POWER MAX PLUS
Line ID : @powermaxplus | Tel. 02-408-1000

TECHNOFLEX

GEAR COUPLINGS

ติดต่อฝ่ายขายโทร.02-408-1000

TNF Gear Coupling follows the international standard AGMA and JIS, and so can easily replace most of industrial products. This flexible coupling compensate angular misalignment, parallel misalignment and end float. The fully crowned hub teeth provide minimum loading stress, and ensure longer life.

Designation

TNF — 15 9 GD

- GD : Coupling (A class of coupling : Gear Coupling)
- 9 : (Mark of Type)
- 15 : (Size No.)
- TNF : Technoflex

- PGD : Double Engagement Coupling
- PGDL : Double Engagement Large type
- PGS : Single Engagement Coupling
- PGSL : Single Engagement Large type
- PGDS : Spacer Coupling Double Engagement
- PGH10 : Double Engagement Horizontal Sliding Coupling
- PGH20 : Single Engagement Horizontal Sliding Coupling

TNF — 250 PSS

- PSS : (Mark of Type)
- 250 : (Size No.)
- TNF : Technoflex

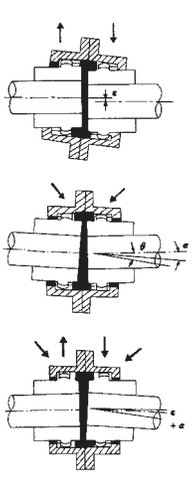
- PSS : Gear Double Engagement Coupling
- PSE : Gear Single Engagement Coupling
- PCC : Gear Double Engagement Coupling Large type
- PCE : Gear Single Engagement Coupling Large type

Characteristic

1. High torque, small size, long life and very little loss of transmitting power.

2. The concave-convex flange design help a easy assembly, and the high quality O-ring prevent leakage of lubricant.

3. Gear Coupling permits parallel, angular and end floating misalignments by its crown gear tooth.



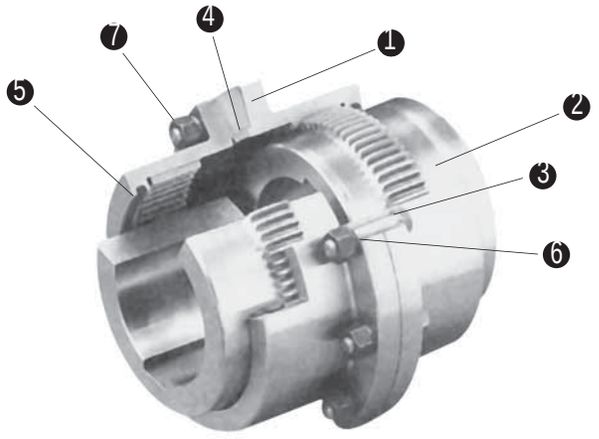
- **Parallel Misalignment**
  The driving and driven shafts are parallel to each other, but not on the same straight line.
- **Anglular Misalignment**
  The driving and driven shafts installed with an limited angle.
- **End Floating**
  The driving and driven shafts slide sliqhtly along the gear teeth.
- **Composite Misalignment**
  Most of cases, above 3 misalignments appear mixed in an application.

Allowable Misalignment

Size / S	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
$\theta(a)$	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)

4. The coupling made of S45C has a good endurance to high speed and peak load consult use for special materials.
5. Customer's special design can be supplied.

Structure



1. Internal Gear
2. Crown Gear
3. Reamer Bolt
4. O-ring
5. O-ring
6. Spring Washer
7. Hex. Nut

※ The crowned hub tooth provide larger contact area, and lower the stress.

Application

1. Heavy load, but compact design coupling required.
2. High speed up to 5,000 rpm (Depending on size refer to the data)
3. Low speed but high starting torque required.
4. End float application.
5. Spacer required due to longer distance between shaft ends.
6. Low load and light weight application is not recommended.

Standard Material

INTERNAL GEAR	CROWN GEAR	FLANGE	Bolt	O-ring
SM 45C-N			SM 45-H	NBR

※ Special materials and or special treatment is required under the unusual application environments such as high speed, high or low temperature, chemical corrosiveness, maximum load stress.
※ Under the heavy load, high speed and corrosion environment, special materials will be required.

Selection method of size

1. Selection

① Using the following formula, obtain Design Torque required.

$$Tmax = \frac{P \times 9{,}550}{n} \times s.f$$

Tmax = Design maxtorque (Nm)
P = Power (kw)
n = Working revolution (rpm)
S.f = Recommended Service Factor

② Select the size with the same or with the greater value at the Basic Torque column, refer to the maximum speed allowed to the size selected, and then compare the shaft diameters of the application with the max. If the coupling bore size is not suitable, select the next larger coupling size.

2. Special requirements

① At the application of the Sliding Gear Coupling (type PGH) that endfloat movement occurs more than 5 times per hour, add 0.5 to the listed value of service factor.

② At the applications such as continuous reverse motions, intermittent operation, often peak load and high inertia required system, multiply 1.5 to the Design Torque calculated.

③ In the type PGF-R and PGF-O the thickness and longth of intermediate shaft must be determined according to our company's material program. Consult with Technodrive.

④ Selecting the size of types PGDBW and PGSBW, apply brake power if exceeds the prime over power.

Displacement

In a normal coupling mounted with offset displacement an inclination of (tan ⌀ = $\frac{\triangle E}{L}$) at the teeth as shown Fig.2. If it is properly mounted without any displacement the external tooth comes in contact with the mating internal tooth at the middle of the crowned potion (Ro) as shown in Fig.3 (a), and if it is mounted with offset and angular displacement, the former will come in contact with the letter at a point distant form the middle of the crowned portion as shown in Fig.3 (b).

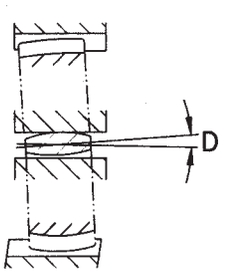


Fig.2
Shows the section of a pair of teeth in mesh under offset & angular displacement

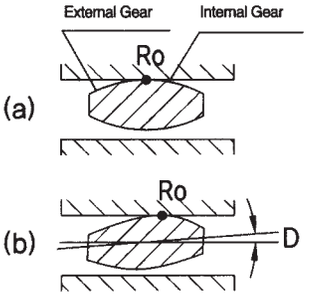
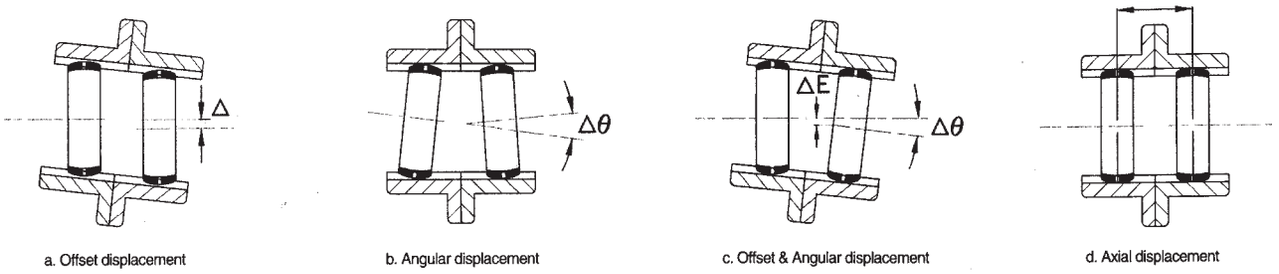


Fig.3
Shows an external and internal-tooth in mesh

1. Examples of Displacement

Fig.4



a. Offset displacement
b. Angular displacement
c. Offset & Angular displacement
d. Axial displacement

2. Allowable Amounts of Misalignments

The following tables show the allowable amounts of displacement determined by a structural consideration. It is, therefore, practically recommended that the alignment should be made as accurately as possible according to the service conditions such as the place of application, type of machine, service rpm, etc.

