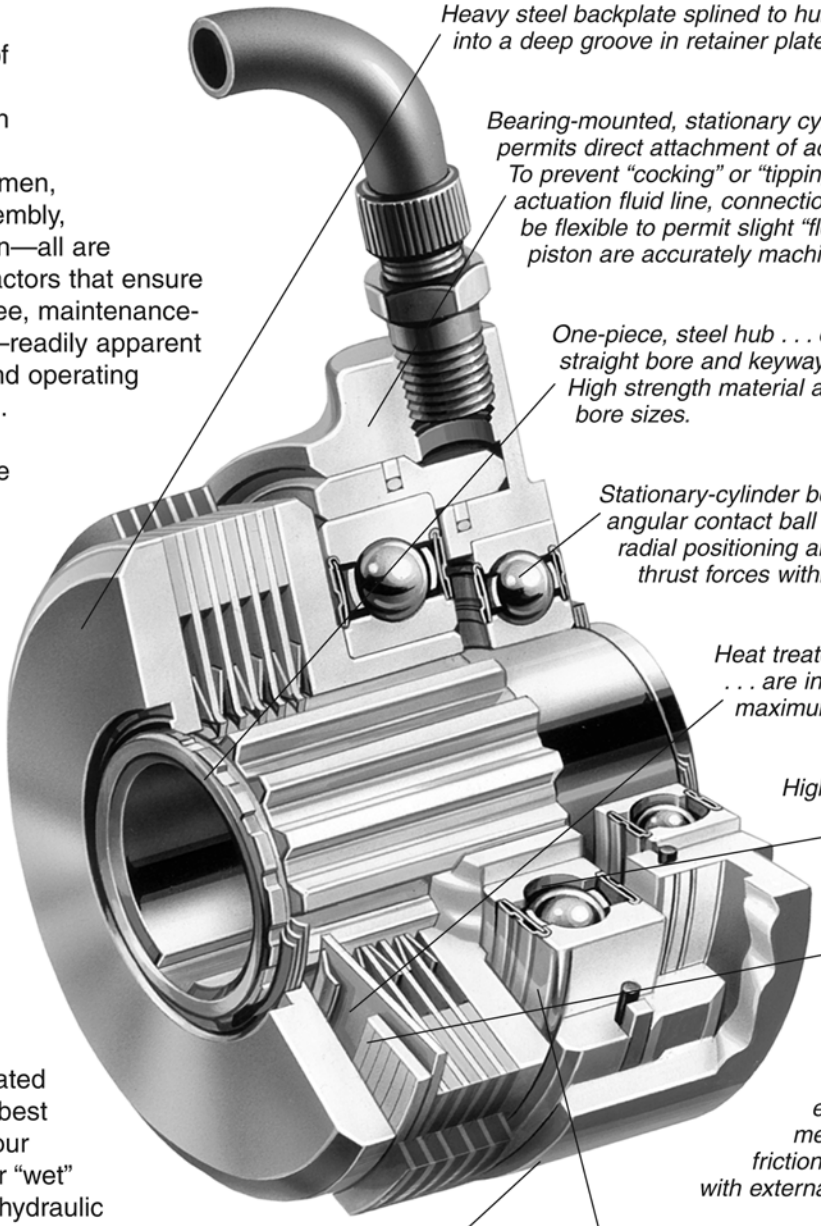
# DISC-O-TORQUE® Hydraulic Clutches

## SECTION G2

Careful selection of highest-quality materials, precision manufacturing by experienced craftsmen, conscientious assembly, and rigid inspection—all are important Value-Factors that ensure long-life, trouble-free, maintenance-free performance—readily apparent upon examining and operating a Model D2 Clutch.

- Maximum torque
- Minimum size
- Absorbs maximum energy
- Self-contained
- Minimum idle resistance
- Smooth, fast response
- Low installation costs
- Predictable life
- Uniform performance

Wood's Fluid-Actuated Clutches are your best choice. Whether your application calls for "wet" or "dry" operation; hydraulic or pneumatic actuation; stationary or rotating cylinders; you can specify it from Wood's usually right from this catalog.



*Heavy steel backplate splined to hub Retaining ring is recessed into a deep groove in retainer plate for positive axial lock.*

*Bearing-mounted, stationary cylinder/piston assembly . . . permits direct attachment of actuating fluid plumbing. To prevent "cocking" or "tipping" loads on clutch bearing actuation fluid line, connection to cylinder body must be flexible to permit slight "float." Cylinder body and piston are accurately machined rugged castings.*

*One-piece, steel hub . . . can be supplied with a straight bore and keyway—or internal spline. High strength material allows for extremely large bore sizes.*

*Stationary-cylinder bearing mounting—an angular contact ball bearing . . . provides precise radial positioning and contains the entire piston thrust forces within the assembly.*

*Heat treated, steel separator plates . . . are internally splined to hub for maximum load distribution.*

*High-quality piston seals for efficient, long-life, responsive service.*

*Friction Discs—Sintered-metal facings on steel core . . . provide optimum performance, long-life, wet or dry. Standard discs have external "lugs" for engagement with driven members. On special order, friction discs are also available with external "gear teeth."*

*Precision roller thrust bearing carries only piston thrust and provides the reaction between the precision disc pack and the pressurized piston cylinder assembly.*

Auxiliary Lube Port

*Positive lubrication is provided by a separate system which provides for a continuous flow of lubricant for bearing cooling, lubricity and separation of actuating fluid and lubricant. If an external lubrication source is available or if actuating fluid is to be used for lubrication, either can be readily accommodated by standard catalog models.*

## Easy Step by Step Selection Method

***Step # 1: Calculate Load Torque.***

$$\text{Load Torque (ft. lbs)} = \frac{\text{HP x 5250}}{\text{RPM}}$$

***Step # 2: Select service factor based on prime mover and driven equipment.***

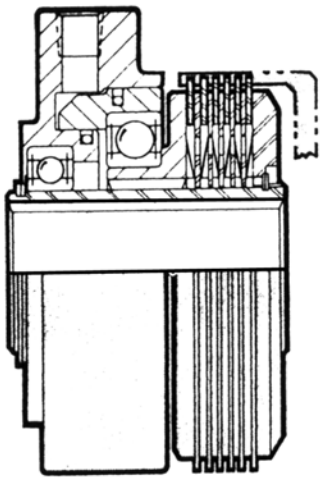
| PRIME MOVER | DRIVEN EQUIPMENT LOAD CLASSIFICATIONS | | | |
|---|---|---|---|---|
| | LIGHT STEADY LOADS<br>Starting torque is equal to or slightly greater than running torque | MODERATE LOADS<br>High starting torque or above average running torque. | MEDIUM LOADS<br>Starting torque is approximately double running torque. | HEAVY-DUTY LOADS<br>High starting torque, shock loading, light torque reversals during drive. |
| |  | | | |
| | Centrifugal pumps, uniformly loaded conveyors, light-duty fans and blowers, liquid mixers and agitators, centrifugal compressors, lobe and vane type blowers, gear pumps, textile machinery, wood-working machinery. | Machine tools, hot oil pumps, heavy-duty centrifugal pumps cooling towers, slurry agitators, boiler feed pumps, hoists, conveyors. | Dredge pumps, dynamometer drives, light-duty hammermills, lineshafts, paper-converting machinery rotary kilns, rotary or screw-type pumps for high viscosity fluids, paper mill cranes. | Mine ventilating fans, reciprocating pumps or compressors, paper making machinery, heavy-duty hammer-mills, ore crushers, pulverizing mills. |
| Steam, gas or air turbine | 1.00 | 1.25 | 1.50 | 2.50 |
| AC electric motor | 1.25 | 1.50 | 1.50 | 2.50 |
| DC electric motor or DOL start AC electric motor, hydraulic motors | 1.25 | 1.50 | 1.75 | 3.00 |
| Gasoline, natural gas, propane or other spark ignition engine | 1.75 | 1.75 | 2.50 | CONSULT ENGINEERING |
| Diesel* | 2.50 | CONSULT ENGINEERING | | |

* Gear tooth friction discs may be required, consult Wood's.

