



Mechanical Power Transmission Systems

GEAR COUPLING



■ GDE TYPE



■ GDEL TYPE



■ GSCD TYPE



■ GSE TYPE



■ GSEL TYPE



■ GDBW TYPE



■ GHD TYPE



■ GHS TYPE



■ GFS-R TYPE



■ GFS-O TYPE



■ SS TYPE



■ CCTYPE



GEAR COUPLING

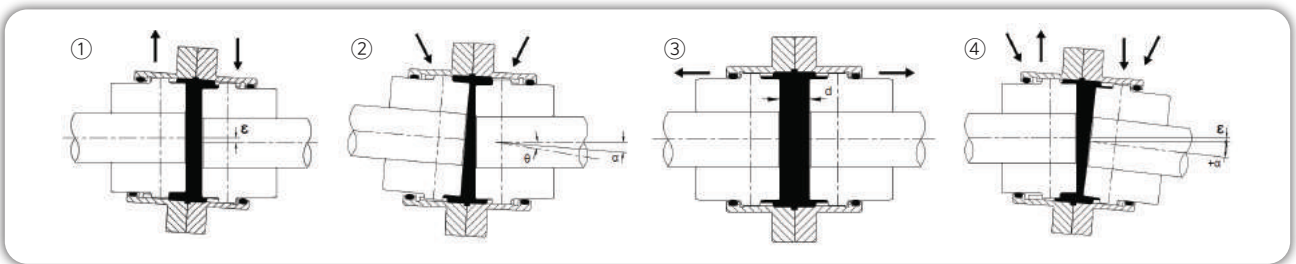
Characteristic & Advantages

The WCC Gear Coupling is a shaft coupling powered by sleeves and hubs (crowned tooth gear). It conforms to the AGMA standard of the USA and the JIS standard of Japan and is produced in South Korea.

- I. The coupling has been reduced in size and weight to prolong its service life and loss of transmission power is minimized.
- II. A gasket is used at the joint to prevent lubricant leakage.
- III. The teeth of the hub are machined into crown gears with three equal sides allowing the coupling to tolerate parallel, angular, and axial misalignment by transmitting power through contact points along a curve (instead of constant surface contact).

Misalignment

- ① Parallel misalignment : The drive shaft and the driven shaft are parallel to each other, but their centers are offset.
- ② Angular misalignment : The drive shaft and the driven shaft are at an angle to each other.
- ③ Axial misalignment : The drive shaft and the driven shaft move in their respective axial direction.
- ④ Composite misalignment : In the actual operating state, the above three misalignments are mixed.



Allowable Misalignment (S)

| Size | 10G | 15G | 20G | 25G | 30G | 35G | 40G | 45G | 50G | 55G | 60G | 70G | 80G | 90G | 100G | 110G | 120G |
|-------------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|------|------|------|------|------|------|
| ϵ (mm) | 1.2 | 1.3 | 1.7 | 2.1 | 2.4 | 2.9 | 3.2 | 3.6 | 4.1 | 4.5 | 5.0 | 5.9 | 6.7 | 7.4 | 8.2 | 12.7 | 12.7 |
| θ , (α) | 3(1.5) | 3(1.5) | 3(1.5) | 3(1.5) | 3(1.5) | 3(1.5) | 3(1.5) | 3(1.5) | 3(1.5) | 3(1.5) | 3(1.5) | 2(1) | 2(1) | 2(1) | 2(1) | 2(1) | 2(1) |

※ Allowable misalignment for double gear

- The coupling incorporates SM45C steel to maximize durability during high speed rotation and high load operation.
- Custom couplings can be produced to meet client specifications.

Application

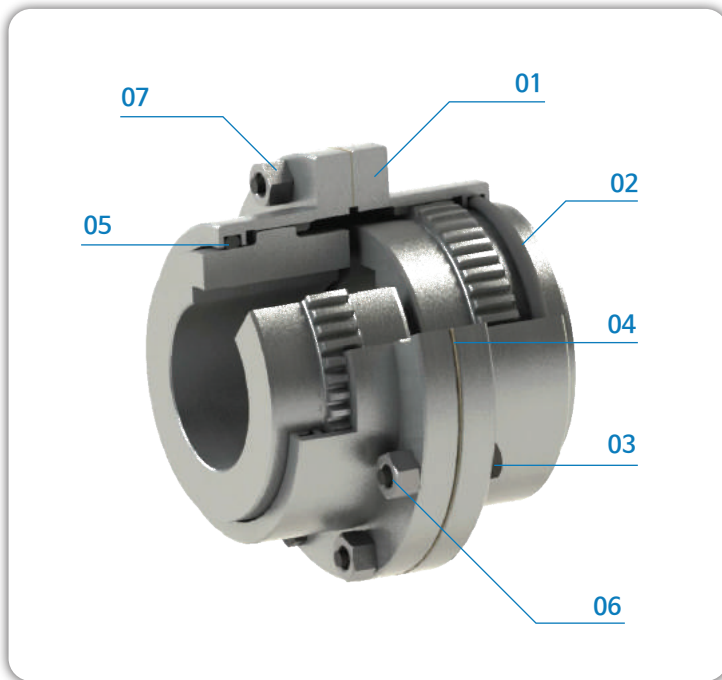
- For heavy loads
- For high speed operation
- For rotation rates below 100rpm and requiring strong torque
- For rotation with sliding operation
- When the distance between shafts is large and connected with a spacer
- Not suitable for low horsepower applications.

Standard Material

| SLEEVE | CROWN HUB | FLANGE (RIGID) | Bolt | O-Ring |
|--------|-----------|----------------|---------|--------|
| | SM45C | | SM45C-H | NBR |

※ Special materials and/or special treatments are required for unusual applications, such as high speed, high or low temperature, chemically corrosive environments, or extreme load stress.

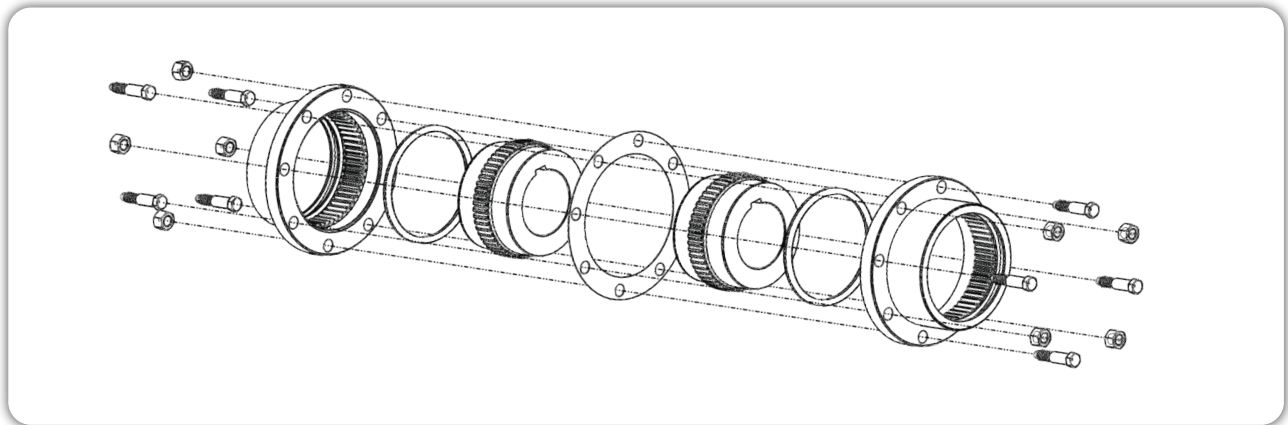
Structure



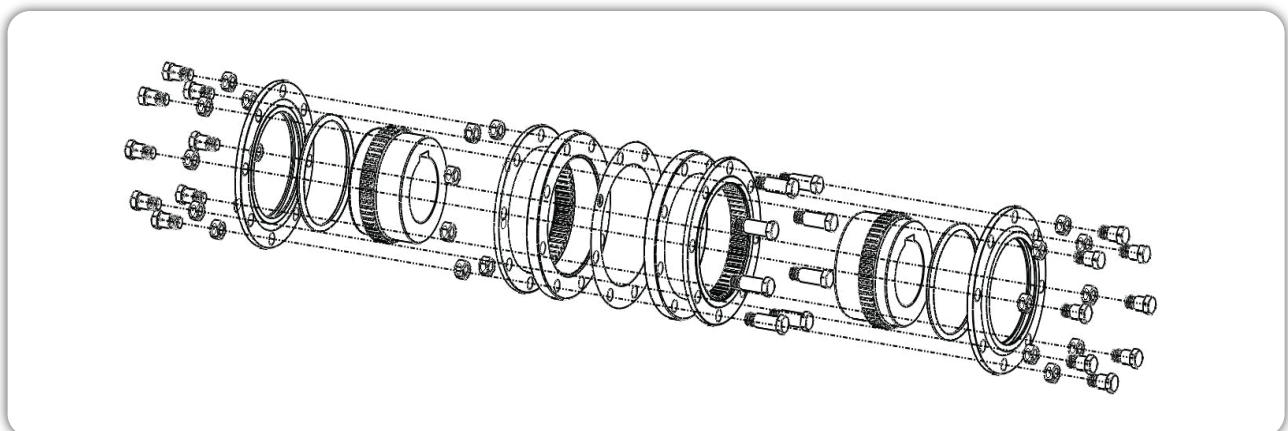
PART

- 01 Sleeve
- 02 Hub (crowned tooth gear)
- 03 Bolt
- 04 Gasket
- 05 O-ring
- 06 Agma Type : Lock Nut
S/D Type : Hex. Nut

Design features of Gear Coupling (GDE)



Design features of Gear Coupling (GDEL)



Instruction for Installation

Make sure that the inner diameter of the crown hub is machined correctly, and then select a shrinkage fitting or key fitting. Refer to page 61 for a shrinkage fitting. In the case of key fitting, ensure that there are no lubricant leaks around the keyway.

10G - 70G



STEP 01

After cleaning all parts, apply grease to the gear teeth and O-rings and put the O-rings on the shafts.

STEP 02

Insert the sleeves on the shafts and assemble the crown hub on both shafts. (Align the standard marks on the exterior of the hubs.)