(a) Amount of angular displacement

Types	Amount of ($\triangle\theta$)	Types	Amount of ($\triangle\theta$)
GC-SS100~400	3°	GC-SE100~400	1.5°
GC-SS450~800	2°	GC-SE450~800	1°

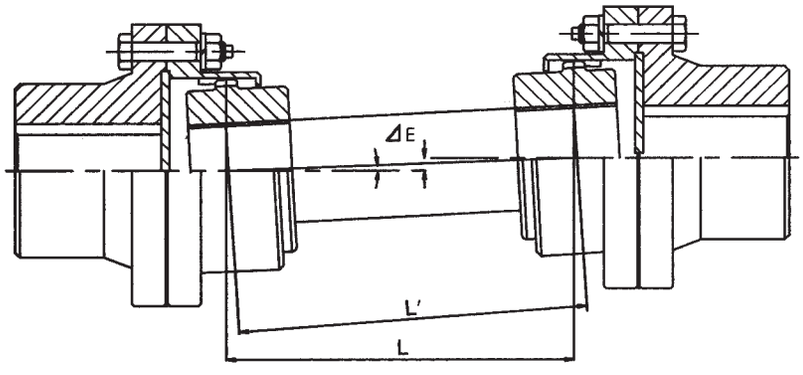
(b) Amounts of offset displacement ($\triangle$E) and axial displacement ($\triangle$d)

size	$\triangle$E	$\triangle$d	size	$\triangle$E	$\triangle$d	size	$\triangle$E	$\triangle$d
100	0.75	-0.5~1.0	280	2.0	-0.5~4.5	800	5.5	-0.5~9.5
112	1.0	-0.5~2.0	315	2.5	-0.5~5.5	900	6.5	-0.5~10.5
125	1.0	-0.5~2.5	355	3.0	-0.5~5.5	1000	7.0	-0.5~12.5
140	1.25	-0.5~2.5	400	3.0	-0.5~6.5	1120	8.0	-0.5~13.0
160	1.25	-0.5~3.0	450	3.0	-0.5~5.0	1250	9.0	-0.5~14.0
180	1.5	-0.5~3.0	500	3.5	-0.5~6.0			
200	1.5	-0.5~3.0	560	4.0	-0.5~6.5			
224	1.5	-0.5~4.0	630	4.5	-0.5~8.0			
250	2.0	-0.5~4.0	710	5.0	-0.5~8.5			

For the GC-SE type should be used with an intermediate shaft as shown in Fig.5.
In the case, the amount of offset displacement can be obtained form the following equations.

(tan ø = $\frac{\triangle E}{L'}$) or $\triangle$E = L x tan ø
Usually talking as L ≒ L′

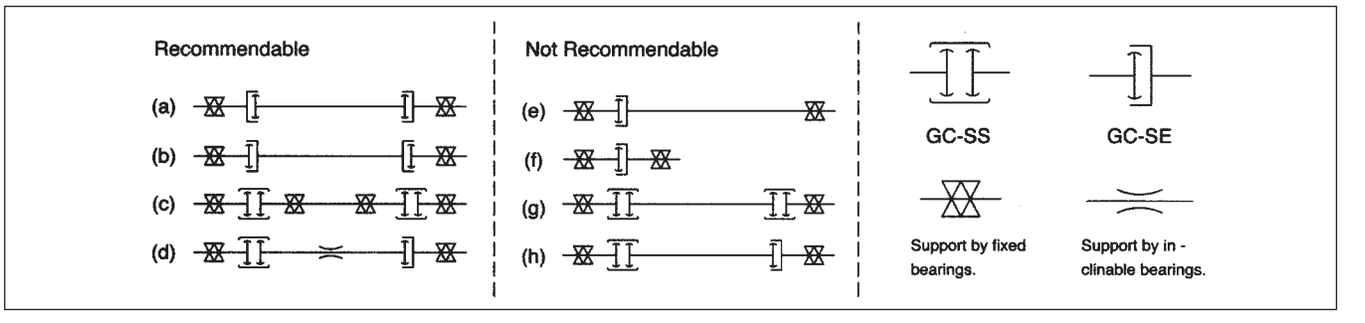
Fig.5



SERVICE FACTORS

Driven Machine		Driving Machine 6.5		
		Electric Mortor Steam Turbine	Piston Engins	
			4~6 cyl.	1~3 cyl.
Uniform Load	Turbo blowers, Centnifugal fans, Centrifugal pumps, agitators (liquid), Wood working machines	1.3	1.7	2.4
Medium Shock	Rotary piston bloweres, Mizers, Wood machines, Belt conveyors, Cranes, Machine tools screw pumps, Chain conveyors	1.4	2.1	2.8
Heavy Shock Load	Pistion compressors, Generators, Mills (ball, pebble and rod), Rubber machines, Hammers	1.7	2.6	3.3

Mounting



1) In case of GC-SE it will be used like (a) or (b). Case such as (e) must be basically avoided excepting for when shaft are in complete alignment.
2) When GC-SS are coupled with an intermediate shaft, the shaft requires fixed support as (C). When they are used as (g) the intermediate shaft moves freely and caused vibration.
3) When GC-SS is used with GC-SE and an intermediate shaft an inclining support must be set up.
4) If couplings are used as (h). The intermediate shaft is in the inclining state and causes vibration.
5) For use in high speed revolution, the allowable max. Rpm of the coupling can be increased by adjusting the alignment and improving the balance of the coupling sleeves.
6) For oil supply to the coupling, its keyway should be sealed with any sealing agent to prevent oil leakage therefore, and the oil-leak preventive cover will also be provided, if so ordered.
7) The normal ambient temperatures for the couplings are -10 ℃ to + 80 ℃. For temperatures beyond the highest limit, the material for the O-ring and the lubrcating oil must be selected with special consideration, and for temperatures below the lowest limit, the alterations, of the materials for the coupling hub and sleeve may be required depending upon the conditions besides the same consideration as above. Therefore, consult our factory for the above two cases.

   When mounting a coupling, care must be taken to the following points.
8) Chuck the coupling Hub or the rigid on a lath without damaging its boss, and accurately machine the bore after aligning it by use of the periphery and side face of the datum surfaces for coupling alignment.
9) When aligning, use a thickness gauge and dial gauge to measure the values on the datum surfaces for alignment as accurately as possible.

After ascertaining the inside of the coupling case being free from dust, etc., tighten the reamer bolts for the mating faces evenly with care to avoid the damage to the O-ring.

Instruction for Installation

1. Small Size (up to size 60)

Hub boring and keyway must be machined accurately. During the key-fit to the shaft and the hub. Be careful the oilleakage.

① Clean all parts, Grease the crowned gear teeth and O-Ring. Put O-Ring onto the shafts.

② Place the flanged sleeves on the shafts, and mout the hubs.

③ Using a spacer bar, make a gap between the hubs equal to the normal gap specified in this book.

④ Align the shaft with a strait bar by checking every 90 degree, refering to the table 3. Make it sure with a dial gauge not to exceed the offset limit.

⑤ Insert O-Ring between the flanged sleeves, and fasten the bolt, positioning the lube holes at 90 ℃.

⑥ Fill grease until overflowing at the open opposite hole.

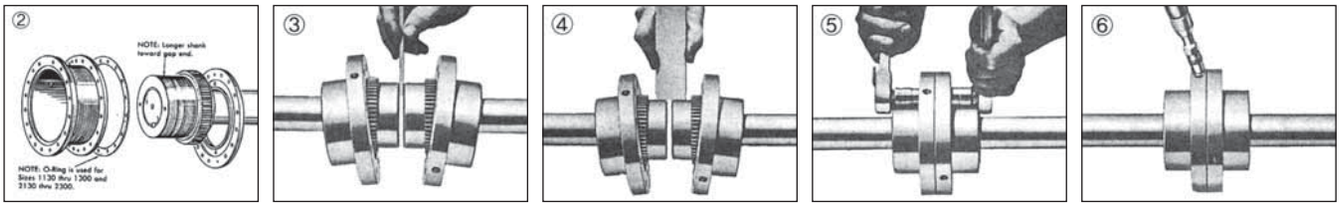


Table 3. Operating Alignment Limits

Size	10	15	20	25	30	35	40	45	50	55	60	70	80	90	100
Angular	0.125	0.125	0.25	0.25	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.4	0.4	0.4
GAP	3	3	3	4.5	4.5	6	6	8	8	8	8	9.5	10	13	13
Flange Bolt Torque	10	31	47	95	95	162	162	162	203	203	203	292			

※ The life coupling is reduced by excess of the OFFSET limit.

