Gear couplings

Very high-torque ratings, along with unparalleled bore capacities, give this coupling a great advantage over other types of couplings. SKF Gear Couplings are rated up to 1 310 kNm with a maximum bore of 525 mm. This is a heavy duty coupling with incredible design flexibility, making it an economical choice for many applications.

The unique design of the gear couplings tooth crowning dramatically reduces backlash and radial clearance. The hub bore capacities are the largest in the industry, allowing for low cost and long service life.

In some applications it is not possible to go up in coupling size to accommodate a specific torque requirement, usually due to dimensional restraints or operating speeds.

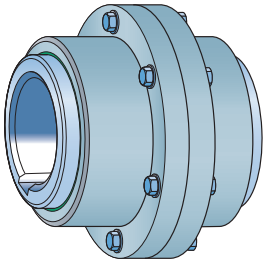
For coupling sizes over size 80GC, there are two options for increasing the torque capacity of the SKF Gear Coupling.

1 Heat treatment of the standard carbon steel hubs and cover sets (Type HT). (**Note:** This CANNOT be done retrospectively).

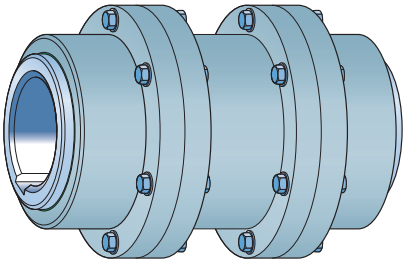
2 The use of alloy steel, heat-treated, to improve capacity by between 35–40% (Type XP).

The correct selection and use of the relevant service factors however, is critical in these series, and should be referred to SKF PTP for full application analysis.

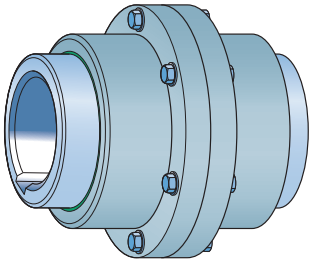
Conversely, higher speeds may also be obtained if the units are dynamically balanced. This should be mandatory over the standard speeds indicated in the tables.



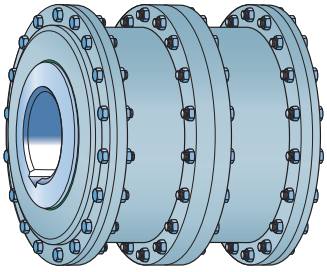
Double engagement → ***page 30***



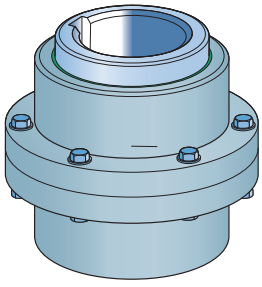
Double engagement spacer → ***page 33***



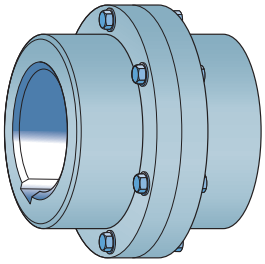
Slide single and double engagement → ***pages 35*** *and* ***36***



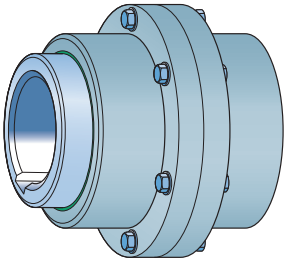
Double engagement → ***page 30***



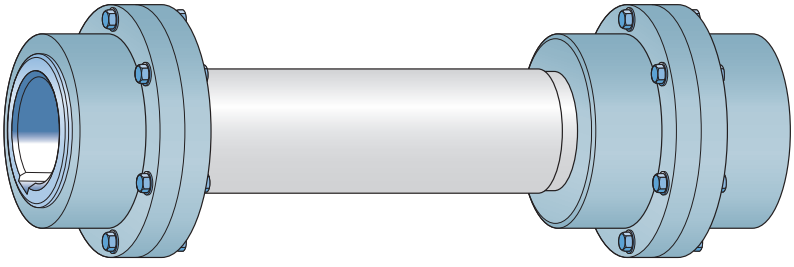
Vertical double engagement → ***page 34***



Rigid flanged sleeve → ***page 37***



Single engagement → ***page 31***



Floating and vertical shaft single engagement → ***pages 41*** *and* ***43***

Gear couplings with taper bushing hub options

In addition to the standard plain bore hub offered with the gear couplings, there is the option of a taper bushing as a machined product.