***Step # 3: Calculate Design Torque.***

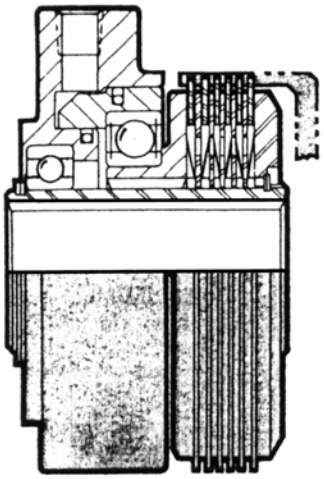
Design Torque = Load Torque x Service Factor

***Step # 4: Determine the most suitable clutch type.***



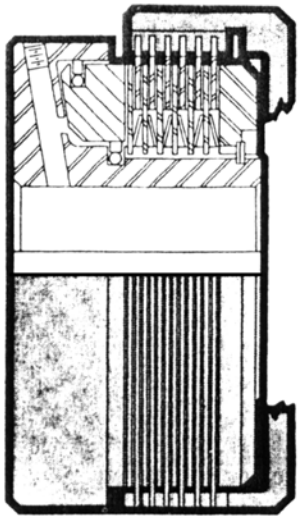
## Type D2

This unit is designed with prelubricated bearings which are sealed. This “dry” assembly requires no further lubrication. This type may be actuated with air or oil from stock.



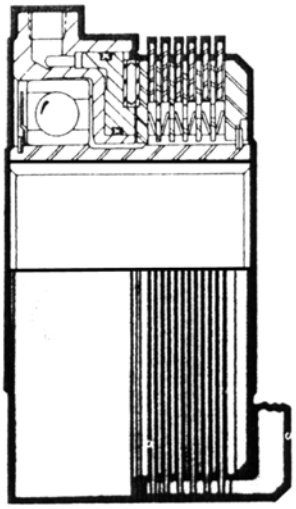
## Type D3

This unit requires external lubrication in order to keep the bearings and friction disc cool. The friction disc requires splash or spray lubrication to comply with catalog ratings. The bearings should be lubed by spray, splash, or direct means.



## Type D4

Actuation oil, on this type, is supplied thru the shaft rather than external porting. This eliminates the need for bearings, and allows the unit to be more compact. The torque capacity of this compact unit is extremely high.



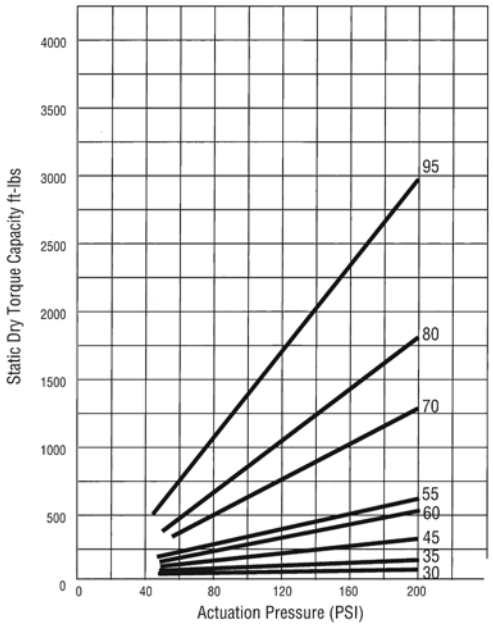
## Type D5

This type has a separate port for direct continuous lubrication of the bearings. External spray or splash lubrication of the friction disc is required. This type is primarily utilized in transmission cases.

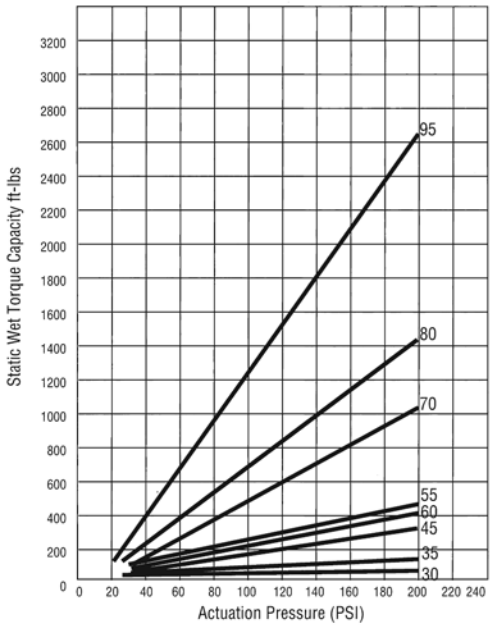
***Step # 5: Using the charts below determine the clutch size.***

Use design torque (step 3) and your available actuating pressure
Design torque and actuating pressure should intersect at or below the correct size.

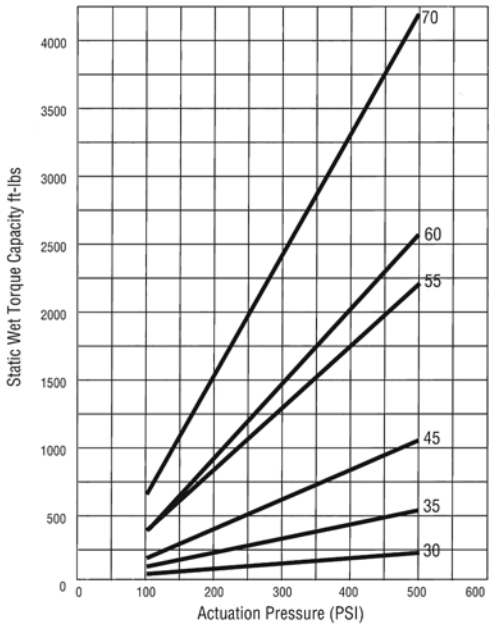
## Type D2



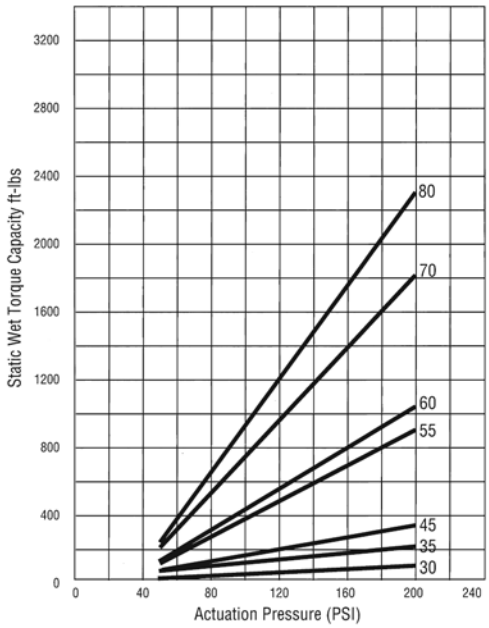

## Type D3




## Type D4




## Type D5




***Static Torque is when the clutch is fully engaged. Dynamic torque is prior to full engagement and "lock-up." The relationship between dynamic and static torque can be seen in step #7.***