2. Large Size (over size 70)

Hub boring and Keyway must be machined accurately. During the Key-Fit work, be careful the oil leakage.

① Clean all parts. Pack sleeve teeth with greases and lightly coat seals with grease before assembly.

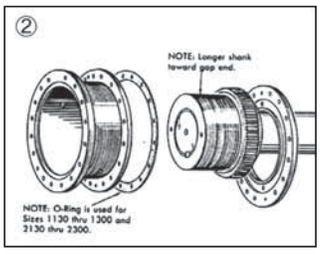
② Place the side covers with sealring O-Ring on th shaft before mounting the hubs.
Mount hubs on their respectative shafts.
Then mount flanged sleeves with side cover O-Ring.

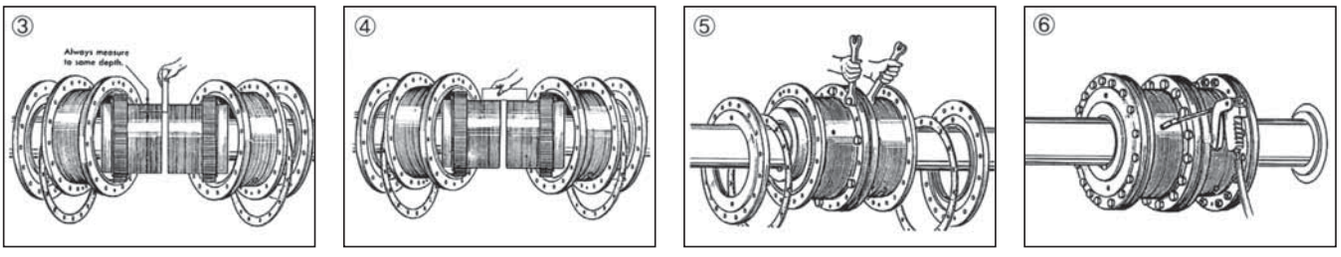
③ Use a spacer bar equal to the gap. The difference in minimum and maximum measurements should not exceed the angular limit specified in table 3.

④ Align with a straight edge rests squarelly at every 90 ℃ shown in photo Check with feelers. The tolerance shold not exceed the offset limit specified in Table 3

⑤ Insert O-Ring between flanges. Position flanged sleeves with lube holes at about 90 ℃ and then fasten flanged sleeves. Use only boits furnished with coupling.

⑥ Remove all lube plugs and pump recommended grease into the coupling until and excess flows through an open lube hole and then plug hole.





Selection of Puller Holes

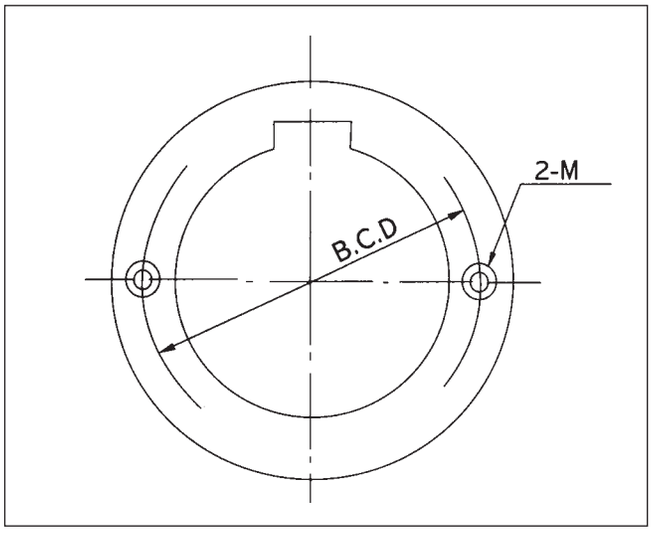


Table 4

Size	B.C.D (mm)	Tap Size
20 PG	89	M 8
25 PG	112	M 10
30 PG	128	M 10
35 PG	152	M 12
40 PG	181	M 16
45 PG	200	M 16
50 PG	216	M 20
55 PG	238	M 20
60 PG	268	M 20
70 PG	305	M 24
80 PG	318	M 24
90 PG	356	M 30
100 PG	394	M 30
110 PG	426	M 30
120 PG	498	M 30

Lubrication and Handling

We introduce the adequate lubricant for good performance and long life.

1. Grease Lubricant

① Grease the flanged sleeve teeth and the crown gear teeth, and fill enough offer assembly.

② Lube weight refer to "Dimensions"

③ Supplement and Replacement. Add grease every month or every 240-250 hours operating.
Replace all the deteriorated grease every 3 months or every 4,000 hours operating.

④ Selection
The temperature operating range of grease is from -17 ℃ to 70 ℃ refer to the table 6 that shows the coupling RPM allowed for the listed grease.

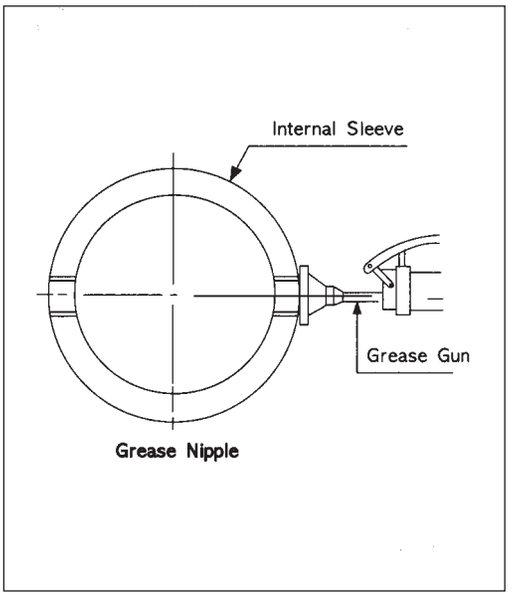


Table 5

Company \ Oil	Grease # 1	Grease # 0
Gulf Oil Corp.	Gulf Oil Corp.	Gulfcrown Grease EP # 0
Shell Oil Corp.	Shell Oil Corp.	Alvania Grease EP-RO
Texaco Inc.	Texaco Inc.	Multifak EP-O
Mobil Oil Corp.	Mobil Oil Corp.	Mobilux EP-O

※ NOTE : Lubricants listed in this manual are typical products and should not be construed as exclusive recommendations.

Gear Coupling Speed

Table 6

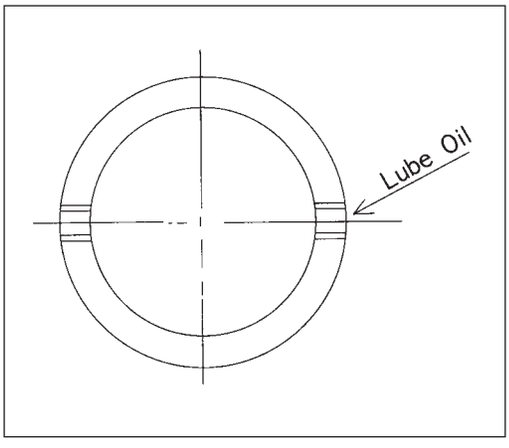
Coupling Size		10	15	20	25	30	35	40	45	50	55	60	70	80	90	100
Speed (rpm)	Max.	7,000	6,000	5,000	4,750	4,400	3,900	3,600	3,200	2,900	2,650	2,450	2,150	1,750	1,550	1,450
	Min.	1,030	700	550	460	380	330	290	250	230	210	190	160	140	120	110

※ Refer to # 0 of table 5 when is below Min.rpm.

2. Oil Lubricant

① Packing with oil holes on the internal gear with 2 holes horizontal level. Fill up oil until it overflows from the opposite oil hole.

② Supplement and Replacement. Every month, or 240-250 hours operating. Replace completely all the deteriorated oil. every 3 months or every 4,000 hours operating.