In such circumstances there must be a re-rating of the coupling capacity, along with possible reduction in the LTB hub width. The capacity limitations are based on the maximum recommended torque for the relevant bushing, with a standard keyway.

The taper bushing is normally mounted from the inner face of the coupling (Type F configuration), sometimes referred to as inboard side). It may also be possible for it to be mounted in the external (H) configuration (or outboard). As the flex halves for the agma compliant couplings may also be interchanged, a combination of 'F' and 'H' hub can also be used where mounting conditions permit (e.g. FF, HH or FH / HF combinations).

The following table may be used as a general guide. It shows which bushing fits where, and defines any required reduction of the LTB hub from the standard (catalogue) length.

Note: As gear couplings traditionally offer the highest torque capacity vs. diameter ratio of any coupling, the range available with a taper bushing hub is limited. It becomes uneconomical to use this system when the derating of the coupling (due to the taper bushing limitation) falls well below the capability of the coupling with standard shaft connections.

Selection

Standard selection method

This selection procedure can be used for most motor, turbine, or engine driven applications. The following information is required to select an SKF gear coupling:

- Torque – Power [kW]
- Speed [r/min]
- Type of equipment and application
- Shaft diameters
- Shaft gaps
- Physical space limitation
- Special bore or finish information

Exceptions to use of the standard selection method are for high peak loads and brake applications. For these, use the formula selection method or contact SKF.

3 Determine system torque
If torque is not given, use the following formula to calculate for torque (T)

System torque [Nm]=

$$\frac{\text{Power [kW]} \times 9\,550}{\text{Speed [r/min]}}$$

4 Service factor
Determine the service factor with **tables 9** and **10** on **pages 87** and **88**.

5 Coupling rating
Determine the required minimum coupling rating as shown below:

Coupling rating =
service factor × torque [Nm]

6 Size
Select the appropriate coupling from the torque column of the product tables on **pages 30** to **38** and **41** to **44**. with a value that is equal to or greater than that determined in **step 3** above and check that the chosen coupling can accommodate both driving and driven shafts.

7 Other considerations
Possible other restrictions might be speed [r/min], bore, gap and dimensions.

Standard selection example

Select a coupling to connect the low speed shaft of an ore conveyor drive to a speed
reducer. The 350 kW, 1 440 r/min electric motor is driving the reducer with an output speed of 38 r/min. The reducer low speed shaft diameter is 215 mm, the conveyor head shaft is 225 mm. Shaft extensions are both 280 mm.

1 Determine system torque
System torque [Nm] =

$$\frac{350 \text{ kW} \times 9\,550}{38 \text{ r/min}} = 87\,997 \text{ Nm}$$

2 Service factor
From **table 7** on **page 85** = 1.00

3 Required coupling rating
1.00 × 87 951 Nm = 87 951 Nm

4 Size
From product table on **page 30**, the coupling size 60 is the proper selection based on the torque rating of 90 400 Nm which exceeds the required minimum rating of 87 951 Nm.

5 Other considerations
The speed capacity of 2 450 (coupling size 60) exceeds the required speed of 38 r/min. The maximum bore capacity of 244 mm exceeds the required shaft diameters of 215 mm and 225 mm.
The minimum required shaft length (J) of 169 mm is exceeded by the equipment's shaft extensions of 280 mm. The resulting service factor is 1.03.

Formula method

The standard selection method can be used for most coupling selections. However, the formula method should be used for:

- high peak loads
- brake applications (If a brake wheel is to be an integral part of the coupling)

By including the system's peak torque, frequency, duty cycle and brake torque ratings, a more accurate result will be obtained.

1 High peak loads
Use one of the following formulas (A, B, or C) for:

- Motors with higher than normal torque characteristics.
- Applications with intermittent operations shock loading.
- Inertia effects due to frequent stops and starts or repetitive high peak torques.

Peak torque is the maximum torque that can exist in the system. Select a coupling with a torque rating equal to or exceeding the selection torque from the relevant formula below.

