	394		
16.00	**15.27**	79	564.2	721	3.22	*)		208	95	398	224	504	298		
18.00	**17.01**	71	568.2	652	3.84	*)		215	101	405	229	511	303		
20.00	**19.26**	62	532.6	540	5.6	*)		221	107	412	237	518	311		
22.50	**21.63**	55	449.5	410	7.5	*)		205	119	373	240	465	308		
25.00	**25.02**	48	519.8	410	6.9	*)		211	125	378	247	472	314		
28.00	**28.08**	43	560.7	394	6.9	*)		216	129	384	251	476	319		
31.50	**30.88**	39	562.6	360	7.1	0.113		219	133	388	255	480	323		
35.50	**34.65**	35	566.2	323	8.1	0.82		223	137	392	259	484	327		
40.00	**39.22**	31	527.5	266	10.1	1.91		227	141	396	263	489	331		
45.00	**44.10**	27	545.6	244	10	0.245	**MC3PESF09**	231	145	400	267	493	335		
50.00	**49.49**	24	569.1	227	10.5	0.75	**MC3PEHF09**	235	149	404	271	496	339	278	283
56.00	**54.43**	22	570.9	207	10.9	1.34	**MC3PEHT09**	237	152	406	275	500	342		
63.00	**61.08**	20	575.0	186	11.9	1.97		241	154	410	278	503	346		
71.00	**68.03**	18	571.8	166	12.6	*)		201	115	347	215	428	271		
80.00	**76.35**	16	580.1	150	13.6	0.52		204	118	350	219	432	274		
90.00	**86.42**	14	533.5	122	16.1	1.44		208	121	354	221	434	278		
100.00	**93.94**	13	566.6	119	15.7	1.0		209	123	357	224	437	279		
112.00	**106.33**	11	535.5	99	17.9	1.70		212	126	359	227	440	283		

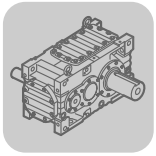
10.4.4 MC.PE.., n_1 = 1000 1/min

MC.PE..02, n_1 = 1000rpm								P_{TH}						70000 lb-in	
i_N	i_{ex}	n_2 [rpm]	M_{N2} [lb-in] x1000	P_{N1} [HP]	F_{Ra} [lb] x1000	F_{Re} [lb] x1000		$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F	$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F	$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F		
7.10	**7.07**	141	73.0	168	*)	*)		59	30	105	62	134	83		
8.00	**8.18**	122	71.0	141	*)	0.91		62	32	107	64	137	86		
9.00	**9.18**	109	66.7	118	0.87	1.52		64	35	109	67	138	89		
10.00	**9.83**	102	75.1	124	*)	0.325		64	35	110	67	139	90		
11.20	**11.37**	88	71.3	102	0.73	1.26	**MC2PESF02**	67	38	113	70	142	91	248	280
12.50	**12.31**	81	75.0	99	0.244	0.55	**MC2PEHF02**	68	39	114	71	143	93		
14.00	**14.24**	70	71.5	82	1.32	1.41	**MC2PEHT02**	71	42	115	74	145	95		
16.00	**15.98**	63	68.1	69	1.91	1.76		58	28	97	54	122	72		
18.00	**17.88**	56	68.4	62	2.07	1.77		59	30	98	56	123	74		
20.00	**20.24**	49	63.0	51	2.57	1.89		60	31	99	58	125	75		
22.50	**22.30**	45	75.5	56	1.91	0.72		56	34	91	59	113	75		
25.00	**25.79**	39	71.8	46	2.44	0.74		58	35	93	60	115	76		
28.00	**28.95**	35	67.2	38	2.92	0.76		59	36	94	62	115	78		
31.50	**32.31**	31	71.9	37	2.84	0.76		59	36	94	62	117	79		
35.50	**36.27**	28	67.8	31	3.31	0.77		60	38	95	63	118	79		
40.00	**38.89**	26	76.8	33	2.85	0.66		60	39	97	64	118	80		
45.00	**44.97**	22	71.8	26	3.49	0.83	**MC3PESF02**	62	40	97	64	119	82		
50.00	**50.47**	20	68.8	22	3.93	0.84	**MC3PEHF02**	63	40	98	66	121	83	264	281
56.00	**56.34**	18	72.2	21	3.94	0.84	**MC3PEHT02**	64	42	99	67	122	83		
63.00	**63.23**	16	69.3	18.1	4.40	0.85		64	42	99	67	122	84		
71.00	**71.20**	14	72.3	16.7	4.47	0.469		54	32	84	52	105	66		
80.00	**79.91**	13	69.6	14.3	4.94	0.61		55	32	86	54	105	67		
90.00	**90.45**	11	64.0	11.7	5.1	0.61		56	34	86	54	106	67		
100.00	**95.36**	10	70.5	12.2	5.1	0.61		56	34	87	55	106	68		
112.00	**107.94**	9.3	64.6	9.9	5.1	0.61		56	35	87	55	107	68		

MC.PE..03, n_1 = 1000rpm														102000 lb-in	
7.10	**7.29**	137	93.8	209	1.44	0.412		75	38	130	78	168	105		
8.00	**8.23**	122	98.4	195	1.59	1.18		78	40	134	80	170	107		
9.00	**9.28**	108	95.0	167	2.11	2.00		80	43	135	83	173	110		
10.00	**9.95**	100	103.5	169	1.55	0.269		82	44	138	84	174	113		
11.20	**11.23**	89	103.0	149	2.00	1.48	**MC2PESF03**	83	47	139	87	177	114	250	280
12.50	**12.70**	79	91.1	117	2.73	1.82	**MC2PEHF03**	86	50	142	90	180	117		
14.00	**14.32**	70	103.7	118	2.51	1.78	**MC2PEHT03**	89	51	145	93	182	119		
16.00	**16.16**	62	97.3	98	3.23	2.15		72	35	121	68	153	90		
18.00	**17.91**	56	97.7	89	3.46	2.13		74	36	122	70	154	93		
20.00	**20.40**	49	90.2	72	4.25	2.29		75	39	125	72	157	94		
22.50	**22.65**	44	100.5	73	3.66	0.95		70	42	113	72	141	94		
25.00	**25.55**	39	103.0	66	4.01	1.10		71	43	114	74	142	95		
28.00	**28.83**	35	96.3	55	4.80	1.17		72	44	115	76	143	97		
31.50	**32.60**	31	102.8	52	4.72	1.17		74	46	118	78	146	98		
35.50	**36.78**	27	97.3	44	5.5	1.19		75	47	119	79	148	99		
40.00	**39.81**	25	104.7	43	5.1	0.97		76	48	119	79	148	101		
45.00	**44.91**	22	105.0	39	5.6	1.14	**MC3PESF03**	78	50	121	80	149	102		
50.00	**50.67**	20	98.1	32	6.5	1.19	**MC3PEHF03**	78	51	122	82	150	103	266	281
56.00	**57.29**	17	104.0	30	6.5	1.19	**MC3PEHT03**	79	51	123	83	152	103		
63.00	**64.64**	15	99.1	25	6.9	1.20		80	52	125	84	153	105		
71.00	**71.62**	14	104.6	24	6.9	0.80		67	39	105	66	130	82		
80.00	**80.80**	12	99.7	20	6.9	0.81		68	40	106	66	130	83		
90.00	**92.02**	11	92.0	16.5	6.9	0.81		70	42	107	67	131	84		
100.00	**101.82**	9.8	101.8	16.5	6.9	0.81		70	42	109	68	133	84		
112.00	**115.96**	8.6	93.4	13.3	6.9	0.81		71	43	109	68	134	86		

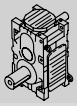
MC.PE..04, n_1 = 1000rpm								P_{TH}						137000 lb-in	
i_N	i_{ex}	n_2 [rpm]	M_{N2} [lb-in] x1000	P_{N1} [HP]	F_{Ra} [lb] x1000	F_{Re} [lb] x1000		$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F	$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F	$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F		
7.10	**7.12**	140	118.5	271	1.55	0.76		94	47	164	98	211	131		
8.00	**8.01**	125	123.4	251	1.87	1.35		97	51	168	101	213	135		
9.00	**8.96**	112	128.4	233	2.16	1.81		99	54	170	105	217	138		
10.00	**9.95**	101	132.0	216	1.59	0.64	**MC2PESF04**	102	56	173	107	220	141		
11.20	**11.19**	89	137.5	200	1.95	1.25	**MC2PEHF04**	106	59	176	110	223	143	252	280
12.50	**12.72**	79	134.5	172	2.60	0.94	**MC2PEHT04**	109	62	180	113	227	148		
14.00	**14.31**	70	143.1	163	2.66	1.38		111	64	182	115	229	150		
16.00	**16.00**	63	132.4	135	3.69	2.48		90	44	152	86	192	113		
18.00	**17.12**	58	132.5	126	3.88	2.53		91	46	153	87	193	115		
20.00	**19.25**	52	127.1	107	4.55	2.83		94	47	156	90	196	117		
22.50	**23.20**	43	122.2	87	4.98	0.93		87	52	139	90	174	117		
25.00	**26.10**	38	137.5	87	4.82	0.93		89	54	142	93	177	118		
28.00	**29.18**	34	132.7	75	5.5	0.98		90	55	143	94	178	119		
31.50	**33.39**	30	143.9	71	5.4	0.98		91	58	146	97	181	122		
35.50	**37.33**	27	133.1	59	6.4	1.0		94	59	148	98	182	123		
40.00	**40.28**	25	127.0	52	6.6	0.394		94	59	148	98	182	125		
45.00	**45.30**	22	142.9	52	6.5	0.394	**MC3PESF04**	95	60	150	101	185	126		
50.00	**50.64**	20	133.2	43	7.5	0.75	**MC3PEHF04**	97	62	152	102	186	127	268	281
56.00	**57.96**	17	146.3	42	7.4	0.82	**MC3PEHT04**	98	64	153	103	188	129		
63.00	**64.79**	15	133.3	34	7.9	1.13		99	64	154	105	189	130		
71.00	**72.86**	14	147.5	33	7.9	0.89		83	48	130	80	161	102		
80.00	**81.44**	12	133.4	27	7.9	0.92		84	50	131	82	162	103		
90.00	**91.60**	11	130.1	23	7.9	0.92		86	51	133	83	164	105		
100.00	**97.56**	10	131.4	22	7.9	0.92		86	52	133	83	164	105		
112.00	**109.73**	9.1	131.0	20	7.9	0.92		87	52	134	84	165	106		

MC.PE..05, n_1 = 1000rpm														177000 lb-in	
7.10	**7.10**	141	165.3	378	0.470	*)		106	54	186	111	240	150		
8.00	**8.00**	125	171.7	349	0.76	0.97		110	58	190	115	244	154		
9.00	**8.87**	113	175.9	323	1.23	1.78		114	60	194	118	247	157		
10.00	**9.78**	102	183.6	305	0.401	*)		117	63	197	121	249	161		
11.20	**11.01**	91	186.8	276	0.99	1.01	**MC2PESF05**	119	67	200	125	253	164	254	280
12.50	**12.52**	80	168.3	219	2.15	1.57	**MC2PEHF05**	123	70	204	129	257	168		
14.00	**14.10**	71	188.3	217	1.89	1.62	**MC2PEHT05**	126	74	208	131	260	170		
16.00	**15.64**	64	179.4	187	2.64	2.81		102	50	172	97	219	129		
18.00	**17.24**	58	179.4	169	2.89	2.88		105	52	174	99	221	131		
20.00	**19.40**	52	168.5	141	3.69	3.23		107	55	177	102	224	134		
22.50	**22.58**	44	136.9	100	4.81	0.88		99	59	162	105	202	134		
25.00	**25.41**	39	154.2	100	4.68	0.88		102	62	164	106	204	135		
28.00	**28.19**	35	171.0	100	4.59	0.88		103	63	166	109	207	138		
31.50	**32.53**	31	176.1	89	4.70	1.15		106	66	168	111	208	141		
35.50	**36.08**	28	179.3	82	5.1	1.33		107	67	170	113	211	142		
40.00	**40.62**	25	166.8	68	6.0	1.68		109	70	172	114	212	143		
45.00	**43.55**	23	160.2	61	6.2	1.21	**MC3PESF05**	110	70	173	115	213	145		
50.00	**48.31**	21	177.7	61	6.2	1.21	**MC3PEHF05**	111	71	174	117	215	146	270	282
56.00	**55.74**	18	182.1	54	6.4	1.47	**MC3PEHT05**	114	74	176	119	217	149		
63.00	**61.84**	16	182.6	49	6.9	1.66		115	75	177	121	219	150		
71.00	**71.06**	14	184.0	43	7.3	0.75		97	56	150	94	185	118		
80.00	**78.83**	13	184.4	39	7.9	0.93		98	58	152	95	186	119		
90.00	**88.73**	11	171.1	32	8.9	1.22		99	59	153	97	188	121		
100.00	**96.36**	10	167.9	29	9.3	1.15		101	60	154	97	189	121		
112.00	**108.46**	9.2	173.3	26	9.3	1.27		101	62	156	98	190	122		



MC.PE..06, n_1 = 1000rpm														**P_{TH}**				**221000 lb-in**	
i_N	i_{ex}	n_2	M_{N2}	P_{N1}	F_{Ra}	F_{Re}		$P_{TH[20]}$	$P_{TH[40]}$	$P_{TH[20]}$	$P_{TH[40]}$	$P_{TH[20]}$	$P_{TH[40]}$						
		[rpm]	[lb-in] x1000	[HP]	[lb] x1000	[lb] x1000		68 °F	104 °F	68 °F	104 °F	68 °F	104 °F						
7.10	**6.82**	147	190.5	454	1.26	*)		127	63	225	133	290	180						
8.00	**7.89**	127	217.2	448	0.293	*)		133	70	231	139	295	186						
9.00	**8.85**	113	225.6	414	0.70	1.47		138	74	235	143	299	190						
10.00	**9.82**	102	210.9	349	1.58	*)	**MC2PESF06**	141	76	239	148	303	194						
11.20	**11.37**	88	241.2	345	0.435	*)	**MC2PEHF06**	146	82	244	153	308	200	256	280				
12.50	**12.04**	83	220.9	299	1.99	*)	**MC2PEHT06**	148	84	247	154	311	202						
14.00	**13.93**	72	242.0	283	1.84	0.87		153	89	251	160	315	207						
16.00	**15.63**	64	235.7	245	3.36	2.66		123	60	209	117	264	156						
18.00	**17.59**	57	236.4	219	3.77	2.84		127	63	212	121	268	160						
20.00	**19.91**	50	218.6	179	5.1	3.44		131	67	216	125	272	164						
22.50	**22.80**	44	164.3	119	7.1	*)		118	71	192	123	240	160						
25.00	**26.39**	38	190.1	119	7.0	*)		122	74	196	127	243	162						
28.00	**29.61**	34	213.3	119	6.8	*)		123	76	197	130	245	165						
31.50	**32.33**	31	212.1	108	7.0	*)		126	78	200	131	247	166						
35.50	**36.28**	28	235.4	107	6.9	*)		127	80	201	134	249	169						
40.00	**41.07**	24	218.3	88	8.3	0.313		130	82	204	135	252	170						
45.00	**45.96**	22	198.0	71	9.2	1.09	**MC3PESF06**	131	84	207	138	253	173						
50.00	**51.58**	19	222.2	71	9.1	1.09	**MC3PEHF06**	134	86	208	139	256	174	272	282				
56.00	**56.31**	18	219.9	64	9.5	1.36	**MC3PEHT06**	135	87	209	141	257	177						
63.00	**63.20**	16	239.6	62	9.5	1.43		137	89	211	143	259	178						
71.00	**71.10**	14	222.6	52	10.2	0.59		114	67	178	111	220	139						
80.00	**79.80**	13	242.1	50	10.2	0.66		117	68	181	113	223	141						
90.00	**90.32**	11	225.2	41	10.2	1.05		118	70	182	114	224	143						
100.00	**96.73**	10	230.2	39	10.2	0.94		119	71	184	115	225	143						
112.00	**109.49**	9.1	227.0	34	10.2	1.17		121	72	185	117	227	145						

MC.PE..07, n_1 = 1000rpm																		**310000 lb-in**	
7.10	**6.86**	146	245.1	581	1.13	*)		157	78	276	164	355	223						
8.00	**7.73**	129	264.0	556	0.86	0.436		164	84	283	170	362	228						
9.00	**8.68**	115	273.1	512	1.36	1.42		168	90	288	176	367	233						
10.00	**9.65**	104	268.0	452	1.56	*)		173	94	294	181	373	239						
11.20	**10.86**	92	295.6	442	0.69	0.145	**MC2PESF07**	178	99	299	185	378	244						
12.50	**12.19**	82	282.8	377	2.10	*)	**MC2PEHF07**	182	103	303	190	382	248	258	280				
14.00	**13.73**	73	316.2	374	0.81	*)	**MC2PEHT07**	188	109	308	196	388	253						
16.00	**15.42**	65	323.6	341	1.70	1.10		152	74	256	143	325	192						
18.00	**17.66**	57	325.7	300	2.73	1.38		157	78	261	149	330	196						
20.00	**20.25**	49	302.0	243	5.0	3.48		161	83	267	154	335	201						
22.50	**22.38**	45	220.3	162	7.7	0.71		146	87	236	152	295	196						
25.00	**25.20**	40	248.1	162	7.5	0.71		149	90	239	156	298	198						
28.00	**28.31**	35	278.7	162	7.1	0.71		152	93	243	158	302	201						
31.50	**31.86**	31	282.7	146	7.4	1.10		154	95	245	161	304	204						
35.50	**35.78**	28	317.6	146	7.0	1.10		157	98	248	164	307	208						
40.00	**41.02**	24	300.5	121	8.6	1.74		160	101	251	168	310	211						
45.00	**43.89**	23	257.4	97	10	1.64	**MC3PESF07**	161	102	252	169	311	212						
50.00	**49.30**	20	289.2	97	9.8	1.64	**MC3PEHF07**	164	105	255	172	314	215	274	283				
56.00	**55.47**	18	291.4	86	10.2	2.04	**MC3PEHT07**	166	107	257	173	316	217						
63.00	**62.31**	16	327.3	86	9.9	2.04		168	109	260	176	319	219						
71.00	**68.66**	15	294.1	71	11.5	0.69		141	82	220	135	271	172						
80.00	**77.12**	13	330.4	71	11.2	0.69		142	83	221	138	272	173						
90.00	**88.41**	11	308.1	57	11.8	1.24		145	86	224	139	275	176						
100.00	**99.48**	10	283.3	47	11.8	1.34		146	87	225	142	278	177						
112.00	**114.04**	8.8	312.8	45	11.8	1.42		149	90	228	145	279	180						

MC.PE..08, n_1 = 1000rpm															**P_{TH}**						**407000 lb-in**
i_N	i_{ex}	n_2	M_{N2}	P_{N1}	F_{Ra}	F_{Re}			$P_{TH[20]}$	$P_{TH[40]}$	 $P_{TH[20]}$	$P_{TH[40]}$	 $P_{TH[20]}$	$P_{TH[40]}$				
		[rpm]	[lb-in] x1000	[HP]	[lb] x1000	[lb] x1000			68 °F	104 °F	68 °F	104 °F	68 °F	104 °F				
7.10	**7.01**	143	315.2	732	2.24	*)			197	99	345	205	444	278				
8.00	**7.89**	127	354.9	732	1.02	*)			204	106	353	212	451	284				
9.00	**8.96**	112	372.2	676	1.42	1.01			211	113	359	220	459	292				
10.00	**9.80**	102	346.1	574	2.64	*)		**MC2PESF08**	216	118	365	225	464	298				
11.20	**11.03**	91	389.7	574	1.31	*)		**MC2PEHF08**	221	123	371	232	469	303	260	280		
12.50	**12.49**	80	366.4	477	3.23	*)		**MC2PEHT08**	228	130	378	237	476	310				
14.00	**14.06**	71	412.6	477	1.83	*)			233	135	384	244	483	316				
16.00	**15.97**	63	420.1	428	3.12	1.54			190	93	321	180	405	239				
18.00	**17.76**	56	420.7	385	4.00	1.67			194	97	325	185	410	244				
20.00	**19.90**	50	394.6	323	5.5	3.74			200	102	330	190	416	249				
22.50	**21.70**	46	330.8	251	7.0	0.211			178	106	291	186	363	240				
25.00	**24.43**	41	372.6	251	6.6	0.210			182	110	295	190	367	244				
28.00	**27.74**	36	414.1	246	6.4	0.339			186	114	299	194	371	248				
31.50	**31.14**	32	417.1	220	6.7	0.95			190	118	302	198	375	252				
35.50	**35.36**	28	419.4	195	7.6	1.56			193	121	306	202	380	256				
40.00	**39.60**	25	393.0	163	9.2	2.33			197	125	310	205	382	259				
45.00	**43.63**	23	387.2	146	9.4	0.79		**MC3PESF08**	198	126	312	208	385	261				
50.00	**49.55**	20	423.7	141	9.5	0.99		**MC3PEHF08**	202	130	315	212	388	266	276	283		
56.00	**55.61**	18	427.6	127	9.8	1.53		**MC3PEHT08**	205	133	318	215	392	268				
63.00	**63.15**	16	427.5	111	11.0	2.10			208	135	322	217	394	271				
71.00	**69.09**	14	430.9	103	11.2	0.57			173	101	271	168	335	212				
80.00	**78.46**	13	430.5	90	12.4	1.09			177	103	275	170	338	215				
90.00	**87.87**	11	403.4	76	14.2	1.70			178	106	276	173	341	217				
100.00	**97.27**	10	405.0	69	14.7	1.57			181	109	279	176	342	219				
112.00	**108.95**	9.2	407.9	62	15.0	1.72			182	110	282	177	345	221				

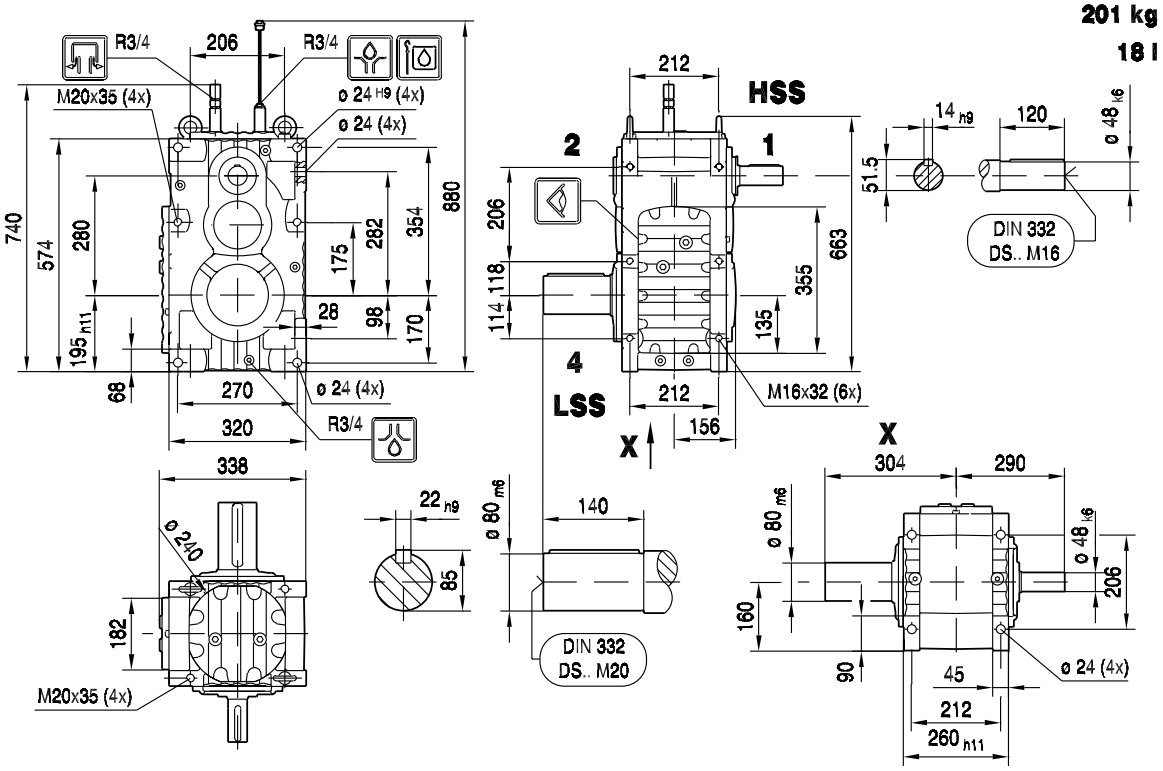
MC.PE..09, n_1 = 1000rpm																					**575000 lb-in**
7.10	**6.91**	145	399.9	941	3.98	*)			227	114	398	236	514	321				
8.00	**7.99**	125	462.4	941	3.37	*)			237	123	409	247	523	331				
9.00	**8.97**	112	507.2	920	2.94	*)			244	130	417	255	531	338				
10.00	**9.53**	105	438.3	748	4.44	*)		**MC2PESF09**	248	134	421	259	535	342				
11.20	**11.03**	91	506.9	748	3.78	*)		**MC2PEHF09**	257	143	430	268	544	351	262	280		
12.50	**11.77**	85	460.0	636	4.90	*)		**MC2PEHT09**	260	148	434	272	548	355				
14.00	**13.61**	73	531.9	636	4.22	*)			270	156	443	280	558	365				
16.00	**15.27**	65	569.5	606	4.20	*)			219	105	369	207	468	275				
18.00	**17.01**	59	571.6	546	4.75	*)			224	110	374	212	473	280				
20.00	**19.26**	52	535.0	452	6.6	1.07			231	117	381	219	480	287				
22.50	**21.63**	46	452.1	344	8.5	*)			212	126	345	221	432	286				
25.00	**25.02**	40	522.8	344	8.0	*)			217	131	351	228	437	291				
28.00	**28.08**	36	564.1	331	8.0	*)			223	135	355	232	441	295				
31.50	**30.88**	32	570.5	304	8.1	0.409			225	139	358	236	445	299				
35.50	**34.65**	29	567.6	270	9.3	1.20			229	143	362	240	449	303				
40.00	**39.22**	26	528.5	222	11.4	2.29			233	148	367	244	453	307				
45.00	**44.10**	23	544.4	203	11.3	0.68		**MC3PESF09**	236	150	370	248	457	311				
50.00	**49.49**	20	575.0	191	11.7	1.10		**MC3PEHF09**	240	154	374	251	461	315	278	283		
56.00	**54.43**	18	570.9	173	12.3	1.76		**MC3PEHT09**	243	157	377	253	464	318				
63.00	**61.08**	16	581.6	157	13.3	2.32			245	160	381	257	467	321				
71.00	**68.03**	15	570.9	138	14.1	0.311			205	119	322	198	397	251				
80.00	**76.35**	13	583.4	126	15.1	0.80			209	122	325	202	400	253				
90.00	**86.42**	12	533.5	102	17.7	1.74			212	126	329	205	404	257				
100.00	**93.94**	11	567.0	99	17.4	1.29			213	127	330	207	405	259				
112.00	**106.33**	9.4	535.4	83	18.0	2.00			216	130	333	211	408	261				

10.4.5 MC.PE.. [mm]

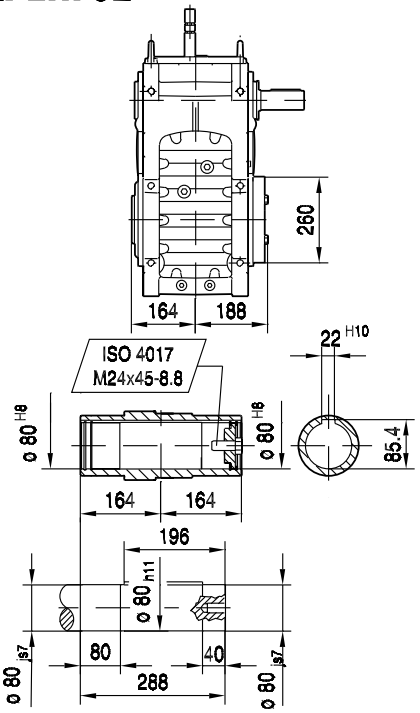
MC2PESF02

47 097 00 03
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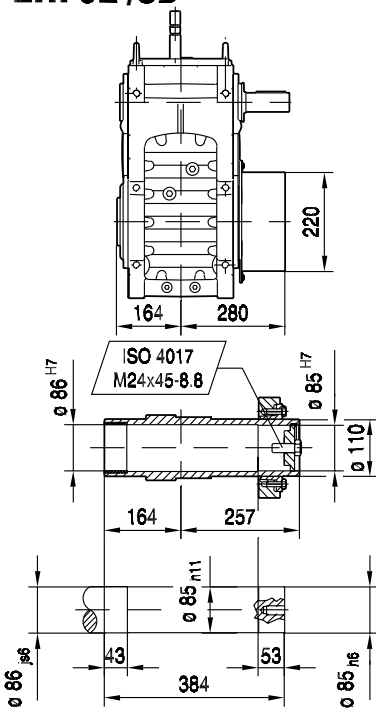
201 kg
18 l

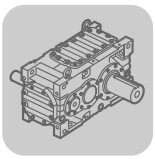


MC2PEHF02



MC2PEHF02 /SD

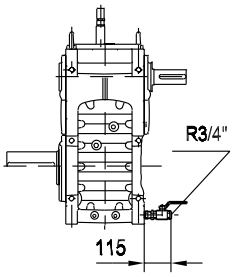




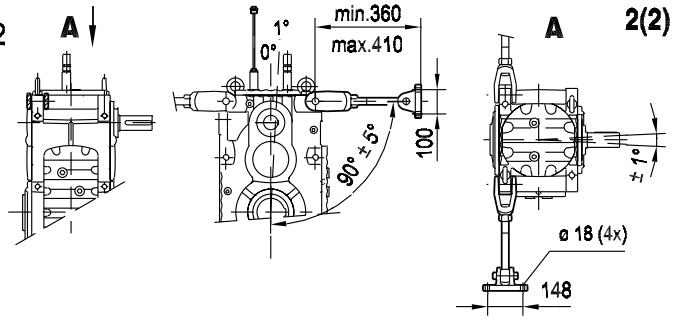
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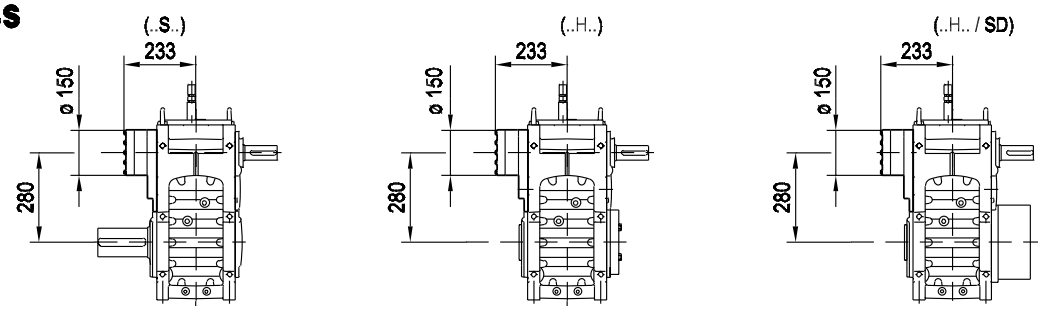
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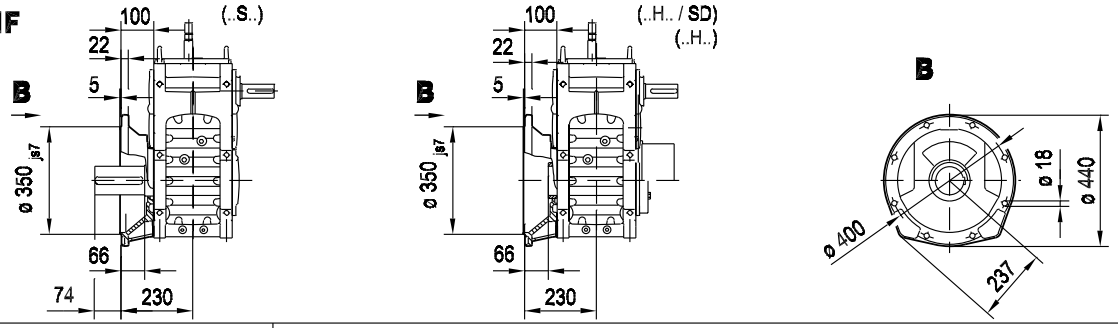
MC2PEH **T** 02



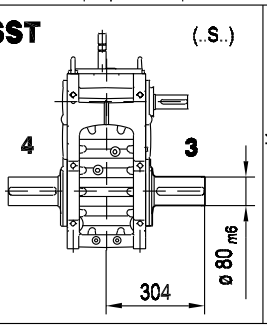
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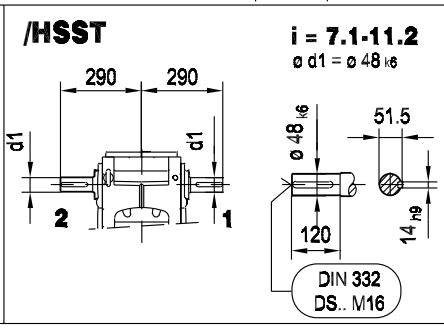
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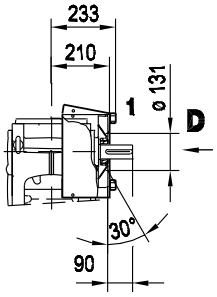
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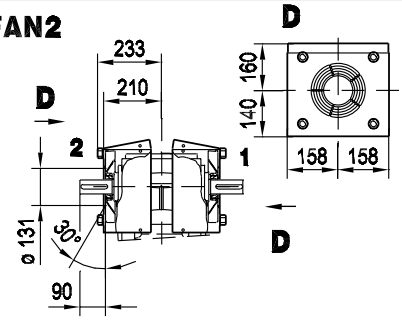
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/FAN



/FAN2

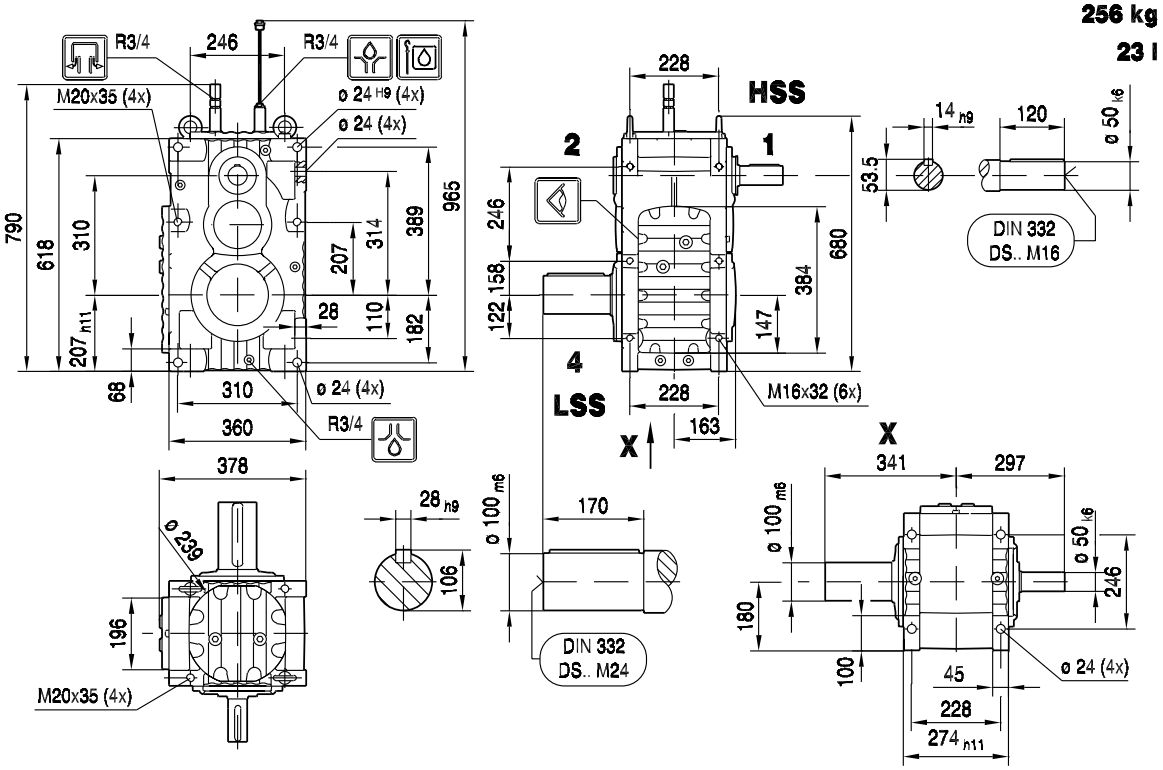


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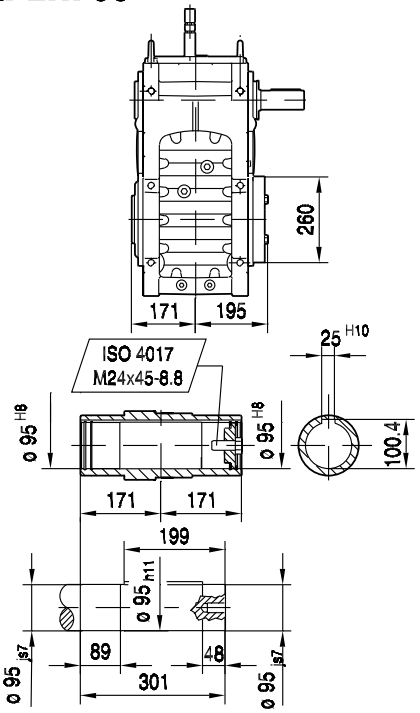
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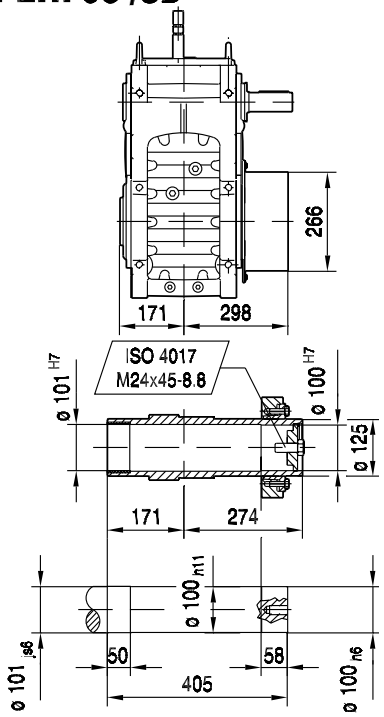
256 kg
23 l



MC2PEHF03



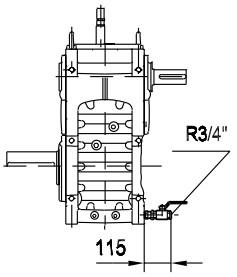
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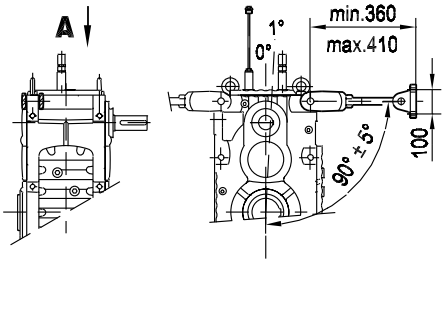
MC2PE..03

47 098 00 03
2(2)

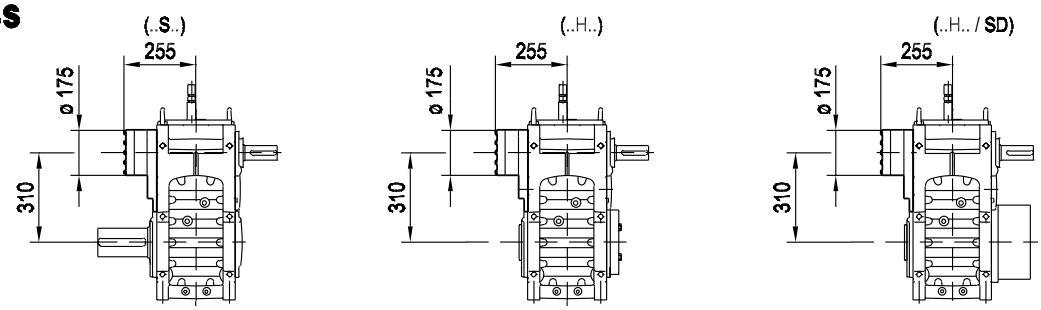
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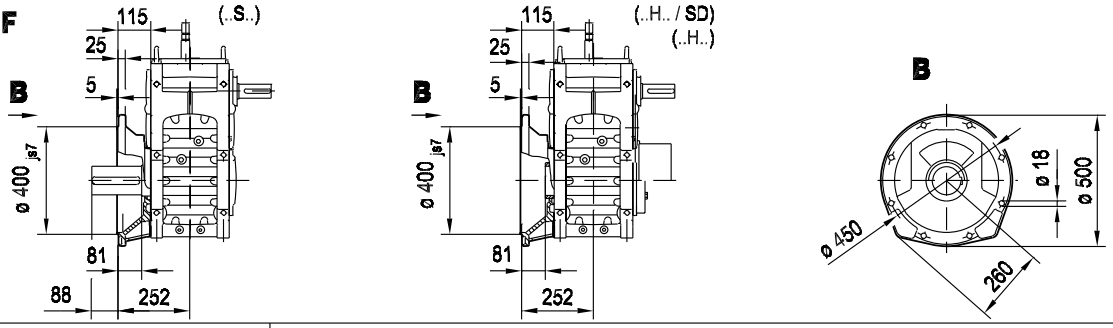
MC2PEH **T** 03



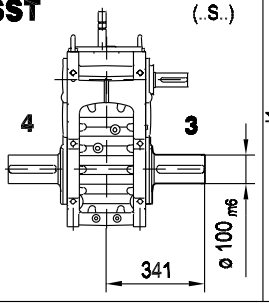
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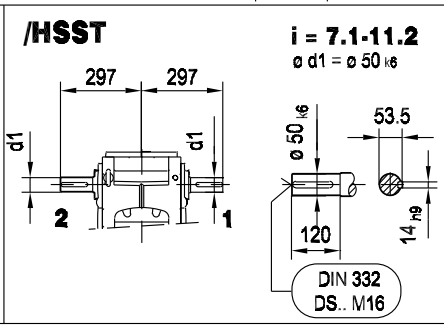
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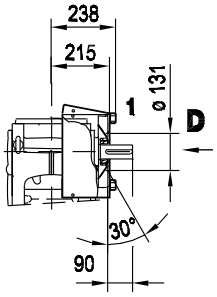
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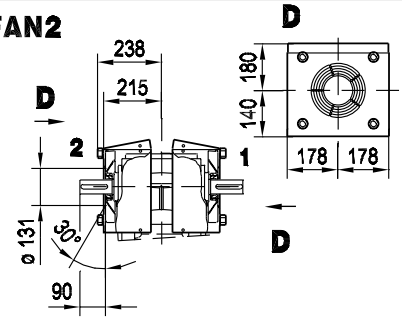
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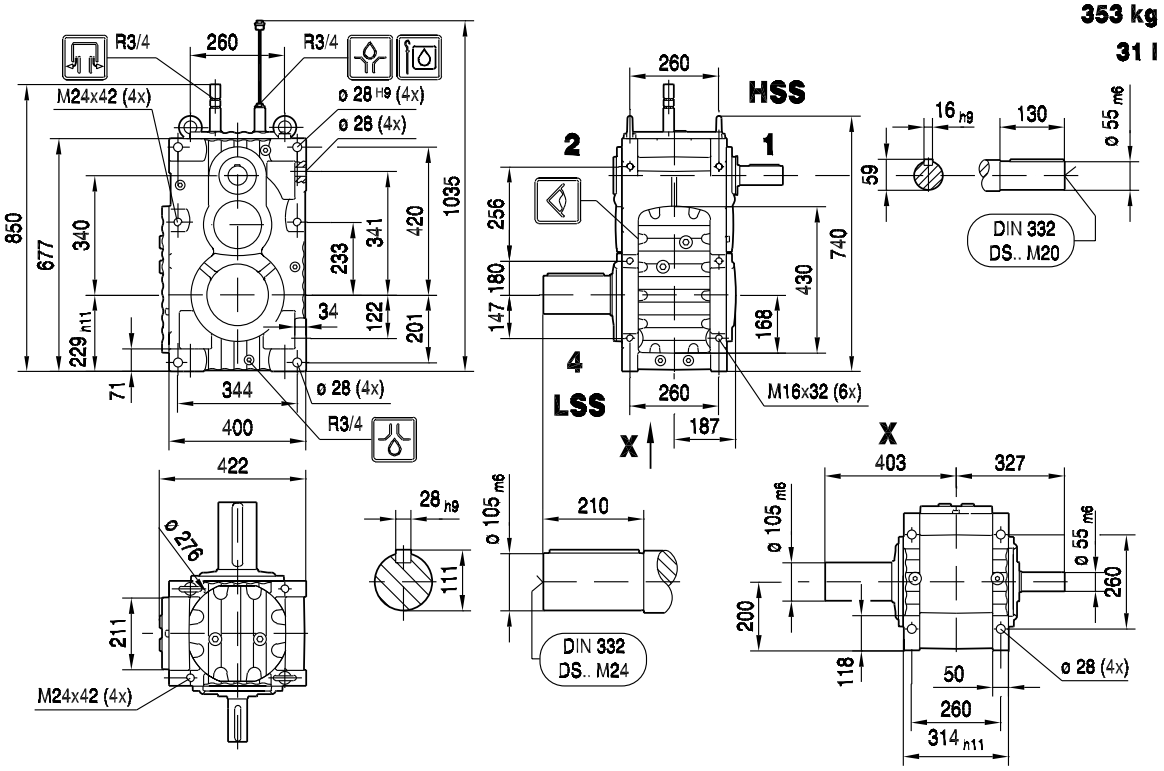
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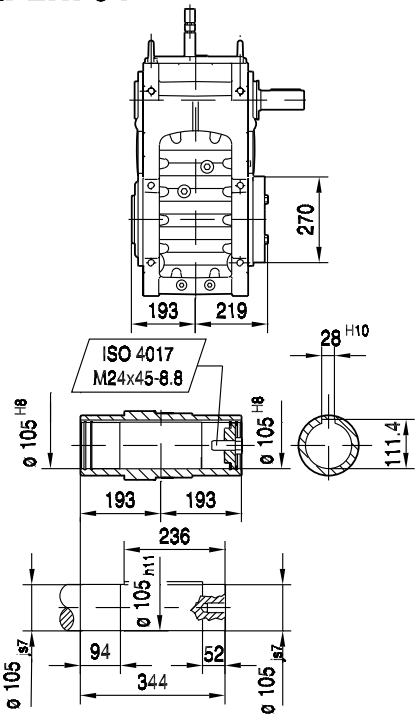
MC2PESF04

47 099 00 03
1(2)

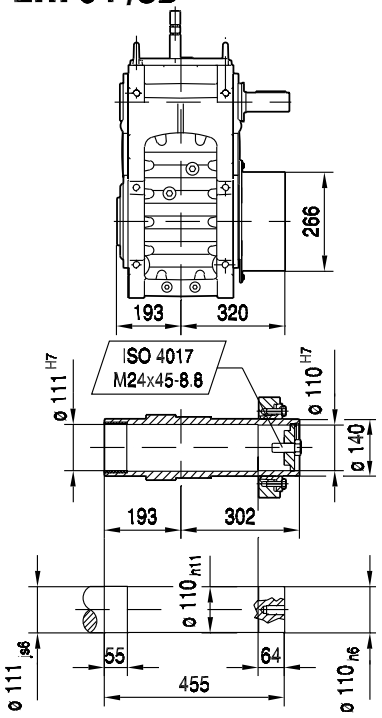
353 kg
31 l



MC2PEHF04



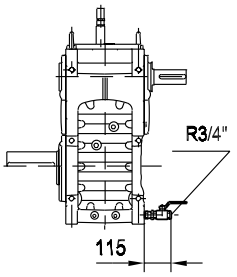
MC2PEHF04 /SD



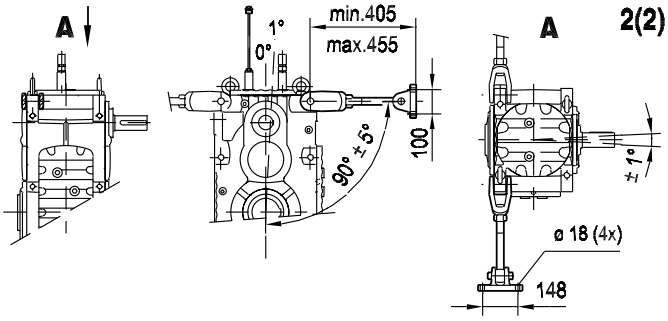
MC2PE..04

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2(2)

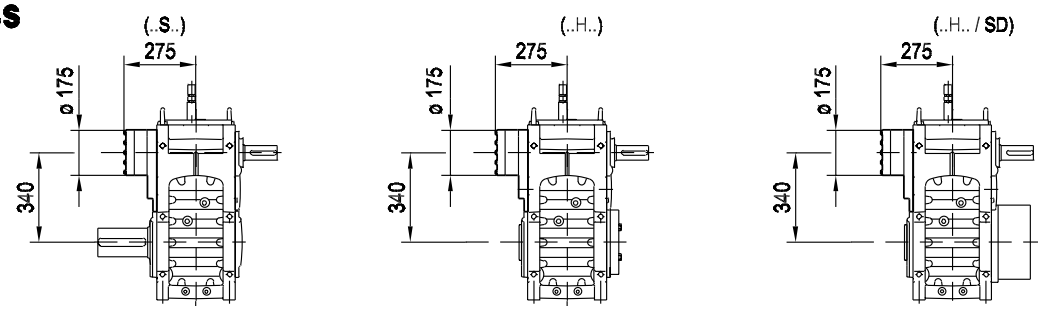
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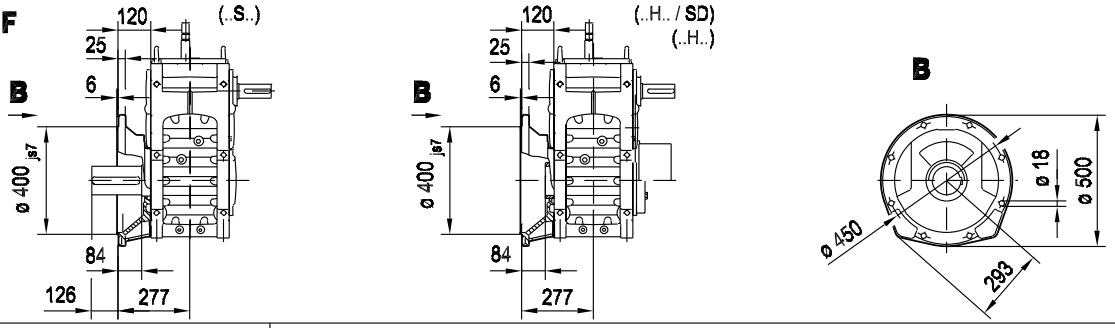
MC2PEH **T** 04



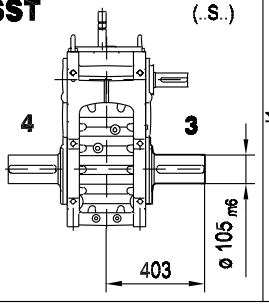
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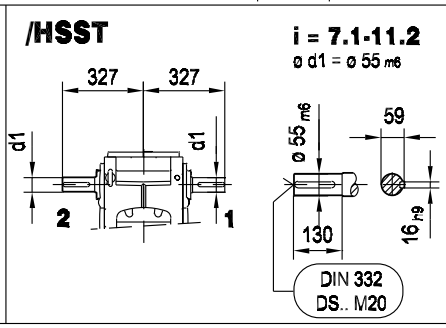
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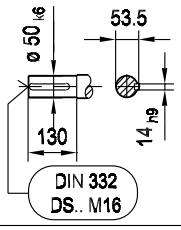


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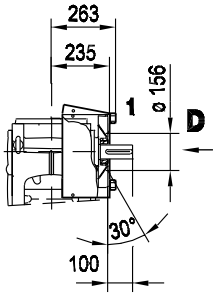


i = 7.1-11.2
ø d1 = ø 55 m6

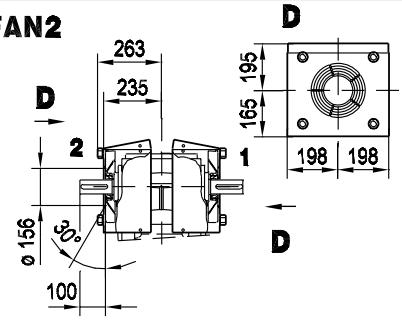
i = 12.5-20
ø d1 = ø 50 k6



/FAN



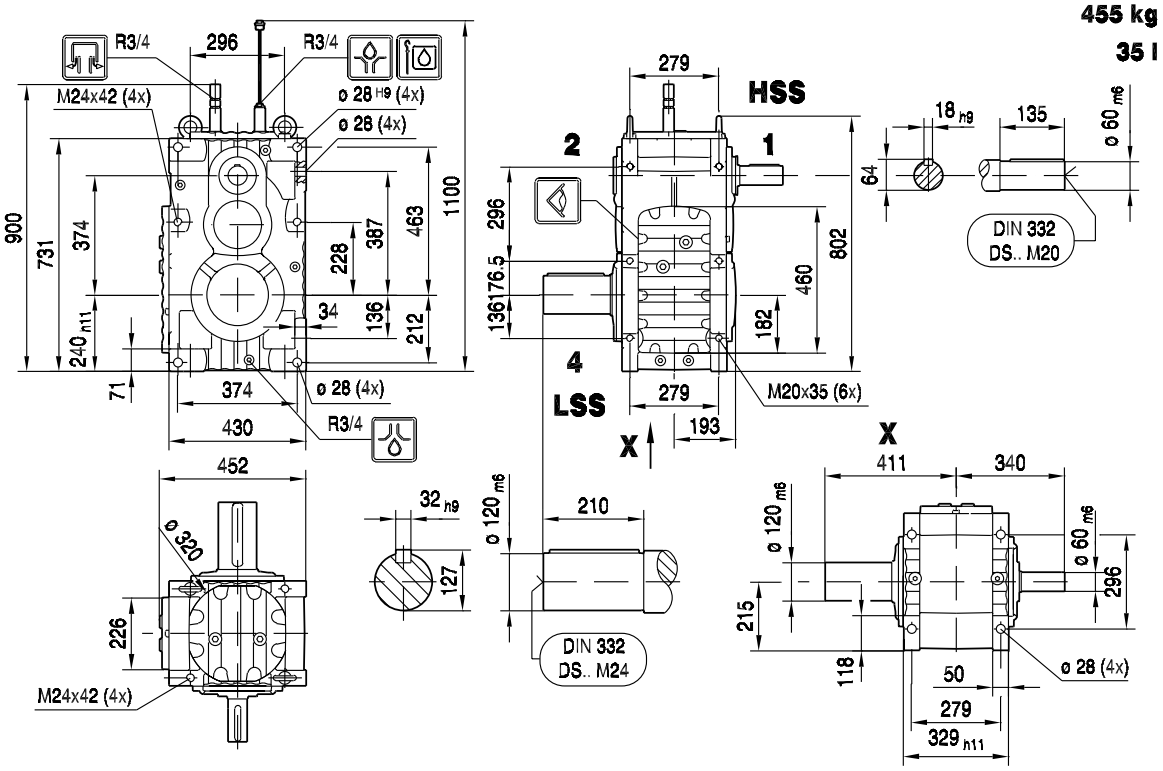
/FAN2



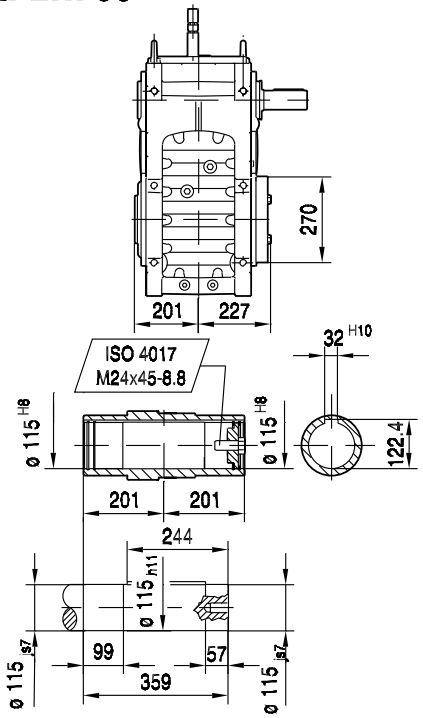
MC2PESF05

47 100 00 03
1(2)

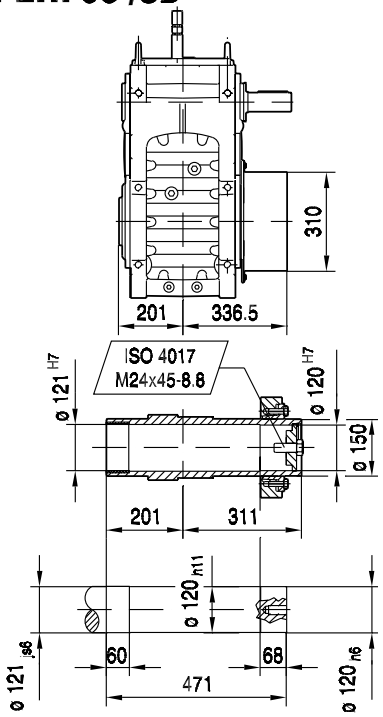
455 kg
35 l

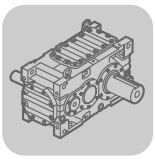


MC2PEHF05



MC2PEHF05 /SD

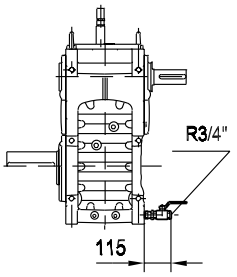




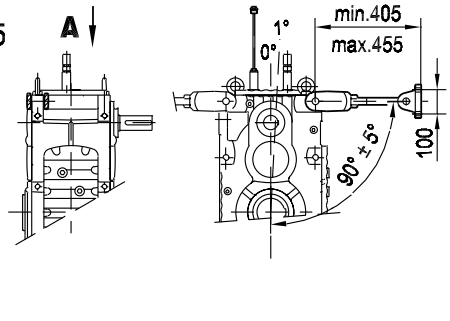
MC2PE..05

47 100 00 03
2(2)

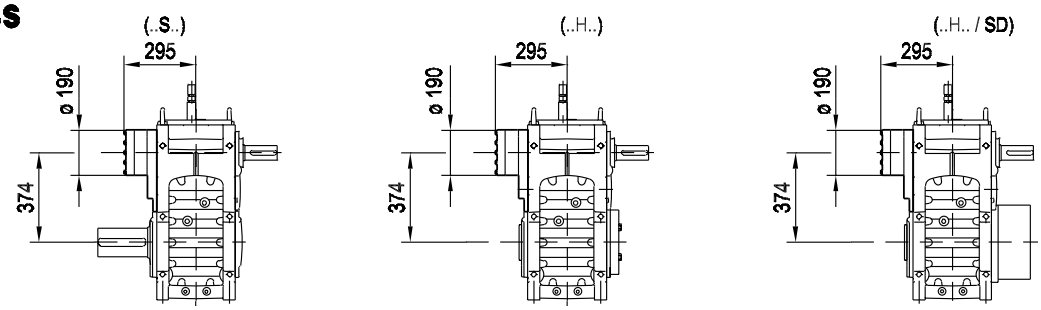
/ODV



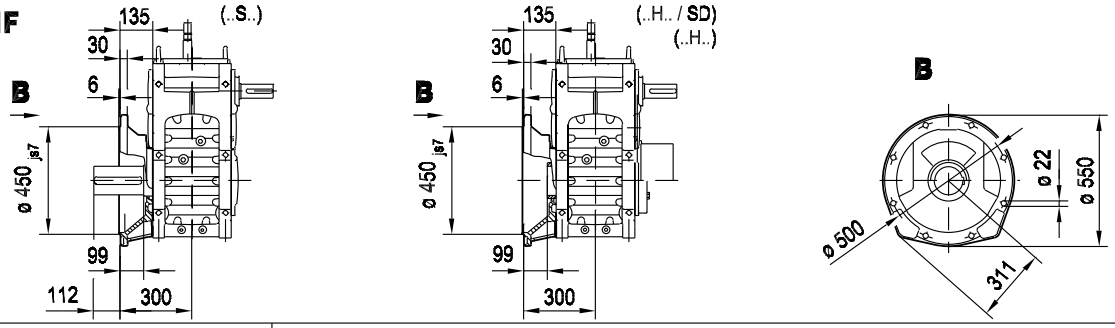
MC2PEH **T** 05



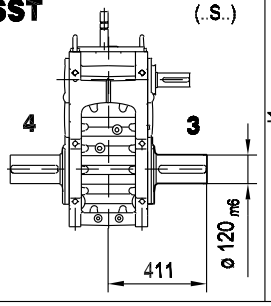
/BS



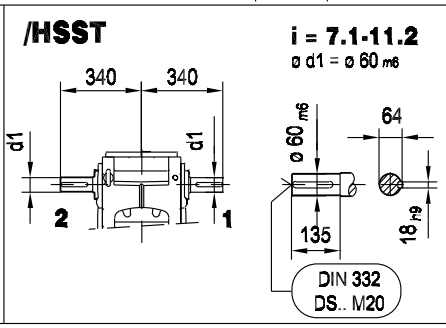
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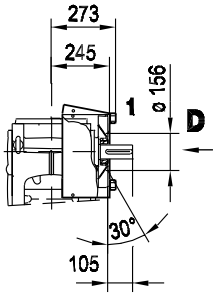
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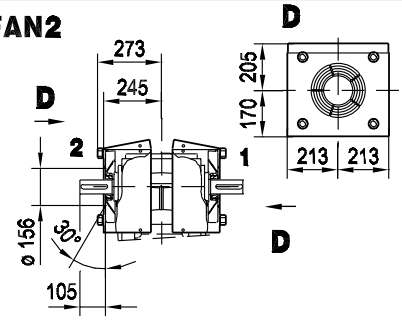
/HSST



/FAN



/FAN2

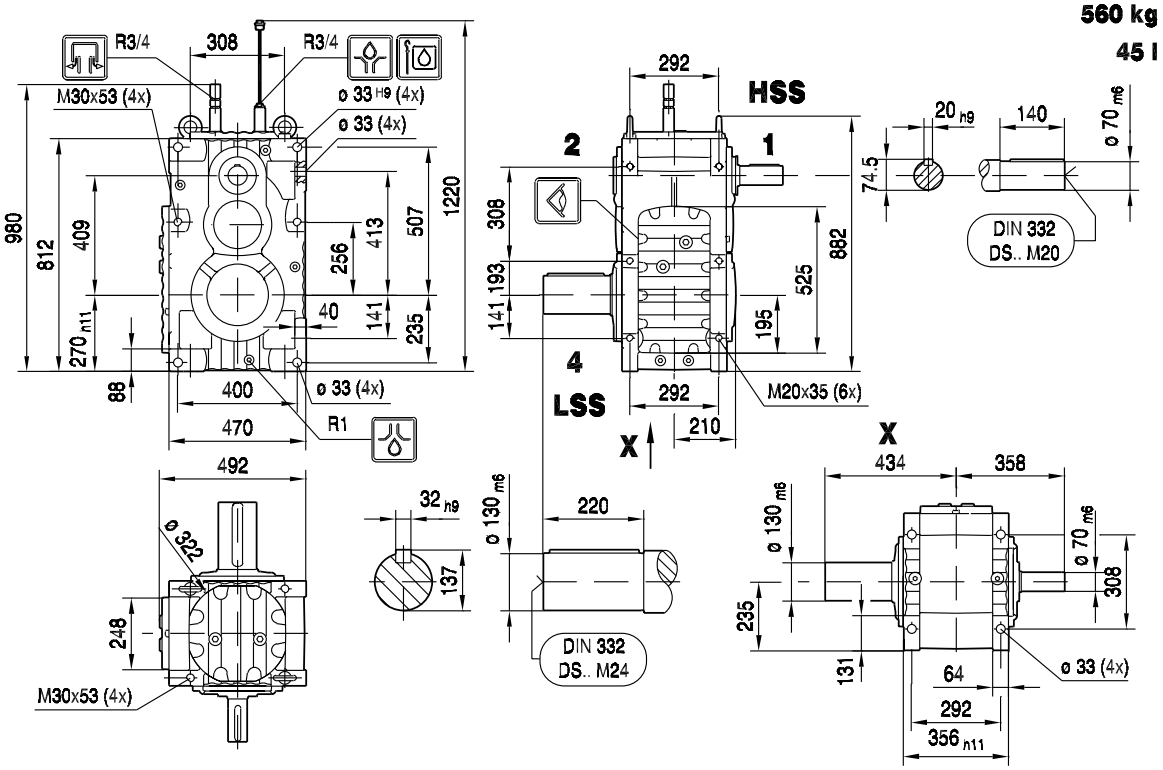


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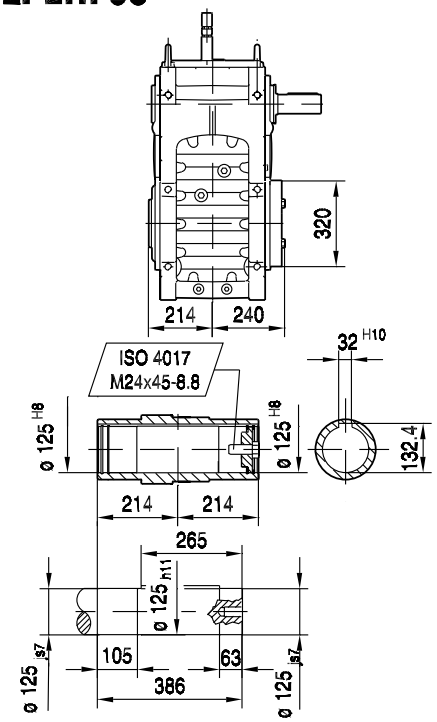
MC2PESF06

47 101 00 03
1(2)

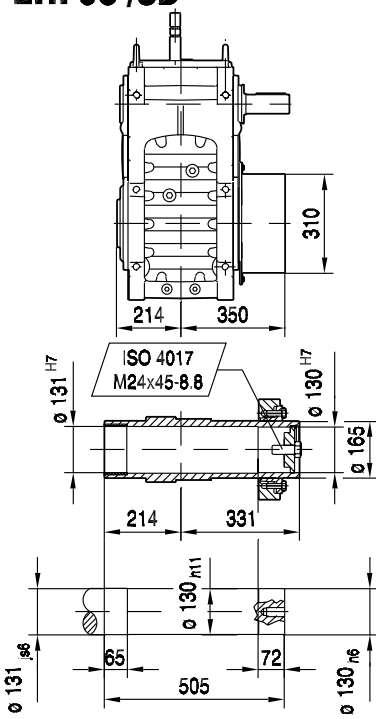
560 kg
45 l



MC2PEHF06



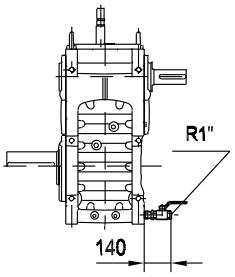
MC2PEHF06 /SD



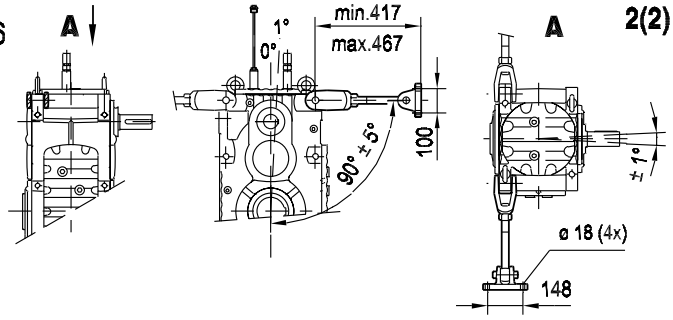
MC2PE..06

47 101 00 03
2(2)

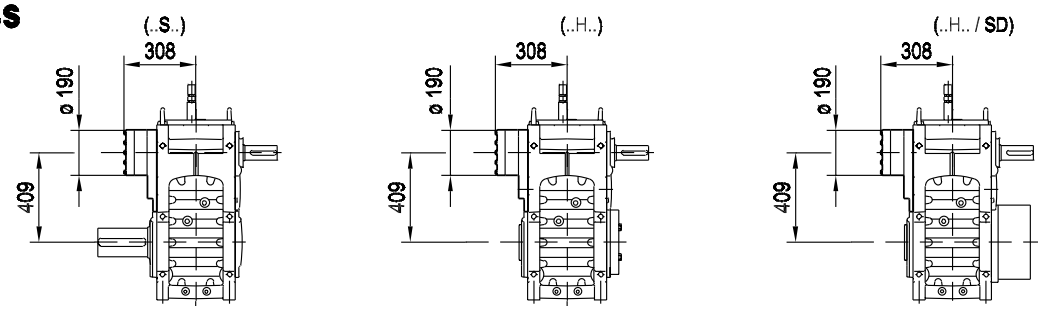
/ODV



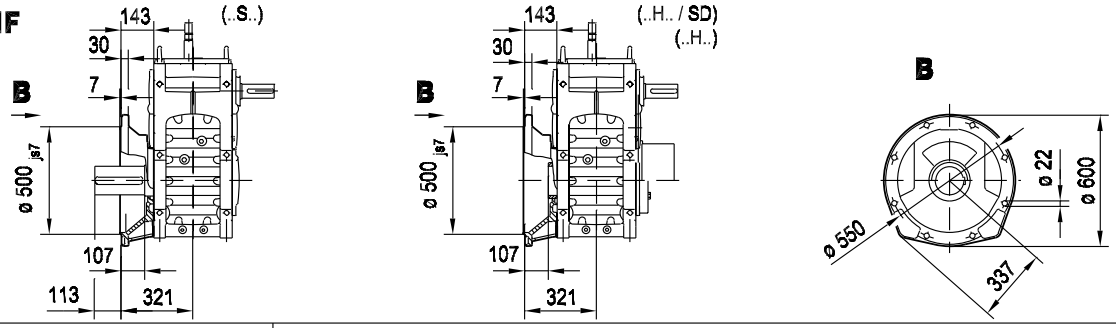
MC2PEH **T** 06



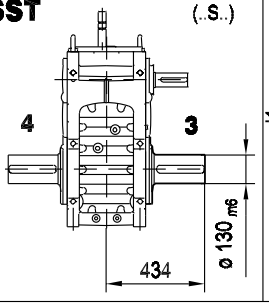
/BS



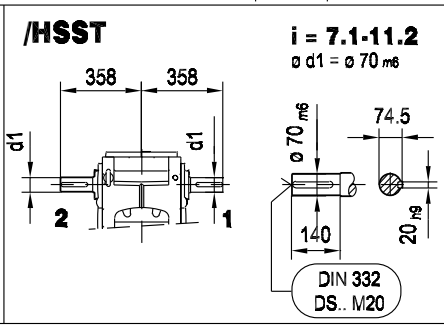
/MF



/LSST

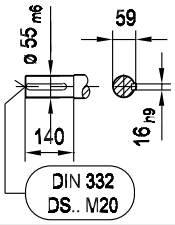


/HSST

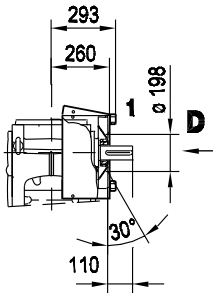


i = 7.1-11.2
ø d1 = ø 70 m6

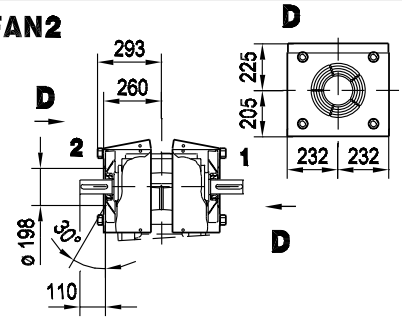
i = 12.5-20
ø d1 = ø 55 m6



/FAN



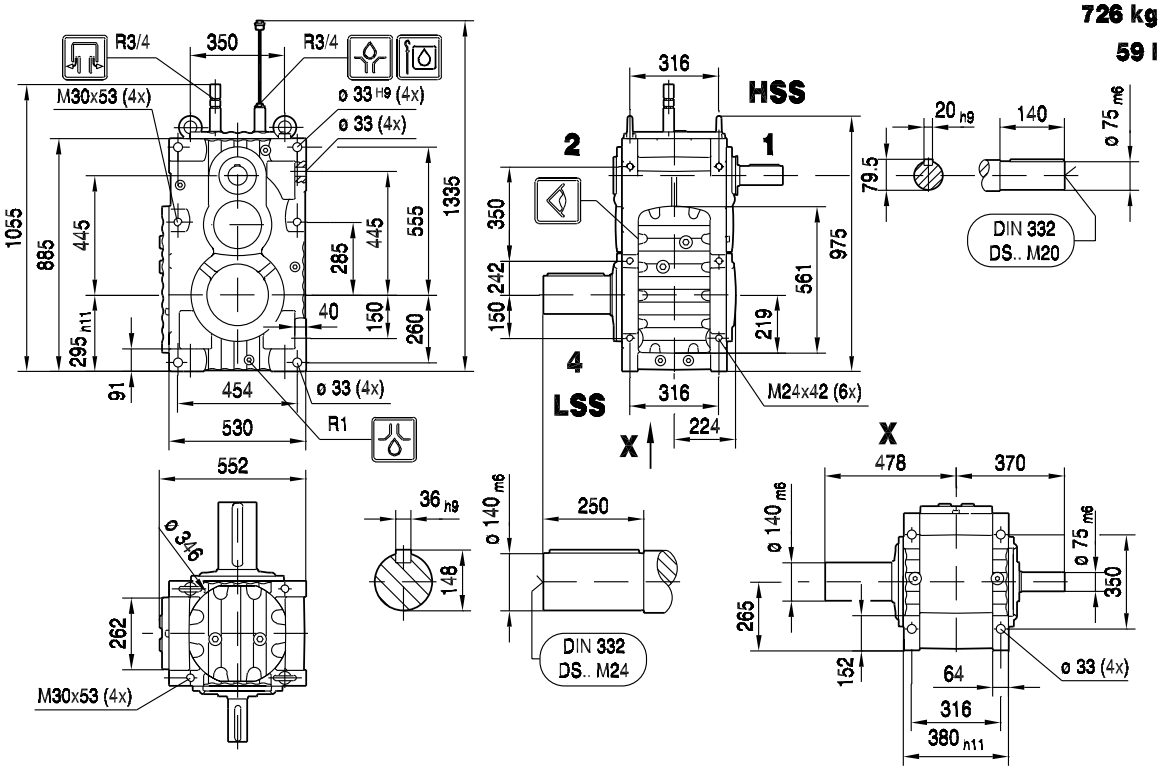
/FAN2



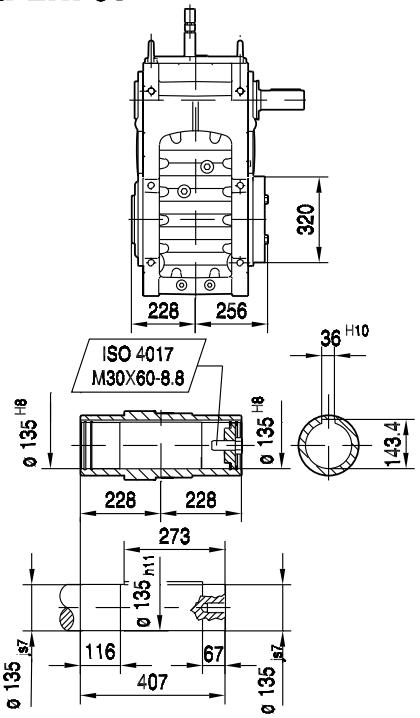
MC2PESF07

47 102 00 03
1(2)

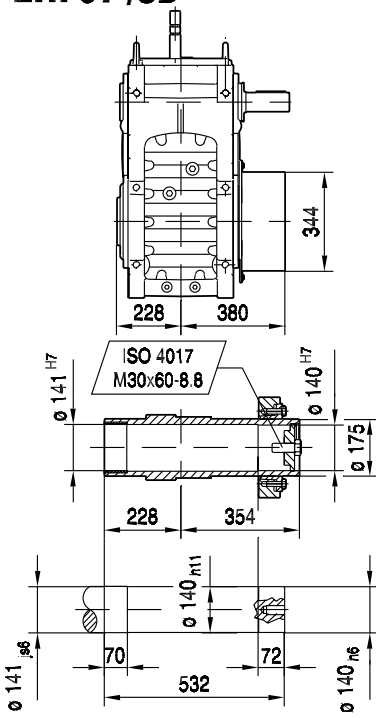
726 kg
59 l



MC2PEHF07



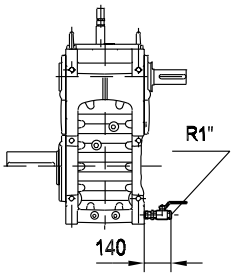
MC2PEHF07 /SD



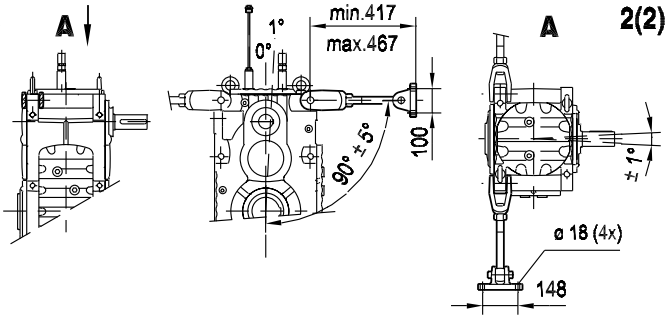
MC2PE..07

47 102 00 03
2(2)

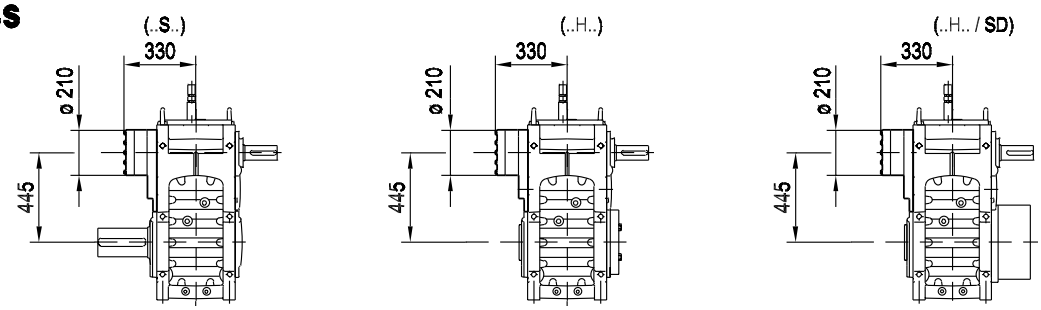
/ODV



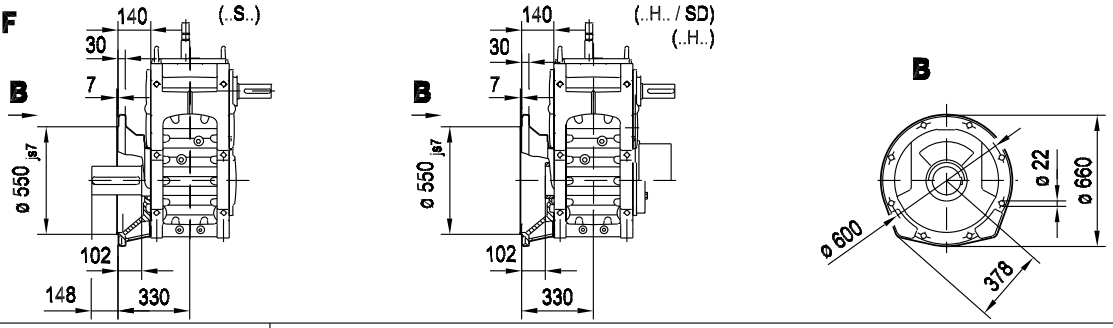
MC2PEH **T** 07



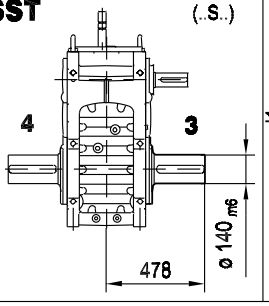
/BS



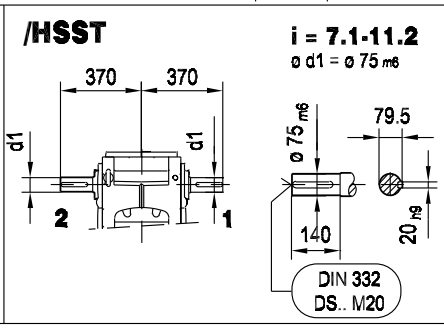
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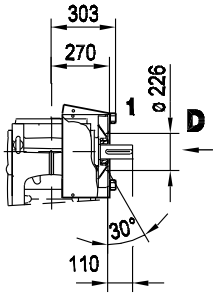
/LSST



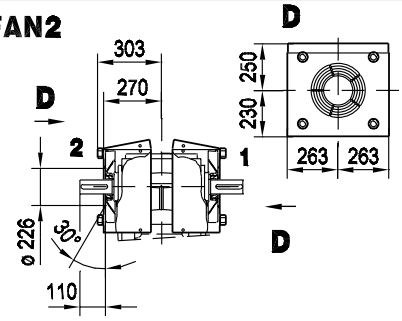
/HSST



/FAN



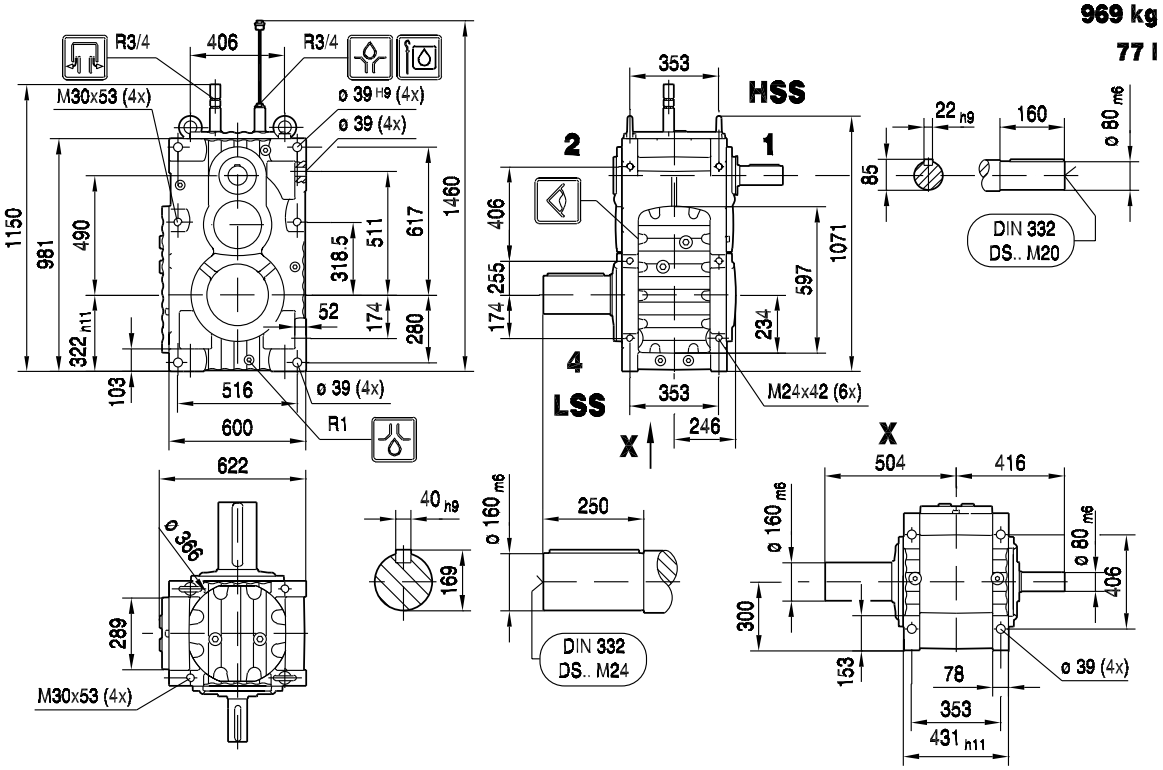
/FAN2



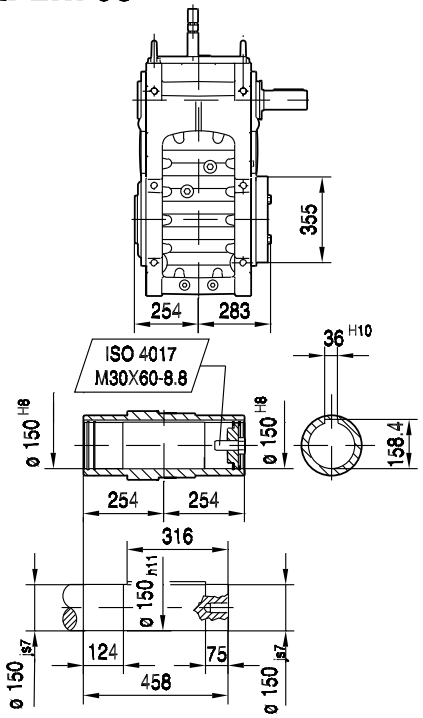
MC2PESF08

47 103 00 03
1(2)

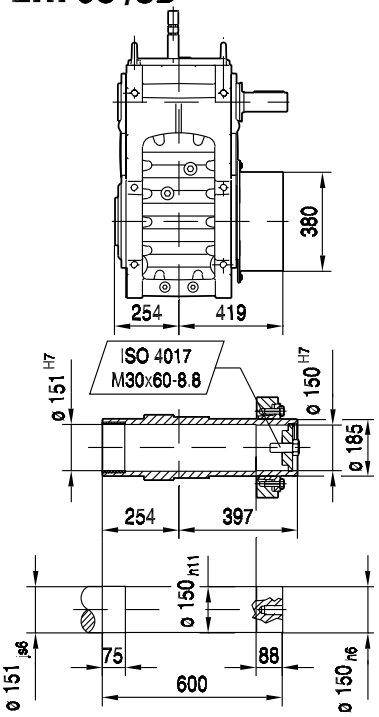
969 kg
77 l



MC2PEHF08



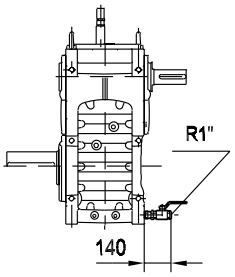
MC2PEHF08 /SD



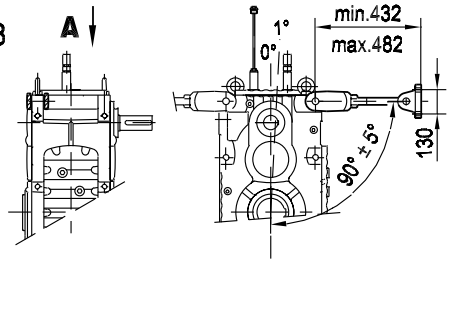
MC2PE..08

47 103 00 03
2(2)

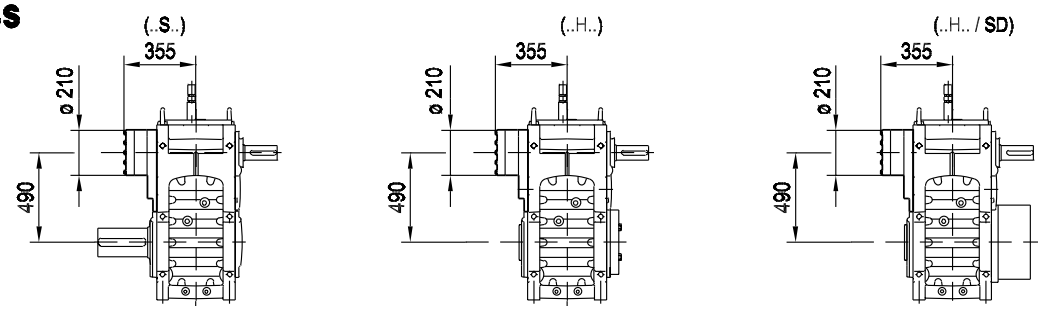
/ODV



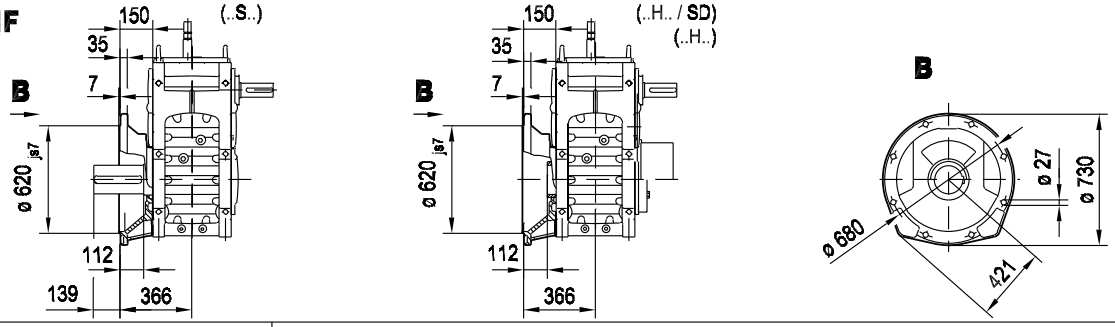
MC2PEH **T** 08



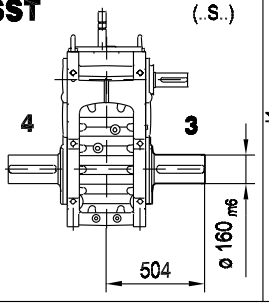
/BS



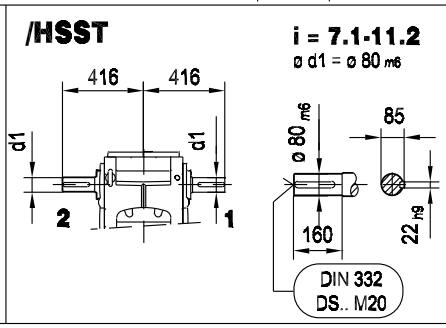
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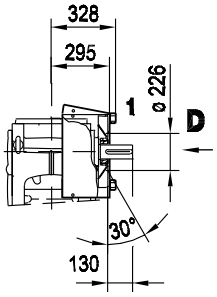
/LSST



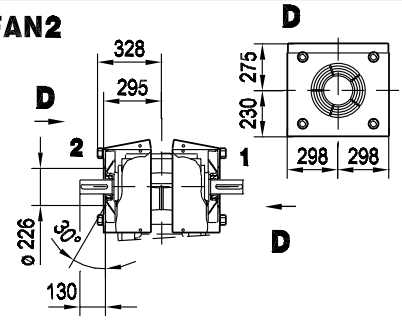
/HSST



/FAN



/FAN2

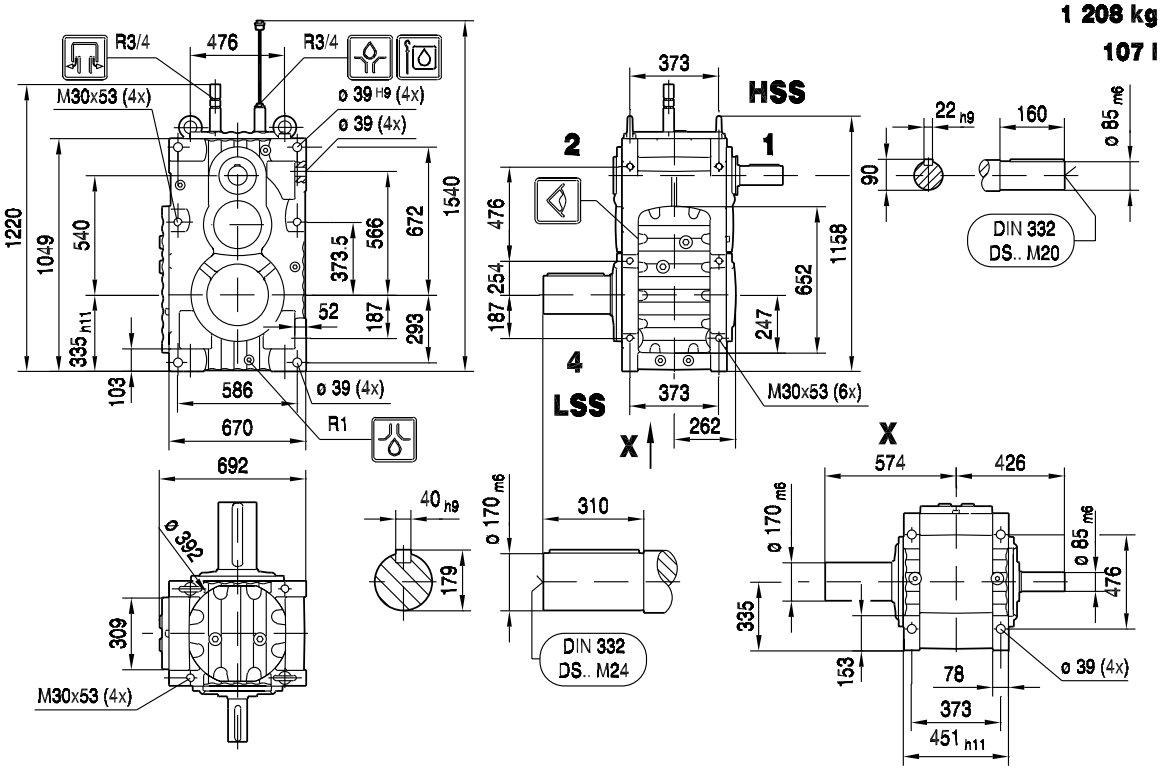


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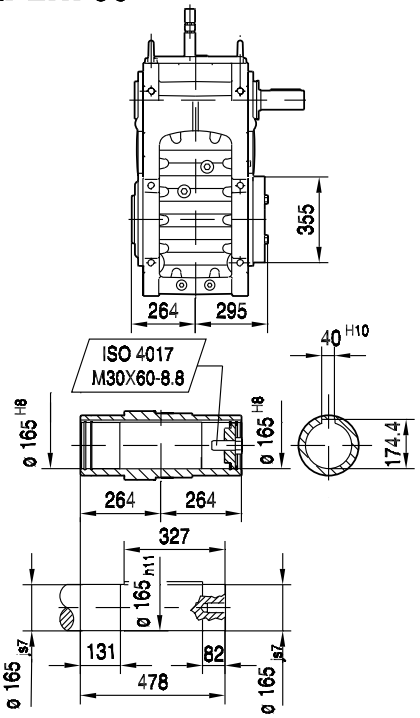
MC2PESF09

47 104 00 03
1(2)

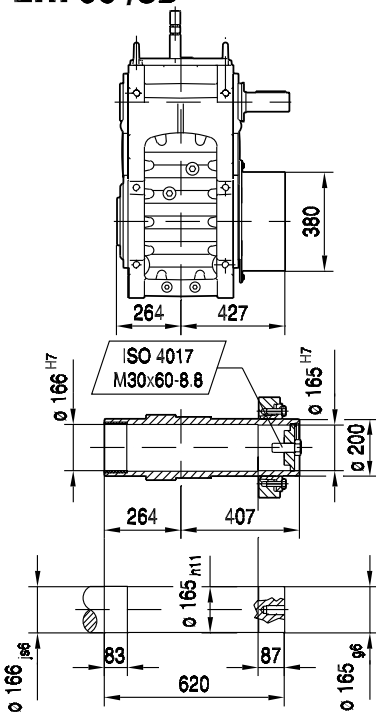
1 208 kg
107 l



MC2PEHF09



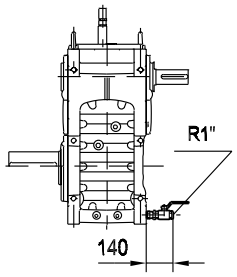
MC2PEHF09 /SD



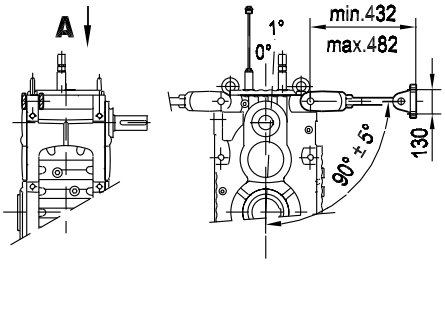
MC2PE..09

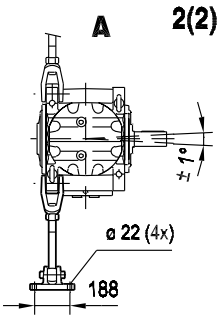
47 104 00 03
2(2)

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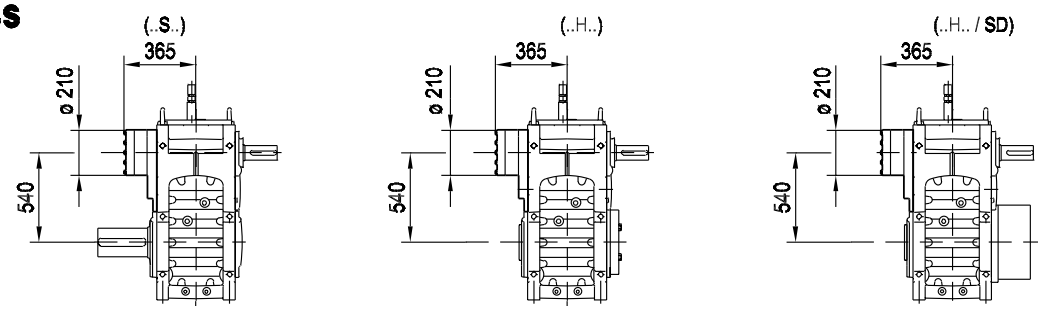


MC2PEH **T** 09

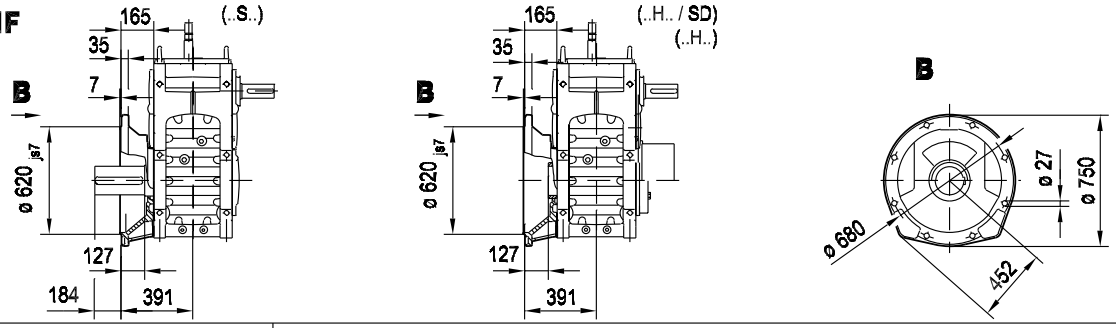




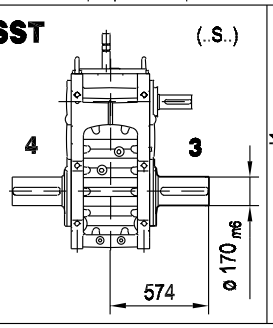
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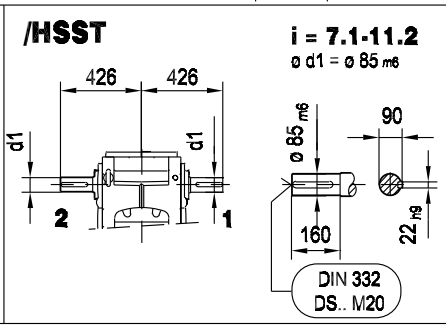
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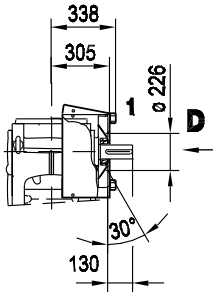
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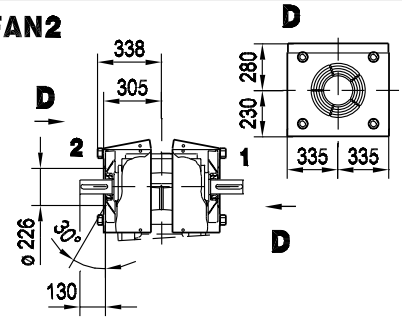
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/FAN



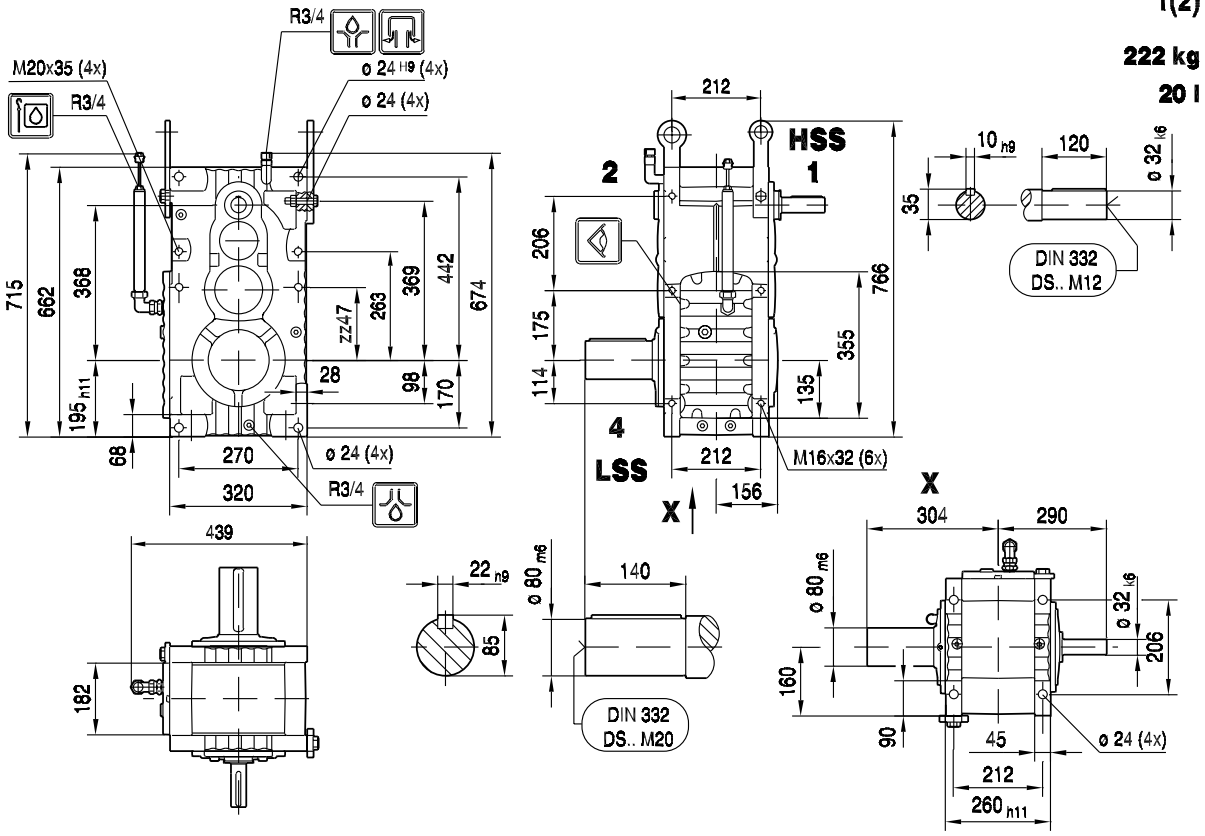
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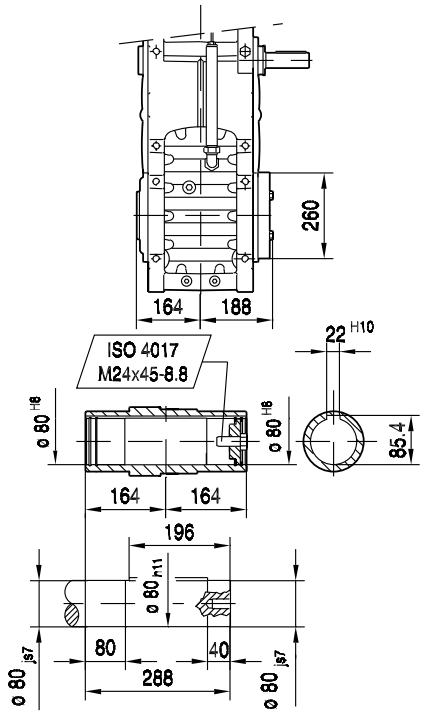
MC3PESF02

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1(2)

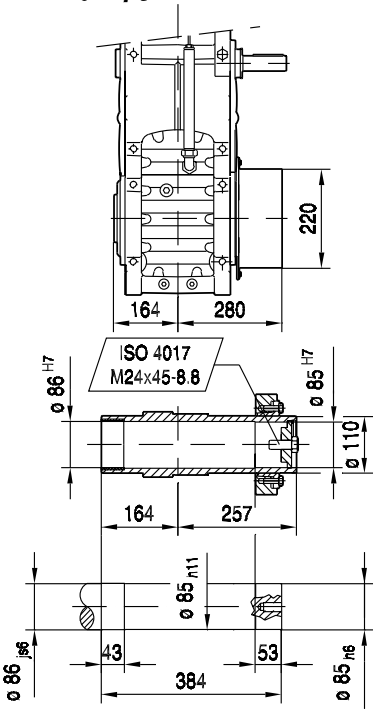
222 kg
20 l

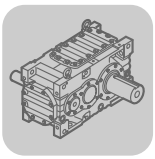


MC3PEHF02



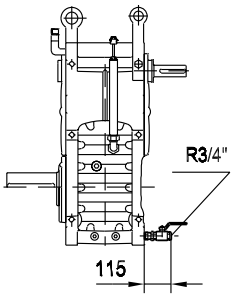
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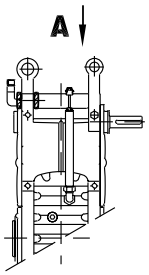


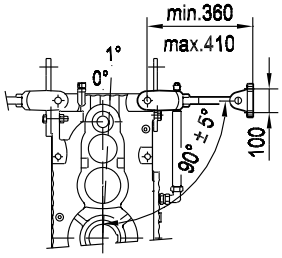
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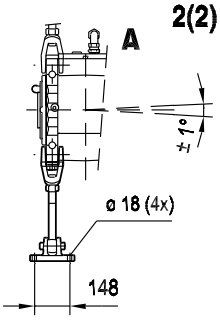


MC3PEH**T** 03



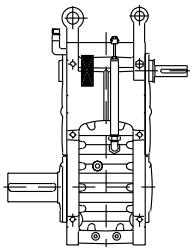


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2(2)

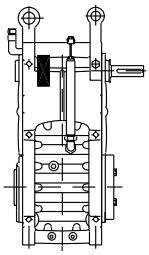


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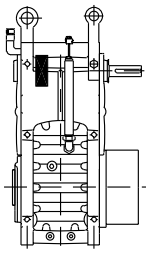
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(..H..)

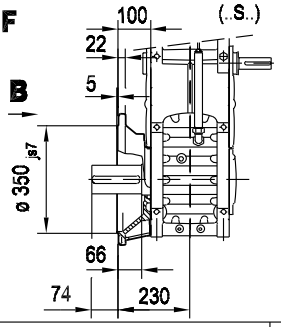


(..H.. / SD)

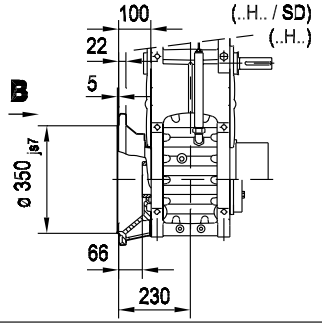


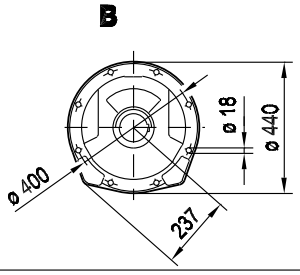
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(..S..)



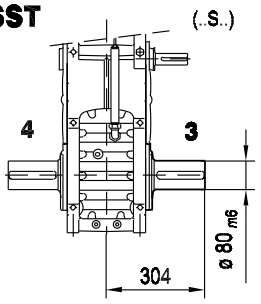
(..H.. / SD)
(..H..)



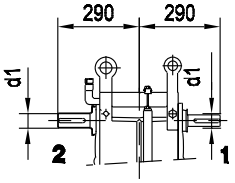


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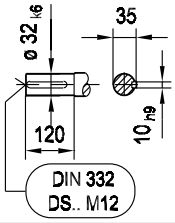
(..S..)



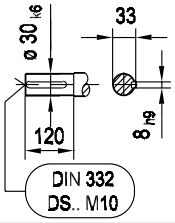
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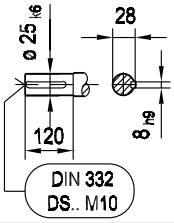
i = 22.5-35.5
ø d1 = ø 32 k6



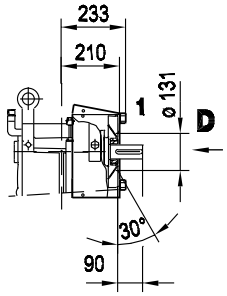
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ø d1 = ø 30 k6



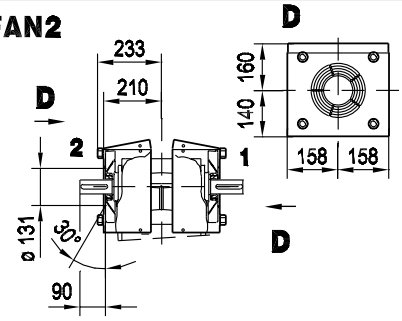
i = 71-112
ø d1 = ø 25 k6



/FAN



/FAN2

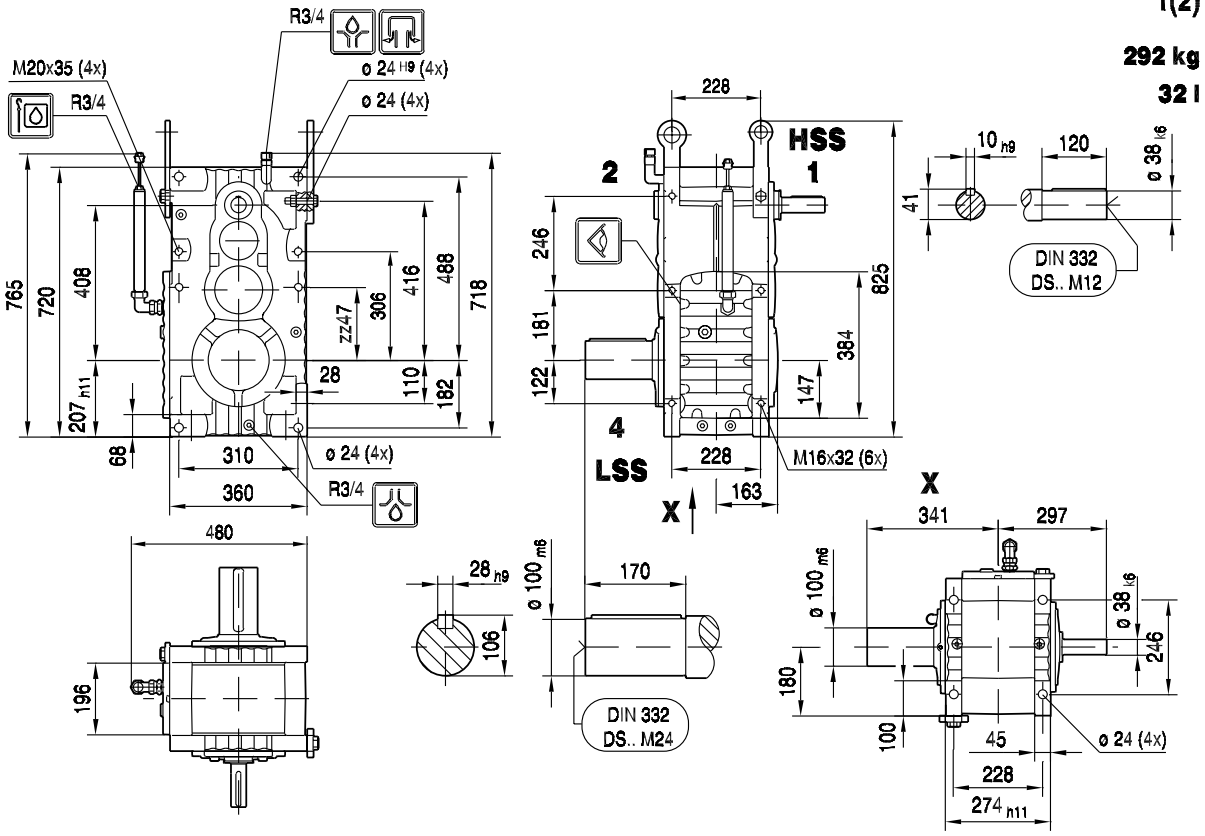


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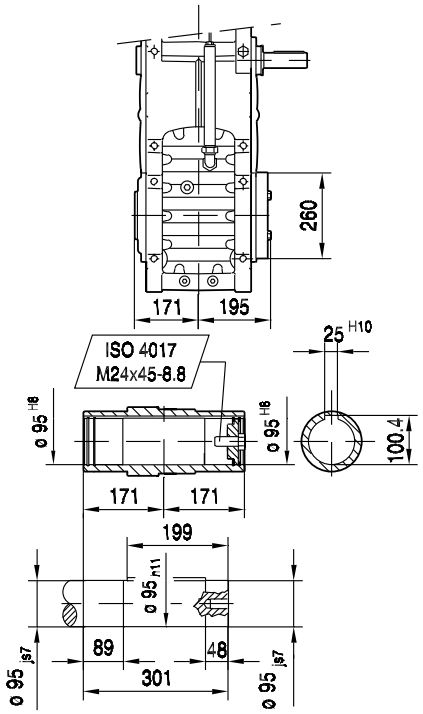
MC3PESF03

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1(2)

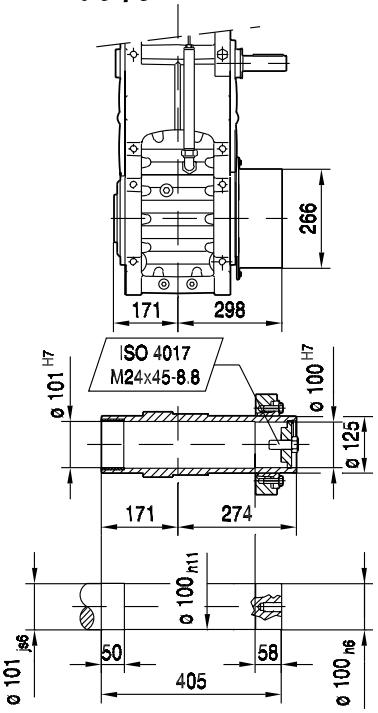
292 kg
32 l

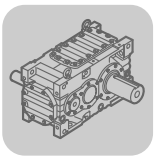


MC3PEHF03



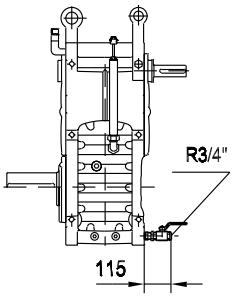
MC3PEHF03 /SD



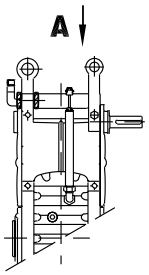


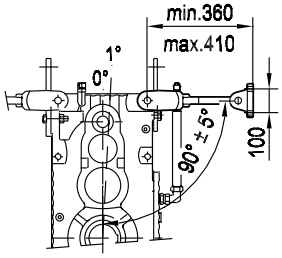
MC3PE..03

/ODV

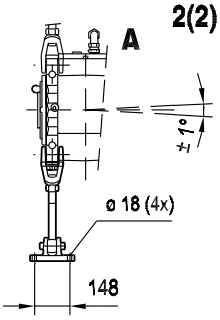


MC3PEH**T** 03



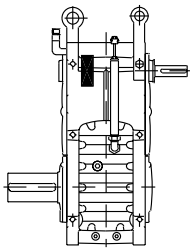


47 106 00 03
2(2)

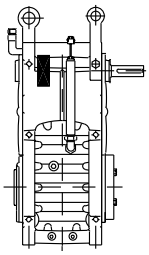


/BS

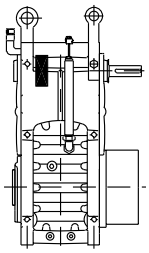
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(..H..)

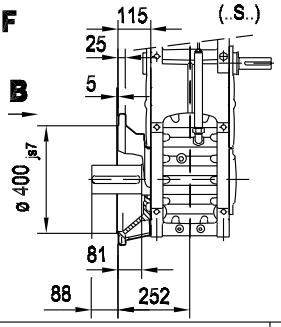


(..H.. / SD)

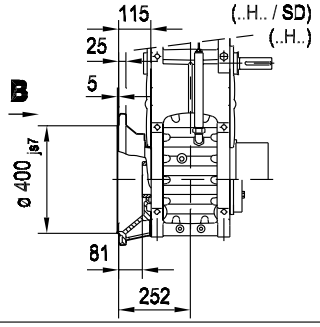


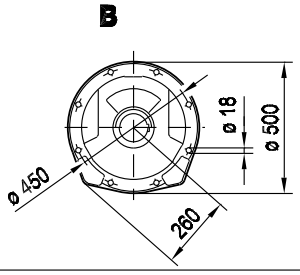
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(..S..)



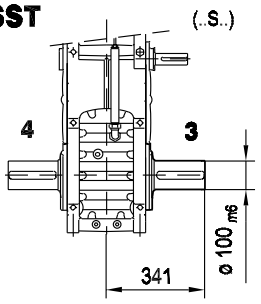
(..H.. / SD)
(..H..)



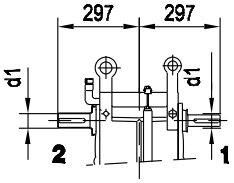


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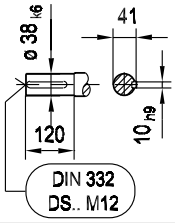
(..S..)



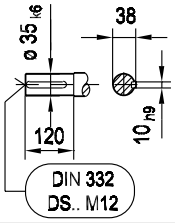
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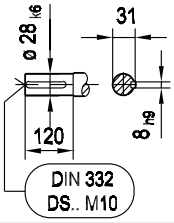
i = 22.5-35.5
ø d1 = ø 38 k6



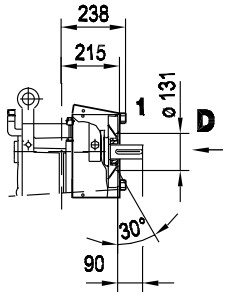
i = 40-63
ø d1 = ø 35 k6



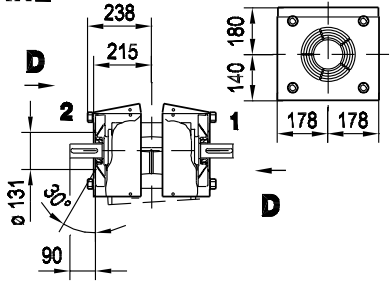
i = 71-112
ø d1 = ø 28 k6



/FAN



/FAN2

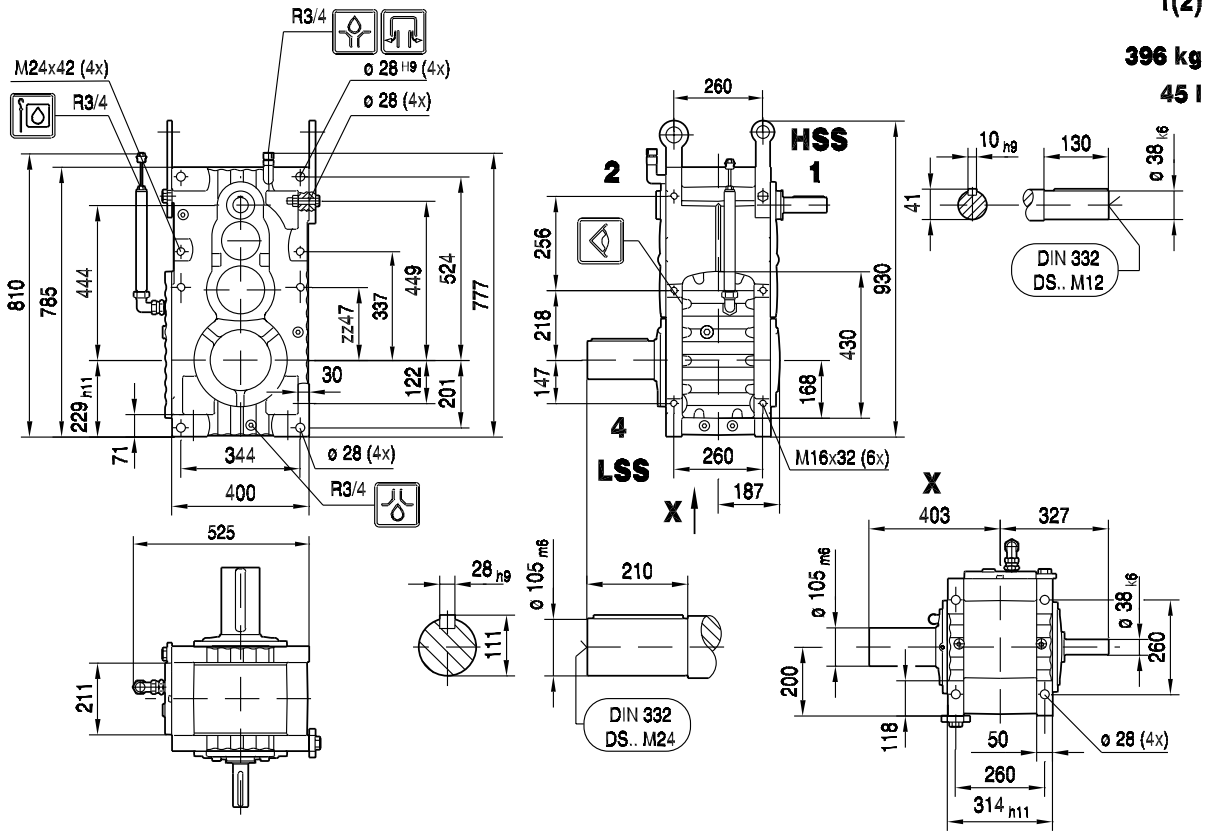


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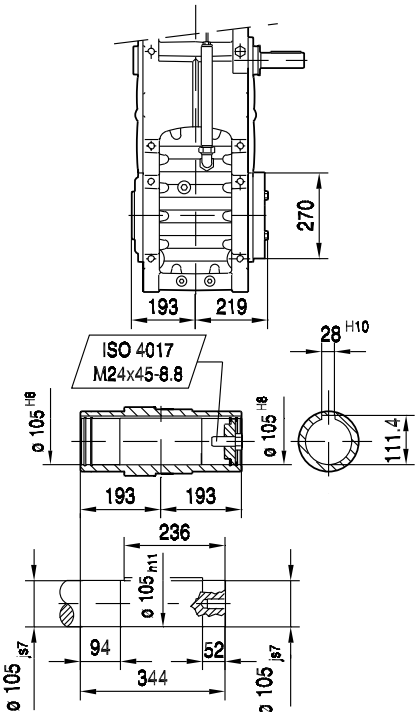
MC3PESF04

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1(2)

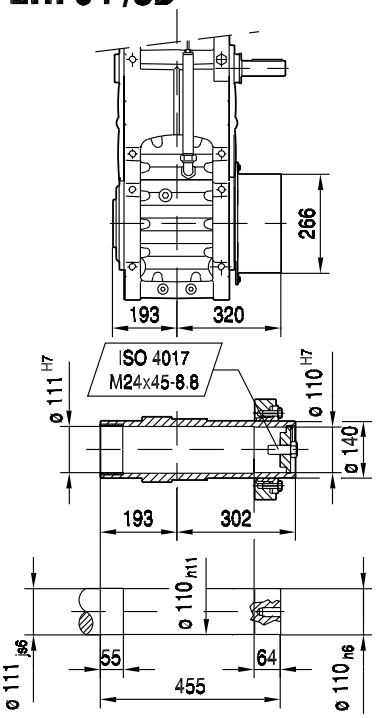
396 kg
45 l

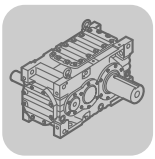


MC3PEHF04



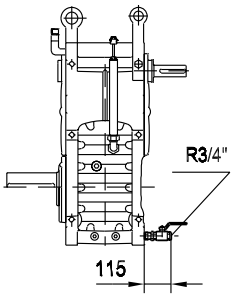
MC3PEHF04 /SD



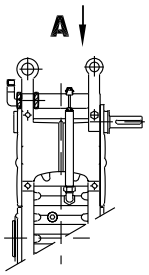


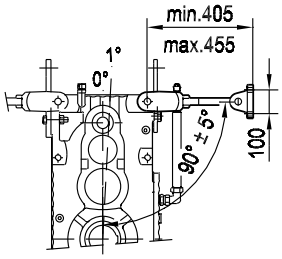
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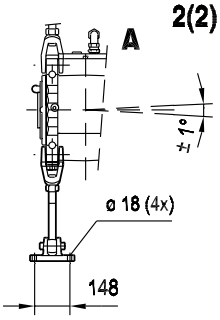


MC3PEH**T** 04



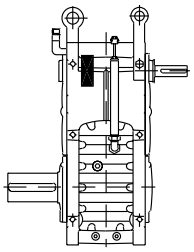


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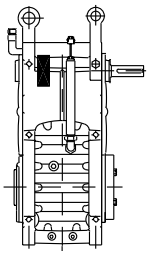


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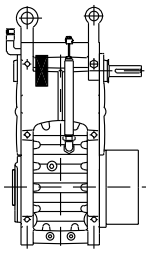
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(..H..)