***Step # 6: Verify the clutch energy capacity.***

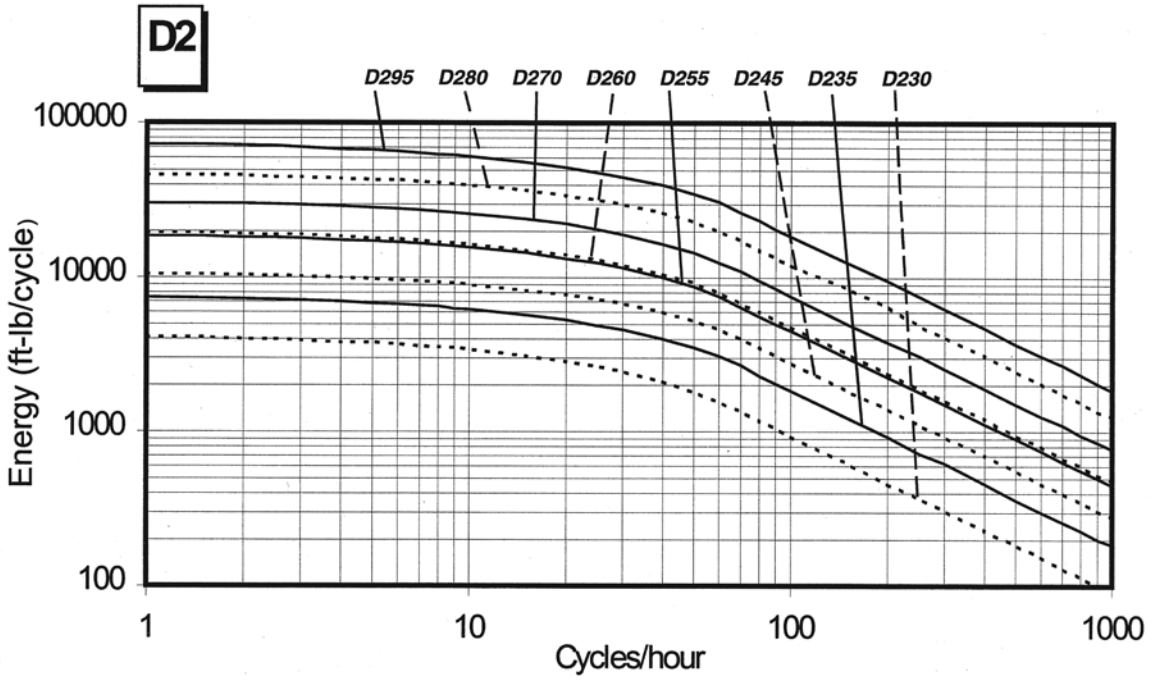
**KE** = .00017 x ($WR^2c$) x ($Ni^2 - Nf^2$) ft.lbs./cycle

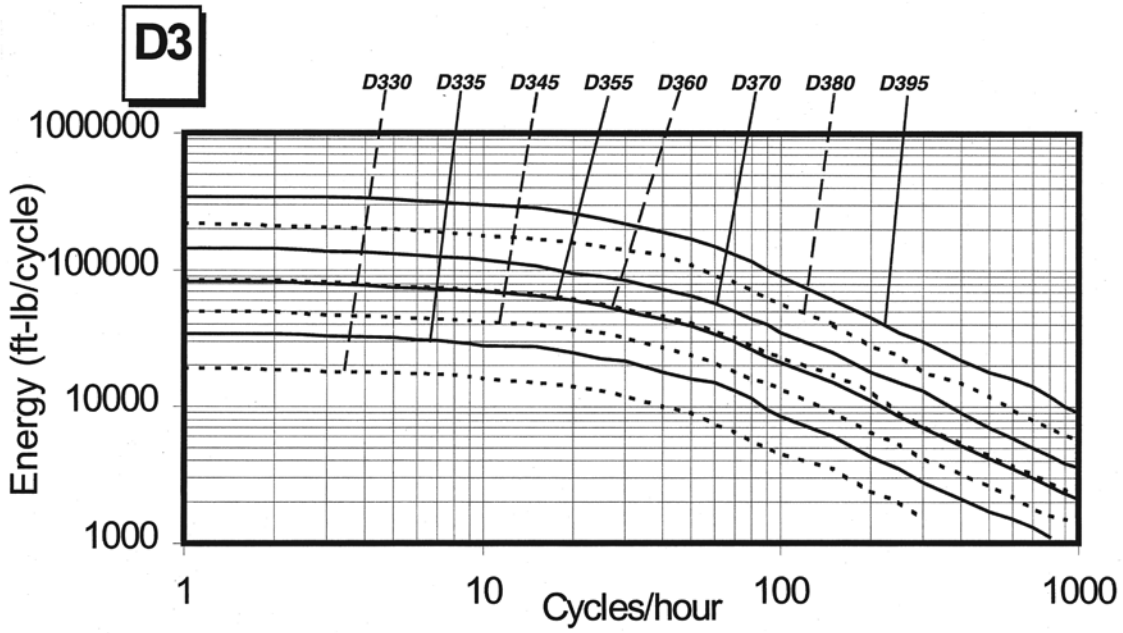
**.00017** = constant

**$WR^2c$** = Inertia @ clutch (lbs. $ft^2$)

**Ni** = Initial RPM

**Nf** = Final RPM




***The cooling rates represented by the curves are based on an external lubrication flow of 1.0 gallon per minute through the disc pack.***

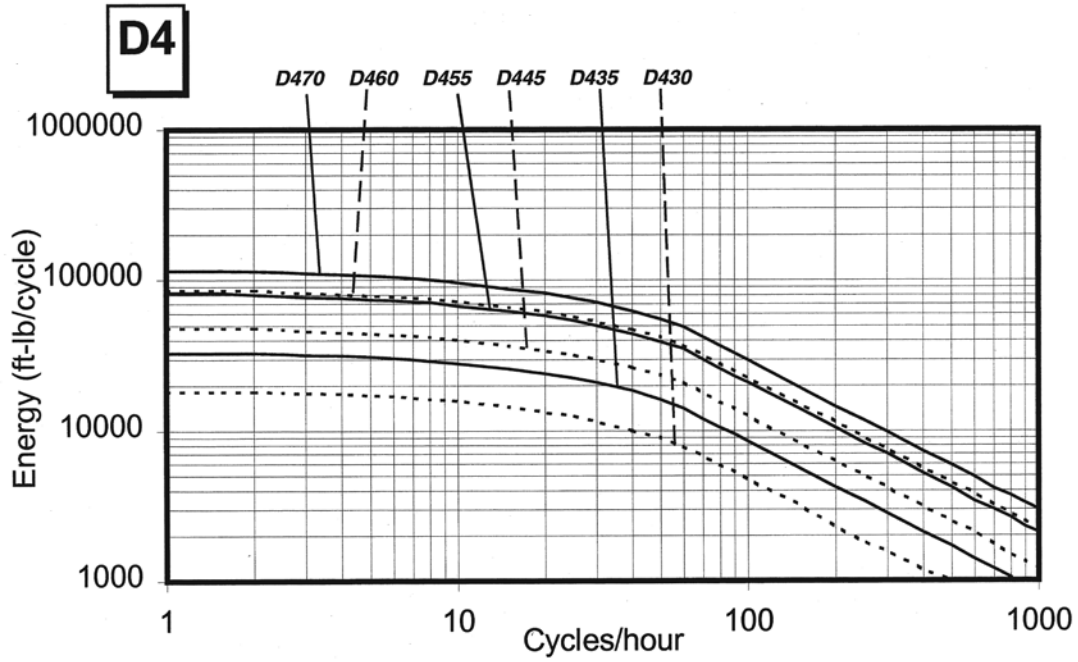
If the clutch rotates at a speed different than the driven machine, the inertia ($WR^2$) of the driven machine relative to the clutch may be calculated as follows.