A Non-reversing peak torque
Selection torque [Nm] =
System peak torque

or

Selection torque [Nm] =

$$\frac{\text{System peak kW} \times 9\,550}{\text{r/min}}$$

B Reversing high peak torque
Selection torque [Nm] =

$$\frac{1.5 \times \text{system peak torque}}{\text{r/min}}$$

C Occasional peak torques (non-reversing)
If a system peak torque occurs less than 1 000 times during the expected coupling life, use the following formula:

Selection torque [Nm] =
0.5 × system peak torque

or

Selection torque [Nm] =

$$\frac{0.5 \times \text{system peak kW} \times 9\,550}{\text{r/min}}$$

2 Brake applications
If the torque rating of the brake exceeds the motor torque, use the brake rating as follows:

Selection torque [Nm] =
Brake torque rating × Service factor.

Formula selection example

High peak load

Select a coupling for reversing service to connect a gear drive low speed shaft to a metal forming mill drive. The electric motor rating is 30 kW and the system peak torque estimated to be 9 000 Nm. Coupling speed is 66 r/min at the motor base speed. The drive shaft diameter is 90 mm. The metal forming mill drive shaft diameter is 120 mm.

1 Type
Refer to **pages 6** and **7** and select the appropriate coupling type.

2 Required minimum coupling rating
Use the reversing high peak torque formula in step 1B.

1.5 × 9 000 Nm = 13 500 Nm =
Selection torque

3 Size
From product table on **page 30**, size 35 with a torque rating of 18 500 exceeds the selection torque of 13 500 Nm.

4 Other considerations
Gear coupling size 35 has a maximum bore capacity of 124 mm from product table on **page 30** and the allowable speed of 3 900 r/min exceeds the equipment requirements.

Formula method for brake disc applications

To determine the capacity required for a dynamic brake application:

$$\text{(1a) } M_{TB} = \frac{\text{kW x } 60 \text{ x } 10^3}{2 \text{ x } \pi \text{ r/min}} = \text{x } 2.0 \text{ [Nm]}$$

which may be simplified to:

$$\text{(1b) } M_{TB} = \frac{\text{kW x } 9\,550}{\text{r/min}} = \text{x } 2.0 \text{ [Nm]}$$

Additionally, where the inertias involved (I) are known or can be determined (by reference to the brake position), and the braking deceleration time, in rads/sec (α) is known, the torque may also be determined from:

$$\text{(1c) } M_{TB} = I \text{ x } \alpha \text{ x } 2.0 \text{ [Nm]}$$

The coupling capacity [MT] from the catalogue must be greater than the figures obtained in 1(a), 1(b) or 1(c) above.

$$\text{(2) } M_{TNOM} \geq \text{MTB [Nm]}$$

Note: Where the brake is only being used as a holding brake, i.e. the system is brought to a stop by other means, prior to application of the brake, standard coupling selection procedures may be used.

(a) **Gear coupling** (double engagement) with brake disc (schematic only) (→ **fig. 1**).

Note: The brake disc spigot arrangement may vary from that illustrated, depending on size.

The **gear** coupling (double engagement[1)]), is shown in **fig. 1** on **page 24**.

The symmetrical arrangement of the gear coupling allows the hubs to be on either the driveR or driveN (braked) shafts. Subject to the braking torque, the only deviation from standard gear coupling components, is the extended length of the fitted bolts. Some axial allowance is required for maintenance, as the cover need to be removed for inspection.

Note:

a. Brake disc dimensioning

- In general the coupling selection for dynamic braking should be no less than 200% of the running (installation) torque, unless the results of a full analysis of the inertias involved are known, along with the desired stopping time.
- The diameter of the brake disc (D_b), will be determined from the required torque, and the caliper's force at the effective diameter (D_{cal} in **fig. 1** on **page 24**) at which the caliper unit (or units) will engage.
- Multiple calipers, typically no more than two, are generally set 180° apart. The thickness of the disc, and whether plain or ventilated, will also be determined by
  - the inertias ΣI (kgm²) being retarded, relative to the brake position,
  - the stopping time t_s (in seconds) required

b. Brake disc (general)

- International standards, such as DIN 15435, have tables of recommended diameters and thicknesses (or widths) for both disc and drum (shoe) type brakes. (Many brake-system manufacturers also have their own factory standards).
- Disc material will vary depending on the application, capacity and the amount of energy that is required to be dissipated during engagement. Typically however, they are made of spheroidal graphite (nodular) cast iron (e.g. DIN GGG40, AISI 60-40-18; JIS FCD400).
- Thickness variation overall should be <0.05 mm total, and surface finish ≤0.002 µm.