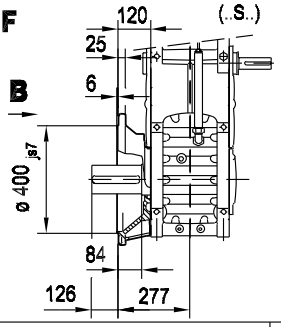


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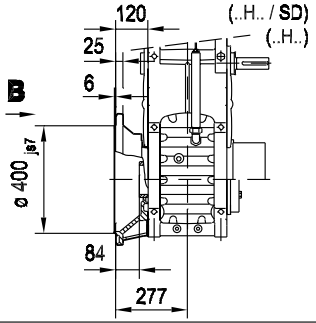


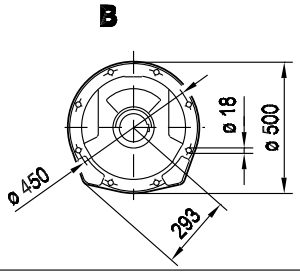
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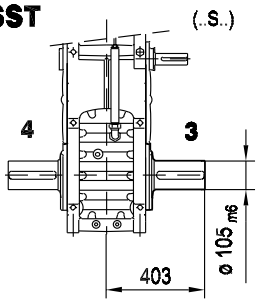
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(..H..)



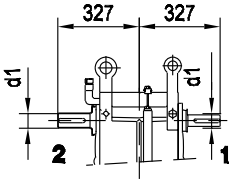


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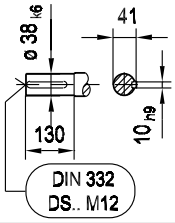
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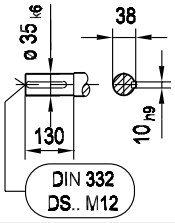
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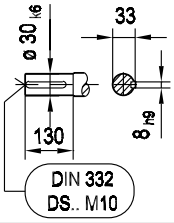
i = 22.5-35.5
ø d1 = ø 38 k6



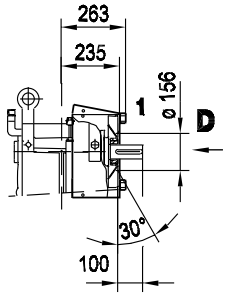
i = 40-63
ø d1 = ø 35 k6



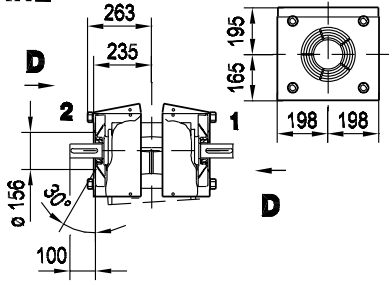
i = 71-112
ø d1 = ø 30 k6



/FAN



/FAN2

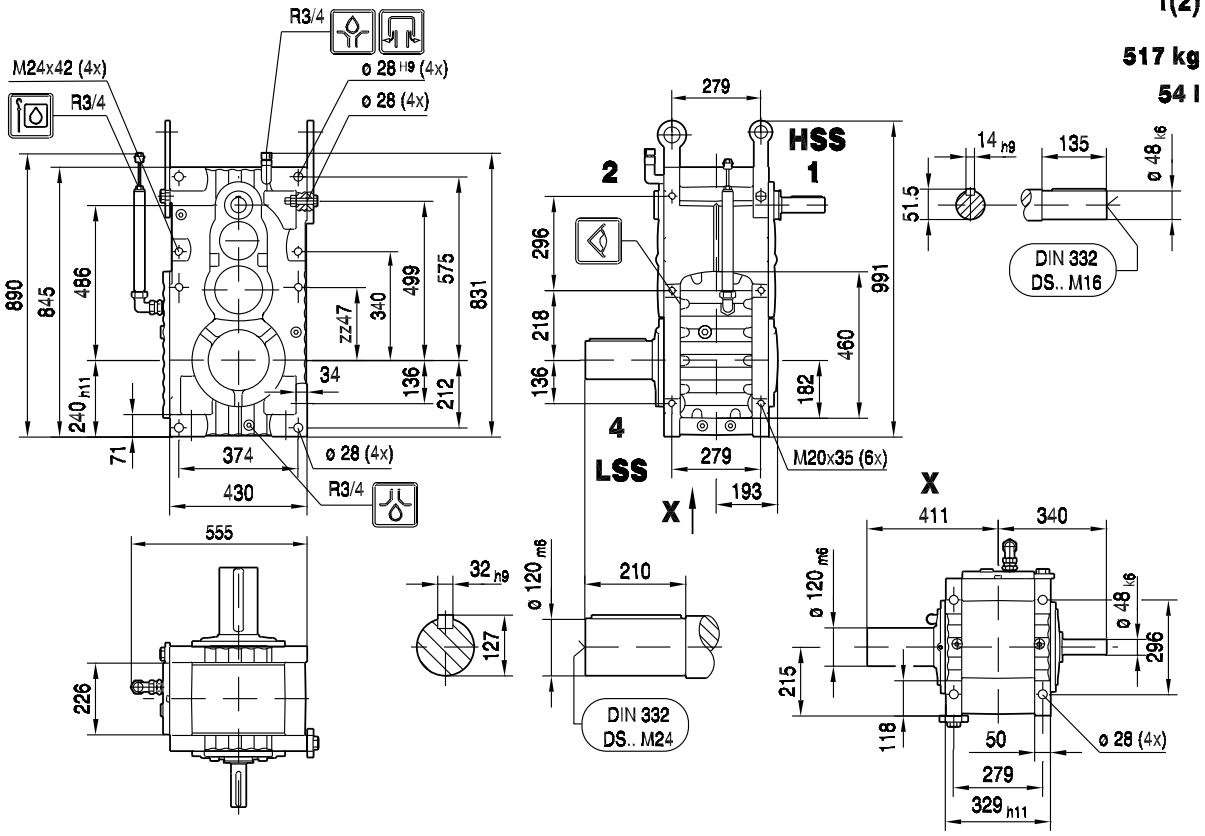


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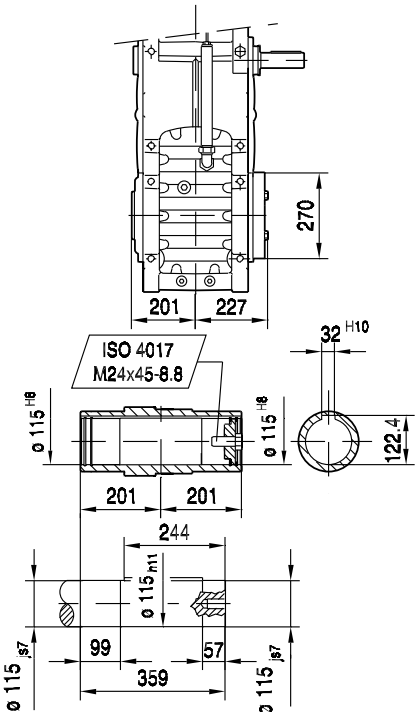
MC3PESF05

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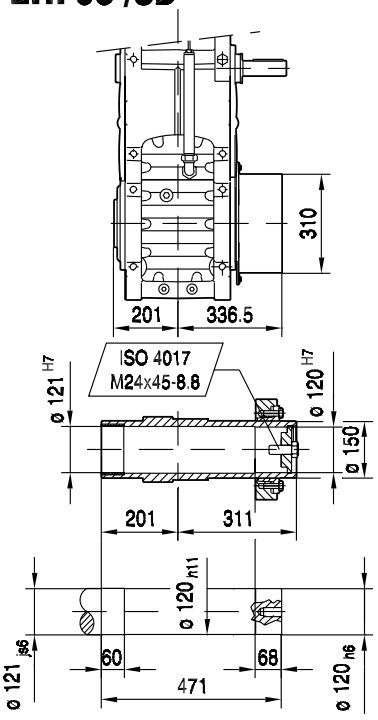
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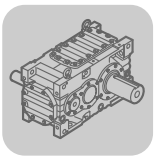


MC3PEHF05



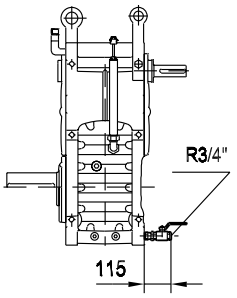
MC3PEHF05 /SD



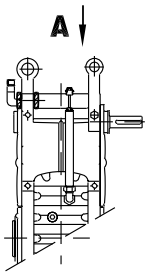


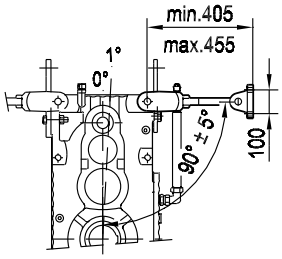
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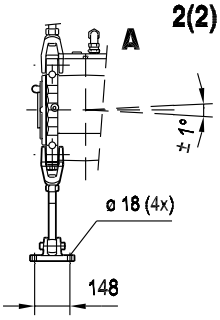


MC3PEH**T** 05



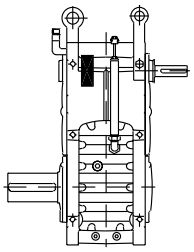


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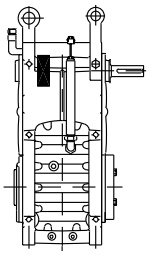


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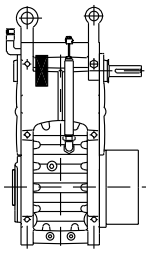
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(..H..)

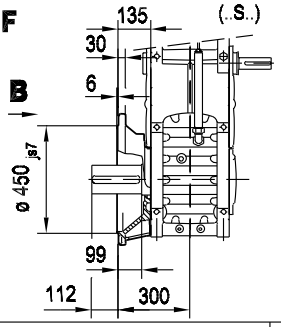


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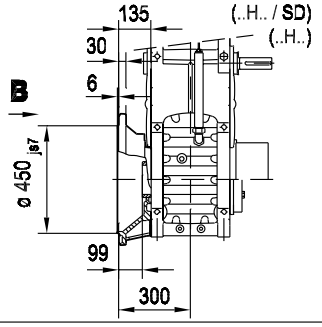


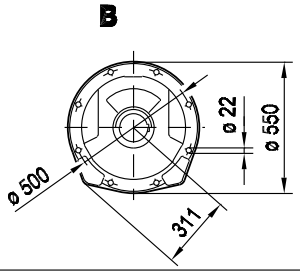
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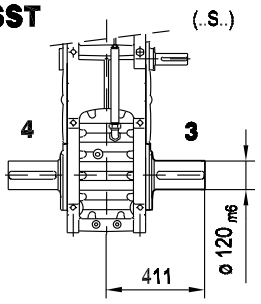
(..H.. / SD)
(..H..)



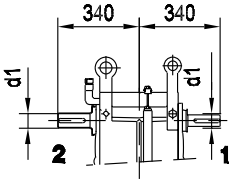


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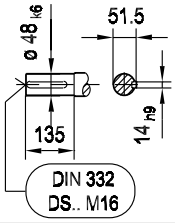
(..S..)



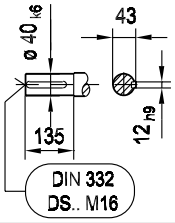
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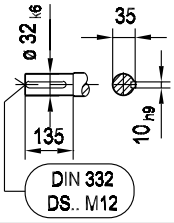
i = 22.5-40
ø d1 = ø 48 k6



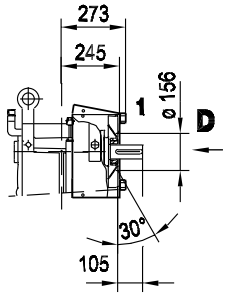
i = 45-63
ø d1 = ø 40 k6



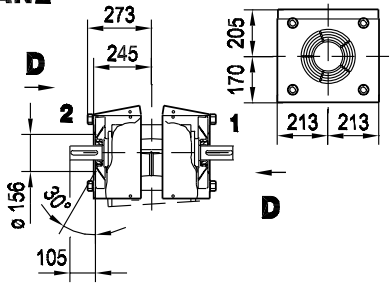
i = 71-112
ø d1 = ø 32 k6



/FAN



/FAN2

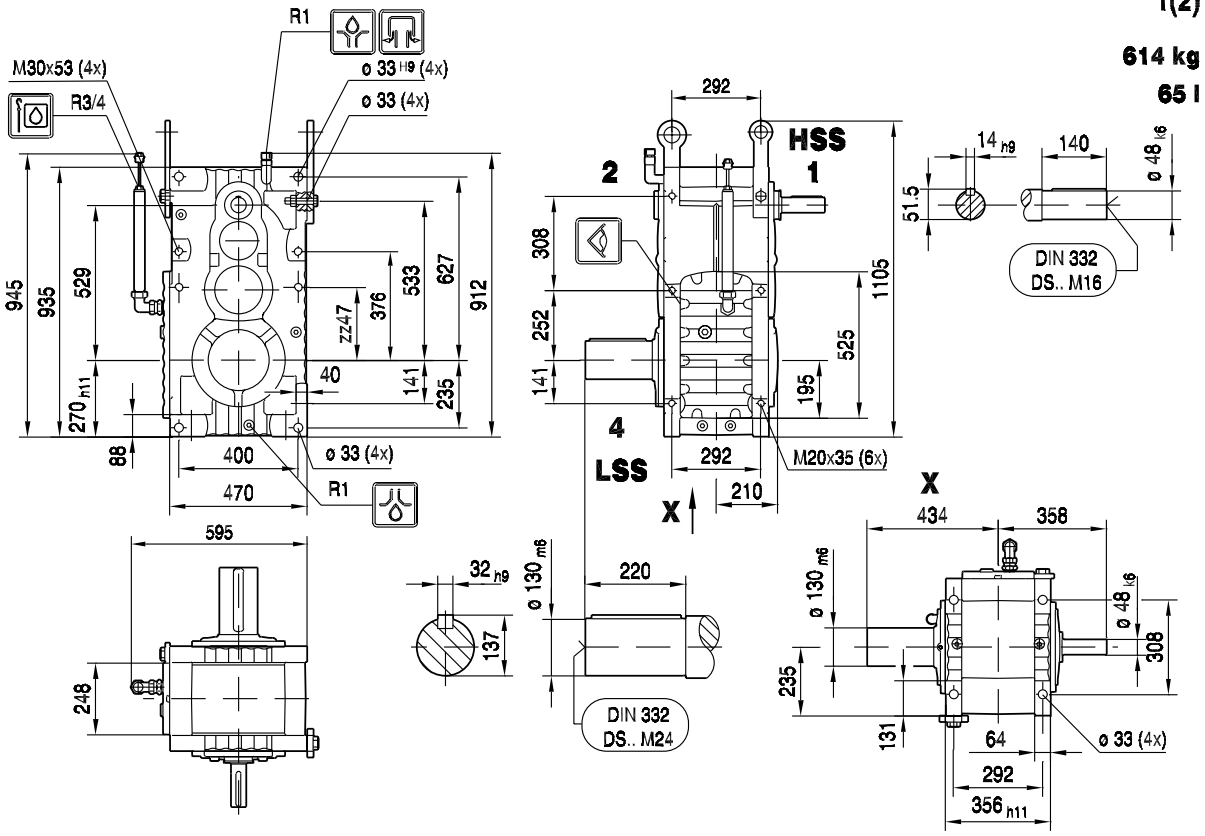


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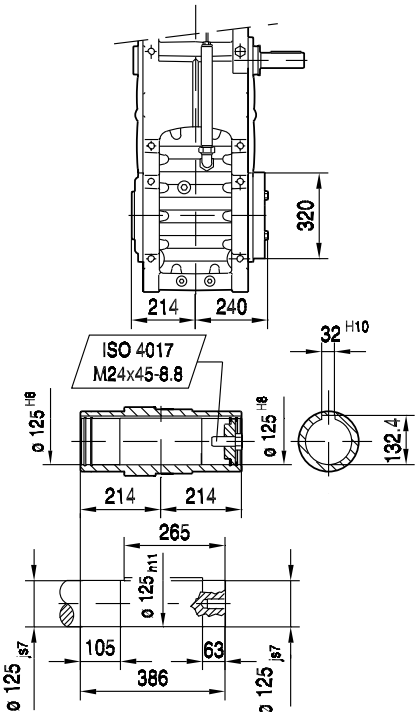
MC3PESF06

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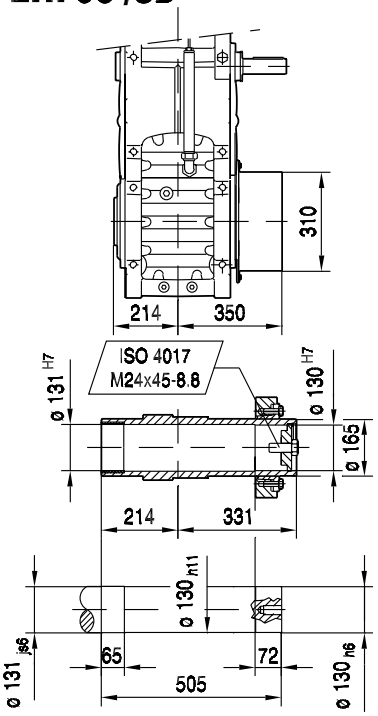
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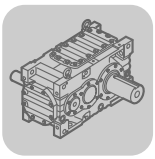


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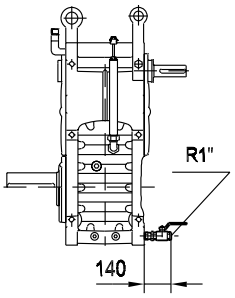
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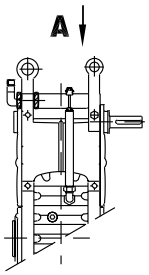


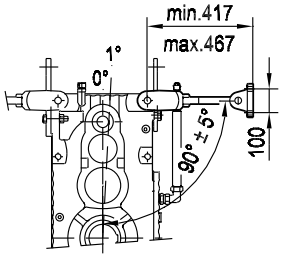
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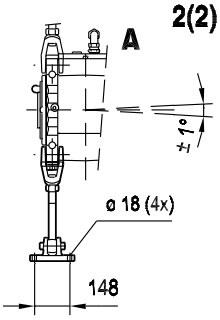


MC3PEH**T** 06



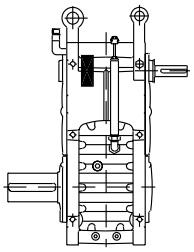


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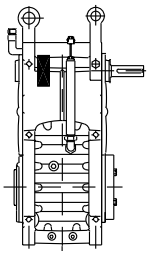


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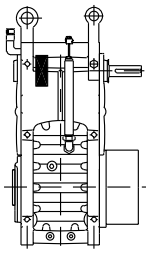
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(..H..)

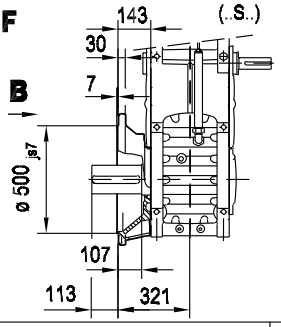


(..H.. / SD)

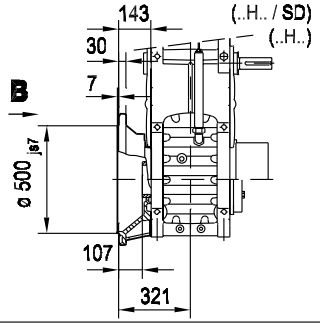


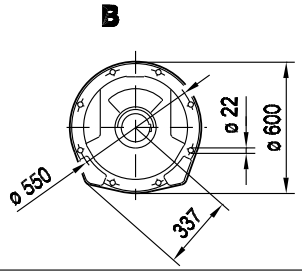
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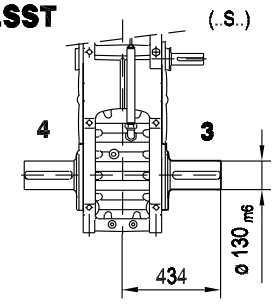
(..H.. / SD)
(..H..)



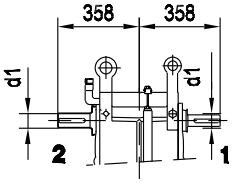


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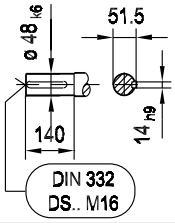
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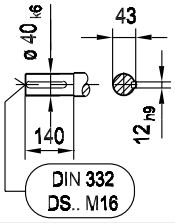
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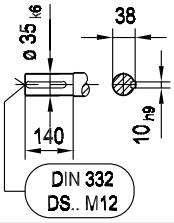
i = 22.5-40
ø d1 = ø 48 k6



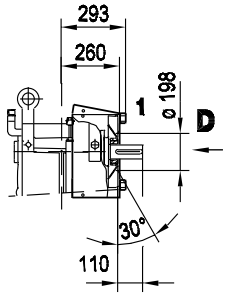
i = 45-63
ø d1 = ø 40 k6



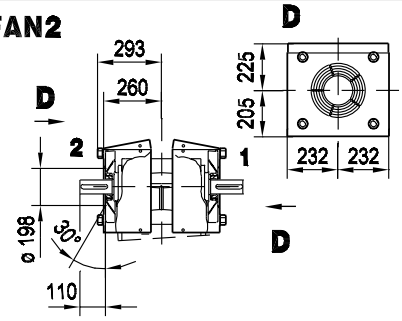
i = 71-112
ø d1 = ø 35 k6



/FAN



/FAN2

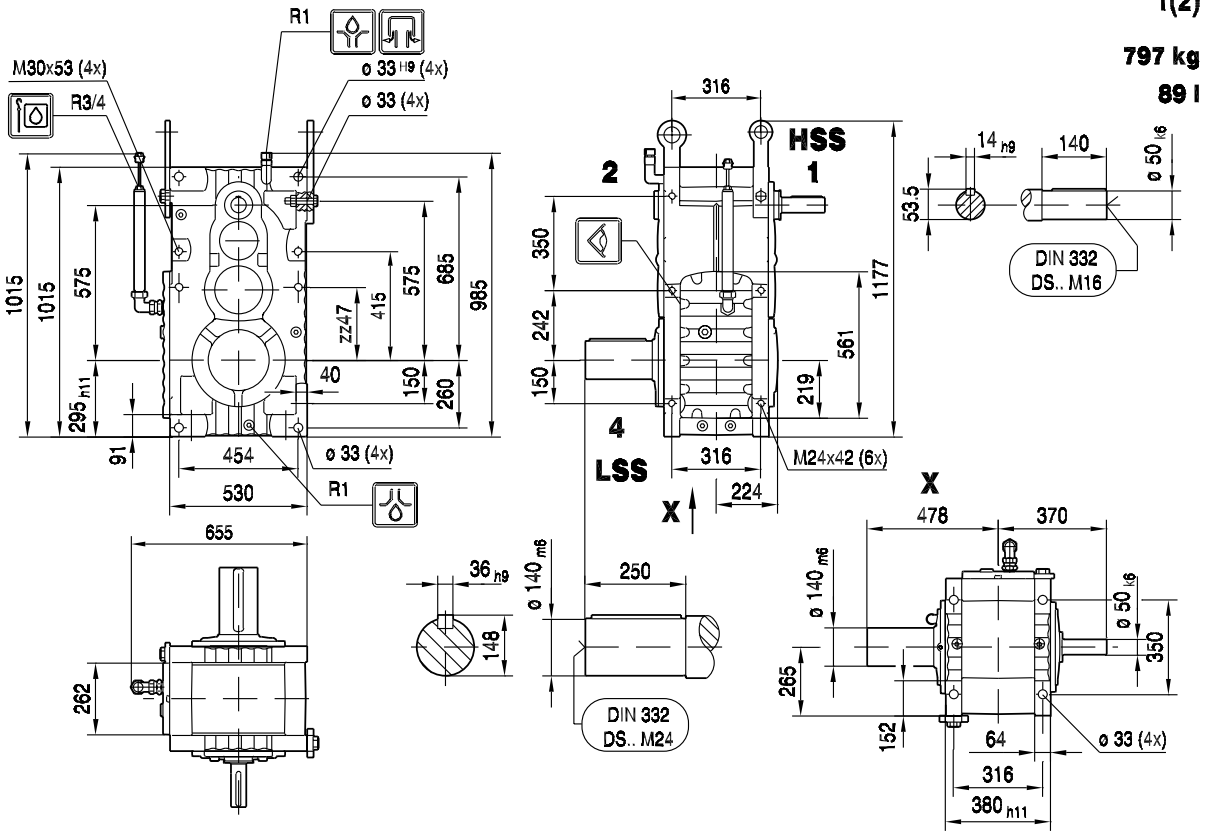


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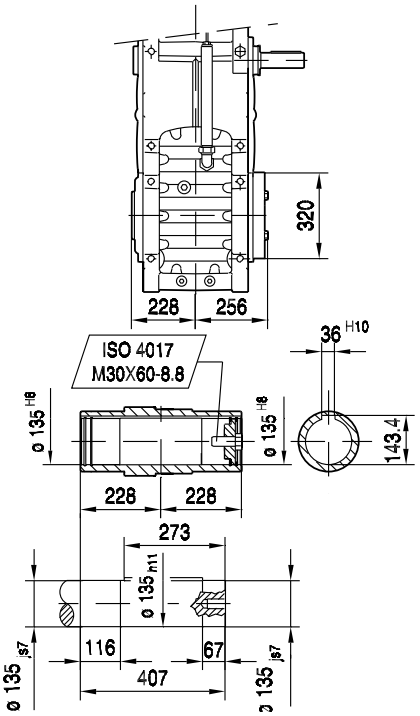
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1(2)

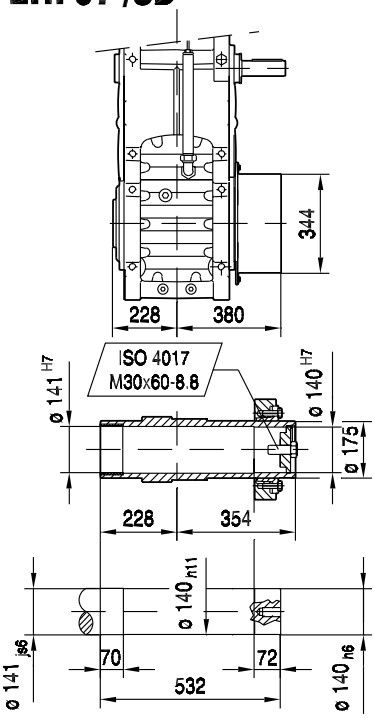
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89 l

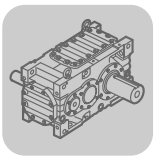


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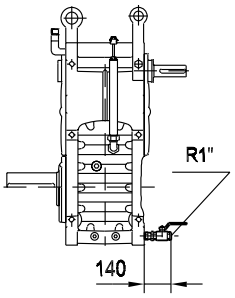
MC3PEHF07 /SD



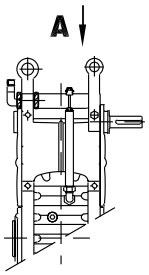


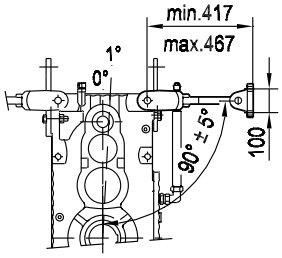
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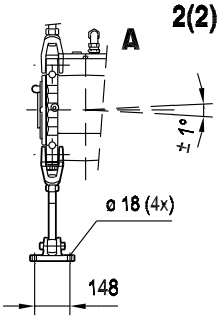


MC3PEH**T** 07



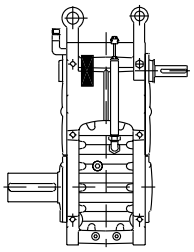


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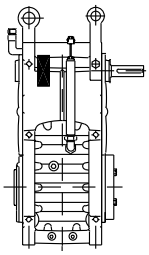


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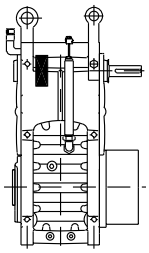
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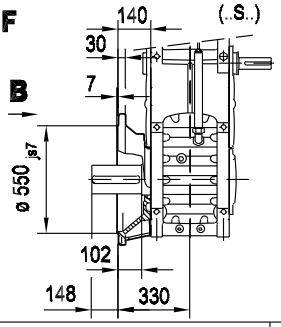
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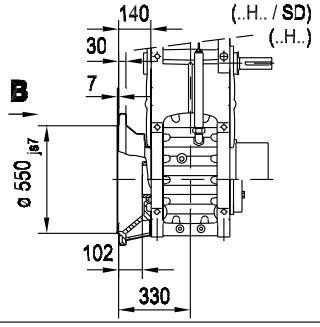


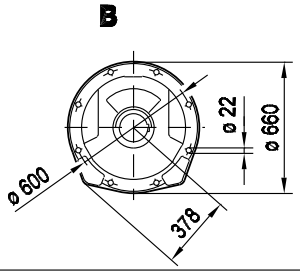
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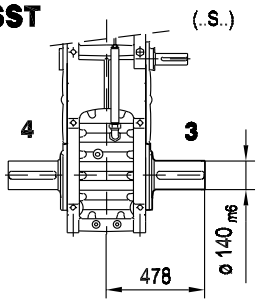




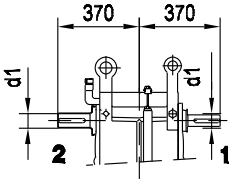


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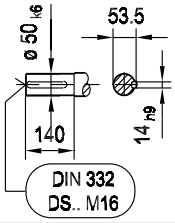
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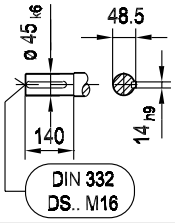
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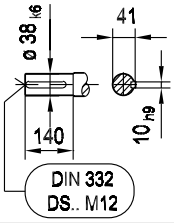
i = 22.5-40
ø d1 = ø 50 k6



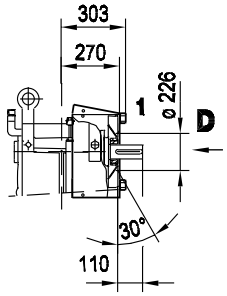
i = 45-63
ø d1 = ø 45 k6



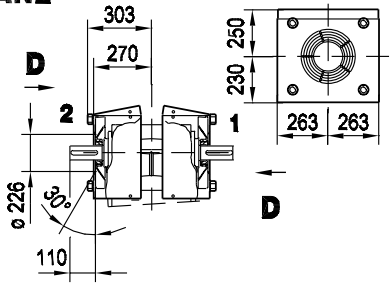
i = 71-112
ø d1 = ø 38 k6



/FAN



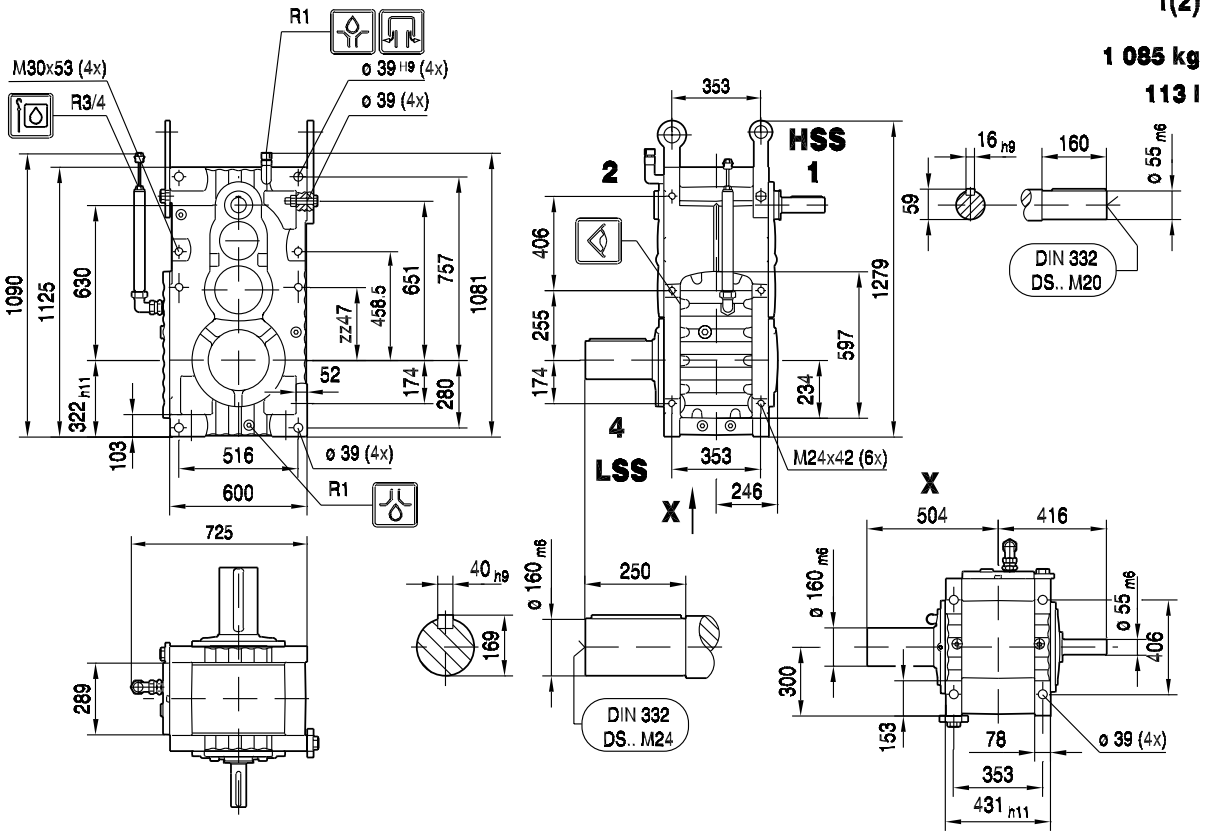
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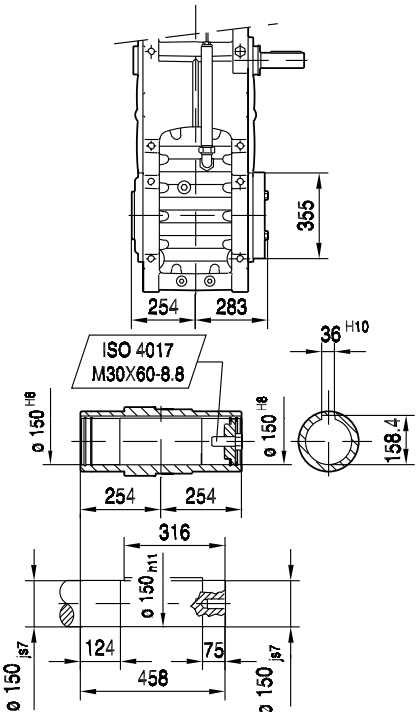
MC3PESF08

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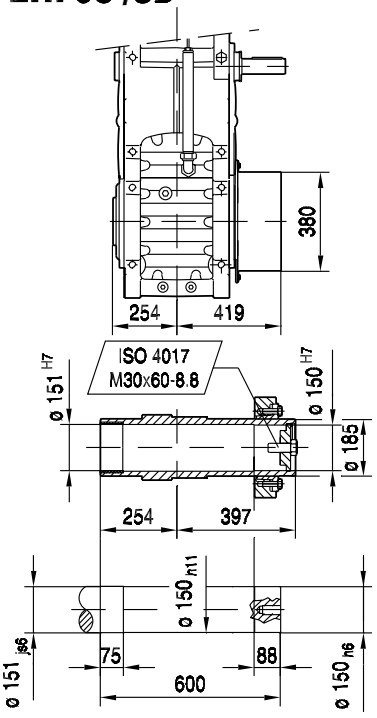
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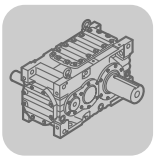


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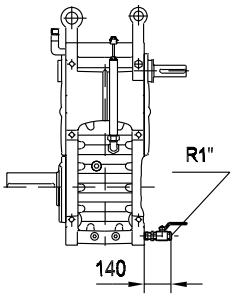
MC3PEHF08 /SD



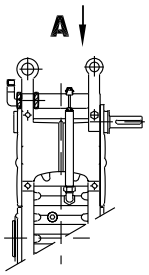


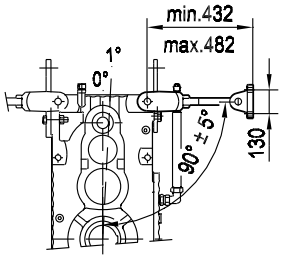
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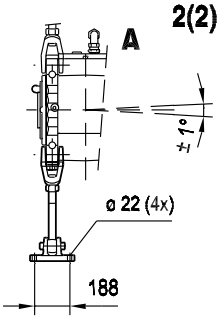


MC3PEH**T** 08



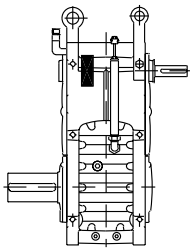


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2(2)

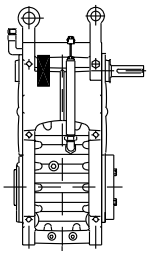


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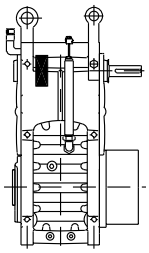
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(..H..)

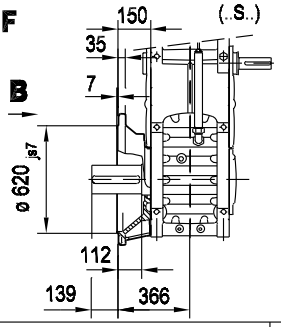


(..H.. / SD)

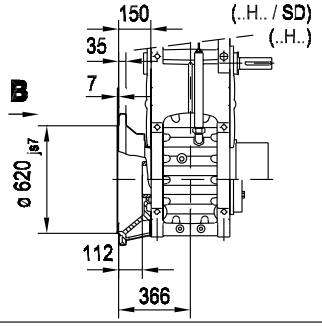


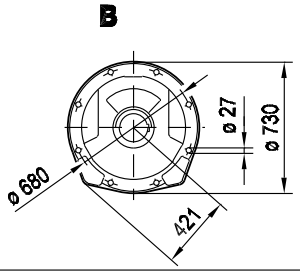
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(..S..)



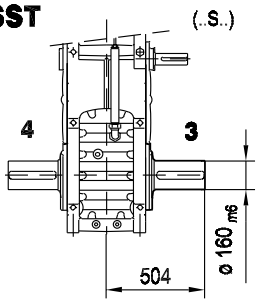
(..H.. / SD)
(..H..)



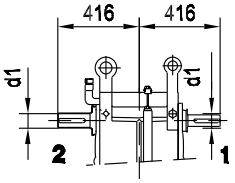


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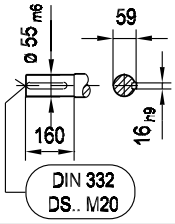
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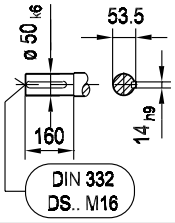
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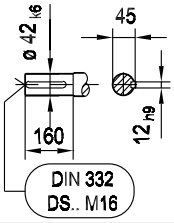
i = 22.5-40
ø d1 = ø 55 m6



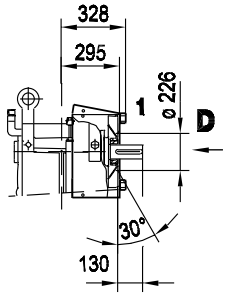
i = 45-63
ø d1 = ø 50 k6



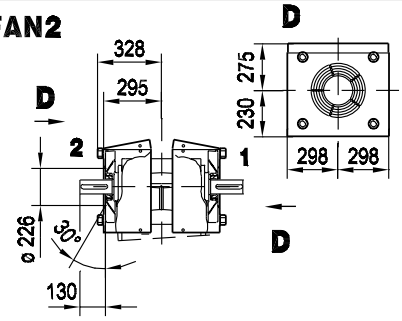
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ø d1 = ø 42 k6



/FAN



/FAN2

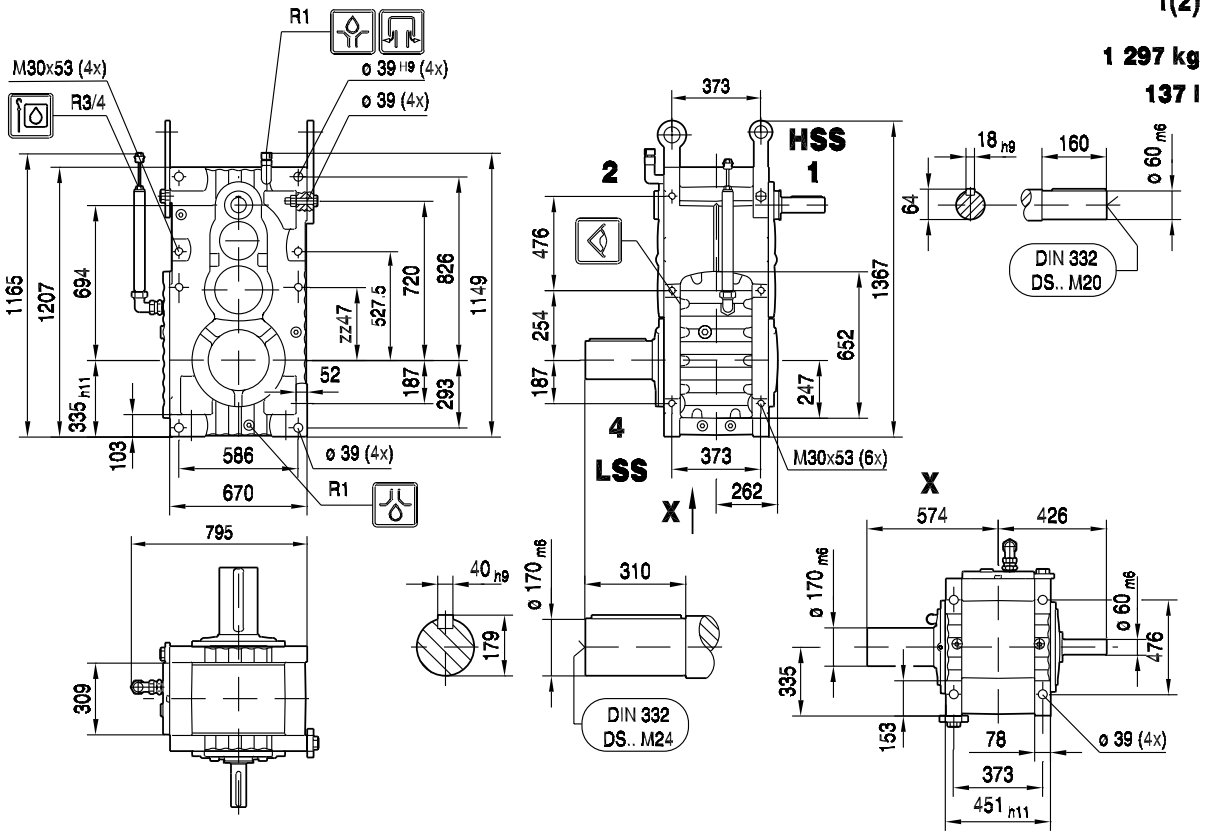


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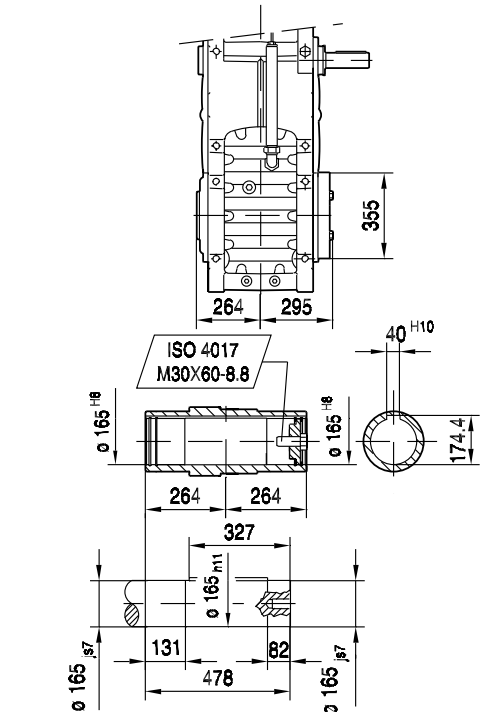
MC3PESF09

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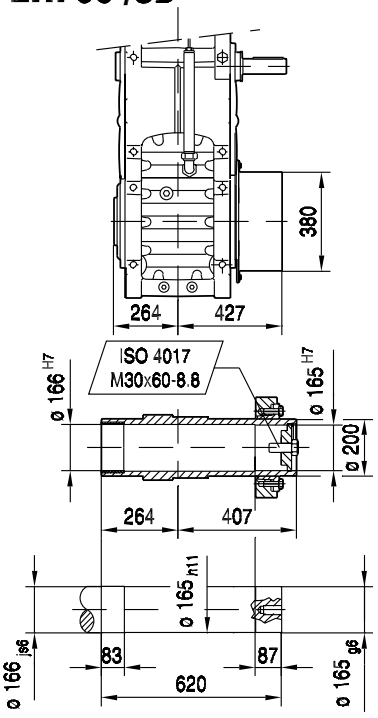
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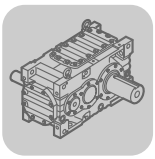


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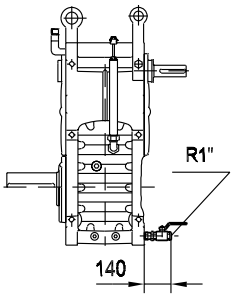
MC3PEHF09 /SD



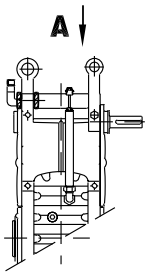


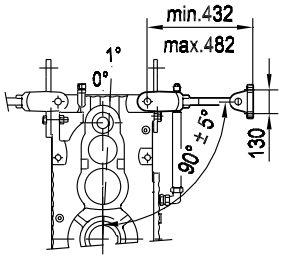
MC3PE..09

/ODV

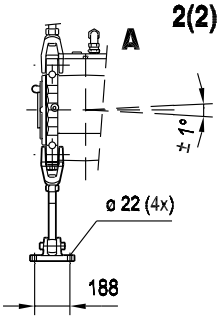


MC3PEH**T** 09



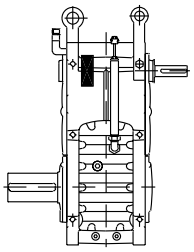


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2(2)

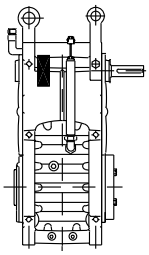


/BS

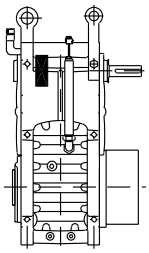
(..S..)



(..H..)

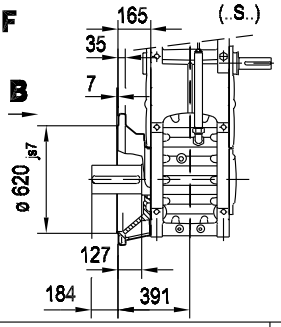


(..H.. / SD)

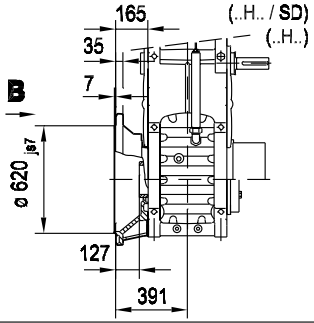


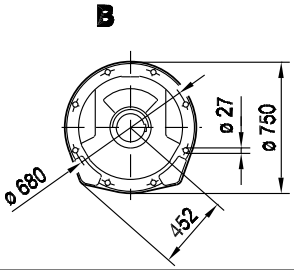
/MF

(..S..)



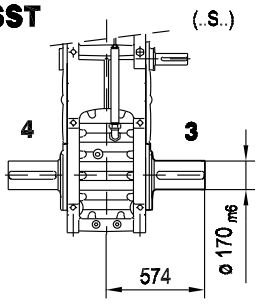
(..H.. / SD)
(..H..)



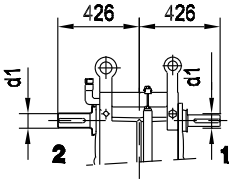


/LSST

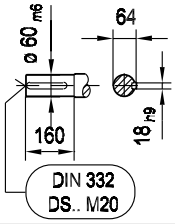
(..S..)



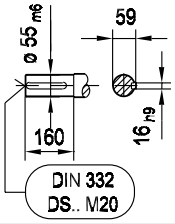
/HSST



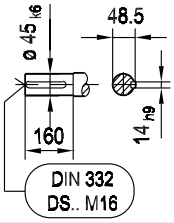
i = 22.5-40
ø d1 = ø 60 m6



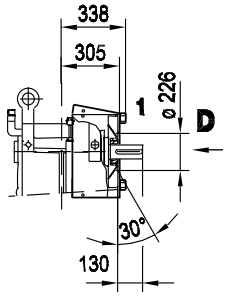
i = 45-63
ø d1 = ø 55 m6



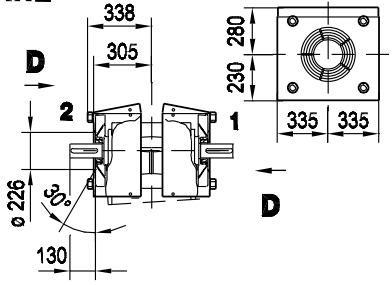
i = 71-112
ø d1 = ø 45 k6



/FAN



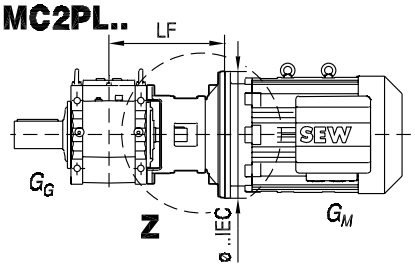
/FAN2



10

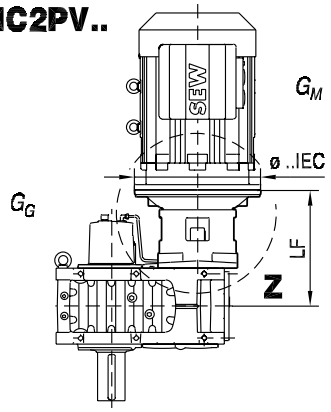
10.5 Motor adapter MC.P..

MC2PL..



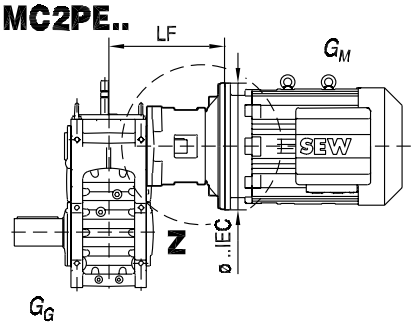
MC2PL.F.. : $G_M \leq 1.0 * G_G$
MC2PL.T.. : $G_M \leq 0.5 * G_G$
*MC2PL../ **MF** : $G_M \leq 0.5 * G_G$*

MC2PV..

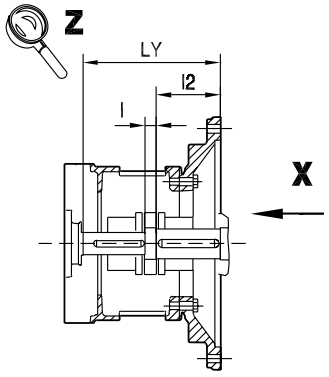


MC2PV.F.. : $G_M \leq 1.5 * G_G$
MC2PV.T.. : $G_M \leq 1.0 * G_G$
*MC2PV../ **MF** : $G_M \leq 1.0 * G_G$*

MC2PE..

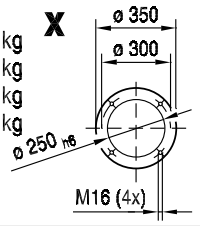


MC2PE.F.. : $G_M \leq 1.0 * G_G$
MC2PE.T.. : $G_M \leq 1.0 * G_G$
*MC2PE../ **MF** : $G_M \leq 1.0 * G_G$*

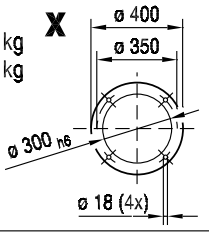


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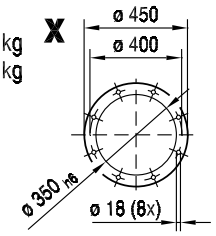
ø 350 IEC
160M ≈ 84 kg
160L ≈ 124 kg
180M ≈ 175 kg
180L ≈ 186 kg



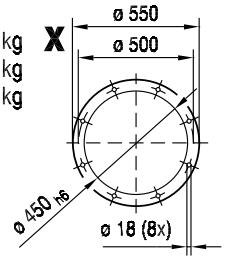
ø 400 IEC
200M ≈ 220 kg
200L ≈ 244 kg



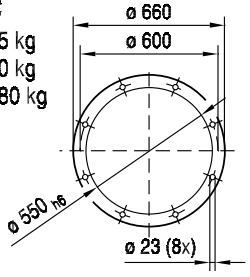
ø 450 IEC
225S ≈ 296 kg
225M ≈ 325 kg



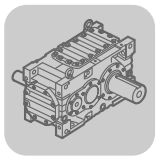
ø 550 IEC
250M ≈ 448 kg
280S ≈ 520 kg
280M ≈ 690 kg



ø 660 IEC
315S ≈ 925 kg
315M ≈ 970 kg
315L ≈ 1080 kg

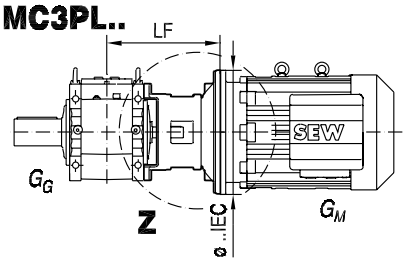


(→ 📖 131)	MC2P..02			MC2P..03			MC2P..04		MC2P..05	MC2P..06	MC2P..07		MC2P..08	MC2P..09
	180L	200M 200L	225S	200M 200L	225S 225M	250M	225M	250M	250M 280S 280M	280S 280M	280M	315S 315M	315M 315L	315L
ø .. IEC	350	400	450	400	450	550	450	550	550	550	550	660	660	660
l2	110	110	140	110	140	140	140	140	140	140	140	170	170	170
LF	425	425	455	432	462	462	492	492	504.5	523	535	565	610.5	620.5
LY	255	255	285	255	285	285	295	295	299.5	305	305	335	354.5	354.5
l	25	25	25	25	25	25	25	25	25	25	25	25	25	25



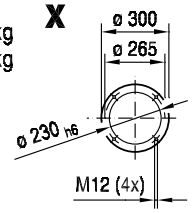
47 156 00 03

MC3PL..

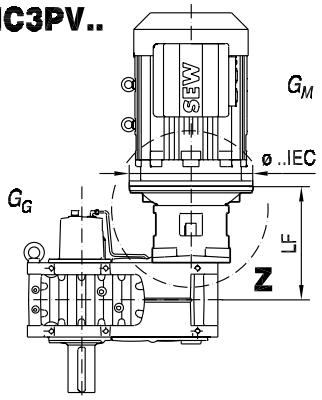


MC3PL.F.. : $G_M \leq 1.0 * G_G$
MC3PL.T.. : $G_M \leq 0.5 * G_G$
*MC3PL../ **MF*** : $G_M \leq 0.5 * G_G$

ø 300 IEC
132S ≈ 65 kg
132M ≈ 79 kg

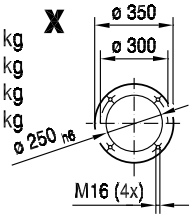


MC3PV..

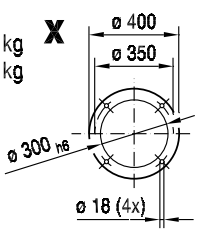


MC3PV.F.. : $G_M \leq 1.5 * G_G$
MC3PV.T.. : $G_M \leq 1.0 * G_G$
*MC3PV../ **MF*** : $G_M \leq 1.0 * G_G$

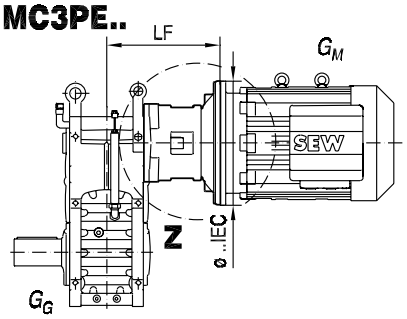
ø 350 IEC
160M ≈ 84 kg
160L ≈ 124 kg
180M ≈ 175 kg
180L ≈ 186 kg



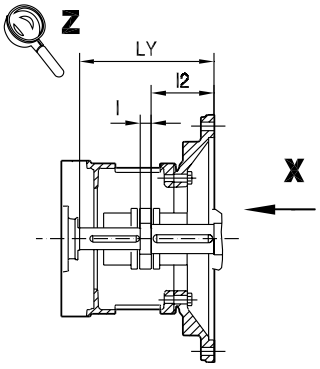
ø 400 IEC
200M ≈ 220 kg
200L ≈ 244 kg



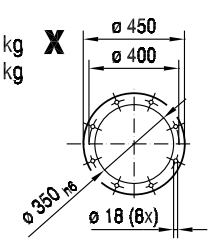
MC3PE..



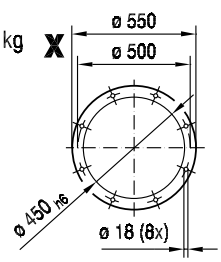
MC3PE.F.. : $G_M \leq 1.0 * G_G$
MC3PE.T.. : $G_M \leq 1.0 * G_G$
*MC3PE../ **MF*** : $G_M \leq 1.0 * G_G$



ø 450 IEC
225S ≈ 296 kg
225M ≈ 325 kg



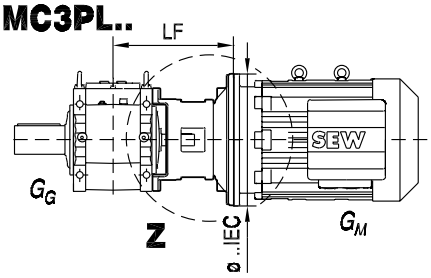
ø 550 IEC
250M ≈ 448 kg



(→ 📖 131)	MC3P..02				MC3P..03					MC3P..04			
	132S 132M	160M 160L 180M 180L	200M 200L	225S	132M	160M 160L 180M 180L	200M 200L	225S 225M	250M	160M 160L 180M 180L	200M 200L	225S 225M	250M
ø .. IEC	300	350	400	450	300	350	400	450	550	350	400	450	550
l2	80	110	110	140	80	110	110	140	140	110	110	140	140
LF	373	425	425	455	373	432	432	462	462	462	462	492	492
LY	203	255	255	285	196	255	255	285	285	265	265	295	295
l	3	25	25	25	3	25	25	25	25	25	25	25	25

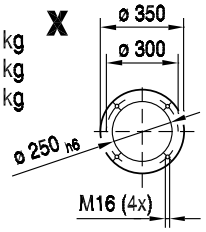
47 157 00 03

MC3PL..

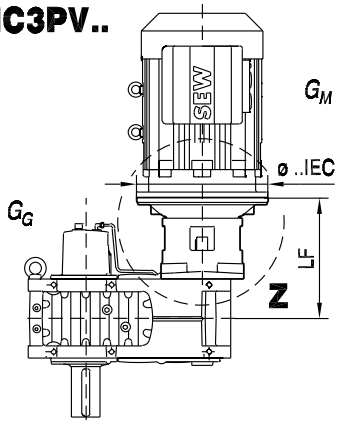


MC3PL.F.. : $G_M \leq 1.0^* G_G$
MC3PL.T.. : $G_M \leq 0.5^* G_G$
*MC3PL../ **MF** : $G_M \leq 0.5^* G_G$*

ø 350 IEC
160L ≈ 124 kg
180M ≈ 175 kg
180L ≈ 186 kg

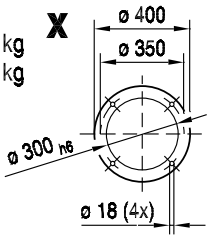


MC3PV..

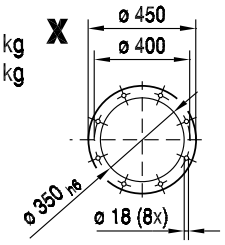


MC3PV.F.. : $G_M \leq 1.5^* G_G$
MC3PV.T.. : $G_M \leq 1.0^* G_G$
*MC3PV../ **MF** : $G_M \leq 1.0^* G_G$*

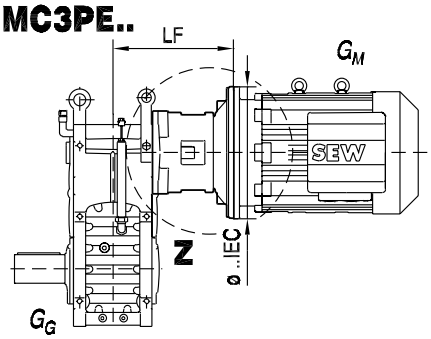
ø 400 IEC
200M ≈ 220 kg
200L ≈ 244 kg



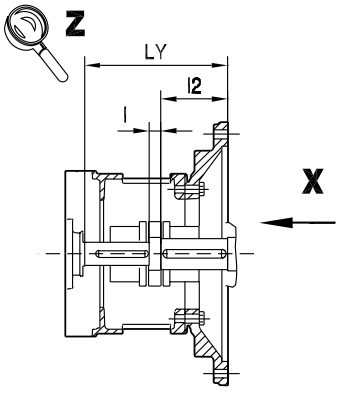
ø 450 IEC
225S ≈ 296 kg
225M ≈ 325 kg



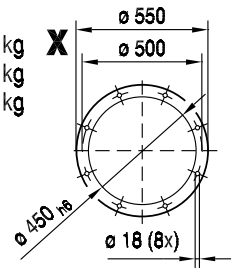
MC3PE..



MC3PE.F.. : $G_M \leq 1.0^* G_G$
MC3PE.T.. : $G_M \leq 1.0^* G_G$
*MC3PE../ **MF** : $G_M \leq 1.0^* G_G$*



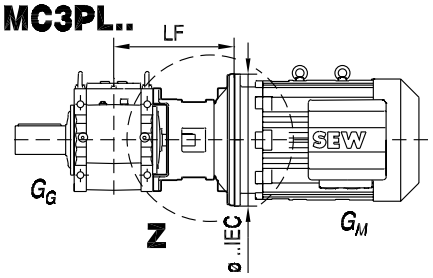
ø 550 IEC
250M ≈ 448 kg
280S ≈ 520 kg
280M ≈ 690 kg



(→ 📖 131)	MC3P..05				MC3P..06			
	160L 180M 180L	200M 200L	225S 225M	250M 280S	180L	200M 200L	225S 225M	250M 280S 280M
ø .. IEC	350	400	450	550	350	400	450	550
l2	110	110	140	140	110	110	140	140
LF	474.5	474.5	504.5	504.5	493	493	523	523
LY	269.5	269.5	299.5	299.5	275	275	305	305
l	25	25	25	25	25	25	25	25

47 158 00 03

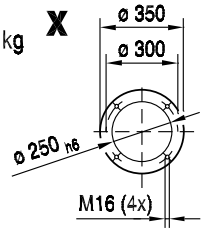
MC3PL..



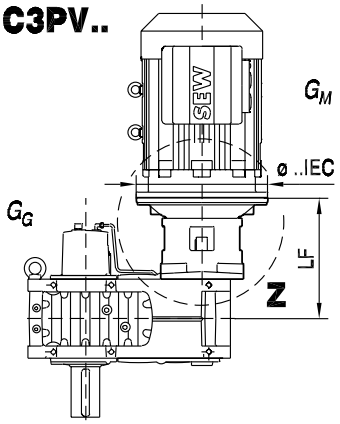
MC3PL.F.. : $G_M \leq 1.0^* G_G$
MC3PL.T.. : $G_M \leq 0.5^* G_G$
*MC3PL../ **MF*** : $G_M \leq 0.5^* G_G$

ø 350 IEC
180L ≈ 186 kg

X



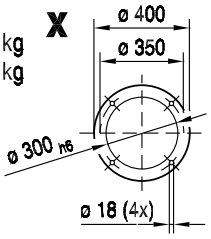
MC3PV..



MC3PV.F.. : $G_M \leq 1.5^* G_G$
MC3PV.T.. : $G_M \leq 1.0^* G_G$
*MC3PV../ **MF*** : $G_M \leq 1.0^* G_G$

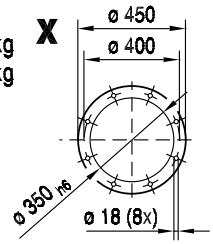
ø 400 IEC
200M ≈ 220 kg
200L ≈ 244 kg

X

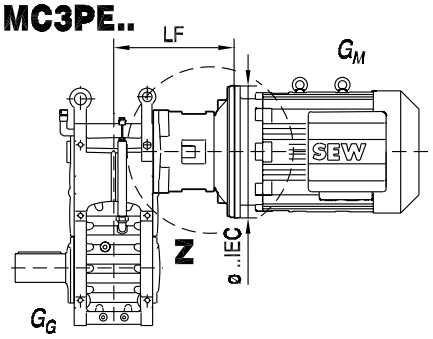


ø 450 IEC
225S ≈ 296 kg
225M ≈ 325 kg

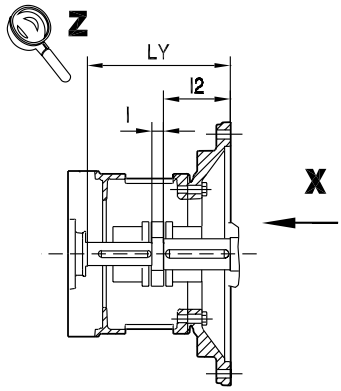
X



MC3PE..

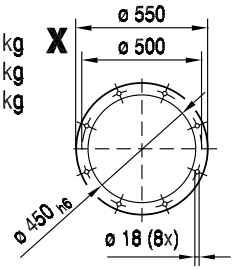


MC3PE.F.. : $G_M \leq 1.0^* G_G$
MC3PE.T.. : $G_M \leq 1.0^* G_G$
*MC3PE../ **MF*** : $G_M \leq 1.0^* G_G$

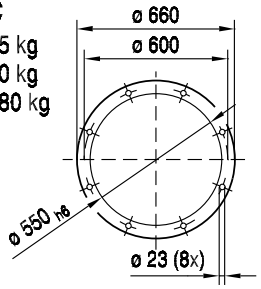


ø 550 IEC
250M ≈ 448 kg
280S ≈ 520 kg
280M ≈ 690 kg

X



ø 660 IEC
315S ≈ 925 kg
315M ≈ 970 kg
315L ≈ 1080 kg

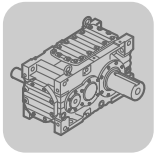


(→ 📖 131)	MC3P..07					MC3P..08				MC3P..09		
	180L	200M 200L	225S 225M	250M 280S 280M	315S 315M 315L	200M 200L	225S 225M	250M 280S 280M	315S 315M 315L	225S 225M	250M 280S 280M	315S 315M 315L
ø .. IEC	350	400	450	550	660	400	450	550	660	450	550	660
l2	110	110	140	140	170	110	140	140	170	140	140	170
LF	505	505	535	535	565	550.5	580.5	580.5	610.5	590.5	590.5	620.5
LY	275	275	305	305	335	294.5	324.5	324.5	354.5	324.5	324.5	354.5
l	25	25	25	25	25	25	25	25	25	25	25	25

10.6 Selection tables (short form) MC.P..

Size MC2P	n_1 [1/min]	Nominal gear unit power P_{N1} in [HP] Nominal Ratio i_N									
		7.1	8	9	10	11.2	12.5	14	16	18	20
02	1800	255	229	211	200	184	17	148	123	111	90
	1500	224	202	177	176	154	148	123	103	93	76
	1200	192	170	142	149	123	119	99	83	75	61
	1000	169	142	119	125	103	100	82	70	63	51
03	1800	316	295	267	257	236	208	200	174	158	128
	1500	279	259	236	227	208	174	176	146	132	107
	1200	239	221	201	193	178	141	142	118	107	86
	1000	211	196	168	170	150	117	119	99	89	72
04	1800	412	381	354	329	304	278	257	235	224	192
	1500	362	335	311	290	268	244	227	202	189	161
	1200	310	287	266	248	229	208	193	162	152	129
	1000	272	252	235	217	201	173	164	135	127	108
05	1800	574	531	493	463	428	388	362	333	303	251
	1500	506	468	434	408	377	326	318	278	253	211
	1200	432	400	371	349	322	263	261	224	204	169
	1000	381	351	325	307	278	220	219	188	170	142
06	1800	689	680	629	530	530	453	453	422	390	318
	1500	606	598	554	467	467	400	400	366	326	266
	1200	519	512	473	400	400	342	341	294	263	215
	1000	457	451	417	351	347	300	284	247	220	180
07	1800	881	844	778	687	671	573	573	522	475	429
	1500	775	743	684	605	591	504	504	460	418	362
	1200	664	636	585	518	506	430	430	393	358	291
	1000	585	559	515	455	445	380	377	343	302	244
08	1800	1110	1110	1026	872	872	725	725	683	634	571
	1500	978	978	903	767	767	638	638	601	559	479
	1200	835	835	772	656	656	546	546	514	464	386
	1000	736	736	680	578	578	480	480	430	388	325
09	1800	1430	1430	1397	1135	1135	964	964	964	884	806
	1500	1258	1258	1230	999	999	849	849	849	778	676
	1200	1075	1075	1051	854	854	725	725	725	656	543
	1000	947	947	925	752	752	640	640	610	550	455

Size		Nominal gear unit power P_{N1} in [HP]														
		Nominal Ratio i_N														
MC3P	n_1 [1/min]	22.5	25	28	31.5	35.5	40	45	50	56	63	71	80	90	100	112
02	1800	99	82	68	66	55	58	48	40	38	32	30	26	21	22	18
	1500	83	69	57	55	46	49	40	33	32	27	25	21	17	18	15
	1200	67	55	46	44	37	39	32	27	25	22	20	17	14	15	12
	1000	56	46	39	37	31	33	27	23	21	18	17	14	12	12	10
03	1800	133	118	98	94	78	79	69	57	54	45	44	36	29	29	23
	1500	111	99	82	79	65	65	58	48	45	38	36	30	25	24	20
	1200	89	80	66	63	52	52	46	38	36	30	29	25	20	20	16
	1000	74	67	56	52	44	44	39	32	30	25	24	21	17	17	13
04	1800	158	158	135	126	106	94	94	78	74	61	59	49	42	40	35
	1500	131	131	113	106	89	79	79	65	62	51	50	41	35	34	29
	1200	105	105	91	85	71	63	63	52	50	41	40	33	28	27	24
	1000	88	88	76	72	59	52	52	44	42	34	34	27	24	22	20
05	1800	181	181	181	162	146	120	110	110	98	87	78	69	57	52	47
	1500	152	152	152	135	122	101	92	92	81	73	65	58	47	43	39
	1200	121	121	121	108	99	81	73	73	65	59	52	46	38	35	32
	1000	101	101	101	90	83	68	61	61	54	49	43	39	32	29	27
06	1800	216	216	216	196	190	154	129	129	117	111	94	89	73	71	61
	1500	180	180	180	164	160	130	107	107	97	93	78	74	61	59	51
	1200	143	143	143	131	129	105	86	86	78	75	62	60	49	47	41
	1000	120	120	120	109	108	88	72	72	65	63	52	50	41	40	34
07	1800	294	294	294	264	264	215	176	176	157	156	128	127	102	85	80
	1500	245	245	245	220	220	180	146	146	131	130	107	106	86	71	67
	1200	196	196	196	176	176	145	117	117	105	105	85	85	69	57	54
	1000	164	164	164	148	148	122	97	97	87	87	71	71	58	47	46
08	1800	433	433	433	375	349	290	264	251	228	198	185	161	134	124	110
	1500	381	381	369	330	292	243	221	211	190	166	154	135	113	104	92
	1200	304	304	296	267	235	196	178	169	153	134	124	109	91	83	74
	1000	253	253	248	223	197	165	148	142	128	113	104	91	76	69	62
09	1800	550	550	550	43	483	397	370	341	312	278	251	224	185	181	150
	1500	484	484	484	425	404	333	308	286	261	233	209	188	154	150	126
	1200	414	414	398	363	326	268	247	229	209	188	168	152	123	120	100
	1000	347	347	334	307	272	224	205	193	174	158	139	127	103	100	84



Size	Nominal Ratio i_N Exact Ratios i_{ex}									
MC2P	**7.1**	**8**	**9**	**10**	**11.2**	**12.5**	**14**	**16**	**18**	**20**
02	7.070	8.176	9.175	9.829	11.366	12.314	14.240	15.981	17.880	20.238
03	7.291	8.226	9.280	9.952	11.227	12.697	14.324	16.160	17.913	20.401
04	7.124	8.014	8.958	9.945	11.186	12.723	14.312	15.998	17.115	19.250
05	7.104	7.996	8.871	9.783	11.012	12.522	14.095	15.636	17.236	19.400
06	6.817	7.889	8.853	9.822	11.366	12.036	13.927	15.630	17.588	19.908
07	6.860	7.725	8.677	9.647	10.863	12.194	13.731	15.424	17.664	20.249
08	7.005	7.888	8.958	9.798	11.033	12.488	14.063	15.969	17.763	19.895
09	6.911	7.992	8.969	9.534	11.025	11.767	13.607	15.271	17.012	19.256

Size	Nominal Ratio i_N Exact Ratios i_{ex}							
MC3P	**22.5**	**25**	**28**	**31.5**	**35.5**	**40**	**45**	**50**
02	22.303	25.791	28.945	32.314	36.265	38.887	44.968	50.467
03	22.650	25.552	28.828	32.599	36.778	39.810	44.909	50.667
04	23.204	26.101	29.176	33.394	37.329	40.276	45.304	50.642
05	22.575	25.412	28.191	32.528	36.084	40.615	43.547	48.308
06	22.801	26.385	29.611	32.330	36.284	41.069	45.957	51.576
07	22.380	25.202	28.310	31.856	35.783	41.020	43.887	49.298
08	21.695	24.431	27.742	31.139	35.360	39.603	43.631	49.545
09	21.634	25.017	28.076	30.877	34.652	39.223	44.098	49.491

Size	Nominal Ratio i_N Exact Ratios i_{ex}						
MC3P	**56**	**63**	**71**	**80**	**90**	**100**	**112**
02	56.341	63.231	71.200	79.907	90.446	95.359	107.937
03	57.295	64.640	71.618	80.800	92.022	101.822	115.963
04	57.962	64.792	72.860	81.444	91.602	97.558	109.725
05	55.740	61.835	71.064	78.333	88.733	96.362	108.464
06	56.313	63.199	71.100	79.795	90.319	96.735	109.493
07	55.473	62.312	68.655	77.119	88.405	99.479	114.036
08	55.612	63.150	69.091	78.456	87.871	97.274	108.947
09	54.427	61.082	68.034	76.353	86.423	93.938	106.328

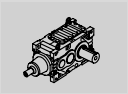
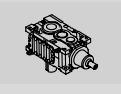
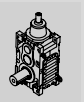
Size	Nominal gear unit torque M_{N2} in lb-in Calculated with n_1 = 1000 1/min Nominal Ratio i_N								
MC2P	7.1	8	9	10	11.2	12.5	14	16	18
02	72842	70983	66823	75143	71425	75143	71602	68239	68505
03	93818	98243	95588	103554	102668	91163	103554	97358	97358
04	118600	123910	128336	132761	138071	134531	143382	132761	132761
05	165509	171704	176130	183210	186750	168164	188521	179670	179670
06	190291	216843	225694	210647	241625	221268	241625	235429	236315
07	245165	263752	273488	268177	295614	282338	315971	323937	325707
08	315086	354914	371731	346064	389432	367305	413329	419525	421295
09	400053	462893	508032	438111	507147	459353	531929	569102	571757

Size	Nominal gear unit torque M_{N2} in lb-in Calculated with n_1 = 1000 1/min Nominal Ratio i_N							
MC3P	20	22.5	25	28	31.5	35.5	40	45
02	63106	75585	71691	67354	71956	67974	77001	71956
03	90277	100898	102668	96473	102668	97358	104439	105324
04	127451	122140	138071	132761	144267	132731	127451	142497
05	168164	137186	154003	170819	176130	179670	166394	160198
06	219498	164624	190291	213303	212418	235429	218613	198256
07	302695	220383	247821	278798	281453	316856	300925	257556
08	393858	331017	372616	415099	4177755	419525	392973	389432
09	535469	452272	523078	563792	569987	569102	530159	545205

Size	Nominal gear unit torque M_{N2} in lb-in Calculated with n_1 = 1000 1/min Nominal Ratio i_N							
MC3P	50	56	63	71	80	90	100	112
02	68682	72133	69390	72222	70009	64168	70540	64699
03	98243	104439	99128	104439	100013	92048	101783	93818
04	132761	146922	133646	147807	133646	130106	131876	130991
05	177900	182325	183210	184095	184095	171704	168164	173474
06	222153	220383	239855	222153	241625	224809	231004	227464
07	289419	291189	327477	293844	330132	308891	283223	312431
08	423065	427490	427490	431031	431031	403593	405364	496526
09	574413	571757	579723	572642	584148	533699	567332	535469

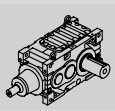
11 Bevel-Helical Gear Units MC...R

11.1 Selection table guide

MC2R... MC3R...	Torque class [kNm]	Gear unit design "L"  Input speed n_1 = ... 1/min				Gear unit design "V"  Input speed n_1 = ... 1/min				Gear unit design "E"  Input speed n_1 = ... 1/min			
		1800	1500	1200	1000	1800	1500	1200	1000	1800	1500	1200	1000
		Selection data on page... 🕮											
02	**8.0**	*292*	*296*	*300*	*304*	*340*	*344*	*348*	*352*	*388*	*392*	*396*	*400*
03	**11.5**	*292*	*296*	*300*	*304*	*340*	*344*	*348*	*352*	*388*	*392*	*396*	*400*
04	**15.5**	*293*	*297*	*301*	*305*	*341*	*345*	*349*	*353*	*389*	*393*	*397*	*401*
05	**20.0**	*293*	*297*	*301*	*305*	*341*	*345*	*349*	*353*	*389*	*393*	*397*	*401*
06	**25.0**	*294*	*298*	*302*	*306*	*342*	*346*	*350*	*354*	*390*	*394*	*398*	*402*
07	**35.0**	*294*	*298*	*302*	*306*	*342*	*346*	*350*	*354*	*390*	*394*	*398*	*402*
08	**46.0**	*295*	*299*	*303*	*307*	*343*	*347*	*351*	*355*	*391*	*395*	*399*	*403*
09	**65.0**	*295*	*299*	*303*	*307*	*343*	*347*	*351*	*355*	*391*	*395*	*399*	*403*

11.2 Selection tables (detailed) MC.RL..

11.2.1 MC.RL.., n_1 = 1800 1/min

MC.RL..02, n_1 = 1800rpm								P_{TH}						70000 lb-in	
i_N	i_{ex}	n_2 [rpm]	M_{N2} [lb-in]	P_{N1} [HP]	F_{Ra} [lb] x1000	F_{Re} [lb] x1000		$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F	$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F	$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F		
7.10	**6.96**	259	45.6	192	1.03	1.22		*)	*)	98	35	-	-		
8.00	**8.05**	224	48.7	177	1.14	1.54		*)	*)	105	42	-	-		
9.00	**9.03**	199	51.0	165	1.24	1.80	**MC2RLSF02**	20	*)	109	46	-	-		
10.00	**9.61**	187	46.7	144	1.54	1.17	**MC2RLHF02**	23	*)	111	48	-	-	306	434
11.20	**11.11**	162	50.1	133	1.65	1.46	**MC2RLHT02**	28	*)	117	54	-	-		
12.50	**12.47**	144	52.7	125	1.74	1.69		32	*)	121	58	-	-		
14.00	**14.61**	123	50.6	103	2.03	*)		27	*)	90	48	-	-		
16.00	**16.90**	107	58.6	103	1.68	*)		31	*)	93	51	-	-		
18.00	**18.96**	95	64.8	101	1.42	*)		32	*)	95	54	-	-		
20.00	**20.31**	89	64.0	93	1.29	0.204		35	9.4	97	55	-	-		
22.50	**23.49**	77	70.3	89	1.22	0.330		38	12.1	101	58	-	-		
25.00	**26.36**	68	65.8	74	2.21	0.72		39	14.8	102	60	-	-		
28.00	**29.43**	61	70.9	71	1.78	0.79		42	16.1	105	63	-	-		
31.50	**33.03**	55	66.3	59	2.81	1.10		43	19	106	64	-	-		
35.50	**37.38**	48	61.0	48	3.93	1.39	**MC3RLSF02**	46	20	109	67	-	-		
40.00	**40.30**	45	59.2	44	4.07	0.57	**MC3RLHF02**	47	21	110	68	-	-	322	435
45.00	**45.22**	40	66.9	44	3.75	0.56	**MC3RLHT02**	48	24	111	70	-	-		
50.00	**50.49**	36	71.7	42	3.41	0.65		51	25	114	71	-	-		
56.00	**56.66**	32	67.5	36	4.46	0.98		52	27	115	74	-	-		
63.00	**64.14**	28	62.1	29	5.0	1.30		54	30	117	75	-	-		
71.00	**70.97**	25	71.9	30	4.63	0.365		43	17.4	98	55	-	-		
80.00	**79.65**	23	68.5	26	5.1	0.58		44	19	99	58	-	-		
90.00	**90.15**	20	63.0	21	5.1	0.81		46	21	101	59	-	-		
100.00	**97.35**	18	53.6	16.5	5.1	0.280		47	21	102	59	-	-		
112.00	**110.19**	16	60.7	16.5	5.1	0.280		48	23	103	62	-	-		

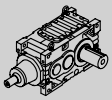
MC.RL..03, n_1 = 1800rpm														97000 lb-in	
7.10	**7.12**	253	57.4	235	3.63	1.64		*)	*)	121	44	-	-		
8.00	**8.04**	224	60.7	221	3.78	1.91		*)	*)	126	50	-	-		
9.00	**9.07**	199	63.9	206	3.92	2.19	**MC2RLSF03**	25	*)	133	56	-	-		
10.00	**10.00**	180	58.2	172	4.18	1.14	**MC2RLHF03**	30	*)	137	60	-	-	308	434
11.20	**11.28**	160	63.1	165	4.30	1.32	**MC2RLHT03**	35	*)	142	66	-	-		
12.50	**12.73**	141	66.6	154	4.46	1.62		40	*)	148	71	-	-		
14.00	**15.07**	119	68.9	135	4.64	*)		34	*)	110	59	-	-		
16.00	**17.00**	106	77.7	135	4.68	*)		38	*)	114	63	-	-		
18.00	**19.18**	94	87.7	135	4.52	*)		40	*)	117	66	-	-		
20.00	**20.57**	88	89.1	128	4.08	0.102		42	*)	118	67	-	-		
22.50	**23.20**	78	100.5	128	3.58	0.102		46	14.8	122	71	-	-		
25.00	**26.18**	69	94.1	106	5.2	0.60		48	17.4	125	74	-	-		
28.00	**29.60**	61	101.3	101	4.69	0.72		51	20	127	76	-	-		
31.50	**33.40**	54	95.0	84	5.8	1.10		54	23	130	79	-	-		
35.50	**35.08**	51	94.9	81	5.9	0.56	**MC3RLSF03**	55	24	131	80	-	-		
40.00	**39.67**	45	100.8	76	6.0	0.70	**MC3RLHF03**	56	27	134	83	-	-	324	435
45.00	**44.75**	40	95.8	64	6.5	1.06	**MC3RLHT03**	59	28	135	84	-	-		
50.00	**50.97**	35	88.1	52	6.9	1.43		62	31	138	87	-	-		
56.00	**57.30**	31	96.8	50	6.9	1.02		64	34	141	90	-	-		
63.00	**65.25**	28	88.9	41	6.9	1.40		66	36	142	91	-	-		
71.00	**69.86**	26	94.5	40	6.9	0.014		52	21	118	67	-	-		
80.00	**78.82**	23	97.8	37	6.9	0.189		54	23	121	70	-	-		
90.00	**89.76**	20	90.1	30	6.9	0.56		56	25	122	71	-	-		
100.00	**97.53**	18	79.5	24	6.9	*)		58	27	123	72	-	-		
112.00	**111.07**	16	90.6	24	6.9	*)		59	28	126	75	-	-		

MC.RL..04, n_1 = 1800rpm — P_{TH} — 132000 lb-in

i_N	i_{ex}	n_2 [rpm]	M_{N2} [lb-in]	P_{N1} [HP]	F_{Ra} [lb] x1000	F_{Re} [lb] x1000		$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F	$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F	$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F		
7.10	**7.29**	247	75.3	302	4.17	1.58		*)	*)	150	56	-	-		
8.00	**8.20**	219	79.1	282	4.35	1.96		*)	*)	157	63	-	-		
9.00	**9.17**	196	83.0	265	4.51	2.29	**MC2RLSF04**	32	*)	164	70	-	-		
10.00	**10.15**	177	77.6	226	4.78	1.23	**MC2RLHF04**	38	*)	169	75	-	-	310	434
11.20	**11.41**	158	82.1	212	4.95	1.58	**MC2RLHT04**	44	*)	176	82	-	-		
12.50	**12.76**	141	86.5	200	5.1	1.89		50	*)	182	87	-	-		
14.00	**14.76**	122	77.4	155	5.6	*)		40	*)	135	72	-	-		
16.00	**16.60**	108	87.0	155	5.7	*)		44	*)	139	76	-	-		
18.00	**18.56**	97	97.3	155	5.7	*)		48	*)	143	80	-	-		
20.00	**20.60**	87	108.0	155	5.1	*)		52	*)	146	83	-	-		
22.50	**23.17**	78	121.5	155	4.51	*)		55	17.4	150	87	-	-		
25.00	**25.90**	69	132.3	151	4.23	*)		59	21	153	90	-	-		
28.00	**29.65**	61	140.8	140	3.72	0.201		63	25	157	94	-	-		
31.50	**33.14**	54	132.5	118	5.7	0.71		66	28	160	97	-	-		
35.50	**34.63**	52	116.7	101	6.9	0.65	**MC3RLSF04**	67	30	161	98	-	-		
40.00	**39.63**	45	135.7	102	6.1	0.60	**MC3RLHF04**	70	32	165	102	-	-	326	435
45.00	**44.30**	41	132.6	89	7.2	0.96	**MC3RLHT04**	72	35	168	105	-	-		
50.00	**49.83**	36	124.6	75	7.9	1.36		75	38	170	107	-	-		
56.00	**55.99**	32	124.5	66	7.9	1.04		78	40	173	110	-	-		
63.00	**62.98**	29	125.6	60	7.9	1.28		80	43	174	113	-	-		
71.00	**68.90**	26	118.3	51	7.9	0.415		63	25	145	83	-	-		
80.00	**77.02**	23	127.4	49	7.9	0.51		66	28	148	84	-	-		
90.00	**86.63**	21	126.9	44	7.9	0.81		68	31	150	87	-	-		
100.00	**93.18**	19	77.2	25	7.9	*)		70	32	152	89	-	-		
112.00	**104.81**	17	87.8	25	7.9	*)		71	34	153	91	-	-		

MC.RL..05, n_1 = 1800rpm — 177000 lb-in

7.10	**7.10**	254	103.7	427	2.92	1.30		*)	*)	168	62	-	-		
8.00	**7.99**	225	109.4	400	3.07	1.83		*)	*)	176	70	-	-		
9.00	**8.86**	203	114.1	376	3.31	2.08	**MC2RLSF05**	*)	*)	182	76	-	-		
10.00	**9.87**	182	106.5	318	3.80	1.53	**MC2RLHF05**	40	*)	189	83	-	-	312	434
11.20	**11.11**	162	112.8	300	3.96	2.01	**MC2RLHT05**	48	*)	197	91	-	-		
12.50	**12.33**	146	118.4	284	4.18	2.19		54	*)	202	97	-	-		
14.00	**14.68**	123	106.6	215	5.3	*)		46	*)	153	82	-	-		
16.00	**16.53**	109	120.0	215	4.96	*)		51	*)	157	86	-	-		
18.00	**18.33**	98	133.1	215	4.73	*)		54	*)	161	90	-	-		
20.00	**20.22**	89	135.9	199	4.44	0.186		58	*)	164	94	-	-		
22.50	**22.76**	79	153.0	199	3.98	0.186		62	20	169	98	-	-		
25.00	**25.25**	71	169.7	199	3.61	0.186		66	23	172	101	-	-		
28.00	**29.13**	62	177.6	180	3.38	0.61		70	28	177	106	-	-		
31.50	**32.32**	56	175.2	160	4.41	1.06		72	31	180	109	-	-		
35.50	**33.83**	53	162.2	143	5.5	0.473	**MC3RLSF05**	74	32	181	110	-	-		
40.00	**39.03**	46	172.7	132	5.2	0.80	**MC3RLHF05**	79	36	185	114	-	-	328	436
45.00	**43.30**	42	177.0	122	5.8	1.09	**MC3RLHT05**	82	39	188	117	-	-		
50.00	**48.74**	37	164.5	101	7.5	1.71		84	42	190	121	-	-		
56.00	**55.44**	32	174.7	94	7.3	0.079		87	46	194	123	-	-		
63.00	**62.40**	29	165.8	79	8.3	0.62		91	48	197	126	-	-		
71.00	**69.92**	26	139.1	59	9.1	0.87		72	30	165	94	-	-		
80.00	**77.56**	23	154.3	59	9.2	0.87		75	32	166	97	-	-		
90.00	**87.30**	21	167.8	57	9.3	0.95		76	35	169	99	-	-		
100.00	**93.84**	19	117.3	37	9.3	0.54		79	36	170	101	-	-		
112.00	**105.62**	17	134.0	38	9.3	0.51		80	39	173	102	-	-		

MC.RL..06, n_1 = 1800rpm								P_{TH}							221000 lb-in
i_N	i_{ex}	n_2 [rpm]	M_{N2} [lb-in]	P_{N1} [HP]	F_{Ra} [lb] x1000	F_{Re} [lb] x1000		$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F	$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F	$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F		
7.10	**6.74**	267	130.4	565	3.91	0.94		*)	*)	196	68	-	-		
8.00	**7.80**	231	139.5	523	4.25	1.68	**MC2RLSF06**	*)	*)	208	80	-	-		
9.00	**8.75**	206	146.2	488	4.53	2.21	**MC2RLHF06**	*)	*)	217	90	-	-	314	434
10.00	**9.64**	187	134.2	411	5.4	1.21	**MC2RLHT06**	47	*)	225	98	-	-		
11.20	**11.15**	161	144.2	382	5.8	1.90		58	*)	236	109	-	-		
12.50	**12.52**	144	152.1	359	6.0	2.36		66	*)	244	117	-	-		
14.00	**14.09**	128	127.5	268	7.1	0.263		52	*)	180	95	-	-		
16.00	**16.30**	110	147.6	268	7.2	0.263		59	*)	188	102	-	-		
18.00	**18.30**	98	165.6	268	7.2	0.262		64	*)	192	107	-	-		
20.00	**20.30**	89	167.4	244	6.8	0.73		70	*)	197	113	-	-		
22.50	**23.49**	77	193.7	244	6.0	0.73		75	*)	202	118	-	-		
25.00	**26.36**	68	217.4	244	5.0	0.73		80	30	208	122	-	-		
28.00	**28.78**	63	223.2	229	4.69	1.01		83	32	211	126	-	-		
31.50	**32.30**	56	230.2	211	5.4	1.37		87	36	215	130	-	-		
35.50	**35.53**	51	210.2	177	8.1	1.18	**MC3RLSF06**	91	40	219	134	-	-		
40.00	**38.80**	46	213.9	165	8.0	1.47	**MC3RLHF06**	94	43	221	137	-	-	330	436
45.00	**43.54**	41	232.2	159	7.7	1.60	**MC3RLHT06**	98	47	225	141	-	-		
50.00	**49.28**	37	214.3	130	10	2.29		102	51	229	145	-	-		
56.00	**55.31**	33	213.7	115	10.2	1.75		105	55	232	148	-	-		
63.00	**62.60**	29	216.6	103	10.2	2.11		109	58	236	152	-	-		
71.00	**68.96**	26	194.4	84	10.2	0.97		86	35	197	111	-	-		
80.00	**77.39**	23	218.2	84	10.2	0.97		89	39	200	115	-	-		
90.00	**87.60**	21	219.9	75	10.2	1.31		93	42	202	118	-	-		
100.00	**95.76**	19	199.1	62	10.2	0.215		95	44	205	121	-	-		
112.00	**108.39**	17	222.0	61	10.2	0.263		98	47	208	123	-	-		

MC.RL..07, n_1 = 1800rpm															292000 lb-in
7.10	**6.84**	263	160.2	685	4.95	1.84		*)	*)	240	84	-	-		
8.00	**7.70**	234	169.2	642	5.2	2.45		*)	*)	252	98	-	-		
9.00	**8.65**	208	177.5	600	5.5	2.80	**MC2RLSF07**	*)	*)	263	109	-	-		
10.00	**9.74**	185	166.2	504	6.6	2.04	**MC2RLHF07**	58	*)	275	121	-	-	316	434
11.20	**10.96**	164	176.2	474	6.8	2.61	**MC2RLHT07**	68	*)	286	131	-	-		
12.50	**12.32**	146	185.6	445	7.1	3.00		79	*)	295	141	-	-		
14.00	**14.18**	127	170.9	357	7.8	*)		64	*)	220	117	-	-		
16.00	**15.97**	113	192.5	357	7.9	*)		71	*)	227	123	-	-		
18.00	**17.93**	100	216.2	357	7.2	*)		78	*)	232	130	-	-		
20.00	**19.94**	90	207.3	307	8.0	0.477		83	*)	239	135	-	-		
22.50	**22.45**	80	233.4	307	7.2	0.477		90	*)	244	141	-	-		
25.00	**25.22**	71	262.2	307	6.1	0.477		95	34	249	148	-	-		
28.00	**28.38**	63	256.9	268	7.2	1.27		101	39	255	153	-	-		
31.50	**31.88**	56	288.6	268	5.9	1.27		106	44	260	158	-	-		
35.50	**33.79**	53	260.5	230	8.8	0.306	**MC3RLSF07**	109	47	263	160	-	-		
40.00	**38.02**	47	267.6	210	8.9	0.86	**MC3RLHF07**	113	51	268	165	-	-	332	437
45.00	**42.71**	42	300.6	210	7.7	0.86	**MC3RLHT07**	118	56	272	170	-	-		
50.00	**48.96**	37	296.3	181	10.2	1.66		123	62	278	176	-	-		
56.00	**53.98**	33	275.8	153	11.5	1.19		127	66	282	178	-	-		
63.00	**61.88**	29	299.6	145	11.8	1.46		131	70	287	184	-	-		
71.00	**70.77**	25	225.8	95	11.8	*)		106	44	240	137	-	-		
80.00	**79.49**	23	253.7	95	11.8	*)		109	47	244	141	-	-		
90.00	**91.12**	20	290.8	95	11.8	*)		114	52	248	145	-	-		
100.00	**96.17**	19	259.5	81	11.8	0.104		115	54	249	146	-	-		
112.00	**110.25**	16	297.5	81	11.8	0.104		119	58	253	150	-	-		

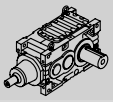
MC.RL..08, n_1 = 1800rpm — P_{TH} — 398000 lb-in

i_N	i_{ex}	n_2 [rpm]	M_{N2} [lb-in]	P_{N1} [HP]	F_{Ra} [lb] x1000	F_{Re} [lb] x1000		$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F	$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F	$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F		
7.10	**6.95**	259	216.3	910	5.0	2.70		*)	*)	296	106	-	-		
8.00	**7.82**	230	227.9	851	5.3	3.40		*)	*)	311	122	-	-		
9.00	**8.88**	203	240.6	791	5.7	3.69	**MC2RLSF08**	*)	*)	327	137	-	-		
10.00	**9.74**	185	224.3	680	6.6	2.53	**MC2RLHF08**	71	*)	338	148	-	-	318	434
11.20	**10.96**	164	237.6	640	6.9	3.34	**MC2RLHT08**	84	*)	350	161	-	-		
12.50	**12.45**	145	251.6	597	7.2	3.69		98	*)	365	174	-	-		
14.00	**14.48**	124	220.6	451	9.0	*)		80	*)	271	145	-	-		
16.00	**16.30**	110	248.4	451	9.0	*)		89	*)	279	153	-	-		
18.00	**18.51**	97	282.1	451	8.2	*)		98	*)	288	161	-	-		
20.00	**20.25**	89	266.8	390	9.0	0.63		103	*)	294	168	-	-		
22.50	**22.80**	79	300.5	390	8.3	0.63		111	*)	302	174	-	-		
25.00	**25.89**	70	341.2	390	7.2	0.63		118	43	308	182	-	-		
28.00	**29.06**	62	332.2	338	8.3	1.52		125	50	315	189	-	-		
31.50	**33.00**	55	377.2	338	7.1	1.52		131	56	322	196	-	-		
35.50	**34.90**	52	348.9	299	9.5	0.65	**MC3RLSF08**	134	59	325	198	-	-		
40.00	**39.18**	46	342.4	261	10.4	1.49	**MC3RLHF08**	141	64	331	204	-	-	334	437
45.00	**44.49**	40	388.8	261	9.3	1.49	**MC3RLHT08**	148	71	337	211	-	-		
50.00	**49.82**	36	386.4	232	11.2	2.14		152	76	342	216	-	-		
56.00	**56.62**	32	406.1	214	10.8	0.354		158	82	349	221	-	-		
63.00	**63.41**	28	389.4	183	13.7	1.39		162	87	353	227	-	-		
71.00	**70.39**	26	328.1	139	15.0	0.95		129	54	294	168	-	-		
80.00	**79.93**	23	372.6	139	15.0	0.95		134	59	299	173	-	-		
90.00	**89.53**	20	395.7	132	15.0	1.22		138	63	304	177	-	-		
100.00	**96.71**	19	293.5	91	15.0	0.110		142	66	307	180	-	-		
112.00	**108.32**	17	333.1	92	15.0	0.060		146	70	311	184	-	-		

MC.RL..09, n_1 = 1800rpm — 486000 lb-in

7.10	**6.85**	263	297.3	1267	6.5	2.29		*)	*)	339	*)	-	-		
8.00	**7.92**	227	317.1	1169	7.0	3.49		*)	*)	361	142	-	-		
9.00	**8.89**	202	332.8	1093	7.4	4.35	**MC2RLSF09**	*)	*)	377	158	-	-		
10.00	**9.61**	187	308.7	949	8.3	2.03	**MC2RLHF09**	*)	*)	388	168	-	-	320	434
11.20	**11.11**	162	330.7	879	8.8	3.19	**MC2RLHT09**	98	*)	406	186	-	-		
12.50	**12.47**	144	347.9	824	9.2	4.10		113	*)	420	201	-	-		
14.00	**14.28**	126	263.7	546	11.5	*)		93	*)	311	166	-	-		
16.00	**16.52**	109	305.0	546	11.7	*)		103	*)	323	177	-	-		
18.00	**18.54**	97	342.3	546	11.8	*)		113	*)	333	186	-	-		
20.00	**19.70**	91	334.7	502	12.0	0.69		117	*)	337	190	-	-		
22.50	**22.78**	79	387.1	502	12.1	0.69		127	*)	347	201	-	-		
25.00	**25.57**	70	434.4	502	11.3	0.69		135	*)	355	209	-	-		
28.00	**28.12**	64	423.5	445	12.4	1.87		142	55	361	216	-	-		
31.50	**31.56**	57	475.3	445	11.4	1.87		149	62	369	223	-	-		
35.50	**34.47**	52	445.0	386	13.7	0.99	**MC3RLSF09**	154	67	374	228	-	-		
40.00	**37.90**	47	435.0	343	14.3	2.11	**MC3RLHF09**	160	72	380	233	-	-	336	437
45.00	**42.54**	42	488.2	343	14.1	2.11	**MC3RLHT09**	166	79	386	240	-	-		
50.00	**48.15**	37	524.5	325	14.3	2.30		173	86	393	247	-	-		
56.00	**54.72**	33	507.8	277	15.8	1.85		180	93	400	253	-	-		
63.00	**61.94**	29	527.5	254	16.5	2.27		186	99	406	260	-	-		
71.00	**68.22**	26	455.6	199	18.0	1.01		148	60	338	192	-	-		
80.00	**76.56**	24	511.3	199	18.0	1.01		153	66	343	197	-	-		
90.00	**86.65**	21	532.2	183	18.0	1.42		158	71	349	202	-	-		
100.00	**94.51**	19	309.7	98	18.0	1.30		162	75	353	207	-	-		
112.00	**106.98**	17	355.3	99	18.0	1.28		168	80	358	212	-	-		

11.2.2 MC.RL.., n_1 = 1500 1/min

MC.RL..02, n_1 = 1500rpm								P_{TH}						70000 lb-in	
i_N	i_{ex}	n_2 [rpm]	M_{N2} [lb-in]	P_{N1} [HP]	F_{Ra} [lb] x1000	F_{Re} [lb] x1000		$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F	$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F	$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F		
7.10	**6.96**	215	48.3	169	1.08	1.28		17.4	*)	90	31	-	-		
8.00	**8.05**	186	51.4	156	1.20	1.63	**MC2RLSF02**	23	*)	95	38	-	-		
9.00	**9.03**	166	53.8	145	1.32	1.91	**MC2RLHF02**	27	*)	99	42	-	-	306	434
10.00	**9.61**	156	49.3	126	1.63	1.24	**MC2RLHT02**	30	*)	102	43	-	-		
11.20	**11.11**	135	52.9	117	1.74	1.54		35	*)	107	48	-	-		
12.50	**12.47**	120	55.7	110	1.84	1.78		39	*)	110	52	-	-		
14.00	**14.61**	103	53.5	90	2.14	*)		31	*)	83	44	-	-		
16.00	**16.90**	89	61.9	90	1.77	*)		34	9.4	86	47	-	-		
18.00	**18.96**	79	65.2	85	1.86	0.121		36	12.1	89	50	-	-		
20.00	**20.31**	74	67.6	82	1.37	0.216		38	13.4	90	51	-	-		
22.50	**23.49**	64	70.7	74	1.68	0.467		40	16.1	93	54	-	-		
25.00	**26.36**	57	66.2	62	2.70	0.86		43	17.4	94	55	-	-		
28.00	**29.43**	51	71.4	60	2.28	0.92		44	20	97	58	-	-		
31.50	**33.03**	45	66.8	50	3.33	1.24		47	21	98	59	-	-		
35.50	**37.38**	40	61.3	40	4.34	1.53	**MC3RLSF02**	48	24	101	62	-	-		
40.00	**40.30**	37	59.6	37	4.46	0.72	**MC3RLHF02**	50	25	102	63	-	-	322	435
45.00	**45.22**	33	67.3	37	4.32	0.70	**MC3RLHT02**	51	27	103	64	-	-		
50.00	**50.49**	30	71.9	35	4.03	0.80		54	28	105	66	-	-		
56.00	**56.66**	26	67.9	30	4.92	1.12		55	30	106	67	-	-		
63.00	**64.14**	23	62.4	24	5.1	1.44		56	31	107	70	-	-		
71.00	**70.97**	21	72.1	25	5.1	0.461		46	20	90	51	-	-		
80.00	**79.65**	19	68.9	22	5.1	0.67		47	21	91	52	-	-		
90.00	**90.15**	17	63.5	17.5	5.1	0.90		48	23	93	54	-	-		
100.00	**97.35**	15	53.9	13.8	5.1	0.357		50	24	94	55	-	-		
112.00	**110.19**	14	61.0	13.8	5.1	0.357		51	25	95	56	-	-		

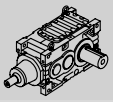
MC.RL..03, n_1 = 1500rpm														97000 lb-in	
7.10	**7.12**	211	60.7	207	3.83	1.72		23	*)	110	39	-	-		
8.00	**8.04**	187	64.1	194	3.99	2.02		28	*)	115	46	-	-		
9.00	**9.07**	165	67.3	181	4.15	2.32	**MC2RLSF03**	34	*)	121	51	-	-		
10.00	**10.00**	150	58.4	144	4.51	1.45	**MC2RLHF03**	38	*)	126	55	-	-	308	434
11.20	**11.28**	133	66.5	145	4.55	1.41	**MC2RLHT03**	43	*)	130	60	-	-		
12.50	**12.73**	118	70.2	136	4.72	1.72		48	*)	135	64	-	-		
14.00	**15.07**	100	69.3	113	5.0	0.089		39	*)	102	54	-	-		
16.00	**17.00**	88	78.1	113	5.1	0.089		42	*)	105	58	-	-		
18.00	**19.18**	78	88.2	113	5.1	0.089		44	14.8	107	60	-	-		
20.00	**20.57**	73	94.1	113	4.31	0.109		47	16.1	109	62	-	-		
22.50	**23.20**	65	101.3	108	4.38	0.258		50	19	111	64	-	-		
25.00	**26.18**	57	94.6	89	5.6	0.76		52	21	114	67	-	-		
28.00	**29.60**	51	101.4	84	5.6	0.88		55	24	117	70	-	-		
31.50	**33.40**	45	95.5	71	6.3	1.26		58	27	119	72	-	-		
35.50	**35.08**	43	95.4	68	6.4	0.71	**MC3RLSF03**	58	28	121	74	-	-		
40.00	**39.67**	38	100.9	63	6.5	0.87	**MC3RLHF03**	60	30	123	76	-	-	324	435
45.00	**44.75**	34	96.5	54	6.9	1.21	**MC3RLHT03**	63	32	125	78	-	-		
50.00	**50.97**	29	88.8	43	6.9	1.58		64	35	127	80	-	-		
56.00	**57.30**	26	97.3	42	6.9	1.18		67	36	130	82	-	-		
63.00	**65.25**	23	89.5	34	6.9	1.55		68	39	131	84	-	-		
71.00	**69.86**	21	94.7	34	6.9	0.131		55	24	109	62	-	-		
80.00	**78.82**	19	98.7	31	6.9	0.290		56	27	111	64	-	-		
90.00	**89.76**	17	90.7	25	6.9	0.67		59	28	113	66	-	-		
100.00	**97.53**	15	80.2	20	6.9	*)		60	30	114	67	-	-		
112.00	**111.07**	14	91.4	20	6.9	*)		62	31	115	68	-	-		

MC.RL..04, n_1 = 1500rpm — P_{TH} — 132000 lb-in

i_N	i_{ex}	n_2 [rpm]	M_{N2} [lb-in]	P_{N1} [HP]	F_{Ra} [lb] x1000	F_{Re} [lb] x1000		$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F	$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F	$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F		
7.10	**7.29**	206	79.3	265	4.42	1.69		30	*)	137	50	-	-		
8.00	**8.20**	183	83.8	249	4.59	2.06		36	*)	143	56	-	-		
9.00	**9.17**	164	87.6	233	4.76	2.42	**MC2RLSF04**	42	*)	150	63	-	-		
10.00	**10.15**	148	82.0	199	5.0	1.30	**MC2RLHF04**	47	*)	156	68	-	-	310	434
11.20	**11.41**	131	86.6	187	5.2	1.67	**MC2RLHT04**	54	*)	161	74	-	-		
12.50	**12.76**	118	91.3	176	5.4	2.00		59	*)	166	79	-	-		
14.00	**14.76**	102	81.7	137	5.9	*)		47	*)	125	66	-	-		
16.00	**16.60**	90	91.9	137	6.0	*)		51	*)	127	70	-	-		
18.00	**18.56**	81	102.8	137	6.0	*)		54	16.1	131	74	-	-		
20.00	**20.60**	73	114.1	137	5.4	*)		58	20	134	76	-	-		
22.50	**23.17**	65	128.3	137	4.76	*)		60	23	138	79	-	-		
25.00	**25.90**	58	132.2	126	5.3	0.153		64	27	141	83	-	-		
28.00	**29.65**	51	141.3	117	4.78	0.385		67	30	145	86	-	-		
31.50	**33.14**	45	132.6	99	6.8	0.90		70	32	148	89	-	-		
35.50	**34.63**	43	117.1	84	7.5	0.83	**MC3RLSF04**	71	34	149	90	-	-		
40.00	**39.63**	38	136.4	86	7.2	0.78	**MC3RLHF04**	74	36	152	94	-	-	326	435
45.00	**44.30**	34	132.9	75	7.8	1.14	**MC3RLHT04**	76	39	154	97	-	-		
50.00	**49.83**	30	125.4	63	7.9	1.54		79	42	157	98	-	-		
56.00	**55.99**	27	125.0	56	7.9	1.22		82	44	160	101	-	-		
63.00	**62.98**	24	126.3	50	7.9	1.46		84	47	161	103	-	-		
71.00	**68.90**	22	118.2	43	7.9	0.59		67	30	134	76	-	-		
80.00	**77.02**	19	127.6	41	7.9	0.68		70	32	137	78	-	-		
90.00	**86.63**	17	127.6	37	7.9	0.96		71	34	138	80	-	-		
100.00	**93.18**	16	77.7	21	7.9	0.052		72	35	139	82	-	-		
112.00	**104.81**	14	88.5	21	7.9	0.030		75	38	142	83	-	-		

MC.RL..05, n_1 = 1500rpm — 177000 lb-in

7.10	**7.10**	211	109.3	375	3.10	1.40		*)	*)	153	54	-	-		
8.00	**7.99**	188	115.6	352	3.24	1.93		39	*)	161	62	-	-		
9.00	**8.86**	169	120.5	331	3.50	2.19	**MC2RLSF05**	46	*)	166	68	-	-		
10.00	**9.87**	152	112.7	281	4.00	1.60	**MC2RLHF05**	52	*)	173	75	-	-	312	434
11.20	**11.11**	135	119.6	265	4.15	2.09	**MC2RLHT05**	59	*)	181	82	-	-		
12.50	**12.33**	122	125.3	250	4.40	2.31		64	*)	186	89	-	-		
14.00	**14.68**	102	107.4	180	5.7	0.051		52	*)	139	74	-	-		
16.00	**16.53**	91	120.9	180	5.7	0.051		58	*)	143	79	-	-		
18.00	**18.33**	82	134.1	180	5.4	0.051		60	19	148	82	-	-		
20.00	**20.22**	74	135.9	166	5.2	0.452		64	21	152	86	-	-		
22.50	**22.76**	66	153.0	166	4.81	0.451		68	25	154	90	-	-		
25.00	**25.25**	59	169.7	166	4.47	0.452		71	28	158	93	-	-		
28.00	**29.13**	51	181.7	154	3.99	0.78		75	34	162	97	-	-		
31.50	**32.32**	46	175.5	134	5.3	1.31		78	36	165	99	-	-		
35.50	**33.83**	44	161.7	119	6.5	0.75	**MC3RLSF05**	79	38	166	101	-	-		
40.00	**39.03**	38	172.8	110	6.2	1.06	**MC3RLHF05**	83	42	170	105	-	-	328	436
45.00	**43.30**	35	177.9	102	6.7	1.34	**MC3RLHT05**	86	44	173	107	-	-		
50.00	**48.74**	31	165.4	84	8.1	1.96		89	47	176	110	-	-		
56.00	**55.44**	27	175.3	79	8.3	0.265		93	50	180	114	-	-		
63.00	**62.40**	24	166.8	67	8.9	0.80		95	52	182	117	-	-		
71.00	**69.92**	21	139.1	50	9.3	1.06		76	34	152	86	-	-		
80.00	**77.56**	19	154.3	50	9.3	1.06		78	36	154	89	-	-		
90.00	**87.30**	17	169.0	48	9.3	1.12		80	39	157	91	-	-		
100.00	**93.84**	16	118.6	31	9.3	0.65		82	40	158	93	-	-		
112.00	**105.62**	14	133.5	31	9.3	0.65		84	42	160	94	-	-		

MC.RL..06, n_1 = 1500rpm								P_{TH}						221000 lb-in	
i_N	i_{ex}	n_2 [rpm]	M_{N2} [lb-in]	P_{N1} [HP]	F_{Ra} [lb] x1000	F_{Re} [lb] x1000		$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F	$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F	$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F		
7.10	**6.74**	223	137.7	497	4.13	1.0		*)	*)	178	60	-	-		
8.00	**7.80**	192	147.4	460	4.49	1.78		*)	*)	190	72	-	-		
9.00	**8.75**	171	154.4	430	4.79	2.34	**MC2RLSF06**	54	*)	198	82	-	-	314	434
10.00	**9.64**	156	141.6	361	5.8	1.29	**MC2RLHF06**	60	*)	207	89	-	-		
11.20	**11.15**	135	152.3	336	6.1	2.00	**MC2RLHT06**	71	*)	216	98	-	-		
12.50	**12.52**	120	160.7	316	6.4	2.50		78	*)	224	106	-	-		
14.00	**14.09**	106	127.3	223	7.7	0.58		62	*)	165	87	-	-		
16.00	**16.30**	92	147.3	223	7.8	0.58		67	*)	172	94	-	-		
18.00	**18.30**	82	165.3	223	7.8	0.58		72	*)	177	98	-	-		
20.00	**20.30**	74	167.0	203	8.0	1.05		76	25	181	102	-	-		
22.50	**23.49**	64	193.3	203	7.4	1.05		82	32	186	109	-	-		
25.00	**26.36**	57	216.9	203	6.5	1.05		87	36	190	113	-	-		
28.00	**28.78**	52	222.9	191	6.2	1.32		90	39	194	115	-	-		
31.50	**32.30**	46	231.1	176	6.8	1.66		94	43	198	119	-	-		
35.50	**35.53**	42	210.2	147	9.4	1.49	**MC3RLSF06**	97	46	201	122	-	-		
40.00	**38.80**	39	214.9	138	9.5	1.75	**MC3RLHF06**	99	50	204	126	-	-	330	436
45.00	**43.54**	34	233.5	133	9.3	1.88	**MC3RLHT06**	103	52	208	129	-	-		
50.00	**49.28**	30	216.0	109	10.2	2.57		107	56	211	133	-	-		
56.00	**55.31**	27	214.5	97	10.2	2.03		110	59	215	135	-	-		
63.00	**62.60**	24	218.5	87	10.2	2.37		114	63	217	139	-	-		
71.00	**68.96**	22	194.3	70	10.2	1.20		91	40	181	103	-	-		
80.00	**77.39**	19	218.1	70	10.2	1.20		94	43	184	106	-	-		
90.00	**87.60**	17	221.9	63	10.2	1.52		97	46	188	109	-	-		
100.00	**95.76**	16	200.9	52	10.2	0.378		99	48	189	111	-	-		
112.00	**108.39**	14	223.9	51	10.2	0.428		102	51	192	114	-	-		

MC.RL..07, n_1 = 1500rpm														292000 lb-in	
7.10	**6.84**	219	169.5	604	5.2	1.93		*)	*)	219	75	-	-		
8.00	**7.70**	195	178.7	565	5.5	2.60		*)	*)	229	87	-	-		
9.00	**8.65**	173	187.5	528	5.8	2.96	**MC2RLSF07**	63	*)	240	98	-	-	316	434
10.00	**9.74**	154	176.0	445	6.9	2.13	**MC2RLHF07**	74	*)	251	109	-	-		
11.20	**10.96**	137	186.3	418	7.2	2.75	**MC2RLHT07**	84	*)	261	118	-	-		
12.50	**12.32**	122	196.4	392	7.5	3.16		94	*)	271	127	-	-		
14.00	**14.18**	106	170.8	297	8.5	*)		75	*)	201	106	-	-		
16.00	**15.97**	94	192.3	297	8.5	*)		82	*)	208	113	-	-		
18.00	**17.93**	84	216.1	297	8.6	*)		87	*)	213	118	-	-		
20.00	**19.94**	75	218.8	270	8.5	0.51		93	31	219	123	-	-		
22.50	**22.45**	67	246.3	270	7.6	0.51		98	36	225	129	-	-		
25.00	**25.22**	59	276.7	270	6.5	0.51		103	42	229	134	-	-		
28.00	**28.38**	53	271.7	236	7.5	1.34		109	47	235	139	-	-		
31.50	**31.88**	47	305.2	236	6.2	1.34		114	52	240	145	-	-		
35.50	**33.79**	44	259.9	191	10.4	0.70	**MC3RLSF07**	115	54	243	148	-	-		
40.00	**38.02**	39	272.0	178	10.4	1.13	**MC3RLHF07**	121	59	247	152	-	-	332	437
45.00	**42.71**	35	305.6	178	9.1	1.13	**MC3RLHT07**	125	63	252	156	-	-		
50.00	**48.96**	31	297.6	151	11.6	2.00		130	68	256	161	-	-		
56.00	**53.98**	28	276.1	127	11.8	1.54		133	71	260	165	-	-		
63.00	**61.88**	24	300.6	121	11.8	1.79		138	76	264	169	-	-		
71.00	**70.77**	21	226.1	80	11.8	0.256		111	50	221	126	-	-		
80.00	**79.49**	19	254.0	80	11.8	0.256		115	54	224	129	-	-		
90.00	**91.12**	16	291.1	80	11.8	0.256		119	58	228	133	-	-		
100.00	**96.17**	16	259.7	67	11.8	0.332		121	59	231	134	-	-		
112.00	**110.25**	14	297.7	67	11.8	0.332		125	63	233	138	-	-		

MC.RL..08, n_1 = 1500rpm — P_{TH} — 398000 lb-in

i_N	i_{ex}	n_2 [rpm]	M_{N2} [lb-in]	P_{N1} [HP]	F_{Ra} [lb] x1000	F_{Re} [lb] x1000		$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F	$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F	$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F		
7.10	**6.95**	216	228.4	801	5.3	2.85		*)	*)	271	94	-	-		
8.00	**7.82**	192	241.0	750	5.6	3.59		*)	*)	284	109	-	-		
9.00	**8.88**	169	253.8	696	6.0	3.90	**MC2RLSF08**	80	*)	299	123	-	-	318	434
10.00	**9.74**	154	237.2	599	6.9	2.65	**MC2RLHF08**	91	*)	308	133	-	-		
11.20	**10.96**	137	251.0	563	7.3	3.52	**MC2RLHT08**	103	*)	322	145	-	-		
12.50	**12.45**	120	265.9	525	7.6	3.90		117	*)	334	158	-	-		
14.00	**14.48**	104	233.6	398	9.5	*)		94	*)	249	131	-	-		
16.00	**16.30**	92	263.1	398	9.5	*)		101	*)	256	139	-	-		
18.00	**18.51**	81	298.7	398	8.6	*)		109	*)	264	148	-	-		
20.00	**20.25**	74	282.1	343	9.5	0.65		114	39	270	153	-	-		
22.50	**22.80**	66	317.7	343	8.7	0.65		122	46	278	160	-	-		
25.00	**25.89**	58	360.7	343	7.6	0.65		129	52	284	166	-	-		
28.00	**29.06**	52	351.7	298	8.7	1.59		134	59	290	173	-	-		
31.50	**33.00**	45	399.4	298	7.5	1.59		141	66	296	180	-	-		
35.50	**34.90**	43	368.0	262	10	0.70	**MC3RLSF08**	143	68	299	182	-	-		
40.00	**39.18**	38	362.4	230	11.0	1.56	**MC3RLHF08**	149	74	304	188	-	-	334	437
45.00	**44.49**	34	411.6	230	9.8	1.56	**MC3RLHT08**	156	79	311	193	-	-		
50.00	**49.82**	30	388.6	194	13.0	2.52		161	84	316	198	-	-		
56.00	**56.62**	26	420.3	185	11.9	0.53		166	90	322	204	-	-		
63.00	**63.41**	24	392.3	154	14.7	1.74		170	95	326	209	-	-		
71.00	**70.39**	21	328.3	116	15.0	1.29		137	60	271	154	-	-		
80.00	**79.93**	19	372.8	116	15.0	1.29		141	66	276	160	-	-		
90.00	**89.53**	17	398.7	111	15.0	1.53		145	70	280	164	-	-		
100.00	**96.71**	16	296.0	76	15.0	0.295		148	72	283	166	-	-		
112.00	**108.32**	14	335.6	77	15.0	0.248		152	76	287	169	-	-		

MC.RL..09, n_1 = 1500rpm — 486000 lb-in

7.10	**6.85**	219	314.1	1116	6.8	2.42		*)	*)	310	*)	-	-		
8.00	**7.92**	189	335.1	1029	7.3	3.68		*)	*)	330	126	-	-		
9.00	**8.89**	169	351.3	962	7.8	4.60	**MC2RLSF09**	*)	*)	345	142	-	-		
10.00	**9.61**	156	325.9	834	8.8	2.16	**MC2RLHF09**	103	*)	354	152	-	-	320	434
11.20	**11.11**	135	349.5	774	9.3	3.36	**MC2RLHT09**	121	*)	371	169	-	-		
12.50	**12.47**	120	367.8	726	9.7	4.32		134	*)	385	182	-	-		
14.00	**14.28**	105	278.9	481	12.1	*)		106	*)	286	150	-	-		
16.00	**16.52**	91	322.5	481	12.3	*)		118	*)	296	162	-	-		
18.00	**18.54**	81	361.9	481	12.4	*)		126	*)	306	170	-	-		
20.00	**19.70**	76	354.0	443	12.6	0.72		130	*)	310	174	-	-		
22.50	**22.78**	66	409.3	443	12.7	0.72		139	52	319	184	-	-		
25.00	**25.57**	59	459.4	443	11.9	0.72		148	60	327	192	-	-		
28.00	**28.12**	53	447.7	392	13.1	1.96		153	66	333	197	-	-		
31.50	**31.56**	48	502.5	392	12.0	1.96		160	72	339	204	-	-		
35.50	**34.47**	44	469.1	339	14.5	1.07	**MC3RLSF09**	165	78	345	209	-	-		
40.00	**37.90**	40	460.8	303	15.1	2.20	**MC3RLHF09**	170	83	350	215	-	-	336	437
45.00	**42.54**	35	517.2	303	14.8	2.20	**MC3RLHT09**	177	90	355	221	-	-		
50.00	**48.15**	31	525.8	272	16.0	2.58		184	95	362	227	-	-		
56.00	**54.72**	27	521.0	237	16.9	2.23		189	102	369	233	-	-		
63.00	**61.94**	24	529.7	213	17.8	2.54		196	109	374	240	-	-		
71.00	**68.22**	22	455.0	166	18.0	1.36		156	68	311	176	-	-		
80.00	**76.56**	20	510.6	166	18.0	1.36		161	74	316	181	-	-		
90.00	**86.65**	17	536.0	154	18.0	1.72		166	79	322	186	-	-		
100.00	**94.51**	16	312.1	82	18.0	1.44		170	83	325	190	-	-		
112.00	**106.98**	14	357.9	83	18.0	1.42		174	87	330	194	-	-		

11.2.3 MC.RL.., n_1 = 1200 1/min

MC.RL..02, n_1 = 1200rpm								P_{TH}						70000 lb-in	
i_N	i_{ex}	n_2 [rpm]	M_{N2} [lb-in]	P_{N1} [HP]	F_{Ra} [lb] x1000	F_{Re} [lb] x1000		$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F	$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F	$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F		
7.10	**6.96**	172	51.3	144	1.19	1.40		25	*)	80	27	-	-		
8.00	**8.05**	149	54.9	133	1.29	1.74		31	*)	86	32	-	-		
9.00	**9.03**	133	57.7	125	1.39	2.02	**MC2RLSF02**	35	*)	90	36	-	-		
10.00	**9.61**	125	51.3	105	1.92	1.45	**MC2RLHF02**	38	*)	91	39	-	-	306	434
11.20	**11.11**	108	56.6	100	1.86	1.65	**MC2RLHT02**	42	*)	97	43	-	-		
12.50	**12.47**	96	59.6	94	1.96	1.90		46	*)	99	47	-	-		
14.00	**14.61**	82	55.7	75	2.47	*)		36	10.7	75	39	-	-		
16.00	**16.90**	71	64.4	75	2.09	*)		39	13.4	78	42	-	-		
18.00	**18.96**	63	65.6	68	2.44	0.309		40	16.1	79	44	-	-		
20.00	**20.31**	59	72.4	70	1.45	0.227		42	17.4	80	46	-	-		
22.50	**23.49**	51	71.2	60	2.30	0.65		44	20	83	48	-	-		
25.00	**26.36**	46	66.6	50	3.34	1.04		47	21	86	50	-	-		
28.00	**29.43**	41	71.8	48	2.95	1.11		48	23	87	52	-	-		
31.50	**33.03**	36	67.2	40	4.02	1.42		50	25	89	54	-	-		
35.50	**37.38**	32	61.8	33	4.75	1.55	**MC3RLSF02**	52	27	91	55	-	-		
40.00	**40.30**	30	59.8	30	4.89	0.92	**MC3RLHF02**	54	28	91	56	-	-	322	435
45.00	**45.22**	27	67.8	30	4.92	0.90	**MC3RLHT02**	55	30	94	58	-	-		
50.00	**50.49**	24	71.9	28	4.87	1.0		56	31	95	59	-	-		
56.00	**56.66**	21	68.5	24	5.1	1.30		58	32	97	62	-	-		
63.00	**64.14**	19	62.9	20	5.1	1.56		59	35	98	63	-	-		
71.00	**70.97**	17	72.0	20	5.1	0.59		48	23	82	46	-	-		
80.00	**79.65**	15	69.6	17.4	5.1	0.79		50	24	83	47	-	-		
90.00	**90.15**	13	63.6	14.1	5.1	1.03		51	25	84	48	-	-		
100.00	**97.35**	12	54.8	11.2	5.1	0.444		51	27	84	50	-	-		
112.00	**110.19**	11	62.0	11.2	5.1	0.446		52	28	86	51	-	-		

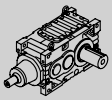
MC.RL..03, n_1 = 1200rpm														97000 lb-in	
7.10	**7.12**	168	65.2	178	4.09	1.82		32	*)	99	34	-	-		
8.00	**8.04**	149	68.6	166	4.27	2.16		38	*)	105	39	-	-		
9.00	**9.07**	132	72.4	156	4.43	2.46	**MC2RLSF03**	43	*)	109	44	-	-		
10.00	**10.00**	120	58.7	116	4.94	1.86	**MC2RLHF03**	47	*)	113	48	-	-	308	434
11.20	**11.28**	106	67.0	117	4.98	1.80	**MC2RLHT03**	51	*)	118	54	-	-		
12.50	**12.73**	94	75.2	116	5.0	1.82		56	*)	122	58	-	-		
14.00	**15.07**	80	69.6	91	5.5	0.310		44	13.4	91	48	-	-		
16.00	**17.00**	71	78.5	91	5.6	0.310		47	16.1	94	51	-	-		
18.00	**19.18**	63	88.6	91	5.6	0.310		50	20	97	54	-	-		
20.00	**20.57**	58	95.0	91	5.3	0.310		51	21	99	56	-	-		
22.50	**23.20**	52	102.0	87	5.5	0.458		54	24	102	58	-	-		
25.00	**26.18**	46	95.2	72	6.2	0.96		56	27	103	60	-	-		
28.00	**29.60**	41	101.5	68	6.3	1.10		59	28	106	63	-	-		
31.50	**33.40**	36	96.3	57	6.9	1.46		62	31	109	66	-	-		
35.50	**35.08**	34	96.2	55	6.9	0.91	**MC3RLSF03**	62	32	110	66	-	-		
40.00	**39.67**	30	101.0	51	6.9	1.08	**MC3RLHF03**	64	34	111	68	-	-	324	435
45.00	**44.75**	27	97.2	43	6.9	1.42	**MC3RLHT03**	67	36	114	71	-	-		
50.00	**50.97**	24	89.4	35	6.9	1.79		68	38	115	72	-	-		
56.00	**57.30**	21	98.2	34	6.9	1.38		71	40	118	75	-	-		
63.00	**65.25**	18	90.3	28	6.9	1.75		72	42	119	76	-	-		
71.00	**69.86**	17	94.8	27	6.9	0.282		58	28	99	56	-	-		
80.00	**78.82**	15	99.6	25	6.9	0.428		60	30	101	58	-	-		
90.00	**89.76**	13	91.1	20	6.9	0.81		62	31	102	59	-	-		
100.00	**97.53**	12	80.6	16.5	6.9	*)		63	32	103	60	-	-		
112.00	**111.07**	11	91.8	16.5	6.9	*)		64	34	105	62	-	-		

MC.RL..04, n_1 = 1200rpm — P_{TH} — 132000 lb-in

i_N	i_{ex}	n_2 [rpm]	M_{N2} [lb-in]	P_{N1} [HP]	F_{Ra} [lb] x1000	F_{Re} [lb] x1000		$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F	$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F	$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F		
7.10	**7.29**	165	85.1	227	4.70	1.78		42	*)	123	43	-	-		
8.00	**8.20**	146	89.6	213	4.91	2.20		48	*)	129	50	-	-		
9.00	**9.17**	131	93.9	200	5.1	2.58	**MC2RLSF04**	54	*)	135	55	-	-		
10.00	**10.15**	118	86.6	168	5.4	1.47	**MC2RLHF04**	59	*)	139	60	-	-	310	434
11.20	**11.41**	105	92.7	160	5.6	1.78	**MC2RLHT04**	64	*)	145	66	-	-		
12.50	**12.76**	94	97.6	150	5.8	2.14		70	*)	150	71	-	-		
14.00	**14.76**	81	87.5	117	6.3	*)		54	16.1	113	59	-	-		
16.00	**16.60**	72	98.4	117	6.4	*)		58	20	115	63	-	-		
18.00	**18.56**	65	110.0	117	6.4	*)		60	23	119	66	-	-		
20.00	**20.60**	58	115.9	111	6.5	0.047		63	25	122	68	-	-		
22.50	**23.17**	52	130.4	111	5.9	0.047		67	30	125	71	-	-		
25.00	**25.90**	46	132.3	101	6.7	0.402		70	32	127	75	-	-		
28.00	**29.65**	40	142.3	95	6.1	0.61		72	35	131	78	-	-		
31.50	**33.14**	36	132.8	79	7.6	1.15		75	38	134	80	-	-		
35.50	**34.63**	35	117.8	68	7.9	1.06	**MC3RLSF04**	76	39	134	82	-	-		
40.00	**39.63**	30	137.2	69	7.9	1.01	**MC3RLHF04**	79	42	137	84	-	-	326	435
45.00	**44.30**	27	133.1	60	7.9	1.39	**MC3RLHT04**	82	44	139	87	-	-		
50.00	**49.83**	24	126.3	50	7.9	1.77		84	47	142	89	-	-		
56.00	**55.99**	21	125.7	45	7.9	1.46		86	48	145	91	-	-		
63.00	**62.98**	19	127.4	40	7.9	1.69		89	51	146	94	-	-		
71.00	**68.90**	17	118.6	34	7.9	0.81		71	34	122	68	-	-		
80.00	**77.02**	16	127.9	33	7.9	0.90		74	36	123	71	-	-		
90.00	**86.63**	14	128.7	30	7.9	1.15		75	38	126	72	-	-		
100.00	**93.18**	13	78.9	16.9	7.9	0.147		76	39	127	74	-	-		
112.00	**104.81**	11	89.5	17.0	7.9	0.133		78	40	129	75	-	-		

MC.RL..05, n_1 = 1200rpm — 177000 lb-in

7.10	**7.10**	169	116.8	321	3.32	1.50		46	*)	137	47	-	-		
8.00	**7.99**	150	123.2	301	3.49	2.09		52	*)	143	55	-	-		
9.00	**8.86**	135	128.9	283	3.74	2.35	**MC2RLSF05**	59	*)	150	60	-	-		
10.00	**9.87**	122	113.9	227	4.75	2.21	**MC2RLHF05**	64	*)	156	67	-	-	312	434
11.20	**11.11**	108	127.5	226	4.47	2.26	**MC2RLHT05**	71	*)	162	72	-	-		
12.50	**12.33**	97	133.8	214	4.71	2.47		76	*)	168	78	-	-		
14.00	**14.68**	82	107.6	144	6.2	0.389		60	19	126	67	-	-		
16.00	**16.53**	73	121.1	144	6.3	0.388		64	23	130	70	-	-		
18.00	**18.33**	65	134.3	144	6.4	0.389		68	25	134	74	-	-		
20.00	**20.22**	59	135.6	132	6.3	0.80		71	28	137	76	-	-		
22.50	**22.76**	53	152.7	132	5.9	0.80		75	32	141	80	-	-		
25.00	**25.25**	48	169.4	132	5.6	0.80		78	35	143	83	-	-		
28.00	**29.13**	41	181.3	123	5.2	1.13		82	39	148	87	-	-		
31.50	**32.32**	37	177.7	108	6.4	1.61		84	42	150	90	-	-		
35.50	**33.83**	35	161.7	95	7.7	1.09	**MC3RLSF05**	86	43	152	91	-	-		
40.00	**39.03**	31	172.7	88	7.4	1.40	**MC3RLHF05**	89	47	154	95	-	-	328	436
45.00	**43.30**	28	179.3	82	8.0	1.65	**MC3RLHT05**	91	50	157	98	-	-		
50.00	**48.74**	25	166.8	68	8.8	2.27		94	52	160	101	-	-		
56.00	**55.44**	22	176.3	63	9.1	0.50		98	55	162	103	-	-		
63.00	**62.40**	19	168.2	54	9.3	1.03		99	58	165	106	-	-		
71.00	**69.92**	17	139.1	40	9.3	1.30		80	39	138	78	-	-		
80.00	**77.56**	15	154.3	40	9.3	1.30		83	40	139	80	-	-		
90.00	**87.30**	14	170.2	39	9.3	1.34		84	43	142	82	-	-		
100.00	**93.84**	13	119.8	25	9.3	0.80		86	44	143	83	-	-		
112.00	**105.62**	11	137.0	26	9.3	0.78		89	46	145	86	-	-		

MC.RL..06, n_1 = 1200rpm								P_{TH}						221000 lb-in	
i_N	i_{ex}	n_2 [rpm]	M_{N2} [lb-in]	P_{N1} [HP]	F_{Ra} [lb] x1000	F_{Re} [lb] x1000		$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F	$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F	$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F		
7.10	**6.74**	178	147.2	426	4.41	1.06		50	*)	160	52	-	-		
8.00	**7.80**	154	157.6	394	4.80	1.90	**MC2RLSF06**	60	*)	170	63	-	-		
9.00	**8.75**	137	164.9	367	5.1	2.50	**MC2RLHF06**	70	*)	178	71	-	-	314	434
10.00	**9.64**	125	150.7	308	6.2	1.43	**MC2RLHT06**	75	*)	185	78	-	-		
11.20	**11.15**	108	163.0	288	6.5	2.13		84	*)	194	87	-	-		
12.50	**12.52**	96	171.8	270	6.8	2.67		93	*)	202	95	-	-		
14.00	**14.09**	85	127.9	179	8.4	0.96		71	20	149	78	-	-		
16.00	**16.30**	74	148.0	179	8.5	0.96		76	27	156	83	-	-		
18.00	**18.30**	66	166.1	179	8.6	0.96		82	31	160	89	-	-		
20.00	**20.30**	59	167.8	163	8.8	1.42		86	35	164	93	-	-		
22.50	**23.49**	51	194.2	163	8.9	1.42		90	40	169	98	-	-		
25.00	**26.36**	46	218.0	163	8.2	1.42		94	44	173	101	-	-		
28.00	**28.78**	42	222.5	152	8.1	1.73		98	47	176	105	-	-		
31.50	**32.30**	37	232.4	142	8.7	2.03		101	51	180	107	-	-		
35.50	**35.53**	34	209.7	118	10.2	1.89	**MC3RLSF06**	105	54	182	111	-	-		
40.00	**38.80**	31	214.1	110	10.2	2.16	**MC3RLHF06**	106	56	185	114	-	-	330	436
45.00	**43.54**	28	235.4	108	10.2	2.24	**MC3RLHT06**	110	59	188	117	-	-		
50.00	**49.28**	24	218.4	88	10.2	2.93		113	63	192	121	-	-		
56.00	**55.31**	22	215.7	78	10.2	2.38		117	66	194	123	-	-		
63.00	**62.60**	19	221.0	70	10.2	2.71		119	68	198	126	-	-		
71.00	**68.96**	17	194.2	56	10.2	1.50		97	46	165	93	-	-		
80.00	**77.39**	16	218.0	56	10.2	1.50		99	48	168	95	-	-		
90.00	**87.60**	14	223.8	51	10.2	1.80		102	51	170	98	-	-		
100.00	**95.76**	13	202.8	42	10.2	0.60		103	54	172	101	-	-		
112.00	**108.39**	11	225.2	41	10.2	0.66		106	56	174	103	-	-		

MC.RL..07, n_1 = 1200rpm														292000 lb-in	
7.10	**6.84**	176	181.1	516	5.6	2.07		63	*)	196	66	-	-		
8.00	**7.70**	156	191.3	484	5.9	2.76		72	*)	207	76	-	-		
9.00	**8.65**	139	200.7	452	6.2	3.16	**MC2RLSF07**	83	*)	216	86	-	-		
10.00	**9.74**	123	186.1	376	7.6	2.40	**MC2RLHF07**	93	*)	227	95	-	-	316	434
11.20	**10.96**	109	199.1	357	7.7	2.94	**MC2RLHT07**	102	*)	236	105	-	-		
12.50	**12.32**	97	209.4	335	8.1	3.39		111	*)	244	114	-	-		
14.00	**14.18**	85	170.6	237	9.3	0.364		87	25	182	95	-	-		
16.00	**15.97**	75	192.1	237	9.4	0.364		93	31	188	101	-	-		
18.00	**17.93**	67	215.8	237	9.5	0.364		98	36	193	106	-	-		
20.00	**19.94**	60	221.2	219	9.6	0.93		103	42	198	111	-	-		
22.50	**22.45**	53	249.0	219	9.4	0.93		109	47	204	117	-	-		
25.00	**25.22**	48	279.8	219	8.3	0.93		113	51	208	121	-	-		
28.00	**28.38**	42	290.0	201	8.1	1.44		118	56	213	126	-	-		
31.50	**31.88**	38	321.5	199	7.1	1.52		122	60	217	130	-	-		
35.50	**33.79**	36	261.3	154	11.4	1.15	**MC3RLSF07**	125	63	220	133	-	-		
40.00	**38.02**	32	273.5	143	11.7	1.58	**MC3RLHF07**	129	67	224	137	-	-	332	437
45.00	**42.71**	28	307.3	143	11.4	1.58	**MC3RLHT07**	133	71	228	141	-	-		
50.00	**48.96**	25	300.6	122	11.8	2.43		137	76	233	146	-	-		
56.00	**53.98**	22	277.3	102	11.8	1.97		141	79	236	149	-	-		
63.00	**61.88**	19	302.9	97	11.8	2.21		145	83	240	153	-	-		
71.00	**70.77**	17	226.0	64	11.8	0.60		118	56	201	114	-	-		
80.00	**79.49**	15	253.9	64	11.8	0.60		121	59	204	117	-	-		
90.00	**91.12**	13	291.0	64	11.8	0.60		125	63	208	121	-	-		
100.00	**96.17**	12	259.9	54	11.8	0.63		126	64	209	122	-	-		
112.00	**110.25**	11	298.0	54	11.8	0.63		130	68	212	125	-	-		

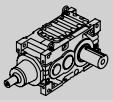
MC.RL..08, n_1 = 1200rpm — P_{TH} — 398000 lb-in

i_N	i_{ex}	n_2 [rpm]	M_{N2} [lb-in]	P_{N1} [HP]	F_{Ra} [lb] x1000	F_{Re} [lb] x1000		$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F	$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F	$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F		
7.10	**6.95**	173	244.3	685	5.7	3.05		79	*)	243	82	-	-		
8.00	**7.82**	153	257.4	641	6.0	3.84		91	*)	255	95	-	-		
9.00	**8.88**	135	271.7	596	6.4	4.16	**MC2RLSF08**	105	*)	268	109	-	-		
10.00	**9.74**	123	253.3	512	7.4	2.86	**MC2RLHF08**	114	*)	278	118	-	-	318	434
11.20	**10.96**	109	268.8	482	7.7	3.74	**MC2RLHT08**	126	*)	290	129	-	-		
12.50	**12.45**	96	284.0	449	8.2	4.17		137	*)	302	141	-	-		
14.00	**14.48**	83	249.2	339	10.2	*)		107	*)	225	118	-	-		
16.00	**16.30**	74	280.6	339	10.2	*)		115	39	232	125	-	-		
18.00	**18.51**	65	318.6	339	9.3	*)		122	47	239	133	-	-		
20.00	**20.25**	59	300.9	293	10.2	0.72		127	51	244	137	-	-		
22.50	**22.80**	53	338.8	293	9.4	0.72		134	58	251	143	-	-		
25.00	**25.89**	46	384.7	293	8.2	0.72		141	64	257	150	-	-		
28.00	**29.06**	41	375.2	254	9.4	1.72		146	70	263	156	-	-		
31.50	**33.00**	36	415.0	248	8.7	1.89		152	76	270	162	-	-		
35.50	**34.90**	34	373.1	213	12.0	1.14	**MC3RLSF08**	154	79	272	165	-	-		
40.00	**39.18**	31	387.2	197	11.8	1.68	**MC3RLHF08**	160	84	276	170	-	-	334	437
45.00	**44.49**	27	418.8	187	11.8	1.99	**MC3RLHT08**	165	90	282	176	-	-		
50.00	**49.82**	24	392.0	157	14.6	3.01		169	94	287	180	-	-		
56.00	**56.62**	21	422.6	149	14.4	1.04		174	99	292	185	-	-		
63.00	**63.41**	19	396.5	125	15.0	2.19		178	103	296	189	-	-		
71.00	**70.39**	17	328.0	93	15.0	1.75		145	68	247	139	-	-		
80.00	**79.93**	15	372.5	93	15.0	1.75		149	74	251	143	-	-		
90.00	**89.53**	13	401.5	89	15.0	1.94		153	78	255	148	-	-		
100.00	**96.71**	12	299.1	62	15.0	0.54		156	79	257	150	-	-		
112.00	**108.32**	11	338.7	62	15.0	0.495		160	83	260	153	-	-		

MC.RL..09, n_1 = 1200rpm — 486000 lb-in

7.10	**6.85**	175	336.0	955	7.3	2.58		*)	*)	278	*)	-	-		
8.00	**7.92**	151	358.2	880	7.9	3.94		107	*)	296	111	-	-		
9.00	**8.89**	135	375.9	823	8.3	4.91	**MC2RLSF09**	121	*)	310	125	-	-		
10.00	**9.61**	125	348.3	713	9.4	2.31	**MC2RLHF09**	130	*)	319	134	-	-	320	434
11.20	**11.11**	108	373.2	661	10	3.62	**MC2RLHT09**	146	*)	335	150	-	-		
12.50	**12.47**	96	393.3	621	10.4	4.62		158	*)	347	162	-	-		
14.00	**14.28**	84	297.7	411	12.9	*)		123	*)	259	135	-	-		
16.00	**16.52**	73	344.3	411	13.2	*)		133	46	268	145	-	-		
18.00	**18.54**	65	386.4	411	13.3	*)		141	54	276	153	-	-		
20.00	**19.70**	61	378.9	379	13.5	0.76		145	58	280	157	-	-		
22.50	**22.78**	53	438.1	379	13.6	0.76		154	67	288	166	-	-		
25.00	**25.57**	47	491.7	379	12.7	0.76		161	74	296	173	-	-		
28.00	**28.12**	43	478.4	335	14.0	2.11		166	79	302	178	-	-		
31.50	**31.56**	38	536.9	335	12.8	2.11		173	86	307	184	-	-		
35.50	**34.47**	35	491.3	284	15.6	1.37	**MC3RLSF09**	177	90	312	189	-	-		
40.00	**37.90**	32	491.9	258	16.1	2.36	**MC3RLHF09**	182	95	318	194	-	-	336	437
45.00	**42.54**	28	552.0	258	15.9	2.36	**MC3RLHT09**	188	101	323	200	-	-		
50.00	**48.15**	25	531.0	220	17.6	2.92		194	107	329	205	-	-		
56.00	**54.72**	22	522.5	190	18.0	2.59		200	113	335	212	-	-		
63.00	**61.94**	19	533.1	171	18.0	2.89		205	118	341	217	-	-		
71.00	**68.22**	18	455.5	133	18.0	1.81		165	78	283	160	-	-		
80.00	**76.56**	16	511.2	133	18.0	1.81		170	83	287	164	-	-		
90.00	**86.65**	14	535.5	123	18.0	2.02		176	87	292	169	-	-		
100.00	**94.51**	13	315.2	66	18.0	1.63		178	91	295	172	-	-		
112.00	**106.98**	11	361.8	67	18.0	1.61		182	95	300	177	-	-		

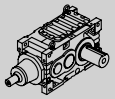
11.2.4 MC.RL.., n_1 = 1000 1/min.