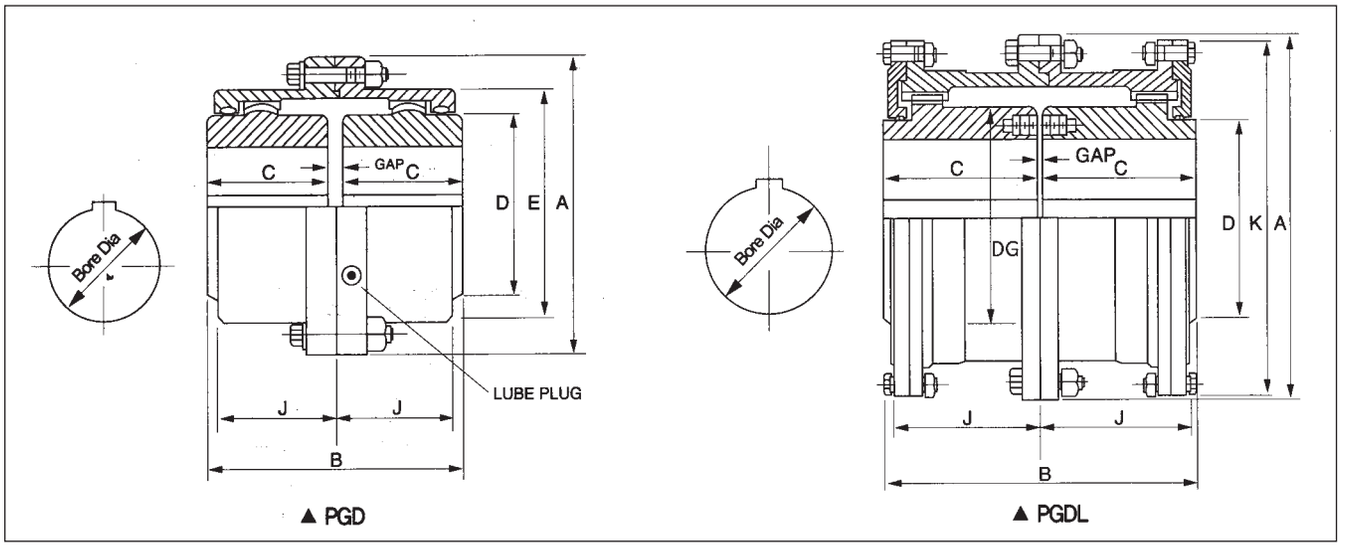
3. Selection of Lubrication

Table 7

		Shell	Mobil			Gulf	Fujikosan Nipponkoju	Houghton			Caltex
cst 40 ℃	cst 40 ℃										
68	315	omala 68	Mobilgear 626	Pio Gear EP 68	Buhmwoo Gearlube BG-68	Gulf EP Lubricant R 68	Hrax ME GO 300	MP Gear Oil 68	Nico Gea SP 68	Daphne CE compound 68C	Meropa Lubricant 68
100	465	omala 68	Mobilgear 629	Pio Gear EP 68	Buhmwoo Gearlube BG-100	Gulf EP Lubricant R150, HD150	Hrax ME GO 500	MP Gear Oil 100	Nico Gea SP 100	Daphne CE compound 100S	Meropa Lubricant 100
150	700	omala 150	Mobilgear 630	Pio Gear EP 150	Buhmwoo Gearlube BG-150	Gulf EP Lubricant R150, HD150	Hrax ME GO 700	MP Gear Oil 150	Nico Gea SP 150	Daphne CE compound 150S	Meropa Lubricant150, Synthetic Gear Lube
150	700	omala 220	Mobilgear 632	Pio Gear EP 220	Buhmwoo Gearlube BG-220	Gulf EP Lubricant R220, HD220	Hrax ME GO 1000	MP Gear Oil 220	Nico Gea SP 220	Daphne CE compound 220S	Meropa Lubricant 220
320	1500	omala 320		Pio Gear EP 320	Buhmwoo Gearlube BG-320	Gulf EP Lubricant R30, HD320	Hrax ME GO 1500	MP Gear Oil 320	Nico Gea SP 320	Daphne CE compound 320S	Meropa Lubricant 320

Dimensions

■ Type PGD(Double Engagement Coupling), PGDL(Double Engagement Large Coupling)



■ PGD

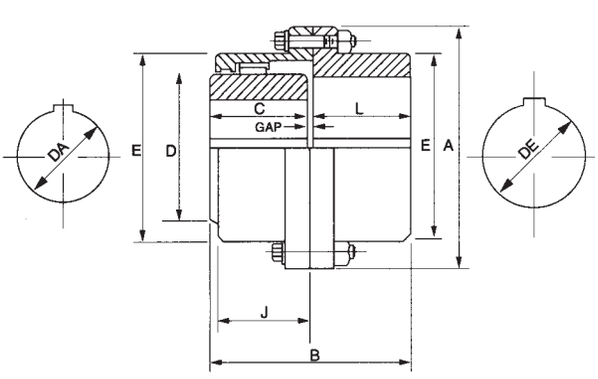
Size	Norminal Torque (Nm)	Max. Speed (rpm)	Max. shock load Torque (Nm)	bore Dia (mm)		Dimensions (mm)						Gap	Cplg wt (kg)	Lube wt (kg)
				Max.	Min.	A	B	C	D	E	J			
10PGD	1,250	8,000	2,500	50	13	116	89	43	69	84	39	3	4.5	0.04
15PGD	2,560	6,500	5,120	65	19	152	101	49	86	105	48	3	9.1	0.07
20PGD	4,870	5,600	9,740	78	32	178	127	062	105	126	59	3	15.9	0.11
25PGD	8,000	5,000	16,000	98	32	213	159	077	131	155	72	5	25.9	0.23
30PGD	13,780	4,400	27,560	110	38	240	187	091	152	180	84	5	43.1	0.36
35PGD	20,500	3,900	41,000	135	51	279	218	106	178	211	98	6	68.0	0.54
40PGD	31,700	3,600	63,400	160	64	318	248	121	210	245	111	6	97.5	0.91
45PGD	43,700	3,200	87,400	183	76	346	278	135	235	274	123	8	136.1	1.04
50PGD	58,950	2,900	117,900	200	89	389	314	153	254	306	141	8	190.5	0.77
55PGD	77,000	2,650	154,000	220	102	425	344	168	279	334	158	8	249.5	2.22
60PGD	92,400	2,450	184,800	244	114	457	384	188	305	366	159	8	306.2	3.18

■ PGDL

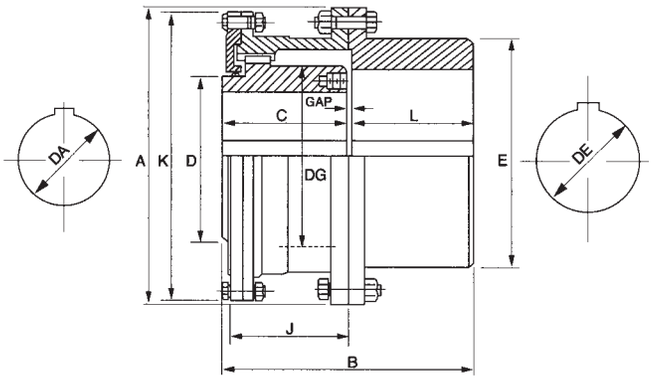
Size	Norminal Torque (Nm)	Max. Speed (rpm)	Max. shock load Torque (Nm)	bore Dia (mm)		Dimensions (mm)								Gap	Cplg wt (kg)	Lube wt (kg)
				Max.	Min.	A	B	C	D	DG	E	J	K			
70PGDL	138,000	2,150	276,000	265	89	527	451.5	221	343	343	356	196	517	9.5	485.4	4.35
80PGDL	175,000	1,750	350,000	280	102	591	507.5	249	356	356	368	243	572	9.5	703.1	9.53
90PGDL	230,000	1,550	460,000	290	114	660	565	276	394	394	419	265	641	13	984.3	12.25
100PGDL	318,000	1,450	636,000	320	127	711	623	305	445	445	470	294	699	13	302.0	14.97
110PGDL	417,000	1,330	834,000	373	140	775	679	333	495	495	521	322	749	13	1678.3	17.69
120PGDL	556,000	1,200	1,112,000	400	152	838	719	353	546	546	572	341	826	13	2113.8	20.87

※ Coupling weight, without Bore machining

■ Type PGD(Single Engagement Coupling), PGDS(Single Engagement Large Coupling)