Engineering data

These maximum operating alignment limits are each based on /° per flex half coupling. Combined values of parallel and angular misalignment should not exceed /°. Type GC slide couplings are limited to /° per flex half.

Do not use single engagement couplings to compensate for parallel offset misalignment.

For additional information about gear couplings, please refer to **tables 1** to **6**.

Gear couplings gap measurement for standard and reversed hubs

In some instances it may be required to extend or shorten, the “G” or gap measurement between the hubs without the spacer option. This is usually done by either reversing both (Type 2), or one (Type 3) of the hubs.

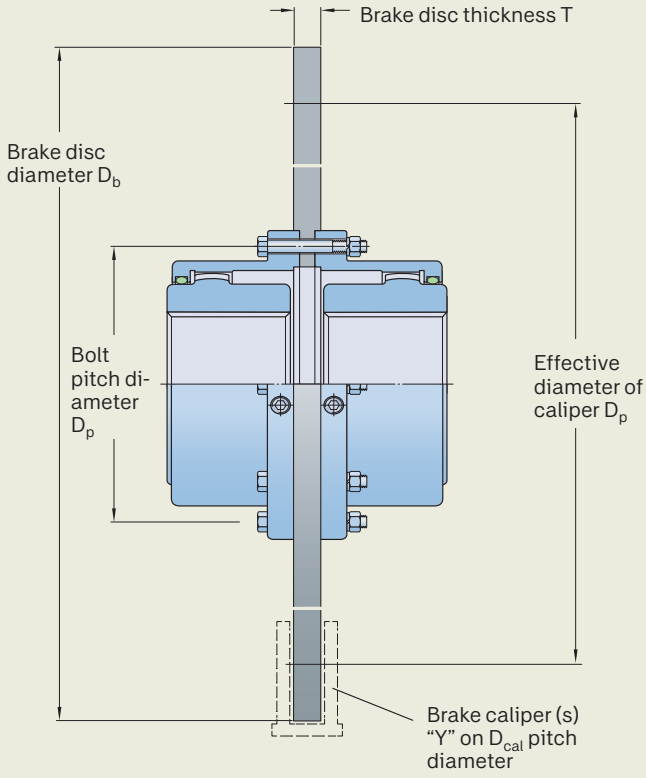
On request, special hub dimensions (Type 4) can also be made to suit, where the hub through length (L_1 or L_2) is to specific requirements.

Table 1 shows the “G” (Gap) dimensions for the various configurations up to size GC70.

Data on the larger size couplings (PHE 80GC and above) is available on request. If hubs are heat-treated or made from alloy 4140 (HT), there is no dimensional variation.

Fig. 1

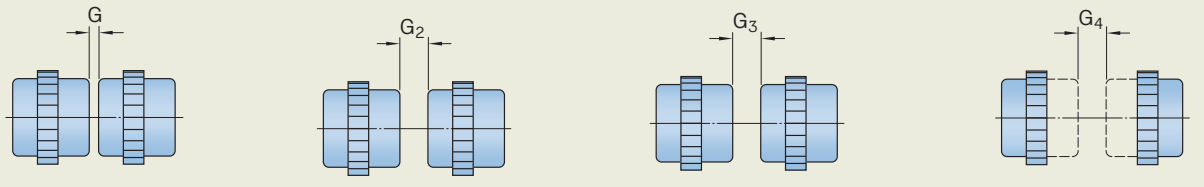
Gear coupling with disc brake



Order data

A complete gear coupling consists of: 2 hubs, 2 covers and 1 assembly kit. Coupling size 80 and above consists of: 2 hubs, 1 male cover, 1 female cover and 1 assembly kit. For more detailed information on ordering specific gear couplings, refer to **table 7** on **page 28**.