MC.RL..02, n_1 = 1000rpm								P_{TH}						70000 lb-in	
i_N	i_{ex}	n_2 [rpm]	M_{N2} [lb-in]	P_{N1} [HP]	F_{Ra} [lb] x1000	F_{Re} [lb] x1000		$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F	$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F	$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F		
7.10	**6.96**	144	54.4	127	1.23	1.45		32	*)	74	24	-	-		
8.00	**8.05**	124	58.1	117	1.36	1.84	**MC2RLSF02**	38	*)	79	30	-	-		
9.00	**9.03**	111	61.0	110	1.46	2.13	**MC2RLHF02**	42	*)	82	34	-	-	306	434
10.00	**9.61**	104	51.5	88	2.33	1.75	**MC2RLHT02**	43	*)	84	35	-	-		
11.20	**11.11**	90	59.3	88	2.02	1.78		47	9.4	89	39	-	-		
12.50	**12.47**	80	63.0	83	2.07	2.01		51	13.4	91	43	-	-		
14.00	**14.61**	68	55.8	63	2.95	0.195		39	14.8	68	36	-	-		
16.00	**16.90**	59	64.6	63	2.60	0.195		42	17.4	71	39	-	-		
18.00	**18.96**	53	66.1	57	2.94	0.462		44	19	74	40	-	-		
20.00	**20.31**	49	76.4	62	1.54	0.243		46	20	75	42	-	-		
22.50	**23.49**	43	71.6	50	2.83	0.80		48	23	76	44	-	-		
25.00	**26.36**	38	67.0	42	3.90	1.20		50	24	79	46	-	-		
28.00	**29.43**	34	71.9	40	3.56	1.27		51	27	80	48	-	-		
31.50	**33.03**	30	67.6	34	4.62	1.55		52	28	82	50	-	-		
35.50	**37.38**	27	62.1	27	5.1	1.55	**MC3RLSF02**	55	30	84	51	-	-		
40.00	**40.30**	25	60.1	25	5.1	1.08	**MC3RLHF02**	56	31	84	52	-	-	322	435
45.00	**45.22**	22	68.2	25	5.1	1.05	**MC3RLHT02**	58	32	87	54	-	-		
50.00	**50.49**	20	72.1	24	5.1	1.17		59	34	89	55	-	-		
56.00	**56.66**	18	69.0	20	5.1	1.46		60	35	90	56	-	-		
63.00	**64.14**	16	63.1	16.3	5.1	1.56		62	36	91	58	-	-		
71.00	**70.97**	14	72.1	16.9	5.1	0.71		50	25	75	43	-	-		
80.00	**79.65**	13	70.0	14.6	5.1	0.90		51	27	76	44	-	-		
90.00	**90.15**	11	64.1	11.8	5.1	1.11		52	28	78	46	-	-		
100.00	**97.35**	10	55.5	9.5	5.1	0.52		54	28	79	46	-	-		
112.00	**110.19**	9.1	62.6	9.4	5.1	0.53		55	30	80	47	-	-		

MC.RL..03, n_1 = 1000rpm														97000 lb-in	
7.10	**7.12**	140	68.8	157	4.32	1.92		40	*)	91	31	-	-		
8.00	**8.04**	124	72.4	146	4.51	2.28		46	*)	95	35	-	-		
9.00	**9.07**	110	76.5	137	4.67	2.60	**MC2RLSF03**	50	*)	101	40	-	-		
10.00	**10.00**	100	58.9	97	5.3	2.21	**MC2RLHF03**	54	*)	105	44	-	-	308	434
11.20	**11.28**	89	67.3	98	5.4	2.15	**MC2RLHT03**	58	12.1	109	48	-	-		
12.50	**12.73**	79	76.9	99	5.4	2.09		63	17.4	113	52	-	-		
14.00	**15.07**	66	69.8	76	5.9	0.492		48	19	84	44	-	-		
16.00	**17.00**	59	78.7	76	6.0	0.493		51	21	87	47	-	-		
18.00	**19.18**	52	88.8	76	6.1	0.493		54	24	90	50	-	-		
20.00	**20.57**	49	95.2	76	5.9	0.493		55	25	91	51	-	-		
22.50	**23.20**	43	102.6	73	6.1	0.63		58	27	94	54	-	-		
25.00	**26.18**	38	95.9	60	6.7	1.13		60	30	97	56	-	-		
28.00	**29.60**	34	101.7	56	6.8	1.28		63	32	98	58	-	-		
31.50	**33.40**	30	97.0	48	6.9	1.63		64	34	101	60	-	-		
35.50	**35.08**	29	96.8	46	6.9	1.08	**MC3RLSF03**	66	35	101	62	-	-		
40.00	**39.67**	25	101.1	42	6.9	1.27	**MC3RLHF03**	67	38	103	63	-	-	324	435
45.00	**44.75**	22	97.8	36	6.9	1.59	**MC3RLHT03**	70	39	105	66	-	-		
50.00	**50.97**	20	90.0	29	6.9	1.96		71	42	107	67	-	-		
56.00	**57.30**	17	98.9	29	6.9	1.55		74	43	109	68	-	-		
63.00	**65.25**	15	90.5	23	6.9	1.94		75	44	111	71	-	-		
71.00	**69.86**	14	95.2	23	6.9	0.408		60	31	91	52	-	-		
80.00	**78.82**	13	99.8	21	6.9	0.56		62	32	94	54	-	-		
90.00	**89.76**	11	91.9	17.0	6.9	0.93		64	34	95	55	-	-		
100.00	**97.53**	10	81.0	13.8	6.9	0.047		64	35	97	56	-	-		
112.00	**111.07**	9.0	93.2	13.9	6.9	0.028		67	36	98	58	-	-		

MC.RL..04, n_1 = 1000rpm

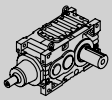
P_{TH} **132000 lb-in**

i_N	i_{ex}	n_2 [rpm]	M_{N2} [lb-in]	P_{N1} [HP]	F_{Ra} [lb] x1000	F_{Re} [lb] x1000		$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F	 $P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F	 $P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F		
7.10	**7.29**	137	89.6	200	4.99	1.91		51	*)	113	39	-	-		
8.00	**8.20**	122	94.7	188	5.2	2.32		58	*)	118	44	-	-		
9.00	**9.17**	109	99.2	176	5.4	2.72	**MC2RLSF04**	63	*)	123	50	-	-		
10.00	**10.15**	99	88.9	144	5.8	1.74	**MC2RLHF04**	67	*)	129	55	-	-	310	434
11.20	**11.41**	88	96.3	138	5.9	1.99	**MC2RLHT04**	72	16.1	134	60	-	-		
12.50	**12.76**	78	102.7	132	6.1	2.28		78	21	138	64	-	-		
14.00	**14.76**	68	89.9	100	6.8	*)		59	21	103	54	-	-		
16.00	**16.60**	60	101.1	100	6.8	*)		63	25	107	58	-	-		
18.00	**18.56**	54	113.0	100	6.9	*)		66	28	110	60	-	-		
20.00	**20.60**	49	115.8	92	7.0	0.270		68	31	113	63	-	-		
22.50	**23.17**	43	130.3	92	7.0	0.270		71	34	115	66	-	-		
25.00	**25.90**	39	132.5	84	7.4	0.62		74	36	118	68	-	-		
28.00	**29.65**	34	143.3	79	7.2	0.81		76	39	121	71	-	-		
31.50	**33.14**	30	132.9	66	7.9	1.37		79	42	123	74	-	-		
35.50	**34.63**	29	118.4	57	7.9	1.26	**MC3RLSF04**	80	43	125	75	-	-		
40.00	**39.63**	25	137.8	58	7.9	1.22	**MC3RLHF04**	83	46	127	78	-	-	326	435
45.00	**44.30**	23	133.3	50	7.9	1.60	**MC3RLHT04**	86	48	129	80	-	-		
50.00	**49.83**	20	127.0	42	7.9	1.98		87	50	131	82	-	-		
56.00	**55.99**	18	126.5	37	7.9	1.66		90	52	134	84	-	-		
63.00	**62.98**	16	128.0	34	7.9	1.90		91	54	135	87	-	-		
71.00	**68.90**	15	118.4	29	7.9	1.0		75	38	113	63	-	-		
80.00	**77.02**	13	127.4	27	7.9	1.09		76	39	114	66	-	-		
90.00	**86.63**	12	130.0	25	7.9	1.29		78	40	117	67	-	-		
100.00	**93.18**	11	79.7	14.2	7.9	0.237		79	42	118	68	-	-		
112.00	**104.81**	9.5	90.4	14.3	7.9	0.220		80	43	119	70	-	-		

MC.RL..05, n_1 = 1000rpm

177000 lb-in

7.10	**7.10**	141	123.3	282	3.51	1.59		56	*)	126	43	-	-		
8.00	**7.99**	125	130.2	265	3.69	2.20		63	*)	133	50	-	-		
9.00	**8.86**	113	136.5	250	3.93	2.47	**MC2RLSF05**	68	*)	138	55	-	-		
10.00	**9.87**	101	114.9	191	5.4	2.57	**MC2RLHF05**	74	*)	143	60	-	-	312	434
11.20	**11.11**	90	130.2	192	5.0	2.54	**MC2RLHT05**	80	*)	150	66	-	-		
12.50	**12.33**	81	141.4	188	4.98	2.61		86	21	154	71	-	-		
14.00	**14.68**	68	107.5	120	6.7	0.69		67	24	117	60	-	-		
16.00	**16.53**	61	121.0	120	6.8	0.69		71	28	121	64	-	-		
18.00	**18.33**	55	134.3	120	6.9	0.69		74	31	123	67	-	-		
20.00	**20.22**	49	135.7	110	7.0	1.10		76	34	126	71	-	-		
22.50	**22.76**	44	152.7	110	6.9	1.10		80	38	130	74	-	-		
25.00	**25.25**	40	169.5	110	6.6	1.10		83	40	133	76	-	-		
28.00	**29.13**	34	181.4	102	6.2	1.42		86	44	135	80	-	-		
31.50	**32.32**	31	178.6	91	7.3	1.89		89	47	138	83	-	-		
35.50	**33.83**	30	161.8	79	8.3	1.38	**MC3RLSF05**	90	48	139	84	-	-		
40.00	**39.03**	26	172.6	73	8.5	1.70	**MC3RLHF05**	94	51	143	87	-	-	328	436
45.00	**43.30**	23	180.6	69	8.8	1.92	**MC3RLHT05**	95	54	145	90	-	-		
50.00	**48.74**	21	167.5	57	9.3	2.55		98	56	148	93	-	-		
56.00	**55.44**	18	177.1	53	9.3	0.71		101	59	150	95	-	-		
63.00	**62.40**	16	169.1	45	9.3	1.24		103	62	153	98	-	-		
71.00	**69.92**	14	138.7	33	9.3	1.51		84	42	127	72	-	-		
80.00	**77.56**	13	153.9	33	9.3	1.51		86	44	129	74	-	-		
90.00	**87.30**	11	171.1	33	9.3	1.54		89	46	131	75	-	-		
100.00	**93.84**	11	121.1	21	9.3	0.92		90	47	133	76	-	-		
112.00	**105.62**	9.5	138.0	22	9.3	0.90		91	50	134	79	-	-		

MC.RL..06, n_1 = 1000rpm								P_{TH}						221000 lb-in	
i_N	i_{ex}	n_2 [rpm]	M_{N2} [lb-in]	P_{N1} [HP]	F_{Ra} [lb] x1000	F_{Re} [lb] x1000		$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F	$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F	$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F		
7.10	**6.74**	148	155.7	375	4.64	1.11		63	*)	146	47	-	-		
8.00	**7.80**	128	166.1	346	5.1	2.03	**MC2RLSF06**	74	*)	157	58	-	-		
9.00	**8.75**	114	174.3	323	5.4	2.64	**MC2RLHF06**	82	*)	165	64	-	-	314	434
10.00	**9.64**	104	156.4	266	6.8	1.71	**MC2RLHT06**	87	*)	170	71	-	-		
11.20	**11.15**	90	170.9	251	7.0	2.33		97	*)	180	79	-	-		
12.50	**12.52**	80	181.5	238	7.2	2.82		103	27	186	86	-	-		
14.00	**14.09**	71	127.3	148	9.0	1.33		78	28	138	71	-	-		
16.00	**16.30**	61	147.3	148	9.2	1.33		84	34	143	76	-	-		
18.00	**18.30**	55	165.3	148	9.3	1.33		89	38	148	80	-	-		
20.00	**20.30**	49	167.0	135	9.5	1.79		91	42	152	84	-	-		
22.50	**23.49**	43	193.3	135	9.6	1.79		97	46	156	90	-	-		
25.00	**26.36**	38	216.9	135	9.7	1.79		101	50	160	94	-	-		
28.00	**28.78**	35	222.7	127	9.8	2.07		103	52	162	97	-	-		
31.50	**32.30**	31	234.3	119	10.2	2.34		106	56	166	99	-	-		
35.50	**35.53**	28	209.8	98	10.2	2.23	**MC3RLSF06**	109	59	169	102	-	-		
40.00	**38.80**	26	214.4	92	10.2	2.50	**MC3RLHF06**	111	62	172	105	-	-	330	436
45.00	**43.54**	23	236.8	90	10.2	2.56	**MC3RLHT06**	115	64	174	107	-	-		
50.00	**49.28**	20	220.3	74	10.2	3.24		118	67	177	111	-	-		
56.00	**55.31**	18	216.8	65	10.2	2.69		121	70	180	114	-	-		
63.00	**62.60**	16	222.2	59	10.2	3.02		123	74	184	117	-	-		
71.00	**68.96**	15	194.7	47	10.2	1.76		101	50	152	86	-	-		
80.00	**77.39**	13	218.5	47	10.2	1.76		103	52	154	89	-	-		
90.00	**87.60**	11	225.4	43	10.2	2.04		106	55	157	91	-	-		
100.00	**95.76**	10	203.9	35	10.2	0.79		107	56	160	93	-	-		
112.00	**108.39**	9.2	227.4	35	10.2	0.84		110	59	161	95	-	-		

MC.RL..07, n_1 = 1000rpm														292000 lb-in	
7.10	**6.84**	146	191.5	455	5.9	2.17		79	*)	180	58	-	-		
8.00	**7.70**	130	201.8	426	6.2	2.93		89	*)	189	68	-	-		
9.00	**8.65**	116	211.8	398	6.6	3.34	**MC2RLSF07**	98	*)	198	78	-	-		
10.00	**9.74**	103	193.1	325	8.1	2.74	**MC2RLHF07**	107	*)	208	87	-	-	316	434
11.20	**10.96**	91	207.5	310	8.3	3.25	**MC2RLHT07**	115	*)	217	95	-	-		
12.50	**12.32**	81	222.0	296	8.4	3.57		125	32	225	103	-	-		
14.00	**14.18**	71	170.4	197	10	0.80		95	34	168	87	-	-		
16.00	**15.97**	63	191.9	197	10.2	0.80		101	39	173	93	-	-		
18.00	**17.93**	56	215.6	197	10.2	0.80		106	44	178	98	-	-		
20.00	**19.94**	50	220.4	182	10.4	1.37		111	50	182	102	-	-		
22.50	**22.45**	45	248.1	182	10.5	1.37		115	54	188	107	-	-		
25.00	**25.22**	40	278.7	182	10.2	1.37		121	59	193	111	-	-		
28.00	**28.38**	35	293.1	170	9.7	1.80		125	63	197	117	-	-		
31.50	**31.88**	31	324.1	167	8.8	1.89		129	67	201	121	-	-		
35.50	**33.79**	30	260.4	128	11.8	1.58	**MC3RLSF07**	131	70	204	122	-	-		
40.00	**38.02**	26	272.4	119	11.8	2.02	**MC3RLHF07**	135	74	208	126	-	-	332	437
45.00	**42.71**	23	306.0	119	11.8	2.02	**MC3RLHT07**	139	78	211	130	-	-		
50.00	**48.96**	20	302.2	102	11.8	2.82		143	82	216	134	-	-		
56.00	**53.98**	19	278.3	86	11.8	2.35		146	84	219	138	-	-		
63.00	**61.88**	16	304.6	82	11.8	2.58		150	89	223	141	-	-		
71.00	**70.77**	14	226.1	53	11.8	0.90		123	62	185	105	-	-		
80.00	**79.49**	13	254.0	53	11.8	0.90		126	64	189	107	-	-		
90.00	**91.12**	11	291.1	53	11.8	0.90		130	68	192	111	-	-		
100.00	**96.17**	10	259.9	45	11.8	0.89		131	70	193	113	-	-		
112.00	**110.25**	9.1	298.0	45	11.8	0.89		134	72	197	115	-	-		

MC.RL..08, n_1 = 1000rpm — P_{TH} — 398000 lb-in

i_N	i_{ex}	n_2 [rpm]	M_{N2} [lb-in]	P_{N1} [HP]	F_{Ra} [lb] x1000	F_{Re} [lb] x1000		$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F	$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F	$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F		
7.10	**6.95**	144	257.9	603	6.0	3.23		98	*)	223	74	-	-		
8.00	**7.82**	128	271.8	564	6.4	4.06	**MC2RLSF08**	110	*)	235	86	-	-		
9.00	**8.88**	113	286.8	524	6.8	4.40	**MC2RLHF08**	123	*)	247	98	-	-	318	434
10.00	**9.74**	103	263.3	443	8.1	3.28	**MC2RLHT08**	131	*)	256	107	-	-		
11.20	**10.96**	91	282.1	422	8.3	4.05		142	*)	267	118	-	-		
12.50	**12.45**	80	299.9	395	8.6	4.41		153	40	278	129	-	-		
14.00	**14.48**	69	260.5	296	10.8	*)		118	43	208	107	-	-		
16.00	**16.30**	61	293.3	296	10.9	*)		125	50	215	114	-	-		
18.00	**18.51**	54	333.1	296	10	*)		133	56	221	122	-	-		
20.00	**20.25**	49	318.6	258	10.8	0.74		137	62	225	126	-	-		
22.50	**22.80**	44	358.8	258	9.8	0.74		143	67	232	133	-	-		
25.00	**25.89**	39	407.4	258	8.6	0.74		149	74	237	138	-	-		
28.00	**29.06**	34	396.3	224	9.9	1.82		154	79	243	143	-	-		
31.50	**33.00**	30	418.1	208	10.5	2.31		160	84	249	149	-	-		
35.50	**34.90**	29	374.5	178	13.7	1.58	**MC3RLSF08**	162	87	251	152	-	-		
40.00	**39.18**	26	407.8	173	12.5	1.79	**MC3RLHF08**	168	91	256	157	-	-	334	437
45.00	**44.49**	22	423.5	158	13.7	2.38	**MC3RLHT08**	173	97	261	162	-	-		
50.00	**49.82**	20	395.6	132	15.0	3.42		177	101	266	166	-	-		
56.00	**56.62**	18	425.8	125	15.0	1.47		181	106	270	170	-	-		
63.00	**63.41**	16	398.6	104	15.0	2.61		185	110	274	174	-	-		
71.00	**70.39**	14	328.3	77	15.0	2.13		152	75	228	129	-	-		
80.00	**79.93**	13	372.8	77	15.0	2.13		156	79	232	133	-	-		
90.00	**89.53**	11	403.8	75	15.0	2.31		158	83	236	137	-	-		
100.00	**96.71**	10	301.2	52	15.0	0.75		161	86	237	138	-	-		
112.00	**108.32**	9.2	341.7	52	15.0	0.71		165	89	241	142	-	-		

MC.RL..09, n_1 = 1000rpm — 486000 lb-in

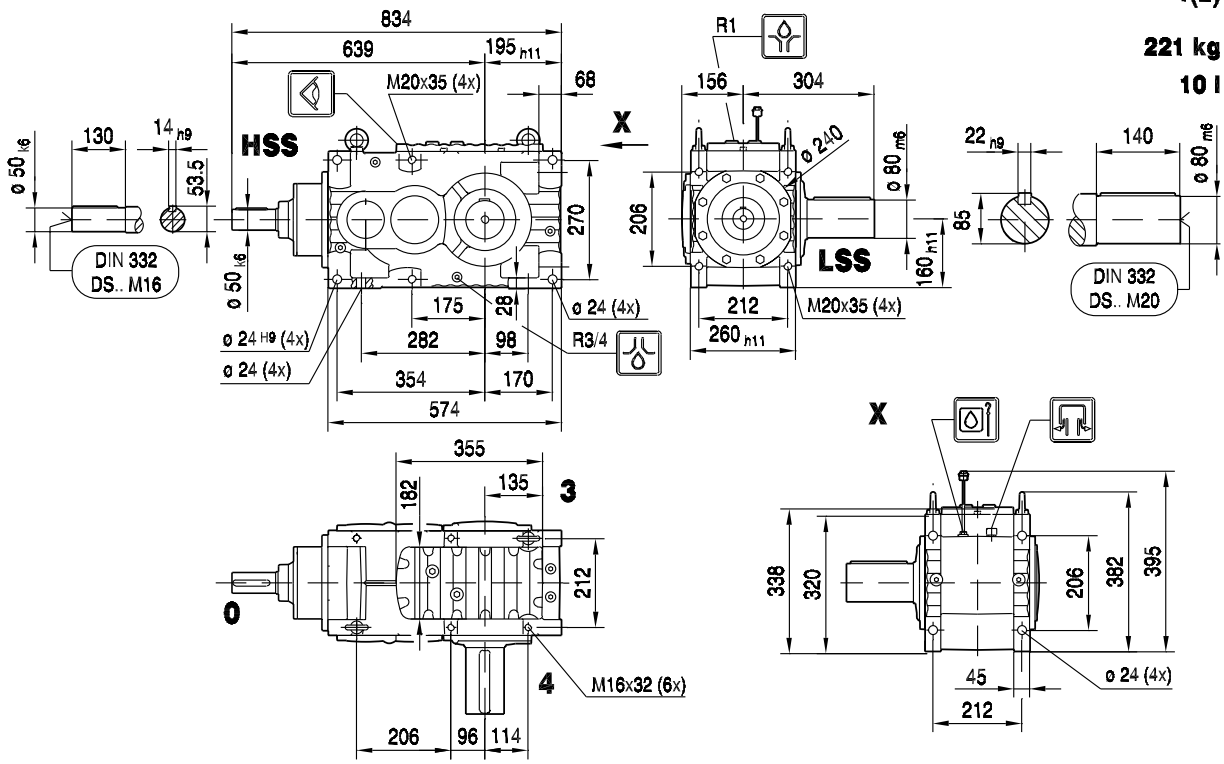
7.10	**6.85**	146	354.9	841	7.7	2.72		111	*)	255	*)	-	-		
8.00	**7.92**	126	378.6	775	8.3	4.15		129	*)	272	101	-	-		
9.00	**8.89**	112	396.5	724	8.8	5.2	**MC2RLSF09**	142	*)	284	113	-	-		
10.00	**9.61**	104	364.5	622	10.1	2.62	**MC2RLHF09**	150	*)	294	122	-	-	320	434
11.20	**11.11**	90	394.1	582	10.5	3.82	**MC2RLHT09**	165	*)	308	137	-	-		
12.50	**12.47**	80	415.8	547	11.0	4.87		177	*)	321	149	-	-		
14.00	**14.28**	70	314.6	362	13.7	*)		135	48	239	123	-	-		
16.00	**16.52**	61	363.8	362	13.9	*)		145	58	248	133	-	-		
18.00	**18.54**	54	408.3	362	14.0	*)		153	66	255	141	-	-		
20.00	**19.70**	51	399.0	333	14.3	0.83		156	68	259	143	-	-		
22.50	**22.78**	44	461.4	333	14.4	0.83		165	78	267	153	-	-		
25.00	**25.57**	39	517.9	333	13.5	0.83		172	84	274	158	-	-		
28.00	**28.12**	36	506.0	296	14.7	2.21		176	89	279	164	-	-		
31.50	**31.56**	32	567.9	296	13.5	2.21		182	95	284	170	-	-		
35.50	**34.47**	29	492.3	237	16.9	2.05	**MC3RLSF09**	186	99	288	174	-	-		
40.00	**37.90**	26	519.9	228	17.0	2.49	**MC3RLHF09**	192	105	294	178	-	-	336	437
45.00	**42.54**	24	573.2	224	17.3	2.62	**MC3RLHT09**	197	110	299	184	-	-		
50.00	**48.15**	21	532.3	183	18.0	3.23		202	115	304	190	-	-		
56.00	**54.72**	18	525.4	159	18.0	2.89		208	121	310	196	-	-		
63.00	**61.94**	16	534.7	143	18.0	3.21		213	126	315	200	-	-		
71.00	**68.22**	15	455.7	111	18.0	2.07		173	86	261	148	-	-		
80.00	**76.56**	13	511.5	111	18.0	2.07		177	90	266	152	-	-		
90.00	**86.65**	12	535.6	103	18.0	2.29		182	94	271	156	-	-		
100.00	**94.51**	11	318.0	56	18.0	1.79		185	98	274	158	-	-		
112.00	**106.98**	9.3	364.2	56	18.0	1.78		189	102	278	164	-	-		

11.2.5 MC.RL.. [mm]

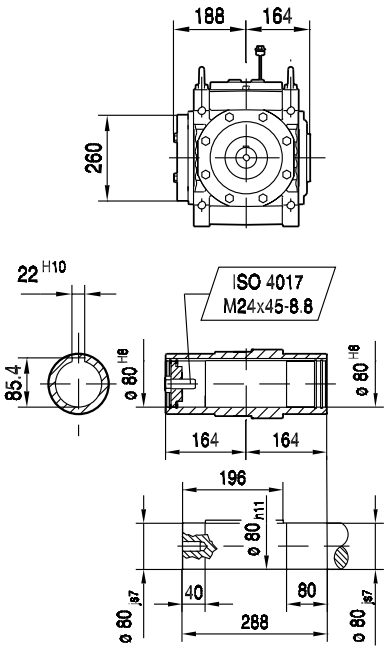
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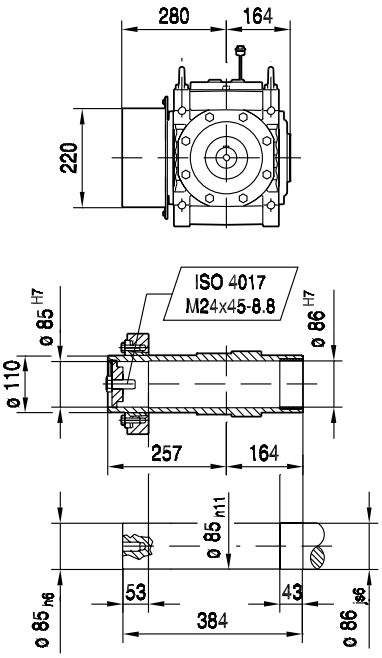
221 kg
10 l



MC2RLHF02



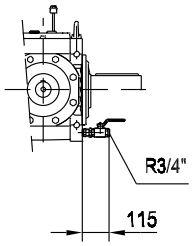
MC2RLHF02 /SD



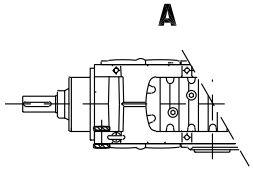
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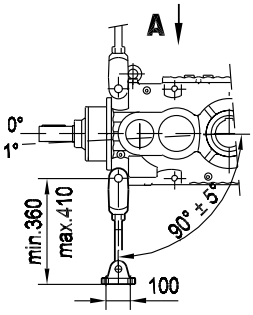
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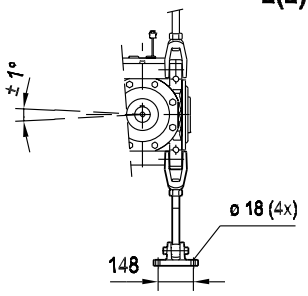
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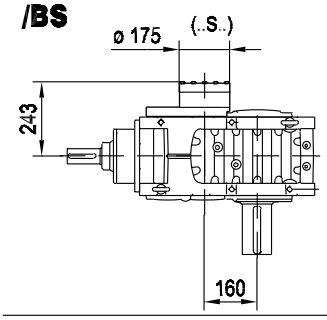
MC2RLH **T** 02

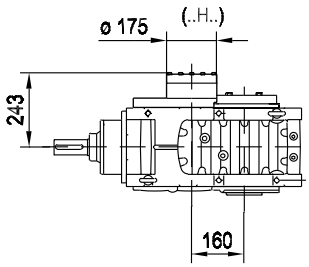


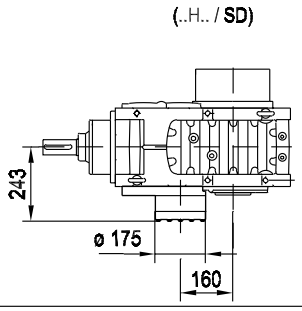




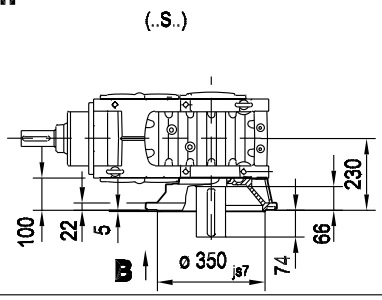
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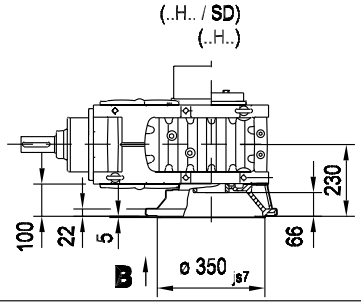


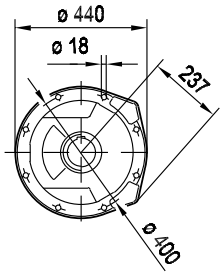




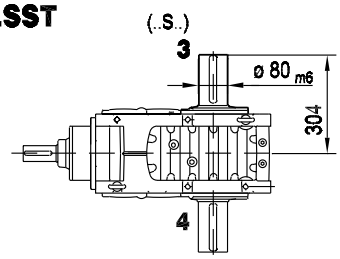
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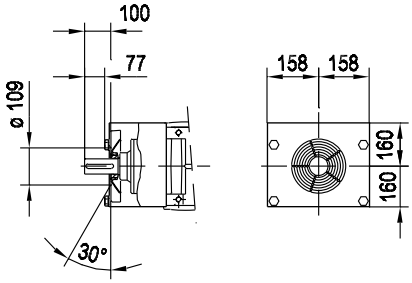




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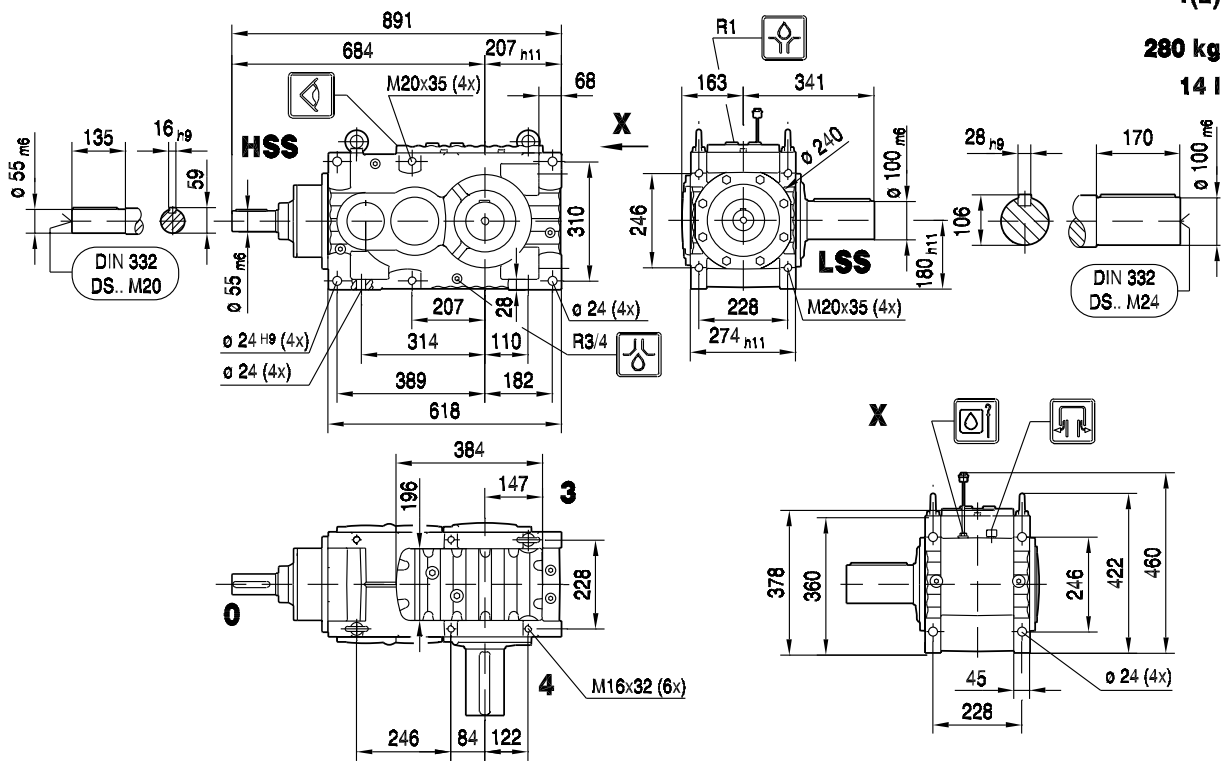
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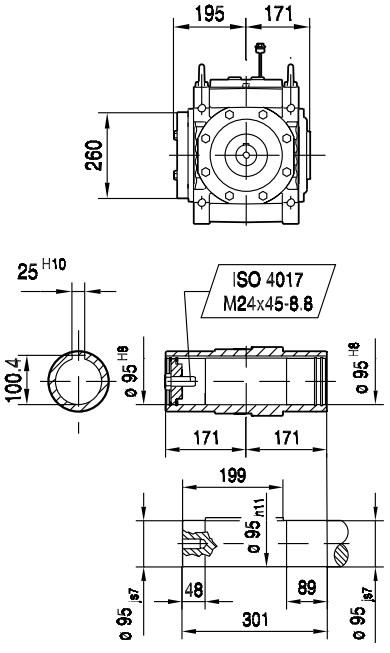
MC2RLSF03

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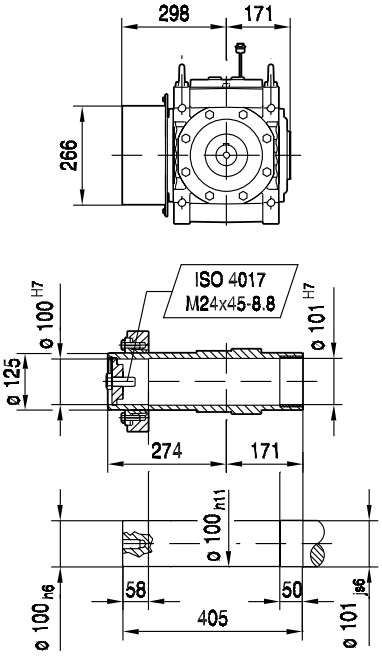
280 kg
14 l



MC2RLHF03



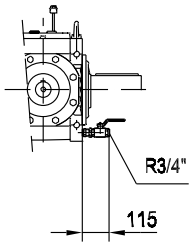
MC2RLHF03 /SD



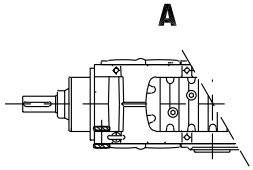
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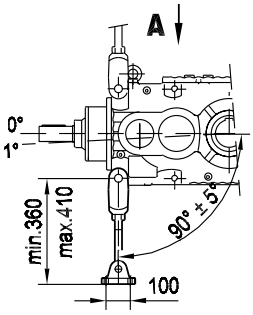
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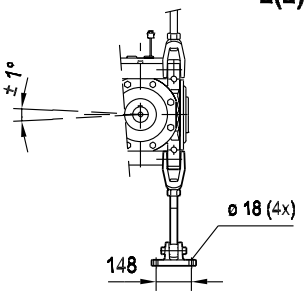
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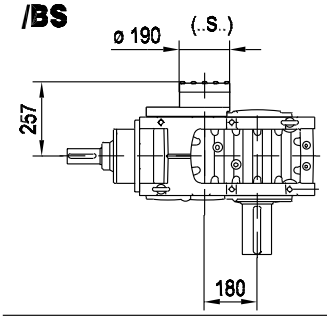
MC2RLH **T** 03

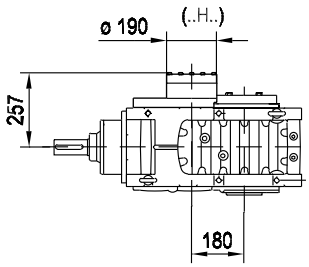


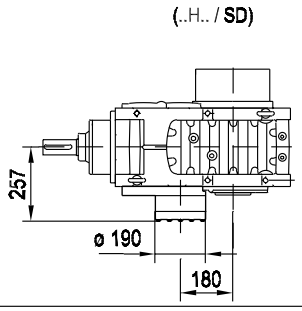




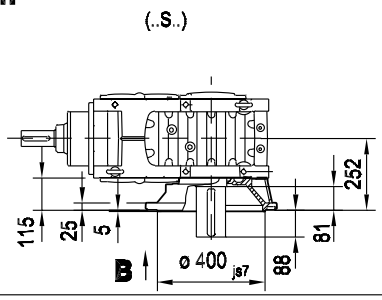
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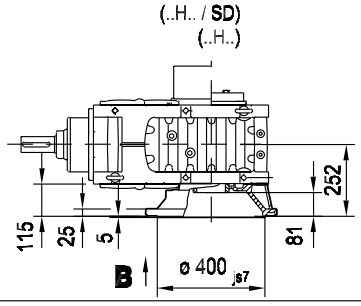


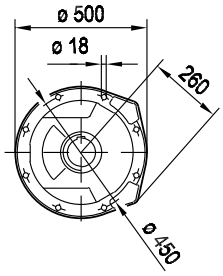




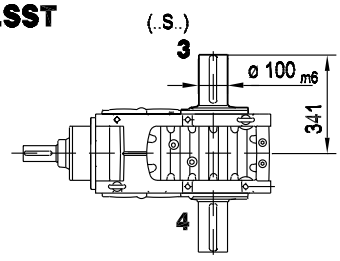
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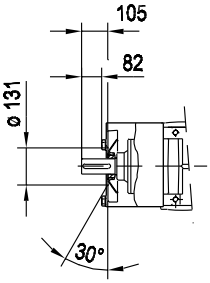


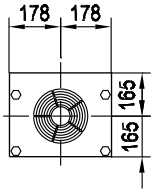


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/FAN

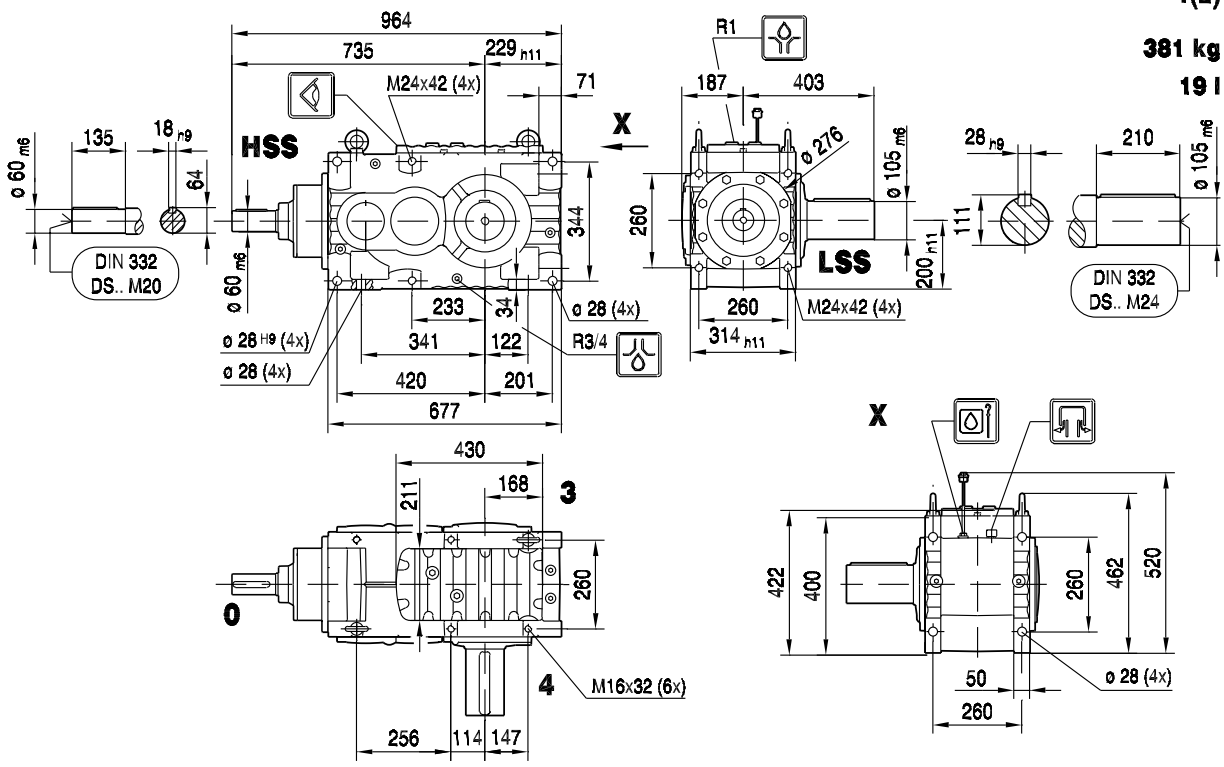




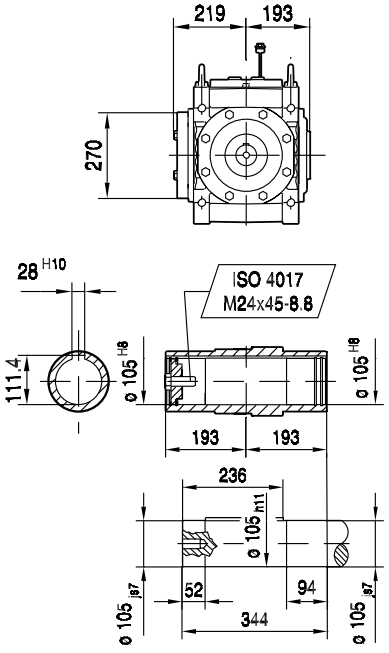
MC2RLSF04

47 051 00 03
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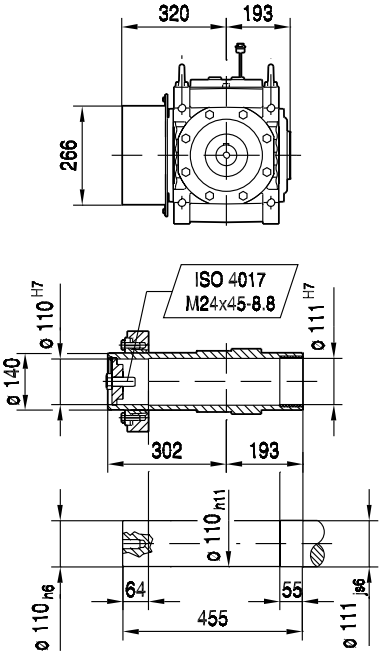
381 kg
19 l



MC2RLHF04



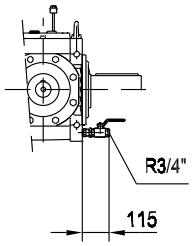
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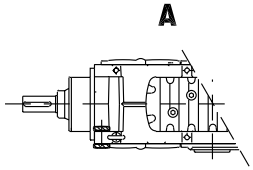
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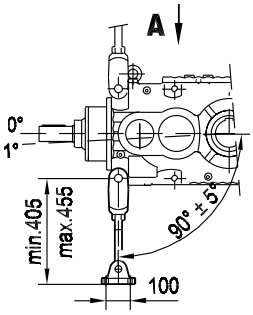
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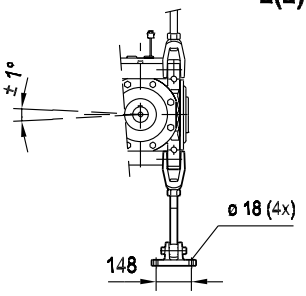
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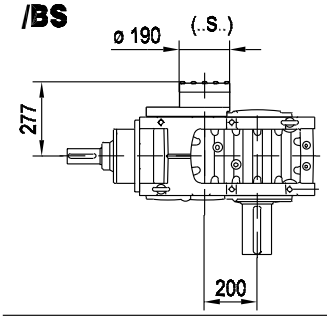
MC2RLH **T** 04

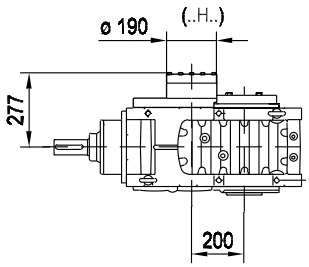


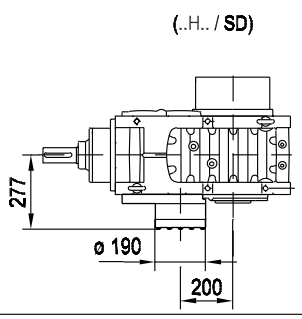




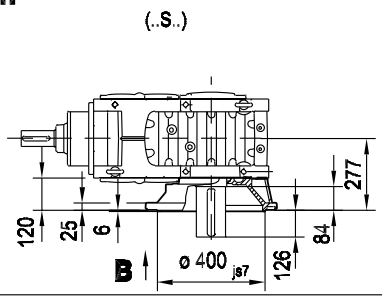
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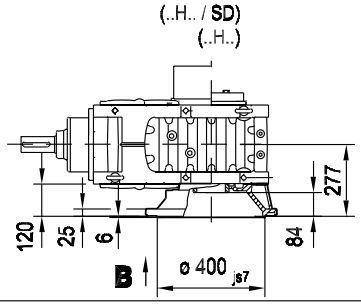


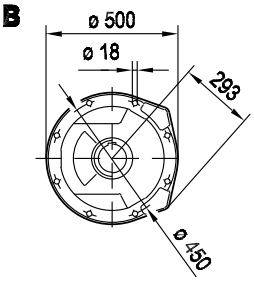




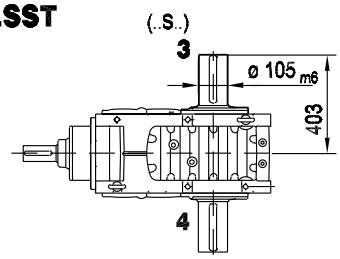
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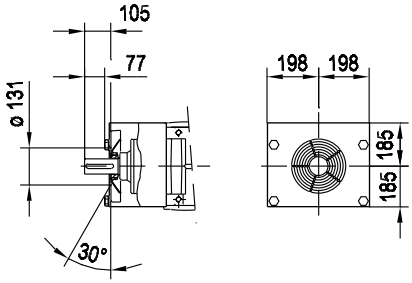




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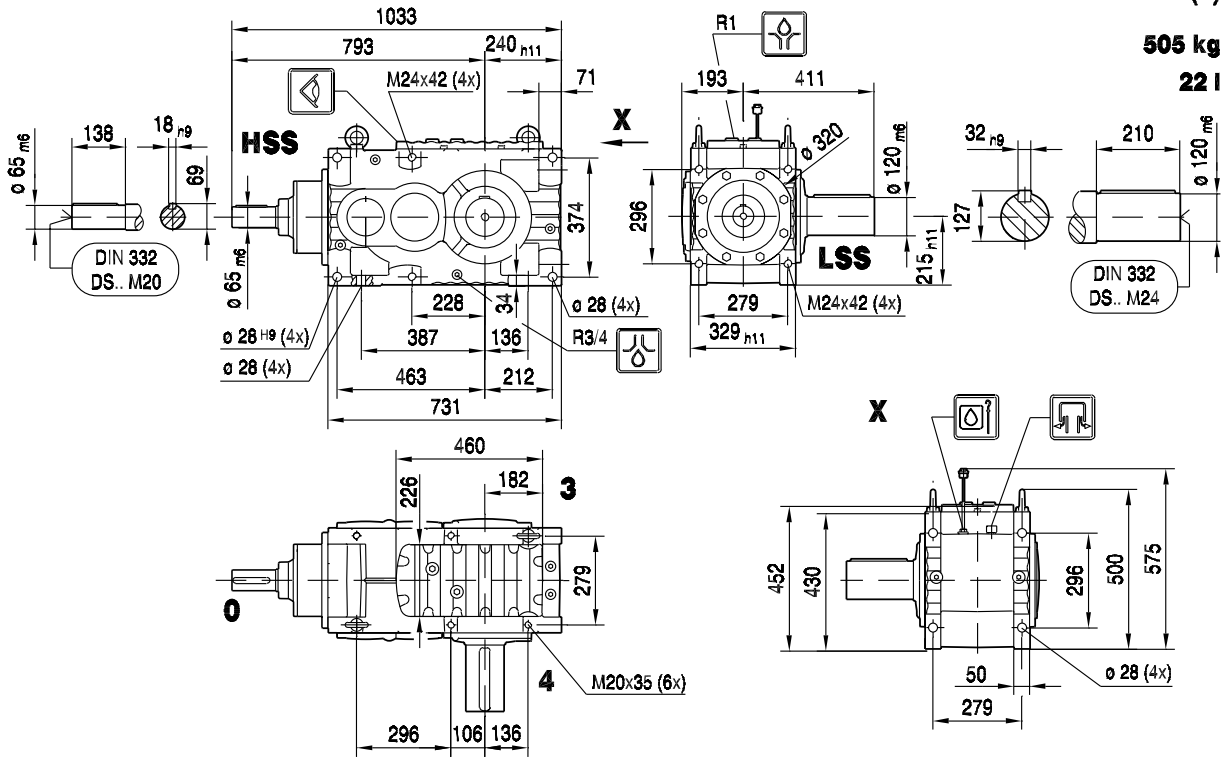
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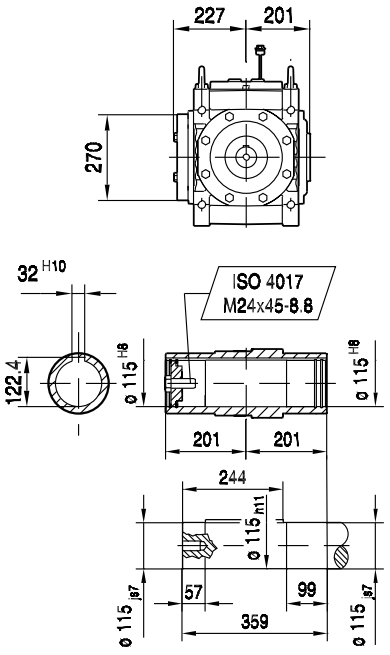
MC2RLSF05

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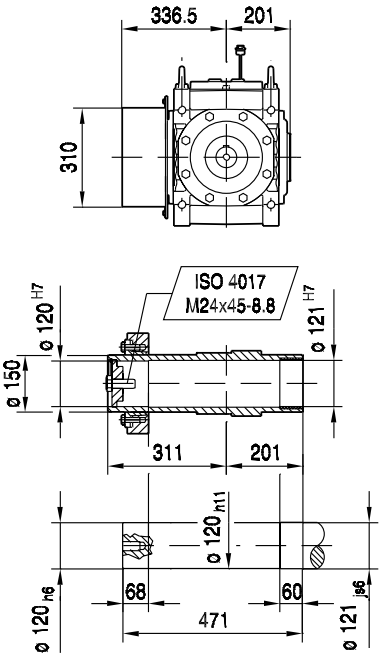
505 kg
22 l



MC2RLHF05



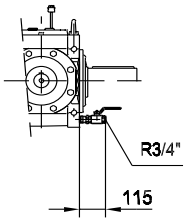
MC2RLHF05 /SD



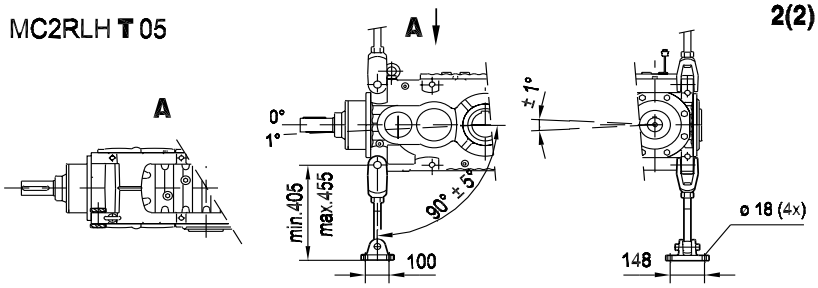
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2(2)

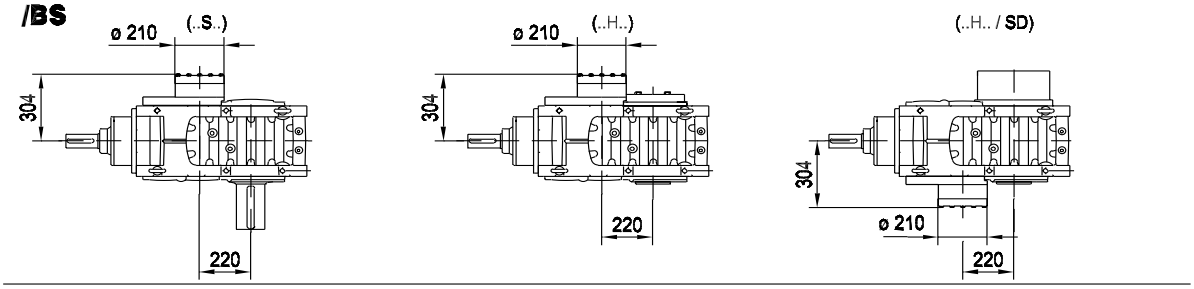
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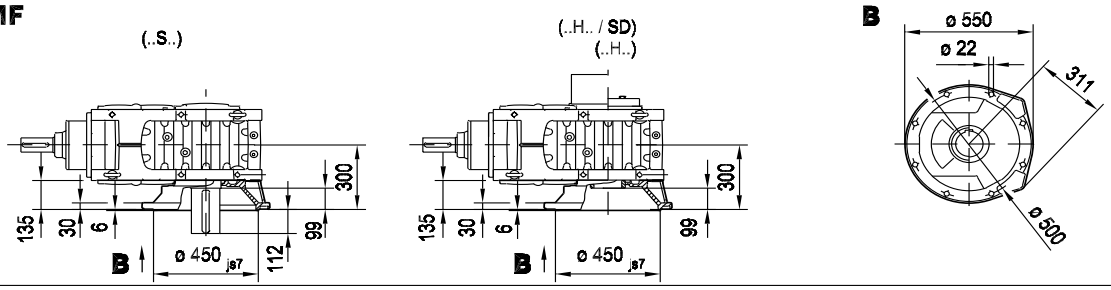
MC2RLH **T** 05



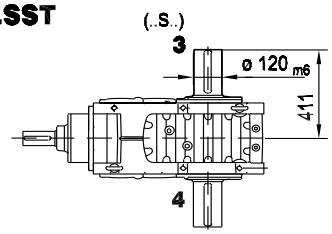
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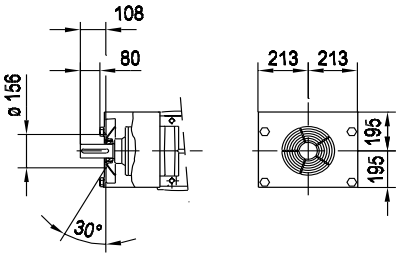
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/LSST



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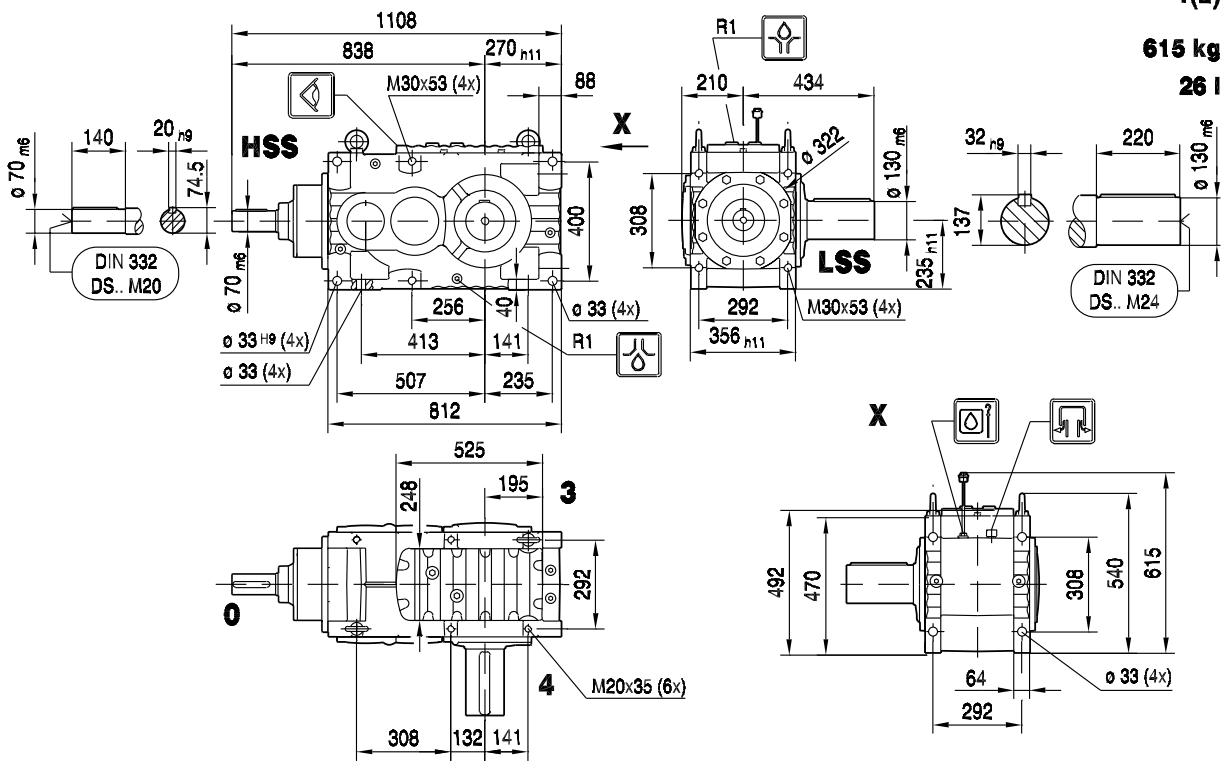


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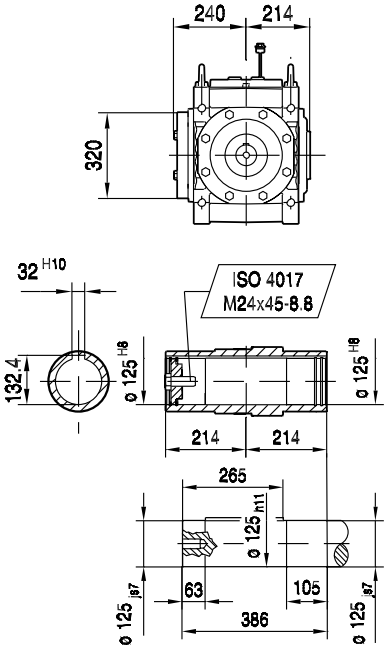
MC2RLSF06

47 053 00 03
1(2)

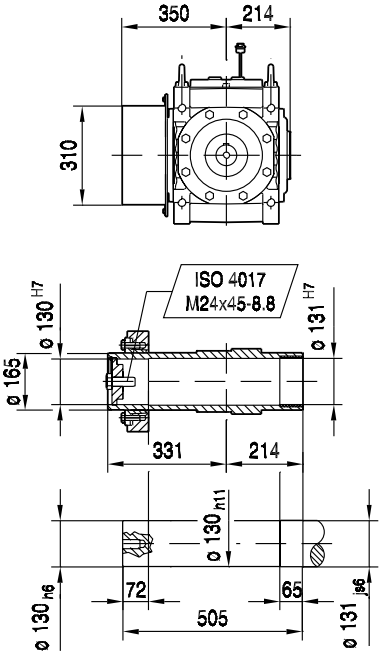
615 kg
26 l



MC2RLHF06



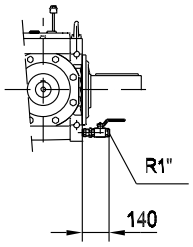
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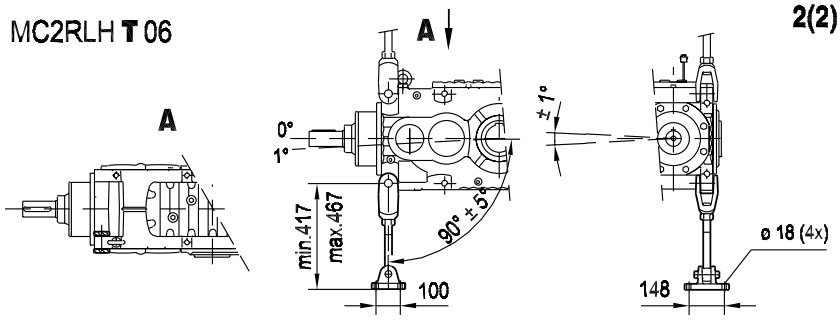
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2(2)

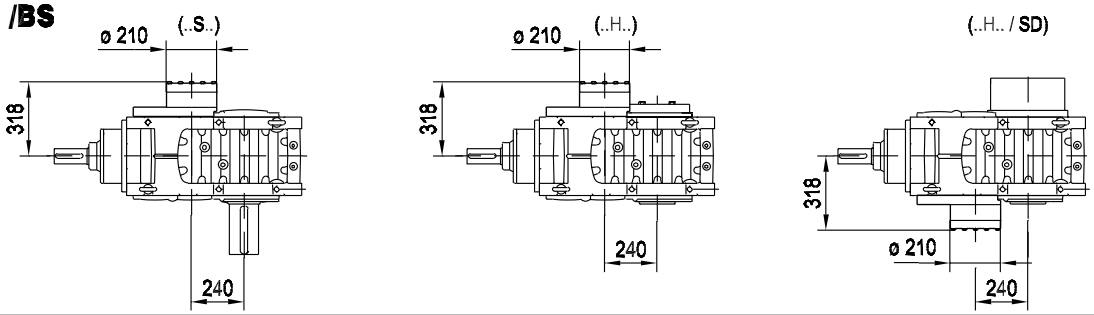
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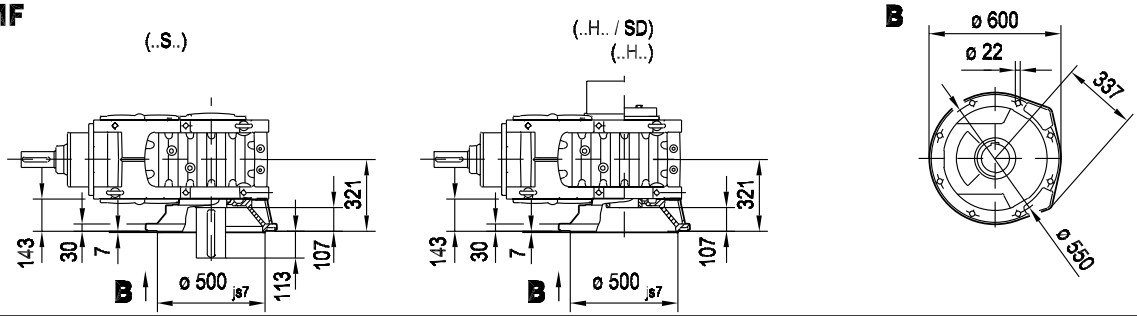
MC2RLH **T** 06



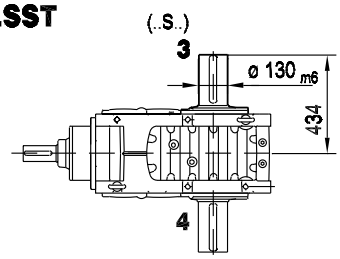
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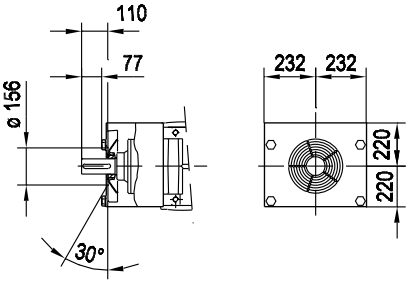
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/LSST



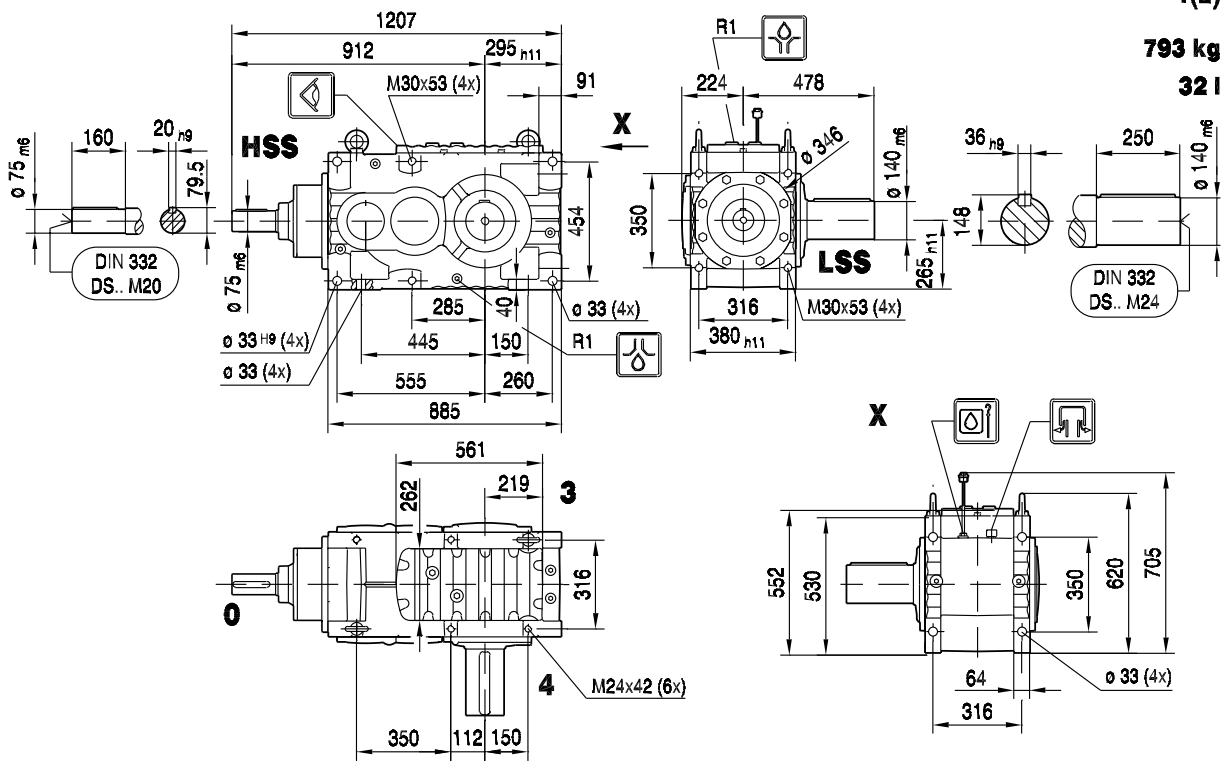
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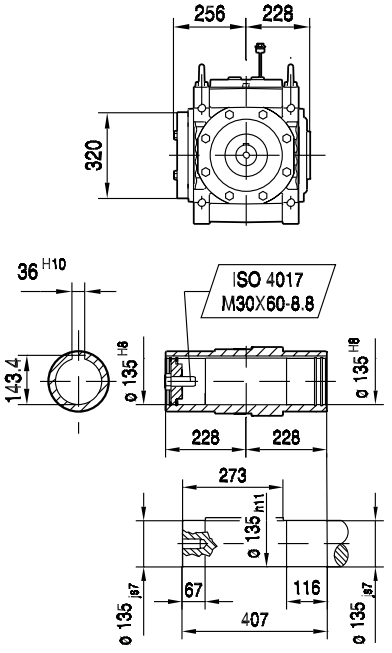
MC2RLSF07

47 054 00 03
1(2)

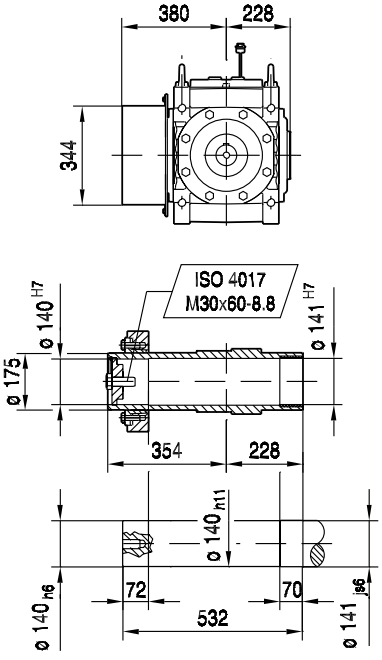
793 kg
32 l



MC2RLHF07



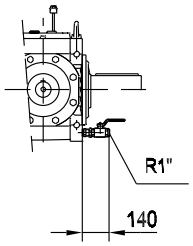
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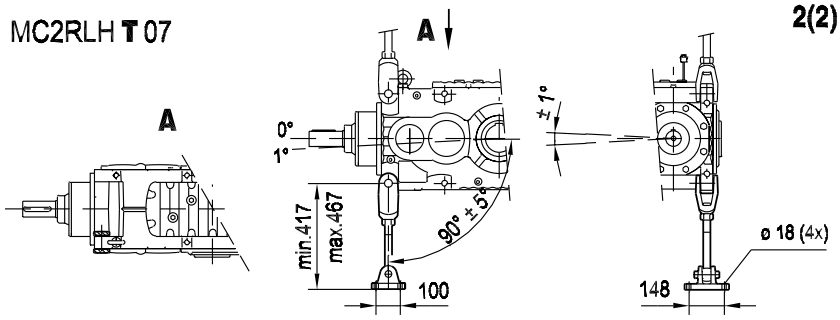
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2(2)

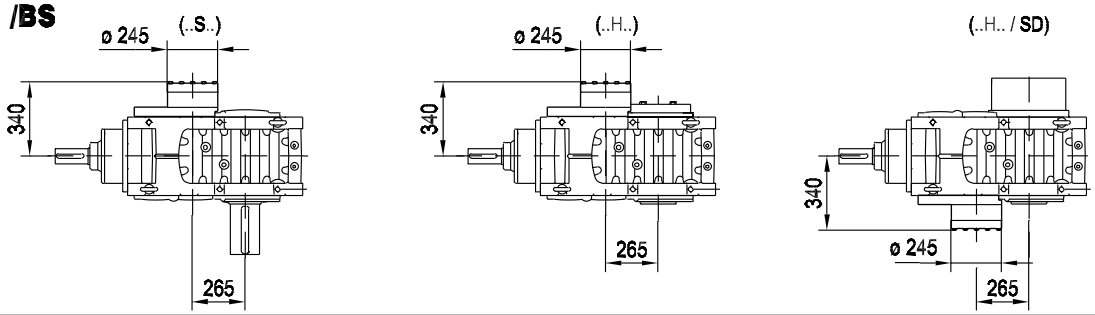
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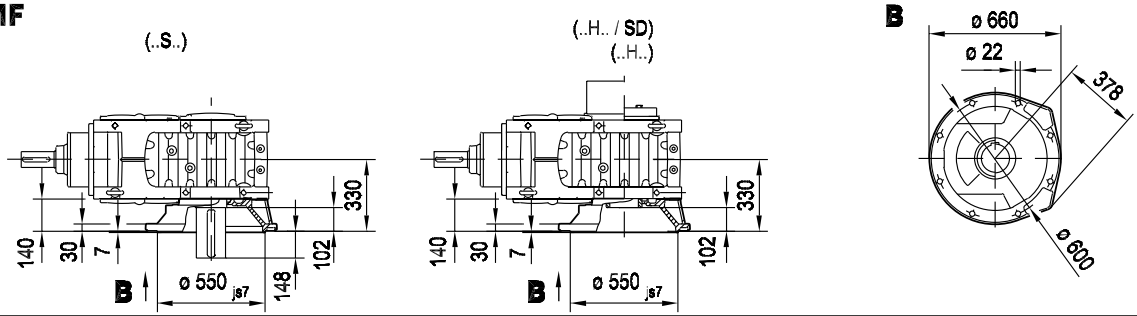
MC2RLH **T** 07



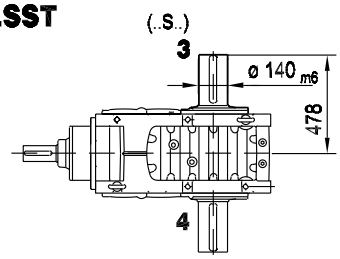
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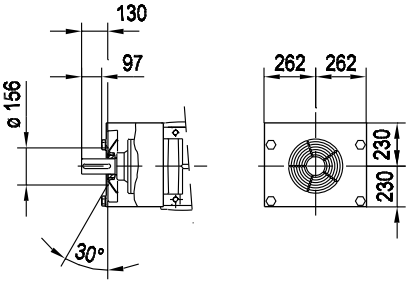
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/LSST



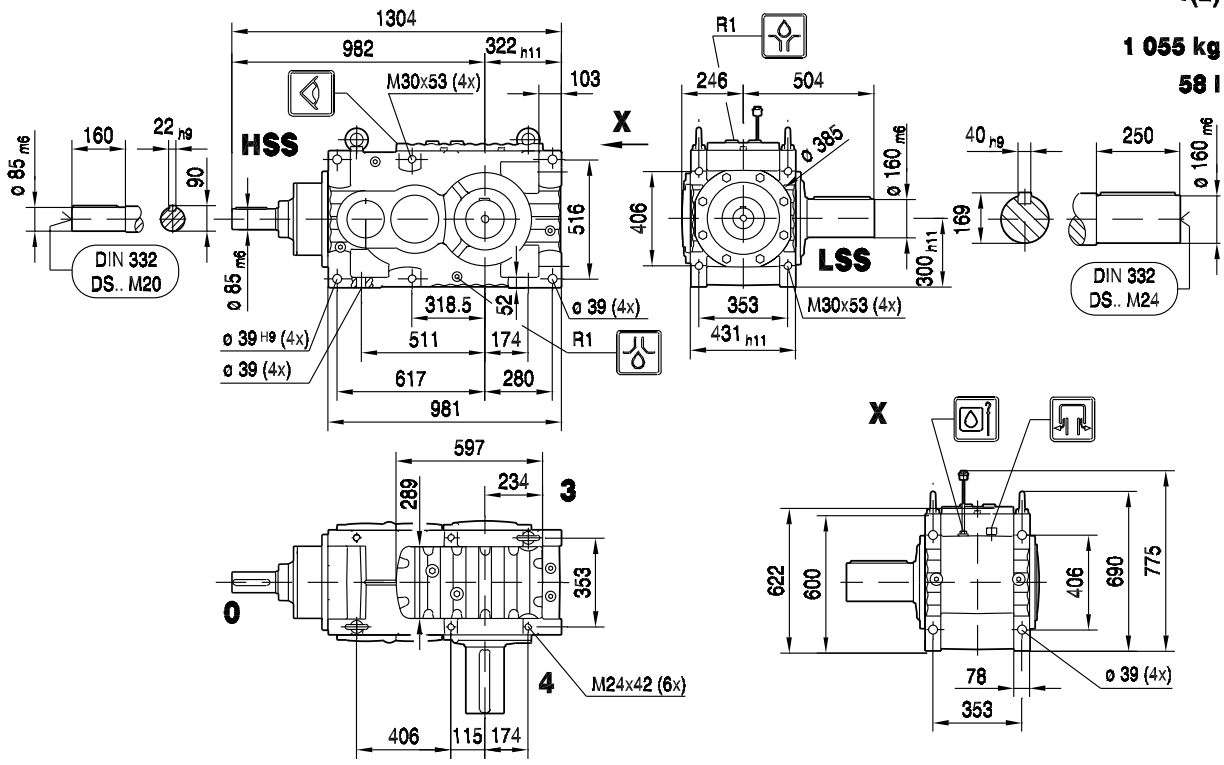
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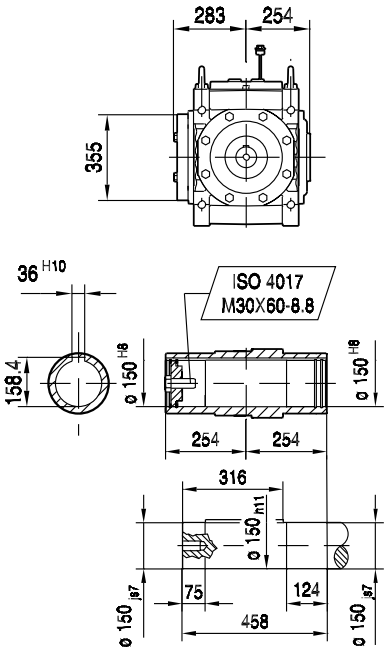
MC2RLSF08

47 055 00 03
1(2)

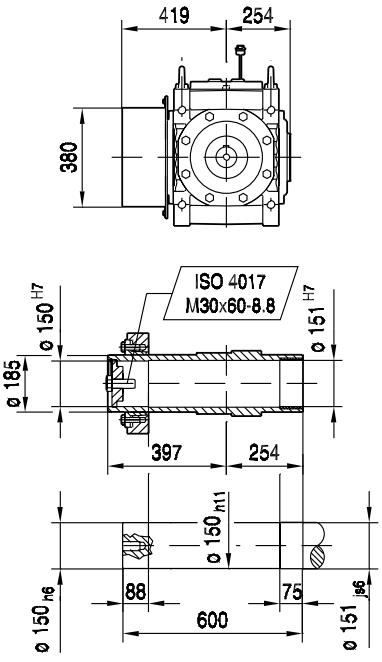
1 055 kg
58 l



MC2RLHF08



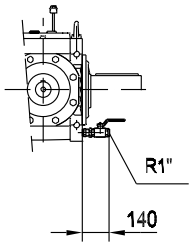
MC2RLHF08 /SD



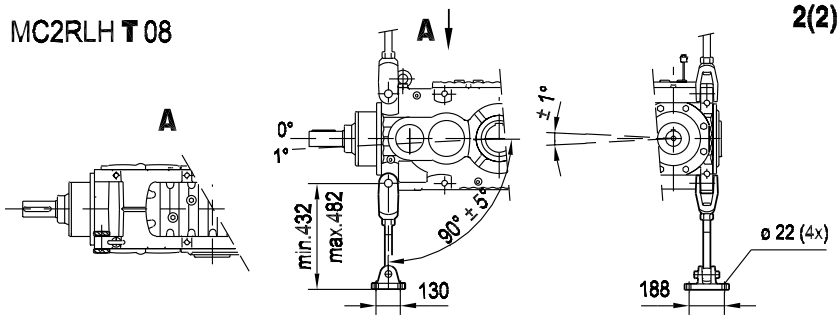
MC2RL..08

47 055 00 03
2(2)

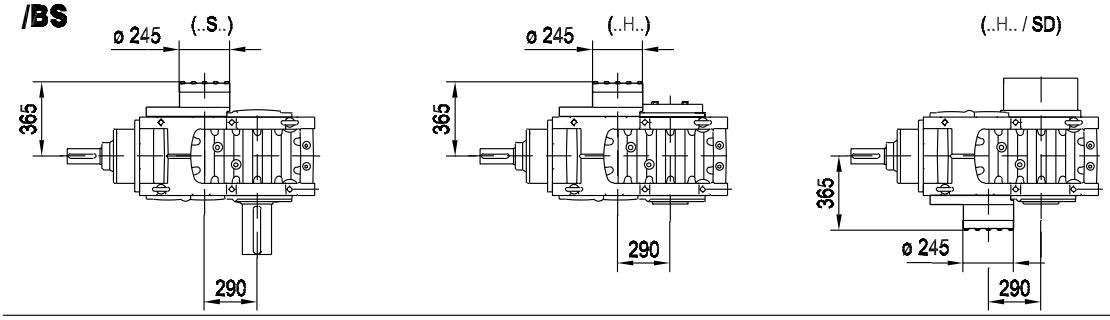
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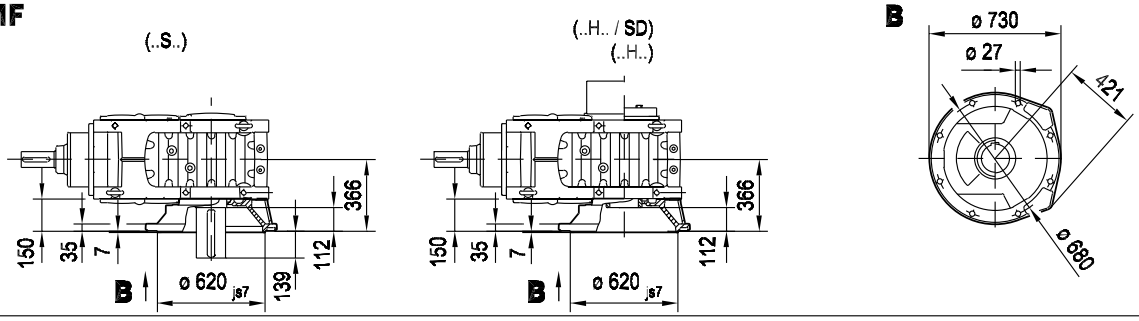
MC2RLH **T** 08



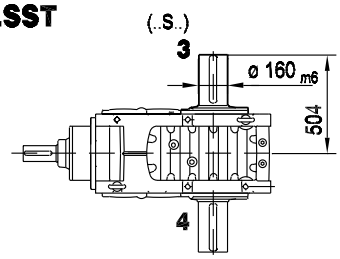
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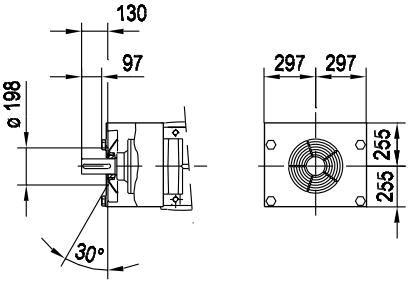
/MF



/LSST



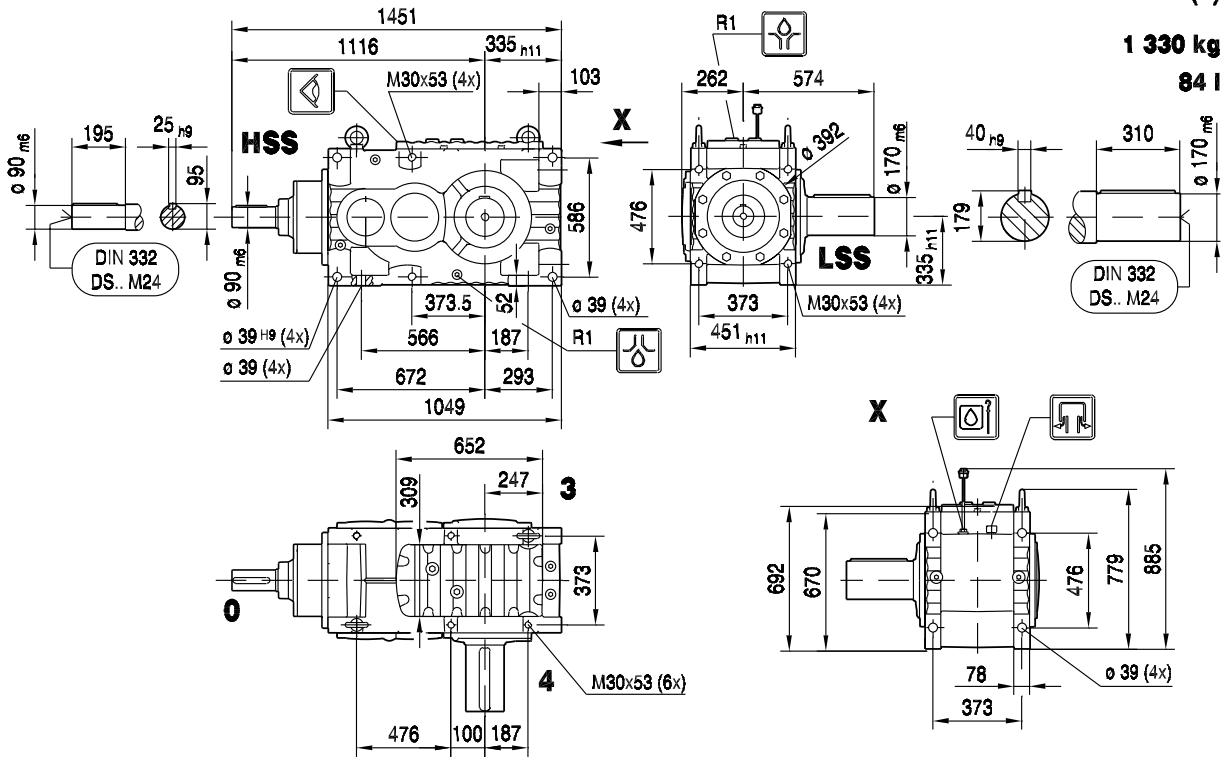
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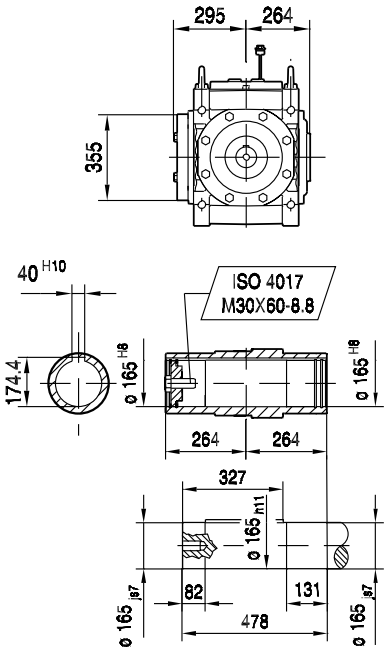
MC2RLSF09

47 056 00 03
1(2)

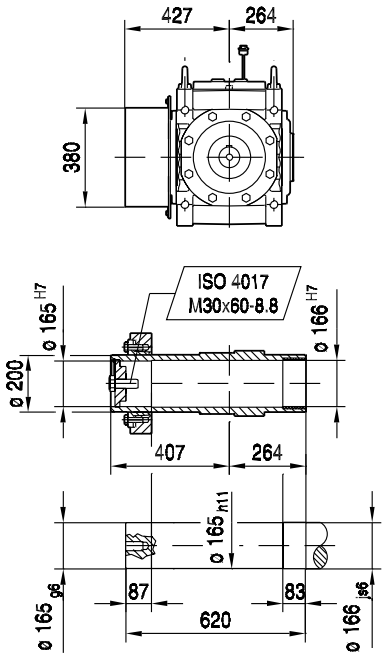
1 330 kg
84 l



MC2RLHF09



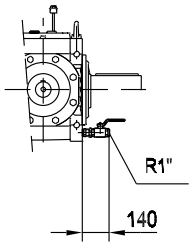
MC2RLHF09 /SD



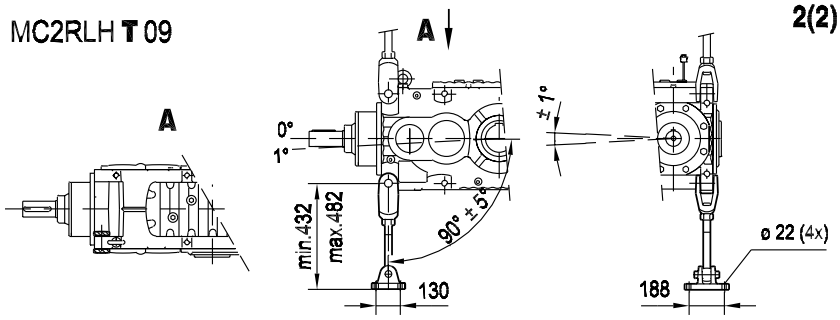
MC2RL..09

47 056 00 03
2(2)

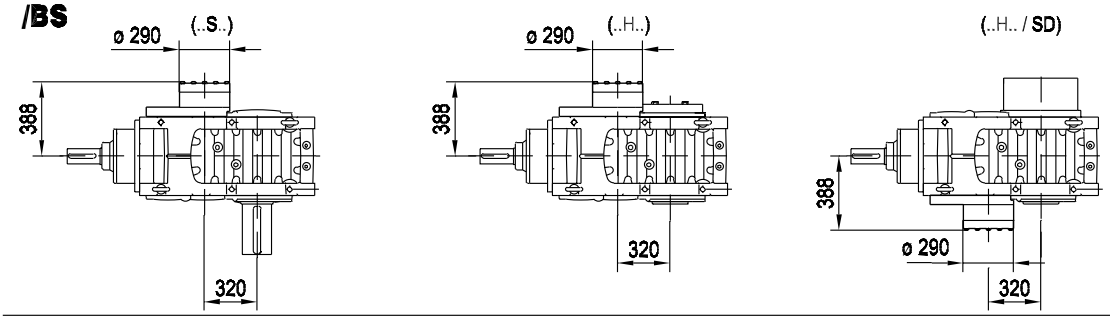
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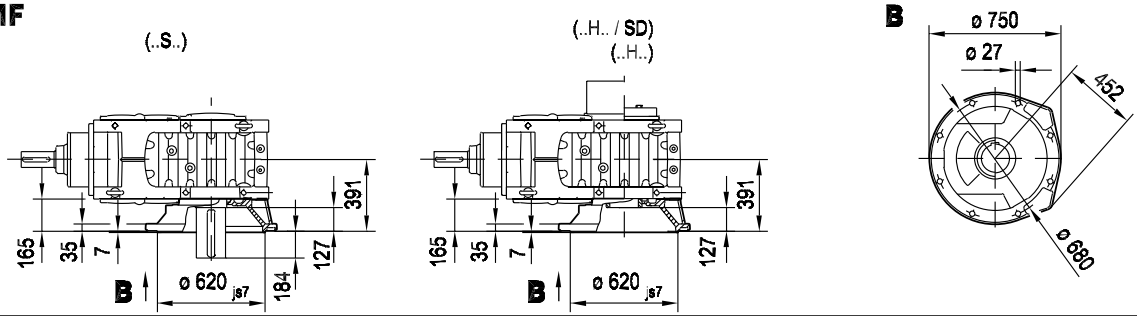
MC2RLH **T** 09



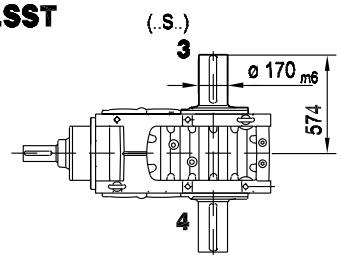
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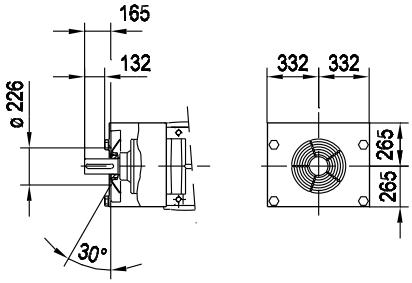
/MF



/LSST

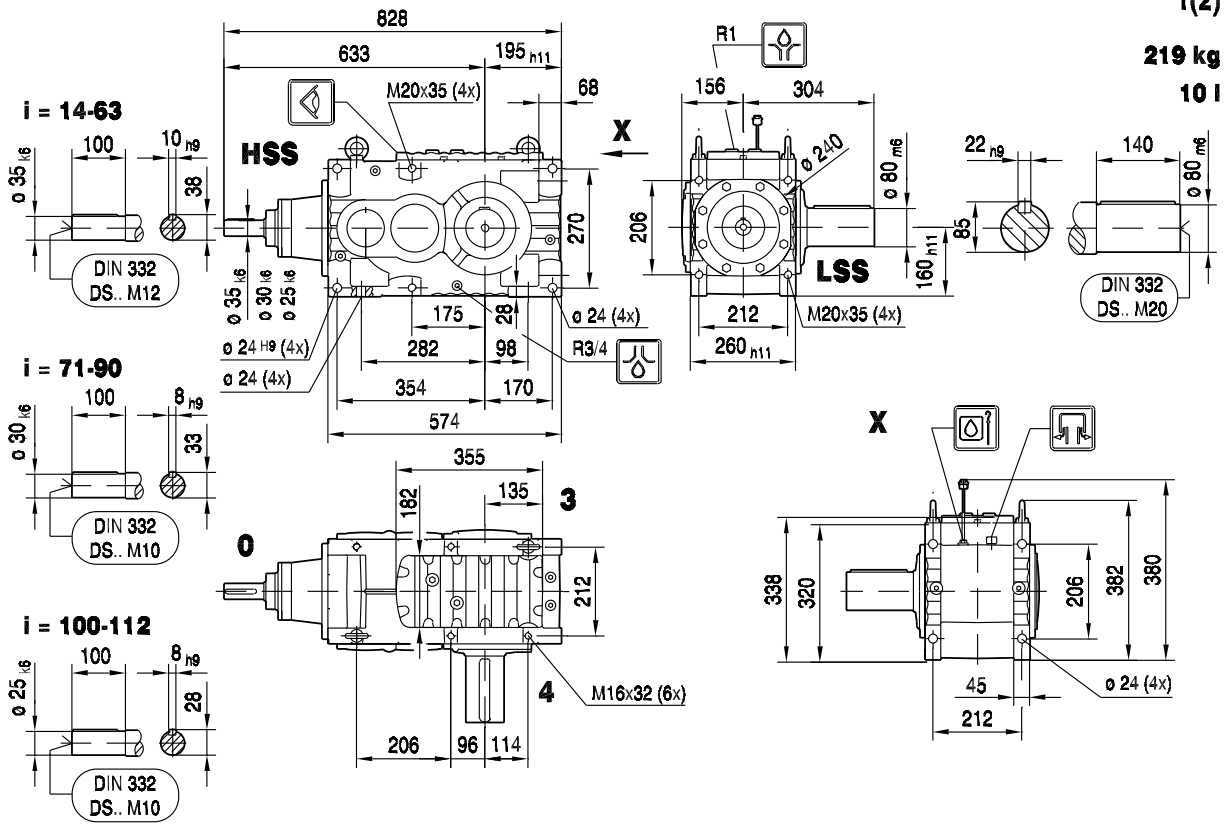


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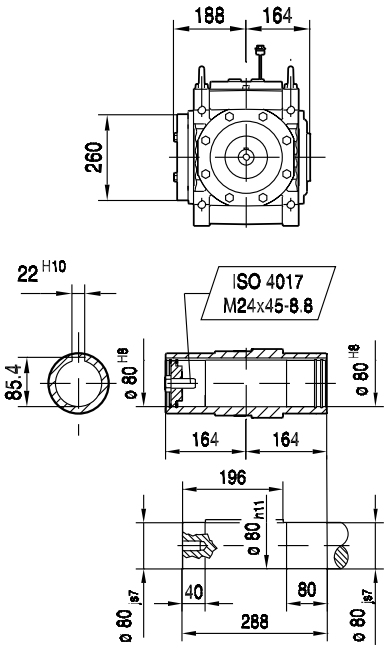


MC3RLSF02

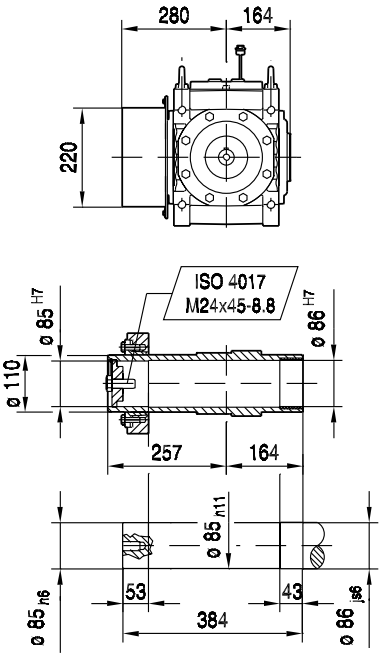
47 057 00 03
1(2)
219 kg
10 l



MC3RLHF02



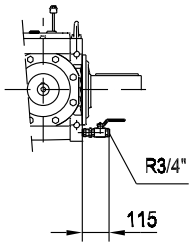
MC3RLHF02 /SD



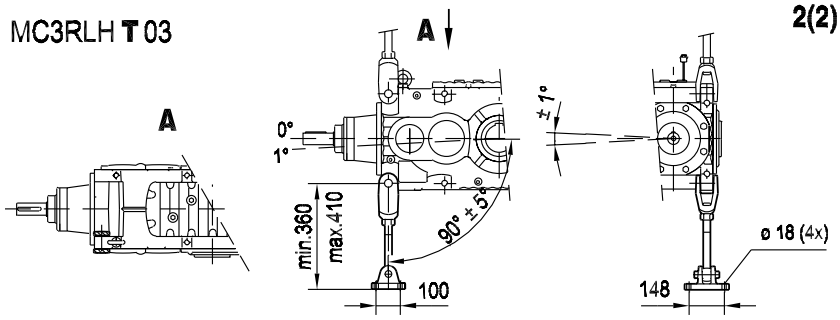
MC3RL..02

47 057 00 03
2(2)

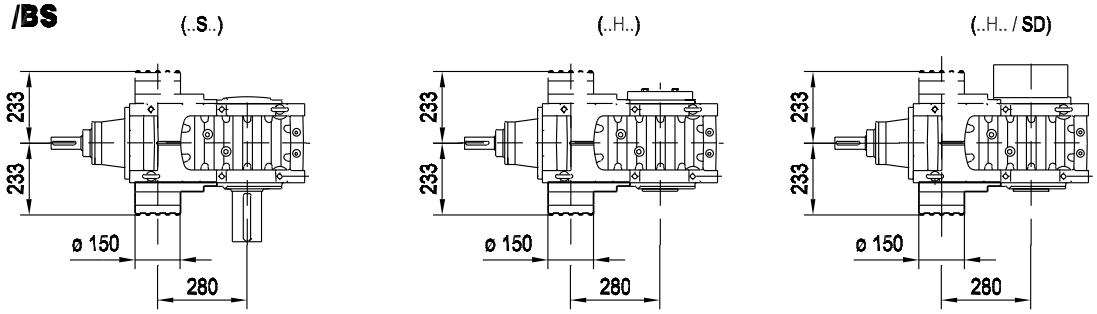
/ODV



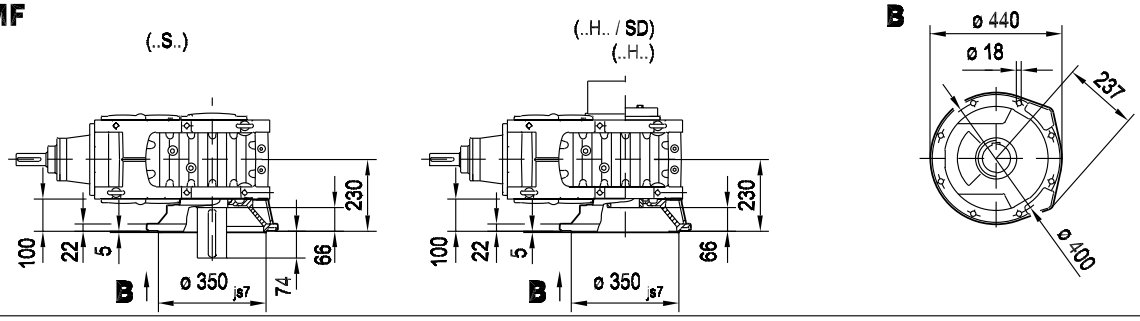
MC3RLH **T** 03



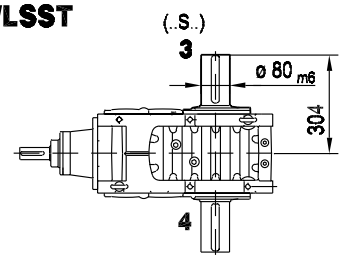
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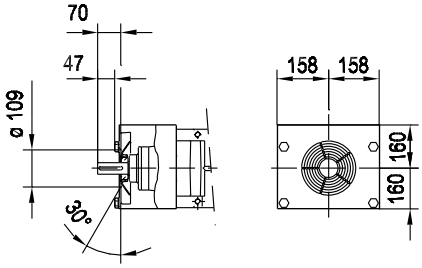
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/LSST

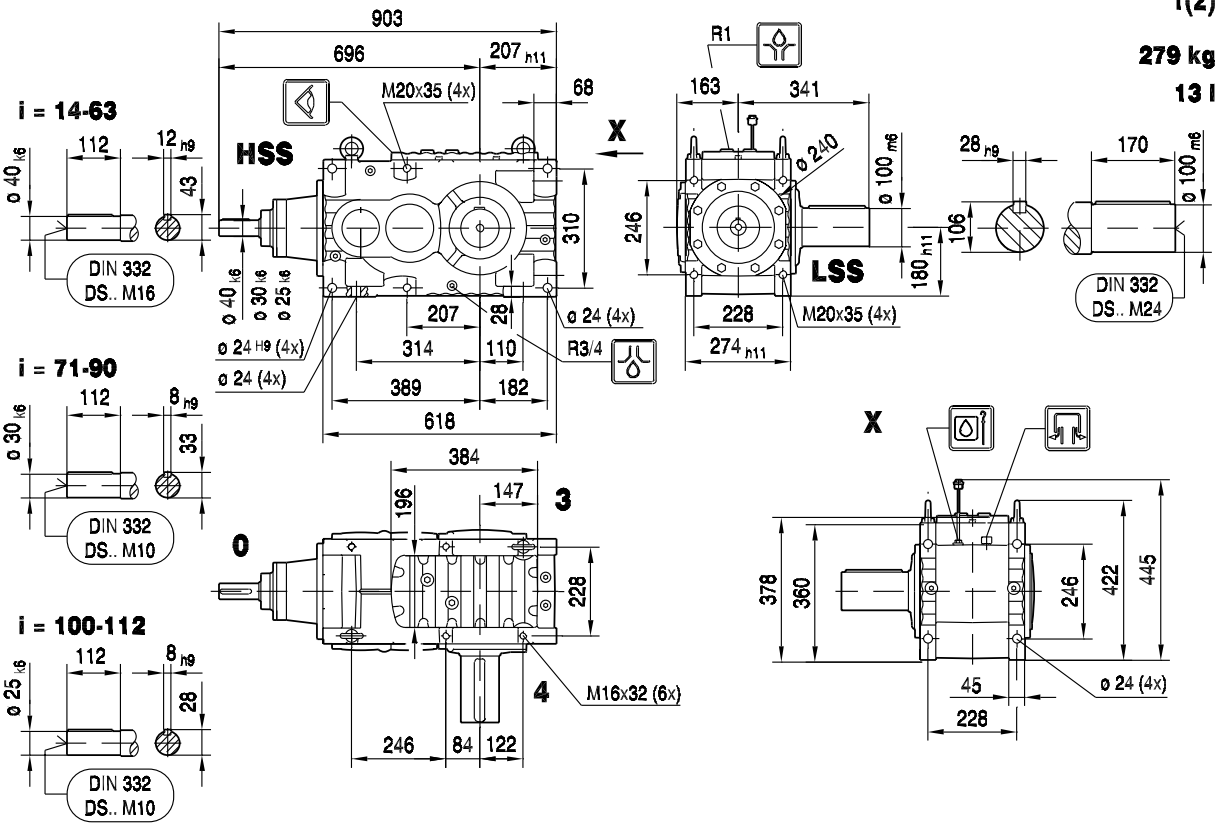


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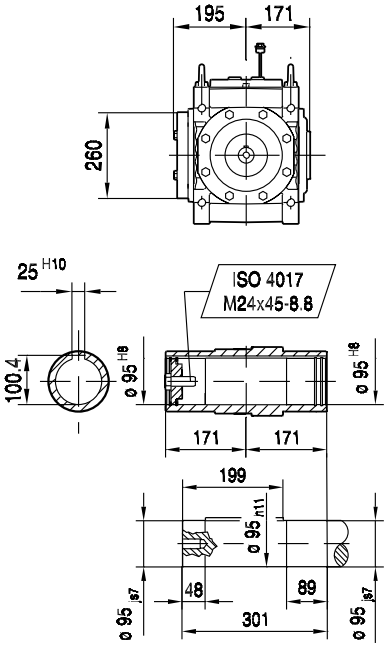


MC3RLSF03

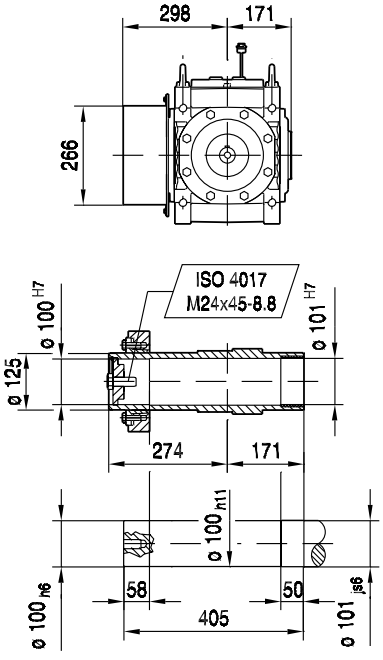
47 058 00 03
1(2)
279 kg
13 l



MC3RLHF03



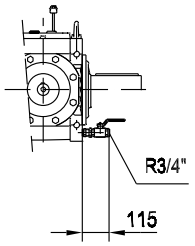
MC3RLHF03 /SD



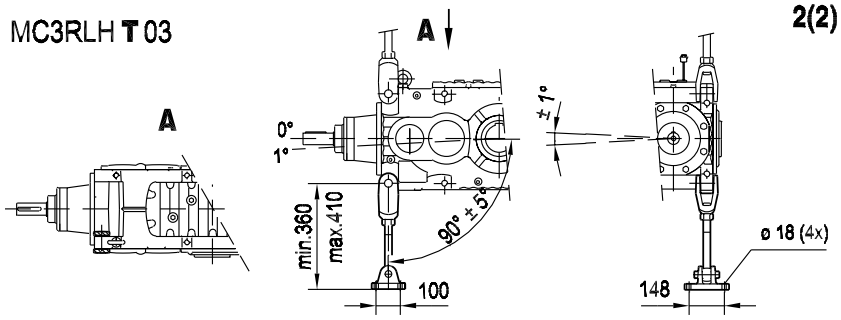
MC3RL..03

47 058 00 03
2(2)