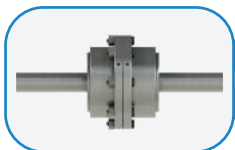
STEP 03

Adjust the allowable normal gap and angular misalignment using a thickness gauge.



STEP 04

As shown in the figure, adjust for parallel errors every 90° of circumference using a straight-edge ruler to ensure it does not exceed the error limit. Use the dial gauge to align the axis exactly.



STEP 05

Place the gasket between the sleeves, apply grease to the crown and lock the bolt with the injection port at 90°.

STEP 06

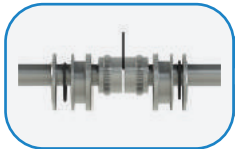
Fill with grease until it overflow from the opposite inlet.

80G - 200G



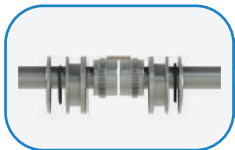
STEP 01

After cleaning all parts, apply grease to the gear teeth and O-rings and put the O-rings on the shaft.



STEP 02

Insert the side cover into the shaft and assemble the crown hub. (Align the standard marks on the exterior of the hubs.). Then assemble the gasket and sleeve.



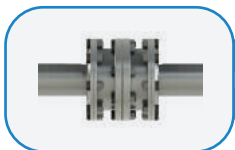
STEP 03

Adjust the spacing and angular misalignment of the four circumferences by using a gap gauge. Do not exceed the angular misalignment limit.



STEP 04

Adjust the parallel misalignment of the four circumferences with a straight-edge ruler so that they do not exceed the limit of misalignment. Use a dial gauge to precisely adjust the axis.



STEP 05

Make sure that the lubrication inlet in the sleeve is at 90°, then tighten the bolt evenly as shown in the figure. When assembling the side cover, make sure that the lubrication inlet of the side cover and the lubrication inlet of the sleeve are at 90°.

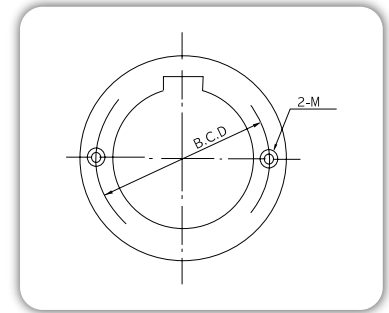


STEP 06

After opening the lubrication inlet, use a lubricant injector to inject grease until it overflows, then lock the injection port.

Selection Of Puller Holes

| SIZE | 10G | 15G | 20G | 25G | 30G | 35G | 40G | 45G | 50G | 55G | 60G | 70G |
|-----------|------|------|------|------|------|------|------|------|------|------|------|-----|
| BCD(mm) | NONE | NONE | NONE | 113 | 129 | 152 | 181 | 200 | 216 | 238 | 264 | 311 |
| BOLT SIZE | NONE | NONE | NONE | M12 | M12 | M12 | M16 | M16 | M20 | M20 | M20 | M24 |
| SIZE | 80G | 90G | 100G | 110G | 120G | 130G | 140G | 150G | 160G | 180G | 200G | |
| BCD(mm) | 318 | 356 | 394 | 445 | 495 | 533 | 584 | 635 | 686 | 775 | 864 | |
| BOLT SIZE | M24 | M30 | M36 | M36 | M36 | M36 | M36 | M36 | M36 | M36 | M48 | |



Misalignment Capacity

(Unit:mm)

| Size | Double Engagement | | | | Size | Single Engagement Angular Maximum Millimeters | |
|---------|----------------------------------|-------------------|-------------------|-----------------|---------|--------------------------------------------------|---------------------------|
| | Recommended Installation Maximum | | Maximum Operating | | | Recommended Installation (0.125°) | Maximum Operating (0.75°) |
| | Parallel | Angular (0.0625°) | Parallel | Angular (0.75°) | | | |
| 10GDE | 0.05 | 0.15 | 0.66 | 1.80 | 10GSE | 0.15 | 0.89 |
| 15GDE | 0.08 | 0.18 | 0.86 | 2.26 | 15GSE | 0.18 | 1.14 |
| 20GDE | 0.08 | 0.23 | 1.02 | 2.74 | 20GSE | 0.23 | 1.37 |
| 25GDE | 0.10 | 0.28 | 1.27 | 3.43 | 25GSE | 0.28 | 1.70 |
| 30GDE | 0.13 | 0.33 | 1.52 | 3.99 | 30GSE | 0.33 | 2.01 |
| 35GDE | 0.15 | 0.38 | 1.83 | 4.65 | 35GSE | 0.38 | 2.34 |
| 40GDE | 0.18 | 0.46 | 2.13 | 5.49 | 40GSE | 0.46 | 2.74 |
| 45GDE | 0.20 | 0.51 | 2.39 | 6.15 | 45GSE | 0.51 | 3.07 |
| 50GDE | 0.23 | 0.56 | 2.72 | 6.65 | 50GSE | 0.56 | 3.33 |
| 55GDE | 0.28 | 0.61 | 3.12 | 7.32 | 55GSE | 0.61 | 3.66 |
| 60GDE | 0.28 | 0.66 | 3.35 | 7.98 | 60GSE | 0.66 | 3.99 |
| 70GDE | 0.33 | 0.79 | 3.94 | 9.32 | 70GSE | 0.79 | 4.65 |
| 80GDEL | 0.41 | 0.81 | 4.90 | 9.65 | 80GSEL | 0.81 | 4.83 |
| 90GDEL | 0.43 | 0.91 | 5.23 | 10.97 | 90GSEL | 0.91 | 5.49 |
| 100GDEL | 0.48 | 1.02 | 5.94 | 12.29 | 100GSEL | 1.02 | 6.15 |
| 110GDEL | 0.56 | 1.14 | 6.58 | 13.64 | 110GSEL | 1.14 | 6.81 |
| 120GDEL | 0.58 | 1.24 | 7.04 | 14.99 | 120GSEL | 1.24 | 7.49 |
| 130GDEL | 0.61 | 1.32 | 7.24 | 15.95 | 130GSEL | 1.32 | 7.98 |
| 140GDEL | 0.64 | 1.45 | 7.59 | 17.30 | 140GSEL | 1.45 | 8.64 |
| 150GDEL | 0.69 | 1.55 | 8.33 | 18.62 | 150GSEL | 1.55 | 9.32 |
| 160GDEL | 0.71 | 1.60 | 8.41 | 19.28 | 160GSEL | 1.60 | 9.65 |
| 180GDEL | 0.74 | 1.83 | 8.74 | 21.95 | 180GSEL | 1.83 | 10.97 |
| 200GDEL | 0.89 | 2.03 | 10.57 | 24.28 | 200GSEL | 2.03 | 12.14 |

※ Do not allow the combined values of the parallel and angular misalignments to exceed 0.75°.

※ Single engagement couplings are not adequate to compensate for parallel offset misalignment.

Operating Alignment Limits

| SIZE | 10 | 15 | 20 | 25 | 30 | 35 | 40 | 45 | 50 | 55 | 60 | 70 | 80 | 90 | 100 |
|--------------------------------|----|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----|----|-----|
| GAP (mm) (Exclude vertical) | 3 | 3 | 3 | 4.5 | 4.5 | 6 | 6 | 8 | 8 | 8 | 8 | 9.5 | 10 | 13 | 13 |
| Flange Bolt Torque (Nm) | 12 | 42 | 102 | 203 | 203 | 339 | 339 | 339 | 339 | 339 | 339 | 339 | | | |

※ If there is more than the maximum misalignment, the life of the coupling will be shortened.

SELECTION METHOD

Selection Process

a. Use the following formula to determine the torque.

$$T = 974 \frac{H'}{N} \times S \cdot F \text{ or } T = 716.2 \frac{H}{N} \times S \cdot F$$

T = Design torque(kg·m) · H' = Power(kw) · H = Power(HP) · N = Working revolutions(rpm) · $S \cdot F$ = Recommended Service Factor

b. Compare the calculated torque with the torque rating for each model and select the one with the same or larger rating.
c. Compare the maximum inner diameter of the shaft and coupling of the machine to be used and select the appropriate model.

Precaution for selection

- ① If end float movement occurs more than five times per hour in the Sliding Gear Coupling, add 0.5 to the safety
- ② factor.
Select equipment with a maximum torque rating 1.5 times the peak torque (as calculated by the maximum horsepower of the equipment used) if the motor is used in the following ways: continuous reverse rotation, intermittent
- ③ operation, frequent operation at peak load, repeated magnetic induction, or a high-inertia system.
- ④ For GFS-R and GFS-O, please contact us for the thickness and maximum length of the intermediate shaft.
Since the torque values for the gear coupling of styles GDBW and GSBW are the same as those of styles GDE and GSE, they are selected by comparing the ratings for the brakes. Brake power should be selected when the power of the brake is greater than the power of the motor.

Example

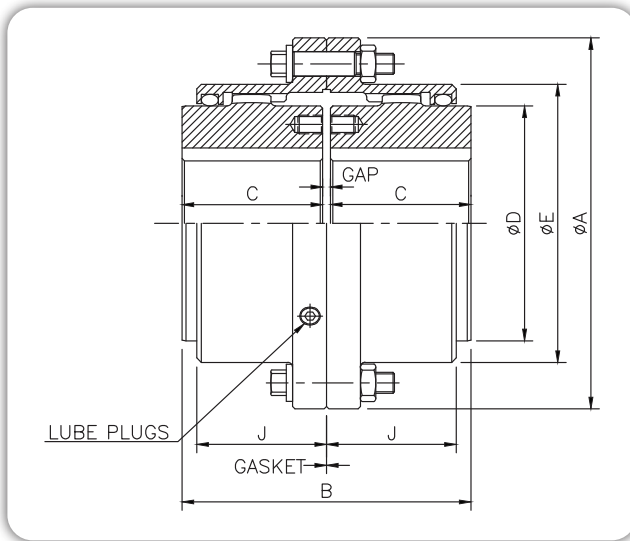
You want to connect a 450HP, 1,170 rpm motor with a shaft diameter of 90 mm to the high-speed shaft of a reducer with a diameter of 80mm. The maximum parallel misalignment of the shaft is 1.5mm.