Fig. 2



Type 1
Standard hub

Type 2
2 Reversed hubs

Type 3
1 Reversed hub

Type 4
Hub length to customer specification

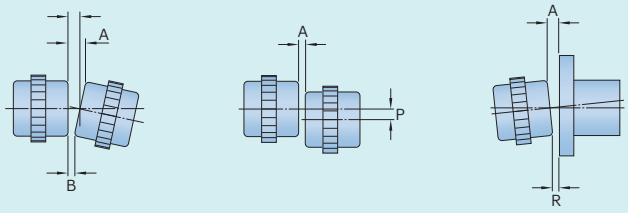
Table 1

Size	Type 1 Standard hubs		Type 2 2 Reversed hubs		Type 3 1 Standard 1 Reversed	Type 4 Modified hubs	
	C	G	ØD	G_2	G_3	G_4	L_1 / L_2
10 GC	43	3	69	16	8		
15 GC	49	3	86	16	8		
20 GC	62	3	105	10	5		
25 GC	77	5	131	14	7		
30 GC	91	5	152	2	1		
35 GC	106	6	178	10	5		
40 GC	121	6	210	26	13	Hub lengths and subsequent gap dimensions to customer specification.	
45 GC	135	8	235	24	12		
50 GC	153	8	254	52	26		
55 GC	168	8	279	82	41		
60 GC	188	8	305	64	32		
70 GC	221	9.5	343	80	40		
80 GC	249	10	356	– [1]	– [1]		
90 GC	276	13	394	– [1]	– [1]		
100 GC	305	13	445	– [1]	– [1]		
110 GC	333	13	495	– [1]	– [1]		
120 GC	353	13	546	– [1]	– [1]		

[1] Refer to SKF PTP for gap dimensions for these sizes, and above.

Table 2

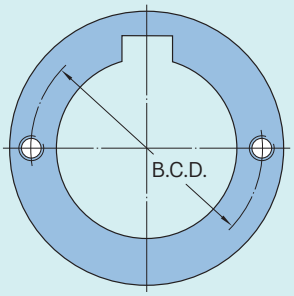
Misalignment capability



Size	Double engagement Installation maximum Parallel offset (P)	Angular offset (A–B)	Operating maximum Parallel offset (P)	Angular offset (A–B)	Coupling gap Normal gap +/– 10%	Single engagement Installation maximum Angular offset (A–B)	Operating maximum Angular offset (A–B)	Coupling gap Normal gap +/– 10%
–	mm		mm		mm	mm	mm	mm
10	0.05	0.15	0.66	1.8	3	0.15	0.89	4
15	0.08	0.18	0.86	2.26	3	0.18	1.14	4
20	0.08	0.23	1.02	2.74	3	0.23	1.37	4
25	0.10	0.28	1.27	3.43	5	0.28	1.70	5
30	0.13	0.33	1.52	3.99	5	0.33	2.01	5
35	0.15	0.38	1.83	4.65	6	0.38	2.34	6
40	0.18	0.46	2.13	5.49	6	0.46	2.74	7
45	0.20	0.51	2.39	6.15	8	0.51	3.07	8
50	0.23	0.56	2.72	6.65	8	0.56	3.33	9
55	0.28	0.61	3.12	7.32	8	0.61	3.66	9
60	0.28	0.66	3.35	7.98	8	0.66	3.99	10
70	0.33	0.79	3.94	9.32	9.5	0.79	4.65	13
80	0.41	0.81	2.46	4.83	9.5	0.81	2.41	13
90	0.43	0.91	2.64	5.49	13	0.91	2.74	14
100	0.48	1.02	2.97	6.15	13	1.02	3.07	16
110	0.56	1.14	3.30	6.81	13	1.14	3.40	16
120	0.58	1.24	3.50	7.04	13	1.24	3.73	16

Table 3

Puller bolt hole data (gear and rigid)



Size Flex hub	Gear B.C.D.[1]	Bolt size	Rigid B.C.D.[1]	Bolt size
–	mm	Tr (ISO)	mm	Tr (ISO)
25	113	M12xP1.75	133	M12xP1.75
30	129	M12xP1.75	156	M12xP1.75
35	152	M12xP1.75	182	M12xP1.75
40	181	M16xP2.0	210	M16xP2.0
45	200	M16xP2.0	233	M16xP2.0
50	216	M20xP2.5	259	M20xP2.5
55	238	M20xP2.5	284	M20xP2.5
60	264	M20xP2.5	316	M20xP2.5
70	311	M24xP3.0	368	M24xP3.0
80	318	M24xP3.0	392	M24xP3.0
90	356	M30xP3.5	438	M30xP3.5
100	394	M36xP4.0	476	M36xP4.0
110	445	M36xP4.0	521	M36xP4.0
120	495	M36xP4.0	575	M36xP4.0
130	533	M36xP4.0	627	M36xP4.0
140	584	M36xP4.0	665	M36xP4.0
150	635	M36xP4.0	719	M36xP4.0
160	686	M36xP4.0	759	M36xP4.0
180	775	M36xP4.0	910	M36xP4.0
200	865	M48xP5.0	1025	M48xP5.0