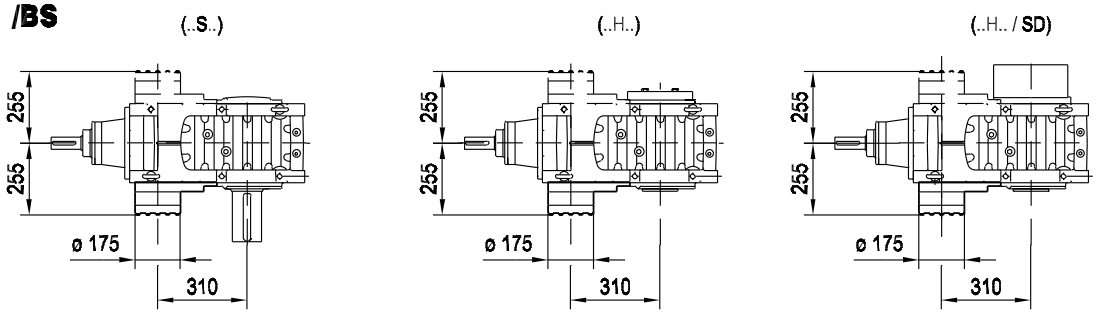
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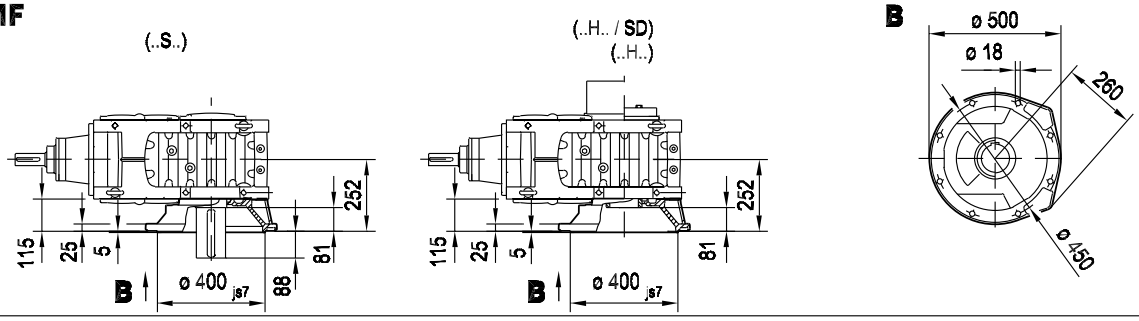
MC3RLH **T** 03



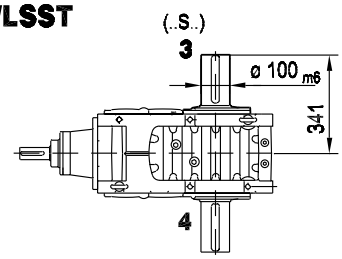
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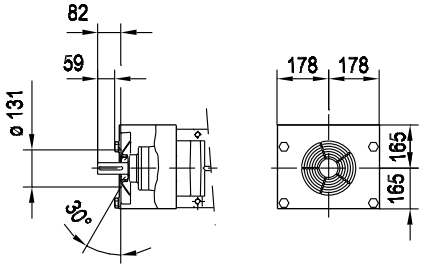
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/LSST



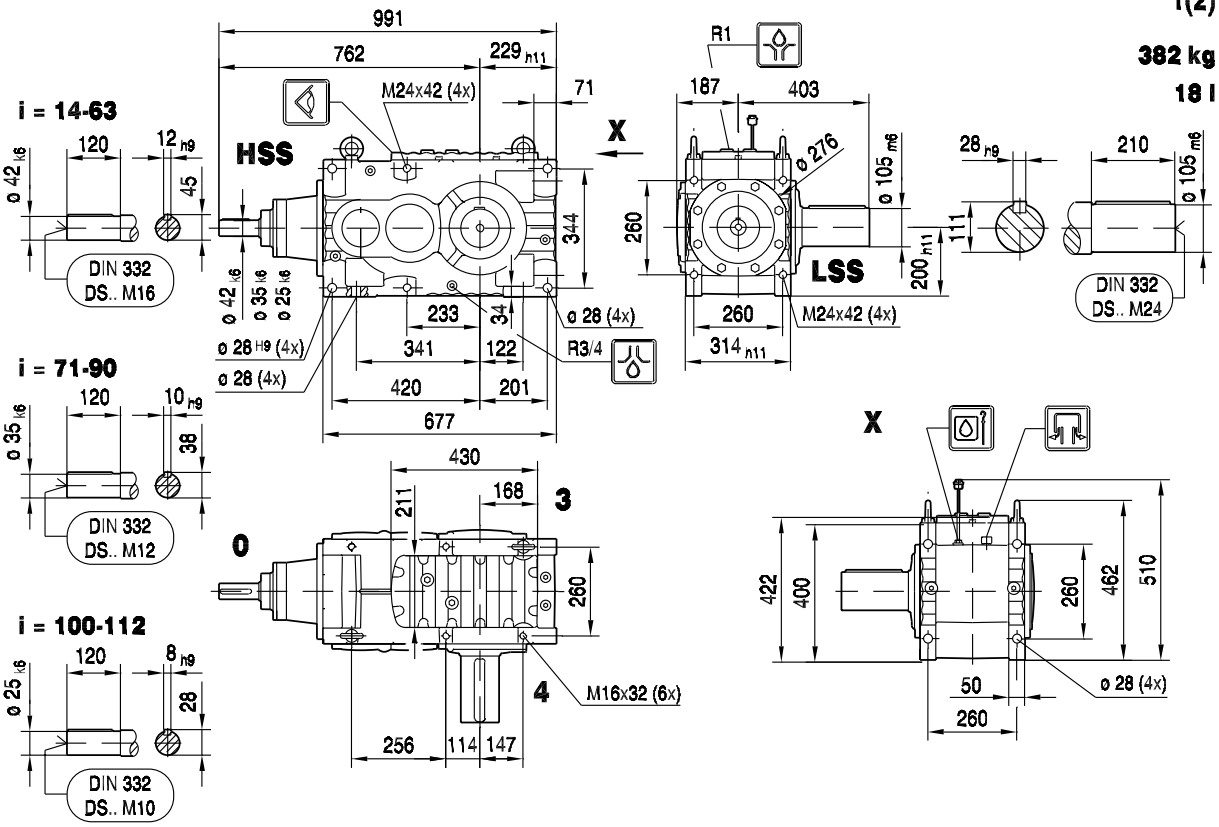
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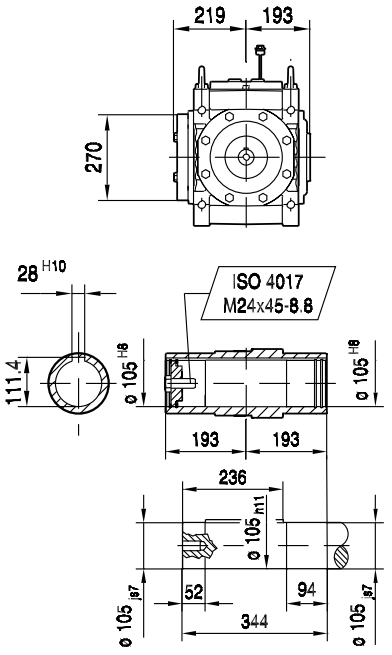
MC3RLSF04

47 059 00 03
1(2)

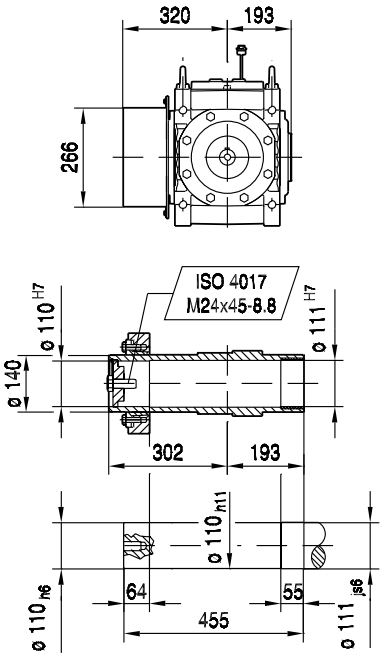
382 kg
18 l



MC3RLHF04



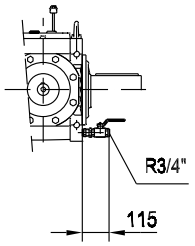
MC3RLHF04 /SD



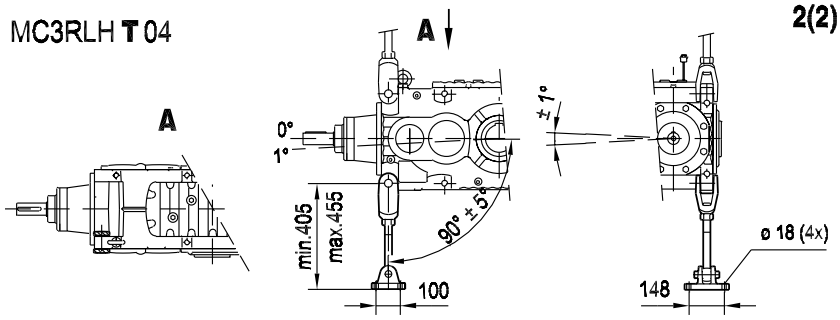
MC3RL..04

47 059 00 03
2(2)

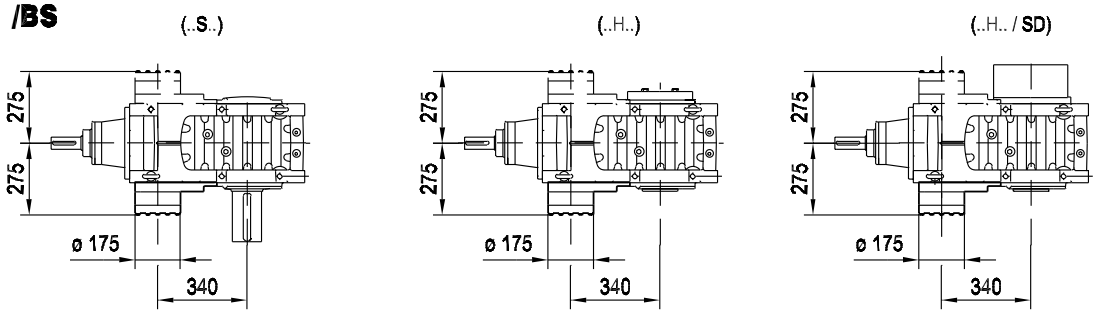
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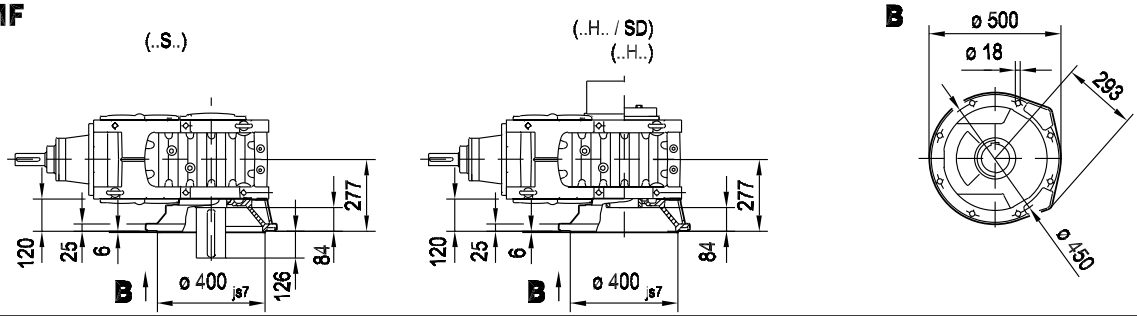
MC3RLH **T** 04



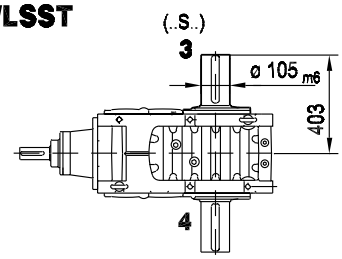
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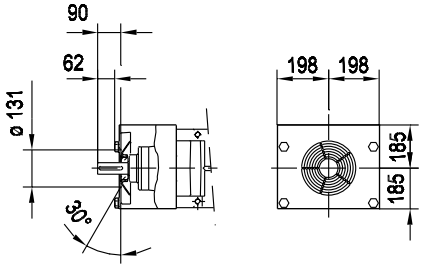
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/LSST



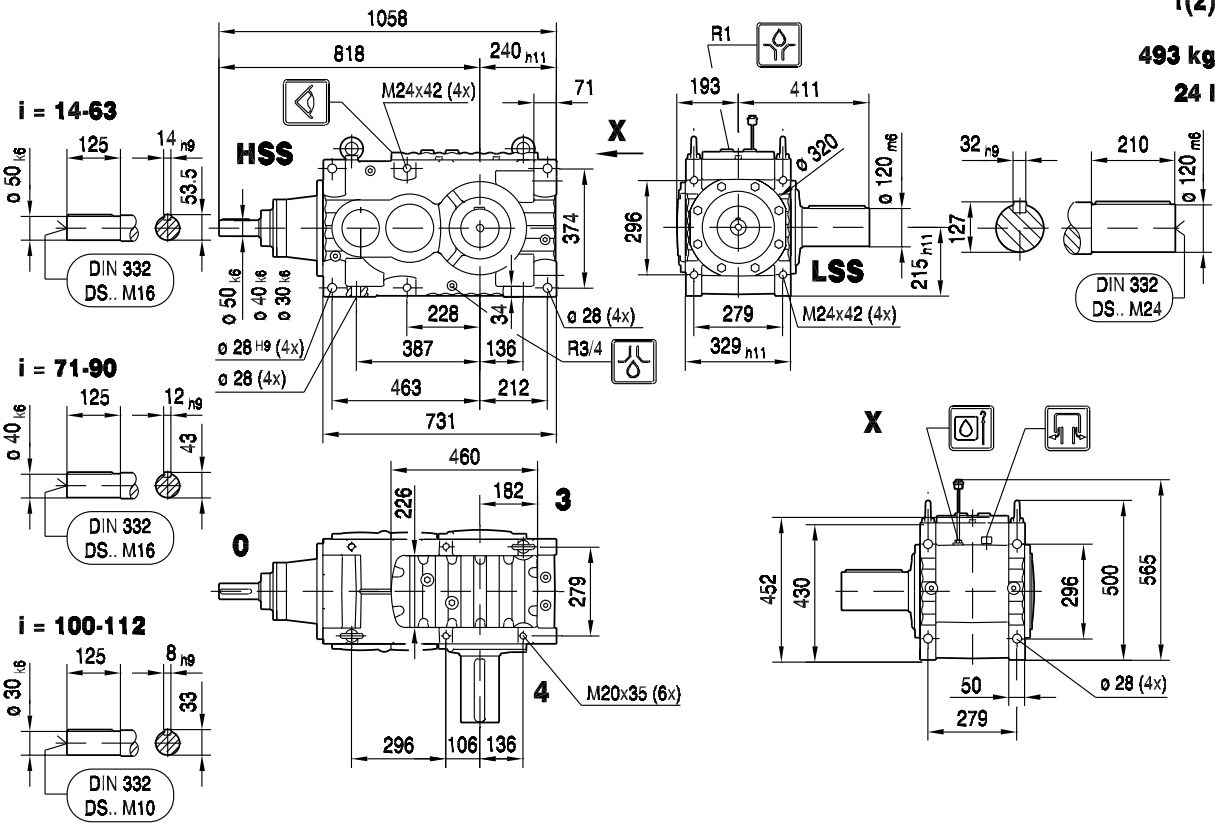
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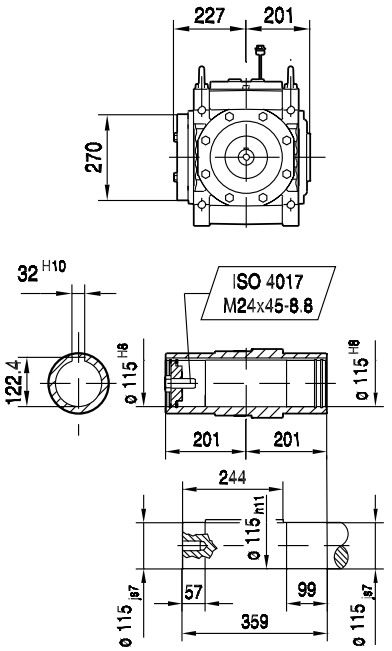
MC3RLSF05

47 060 00 03
1(2)

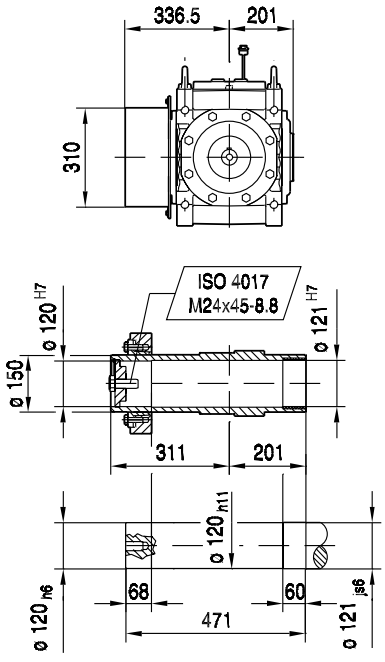
493 kg
24 l



MC3RLHF05



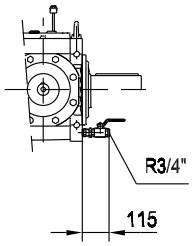
MC3RLHF05 /SD



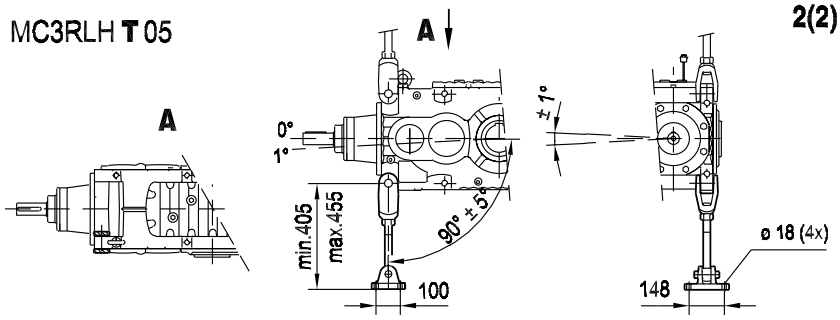
MC3RL..05

47 060 00 03
2(2)

/ODV

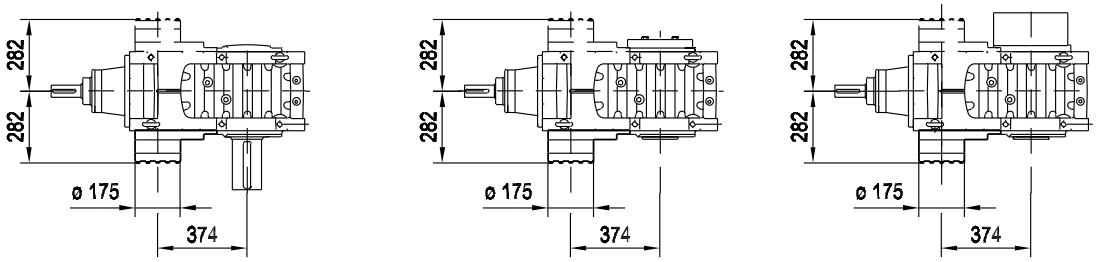


MC3RLH **T** 05



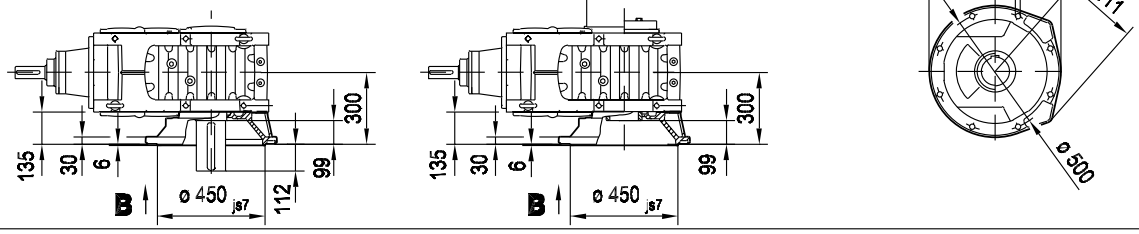
/BS

(..S..) (..H..) (..H.. / SD)



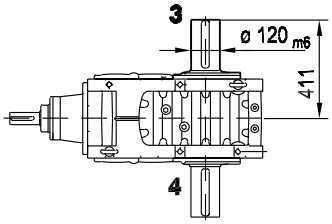
/MF

(..S..) (..H.. / SD) (..H..)

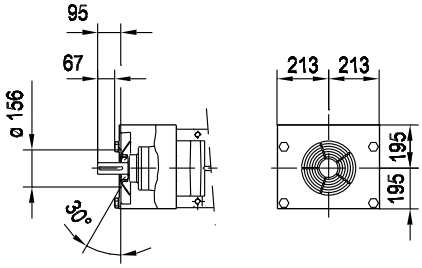


/LSST

(..S..)



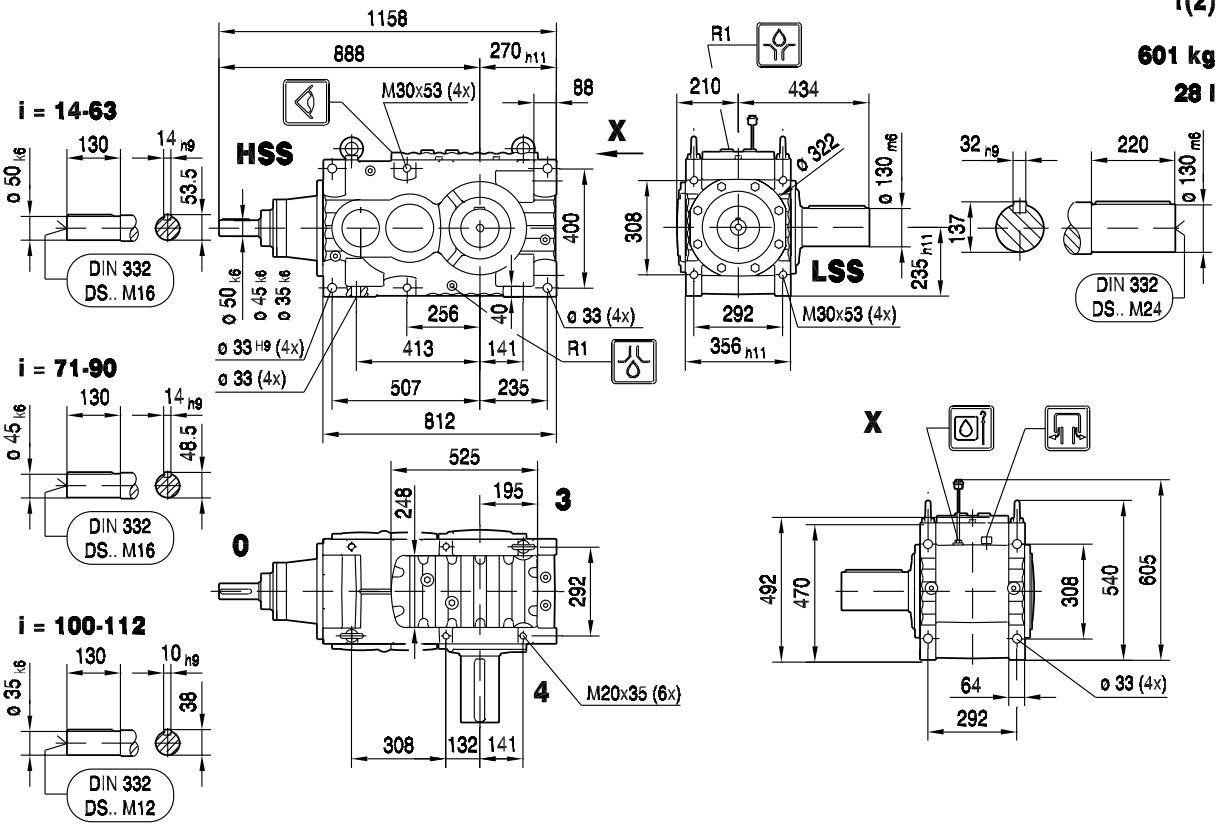
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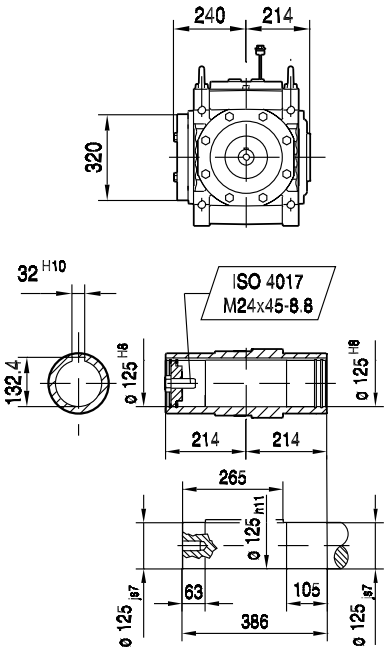
MC3RLSF06

47 061 00 03
1(2)

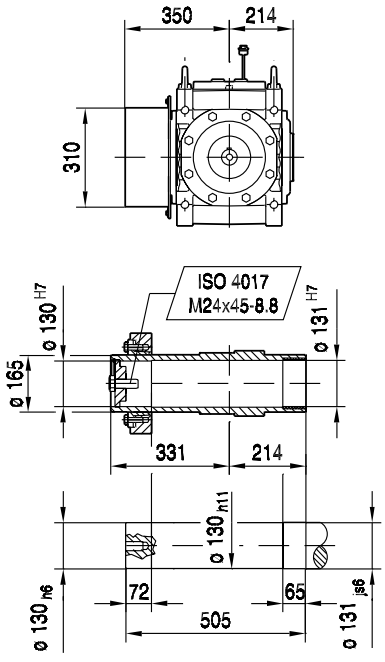
601 kg
28 l



MC3RLHF06



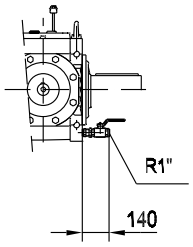
MC3RLHF06 /SD



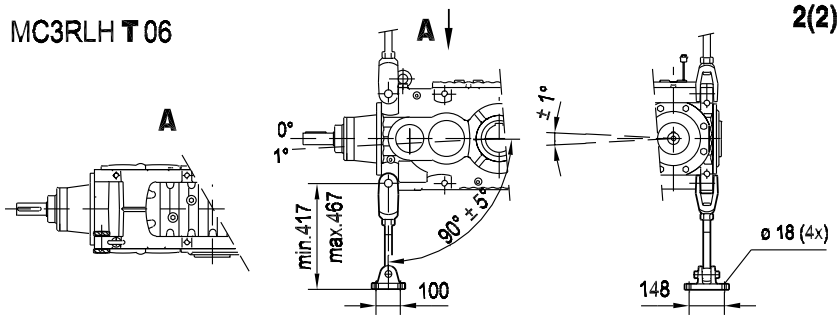
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47 061 00 03
2(2)

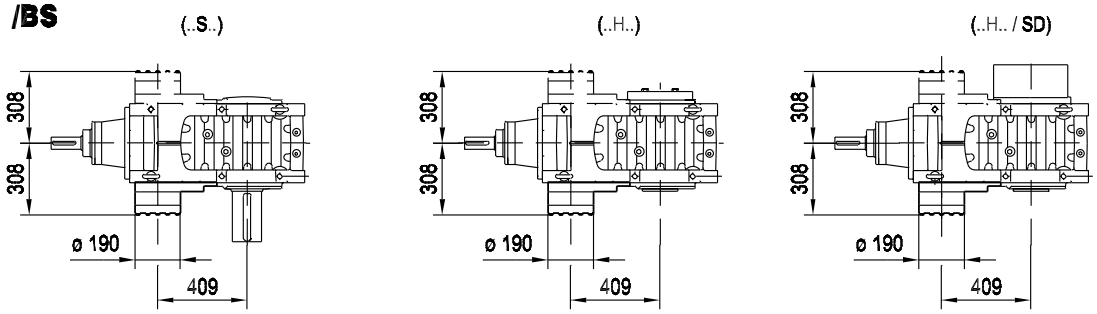
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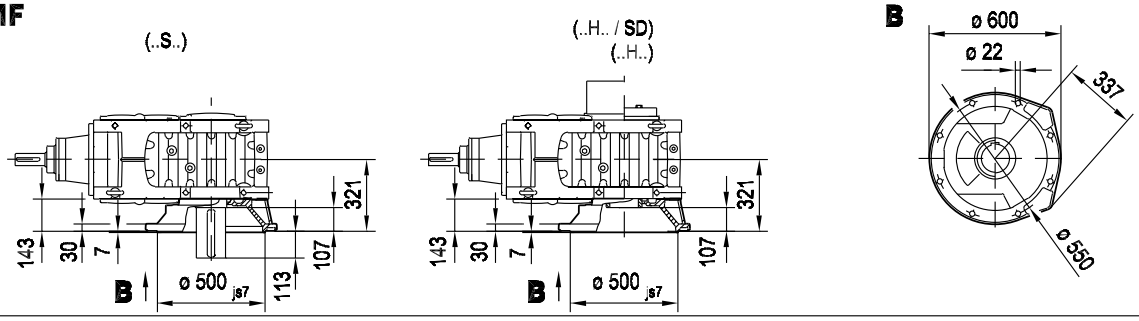
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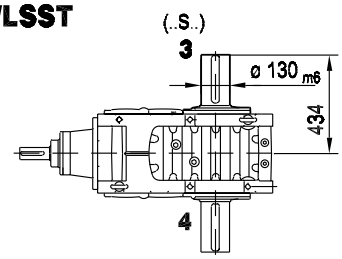
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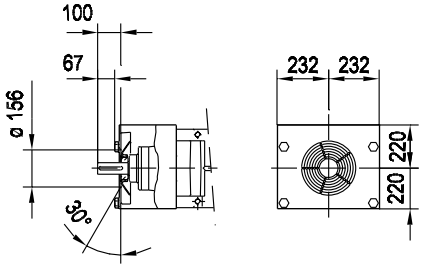
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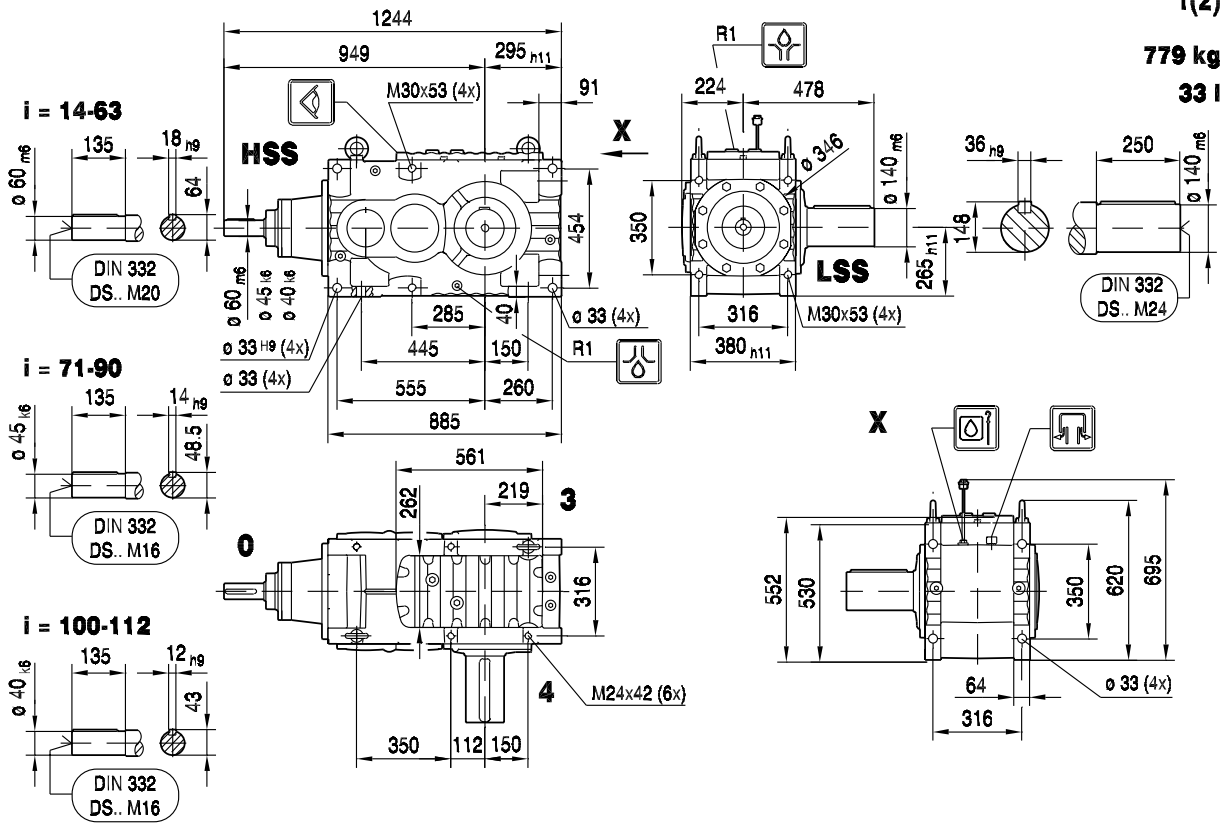
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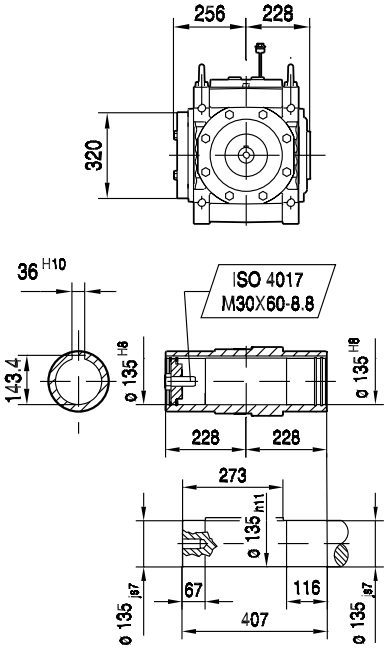
MC3RLSF07

47 062 00 03
1(2)

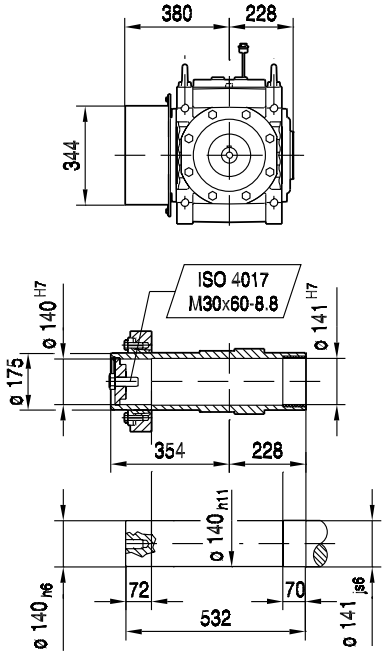
779 kg
33 l



MC3RLHF07



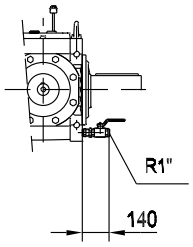
MC3RLHF07 /SD



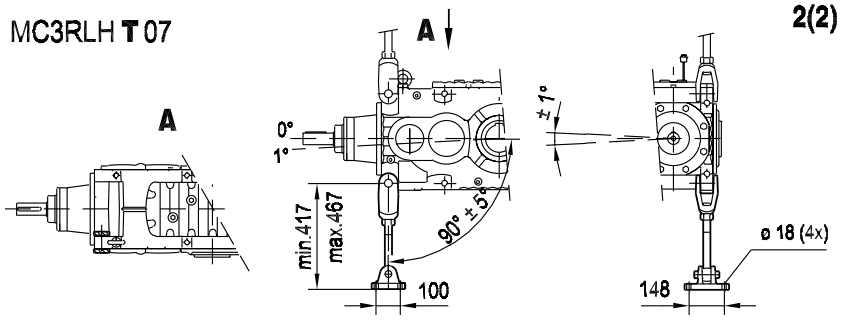
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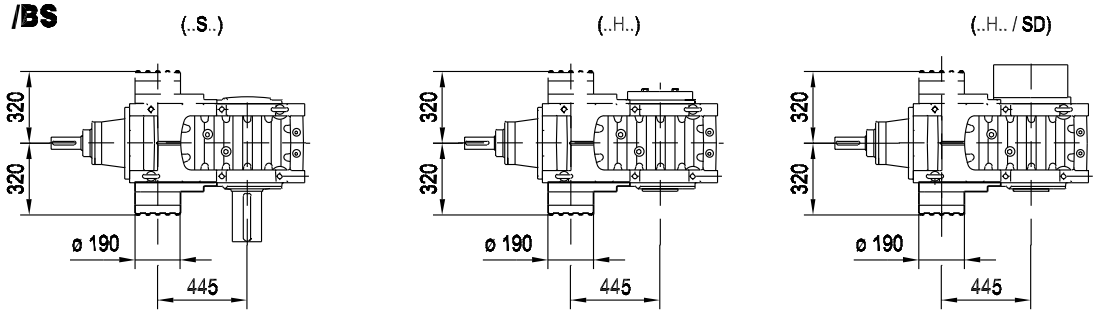
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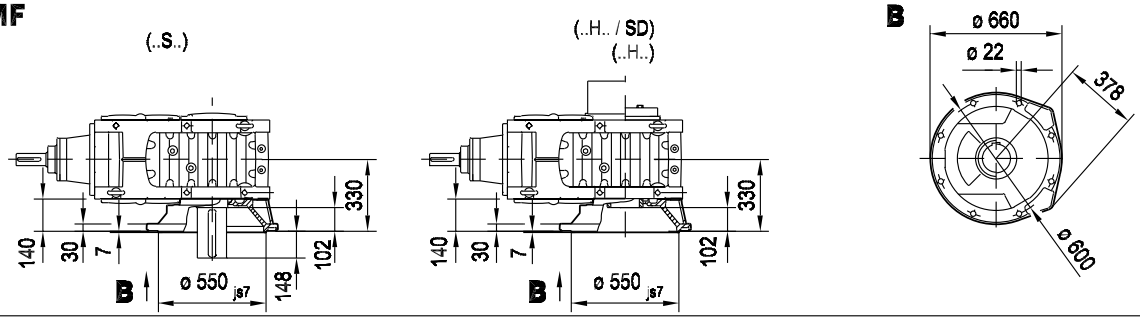
MC3RLH **T** 07



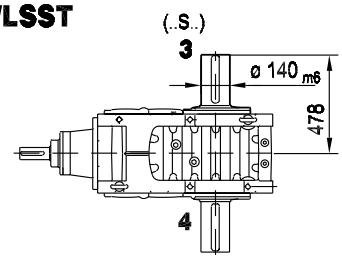
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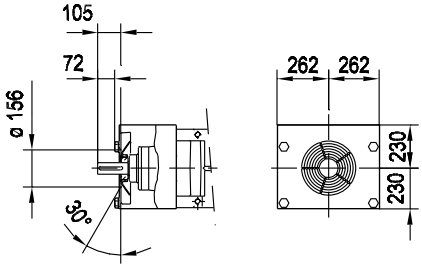
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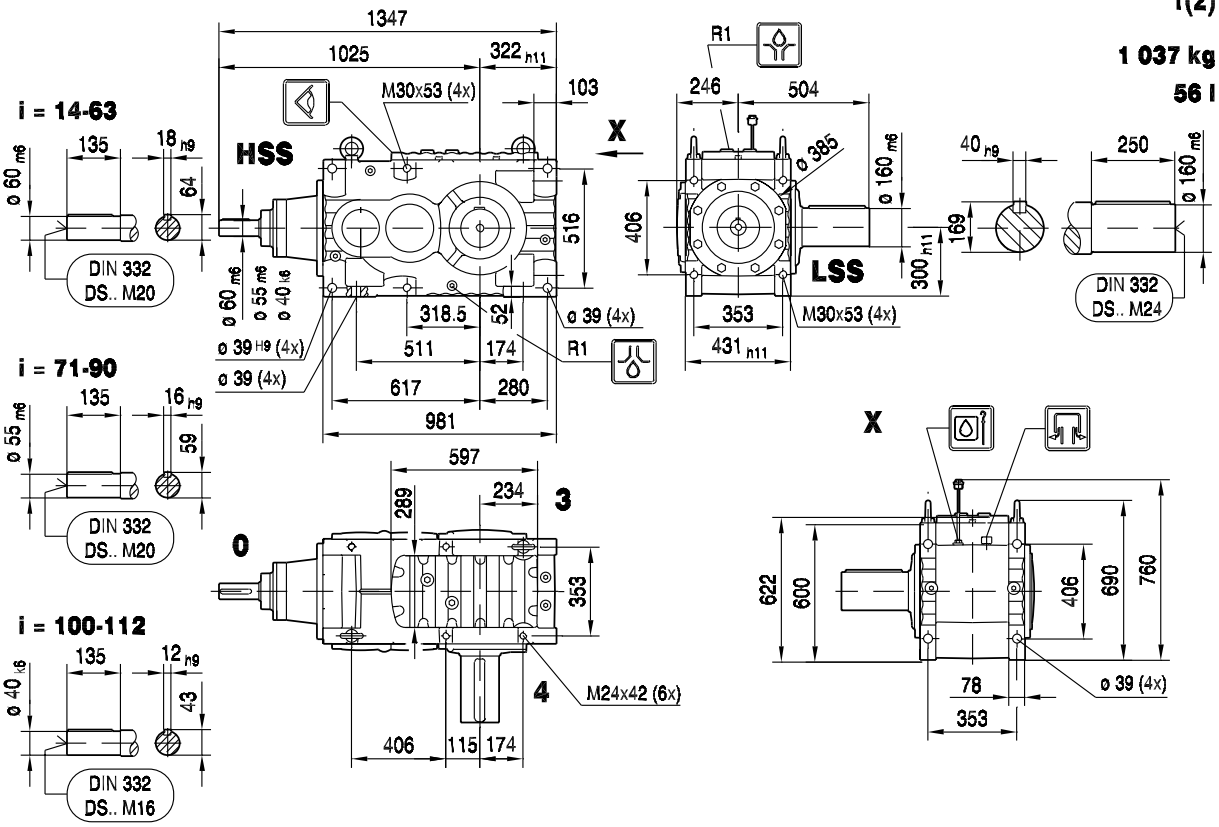
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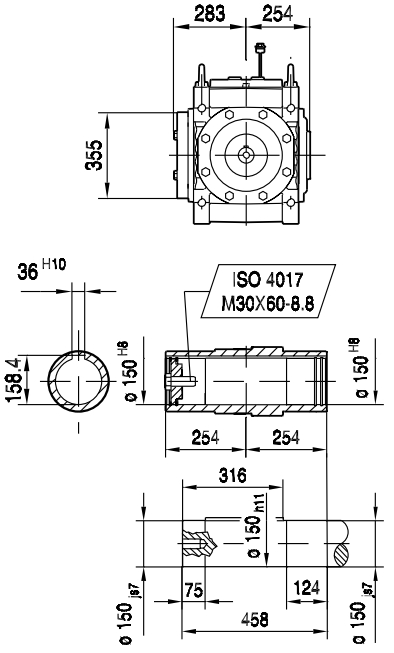
MC3RLSF08

47 063 00 03
1(2)

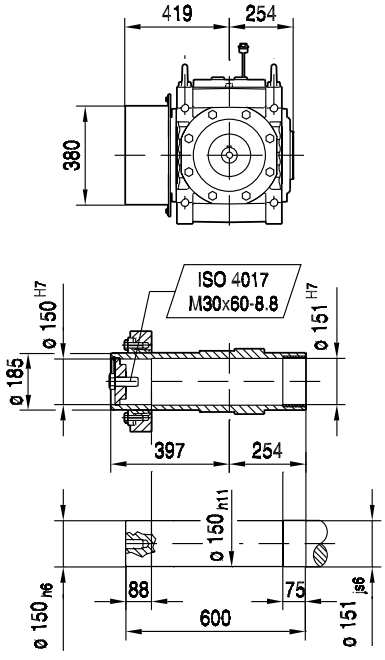
1 037 kg
56 l



MC3RLHF08



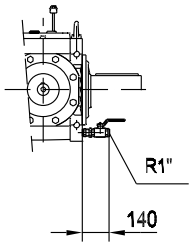
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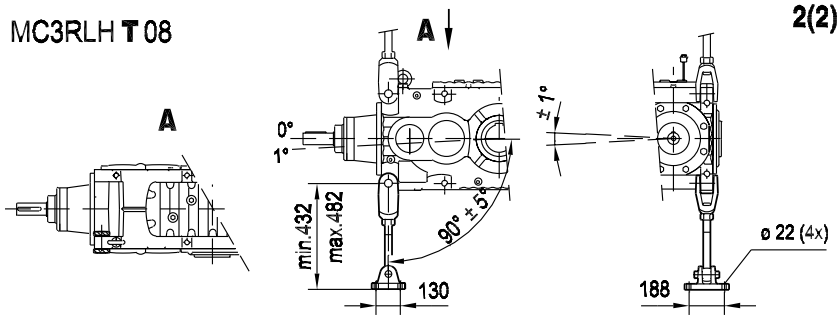
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2(2)

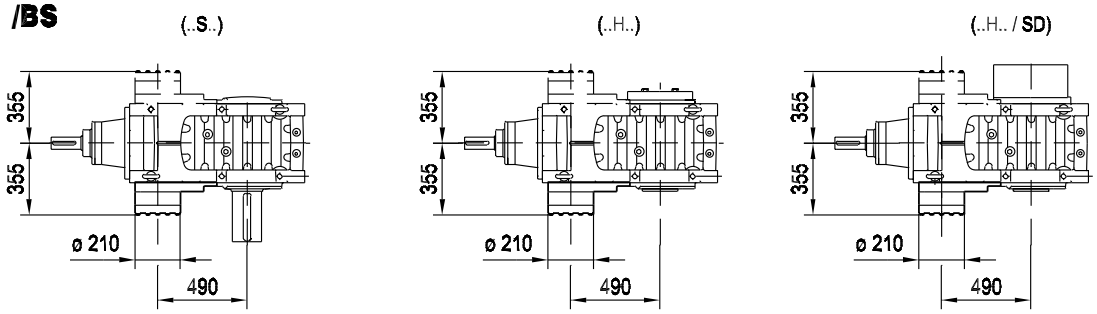
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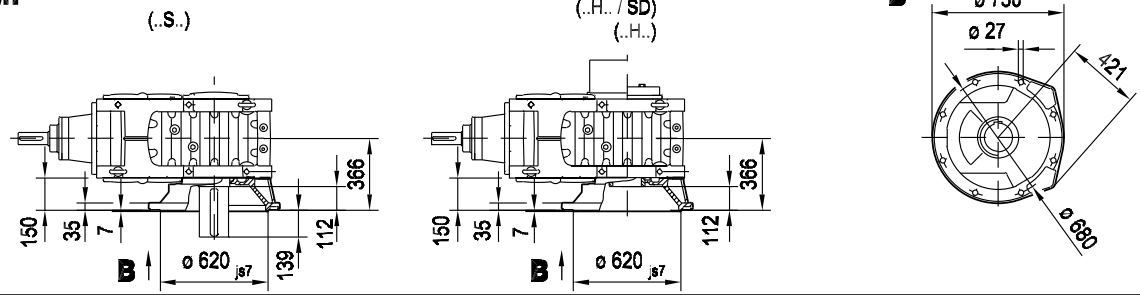
MC3RLH **T** 08



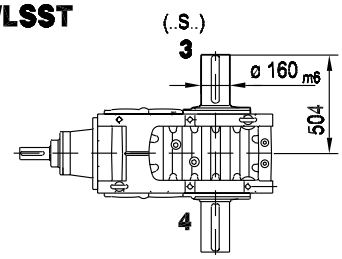
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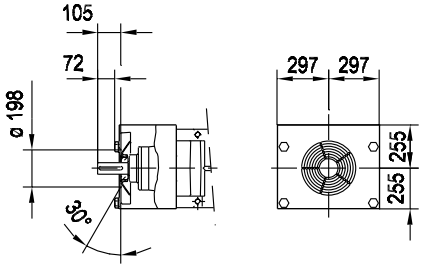
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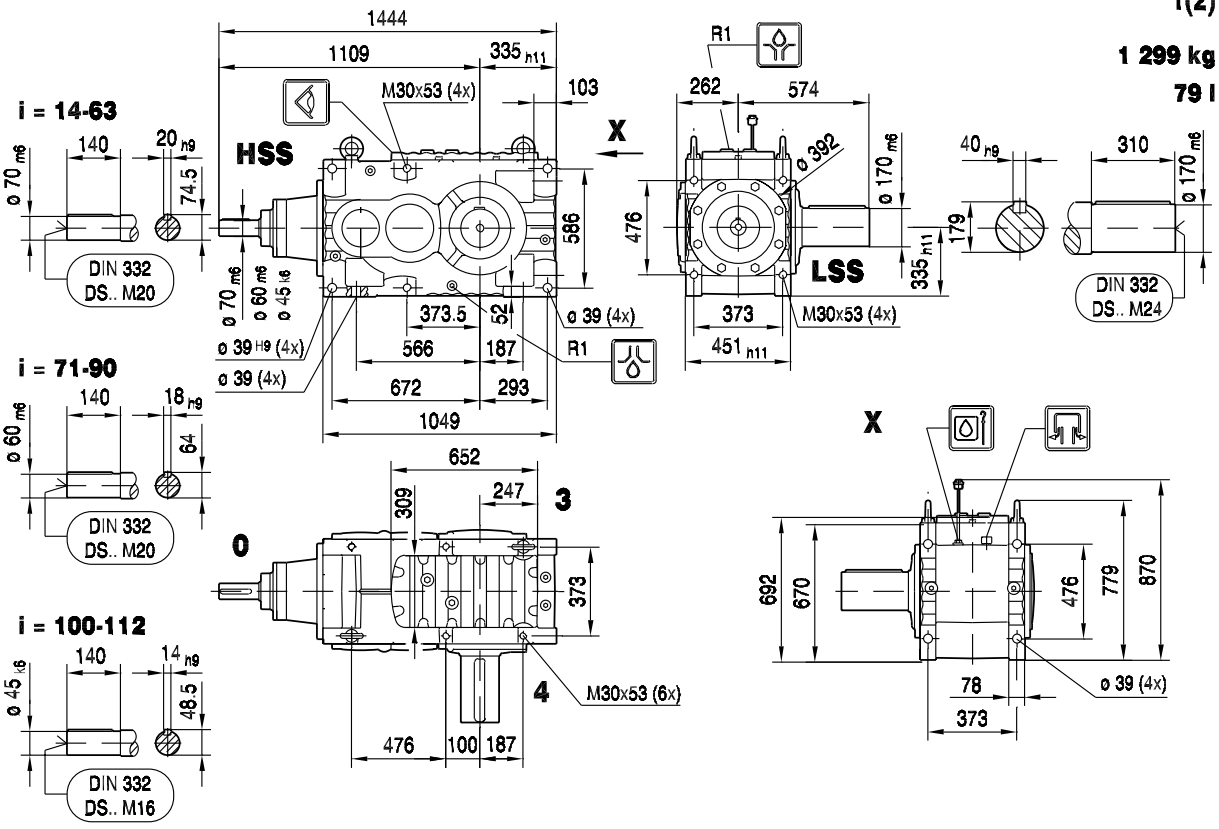
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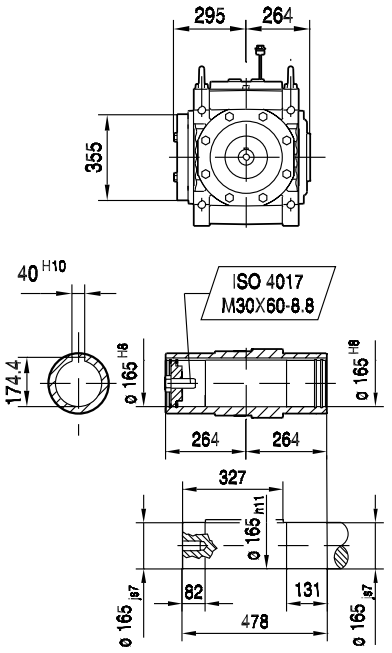
MC3RLSF09

47 064 00 03
1(2)

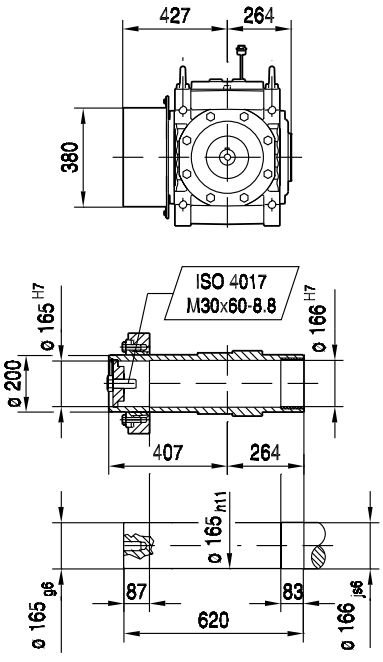
1 299 kg
79 l



MC3RLHF09



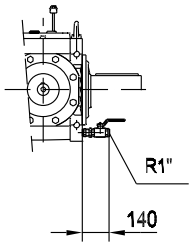
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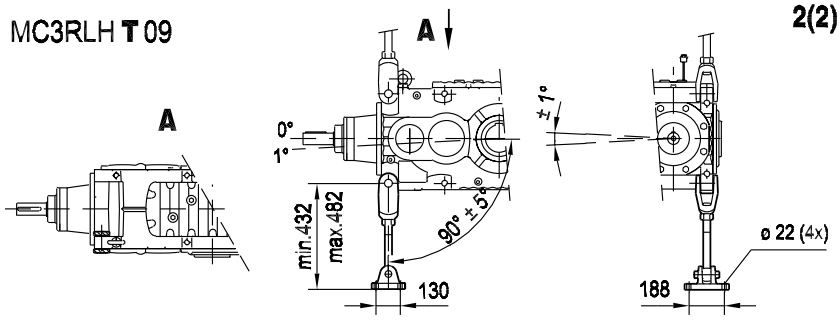
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47 064 00 03
2(2)

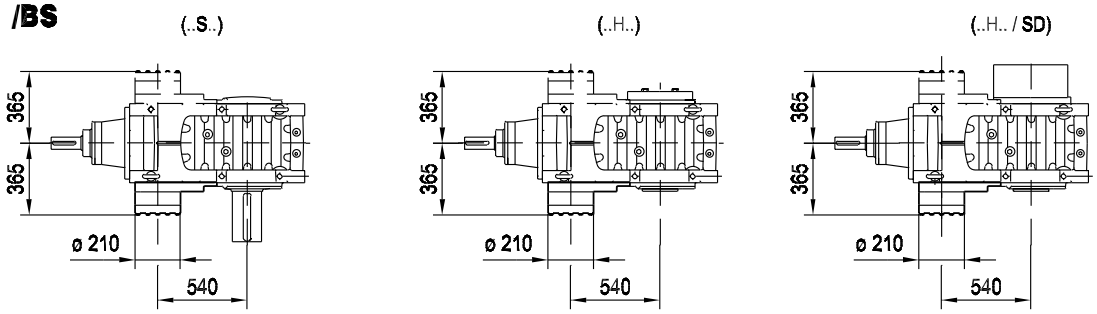
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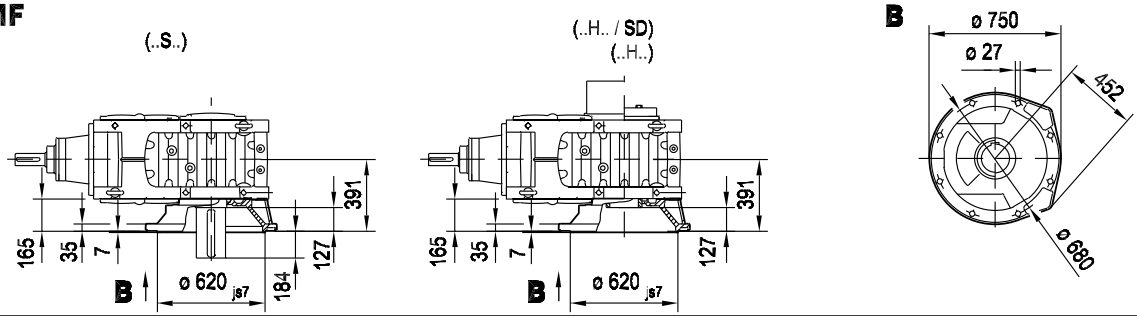
MC3RLH **T** 09



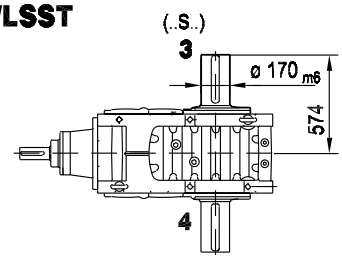
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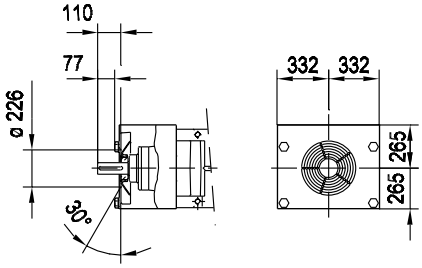
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/LSST



/FAN



11.3 Selection tables (detailed) MC.RV..

11.3.1 MC.RV.., n_1 = 1800 1/min

MC.RV..02, n_1 = 1800rpm — P_{TH} — **70000 lb-in**

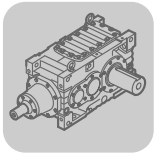
i_N	i_{ex}	n_2 [rpm]	M_{N2} [lb-in]	P_{N1} [HP]	F_{Ra} [lb] x1000	F_{Re} [lb] x1000		$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F	$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F	$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F		
7.10	**6.96**	259	45.6	192	1.03	1.22		*)	*)	93	34	-	-		
8.00	**8.05**	224	48.7	177	1.14	1.54		*)	*)	99	39	-	-		
9.00	**9.03**	199	51.0	165	1.24	1.80	**MC2RVSF02**	19	*)	103	43	-	-		
10.00	**9.61**	187	46.7	144	1.54	1.17	**MC2RVHF02**	20	*)	106	46	-	-	354	434
11.20	**11.11**	162	50.1	133	1.65	1.46	**MC2RVHT02**	25	*)	110	51	-	-		
12.50	**12.47**	144	52.7	125	1.74	1.69		30	*)	114	55	-	-		
14.00	**14.61**	123	50.6	103	2.03	*)		24	*)	86	46	-	-		
16.00	**16.90**	107	58.6	103	1.68	*)		27	*)	89	48	-	-		
18.00	**18.96**	95	64.8	101	1.42	*)		30	*)	91	51	-	-		
20.00	**20.31**	89	64.0	93	1.29	0.204		31	*)	93	52	-	-		
22.50	**23.49**	77	70.3	89	1.22	0.330		34	10.7	95	55	-	-		
25.00	**26.36**	68	65.8	74	2.21	0.72		35	13.4	98	58	-	-		
28.00	**29.43**	61	70.9	71	1.78	0.79		38	14.8	99	59	-	-		
31.50	**33.03**	55	66.3	59	2.81	1.10		39	16.1	101	62	-	-		
35.50	**37.38**	48	61.0	48	3.93	1.39	**MC3RVSF02**	42	19	103	63	-	-		
40.00	**40.30**	45	59.2	44	4.07	0.57	**MC3RVHF02**	43	20	105	64	-	-	370	435
45.00	**45.22**	40	66.9	44	3.75	0.56	**MC3RVHT02**	44	21	106	67	-	-		
50.00	**50.49**	36	71.7	42	3.41	0.65		46	23	107	68	-	-		
56.00	**56.66**	32	67.5	36	4.46	0.98		47	24	110	70	-	-		
63.00	**64.14**	28	62.1	29	5.0	1.30		48	25	111	71	-	-		
71.00	**70.97**	25	71.9	30	4.63	0.365		39	16.1	93	52	-	-		
80.00	**79.65**	23	68.5	26	5.1	0.58		40	17.4	94	54	-	-		
90.00	**90.15**	20	63.0	21	5.1	0.81		42	19	95	56	-	-		
100.00	**97.35**	18	53.6	16.5	5.1	0.280		42	20	97	56	-	-		
112.00	**110.19**	16	60.7	16.5	5.1	0.280		43	21	98	58	-	-		

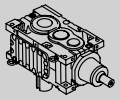
MC.RV..03, n_1 = 1800rpm — **97000 lb-in**

7.10	**7.12**	253	57.4	235	3.63	1.64		*)	*)	114	42	-	-		
8.00	**8.04**	224	60.7	221	3.78	1.91		*)	*)	121	48	-	-		
9.00	**9.07**	199	63.9	206	3.92	2.19	**MC2RVSF03**	23	*)	126	54	-	-		
10.00	**10.00**	180	58.2	172	4.18	1.14	**MC2RVHF03**	27	*)	130	58	-	-	356	434
11.20	**11.28**	160	63.1	165	4.30	1.32	**MC2RVHT03**	32	*)	135	63	-	-		
12.50	**12.73**	141	66.6	154	4.46	1.62		36	*)	141	67	-	-		
14.00	**15.07**	119	68.9	135	4.64	*)		31	*)	105	56	-	-		
16.00	**17.00**	106	77.7	135	4.68	*)		34	*)	109	59	-	-		
18.00	**19.18**	94	87.7	135	4.52	*)		36	*)	111	63	-	-		
20.00	**20.57**	88	89.1	128	4.08	0.102		38	*)	113	64	-	-		
22.50	**23.20**	78	100.5	128	3.58	0.102		40	13.4	115	67	-	-		
25.00	**26.18**	69	94.1	106	5.2	0.60		43	16.1	118	70	-	-		
28.00	**29.60**	61	101.3	101	4.69	0.72		46	19	121	72	-	-		
31.50	**33.40**	54	95.0	84	5.8	1.10		48	20	123	75	-	-		
35.50	**35.08**	51	94.9	81	5.9	0.56	**MC3RVSF03**	48	21	125	76	-	-		
40.00	**39.67**	45	100.8	76	6.0	0.70	**MC3RVHF03**	51	24	127	78	-	-	372	435
45.00	**44.75**	40	95.8	64	6.5	1.06	**MC3RVHT03**	54	25	129	80	-	-		
50.00	**50.97**	35	88.1	52	6.9	1.43		55	28	131	83	-	-		
56.00	**57.30**	31	96.8	50	6.9	1.02		58	30	133	84	-	-		
63.00	**65.25**	28	88.9	41	6.9	1.40		59	32	135	87	-	-		
71.00	**69.86**	26	94.5	40	6.9	0.014		47	19	113	64	-	-		
80.00	**78.82**	23	97.8	37	6.9	0.189		48	21	114	66	-	-		
90.00	**89.76**	20	90.1	30	6.9	0.56		51	23	117	68	-	-		
100.00	**97.53**	18	79.5	24	6.9	*)		51	24	118	68	-	-		
112.00	**111.07**	16	90.6	24	6.9	*)		54	25	119	71	-	-		

MC.RV..04, n_1 = 1800rpm								P_{TH}						132000 lb-in	
i_N	i_{ex}	n_2 [rpm]	M_{N2} [lb-in]	P_{N1} [HP]	F_{Ra} [lb] x1000	F_{Re} [lb] x1000		$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F	$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F	$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F		
7.10	**7.29**	247	75.3	302	4.17	1.58		*)	*)	142	54	-	-		
8.00	**8.20**	219	79.1	282	4.35	1.96		*)	*)	149	60	-	-		
9.00	**9.17**	196	83.0	265	4.51	2.29	**MC2RVSF04**	28	*)	156	66	-	-	358	434
10.00	**10.15**	177	77.6	226	4.78	1.23	**MC2RVHF04** **MC2RVHT04**	34	*)	161	71	-	-		
11.20	**11.41**	158	82.1	212	4.95	1.58		39	*)	168	78	-	-		
12.50	**12.76**	141	86.5	200	5.1	1.89		44	*)	173	83	-	-		
14.00	**14.76**	122	77.4	155	5.6	*)		36	*)	129	68	-	-		
16.00	**16.60**	108	87.0	155	5.7	*)		40	*)	133	72	-	-		
18.00	**18.56**	97	97.3	155	5.7	*)		44	*)	135	76	-	-		
20.00	**20.60**	87	108.0	155	5.1	*)		47	*)	139	79	-	-		
22.50	**23.17**	78	121.5	155	4.51	*)		50	16.1	142	83	-	-		
25.00	**25.90**	69	132.3	151	4.23	*)		52	19	145	86	-	-		
28.00	**29.65**	61	140.8	140	3.72	0.201		56	23	149	90	-	-		
31.50	**33.14**	54	132.5	118	5.7	0.71		59	25	152	93	-	-		
35.50	**34.63**	52	116.7	101	6.9	0.65	**MC3RVSF04**	60	25	153	94	-	-		
40.00	**39.63**	45	135.7	102	6.1	0.60	**MC3RVHF04**	63	30	156	97	-	-	374	435
45.00	**44.30**	41	132.6	89	7.2	0.96	**MC3RVHT04**	66	32	158	99	-	-		
50.00	**49.83**	36	124.6	75	7.9	1.36		68	34	161	102	-	-		
56.00	**55.99**	32	124.5	66	7.9	1.04		70	36	164	105	-	-		
63.00	**62.98**	29	125.6	60	7.9	1.28		72	39	166	107	-	-		
71.00	**68.90**	26	118.3	51	7.9	0.415		58	24	138	79	-	-		
80.00	**77.02**	23	127.4	49	7.9	0.51		59	25	141	80	-	-		
90.00	**86.63**	21	126.9	44	7.9	0.81		62	28	142	83	-	-		
100.00	**93.18**	19	77.2	25	7.9	*)		63	28	143	84	-	-		
112.00	**104.81**	17	87.8	25	7.9	*)		64	31	146	86	-	-		

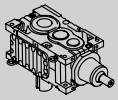
MC.RV..05, n_1 = 1800rpm														177000 lb-in	
7.10	**7.10**	254	103.7	427	2.92	1.30		*)	*)	160	58	-	-		
8.00	**7.99**	225	109.4	400	3.07	1.83		*)	*)	166	66	-	-		
9.00	**8.86**	203	114.1	376	3.31	2.08	**MC2RVSF05**	*)	*)	173	72	-	-		
10.00	**9.87**	182	106.5	318	3.80	1.53	**MC2RVHF05** **MC2RVHT05**	36	*)	180	79	-	-	360	434
11.20	**11.11**	162	112.8	300	3.96	2.01		43	*)	186	86	-	-		
12.50	**12.33**	146	118.4	284	4.18	2.19		48	*)	193	93	-	-		
14.00	**14.68**	123	106.6	215	5.3	*)		42	*)	145	78	-	-		
16.00	**16.53**	109	120.0	215	4.96	*)		46	*)	149	82	-	-		
18.00	**18.33**	98	133.1	215	4.73	*)		48	*)	153	86	-	-		
20.00	**20.22**	89	135.9	199	4.44	0.186		52	*)	156	89	-	-		
22.50	**22.76**	79	153.0	199	3.98	0.186		56	*)	160	93	-	-		
25.00	**25.25**	71	169.7	199	3.61	0.186		59	20	164	97	-	-		
28.00	**29.13**	62	177.6	180	3.38	0.61		63	24	168	101	-	-		
31.50	**32.32**	56	175.2	160	4.41	1.06		66	28	170	103	-	-		
35.50	**33.83**	53	162.2	143	5.5	0.473	**MC3RVSF05**	67	30	172	105	-	-		
40.00	**39.03**	46	172.7	132	5.2	0.80	**MC3RVHF05**	71	32	176	109	-	-	376	436
45.00	**43.30**	42	177.0	122	5.8	1.09	**MC3RVHT05**	74	35	178	111	-	-		
50.00	**48.74**	37	164.5	101	7.5	1.71		76	38	181	114	-	-		
56.00	**55.44**	32	174.7	94	7.3	0.079		79	42	185	118	-	-		
63.00	**62.40**	29	165.8	79	8.3	0.62		82	43	188	121	-	-		
71.00	**69.92**	26	139.1	59	9.1	0.87		64	27	157	89	-	-		
80.00	**77.56**	23	154.3	59	9.2	0.87		67	30	158	91	-	-		
90.00	**87.30**	21	167.8	57	9.3	0.95		70	31	161	94	-	-		
100.00	**93.84**	19	117.3	37	9.3	0.54		71	32	162	95	-	-		
112.00	**105.62**	17	134.0	38	9.3	0.51		72	35	165	98	-	-		



MC.RV..06, n_1 = 1800rpm								P_{TH}						221000 lb-in	
i_N	i_{ex}	n_2 [rpm]	M_{N2} [lb-in]	P_{N1} [HP]	F_{Ra} [lb] x1000	F_{Re} [lb] x1000		$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F	$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F	$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F		
7.10	**6.74**	267	130.4	565	3.91	0.94		*)	*)	186	66	-	-		
8.00	**7.80**	231	139.5	523	4.25	1.68		*)	*)	197	76	-	-		
9.00	**8.75**	206	146.2	488	4.53	2.21	**MC2RVSF06**	*)	*)	207	86	-	-		
10.00	**9.64**	187	134.2	411	5.4	1.21	**MC2RVHF06**	42	*)	213	93	-	-	362	434
11.20	**11.15**	161	144.2	382	5.8	1.90	**MC2RVHT06**	52	*)	224	103	-	-		
12.50	**12.52**	144	152.1	359	6.0	2.36		59	*)	232	111	-	-		
14.00	**14.09**	128	127.5	268	7.1	0.263		47	*)	172	91	-	-		
16.00	**16.30**	110	147.6	268	7.2	0.263		54	*)	178	98	-	-		
18.00	**18.30**	98	165.6	268	7.2	0.262		59	*)	182	102	-	-		
20.00	**20.30**	89	167.4	244	6.8	0.73		63	*)	186	106	-	-		
22.50	**23.49**	77	193.7	244	6.0	0.73		68	*)	193	113	-	-		
25.00	**26.36**	68	217.4	244	5.0	0.73		72	27	197	117	-	-		
28.00	**28.78**	63	223.2	229	4.69	1.01		75	30	200	119	-	-		
31.50	**32.30**	56	230.2	211	5.4	1.37		79	34	204	123	-	-		
35.50	**35.53**	51	210.2	177	8.1	1.18	**MC3RVSF06**	82	36	208	127	-	-		
40.00	**38.80**	46	213.9	165	8.0	1.47	**MC3RVHF06**	84	39	211	130	-	-	378	436
45.00	**43.54**	41	232.2	159	7.7	1.60	**MC3RVHT06**	89	42	213	133	-	-		
50.00	**49.28**	37	214.3	130	10	2.29		91	46	217	137	-	-		
56.00	**55.31**	33	213.7	115	10.2	1.75		95	48	221	141	-	-		
63.00	**62.60**	29	216.6	103	10.2	2.11		98	52	224	143	-	-		
71.00	**68.96**	26	194.4	84	10.2	0.97		78	32	186	106	-	-		
80.00	**77.39**	23	218.2	84	10.2	0.97		80	35	189	109	-	-		
90.00	**87.60**	21	219.9	75	10.2	1.31		83	38	193	113	-	-		
100.00	**95.76**	19	199.1	62	10.2	0.215		84	39	194	114	-	-		
112.00	**108.39**	17	222.0	61	10.2	0.263		87	42	197	117	-	-		

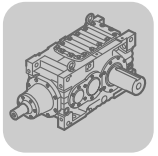
MC.RV..07, n_1 = 1800rpm														292000 lb-in	
7.10	**6.84**	263	160.2	685	4.95	1.84		*)	*)	228	80	-	-		
8.00	**7.70**	234	169.2	642	5.2	2.45		*)	*)	239	93	-	-		
9.00	**8.65**	208	177.5	600	5.5	2.80	**MC2RVSF07**	*)	*)	249	103	-	-		
10.00	**9.74**	185	166.2	504	6.6	2.04	**MC2RVHF07**	52	*)	260	114	-	-	364	434
11.20	**10.96**	164	176.2	474	6.8	2.61	**MC2RVHT07**	62	*)	271	125	-	-		
12.50	**12.32**	146	185.6	445	7.1	3.00		71	*)	280	134	-	-		
14.00	**14.18**	127	170.9	357	7.8	*)		58	*)	208	111	-	-		
16.00	**15.97**	113	192.5	357	7.9	*)		64	*)	215	117	-	-		
18.00	**17.93**	100	216.2	357	7.2	*)		70	*)	221	123	-	-		
20.00	**19.94**	90	207.3	307	8.0	0.477		75	*)	227	129	-	-		
22.50	**22.45**	80	233.4	307	7.2	0.477		80	*)	232	134	-	-		
25.00	**25.22**	71	262.2	307	6.1	0.477		86	*)	237	139	-	-		
28.00	**28.38**	63	256.9	268	7.2	1.27		90	35	243	145	-	-		
31.50	**31.88**	56	288.6	268	5.9	1.27		95	40	248	150	-	-		
35.50	**33.79**	53	260.5	230	8.8	0.306	**MC3RVSF07**	98	42	249	152	-	-		
40.00	**38.02**	47	267.6	210	8.9	0.86	**MC3RVHF07**	102	47	255	157	-	-	380	437
45.00	**42.71**	42	300.6	210	7.7	0.86	**MC3RVHT07**	106	51	259	161	-	-		
50.00	**48.96**	37	296.3	181	10.2	1.66		111	55	264	166	-	-		
56.00	**53.98**	33	275.8	153	11.5	1.19		114	59	268	170	-	-		
63.00	**61.88**	29	299.6	145	11.8	1.46		118	63	272	174	-	-		
71.00	**70.77**	25	225.8	95	11.8	*)		95	39	228	130	-	-		
80.00	**79.49**	23	253.7	95	11.8	*)		98	43	231	134	-	-		
90.00	**91.12**	20	290.8	95	11.8	*)		102	47	235	138	-	-		
100.00	**96.17**	19	259.5	81	11.8	0.104		103	48	237	139	-	-		
112.00	**110.25**	16	297.5	81	11.8	0.104		107	52	240	143	-	-		

MC.RV..08, n_1 = 1800rpm — P_{TH} 398000 lb-in

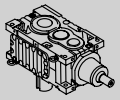
i_N	i_{ex}	n_2 [rpm]	M_{N2} [lb-in]	P_{N1} [HP]	F_{Ra} [lb] x1000	F_{Re} [lb] x1000		$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F	 $P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F	 $P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F		
7.10	**6.95**	259	216.3	910	5.0	2.70		*)	*)	282	101	-	-		
8.00	**7.82**	230	227.9	851	5.3	3.40		*)	*)	295	115	-	-		
9.00	**8.88**	203	240.6	791	5.7	3.69	**MC2RVSF08**	*)	*)	310	130	-	-		
10.00	**9.74**	185	224.3	680	6.6	2.53	**MC2RVHF08**	*)	*)	321	141	-	-	366	434
11.20	**10.96**	164	237.6	640	6.9	3.34	**MC2RVHT08**	75	*)	333	153	-	-		
12.50	**12.45**	145	251.6	597	7.2	3.69		89	*)	346	166	-	-		
14.00	**14.48**	124	220.6	451	9.0	*)		72	*)	257	138	-	-		
16.00	**16.30**	110	248.4	451	9.0	*)		80	*)	266	145	-	-		
18.00	**18.51**	97	282.1	451	8.2	*)		87	*)	274	153	-	-		
20.00	**20.25**	89	266.8	390	9.0	0.63		93	*)	279	158	-	-		
22.50	**22.80**	79	300.5	390	8.3	0.63		99	*)	286	166	-	-		
25.00	**25.89**	70	341.2	390	7.2	0.63		106	*)	294	173	-	-		
28.00	**29.06**	62	332.2	338	8.3	1.52		113	44	299	180	-	-		
31.50	**33.00**	55	377.2	338	7.1	1.52		118	51	306	186	-	-		
35.50	**34.90**	52	348.9	299	9.5	0.65	**MC3RVSF08**	121	54	308	189	-	-		
40.00	**39.18**	46	342.4	261	10.4	1.49	**MC3RVHF08**	126	59	314	194	-	-	382	437
45.00	**44.49**	40	388.8	261	9.3	1.49	**MC3RVHT08**	133	64	321	200	-	-		
50.00	**49.82**	36	386.4	232	11.2	2.14		137	68	326	205	-	-		
56.00	**56.62**	32	406.1	214	10.8	0.354		142	74	331	211	-	-		
63.00	**63.41**	28	389.4	183	13.7	1.39		146	78	335	216	-	-		
71.00	**70.39**	26	328.1	139	15.0	0.95		117	48	280	160	-	-		
80.00	**79.93**	23	372.6	139	15.0	0.95		121	52	284	164	-	-		
90.00	**89.53**	20	395.7	132	15.0	1.22		125	56	288	169	-	-		
100.00	**96.71**	19	293.5	91	15.0	0.110		127	59	291	172	-	-		
112.00	**108.32**	17	333.1	92	15.0	0.060		131	63	295	174	-	-		

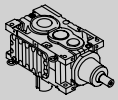
MC.RV..09, n_1 = 1800rpm — 486000 lb-in

7.10	**6.85**	263	297.3	1267	6.5	2.29		*)	*)	322	*)	-	-		
8.00	**7.92**	227	317.1	1169	7.0	3.49		*)	*)	342	134	-	-		
9.00	**8.89**	202	332.8	1093	7.4	4.35	**MC2RVSF09**	*)	*)	358	150	-	-		
10.00	**9.61**	187	308.7	949	8.3	2.03	**MC2RVHF09**	*)	*)	367	160	-	-	368	434
11.20	**11.11**	162	330.7	879	8.8	3.19	**MC2RVHT09**	89	*)	385	177	-	-		
12.50	**12.47**	144	347.9	824	9.2	4.10		102	*)	400	192	-	-		
14.00	**14.28**	126	263.7	546	11.5	*)		83	*)	296	157	-	-		
16.00	**16.52**	109	305.0	546	11.7	*)		94	*)	307	169	-	-		
18.00	**18.54**	97	342.3	546	11.8	*)		102	*)	315	177	-	-		
20.00	**19.70**	91	334.7	502	12.0	0.69		106	*)	319	181	-	-		
22.50	**22.78**	79	387.1	502	12.1	0.69		115	*)	330	190	-	-		
25.00	**25.57**	70	434.4	502	11.3	0.69		122	*)	337	198	-	-		
28.00	**28.12**	64	423.5	445	12.4	1.87		127	50	343	205	-	-		
31.50	**31.56**	57	475.3	445	11.4	1.87		134	55	350	212	-	-		
35.50	**34.47**	52	445.0	386	13.7	0.99	**MC3RVSF09**	139	60	355	217	-	-		
40.00	**37.90**	47	435.0	343	14.3	2.11	**MC3RVHF09**	143	66	361	223	-	-	384	437
45.00	**42.54**	42	488.2	343	14.1	2.11	**MC3RVHT09**	150	71	367	228	-	-		
50.00	**48.15**	37	524.5	325	14.3	2.30		156	78	373	235	-	-		
56.00	**54.72**	33	507.8	277	15.8	1.85		162	83	380	241	-	-		
63.00	**61.94**	29	527.5	254	16.5	2.27		168	90	386	247	-	-		
71.00	**68.22**	26	455.6	199	18.0	1.01		133	54	321	182	-	-		
80.00	**76.56**	24	511.3	199	18.0	1.01		138	59	326	188	-	-		
90.00	**86.65**	21	532.2	183	18.0	1.42		142	64	331	193	-	-		
100.00	**94.51**	19	309.7	98	18.0	1.30		146	67	335	196	-	-		
112.00	**106.98**	17	355.3	99	18.0	1.28		150	72	339	201	-	-		

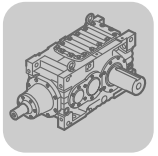


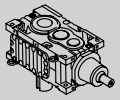
11.3.2 MC.RV.., n_1 = 1500 1/min

MC.RV..02, n_1 = 1500rpm								P_{TH}						**70000 lb-in**	
i_N	i_{ex}	n_2 [rpm]	M_{N2} [lb-in]	P_{N1} [HP]	F_{Ra} [lb] x1000	F_{Re} [lb] x1000		$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F	$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F	$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F		
7.10	**6.96**	215	48.3	169	1.08	1.28		*)	*)	84	30	-	-		
8.00	**8.05**	186	51.4	156	1.20	1.63		20	*)	90	35	-	-		
9.00	**9.03**	166	53.8	145	1.32	1.91	**MC2RVSF02**	24	*)	94	39	-	-		
10.00	**9.61**	156	49.3	126	1.63	1.24	**MC2RVHF02** **MC2RVHT02**	27	*)	97	42	-	-	354	434
11.20	**11.11**	135	52.9	117	1.74	1.54		31	*)	102	46	-	-		
12.50	**12.47**	120	55.7	110	1.84	1.78		35	*)	105	50	-	-		
14.00	**14.61**	103	53.5	90	2.14	*)		28	*)	78	42	-	-		
16.00	**16.90**	89	61.9	90	1.77	*)		31	*)	82	44	-	-		
18.00	**18.96**	79	65.2	85	1.86	0.121		34	10.7	83	47	-	-		
20.00	**20.31**	74	67.6	82	1.37	0.216		34	12.1	84	48	-	-		
22.50	**23.49**	64	70.7	74	1.68	0.467		36	14.8	87	51	-	-		
25.00	**26.36**	57	66.2	62	2.70	0.86		39	16.1	90	52	-	-		
28.00	**29.43**	51	71.4	60	2.28	0.92		40	17.4	91	55	-	-		
31.50	**33.03**	45	66.8	50	3.33	1.24		42	20	93	56	-	-		
35.50	**37.38**	40	61.3	40	4.34	1.53	**MC3RVSF02**	44	21	95	58	-	-		
40.00	**40.30**	37	59.6	37	4.46	0.72	**MC3RVHF02**	44	23	97	59	-	-	370	435
45.00	**45.22**	33	67.3	37	4.32	0.70	**MC3RVHT02**	47	24	98	62	-	-		
50.00	**50.49**	30	71.9	35	4.03	0.80		48	25	99	63	-	-		
56.00	**56.66**	26	67.9	30	4.92	1.12		50	27	101	64	-	-		
63.00	**64.14**	23	62.4	24	5.1	1.44		51	28	102	66	-	-		
71.00	**70.97**	21	72.1	25	5.1	0.461		40	19	86	48	-	-		
80.00	**79.65**	19	68.9	22	5.1	0.67		42	20	87	50	-	-		
90.00	**90.15**	17	63.5	17.5	5.1	0.90		43	21	89	51	-	-		
100.00	**97.35**	15	53.9	13.8	5.1	0.357		44	21	89	52	-	-		
112.00	**110.19**	14	61.0	13.8	5.1	0.357		46	23	90	54	-	-		
MC.RV..03, n_1 = 1500rpm															**97000 lb-in**
7.10	**7.12**	211	60.7	207	3.83	1.72		*)	*)	105	38	-	-		
8.00	**8.04**	187	64.1	194	3.99	2.02		25	*)	110	43	-	-		
9.00	**9.07**	165	67.3	181	4.15	2.32	**MC2RVSF03**	30	*)	115	48	-	-		
10.00	**10.00**	150	58.4	144	4.51	1.45	**MC2RVHF03** **MC2RVHT03**	34	*)	119	52	-	-	356	434
11.20	**11.28**	133	66.5	145	4.55	1.41		39	*)	123	56	-	-		
12.50	**12.73**	118	70.2	136	4.72	1.72		43	*)	129	62	-	-		
14.00	**15.07**	100	69.3	113	5.0	0.089		35	*)	97	51	-	-		
16.00	**17.00**	88	78.1	113	5.1	0.089		38	*)	99	55	-	-		
18.00	**19.18**	78	88.2	113	5.1	0.089		40	13.4	102	58	-	-		
20.00	**20.57**	73	94.1	113	4.31	0.109		42	14.8	103	59	-	-		
22.50	**23.20**	65	101.3	108	4.38	0.258		44	17.4	106	62	-	-		
25.00	**26.18**	57	94.6	89	5.6	0.76		47	19	109	64	-	-		
28.00	**29.60**	51	101.4	84	5.6	0.88		50	21	111	67	-	-		
31.50	**33.40**	45	95.5	71	6.3	1.26		51	24	114	68	-	-		
35.50	**35.08**	43	95.4	68	6.4	0.71	**MC3RVSF03**	52	24	114	70	-	-		
40.00	**39.67**	38	100.9	63	6.5	0.87	**MC3RVHF03**	55	27	117	72	-	-	372	435
45.00	**44.75**	34	96.5	54	6.9	1.21	**MC3RVHT03**	56	30	119	74	-	-		
50.00	**50.97**	29	88.8	43	6.9	1.58		59	31	121	76	-	-		
56.00	**57.30**	26	97.3	42	6.9	1.18		60	32	123	78	-	-		
63.00	**65.25**	23	89.5	34	6.9	1.55		62	35	125	80	-	-		
71.00	**69.86**	21	94.7	34	6.9	0.131		50	21	103	59	-	-		
80.00	**78.82**	19	98.7	31	6.9	0.290		51	24	106	60	-	-		
90.00	**89.76**	17	90.7	25	6.9	0.67		52	25	107	63	-	-		
100.00	**97.53**	15	80.2	20	6.9	*)		54	27	109	63	-	-		
112.00	**111.07**	14	91.4	20	6.9	*)		55	28	110	66	-	-		

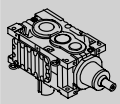
MC.RV..04, n_1 = 1500rpm								P_{TH}						132000 lb-in	
i_N	i_{ex}	n_2 [rpm]	M_{N2} [lb-in]	P_{N1} [HP]	F_{Ra} [lb] x1000	F_{Re} [lb] x1000		$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F	 $P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F	 $P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F		
7.10	**7.29**	206	79.3	265	4.42	1.69		*)	*)	130	47	-	-		
8.00	**8.20**	183	83.8	249	4.59	2.06		32	*)	137	54	-	-		
9.00	**9.17**	164	87.6	233	4.76	2.42	**MC2RVSF04**	38	*)	142	59	-	-		
10.00	**10.15**	148	82.0	199	5.0	1.30	**MC2RVHF04**	43	*)	148	64	-	-	358	434
11.20	**11.41**	131	86.6	187	5.2	1.67	**MC2RVHT04**	48	*)	153	71	-	-		
12.50	**12.76**	118	91.3	176	5.4	2.00		52	*)	158	75	-	-		
14.00	**14.76**	102	81.7	137	5.9	*)		43	*)	118	63	-	-		
16.00	**16.60**	90	91.9	137	6.0	*)		46	*)	122	66	-	-		
18.00	**18.56**	81	102.8	137	6.0	*)		48	14.8	125	70	-	-		
20.00	**20.60**	73	114.1	137	5.4	*)		51	17.4	127	72	-	-		
22.50	**23.17**	65	128.3	137	4.76	*)		55	21	131	75	-	-		
25.00	**25.90**	58	132.2	126	5.3	0.153		58	24	134	79	-	-		
28.00	**29.65**	51	141.3	117	4.78	0.385		60	27	137	82	-	-		
31.50	**33.14**	45	132.6	99	6.8	0.90		63	30	139	84	-	-		
35.50	**34.63**	43	117.1	84	7.5	0.83	**MC3RVSF04**	64	31	141	86	-	-		
40.00	**39.63**	38	136.4	86	7.2	0.78	**MC3RVHF04**	67	34	143	89	-	-	374	435
45.00	**44.30**	34	132.9	75	7.8	1.14	**MC3RVHT04**	70	35	146	91	-	-		
50.00	**49.83**	30	125.4	63	7.9	1.54		71	38	149	94	-	-		
56.00	**55.99**	27	125.0	56	7.9	1.22		74	40	152	97	-	-		
63.00	**62.98**	24	126.3	50	7.9	1.46		76	42	153	98	-	-		
71.00	**68.90**	22	118.2	43	7.9	0.59		60	27	127	72	-	-		
80.00	**77.02**	19	127.6	41	7.9	0.68		63	28	130	74	-	-		
90.00	**86.63**	17	127.6	37	7.9	0.96		64	31	131	76	-	-		
100.00	**93.18**	16	77.7	21	7.9	0.052		66	32	133	78	-	-		
112.00	**104.81**	14	88.5	21	7.9	0.030		67	34	134	79	-	-		

MC.RV..05, n_1 = 1500rpm														177000 lb-in	
7.10	**7.10**	211	109.3	375	3.10	1.40		*)	*)	145	51	-	-		
8.00	**7.99**	188	115.6	352	3.24	1.93		*)	*)	153	59	-	-		
9.00	**8.86**	169	120.5	331	3.50	2.19	**MC2RVSF05**	40	*)	158	66	-	-		
10.00	**9.87**	152	112.7	281	4.00	1.60	**MC2RVHF05**	47	*)	165	71	-	-	360	434
11.20	**11.11**	135	119.6	265	4.15	2.09	**MC2RVHT05**	52	*)	172	78	-	-		
12.50	**12.33**	122	125.3	250	4.40	2.31		58	*)	177	83	-	-		
14.00	**14.68**	102	107.4	180	5.7	0.051		47	*)	133	71	-	-		
16.00	**16.53**	91	120.9	180	5.7	0.051		51	*)	137	75	-	-		
18.00	**18.33**	82	134.1	180	5.4	0.051		55	*)	141	78	-	-		
20.00	**20.22**	74	135.9	166	5.2	0.452		58	20	143	82	-	-		
22.50	**22.76**	66	153.0	166	4.81	0.451		62	23	148	84	-	-		
25.00	**25.25**	59	169.7	166	4.47	0.452		64	25	150	89	-	-		
28.00	**29.13**	51	181.7	154	3.99	0.78		68	30	154	93	-	-		
31.50	**32.32**	46	175.5	134	5.3	1.31		71	32	157	95	-	-		
35.50	**33.83**	44	161.7	119	6.5	0.75	**MC3RVSF05**	71	34	158	97	-	-		
40.00	**39.03**	38	172.8	110	6.2	1.06	**MC3RVHF05**	75	38	162	99	-	-	376	436
45.00	**43.30**	35	177.9	102	6.7	1.34	**MC3RVHT05**	78	39	165	102	-	-		
50.00	**48.74**	31	165.4	84	8.1	1.96		80	42	168	105	-	-		
56.00	**55.44**	27	175.3	79	8.3	0.265		83	44	170	109	-	-		
63.00	**62.40**	24	166.8	67	8.9	0.80		86	47	173	110	-	-		
71.00	**69.92**	21	139.1	50	9.3	1.06		68	31	143	82	-	-		
80.00	**77.56**	19	154.3	50	9.3	1.06		71	32	146	84	-	-		
90.00	**87.30**	17	169.0	48	9.3	1.12		72	35	149	86	-	-		
100.00	**93.84**	16	118.6	31	9.3	0.65		74	36	150	87	-	-		
112.00	**105.62**	14	133.5	31	9.3	0.65		76	38	152	90	-	-		



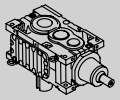
MC.RV..06, n_1 = 1500rpm								P_{TH}						221000 lb-in	
i_N	i_{ex}	n_2 [rpm]	M_{N2} [lb-in]	P_{N1} [HP]	F_{Ra} [lb] x1000	F_{Re} [lb] x1000		$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F	$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F	$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F		
7.10	**6.74**	223	137.7	497	4.13	1.0		*)	*)	169	58	-	-		
8.00	**7.80**	192	147.4	460	4.49	1.78		*)	*)	181	68	-	-		
9.00	**8.75**	171	154.4	430	4.79	2.34	**MC2RVSF06**	48	*)	189	78	-	-		
10.00	**9.64**	156	141.6	361	5.8	1.29	**MC2RVHF06**	54	*)	196	84	-	-	362	434
11.20	**11.15**	135	152.3	336	6.1	2.00	**MC2RVHT06**	63	*)	205	94	-	-		
12.50	**12.52**	120	160.7	316	6.4	2.50		70	*)	213	101	-	-		
14.00	**14.09**	106	127.3	223	7.7	0.58		55	*)	157	83	-	-		
16.00	**16.30**	92	147.3	223	7.8	0.58		60	*)	164	89	-	-		
18.00	**18.30**	82	165.3	223	7.8	0.58		66	*)	168	94	-	-		
20.00	**20.30**	74	167.0	203	8.0	1.05		70	23	172	98	-	-		
22.50	**23.49**	64	193.3	203	7.4	1.05		74	28	177	103	-	-		
25.00	**26.36**	57	216.9	203	6.5	1.05		78	32	181	107	-	-		
28.00	**28.78**	52	222.9	191	6.2	1.32		80	35	184	110	-	-		
31.50	**32.30**	46	231.1	176	6.8	1.66		84	39	188	114	-	-		
35.50	**35.53**	42	210.2	147	9.4	1.49	**MC3RVSF06**	87	42	190	117	-	-		
40.00	**38.80**	39	214.9	138	9.5	1.75	**MC3RVHF06**	90	44	193	119	-	-	378	436
45.00	**43.54**	34	233.5	133	9.3	1.88	**MC3RVHT06**	93	47	197	122	-	-		
50.00	**49.28**	30	216.0	109	10.2	2.57		97	51	201	126	-	-		
56.00	**55.31**	27	214.5	97	10.2	2.03		99	54	204	129	-	-		
63.00	**62.60**	24	218.5	87	10.2	2.37		102	56	207	133	-	-		
71.00	**68.96**	22	194.3	70	10.2	1.20		82	36	172	98	-	-		
80.00	**77.39**	19	218.1	70	10.2	1.20		84	39	174	101	-	-		
90.00	**87.60**	17	221.9	63	10.2	1.52		87	42	178	103	-	-		
100.00	**95.76**	16	200.9	52	10.2	0.378		89	43	180	105	-	-		
112.00	**108.39**	14	223.9	51	10.2	0.428		91	46	182	107	-	-		

MC.RV..07, n_1 = 1500rpm														292000 lb-in	
7.10	**6.84**	219	169.5	604	5.2	1.93		*)	*)	208	71	-	-		
8.00	**7.70**	195	178.7	565	5.5	2.60		*)	*)	219	82	-	-		
9.00	**8.65**	173	187.5	528	5.8	2.96	**MC2RVSF07**	58	*)	228	93	-	-		
10.00	**9.74**	154	176.0	445	6.9	2.13	**MC2RVHF07**	67	*)	239	103	-	-	364	434
11.20	**10.96**	137	186.3	418	7.2	2.75	**MC2RVHT07**	75	*)	248	113	-	-		
12.50	**12.32**	122	196.4	392	7.5	3.16		84	*)	257	122	-	-		
14.00	**14.18**	106	170.8	297	8.5	*)		67	*)	192	101	-	-		
16.00	**15.97**	94	192.3	297	8.5	*)		74	*)	197	107	-	-		
18.00	**17.93**	84	216.1	297	8.6	*)		79	*)	202	113	-	-		
20.00	**19.94**	75	218.8	270	8.5	0.51		83	28	208	118	-	-		
22.50	**22.45**	67	246.3	270	7.6	0.51		89	32	213	123	-	-		
25.00	**25.22**	59	276.7	270	6.5	0.51		93	38	219	127	-	-		
28.00	**28.38**	53	271.7	236	7.5	1.34		98	42	224	133	-	-		
31.50	**31.88**	47	305.2	236	6.2	1.34		102	47	228	137	-	-		
35.50	**33.79**	44	259.9	191	10.4	0.70	**MC3RVSF07**	105	48	231	139	-	-		
40.00	**38.02**	39	272.0	178	10.4	1.13	**MC3RVHF07**	109	52	235	143	-	-	380	437
45.00	**42.71**	35	305.6	178	9.1	1.13	**MC3RVHT07**	113	56	239	149	-	-		
50.00	**48.96**	31	297.6	151	11.6	2.00		117	62	244	153	-	-		
56.00	**53.98**	28	276.1	127	11.8	1.54		119	64	247	156	-	-		
63.00	**61.88**	24	300.6	121	11.8	1.79		123	68	251	161	-	-		
71.00	**70.77**	21	226.1	80	11.8	0.256		101	44	211	119	-	-		
80.00	**79.49**	19	254.0	80	11.8	0.256		103	48	213	122	-	-		
90.00	**91.12**	16	291.1	80	11.8	0.256		107	51	217	126	-	-		
100.00	**96.17**	16	259.7	67	11.8	0.332		109	52	219	127	-	-		
112.00	**110.25**	14	297.7	67	11.8	0.332		111	56	223	131	-	-		

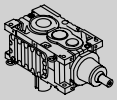
MC.RV..08, n_1 = 1500rpm								P_{TH}						398000 lb-in	
i_N	i_{ex}	n_2 [rpm]	M_{N2} [lb-in]	P_{N1} [HP]	F_{Ra} [lb] x1000	F_{Re} [lb] x1000		$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F	$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F	$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F		
7.10	**6.95**	216	228.4	801	5.3	2.85		*)	*)	257	90	-	-		
8.00	**7.82**	192	241.0	750	5.6	3.59		*)	*)	270	103	-	-		
9.00	**8.88**	169	253.8	696	6.0	3.90	**MC2RVSF08**	72	*)	284	117	-	-		
10.00	**9.74**	154	237.2	599	6.9	2.65	**MC2RVHF08**	82	*)	294	126	-	-	366	434
11.20	**10.96**	137	251.0	563	7.3	3.52	**MC2RVHT08**	93	*)	306	138	-	-		
12.50	**12.45**	120	265.9	525	7.6	3.90		105	*)	318	150	-	-		
14.00	**14.48**	104	233.6	398	9.5	*)		84	*)	236	125	-	-		
16.00	**16.30**	92	263.1	398	9.5	*)		91	*)	244	133	-	-		
18.00	**18.51**	81	298.7	398	8.6	*)		98	*)	252	139	-	-		
20.00	**20.25**	74	282.1	343	9.5	0.65		103	35	256	145	-	-		
22.50	**22.80**	66	317.7	343	8.7	0.65		109	42	263	152	-	-		
25.00	**25.89**	58	360.7	343	7.6	0.65		115	47	270	158	-	-		
28.00	**29.06**	52	351.7	298	8.7	1.59		121	54	276	165	-	-		
31.50	**33.00**	45	399.4	298	7.5	1.59		127	59	282	170	-	-		
35.50	**34.90**	43	368.0	262	10	0.70	**MC3RVSF08**	130	62	284	173	-	-		
40.00	**39.18**	38	362.4	230	11.0	1.56	**MC3RVHF08**	134	66	290	178	-	-	382	437
45.00	**44.49**	34	411.6	230	9.8	1.56	**MC3RVHT08**	139	71	295	184	-	-		
50.00	**49.82**	30	388.6	194	13.0	2.52		145	76	300	189	-	-		
56.00	**56.62**	26	420.3	185	11.9	0.53		149	80	306	194	-	-		
63.00	**63.41**	24	392.3	154	14.7	1.74		153	84	310	198	-	-		
71.00	**70.39**	21	328.3	116	15.0	1.29		123	55	257	146	-	-		
80.00	**79.93**	19	372.8	116	15.0	1.29		127	59	263	152	-	-		
90.00	**89.53**	17	398.7	111	15.0	1.53		131	63	267	154	-	-		
100.00	**96.71**	16	296.0	76	15.0	0.295		133	66	268	157	-	-		
112.00	**108.32**	14	335.6	77	15.0	0.248		137	68	272	161	-	-		

MC.RV..09, n_1 = 1500rpm														486000 lb-in	
7.10	**6.85**	219	314.1	1116	6.8	2.42		*)	*)	294	*)	-	-		
8.00	**7.92**	189	335.1	1029	7.3	3.68		*)	*)	312	121	-	-		
9.00	**8.89**	169	351.3	962	7.8	4.60	**MC2RVSF09**	*)	*)	327	134	-	-		
10.00	**9.61**	156	325.9	834	8.8	2.16	**MC2RVHF09**	93	*)	337	143	-	-	368	434
11.20	**11.11**	135	349.5	774	9.3	3.36	**MC2RVHT09**	109	*)	353	161	-	-		
12.50	**12.47**	120	367.8	726	9.7	4.32		121	*)	366	173	-	-		
14.00	**14.28**	105	278.9	481	12.1	*)		97	*)	272	143	-	-		
16.00	**16.52**	91	322.5	481	12.3	*)		106	*)	282	154	-	-		
18.00	**18.54**	81	361.9	481	12.4	*)		113	*)	290	161	-	-		
20.00	**19.70**	76	354.0	443	12.6	0.72		117	*)	294	165	-	-		
22.50	**22.78**	66	409.3	443	12.7	0.72		126	47	303	174	-	-		
25.00	**25.57**	59	459.4	443	11.9	0.72		133	54	310	182	-	-		
28.00	**28.12**	53	447.7	392	13.1	1.96		138	59	316	188	-	-		
31.50	**31.56**	48	502.5	392	12.0	1.96		143	66	322	194	-	-		
35.50	**34.47**	44	469.1	339	14.5	1.07	**MC3RVSF09**	149	70	327	198	-	-		
40.00	**37.90**	40	460.8	303	15.1	2.20	**MC3RVHF09**	153	75	333	204	-	-	384	437
45.00	**42.54**	35	517.2	303	14.8	2.20	**MC3RVHT09**	160	80	338	209	-	-		
50.00	**48.15**	31	525.8	272	16.0	2.58		165	86	345	216	-	-		
56.00	**54.72**	27	521.0	237	16.9	2.23		170	93	350	221	-	-		
63.00	**61.94**	24	529.7	213	17.8	2.54		176	97	355	228	-	-		
71.00	**68.22**	22	455.0	166	18.0	1.36		141	62	296	168	-	-		
80.00	**76.56**	20	510.6	166	18.0	1.36		145	67	300	172	-	-		
90.00	**86.65**	17	536.0	154	18.0	1.72		150	71	306	177	-	-		
100.00	**94.51**	16	312.1	82	18.0	1.44		153	74	308	181	-	-		
112.00	**106.98**	14	357.9	83	18.0	1.42		157	79	314	185	-	-		

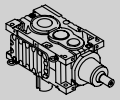
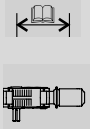
11.3.3 MC.RV.., n_1 = 1200 1/min

MC.RV..02, n_1 = 1200rpm								P_{TH}						70000 lb-in	
i_N	i_{ex}	n_2 [rpm]	M_{N2} [lb-in]	P_{N1} [HP]	F_{Ra} [lb] x1000	F_{Re} [lb] x1000		$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F	$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F	$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F		
7.10	**6.96**	172	51.3	144	1.19	1.40		23	*)	76	25	-	-		
8.00	**8.05**	149	54.9	133	1.29	1.74		28	*)	82	31	-	-		
9.00	**9.03**	133	57.7	125	1.39	2.02	**MC2RVSF02**	32	*)	84	35	-	-		
10.00	**9.61**	125	51.3	105	1.92	1.45	**MC2RVHF02** **MC2RVHT02**	34	*)	87	36	-	-	354	434
11.20	**11.11**	108	56.6	100	1.86	1.65		38	*)	91	42	-	-		
12.50	**12.47**	96	59.6	94	1.96	1.90		42	*)	95	44	-	-		
14.00	**14.61**	82	55.7	75	2.47	*)		32	9.4	71	38	-	-		
16.00	**16.90**	71	64.4	75	2.09	*)		35	12.1	74	40	-	-		
18.00	**18.96**	63	65.6	68	2.44	0.309		36	14.8	75	42	-	-		
20.00	**20.31**	59	72.4	70	1.45	0.227		38	14.8	76	43	-	-		
22.50	**23.49**	51	71.2	60	2.30	0.65		40	17.4	79	46	-	-		
25.00	**26.36**	46	66.6	50	3.34	1.04		42	19	80	47	-	-		
28.00	**29.43**	41	71.8	48	2.95	1.11		43	21	83	50	-	-		
31.50	**33.03**	36	67.2	40	4.02	1.42		46	23	84	51	-	-		
35.50	**37.38**	32	61.8	33	4.75	1.55	**MC3RVSF02**	47	24	86	52	-	-		
40.00	**40.30**	30	59.8	30	4.89	0.92	**MC3RVHF02**	48	25	87	54	-	-	370	435
45.00	**45.22**	27	67.8	30	4.92	0.90	**MC3RVHT02**	50	27	89	55	-	-		
50.00	**50.49**	24	71.9	28	4.87	1.0		51	28	90	56	-	-		
56.00	**56.66**	21	68.5	24	5.1	1.30		52	30	91	58	-	-		
63.00	**64.14**	19	62.9	20	5.1	1.56		54	31	93	59	-	-		
71.00	**70.97**	17	72.0	20	5.1	0.59		43	20	78	44	-	-		
80.00	**79.65**	15	69.6	17.4	5.1	0.79		44	21	79	46	-	-		
90.00	**90.15**	13	63.6	14.1	5.1	1.03		46	23	80	47	-	-		
100.00	**97.35**	12	54.8	11.2	5.1	0.444		47	24	80	47	-	-		
112.00	**110.19**	11	62.0	11.2	5.1	0.446		47	25	82	48	-	-		

MC.RV..03, n_1 = 1200rpm															97000 lb-in
7.10	**7.12**	168	65.2	178	4.09	1.82		30	*)	94	32	-	-		
8.00	**8.04**	149	68.6	166	4.27	2.16		34	*)	99	38	-	-		
9.00	**9.07**	132	72.4	156	4.43	2.46	**MC2RVSF03**	39	*)	103	42	-	-		
10.00	**10.00**	120	58.7	116	4.94	1.86	**MC2RVHF03** **MC2RVHT03**	43	*)	107	46	-	-	356	434
11.20	**11.28**	106	67.0	117	4.98	1.80		47	*)	111	51	-	-		
12.50	**12.73**	94	75.2	116	5.0	1.82		51	*)	117	55	-	-		
14.00	**15.07**	80	69.6	91	5.5	0.310		40	12.1	87	46	-	-		
16.00	**17.00**	71	78.5	91	5.6	0.310		43	14.8	90	48	-	-		
18.00	**19.18**	63	88.6	91	5.6	0.310		46	17.4	93	51	-	-		
20.00	**20.57**	58	95.0	91	5.3	0.310		47	19	94	52	-	-		
22.50	**23.20**	52	102.0	87	5.5	0.458		48	21	97	55	-	-		
25.00	**26.18**	46	95.2	72	6.2	0.96		51	24	99	58	-	-		
28.00	**29.60**	41	101.5	68	6.3	1.10		54	25	101	60	-	-		
31.50	**33.40**	36	96.3	57	6.9	1.46		55	28	103	62	-	-		
35.50	**35.08**	34	96.2	55	6.9	0.91	**MC3RVSF03**	56	28	105	63	-	-		
40.00	**39.67**	30	101.0	51	6.9	1.08	**MC3RVHF03**	58	31	106	66	-	-	372	435
45.00	**44.75**	27	97.2	43	6.9	1.42	**MC3RVHT03**	60	32	109	67	-	-		
50.00	**50.97**	24	89.4	35	6.9	1.79		62	35	110	70	-	-		
56.00	**57.30**	21	98.2	34	6.9	1.38		63	36	111	71	-	-		
63.00	**65.25**	18	90.3	28	6.9	1.75		66	38	114	72	-	-		
71.00	**69.86**	17	94.8	27	6.9	0.282		52	25	94	54	-	-		
80.00	**78.82**	15	99.6	25	6.9	0.428		54	27	95	55	-	-		
90.00	**89.76**	13	91.1	20	6.9	0.81		55	28	98	56	-	-		
100.00	**97.53**	12	80.6	16.5	6.9	*)		56	30	98	58	-	-		
112.00	**111.07**	11	91.8	16.5	6.9	*)		58	31	101	59	-	-		

MC.RV..04, n_1 = 1200rpm								P_{TH}						132000 lb-in	
i_N	i_{ex}	n_2 [rpm]	M_{N2} [lb-in]	P_{N1} [HP]	F_{Ra} [lb] x1000	F_{Re} [lb] x1000		$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F	 $P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F	 $P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F		
7.10	**7.29**	165	85.1	227	4.70	1.78		38	*)	117	42	-	-		
8.00	**8.20**	146	89.6	213	4.91	2.20		43	*)	122	47	-	-		
9.00	**9.17**	131	93.9	200	5.1	2.58	**MC2RVSF04**	48	*)	129	52	-	-		
10.00	**10.15**	118	86.6	168	5.4	1.47	**MC2RVHF04**	52	*)	133	58	-	-	358	434
11.20	**11.41**	105	92.7	160	5.6	1.78	**MC2RVHT04**	58	*)	138	63	-	-		
12.50	**12.76**	94	97.6	150	5.8	2.14		62	*)	143	67	-	-		
14.00	**14.76**	81	87.5	117	6.3	*)		48	14.8	106	56	-	-		
16.00	**16.60**	72	98.4	117	6.4	*)		52	17.4	110	59	-	-		
18.00	**18.56**	65	110.0	117	6.4	*)		55	21	113	63	-	-		
20.00	**20.60**	58	115.9	111	6.5	0.047		58	23	115	66	-	-		
22.50	**23.17**	52	130.4	111	5.9	0.047		60	27	118	68	-	-		
25.00	**25.90**	46	132.3	101	6.7	0.402		63	28	121	71	-	-		
28.00	**29.65**	40	142.3	95	6.1	0.61		66	32	125	74	-	-		
31.50	**33.14**	36	132.8	79	7.6	1.15		68	34	127	76	-	-		
35.50	**34.63**	35	117.8	68	7.9	1.06	**MC3RVSF04**	68	35	127	78	-	-		
40.00	**39.63**	30	137.2	69	7.9	1.01	**MC3RVHF04**	71	38	130	80	-	-	374	435
45.00	**44.30**	27	133.1	60	7.9	1.39	**MC3RVHT04**	74	40	133	82	-	-		
50.00	**49.83**	24	126.3	50	7.9	1.77		75	42	135	84	-	-		
56.00	**55.99**	21	125.7	45	7.9	1.46		78	44	137	87	-	-		
63.00	**62.98**	19	127.4	40	7.9	1.69		79	46	139	89	-	-		
71.00	**68.90**	17	118.6	34	7.9	0.81		64	31	115	66	-	-		
80.00	**77.02**	16	127.9	33	7.9	0.90		66	32	118	67	-	-		
90.00	**86.63**	14	128.7	30	7.9	1.15		68	34	119	68	-	-		
100.00	**93.18**	13	78.9	16.9	7.9	0.147		68	35	121	70	-	-		
112.00	**104.81**	11	89.5	17.0	7.9	0.133		71	36	122	72	-	-		

MC.RV..05, n_1 = 1200rpm														177000 lb-in	
7.10	**7.10**	169	116.8	321	3.32	1.50		40	*)	130	44	-	-		
8.00	**7.99**	150	123.2	301	3.49	2.09		47	*)	137	52	-	-		
9.00	**8.86**	135	128.9	283	3.74	2.35	**MC2RVSF05**	52	*)	142	58	-	-		
10.00	**9.87**	122	113.9	227	4.75	2.21	**MC2RVHF05**	58	*)	149	63	-	-	360	434
11.20	**11.11**	108	127.5	226	4.47	2.26	**MC2RVHT05**	64	*)	154	70	-	-		
12.50	**12.33**	97	133.8	214	4.71	2.47		68	*)	160	74	-	-		
14.00	**14.68**	82	107.6	144	6.2	0.389		55	16.1	119	63	-	-		
16.00	**16.53**	73	121.1	144	6.3	0.388		58	20	123	67	-	-		
18.00	**18.33**	65	134.3	144	6.4	0.389		62	23	127	70	-	-		
20.00	**20.22**	59	135.6	132	6.3	0.80		64	25	130	72	-	-		
22.50	**22.76**	53	152.7	132	5.9	0.80		67	30	133	76	-	-		
25.00	**25.25**	48	169.4	132	5.6	0.80		70	32	135	79	-	-		
28.00	**29.13**	41	181.3	123	5.2	1.13		74	35	139	83	-	-		
31.50	**32.32**	37	177.7	108	6.4	1.61		76	38	142	86	-	-		
35.50	**33.83**	35	161.7	95	7.7	1.09	**MC3RVSF05**	76	39	143	87	-	-		
40.00	**39.03**	31	172.7	88	7.4	1.40	**MC3RVHF05**	80	42	148	90	-	-	376	436
45.00	**43.30**	28	179.3	82	8.0	1.65	**MC3RVHT05**	83	44	149	93	-	-		
50.00	**48.74**	25	166.8	68	8.8	2.27		84	47	152	95	-	-		
56.00	**55.44**	22	176.3	63	9.1	0.50		87	50	154	98	-	-		
63.00	**62.40**	19	168.2	54	9.3	1.03		90	51	157	101	-	-		
71.00	**69.92**	17	139.1	40	9.3	1.30		72	35	130	74	-	-		
80.00	**77.56**	15	154.3	40	9.3	1.30		75	36	133	76	-	-		
90.00	**87.30**	14	170.2	39	9.3	1.34		76	39	135	78	-	-		
100.00	**93.84**	13	119.8	25	9.3	0.80		78	40	135	79	-	-		
112.00	**105.62**	11	137.0	26	9.3	0.78		79	42	138	82	-	-		

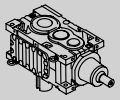
MC.RV..06, n_1 = 1200rpm								P_{TH}						221000 lb-in	
i_N	i_{ex}	n_2 [rpm]	M_{N2} [lb-in]	P_{N1} [HP]	F_{Ra} [lb] x1000	F_{Re} [lb] x1000		$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F	$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F	$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F		
7.10	**6.74**	178	147.2	426	4.41	1.06		46	*)	152	50	-	-		
8.00	**7.80**	154	157.6	394	4.80	1.90		55	*)	162	60	-	-		
9.00	**8.75**	137	164.9	367	5.1	2.50	**MC2RVSF06**	62	*)	170	68	-	-		
10.00	**9.64**	125	150.7	308	6.2	1.43	**MC2RVHF06** **MC2RVHT06**	68	*)	176	74	-	-	362	434
11.20	**11.15**	108	163.0	288	6.5	2.13		76	*)	185	83	-	-		
12.50	**12.52**	96	171.8	270	6.8	2.67		83	*)	192	90	-	-		
14.00	**14.09**	85	127.9	179	8.4	0.96		64	19	142	74	-	-		
16.00	**16.30**	74	148.0	179	8.5	0.96		70	24	148	79	-	-		
18.00	**18.30**	66	166.1	179	8.6	0.96		74	28	152	83	-	-		
20.00	**20.30**	59	167.8	163	8.8	1.42		76	31	156	87	-	-		
22.50	**23.49**	51	194.2	163	8.9	1.42		82	36	161	93	-	-		
25.00	**26.36**	46	218.0	163	8.2	1.42		84	39	164	97	-	-		
28.00	**28.78**	42	222.5	152	8.1	1.73		87	42	168	99	-	-		
31.50	**32.30**	37	232.4	142	8.7	2.03		91	46	170	102	-	-		
35.50	**35.53**	34	209.7	118	10.2	1.89	**MC3RVSF06**	94	48	173	105	-	-		
40.00	**38.80**	31	214.1	110	10.2	2.16	**MC3RVHF06**	97	50	176	107	-	-	378	436
45.00	**43.54**	28	235.4	108	10.2	2.24	**MC3RVHT06**	99	54	178	111	-	-		
50.00	**49.28**	24	218.4	88	10.2	2.93		102	56	182	114	-	-		
56.00	**55.31**	22	215.7	78	10.2	2.38		105	59	185	117	-	-		
63.00	**62.60**	19	221.0	70	10.2	2.71		107	62	188	119	-	-		
71.00	**68.96**	17	194.2	56	10.2	1.50		87	42	156	89	-	-		
80.00	**77.39**	16	218.0	56	10.2	1.50		90	44	158	91	-	-		
90.00	**87.60**	14	223.8	51	10.2	1.80		91	46	161	94	-	-		
100.00	**95.76**	13	202.8	42	10.2	0.60		94	48	164	95	-	-		
112.00	**108.39**	11	225.2	41	10.2	0.66		95	50	166	98	-	-		

MC.RV..07, n_1 = 1200rpm														292000 lb-in	
7.10	**6.84**	176	181.1	516	5.6	2.07		56	*)	186	62	-	-		
8.00	**7.70**	156	191.3	484	5.9	2.76		66	*)	196	72	-	-		
9.00	**8.65**	139	200.7	452	6.2	3.16	**MC2RVSF07**	75	*)	205	82	-	-		
10.00	**9.74**	123	186.1	376	7.6	2.40	**MC2RVHF07** **MC2RVHT07**	83	*)	215	91	-	-	364	434
11.20	**10.96**	109	199.1	357	7.7	2.94		93	*)	224	99	-	-		
12.50	**12.32**	97	209.4	335	8.1	3.39		99	*)	232	109	-	-		
14.00	**14.18**	85	170.6	237	9.3	0.364		78	*)	173	90	-	-		
16.00	**15.97**	75	192.1	237	9.4	0.364		83	28	178	95	-	-		
18.00	**17.93**	67	215.8	237	9.5	0.364		89	32	184	101	-	-		
20.00	**19.94**	60	221.2	219	9.6	0.93		93	38	188	106	-	-		
22.50	**22.45**	53	249.0	219	9.4	0.93		98	42	193	110	-	-		
25.00	**25.22**	48	279.8	219	8.3	0.93		102	46	198	115	-	-		
28.00	**28.38**	42	290.0	201	8.1	1.44		106	51	202	119	-	-		
31.50	**31.88**	38	321.5	199	7.1	1.52		110	55	207	123	-	-		
35.50	**33.79**	36	261.3	154	11.4	1.15	**MC3RVSF07**	113	56	209	126	-	-		
40.00	**38.02**	32	273.5	143	11.7	1.58	**MC3RVHF07**	115	60	213	130	-	-	380	437
45.00	**42.71**	28	307.3	143	11.4	1.58	**MC3RVHT07**	119	64	217	134	-	-		
50.00	**48.96**	25	300.6	122	11.8	2.43		123	68	221	138	-	-		
56.00	**53.98**	22	277.3	102	11.8	1.97		126	71	224	141	-	-		
63.00	**61.88**	19	302.9	97	11.8	2.21		130	75	228	145	-	-		
71.00	**70.77**	17	226.0	64	11.8	0.60		106	51	190	107	-	-		
80.00	**79.49**	15	253.9	64	11.8	0.60		109	54	193	111	-	-		
90.00	**91.12**	13	291.0	64	11.8	0.60		113	56	197	114	-	-		
100.00	**96.17**	12	259.9	54	11.8	0.63		114	58	198	115	-	-		
112.00	**110.25**	11	298.0	54	11.8	0.63		117	62	201	119	-	-		

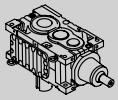
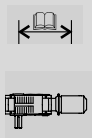
MC.RV..08, n_1 = 1200rpm								P_{TH}						398000 lb-in	
i_N	i_{ex}	n_2 [rpm]	M_{N2} [lb-in]	P_{N1} [HP]	F_{Ra} [lb] x1000	F_{Re} [lb] x1000		$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F	$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F	$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F		
7.10	**6.95**	173	244.3	685	5.7	3.05		71	*)	231	78	-	-		
8.00	**7.82**	153	257.4	641	6.0	3.84		82	*)	243	90	-	-		
9.00	**8.88**	135	271.7	596	6.4	4.16	**MC2RVSF08**	94	*)	255	103	-	-		
10.00	**9.74**	123	253.3	512	7.4	2.86	**MC2RVHF08**	103	*)	264	111	-	-	366	434
11.20	**10.96**	109	268.8	482	7.7	3.74	**MC2RVHT08**	113	*)	275	122	-	-		
12.50	**12.45**	96	284.0	449	8.2	4.17		123	*)	286	134	-	-		
14.00	**14.48**	83	249.2	339	10.2	*)		97	*)	213	113	-	-		
16.00	**16.30**	74	280.6	339	10.2	*)		103	35	220	119	-	-		
18.00	**18.51**	65	318.6	339	9.3	*)		110	42	228	126	-	-		
20.00	**20.25**	59	300.9	293	10.2	0.72		114	47	232	130	-	-		
22.50	**22.80**	53	338.8	293	9.4	0.72		121	52	239	137	-	-		
25.00	**25.89**	46	384.7	293	8.2	0.72		126	58	244	142	-	-		
28.00	**29.06**	41	375.2	254	9.4	1.72		131	63	249	149	-	-		
31.50	**33.00**	36	415.0	248	8.7	1.89		137	68	256	154	-	-		
35.50	**34.90**	34	373.1	213	12.0	1.14	**MC3RVSF08**	139	71	257	157	-	-		
40.00	**39.18**	31	387.2	197	11.8	1.68	**MC3RVHF08**	143	75	263	161	-	-	382	437
45.00	**44.49**	27	418.8	187	11.8	1.99	**MC3RVHT08**	149	80	268	166	-	-		
50.00	**49.82**	24	392.0	157	14.6	3.01		153	84	272	170	-	-		
56.00	**56.62**	21	422.6	149	14.4	1.04		157	89	278	176	-	-		
63.00	**63.41**	19	396.5	125	15.0	2.19		161	93	282	180	-	-		
71.00	**70.39**	17	328.0	93	15.0	1.75		130	62	233	133	-	-		
80.00	**79.93**	15	372.5	93	15.0	1.75		134	66	239	137	-	-		
90.00	**89.53**	13	401.5	89	15.0	1.94		138	70	241	139	-	-		
100.00	**96.71**	12	299.1	62	15.0	0.54		139	72	244	142	-	-		
112.00	**108.32**	11	338.7	62	15.0	0.495		143	75	248	146	-	-		

MC.RV..09, n_1 = 1200rpm														486000 lb-in	
7.10	**6.85**	175	336.0	955	7.3	2.58		*)	*)	264	*)	-	-		
8.00	**7.92**	151	358.2	880	7.9	3.94		97	*)	282	106	-	-		
9.00	**8.89**	135	375.9	823	8.3	4.91	**MC2RVSF09**	109	*)	294	118	-	-		
10.00	**9.61**	125	348.3	713	9.4	2.31	**MC2RVHF09**	117	*)	303	127	-	-	368	434
11.20	**11.11**	108	373.2	661	10	3.62	**MC2RVHT09**	131	*)	318	142	-	-		
12.50	**12.47**	96	393.3	621	10.4	4.62		142	*)	330	154	-	-		
14.00	**14.28**	84	297.7	411	12.9	*)		111	*)	245	129	-	-		
16.00	**16.52**	73	344.3	411	13.2	*)		119	42	255	138	-	-		
18.00	**18.54**	65	386.4	411	13.3	*)		127	48	263	145	-	-		
20.00	**19.70**	61	378.9	379	13.5	0.76		130	52	266	149	-	-		
22.50	**22.78**	53	438.1	379	13.6	0.76		138	60	275	157	-	-		
25.00	**25.57**	47	491.7	379	12.7	0.76		145	66	282	164	-	-		
28.00	**28.12**	43	478.4	335	14.0	2.11		150	71	286	169	-	-		
31.50	**31.56**	38	536.9	335	12.8	2.11		156	76	292	176	-	-		
35.50	**34.47**	35	491.3	284	15.6	1.37	**MC3RVSF09**	160	80	296	180	-	-		
40.00	**37.90**	32	491.9	258	16.1	2.36	**MC3RVHF09**	164	86	302	184	-	-	384	437
45.00	**42.54**	28	552.0	258	15.9	2.36	**MC3RVHT09**	169	91	307	189	-	-		
50.00	**48.15**	25	531.0	220	17.6	2.92		174	97	312	196	-	-		
56.00	**54.72**	22	522.5	190	18.0	2.59		180	101	318	201	-	-		
63.00	**61.94**	19	533.1	171	18.0	2.89		185	106	323	207	-	-		
71.00	**68.22**	18	455.5	133	18.0	1.81		149	71	268	152	-	-		
80.00	**76.56**	16	511.2	133	18.0	1.81		153	75	272	156	-	-		
90.00	**86.65**	14	535.5	123	18.0	2.02		158	79	278	161	-	-		
100.00	**94.51**	13	315.2	66	18.0	1.63		161	82	280	164	-	-		
112.00	**106.98**	11	361.8	67	18.0	1.61		165	86	284	168	-	-		

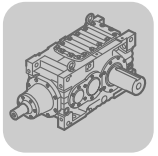
11.3.4 MC.RV.., n_1 = 1000 1/min

MC.RV..02, n_1 = 1000rpm								P_{TH}						70000 lb-in	
i_N	i_{ex}	n_2 [rpm]	M_{N2} [lb-in]	P_{N1} [HP]	F_{Ra} [lb] x1000	F_{Re} [lb] x1000		$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F	$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F	$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F		
7.10	**6.96**	144	54.4	127	1.23	1.45		30	*)	70	23	-	-		
8.00	**8.05**	124	58.1	117	1.36	1.84		34	*)	75	28	-	-		
9.00	**9.03**	111	61.0	110	1.46	2.13	**MC2RVSF02**	38	*)	78	31	-	-		
10.00	**9.61**	104	51.5	88	2.33	1.75	**MC2RVHF02** **MC2RVHT02**	39	*)	80	34	-	-	354	434
11.20	**11.11**	90	59.3	88	2.02	1.78		43	9.4	84	38	-	-		
12.50	**12.47**	80	63.0	83	2.07	2.01		46	12.1	87	40	-	-		
14.00	**14.61**	68	55.8	63	2.95	0.195		35	13.4	66	34	-	-		
16.00	**16.90**	59	64.6	63	2.60	0.195		38	14.8	68	36	-	-		
18.00	**18.96**	53	66.1	57	2.94	0.462		40	17.4	70	39	-	-		
20.00	**20.31**	49	76.4	62	1.54	0.243		40	19	71	40	-	-		
22.50	**23.49**	43	71.6	50	2.83	0.80		43	20	74	42	-	-		
25.00	**26.36**	38	67.0	42	3.90	1.20		44	21	75	44	-	-		
28.00	**29.43**	34	71.9	40	3.56	1.27		46	24	76	46	-	-		
31.50	**33.03**	30	67.6	34	4.62	1.55		48	25	78	47	-	-		
35.50	**37.38**	27	62.1	27	5.1	1.55	**MC3RVSF02**	50	27	79	48	-	-		
40.00	**40.30**	25	60.1	25	5.1	1.08	**MC3RVHF02**	50	28	80	50	-	-	370	435
45.00	**45.22**	22	68.2	25	5.1	1.05	**MC3RVHT02**	51	30	82	51	-	-		
50.00	**50.49**	20	72.1	24	5.1	1.17		52	31	83	52	-	-		
56.00	**56.66**	18	69.0	20	5.1	1.46		54	31	84	54	-	-		
63.00	**64.14**	16	63.1	16.3	5.1	1.56		55	32	86	55	-	-		
71.00	**70.97**	14	72.1	16.9	5.1	0.71		46	23	71	40	-	-		
80.00	**79.65**	13	70.0	14.6	5.1	0.90		46	24	72	42	-	-		
90.00	**90.15**	11	64.1	11.8	5.1	1.11		47	24	74	43	-	-		
100.00	**97.35**	10	55.5	9.5	5.1	0.52		48	25	75	43	-	-		
112.00	**110.19**	9.1	62.6	9.4	5.1	0.53		50	27	76	44	-	-		