- ① Select the GDE style because it allows for the parallel misalignment of 1.5mm.
- ② The safety factor is 2.0.
- ③ By formula

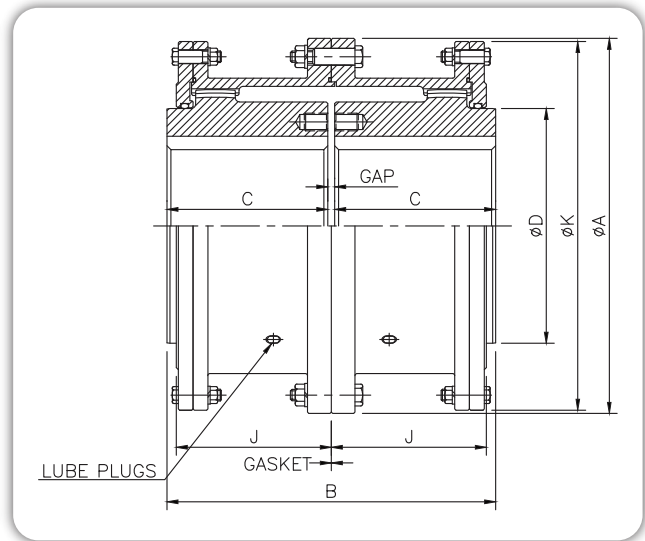
$$\text{Torque (Kg} \cdot \text{m)} = \frac{450 \times 716.2 \times 2.0}{1,170} = 550.93$$

- ④ The transmission torque is 550.93 kg·m therefore, select 25GDE with an allowable transmission torque of 644.58kg·m.
- ⑤ Since the shaft diameter is 90mm, select 25GDE because it has a maximum bore capacity of 92mm.

Type GDE (Double Engagement)



GDEL (Double Engagement Large)

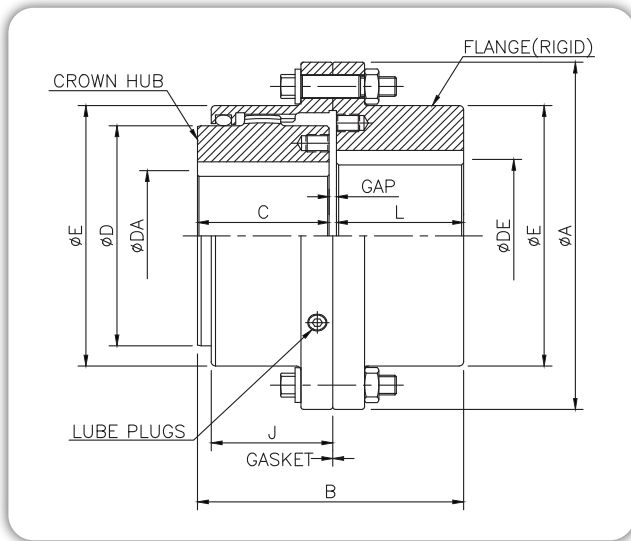


| Size | Max. Speed RPM | Torque Rating | | Bore Dia (mm) | | Dimensions (mm) | | | | | | Gap (mm) | Cplg wt (kg) | Lube wt (kg) |
|-------|----------------|---------------|---------|---------------|------|-----------------|-------|-----|-----|-----|-----|----------|--------------|--------------|
| | | kg·m | Nm | Max. | Min. | A | B | C | D | E | J | | | |
| 10GDE | 8,000 | 116 | 1,140 | 50 | 13 | 116 | 89 | 43 | 69 | 84 | 39 | 3 | 5 | 0.04 |
| 15GDE | 6,500 | 239 | 2,350 | 65 | 20 | 152 | 101 | 49 | 86 | 105 | 48 | 3 | 9 | 0.07 |
| 20GDE | 5,600 | 435 | 4,270 | 78 | 26 | 178 | 127 | 62 | 105 | 126 | 59 | 3 | 16 | 0.11 |
| 25GDE | 5,000 | 761 | 7,470 | 98 | 32 | 213 | 159 | 77 | 131 | 155 | 72 | 5 | 27 | 0.23 |
| 30GDE | 4,400 | 1,233 | 12,100 | 111 | 39 | 240 | 187 | 91 | 152 | 180 | 84 | 5 | 41 | 0.36 |
| 35GDE | 3,900 | 1,886 | 18,500 | 134 | 51 | 279 | 218 | 106 | 178 | 211 | 98 | 6 | 66 | 0.54 |
| 40GDE | 3,600 | 3,120 | 30,600 | 160 | 64 | 318 | 248 | 121 | 210 | 245 | 111 | 6 | 97 | 0.91 |
| 45GDE | 3,200 | 4,282 | 42,000 | 183 | 77 | 346 | 278 | 135 | 235 | 274 | 123 | 8 | 123 | 1.04 |
| 50GDE | 2,900 | 5,771 | 56,600 | 200 | 89 | 389 | 314 | 153 | 254 | 306 | 141 | 8 | 178 | 1.77 |
| 55GDE | 2,650 | 7,545 | 74,000 | 220 | 102 | 425 | 344 | 168 | 279 | 334 | 158 | 8 | 233 | 2.22 |
| 60GDE | 2,450 | 9,218 | 90,400 | 244 | 115 | 457 | 384 | 188 | 305 | 366 | 169 | 8 | 291 | 3.18 |
| 70GDE | 2,150 | 13,766 | 135,000 | 289 | 127 | 527 | 451.5 | 221 | 355 | 425 | 196 | 9.5 | 445 | 4.35 |

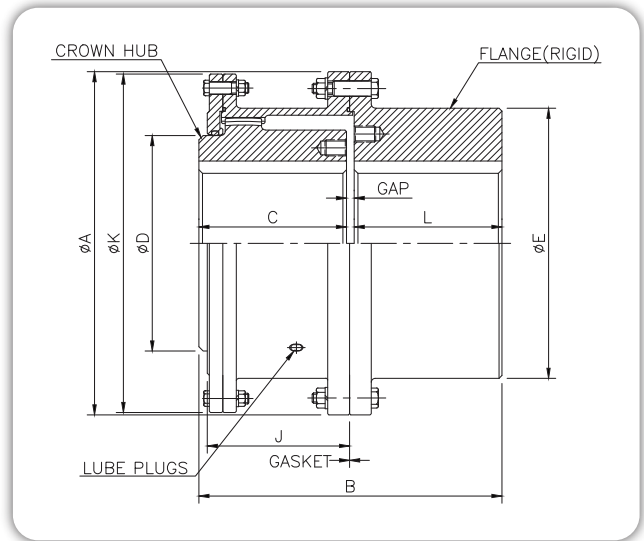
| Size | Max. Speed RPM | Torque Rating | | Bore Dia (mm) | | Dimensions (mm) | | | | | | Gap (mm) | Cplg wt (kg) | Lube wt (kg) |
|---------|----------------|---------------|-----------|---------------|------|-----------------|-------|-----|-----|-----|-------|----------|--------------|--------------|
| | | kg·m | Nm | Max. | Min. | A | B | C | D | J | K | | | |
| 80GDEL | 1,750 | 17,335 | 170,000 | 266 | 102 | 591 | 507.5 | 249 | 356 | 243 | 572 | 9.5 | 703.1 | 9.53 |
| 90GDEL | 1,550 | 23,045 | 226,000 | 290 | 114 | 660 | 565 | 276 | 394 | 265 | 641 | 13 | 984.3 | 12.25 |
| 100GDEL | 1,450 | 31,611 | 310,000 | 320 | 127 | 711 | 623 | 305 | 445 | 294 | 699 | 13 | 1,302.0 | 14.97 |
| 110GDEL | 1,330 | 42,114 | 413,000 | 373 | 140 | 775 | 679 | 333 | 495 | 322 | 749 | 13 | 1,678.3 | 17.69 |
| 120GDEL | 1,200 | 56,594 | 555,000 | 400 | 152 | 838 | 719 | 353 | 546 | 341 | 826 | 13 | 2,113.8 | 20.87 |
| 130GDEL | 1,075 | 73,317 | 719,000 | 440 | 165 | 911 | 761 | 371 | 584 | 362 | 886 | 19 | 2,594.5 | 32.66 |
| 140GDEL | 920 | 92,896 | 911,000 | 460 | 178 | 965 | 805 | 393 | 635 | 378 | 940 | 19 | 3,107.1 | 33.11 |
| 150GDEL | 770 | 112,168 | 1,100,000 | 490 | 190 | 1,029 | 857 | 419 | 686 | 408 | 1,003 | 19 | 3,764.8 | 40.82 |
| 160GDEL | 650 | 133,582 | 1,310,000 | 525 | 254 | 1,111 | 907 | 441 | 737 | 419 | 1,086 | 25 | 4,708.3 | 43.09 |
| 180GDEL | 480 | 169,272 | 1,660,000 | 600 | 286 | 1,219 | 939 | 457 | 838 | 435 | 1,194 | 25 | 6,259.6 | 49.90 |
| 200GDEL | 370 | 218,219 | 2,140,000 | 660 | 318 | 1,359 | 1,099 | 537 | 927 | 514 | 1,308 | 25 | 8,582.0 | 68.00 |

※ Coupling weight, without bore machining.