▲ PGS



▲ PGSL

■ PGS

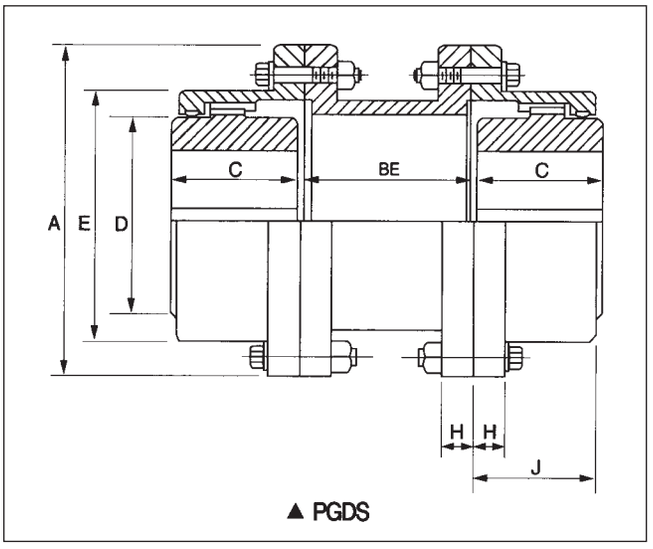
Size	Norminal Torque (Nm)	Max. Speed (rpm)	Max. shock load Torque (Nm)	bore Dia (mm)			Dimensions (mm)								Cplg wt (kg)	Lube wt (kg)
				Max.		Min.	A	B	C	D	E	J	L	Gap		
				DE	DA											
10PGDS	1,250	8,000	2,500	60	50	13	116	84	43	69	84	39	40	4	4.5	0.02
15PGDS	2,560	6,500	5,120	75	65	19	152	99	49	86	105	48	46	4	9.1	0.04
20PGDS	4,870	5,600	9,740	92	78	25	178	124	62	105	126	59	58	4	15.9	0.07
25PGDS	8,000	5,000	16,000	111	98	32	213	156	77	131	155	74	74	5	27.2	0.12
30PGDS	13,780	4,400	27,560	130	110	38	240	184	91	152	180	84	88	5	43.1	0.18
35PGDS	20,500	3,900	41,000	149	135	51	279	213.5	106	178	211	95	102	5.5	61.2	0.27
40PGDS	31,700	3,600	63,400	171	160	64	318	243	121	210	245	111	115	7	99.8	0.74
45PGDS	43,700	3,200	87,400	194	183	76	346	274	135	235	274	123	131	8	136.1	0.57
50PGDS	58,950	2,900	117,900	222	200	89	389	309	153	254	306	141	147	9	195.0	0.91
55PGDS	77,000	2,650	154,000	248	220	102	425	350	168	279	334	158	173	9	263.1	1.13
60PGDS	92,400	2,450	184,800	267	244	114	457	384	188	305	366	169	186	10	324.3	1.70

■ PGSL

Size	Norminal Torque (Nm)	Max. Speed (rpm)	Max. shock load Torque (Nm)	bore Dia (mm)			Dimensions (mm)										Cplg wt (kg)	Lube wt (kg)
				Max.		Min.	A	B	C	D	DG	E	J	L	K	Gap		
				DE	DA													
70PGDL	138,000	2,150	276,000	305	265	89	527	454	221	343	356	425	196	220	517	13	508.0	2.27
80PGDL	175,000	1,750	350,000	343	280	102	597	511	249	356	368	451	243	249	572	13	698.5	4.99
90PGDL	230,000	1,550	460,000	381	290	114	660	566	276	394	419	508	265	276	641	14	984.5	6.35
100PGDL	318,000	1,450	636,000	406	320	127	711	626	305	455	470	530	294	305	699	16	1,251.9	7.71
110PGDL	417,000	1,330	834,000	445	373	140	775	682	333	495	521	584	322	333	749	16	1,637.5	9.07
120PGDL	556,000	1,200	1,112,000	495	400	152	838	722	353	546	572	648	341	353	826	16	2,077.5	10.89

※ Coupling weight, without Bore machining

■ Type PGDS(Spacer Coupling Double Engagement)



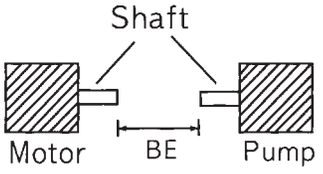
▲ PGDS

Size	Norminal Torque (Nm)	Max. Speed (rpm)	Max. shock load Torque (Nm)	bore Dia (mm)		Dimensions (mm)								Cplg wt (kg)	Lube wt (kg)
						A	BE		C	D	E	H	J		
				Max.	Min.		Min.	Max.							
10PGDS	1,250	2,500	2,500	50	13	116	083	311	43	69	84	14	39	6.8	0.04
15PGDS	2,560	5,120	5,120	65	19	152	83	311	49	86	105	19	48	13.6	0.07
20PGDS	4,870	9,740	9,740	78	25	178	83	311	62	105	126	19	59	20.4	0.11
25PGDS	8,000	17,500	16,000	98	32	213	95	311	77	131	155	22	72	38.6	0.23
30PGDS	13,780	27,560	27,560	110	38	240	95	311	91	152	180	22	84	54.4	0.36
35PGDS	20,500	41,000	41,000	135	51	279	120	311	106	178	211	28	98	88.5	0.54
40PGDS	31,700	63,400	63,400	160	64	318	120	311	121	210	245	28	111	122.5	0.91
45PGDS	43,700	87,400	87,400	183	76	346	120	311	135	235	274	28	123	165.6	1.04
50PGDS	58,950	117,900	117,900	200	89	389	146	311	153	254	306	38	141	238.1	1.77
55PGDS	77,000	154,000	154,000	224	102	425	146	311	168	279	334	38	158	306.2	2.22
60PGDS	92,400	184,800	184,800	244	114	457	146	311	188	305	366	25	169	358.3	3.18

※ Coupling weight, without Bore machining

Application of spacer

① When it is impossible to connect hubs due to long distance between shaft ends.
② When it is necessary to prevent transmitting heat and electric currency.
※ BE' is the distance between shaft ends.
State 'BE' number when you order.



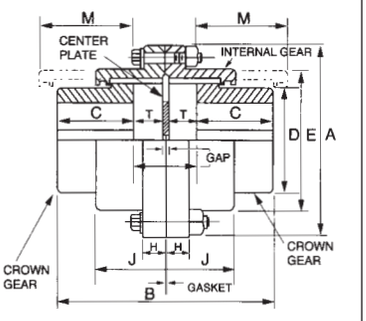
■ Type PGH (Gear Horizontal Sliding)

■ PGSL

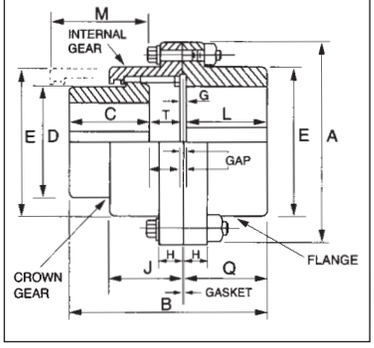
Size	GHD (Double Engagement)							GHS (Single Engagement)					
	B. Max.	T Max.		Gap		Cplg wt (kg)	Lube wt (kg)	B Max.	T Max.	Gap		Cplg wt (kg)	Lube wt (kg)
		Half	Tatal	Max.	Min.					Min.	Max.		
10PGH	126	16	32	40	8	4.5	0.02	106	19	23	4	4.5	0.01
15PGH	152	23	46	54	8	9.1	0.04	124	25	29	4	9.1	0.02
20PGH	186	27	54	62	8	15.9	0.06	153	29	33	4	15.9	0.04
25PGH	231	34	68	77	9	29.5	0.11	192	36	41	5	29.5	0.06
30PGH	263	36	72	81	9	40.8	0.18	222	38	43	5	43.1	0.11
35PGH	313	45	90	101	11	68.0	0.27	262	48	54	6	68.0	0.18
40PGH	364	54	108	122	14	99.8	0.45	300	57	64	7	99.8	0.27
45PGH	406	60	120	136	16	136.1	0.51	338	64	72	8	136.1	0.34
50PGH	460	68	136	154	18	192.8	0.91	382	73	82	9	195.0	0.54
55PGH	510	78	156	174	18	254.0	1.13	433	83	91	9	263.1	0.73
60PGH	563	83	166	187	21	317.5	1.19	473	89	99	10	324.3	0.96
70PGH	669	99	198	224	26	499.0	2.18	561	107	120	13	510.3	1.36