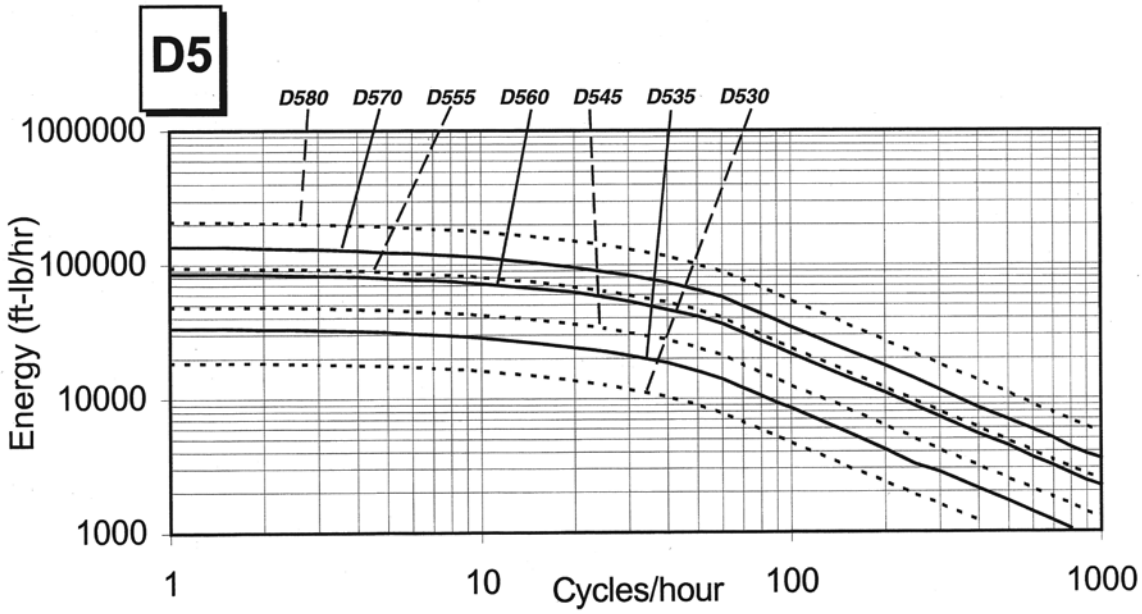
$$\mathbf{WR^2c} = WR^2dn \times (RPMdn / RPMc)^2$$

**$WR^2c$** = Inertia @ clutch (lbs. $ft^2$) **RPMc** = rpm @ clutch

**$WR^2dn$** = Inertia @ driven machine (lbs. $ft^2$) **RPMdn** = rpm @ driven machine

***If the intersection of the KE value and the number of cycles per hour is at or below the clutch selected in step 5 the selection is correct. If the intersection is above the line, reselect a larger clutch based on these charts.***



# DISC-O-TORQUE® Selection Procedure (continued)

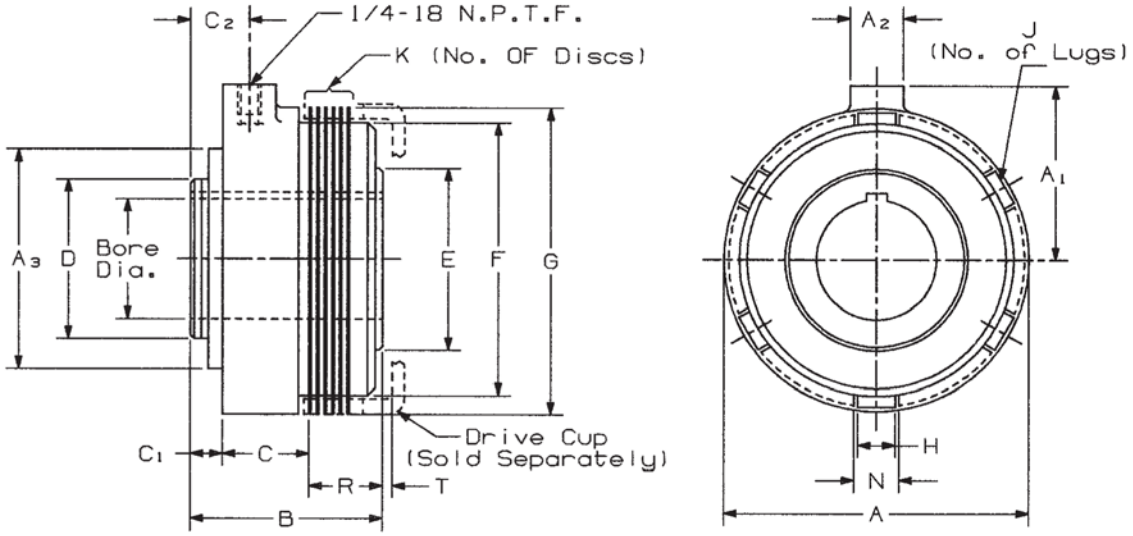
***Step # 7: Check clutch dimensions to verify fit in application space envelope.***

## D2 & D3 DIMENSIONS

| | | 30 | 35 | 45 | 55 | 60 | 70 | 80 | 95 |
|---|---|---|---|---|---|---|---|---|---|
| A | Body O.D. | 3.38 | 3.94 | 4.88 | 6 | 6.56 | 7.56 | 8.62 | 10.38 |
| A1 | Boss Height | 2.50 | 2.75 | 3.19 | 3.75 | 4 | 4.44 | 4.94 | 5.62 |
| A2 | Boss Width | 0.88 | 0.88 | 0.88 | 0.88 | 1 | 1 | 1 | 1 |
| A3 | Cylinder Diameter | 2.56 | 3.12 | 3.62 | 4.50 | 5.00 | 5.75 | 6.62 | 7.75 |
| B | Axial Length | 2.625 | 2.875 | 3.317 | 3.517 | 3.940 | 4.380 | 4.825 | 6.005 |
| C | Cylinder Width | 1.19 | 1.25 | 1.41 | 1.62 | 1.69 | 1.75 | 2.03 | 2.56 |
| C1 | Hub Extension | 0.31 | 0.44 | 0.38 | 0.34 | 0.44 | 0.56 | 0.44 | 0.34 |
| C2 | Port Location | 0.75 | 0.88 | 0.88 | 0.81 | 0.94 | 1.06 | 1.12 | 1.16 |
| D | Hub O.D. (rear) | 1.19 | 1.56 | 2 | 2.56 | 2.94 | 3.34 | 3.94 | 4.72 |
| E | Hub O.D. (front) | 1.33 | 1.50 | 2.12 | 2.69 | 3.06 | 3.55 | 4 | 4.75 |
| F | Disc Minor O.D. | 3 | 3.50 | 4.50 | 5.50 | 6 | 7 | 8 | 9.50 |
| G | Disc Major O.D. | 3.31 | 3.81 | 4.88 | 6 | 6.56 | 7.62 | 8.62 | * |
| H | Disc Lug Width | 0.734 | 0.734 | 0.796 | 0.609 | 0.609 | 0.734 | 0.734 | * |
| J | No. of Lugs | 6 | 6 | 6 | 12 | 12 | 12 | 12 | * |
| K | No. of Disc | 6 | 6 | 6 | 6 | 6 | 7 | 7 | 7 |
| N | Slot Width | 0.750 | 0.750 | 0.812 | 0.625 | 0.625 | 0.750 | 0.750 | * |
| R | Engagement Length | 0.964 | 1.0 | 1.225 | 1.350 | 1.525 | 1.765 | 1.906 | 2.680 |
| T | Gap to Drive Cup | 0.106 | 0.160 | 0.145 | 0.300 | 0.145 | 0.075 | 0.114 | 0.350 |