Type GSE (Single Engagement)



GSEL (Single Engagement Large)

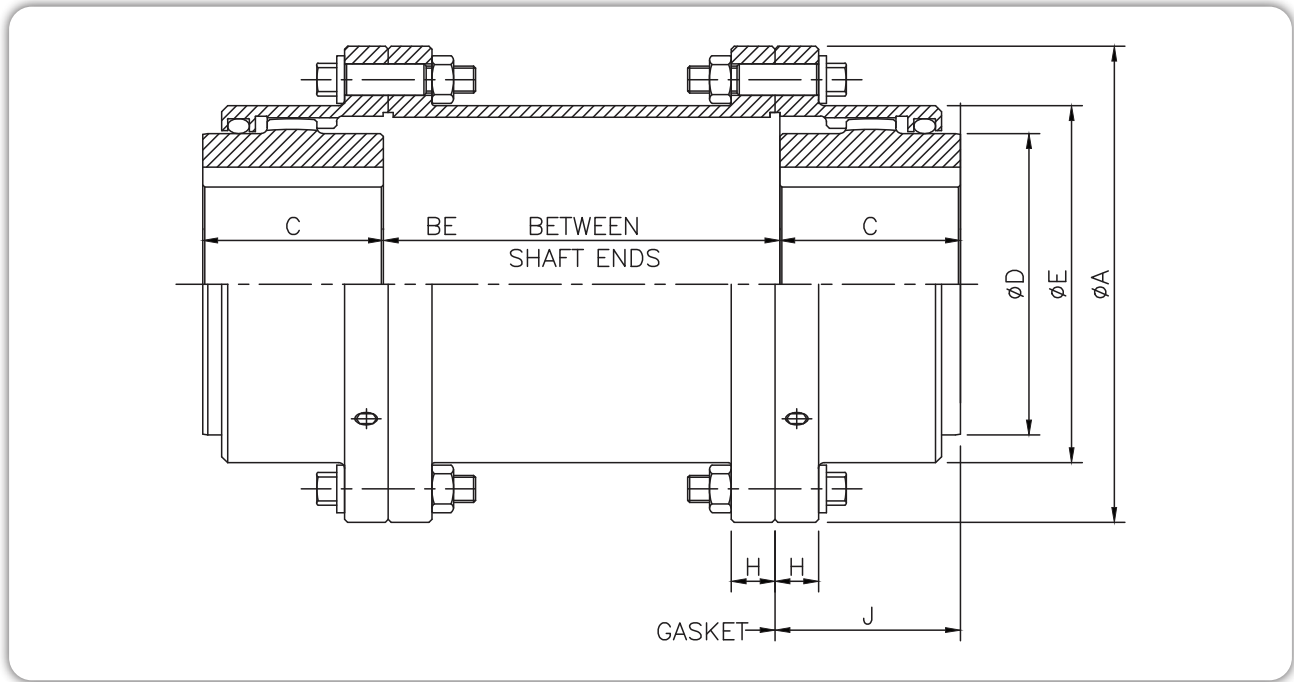


| Size | Max. Speed RPM | Torque Rating | | Bore Dia (mm) | | | Dimensions(mm) | | | | | | | Gap (mm) | Cplg wt (kg) | Lube wt (kg) |
|-------|----------------|---------------|---------|---------------|-----|------|----------------|-------|-----|-----|-----|-----|-----|----------|--------------|--------------|
| | | kg·m | Nm | Max. | | Min. | A | B | C | D | E | J | L | | | |
| | | | | CR | FL | | | | | | | | | | | |
| 10GSE | 8,000 | 116 | 1,140 | 50 | 65 | 13 | 116 | 87 | 43 | 69 | 84 | 39 | 40 | 4 | 5 | 0.02 |
| 15GSE | 6,500 | 239 | 2,350 | 65 | 80 | 20 | 152 | 99 | 49 | 86 | 105 | 48 | 46 | 4 | 10 | 0.04 |
| 20GSE | 5,600 | 435 | 4,270 | 78 | 98 | 26 | 178 | 124 | 62 | 105 | 126 | 59 | 58 | 4 | 16 | 0.07 |
| 25GSE | 5,000 | 761 | 7,470 | 98 | 118 | 32 | 213 | 156 | 77 | 131 | 155 | 72 | 74 | 5 | 28 | 0.12 |
| 30GSE | 4,400 | 1,233 | 12,100 | 111 | 140 | 39 | 240 | 184 | 91 | 152 | 180 | 84 | 88 | 5 | 42 | 0.18 |
| 35GSE | 3,900 | 1,886 | 18,500 | 134 | 163 | 51 | 279 | 213.5 | 106 | 178 | 211 | 98 | 102 | 5.5 | 69 | 0.27 |
| 40GSE | 3,600 | 3,120 | 30,600 | 160 | 196 | 64 | 318 | 243 | 121 | 210 | 245 | 111 | 115 | 7 | 99 | 0.47 |
| 45GSE | 3,200 | 4,282 | 42,000 | 183 | 216 | 77 | 346 | 274 | 135 | 235 | 274 | 123 | 131 | 8 | 129 | 0.57 |
| 50GSE | 2,900 | 5,771 | 56,600 | 200 | 235 | 89 | 389 | 309 | 153 | 254 | 306 | 141 | 147 | 9 | 189 | 0.91 |
| 55GSE | 2,650 | 7,545 | 74,000 | 220 | 266 | 102 | 425 | 350 | 168 | 279 | 334 | 158 | 173 | 9 | 254 | 1.13 |
| 60GSE | 2,450 | 9,218 | 90,400 | 244 | 290 | 115 | 457 | 384 | 188 | 305 | 366 | 169 | 186 | 10 | 312 | 1.70 |
| 70GSE | 2,150 | 13,766 | 135,000 | 289 | 340 | 127 | 527 | 454 | 221 | 355 | 425 | 196 | 220 | 13 | 488 | 2.27 |

| Size | Max. Speed RPM | Torque Rating | | Bore Dia (mm) | | | Dimensions(mm) | | | | | | | Gap (mm) | Cplg wt (kg) | Lube wt (kg) |
|---------|----------------|---------------|-----------|---------------|-----|------|----------------|-------|-----|-----|-----|-----|-------|----------|--------------|--------------|
| | | kg·m | Nm | Max. | | Min. | A | B | C | D | J | L | K | | | |
| | | | | CR | FL | | | | | | | | | | | |
| 80GSEL | 1,750 | 17,335 | 170,000 | 266 | 340 | 102 | 591 | 511 | 249 | 356 | 243 | 249 | 572 | 13 | 698.5 | 4.99 |
| 90GSEL | 1,550 | 23,045 | 226,000 | 290 | 380 | 114 | 660 | 566 | 276 | 394 | 265 | 276 | 641 | 14 | 984.3 | 6.35 |
| 100GSEL | 1,450 | 31,611 | 310,000 | 320 | 400 | 127 | 711 | 626 | 305 | 445 | 294 | 305 | 699 | 16 | 1,251.9 | 7.71 |
| 110GSEL | 1,330 | 42,114 | 413,000 | 373 | 440 | 140 | 775 | 682 | 333 | 495 | 322 | 333 | 749 | 16 | 1,637.5 | 9.07 |
| 120GSEL | 1,200 | 56,594 | 555,000 | 400 | 483 | 152 | 838 | 722 | 353 | 546 | 341 | 353 | 826 | 16 | 2,077.5 | 10.89 |
| 130GSEL | 1,075 | 73,317 | 719,000 | 440 | 500 | 165 | 911 | 761 | 371 | 584 | 362 | 371 | 886 | 19 | 2,571.9 | 16.78 |
| 140GSEL | 920 | 92,896 | 911,000 | 460 | 535 | 178 | 965 | 806 | 393 | 635 | 378 | 394 | 940 | 19 | 3,061.7 | 17.24 |
| 150GSEL | 770 | 112,168 | 1,100,000 | 490 | 580 | 190 | 1,029 | 857 | 419 | 686 | 408 | 419 | 1,003 | 19 | 3,751.2 | 20.87 |
| 160GSEL | 650 | 133,582 | 1,310,000 | 525 | 630 | 254 | 1,111 | 907 | 441 | 737 | 419 | 441 | 1,086 | 25 | 4,631.2 | 21.77 |
| 180GSEL | 480 | 169,272 | 1,660,000 | 600 | 710 | 286 | 1,219 | 939 | 457 | 838 | 435 | 457 | 1,194 | 25 | 6,069.1 | 25.40 |
| 200GSEL | 370 | 218,219 | 2,140,000 | 660 | 780 | 318 | 1,359 | 1,099 | 537 | 927 | 514 | 537 | 1,308 | 25 | 8,482.0 | 34.00 |

※ Coupling weight, without bore machining.

Type GSCD (Spacer Double Engagement)

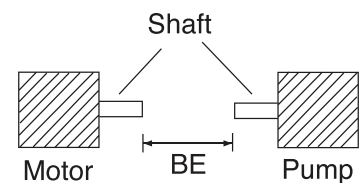


| Size | Max. Speed RPM | Torque Rating | | Bore Dia (mm) | | Dimensions (mm) | | | | | | | | Lube wt (kg) |
|--------|----------------|---------------|---------|---------------|-----|-----------------|------|------|-----|-----|-----|----|-----|--------------|
| | | | | | | A | BE | | C | D | E | H | J | |
| | | | | | | | Min. | Max. | | | | | | |
| kg·m | Nm | Max. | Min. | | | | | | | | | | | |
| 10GSCD | 7,000 | 116 | 1,140 | 50 | 13 | 116 | 83 | 311 | 43 | 69 | 84 | 14 | 39 | 0.04 |
| 15GSCD | 5,500 | 239 | 2,350 | 65 | 20 | 152 | 83 | 311 | 49 | 86 | 105 | 19 | 48 | 0.07 |
| 20GSCD | 4,600 | 435 | 4,270 | 78 | 26 | 178 | 83 | 311 | 62 | 105 | 126 | 19 | 59 | 0.11 |
| 25GSCD | 4,000 | 761 | 7,470 | 98 | 32 | 213 | 95 | 311 | 77 | 131 | 155 | 22 | 72 | 0.23 |
| 30GSCD | 3,600 | 1,233 | 12,100 | 111 | 39 | 240 | 95 | 311 | 91 | 152 | 180 | 22 | 84 | 0.36 |
| 35GSCD | 3,100 | 1,886 | 18,500 | 134 | 51 | 279 | 120 | 311 | 106 | 178 | 211 | 28 | 98 | 0.54 |
| 40GSCD | 2,800 | 3,120 | 30,600 | 160 | 64 | 318 | 120 | 311 | 121 | 210 | 245 | 28 | 111 | 0.91 |
| 45GSCD | 2,600 | 4,282 | 42,000 | 183 | 77 | 346 | 120 | 311 | 135 | 235 | 274 | 28 | 123 | 1.04 |
| 50GSCD | 2,400 | 5,771 | 56,600 | 200 | 89 | 389 | 146 | 311 | 153 | 254 | 306 | 38 | 141 | 1.77 |
| 55GSCD | 2,200 | 7,545 | 74,000 | 220 | 102 | 425 | 146 | 311 | 168 | 279 | 334 | 38 | 158 | 2.22 |
| 60GSCD | 2,100 | 9,218 | 90,400 | 244 | 115 | 457 | 146 | 311 | 188 | 305 | 366 | 25 | 169 | 3.18 |
| 70GSCD | 1,800 | 13,766 | 135,000 | 289 | 127 | 527 | 146 | 311 | 221 | 355 | 425 | 28 | 196 | 4.35 |