[1] B.C.D. = Bolt Centre Diameter

Table 4

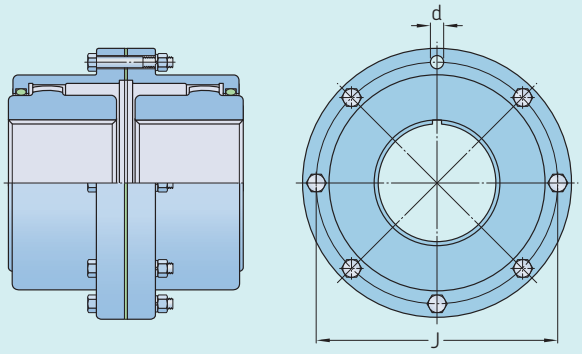
Typical gear coupling brake rating capacities (M_{TMAX})

SKF Coupling Size (PHE XXGCBD)	Nominal Standard Disc O/Dia. D_b x T	Max. Brake Rating of Coupling M_{TMAX} (Nm)
PHE 10GCBD	Disc diameter D_b and thickness T to customer specification.	250
PHE 15GCBD		569
PHE 20GCBD		1 050
PHE 25GCBD		1 895
PHE 30GCBD		3 115
PHE 35GCBD		4 810
PHE 40GCBD		7 315
PHE 45GCBD		10 025
PHE 50GCBD		13 550
PHE 55GCBD		17 780
PHE 60GCBD		23 030
PHE 70GCBD		33 465

Larger sizes available on request. (Refer SKF_PT-Inquiry)

Table 5

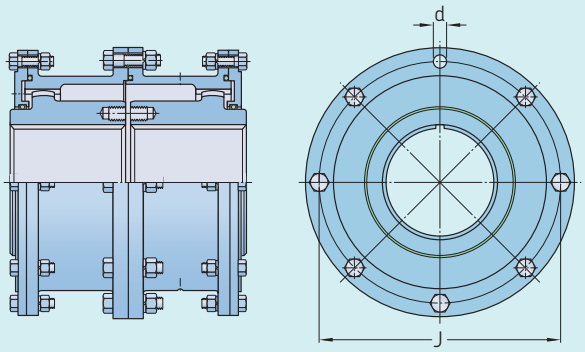
Bolt data flex half



Size	No. of bolts z	Bolt thread[2]	Bolt pitch diameter[1]		Tightening torque Ms	
–	–	in.	mm	in.	Nm	lbf-in
PHE 10GC	6	$^1/_4$ x $1^1/_2$	95.25	$3^3/_4$	7.1	63
PHE 15GC	8	$^3/_8$ x 2	122.24	$4^{13}/_{16}$	33.8	299
PHE 20GC	6	$^1/_2$ x 2	149.23	$5^7/_8$	59	523
PHE 25GC	6	$^5/_8$ x $2^1/_2$	180.98	$7^1/_8$	146	1 293
PHE 30GC	8	$^5/_8$ x $2^1/_2$	206.38	$8^1/_8$	146	1 293
PHE 35GC	8	$^3/_4$ x $3^1/_4$	241.30	$9^1/_2$	294	2 604
PHE 40GC	8	$^3/_4$ x $3^1/_4$	279.40	11	294	2 604
PHE 45GC	10	$^3/_4$ x $3^1/_4$	304.80	12	294	2 604
PHE 50GC	8	$^7/_8$ x $4^1/_4$	342.90	$13^1/_2$	402	3 560
PHE 55GC	14	$^7/_8$ x $4^1/_4$	368.30	$14^1/_2$	402	3 560
PHE 60GC	14	$^7/_8$ x $3^1/_2$	400.05	$15^3/_4$	402	3 560
PHE 70GC	16	1 x $3^1/_2$	463.55	$18^1/_4$	510	4 517

[1] Bolt pitch diameters are originally based on imperial (inch) dimensions. The metric dimensions may have been rounded.
[2] Bolts are all grade 8,8 (unless otherwise specified) and to factory standard for reamed holes.