※ Coupling weight, without Bore machining

Type PGH10 Double



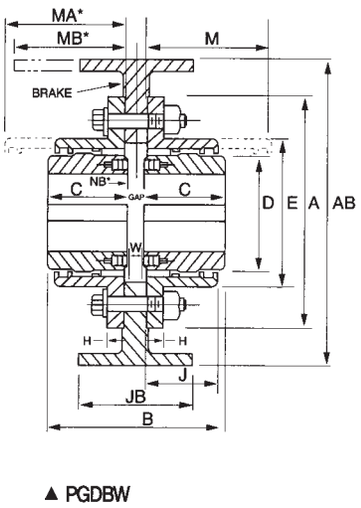
Type PGH20 Single



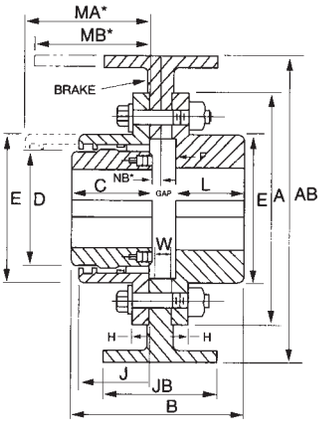
Size	Norminal Torque (Nm)	Max. Speed (rpm)	Max. shock load Torque (Nm)	Bore Dia (mm)			Dimensions (mm)									
				Max.		Min.	A	C	D	G	E	H	J	L	Q	M
				Gear	Flange											
10PGH	1,250	5,300	2,500	50	60	13	116	43	69	2.5	84	14	39	40	42	53
15PGH	2,560	4,300	5,120	65	75	19	152	49	86	2.5	105	19	48	46	49	69
20PGH	4,870	3,700	9,740	78	92	25	178	62	105	2.5	126	19	59	58	61	84
25PGH	8,000	3,300	16,000	98	111	32	213	77	131	2.5	155	22	72	74	76	102
30PGH	13,780	2,900	27,560	110	130	38	240	91	152	2.5	180	22	84	88	90	118
35PGH	20,500	2,600	41,000	135	149	51	279	106	178	2.5	211	28	98	102	105	135
40PGH	31,700	2,400	63,400	160	171	64	318	121	210	4	245	28	111	115	119	155
45PGH	43,700	2,100	87,400	183	194	76	346	135	235	4	274	28	123	131	135	163
50PGH	58,950	1,900	117,900	200	222	89	389	153	254	5	306	38	141	147	152	189
55PGH	77,000	1,800	154,000	224	248	102	425	168	279	5	334	38	158	173	178	221
60PGH	92,400	1,600	184,800	244	267	114	457	188	305	6.6	366	25	169	186	193	227

※ 'M' is variable according to the sliding distance

■ Type PGDBW(Brake Wheel Double Engagement), PGSBW(Brake Wheel Single Engagement)



▲ PGDBW



▲ PGSBW

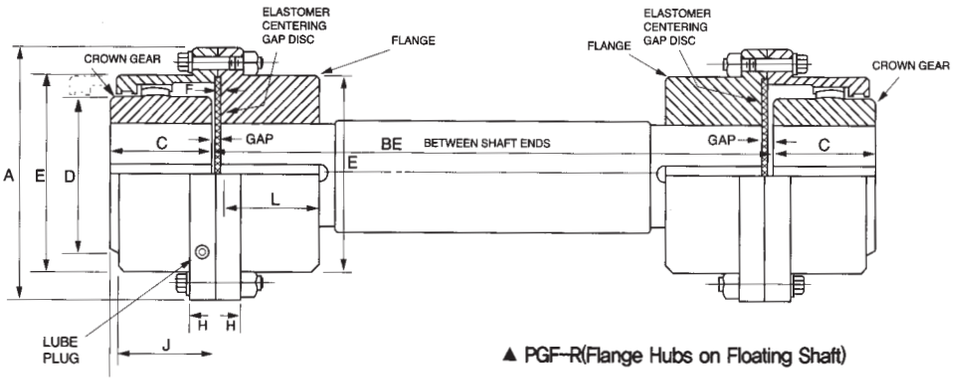
Cplg Size	Standard Brake Wheel					
	Motor Power (40% ED KW)			Brake Torque (Nm.)		
10PG	2.2		3.7	5		6.7
15PG	5.5	7.5	11	10	14	21.2
20PG		15			30	
25PG		22			40	
30PG		30			53	
35PG	37		45	63		80
40PG		55			132	
45PG	75		90		180	
50PG	110		132		335	
55PG	160		200	400		475
60PG	250		300		900	
70PG	350		400		1,500	

※ Motor Crane
※ Based on Crane motor

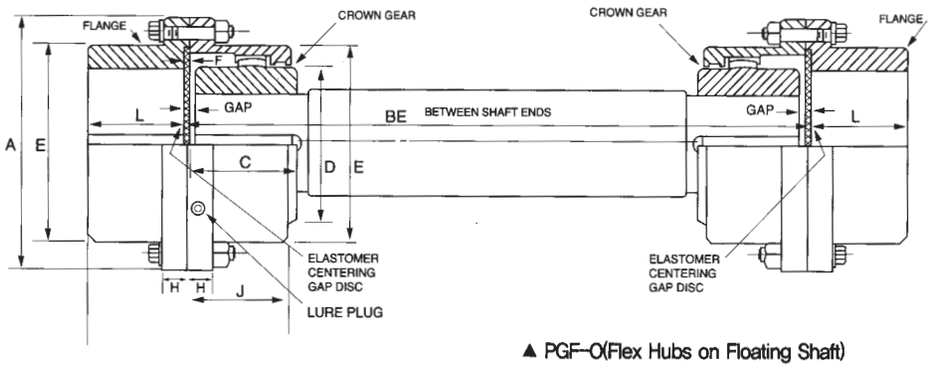
Size	Brakewheel Size (mm)		Max.Brake Rating of Cplg (Nm.)	Bore Dia (mm)			Dimensions (mm)													Lube wt (kg)	
				Max.		Min.	A	B		C	D	E	F	H	J	L	M	W	GAP			
	AB	JB		Gear	Flange			GD	GS										GD	GS		
10PG	160	80	255	50	60	13	116	99	97	43	69	2.5	84	14	39	40	51	10	13	14	0.04	0.03
15PG	200	100	570	65	75	19	152	114	112	49	86	2.5	105	19	48	46	61	13	16	17	0.09	0.05
20PG	250	125	1,052	78	92	25	178	140	137	62	105	2.5	126	19	59	58	76	13	16	17	0.14	0.09
25PG	250	125	1,899	98	111	32	213	173	170	77	131	2.5	155	22	72	74	91	14	19	19	0.27	0.16
30PG	315	160	3,200	110	130	38	240	201	198	91	152	2.5	180	22	84	88	107	14	19	19	0.41	0.23
35PG	355	180	4,815	135	149	51	279	237	233	106	178	2.5	211	28	98	102	130	19	25	25	0.57	0.34
40PG	400	200	7,325	160	171	64	318	267	262	121	210	4	245	28	111	115	145	19	25	26	0.91	0.54
45PG	450	224	10,037	183	194	76	346	297	293	135	235	4	274	28	123	131	165	19	27	27	1.13	0.64
50PG	500	250	13,563	200	222	89	389	339	334	153	254	5	306	38	141	147	183	25	33	34	1.87	1.13
55PG	560	280	17,802	224	248	102	425	369	375	168	279	5	334	38	158	173	203	25	33	34	2.32	1.36
60PG	762	362	23,057	244	267	114	457	409	410	188	305	6.6	366	25	169	176	229	25	33	36	3.40	1.93
70PG	762	362	33,500	265	305	127	527	477	479	221	356	8	425	28	196	220	267	25	33	38	4.45	2.61