※ Application of spacer

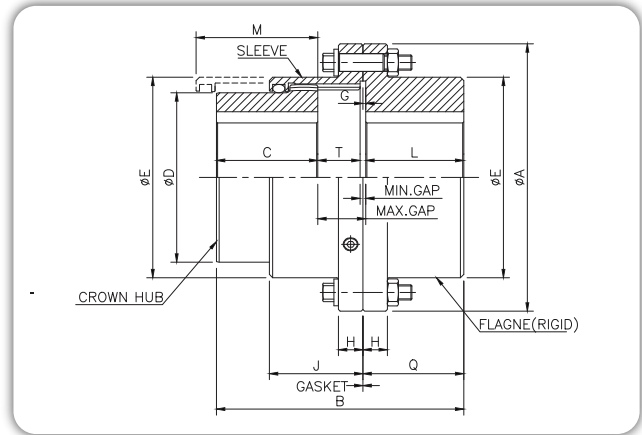
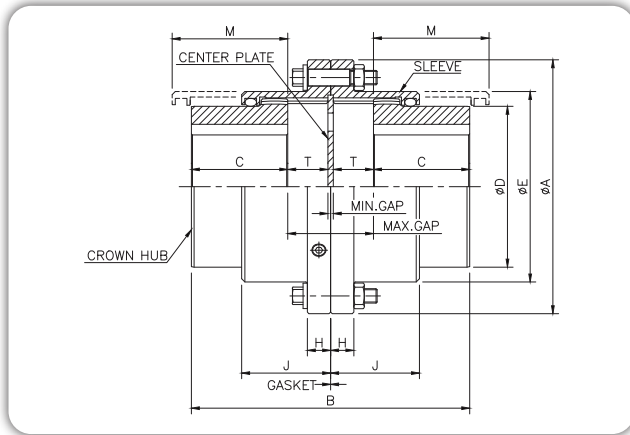
- ① When it is impossible to connect the hubs due to the distance of a wide gap between shaft ends.
- ② When it is necessary to prevent transmitting heat and electric current.

※ 'BE' is the distance between the shaft ends. State the exact 'BE' number when you order.



Type GHD (Double Slide Engagement)

GHS (Single Slide Engagement)



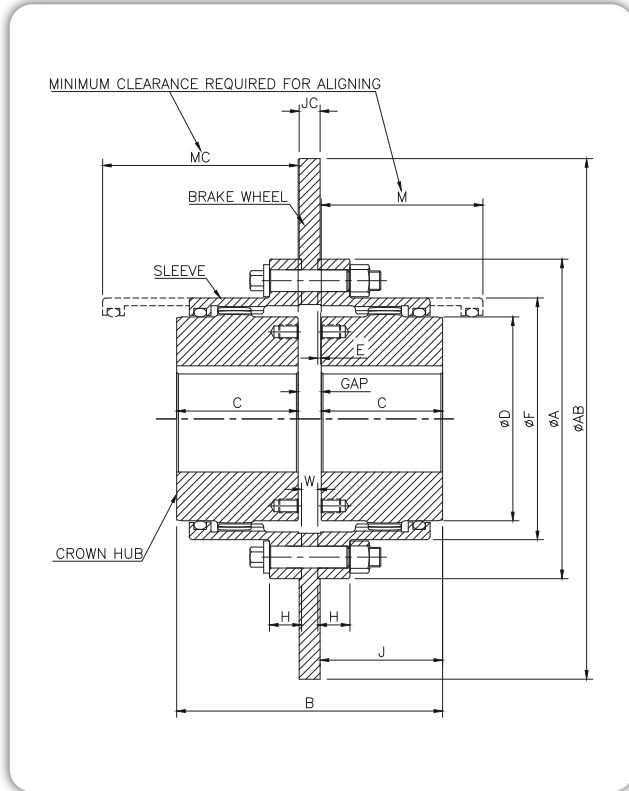
| Size | Max. Speed RPM | Torque Rating | | Bore Dia (mm) | | | Dimensions (mm) | | | | | | | | | |
|------|----------------|---------------|---------|---------------|-----|-----|-----------------|-----|-----|-----|-----|----|-----|-----|-----|-----|
| | | | | Max. | | Min | A | C | D | G | E | H | J | L | Q | M |
| | | kg·m | Nm | CR | FL | | | | | | | | | | | |
| 10GH | 5,300 | 116 | 1,140 | 50 | 65 | 13 | 116 | 43 | 69 | 2.5 | 84 | 14 | 39 | 40 | 42 | 53 |
| 15GH | 4,300 | 239 | 2,350 | 65 | 80 | 20 | 152 | 49 | 86 | 2.5 | 105 | 19 | 48 | 46 | 49 | 69 |
| 20GH | 3,700 | 435 | 4,270 | 78 | 98 | 26 | 178 | 62 | 105 | 2.5 | 126 | 19 | 59 | 58 | 61 | 84 |
| 25GH | 3,300 | 761 | 7,470 | 98 | 118 | 32 | 213 | 77 | 131 | 2.5 | 155 | 22 | 72 | 74 | 76 | 102 |
| 30GH | 2,900 | 1,233 | 12,100 | 111 | 140 | 39 | 240 | 91 | 152 | 2.5 | 180 | 22 | 84 | 88 | 90 | 118 |
| 35GH | 2,600 | 1,886 | 18,500 | 134 | 163 | 51 | 279 | 106 | 178 | 2.5 | 211 | 28 | 98 | 102 | 105 | 135 |
| 40GH | 2,400 | 3,120 | 30,600 | 160 | 196 | 64 | 318 | 121 | 210 | 4 | 245 | 28 | 111 | 115 | 119 | 155 |
| 45GH | 2,100 | 4,282 | 42,000 | 183 | 216 | 77 | 346 | 135 | 235 | 4 | 274 | 28 | 123 | 131 | 135 | 163 |
| 50GH | 1,900 | 5,771 | 56,600 | 200 | 235 | 89 | 389 | 153 | 254 | 5 | 306 | 38 | 141 | 147 | 152 | 189 |
| 55GH | 1,800 | 7,545 | 74,000 | 220 | 266 | 102 | 425 | 168 | 279 | 5 | 334 | 38 | 158 | 173 | 178 | 221 |
| 60GH | 1,600 | 9,218 | 90,400 | 244 | 290 | 115 | 457 | 188 | 305 | 6.6 | 366 | 25 | 169 | 186 | 193 | 227 |
| 70GH | 1,400 | 13,766 | 135,000 | 289 | 340 | 127 | 527 | 221 | 355 | 8.4 | 425 | 28 | 196 | 220 | 229 | 235 |

※ 'M' is variable according to the sliding distance

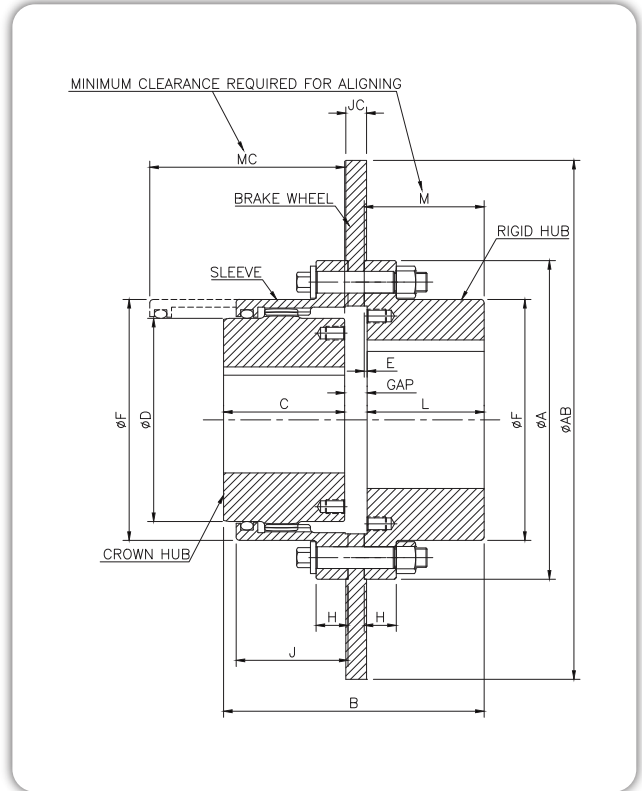
| Size | GHD (Double Engagement) | | | | | | | GHS (Single Engagement) | | | | | | Size |
|------|-------------------------|--------|-------|------|------|--------------|--------------|-------------------------|--------|------|------|--------------|--------------|------|
| | B. Max. | T Max. | | Gap | | Cplg wt (kg) | Lube wt (kg) | B Max. | T Max. | GAP | | Cplg wt (kg) | Lube wt (kg) | |
| | | Half | Total | Max. | Min. | | | | | Min. | Max. | | | |
| 10GH | 126 | 16 | 32 | 40 | 8 | 5 | 0.02 | 106 | 19 | 23 | 4 | 5 | 0.01 | 10GH |
| 15GH | 152 | 23 | 46 | 54 | 8 | 9 | 0.04 | 124 | 25 | 29 | 4 | 10 | 0.02 | 15GH |
| 20GH | 186 | 27 | 54 | 62 | 8 | 17 | 0.06 | 153 | 29 | 33 | 4 | 16 | 0.04 | 20GH |
| 25GH | 231 | 34 | 68 | 77 | 9 | 28 | 0.11 | 192 | 36 | 41 | 5 | 28 | 0.06 | 25GH |
| 30GH | 263 | 36 | 72 | 81 | 9 | 42 | 0.18 | 222 | 38 | 43 | 5 | 42 | 0.11 | 30GH |
| 35GH | 313 | 45 | 90 | 101 | 11 | 68 | 0.27 | 262 | 48 | 54 | 6 | 69 | 0.18 | 35GH |
| 40GH | 364 | 54 | 108 | 122 | 14 | 100 | 0.45 | 300 | 57 | 64 | 7 | 99 | 0.27 | 40GH |
| 45GH | 406 | 60 | 120 | 136 | 16 | 127 | 0.51 | 338 | 64 | 72 | 8 | 129 | 0.34 | 45GH |
| 50GH | 460 | 68 | 136 | 154 | 18 | 183 | 0.91 | 382 | 73 | 82 | 9 | 189 | 0.54 | 50GH |
| 55GH | 510 | 78 | 156 | 174 | 18 | 239 | 1.13 | 433 | 83 | 91 | 9 | 254 | 0.73 | 55GH |
| 60GH | 563 | 83 | 166 | 187 | 21 | 300 | 1.19 | 473 | 89 | 99 | 10 | 312 | 0.96 | 60GH |
| 70GH | 669 | 99 | 198 | 224 | 26 | 461 | 2.18 | 561 | 107 | 120 | 13 | 488 | 1.36 | 70GH |

※ Coupling weight, without bore machining.