| | | 30 | 35 | 45 | 55 | 60 | 70 | 80 | 95 |
|---|---|---|---|---|---|---|---|---|---|
| D2 | Dynamic torque dry @ 150 PSI | 67 ft. lbs. | 104 ft. lbs. | 210 ft. lbs. | 380 ft. lbs. | 348 ft. lbs. | 771 ft. lbs. | 1080 ft. lbs. | 1776 ft. lbs. |
| | Static torque dry @ 150 PSI | 80 ft. lbs. | 124 ft. lbs. | 251 ft. lbs. | 455 ft. lbs. | 417 ft. lbs. | 923 ft. lbs. | 1294 ft. lbs. | 2125 ft. lbs. |
| D3 | Dynamic torque wet @ 150 PSI | 49 ft. lbs. | 77 ft. lbs. | 155 ft. lbs. | 281 ft. lbs. | 257 ft. lbs. | 570 ft. lbs. | 798 ft. lbs. | 1383 ft. lbs. |
| | Static torque wet @ 150 PSI | 65 ft. lbs. | 101 ft. lbs. | 205 ft. lbs. | 371 ft. lbs. | 340 ft. lbs. | 753 ft. lbs. | 1055 ft. lbs. | 1966 ft. lbs. |
| MAX BORE | | .875 | 1.125 | 1.500 | 2.000 | 2.375 | 2.625 | 3.250 | 3.875 |

***Rated up to 200 PSI. For other actuation pressures, refer to Chart in Step #5.***

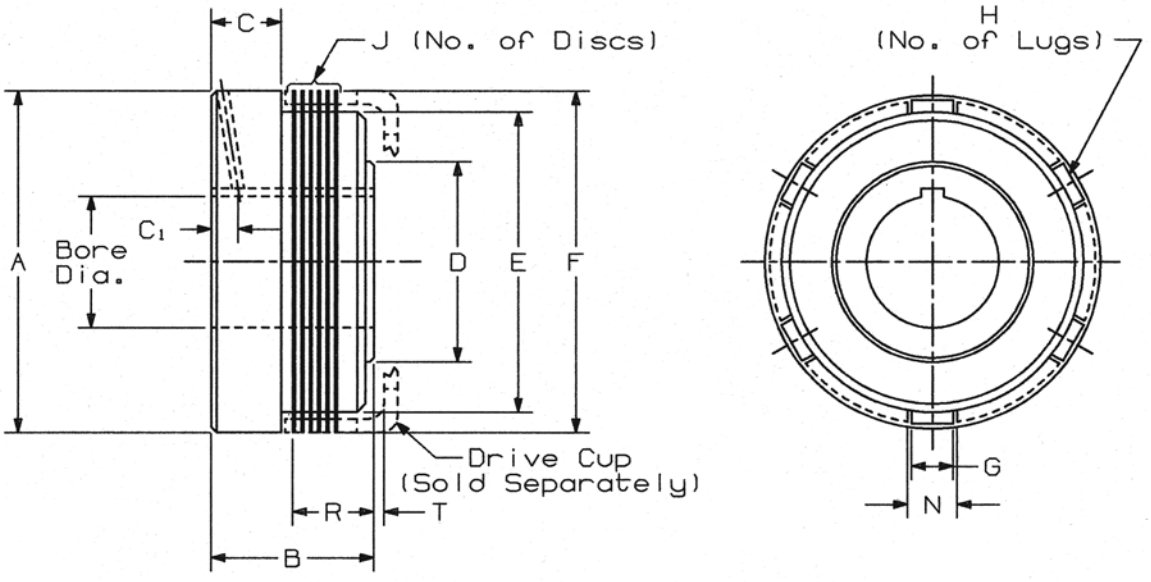


## D4 DIMENSIONS

| | | 30 | 35 | 45 | 55 | 60 | 70 |
|---|---|---|---|---|---|---|---|
| A | Body O.D. | 3.38 | 3.81 | 4.88 | 6 | 6.56 | 7.62 |
| B | Axial Length | 1.880 | 27 | 2.320 | 2.745 | 2.780 | 3.132 |
| C | Cylinder Width | 0.84 | 0.84 | 0.96 | 1 | 1.06 | 1.14 |
| C1 | Port Location | See Product Number Listing (STEP #8) | | | | | |
| D | Hub O.D. (rear) | 1.88 | 2 | 2.75 | 3.12 | 3.62 | 4 |
| E | Disc Minor O.D. | 3 | 3.50 | 4.50 | 5.50 | 6 | 7 |
| F | Disc Major O.D. | 3.31 | 3.81 | 4.88 | 6 | 6.56 | 7.62 |
| G | Disc Lug Width | 0.734 | 0.734 | 0.796 | 0.609 | 0.609 | 0.734 |
| H | No. of Lugs | 6 | 6 | 6 | 12 | 12 | 12 |
| J | No. of Disc | 6 | 6 | 6 | 6 | 6 | 6 |
| N | Slot Width | 0.750 | 0.750 | 0.812 | 0.625 | 0.625 | 0.750 |
| R | Engagement Length | 0.977 | 1.065 | 1.245 | 1.562 | 1.575 | 1.775 |
| T | Gap to Drive Cup | 0.093 | 0.095 | 0.125 | 0.089 | 0.095 | 0.065 |

| | | 30 | 35 | 45 | 55 | 60 | 70 |
|---|---|---|---|---|---|---|---|
| D4 | Dynamic torque wet @ 150 PSI | 50 ft. lbs. | 101 ft. lbs. | 188 ft. lbs. | 449 ft. lbs. | 466 ft. lbs. | 816 ft. lbs. |
| | Static torque wet @150 PSI | 66 ft. lbs. | 134 ft. lbs. | 249 ft. lbs. | 594 ft. lbs. | 617 ft. lbs. | 1080 ft. lbs. |
| MAX BORE | | 1.312 | 1.500 | 2.125 | 2.4375 | 2.9375 | 3.250 |