※ Coupling weight, without Bore machining

Type PGF(Single Engagement Coupling with Floating Shafts)



▲ PGF-R(Flange Hubs on Floating Shaft)

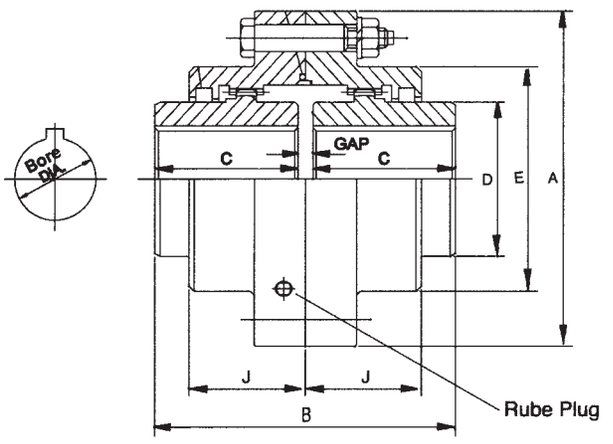


▲ PGF-O(Flex Hubs on Floating Shaft)

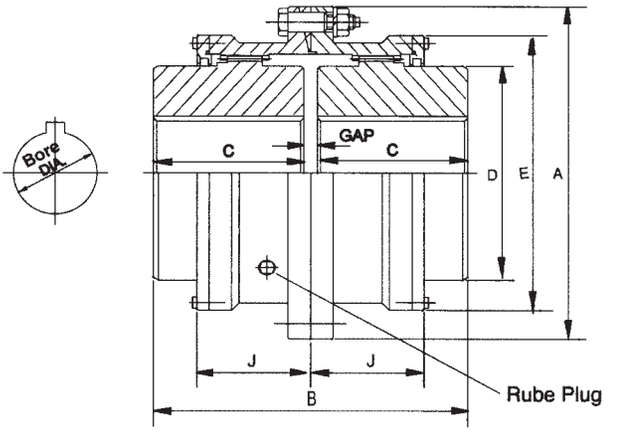
Size	Norminal Torque (Nm)	Max. Speed (rpm)	Max. shock load Torque (Nm)	bore Dia (mm)			Dimensions (mm)													Cplg wt (kg)	Lube wt (kg)
				Max.		Min.	A	BE Min.		C	D	F	E	H	J	L	Q	GAP		
				Gear	Flange			GF-R	GF-O												
10PGF	1,250	8,000	2,500	50	60	13	116	92	133	43	69	2.5	84	14	39	40	42	4.0	4.5	0.02
15PGF	2,560	6,500	5,120	65	75	19	152	105	159	49	86	2.5	105	19	48	46	49	4.0	9.1	0.04
20PGF	4,870	5,600	9,740	78	92	25	178	129	197	62	105	2.5	126	19	59	58	61	4.0	15.9	0.07
25PGF	8,750	5,000	17,500	98	111	32	213	162	241	77	131	2.5	155	22	72	74	76	5	27.2	0.12
30PGF	13,780	4,400	27,560	110	130	38	240	189	279	91	152	2.5	180	22	84	88	90	5	43.1	0.18
35PGF	20,500	3,900	41,000	135	149	51	279	219	324	106	178	2.5	211	28	98	102	105	5.5	68.0	0.27
40PGF	31,700	3,600	63,400	160	171	64	318	248	419	121	210	4.1	245	28	111	115	119	7	99.8	0.47
45PGF	43,700	3,200	87,400	183	194	76	346	281	508	135	235	4.1	274	28	123	131	135	8	136.1	0.57
50PGF	58,950	2,900	117,900	200	222	89	389	316	533	153	254	5.1	306	38	141	147	152	9	195.0	0.91
55PGF	77,000	2,650	154,000	224	248	102	425	367	572	168	279	5.1	334	38	158	173	178	9	263.1	1.13
60PGF	92,400	2,450	184,800	244	267	114	457	397	597	188	305	6.6	366	25	169	186	193	10	324.3	1.70

※ Coupling weight, without Bore machining

■ Type PSS(Gear Double), PCC(Gear Double Large)



▲ PSS

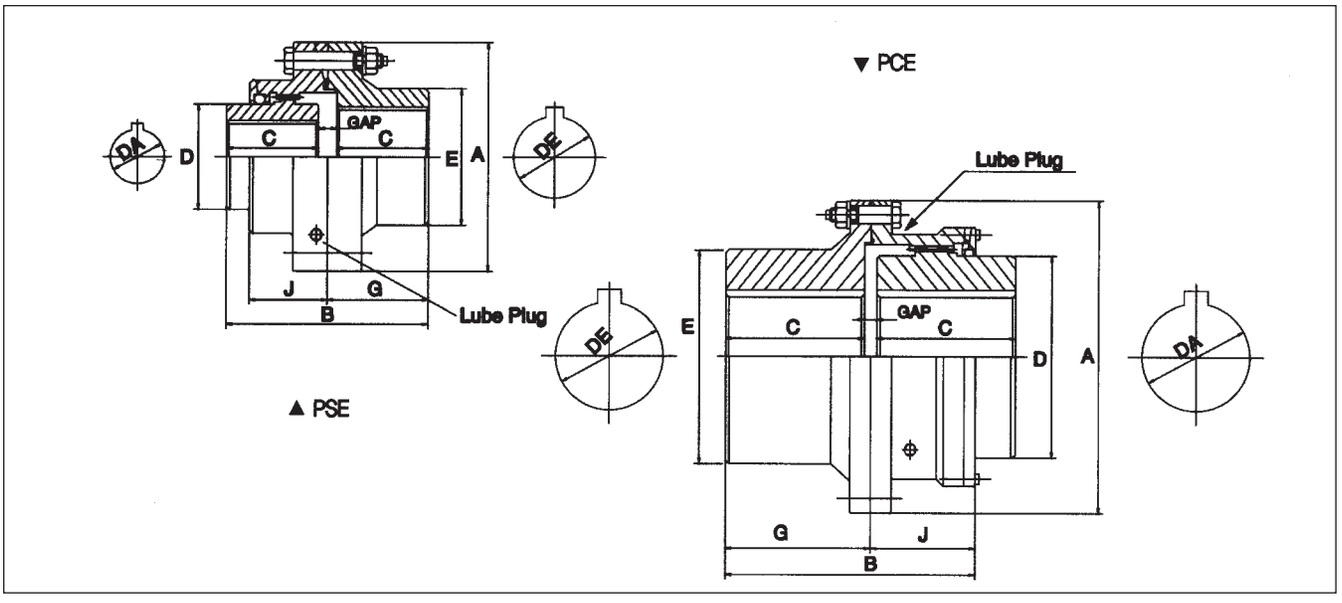


▲ PCC

Size	Max. Speed (rpm)	Basic Torque (Nm)	Bore Dia (mm)		Dimensions (mm)						Gap	Cplg wt (kg)	Lube wt (kg)
			Max.	Min.	A	B	C	D	E	J			
PSS112	4,000	860	40	16	112	98	45	58	79	40	8	4.6	0.04
PSS125	4,000	1,524	50	31	125	108	50	70	92	43	8	6.7	0.05
PSS140	4,000	2,194	56	31	140	134	63	80	107	47	8	9.3	0.07
PSS160	4,000	3,358	65	31	160	170	80	95	120	52	10	14	0.09
PSS180	4,000	5,157	75	45	180	190	90	105	134	56	10	19	0.12
PSS200	3,810	8,300	85	45	200	210	100	120	149	61	10	26	0.15
PSS224	3,410	11,300	100	51	224	236	112	145	174	65	12	38	0.25
PSS250	3,050	16,000	115	51	250	262	125	165	200	74	12	56	0.35
PSS280	2,720	24,990	140	51	280	294	140	190	224	82	14	83	0.48
PSS315	2,420	39,390	165	112	315	334	160	225	260	98	14	135	0.77
PSS355	2,150	59,310	185	125	355	376	180	250	288	108	16	184	0.94
PSS400	1,900	83,325	215	140	400	416	200	285	329	114	16	261	1.36
PCC450	1,690	112,800	220	140	450	418	200	290	372	151	18	304	1.79
PCC500	1,520	177,450	255	170	500	470	224	335	425	168	22	453	2.64
PCC560	1,360	254,550	290	190	560	522	250	385	475	187	22	664	3.23
PCC630	1,210	397,500	340	224	630	588	280	455	548	213	28	1,020	4.93
PCC710	1,070	570,000	380	250	710	658	315	510	622	242	28	1,460	6.63
PCC800	950	816,450	420	280	800	738	355	570	690	267	32	2,090	9.35
PCC900	840	1,230,000	515	315	900	832	400	670	792	295	32	3,030	12.63
PCC1000	760	1,695,000	560	355	1,000	932	450	720	858	322	32	4,120	13.75
PCC1120	682	2,475,000	670	400	1,120	1,040	500	840	990	360	40	5,920	15.45
PCC1250	610	3,180,000	750	500	1,250	1,160	560	960	1,126	399	40	9,410	18.25