TYPE GDBW (Disc Brake Wheel Double Engagemet)

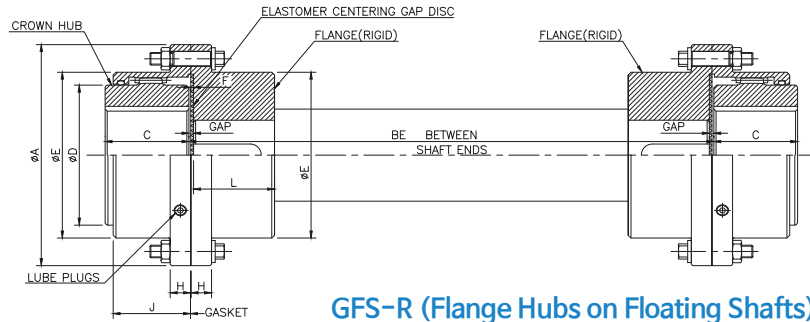


GSBW (Disc Brake Wheel Single Engagemet)

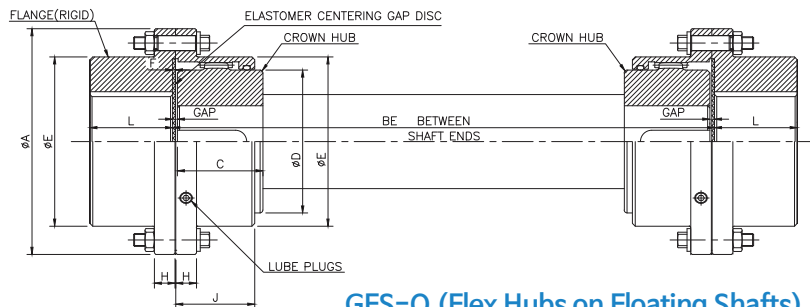


| Size | Max.Brake Rating of Cplg | | Brake Disc Size Dia. (Min) AB(mm) | Bore(mm) | | | | Dimensions(mm) | | | | | | | | | | | LUBE wt (kg) | | | |
|--------|--------------------------|--------|-----------------------------------|----------|-----|-----|-----|----------------|-----|-----|-----|-----|-----|----|-----|-----|-----|----|--------------|----|------|------|
| | kg·m | Nm | | Max. | | Min | A | B | | C | D | E | F | H | J | L | M | W | GAP | | GD | GS |
| | | | | CR | FL | | | GD | GS | | | | | | | | | | GD | GS | | |
| 10GDBW | 25 | 251 | 178 | 50 | 65 | 13 | 116 | 99 | 97 | 43 | 69 | 2.5 | 84 | 14 | 39 | 40 | 51 | 10 | 13 | 14 | 0.04 | 0.02 |
| 15GDBW | 58 | 569 | 203 | 65 | 80 | 20 | 152 | 114 | 112 | 49 | 86 | 2.5 | 105 | 19 | 48 | 46 | 61 | 13 | 16 | 17 | 0.07 | 0.04 |
| 20GDBW | 107 | 1,050 | 244 | 78 | 98 | 26 | 178 | 140 | 137 | 62 | 105 | 2.5 | 126 | 19 | 59 | 58 | 76 | 13 | 16 | 17 | 0.11 | 0.07 |
| 25GDBW | 193 | 1,897 | 289 | 98 | 118 | 32 | 213 | 173 | 170 | 77 | 131 | 2.5 | 155 | 22 | 72 | 74 | 91 | 14 | 19 | 19 | 0.23 | 0.12 |
| 30GDBW | 317 | 3,117 | 320 | 111 | 140 | 39 | 240 | 201 | 198 | 91 | 152 | 2.5 | 180 | 22 | 84 | 88 | 107 | 14 | 19 | 19 | 0.36 | 0.18 |
| 35GDBW | 490 | 4,810 | 371 | 134 | 163 | 51 | 279 | 237 | 233 | 106 | 178 | 2.5 | 211 | 28 | 98 | 102 | 130 | 19 | 25 | 25 | 0.54 | 0.27 |
| 40GDBW | 746 | 7,317 | 429 | 160 | 196 | 64 | 318 | 267 | 262 | 121 | 210 | 4.1 | 245 | 28 | 111 | 115 | 145 | 19 | 25 | 26 | 0.91 | 0.47 |
| 45GDBW | 1,022 | 10,027 | 457 | 183 | 216 | 77 | 346 | 297 | 293 | 135 | 235 | 4.1 | 274 | 28 | 123 | 131 | 165 | 19 | 27 | 27 | 1.04 | 0.57 |
| 50GDBW | 1,382 | 13,550 | 492 | 200 | 235 | 89 | 389 | 339 | 334 | 153 | 254 | 5.1 | 306 | 38 | 141 | 147 | 183 | 25 | 33 | 34 | 1.77 | 0.91 |
| 55GDBW | 1,813 | 17,784 | 430 | 220 | 266 | 102 | 425 | 369 | 375 | 168 | 279 | 5.1 | 334 | 38 | 158 | 173 | 203 | 25 | 33 | 34 | 2.22 | 1.13 |
| 60GDBW | 2,349 | 23,035 | 584 | 244 | 290 | 115 | 457 | 409 | 410 | 188 | 305 | 6.6 | 366 | 25 | 169 | 186 | 229 | 25 | 33 | 36 | 3.18 | 1.70 |
| 70GDBW | 3,413 | 33,469 | 660 | 289 | 340 | 127 | 527 | 447 | 479 | 221 | 355 | 8.4 | 425 | 28 | 196 | 220 | 267 | 25 | 35 | 38 | 4.35 | 2.27 |

Type GFS (Single Engagement with Floating Shafts)



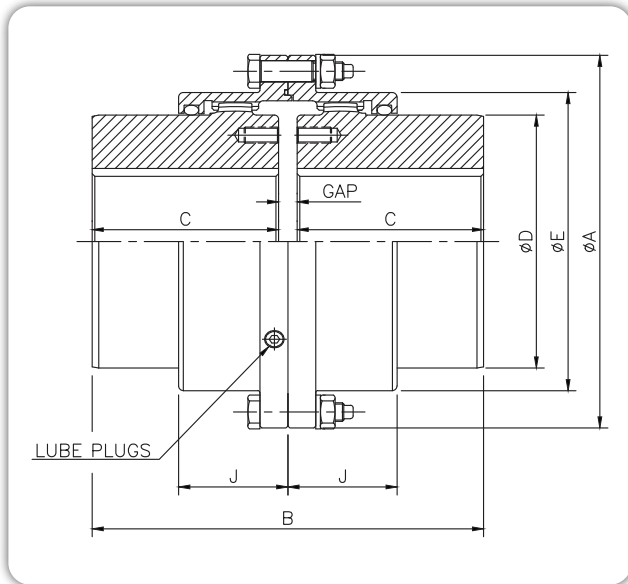
GFS-R (Flange Hubs on Floating Shafts)



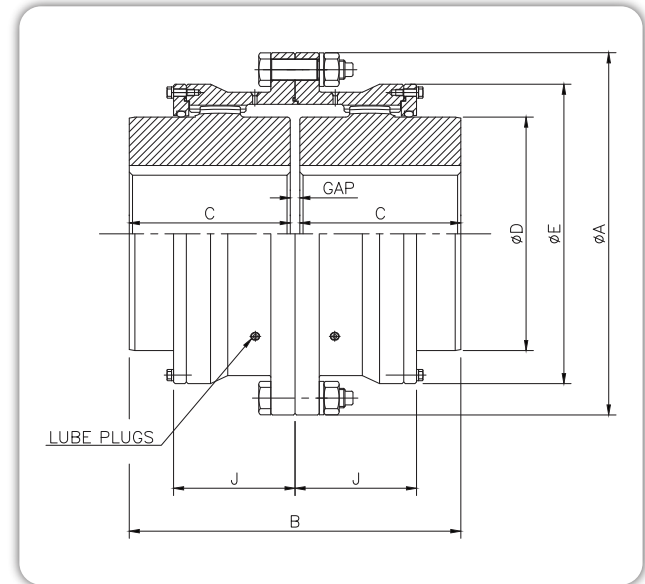
GFS-O (Flex Hubs on Floating Shafts)