MC.RV..03, n_1 = 1000rpm														97000 lb-in	
7.10	**7.12**	140	68.8	157	4.32	1.92		36	*)	86	30	-	-		
8.00	**8.04**	124	72.4	146	4.51	2.28		42	*)	91	34	-	-		
9.00	**9.07**	110	76.5	137	4.67	2.60	**MC2RVSF03**	46	*)	95	39	-	-		
10.00	**10.00**	100	58.9	97	5.3	2.21	**MC2RVHF03** **MC2RVHT03**	48	*)	99	42	-	-	356	434
11.20	**11.28**	89	67.3	98	5.4	2.15		52	10.7	103	46	-	-		
12.50	**12.73**	79	76.9	99	5.4	2.09		56	14.8	107	50	-	-		
14.00	**15.07**	66	69.8	76	5.9	0.492		44	16.1	80	42	-	-		
16.00	**17.00**	59	78.7	76	6.0	0.493		46	19	83	44	-	-		
18.00	**19.18**	52	88.8	76	6.1	0.493		48	21	86	47	-	-		
20.00	**20.57**	49	95.2	76	5.9	0.493		50	23	87	48	-	-		
22.50	**23.20**	43	102.6	73	6.1	0.63		52	24	89	51	-	-		
25.00	**26.18**	38	95.9	60	6.7	1.13		54	27	91	54	-	-		
28.00	**29.60**	34	101.7	56	6.8	1.28		56	28	94	55	-	-		
31.50	**33.40**	30	97.0	48	6.9	1.63		58	31	95	58	-	-		
35.50	**35.08**	29	96.8	46	6.9	1.08	**MC3RVSF03**	59	31	97	58	-	-		
40.00	**39.67**	25	101.1	42	6.9	1.27	**MC3RVHF03**	60	34	98	60	-	-	372	435
45.00	**44.75**	22	97.8	36	6.9	1.59	**MC3RVHT03**	63	35	101	62	-	-		
50.00	**50.97**	20	90.0	29	6.9	1.96		64	38	102	64	-	-		
56.00	**57.30**	17	98.9	29	6.9	1.55		66	39	103	66	-	-		
63.00	**65.25**	15	90.5	23	6.9	1.94		67	40	105	67	-	-		
71.00	**69.86**	14	95.2	23	6.9	0.408		55	27	87	50	-	-		
80.00	**78.82**	13	99.8	21	6.9	0.56		56	28	89	51	-	-		
90.00	**89.76**	11	91.9	17.0	6.9	0.93		58	30	90	52	-	-		
100.00	**97.53**	10	81.0	13.8	6.9	0.047		59	31	91	54	-	-		
112.00	**111.07**	9.0	93.2	13.9	6.9	0.028		60	32	93	55	-	-		

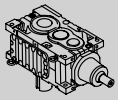
MC.RV..04, n_1 = 1000rpm								P_{TH}						132000 lb-in	
i_N	i_{ex}	n_2 [rpm]	M_{N2} [lb-in]	P_{N1} [HP]	F_{Ra} [lb] x1000	F_{Re} [lb] x1000		$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F	$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F	$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F		
7.10	**7.29**	137	89.6	200	4.99	1.91		46	*)	107	36	-	-		
8.00	**8.20**	122	94.7	188	5.2	2.32		51	*)	113	43	-	-		
9.00	**9.17**	109	99.2	176	5.4	2.72	**MC2RVSF04**	56	*)	118	47	-	-		
10.00	**10.15**	99	88.9	144	5.8	1.74	**MC2RVHF04**	60	*)	122	52	-	-	358	434
11.20	**11.41**	88	96.3	138	5.9	1.99	**MC2RVHT04**	66	14.8	127	56	-	-		
12.50	**12.76**	78	102.7	132	6.1	2.28		70	19	131	62	-	-		
14.00	**14.76**	68	89.9	100	6.8	*)		54	20	98	51	-	-		
16.00	**16.60**	60	101.1	100	6.8	*)		56	23	102	55	-	-		
18.00	**18.56**	54	113.0	100	6.9	*)		59	25	105	58	-	-		
20.00	**20.60**	49	115.8	92	7.0	0.270		62	28	107	60	-	-		
22.50	**23.17**	43	130.3	92	7.0	0.270		64	31	110	63	-	-		
25.00	**25.90**	39	132.5	84	7.4	0.62		67	32	113	66	-	-		
28.00	**29.65**	34	143.3	79	7.2	0.81		70	35	115	68	-	-		
31.50	**33.14**	30	132.9	66	7.9	1.37		71	38	117	71	-	-		
35.50	**34.63**	29	118.4	57	7.9	1.26	**MC3RVSF04**	72	39	118	71	-	-		
40.00	**39.63**	25	137.8	58	7.9	1.22	**MC3RVHF04**	75	42	121	74	-	-	374	435
45.00	**44.30**	23	133.3	50	7.9	1.60	**MC3RVHT04**	76	43	123	76	-	-		
50.00	**49.83**	20	127.0	42	7.9	1.98		79	46	125	78	-	-		
56.00	**55.99**	18	126.5	37	7.9	1.66		80	47	127	80	-	-		
63.00	**62.98**	16	128.0	34	7.9	1.90		83	48	129	82	-	-		
71.00	**68.90**	15	118.4	29	7.9	1.0		67	34	107	60	-	-		
80.00	**77.02**	13	127.4	27	7.9	1.09		68	35	109	62	-	-		
90.00	**86.63**	12	130.0	25	7.9	1.29		70	36	110	63	-	-		
100.00	**93.18**	11	79.7	14.2	7.9	0.237		71	38	111	64	-	-		
112.00	**104.81**	9.5	90.4	14.3	7.9	0.220		72	39	113	66	-	-		

MC.RV..05, n_1 = 1000rpm														177000 lb-in	
7.10	**7.10**	141	123.3	282	3.51	1.59		51	*)	119	40	-	-		
8.00	**7.99**	125	130.2	265	3.69	2.20		56	*)	126	47	-	-		
9.00	**8.86**	113	136.5	250	3.93	2.47	**MC2RVSF05**	62	*)	131	52	-	-		
10.00	**9.87**	101	114.9	191	5.4	2.57	**MC2RVHF05**	67	*)	137	58	-	-	360	434
11.20	**11.11**	90	130.2	192	5.0	2.54	**MC2RVHT05**	72	*)	142	63	-	-		
12.50	**12.33**	81	141.4	188	4.98	2.61		76	20	148	68	-	-		
14.00	**14.68**	68	107.5	120	6.7	0.69		60	21	110	58	-	-		
16.00	**16.53**	61	121.0	120	6.8	0.69		63	25	114	62	-	-		
18.00	**18.33**	55	134.3	120	6.9	0.69		66	28	117	64	-	-		
20.00	**20.22**	49	135.7	110	7.0	1.10		68	31	119	67	-	-		
22.50	**22.76**	44	152.7	110	6.9	1.10		72	34	123	70	-	-		
25.00	**25.25**	40	169.5	110	6.6	1.10		75	36	126	72	-	-		
28.00	**29.13**	34	181.4	102	6.2	1.42		78	40	129	76	-	-		
31.50	**32.32**	31	178.6	91	7.3	1.89		80	42	131	79	-	-		
35.50	**33.83**	30	161.8	79	8.3	1.38	**MC3RVSF05**	80	43	133	80	-	-		
40.00	**39.03**	26	172.6	73	8.5	1.70	**MC3RVHF05**	84	46	135	83	-	-	376	436
45.00	**43.30**	23	180.6	69	8.8	1.92	**MC3RVHT05**	86	48	138	86	-	-		
50.00	**48.74**	21	167.5	57	9.3	2.55		89	51	141	87	-	-		
56.00	**55.44**	18	177.1	53	9.3	0.71		91	52	143	90	-	-		
63.00	**62.40**	16	169.1	45	9.3	1.24		93	55	145	93	-	-		
71.00	**69.92**	14	138.7	33	9.3	1.51		76	38	121	68	-	-		
80.00	**77.56**	13	153.9	33	9.3	1.51		78	39	123	70	-	-		
90.00	**87.30**	11	171.1	33	9.3	1.54		79	42	125	72	-	-		
100.00	**93.84**	11	121.1	21	9.3	0.92		80	43	126	74	-	-		
112.00	**105.62**	9.5	138.0	22	9.3	0.90		82	44	127	75	-	-		



MC.RV..06, n_1 = 1000rpm								P_{TH}						221000 lb-in	
i_N	i_{ex}	n_2 [rpm]	M_{N2} [lb-in]	P_{N1} [HP]	F_{Ra} [lb] x1000	F_{Re} [lb] x1000		$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F	$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F	$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F		
7.10	**6.74**	148	155.7	375	4.64	1.11		58	*)	139	44	-	-		
8.00	**7.80**	128	166.1	346	5.1	2.03		66	*)	149	54	-	-		
9.00	**8.75**	114	174.3	323	5.4	2.64	**MC2RVSF06**	74	*)	156	62	-	-		
10.00	**9.64**	104	156.4	266	6.8	1.71	**MC2RVHF06** **MC2RVHT06**	79	*)	162	67	-	-	362	434
11.20	**11.15**	90	170.9	251	7.0	2.33		87	*)	170	75	-	-		
12.50	**12.52**	80	181.5	238	7.2	2.82		93	24	177	82	-	-		
14.00	**14.09**	71	127.3	148	9.0	1.33		71	25	131	67	-	-		
16.00	**16.30**	61	147.3	148	9.2	1.33		75	30	137	72	-	-		
18.00	**18.30**	55	165.3	148	9.3	1.33		79	34	141	76	-	-		
20.00	**20.30**	49	167.0	135	9.5	1.79		83	38	143	80	-	-		
22.50	**23.49**	43	193.3	135	9.6	1.79		87	42	149	84	-	-		
25.00	**26.36**	38	216.9	135	9.7	1.79		90	44	152	89	-	-		
28.00	**28.78**	35	222.7	127	9.8	2.07		93	47	154	91	-	-		
31.50	**32.30**	31	234.3	119	10.2	2.34		95	50	158	94	-	-		
35.50	**35.53**	28	209.8	98	10.2	2.23	**MC3RVSF06**	98	52	160	97	-	-		
40.00	**38.80**	26	214.4	92	10.2	2.50	**MC3RVHF06**	101	55	162	99	-	-	378	436
45.00	**43.54**	23	236.8	90	10.2	2.56	**MC3RVHT06**	103	58	165	102	-	-		
50.00	**49.28**	20	220.3	74	10.2	3.24		106	60	169	106	-	-		
56.00	**55.31**	18	216.8	65	10.2	2.69		109	63	172	109	-	-		
63.00	**62.60**	16	222.2	59	10.2	3.02		111	66	174	111	-	-		
71.00	**68.96**	15	194.7	47	10.2	1.76		91	46	145	82	-	-		
80.00	**77.39**	13	218.5	47	10.2	1.76		93	47	148	83	-	-		
90.00	**87.60**	11	225.4	43	10.2	2.04		95	50	149	86	-	-		
100.00	**95.76**	10	203.9	35	10.2	0.79		97	51	152	89	-	-		
112.00	**108.39**	9.2	227.4	35	10.2	0.84		99	54	153	90	-	-		

MC.RV..07, n_1 = 1000rpm														292000 lb-in	
7.10	**6.84**	146	191.5	455	5.9	2.17		71	*)	170	55	-	-		
8.00	**7.70**	130	201.8	426	6.2	2.93		79	*)	180	64	-	-		
9.00	**8.65**	116	211.8	398	6.6	3.34	**MC2RVSF07**	89	*)	189	74	-	-		
10.00	**9.74**	103	193.1	325	8.1	2.74	**MC2RVHF07** **MC2RVHT07**	97	*)	197	82	-	-	364	434
11.20	**10.96**	91	207.5	310	8.3	3.25		105	*)	207	91	-	-		
12.50	**12.32**	81	222.0	296	8.4	3.57		111	*)	215	99	-	-		
14.00	**14.18**	71	170.4	197	10	0.80		86	31	160	83	-	-		
16.00	**15.97**	63	191.9	197	10.2	0.80		91	35	165	87	-	-		
18.00	**17.93**	56	215.6	197	10.2	0.80		95	40	169	93	-	-		
20.00	**19.94**	50	220.4	182	10.4	1.37		99	44	174	97	-	-		
22.50	**22.45**	45	248.1	182	10.5	1.37		105	48	178	102	-	-		
25.00	**25.22**	40	278.7	182	10.2	1.37		109	52	182	106	-	-		
28.00	**28.38**	35	293.1	170	9.7	1.80		113	56	188	110	-	-		
31.50	**31.88**	31	324.1	167	8.8	1.89		117	60	192	114	-	-		
35.50	**33.79**	30	260.4	128	11.8	1.58	**MC3RVSF07**	118	63	193	117	-	-		
40.00	**38.02**	26	272.4	119	11.8	2.02	**MC3RVHF07**	122	66	197	121	-	-	380	437
45.00	**42.71**	23	306.0	119	11.8	2.02	**MC3RVHT07**	125	70	201	123	-	-		
50.00	**48.96**	20	302.2	102	11.8	2.82		129	74	205	127	-	-		
56.00	**53.98**	19	278.3	86	11.8	2.35		131	76	208	130	-	-		
63.00	**61.88**	16	304.6	82	11.8	2.58		135	79	211	134	-	-		
71.00	**70.77**	14	226.1	53	11.8	0.90		111	55	176	99	-	-		
80.00	**79.49**	13	254.0	53	11.8	0.90		114	58	180	102	-	-		
90.00	**91.12**	11	291.1	53	11.8	0.90		117	62	182	106	-	-		
100.00	**96.17**	10	259.9	45	11.8	0.89		118	62	184	107	-	-		
112.00	**110.25**	9.1	298.0	45	11.8	0.89		121	66	186	110	-	-		

MC.RV..08, n_1 = 1000rpm								P_{TH}						398000 lb-in	
i_N	i_{ex}	n_2 [rpm]	M_{N2} [lb-in]	P_{N1} [HP]	F_{Ra} [lb] x1000	F_{Re} [lb] x1000		$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F	 $P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F	 $P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F		
7.10	**6.95**	144	257.9	603	6.0	3.23		89	*)	212	70	-	-		
8.00	**7.82**	128	271.8	564	6.4	4.06		99	*)	223	82	-	-		
9.00	**8.88**	113	286.8	524	6.8	4.40	**MC2RVSF08**	110	*)	235	93	-	-		
10.00	**9.74**	103	263.3	443	8.1	3.28	**MC2RVHF08** **MC2RVHT08**	118	*)	243	102	-	-	366	434
11.20	**10.96**	91	282.1	422	8.3	4.05		129	*)	253	111	-	-		
12.50	**12.45**	80	299.9	395	8.6	4.41		138	*)	264	122	-	-		
14.00	**14.48**	69	260.5	296	10.8	*)		107	39	197	102	-	-		
16.00	**16.30**	61	293.3	296	10.9	*)		113	44	204	109	-	-		
18.00	**18.51**	54	333.1	296	10	*)		119	51	211	115	-	-		
20.00	**20.25**	49	318.6	258	10.8	0.74		123	55	215	119	-	-		
22.50	**22.80**	44	358.8	258	9.8	0.74		129	60	220	126	-	-		
25.00	**25.89**	39	407.4	258	8.6	0.74		134	66	225	131	-	-		
28.00	**29.06**	34	396.3	224	9.9	1.82		139	71	231	137	-	-		
31.50	**33.00**	30	418.1	208	10.5	2.31		143	76	236	142	-	-		
35.50	**34.90**	29	374.5	178	13.7	1.58	**MC3RVSF08**	146	78	239	145	-	-		
40.00	**39.18**	26	407.8	173	12.5	1.79	**MC3RVHF08**	150	82	243	149	-	-	382	437
45.00	**44.49**	22	423.5	158	13.7	2.38	**MC3RVHT08**	156	87	248	154	-	-		
50.00	**49.82**	20	395.6	132	15.0	3.42		160	91	252	158	-	-		
56.00	**56.62**	18	425.8	125	15.0	1.47		164	95	256	162	-	-		
63.00	**63.41**	16	398.6	104	15.0	2.61		166	99	260	166	-	-		
71.00	**70.39**	14	328.3	77	15.0	2.13		135	68	216	122	-	-		
80.00	**79.93**	13	372.8	77	15.0	2.13		139	71	220	126	-	-		
90.00	**89.53**	11	403.8	75	15.0	2.31		143	75	224	130	-	-		
100.00	**96.71**	10	301.2	52	15.0	0.75		145	76	227	131	-	-		
112.00	**108.32**	9.2	341.7	52	15.0	0.71		148	79	229	134	-	-		

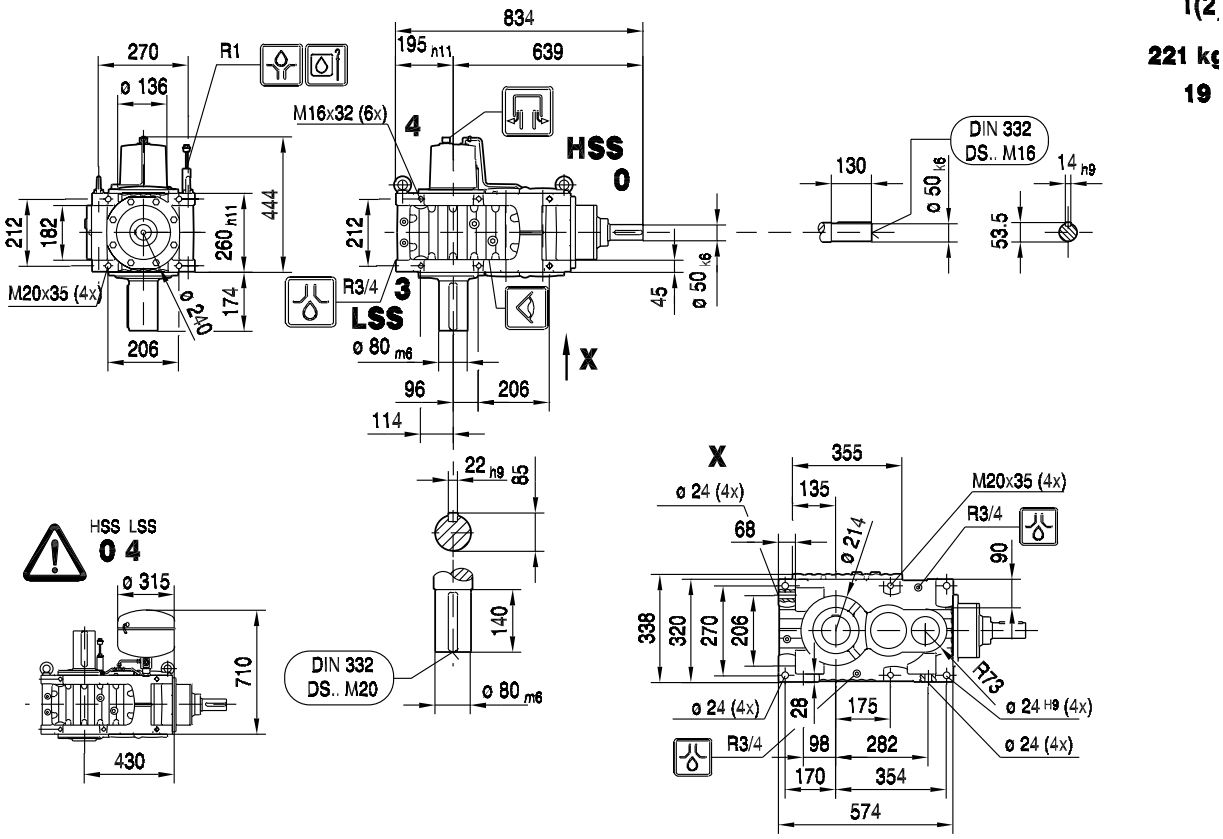
MC.RV..09, n_1 = 1000rpm														486000 lb-in	
7.10	**6.85**	146	354.9	841	7.7	2.72		101	*)	241	*)	-	-		
8.00	**7.92**	126	378.6	775	8.3	4.15		115	*)	259	95	-	-		
9.00	**8.89**	112	396.5	724	8.8	5.2	**MC2RVSF09**	127	*)	271	107	-	-		
10.00	**9.61**	104	364.5	622	10.1	2.62	**MC2RVHF09** **MC2RVHT09**	135	*)	279	115	-	-	368	434
11.20	**11.11**	90	394.1	582	10.5	3.82		149	*)	294	130	-	-		
12.50	**12.47**	80	415.8	547	11.0	4.87		160	*)	304	141	-	-		
14.00	**14.28**	70	314.6	362	13.7	*)		122	44	227	117	-	-		
16.00	**16.52**	61	363.8	362	13.9	*)		131	52	235	126	-	-		
18.00	**18.54**	54	408.3	362	14.0	*)		137	59	241	133	-	-		
20.00	**19.70**	51	399.0	333	14.3	0.83		141	62	245	137	-	-		
22.50	**22.78**	44	461.4	333	14.4	0.83		149	70	253	145	-	-		
25.00	**25.57**	39	517.9	333	13.5	0.83		154	75	260	152	-	-		
28.00	**28.12**	36	506.0	296	14.7	2.21		158	80	264	156	-	-		
31.50	**31.56**	32	567.9	296	13.5	2.21		164	86	271	161	-	-		
35.50	**34.47**	29	492.3	237	16.9	2.05	**MC3RVSF09**	168	90	275	165	-	-		
40.00	**37.90**	26	519.9	228	17.0	2.49	**MC3RVHF09**	172	94	279	170	-	-	384	437
45.00	**42.54**	24	573.2	224	17.3	2.62	**MC3RVHT09**	177	98	284	176	-	-		
50.00	**48.15**	21	532.3	183	18.0	3.23		182	103	290	180	-	-		
56.00	**54.72**	18	525.4	159	18.0	2.89		186	109	295	185	-	-		
63.00	**61.94**	16	534.7	143	18.0	3.21		192	113	299	190	-	-		
71.00	**68.22**	15	455.7	111	18.0	2.07		156	76	248	139	-	-		
80.00	**76.56**	13	511.5	111	18.0	2.07		160	80	252	143	-	-		
90.00	**86.65**	12	535.6	103	18.0	2.29		164	84	257	148	-	-		
100.00	**94.51**	11	318.0	56	18.0	1.79		166	87	260	152	-	-		
112.00	**106.98**	9.3	364.2	56	18.0	1.78		170	91	264	156	-	-		

11.3.5 MC.RV.. [mm]

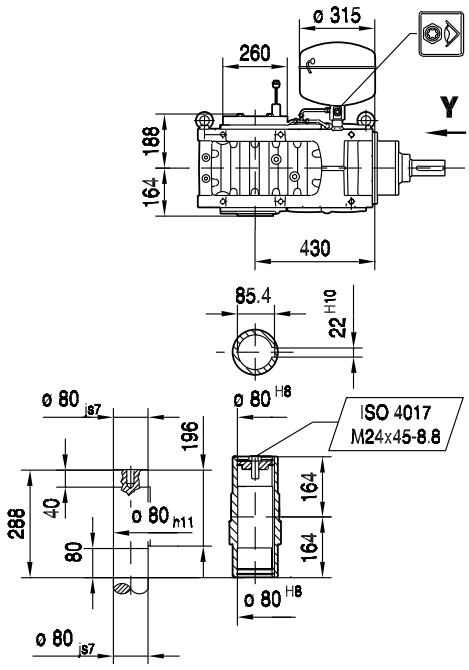
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221 kg
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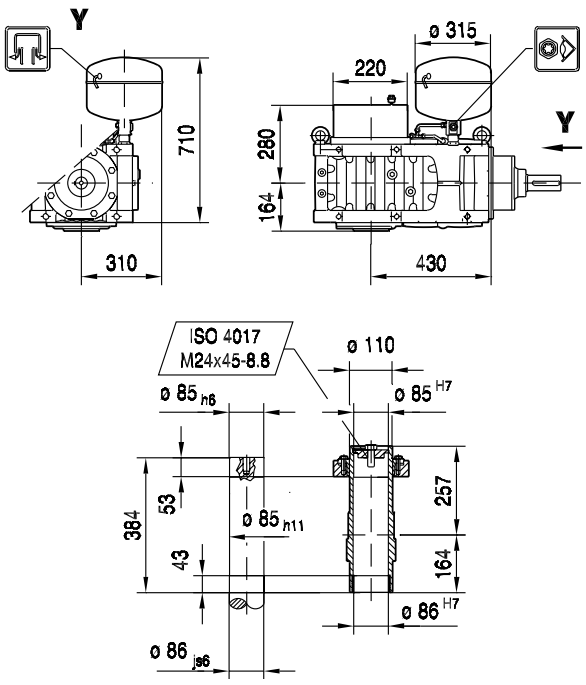
MC2RVSF02



MC2RVHF02



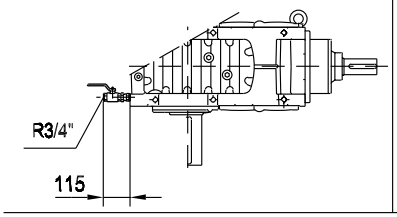
MC2RVHF02 /SD



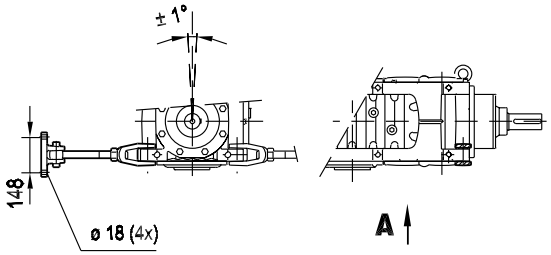
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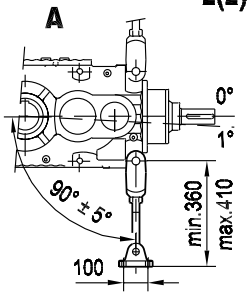
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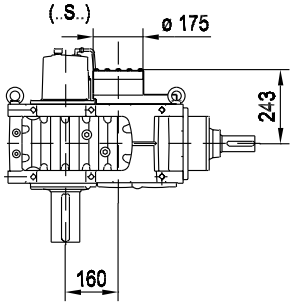


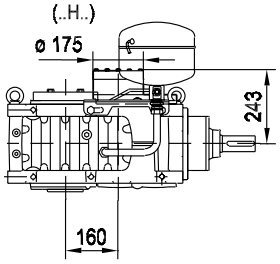
MC2RVH**T** 02

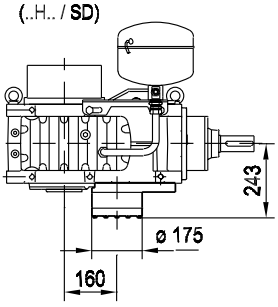




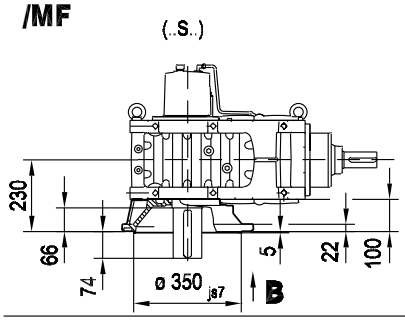
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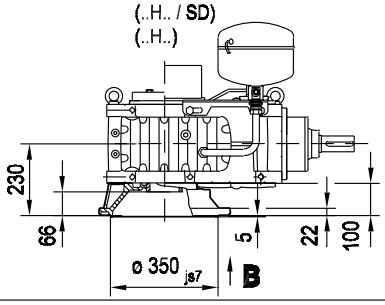


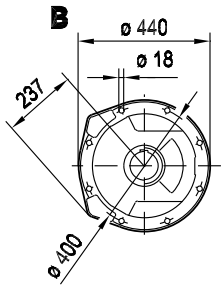




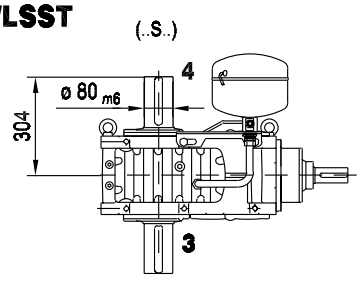
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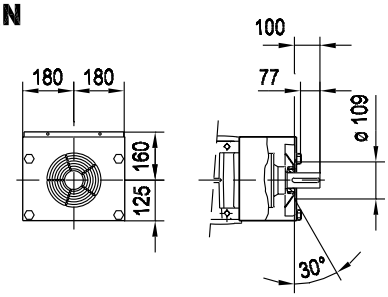




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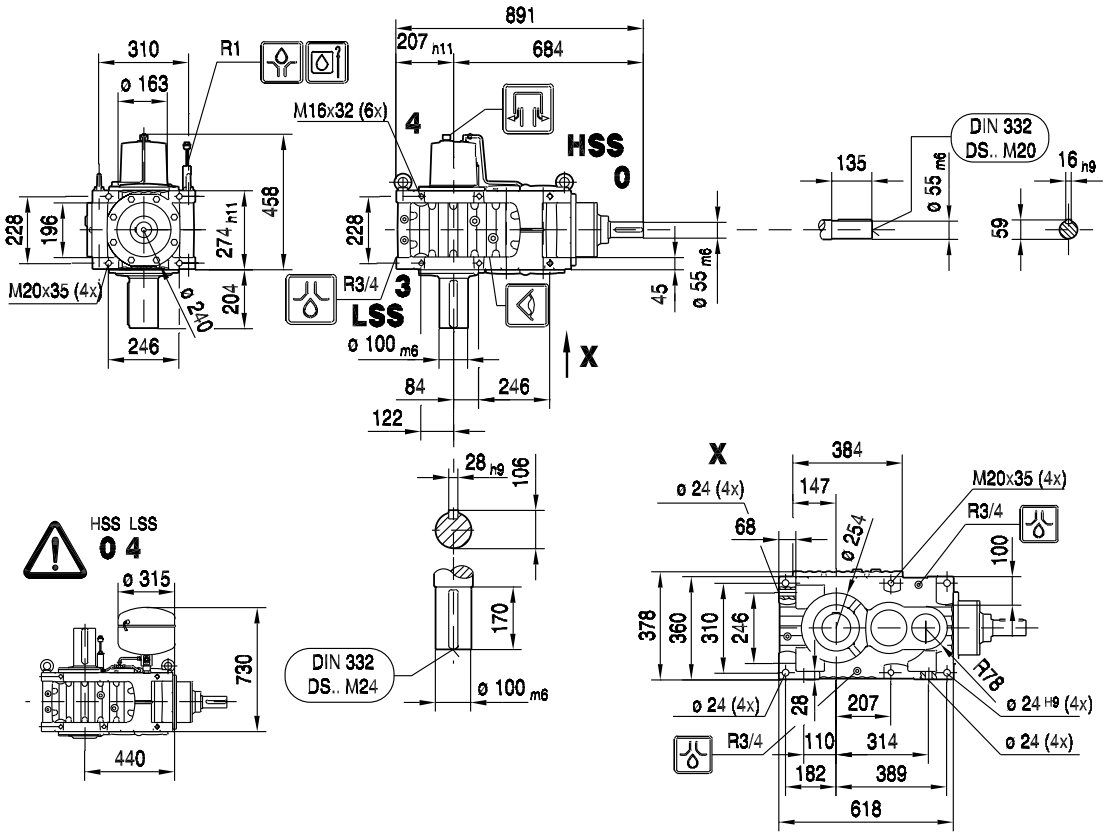
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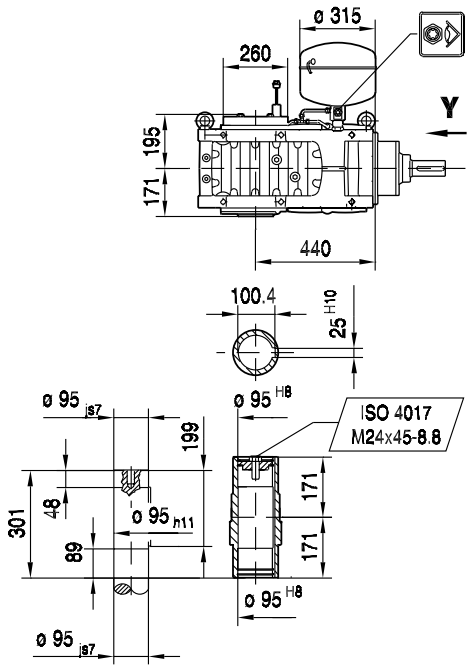
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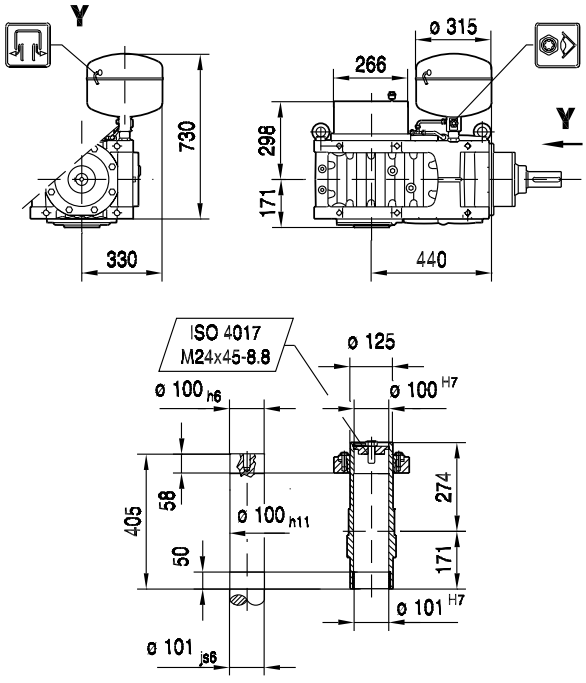
280 kg
27 l



MC2RVHF03



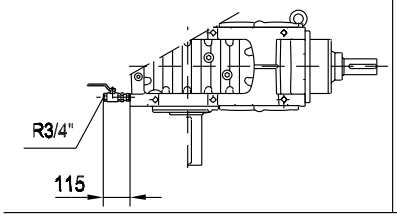
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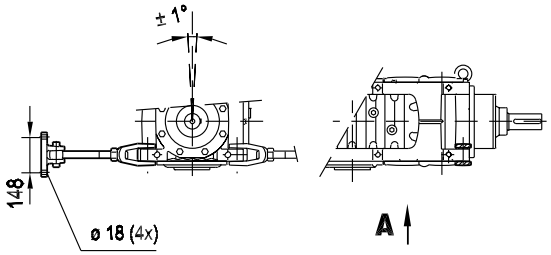
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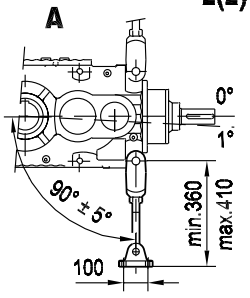
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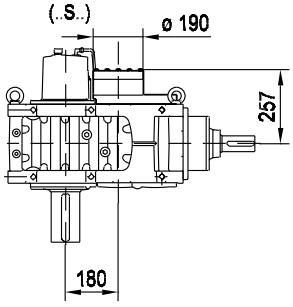


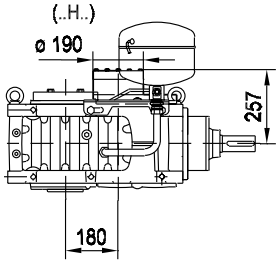
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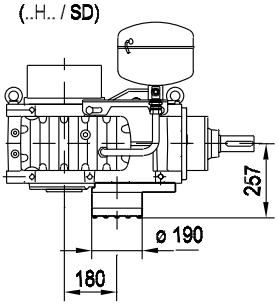




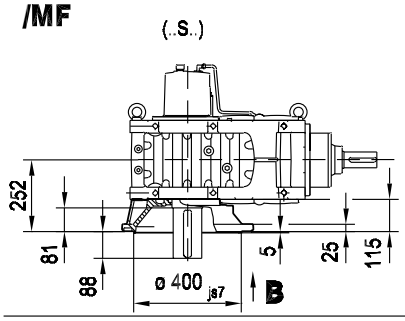
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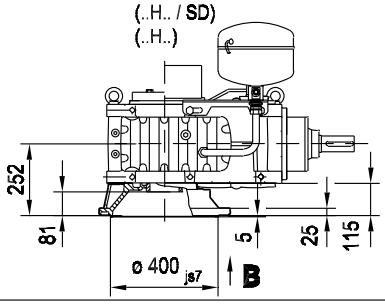


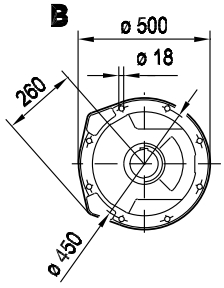




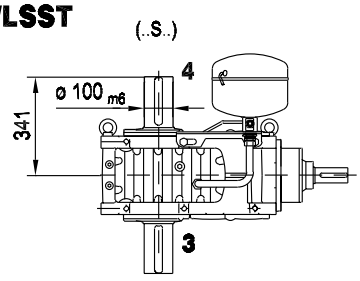
/MF



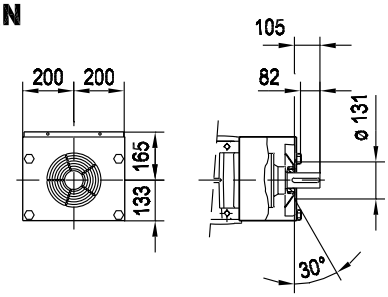




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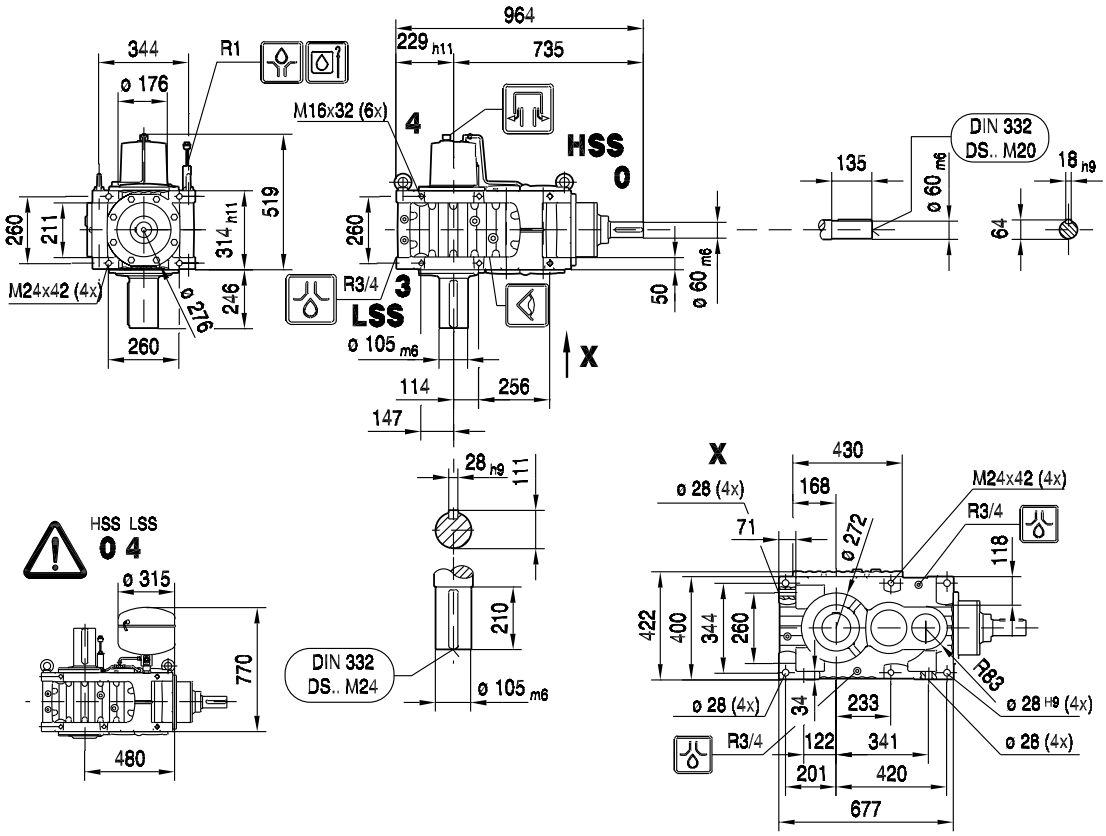
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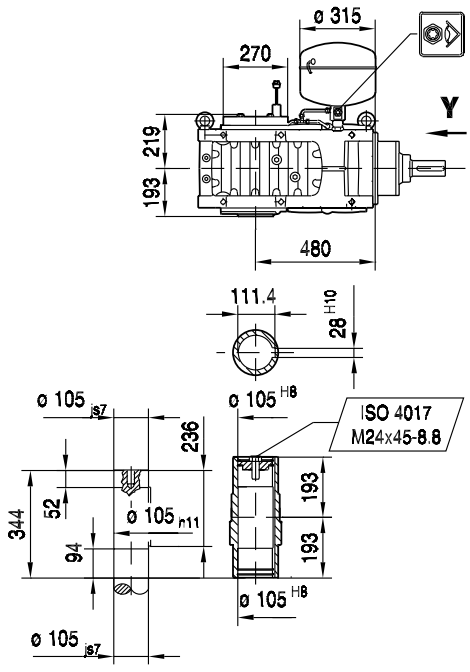
MC2RVSF04

47 083 00 03
1(2)

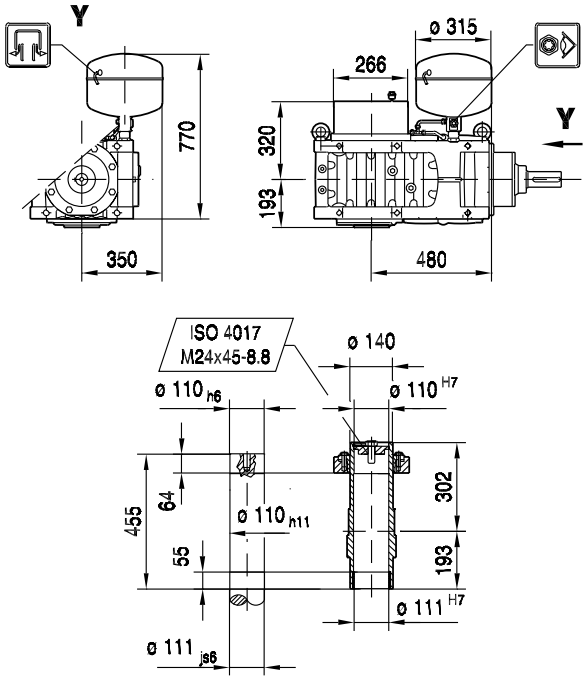
381 kg
34 l



MC2RVHF04



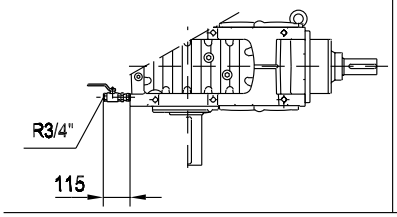
MC2RVHF04 /SD



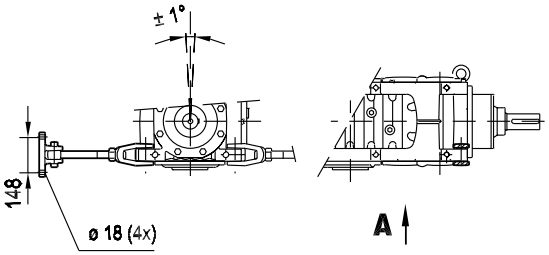
MC2RV..04

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2(2)

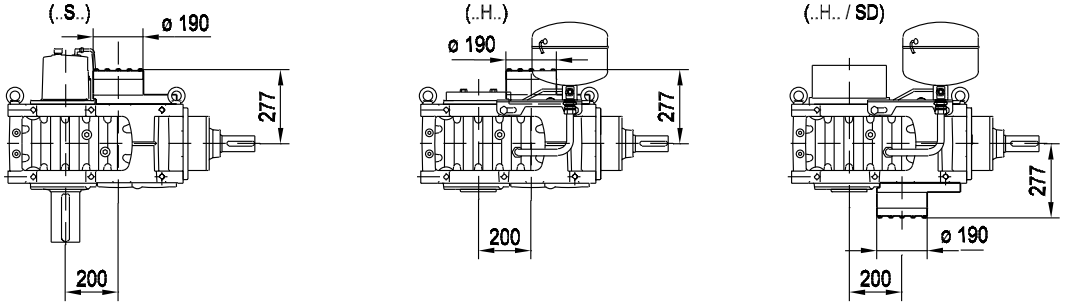
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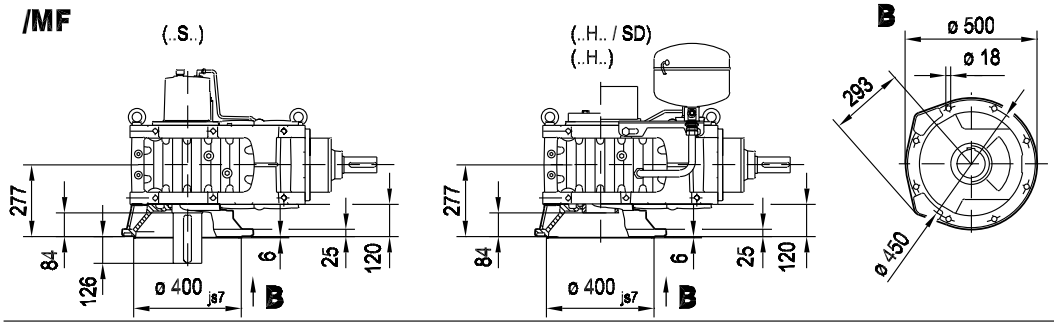
MC2RVH**T** 04



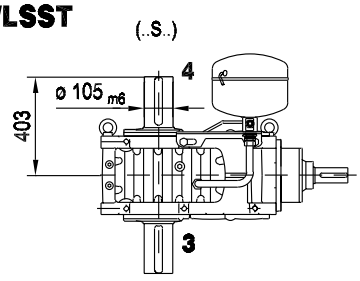
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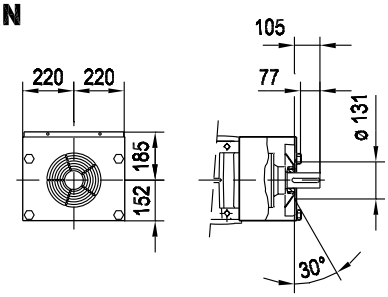
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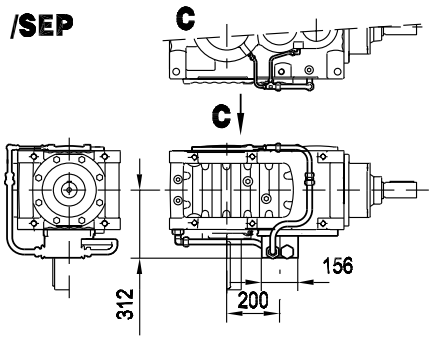
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/FAN



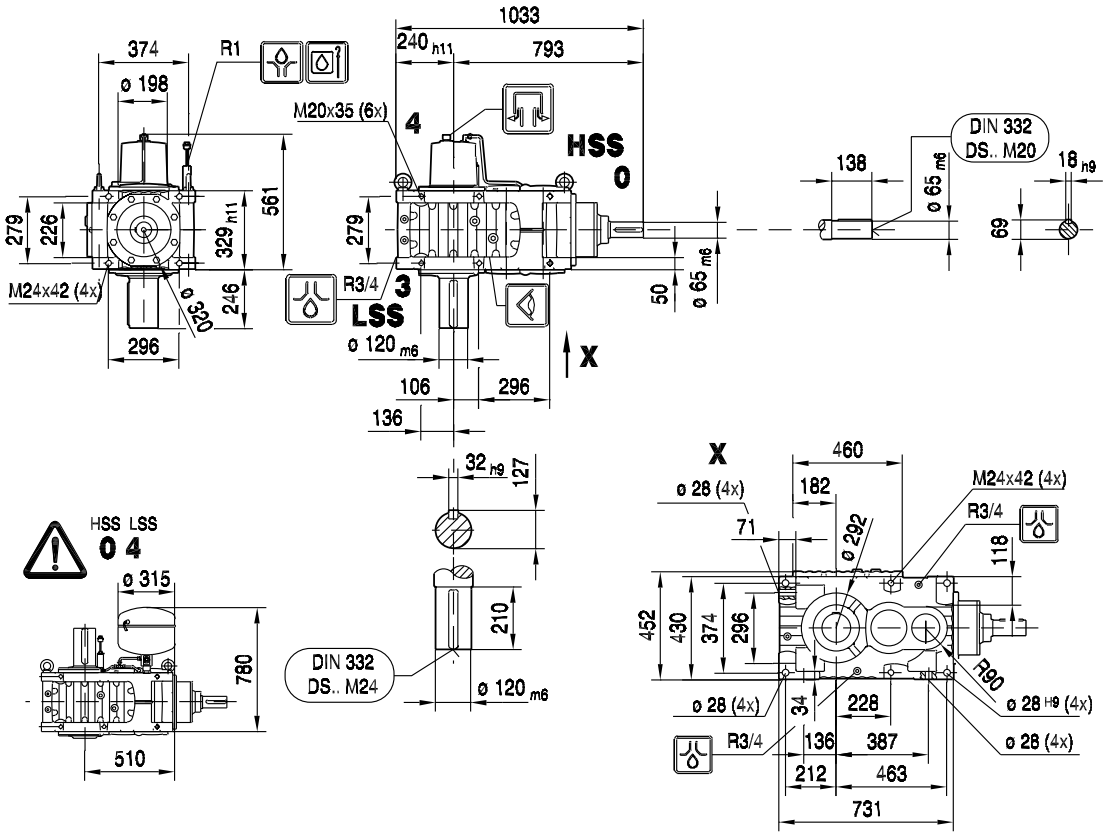
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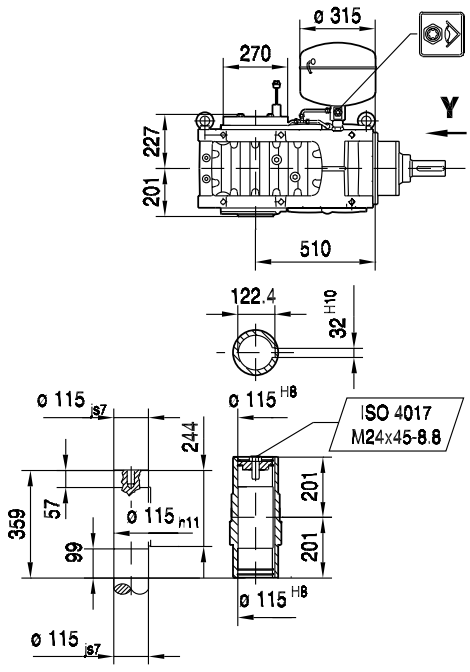
MC2RVSF05

47 084 00 03
1(2)

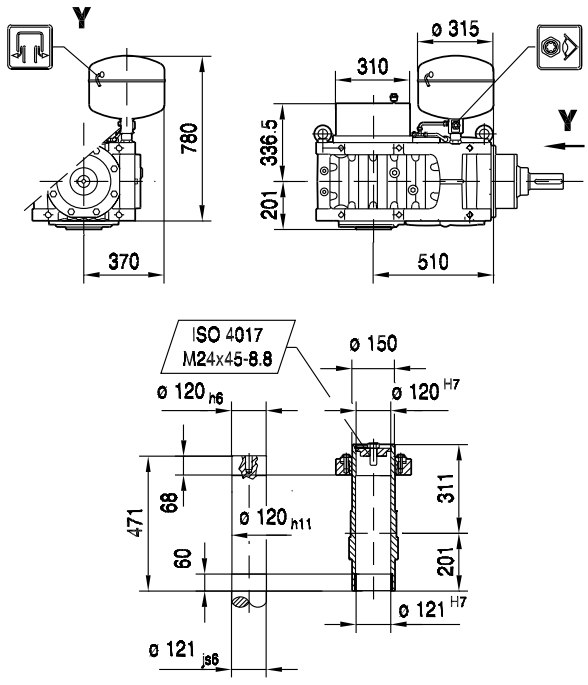
505 kg
47 l



MC2RVHF05



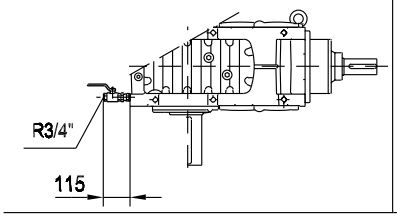
MC2RVHF05 /SD



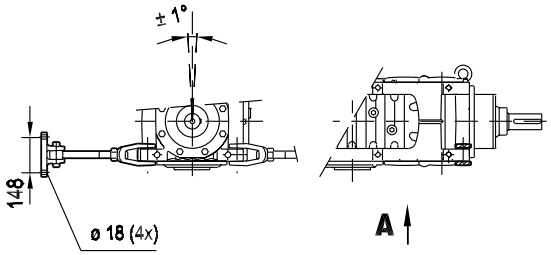
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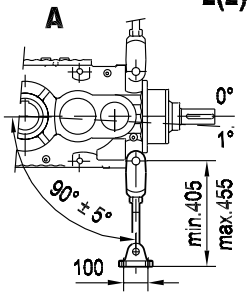
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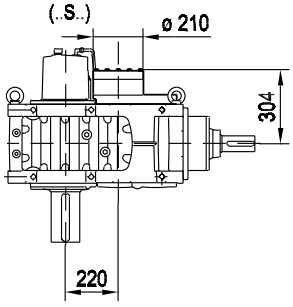


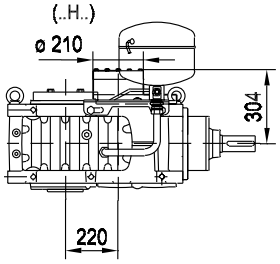
MC2RVH**T** 05

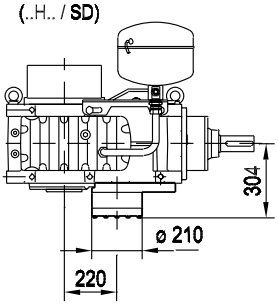




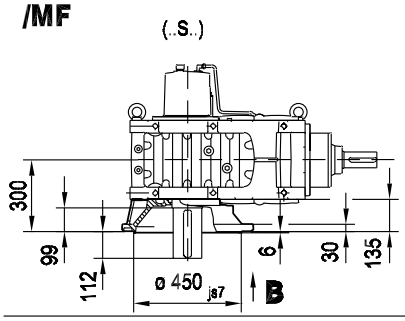
/BS

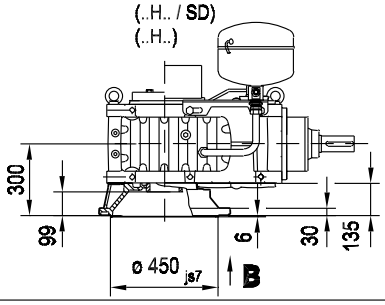


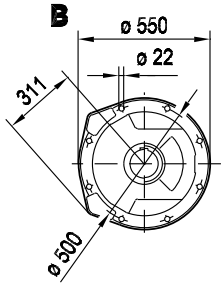




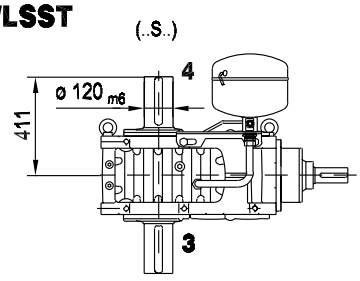
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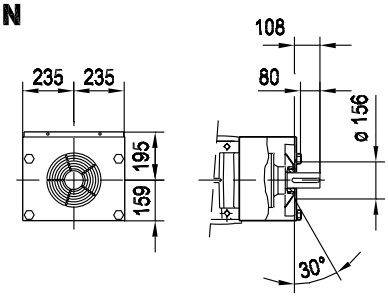




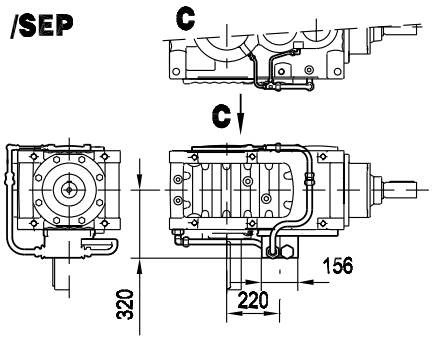
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/FAN



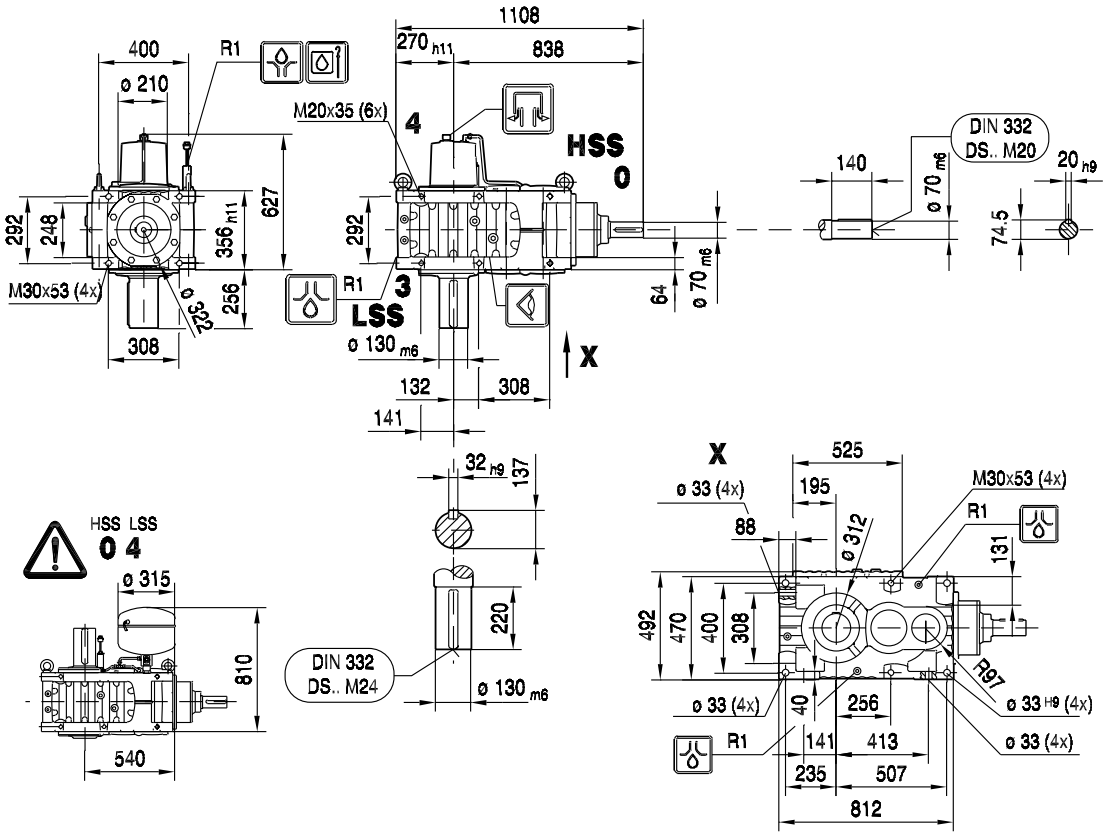
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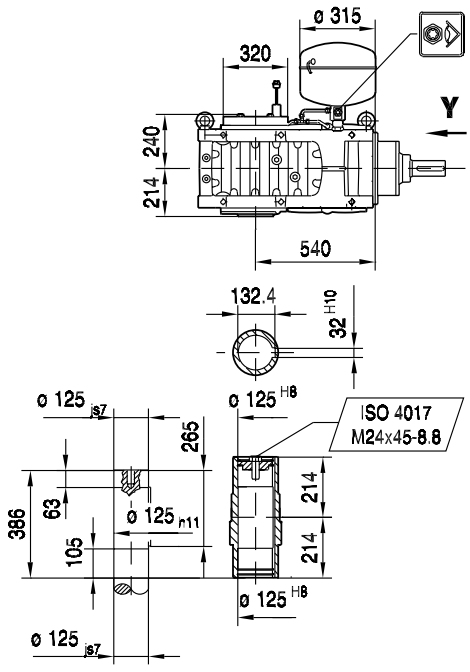
MC2RVSF06

47 085 00 03
1(2)

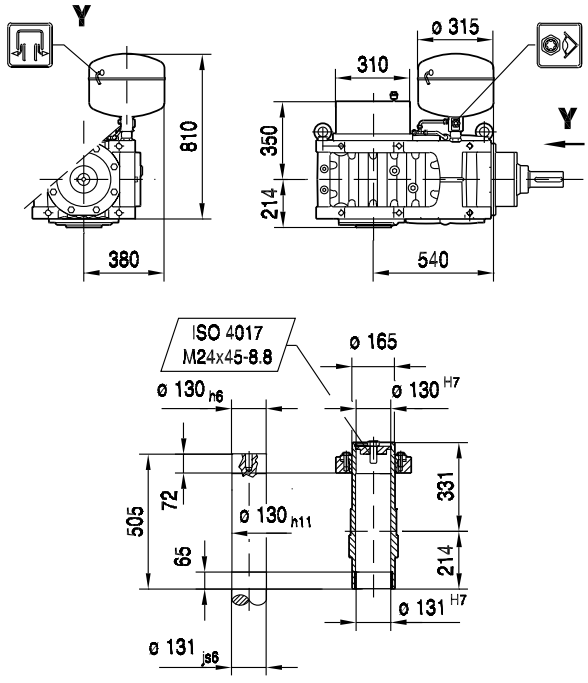
615 kg
59 l



MC2RVHF06



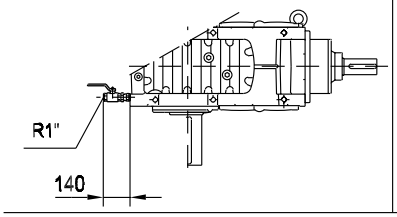
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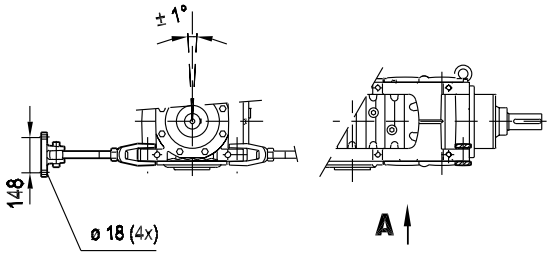
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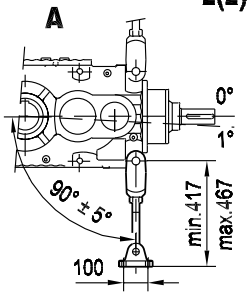
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2(2)

/ODV

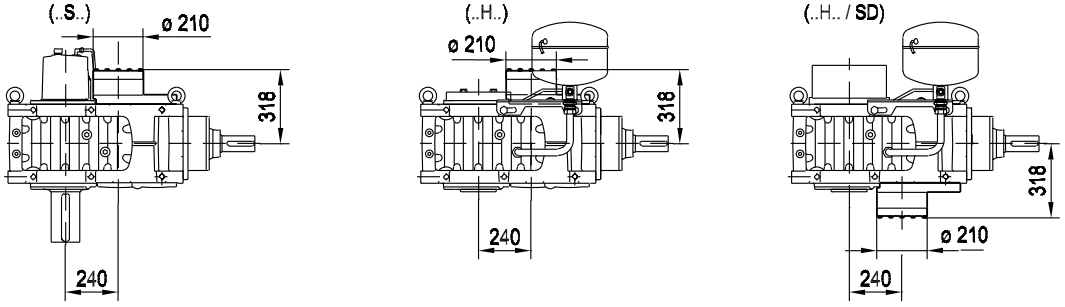


MC2RVH**T** 06

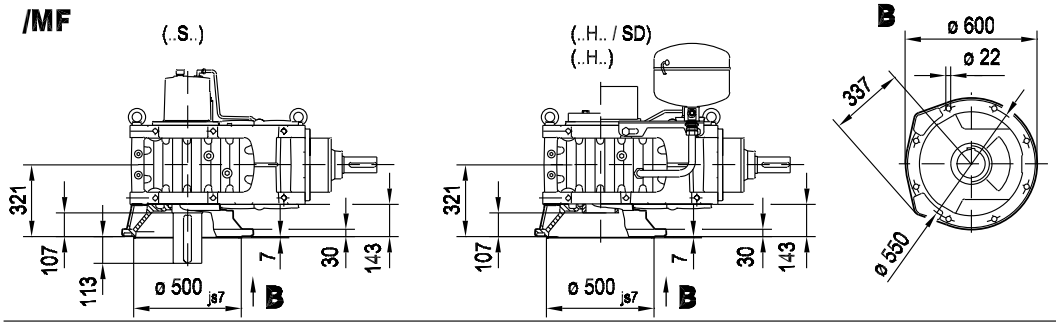




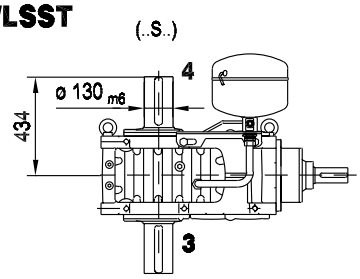
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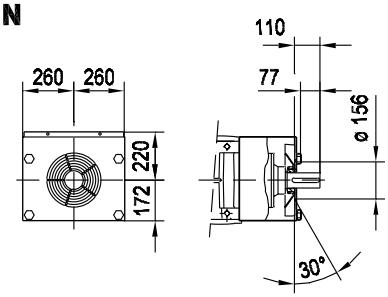
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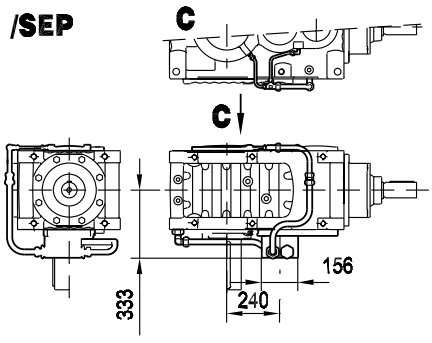
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/FAN



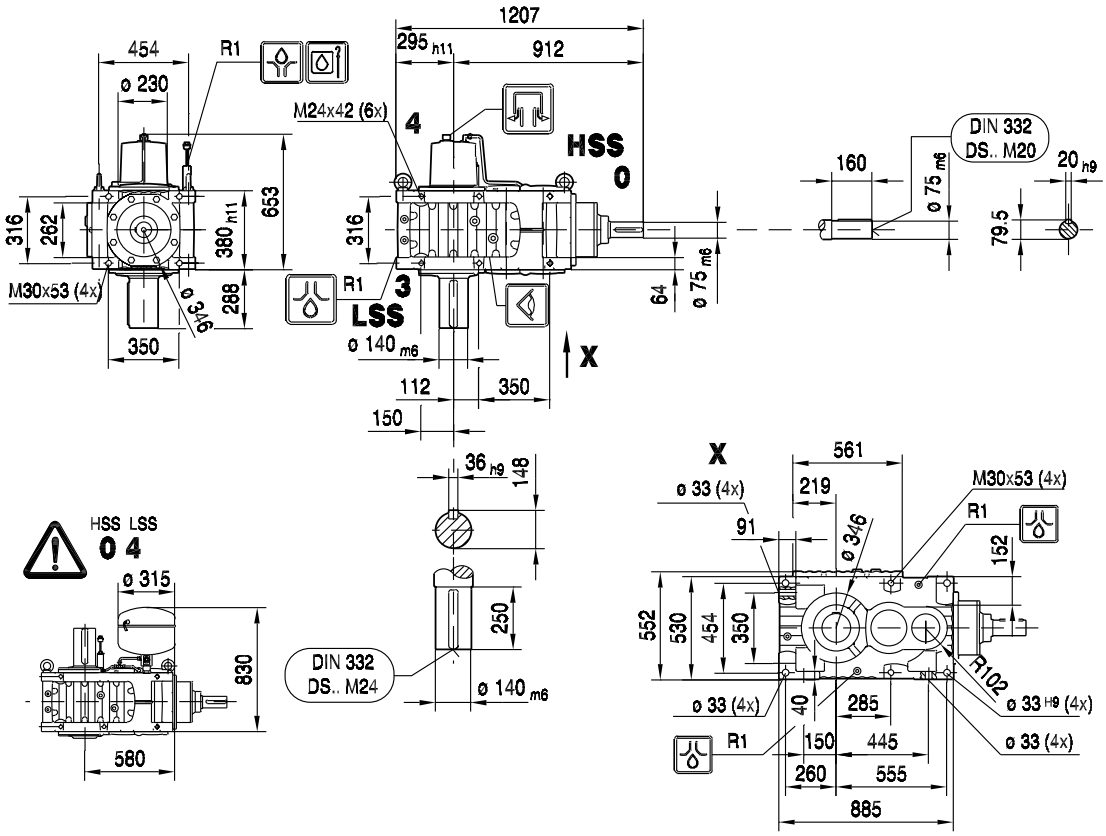
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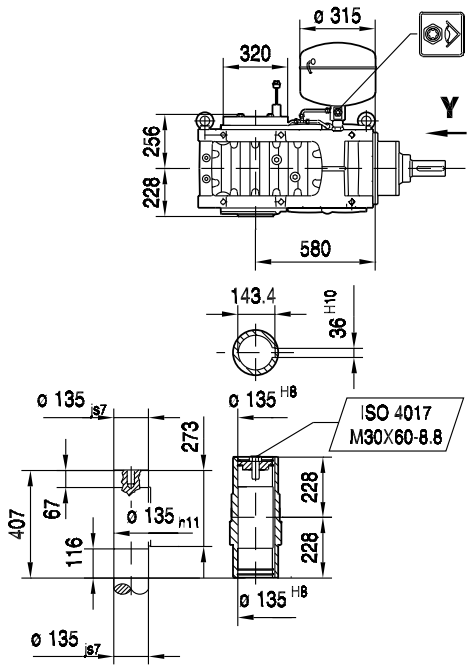
MC2RVSF07

47 086 00 03
1(2)

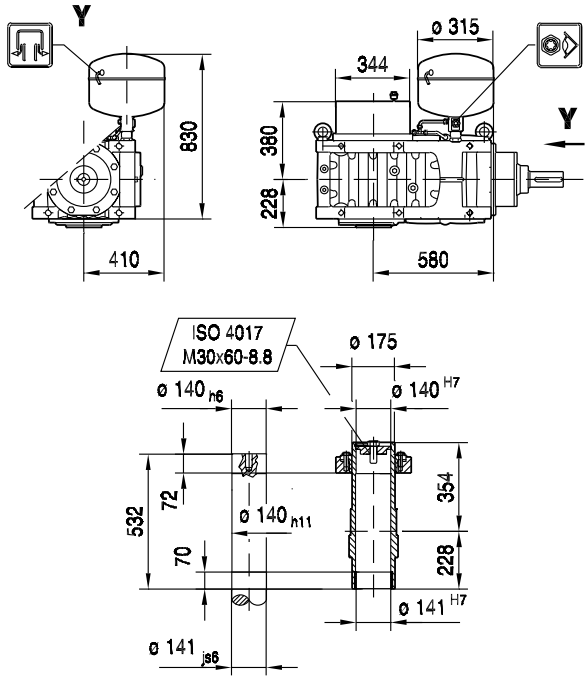
793 kg
89 l



MC2RVHF07



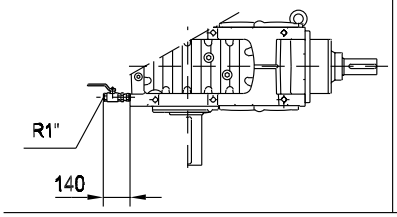
MC2RVHF07 /SD



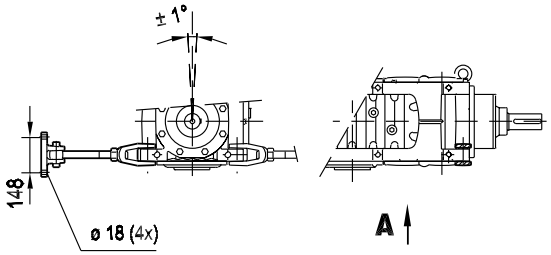
MC2RV..07

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2(2)

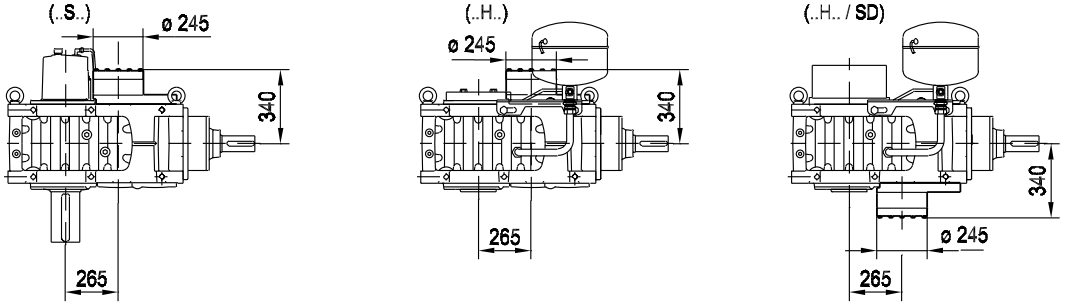
/ODV



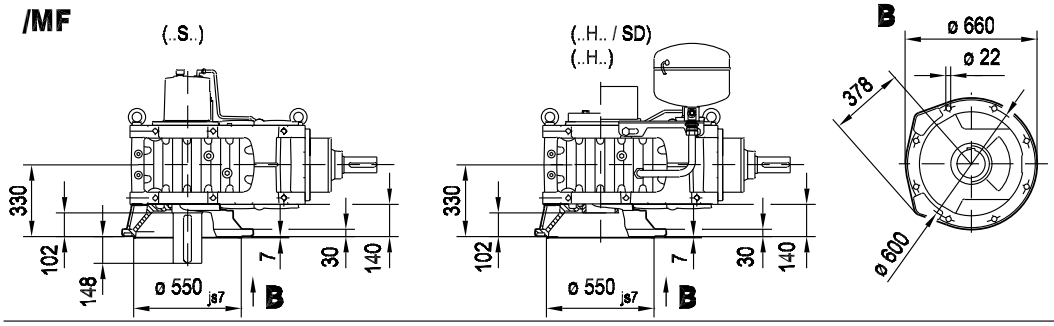
MC2RVH**T** 07



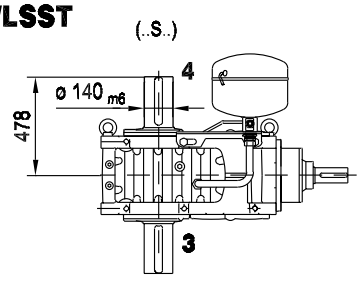
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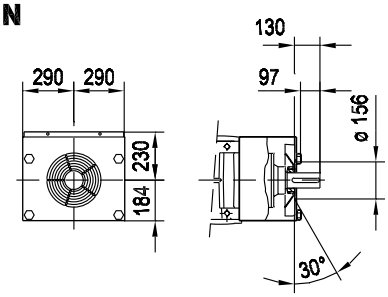
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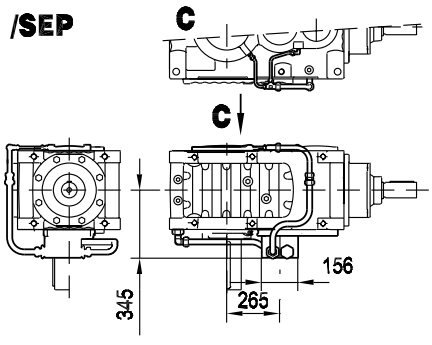
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/FAN



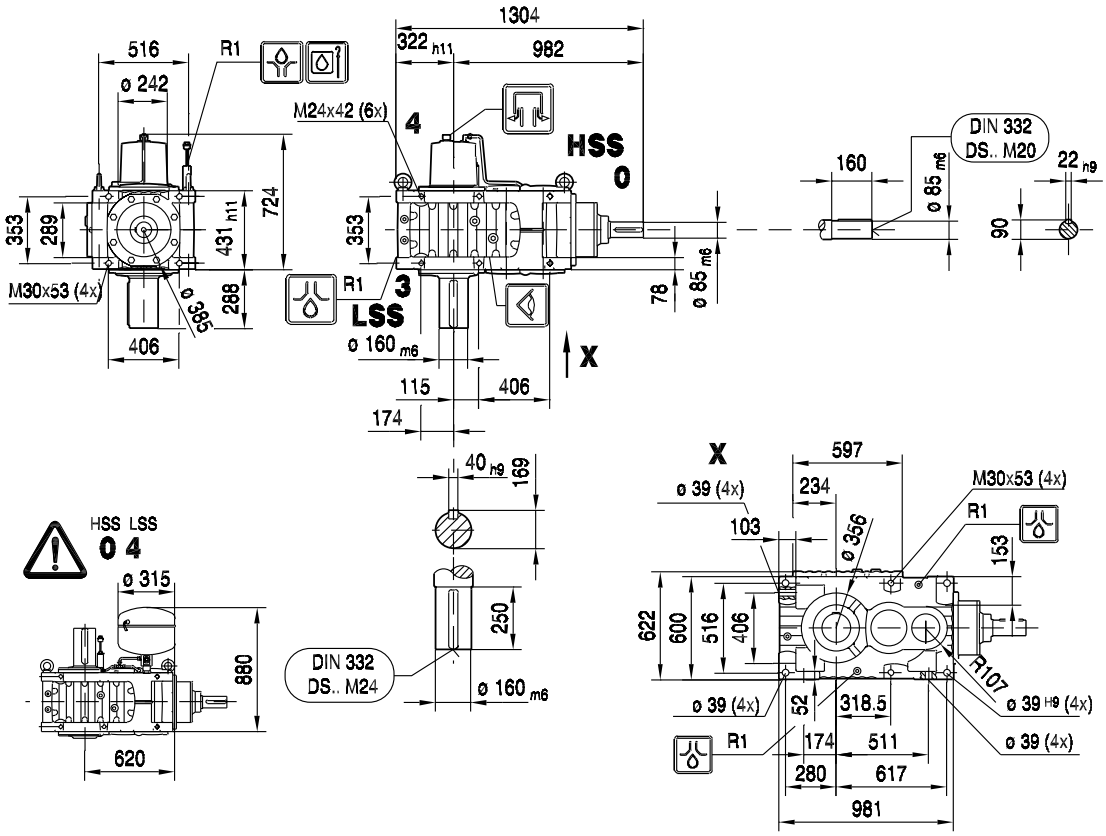
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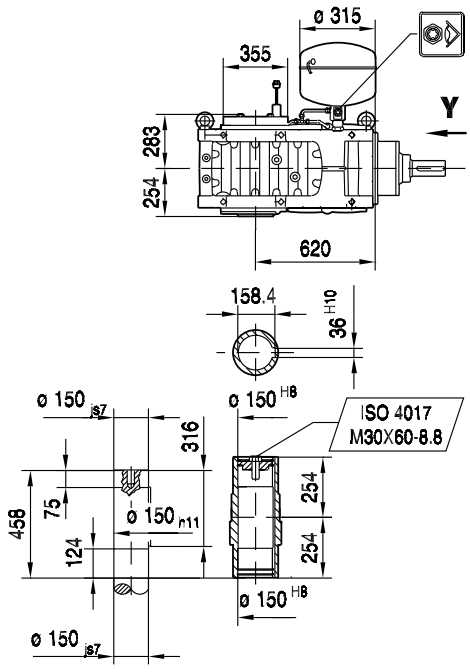
MC2RVSF08

47 087 00 03
1(2)

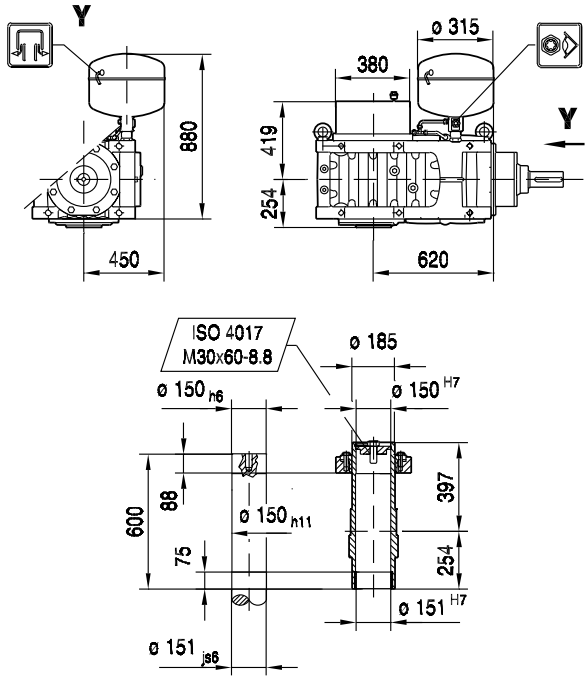
1 055 kg
111 l



MC2RVHF08



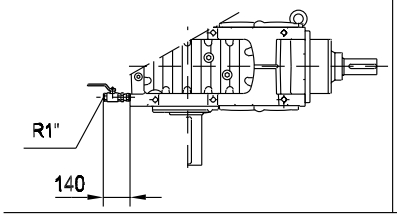
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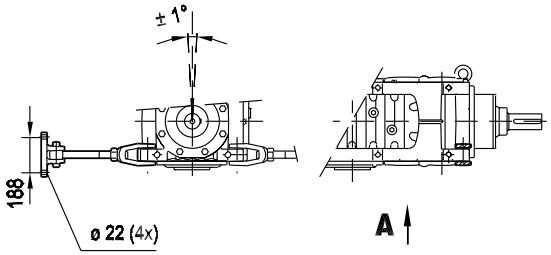
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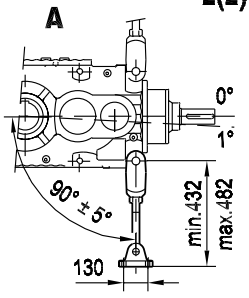
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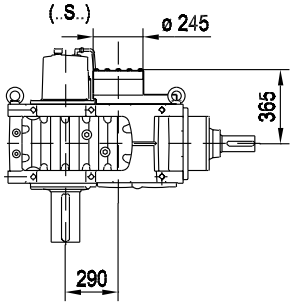


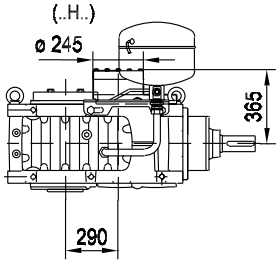
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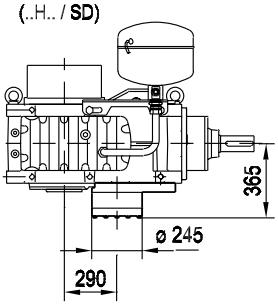




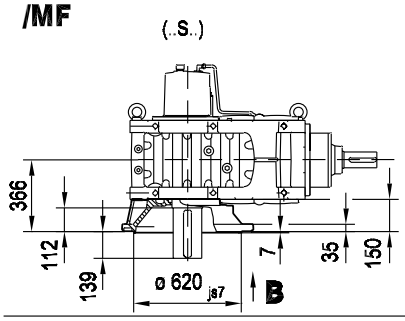
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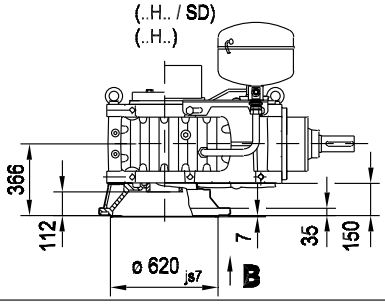


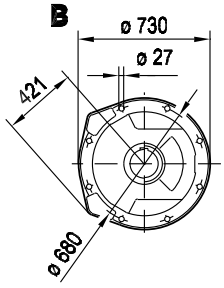




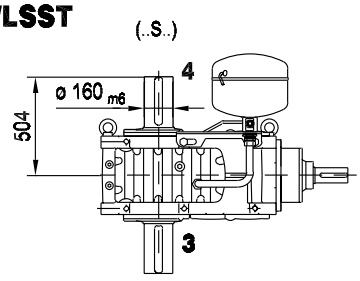
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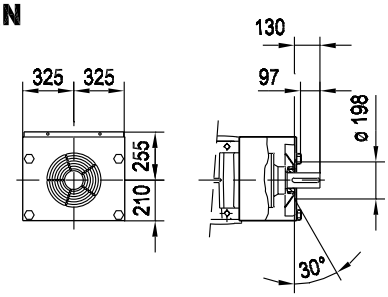




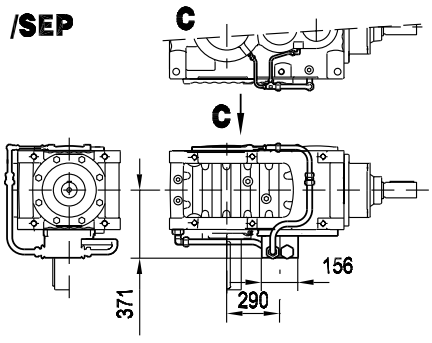
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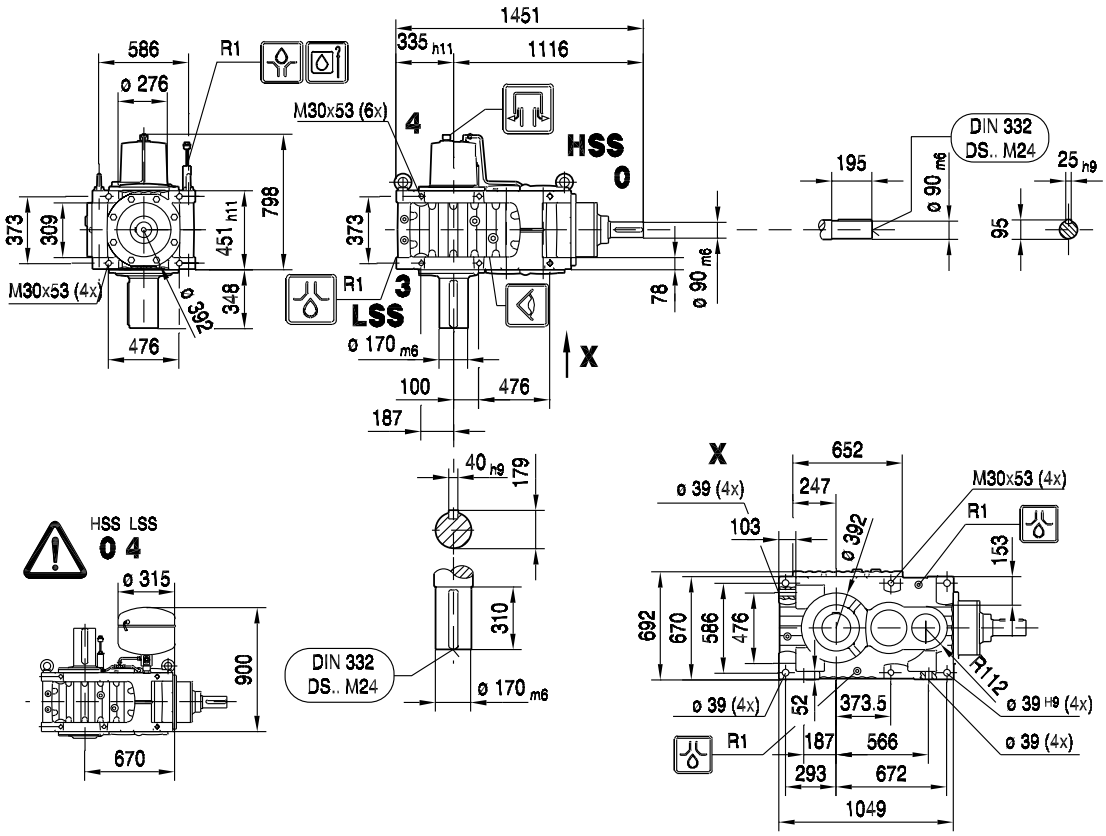
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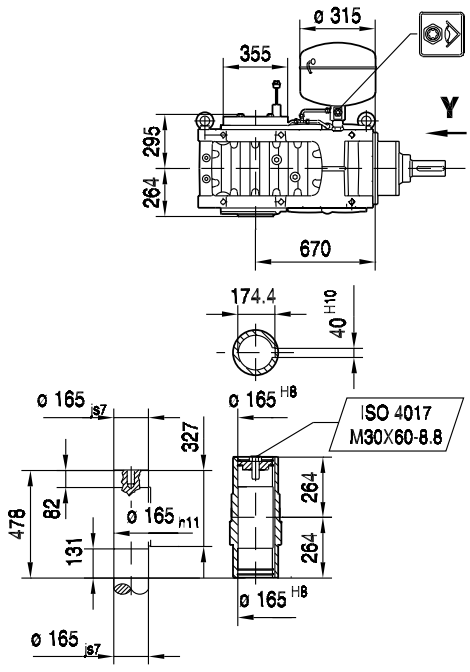
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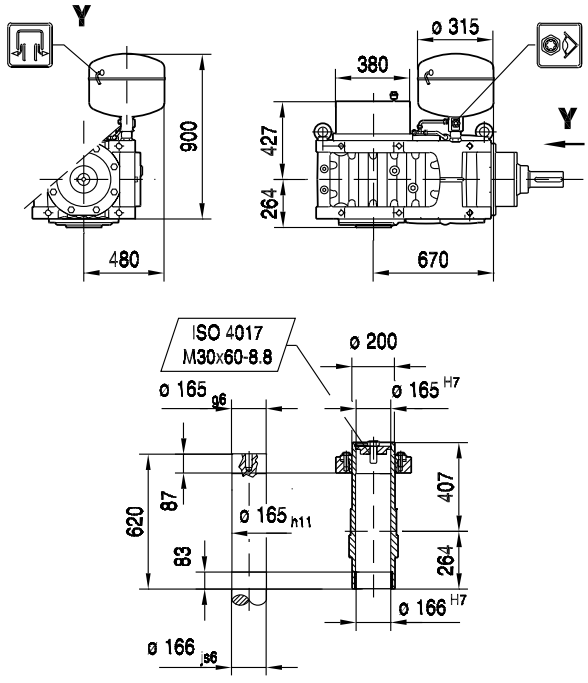
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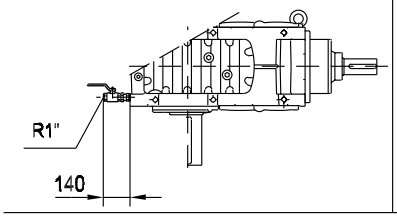
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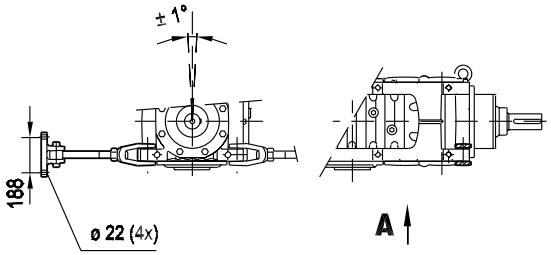
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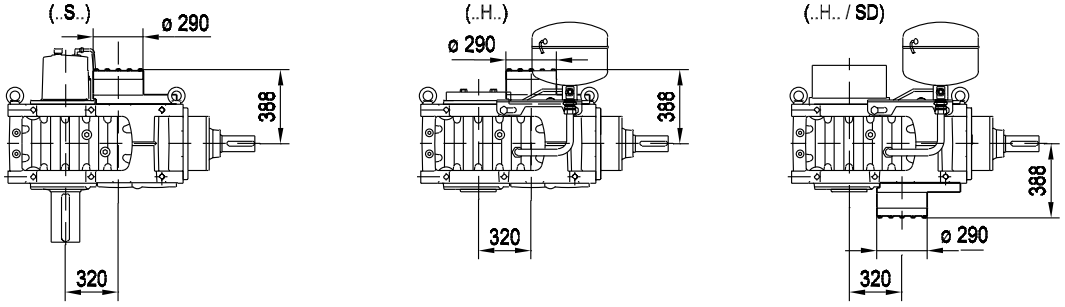
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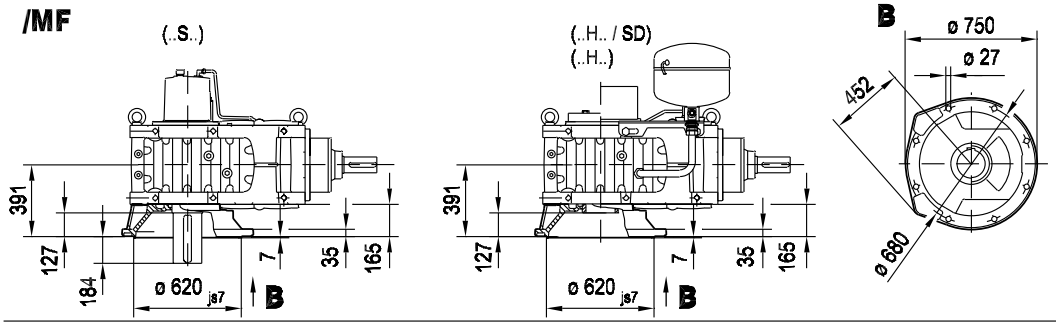
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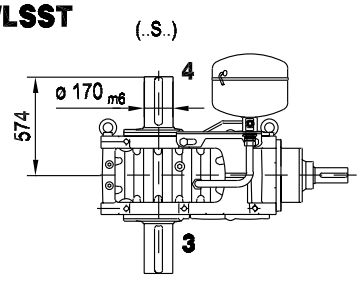
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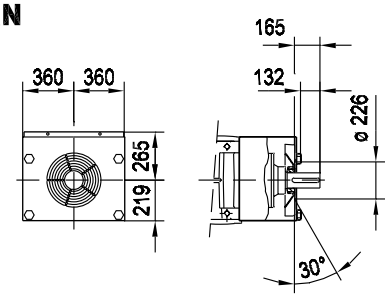
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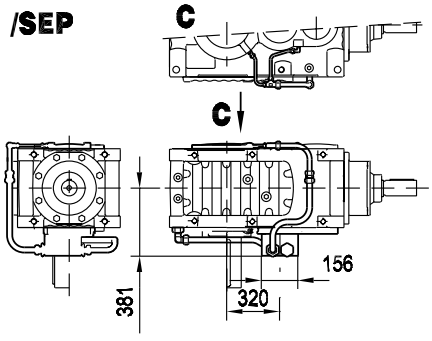
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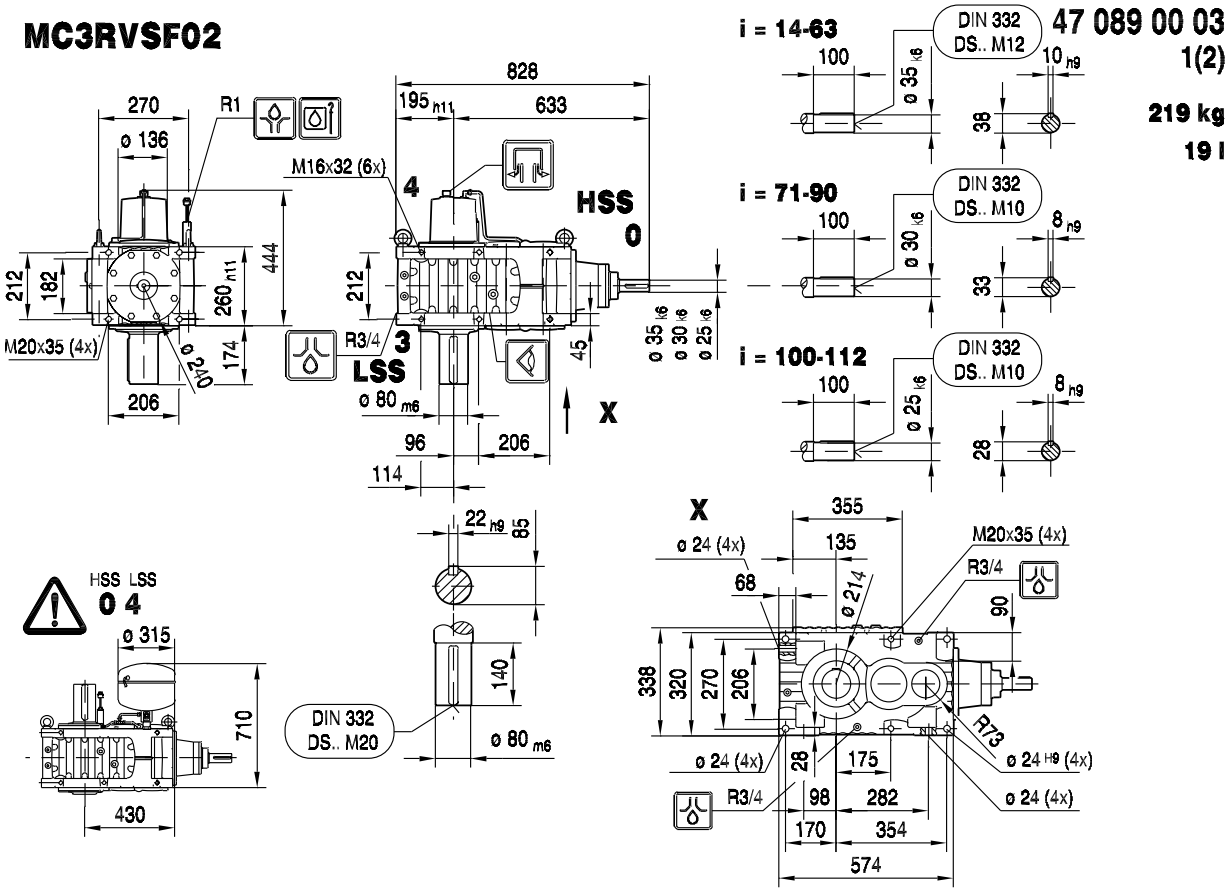
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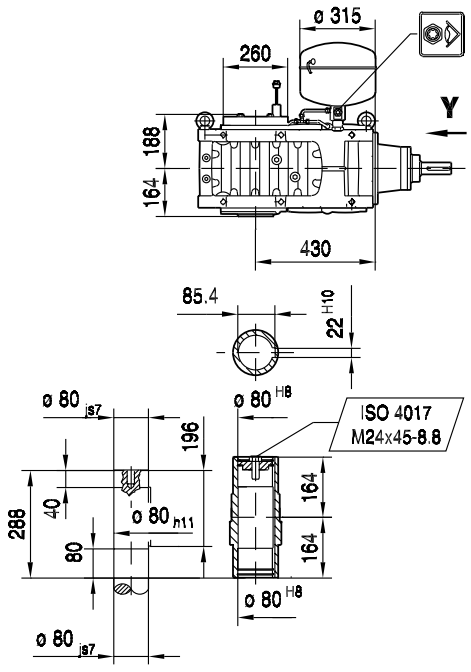
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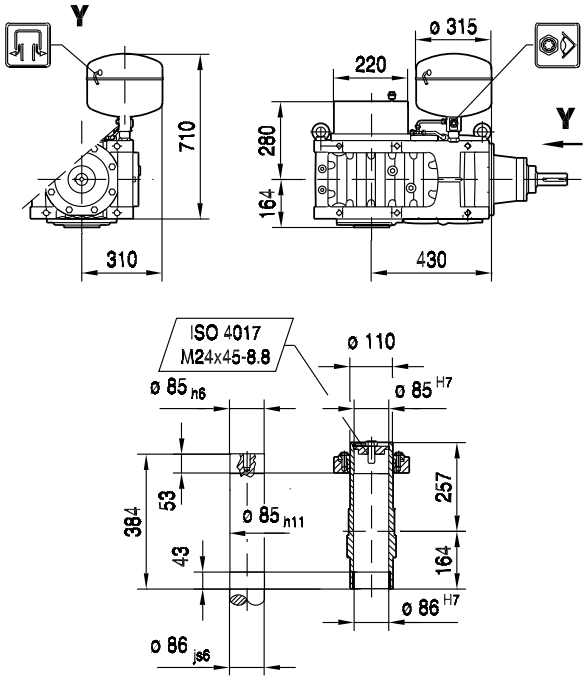
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MC3RVHF02



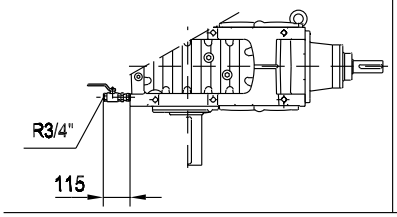
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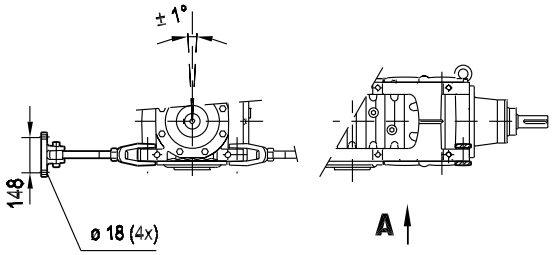
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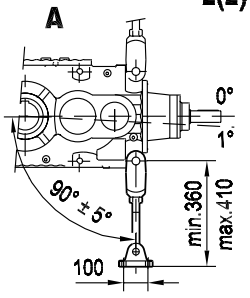
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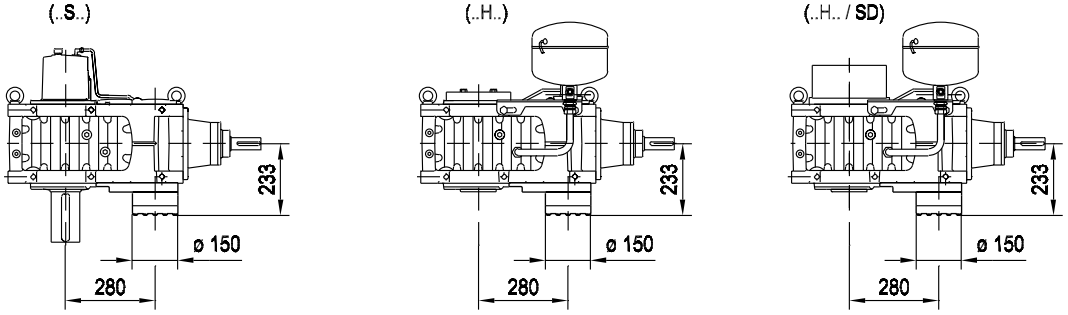


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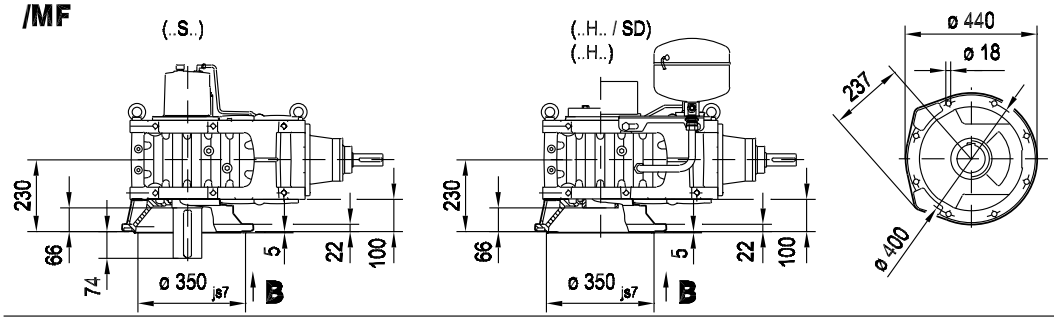




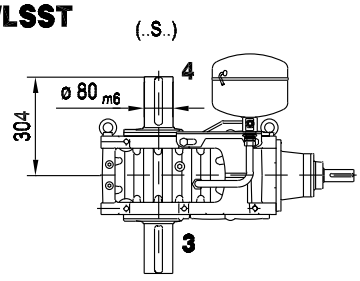
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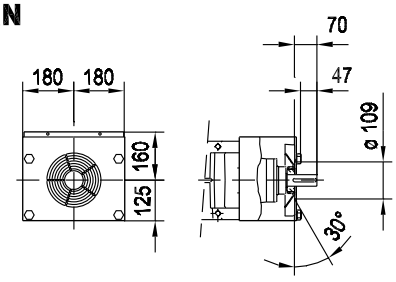
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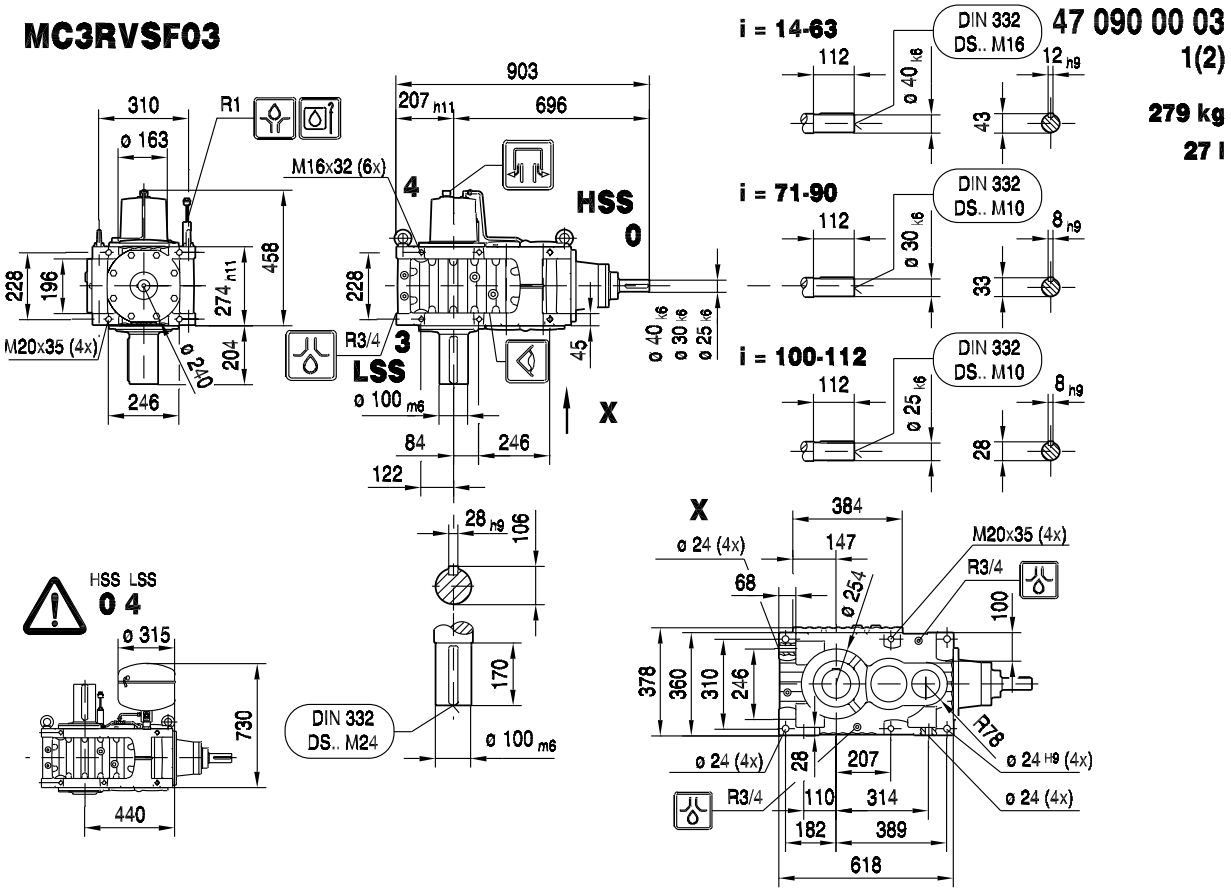
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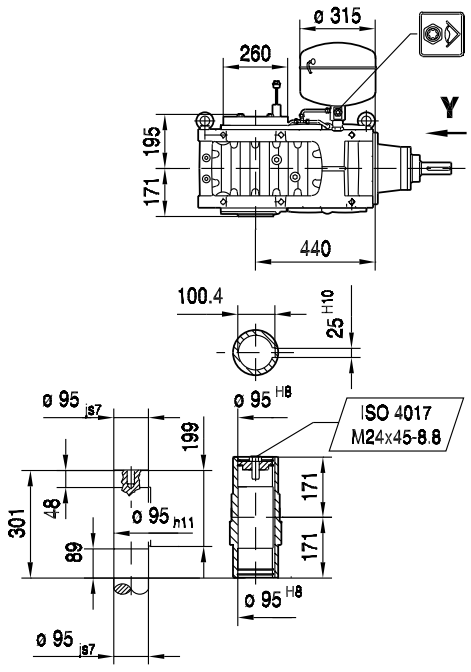
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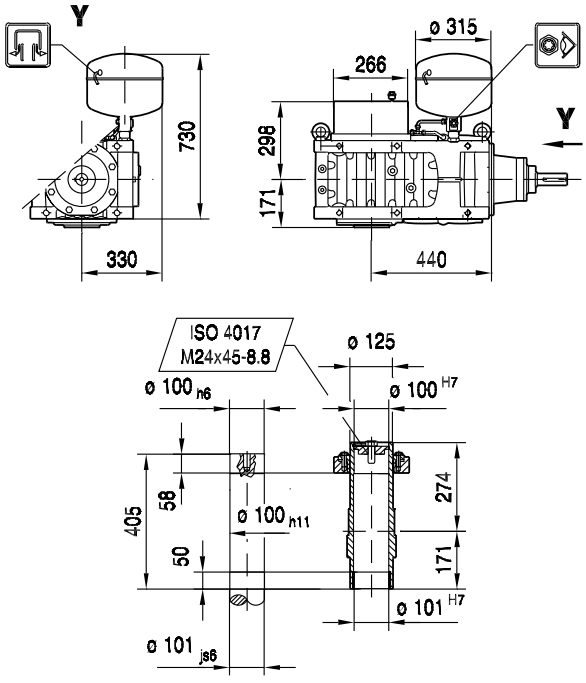
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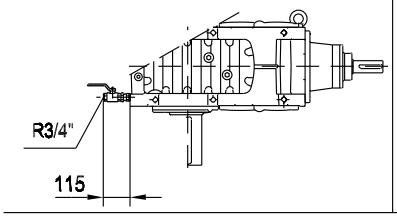
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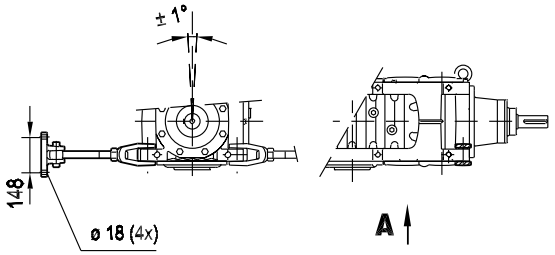
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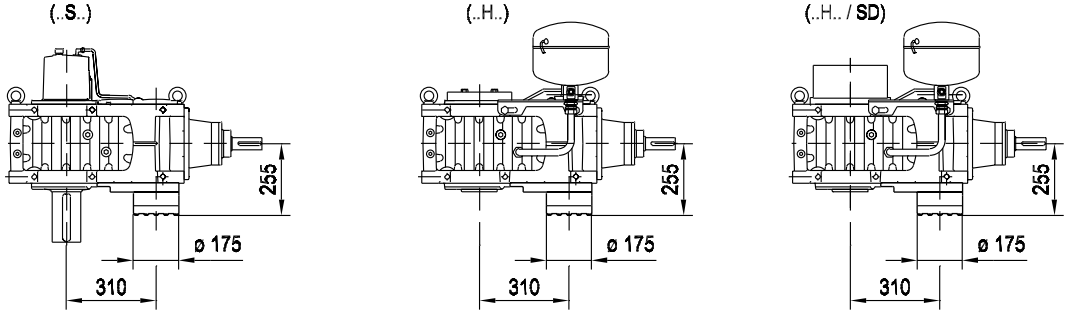
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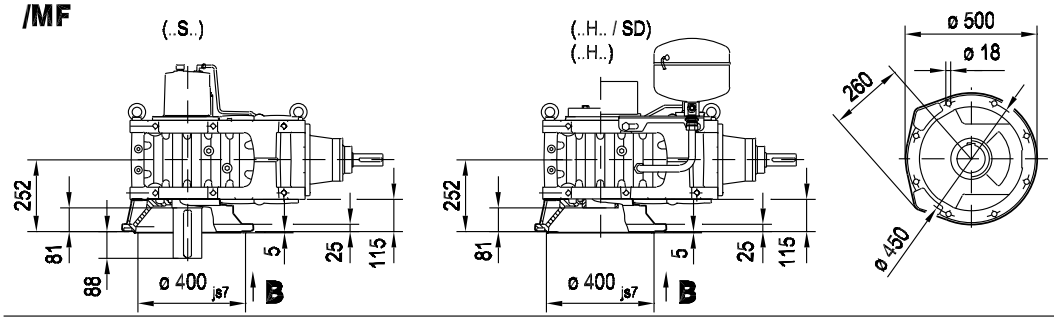
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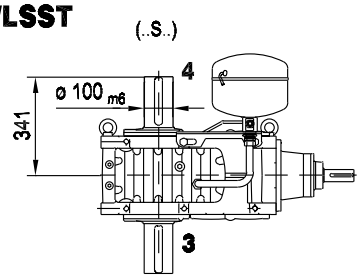
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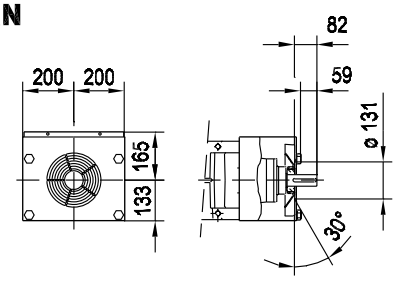
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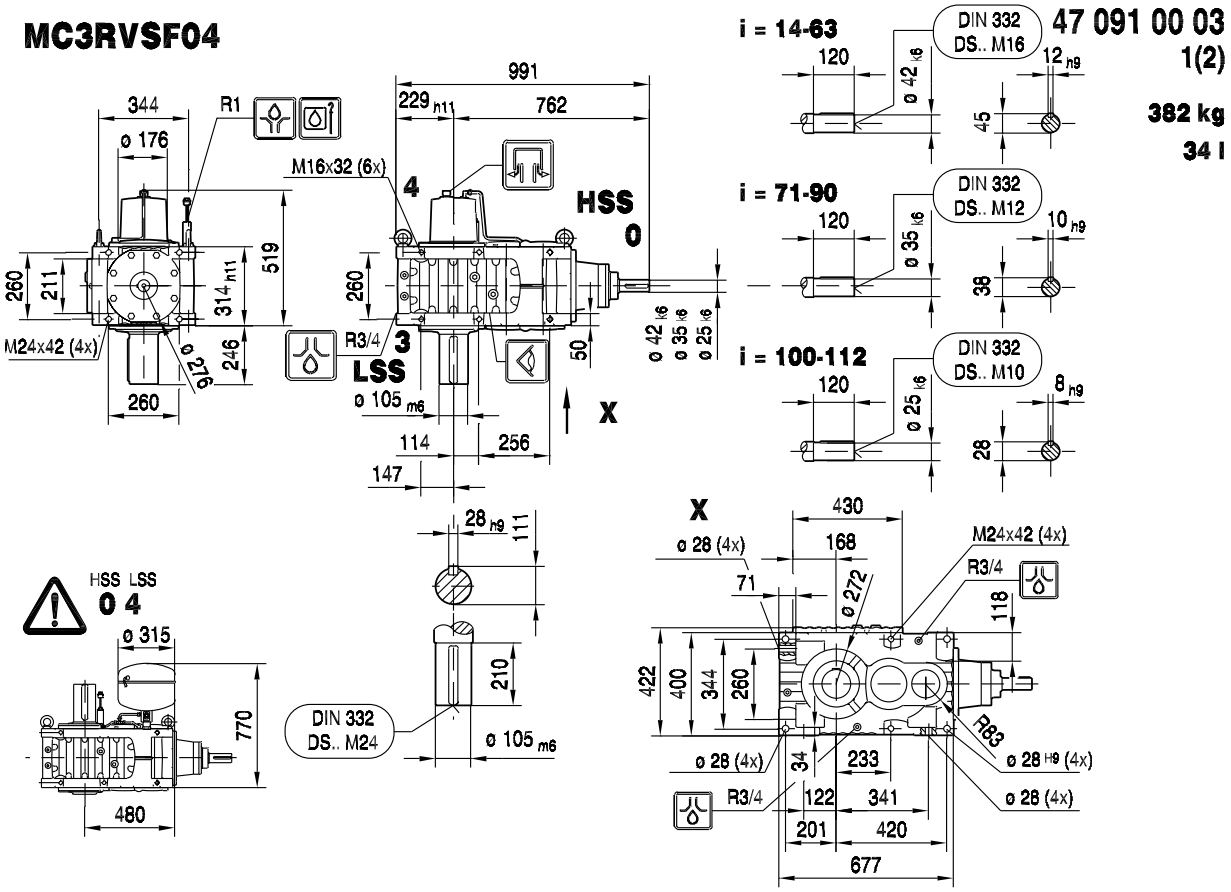
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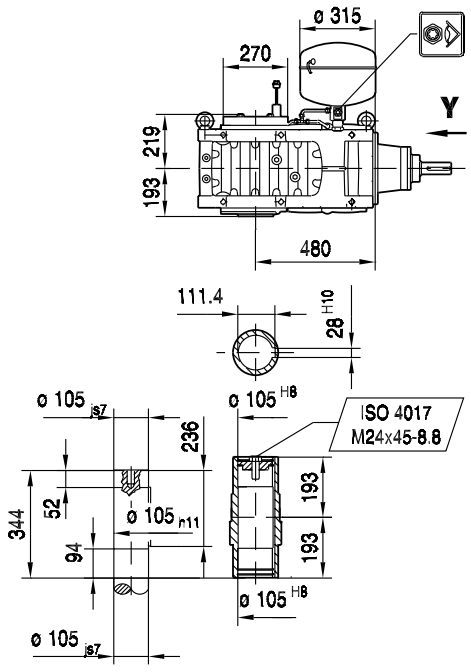
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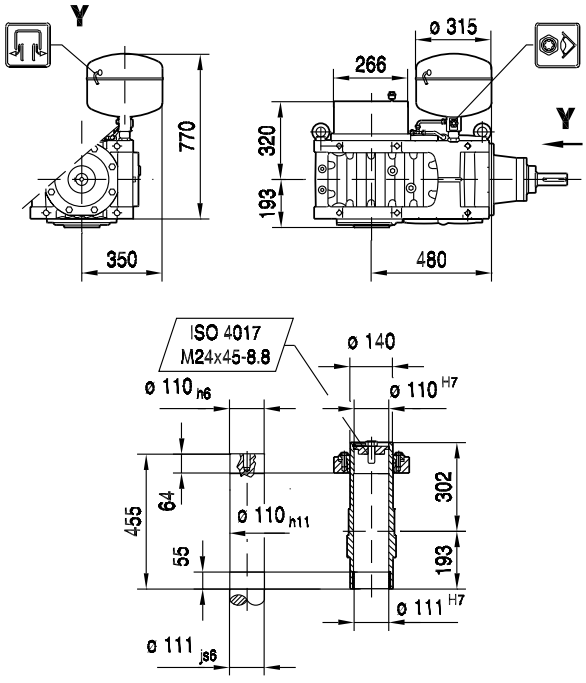
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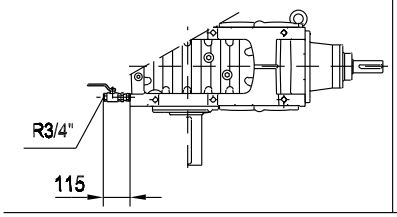
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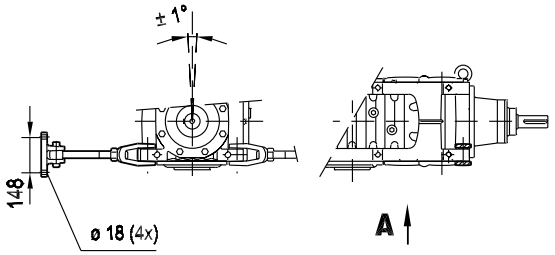
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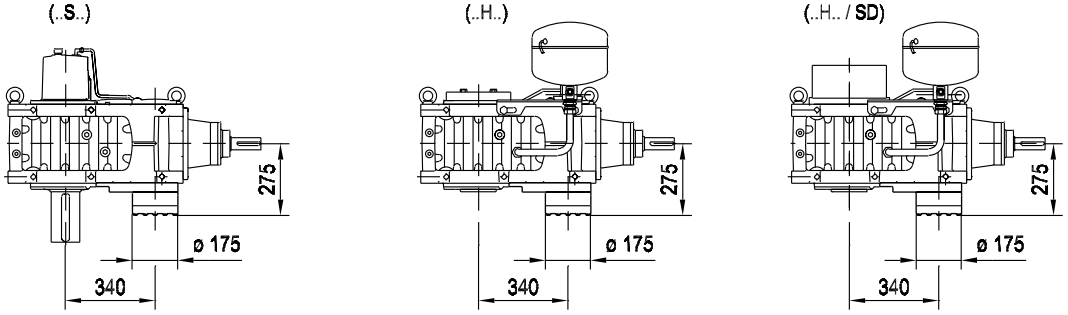
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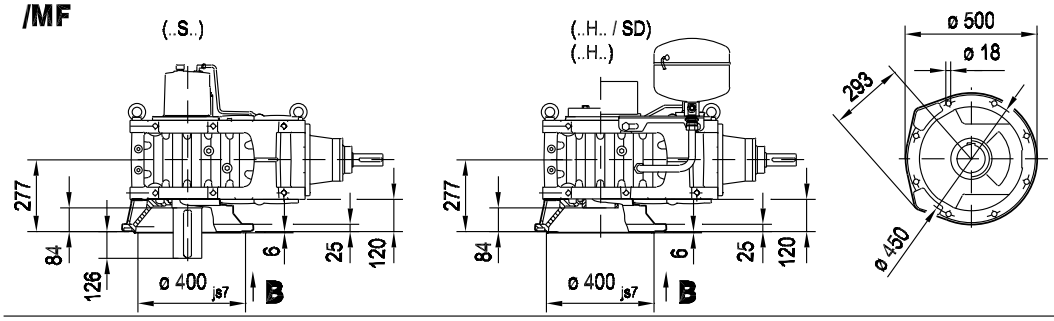
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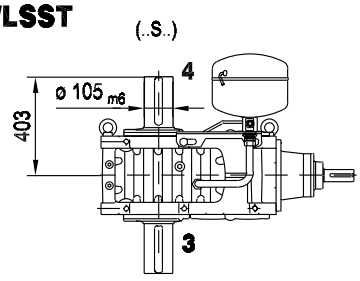
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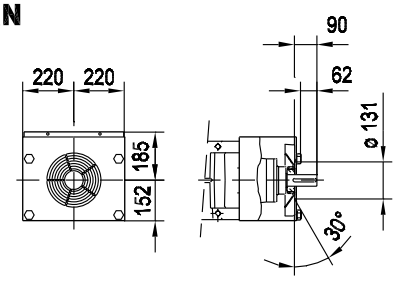
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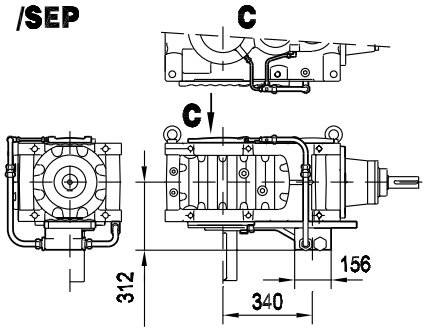
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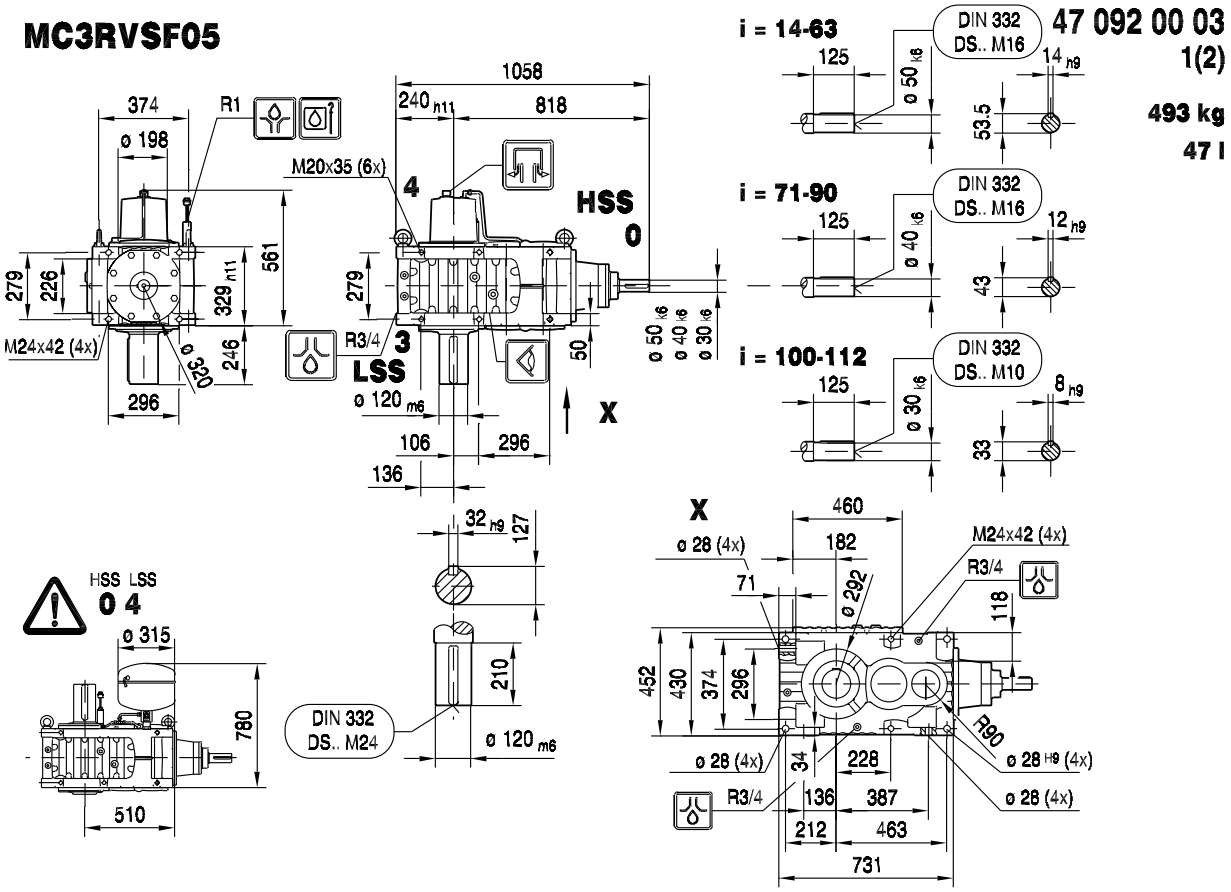
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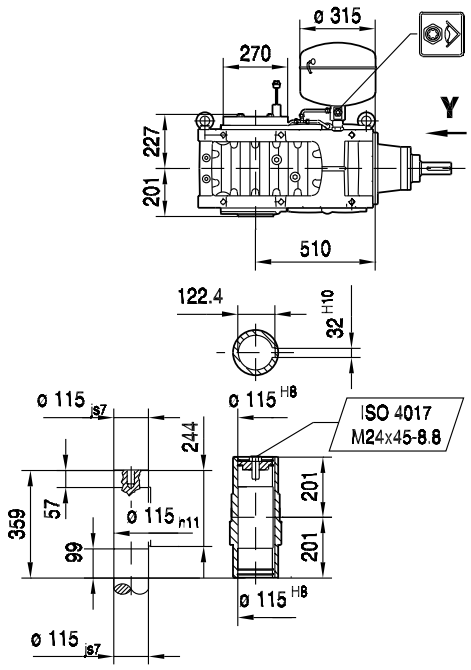
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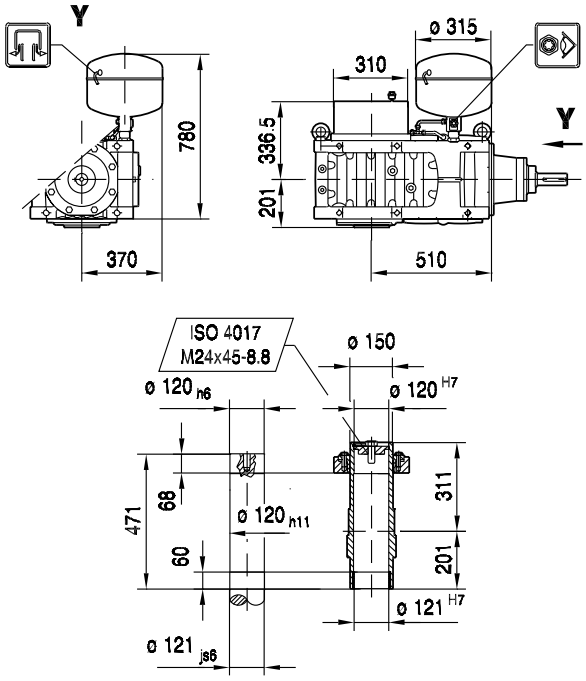
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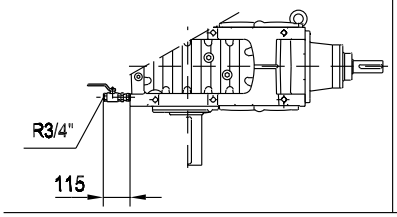
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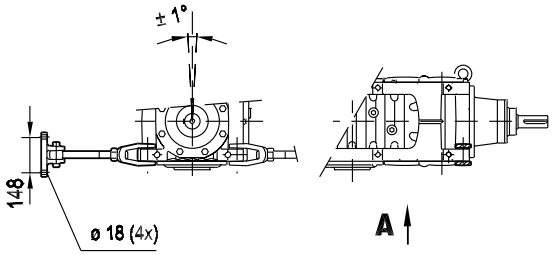
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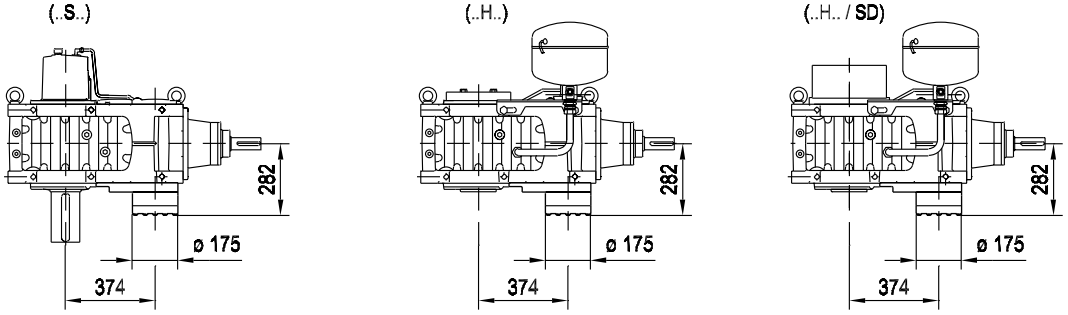
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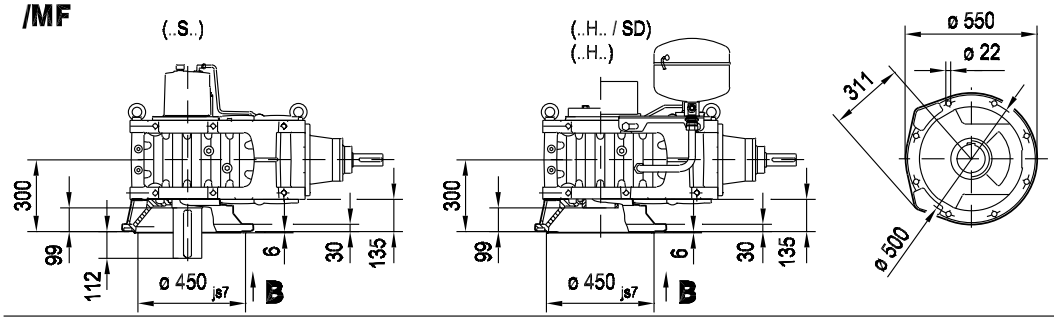
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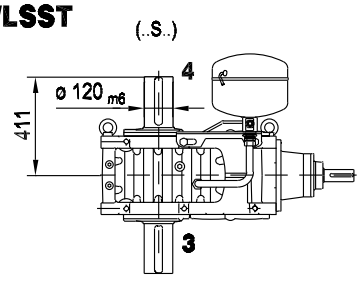
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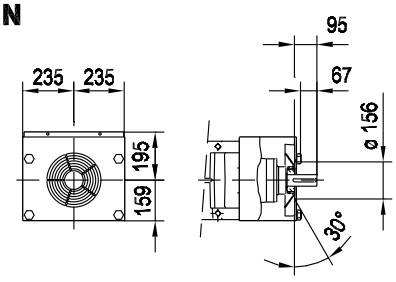
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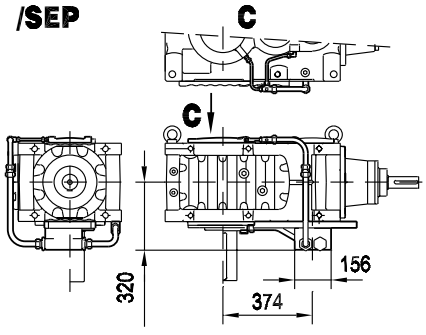
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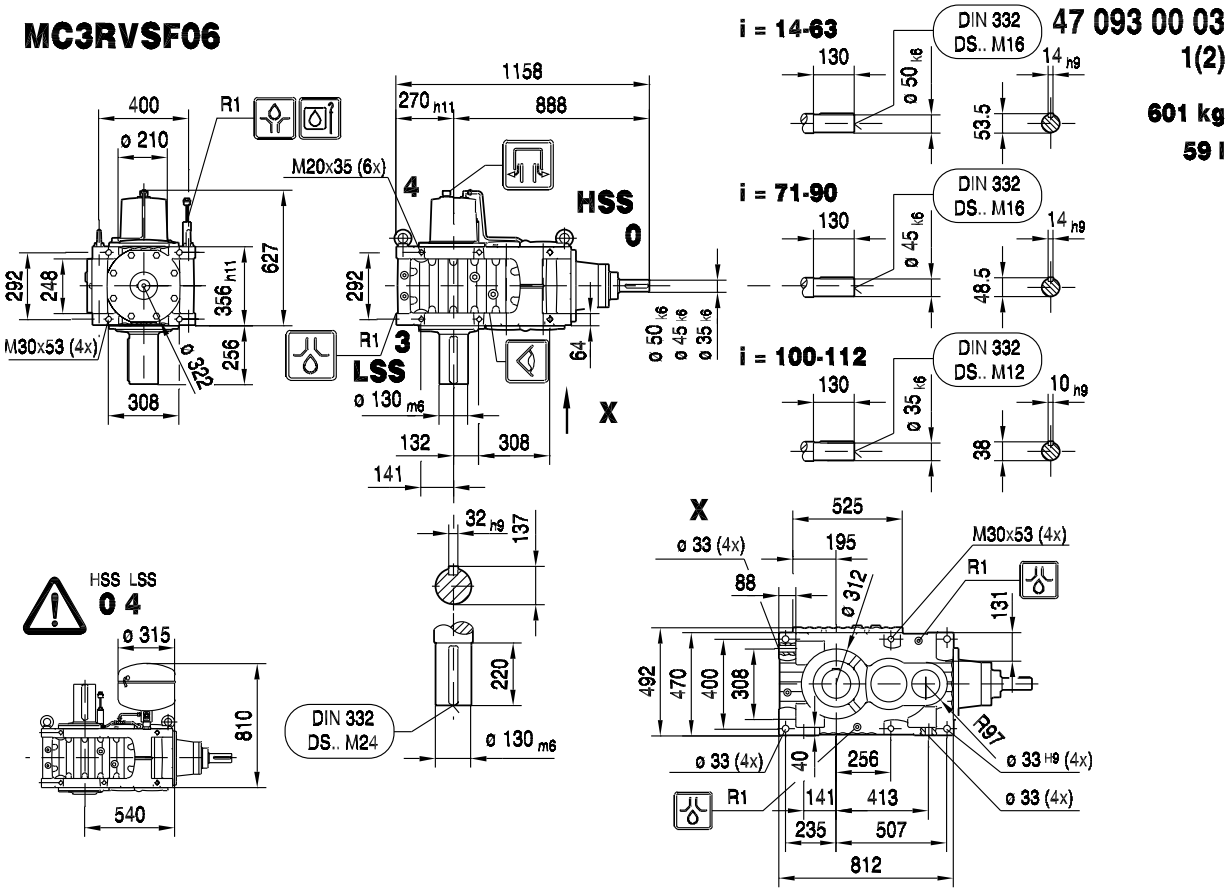
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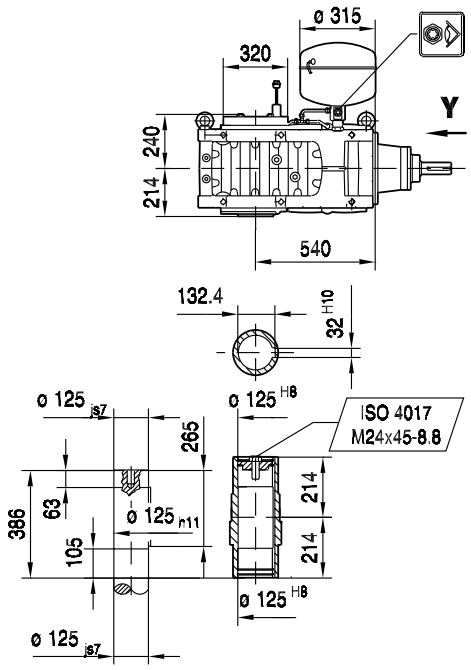
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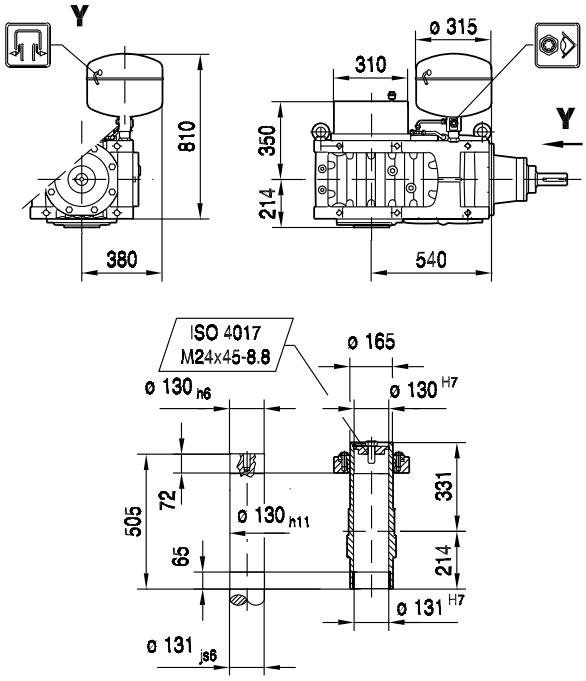
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MC3RVHF06