※ Coupling weight, without Bore machining

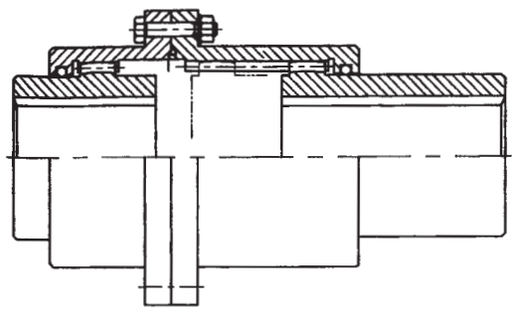
■ Type PSE (Gear Single), PCE (Gear Single Large)



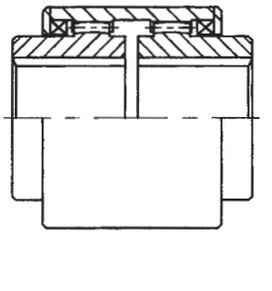
Size	Max. Speed (rpm)	Basic Torque (Nm)	Bore Dia (mm)			Dimensions (mm)								Cplg wt (kg)	Lube wt (kg)
			Max.		Max.	A	B	C	D	E	G	J	Gap		
			DA	DE											
PSE112	4,000	860	40	50	16	112	98	45	58	79	49	40	8	4.6	0.04
PSE125	4,000	1,524	50	56	31	125	108	50	70	92	54	43	8	6.7	0.05
PSE140	4,000	2,194	56	63	31	140	134	63	80	107	67	47	8	9.3	0.07
PSE160	4,000	3,358	65	75	31	160	170	80	95	120	85	52	10	14	0.09
PSE180	4,000	5,157	75	80	45	180	190	90	105	134	95	56	10	19	0.12
PSE200	3,810	8,300	85	95	45	200	210	100	120	149	105	61	10	26	0.15
PSE224	3,410	11,300	100	110	51	224	236	112	145	174	118	65	12	38	0.25
PSE250	3,050	16,000	115	135	51	250	262	125	165	220	131	74	12	56	0.35
PSE280	2,720	24,990	140	160	51	280	294	140	190	224	147	82	14	83	0.48
PSE315	2,420	39,390	165	190	112	315	334	160	225	260	167	98	14	135	0.77
PSE355	2,150	59,310	185	200	125	355	376	180	250	288	188	108	16	184	0.94
PSE400	1,900	83,325	215	240	140	400	416	200	285	329	208	114	16	261	1.36
PCE450	1,690	112,800	220	250	140	450	418	200	290	372	209	151	18	304	1.79
PCE500	1,520	177,450	255	280	170	500	470	224	335	425	235	168	22	453	2.64
PCE560	1,360	254,550	290	310	190	560	522	250	385	475	261	187	22	664	3.23
PCE630	1,210	397,500	340	380	224	630	588	280	455	548	294	213	28	1,020	4.93
PCE710	1,070	570,000	380	410	250	710	658	315	510	622	329	242	28	1,460	6.63
PCE800	950	816,450	420	450	280	800	783	355	570	690	369	267	28	2,090	9.35
PCE900	840	1,230,000	515	550	315	900	832	400	670	792	416	295	32	3,030	12.63
PCE1000	760	1,695,000	560	600	355	1,000	932	452	720	858	466	322	32	4,130	13.75
PCE1120	682	2,475,000	670	700	400	1,120	1,040	500	840	990	520	360	40	5,940	15.45
PCE1250	610	3,180,000	750	850	500	1,250	1,160	560	960	1,126	580	399	40	9,820	18.25

※ Coupling weight, without Bore machining

■ Special Type Grar coupling request.



▲ SLIDE TYPE



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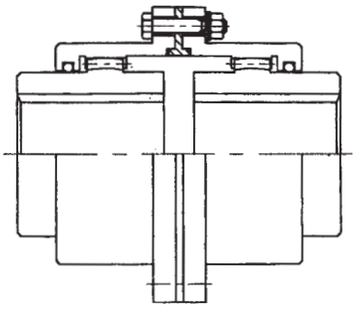

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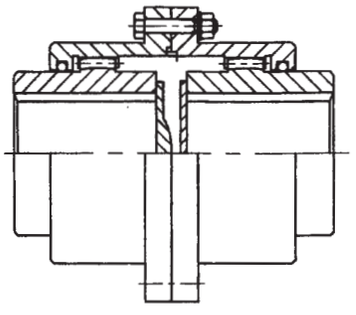

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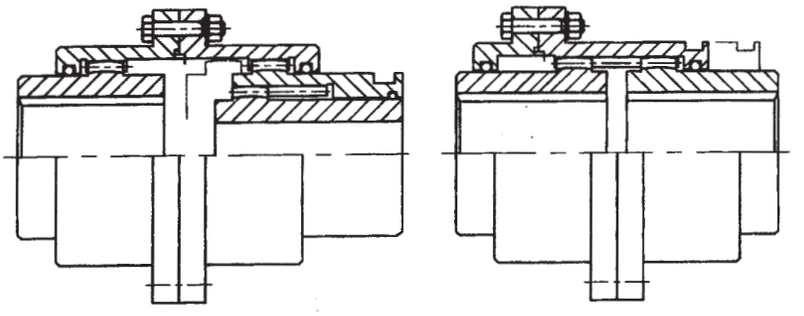

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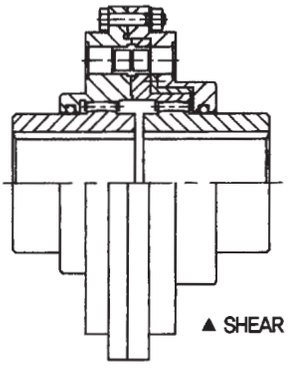

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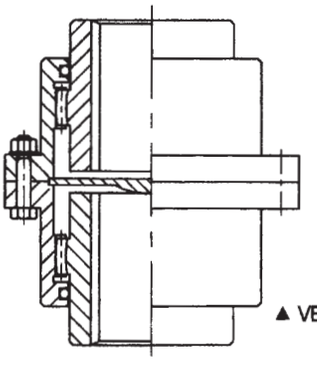

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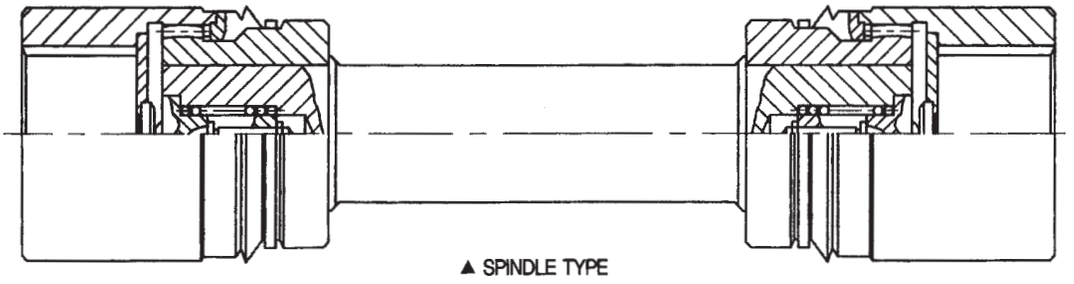

▲ SPINDLE TYPE