| Size | Torque Rating | | Bore Dia (mm) | | | Dimensions (mm) | | | | | | | | | | Gap (mm) | Lube wt (kg) |
|-------|---------------|---------|---------------|-----|-----|-----------------|---------|-------|-----|-----|-----|-----|----|-----|-----|----------|--------------|
| | | | Max. | | Min | A | BE Min. | | C | D | F | E | H | J | L | | |
| | kg·m | Nm | CR | FL | | | GFS-R | GFS-O | | | | | | | | | |
| 10GFS | 116 | 1,140 | 50 | 65 | 13 | 116 | 92 | 133 | 43 | 69 | 2.5 | 84 | 14 | 39 | 40 | 4 | 0.02 |
| 15GFS | 239 | 2,350 | 65 | 80 | 20 | 152 | 105 | 159 | 49 | 86 | 2.5 | 105 | 19 | 48 | 46 | 4 | 0.04 |
| 20GFS | 435 | 4,270 | 78 | 98 | 26 | 178 | 129 | 197 | 62 | 105 | 2.5 | 126 | 19 | 59 | 58 | 4 | 0.07 |
| 25GFS | 761 | 7,470 | 98 | 118 | 32 | 213 | 162 | 241 | 77 | 131 | 2.5 | 155 | 22 | 72 | 74 | 5 | 0.12 |
| 30GFS | 1,233 | 12,100 | 111 | 140 | 39 | 240 | 189 | 279 | 91 | 152 | 2.5 | 180 | 22 | 84 | 88 | 5 | 0.18 |
| 35GFS | 1,886 | 18,500 | 134 | 163 | 51 | 279 | 219 | 324 | 106 | 178 | 2.5 | 211 | 28 | 98 | 102 | 5.5 | 0.27 |
| 40GFS | 3,120 | 30,600 | 160 | 196 | 64 | 318 | 248 | 419 | 121 | 210 | 4.1 | 245 | 28 | 111 | 115 | 7 | 0.47 |
| 45GFS | 4,282 | 42,000 | 183 | 216 | 77 | 346 | 281 | 508 | 135 | 235 | 4.1 | 274 | 28 | 123 | 131 | 8 | 0.57 |
| 50GFS | 5,771 | 56,600 | 200 | 235 | 89 | 389 | 316 | 533 | 153 | 254 | 5.1 | 306 | 38 | 141 | 147 | 9 | 0.91 |
| 55GFS | 7,545 | 74,000 | 220 | 266 | 102 | 425 | 367 | 572 | 168 | 279 | 5.1 | 334 | 38 | 158 | 173 | 9 | 1.13 |
| 60GFS | 9,218 | 90,400 | 244 | 290 | 115 | 457 | 397 | 597 | 188 | 305 | 6.6 | 366 | 25 | 169 | 186 | 10 | 1.70 |
| 70GFS | 13,766 | 135,000 | 289 | 340 | 127 | 527 | 470 | 673 | 221 | 355 | 8.4 | 425 | 28 | 196 | 220 | 13 | 2.27 |

Type SS (Double Engagement)



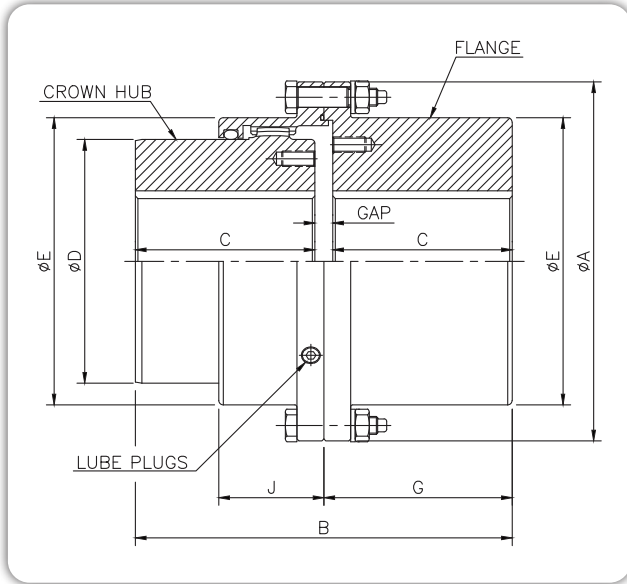
CC (Double Engagement Large)



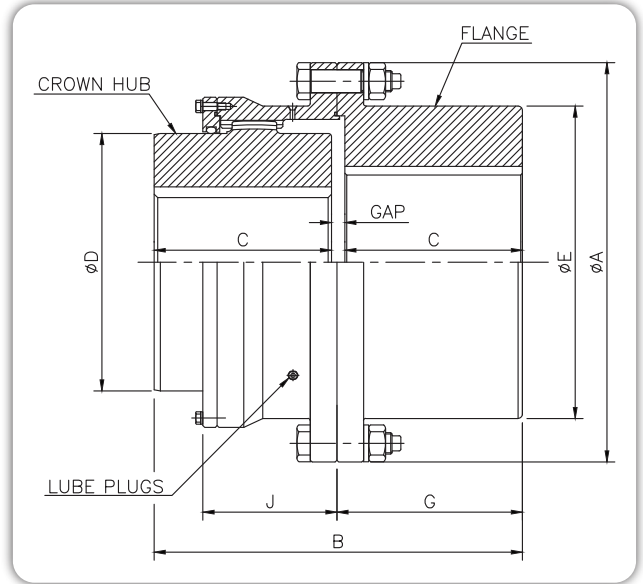
| Size | Max. Speed RPM | Torque Rating | | Bore Dia (mm) | | Dimensions (mm) | | | | | | Gap (mm) | Clpg wt (kg) | Lube wt (kg) |
|-------|----------------|---------------|---------|---------------|------|-----------------|-----|-----|-----|-----|-----|----------|--------------|--------------|
| | | kg·m | Nm | Max. | Min. | A | B | C | D | E | J | | | |
| SS100 | 3,600 | 42 | 421 | 32 | 17 | 100 | 88 | 40 | 46 | 67 | 34 | 8 | 3 | 0.03 |
| SS112 | 3,600 | 80 | 788 | 40 | 17 | 112 | 108 | 50 | 58 | 79 | 39 | 8 | 5 | 0.04 |
| SS125 | 3,600 | 142 | 1,400 | 50 | 22 | 125 | 134 | 63 | 70 | 92 | 44 | 8 | 7 | 0.05 |
| SS140 | 3,600 | 204 | 2,010 | 56 | 22 | 140 | 150 | 71 | 80 | 107 | 47 | 8 | 9 | 0.07 |
| SS160 | 3,600 | 314 | 3,080 | 65 | 22 | 160 | 170 | 80 | 95 | 120 | 52 | 10 | 14 | 0.09 |
| SS180 | 3,600 | 482 | 4,730 | 75 | 32 | 180 | 190 | 90 | 105 | 134 | 56 | 10 | 19 | 0.12 |
| SS200 | 3,600 | 688 | 6,750 | 85 | 32 | 200 | 210 | 100 | 120 | 149 | 61 | 10 | 26 | 0.15 |
| SS224 | 3,080 | 1,000 | 9,810 | 100 | 42 | 224 | 236 | 112 | 145 | 174 | 65 | 12 | 38 | 0.25 |
| SS250 | 2,650 | 1,468 | 14,400 | 115 | 42 | 250 | 262 | 125 | 165 | 200 | 74 | 12 | 56 | 0.35 |
| SS280 | 2,340 | 2,335 | 22,900 | 135 | 42 | 280 | 294 | 140 | 190 | 224 | 82 | 14 | 83 | 0.48 |
| SS315 | 1,980 | 3,681 | 36,100 | 160 | 100 | 315 | 356 | 170 | 225 | 260 | 98 | 16 | 135 | 0.77 |
| SS355 | 1,800 | 5,547 | 54,400 | 180 | 125 | 355 | 396 | 190 | 250 | 288 | 108 | 16 | 184 | 0.94 |
| SS400 | 1,570 | 7,790 | 76,400 | 200 | 140 | 400 | 418 | 200 | 285 | 329 | 114 | 18 | 261 | 1.36 |
| CC450 | 1,540 | 9,483 | 93,000 | 205 | 140 | 450 | 418 | 200 | 290 | 372 | 151 | 18 | 304 | 1.79 |
| CC500 | 1,320 | 12,950 | 127,000 | 236 | 170 | 500 | 494 | 236 | 335 | 425 | 168 | 22 | 453 | 2.64 |
| CC560 | 1,170 | 20,802 | 204,000 | 275 | 190 | 560 | 552 | 265 | 385 | 475 | 187 | 22 | 664 | 3.23 |
| CC630 | 990 | 31,509 | 390,000 | 325 | 224 | 630 | 658 | 315 | 455 | 548 | 213 | 28 | 1,020 | 4.93 |
| CC710 | 970 | 45,887 | 450,000 | 360 | 250 | 710 | 738 | 355 | 510 | 622 | 242 | 28 | 1,460 | 6.63 |
| CC800 | 780 | 65,567 | 643,000 | 405 | 280 | 800 | 832 | 400 | 570 | 690 | 267 | 32 | 2,090 | 9.35 |

※ Coupling weight, without bore machining

Type SE (Single Engagement)



CE (Single Engagement Large)



| Size | Max. Speed RPM | Torque Rating | | Bore Dia (mm) | | | Dimensions (mm) | | | | | | | Gap (mm) | Clpg wt (kg) | Lube wt (kg) |
|-------|----------------|---------------|---------|---------------|-----|------|-----------------|-----|-----|-----|-----|-----|-----|----------|--------------|--------------|
| | | kg·m | Nm | Max. | | Min. | A | B | C | D | E | G | J | | | |
| | | | | CR | FL | | | | | | | | | | | |
| SE100 | 3,600 | 42 | 421 | 32 | 40 | 17 | 100 | 88 | 40 | 46 | 67 | 44 | 34 | 8 | 3 | 0.03 |
| SE112 | 3,600 | 80 | 788 | 40 | 50 | 17 | 112 | 108 | 50 | 58 | 79 | 54 | 39 | 8 | 5 | 0.04 |
| SE125 | 3,600 | 142 | 1,400 | 50 | 56 | 22 | 125 | 134 | 63 | 70 | 92 | 67 | 44 | 8 | 7 | 0.05 |
| SE140 | 3,600 | 204 | 2,010 | 56 | 63 | 22 | 140 | 150 | 71 | 80 | 107 | 75 | 47 | 8 | 9 | 0.07 |
| SE160 | 3,600 | 314 | 3,080 | 65 | 75 | 22 | 160 | 170 | 80 | 95 | 120 | 85 | 52 | 10 | 14 | 0.09 |
| SE180 | 3,600 | 482 | 4,730 | 75 | 80 | 32 | 180 | 190 | 90 | 105 | 134 | 95 | 56 | 10 | 19 | 0.12 |
| SE200 | 3,600 | 688 | 6,750 | 85 | 95 | 32 | 200 | 210 | 100 | 120 | 149 | 105 | 61 | 10 | 26 | 0.15 |
| SE224 | 3,080 | 1,000 | 9,810 | 100 | 105 | 42 | 224 | 236 | 112 | 145 | 174 | 118 | 65 | 12 | 38 | 0.25 |
| SE250 | 2,650 | 1,468 | 14,400 | 115 | 125 | 42 | 250 | 262 | 125 | 165 | 200 | 131 | 74 | 12 | 56 | 0.35 |
| SE280 | 2,340 | 2,335 | 22,900 | 135 | 150 | 42 | 280 | 294 | 140 | 190 | 224 | 147 | 82 | 14 | 83 | 0.48 |
| SE315 | 1,980 | 3,681 | 36,100 | 160 | 180 | 100 | 315 | 356 | 170 | 225 | 260 | 178 | 98 | 16 | 135 | 0.77 |
| SE355 | 1,800 | 5,547 | 54,400 | 180 | 200 | 125 | 355 | 396 | 190 | 250 | 288 | 198 | 108 | 16 | 184 | 0.94 |
| SE400 | 1,570 | 7,790 | 76,400 | 200 | 236 | 140 | 400 | 418 | 200 | 285 | 329 | 209 | 114 | 18 | 261 | 1.36 |
| CE450 | 1,540 | 9,483 | 93,000 | 205 | 225 | 140 | 450 | 418 | 200 | 290 | 372 | 209 | 151 | 18 | 304 | 1.79 |
| CE500 | 1,320 | 12,950 | 127,000 | 236 | 270 | 170 | 500 | 494 | 236 | 335 | 425 | 247 | 168 | 22 | 453 | 2.64 |
| CE560 | 1,170 | 20,802 | 204,000 | 275 | 305 | 190 | 560 | 552 | 265 | 385 | 475 | 276 | 187 | 22 | 664 | 3.23 |
| CE630 | 990 | 31,509 | 309,000 | 325 | 355 | 224 | 630 | 658 | 315 | 455 | 548 | 329 | 213 | 28 | 1,020 | 4.93 |
| CE710 | 970 | 45,887 | 450,000 | 360 | 400 | 250 | 710 | 738 | 355 | 510 | 622 | 369 | 242 | 28 | 1,460 | 6.63 |
| CE800 | 780 | 65,567 | 643,000 | 405 | 450 | 280 | 800 | 832 | 400 | 570 | 690 | 416 | 267 | 32 | 2,090 | 9.35 |