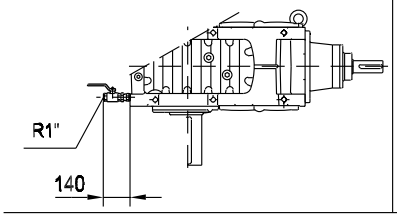
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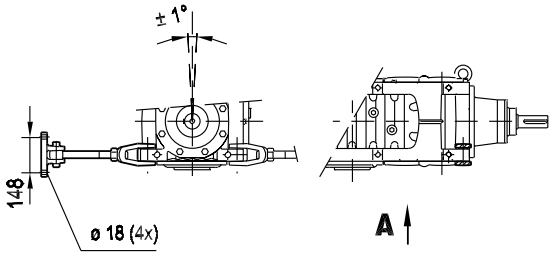
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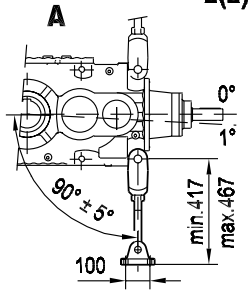
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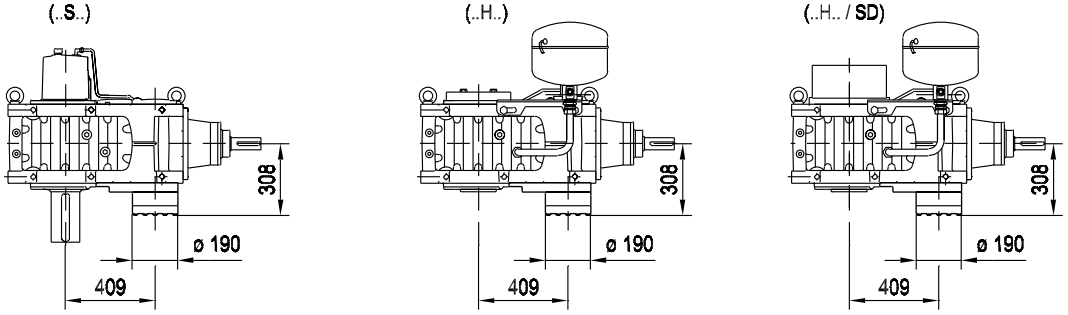


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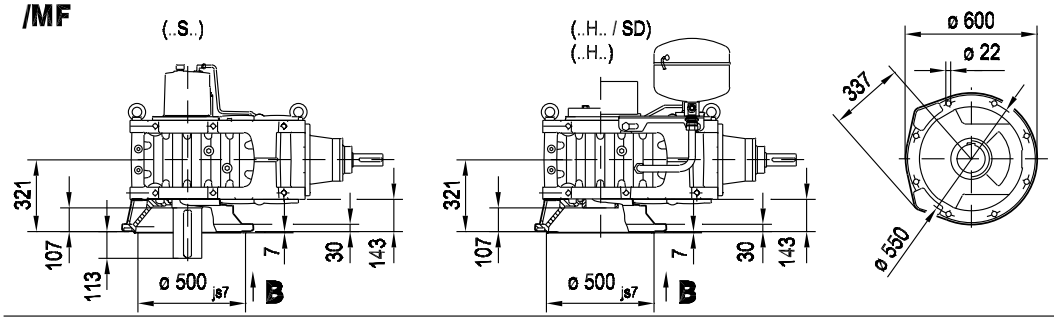




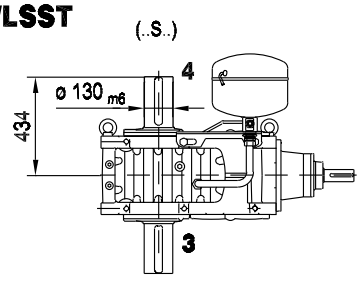
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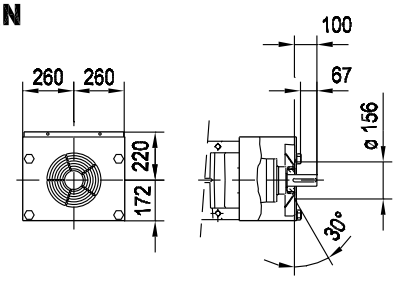
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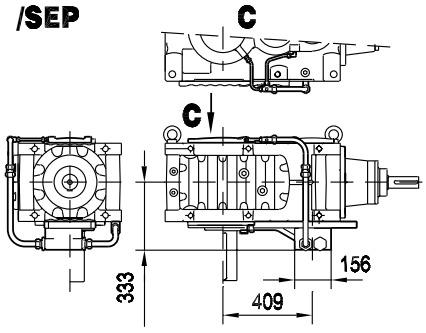
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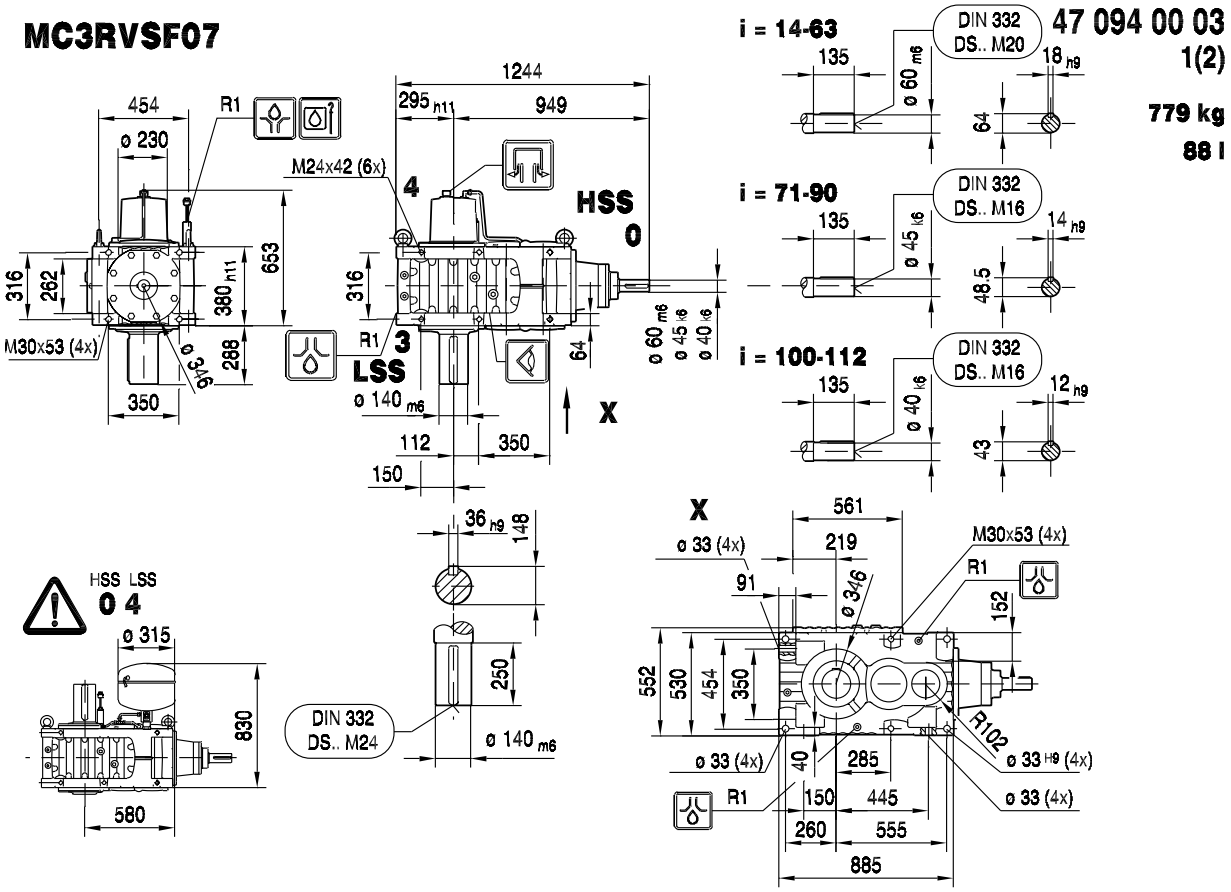
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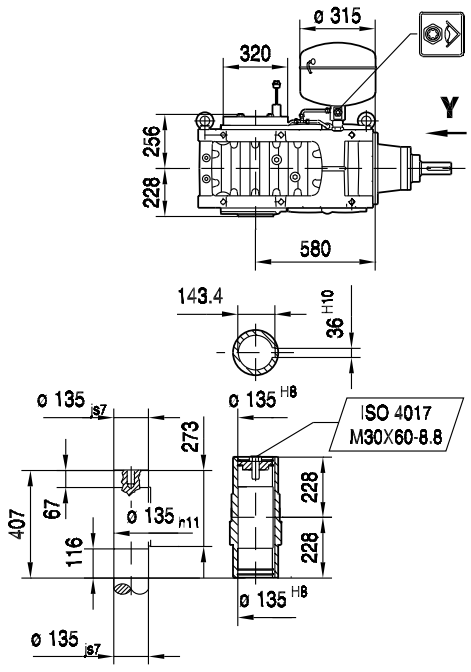
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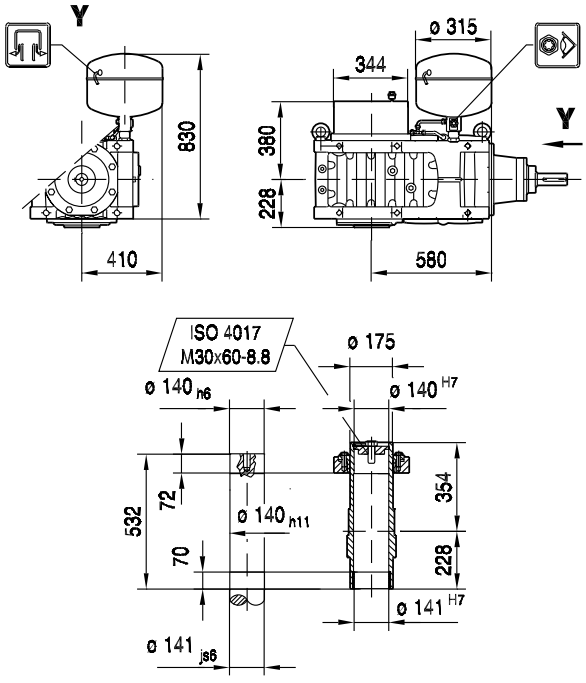
MC3RVSF07



MC3RVHF07



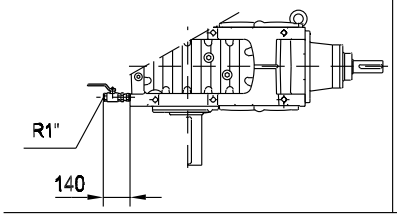
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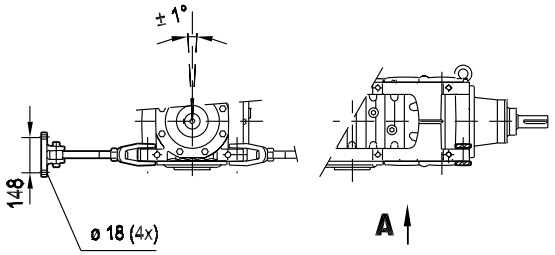
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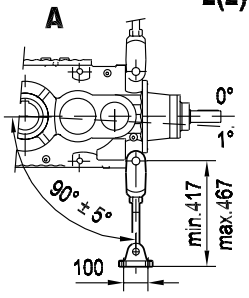
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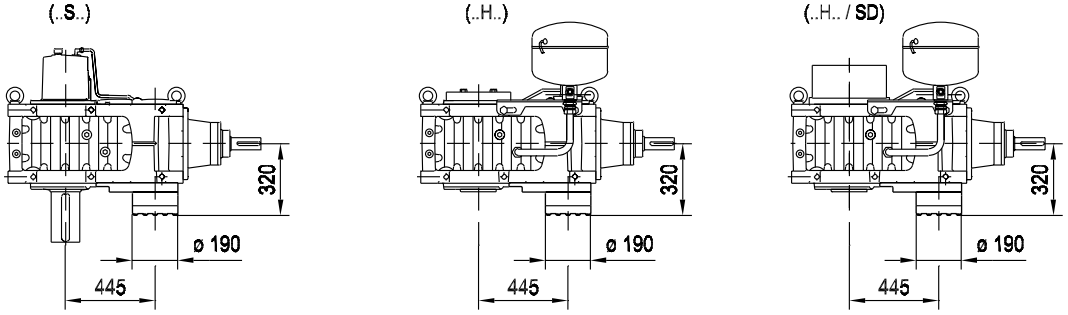


MC3RVH**T** 07

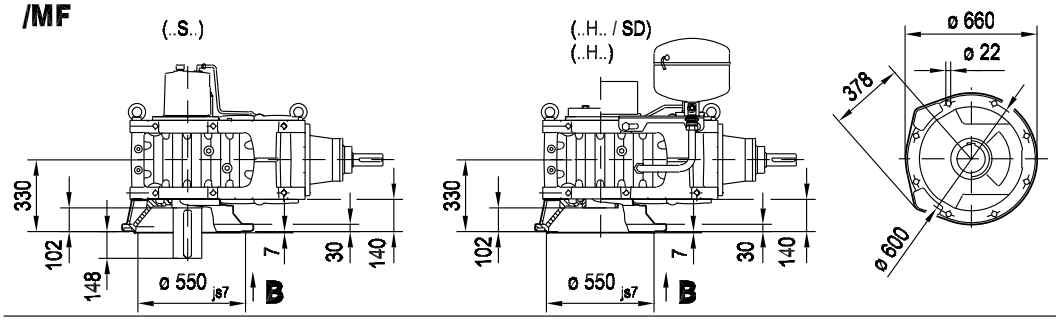




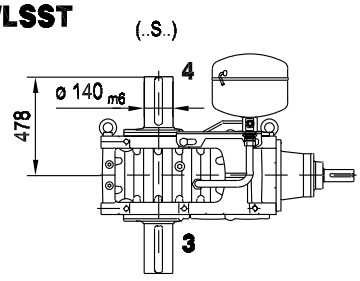
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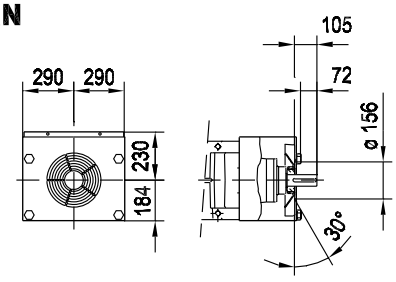
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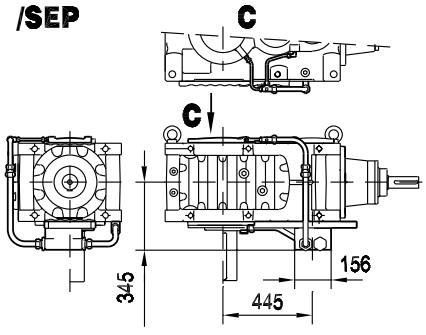
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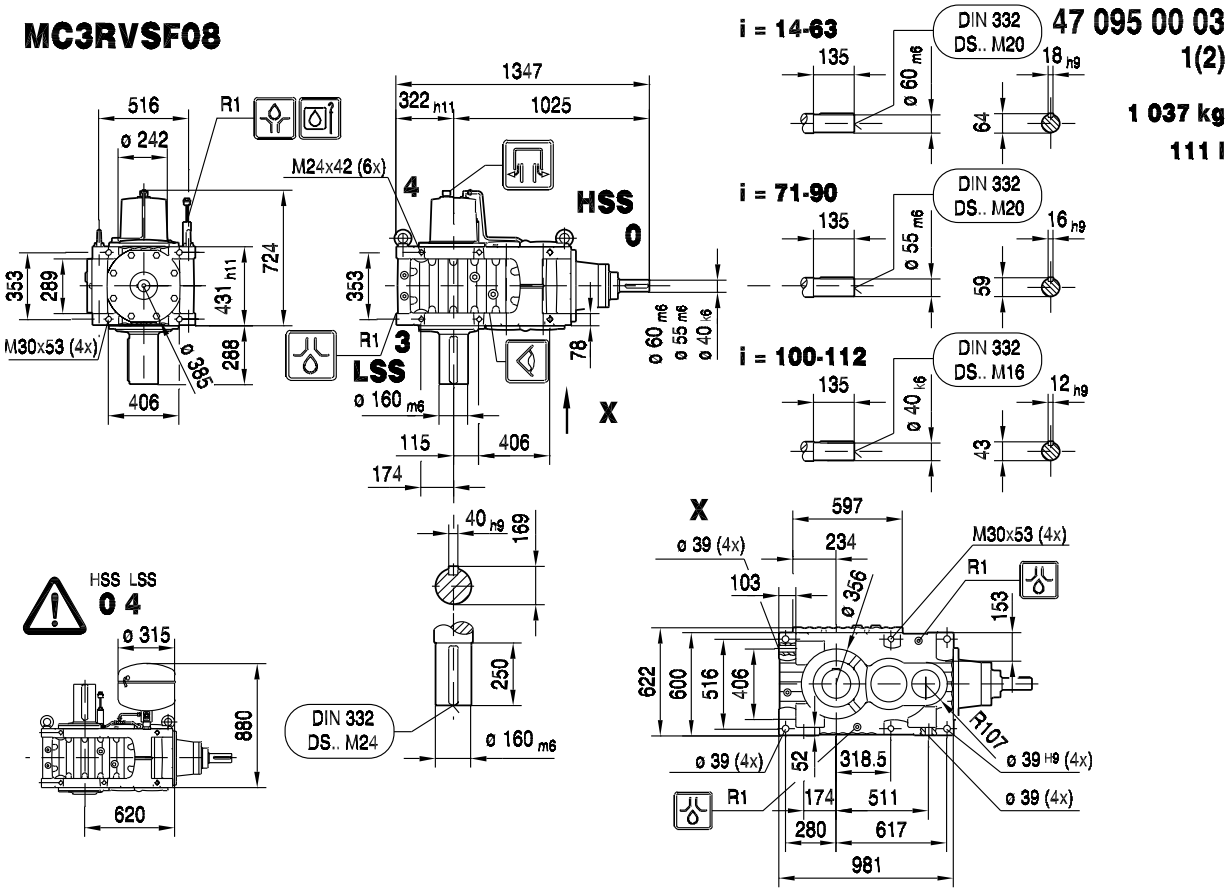
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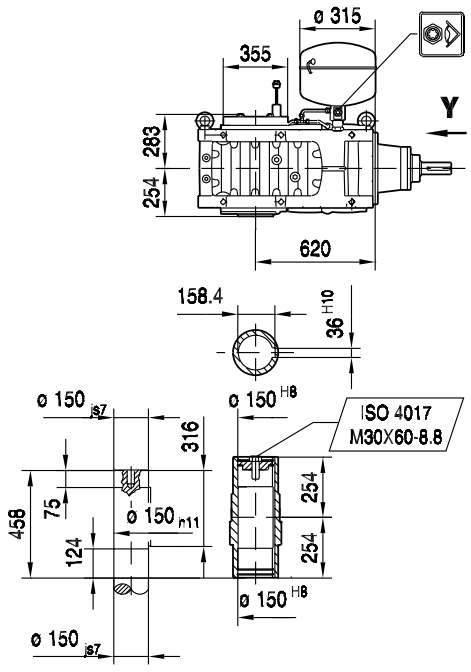
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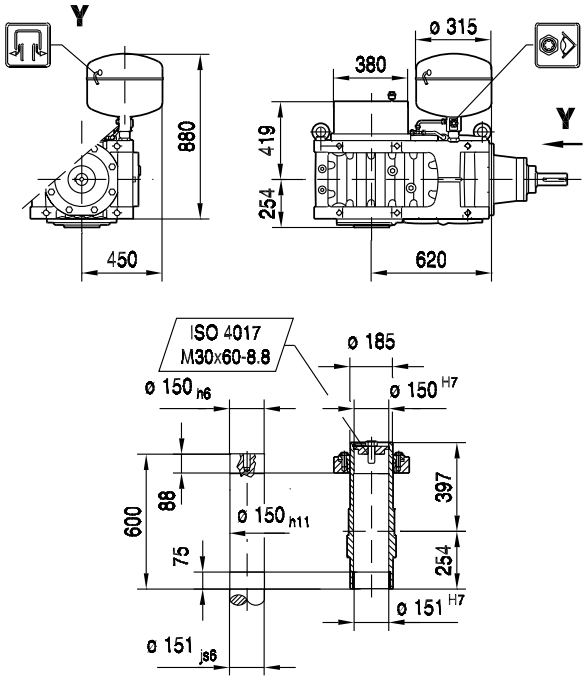
MC3RVSF08



MC3RVHF08



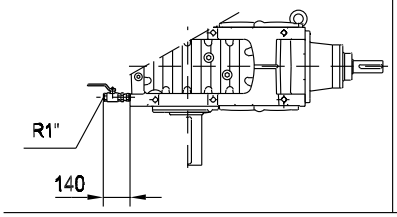
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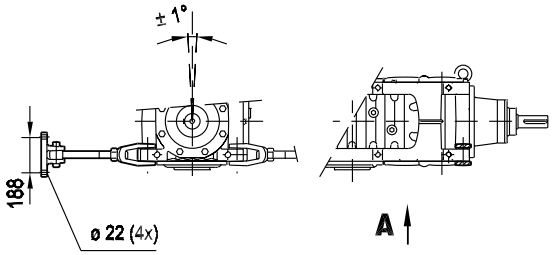
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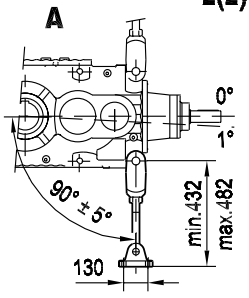
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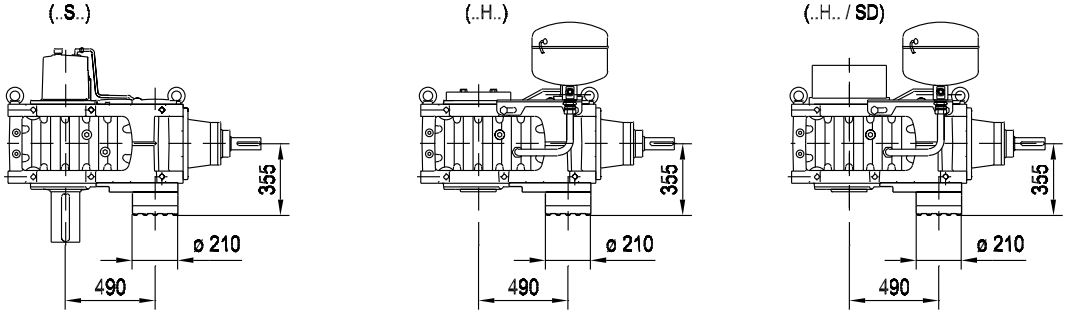


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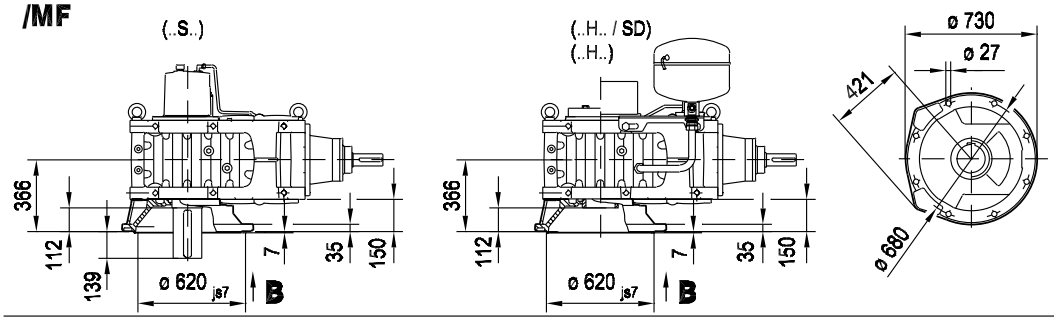




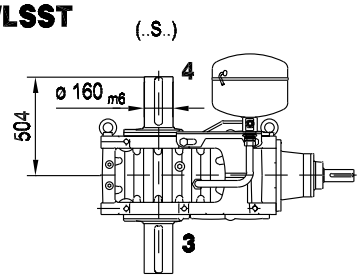
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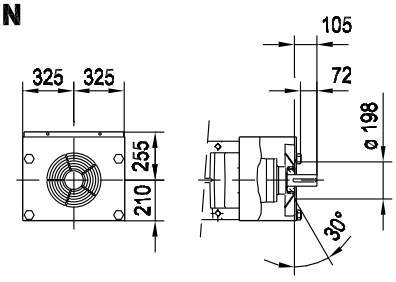
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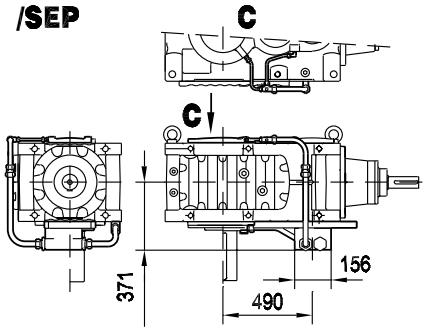
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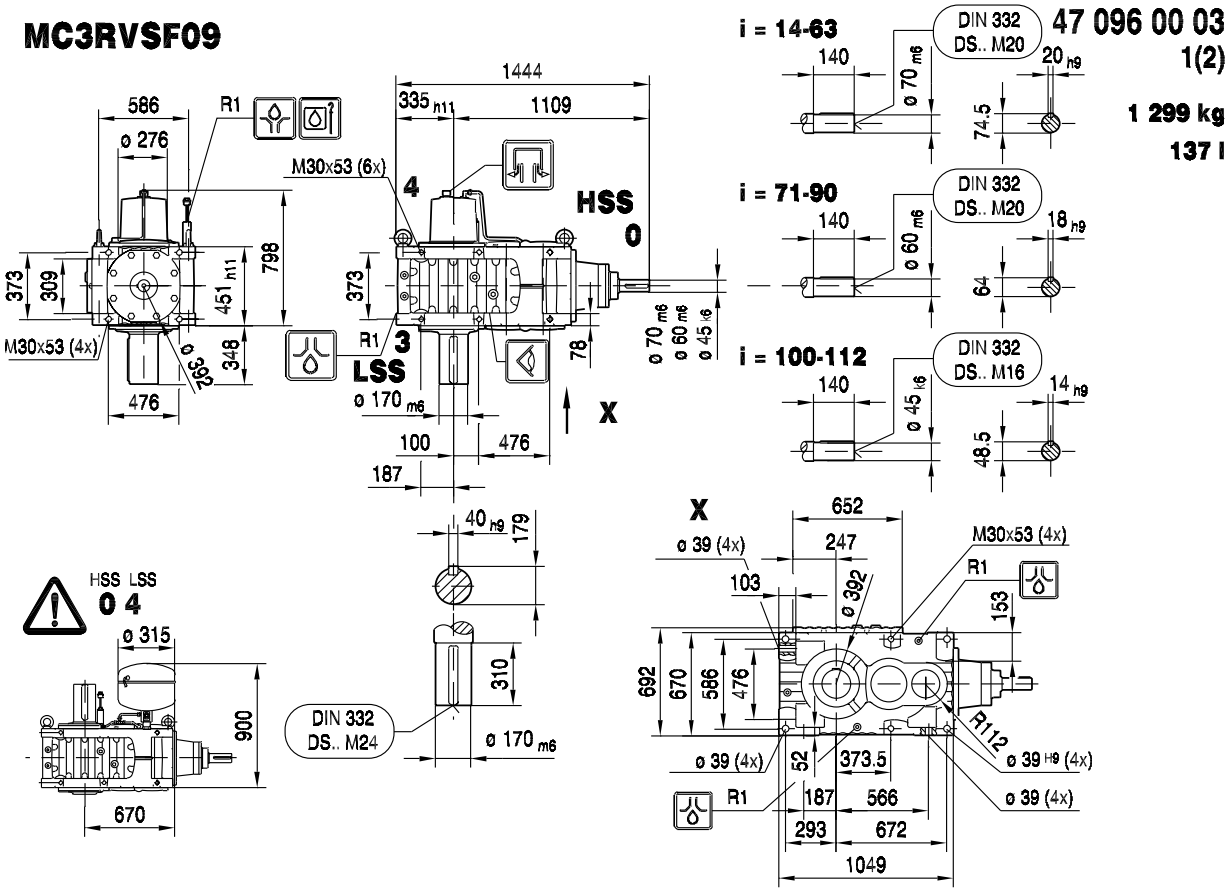
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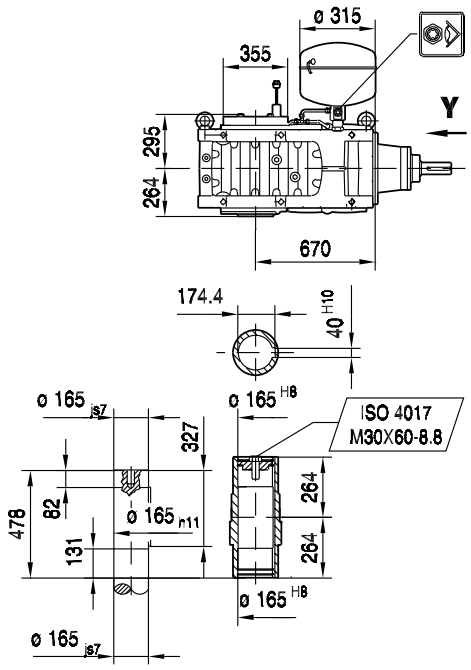
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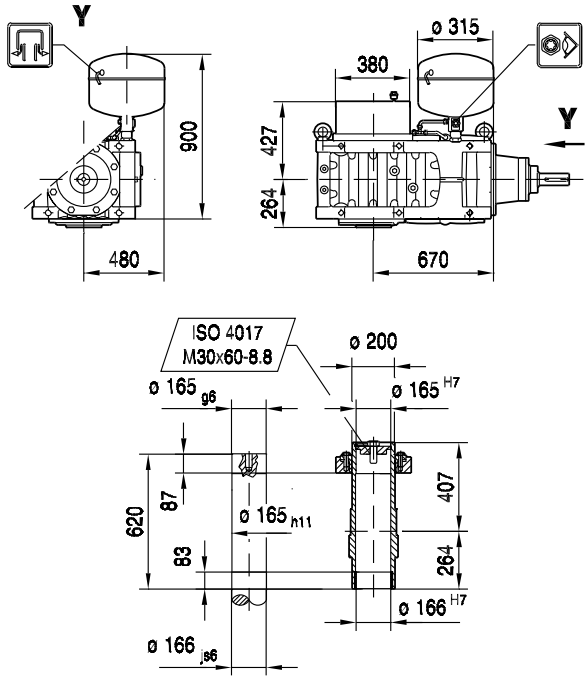
MC3RVSF09



MC3RVHF09



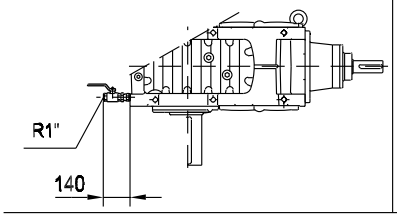
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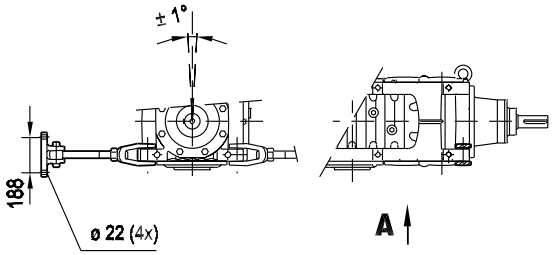
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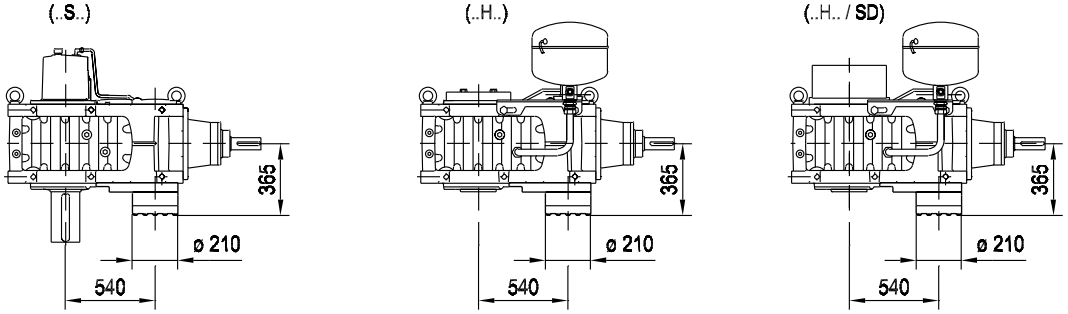
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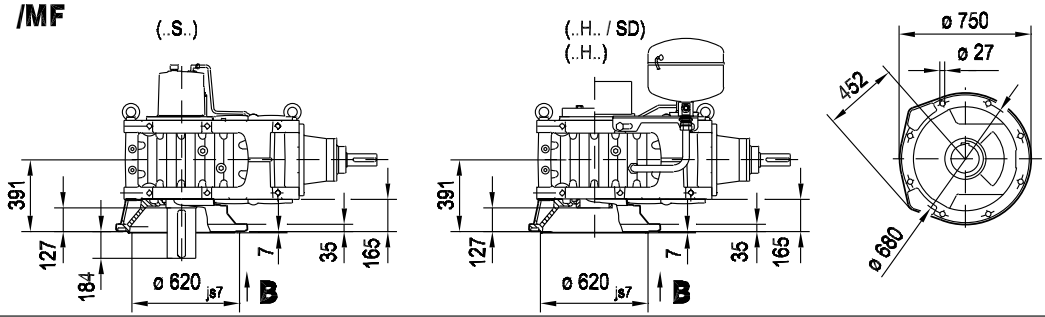
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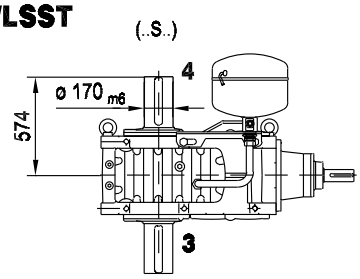
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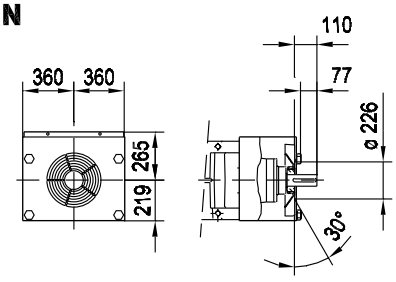
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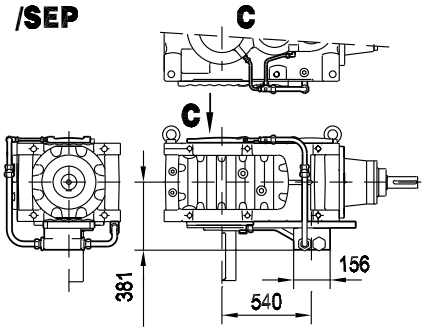
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/SEP



11.4 Selection tables (detailed) MC.RE..

11.4.1 MC.RE.., n_1 = 1800 1/min

MC.RE..02, n_1 = 1800rpm — P_{TH} — **70000 lb-in**

i_N	i_{ex}	n_2 [rpm]	M_{N2} [lb-in]	P_{N1} [HP]	F_{Ra} [lb] x1000	F_{Re} [lb] x1000		$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F	$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F	$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F		
7.10	**6.96**	259	45.6	192	1.03	1.22		*)	*)	93	34	-	-		
8.00	**8.05**	224	48.7	177	1.14	1.54		*)	*)	99	39	-	-		
9.00	**9.03**	199	51.0	165	1.24	1.80	**MC2RESF02**	19	*)	103	43	-	-	402	434
10.00	**9.61**	187	46.7	144	1.54	1.17	**MC2REHF02**	20	*)	106	46	-	-		
11.20	**11.11**	162	50.1	133	1.65	1.46	**MC2REHT02**	25	*)	110	51	-	-		
12.50	**12.47**	144	52.7	125	1.74	1.69		30	*)	114	55	-	-		
14.00	**14.61**	123	50.6	103	2.03	*)		24	*)	86	46	-	-		
16.00	**16.90**	107	58.6	103	1.68	*)		27	*)	89	48	-	-		
18.00	**18.96**	95	64.8	101	1.42	*)		30	*)	91	51	-	-		
20.00	**20.31**	89	64.0	93	1.29	0.204		31	*)	93	52	-	-		
22.50	**23.49**	77	70.3	89	1.22	0.330		34	10.7	95	55	-	-		
25.00	**26.36**	68	65.8	74	2.21	0.72		35	13.4	98	58	-	-		
28.00	**29.43**	61	70.9	71	1.78	0.79		38	14.8	99	59	-	-		
31.50	**33.03**	55	66.3	59	2.81	1.10		39	16.1	101	62	-	-		
35.50	**37.38**	48	61.0	48	3.93	1.39	**MC3RESF02**	42	19	103	63	-	-		
40.00	**40.30**	45	59.2	44	4.07	0.57	**MC3REHF02**	43	20	105	64	-	-	418	435
45.00	**45.22**	40	66.9	44	3.75	0.56	**MC3REHT02**	44	21	106	67	-	-		
50.00	**50.49**	36	71.7	42	3.41	0.65		46	23	107	68	-	-		
56.00	**56.66**	32	67.5	36	4.46	0.98		47	24	110	70	-	-		
63.00	**64.14**	28	62.1	29	5.0	1.30		48	25	111	71	-	-		
71.00	**70.97**	25	71.9	30	4.63	0.365		39	16.1	93	52	-	-		
80.00	**79.65**	23	68.5	26	5.1	0.58		40	17.4	94	54	-	-		
90.00	**90.15**	20	63.0	21	5.1	0.81		42	19	95	56	-	-		
100.00	**97.35**	18	53.6	16.5	5.1	0.280		42	20	97	56	-	-		
112.00	**110.19**	16	60.7	16.5	5.1	0.280		43	21	98	58	-	-		

MC.RE..03, n_1 = 1800rpm — **97000 lb-in**

7.10	**7.12**	253	57.4	235	3.63	1.64		*)	*)	114	42	-	-		
8.00	**8.04**	224	60.7	221	3.78	1.91		*)	*)	121	48	-	-		
9.00	**9.07**	199	63.9	206	3.92	2.19	**MC2RESF03**	23	*)	126	54	-	-	404	434
10.00	**10.00**	180	58.2	172	4.18	1.14	**MC2REHF03**	27	*)	130	58	-	-		
11.20	**11.28**	160	63.1	165	4.30	1.32	**MC2REHT03**	32	*)	135	63	-	-		
12.50	**12.73**	141	66.6	154	4.46	1.62		36	*)	141	67	-	-		
14.00	**15.07**	119	68.9	135	4.64	*)		31	*)	105	56	-	-		
16.00	**17.00**	106	77.7	135	4.68	*)		34	*)	109	59	-	-		
18.00	**19.18**	94	87.7	135	4.52	*)		36	*)	111	63	-	-		
20.00	**20.57**	88	89.1	128	4.08	0.102		38	*)	113	64	-	-		
22.50	**23.20**	78	100.5	128	3.58	0.102		40	13.4	115	67	-	-		
25.00	**26.18**	69	94.1	106	5.2	0.60		43	16.1	118	70	-	-		
28.00	**29.60**	61	101.3	101	4.69	0.72		46	19	121	72	-	-		
31.50	**33.40**	54	95.0	84	5.8	1.10		48	20	123	75	-	-		
35.50	**35.08**	51	94.9	81	5.9	0.56	**MC3RESF03**	48	21	125	76	-	-		
40.00	**39.67**	45	100.8	76	6.0	0.70	**MC3REHF03**	51	24	127	78	-	-	420	435
45.00	**44.75**	40	95.8	64	6.5	1.06	**MC3REHT03**	54	25	129	80	-	-		
50.00	**50.97**	35	88.1	52	6.9	1.43		55	28	131	83	-	-		
56.00	**57.30**	31	96.8	50	6.9	1.02		58	30	133	84	-	-		
63.00	**65.25**	28	88.9	41	6.9	1.40		59	32	135	87	-	-		
71.00	**69.86**	26	94.5	40	6.9	0.014		47	19	113	64	-	-		
80.00	**78.82**	23	97.8	37	6.9	0.189		48	21	114	66	-	-		
90.00	**89.76**	20	90.1	30	6.9	0.56		51	23	117	68	-	-		
100.00	**97.53**	18	79.5	24	6.9	*)		51	24	118	68	-	-		
112.00	**111.07**	16	90.6	24	6.9	*)		54	25	119	71	-	-		

MC.RE..04, n_1 = 1800rpm

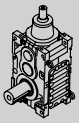
P_{TH} **132000 lb-in**

i_N	i_{ex}	n_2 [rpm]	M_{N2} [lb-in]	P_{N1} [HP]	F_{Ra} [lb] x1000	F_{Re} [lb] x1000		$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F	$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F	$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F		
7.10	**7.29**	247	75.3	302	4.17	1.58		*)	*)	142	54	-	-		
8.00	**8.20**	219	79.1	282	4.35	1.96		*)	*)	149	60	-	-		
9.00	**9.17**	196	83.0	265	4.51	2.29	**MC2RESF04**	28	*)	156	66	-	-	406	434
10.00	**10.15**	177	77.6	226	4.78	1.23	**MC2REHF04**	34	*)	161	71	-	-		
11.20	**11.41**	158	82.1	212	4.95	1.58	**MC2REHT04**	39	*)	168	78	-	-		
12.50	**12.76**	141	86.5	200	5.1	1.89		44	*)	173	83	-	-		
14.00	**14.76**	122	77.4	155	5.6	*)		36	*)	129	68	-	-		
16.00	**16.60**	108	87.0	155	5.7	*)		40	*)	133	72	-	-		
18.00	**18.56**	97	97.3	155	5.7	*)		44	*)	135	76	-	-		
20.00	**20.60**	87	108.0	155	5.1	*)		47	*)	139	79	-	-		
22.50	**23.17**	78	121.5	155	4.51	*)		50	16.1	142	83	-	-		
25.00	**25.90**	69	132.3	151	4.23	*)		52	19	145	86	-	-		
28.00	**29.65**	61	140.8	140	3.72	0.201		56	23	149	90	-	-		
31.50	**33.14**	54	132.5	118	5.7	0.71		59	25	152	93	-	-		
35.50	**34.63**	52	116.7	101	6.9	0.65	**MC3RESF04**	60	25	153	94	-	-		
40.00	**39.63**	45	135.7	102	6.1	0.60	**MC3REHF04**	63	30	156	97	-	-	422	435
45.00	**44.30**	41	132.6	89	7.2	0.96	**MC3REHT04**	66	32	158	99	-	-		
50.00	**49.83**	36	124.6	75	7.9	1.36		68	34	161	102	-	-		
56.00	**55.99**	32	124.5	66	7.9	1.04		70	36	164	105	-	-		
63.00	**62.98**	29	125.6	60	7.9	1.28		72	39	166	107	-	-		
71.00	**68.90**	26	118.3	51	7.9	0.415		58	24	138	79	-	-		
80.00	**77.02**	23	127.4	49	7.9	0.51		59	25	141	80	-	-		
90.00	**86.63**	21	126.9	44	7.9	0.81		62	28	142	83	-	-		
100.00	**93.18**	19	77.2	25	7.9	*)		63	28	143	84	-	-		
112.00	**104.81**	17	87.8	25	7.9	*)		64	31	146	86	-	-		

MC.RE..05, n_1 = 1800rpm

177000 lb-in

7.10	**7.10**	254	103.7	427	2.92	1.30		*)	*)	160	58	-	-		
8.00	**7.99**	225	109.4	400	3.07	1.83		*)	*)	166	66	-	-		
9.00	**8.86**	203	114.1	376	3.31	2.08	**MC2RESF05**	*)	*)	173	72	-	-	408	434
10.00	**9.87**	182	106.5	318	3.80	1.53	**MC2REHF05**	36	*)	180	79	-	-		
11.20	**11.11**	162	112.8	300	3.96	2.01	**MC2REHT05**	43	*)	186	86	-	-		
12.50	**12.33**	146	118.4	284	4.18	2.19		48	*)	193	93	-	-		
14.00	**14.68**	123	106.6	215	5.3	*)		42	*)	145	78	-	-		
16.00	**16.53**	109	120.0	215	4.96	*)		46	*)	149	82	-	-		
18.00	**18.33**	98	133.1	215	4.73	*)		48	*)	153	86	-	-		
20.00	**20.22**	89	135.9	199	4.44	0.186		52	*)	156	89	-	-		
22.50	**22.76**	79	153.0	199	3.98	0.186		56	*)	160	93	-	-		
25.00	**25.25**	71	169.7	199	3.61	0.186		59	20	164	97	-	-		
28.00	**29.13**	62	177.6	180	3.38	0.61		63	24	168	101	-	-		
31.50	**32.32**	56	175.2	160	4.41	1.06		66	28	170	103	-	-		
35.50	**33.83**	53	162.2	143	5.5	0.473	**MC3RESF05**	67	30	172	105	-	-		
40.00	**39.03**	46	172.7	132	5.2	0.80	**MC3REHF05**	71	32	176	109	-	-	424	436
45.00	**43.30**	42	177.0	122	5.8	1.09	**MC3REHT05**	74	35	178	111	-	-		
50.00	**48.74**	37	164.5	101	7.5	1.71		76	38	181	114	-	-		
56.00	**55.44**	32	174.7	94	7.3	0.079		79	42	185	118	-	-		
63.00	**62.40**	29	165.8	79	8.3	0.62		82	43	188	121	-	-		
71.00	**69.92**	26	139.1	59	9.1	0.87		64	27	157	89	-	-		
80.00	**77.56**	23	154.3	59	9.2	0.87		67	30	158	91	-	-		
90.00	**87.30**	21	167.8	57	9.3	0.95		70	31	161	94	-	-		
100.00	**93.84**	19	117.3	37	9.3	0.54		71	32	162	95	-	-		
112.00	**105.62**	17	134.0	38	9.3	0.51		72	35	165	98	-	-		

MC.RE..06, n_1 = 1800rpm								P_{TH}						221000 lb-in	
i_N	i_{ex}	n_2 [rpm]	M_{N2} [lb-in]	P_{N1} [HP]	F_{Ra} [lb] x1000	F_{Re} [lb] x1000		$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F	$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F	$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F		
7.10	**6.74**	267	130.4	565	3.91	0.94		*)	*)	186	66	-	-		
8.00	**7.80**	231	139.5	523	4.25	1.68	**MC2RESF06**	*)	*)	197	76	-	-		
9.00	**8.75**	206	146.2	488	4.53	2.21	**MC2REHF06**	*)	*)	207	86	-	-	410	434
10.00	**9.64**	187	134.2	411	5.4	1.21	**MC2REHT06**	42	*)	213	93	-	-		
11.20	**11.15**	161	144.2	382	5.8	1.90		52	*)	224	103	-	-		
12.50	**12.52**	144	152.1	359	6.0	2.36		59	*)	232	111	-	-		
14.00	**14.09**	128	127.5	268	7.1	0.263		47	*)	172	91	-	-		
16.00	**16.30**	110	147.6	268	7.2	0.263		54	*)	178	98	-	-		
18.00	**18.30**	98	165.6	268	7.2	0.262		59	*)	182	102	-	-		
20.00	**20.30**	89	167.4	244	6.8	0.73		63	*)	186	106	-	-		
22.50	**23.49**	77	193.7	244	6.0	0.73		68	*)	193	113	-	-		
25.00	**26.36**	68	217.4	244	5.0	0.73		72	27	197	117	-	-		
28.00	**28.78**	63	223.2	229	4.69	1.01		75	30	200	119	-	-		
31.50	**32.30**	56	230.2	211	5.4	1.37		79	34	204	123	-	-		
35.50	**35.53**	51	210.2	177	8.1	1.18	**MC3RESF06**	82	36	208	127	-	-		
40.00	**38.80**	46	213.9	165	8.0	1.47	**MC3REHF06**	84	39	211	130	-	-	426	436
45.00	**43.54**	41	232.2	159	7.7	1.60	**MC3REHT06**	89	42	213	133	-	-		
50.00	**49.28**	37	214.3	130	10	2.29		91	46	217	137	-	-		
56.00	**55.31**	33	213.7	115	10.2	1.75		95	48	221	141	-	-		
63.00	**62.60**	29	216.6	103	10.2	2.11		98	52	224	143	-	-		
71.00	**68.96**	26	194.4	84	10.2	0.97		78	32	186	106	-	-		
80.00	**77.39**	23	218.2	84	10.2	0.97		80	35	189	109	-	-		
90.00	**87.60**	21	219.9	75	10.2	1.31		83	38	193	113	-	-		
100.00	**95.76**	19	199.1	62	10.2	0.215		84	39	194	114	-	-		
112.00	**108.39**	17	222.0	61	10.2	0.263		87	42	197	117	-	-		

MC.RE..07, n_1 = 1800rpm														292000 lb-in	
7.10	**6.84**	263	160.2	685	4.95	1.84		*)	*)	228	80	-	-		
8.00	**7.70**	234	169.2	642	5.2	2.45		*)	*)	239	93	-	-		
9.00	**8.65**	208	177.5	600	5.5	2.80	**MC2RESF07**	*)	*)	249	103	-	-		
10.00	**9.74**	185	166.2	504	6.6	2.04	**MC2REHF07**	52	*)	260	114	-	-	412	434
11.20	**10.96**	164	176.2	474	6.8	2.61	**MC2REHT07**	62	*)	271	125	-	-		
12.50	**12.32**	146	185.6	445	7.1	3.00		71	*)	280	134	-	-		
14.00	**14.18**	127	170.9	357	7.8	*)		58	*)	208	111	-	-		
16.00	**15.97**	113	192.5	357	7.9	*)		64	*)	215	117	-	-		
18.00	**17.93**	100	216.2	357	7.2	*)		70	*)	221	123	-	-		
20.00	**19.94**	90	207.3	307	8.0	0.477		75	*)	227	129	-	-		
22.50	**22.45**	80	233.4	307	7.2	0.477		80	*)	232	134	-	-		
25.00	**25.22**	71	262.2	307	6.1	0.477		86	*)	237	139	-	-		
28.00	**28.38**	63	256.9	268	7.2	1.27		90	35	243	145	-	-		
31.50	**31.88**	56	288.6	268	5.9	1.27		95	40	248	150	-	-		
35.50	**33.79**	53	260.5	230	8.8	0.306	**MC3RESF07**	98	42	249	152	-	-		
40.00	**38.02**	47	267.6	210	8.9	0.86	**MC3REHF07**	102	47	255	157	-	-	428	437
45.00	**42.71**	42	300.6	210	7.7	0.86	**MC3REHT07**	106	51	259	161	-	-		
50.00	**48.96**	37	296.3	181	10.2	1.66		111	55	264	166	-	-		
56.00	**53.98**	33	275.8	153	11.5	1.19		114	59	268	170	-	-		
63.00	**61.88**	29	299.6	145	11.8	1.46		118	63	272	174	-	-		
71.00	**70.77**	25	225.8	95	11.8	*)		95	39	228	130	-	-		
80.00	**79.49**	23	253.7	95	11.8	*)		98	43	231	134	-	-		
90.00	**91.12**	20	290.8	95	11.8	*)		102	47	235	138	-	-		
100.00	**96.17**	19	259.5	81	11.8	0.104		103	48	237	139	-	-		
112.00	**110.25**	16	297.5	81	11.8	0.104		107	52	240	143	-	-		

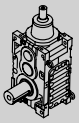
MC.RE..08, n_1 = 1800rpm — P_{TH} — 398000 lb-in

i_N	i_{ex}	n_2 [rpm]	M_{N2} [lb-in]	P_{N1} [HP]	F_{Ra} [lb] x1000	F_{Re} [lb] x1000		$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F	$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F	$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F		
7.10	**6.95**	259	216.3	910	5.0	2.70		*)	*)	282	101	-	-		
8.00	**7.82**	230	227.9	851	5.3	3.40		*)	*)	295	115	-	-		
9.00	**8.88**	203	240.6	791	5.7	3.69	**MC2RESF08**	*)	*)	310	130	-	-		
10.00	**9.74**	185	224.3	680	6.6	2.53	**MC2REHF08**	*)	*)	321	141	-	-	414	434
11.20	**10.96**	164	237.6	640	6.9	3.34	**MC2REHT08**	75	*)	333	153	-	-		
12.50	**12.45**	145	251.6	597	7.2	3.69		89	*)	346	166	-	-		
14.00	**14.48**	124	220.6	451	9.0	*)		72	*)	257	138	-	-		
16.00	**16.30**	110	248.4	451	9.0	*)		80	*)	266	145	-	-		
18.00	**18.51**	97	282.1	451	8.2	*)		87	*)	274	153	-	-		
20.00	**20.25**	89	266.8	390	9.0	0.63		93	*)	279	158	-	-		
22.50	**22.80**	79	300.5	390	8.3	0.63		99	*)	286	166	-	-		
25.00	**25.89**	70	341.2	390	7.2	0.63		106	*)	294	173	-	-		
28.00	**29.06**	62	332.2	338	8.3	1.52		113	44	299	180	-	-		
31.50	**33.00**	55	377.2	338	7.1	1.52		118	51	306	186	-	-		
35.50	**34.90**	52	348.9	299	9.5	0.65	**MC3RESF08**	121	54	308	189	-	-		
40.00	**39.18**	46	342.4	261	10.4	1.49	**MC3REHF08**	126	59	314	194	-	-	430	437
45.00	**44.49**	40	388.8	261	9.3	1.49	**MC3REHT08**	133	64	321	200	-	-		
50.00	**49.82**	36	386.4	232	11.2	2.14		137	68	326	205	-	-		
56.00	**56.62**	32	406.1	214	10.8	0.354		142	74	331	211	-	-		
63.00	**63.41**	28	389.4	183	13.7	1.39		146	78	335	216	-	-		
71.00	**70.39**	26	328.1	139	15.0	0.95		117	48	280	160	-	-		
80.00	**79.93**	23	372.6	139	15.0	0.95		121	52	284	164	-	-		
90.00	**89.53**	20	395.7	132	15.0	1.22		125	56	288	169	-	-		
100.00	**96.71**	19	293.5	91	15.0	0.110		127	59	291	172	-	-		
112.00	**108.32**	17	333.1	92	15.0	0.060		131	63	295	174	-	-		

MC.RE..09, n_1 = 1800rpm — 486000 lb-in

7.10	**6.85**	263	297.3	1267	6.5	2.29		*)	*)	322	*)	-	-		
8.00	**7.92**	227	317.1	1169	7.0	3.49		*)	*)	342	134	-	-		
9.00	**8.89**	202	332.8	1093	7.4	4.35	**MC2RESF09**	*)	*)	358	150	-	-		
10.00	**9.61**	187	308.7	949	8.3	2.03	**MC2REHF09**	*)	*)	367	160	-	-	416	434
11.20	**11.11**	162	330.7	879	8.8	3.19	**MC2REHT09**	89	*)	385	177	-	-		
12.50	**12.47**	144	347.9	824	9.2	4.10		102	*)	400	192	-	-		
14.00	**14.28**	126	263.7	546	11.5	*)		83	*)	296	157	-	-		
16.00	**16.52**	109	305.0	546	11.7	*)		94	*)	307	169	-	-		
18.00	**18.54**	97	342.3	546	11.8	*)		102	*)	315	177	-	-		
20.00	**19.70**	91	334.7	502	12.0	0.69		106	*)	319	181	-	-		
22.50	**22.78**	79	387.1	502	12.1	0.69		115	*)	330	190	-	-		
25.00	**25.57**	70	434.4	502	11.3	0.69		122	*)	337	198	-	-		
28.00	**28.12**	64	423.5	445	12.4	1.87		127	50	343	205	-	-		
31.50	**31.56**	57	475.3	445	11.4	1.87		134	55	350	212	-	-		
35.50	**34.47**	52	445.0	386	13.7	0.99	**MC3RESF09**	139	60	355	217	-	-		
40.00	**37.90**	47	435.0	343	14.3	2.11	**MC3REHF09**	143	66	361	223	-	-	432	437
45.00	**42.54**	42	488.2	343	14.1	2.11	**MC3REHT09**	150	71	367	228	-	-		
50.00	**48.15**	37	524.5	325	14.3	2.30		156	78	373	235	-	-		
56.00	**54.72**	33	507.8	277	15.8	1.85		162	83	380	241	-	-		
63.00	**61.94**	29	527.5	254	16.5	2.27		168	90	386	247	-	-		
71.00	**68.22**	26	455.6	199	18.0	1.01		133	54	321	182	-	-		
80.00	**76.56**	24	511.3	199	18.0	1.01		138	59	326	188	-	-		
90.00	**86.65**	21	532.2	183	18.0	1.42		142	64	331	193	-	-		
100.00	**94.51**	19	309.7	98	18.0	1.30		146	67	335	196	-	-		
112.00	**106.98**	17	355.3	99	18.0	1.28		150	72	339	201	-	-		

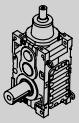
11.4.2 MC.RE.., n_1 = 1500 1/min

MC.RE..02, n_1 = 1500rpm								P_{TH}						70000 lb-in	
i_N	i_{ex}	n_2 [rpm]	M_{N2} [lb-in]	P_{N1} [HP]	F_{Ra} [lb] x1000	F_{Re} [lb] x1000		$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F	$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F	$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F		
7.10	**6.96**	215	48.3	169	1.08	1.28		*)	*)	84	30	-	-		
8.00	**8.05**	186	51.4	156	1.20	1.63	**MC2RESF02**	20	*)	90	35	-	-		
9.00	**9.03**	166	53.8	145	1.32	1.91	**MC2REHF02**	24	*)	94	39	-	-	402	434
10.00	**9.61**	156	49.3	126	1.63	1.24	**MC2REHT02**	27	*)	97	42	-	-		
11.20	**11.11**	135	52.9	117	1.74	1.54		31	*)	102	46	-	-		
12.50	**12.47**	120	55.7	110	1.84	1.78		35	*)	105	50	-	-		
14.00	**14.61**	103	53.5	90	2.14	*)		28	*)	78	42	-	-		
16.00	**16.90**	89	61.9	90	1.77	*)		31	*)	82	44	-	-		
18.00	**18.96**	79	65.2	85	1.86	0.121		34	10.7	83	47	-	-		
20.00	**20.31**	74	67.6	82	1.37	0.216		34	12.1	84	48	-	-		
22.50	**23.49**	64	70.7	74	1.68	0.467		36	14.8	87	51	-	-		
25.00	**26.36**	57	66.2	62	2.70	0.86		39	16.1	90	52	-	-		
28.00	**29.43**	51	71.4	60	2.28	0.92		40	17.4	91	55	-	-		
31.50	**33.03**	45	66.8	50	3.33	1.24		42	20	93	56	-	-		
35.50	**37.38**	40	61.3	40	4.34	1.53	**MC3RESF02**	44	21	95	58	-	-		
40.00	**40.30**	37	59.6	37	4.46	0.72	**MC3REHF02**	44	23	97	59	-	-	418	435
45.00	**45.22**	33	67.3	37	4.32	0.70	**MC3REHT02**	47	24	98	62	-	-		
50.00	**50.49**	30	71.9	35	4.03	0.80		48	25	99	63	-	-		
56.00	**56.66**	26	67.9	30	4.92	1.12		50	27	101	64	-	-		
63.00	**64.14**	23	62.4	24	5.1	1.44		51	28	102	66	-	-		
71.00	**70.97**	21	72.1	25	5.1	0.461		40	19	86	48	-	-		
80.00	**79.65**	19	68.9	22	5.1	0.67		42	20	87	50	-	-		
90.00	**90.15**	17	63.5	17.5	5.1	0.90		43	21	89	51	-	-		
100.00	**97.35**	15	53.9	13.8	5.1	0.357		44	21	89	52	-	-		
112.00	**110.19**	14	61.0	13.8	5.1	0.357		46	23	90	54	-	-		

MC.RE..03, n_1 = 1500rpm														97000 lb-in	
7.10	**7.12**	211	60.7	207	3.83	1.72		*)	*)	105	38	-	-		
8.00	**8.04**	187	64.1	194	3.99	2.02		25	*)	110	43	-	-		
9.00	**9.07**	165	67.3	181	4.15	2.32	**MC2RESF03**	30	*)	115	48	-	-		
10.00	**10.00**	150	58.4	144	4.51	1.45	**MC2REHF03**	34	*)	119	52	-	-	404	434
11.20	**11.28**	133	66.5	145	4.55	1.41	**MC2REHT03**	39	*)	123	56	-	-		
12.50	**12.73**	118	70.2	136	4.72	1.72		43	*)	129	62	-	-		
14.00	**15.07**	100	69.3	113	5.0	0.089		35	*)	97	51	-	-		
16.00	**17.00**	88	78.1	113	5.1	0.089		38	*)	99	55	-	-		
18.00	**19.18**	78	88.2	113	5.1	0.089		40	13.4	102	58	-	-		
20.00	**20.57**	73	94.1	113	4.31	0.109		42	14.8	103	59	-	-		
22.50	**23.20**	65	101.3	108	4.38	0.258		44	17.4	106	62	-	-		
25.00	**26.18**	57	94.6	89	5.6	0.76		47	19	109	64	-	-		
28.00	**29.60**	51	101.4	84	5.6	0.88		50	21	111	67	-	-		
31.50	**33.40**	45	95.5	71	6.3	1.26		51	24	114	68	-	-		
35.50	**35.08**	43	95.4	68	6.4	0.71	**MC3RESF03**	52	24	114	70	-	-		
40.00	**39.67**	38	100.9	63	6.5	0.87	**MC3REHF03**	55	27	117	72	-	-	420	435
45.00	**44.75**	34	96.5	54	6.9	1.21	**MC3REHT03**	56	30	119	74	-	-		
50.00	**50.97**	29	88.8	43	6.9	1.58		59	31	121	76	-	-		
56.00	**57.30**	26	97.3	42	6.9	1.18		60	32	123	78	-	-		
63.00	**65.25**	23	89.5	34	6.9	1.55		62	35	125	80	-	-		
71.00	**69.86**	21	94.7	34	6.9	0.131		50	21	103	59	-	-		
80.00	**78.82**	19	98.7	31	6.9	0.290		51	24	106	60	-	-		
90.00	**89.76**	17	90.7	25	6.9	0.67		52	25	107	63	-	-		
100.00	**97.53**	15	80.2	20	6.9	*)		54	27	109	63	-	-		
112.00	**111.07**	14	91.4	20	6.9	*)		55	28	110	66	-	-		

MC.RE..04, n_1 = 1500rpm								P_{TH}						132000 lb-in	
i_N	i_{ex}	n_2 [rpm]	M_{N2} [lb-in]	P_{N1} [HP]	F_{Ra} [lb] x1000	F_{Re} [lb] x1000		$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F	$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F	$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F		
7.10	**7.29**	206	79.3	265	4.42	1.69		*)	*)	130	47	-	-		
8.00	**8.20**	183	83.8	249	4.59	2.06	**MC2RESF04**	32	*)	137	54	-	-		
9.00	**9.17**	164	87.6	233	4.76	2.42	**MC2REHF04**	38	*)	142	59	-	-	406	434
10.00	**10.15**	148	82.0	199	5.0	1.30	**MC2REHT04**	43	*)	148	64	-	-		
11.20	**11.41**	131	86.6	187	5.2	1.67		48	*)	153	71	-	-		
12.50	**12.76**	118	91.3	176	5.4	2.00		52	*)	158	75	-	-		
14.00	**14.76**	102	81.7	137	5.9	*)		43	*)	118	63	-	-		
16.00	**16.60**	90	91.9	137	6.0	*)		46	*)	122	66	-	-		
18.00	**18.56**	81	102.8	137	6.0	*)		48	14.8	125	70	-	-		
20.00	**20.60**	73	114.1	137	5.4	*)		51	17.4	127	72	-	-		
22.50	**23.17**	65	128.3	137	4.76	*)		55	21	131	75	-	-		
25.00	**25.90**	58	132.2	126	5.3	0.153		58	24	134	79	-	-		
28.00	**29.65**	51	141.3	117	4.78	0.385		60	27	137	82	-	-		
31.50	**33.14**	45	132.6	99	6.8	0.90		63	30	139	84	-	-		
35.50	**34.63**	43	117.1	84	7.5	0.83	**MC3RESF04**	64	31	141	86	-	-		
40.00	**39.63**	38	136.4	86	7.2	0.78	**MC3REHF04**	67	34	143	89	-	-	422	435
45.00	**44.30**	34	132.9	75	7.8	1.14	**MC3REHT04**	70	35	146	91	-	-		
50.00	**49.83**	30	125.4	63	7.9	1.54		71	38	149	94	-	-		
56.00	**55.99**	27	125.0	56	7.9	1.22		74	40	152	97	-	-		
63.00	**62.98**	24	126.3	50	7.9	1.46		76	42	153	98	-	-		
71.00	**68.90**	22	118.2	43	7.9	0.59		60	27	127	72	-	-		
80.00	**77.02**	19	127.6	41	7.9	0.68		63	28	130	74	-	-		
90.00	**86.63**	17	127.6	37	7.9	0.96		64	31	131	76	-	-		
100.00	**93.18**	16	77.7	21	7.9	0.052		66	32	133	78	-	-		
112.00	**104.81**	14	88.5	21	7.9	0.030		67	34	134	79	-	-		

MC.RE..05, n_1 = 1500rpm														177000 lb-in	
7.10	**7.10**	211	109.3	375	3.10	1.40		*)	*)	145	51	-	-		
8.00	**7.99**	188	115.6	352	3.24	1.93		*)	*)	153	59	-	-		
9.00	**8.86**	169	120.5	331	3.50	2.19	**MC2RESF05**	40	*)	158	66	-	-		
10.00	**9.87**	152	112.7	281	4.00	1.60	**MC2REHF05**	47	*)	165	71	-	-	408	434
11.20	**11.11**	135	119.6	265	4.15	2.09	**MC2REHT05**	52	*)	172	78	-	-		
12.50	**12.33**	122	125.3	250	4.40	2.31		58	*)	177	83	-	-		
14.00	**14.68**	102	107.4	180	5.7	0.051		47	*)	133	71	-	-		
16.00	**16.53**	91	120.9	180	5.7	0.051		51	*)	137	75	-	-		
18.00	**18.33**	82	134.1	180	5.4	0.051		55	*)	141	78	-	-		
20.00	**20.22**	74	135.9	166	5.2	0.452		58	20	143	82	-	-		
22.50	**22.76**	66	153.0	166	4.81	0.451		62	23	148	84	-	-		
25.00	**25.25**	59	169.7	166	4.47	0.452		64	25	150	89	-	-		
28.00	**29.13**	51	181.7	154	3.99	0.78		68	30	154	93	-	-		
31.50	**32.32**	46	175.5	134	5.3	1.31		71	32	157	95	-	-		
35.50	**33.83**	44	161.7	119	6.5	0.75	**MC3RESF05**	71	34	158	97	-	-		
40.00	**39.03**	38	172.8	110	6.2	1.06	**MC3REHF05**	75	38	162	99	-	-	424	436
45.00	**43.30**	35	177.9	102	6.7	1.34	**MC3REHT05**	78	39	165	102	-	-		
50.00	**48.74**	31	165.4	84	8.1	1.96		80	42	168	105	-	-		
56.00	**55.44**	27	175.3	79	8.3	0.265		83	44	170	109	-	-		
63.00	**62.40**	24	166.8	67	8.9	0.80		86	47	173	110	-	-		
71.00	**69.92**	21	139.1	50	9.3	1.06		68	31	143	82	-	-		
80.00	**77.56**	19	154.3	50	9.3	1.06		71	32	146	84	-	-		
90.00	**87.30**	17	169.0	48	9.3	1.12		72	35	149	86	-	-		
100.00	**93.84**	16	118.6	31	9.3	0.65		74	36	150	87	-	-		
112.00	**105.62**	14	133.5	31	9.3	0.65		76	38	152	90	-	-		

MC.RE..06, n_1 = 1500rpm								P_{TH}						221000 lb-in	
i_N	i_{ex}	n_2 [rpm]	M_{N2} [lb-in]	P_{N1} [HP]	F_{Ra} [lb] x1000	F_{Re} [lb] x1000		$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F	$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F	$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F		
7.10	**6.74**	223	137.7	497	4.13	1.0		*)	*)	169	58	-	-		
8.00	**7.80**	192	147.4	460	4.49	1.78		*)	*)	181	68	-	-		
9.00	**8.75**	171	154.4	430	4.79	2.34	**MC2RESF06**	48	*)	189	78	-	-	410	434
10.00	**9.64**	156	141.6	361	5.8	1.29	**MC2REHF06**	54	*)	196	84	-	-		
11.20	**11.15**	135	152.3	336	6.1	2.00	**MC2REHT06**	63	*)	205	94	-	-		
12.50	**12.52**	120	160.7	316	6.4	2.50		70	*)	213	101	-	-		
14.00	**14.09**	106	127.3	223	7.7	0.58		55	*)	157	83	-	-		
16.00	**16.30**	92	147.3	223	7.8	0.58		60	*)	164	89	-	-		
18.00	**18.30**	82	165.3	223	7.8	0.58		66	*)	168	94	-	-		
20.00	**20.30**	74	167.0	203	8.0	1.05		70	23	172	98	-	-		
22.50	**23.49**	64	193.3	203	7.4	1.05		74	28	177	103	-	-		
25.00	**26.36**	57	216.9	203	6.5	1.05		78	32	181	107	-	-		
28.00	**28.78**	52	222.9	191	6.2	1.32		80	35	184	110	-	-		
31.50	**32.30**	46	231.1	176	6.8	1.66		84	39	188	114	-	-		
35.50	**35.53**	42	210.2	147	9.4	1.49	**MC3RESF06**	87	42	190	117	-	-		
40.00	**38.80**	39	214.9	138	9.5	1.75	**MC3REHF06**	90	44	193	119	-	-	426	436
45.00	**43.54**	34	233.5	133	9.3	1.88	**MC3REHT06**	93	47	197	122	-	-		
50.00	**49.28**	30	216.0	109	10.2	2.57		97	51	201	126	-	-		
56.00	**55.31**	27	214.5	97	10.2	2.03		99	54	204	129	-	-		
63.00	**62.60**	24	218.5	87	10.2	2.37		102	56	207	133	-	-		
71.00	**68.96**	22	194.3	70	10.2	1.20		82	36	172	98	-	-		
80.00	**77.39**	19	218.1	70	10.2	1.20		84	39	174	101	-	-		
90.00	**87.60**	17	221.9	63	10.2	1.52		87	42	178	103	-	-		
100.00	**95.76**	16	200.9	52	10.2	0.378		89	43	180	105	-	-		
112.00	**108.39**	14	223.9	51	10.2	0.428		91	46	182	107	-	-		

MC.RE..07, n_1 = 1500rpm														292000 lb-in	
7.10	**6.84**	219	169.5	604	5.2	1.93		*)	*)	208	71	-	-		
8.00	**7.70**	195	178.7	565	5.5	2.60		*)	*)	219	82	-	-		
9.00	**8.65**	173	187.5	528	5.8	2.96	**MC2RESF07**	58	*)	228	93	-	-	412	434
10.00	**9.74**	154	176.0	445	6.9	2.13	**MC2REHF07**	67	*)	239	103	-	-		
11.20	**10.96**	137	186.3	418	7.2	2.75	**MC2REHT07**	75	*)	248	113	-	-		
12.50	**12.32**	122	196.4	392	7.5	3.16		84	*)	257	122	-	-		
14.00	**14.18**	106	170.8	297	8.5	*)		67	*)	192	101	-	-		
16.00	**15.97**	94	192.3	297	8.5	*)		74	*)	197	107	-	-		
18.00	**17.93**	84	216.1	297	8.6	*)		79	*)	202	113	-	-		
20.00	**19.94**	75	218.8	270	8.5	0.51		83	28	208	118	-	-		
22.50	**22.45**	67	246.3	270	7.6	0.51		89	32	213	123	-	-		
25.00	**25.22**	59	276.7	270	6.5	0.51		93	38	219	127	-	-		
28.00	**28.38**	53	271.7	236	7.5	1.34		98	42	224	133	-	-		
31.50	**31.88**	47	305.2	236	6.2	1.34		102	47	228	137	-	-		
35.50	**33.79**	44	259.9	191	10.4	0.70	**MC3RESF07**	105	48	231	139	-	-		
40.00	**38.02**	39	272.0	178	10.4	1.13	**MC3REHF07**	109	52	235	143	-	-	428	437
45.00	**42.71**	35	305.6	178	9.1	1.13	**MC3REHT07**	113	56	239	149	-	-		
50.00	**48.96**	31	297.6	151	11.6	2.00		117	62	244	153	-	-		
56.00	**53.98**	28	276.1	127	11.8	1.54		119	64	247	156	-	-		
63.00	**61.88**	24	300.6	121	11.8	1.79		123	68	251	161	-	-		
71.00	**70.77**	21	226.1	80	11.8	0.256		101	44	211	119	-	-		
80.00	**79.49**	19	254.0	80	11.8	0.256		103	48	213	122	-	-		
90.00	**91.12**	16	291.1	80	11.8	0.256		107	51	217	126	-	-		
100.00	**96.17**	16	259.7	67	11.8	0.332		109	52	219	127	-	-		
112.00	**110.25**	14	297.7	67	11.8	0.332		111	56	223	131	-	-		

MC.RE..08, n_1 = 1500rpm — P_{TH} 398000 lb-in

i_N	i_{ex}	n_2 [rpm]	M_{N2} [lb-in]	P_{N1} [HP]	F_{Ra} [lb] x1000	F_{Re} [lb] x1000		$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F	$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F	$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F		
7.10	**6.95**	216	228.4	801	5.3	2.85		*)	*)	257	90	-	-		
8.00	**7.82**	192	241.0	750	5.6	3.59		*)	*)	270	103	-	-		
9.00	**8.88**	169	253.8	696	6.0	3.90	**MC2RESF08**	72	*)	284	117	-	-	414	434
10.00	**9.74**	154	237.2	599	6.9	2.65	**MC2REHF08**	82	*)	294	126	-	-		
11.20	**10.96**	137	251.0	563	7.3	3.52	**MC2REHT08**	93	*)	306	138	-	-		
12.50	**12.45**	120	265.9	525	7.6	3.90		105	*)	318	150	-	-		
14.00	**14.48**	104	233.6	398	9.5	*)		84	*)	236	125	-	-		
16.00	**16.30**	92	263.1	398	9.5	*)		91	*)	244	133	-	-		
18.00	**18.51**	81	298.7	398	8.6	*)		98	*)	252	139	-	-		
20.00	**20.25**	74	282.1	343	9.5	0.65		103	35	256	145	-	-		
22.50	**22.80**	66	317.7	343	8.7	0.65		109	42	263	152	-	-		
25.00	**25.89**	58	360.7	343	7.6	0.65		115	47	270	158	-	-		
28.00	**29.06**	52	351.7	298	8.7	1.59		121	54	276	165	-	-		
31.50	**33.00**	45	399.4	298	7.5	1.59		127	59	282	170	-	-		
35.50	**34.90**	43	368.0	262	10	0.70	**MC3RESF08**	130	62	284	173	-	-		
40.00	**39.18**	38	362.4	230	11.0	1.56	**MC3REHF08**	134	66	290	178	-	-	430	437
45.00	**44.49**	34	411.6	230	9.8	1.56	**MC3REHT08**	139	71	295	184	-	-		
50.00	**49.82**	30	388.6	194	13.0	2.52		145	76	300	189	-	-		
56.00	**56.62**	26	420.3	185	11.9	0.53		149	80	306	194	-	-		
63.00	**63.41**	24	392.3	154	14.7	1.74		153	84	310	198	-	-		
71.00	**70.39**	21	328.3	116	15.0	1.29		123	55	257	146	-	-		
80.00	**79.93**	19	372.8	116	15.0	1.29		127	59	263	152	-	-		
90.00	**89.53**	17	398.7	111	15.0	1.53		131	63	267	154	-	-		
100.00	**96.71**	16	296.0	76	15.0	0.295		133	66	268	157	-	-		
112.00	**108.32**	14	335.6	77	15.0	0.248		137	68	272	161	-	-		

MC.RE..09, n_1 = 1500rpm — 486000 lb-in

7.10	**6.85**	219	314.1	1116	6.8	2.42		*)	*)	294	*)	-	-		
8.00	**7.92**	189	335.1	1029	7.3	3.68		*)	*)	312	121	-	-		
9.00	**8.89**	169	351.3	962	7.8	4.60	**MC2RESF09**	*)	*)	327	134	-	-	416	434
10.00	**9.61**	156	325.9	834	8.8	2.16	**MC2REHF09**	93	*)	337	143	-	-		
11.20	**11.11**	135	349.5	774	9.3	3.36	**MC2REHT09**	109	*)	353	161	-	-		
12.50	**12.47**	120	367.8	726	9.7	4.32		121	*)	366	173	-	-		
14.00	**14.28**	105	278.9	481	12.1	*)		97	*)	272	143	-	-		
16.00	**16.52**	91	322.5	481	12.3	*)		106	*)	282	154	-	-		
18.00	**18.54**	81	361.9	481	12.4	*)		113	*)	290	161	-	-		
20.00	**19.70**	76	354.0	443	12.6	0.72		117	*)	294	165	-	-		
22.50	**22.78**	66	409.3	443	12.7	0.72		126	47	303	174	-	-		
25.00	**25.57**	59	459.4	443	11.9	0.72		133	54	310	182	-	-		
28.00	**28.12**	53	447.7	392	13.1	1.96		138	59	316	188	-	-		
31.50	**31.56**	48	502.5	392	12.0	1.96		143	66	322	194	-	-		
35.50	**34.47**	44	469.1	339	14.5	1.07	**MC3RESF09**	149	70	327	198	-	-		
40.00	**37.90**	40	460.8	303	15.1	2.20	**MC3REHF09**	153	75	333	204	-	-	432	437
45.00	**42.54**	35	517.2	303	14.8	2.20	**MC3REHT09**	160	80	338	209	-	-		
50.00	**48.15**	31	525.8	272	16.0	2.58		165	86	345	216	-	-		
56.00	**54.72**	27	521.0	237	16.9	2.23		170	93	350	221	-	-		
63.00	**61.94**	24	529.7	213	17.8	2.54		176	97	355	228	-	-		
71.00	**68.22**	22	455.0	166	18.0	1.36		141	62	296	168	-	-		
80.00	**76.56**	20	510.6	166	18.0	1.36		145	67	300	172	-	-		
90.00	**86.65**	17	536.0	154	18.0	1.72		150	71	306	177	-	-		
100.00	**94.51**	16	312.1	82	18.0	1.44		153	74	308	181	-	-		
112.00	**106.98**	14	357.9	83	18.0	1.42		157	79	314	185	-	-		

11.4.3 MC.RE.., n_1 = 1200 1/min

MC.RE..02, n_1 = 1200rpm								P_{TH}						70000 lb-in	
i_N	i_{ex}	n_2 [rpm]	M_{N2} [lb-in]	P_{N1} [HP]	F_{Ra} [lb] x1000	F_{Re} [lb] x1000		$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F	$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F	$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F		
7.10	**6.96**	172	51.3	144	1.19	1.40		23	*)	76	25	-	-		
8.00	**8.05**	149	54.9	133	1.29	1.74	**MC2RESF02**	28	*)	82	31	-	-		
9.00	**9.03**	133	57.7	125	1.39	2.02	**MC2REHF02**	32	*)	84	35	-	-	402	434
10.00	**9.61**	125	51.3	105	1.92	1.45	**MC2REHT02**	34	*)	87	36	-	-		
11.20	**11.11**	108	56.6	100	1.86	1.65		38	*)	91	42	-	-		
12.50	**12.47**	96	59.6	94	1.96	1.90		42	*)	95	44	-	-		
14.00	**14.61**	82	55.7	75	2.47	*)		32	9.4	71	38	-	-		
16.00	**16.90**	71	64.4	75	2.09	*)		35	12.1	74	40	-	-		
18.00	**18.96**	63	65.6	68	2.44	0.309		36	14.8	75	42	-	-		
20.00	**20.31**	59	72.4	70	1.45	0.227		38	14.8	76	43	-	-		
22.50	**23.49**	51	71.2	60	2.30	0.65		40	17.4	79	46	-	-		
25.00	**26.36**	46	66.6	50	3.34	1.04		42	19	80	47	-	-		
28.00	**29.43**	41	71.8	48	2.95	1.11		43	21	83	50	-	-		
31.50	**33.03**	36	67.2	40	4.02	1.42		46	23	84	51	-	-		
35.50	**37.38**	32	61.8	33	4.75	1.55	**MC3RESF02**	47	24	86	52	-	-		
40.00	**40.30**	30	59.8	30	4.89	0.92	**MC3REHF02**	48	25	87	54	-	-	418	435
45.00	**45.22**	27	67.8	30	4.92	0.90	**MC3REHT02**	50	27	89	55	-	-		
50.00	**50.49**	24	71.9	28	4.87	1.0		51	28	90	56	-	-		
56.00	**56.66**	21	68.5	24	5.1	1.30		52	30	91	58	-	-		
63.00	**64.14**	19	62.9	20	5.1	1.56		54	31	93	59	-	-		
71.00	**70.97**	17	72.0	20	5.1	0.59		43	20	78	44	-	-		
80.00	**79.65**	15	69.6	17.4	5.1	0.79		44	21	79	46	-	-		
90.00	**90.15**	13	63.6	14.1	5.1	1.03		46	23	80	47	-	-		
100.00	**97.35**	12	54.8	11.2	5.1	0.444		47	24	80	47	-	-		
112.00	**110.19**	11	62.0	11.2	5.1	0.446		47	25	82	48	-	-		

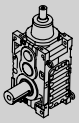
MC.RE..03, n_1 = 1200rpm														97000 lb-in	
7.10	**7.12**	168	65.2	178	4.09	1.82		30	*)	94	32	-	-		
8.00	**8.04**	149	68.6	166	4.27	2.16		34	*)	99	38	-	-		
9.00	**9.07**	132	72.4	156	4.43	2.46	**MC2RESF03**	39	*)	103	42	-	-		
10.00	**10.00**	120	58.7	116	4.94	1.86	**MC2REHF03**	43	*)	107	46	-	-	404	434
11.20	**11.28**	106	67.0	117	4.98	1.80	**MC2REHT03**	47	*)	111	51	-	-		
12.50	**12.73**	94	75.2	116	5.0	1.82		51	*)	117	55	-	-		
14.00	**15.07**	80	69.6	91	5.5	0.310		40	12.1	87	46	-	-		
16.00	**17.00**	71	78.5	91	5.6	0.310		43	14.8	90	48	-	-		
18.00	**19.18**	63	88.6	91	5.6	0.310		46	17.4	93	51	-	-		
20.00	**20.57**	58	95.0	91	5.3	0.310		47	19	94	52	-	-		
22.50	**23.20**	52	102.0	87	5.5	0.458		48	21	97	55	-	-		
25.00	**26.18**	46	95.2	72	6.2	0.96		51	24	99	58	-	-		
28.00	**29.60**	41	101.5	68	6.3	1.10		54	25	101	60	-	-		
31.50	**33.40**	36	96.3	57	6.9	1.46		55	28	103	62	-	-		
35.50	**35.08**	34	96.2	55	6.9	0.91	**MC3RESF03**	56	28	105	63	-	-		
40.00	**39.67**	30	101.0	51	6.9	1.08	**MC3REHF03**	58	31	106	66	-	-	420	435
45.00	**44.75**	27	97.2	43	6.9	1.42	**MC3REHT03**	60	32	109	67	-	-		
50.00	**50.97**	24	89.4	35	6.9	1.79		62	35	110	70	-	-		
56.00	**57.30**	21	98.2	34	6.9	1.38		63	36	111	71	-	-		
63.00	**65.25**	18	90.3	28	6.9	1.75		66	38	114	72	-	-		
71.00	**69.86**	17	94.8	27	6.9	0.282		52	25	94	54	-	-		
80.00	**78.82**	15	99.6	25	6.9	0.428		54	27	95	55	-	-		
90.00	**89.76**	13	91.1	20	6.9	0.81		55	28	98	56	-	-		
100.00	**97.53**	12	80.6	16.5	6.9	*)		56	30	98	58	-	-		
112.00	**111.07**	11	91.8	16.5	6.9	*)		58	31	101	59	-	-		

MC.RE..04, n_1 = 1200rpm — P_{TH} — 132000 lb-in

i_N	i_{ex}	n_2 [rpm]	M_{N2} [lb-in]	P_{N1} [HP]	F_{Ra} [lb] x1000	F_{Re} [lb] x1000		$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F	$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F	$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F		
7.10	**7.29**	165	85.1	227	4.70	1.78		38	*)	117	42	-	-		
8.00	**8.20**	146	89.6	213	4.91	2.20	**MC2RESF04**	43	*)	122	47	-	-		
9.00	**9.17**	131	93.9	200	5.1	2.58	**MC2REHF04**	48	*)	129	52	-	-	406	434
10.00	**10.15**	118	86.6	168	5.4	1.47	**MC2REHT04**	52	*)	133	58	-	-		
11.20	**11.41**	105	92.7	160	5.6	1.78		58	*)	138	63	-	-		
12.50	**12.76**	94	97.6	150	5.8	2.14		62	*)	143	67	-	-		
14.00	**14.76**	81	87.5	117	6.3	*)		48	14.8	106	56	-	-		
16.00	**16.60**	72	98.4	117	6.4	*)		52	17.4	110	59	-	-		
18.00	**18.56**	65	110.0	117	6.4	*)		55	21	113	63	-	-		
20.00	**20.60**	58	115.9	111	6.5	0.047		58	23	115	66	-	-		
22.50	**23.17**	52	130.4	111	5.9	0.047		60	27	118	68	-	-		
25.00	**25.90**	46	132.3	101	6.7	0.402		63	28	121	71	-	-		
28.00	**29.65**	40	142.3	95	6.1	0.61		66	32	125	74	-	-		
31.50	**33.14**	36	132.8	79	7.6	1.15		68	34	127	76	-	-		
35.50	**34.63**	35	117.8	68	7.9	1.06	**MC3RESF04**	68	35	127	78	-	-		
40.00	**39.63**	30	137.2	69	7.9	1.01	**MC3REHF04**	71	38	130	80	-	-	422	435
45.00	**44.30**	27	133.1	60	7.9	1.39	**MC3REHT04**	74	40	133	82	-	-		
50.00	**49.83**	24	126.3	50	7.9	1.77		75	42	135	84	-	-		
56.00	**55.99**	21	125.7	45	7.9	1.46		78	44	137	87	-	-		
63.00	**62.98**	19	127.4	40	7.9	1.69		79	46	139	89	-	-		
71.00	**68.90**	17	118.6	34	7.9	0.81		64	31	115	66	-	-		
80.00	**77.02**	16	127.9	33	7.9	0.90		66	32	118	67	-	-		
90.00	**86.63**	14	128.7	30	7.9	1.15		68	34	119	68	-	-		
100.00	**93.18**	13	78.9	16.9	7.9	0.147		68	35	121	70	-	-		
112.00	**104.81**	11	89.5	17.0	7.9	0.133		71	36	122	72	-	-		

MC.RE..05, n_1 = 1200rpm — 177000 lb-in

7.10	**7.10**	169	116.8	321	3.32	1.50		40	*)	130	44	-	-		
8.00	**7.99**	150	123.2	301	3.49	2.09		47	*)	137	52	-	-		
9.00	**8.86**	135	128.9	283	3.74	2.35	**MC2RESF05**	52	*)	142	58	-	-		
10.00	**9.87**	122	113.9	227	4.75	2.21	**MC2REHF05**	58	*)	149	63	-	-	408	434
11.20	**11.11**	108	127.5	226	4.47	2.26	**MC2REHT05**	64	*)	154	70	-	-		
12.50	**12.33**	97	133.8	214	4.71	2.47		68	*)	160	74	-	-		
14.00	**14.68**	82	107.6	144	6.2	0.389		55	16.1	119	63	-	-		
16.00	**16.53**	73	121.1	144	6.3	0.388		58	20	123	67	-	-		
18.00	**18.33**	65	134.3	144	6.4	0.389		62	23	127	70	-	-		
20.00	**20.22**	59	135.6	132	6.3	0.80		64	25	130	72	-	-		
22.50	**22.76**	53	152.7	132	5.9	0.80		67	30	133	76	-	-		
25.00	**25.25**	48	169.4	132	5.6	0.80		70	32	135	79	-	-		
28.00	**29.13**	41	181.3	123	5.2	1.13		74	35	139	83	-	-		
31.50	**32.32**	37	177.7	108	6.4	1.61		76	38	142	86	-	-		
35.50	**33.83**	35	161.7	95	7.7	1.09	**MC3RESF05**	76	39	143	87	-	-		
40.00	**39.03**	31	172.7	88	7.4	1.40	**MC3REHF05**	80	42	148	90	-	-	424	436
45.00	**43.30**	28	179.3	82	8.0	1.65	**MC3REHT05**	83	44	149	93	-	-		
50.00	**48.74**	25	166.8	68	8.8	2.27		84	47	152	95	-	-		
56.00	**55.44**	22	176.3	63	9.1	0.50		87	50	154	98	-	-		
63.00	**62.40**	19	168.2	54	9.3	1.03		90	51	157	101	-	-		
71.00	**69.92**	17	139.1	40	9.3	1.30		72	35	130	74	-	-		
80.00	**77.56**	15	154.3	40	9.3	1.30		75	36	133	76	-	-		
90.00	**87.30**	14	170.2	39	9.3	1.34		76	39	135	78	-	-		
100.00	**93.84**	13	119.8	25	9.3	0.80		78	40	135	79	-	-		
112.00	**105.62**	11	137.0	26	9.3	0.78		79	42	138	82	-	-		

MC.RE..06, n_1 = 1200rpm								P_{TH}						221000 lb-in	
i_N	i_{ex}	n_2 [rpm]	M_{N2} [lb-in]	P_{N1} [HP]	F_{Ra} [lb] x1000	F_{Re} [lb] x1000		$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F	$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F	$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F		
7.10	**6.74**	178	147.2	426	4.41	1.06		46	*)	152	50	-	-		
8.00	**7.80**	154	157.6	394	4.80	1.90	**MC2RESF06**	55	*)	162	60	-	-		
9.00	**8.75**	137	164.9	367	5.1	2.50	**MC2REHF06**	62	*)	170	68	-	-	410	434
10.00	**9.64**	125	150.7	308	6.2	1.43	**MC2REHT06**	68	*)	176	74	-	-		
11.20	**11.15**	108	163.0	288	6.5	2.13		76	*)	185	83	-	-		
12.50	**12.52**	96	171.8	270	6.8	2.67		83	*)	192	90	-	-		
14.00	**14.09**	85	127.9	179	8.4	0.96		64	19	142	74	-	-		
16.00	**16.30**	74	148.0	179	8.5	0.96		70	24	148	79	-	-		
18.00	**18.30**	66	166.1	179	8.6	0.96		74	28	152	83	-	-		
20.00	**20.30**	59	167.8	163	8.8	1.42		76	31	156	87	-	-		
22.50	**23.49**	51	194.2	163	8.9	1.42		82	36	161	93	-	-		
25.00	**26.36**	46	218.0	163	8.2	1.42		84	39	164	97	-	-		
28.00	**28.78**	42	222.5	152	8.1	1.73		87	42	168	99	-	-		
31.50	**32.30**	37	232.4	142	8.7	2.03		91	46	170	102	-	-		
35.50	**35.53**	34	209.7	118	10.2	1.89	**MC3RESF06**	94	48	173	105	-	-		
40.00	**38.80**	31	214.1	110	10.2	2.16	**MC3REHF06**	97	50	176	107	-	-	426	436
45.00	**43.54**	28	235.4	108	10.2	2.24	**MC3REHT06**	99	54	178	111	-	-		
50.00	**49.28**	24	218.4	88	10.2	2.93		102	56	182	114	-	-		
56.00	**55.31**	22	215.7	78	10.2	2.38		105	59	185	117	-	-		
63.00	**62.60**	19	221.0	70	10.2	2.71		107	62	188	119	-	-		
71.00	**68.96**	17	194.2	56	10.2	1.50		87	42	156	89	-	-		
80.00	**77.39**	16	218.0	56	10.2	1.50		90	44	158	91	-	-		
90.00	**87.60**	14	223.8	51	10.2	1.80		91	46	161	94	-	-		
100.00	**95.76**	13	202.8	42	10.2	0.60		94	48	164	95	-	-		
112.00	**108.39**	11	225.2	41	10.2	0.66		95	50	166	98	-	-		

MC.RE..07, n_1 = 1200rpm														292000 lb-in	
7.10	**6.84**	176	181.1	516	5.6	2.07		56	*)	186	62	-	-		
8.00	**7.70**	156	191.3	484	5.9	2.76		66	*)	196	72	-	-		
9.00	**8.65**	139	200.7	452	6.2	3.16	**MC2RESF07**	75	*)	205	82	-	-		
10.00	**9.74**	123	186.1	376	7.6	2.40	**MC2REHF07**	83	*)	215	91	-	-	412	434
11.20	**10.96**	109	199.1	357	7.7	2.94	**MC2REHT07**	93	*)	224	99	-	-		
12.50	**12.32**	97	209.4	335	8.1	3.39		99	*)	232	109	-	-		
14.00	**14.18**	85	170.6	237	9.3	0.364		78	*)	173	90	-	-		
16.00	**15.97**	75	192.1	237	9.4	0.364		83	28	178	95	-	-		
18.00	**17.93**	67	215.8	237	9.5	0.364		89	32	184	101	-	-		
20.00	**19.94**	60	221.2	219	9.6	0.93		93	38	188	106	-	-		
22.50	**22.45**	53	249.0	219	9.4	0.93		98	42	193	110	-	-		
25.00	**25.22**	48	279.8	219	8.3	0.93		102	46	198	115	-	-		
28.00	**28.38**	42	290.0	201	8.1	1.44		106	51	202	119	-	-		
31.50	**31.88**	38	321.5	199	7.1	1.52		110	55	207	123	-	-		
35.50	**33.79**	36	261.3	154	11.4	1.15	**MC3RESF07**	113	56	209	126	-	-		
40.00	**38.02**	32	273.5	143	11.7	1.58	**MC3REHF07**	115	60	213	130	-	-	428	437
45.00	**42.71**	28	307.3	143	11.4	1.58	**MC3REHT07**	119	64	217	134	-	-		
50.00	**48.96**	25	300.6	122	11.8	2.43		123	68	221	138	-	-		
56.00	**53.98**	22	277.3	102	11.8	1.97		126	71	224	141	-	-		
63.00	**61.88**	19	302.9	97	11.8	2.21		130	75	228	145	-	-		
71.00	**70.77**	17	226.0	64	11.8	0.60		106	51	190	107	-	-		
80.00	**79.49**	15	253.9	64	11.8	0.60		109	54	193	111	-	-		
90.00	**91.12**	13	291.0	64	11.8	0.60		113	56	197	114	-	-		
100.00	**96.17**	12	259.9	54	11.8	0.63		114	58	198	115	-	-		
112.00	**110.25**	11	298.0	54	11.8	0.63		117	62	201	119	-	-		

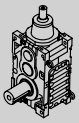
MC.RE..08, n_1 = 1200rpm — P_{TH} — 398000 lb-in

i_N	i_{ex}	n_2 [rpm]	M_{N2} [lb-in]	P_{N1} [HP]	F_{Ra} [lb] x1000	F_{Re} [lb] x1000		$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F	$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F	$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F		
7.10	**6.95**	173	244.3	685	5.7	3.05		71	*)	231	78	-	-		
8.00	**7.82**	153	257.4	641	6.0	3.84		82	*)	243	90	-	-		
9.00	**8.88**	135	271.7	596	6.4	4.16	**MC2RESF08**	94	*)	255	103	-	-		
10.00	**9.74**	123	253.3	512	7.4	2.86	**MC2REHF08**	103	*)	264	111	-	-	414	434
11.20	**10.96**	109	268.8	482	7.7	3.74	**MC2REHT08**	113	*)	275	122	-	-		
12.50	**12.45**	96	284.0	449	8.2	4.17		123	*)	286	134	-	-		
14.00	**14.48**	83	249.2	339	10.2	*)		97	*)	213	113	-	-		
16.00	**16.30**	74	280.6	339	10.2	*)		103	35	220	119	-	-		
18.00	**18.51**	65	318.6	339	9.3	*)		110	42	228	126	-	-		
20.00	**20.25**	59	300.9	293	10.2	0.72		114	47	232	130	-	-		
22.50	**22.80**	53	338.8	293	9.4	0.72		121	52	239	137	-	-		
25.00	**25.89**	46	384.7	293	8.2	0.72		126	58	244	142	-	-		
28.00	**29.06**	41	375.2	254	9.4	1.72		131	63	249	149	-	-		
31.50	**33.00**	36	415.0	248	8.7	1.89		137	68	256	154	-	-		
35.50	**34.90**	34	373.1	213	12.0	1.14	**MC3RESF08**	139	71	257	157	-	-		
40.00	**39.18**	31	387.2	197	11.8	1.68	**MC3REHF08**	143	75	263	161	-	-	430	437
45.00	**44.49**	27	418.8	187	11.8	1.99	**MC3REHT08**	149	80	268	166	-	-		
50.00	**49.82**	24	392.0	157	14.6	3.01		153	84	272	170	-	-		
56.00	**56.62**	21	422.6	149	14.4	1.04		157	89	278	176	-	-		
63.00	**63.41**	19	396.5	125	15.0	2.19		161	93	282	180	-	-		
71.00	**70.39**	17	328.0	93	15.0	1.75		130	62	233	133	-	-		
80.00	**79.93**	15	372.5	93	15.0	1.75		134	66	239	137	-	-		
90.00	**89.53**	13	401.5	89	15.0	1.94		138	70	241	139	-	-		
100.00	**96.71**	12	299.1	62	15.0	0.54		139	72	244	142	-	-		
112.00	**108.32**	11	338.7	62	15.0	0.495		143	75	248	146	-	-		

MC.RE..09, n_1 = 1200rpm — 486000 lb-in

7.10	**6.85**	175	336.0	955	7.3	2.58		*)	*)	264	*)	-	-		
8.00	**7.92**	151	358.2	880	7.9	3.94		97	*)	282	106	-	-		
9.00	**8.89**	135	375.9	823	8.3	4.91	**MC2RESF09**	109	*)	294	118	-	-		
10.00	**9.61**	125	348.3	713	9.4	2.31	**MC2REHF09**	117	*)	303	127	-	-	416	434
11.20	**11.11**	108	373.2	661	10	3.62	**MC2REHT09**	131	*)	318	142	-	-		
12.50	**12.47**	96	393.3	621	10.4	4.62		142	*)	330	154	-	-		
14.00	**14.28**	84	297.7	411	12.9	*)		111	*)	245	129	-	-		
16.00	**16.52**	73	344.3	411	13.2	*)		119	42	255	138	-	-		
18.00	**18.54**	65	386.4	411	13.3	*)		127	48	263	145	-	-		
20.00	**19.70**	61	378.9	379	13.5	0.76		130	52	266	149	-	-		
22.50	**22.78**	53	438.1	379	13.6	0.76		138	60	275	157	-	-		
25.00	**25.57**	47	491.7	379	12.7	0.76		145	66	282	164	-	-		
28.00	**28.12**	43	478.4	335	14.0	2.11		150	71	286	169	-	-		
31.50	**31.56**	38	536.9	335	12.8	2.11		156	76	292	176	-	-		
35.50	**34.47**	35	491.3	284	15.6	1.37	**MC3RESF09**	160	80	296	180	-	-		
40.00	**37.90**	32	491.9	258	16.1	2.36	**MC3REHF09**	164	86	302	184	-	-	432	437
45.00	**42.54**	28	552.0	258	15.9	2.36	**MC3REHT09**	169	91	307	189	-	-		
50.00	**48.15**	25	531.0	220	17.6	2.92		174	97	312	196	-	-		
56.00	**54.72**	22	522.5	190	18.0	2.59		180	101	318	201	-	-		
63.00	**61.94**	19	533.1	171	18.0	2.89		185	106	323	207	-	-		
71.00	**68.22**	18	455.5	133	18.0	1.81		149	71	268	152	-	-		
80.00	**76.56**	16	511.2	133	18.0	1.81		153	75	272	156	-	-		
90.00	**86.65**	14	535.5	123	18.0	2.02		158	79	278	161	-	-		
100.00	**94.51**	13	315.2	66	18.0	1.63		161	82	280	164	-	-		
112.00	**106.98**	11	361.8	67	18.0	1.61		165	86	284	168	-	-		

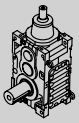
11.4.4 MC.RE.., n_1 = 1000 1/min

MC.RE..02, n_1 = 1000rpm								P_{TH}						70000 lb-in	
i_N	i_{ex}	n_2 [rpm]	M_{N2} [lb-in]	P_{N1} [HP]	F_{Ra} [lb] x1000	F_{Re} [lb] x1000		$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F	$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F	$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F		
7.10	**6.96**	144	54.4	127	1.23	1.45		30	*)	70	23	-	-		
8.00	**8.05**	124	58.1	117	1.36	1.84	**MC2RESF02**	34	*)	75	28	-	-		
9.00	**9.03**	111	61.0	110	1.46	2.13	**MC2REHF02**	38	*)	78	31	-	-	402	434
10.00	**9.61**	104	51.5	88	2.33	1.75	**MC2REHT02**	39	*)	80	34	-	-		
11.20	**11.11**	90	59.3	88	2.02	1.78		43	9.4	84	38	-	-		
12.50	**12.47**	80	63.0	83	2.07	2.01		46	12.1	87	40	-	-		
14.00	**14.61**	68	55.8	63	2.95	0.195		35	13.4	66	34	-	-		
16.00	**16.90**	59	64.6	63	2.60	0.195		38	14.8	68	36	-	-		
18.00	**18.96**	53	66.1	57	2.94	0.462		40	17.4	70	39	-	-		
20.00	**20.31**	49	76.4	62	1.54	0.243		40	19	71	40	-	-		
22.50	**23.49**	43	71.6	50	2.83	0.80		43	20	74	42	-	-		
25.00	**26.36**	38	67.0	42	3.90	1.20		44	21	75	44	-	-		
28.00	**29.43**	34	71.9	40	3.56	1.27		46	24	76	46	-	-		
31.50	**33.03**	30	67.6	34	4.62	1.55		48	25	78	47	-	-		
35.50	**37.38**	27	62.1	27	5.1	1.55	**MC3RESF02**	50	27	79	48	-	-		
40.00	**40.30**	25	60.1	25	5.1	1.08	**MC3REHF02**	50	28	80	50	-	-	418	435
45.00	**45.22**	22	68.2	25	5.1	1.05	**MC3REHT02**	51	30	82	51	-	-		
50.00	**50.49**	20	72.1	24	5.1	1.17		52	31	83	52	-	-		
56.00	**56.66**	18	69.0	20	5.1	1.46		54	31	84	54	-	-		
63.00	**64.14**	16	63.1	16.3	5.1	1.56		55	32	86	55	-	-		
71.00	**70.97**	14	72.1	16.9	5.1	0.71		46	23	71	40	-	-		
80.00	**79.65**	13	70.0	14.6	5.1	0.90		46	24	72	42	-	-		
90.00	**90.15**	11	64.1	11.8	5.1	1.11		47	24	74	43	-	-		
100.00	**97.35**	10	55.5	9.5	5.1	0.52		48	25	75	43	-	-		
112.00	**110.19**	9.1	62.6	9.4	5.1	0.53		50	27	76	44	-	-		

MC.RE..03, n_1 = 1000rpm														97000 lb-in	
7.10	**7.12**	140	68.8	157	4.32	1.92		36	*)	86	30	-	-		
8.00	**8.04**	124	72.4	146	4.51	2.28		42	*)	91	34	-	-		
9.00	**9.07**	110	76.5	137	4.67	2.60	**MC2RESF03**	46	*)	95	39	-	-		
10.00	**10.00**	100	58.9	97	5.3	2.21	**MC2REHF03**	48	*)	99	42	-	-	404	434
11.20	**11.28**	89	67.3	98	5.4	2.15	**MC2REHT03**	52	10.7	103	46	-	-		
12.50	**12.73**	79	76.9	99	5.4	2.09		56	14.8	107	50	-	-		
14.00	**15.07**	66	69.8	76	5.9	0.492		44	16.1	80	42	-	-		
16.00	**17.00**	59	78.7	76	6.0	0.493		46	19	83	44	-	-		
18.00	**19.18**	52	88.8	76	6.1	0.493		48	21	86	47	-	-		
20.00	**20.57**	49	95.2	76	5.9	0.493		50	23	87	48	-	-		
22.50	**23.20**	43	102.6	73	6.1	0.63		52	24	89	51	-	-		
25.00	**26.18**	38	95.9	60	6.7	1.13		54	27	91	54	-	-		
28.00	**29.60**	34	101.7	56	6.8	1.28		56	28	94	55	-	-		
31.50	**33.40**	30	97.0	48	6.9	1.63		58	31	95	58	-	-		
35.50	**35.08**	29	96.8	46	6.9	1.08	**MC3RESF03**	59	31	97	58	-	-		
40.00	**39.67**	25	101.1	42	6.9	1.27	**MC3REHF03**	60	34	98	60	-	-	420	435
45.00	**44.75**	22	97.8	36	6.9	1.59	**MC3REHT03**	63	35	101	62	-	-		
50.00	**50.97**	20	90.0	29	6.9	1.96		64	38	102	64	-	-		
56.00	**57.30**	17	98.9	29	6.9	1.55		66	39	103	66	-	-		
63.00	**65.25**	15	90.5	23	6.9	1.94		67	40	105	67	-	-		
71.00	**69.86**	14	95.2	23	6.9	0.408		55	27	87	50	-	-		
80.00	**78.82**	13	99.8	21	6.9	0.56		56	28	89	51	-	-		
90.00	**89.76**	11	91.9	17.0	6.9	0.93		58	30	90	52	-	-		
100.00	**97.53**	10	81.0	13.8	6.9	0.047		59	31	91	54	-	-		
112.00	**111.07**	9.0	93.2	13.9	6.9	0.028		60	32	93	55	-	-		

MC.RE..04, n_1 = 1000rpm								P_{TH}						132000 lb-in	
i_N	i_{ex}	n_2 [rpm]	M_{N2} [lb-in]	P_{N1} [HP]	F_{Ra} [lb] x1000	F_{Re} [lb] x1000		$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F	$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F	$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F		
7.10	**7.29**	137	89.6	200	4.99	1.91		46	*)	107	36	-	-		
8.00	**8.20**	122	94.7	188	5.2	2.32	**MC2RESF04**	51	*)	113	43	-	-		
9.00	**9.17**	109	99.2	176	5.4	2.72	**MC2REHF04**	56	*)	118	47	-	-	406	434
10.00	**10.15**	99	88.9	144	5.8	1.74	**MC2REHT04**	60	*)	122	52	-	-		
11.20	**11.41**	88	96.3	138	5.9	1.99		66	14.8	127	56	-	-		
12.50	**12.76**	78	102.7	132	6.1	2.28		70	19	131	62	-	-		
14.00	**14.76**	68	89.9	100	6.8	*)		54	20	98	51	-	-		
16.00	**16.60**	60	101.1	100	6.8	*)		56	23	102	55	-	-		
18.00	**18.56**	54	113.0	100	6.9	*)		59	25	105	58	-	-		
20.00	**20.60**	49	115.8	92	7.0	0.270		62	28	107	60	-	-		
22.50	**23.17**	43	130.3	92	7.0	0.270		64	31	110	63	-	-		
25.00	**25.90**	39	132.5	84	7.4	0.62		67	32	113	66	-	-		
28.00	**29.65**	34	143.3	79	7.2	0.81		70	35	115	68	-	-		
31.50	**33.14**	30	132.9	66	7.9	1.37		71	38	117	71	-	-		
35.50	**34.63**	29	118.4	57	7.9	1.26	**MC3RESF04**	72	39	118	71	-	-		
40.00	**39.63**	25	137.8	58	7.9	1.22	**MC3REHF04**	75	42	121	74	-	-	422	435
45.00	**44.30**	23	133.3	50	7.9	1.60	**MC3REHT04**	76	43	123	76	-	-		
50.00	**49.83**	20	127.0	42	7.9	1.98		79	46	125	78	-	-		
56.00	**55.99**	18	126.5	37	7.9	1.66		80	47	127	80	-	-		
63.00	**62.98**	16	128.0	34	7.9	1.90		83	48	129	82	-	-		
71.00	**68.90**	15	118.4	29	7.9	1.0		67	34	107	60	-	-		
80.00	**77.02**	13	127.4	27	7.9	1.09		68	35	109	62	-	-		
90.00	**86.63**	12	130.0	25	7.9	1.29		70	36	110	63	-	-		
100.00	**93.18**	11	79.7	14.2	7.9	0.237		71	38	111	64	-	-		
112.00	**104.81**	9.5	90.4	14.3	7.9	0.220		72	39	113	66	-	-		

MC.RE..05, n_1 = 1000rpm														177000 lb-in	
7.10	**7.10**	141	123.3	282	3.51	1.59		51	*)	119	40	-	-		
8.00	**7.99**	125	130.2	265	3.69	2.20		56	*)	126	47	-	-		
9.00	**8.86**	113	136.5	250	3.93	2.47	**MC2RESF05**	62	*)	131	52	-	-		
10.00	**9.87**	101	114.9	191	5.4	2.57	**MC2REHF05**	67	*)	137	58	-	-	408	434
11.20	**11.11**	90	130.2	192	5.0	2.54	**MC2REHT05**	72	*)	142	63	-	-		
12.50	**12.33**	81	141.4	188	4.98	2.61		76	20	148	68	-	-		
14.00	**14.68**	68	107.5	120	6.7	0.69		60	21	110	58	-	-		
16.00	**16.53**	61	121.0	120	6.8	0.69		63	25	114	62	-	-		
18.00	**18.33**	55	134.3	120	6.9	0.69		66	28	117	64	-	-		
20.00	**20.22**	49	135.7	110	7.0	1.10		68	31	119	67	-	-		
22.50	**22.76**	44	152.7	110	6.9	1.10		72	34	123	70	-	-		
25.00	**25.25**	40	169.5	110	6.6	1.10		75	36	126	72	-	-		
28.00	**29.13**	34	181.4	102	6.2	1.42		78	40	129	76	-	-		
31.50	**32.32**	31	178.6	91	7.3	1.89		80	42	131	79	-	-		
35.50	**33.83**	30	161.8	79	8.3	1.38	**MC3RESF05**	80	43	133	80	-	-		
40.00	**39.03**	26	172.6	73	8.5	1.70	**MC3REHF05**	84	46	135	83	-	-	424	436
45.00	**43.30**	23	180.6	69	8.8	1.92	**MC3REHT05**	86	48	138	86	-	-		
50.00	**48.74**	21	167.5	57	9.3	2.55		89	51	141	87	-	-		
56.00	**55.44**	18	177.1	53	9.3	0.71		91	52	143	90	-	-		
63.00	**62.40**	16	169.1	45	9.3	1.24		93	55	145	93	-	-		
71.00	**69.92**	14	138.7	33	9.3	1.51		76	38	121	68	-	-		
80.00	**77.56**	13	153.9	33	9.3	1.51		78	39	123	70	-	-		
90.00	**87.30**	11	171.1	33	9.3	1.54		79	42	125	72	-	-		
100.00	**93.84**	11	121.1	21	9.3	0.92		80	43	126	74	-	-		
112.00	**105.62**	9.5	138.0	22	9.3	0.90		82	44	127	75	-	-		

MC.RE..06, n_1 = 1000rpm								P_{TH}						221000 lb-in	
i_N	i_{ex}	n_2 [rpm]	M_{N2} [lb-in]	P_{N1} [HP]	F_{Ra} [lb] x1000	F_{Re} [lb] x1000		$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F	$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F	$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F		
7.10	**6.74**	148	155.7	375	4.64	1.11		58	*)	139	44	-	-		
8.00	**7.80**	128	166.1	346	5.1	2.03	**MC2RESF06**	66	*)	149	54	-	-		
9.00	**8.75**	114	174.3	323	5.4	2.64	**MC2REHF06**	74	*)	156	62	-	-	410	434
10.00	**9.64**	104	156.4	266	6.8	1.71	**MC2REHT06**	79	*)	162	67	-	-		
11.20	**11.15**	90	170.9	251	7.0	2.33		87	*)	170	75	-	-		
12.50	**12.52**	80	181.5	238	7.2	2.82		93	24	177	82	-	-		
14.00	**14.09**	71	127.3	148	9.0	1.33		71	25	131	67	-	-		
16.00	**16.30**	61	147.3	148	9.2	1.33		75	30	137	72	-	-		
18.00	**18.30**	55	165.3	148	9.3	1.33		79	34	141	76	-	-		
20.00	**20.30**	49	167.0	135	9.5	1.79		83	38	143	80	-	-		
22.50	**23.49**	43	193.3	135	9.6	1.79		87	42	149	84	-	-		
25.00	**26.36**	38	216.9	135	9.7	1.79		90	44	152	89	-	-		
28.00	**28.78**	35	222.7	127	9.8	2.07		93	47	154	91	-	-		
31.50	**32.30**	31	234.3	119	10.2	2.34		95	50	158	94	-	-		
35.50	**35.53**	28	209.8	98	10.2	2.23	**MC3RESF06**	98	52	160	97	-	-		
40.00	**38.80**	26	214.4	92	10.2	2.50	**MC3REHF06**	101	55	162	99	-	-	426	436
45.00	**43.54**	23	236.8	90	10.2	2.56	**MC3REHT06**	103	58	165	102	-	-		
50.00	**49.28**	20	220.3	74	10.2	3.24		106	60	169	106	-	-		
56.00	**55.31**	18	216.8	65	10.2	2.69		109	63	172	109	-	-		
63.00	**62.60**	16	222.2	59	10.2	3.02		111	66	174	111	-	-		
71.00	**68.96**	15	194.7	47	10.2	1.76		91	46	145	82	-	-		
80.00	**77.39**	13	218.5	47	10.2	1.76		93	47	148	83	-	-		
90.00	**87.60**	11	225.4	43	10.2	2.04		95	50	149	86	-	-		
100.00	**95.76**	10	203.9	35	10.2	0.79		97	51	152	89	-	-		
112.00	**108.39**	9.2	227.4	35	10.2	0.84		99	54	153	90	-	-		