***Rated up to 500 PSI. For other actuation pressures, refer to Chart in Step #5.***



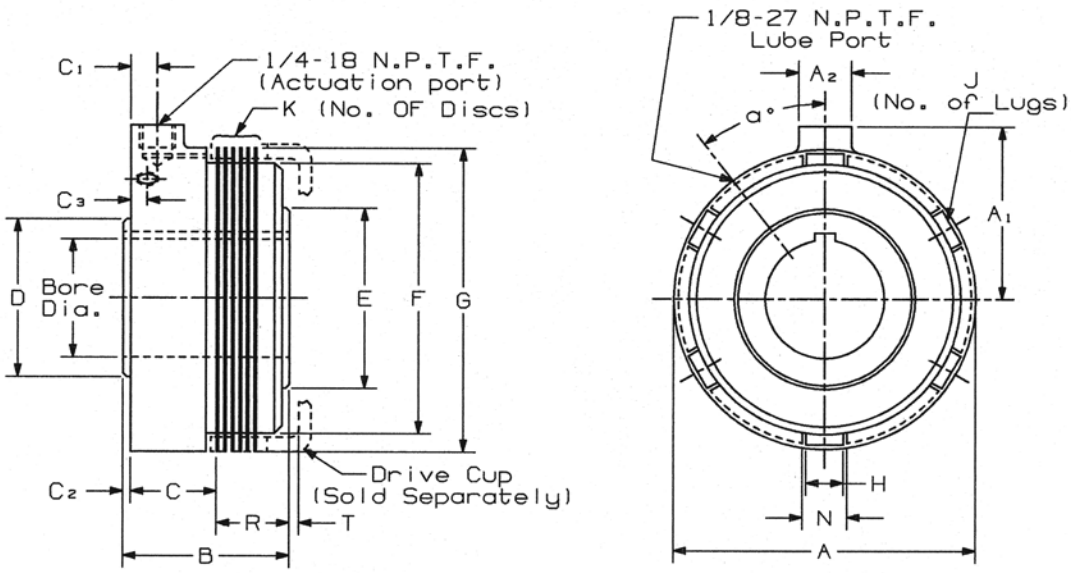
## D5 DIMENSIONS

| | | 30 | 35 | 45 | 55 | 60 | 70 | 80 |
|---|---|---|---|---|---|---|---|---|
| A | Body O.D. | 3.31 | 3.94 | 4.88 | 6 | 6.56 | 7.75 | 8.62 |
| A1 | Boss Height | 2.03 | 2.34 | 2.81 | 3.38 | 3.69 | 4.19 | 4.69 |
| A2 | Boss Diameter | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 1.00 | 1.00 |
| B | Axial Length | 2.265 | 2.385 | 2.880 | 3.260 | 3.445 | 3.785 | 4.160 |
| C | Cylinder Width | 1.19 | 1.25 | 1.44 | 1.59 | 1.72 | 1.81 | 2.09 |
| C1 | Port Location | 0.44 | 0.50 | 0.44 | 0.50 | 0.50 | 0.56 | 0.56 |
| C2 | Hub Extension | 0.03 | 0.03 | 0.03 | 0.03 | 0.03 | 0.09 | 0.03 |
| C3 | Lube Port Location | 0.44 | 0.50 | 0.44 | 0.50 | 0.50 | 0.56 | 0.69 |
| a° | Lube Port Location | 30 | 30 | 30 | 30 | 15 | 15 | 15 |
| D | Hub O.D. (rear) | 1.56 | 1.97 | 2.56 | 2.95 | 3.53 | 4.12 | 4.72 |
| E | Hub O.D. (front) | 1.94 | 2.02 | 2.75 | 3.09 | 3.62 | 4.00 | 4.75 |
| F | Disc Minor O.D. | 3 | 3.50 | 4.50 | 5.50 | 6.00 | 7.00 | 8.00 |
| G | Disc Major O.D. | 3.31 | 3.94 | 4.88 | 6.00 | 6.56 | 7.62 | 8.62 |
| H | Disc Lug Width | 0.734 | 0.734 | 0.796 | 0.609 | 0.609 | 0.734 | 0.734 |
| J | No. of Lugs | 6 | 6 | 6 | 12 | 12 | 12 | 12 |
| K | No. of Disc | 6 | 6 | 6 | 7 | 6 | 7 | 7 |
| N | Slot Width | 0.750 | 0.750 | 0.812 | 0.625 | 0.625 | 0.750 | 0.750 |
| R | Engagement Length | 0.922 | 1.0 | 1.225 | 1.452 | 1.525 | 1.706 | 1.875 |
| T | Gap to Drive Cup | 0.148 | 0.160 | 0.145 | 0.198 | 0.145 | 0.075 | 0.145 |

| | | 30 | 35 | 45 | 55 | 60 | 70 | 80 |
|---|---|---|---|---|---|---|---|---|
| D5 | Dynamic torque wet @ 150 PSI | 72 ft. lbs. | 125 ft. lbs. | 227 ft. lbs. | 530 ft. lbs. | 587 ft. lbs. | 985 ft. lbs. | 1250 ft. lbs. |
| | Static torque wet @150 PSI | 95 ft. lbs. | 165 ft. lbs. | 300 ft. lbs. | 700 ft. lbs. | 775 ft. lbs. | 1300 ft. lbs. | 1650 ft. lbs. |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| MAX BORE | 1.250 | 1.500 | 2.000 | 2.375 | 3.000 | 3.250 | 3.875 |

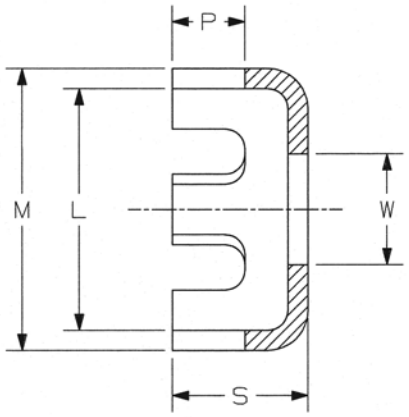
***Rated up to 200 PSI. For other actuation pressures, refer to Chart in Step #5.***



## Drive Cup Dimensions

Used with all clutch types. - Sold separately

Drive cups are normally supplied slotted for engagement with the lugs of the friction disc, however on special order the disc and drive cup can be made with gear teeth for driving. The K dimension indicates the number of gear teeth on these units.




| | | 30 | 35 | 45 | 55 | 60 | 70 | 80 | 95 |
|---|---|---|---|---|---|---|---|---|---|
| L | I.D. | 3.062 | 3.562 | 4.562 | 5.562 | 6.062 | 7.062 | 8.062 | * |
| M | O.D. | 3.310 | 3.880 | 4.880 | 5.940 | 6.560 | 7.690 | 8.690 | * |
| P | Slot Length | 0.840 | 0.890 | 1.000 | 1.270 | 1.280 | 1.410 | 1.530 | * |
| S | Cup Length | 1.250 | 1.380 | 1.650 | 1.960 | 2.050 | 2.220 | 2.400 | 3.370 |
| W | Min. Cup Bore | 1.000 | 1.000 | 1.000 | 1.500 | 2.000 | 2.000 | 2.500 | 3.500 |
| K | No. Teeth (Gear Type) | 33 | 38 | 48 | 58 | 63 | 73 | 83 | 119 |

### *Step # 8: Ordering clutch and drive cup.*

**Drive Cup: (MUST BE ORDERED SEPARATELY)**
The drive cups are the same for all clutch types. For hardened or gear style drive cup consult Wood's.

| SIZE | DRIVE CUP Product No. |
|---|---|
| 30 | D530DC |
| 35 | D535DC |
| 45 | D545DC |
| 55 | D555DC |

| SIZE | DRIVE CUP Product No. |
|---|---|
| 60 | D560DC |
| 70 | D570DC |
| 80 | D580DC |
| 95 | Consult Wood's |

On D4 clutches with activation pressures above 300 PSI, a gear style drive cup is recommended.

**Order example:** For a D355 clutch drive cup order **D555DC**

**Clutch:**
Product number break down
**For a D460 X 2-1/4 order D460214**

D4 — Clutch type
60 — Clutch Size
214 — Bore

## Additional ordering considerations:

Type D5 clutches are available with the following bearing lube options.

**Lube Type I** - For lubricating the bearings with the axiliary lube port. (standard)
**Lube Type II** - For lubricating the needle thrust bearing only with actuating fluid. The angular contact bearing must be lubricated by external spray, mist or splash.
**Lube Type III** - Bearing lubrication not using Type I or II, but using an external spray mist or splash.
**Lube Type IV** - For application using Type I and II above for lubrication.