※ Coupling weight, without bore machining

Service Factor and Reference

Service Factor

The service factors listed are the typical values used for normal operation of drive systems. If the applications use repetitive high peak loads, choose a factor by using the provided instructions or formulas.

Table 1

| | | |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Alphabetical listing of applications AERATOR2.5 AGITATORS Vertical and Horizontal screw,propeller,Paddle1.5 BARGE HAUL PULLER3.0 BLOWERS Centrifugal1.5 Lobe or Vane1.75 CAR DUMPERS4.0 CAR PULLERS2.5 CLARIFIER OR CLASSIFIER1.5 COMPRESSORS Centrifugal1.1 Rotary,Lobe or Vane2.0 Rotary,Screw2.0 Reciprocation Direct,Connected ★ With out Flywheels ★ *With flywheel and Gear between Compressor and Prime Mover 1 cylinder,single acting5.0 1 cylinder,double acting5.0 2 cylinders,single acting5.0 2 cylinders,double acting5.0 3 cylinder,single acting5.0 3 cylinder,double acting3.0 4 or more cyl.. single act3.5 4 or more cyl.. double act3.5 CONVEYORS Apron,Assembly,Belt,Chain Flight,Screw1.5 Bucket2.0 Live Roll,Shaker and Reciprocation3.5 ▲★CRANES AND HOIST Main Hoist5 Skip Hoist2.5 Slope2.25 Bridge,Travel or Trolley5 DYNAMOMETER1.5 ELEVATORS Bucket,Centrifugal Discharge2.0 Freight or Passenger (Not Approved) Gravity discharge2.0 ESCALATORS (Not Approved) EXCITER GENERATOR1.75 EXTRUDER, PLASTICI2.25 | FANS Centrifugal1.1 Cooling Tower3.0 Forced Draft-Across the Line start2.0 Forced Draft Motro Driven thru fluid or electric slip clutch1.5 Gas Recirculating2.5 Induced Draft with damper control or blade cleaner2.0 Induced Draft without controls3.0 FEEDERS3.0 Apron,Belt,Disc,Screw2.0 Reciprocation3.5 GENERATORS Even Load1.1 Hoist or Railway Service2.0 Welder Load3.0 HAMMERMULL2.5 LAUNDRY WASHER OR TUMBLER3.0 LINE SHAFTS Any processing Machinery2.0 MACHINE TOOLS Auxiliary and Traverse Drive1.5 Bending Roll,Notching press. Punch Press, Planer, Plate Reversing2.5 Main Drive2.0 MAN LIFTS (Not Approved) METAL FORMING MACHINES Draw Bench Carriage and Main Drive3.0 Extrude3.0 Forming Machine and Forming Mills3.0 Slitters1.5 Wire Drawing or Flattening2.5 Wire Winder2.25 Coilers and Uncoilers2.25 MIXERS (see Agitators) Concrete2.5 Muller2.5 PRESS,PRINTING2.25 PUG MILL2.5 PULVERIZERS Hammermill and Hog2.5 Roller2.0 PUMPS Centrifugal Constant Spend 1.1 | Frequent Speed Changes under Load2.0 Descaking,with accumulators2.0 Gear,Rotary, or Vane1.75 Reciprocating 1 cyl..single or double act.3.0 2 cyl..single acting3.0 2 cyl..double acting2.5 3 or more cyliders2.0 SCREENS Air Washing1.5 Grizzly3.0 Rotary Coal or Sand2.0 Vibrating3.5 Water1.5 SKI TOWS & LIFTS (Not Approved) STEERING GEAR1.5 STOKER1.5 TUMBLING BARREL1.5 WINCH,MANEUVERING Dredge,Marine2.5 WINDLASS2.0 WOODWDORKING2.0 MACHINERY1.5 WORK LIFT PLATFORMS (Not approved) Alphabetical listing of industries AGGREGATE PROCESSING, CEMENT, MINING KILNS: TUBE,ROD AND BALL MILLS Direct or on L.S. shaft of Reducer, with final drive Machined Spur Gears3.0 Single Helical or Herringbone Gears2.25 Conveyors,Feeders,Screens, Elevators,See General Listing Crushers,Ore or Stone3.5 Dryer, Rotary2.0 Grizzly3.0 Hammermill or Hog2.5 Tumbling Mill or Barrel2.5 BREWING AND DISTILLING Bottle and Can Filling Machines1.5 Brew Kettle1.5 Cookers,Continuous Duty1.75 Lauter Tub2.25 Mash Tub1.75 Scale Hopper,Frequent Peaks2.25 CLAY WORKING INDUSTRY Brick Press, Briquette Machine, Clay Working Machine, Plug Mill2.5 |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

- a. In case of a slide coupling that axial movement occurs more than five times per hour, add 0.5 to the service factor. When electric motors, generators, engines, compressors and other machines are assembled with sleeves or straight roller bearings, axial end float couplings should be used to protect the bearings. When ordering, also order limited end float discs with the coupling.
- b. *Contact us for a balanced opposed design.
- c. ▲When using in a place with risk to human safety, for safety reasons, consult us before using.
- d. ★ Contact us for high peak load applications (such as Metal Rolling Mills)
- e. Non-reversing safety factor: The required coupling torque is the same as the peak torque.
- f. Reversing safety factor: The required coupling torque is twice the peak torque.







Engine Drive Service Factors

It is necessary to use a service factor for engine drives when the application involves good flywheel regulation to prevent torque fluctuations that are greater than ± 20%. If the torque fluctuation is greater, or if operation is close to serious critical or torsional vibration, a mass elastic study will be required. To use Table 2, begin by selecting an application service factor from Table 1. Use that service factor to choose the appropriate engine service factor from Table 2. If the service factor from Table 1 is more than 2.5, please submit the complete application details to the factory for an engineering review.

Table 2. Engine Drive Service Factors

| Number of cylinders | 4 or 5 | | | | | 6 or more | | | | |
|-----------------------|--------|------|-----|------|-----|-----------|------|-----|------|-----|
| Service Factor | 1.5 | 1.75 | 2.0 | 2.25 | 2.5 | 1.5 | 1.75 | 2.0 | 2.25 | 2.5 |
| Engine Service Factor | 2.5 | 2.75 | 3.0 | 3.25 | 3.5 | 2.5 | 2.75 | 3.0 | 3.25 | 3.5 |

For best results, measure the system characteristics with a torque meter. The service factors provided here are only a guide based on the usual ratio between the coupling catalogue rating and general system characteristics.

| Torque Demands Driven Machine | Typical applications for Driven Equipment | Typical Service Factor |
|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------|------------------------|
|  | Constant torque such as Centrifugal Pumps, Blowers and Compressors. | 1.0 |
|  | Continuous duty with some torque variations including Plastic Extruders, Forced Draft Fans. | 1.5 |
|  | Light shock loads from Metal Extruders, Cooling Towers, Cane Knife, Log Haul. | 2.0 |
|  | Moderate shock loading as expected from a Car Dumper, Stone Crusher, Vibrating Screen. | 2.5 |
|  | Heavy shock load with some negative torques from Roughing Mills, Reciprocating Pumps, Compressors, Reversing Runout Talbes. | 3.0 |
|  | Applications like Reciprocating Compressors with frequent torque reversals, which do not necessarily cause reverse rotations. | Refer to WCC |

Shrink Heating

1. Introduction

Heat shrinking is necessary and practical in industries that require more power and precision than is possible with other fitting methods.

2. Interference

1/1,000 to 15/10,000 (mm) of the shaft diameter d

3. Methods and Procedures for Fitting

- A) If you use a key, put the key on the shaft first and lubricate it. If there is no key, do not apply lubricant.
- B) Before fitting the hub on to the shaft, with the steel flexible coupling insert the tv cover and oil seal first. In case of the gear coupling, insert the sleeve, side cover first.
- C) To heat, choose one of the following methods and heat to 135°C:

- ① Oxy-acetylene or blow-torch heating Mark near the surface of the hub with a crayon that melts at 135°C. Then pass the flame through the inner diameter to heat it. Do not put heat directly on the tooth surface during heating, or heat only one side.
- ② Heating in a furnace Set the thermometer to 135°C and heat for at least three minutes per 1 mm thickness. Avoid direct contact with heat sources during heating.
- ③ Oil bath heating Put the hub in oil with a boiling point of 177°C or higher and heat it for six minutes per 1 mm thickness. Do not let the surface of the hub touch the bottom of the container during heating.

4. Mount the hub as soon as possible to prevent heat loss.