MC.RE..07, n_1 = 1000rpm														292000 lb-in	
7.10	**6.84**	146	191.5	455	5.9	2.17		71	*)	170	55	-	-		
8.00	**7.70**	130	201.8	426	6.2	2.93		79	*)	180	64	-	-		
9.00	**8.65**	116	211.8	398	6.6	3.34	**MC2RESF07**	89	*)	189	74	-	-	412	434
10.00	**9.74**	103	193.1	325	8.1	2.74	**MC2REHF07**	97	*)	197	82	-	-		
11.20	**10.96**	91	207.5	310	8.3	3.25	**MC2REHT07**	105	*)	207	91	-	-		
12.50	**12.32**	81	222.0	296	8.4	3.57		111	*)	215	99	-	-		
14.00	**14.18**	71	170.4	197	10	0.80		86	31	160	83	-	-		
16.00	**15.97**	63	191.9	197	10.2	0.80		91	35	165	87	-	-		
18.00	**17.93**	56	215.6	197	10.2	0.80		95	40	169	93	-	-		
20.00	**19.94**	50	220.4	182	10.4	1.37		99	44	174	97	-	-		
22.50	**22.45**	45	248.1	182	10.5	1.37		105	48	178	102	-	-		
25.00	**25.22**	40	278.7	182	10.2	1.37		109	52	182	106	-	-		
28.00	**28.38**	35	293.1	170	9.7	1.80		113	56	188	110	-	-		
31.50	**31.88**	31	324.1	167	8.8	1.89		117	60	192	114	-	-		
35.50	**33.79**	30	260.4	128	11.8	1.58	**MC3RESF07**	118	63	193	117	-	-		
40.00	**38.02**	26	272.4	119	11.8	2.02	**MC3REHF07**	122	66	197	121	-	-	428	437
45.00	**42.71**	23	306.0	119	11.8	2.02	**MC3REHT07**	125	70	201	123	-	-		
50.00	**48.96**	20	302.2	102	11.8	2.82		129	74	205	127	-	-		
56.00	**53.98**	19	278.3	86	11.8	2.35		131	76	208	130	-	-		
63.00	**61.88**	16	304.6	82	11.8	2.58		135	79	211	134	-	-		
71.00	**70.77**	14	226.1	53	11.8	0.90		111	55	176	99	-	-		
80.00	**79.49**	13	254.0	53	11.8	0.90		114	58	180	102	-	-		
90.00	**91.12**	11	291.1	53	11.8	0.90		117	62	182	106	-	-		
100.00	**96.17**	10	259.9	45	11.8	0.89		118	62	184	107	-	-		
112.00	**110.25**	9.1	298.0	45	11.8	0.89		121	66	186	110	-	-		

MC.RE..08, n_1 = 1000rpm — P_{TH} — 398000 lb-in

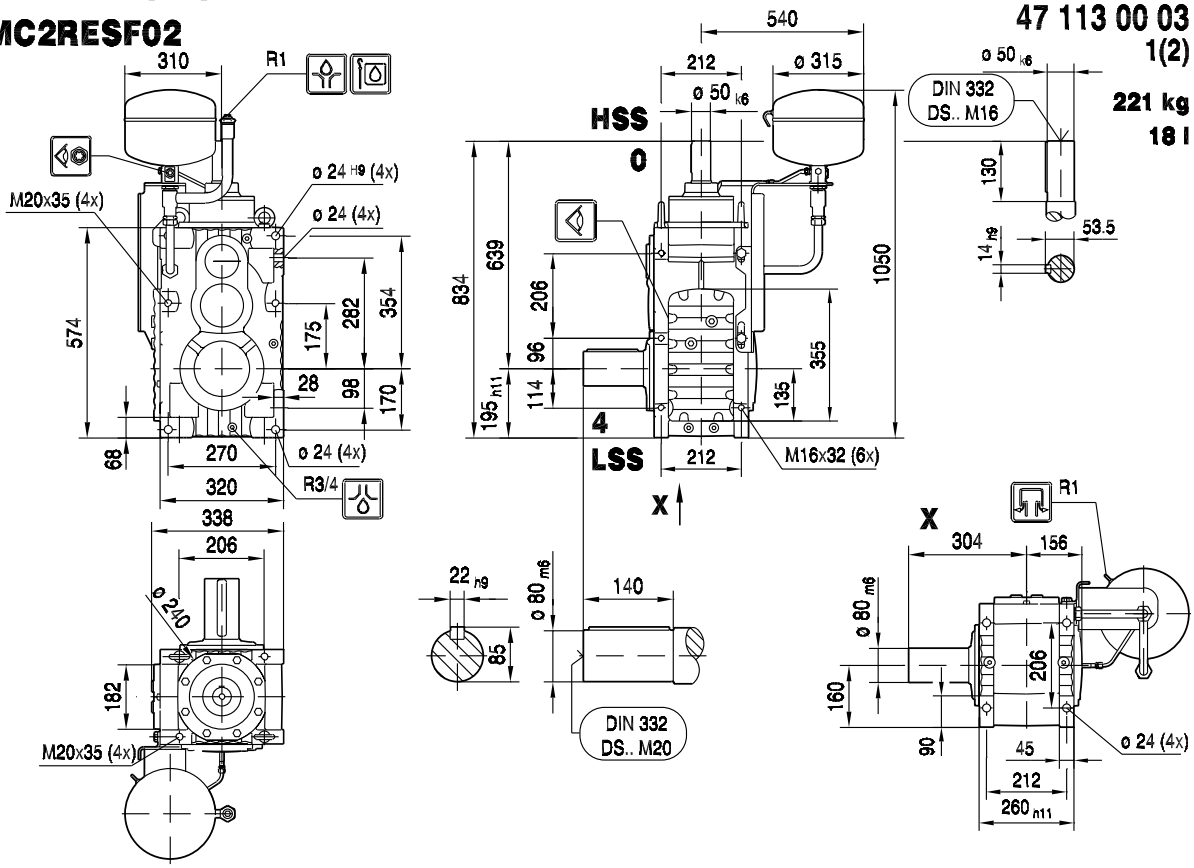
i_N	i_{ex}	n_2 [rpm]	M_{N2} [lb-in]	P_{N1} [HP]	F_{Ra} [lb] x1000	F_{Re} [lb] x1000		$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F	$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F	$P_{TH[20]}$ 68 °F	$P_{TH[40]}$ 104 °F		
7.10	**6.95**	144	257.9	603	6.0	3.23		89	*)	212	70	-	-		
8.00	**7.82**	128	271.8	564	6.4	4.06		99	*)	223	82	-	-		
9.00	**8.88**	113	286.8	524	6.8	4.40	**MC2RESF08**	110	*)	235	93	-	-	414	434
10.00	**9.74**	103	263.3	443	8.1	3.28	**MC2REHF08**	118	*)	243	102	-	-		
11.20	**10.96**	91	282.1	422	8.3	4.05	**MC2REHT08**	129	*)	253	111	-	-		
12.50	**12.45**	80	299.9	395	8.6	4.41		138	*)	264	122	-	-		
14.00	**14.48**	69	260.5	296	10.8	*)		107	39	197	102	-	-		
16.00	**16.30**	61	293.3	296	10.9	*)		113	44	204	109	-	-		
18.00	**18.51**	54	333.1	296	10	*)		119	51	211	115	-	-		
20.00	**20.25**	49	318.6	258	10.8	0.74		123	55	215	119	-	-		
22.50	**22.80**	44	358.8	258	9.8	0.74		129	60	220	126	-	-		
25.00	**25.89**	39	407.4	258	8.6	0.74		134	66	225	131	-	-		
28.00	**29.06**	34	396.3	224	9.9	1.82		139	71	231	137	-	-		
31.50	**33.00**	30	418.1	208	10.5	2.31		143	76	236	142	-	-		
35.50	**34.90**	29	374.5	178	13.7	1.58	**MC3RESF08**	146	78	239	145	-	-		
40.00	**39.18**	26	407.8	173	12.5	1.79	**MC3REHF08**	150	82	243	149	-	-	430	437
45.00	**44.49**	22	423.5	158	13.7	2.38	**MC3REHT08**	156	87	248	154	-	-		
50.00	**49.82**	20	395.6	132	15.0	3.42		160	91	252	158	-	-		
56.00	**56.62**	18	425.8	125	15.0	1.47		164	95	256	162	-	-		
63.00	**63.41**	16	398.6	104	15.0	2.61		166	99	260	166	-	-		
71.00	**70.39**	14	328.3	77	15.0	2.13		135	68	216	122	-	-		
80.00	**79.93**	13	372.8	77	15.0	2.13		139	71	220	126	-	-		
90.00	**89.53**	11	403.8	75	15.0	2.31		143	75	224	130	-	-		
100.00	**96.71**	10	301.2	52	15.0	0.75		145	76	227	131	-	-		
112.00	**108.32**	9.2	341.7	52	15.0	0.71		148	79	229	134	-	-		

MC.RE..09, n_1 = 1000rpm — 486000 lb-in

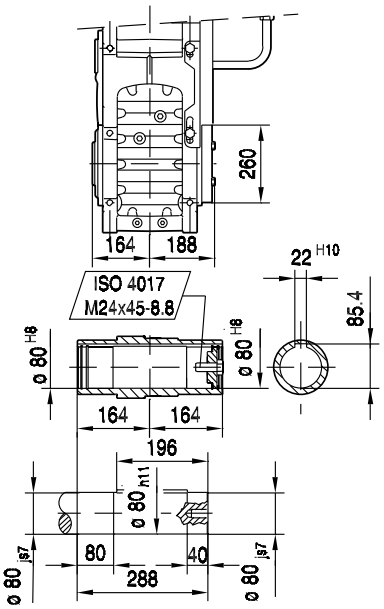
7.10	**6.85**	146	354.9	841	7.7	2.72		101	*)	241	*)	-	-		
8.00	**7.92**	126	378.6	775	8.3	4.15		115	*)	259	95	-	-		
9.00	**8.89**	112	396.5	724	8.8	5.2	**MC2RESF09**	127	*)	271	107	-	-	416	434
10.00	**9.61**	104	364.5	622	10.1	2.62	**MC2REHF09**	135	*)	279	115	-	-		
11.20	**11.11**	90	394.1	582	10.5	3.82	**MC2REHT09**	149	*)	294	130	-	-		
12.50	**12.47**	80	415.8	547	11.0	4.87		160	*)	304	141	-	-		
14.00	**14.28**	70	314.6	362	13.7	*)		122	44	227	117	-	-		
16.00	**16.52**	61	363.8	362	13.9	*)		131	52	235	126	-	-		
18.00	**18.54**	54	408.3	362	14.0	*)		137	59	241	133	-	-		
20.00	**19.70**	51	399.0	333	14.3	0.83		141	62	245	137	-	-		
22.50	**22.78**	44	461.4	333	14.4	0.83		149	70	253	145	-	-		
25.00	**25.57**	39	517.9	333	13.5	0.83		154	75	260	152	-	-		
28.00	**28.12**	36	506.0	296	14.7	2.21		158	80	264	156	-	-		
31.50	**31.56**	32	567.9	296	13.5	2.21		164	86	271	161	-	-		
35.50	**34.47**	29	492.3	237	16.9	2.05	**MC3RESF09**	168	90	275	165	-	-		
40.00	**37.90**	26	519.9	228	17.0	2.49	**MC3REHF09**	172	94	279	170	-	-	432	437
45.00	**42.54**	24	573.2	224	17.3	2.62	**MC3REHT09**	177	98	284	176	-	-		
50.00	**48.15**	21	532.3	183	18.0	3.23		182	103	290	180	-	-		
56.00	**54.72**	18	525.4	159	18.0	2.89		186	109	295	185	-	-		
63.00	**61.94**	16	534.7	143	18.0	3.21		192	113	299	190	-	-		
71.00	**68.22**	15	455.7	111	18.0	2.07		156	76	248	139	-	-		
80.00	**76.56**	13	511.5	111	18.0	2.07		160	80	252	143	-	-		
90.00	**86.65**	12	535.6	103	18.0	2.29		164	84	257	148	-	-		
100.00	**94.51**	11	318.0	56	18.0	1.79		166	87	260	152	-	-		
112.00	**106.98**	9.3	364.2	56	18.0	1.78		170	91	264	156	-	-		

11.4.5 MC.RE.. [mm]

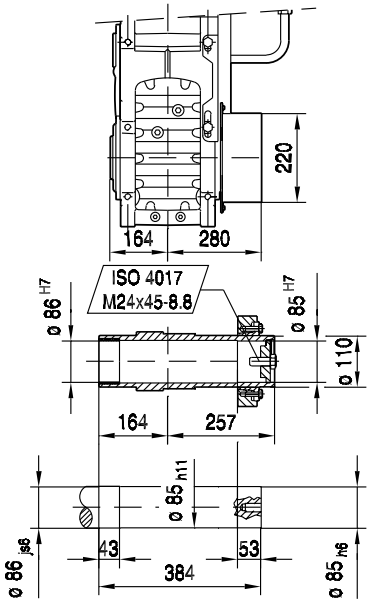
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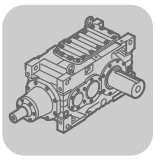


MC2REHF02



MC2REHF02 /SD

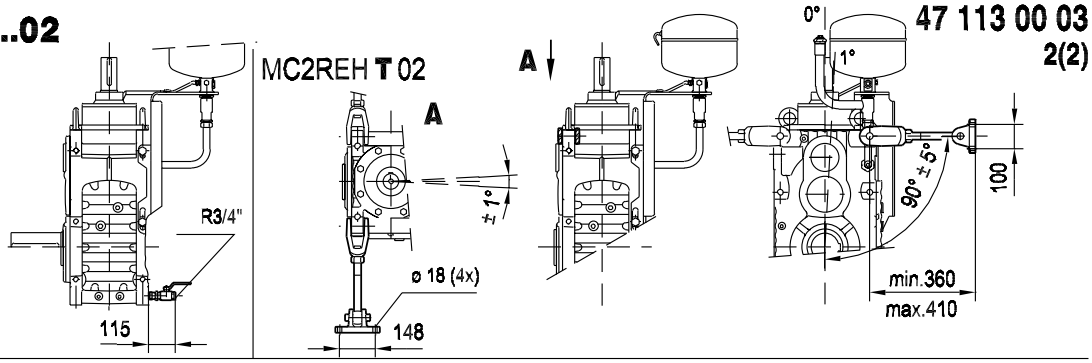




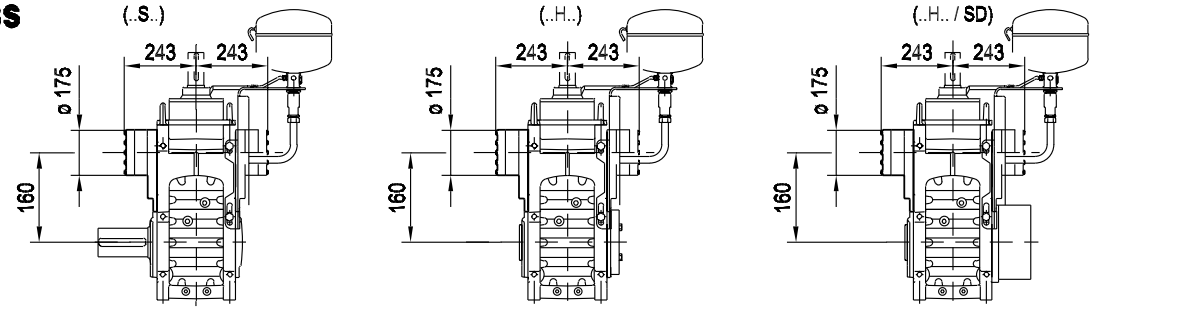
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MC2RE..02

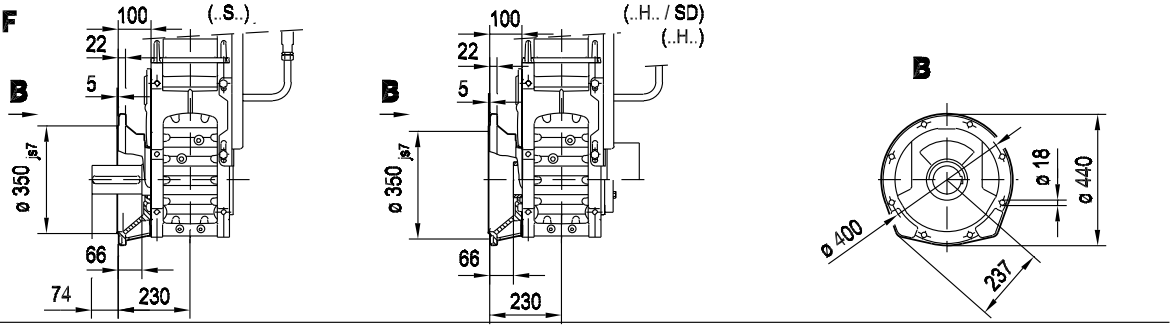
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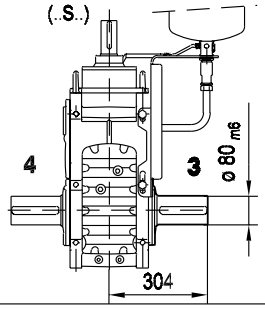
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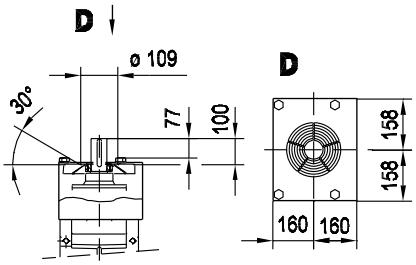
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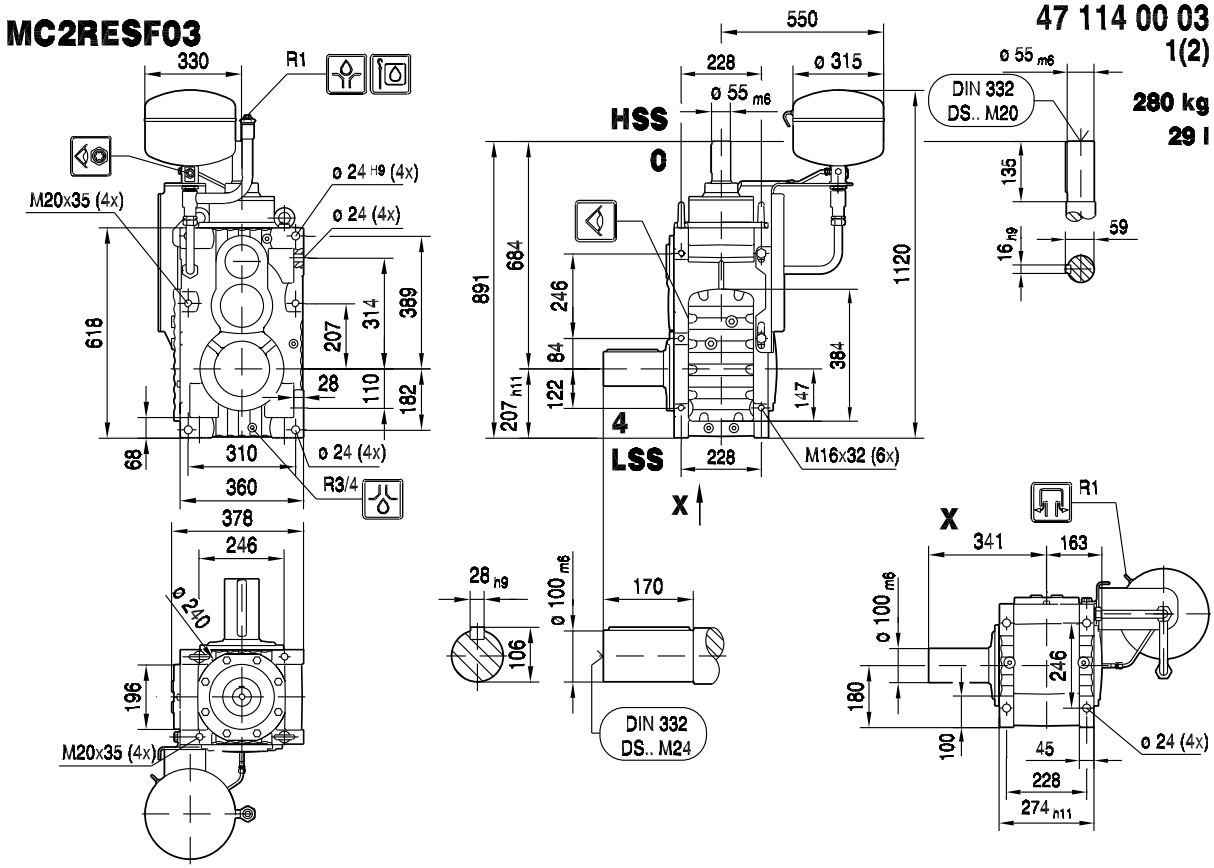
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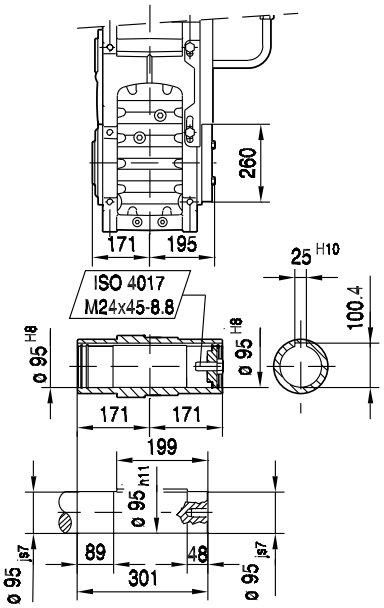
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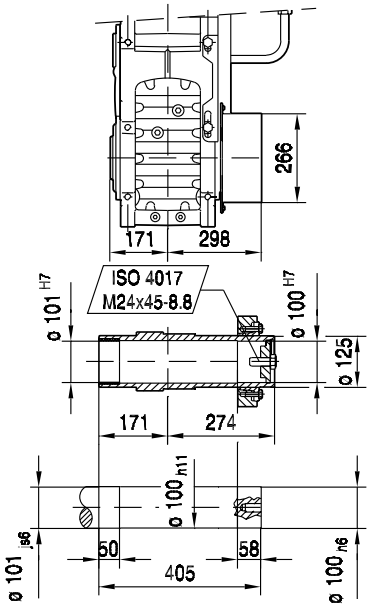
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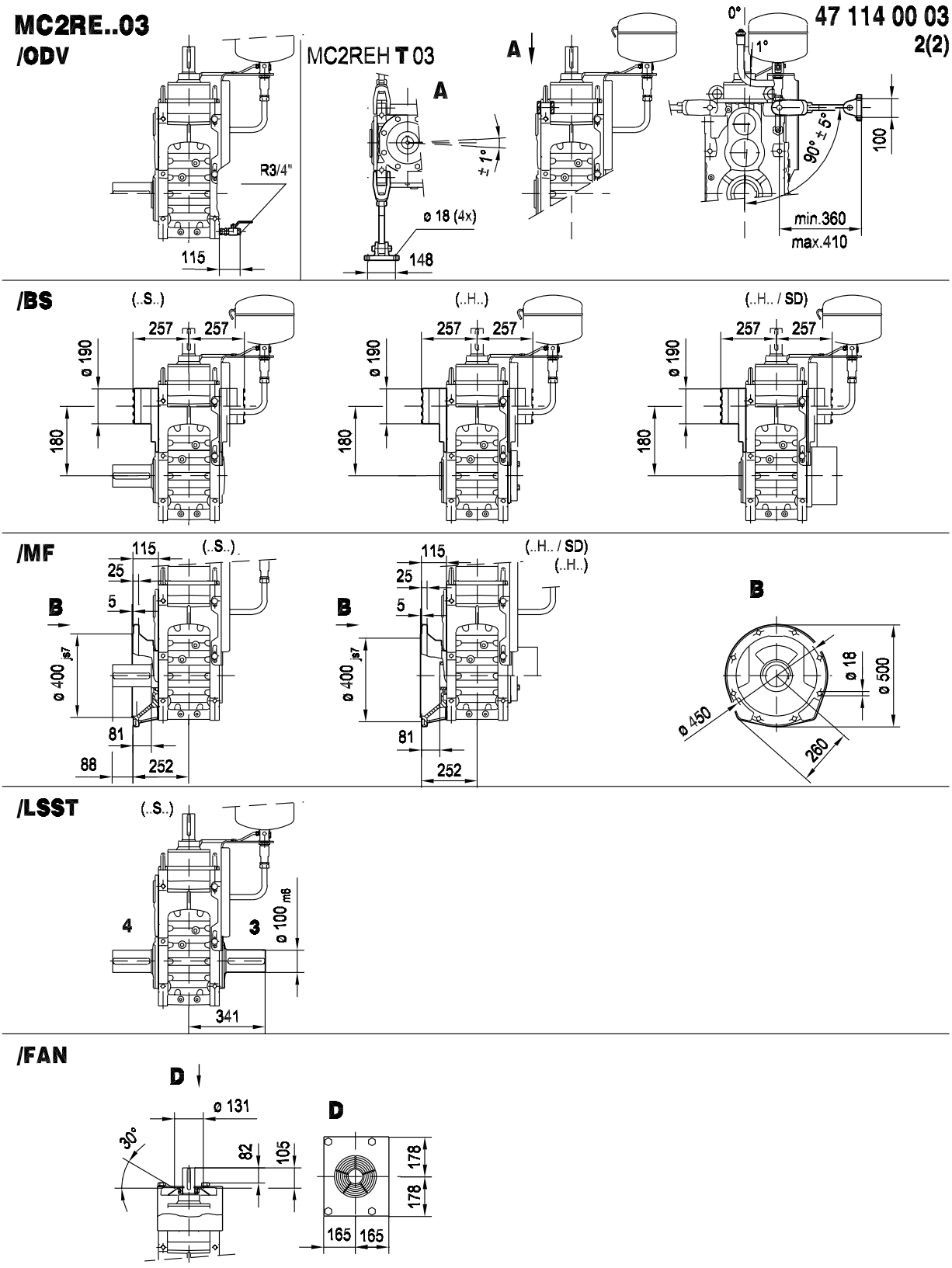


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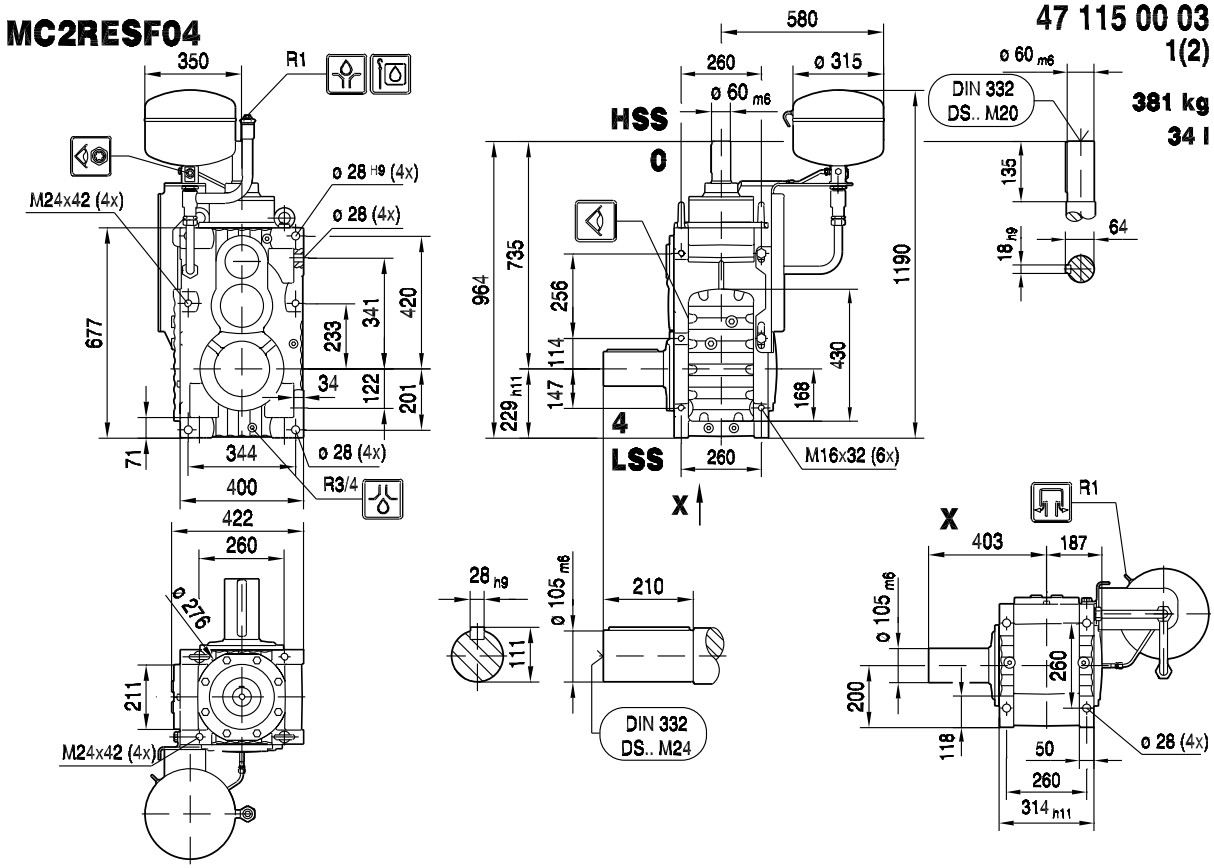


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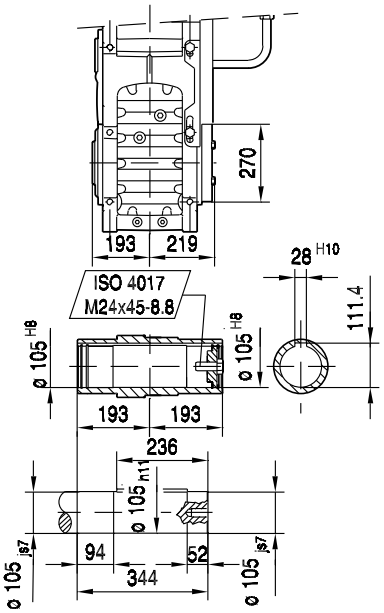



MC2RE..03
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MC2REH T 03
47 114 00 03
2(2)
R3/4"
115
ø 18 (4x)
148
± 1°
0°
1°
90° ± 5°
100
min.360
max.410
/BS
(..S..)
(..H..)
(..H.. / SD)
257
257
ø 190
180
/MF
115
25
5
B
ø 400 js7
81
88
252
(..S..)
(..H.. / SD)
(..H..)
ø 18
ø 500
ø 450
260
/LSST
4
3
ø 100 m6
341
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D
ø 131
30°
82
105
178
165

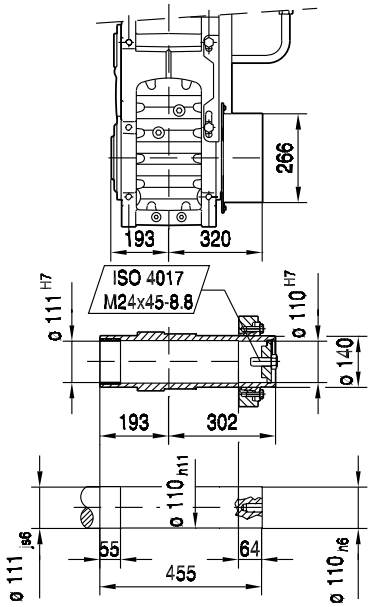
MC2RESF04



MC2REHF04



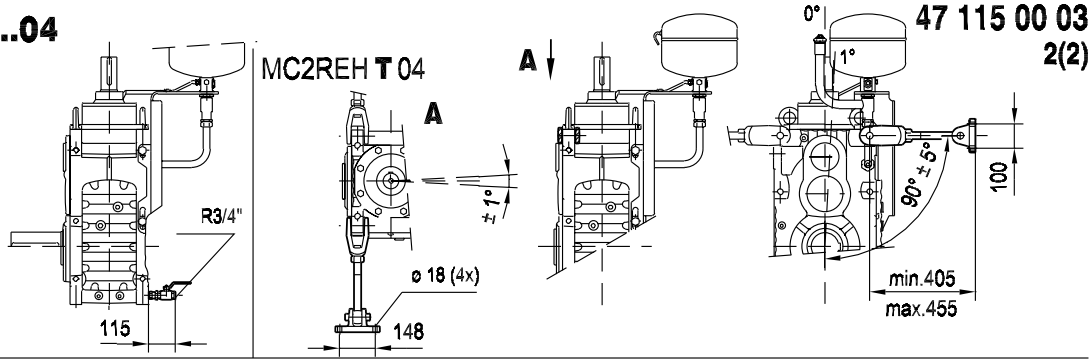
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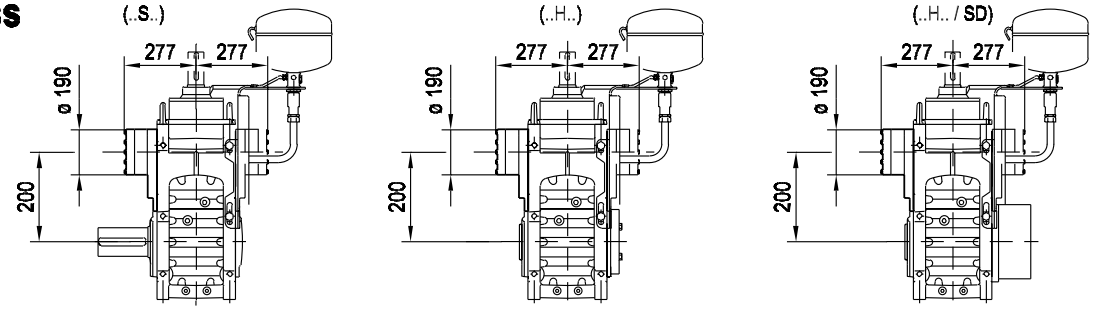
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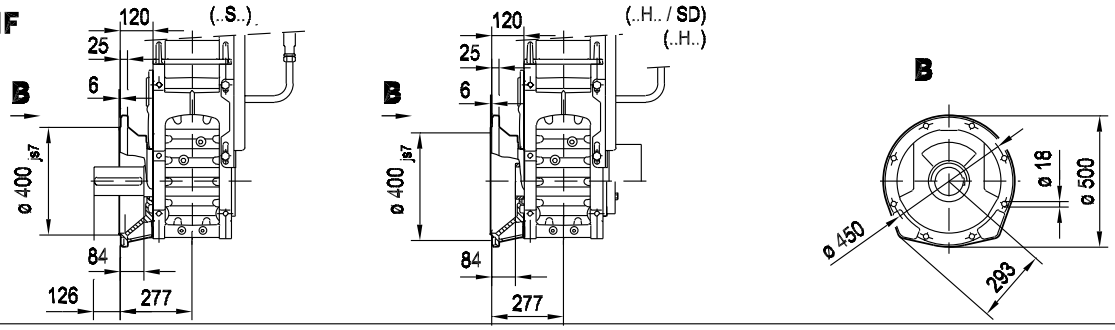
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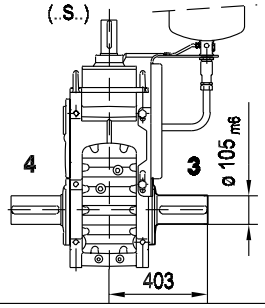
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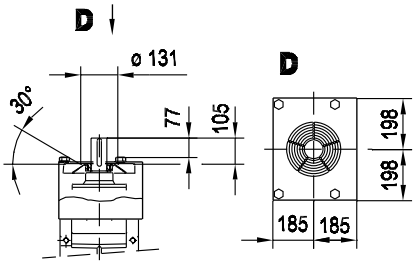
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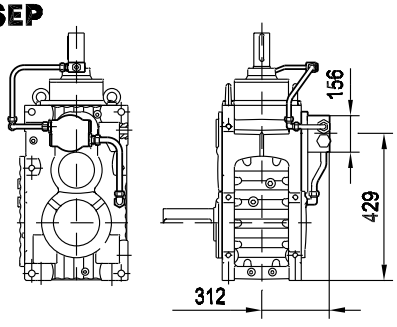
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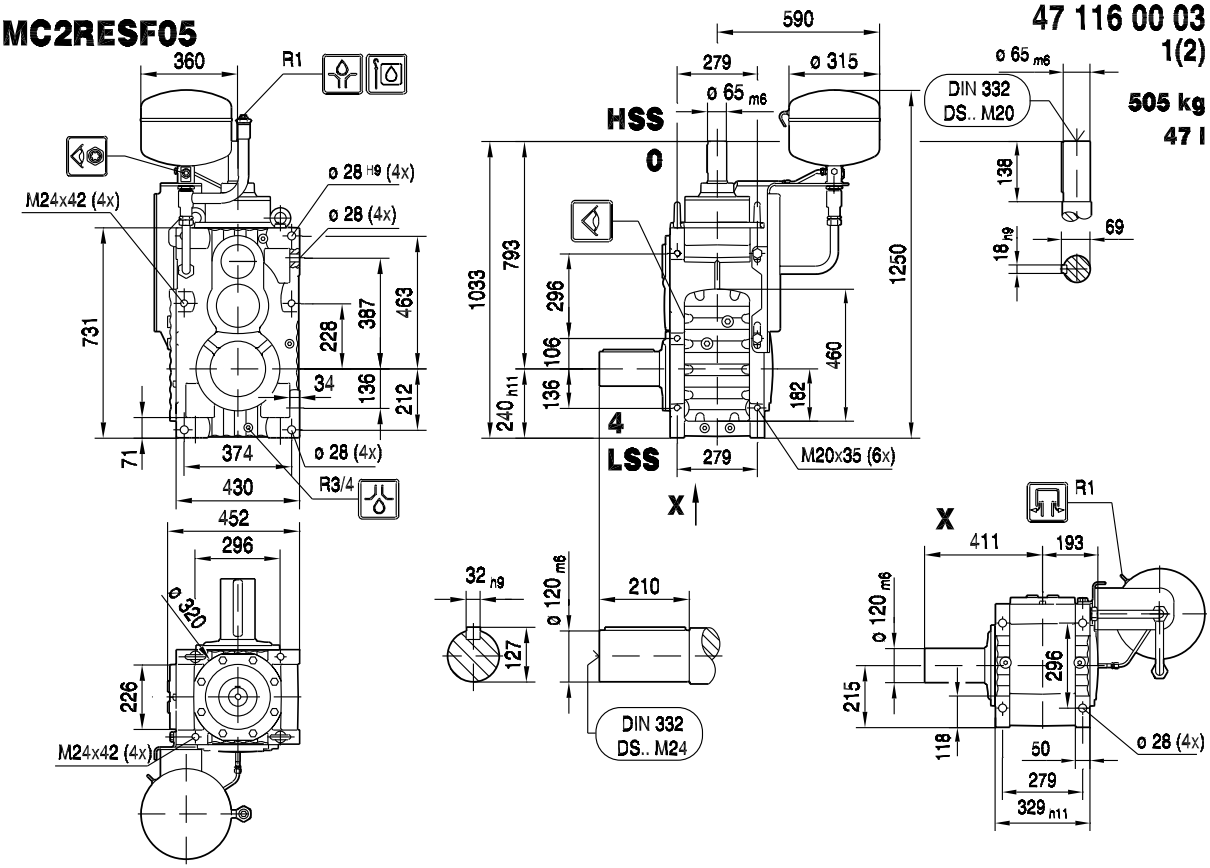


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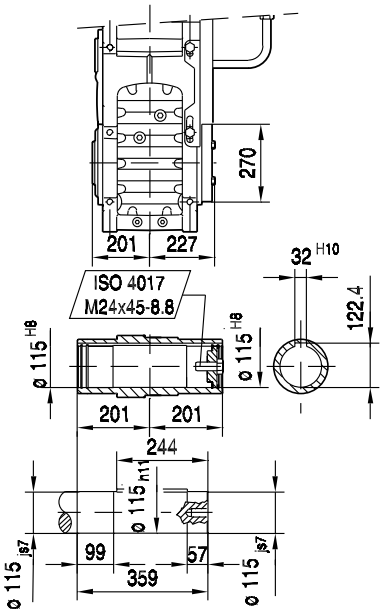


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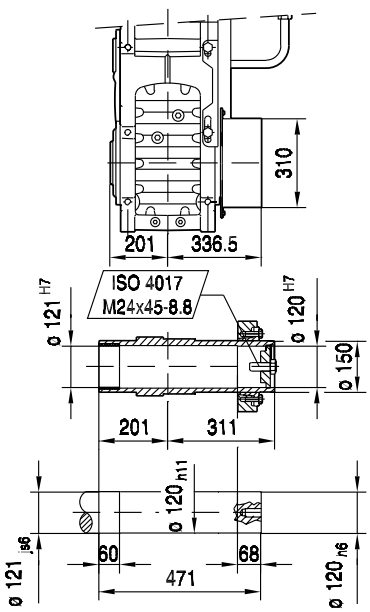
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MC2REHF05



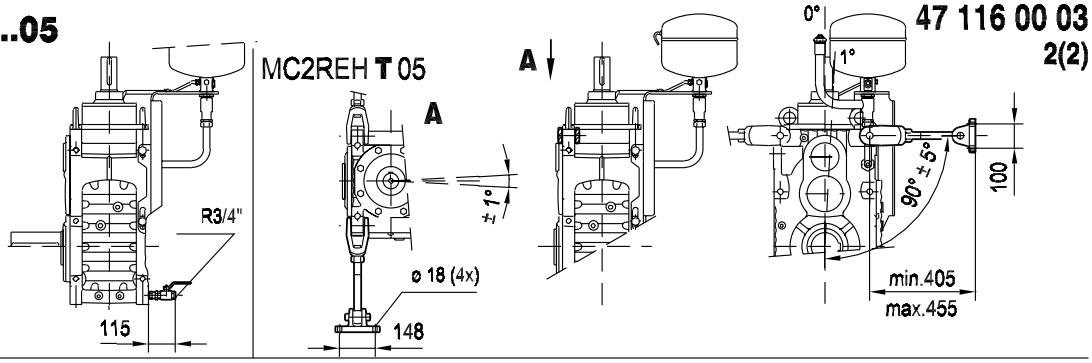
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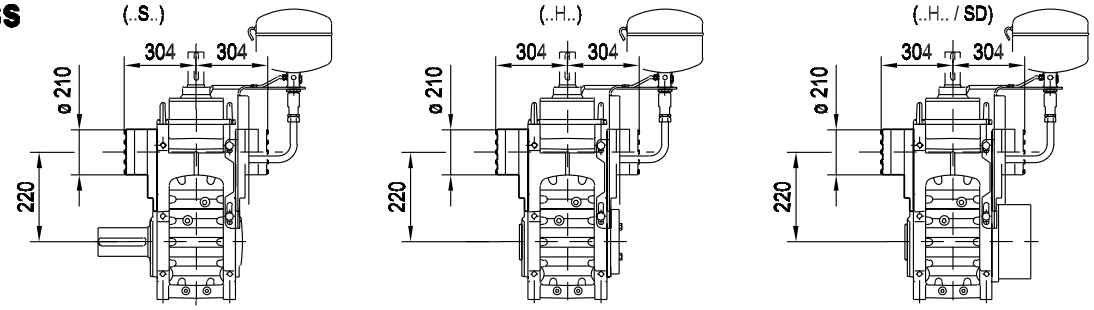
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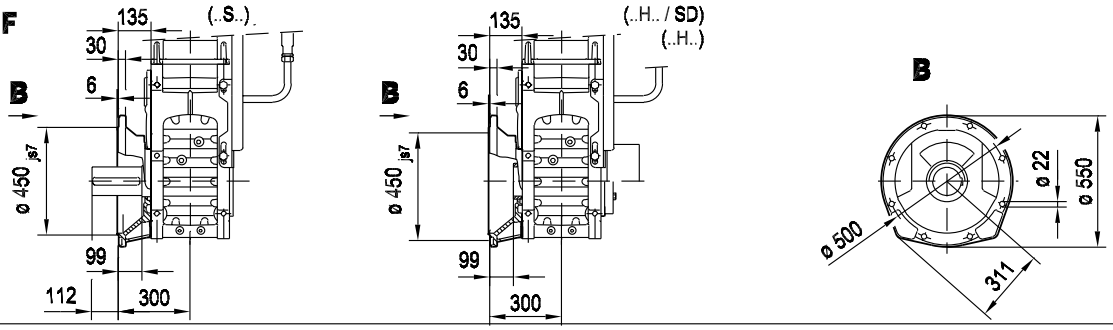
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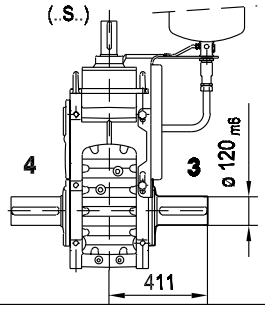
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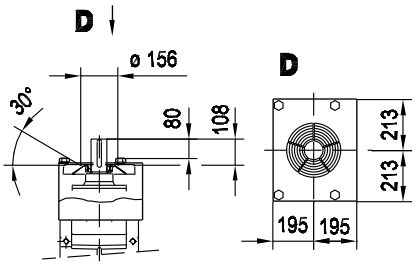
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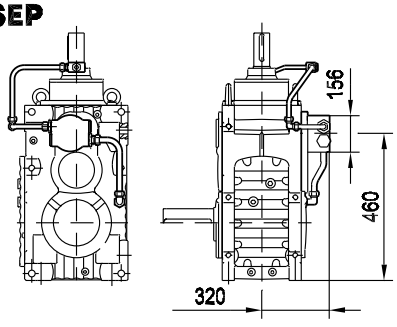
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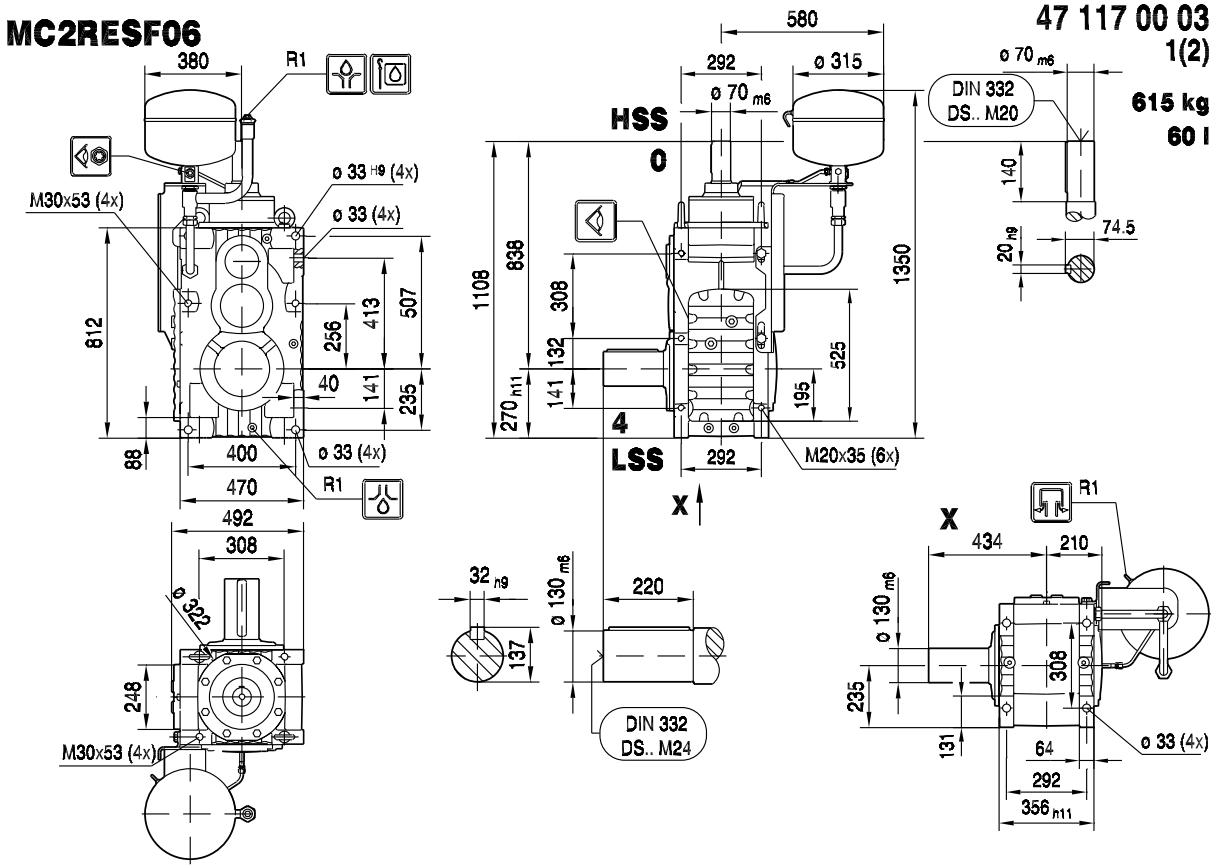
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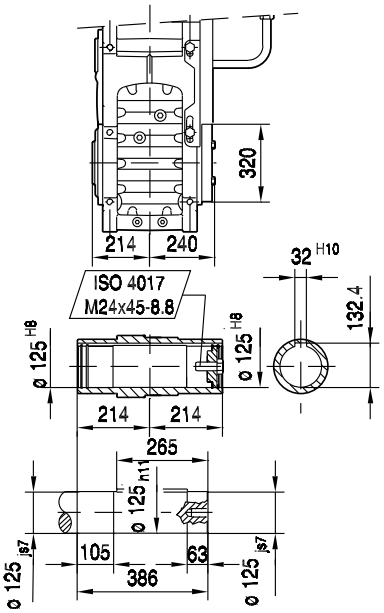
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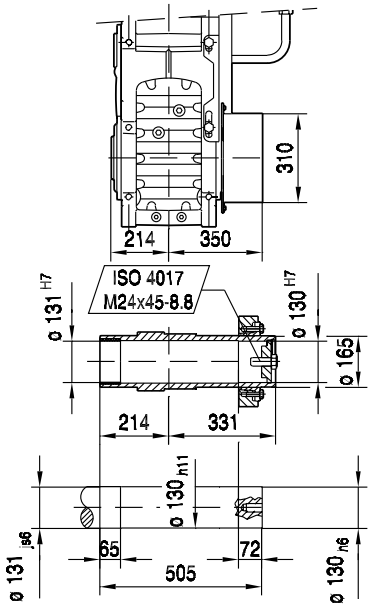
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MC2REHF06



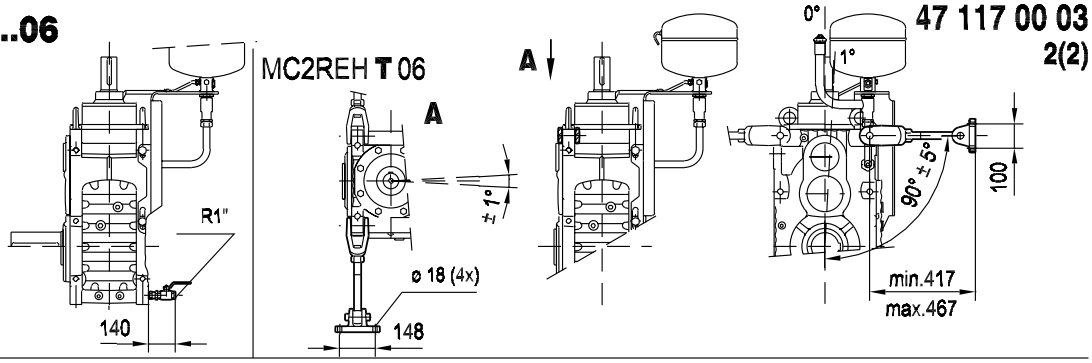
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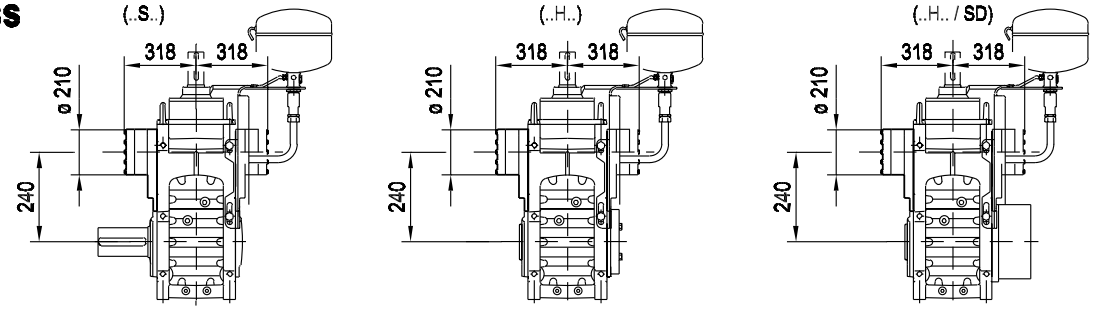
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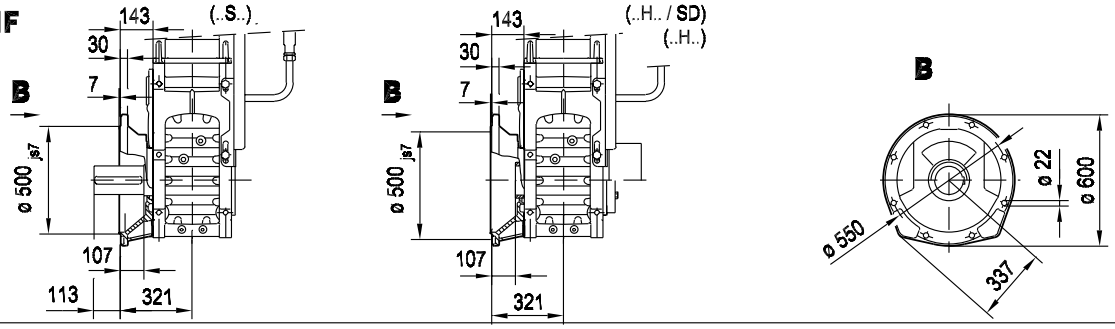
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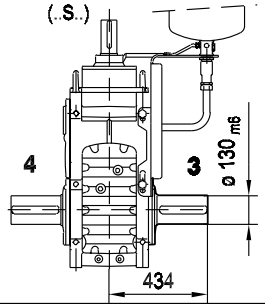
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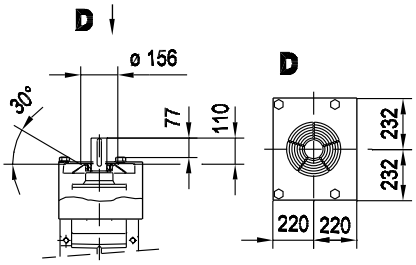
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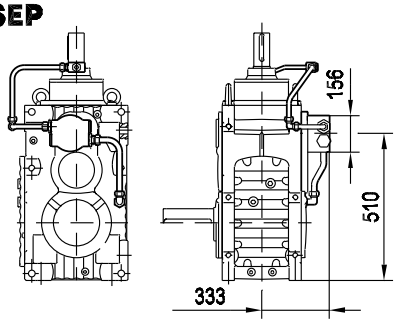
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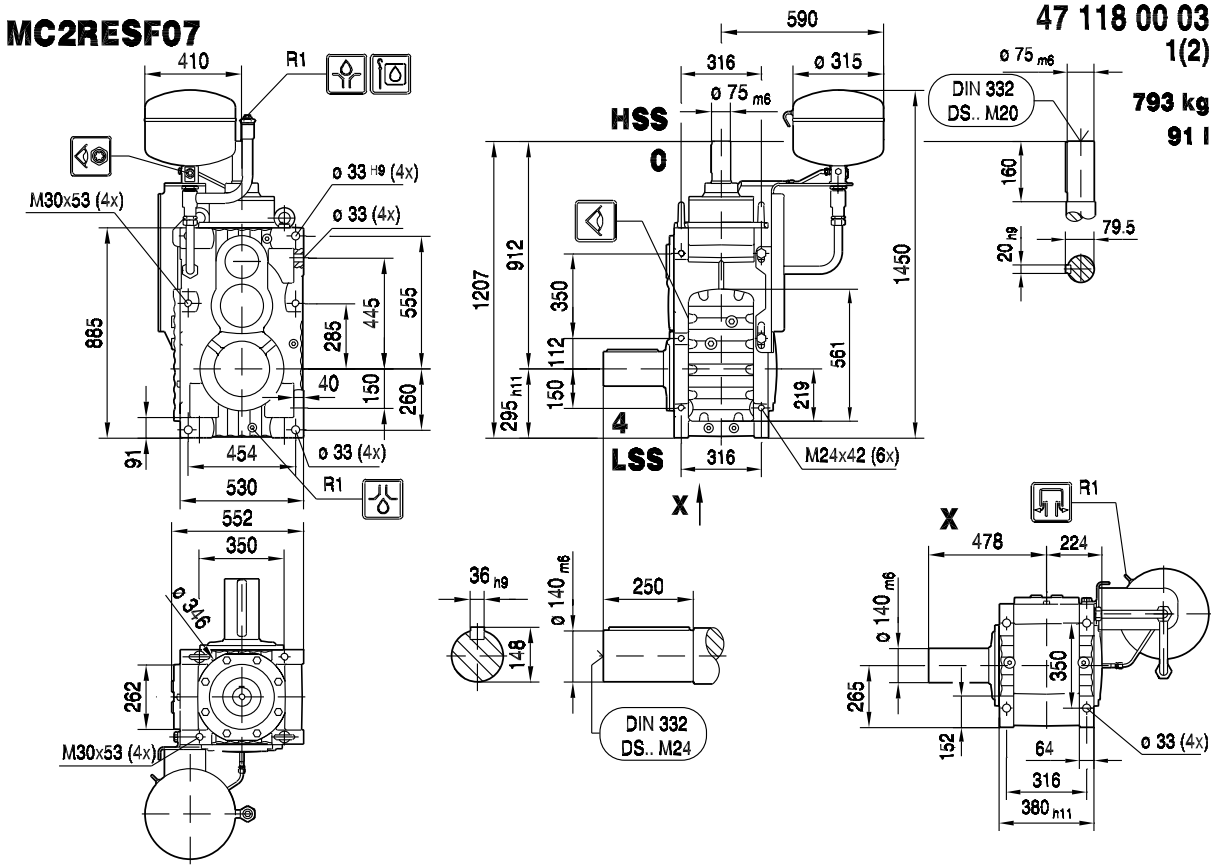
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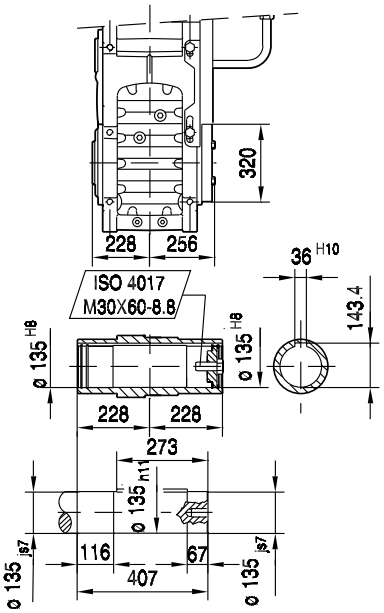
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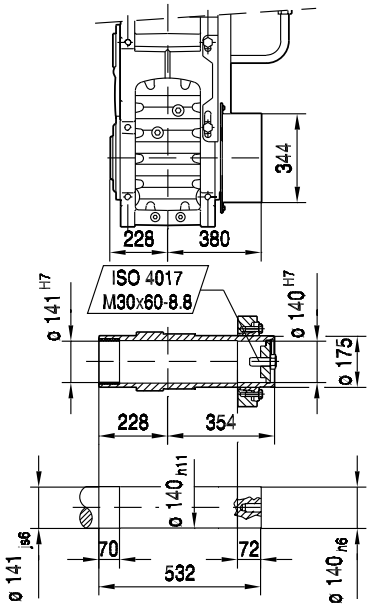
MC2RESF07



MC2REHF07



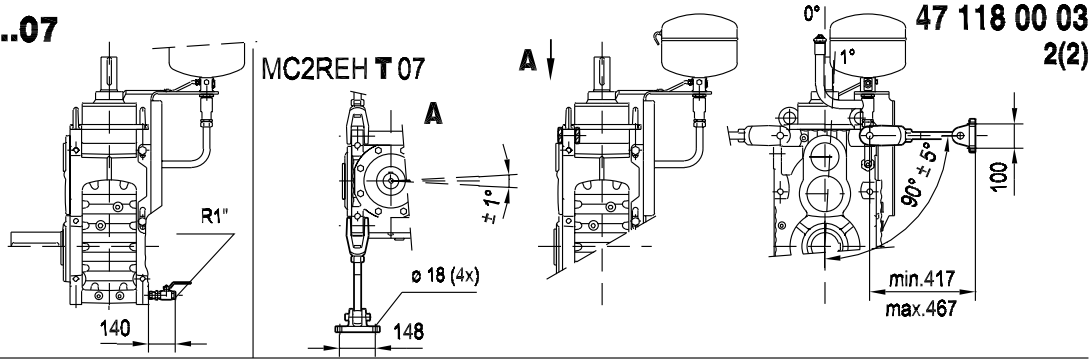
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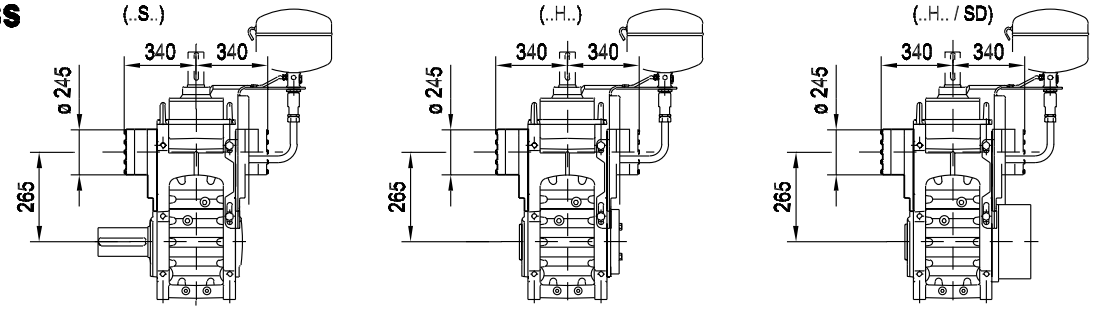
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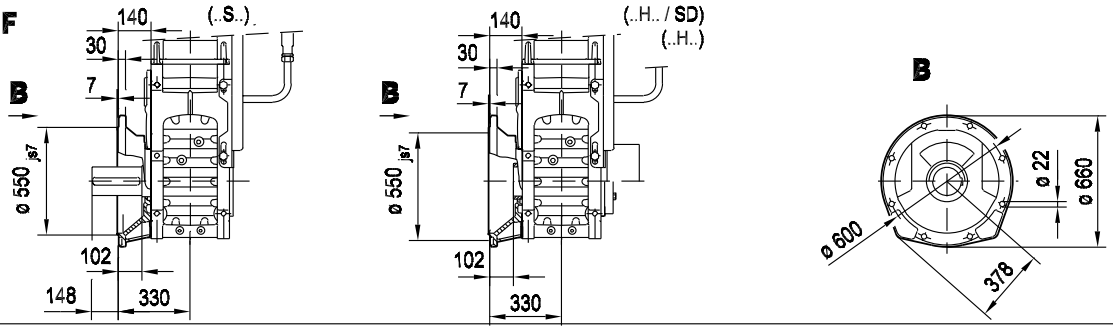
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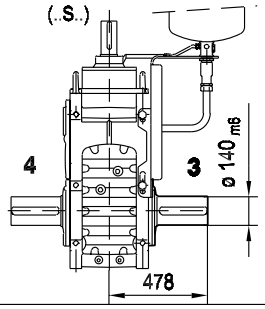
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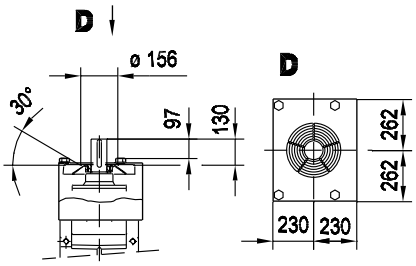
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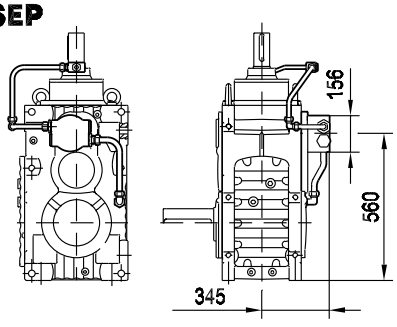
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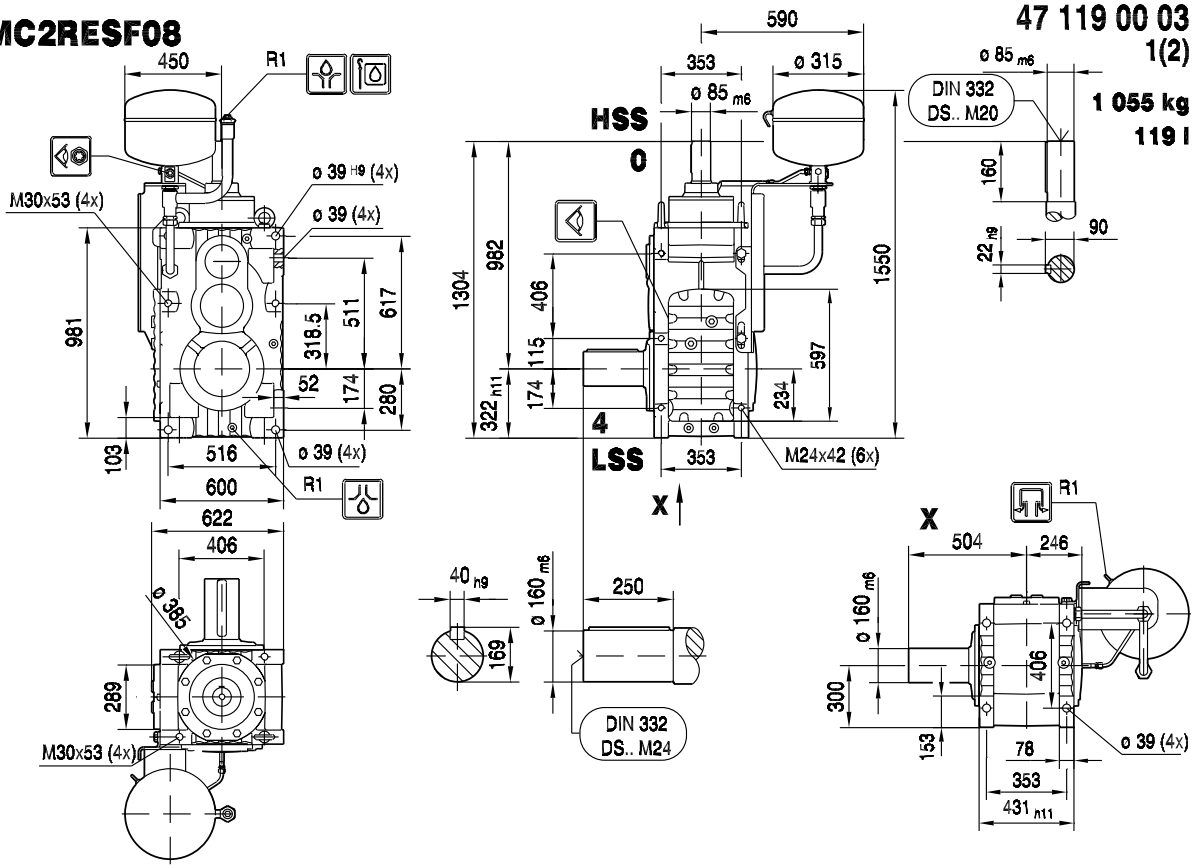


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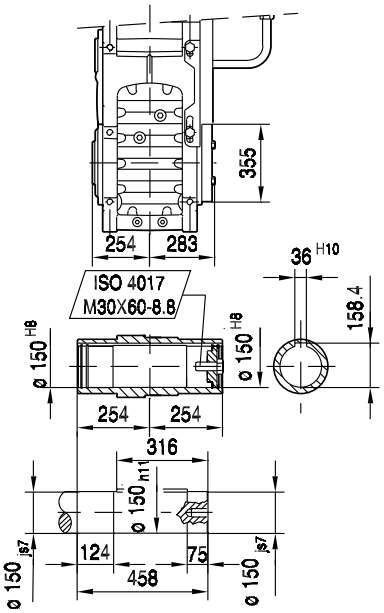


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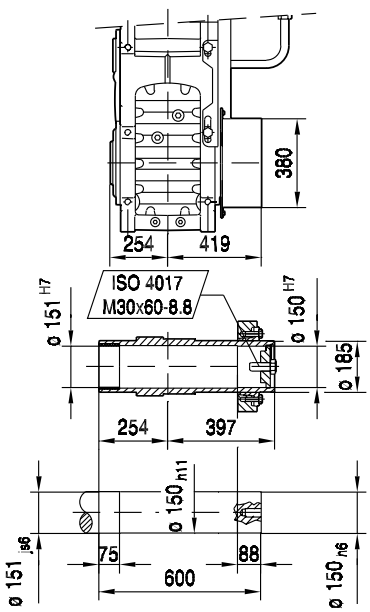
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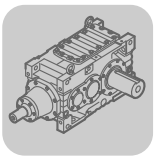


MC2REHF08



MC2REHF08 /SD

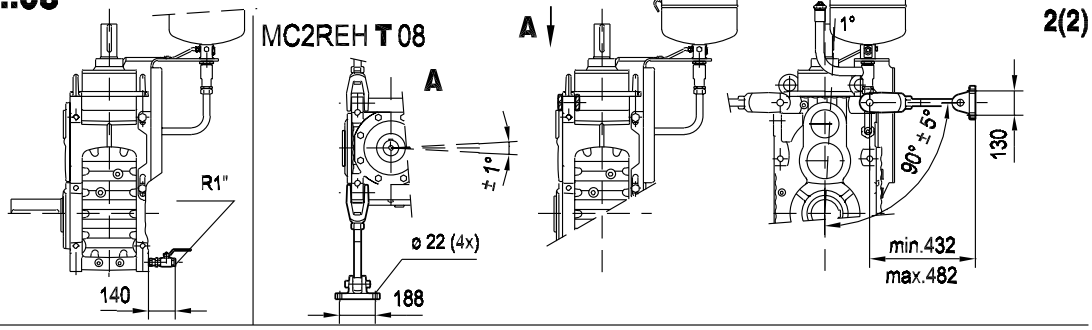




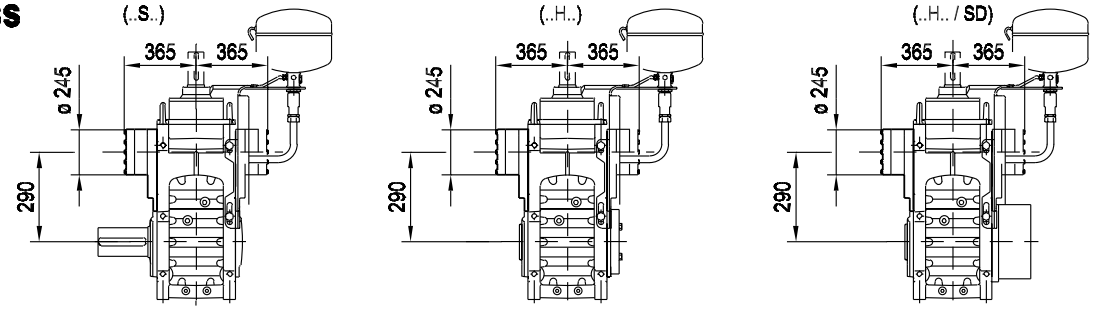
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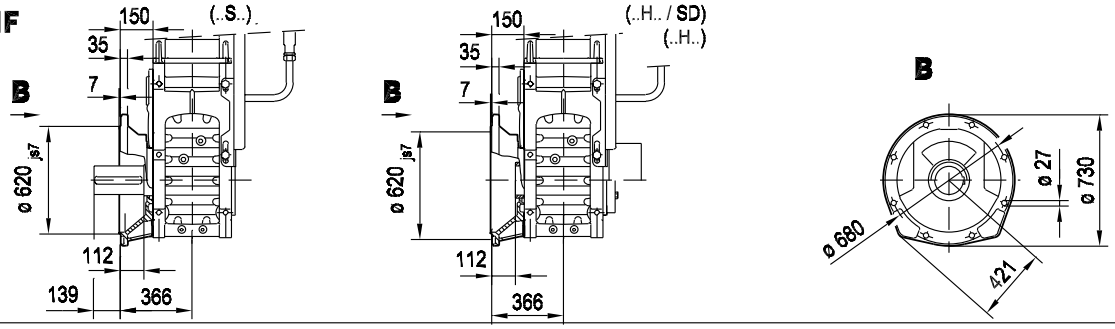
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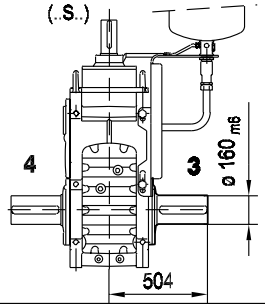
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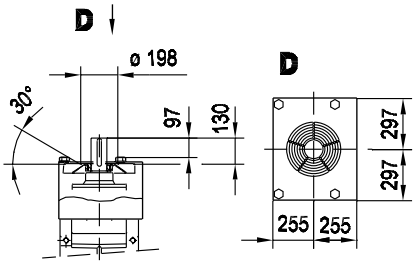
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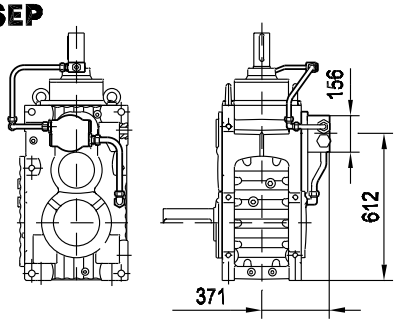
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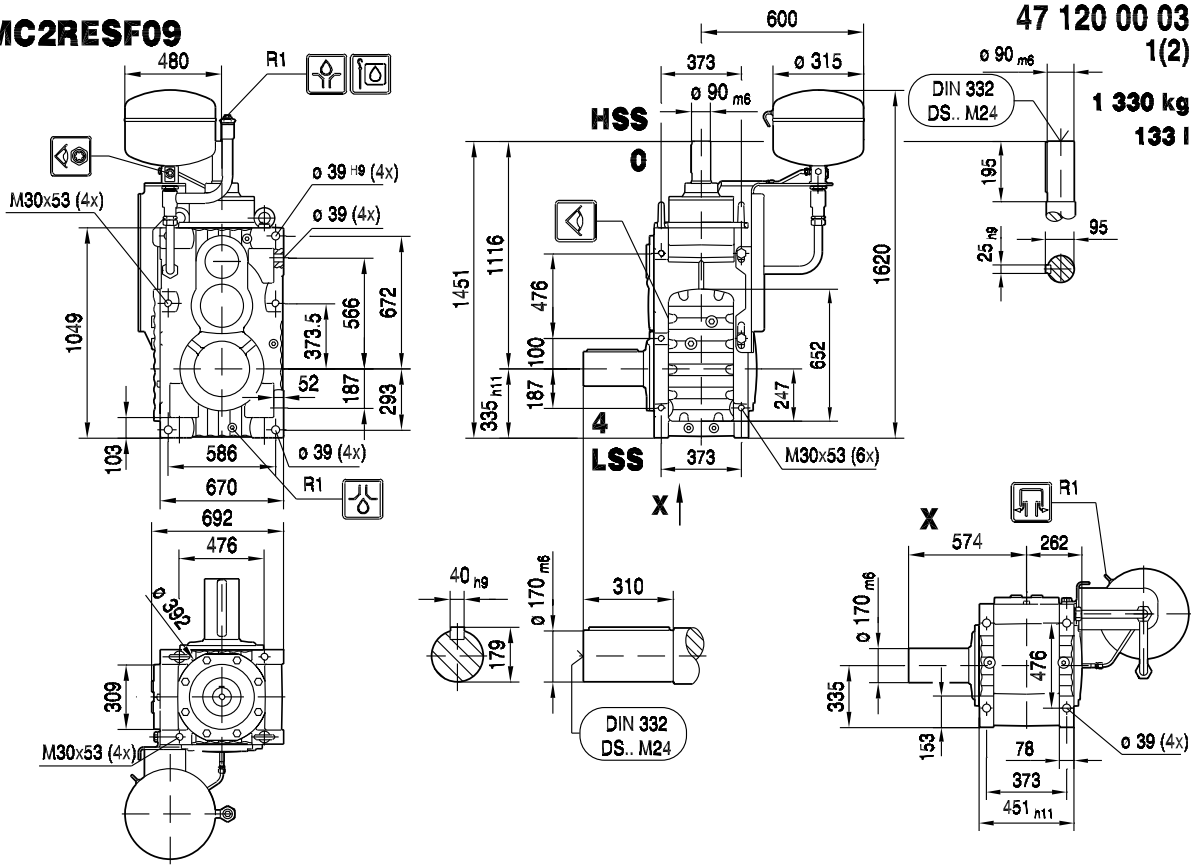
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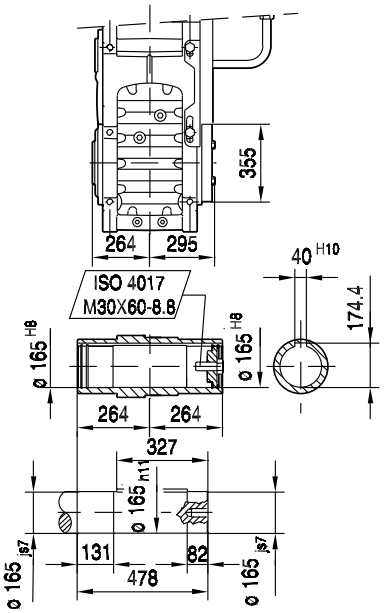
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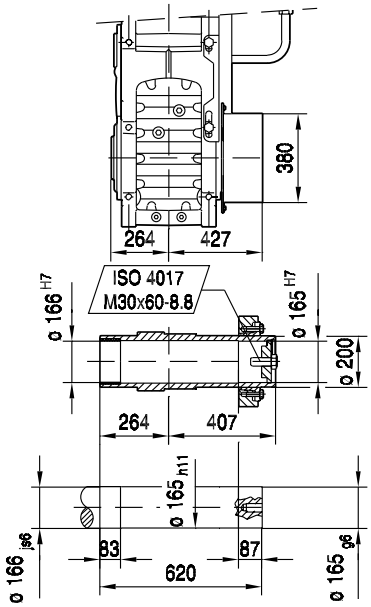
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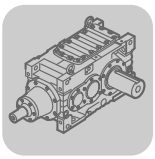


MC2REHF09



MC2REHF09 /SD

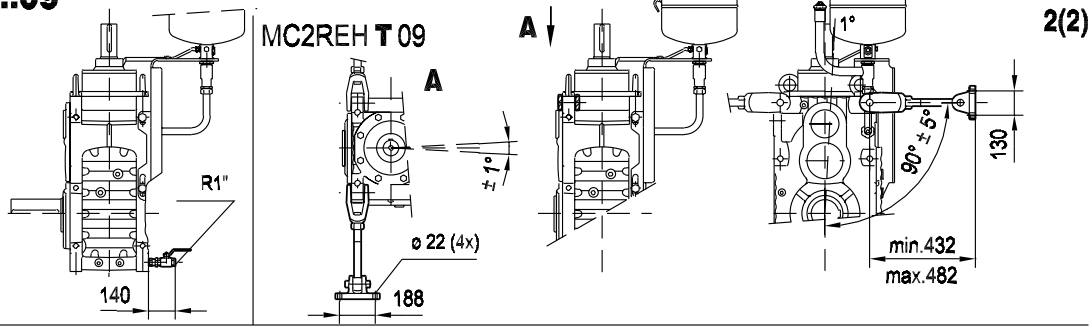




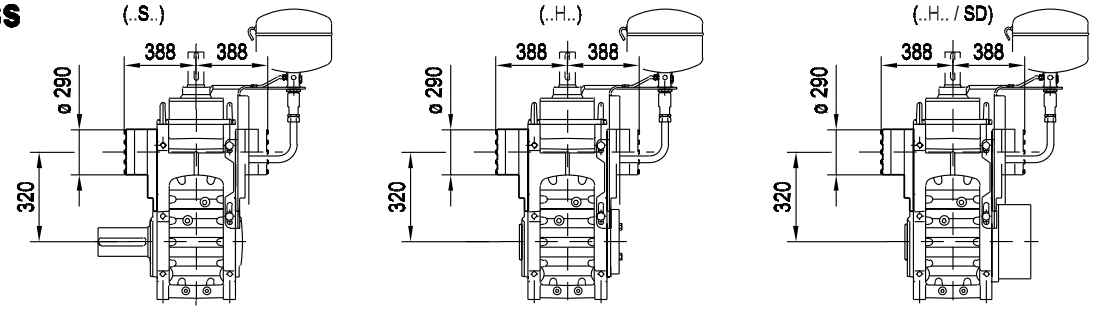
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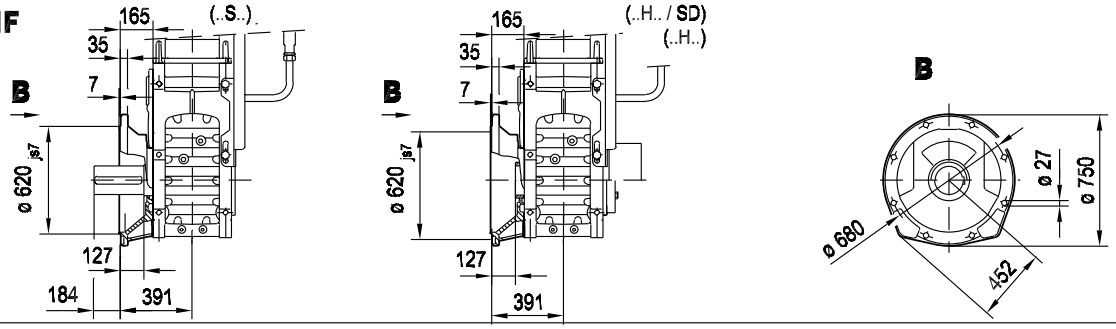
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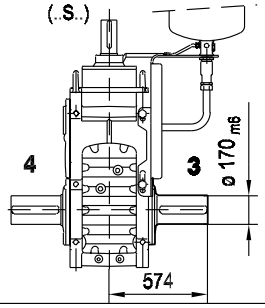
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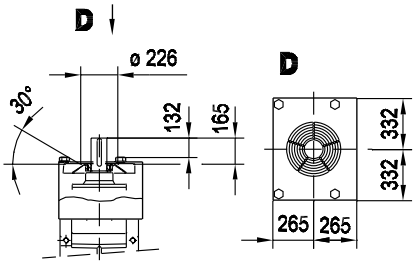
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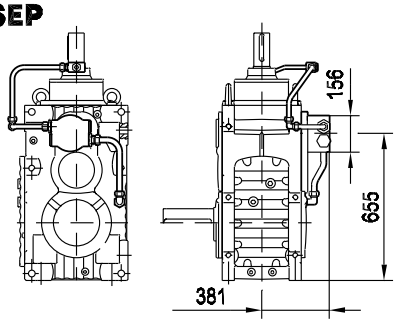
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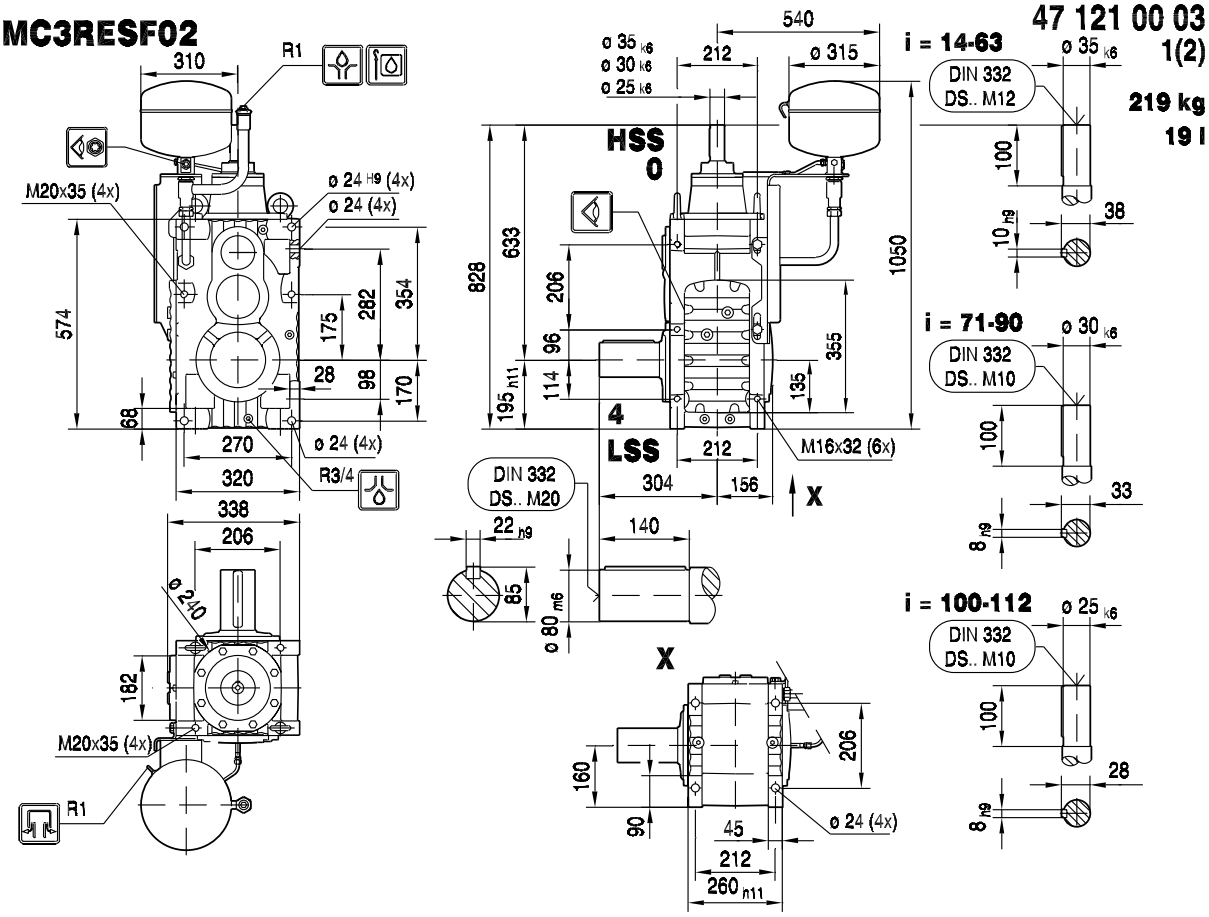
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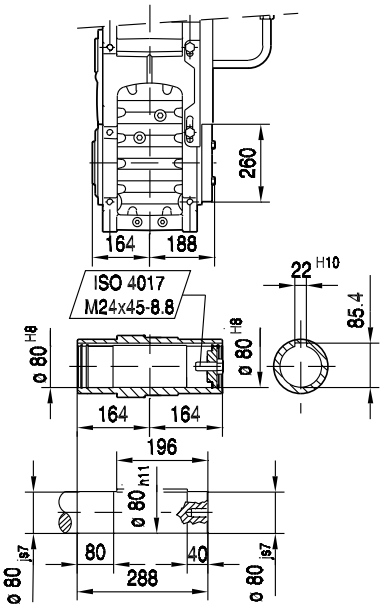
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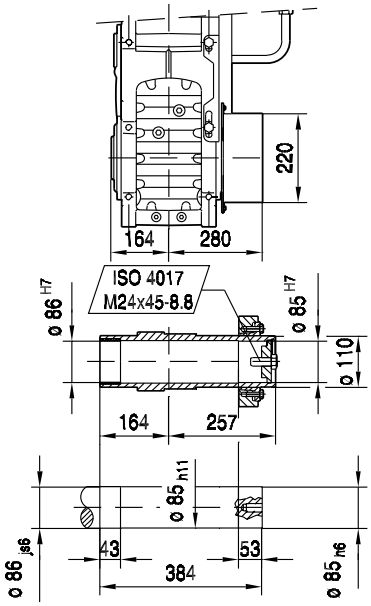
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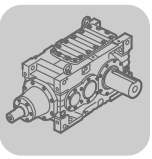


MC3REHF02



MC3REHF02 /SD

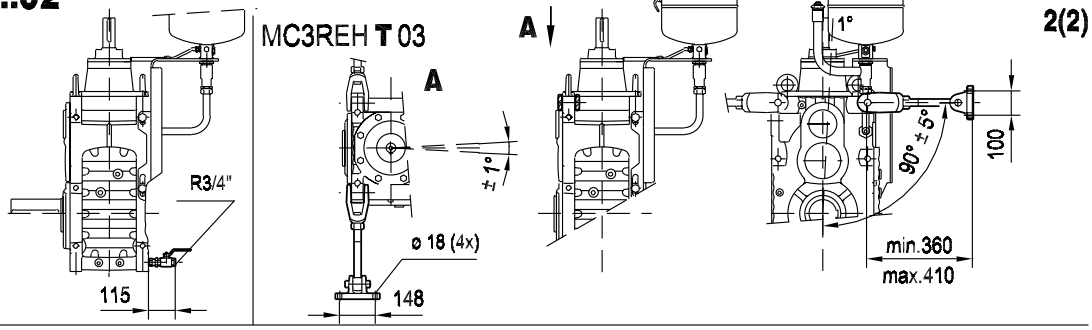




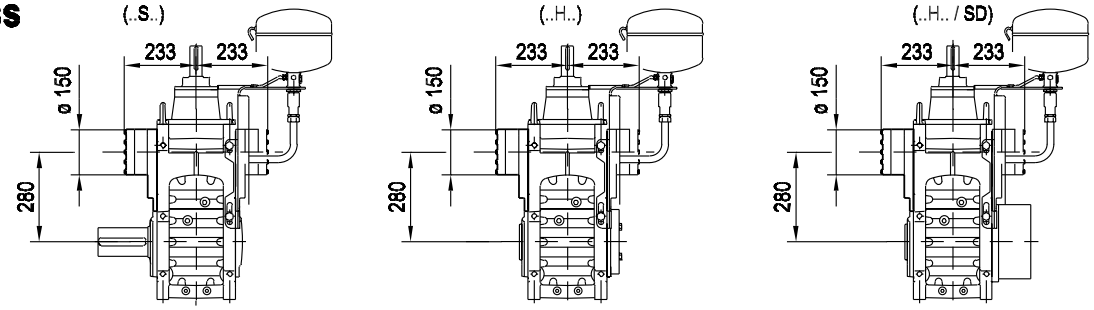
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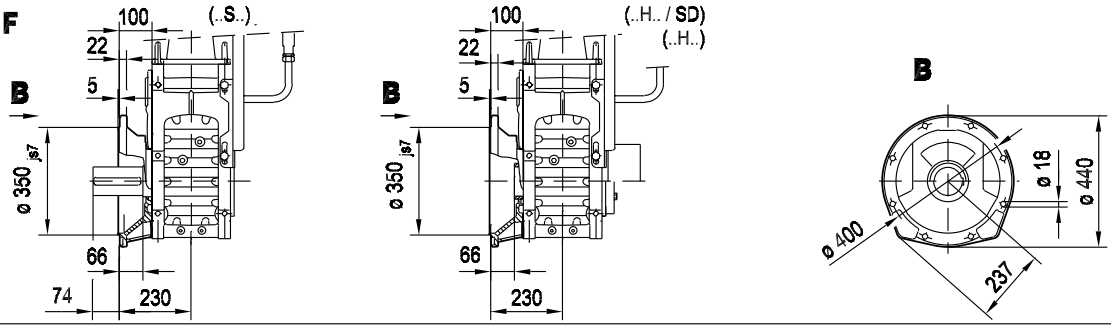
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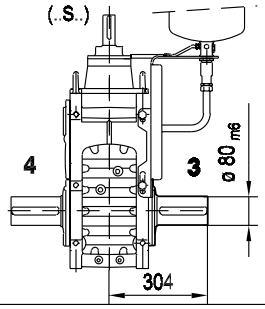
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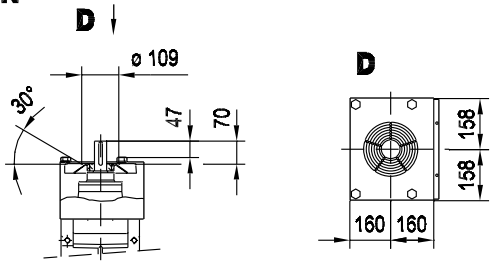
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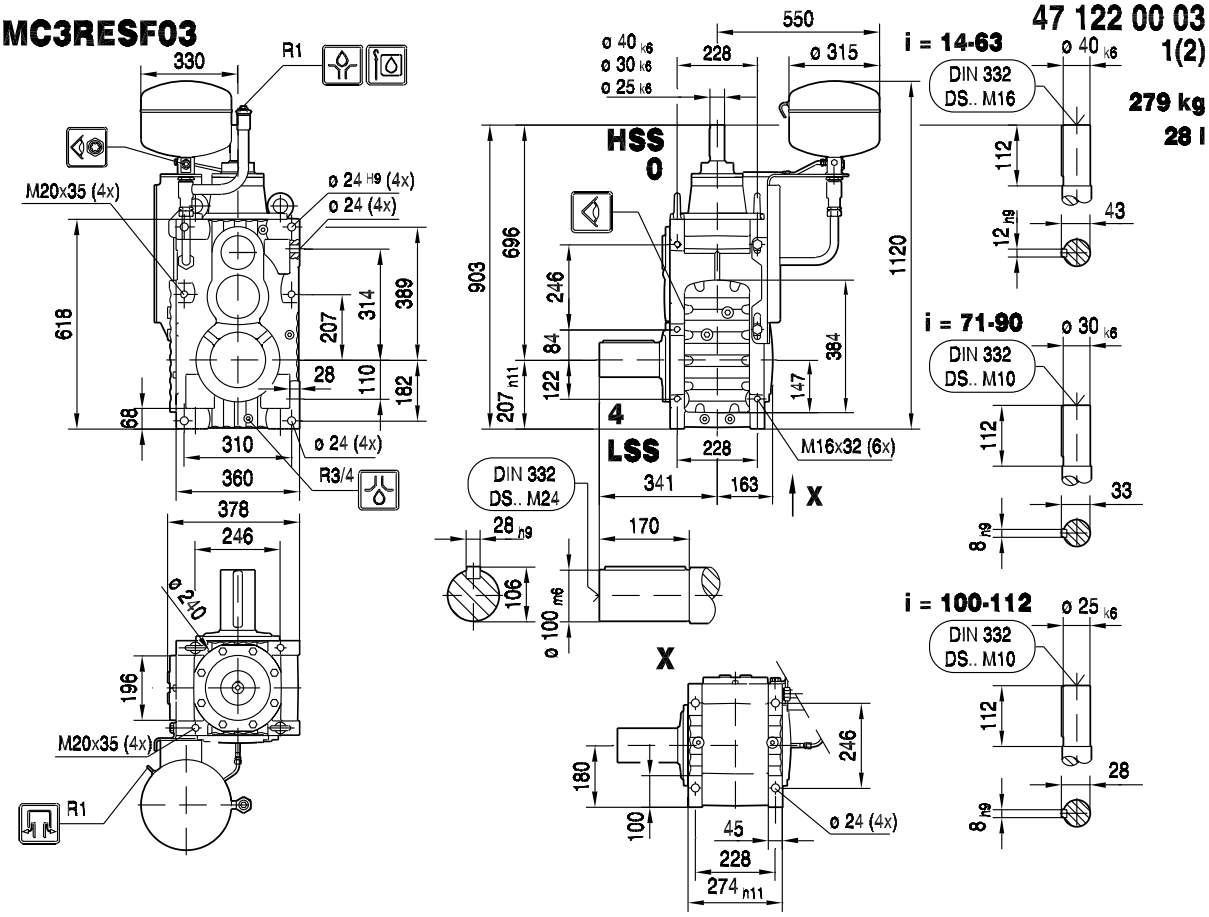
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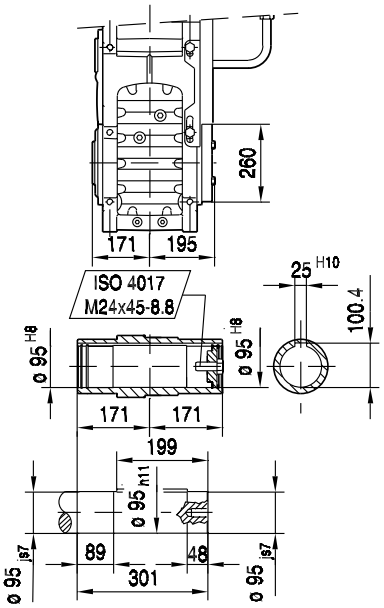
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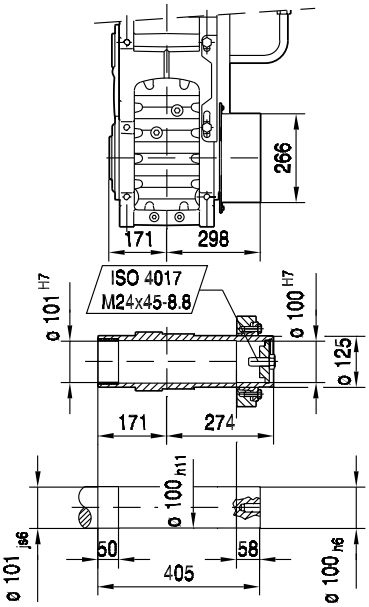
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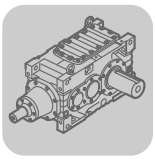


MC3REHF03



MC3REHF03 /SD

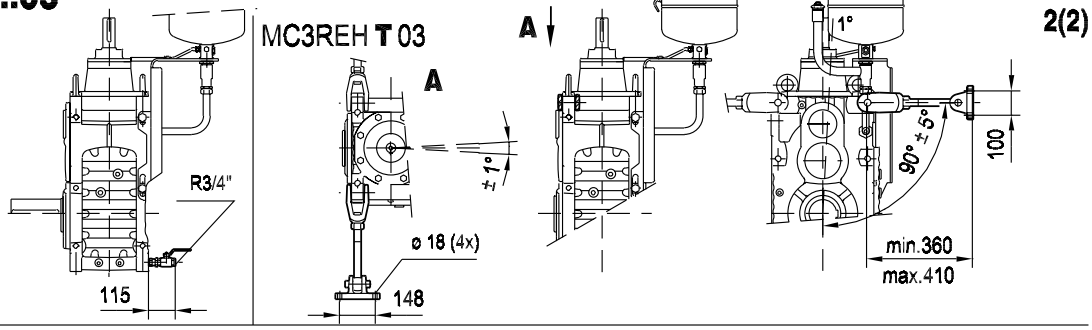




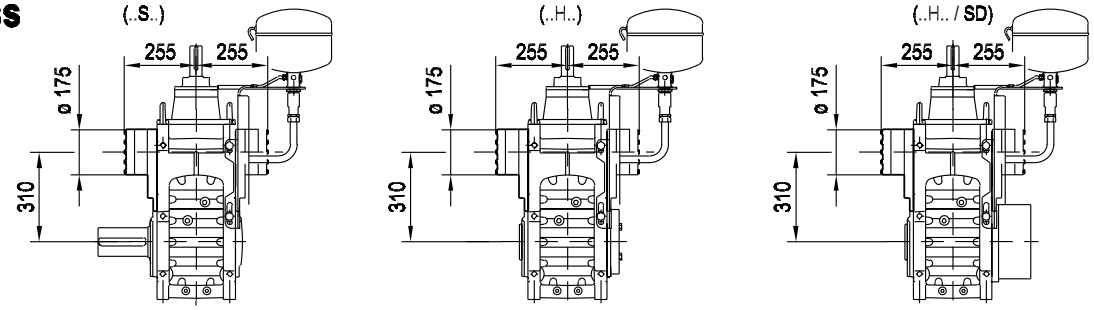
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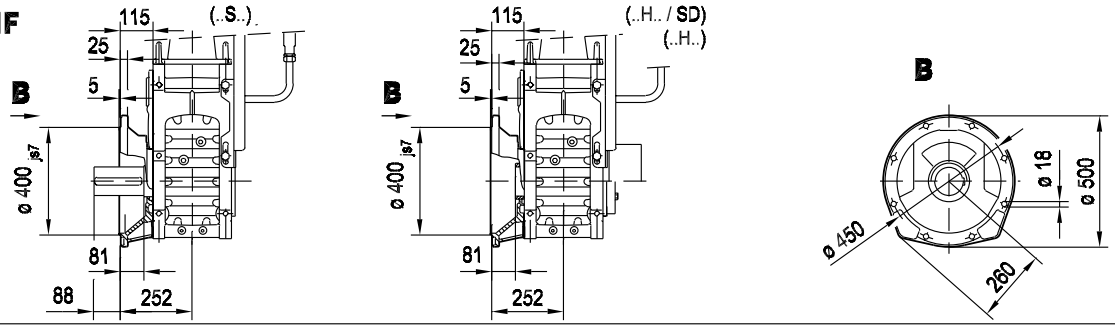
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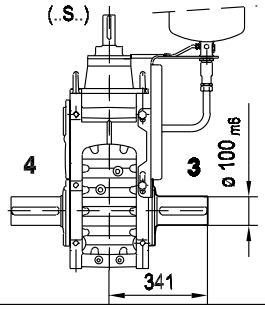
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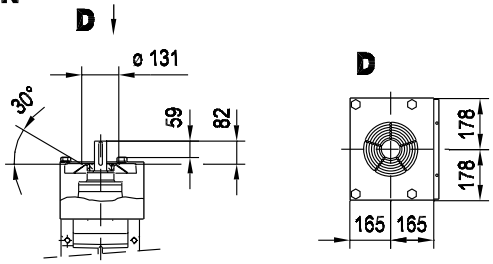
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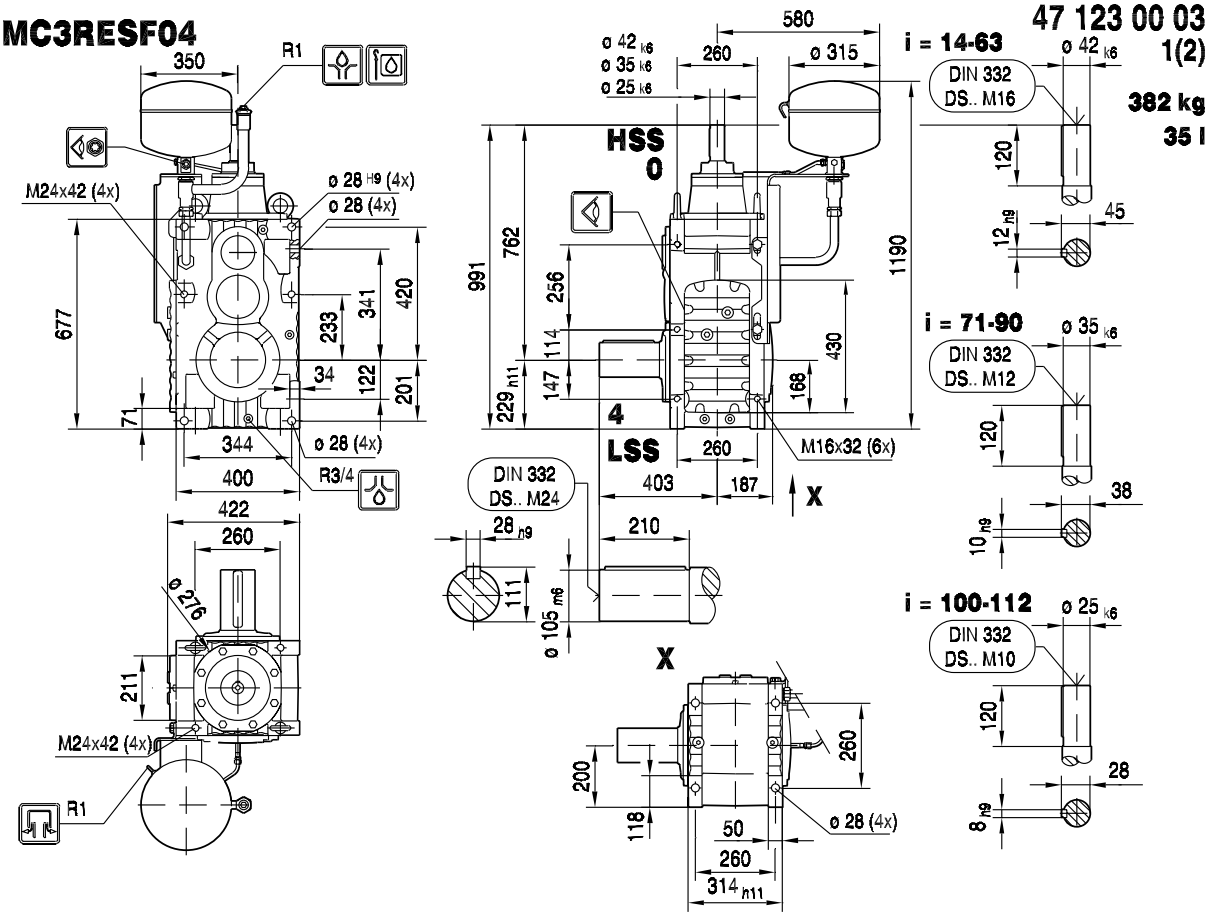
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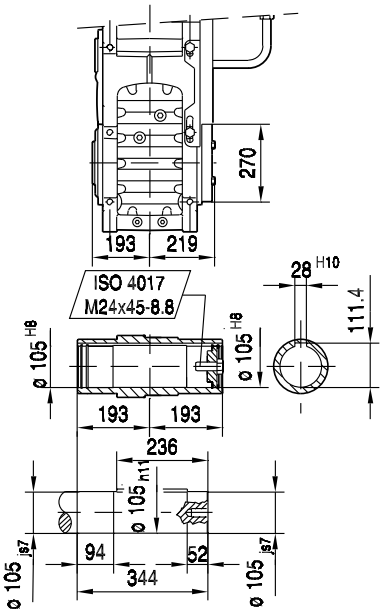
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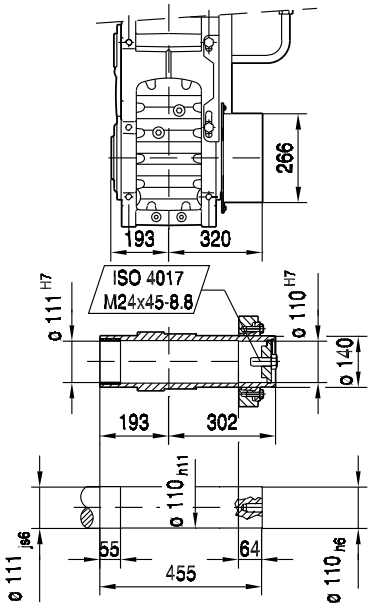
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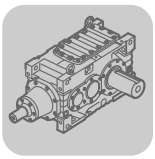


MC3REHF04



MC3REHF04 /SD

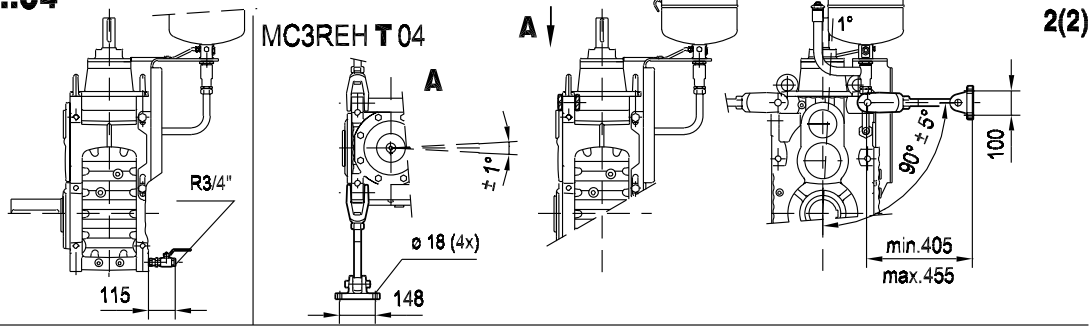




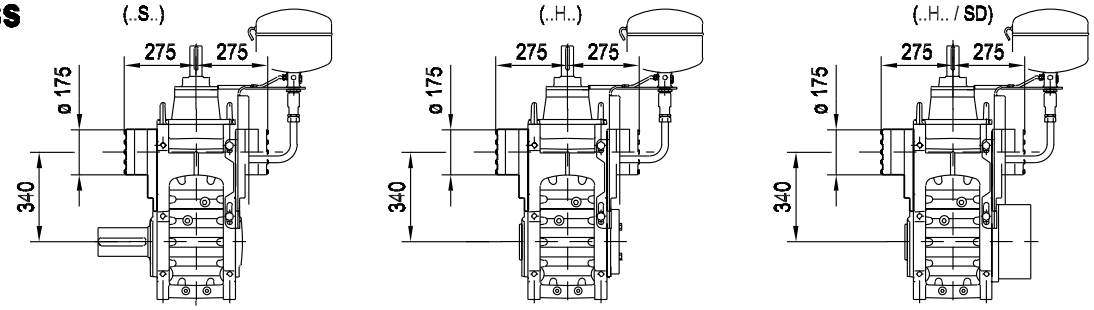
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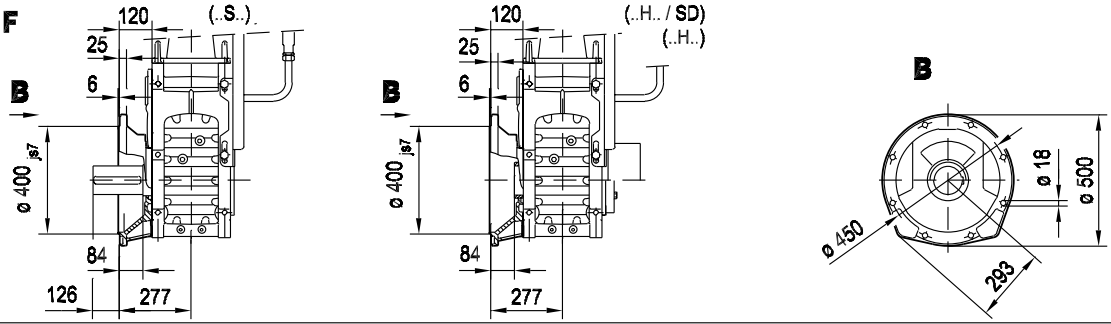
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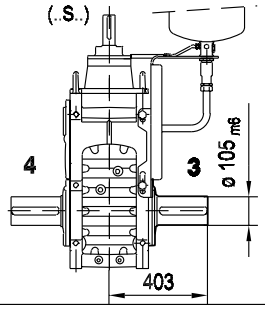
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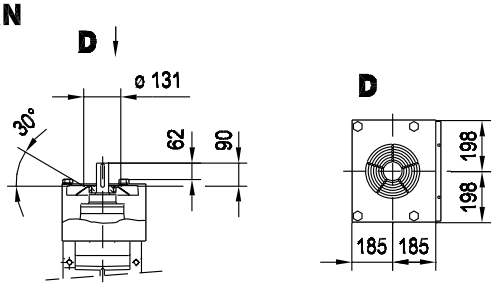
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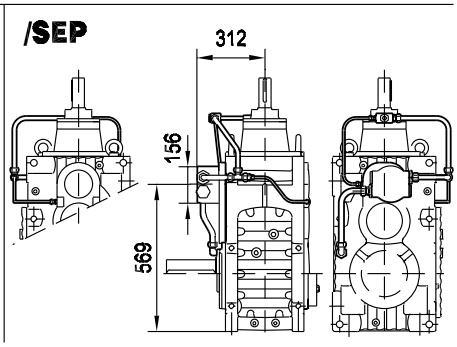
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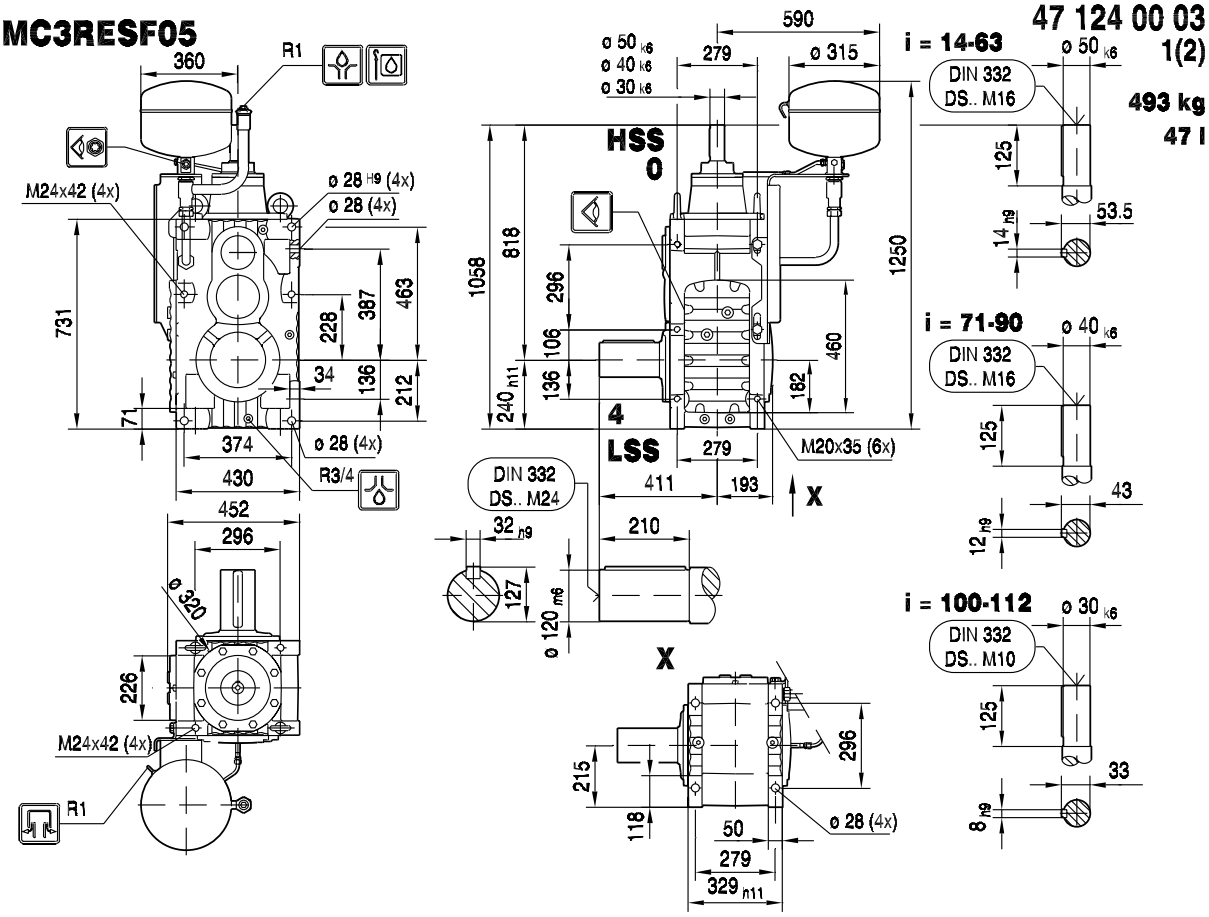


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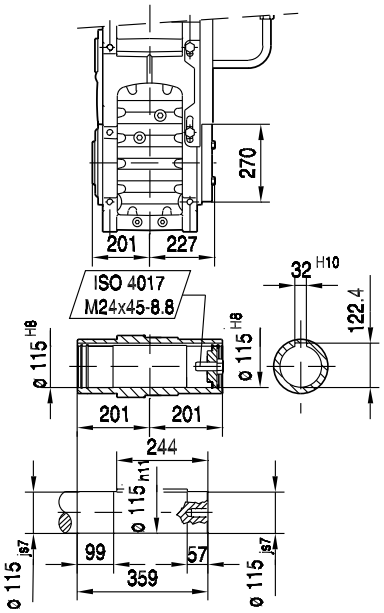


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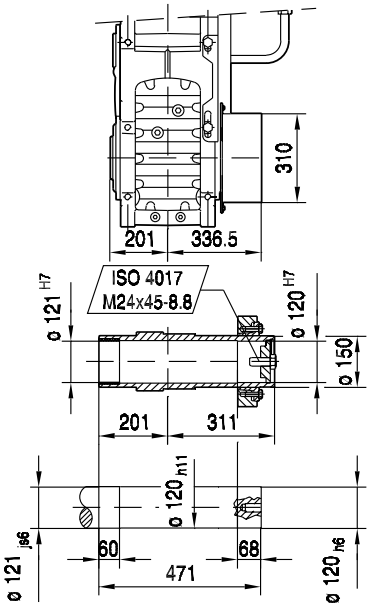
MC3RESF05

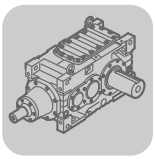


MC3REHF05



MC3REHF05 /SD

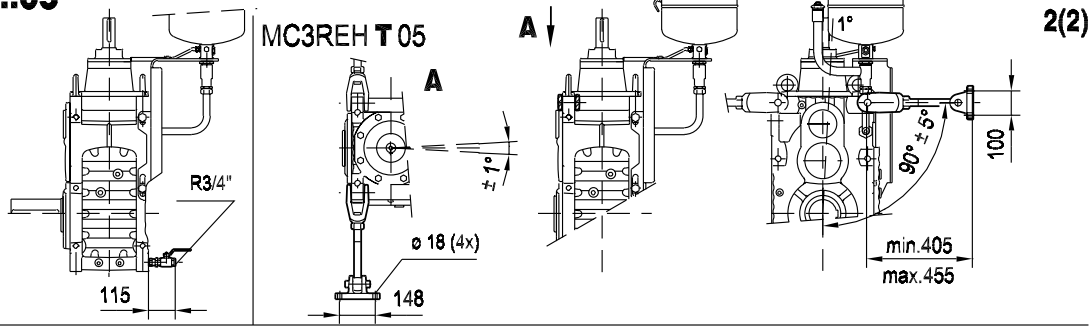




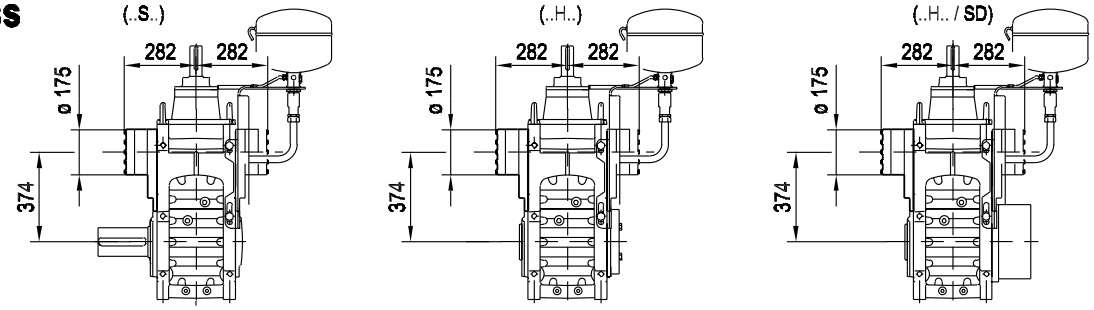
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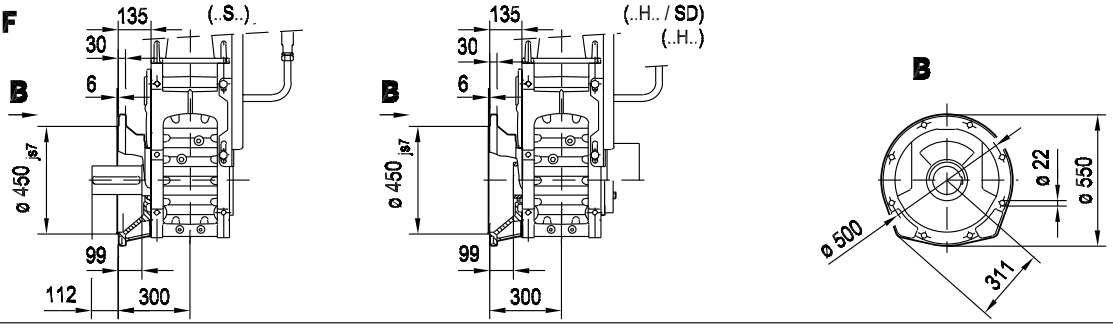
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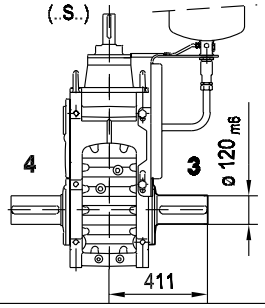
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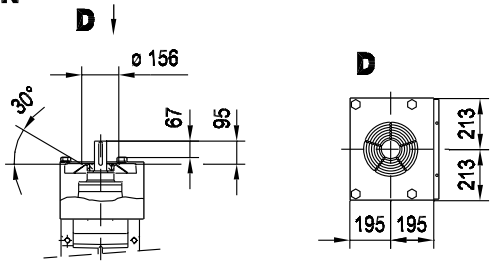
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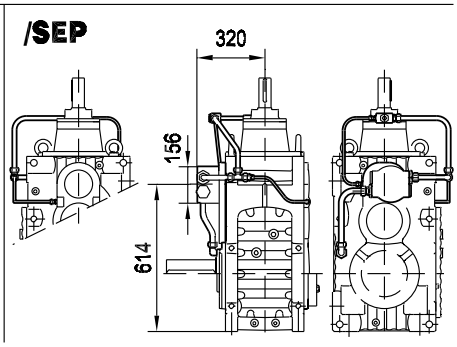
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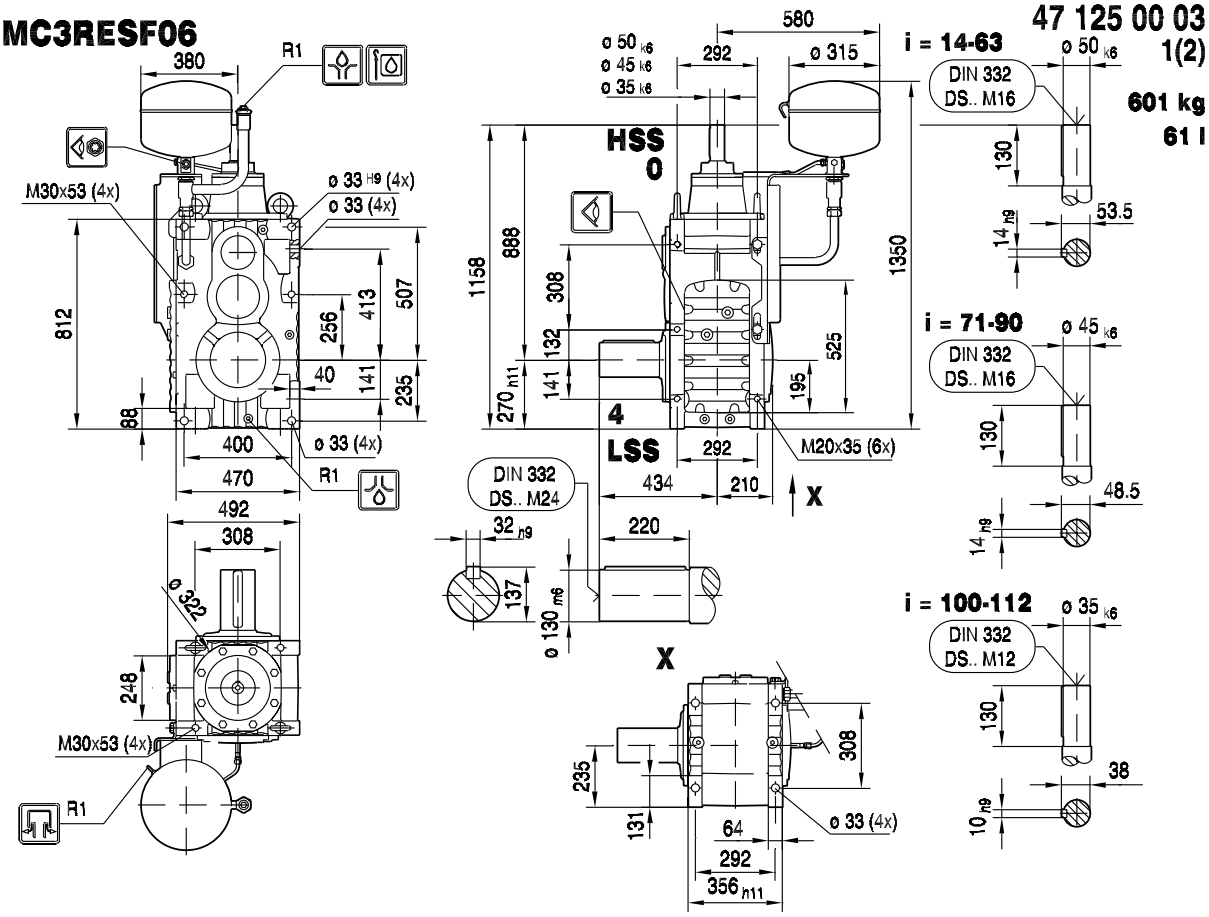
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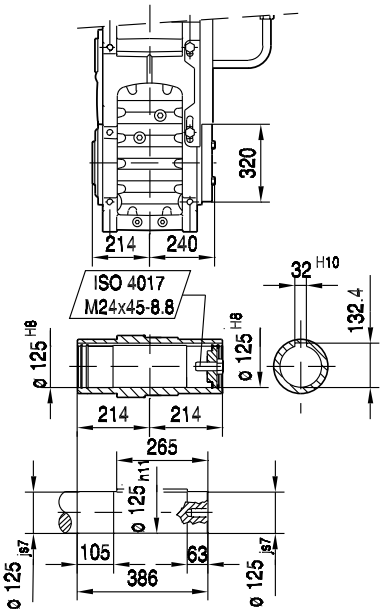
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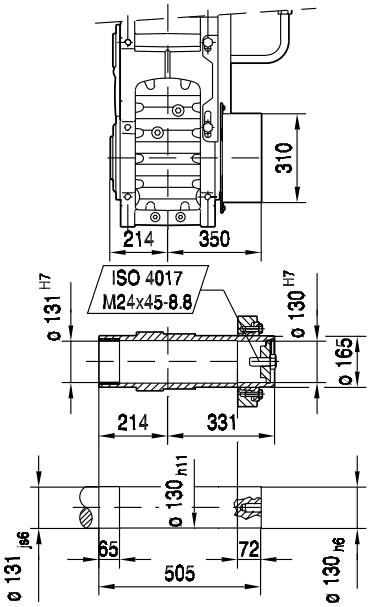
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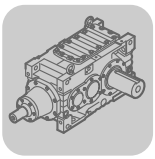