***When ordering a D5 clutch note your Lube Type.***

# DISC-O-TORQUE® Product Numbers

| D2 | | |
|---|---|---|
| **Clutch Description** | **Product Number** | **Wt. Lbs.** |
| D230 X 1/2 RB | D230RB | 4.0 |
| D230 X 5/8 | D23058 | 4.0 |
| D230 X 3/4 | D23034 | 4.0 |
| D235 X 5/8 RB | D235RB | 6.0 |
| D235 X 7/8 | D23578 | 6.0 |
| D235 X 1 | D2351 | 6.0 |
| D245 X 7/8 RB | D245RB | 11.0 |
| D245 X 1-1/8 | D245118 | 11.0 |
| D245 X 1-1/4 | D245114 | 11.0 |
| D255 X 1-1/8 RB | D255RB | 18.0 |
| D255 X 1-1/2 | D255112 | 18.0 |
| D255 X 1-5/8 | D255158 | 18.0 |
| D255 X 1-3/4 | D255134 | 18.0 |
| D260 X 1-1/4 RB | D260RB | 25.0 |
| D260 X 2 | D2602 | 25.0 |
| D260 X 2-1/8 | D260218 | 25.0 |
| D270 X 1-1/2 RB | D270RB | 34.0 |
| D270 X 2-1/4 | D270214 | 34.0 |
| D270 X 2-1/2 | D270212 | 34.0 |
| D280 X 1-7/8 RB | D280RB | 49.0 |
| D280 X 2-3/4 | D280234 | 49.0 |
| D280 X 3 | D2803 | 49.0 |
| D295 - SPECIAL ORDER ONLY | | 60.0 |

| D3 | | |
|---|---|---|
| **Clutch Description** | **Product Number** | **Wt. Lbs.** |
| D330 X 1/2 RB | D330RB | 4.0 |
| D330 X 5/8 | D33058 | 4.0 |
| D330 X 3/4 | D33034 | 4.0 |
| D335 X 5/8 RB | D335RB | 6.0 |
| D335 X 7/8 | D33578 | 6.0 |
| D335 X 1 | D3351 | 6.0 |
| D345 X 7/8 RB | D345RB | 11.0 |
| D345 X 1-1/8 | D345118 | 11.0 |
| D345 X 1-1/4 | D345114 | 11.0 |
| D355 X 1-1/8 RB | D355RB | 18.0 |
| D355 X 1-1/2 | D355112 | 18.0 |
| D355 X 1-5/8 | D355158 | 18.0 |
| D355 X 1-3/4 | D355134 | 18.0 |
| D360 X 1-1/4 RB | D360RB | 25.0 |
| D360 X 2 | D3602 | 25.0 |
| D360 X 2-1/8 | D360218 | 25.0 |
| D370 X 1-1/2 RB | D370RB | 34.0 |
| D370 X 2-1/4 | D370214 | 34.0 |
| D370 X 2-1/2 | D370212 | 34.0 |
| D380 X 1-7/8 RB | D380RB | 49.0 |
| D380 X 2-3/4 | D380234 | 49.0 |
| D380 X 3 | D3803 | 49.0 |
| D395 - SPECIAL ORDER ONLY | | 60.0 |

**DISC-O-TORQUE DESIGNATOR CHART**

| NEW | OLD |
|---|---|
| D2 | STD |
| D3 | STH |
| D4 | RO |
| D5 | HTH |

| D4 | | | |
|---|---|---|---|
| **Clutch Description** | **Product Number** | **Wt. Lbs.** | **C1 Dim.** |
| D430 X 3/4 RB | D430RB | 3.5 | 0.410 |
| D430 X 7/8 | D43078 | 3.5 | 0.394 |
| D430 X 1 | D4301 | 3.5 | 0.382 |
| D430 X 1-1/8 | D430118 | 3.5 | 0.370 |
| D435 X 1 RB | D435RB | 5.0 | 0.380 |
| D435 X 1-1/8 | D435118 | 5.0 | 0.373 |
| D435 X 1-1/4 | D435114 | 5.0 | 0.364 |
| D435 X 1-3/8 | D435138 | 5.0 | 0.354 |
| D445 X 1-1/4 RB | D445RB | 9.0 | 0.500 |
| D445 X 1-3/8 | D445138 | 9.0 | 0.486 |
| D445 X 1-1/2 | D445112 | 9.0 | 0.476 |
| D445 X 1-5/8 | D445158 | 9.0 | 0.460 |
| D445 X 1-3/4 | D445134 | 9.0 | 0.452 |
| D455 X 1-1/2 RB | D455RB | 16.0 | 0.580 |
| D455 X 1-3/4 | D455134 | 16.0 | 0.563 |
| D455 X 1-7/8 | D455178 | 16.0 | 0.547 |
| D455 X 2 | D4552 | 16.0 | 0.537 |
| D455 X 2-1/4 | D455214 | 16.0 | 0.515 |
| D460 X 1-1/2 RB | D460RB | 20.0 | 0.630 |
| D460 X 2-1/4 | D460214 | 20.0 | 0.563 |
| D460 X 2-3/8 | D460238 | 20.0 | 0.553 |
| D460 X 2-1/2 | D460212 | 20.0 | 0.543 |
| D460 X 2-3/4 | D460234 | 20.0 | 0.524 |
| D470 X 1-3/4 RB | D470RB | 29.0 | 0.700 |
| D470 X 2-1/2 | D470212 | 29.0 | 0.645 |
| D470 X 2-5/8 | D470258 | 29.0 | 0.625 |
| D470 X 2-3/4 | D470234 | 29.0 | 0.610 |
| D470 X 3 | D4703 | 29.0 | 0.591 |

| D5 | | |
|---|---|---|
| **Clutch Description** | **Product Number** | **Wt. Lbs.** |
| D530 X 1/2 RB | D530RB | 4.0 |
| D530 X 7/8 | D53078 | 4.0 |
| D530 X 1 | D5301 | 4.0 |
| D535 X 5/8 RB | D535RB | 6.5 |
| D535 X 1-1/8 | D535118 | 6.5 |
| D535 X 1-1/4 | D535114 | 6.5 |
| D545 X 7/8 RB | D545RB | 12.0 |
| D545 X 1-1/2 | D545112 | 12.0 |
| D545 X 1-3/4 | D545134 | 12.0 |
| D555 X 1-1/8 RB | D555RB | 19.0 |
| D555 X 1-7/8 | D555178 | 19.0 |
| D555 X 2 | D5552 | 19.0 |
| D560 X 1-1/4 RB | D560RB | 25.0 |
| D560 X 2 | D5602 | 25.0 |
| D560 X 2-1/4 | D560214 | 25.0 |
| D560 X 2-1/2 | D560212 | 25.0 |
| D570 X 1-3/4 RB | D570RB | 35.0 |
| D570 X 2-1/2 | D570212 | 35.0 |
| D570 X 2-3/4 | D570234 | 35.0 |
| D580 X 1-7/8 RB | D580RB | 51.0 |
| D580 X 2-3/4 | D580234 | 51.0 |
| D580 X 3 | D5803 | 51.0 |

*Wood's welcomes the making of specials and modification of stock to meet your application needs.*

| Clutch | Disc Kit | Seal Kit | Bearing Kit |
|---|---|---|---|
| D230 | D230DK | D230SK | D230BK |
| D235 | D235DK | D235SK | D235BK |
| D245 | D245DK | D245SK | D245BK |
| D255 | D255DK | D255SK | D255BK |
| D260 | D260DK | D260SK | D260BK |
| D270 | D270DK | D270SK | D270BK |
| D280 | D280DK | D280SK | D280BK |
| D295 | D295DK | D295SK | D295BK |
| D330 | D230DK | D230SK | D330BK |
| D335 | D235DK | D235SK | D335BK |
| D345 | D245DK | D245SK | D345BK |
| D355 | D255DK | D255SK | D355BK |
| D360 | D260DK | D260SK | D360BK |
| D370 | D270DK | D270SK | D370BK |
| D380 | D280DK | D280SK | D380BK |
| D395 | D295DK | D295SK | D395BK |
| D430 | D430DK | D430SK | N/A |
| D435 | D435DK | D435SK | N/A |
| D445 | D445DK | D445SK | N/A |
| D455 | D455DK | D455SK | N/A |
| D460 | D460DK | D460SK | N/A |
| D470 | D470DK | D470SK | N/A |
| D530 | D530DK | D530SK | D530BK |
| D535 | D535DK | D535SK | D535BK |
| D545 | D545DK | D545SK | D545BK |
| D555 | D555DK | D555SK | D555BK |
| D560 | D560DK | D560SK | D560BK |
| D570 | D570DK | D570SK | D570BK |
| D580 | D580DK | D580SK | D580DK |

*Kits contain enough parts to repair one clutch.*

**Disc Kit - (Formerly RK1)**

CONTENTS :

Friction Disc
Separating Disc
Separator Spring
Snap Rings

**Seal Kit - (Formerly RK2)**

CONTENTS :

Piston Rings
O-Rings

**Bearing Kit - (Formerly RK3)**

CONTENTS :

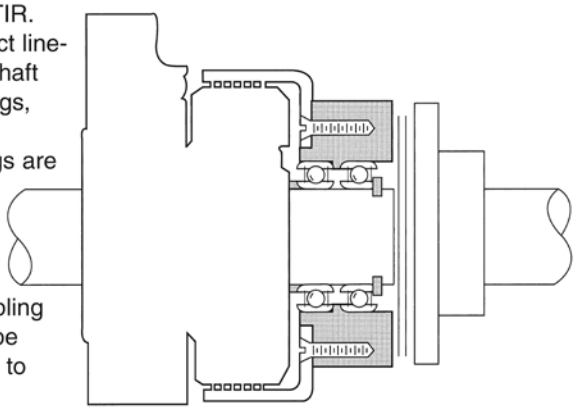
Bearings
Shims

* D4 clutches do not have bearings.

# Mounting Considerations

## In-line Shafts

For direct drive or in-line mounting the shafts should be closely aligned so that the cup will be concentric to the clutch. The cup and clutch should be aligned within .005 inches TIR. For direct line-to-line shaft mountings, flexible couplings are preferable. One-half of the coupling should be secured to the cup.

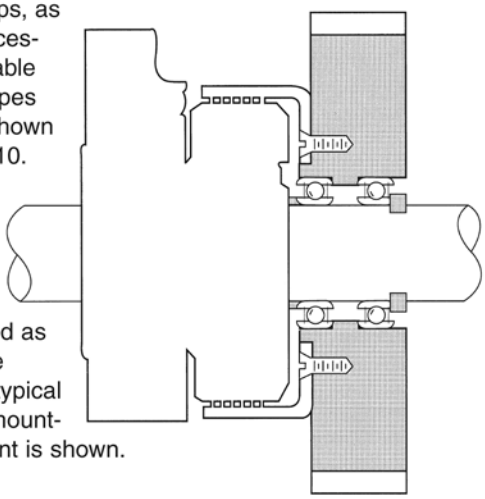


Bearings should support the cup on the clutch shaft to maintain concentricity between the clutch and its cup.

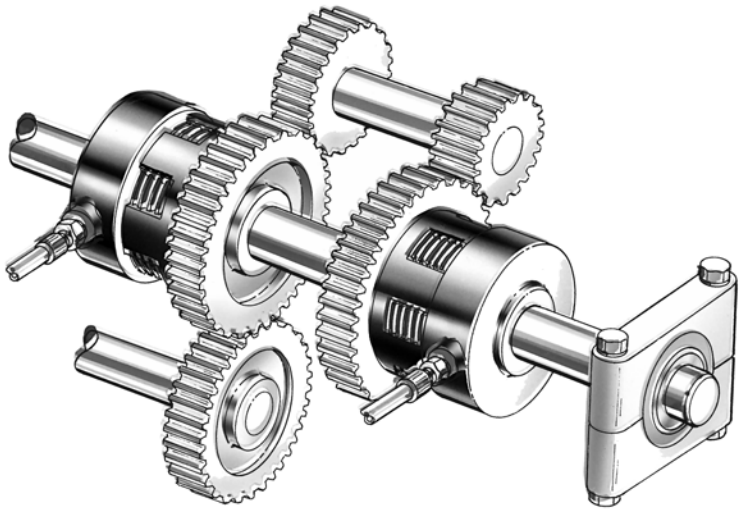
A typical flexible coupling in-line shaft direct-drive-mounting is shown.

## Parallel Shafts

In parallel shaft applications, the cup is secured to a pulley, sprocket or gear. This cup/gear assembly must be bearing mounted on the clutch shaft. Drive cups, as an optional accessory, are available for all clutch types and sizes as shown on page G3—10. Cups are furnished with a rough bore as standard and can be modified as required by the application. A typical parallel shaft mounting arrangement is shown.

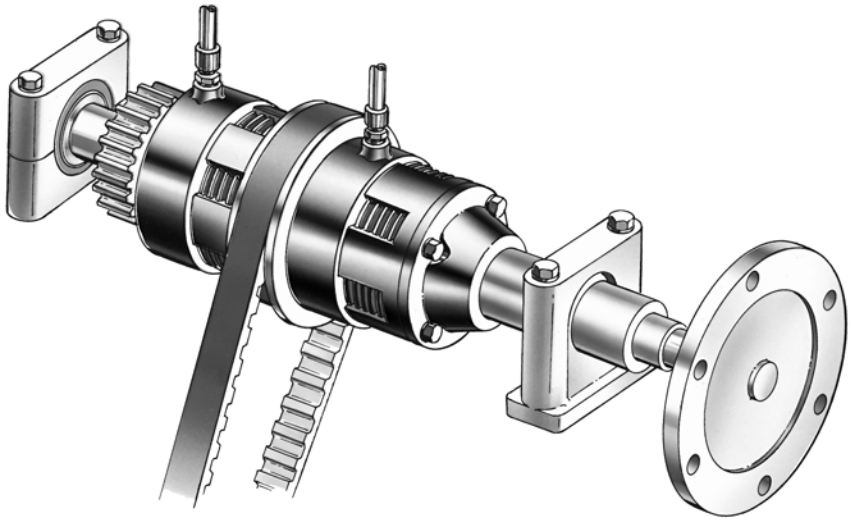


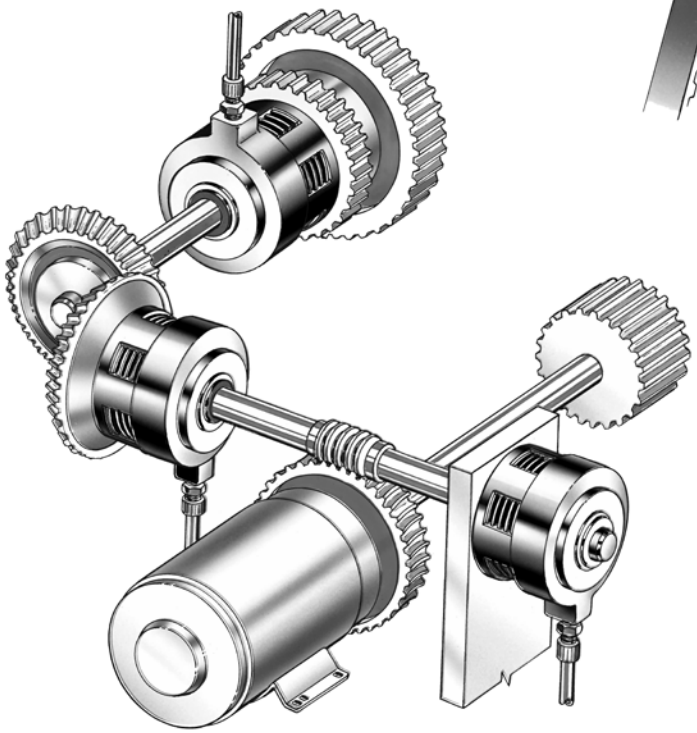
# DISC-O-TORQUE® Applications



By switching between the two clutches the speed of the driven shaft will change. This allows for different gear ratios and machine speeds.

In this clutch brake application one hydraulic clutch is used to engage the spindle or chuck and upon disengagement the other is used to brake the load.





Hydraulic clutches are used in machine tool applications for indexing and speed changes.