MC3REHF06



MC3REHF06 /SD

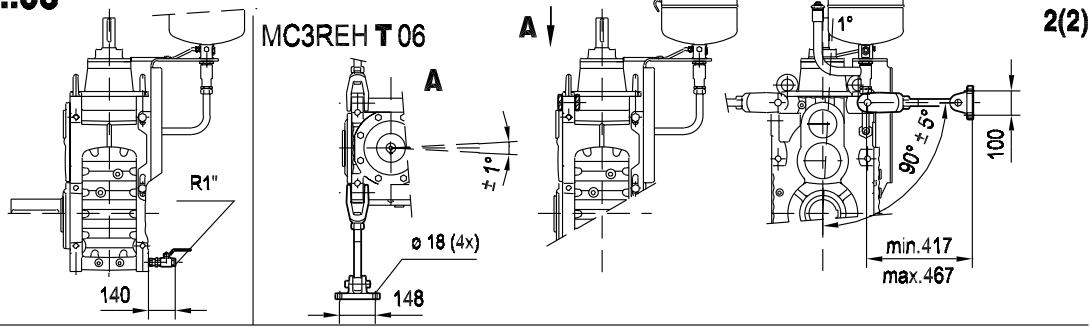




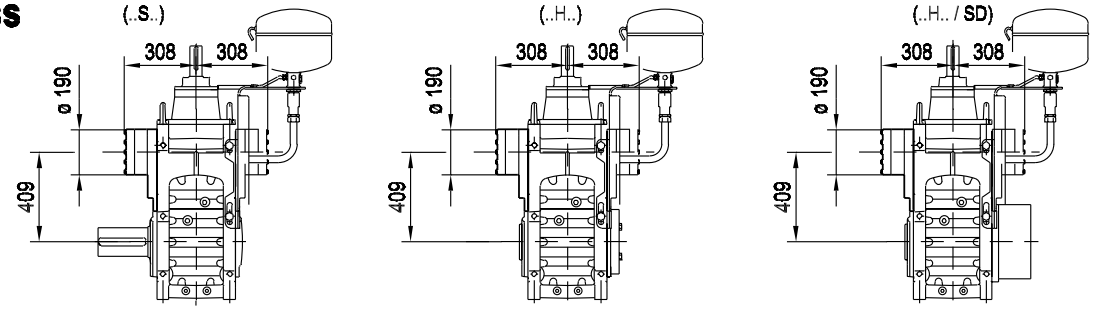
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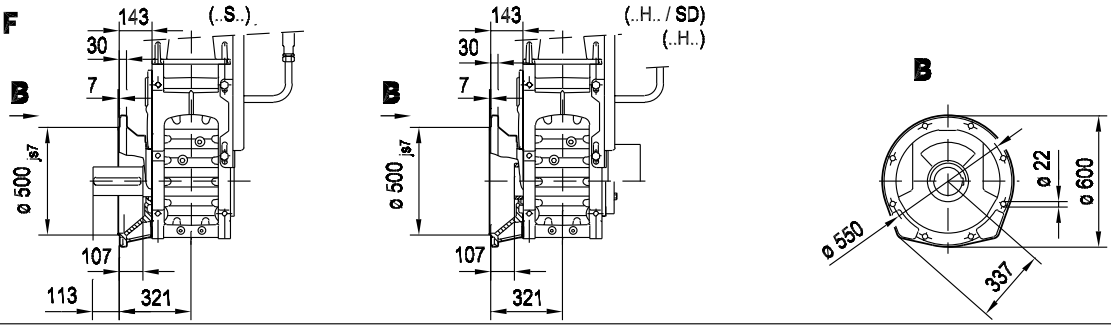
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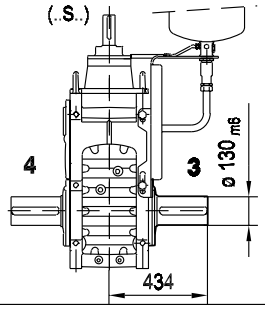
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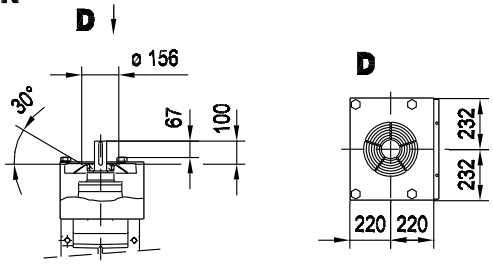
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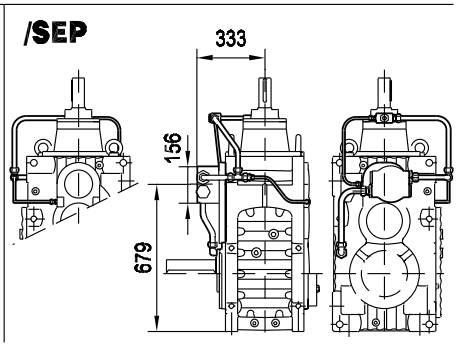
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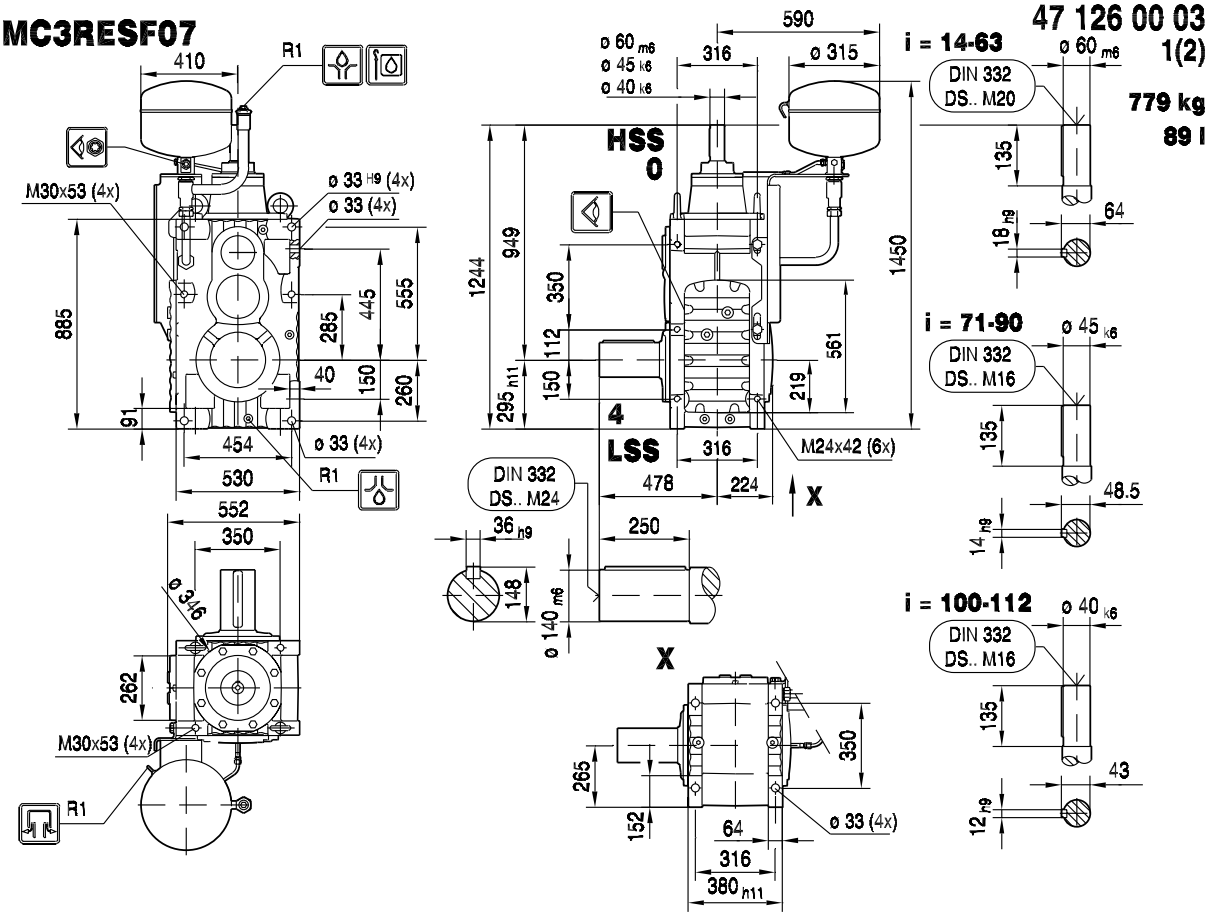
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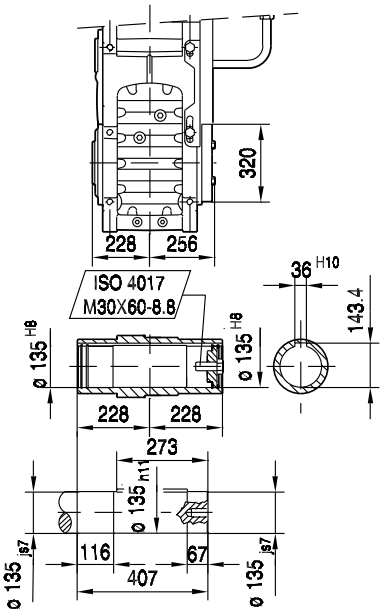
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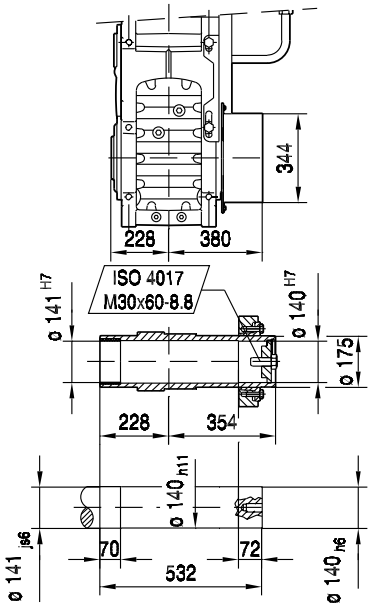
MC3RESF07



MC3REHF07



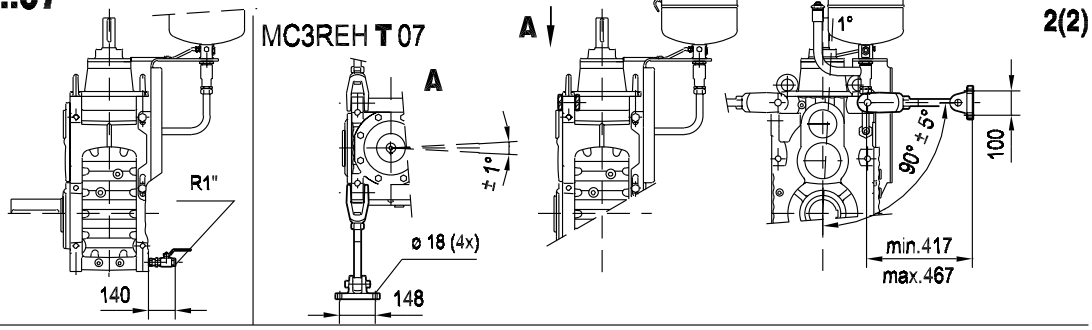
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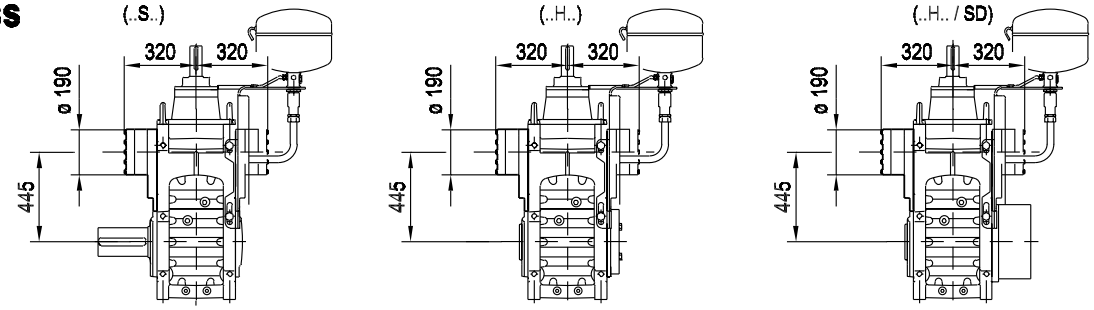
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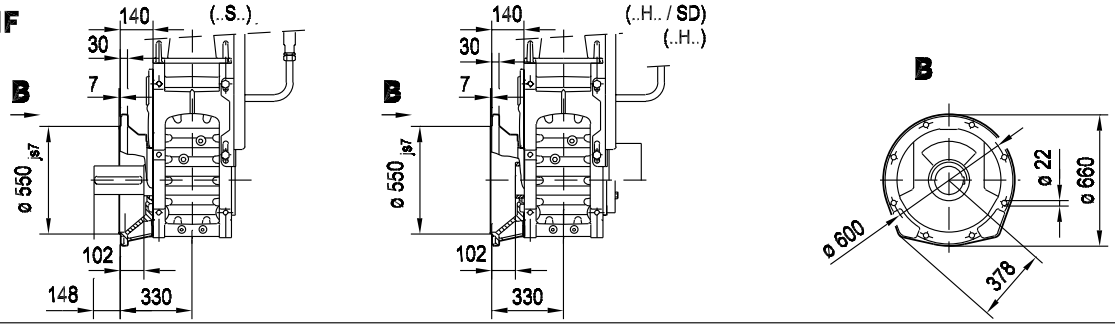
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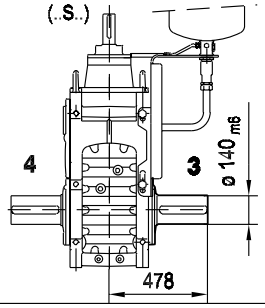
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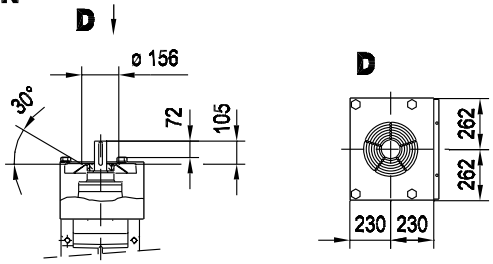
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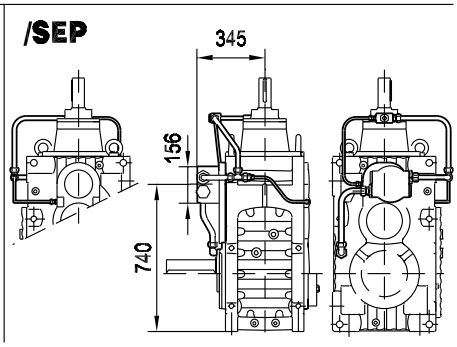
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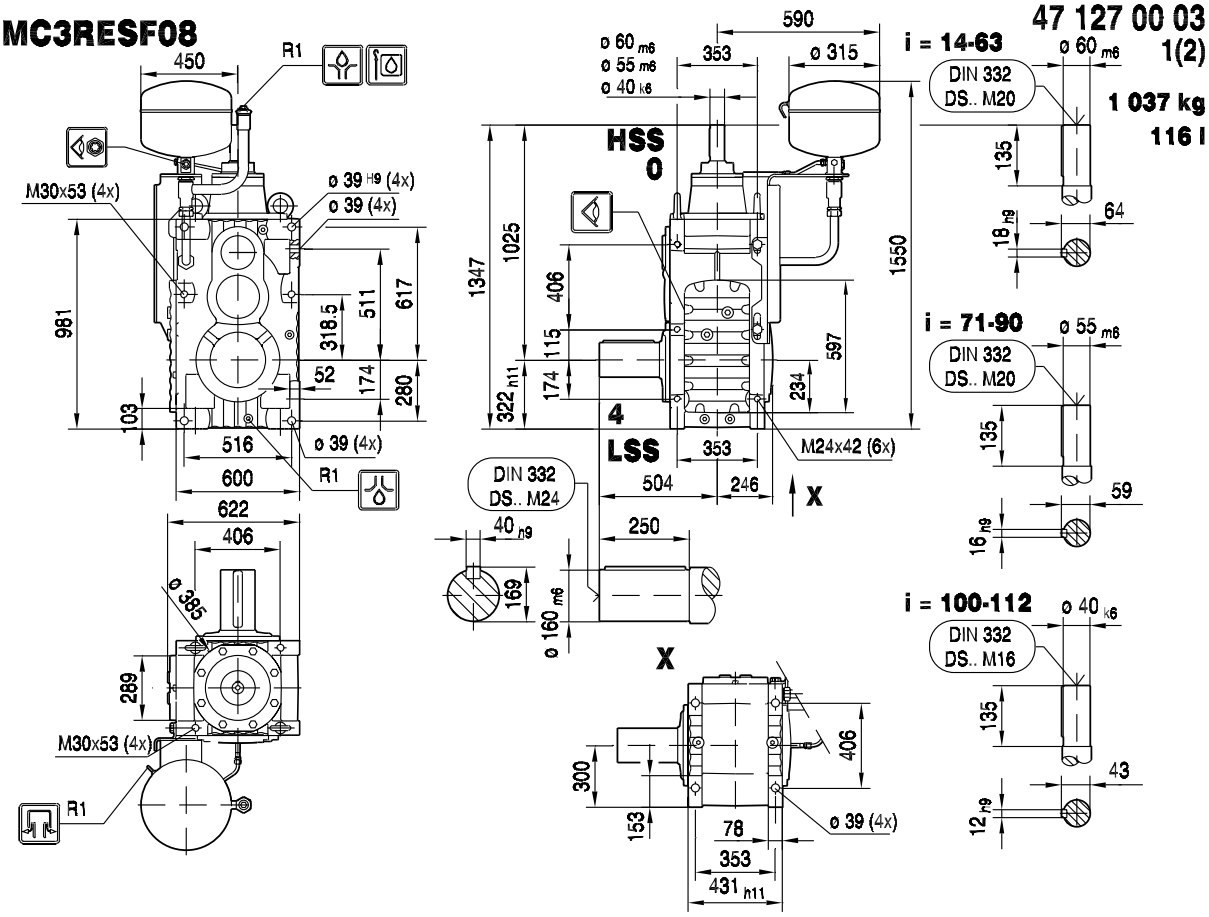
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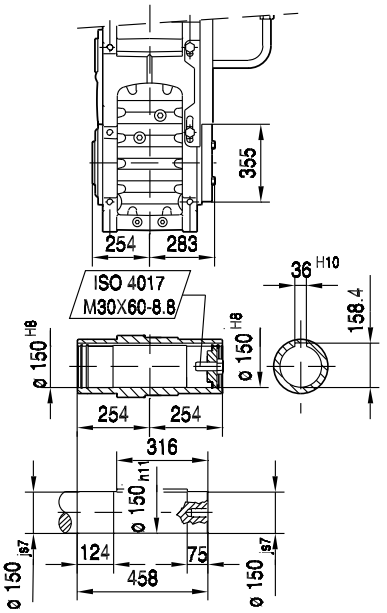
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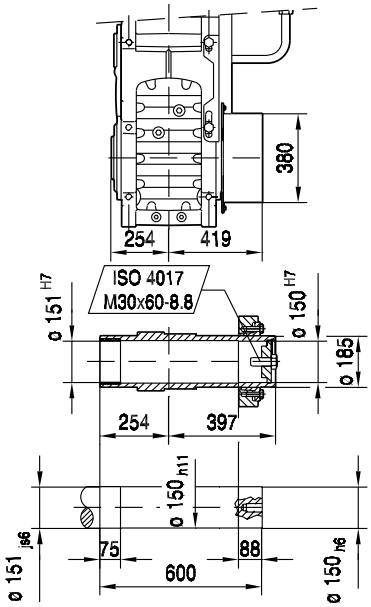
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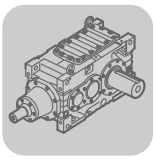


MC3REHF08



MC3REHF08 /SD

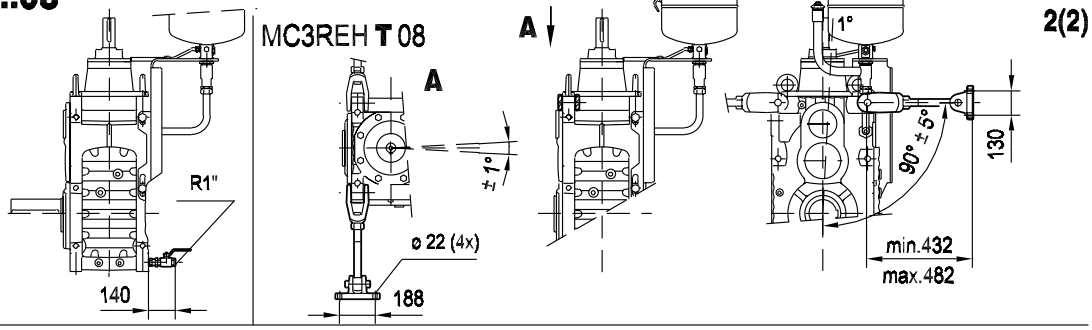




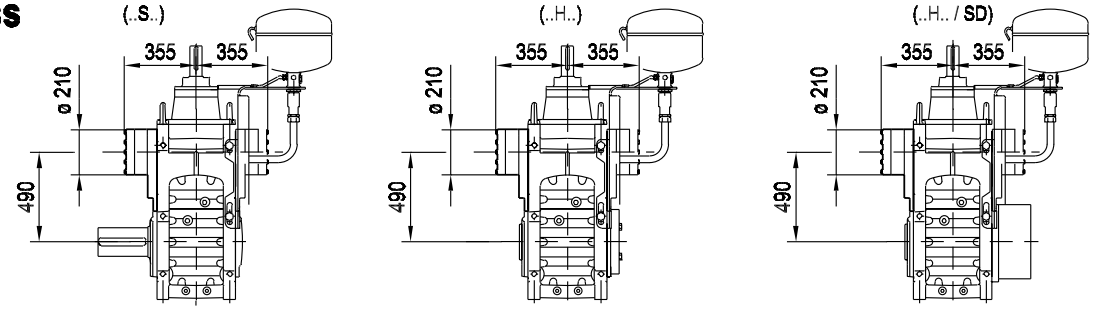
47 127 00 03
2(2)

MC3RE..08

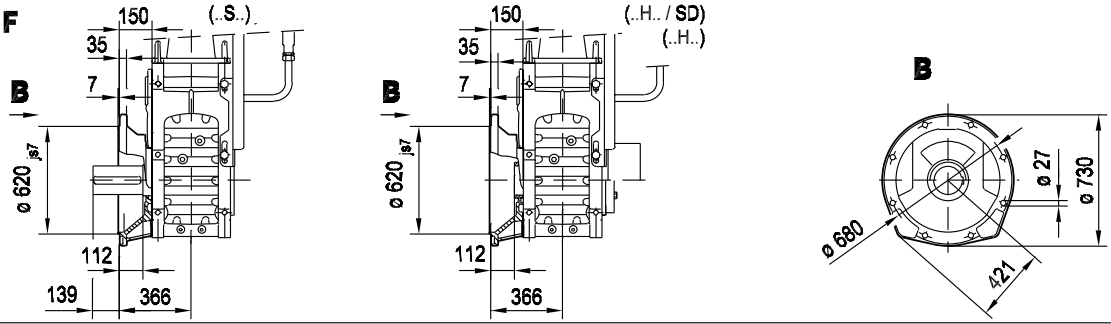
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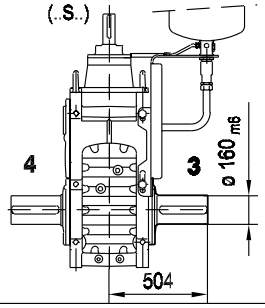
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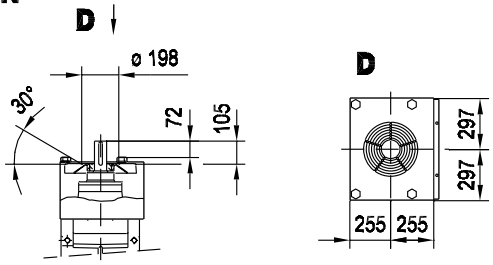
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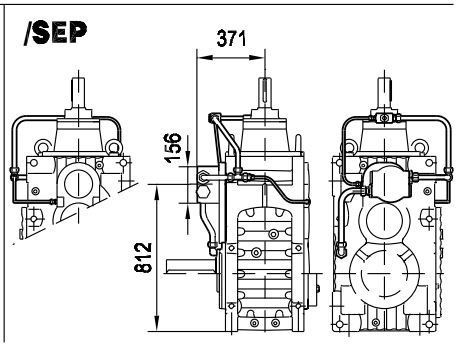
/LSST



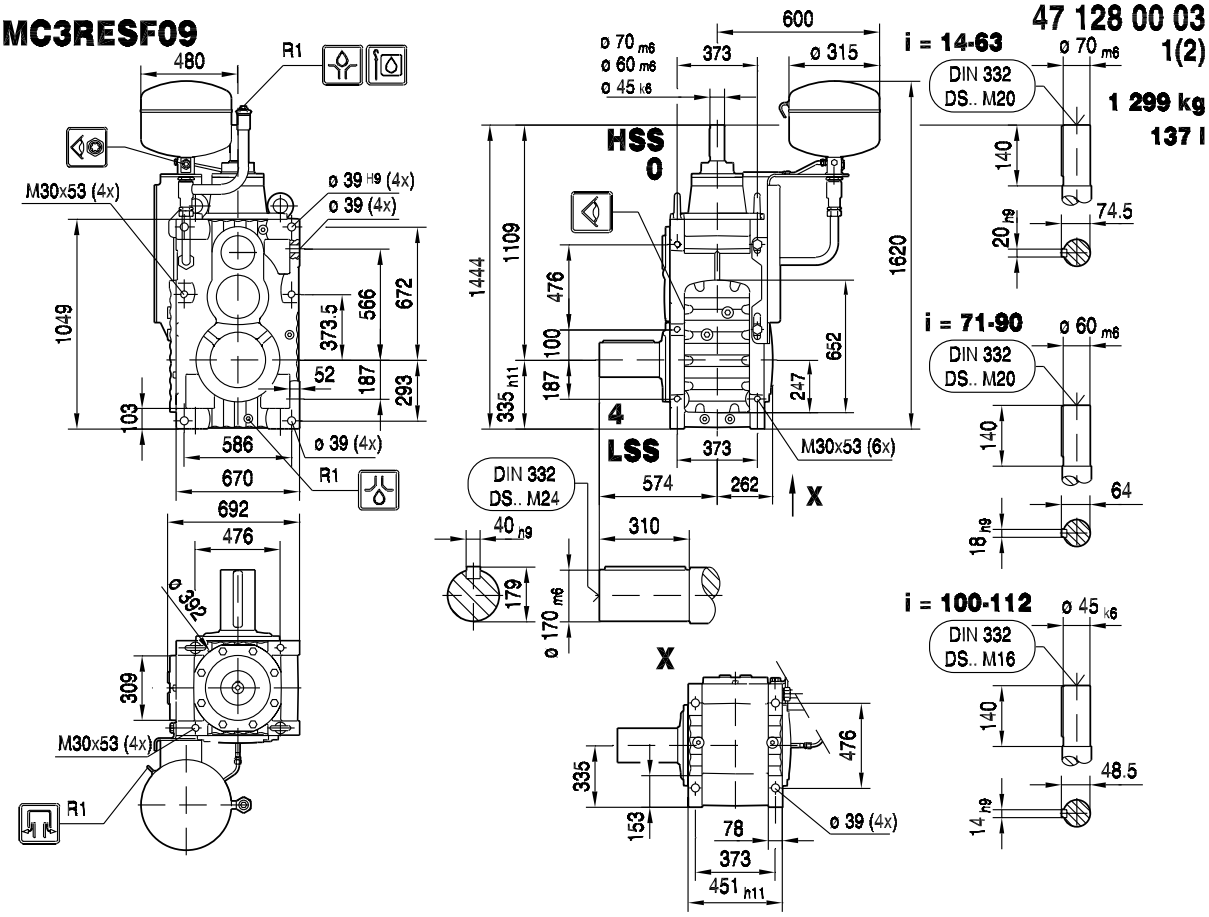
/FAN



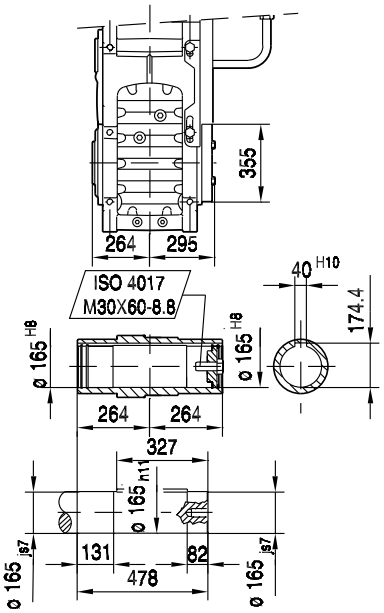
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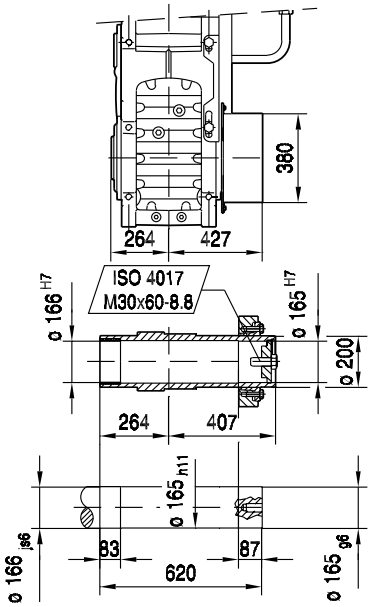
MC3RESF09

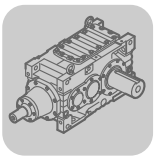


MC3REHF09



MC3REHF09 /SD

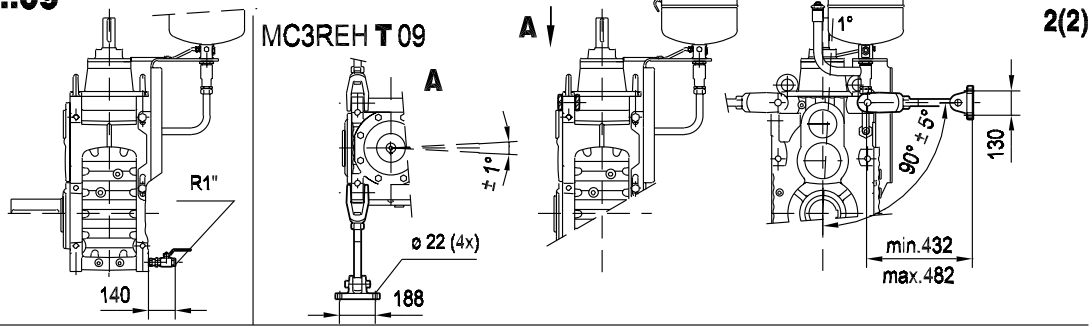




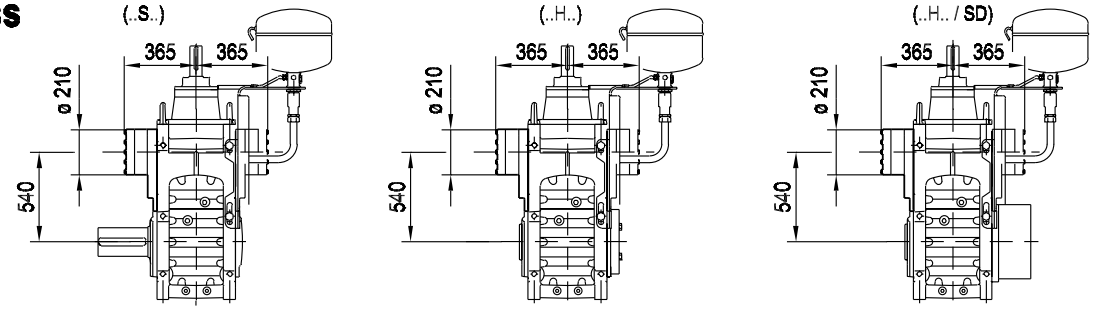
47 128 00 03
2(2)

MC3RE..09

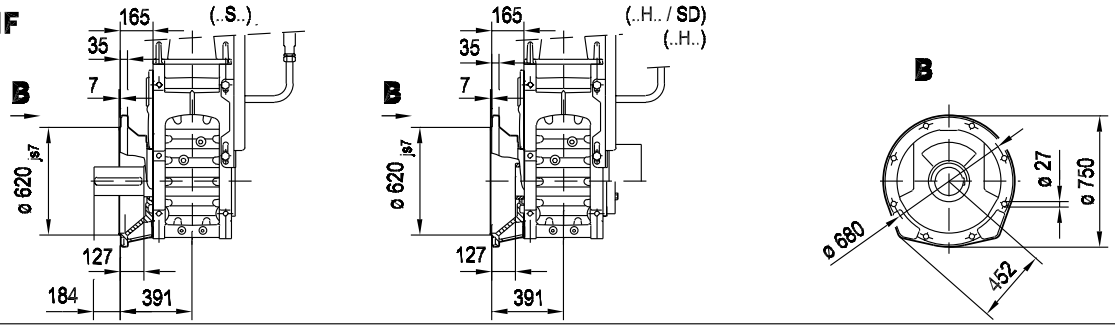
/ODV



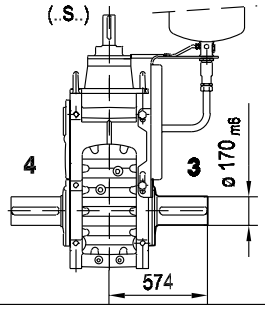
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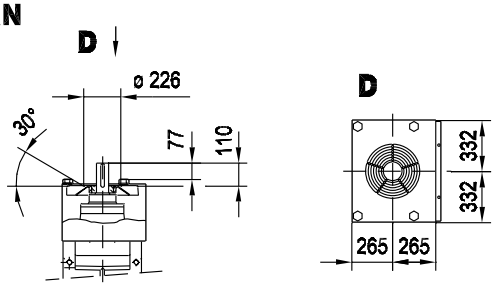
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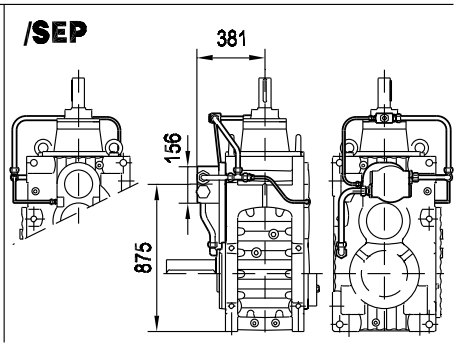
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/FAN



/SEP

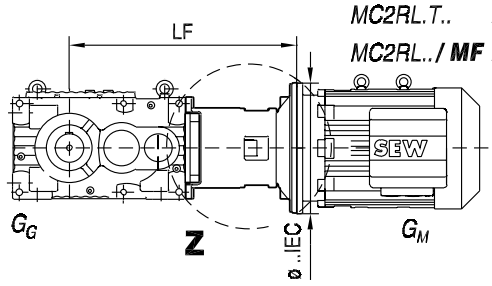


11.5 Motor adapter MC.R..

47 159 00 03

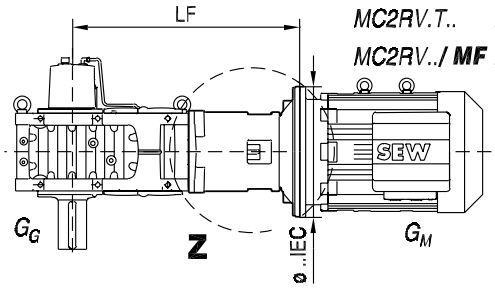
MC2RL..

MC2RL.F.. : $G_M \leq 1.0^* G_G$
MC2RL.T.. : $G_M \leq 1.0^* G_G$
*MC2RL../ **MF** : $G_M \leq 1.0^* G_G$*



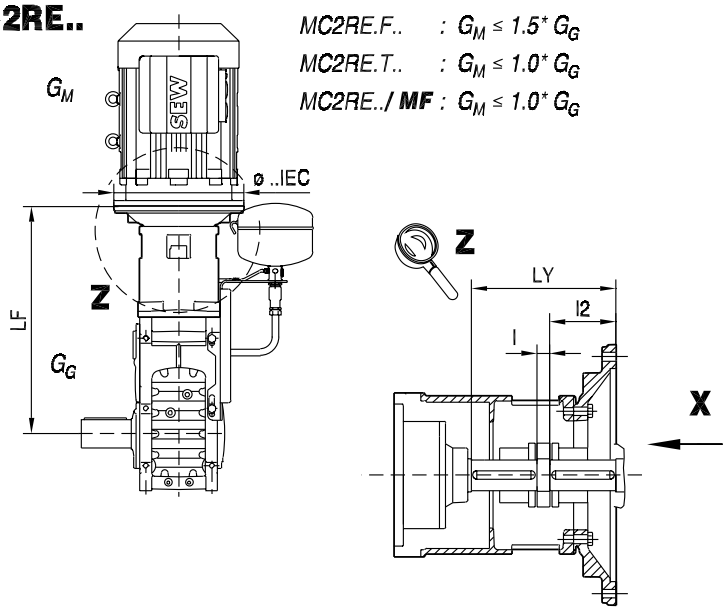
MC2RV..

MC2RV.F.. : $G_M \leq 1.0^* G_G$
MC2RV.T.. : $G_M \leq 1.0^* G_G$
*MC2RV../ **MF** : $G_M \leq 0.75^* G_G$*

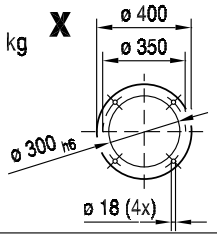


MC2RE..

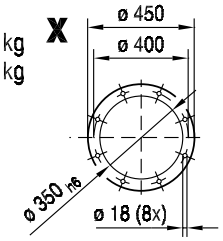
MC2RE.F.. : $G_M \leq 1.5^* G_G$
MC2RE.T.. : $G_M \leq 1.0^* G_G$
*MC2RE../ **MF** : $G_M \leq 1.0^* G_G$*



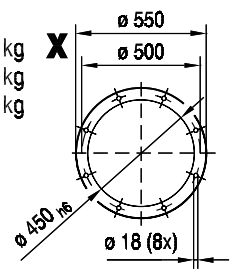
ø 400 IEC
200L ≈ 244 kg



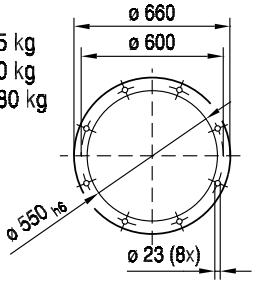
ø 450 IEC
225S ≈ 296 kg
225M ≈ 325 kg



ø 550 IEC
250M ≈ 448 kg
280S ≈ 520 kg
280M ≈ 690 kg



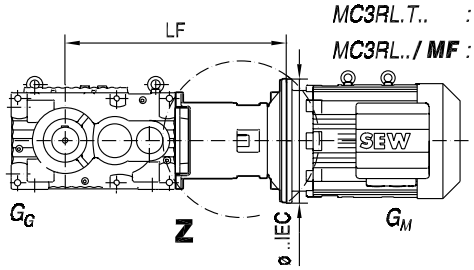
ø 660 IEC
315S ≈ 925 kg
315M ≈ 970 kg
315L ≈ 1080 kg



(→ 📖 131)	MC2R..02	MC2R..03	MC2R..04		MC2R..05	MC2R..06	MC2R..07	MC2R..08	MC2R..09
	200L	225S 225M	225M	250M	250M 280S 280M	280S 280M	315S 315M 315L	315M 315L	315L
ø .. IEC	400	450	450	550	550	550	660	660	660
I2	110	140	140	140	140	140	170	170	170
LF	774.5	849.5	900	900	960	1003	1107	1177	1311.5
LY	265.5	300.5	300	300	305	305	355	355	390.5
I	25	25	25	25	25	25	25	25	25

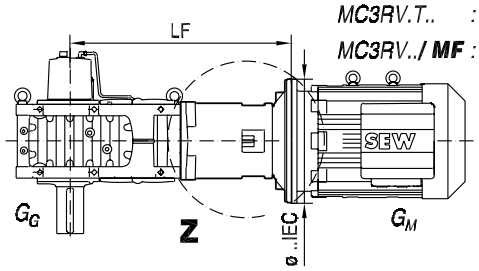
MC3RL..

MC3RL.F.. : $G_M \leq 1.0^* G_G$
MC3RL.T.. : $G_M \leq 1.0^* G_G$
*MC3RL../ **MF*** : $G_M \leq 1.0^* G_G$



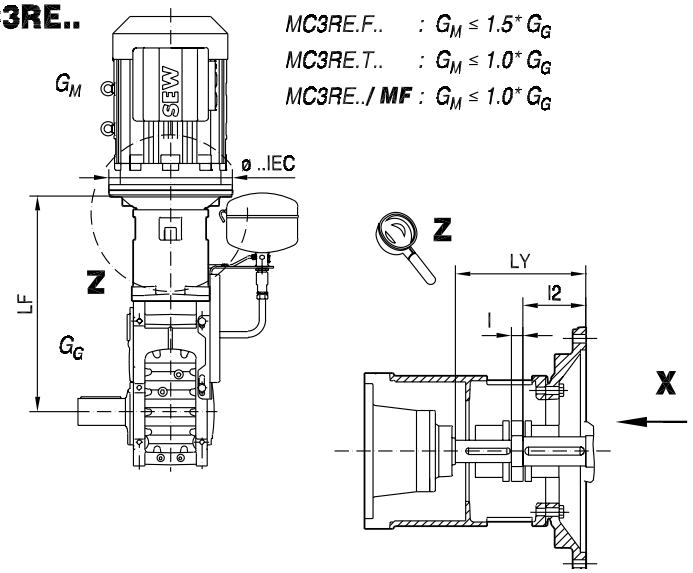
MC3RV..

MC3RV.F.. : $G_M \leq 1.0^* G_G$
MC3RV.T.. : $G_M \leq 1.0^* G_G$
*MC3RV../ **MF*** : $G_M \leq 0.75^* G_G$



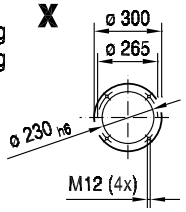
MC3RE..

MC3RE.F.. : $G_M \leq 1.5^* G_G$
MC3RE.T.. : $G_M \leq 1.0^* G_G$
*MC3RE../ **MF*** : $G_M \leq 1.0^* G_G$

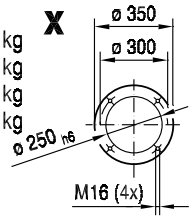


47 160 00 03

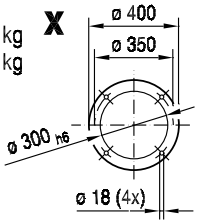
ø 300 IEC
132S ≈ 65 kg
132M ≈ 79 kg



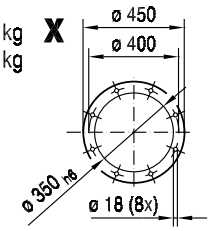
ø 350 IEC
160M ≈ 84 kg
160L ≈ 124 kg
180M ≈ 175 kg
180L ≈ 186 kg



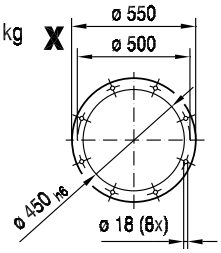
ø 400 IEC
200M ≈ 220 kg
200L ≈ 244 kg



ø 450 IEC
225S ≈ 296 kg
225M ≈ 325 kg

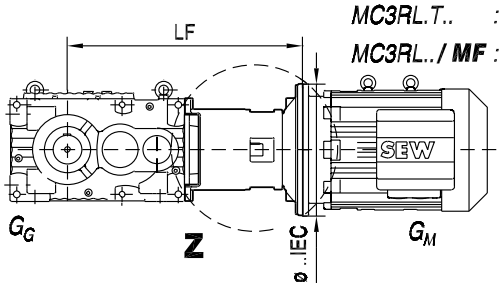


ø 550 IEC
250M ≈ 448 kg



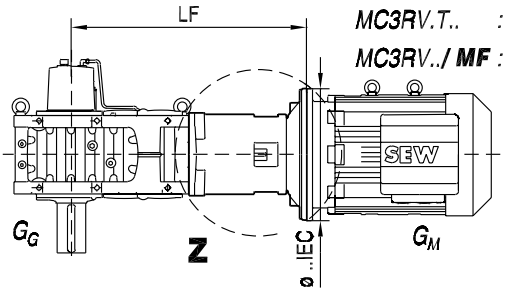
(→ 131)	MC3R..02				MC3R..03					MC3R..04			
	132S 132M	160M 160L 180M 180L	200M 200L	225S	132M	160M 160L 180M 180L	200M 200L	225S 225M	250M	160M 160L 180M 180L	200M 200L	225S 225M	250M
ø .. IEC	300	350	400	450	300	350	400	450	550	350	400	450	550
I2	80	110	110	140	80	110	110	140	140	110	110	140	140
LF	716	768	768	798	779.5	831.5	831.5	861.5	861.5	897	897	927	927
LY	183	235	235	265	195.5	247.5	247.5	277.5	277.5	255	255	285	285
I	3	25	25	25	3	25	25	25	25	25	25	25	25

MC3RL..



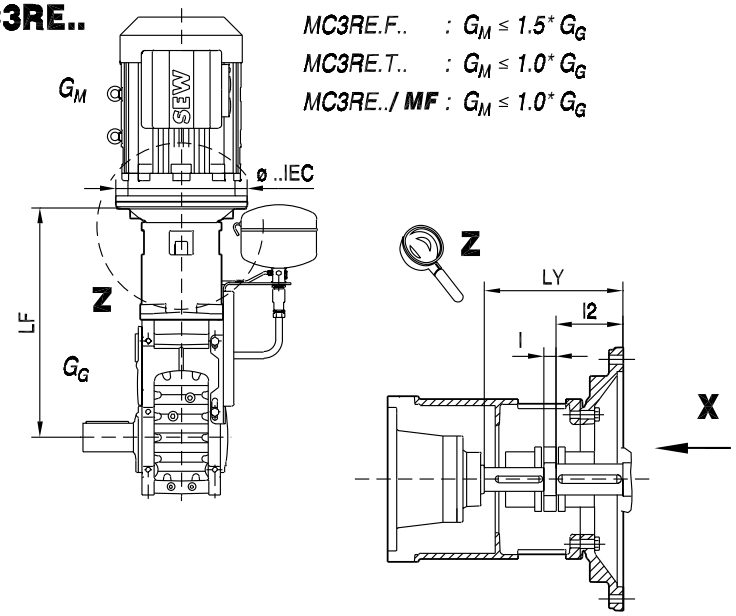
MC3RL.F.. : $G_M \leq 1.0^* G_G$
MC3RL.T.. : $G_M \leq 1.0^* G_G$
MC3RL../ ***MF*** : $G_M \leq 1.0^* G_G$

MC3RV..



MC3RV.F.. : $G_M \leq 1.0^* G_G$
MC3RV.T.. : $G_M \leq 1.0^* G_G$
MC3RV../ ***MF*** : $G_M \leq 0.75^* G_G$

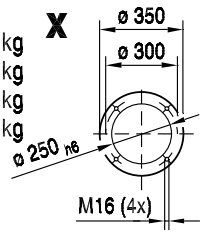
MC3RE..



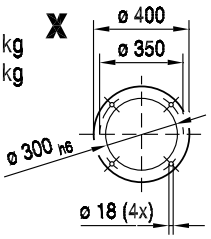
MC3RE.F.. : $G_M \leq 1.5^* G_G$
MC3RE.T.. : $G_M \leq 1.0^* G_G$
MC3RE../ ***MF*** : $G_M \leq 1.0^* G_G$

47 161 00 03

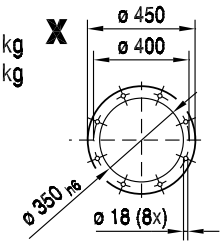
ø 350 IEC
160M ≈ 84 kg
160L ≈ 124 kg
180M ≈ 175 kg
180L ≈ 186 kg



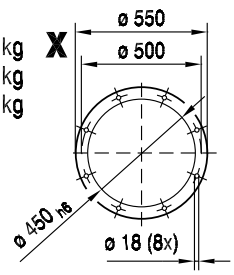
ø 400 IEC
200M ≈ 220 kg
200L ≈ 244 kg



ø 450 IEC
225S ≈ 296 kg
225M ≈ 325 kg



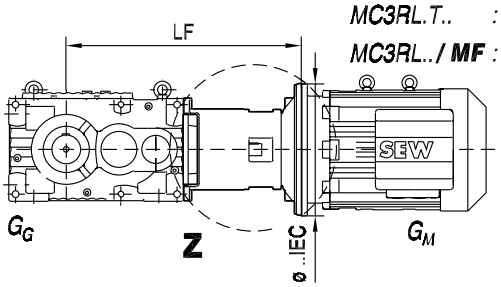
ø 550 IEC
250M ≈ 448 kg
280S ≈ 520 kg
280M ≈ 690 kg



(→ 📖 131)	MC3R..05				MC3R..06			
	160M 160L 180M 180L	200M 200L	225S 225M	250M 280S 280M	180M 180L	200M 200L	225S 225M	250M 280S 280M
ø .. IEC	350	400	450	550	350	400	450	550
I2	110	110	140	140	110	110	140	140
LF	953.5	953.5	983.5	983.5	1023.5	1023.5	1053.5	1053.5
LY	260.5	260.5	290.5	290.5	265.5	265.5	295.5	295.5
I	25	25	25	25	25	25	25	25

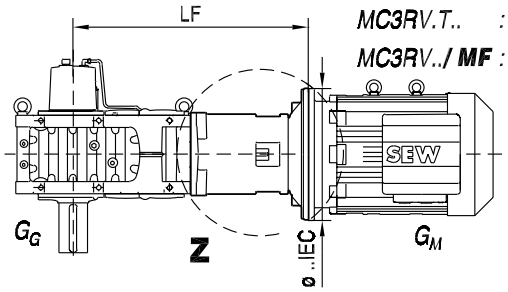
MC3RL..

MC3RL.F.. : $G_M \leq 1.0^* G_G$
MC3RL.T.. : $G_M \leq 1.0^* G_G$
*MC3RL../ **MF*** : $G_M \leq 1.0^* G_G$



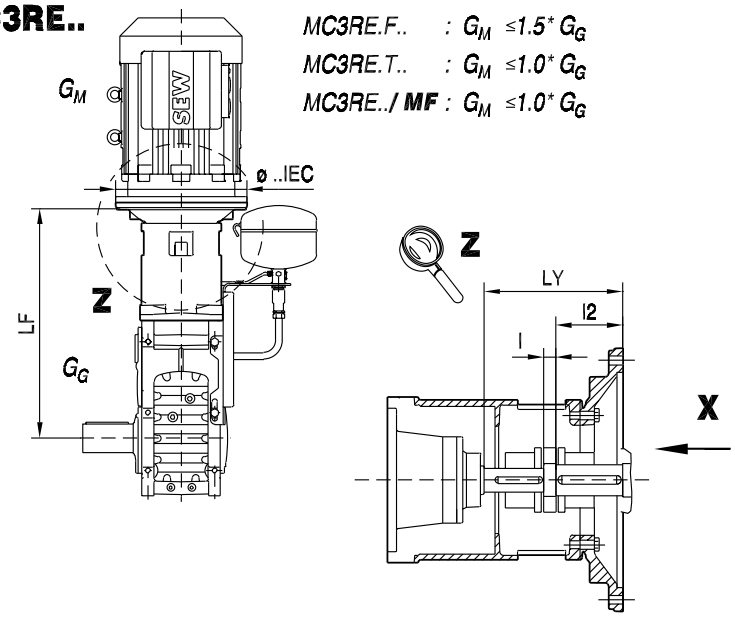
MC3RV..

MC3RV.F.. : $G_M \leq 1.0^* G_G$
MC3RV.T.. : $G_M \leq 1.0^* G_G$
*MC3RV../ **MF*** : $G_M \leq 0.75^* G_G$



MC3RE..

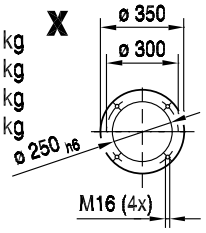
MC3RE.F.. : $G_M \leq 1.5^* G_G$
MC3RE.T.. : $G_M \leq 1.0^* G_G$
*MC3RE../ **MF*** : $G_M \leq 1.0^* G_G$



47 162 00 03

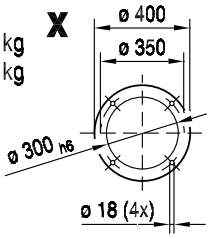
ø 350 IEC
160M ≈ 84 kg
160L ≈ 124 kg
180M ≈ 175 kg
180L ≈ 186 kg

X



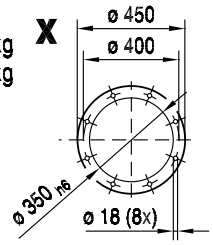
ø 400 IEC
200M ≈ 220 kg
200L ≈ 244 kg

X



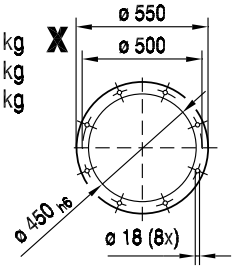
ø 450 IEC
225S ≈ 296 kg
225M ≈ 325 kg

X

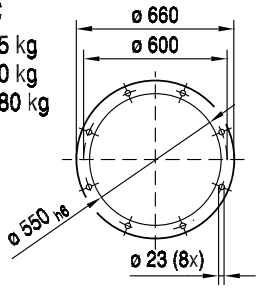


ø 550 IEC
250M ≈ 448 kg
280S ≈ 520 kg
280M ≈ 690 kg

X



ø 660 IEC
315S ≈ 925 kg
315M ≈ 970 kg
315L ≈ 1080 kg

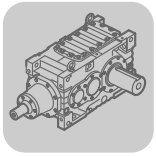


(→ 131)	MC3R..07					MC3R..08				MC3R..09			
	180L	200M 200L	225S 225M	250M 280S 280M	315S 315M 315L	200M 200L	225S 225M	250M 280S 280M	315S 315M 315L	200M 200L	225S 225M	250M 280S 280M	315S 315M 315L
ø .. IEC	350	400	450	550	660	400	450	550	660	400	450	550	660
I2	110	110	140	140	170	110	140	140	170	110	140	140	170
LF	1084.5	1084.5	1114.5	1114.5	1144.5	1160	1190	1190	1220	1246	1276	1276	1306
LY	270.5	270.5	300.5	300.5	330.5	270	300	300	330	300	337	337	367
I	25	25	25	25	25	25	25	25	25	25	25	25	25

11.6 Selection tables (short form) MC.R..

Size MC2R	n_1 1/min	Nominal gear unit power P_{N1} in [HP] Nominal Ratio i_N 7.1	8	9	10	11.2	12.5
02	1800	193	178	166	143	132	124
	1500	170	117	146	126	116	110
	1200	144	134	124	104	99	94
	1000	127	118	109	87	87	82
03	1800	237	222	208	171	165	154
	1500	210	196	182	143	145	134
	1200	180	167	160	115	117	117
	1000	158	147	138	96	97	99
04	1800	305	284	266	225	212	200
	1500	266	250	234	198	186	175
	1200	229	214	201	167	160	150
	1000	201	189	177	143	138	132
05	1800	430	403	380	317	299	283
	1500	378	355	334	280	264	250
	1200	323	303	285	226	225	213
	1000	284	266	252	190	192	187
06	1800	570	527	492	410	381	358
	1500	500	463	433	360	335	315
	1200	429	396	370	307	286	270
	1000	378	348	325	265	251	237
07	1800	690	647	604	502	473	444
	1500	608	570	532	444	417	391
	1200	520	488	455	375	356	334
	1000	458	429	400	324	309	295
08	1800	917	858	797	678	638	595
	1500	807	756	701	598	561	524
	1200	690	646	600	510	481	447
	1000	607	658	528	442	421	394
09	1800	1277	1178	1102	946	877	822
	1500	1125	1037	970	832	772	724
	1200	962	887	830	712	659	620
	1000	847	781	729	620	580	545

Size		Nominal gear unit power P_{N1} in [HP]									
		Nominal Ratio i_N									
MC3R	n_1 1/min	14	16	18	20	22.5	25	28	31.5	35.5	40
02	1800	103	103	102	92	90	74	73	61	49	43
	1500	91	91	87	82	76	62	61	50	41	36
	1200	75	75	69	69	61	50	49	41	32	29
	1000	63	63	58	61	52	42	41	34	27	24
03	1800	136	136	139	130	132	109	103	86	81	75
	1500	114	144	115	115	110	91	86	72	68	63
	1200	91	91	92	92	88	73	69	58	55	51
	1000	76	76	77	77	75	61	57	49	46	41
04	1800	157	157	159	160	159	155	144	121	102	102
	1500	138	138	140	140	140	130	120	100	85	85
	1200	118	118	120	112	114	103	96	80	68	68
	1000	100	100	100	94	95	86	81	67	57	57
05	1800	217	217	217	204	204	204	185	164	145	131
	1500	182	182	182	170	170	170	157	137	121	110
	1200	146	146	146	135	135	135	125	111	96	87
	1000	120	120	120	112	112	112	105	92	80	73
06	1800	271	271	271	250	250	250	235	216	180	165
	1500	225	225	225	208	208	208	195	180	150	138
	1200	181	181	181	167	167	167	156	145	119	110
	1000	150	150	150	139	139	139	130	122	100	87
07	1800	360	360	360	315	315	315	274	274	233	210
	1500	300	300	300	277	277	277	242	242	194	178
	1200	240	240	240	224	224	224	206	204	156	143
	1000	200	200	200	186	186	186	174	171	129	118
08	1800	456	456	456	400	400	400	346	346	299	261
	1500	402	402	402	352	352	352	306	306	262	230
	1200	343	343	343	298	298	298	261	254	213	197
	1000	300	300	300	265	265	265	230	213	178	173
09	1800	552	552	552	515	515	515	456	456	386	343
	1500	486	486	486	454	454	454	402	402	340	303
	1200	415	415	415	388	388	388	344	344	284	259
	1000	366	366	366	341	341	341	303	303	237	228

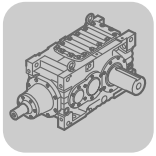


Size		Nominal gear unit power P_{N1} in [HP]								
		Nominal Ratio i_N								
MC3R	n_1 1/min	45	50	56	63	71	80	90	100	112
02	1800	44	42	35	28	29	25	20	16	16
	1500	37	35	30	24	24	21	18	14	14
	1200	30	28	24	19	19	17	14	12	12
	1000	24	23	20	16	16	15	12	10	10
03	1800	65	52	50	40	40	38	30	24	24
	1500	54	43	42	34	34	31	25	20	20
	1200	44	35	34	27	27	25	21	16	16
	1000	36	30	28	23	23	21	17	14	14
04	1800	89	75	66	60	52	50	44	25	25
	1500	75	62	55	50	43	42	37	21	21
	1200	60	50	45	41	34	34	32	17	17
	1000	50	42	38	34	28	28	27	14	14
05	1800	123	102	95	80	60	60	58	38	38
	1500	103	85	78	66	50	50	50	31	31
	1200	90	69	64	54	40	40	39	26	26
	1000	69	57	53	45	32	32	32	21	21
06	1800	162	132	117	105	86	86	76	62	61
	1500	134	110	98	88	70	70	64	53	52
	1200	109	89	79	70	57	57	52	42	42
	1000	91	74	65	60	48	48	43	35	35
07	1800	213	183	155	146	97	97	97	82	82
	1500	180	153	129	122	80	80	80	68	68
	1200	145	123	103	99	64	64	64	54	54
	1000	120	103	87	84	54	54	54	46	46
08	1800	265	235	217	186	141	141	133	92	93
	1500	233	197	187	155	118	118	112	77	78
	1200	190	159	151	126	94	94	91	62	62
	1000	160	133	126	106	78	78	76	53	53
09	1800	348	330	281	258	203	203	186	100	101
	1500	307	276	240	216	169	169	155	83	84
	1200	262	223	193	174	135	135	125	68	68
	1000	227	186	162	145	112	112	103	57	57

Size	Nominal Ratio i_N Exact Ratios i_{ex}					
MC2R	7.1	8	9	10	11.2	12.5
02	6.961	8.050	9.034	9.605	11.107	12.465
03	7.124	8.036	9.067	10.000	11.281	12.727
04	7.293	8.203	9.170	10.147	11.414	12.759
05	7.096	7.987	8.861	9.873	11.114	12.329
06	6.739	7.798	8.752	9.638	11.152	12.516
07	6.835	7.697	8.646	9.736	10.963	12.315
08	6.946	7.821	8.882	9.736	10.963	12.449
09	6.852	7.924	8.893	9.605	11.107	12.465

Size	Nominal Ratio i_N Exact Ratios i_{ex}									
MC3R	14	16	18	20	22.5	25	28	31.5	35.5	40
02	14.611	16.896	18.962	20.312	23.489	26.361	29.430	33.028	37.384	40.296
03	15.069	16.999	19.179	20.568	23.203	26.178	29.602	33.397	35.077	39.666
04	14.757	16.600	18.555	20.600	23.171	25.901	29.646	33.139	34.627	39.632
05	14.681	16.526	18.333	20.217	22.758	25.246	29.130	32.315	33.829	39.033
06	14.089	16.303	18.297	20.299	23.489	26.361	28.782	32.302	35.533	38.796
07	14.177	15.965	17.933	19.937	22.450	25.218	28.377	31.876	33.791	38.024
08	14.477	16.302	18.512	20.249	22.802	25.892	29.063	33.002	34.901	39.175
09	14.282	16.516	18.536	19.703	22.784	25.570	28.121	31.559	34.467	37.904

Size	Nominal Ratio i_N Exact Ratios i_{ex}								
MC3R	45	50	56	63	71	80	90	100	112
02	45.224	50.488	56.661	64.135	70.968	79.647	90.152	97.346	110.185
03	44.751	50.966	57.295	65.252	69.861	78.817	89.764	97.527	111.072
04	44.302	49.827	55.993	62.976	68.901	77.019	86.625	93.184	104.806
05	43.301	48.739	55.438	62.400	69.916	77.560	87.300	93.838	105.622
06	43.540	49.283	55.306	62.600	68.956	77.388	87.595	95.757	108.387
07	42.712	48.963	53.983	61.883	70.765	79.490	91.123	96.173	110.247
08	44.485	49.823	56.617	63.411	70.393	79.934	89.526	96.711	108.316
09	42.539	48.150	54.720	61.937	68.215	76.556	86.653	94.514	106.979



Size	Nominal gear unit torque M_{N2} in lb-in Calculated with n_1 = 1000 1/min Nominal Ratio i_N					
MC2R	**7.1**	**8**	**9**	**10**	**11.2**	**12.5**
02	54521	58149	60982	51511	59388	63017
03	68382	72576	76382	58946	67354	77001
04	89392	94703	99128	89392	96473	102669
05	123910	130106	136301	115060	130991	141612
06	155773	166394	174359	156658	170819	181440
07	191176	201797	21533	193831	207992	221268
08	258441	271718	286764	262867	282338	300040
09	354914	378811	397398	364650	394743	415099

Size	Nominal gear unit torque M_{N2} in lb-in Calculated with n_1 = 1000 1/min Nominal Ratio i_N								
MC3R	**14**	**16**	**18**	**20**	**22.5**	**25**	**28**	**31.5**	**35.5**
02	55937	64610	66115	74081	71691	67089	71868	67797	62221
03	69921	78860	88507	95588	102669	95588	101783	97358	96473
04	90277	10898	113289	115945	130106	132761	143382	132761	118600
05	107979	121255	134531	135416	153118	169934	181440	178785	161968
06	127451	147807	165509	167279	193831	216843	223039	234544	209762
07	170819	192946	215958	221268	248706	279683	292959	323937	260212
08	261097	293844	333673	318626	358455	407134	396513	418640	373501
09	315086	364650	408904	400053	462008	518653	505377	566447	493871

Size	Nominal gear unit torque M_{N2} in lb-in Calculated with n_1 = 1000 1/min Nominal Ratio i_N									
MC3R	**40**	**45**	**50**	**56**	**63**	**71**	**80**	**90**	**100**	**112**
02	60185	68151	72045	691247	63371	72222	70009	64256	55494	62752
03	10898	98243	90277	99128	91163	94703	100013	92048	81338	92933
04	138071	133646	127451	126566	128336	118600	127451	130106	79391	90227
05	172589	180555	168164	177015	169049	138957	154003	171704	121255	138071
06	214188	237200	220383	216843	222153	194716	218613	224809	204452	227464
07	272603	306235	302695	278798	304465	225694	254016	291189	260212	297385
08	408904	422180	395628	425720	399168	328362	372616	404479	301810	341638
09	519538	572642	532814	525734	533699	455813	511572	535469	317741	364650

12 Abbreviation Key and Index

12.1 Abbreviation Key

α	Application angle of radial load	°
f_1	Altitude factor (= Correction factor for calculating the thermal rating of the gear unit)	-
f_2	Mounting possibility factor (= Correction factor for calculating the thermal rating of the gear unit)	-
F_F	Peak factor	-
f_L	Lubrication factor (= Correction factor for calculating the thermal rating of the gear unit)	-
F_{R1}	Existing radial load on HSS (distance from shaft shoulder has to be specified)	kN
F_{R2}	Existing radial load on LSS (distance from shaft shoulder has to be specified)	kN
F_{Ra}	Permitted radial load in the middle of LSS	kN
F_{Re}	Permitted radial load in the middle of HSS	kN
F_S	Gear unit service factor = M_{N2} / M_{K2} = P_{N1} / P_{K1}	-
f_T	Ambient temperature factor (= Correction factor for calculating the thermal rating of the gear unit)	-
η	Efficiency	-
H	Installation altitude above sea level	m
HSS	High speed shaft of the gear unit	-
i	Reduction ratio	-
i_{ex}	Exact gear unit reduction ratio	-
i_N	Nominal gear unit (reduction) ratio	-
IP...	Enclosure of electrical equipment	-
ϑ_{amb}	Ambient temperature	°C
$L_{h\ min.}$	Minimum required bearing lifetime of the gear unit	h
LSS	Low speed shaft of the gear unit	-
M_{K1}	Input torque (= operating torque on gear unit input)	kNm
$M_{K1\ max}$	Peak input torque	kNm
M_{K2}	Output torque (= operating torque on LSS)	kNm
$M_{K2\ max}$	Peak output torque	kNm
$M_{K2\ zul}$	Permitted peak torque on the gear unit output	kNm
M_M	Nominal motor torque	kNm
M_{N2}	Nominal gear unit torque	kNm
n_1	Input speed (HSS)	1/min
n_2	Output speed (LSS)	1/min
n_M	Motor speed	1/min
P_{K1}	Input power (= operating power on HSS)	kW
$P_{K1\ max}$	Peak input power on HSS	kW
$P_{K1\ zul}$	Permitted peak power on the gear unit input	kW
P_{K2}	Output power (= operating power on gear unit output)	kW
P_M	Nominal motor power	kW
P_{N1}	Nominal gear unit power	kW
P_T	Thermal rating of the gear unit at existing ambient conditions	kW
P_{TH}	Nominal thermal rating of the gear unit at defined ambient conditions	kW
$P_{TH\ [20]}$	Nominal thermal rating of the gear unit at 20 °C ambient temperature, no forced cooling	kW
$P_{TH\ [20]F}$	Nominal thermal rating of the gear unit at 20 °C ambient temperature, 1 fan	kW
$P_{TH\ [20]FF}$	Nominal thermal rating of the gear unit at 20 °C ambient temperature, 2 fans	kW

$P_{TH\ [40]}$	Nominal thermal rating of the gear unit at 40 °C ambient temperature, no forced cooling	kW
$P_{TH\ [40]F}$	Nominal thermal rating of the gear unit at 40 °C ambient temperature, 1 fan	kW
$P_{TH\ [40]FF}$	Nominal thermal rating of the gear unit at 40 °C ambient temperature, 2 fans	kW
U_{aux}	Voltage of auxiliary supply	V
U_{mains}	Voltage of mains supply	V
x	Application distance of radial load from shaft shoulder	mm

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	South Carolina	SEW-EURODRIVE INC. 1295 Old Spartanburg Highway P.O. Box 518 Lyman, SC 29365	Tel. 864 439-7537 Fax Sales 864 439-7830 Fax Ass. 864 439-0566 cslyman@seweurodrive.com
	Texas	SEW-EURODRIVE INC. 3950 Platinum Way Dallas, Texas 75237	Tel. 214 330-4824 Fax 214 330-4724 csdallas@seweurodrive.com
	California	SEW-EURODRIVE INC. 30599 San Antonio St. Hayward, CA 94544	Tel. 510 487-3560 Fax 510 487-6381 cshayward@seweurodrive.com
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	District of Columbia	Edward Tucker 806 Front Street Glendora, NJ 08029	Tel. 856 939-2535 Fax 856 939 2114 etucker@seweurodrive.com



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	Dornbirn	SEW-EURODRIVE Ges.m.b.H. Lustenauerstraße 27/1 A-6850 Dornbirn	Tel. +43 5572 3725 99-0 Fax +43 5572 3725 99-20 tb-dornbirn@sew-eurodrive.at

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Sales	**Dhaka**	Jainex Industrial and Engineering Ltd B 12 Apon Nibash East Nasirabad Bangladesh	Tel. +880 1713103502 Fax +880 31 613041 jainexbd@onlinectg.net

Belarus			
Sales	**Minsk**	SEW-EURODRIVE BY RybalkoStr. 26 BY-220033 Minsk	Tel.+375 (17) 298 38 50 Fax +375 (17) 29838 50 sales@sew.by

Belgium			
Assembly **Sales** **Service**	**Brüssel**	SEW Caron-Vector S.A. Avenue Eiffel 5 B-1300 Wavre	Tel. +32 10 231-311 Fax +32 10 231-336 http://www.sew-eurodrive.be info@caron-vector.be
Service Competence Center	**Industrial Gears**	SEW Caron-Vector S.A. Rue de Parc Industriel, 31 BE-6900 Marche-en-Famenne	Tel. +32 84 219-878 Fax +32 84 219-879 http://www.sew-eurodrive.be service-wallonie@sew-eurodrive.be
Technical Office	**Vlaanderen**	SEW Caron-Vector S.A. Verlorenbroodstraat, 122, bus 6 B-9820 Merelbeke	Tel. +32 92 1686 25 Fax +32 92 2741 55

Brazil			
Production **Sales** **Service**	**Sao Paulo**	SEW-EURODRIVE Brasil Ltda. Avenida Amâncio Gaiolli, 152 - Rodovia Presidente Dutra Km 208 Guarulhos - 07251-250 - SP SAT - SEW ATENDE - 0800 7700496	Tel. +55 11 2489-9133 Fax +55 11 2480-3328 http://www.sew-eurodrive.com.br sew@sew.com.br

Bulgaria			
Sales	**Sofia**	BEVER-DRIVE GmbH Bogdanovetz Str.1 BG-1606 Sofia	Tel. +359 2 9151160 Fax +359 2 9151166 bever@fastbg.net

Cameroon			
Sales	**Douala**	Electro-Services Rue Drouot Akwa B.P. 2024 Douala	Tel. +237 33 431137 Fax +237 33 431137

Chile			
Assembly **Sales** **Service**	**Santiago de Chile**	SEW-EURODRIVE CHILE LTDA. Las Encinas 1295 Parque Industrial Valle Grande LAMPA RCH-Santiago de Chile P.O. Box Casilla 23 Correo Quilicura - Santiago - Chile	Tel. +56 2 75770-00 Fax +56 2 75770-01 http://www.sew-eurodrive.cl ventas@sew-eurodrive.cl

China			
Production **Assembly** **Sales** **Service**	**Tianjin**	SEW-EURODRIVE (Tianjin) Co., Ltd. No. 46, 7th Avenue, TEDA Tianjin 300457	Tel. +86 22 25322612 Fax +86 22 25322611 info@sew-eurodrive.cn http://www.sew-eurodrive.cn
Assembly **Sales** **Service**	**Suzhou**	SEW-EURODRIVE (Suzhou) Co., Ltd. 333, Suhong Middle Road Suzhou Industrial Park Jiangsu Province, 215021	Tel. +86 512 62581781 Fax +86 512 62581783 suzhou@sew-eurodrive.cn
	Guangzhou	SEW-EURODRIVE (Guangzhou) Co., Ltd. No. 9, JunDa Road East Section of GETDD Guangzhou 510530	Tel. +86 20 82267890 Fax +86 20 82267891 guangzhou@sew-eurodrive.cn
	Shenyang	SEW-EURODRIVE (Shenyang) Co., Ltd. 10A-2, 6th Road Shenyang Economic Technological Development Area Shenyang, 110141	Tel. +86 24 25382538 Fax +86 24 25382580 shenyang@sew-eurodrive.cn
	Wuhan	SEW-EURODRIVE (Wuhan) Co., Ltd. 10A-2, 6th Road No. 59, the 4th Quanli Road, WEDA 430056 Wuhan	Tel. +86 27 84478398 Fax +86 27 84478388

Colombia			
Assembly **Sales** **Service**	**Bogotá**	SEW-EURODRIVE COLOMBIA LTDA. Calle 22 No. 132-60 Bodega 6, Manzana B Santafé de Bogotá	Tel. +57 1 54750-50 Fax +57 1 54750-44 http://www.sew-eurodrive.com.co carlos.gomez@sew.eurodrive.com.co

Croatia			
Sales **Service**	**Zagreb**	KOMPEKS d. o. o. PIT Erdödy 4 II HR 10 000 Zagreb	Tel. +385 1 4613-158 Fax +385 1 4613-158 kompeks@inet.hr

Czech Republic			
Sales	**Praha**	SEW-EURODRIVE CZ S.R.O. Business Centrum Praha Lužná 591 CZ-16000 Praha 6 - Vokovice	Tel. +420 255 709 601 Fax +420 220 121 237 http://www.sew-eurodrive.cz sew@sew-eurodrive.cz
Technical Offices	**Brno**	SEW-EURODRIVE CZ S.R.O. Křenová 52 CZ -60200 Brno	Tel. +420 543256151 + 543256163 Fax +420 543256845
	Hradec Králové	SEW-EURODRIVE CZ S.R.O. Čechova 498 CZ-50202 Hradec Králové	Tel. +420 495510141 Fax +420 495521313
	Plzeň	SEW-EURODRIVE CZ S.R.O. Areal KRPA a.s. Zahradni 173/2 CZ-32600 Plzeň	Tel. +420 378775300 Fax +420 377970710
	Klatovy	SEW-EURODRIVE CZ S.R.O. Technická kancelář Klatovy Domažlická 800 CZ-33901 Klatovy	Tel. +420 376310729 Fax +420 376310725

Denmark			
Assembly **Sales** **Service**	**Kopenhagen**	SEW-EURODRIVEA/S Geminivej 28-30 DK-2670 Greve	Tel. +45 43 9585-00 Fax +45 43 9585-09 http://www.sew-eurodrive.dk sew@sew-eurodrive.dk



Egypt			
Sales **Service**	**Cairo**	Copam Egypt for Engineering & Agencies 33 El Hegaz ST, Heliopolis, Cairo	Tel. +20 2 22566-299 + 1 23143088 Fax +20 2 22594-757 http://www.copam-egypt.com/ copam@datum.com.eg

Estonia			
Sales	**Tallin**	ALAS-KUUL AS Reti tee 4 EE-75301 Peetri küla, Rae vald, Harjumaa	Tel. +372 6593230 Fax +372 6593231 veiko.soots@alas-kuul.ee

Finland			
Assembly **Sales** **Service**	**Lahti**	SEW-EURODRIVE OY Vesimäentie 4 FIN-15860 Hollola 2	Tel. +358 201 589-300 Fax +358 3 780-6211 sew@sew.fi http://www.sew-eurodrive.fi
Technical Offices	**Helsinki**	SEW-EURODRIVE OY Luutnantintie 5 FIN-00410 Helsinki	Tel. +358 201 589-300 Fax + 358 9 5666-311 sew@sew.fi
	Vaasa	SEW-EURODRIVE OY Hietasaarenkatu 18 FIN-65100 Vaasa	Tel. +358 201 589-300 Fax +358 6 3127-470 sew@sew.fi
	Rovaniemi	SEW-EURODRIVE OY Valtakatu 4 A FIN-96100 Rovaniemi	Tel. +358 201 589-300 Fax +358 201 589-239 sew@sew.fi
Production **Assembly** **Service**	**Karkkila**	SEW Industrial Gears Oy Valurinkatu 6 FIN-03600 Karkkila	Tel. +358 201 589-300 Fax +358 201 589-310 sew@sew.fi http://www.sew-eurodrive.fi

France			
Production **Sales** **Service**	**Haguenau**	SEW-USOCOME 48-54, route de Soufflenheim B. P. 20185 F-67506 Haguenau Cedex	Tel. +33 3 88 73 67 00 Fax +33 3 88 73 66 00 http://www.usocome.com sew@usocome.com
Production	**Forbach**	SEW-EUROCOME Zone Industrielle Technopôle Forbach Sud B. P. 30269 F-57604 Forbach Cedex	Tel. +33 3 87 29 38 00
Assembly **Sales** **Service**	**Bordeaux**	SEW-USOCOME Parc d'activités de Magellan 62, avenue de Magellan - B. P. 182 F-33607 Pessac Cedex	Tel. +33 5 57 26 39 00 Fax +33 5 57 26 39 09
	Lyon	SEW-USOCOME Parc d'Affaires Roosevelt Rue Jacques Tati F-69120 Vaulx en Velin	Tel. +33 4 72 15 37 00 Fax +33 4 72 15 37 15
	Paris	SEW-USOCOME Zone industrielle 2, rue Denis Papin F-77390 Verneuil l'Etang	Tel. +33 1 64 42 40 80 Fax +33 1 64 42 40 88
Technical Offices	**Alsace Franche-Comté**	SEW-USOCOME 1, rue Auguste Gasser F-68360 Soultz	Tel. +33 3 89 74 51 62 Fax +33 3 89 76 58 71
	Alsace Nord	SEW-USOCOME 15, rue Mambourg F-68240 Sigolsheim	Tel. +33 3 89 78 45 11 Fax +33 3 89 78 45 12

France			
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	Ardennes Lorraine	SEW-USOCOME 1, rue de la Forêt F-54250 Champigneulles	Tel. +33 3 83 96 28 04 Fax +33 3 83 96 28 07
	Bourgogne	SEW-USOCOME 10, rue de la Poste F-71350 Saint Loup Géanges	Tel. +33 3 85 49 92 18 Fax +33 3 85 49 92 19
	Bretagne Ouest	SEW-USOCOME 4, rue des Châtaigniers F-44830 Brains	Tel. +33 2 51 70 54 04 Fax +33 2 51 70 54 05
	Centre Auvergne	SEW-USOCOME 27, avenue du Colombier F-19150 Laguenne	Tel. +33 5 55 20 12 10 Fax +33 5 55 20 12 11
	Centre Pays de Loire	SEW-USOCOME 9, rue des Erables F-37540 Saint Cyr sur Loire	Tel. +33 2 47 41 33 23 Fax +33 2 47 41 34 03
	Champagne	SEW-USOCOME Impasse des Ouises F-10120 Saint André les Vergers	Tel. +33 3 25 79 63 24 Fax +33 3 25 79 63 25
	Lyon Nord-Est	SEW-USOCOME Parc d'Affaires Roosevelt Rue Jacques Tati F-69120 Vaulx en Velin	Tel. +33 4 72 15 37 03 Fax +33 4 72 15 37 15
	Lyon Ouest	SEW-USOCOME Parc d'Affaires Roosevelt Rue Jacques Tati F-69120 Vaulx en Velin	Tel. +33 4 72 15 37 04 Fax +33 4 72 15 37 15
	Lyon Sud-Est	SEW-USOCOME Montée de la Garenne F-26750 Génissieux	Tel. +33 4 75 05 65 95 Fax +33 4 75 05 65 96
	Nord	SEW-USOCOME 30, rue Léon Garet F-62520 Le Touquet	Tel. +33 3 21 90 21 40 Fax +33 3 21 90 21 44
	Normandie	SEW-USOCOME 5 rue de la Limare F-14250 Brouay	Tel. +33 2 31 37 92 86 Fax +33 2 31 74 68 15
	Paris Est	SEW-USOCOME 45, rue des Cinelles F-77700 Bailly Romainvilliers	Tel. +33 1 64 17 02 47 Fax +33 1 64 17 66 49
	Paris Ouest	SEW-USOCOME 42 avenue Jean Jaurès F-78580 Maule	Tel. +33 1 30 90 89 86 Fax +33 1 30 90 93 15
	Paris Picardie	SEW-USOCOME 25 bis, rue Kléber F-92300 Levallois Perret	Tel. +33 1 41 05 92 74 Fax +33 1 41 05 92 75
	Paris Sud	SEW-USOCOME 6. chemin des Bergers Lieu-dit Marchais F-91410 Roinville sous Dourdan	Tel. +33 1 60 81 10 56 Fax +33 1 60 81 10 57



France			
	Provence	SEW-USOCOME Résidence Les Hespérides Bât. B2 67, boulevard des Alpes F-13012 Marseille	Tel. +33 4 91 18 00 11 Fax +33 4 91 18 00 12
	Pyrénées	SEW-USOCOME 179, route de Grazac F-31190 Caujac	Tel. +33 5 61 08 15 85 Fax +33 5 61 08 16 44
	Sud-Atlantique	SEW-USOCOME 12, rue des Pinsons F-44120 Vertou	Tel. +33 2 40 80 32 23 Fax +33 2 40 80 32 13

Gabon			
Sales	**Libreville**	Electro-Services B.P. 1889 Libreville	Tel. +241 7340-11 Fax +241 7340-12

Great Britain			
Assembly **Sales** **Service**	**Normanton**	SEW-EURODRIVE Ltd. Beckbridge Industrial Estate P.O. Box No.1 GB-Normanton, West- Yorkshire WF6 1QR	Tel. +44 1924 893-855 Fax +44 1924 893-702 http://www.sew-eurodrive.co.uk info@sew-eurodrive.co.uk
Technical Offices	**London**	SEW-EURODRIVE Ltd. 764 Finchely Road, Temple Fortune GB-London N.W.11 7TH	Tel. +44 20 8458-8949 Fax +44 20 8458-7417
	Midlands	SEW-EURODRIVE Ltd. 5 Sugar Brook court, Aston Road, Bromsgrove, Worcs B60 3EX	Tel. +44 1527 877-319 Fax +44 1527 575-245
	Scotland	SEW-EURODRIVE Ltd. Scottish Office No 37 Enterprise House Springkerse Business Park GB-Stirling FK7 7UF Scotland	Tel. +44 17 8647-8730 Fax +44 17 8645-0223
	Northern Ireland	Heyn Engineering (NI) Ltd. 1 Corry Place, Belfast, BT3 9AH	Tel. +44 02890350022 Fax +44 02890350012 info@heyn.co.uk http://www.heyn.co.uk

Greece			
Sales **Service**	**Athen**	Christ. Boznos & Son S.A. 12, Mavromichali Street P.O. Box 80136, GR-18545 Piraeus	Tel. +30 2 1042 251-34 Fax +30 2 1042 251-59 http://www.boznos.gr info@boznos.gr
Technical Office	**Thessaloniki**	Christ. Boznos & Son S.A. Maiandrou 21 562 24 Evosmos, Thessaloniki	Tel. +30 2 310 7054-00 Fax +30 2 310 7055-15 info@boznos.gr

Hong Kong			
Assembly **Sales** **Service**	**Hong Kong**	SEW-EURODRIVE LTD. Unit No. 801-806, 8th Floor Hong Leong Industrial Complex No. 4, Wang Kwong Road Kowloon, Hong Kong	Tel. +852 36902200 Fax +852 36902211 contact@sew-eurodrive.hk

Hungary			
Sales **Service**	**Budapest**	SEW-EURODRIVE Kft. H-1037 Budapest Kunigunda u. 18	Tel. +36 1 437 06-58 Fax +36 1 437 06-50 office@sew-eurodrive.hu

Iceland			
Sales	**Reykjavik**	Vélaverk ehf. Bolholti 8, 3h. IS - 105 Reykjavik	Tel. +354 568 3536 Fax +354 568 3537 velaverk@velaverk.is

India			
Assembly **Sales** **Service**	**Vadodara**	SEW-EURODRIVE India Private Limited Plot No. 4, GIDC POR Ramangamdi • Vadodara - 391 243 Gujarat	Tel. +91 265 2831086 Fax +91 265 2831087 http://www.seweurodriveindia.com sales@seweurodriveindia.com subodh.ladwa@seweurodriveindia.com
Technical Offices	**Bangalore**	SEW-EURODRIVE India Private Limited 308, Prestige Centre Point 7, Edward Road Bangalore - 560052 - Karnataka	Tel. +91 80 22266565 Fax +91 80 22266569 salesbang@seweurodriveindia.com ganesh@seweurodriveindia.com
	Kolkata	SEW EURODRIVE India Private Limited 2nd floor, Room No. 35 Chowringhee Court 55, Chowringhee Road Kolkata - 700 071 - West Bengal	Tel. +91 33 22827457 Fax +91 33 22894204 saleskal@seweurodriveindia.com a.j.biswas@seweurodriveindia.com
	Chandigarh	SEW EURODRIVE India Private Limited Sujit Kumar Mishra H.No.5464/3 Modern Housing Complex Manimajra Chandigarh -160101	Tel. +91 9878469579 Fax +91 1722738664 saleschand@seweurodriveindia.com
	Chennai	SEW-EURODRIVE India Private Limited 2nd Floor, Josmans Complex, No. 5, McNichols Road, Chetpet Chennai - 600031 - Tamil Nadu	Tel. +91 44 42849813 Fax +91 44 42849816 saleschen@seweurodriveindia.com c.v.shivkumar@seweurodriveindia.com
	Coimbatore	SEW-EURODRIVE India Private Limited Office No 60 Arpee Centre (Opp Annapoorna Hotel) 420 N, NSR Road, Saibaba Colony Coimbatore 641 0111 - Tamil Nadu	Tel. +91 422 2455420 Fax +91 422 2443988 salescmb@seweurodriveindia.com p.selvakumar@seweurodriveindia.com
	Madgaon	SEW-EURODRIVE India Private Limited Flat No.-G1, Shivas-Laxmi Prasad Co-Operative Housing Society, Padmanarayan Estate, Near Jivottaam Math, Gagole Madgao, Goa - 403 602	samrat.chakravorty@seweurodriveindia.com
	Hyderabad	SEW-EURODRIVE India Private Limited 408, 4th Floor, Meridian Place Green Park Road Amerpeet Hyderabad - 500016 - Andhra Pradesh	Tel. +91 40 23414698 Fax +91 40 23413884 saleshyd@seweurodriveindia.com ma.choudary@seweurodriveindia.com
	Jaipur	SEW-EURODRIVE India Private Limited 55/102, Rajat Path Mansarovar Jaipur 302020 - Rajasthan	Tel. +91 9784742348 amit.nigam@seweurodriveindia.com



India			
	Jamshedpur	SEW-EURODRIVE India Private Limited Flat No.: B/2, B.S. Apartment Road No.: 4, Contractor's area, Bistupur Jamshedpur 831 001 - Chhattisgarh	Tel. +91 9934123671 siddaratha.mishra@seweurodriveindia.com
	Lucknow	SEW-EURODRIVE India Private Limited 69, Shiv Vihar Colony Vikas Nagar-5 Lucknow 226022 - Uttar Pradesh	Tel. +91 9793627333 amit.nigam@seweurodriveindia.com
	Mumbai	SEW-EURODRIVE India Private Limited 312 A, 3rd Floor, Acme Plaza, J.B. Nagar, Andheri Kurla Road, Andheri (E) Mumbai - 400059 - Maharashtra	Tel. +91 22 28348440 Fax +91 22 28217858 salesmumbai@seweurodriveindia.com p.s.ray@seweurodriveindia.com
	New Delhi	SEW-EURODRIVE India Private Limited 418-419, Suneja Tower-1 District Centre, Janak Puri New Delhi 110 058	Tel. +91 11 25544111 Fax +91 11 25544113 salesdelhi@seweurodriveindia.com vikram.juneja@seweurodriveindia.com
	Pune	SEW-EURODRIVE India Private Limited Office No. 2 & 7, First Floor, Triveni Apartment Model Colony, Gokhale Road Pune 411016 - Maharashtra	Tel. +91 20 25671751 Fax +91 20 25661668 salespune@seweurodriveindia.com praveen.hosur@seweurodriveindia.com
	Raipur	SEW-EURODRIVE India Private Limited A-42 Fourth Floor Ashoka Millenium Complex Ring Road-1 Raipur 492 001 - Chhattisgarh	Tel. +91 9893290624 sutanu.sarkar@seweurodriveindia.com

Indonesia			
Technical Office	**Jakarta**	SEW-EURODRIVE Pte Ltd. Jakarta Liaison Office, Menara Graha Kencana Jl. Perjuangan No. 88, LT 3 B, Kebun Jeruk, Jakarta 11530, Indonesia	Tel. +62 21 5359066 Fax +62 21 5363686 Service Hotline: +65 61000 739 sew@cbn.net.id

Ireland			
Sales **Service**	**Dublin**	Alperton Engineering Ltd. 48 Moyle Road Dublin Industrial Estate Glasnevin, Dublin 11	Tel. +353 1 830-6277 Fax +353 1 830-6458 info@alperton.ie http://www.alperton.ie

Israel			
Sales	**Tel-Aviv**	Liraz Handasa Ltd. Ahofer Str 34B / 228 58858 Holon	Tel. +972 3 5599511 Fax +972 3 5599512 http://www.liraz-handasa.co.il office@liraz-handasa.co.il

Italy			
Assembly **Sales** **Service**	**Milano**	SEW-EURODRIVE di R. Blickle & Co.s.a.s. Via Bernini,14 I-20020 Solaro (Milano)	Tel. +39 02 96 9801 Fax +39 02 96 799781 http://www.sew-eurodrive.it sewit@sew-eurodrive.it
Technical Offices	**Bologna**	SEW-EURODRIVE di R. Blickle & Co.s.a.s. Via della Grafica, 47 I-40064 Ozzano dell'Emilia (Bo)	Tel. +39 051 65-23-801 Fax +39 051 796-595
	Caserta	SEW-EURODRIVE di R. Blickle & Co.s.a.s. Viale Carlo III Km. 23,300 I-81020 S. Nicola la Strada (Caserta)	Tel. +39 0823 219011 Fax +39 0823 421414

Italy			
	Firenze	RIMA Via Einstein, 14 I-50013 Campi Bisenzio (Firenze)	Tel. +39 055 898 58-21 Fax +39 055 898 58-30
	Pescara	SEW-EURODRIVE di R. Blickle & Co.s.a.s. Viale Europa,132 I-65010 Villa Raspa di Spoltore (PE)	Tel. +39 085 41-59-427 Fax +39 085 41-59-643
	Torino	SEW-EURODRIVE di R. Blickle & Co.s.a.s. Filiale Torino c.so Unione Sovietica 612/15 - int. C I-10135 Torino	Tel. +39 011 3473780 Fax +39 011 3473783
	Verona	SEW-EURODRIVE di R. Blickle & Co.s.a.s. Via P. Sgulmero, 27/A I-37132 Verona	Tel. +39 045 89-239-11 Fax +39 045 97-6079

Ivory Coast			
Sales	**Abidjan**	SICA Ste industrielle et commerciale pour l'Afrique 165, Bld de Marseille B.P. 2323, Abidjan 08	Tel. +225 2579-44 Fax +225 2584-36

Japan			
Assembly **Sales** **Service**	**Iwata**	SEW-EURODRIVE JAPAN CO., LTD 250-1, Shimoman-no, Iwata Shizuoka 438-0818	Tel. +81 538 373811 Fax +81 538 373814 http://www.sew-eurodrive.co.jp sewjapan@sew-eurodrive.co.jp
Technical Offices	**Fukuoka**	SEW-EURODRIVE JAPAN CO., LTD. C-go, 5th-floor, Yakuin-Hiruzu-Bldg. 1-5-11, Yakuin, Chuo-ku Fukuoka, 810-0022	Tel. +81 92 713-6955 Fax +81 92 713-6860 sewkyushu@jasmine.ocn.ne.jp
	Osaka	SEW-EURODRIVE JAPAN CO., LTD. B-Space EIRAI Bldg., 3rd Floor 1-6-9 Kyoumachibori, Nishi-ku, Osaka, 550-0003	Tel. +81 6 6444--8330 Fax +81 6 6444--8338 sewosaka@crocus.ocn.ne.jp
	Tokyo	SEW-EURODRIVE JAPAN CO., LTD. Izumi-Bldg. 5 F 3-2-15 Misaki-cho Chiyoda-ku, Tokyo 101-0061	Tel. +81 3 3239-0469 Fax +81 3 3239-0943 sewtokyo@basil.ocn.ne.jp

Korea			
Assembly **Sales** **Service**	**Ansan-City**	SEW-EURODRIVE KOREA CO., LTD. B 601-4, Banweol Industrial Estate 1048-4, Shingil-Dong Ansan 425-120	Tel. +82 31 492-8051 Fax +82 31 492-8056 http://www.sew-korea.co.kr master@sew-korea.co.kr
	Busan	SEW-EURODRIVE KOREA Co., Ltd. No. 1720 - 11, Songjeong - dong Gangseo-ku Busan 618-270	Tel. +82 51 832-0204 Fax +82 51 832-0230 master@sew-korea.co.kr
Technical Offices	**Daegu**	SEW-EURODRIVE KOREA Co., Ltd. No.1108 Sungan officetel 87-36, Duryu 2-dong, Dalseo-ku Daegu 704-712	Tel. +82 53 650-7111 Fax +82 53 650-7112
	DaeJeon	SEW-EURODRIVE KOREA Co., Ltd. No. 1502, Hongin officetel 536-9, Bongmyung-dong, Yusung-ku Daejeon 305-301	Tel. +82 42 828-6461 Fax +82 42 828-6463



Korea			
	Kwangju	SEW-EURODRIVE KOREA Co., Ltd. 4fl., Dae-Myeong B/D 96-16 Unam-dong, Buk-ku Kwangju 500-170	Tel. +82 62 511-9172 Fax +82 62 511-9174
	Seoul	SEW-EURODRIVE KOREA Co., Ltd. No.504 Sunkyung officetel 106-4 Kuro 6-dong, Kuro-ku Seoul 152-054	Tel. +82 2 862-8051 Fax +82 2 862-8199

Latvia			
Sales	**Riga**	SIA Alas-Kuul Katlakalna 11C LV-1073 Riga	Tel. +371 7139253 Fax +371 7139386 http://www.alas-kuul.com info@alas-kuul.com

Lebanon			
Sales	**Beirut**	Gabriel Acar & Fils sarl B. P. 80484 Bourj Hammoud, Beirut	Tel. +961 1 4947-86 +961 1 4982-72 +961 3 2745-39 Fax +961 1 4949-71 gacar@beirut.com

Lithuania			
Sales	**Alytus**	UAB Irseva Naujoji 19 LT-62175 Alytus	Tel. +370 315 79204 Fax +370 315 56175 info@irseva.lt http://www.sew-eurodrive.lt

Luxembourg			
Assembly **Sales** **Service**	**Brüssel**	CARON-VECTOR S.A. Avenue Eiffel 5 B-1300 Wavre	Tel. +32 10 231-311 Fax +32 10 231-336 http://www.sew-eurodrive.lu info@caron-vector.be

Malaysia			
Assembly **Sales** **Service**	**Johore**	SEW-EURODRIVE SDN BHD No. 95, Jalan Seroja 39, Taman Johor Jaya 81000 Johor Bahru, Johor West Malaysia	Tel. +60 7 3549409 Fax +60 7 3541404 sales@sew-eurodrive.com.my
Technical Offices	**Kota Kinabalu**	SEW-EURODRIVE Sdn Bhd (Kota Kinabalu Branch) Lot No. 2,1st Floor, Inanam Baru Phase III, Miles 5.1 /2, Jalan Tuaran, Inanam 89350 Kota Kinabalu Sabah, Malaysia	Tel. +60 88 424792 Fax +60 88 424807
	Kuala Lumpur	SEW-EURODRIVE Sdn. Bhd. No. 2, Jalan Anggerik Mokara 31/46 Kota Kemuning Seksyen 31 40460 Shah Alam Selangor Darul Ehsan	Tel. +60 3 5229633 Fax +60 3 5229622 sewpjy@po.jaring.my
	Kuching	SEW-EURODRIVE Sdn. Bhd. Lot 268, Section 9 KTLD Lorong 9, Jalan Satok 93400 Kuching, Sarawak East Malaysia	Tel. +60 82 232380 Fax +60 82 242380

Malaysia			
	Penang	SEW-EURODRIVE Sdn. Bhd. No. 38, Jalan Bawal Kimsar Garden 13700 Prai, Penang	Tel. +60 4 3999349 Fax +60 4 3999348 seweurodrive@po.jaring.my

Mauritania			
Sales	**Zouérate**	AFRICOM - SARL En Face Marché Dumez P.B. 88 Zouérate	Tel. +222 54 40134 Fax +222 54 40538 cybertiris@mauritel.mr

Mexico			
Assembly **Sales** **Service**	**Quéretaro**	SEW-EURODRIVE MEXICO SA DE CV SEM-981118-M93 Tequisquiapan No. 102 Parque Industrial Quéretaro C.P. 76220 Quéretaro, México	Tel. +52 442 1030-300 Fax +52 442 1030-301 http://www.sew-eurodrive.com.mx scmexico@seweurodrive.com.mx

Morocco			
Sales	**Casablanca**	Afit 5, rue Emir Abdelkader MA 20300 Casablanca	Tel. +212 22618372 Fax +212 22618351 ali.alami@premium.net.ma

Netherlands			
Assembly **Sales** **Service**	**Rotterdam**	VECTOR Aandrijftechniek B.V. Industrieweg 175 NL-3044 AS Rotterdam Postbus 10085 NL-3004 AB Rotterdam	Tel. +31 10 4463-700 Fax +31 10 4155-552 http://www.vector.nu info@vector.nu
		VECTOR Aandrijftechniek B.V. Gelderhorst 10 NL-7207 BH Zutphen Industrieterrein de Revelhorst	Tel. +31 575 57 44 94 Fax +31 575 57 24 43 oost@vector.nu
		VECTOR Aandrijftechniek B.V. Mercuriusweg 8A NL-5971 LX Grubbenvorst	Tel. +31 77 36 61 873 Fax +31 77 36 62 109 zuid@vector.nu
		VECTOR Aandrijftechniek B.V. Weberstraat 74 NL-1446 VV Purmerend Industrieterrein "De Baanstee"	Tel. +31 299 66 63 38 Fax +31 299 47 60 55 noordwest@vector.nu

New Zealand			
Assembly **Sales** **Service**	**Auckland**	SEW-EURODRIVE NEW ZEALAND LTD. P.O. Box 58-428 82 Greenmount drive East Tamaki Auckland	Tel. +64 9 2745627 Fax +64 9 2740165 http://www.sew-eurodrive.co.nz sales@sew-eurodrive.co.nz
	Christchurch	SEW-EURODRIVE NEW ZEALAND LTD. 10 Settlers Crescent, Ferrymead Christchurch	Tel. +64 3 384-6251 Fax +64 3 384-6455 sales@sew-eurodrive.co.nz
Technical Office	**Palmerston North**	SEW-EURODRIVE NEW ZEALAND LTD. C/-Grant Shearman, RD 5, Aronui Road Palmerston North	Tel. +64 6 355-2165 Fax +64 6 355-2316 sales@sew-eurodrive.co.nz



Norway			
Assembly **Sales** **Service**	**Moss**	SEW-EURODRIVE A/S Solgaard skog 71 N-1599 Moss	Tel. +47 69 24 10 20 Fax +47 69 24 10 40 http://www.sew-eurodrive.no sew@sew-eurodrive.no

Peru			
Assembly **Sales** **Service**	**Lima**	SEW DEL PERU MOTORES REDUCTORES S.A.C. Los Calderos, 120-124 Urbanizacion Industrial Vulcano, ATE, Lima	Tel. +51 1 3495280 Fax +51 1 3493002 http://www.sew-eurodrive.com.pe sewperu@sew-eurodrive.com.pe

Philippines			
Technical Office	**Manila**	SEW-EURODRIVE Pte Ltd Manila Liaison Office Suite 110, Ground Floor Comfoods Building Senator Gil Puyat Avenue 1200 Makati City	Tel. +63 2 894275254 Fax +63 2 8942744 sewmla@i-next.net

Poland			
Assembly **Sales** **Service**	**Lodz**	SEW-EURODRIVE Polska Sp.z.o.o. ul. Techniczna 5 PL-92-518 Łódź	Tel. +48 42 67710-90 Fax +48 42 67710-99 http://www.sew-eurodrive.pl sew@sew-eurodrive.pl
		24 Hour Service	Tel. +48 602 739 739 (+48 602 SEW SEW) sewis@sew-eurodrive.pl
Technical Office	**Tychy**	SEW-EURODRIVE Polska Sp.z.o.o. ul. Nad Jeziorem 87 PL-43-100 Tychy	Tel. +48 32 2175026 + 32 2175027 Fax +48 32 2277910
	Bydgoszcz	SEW-EURODRIVE Polska Sp.z.o.o. ul. Fordońska 246 PL-85-959 Bydgoszcz	Tel. +48 52 3606590 Fax +48 52 3606591
	Poznan	SEW-EURODRIVE Polska Sp.z.o.o. ul. Romana Maya 1 PL-61-371 Poznań	Tel. +48 61 8741640 Fax +48 61 8741641
	Szczecinek	SEW-EURODRIVE Polska Sp.z.o.o. ul. Mickiewicza 2 pok. 36 PL-78-400 Szczecinek	Tel. +48 94 3728820 Fax +48 94 3728821

Portugal			
Assembly **Sales** **Service**	**Coimbra**	SEW-EURODRIVE, LDA. Apartado 15 P-3050-901 Mealhada	Tel. +351 231 20 9670 Fax +351 231 20 3685 http://www.sew-eurodrive.pt infosew@sew-eurodrive.pt
Technical Offices	**Lisboa**	SEW-EURODRIVE, LDA. Núcleo Empresarial I de São Julião do Tojal Rua de Entremuros, 54 Fracção I P-2660-533 São Julião do Tojal	Tel. +351 21 958-0198 Fax +351 21 958-0245 esc.lisboa@sew-eurodrive.pt
	Porto	SEW-EURODRIVE, LDA. Av. 25 de Abril, 68 4440-502 Valongo	Tel. +351 229 350 383 Fax +351 229 350 384 MobilTel. +351 9 32559110 esc.porto@sew-eurodrive.pt

Romania			
Sales **Service**	**Bucureşti**	Sialco Trading SRL str. Madrid nr.4 011785 Bucuresti	Tel. +40 21 230-1328 Fax +40 21 230-7170 sialco@sialco.ro

Russia			
Assembly **Sales** **Service**	**St. Petersburg**	ZAO SEW-EURODRIVE P.O. Box 36 195220 St. Petersburg Russia	Tel. +7 812 3332522 +7 812 5357142 Fax +7 812 3332523 http://www.sew-eurodrive.ru sew@sew-eurodrive.ru
Technical Office	**Yekaterinburg**	ZAO SEW-EURODRIVE Kominterna Str. 16 Office 614 RUS-620078 Ekaterinburg	Tel. +7 343 310 3977 Fax +7 343 310 3978 eso@sew-eurodrive.ru
	Irkutsk	ZAO SEW-EURODRIVE 5-Armii Str., 31 RUS-664011 Irkutsk	Tel. +7 3952 25 5880 Fax +7 3952 25 5881 iso@sew-eurodrive.ru
	Moskau	ZAO SEW-EURODRIVE RUS-107023 Moskau	Tel. +7 495 9337090 Fax +7 495 9337094 mso@sew-eurodrive.ru
	Novosibirsk	ZAO SEW-EURODRIVE pr. K Marksa, d.30 RUS-630087 Novosibirsk	Tel. +7 383 3350200 Fax +7 383 3462544 nso@sew-eurodrive.ru
	Togliatti	ZAO SEW-EURODRIVE Sportivnaya Str. 4B, office 2 Samarskaya obl. RUS-445057 Togliatti	Tel. +7 8482 710529 Fax +7 8482 810590

Senegal			
Sales	**Dakar**	SENEMECA Mécanique Générale Km 8, Route de Rufisque B.P. 3251, Dakar	Tel. +221 338 494 770 Fax +221 338 494 771 senemeca@sentoo.sn

Serbia			
Sales	**Beograd**	DIPAR d.o.o. Ustanicka 128a PC Košum, IV floor SCG-11000 Beograd	Tel. +381 11 347 3244 / +381 11 288 0393 Fax +381 11 347 1337 office@dipar.co.yu

Singapore			
Assembly **Sales** **Service**	**Singapore**	SEW-EURODRIVE PTE. LTD. No 9, Tuas Drive 2 Jurong Industrial Estate Singapore 638644	Tel. +65 68621701 Fax +65 68612827 http://www.sew-eurodrive.com.sg sewsingapore@sew-eurodrive.com

Slovakia			
Sales	**Bratislava**	SEW-Eurodrive SK s.r.o. Rybničná 40 SK-831 06 Bratislava	Tel. +421 2 33595 202 Fax +421 2 33595 200 sew@sew-eurodrive.sk http://www.sew-eurodrive.sk
	Žilina	SEW-Eurodrive SK s.r.o. Industry Park - PChZ ulica M.R.Štefánika 71 SK-010 01 Žilina	Tel. +421 41 700 2513 Fax +421 41 700 2514 sew@sew-eurodrive.sk
	Banská Bystrica	SEW-Eurodrive SK s.r.o. Rudlovská cesta 85 SK-974 11 Banská Bystrica	Tel. +421 48 414 6564 Fax +421 48 414 6566 sew@sew-eurodrive.sk



Slovakia			
	Košice	SEW-Eurodrive SK s.r.o. Slovenská ulica 26 SK-040 01 Košice	Tel. +421 55 671 2245 Fax +421 55 671 2254 sew@sew-eurodrive.sk

Slovenia			
Sales **Service**	**Celje**	Pakman - Pogonska Tehnika d.o.o. UI. XIV. divizije 14 SLO - 3000 Celje	Tel. +386 3 490 83-20 Fax +386 3 490 83-21 pakman@siol.net

South Africa			
Assembly **Sales** **Service**	**Johannesburg**	SEW-EURODRIVE (PROPRIETARY) LIMITED Eurodrive House Cnr. Adcock Ingram and Aerodrome Roads Aeroton Ext. 2 Johannesburg 2013 P.O.Box 90004 Bertsham 2013	Tel. +27 11 248-7000 Fax +27 11 494-3104 http://www.sew.co.za info@sew.co.za
	Cape Town	SEW-EURODRIVE (PROPRIETARY) LIMITED Rainbow Park Cnr. Racecourse & Omuramba Road Montague Gardens Cape Town P.O.Box 36556 Chempet 7442 Cape Town	Tel. +27 21 552-9820 Fax +27 21 552-9830 Telex 576 062 cfoster@sew.co.za
	Durban	SEW-EURODRIVE (PROPRIETARY) LIMITED 2 Monaceo Place Pinetown Durban P.O. Box 10433, Ashwood 3605	Tel. +27 31 700-3451 Fax +27 31 700-3847 hengela@sew.co.za
	Nelspruit	SEW-EURODRIVE (PTY) LTD. 7 Christie Crescent Vintonia P.O.Box 1942 Nelspruit 1200	Tel. +27 13 752-8007 Fax +27 13 752-8008 robermeyer@sew.co.za
Technical Offices	**Port Elizabeth**	SEW-EURODRIVE PTY LTD. 8 Ruan Access Park Old Cape Road Greenbushes 6000 Port Elizabeth	Tel. +27 41 3722246 Fax +27 41 3722247 dtait@sew.co.za
	Richards Bay	SEW-EURODRIVE PTY LTD. 103 Bulion Blvd Richards Bay P.O. Box 458 Richards Bay, 3900	Tel. +27 35 797-3805 Fax +27 35 797-3819 jswart@sew.co.za

Spain			
Assembly **Sales** **Service**	**Bilbao**	SEW-EURODRIVE ESPAÑA, S.L. Parque Tecnológico, Edificio, 302 E-48170 Zamudio (Vizcaya)	Tel. +34 94 43184-70 Fax +34 94 43184-71 http://www.sew-eurodrive.es sew.spain@sew-eurodrive.es
Technical Offices	**Barcelona**	Delegación Barcelona Avenida Francesc Maciá 40-44 Oficina 4.2 E-08208 Sabadell (Barcelona)	Tel. +34 93 7162200 Fax +34 93 7233007
	Lugo	Delegación Noroeste Apartado, 1003 E-27080 Lugo	Tel. +34 639 403348 Fax +34 982 202934

Spain			
	Madrid	Delegación Madrid Gran Via. 48-2° A-D E-28220 Majadahonda (Madrid)	Tel. +34 91 6342250 Fax +34 91 6340899
	Seville	MEB Pólogono Calonge, C/A Nave 2 - C E-41.077 Sevilla	Tel. +34 954 356 361 Fax +34 954 356 274 mebsa.sevilla@mebsa.com
	Valencia	MEB Músico Andreu i Piqueres, 4 E-46.900 Torrente (Valencia)	Tel. +34 961 565 493 Fax +34 961 566 688 mebsa.valencia@mebsa.com

Sri Lanka			
Sales	**Colombo**	SM International (Pte) Ltd 254, Galle Raod Colombo 4, Sri Lanka	Tel. +94 1 2584887 Fax +94 1 2582981

Sweden			
Assembly **Sales** **Service**	**Jönköping**	SEW-EURODRIVE AB Gnejsvägen 6-8 S-55303 Jönköping Box 3100 S-55003 Jönköping	Tel. +46 36 3442 00 Fax +46 36 3442 80 http://www.sew-eurodrive.se info@sew-eurodrive.se
Technical Offices	**Göteborg**	SEW-EURODRIVE AB Gustaf Werners gata 8 S-42132 Västra Frölunda	Tel. +46 31 70968 80 Fax +46 31 70968 93
	Malmö	SEW-EURODRIVE AB Borrgatan 5 S-21124 Malmö	Tel. +46 40 68064 80 Fax +46 40 68064 93
	Stockholm	SEW-EURODRIVE AB Björkholmsvägen 10 S-14146 Huddinge	Tel. +46 8 44986 80 Fax +46 8 44986 93
	Skellefteå	SEW-EURODRIVE AB Trädgårdsgatan 8 S-93131 Skellefteå	Tel. +46 910 7153 80 Fax +46 910 7153 93

Switzerland			
Assembly **Sales** **Service**	**Basel**	Alfred Imhof A.G. Jurastrasse 10 CH-4142 Münchenstein bei Basel	Tel. +41 61 417 1717 Fax +41 61 417 1700 http://www.imhof-sew.ch info@imhof-sew.ch
Technical Offices	**Rhaetian Switzerland**	André Gerber Es Perreyres CH-1436 Chamblon	Tel. +41 24 445 3850 Fax +41 24 445 4887
	Bern / Solothurn	Rudolf Bühler Muntersweg 5 CH-2540 Grenchen	Tel. +41 32 652 2339 Fax +41 32 652 2331
	Central Switzerland and Ticino	Beat Lütolf Baumacher 11 CH-6244 Nebikon	Tel. +41 62 756 4780 Fax +41 62 756 4786
	Zürich	René Rothenbühler Nörgelbach 7 CH-8493 Saland	Tel. +41 52 386 3150 Fax +41 52 386 3213
	Bodensee and East Switzerland	Markus Künzle Eichweg 4 CH-9403 Goldach	Tel. +41 71 845 2808 Fax +41 71 845 2809



Taiwan (R.O.C.)			
Sales	**Nan Tou**	Ting Shou Trading Co., Ltd. No. 55 Kung Yeh N. Road Industrial District Nan Tou 540	Tel. +886 49 255353 Fax +886 49 257878
	Taipei	Ting Shou Trading Co., Ltd. 6F-3, No. 267, Sec. 2 Tung Hwa South Road, Taipei	Tel. +886 2 27383535 Fax +886 2 27368268 Telex 27 245 sewtwn@ms63.hinet.net

Thailand			
Assembly **Sales** **Service**	**Chonburi**	SEW-EURODRIVE (Thailand) Ltd. 700/456, Moo.7, Donhuaroh Muang Chonburi 20000	Tel. +66 38 454281 Fax +66 38 454288 sewthailand@sew-eurodrive.com
Technical Offices	**Bangkok**	SEW-EURODRIVE (Thailand) Ltd. 6th floor, TPS Building 1023, Phattanakarn Road Suanluang Bangkok,10250	Tel. +66 2 7178149 Fax +66 2 7178152 sewthailand@sew-eurodrive.com
	Hadyai	SEW-EURODRIVE (Thailand) Ltd. Hadyai Country Home Condominium 59/101 Soi.17/1 Rachas-Utid Road. Hadyai, Songkhla 90110	Tel. +66 74 359441 Fax +66 74 359442 sewthailand@sew-eurodrive.com
	Khonkaen	SEW-EURODRIVE (Thailand) Ltd. 4th Floor, Kaow-U-HA MOTOR Bldg, 359/2, Mitraphab Road. Muang District Khonkaen 40000	Tel. +66 43 225745 Fax +66 43 324871 sew-thailand@sew-eurodrive.com

Tunisia			
Sales	**Tunis**	T. M.S. Technic Marketing Service Zone Industrielle Mghira 2 Lot No. 39 2082 Fouchana	Tel. +216 71 4340-64 + 71 4320-29 Fax +216 71 4329-76 tms@tms.com.tn

Turkey			
Assembly **Sales** **Service**	**Istanbul**	SEW-EURODRIVE Hareket Sistemleri San. ve Tic. Ltd. Sti. Bagdat Cad. Koruma Cikmazi No. 3 TR-34846 Maltepe ISTANBUL	Tel. +90 216 4419164, 3838014, 3738015 Fax +90 216 3055867 http://www.sew-eurodrive.com.tr sew@sew-eurodrive.com.tr
Technical Offices	**Adana**	SEW-EURODRIVE Hareket Sistemleri San. ve Tic. Ltd. Sti. Kizilay Caddesi 8 Sokak No 6 Daðtekin Is Merkezi Kat 4 Daire 2 TR-01170 SEYHAN / ADANA	Tel. +90 322 359 94 15 Fax +90 322 359 94 16
	Ankara	SEW-EURODRIVE Hareket Sistemleri San. ve Tic. Ltd. Sti. Özcelik Is Merkezi, 14. Sok, No. 4/42 TR-06370 Ostim/Ankara	Tel. +90 312 3853390 / +90 312 3544715 / +90 312 3546109 Fax +90 312 3853258
	Bursa	SEW-EURODRIVE Hareket Sistemleri San. ve Tic. Ltd. Sti. Besevler Küçük Sanayi Parkoop Parçacilar Sitesi 48. Sokak No. 47 TR Nilüfer/Bursa	Tel. +90 224 443 4556 Fax +90 224 443 4558

Turkey			
	Izmir	SEW-EURODRIVE Hareket Sistemleri San. ve Tic. Ltd. Sti. 1203/11 Sok. No. 4/613 Hasan Atli Is Merkezi TR-35110 Yenisehir-Izmir	Tel. +90 232 4696264 Fax +90 232 4336105

Ukraine			
Sales **Service**	**Dnepropetrovsk**	SEW-EURODRIVE Str. Rabochaja 23-B, Office 409 49008 Dnepropetrovsk	Tel. +380 56 370 3211 Fax +380 56 372 2078 http://www.sew-eurodrive.ua sew@sew-eurodrive.ua
Sales	**Kiev**	SEW-EURODRIVE GmbH S. Oleynika str. 21 02068 Kiev	Tel. +380 44 503 95 77 Fax +380 44 503 95 78 kso@sew-eurodrive.ua
	Donetsk	SEW-EURODRIVE GmbH 25th anniversary of RKKA av. 1-B, of. 805 Donetsk 83000	Tel. +380 62 38 80 545 Fax +380 62 38 80 533 dso@sew-eurodrive.ua

Uruguay			
Sales	**Montevideo**	SEW-EURODRIVE Uruguay, S. A. German Barbato 1526 CP 11200 Montevideo	Tel. +598 2 90181-89 Fax +598 2 90181-88 sewuy@sew-eurodrive.com.uy

SEW-EURODRIVE, INC.
Terms and Conditions of Sale

1 GENERAL
All orders for products and drawings furnished in connection therewith (hereinafter collectively called “products”) manufactured or supplied by SEW--Eurodrive, Inc. (“Eurodrive”), shall be subject to these terms and conditions of sale. No modifications or additions hereto will be binding unless agreed to in writing by an authorized officer of Eurodrive.

2. QUOTATIONS
Price quotations by Eurodrive are subject to change without notice. All products sold are subject to price in effect at time of shipment.

3. TAXES
Prices do not include Sales, Use, Excise, or other taxes payable to any governmental authority in respect of the sale of Eurodrive's products. The purchaser shall pay the amount of any such taxes or shall reimburse Eurodrive for the amount thereof that Eurodrive may be required to pay.

4. PAYMENTS
Unless otherwise provided, terms of payment are 30 days net from date of invoice for purchasers whose credit is approved. Eurodrive reserves the right to charge interest on any balance outstanding at 2% per month (or fraction thereof) or as Eurodrive shall determine, up to the maximum rate allowed by law, from the date payment is due to the date payment is actually received. Pro rata payments shall become due as shipments are made. If shipments are delayed by or at the request of the purchaser, payment shall become due when Eurodrive is prepared to make shipment. If the cost to Eurodrive of products is increased by reason of delays caused by the purchaser, such additional cost incurred by Eurodrive shall be paid by the purchaser. Eurodrive may, if it deems itself insecure by reason of the financial condition of purchaser or otherwise, require full or partial payment in advance and as a condition to the continuance of production or shipment on the terms specified herein.

5. ACCEPTANCE
No order or other offer shall be binding upon Eurodrive until accepted in writing by an authorized officer of Eurodrive.

6. CHANGES
Eurodrive will not accept changes in specification unless such changes are requested in writing and agreed to in writing by an authorized officer of Eurodrive and the purchaser agrees to pay, if necessary, in addition to the original purchase price a sum so set by Eurodrive.

7. CANCELLATION
Any order when placed with and accepted by Eurodrive is not subject to cancellation unless agreed to in writing by an authorized officer of Eurodrive. Cancellations are subject to reasonable charges based upon expenses already incurred and commitments made by Eurodrive.

8. DELIVERY
Any indicated dates of delivery are approximate only, but Eurodrive will attempt to meet them where possible. Eurodrive shall not be liable for delays in manufacturing or delivery or failure to manufacture or deliver due to any event in the nature of force majeure or any cause beyond Eurodrive's reasonable control. Eurodrive will not be bound by any penalty clause contained in any specification or order submitted by the purchaser unless such clause is agreed to in writing by an authorized officer of Eurodrive. Delivery of products shall be made FOB Eurodrive's factory unless otherwise agreed to in writing by authorized officer of Eurodrive.

9. PATENTS
Eurodrive shall indemnify and hold harmless the purchaser against all claims or actions that are instituted against the purchaser on the grounds that the purchaser has infringed the patent rights of others by using, reselling, or promoting the sale or resale of Eurodrive's products, provided that Eurodrive shall not be obligated hereunder if:

a) The purchaser fails to give Eurodrive prompt notice of any such claim or actions, or

b) Such claims or actions against the purchaser are based wholly or in part on the existence or operation of any complete installation or apparatus incorporating Eurodrive's products as components and which is designed or manufactured by the purchaser or its customers.

10.REGULATORY LAWS OR STANDARDS
Eurodrive makes no representation that its products conform to state or local laws, ordinances, regulations, codes or standards except as may be otherwise agreed to in writing by an authorized officer of Eurodrive.

11.LIMITED WARRANTY
Eurodrive warrants all its products against defects in material and workmanship for a period of one (1) year from the date the product is placed in service to a maximum of eighteen (18) months from date of shipment. Parts subject to replacement due to operational wear and tear, viz. Varigear® belts and Varimot® traction elements, are not covered by this Limited Warranty. Notwithstanding the foregoing, any equipment or components of the products not of Eurodrive's own manufacture and/or specified by the purchaser is sold under only such warranty as the maker thereof gives Eurodrive and Eurodrive is able to enforce, but such items are not warranted by Eurodrive in any way. Use of products above rated capacity, misuse, field alterations of products, damage due to lack of maintenance or improper storage, neglect or accident are also excluded from this Limited Warranty.

This Limited Warranty is effective provided:

a) The purchaser notifies Eurodrive in writing of the alleged defect immediately after it becomes known to the purchaser; and

b) no alterations, repairs, or services have been performed by the purchaser or third parties on the products without written approval of an authorized officer of Eurodrive.

Eurodrive's obligation under this Limited Warranty is limited to the repair or replacement FOB Eurodrive's factory or any part or parts found to be defective in material or workmanship.

Eurodrive shall, in no event, be liable to the user/purchaser under this Limited Warranty, or otherwise, for claims, expenditures or losses arising from operational delays or work stoppages or damages to property or people caused by defective products or for consequential or indirect damage of any nature whatsoever.

THIS LIMITED WARRANTY IS IN LIEU OF ALL OTHER EXPRESS OR IMPLIED WARRANTIES INCLUDING ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE.

12.ASSIGNMENT
No contract to purchase goods from Eurodrive may be assigned by the purchaser without prior agreement in writing by an authorized officer of Eurodrive.

13.SECURITY INTEREST
Unless and until the products are fully paid for, Eurodrive reserves a security interest in them to secure the unpaid balance of the price and all other obligations of the purchaser to Eurodrive however arising. The purchaser hereby grants Eurodrive a power of attorney to execute and file on behalf of purchaser all necessary financing statements and other similar documents required to protect the security interest granted herein.

14.DAMAGES; LIMITATION
In the event of breach of this agreement by Eurodrive, the rights of the purchaser are limited to the amount therefore paid to Eurodrive for the goods. THE PURCHASER SHALL HAVE NO RIGHT TO CONSEQUENTIAL OR INDIRECT DAMAGES, WHETHER FOR INJURES TO PERSON, PROPERTY OR OTHERWISE.

15.DEFAULT
If the purchaser defaults in performing any of its obligations to Eurodrive under this agreement, or any other agreements, Eurodrive may, at its option and without incurring any liability thereby, elect to terminate this agreement or to terminate any or all other agreements with the purchaser or to terminate this agreement together with any or all such other agreements. Furthermore, Eurodrive shall have a right to all damages sustained, including loss of profits.

16.INSOLVENCY
If the purchaser shall be insolvent or cease doing business or be the subject of any proceedings under any bankruptcy, insolvency, reorganization or arrangement statute or law, such act shall at the option of Eurodrive, be deemed a default under this agreement, and Eurodrive may elect to cease performing and cancel this agreement with respect to any products not delivered or received prior to the election. All of the foregoing shall be without prejudice to recovery by Eurodrive of damages for work performed and for loss of profits and material and products delivered.

17.MISCELLANEOUS
The provisions of this agreement shall be governed and construed in accordance with the laws of the State of South Carolina. These terms and conditions set forth the entire understanding and agreement of the parties hereto in respect to the subject matter hereof, and all prior undertakings between the parties hereto, together with all representations and obligations of such parties in respect to such subject matter, shall be superseded by and merged into this agreement. No provisions hereof shall be waived, changed, terminated, modified, discharged or rescinded, orally or otherwise, except by a writing signed by the party to be charged by any such waiver, change, termination, modification, discharge, or rescission. No waiver of any breach of any provision of this agreement shall constitute an amendment or modification of this agreement, or any provision thereof. If any provision of this agreement shall be held to be unenforceable or inapplicable in any way or respect, such holding shall not affect the enforceability of any other provision of this agreement under any other circumstances. The provisions of this agreement shall bind and inure to the benefits of the parties hereto and their respective heirs, executors, administrators, successors, and (subject to any restrictions on assignment hereinabove set forth) assigns. In the event unspecified redress or commitments develop not covered above, terms of the Uniform Commercial Code under the laws of South Carolina will be construed as being effective as they may pertain.

How we're driving the world



With a global presence that offers responsive and reliable solutions. Anywhere.

With uncompromising quality that reduces the cost and complexity of daily operations.

With drives and controls that automatically improve your productivity.

With comprehensive knowledge in virtually every branch of industry today.

With industry-leading training and 24-hour technical support, nationwide.





SEW-EURODRIVE
Driving the world



With a worldwide service network that is always close at hand.

With innovative technology that solves problems today.

With online information and software updates, via the Internet, available around the clock.



SEW-Eurodrive ... Wherever you are, we are

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