Bolt data flex half



Size	No. of bolts[3]	Centre flange (flex half)					End cover plate (x2)		
	z	Bolt thread[2]	Bolt PCD[1]		Torque Ms		Bolt thread[2]	Torque Ms	
–	–	–	mm	in.	Nm	lbf-in	–	Nm	lbf-in
Large size (80GC–200GC)									
PHE 80GC	16	$1^1/_8$ x $4^1/_8$	527.05	$20^3/_4$	745	6 598	$^7/_8$ x $3^1/_4$	402	3 560
PHE 90GC	18	$1^1/_4$ x $4^3/_4$	590.55	$23^1/_4$	1 010	8 946	1 x $3^1/_2$	510	4 517
PHE 100GC	18	$1^1/_4$ x $5^1/_4$	641.35	$25^1/_4$	1 010	8 946	1 x $3^1/_2$	510	4 517
PHE 110GC	18	$1^1/_2$ x 6	590.55	$27^1/_2$	1 765	15 635	1 x $3^1/_2$	510	4 517
PHE 120GC	18	$1^1/_2$ x $6^1/_4$	762.00	30	1 765	15 635	$1^1/_8$ x $3^1/_2$	745	6 599
PHE 130GC	18	$1^1/_2$ x $6^1/_4$	822.33	$32^3/_8$	1 765	15 635	$1^1/_8$ x $3^1/_2$	1 010	8 945
PHE 140GC	18	$1^3/_4$ x $6^1/_2$	876.30	$34^1/_2$	2 710	24 000	$1^1/_8$ x $3^1/_2$	1 010	8 945
PHE 150GC	20	$1^3/_4$ x $6^1/_2$	933.45	$36^3/_4$	2 710	24 000	$1^1/_8$ x $3^1/_2$	1 010	8 945
PHE 160GC	20	2 x 7	1 009.65	$39^3/_4$	4 060	35 960	$1^1/_8$ x $3^1/_2$	1 010	8 945
PHE 180GC	22	2 x 7	1 117.60	44	4 060	35 960	$1^1/_4$ x $4^1/_2$	1 315	11 650
PHE 200GC	22	$2^1/_4$ x $7^3/_4$	1 231.90	$48^1/_2$	5 420	48 000	$1^1/_2$ x 5	2 290	20 285

[1] Bolt pitch diameters are originally based on imperial (inch) dimensions. The metric dimensions may have been rounded.
[2] Bolts are all grade 8,8 (unless otherwise specified) and to factory standard for reamed holes.
[3] For sizes 80GC and above, the number of bolts are for both the end covers (2 off) and the centre flange connection.

Table 7

Order data

Coupling type	Hubs	Qty	Cover	Qty	Assembly kit	Qty	Spacer/floating shaft and kits ... = DBSE dimension	Qty	Disc	Qty
Double engagement										
Plain bore	PHE 50GCRSB	2	PHE 50GCCOVER	2	PHE 50GCKIT	1	–	–	–	–
Taper bushing	PHE 50GCTB	As required	PHE 50GCCOVER	2	PHE 50GCKIT	1	–	–	–	–
Size 80 and above	PHE 80GCRSB	2	PHE 80GCMCOVER	1	PHE 80GCKIT	1	–	–	–	–
	–	–	PHE 80GCFCOVER	1	–	–	–	–	–	–
Single engagement	PHE 50GCSERSB	1	PHE 50GCCOVER	1	PHE 50GCKIT	1	–	–	–	–
	PHE 50GCRSB	1	–	–	–	–	–	–	–	–
Taper bushing	PHE 50GCTB	1	–	–	–	–	–	–	–	–
Size 80 and above	PHE 80GCSERSB	1	–	1	PHE 80GCKIT	1	–	–	–	–
	PHE 80GCRSB	1	PHE 80GCFCOVER	1	–	–	–	–	–	–
Double engagement spacer	PHE 50GCRSB	2	PHE 50GCCOVER	2	PHE 50GCKIT	2	PHE 50GCSPACER ... MM	1	–	–
Taper bushing	PHE 50GCTB	As required	PHE 50GCCOVER	2	PHE 50GCKIT	2	PHE 50GCSPACER ... MM	1	–	–
Double engagement slide type 1, 2, 3										
Type 1	PHE 50GCSLT1RSB	2	PHE 50GCST1COVER	2	PHE 50GCKIT	1	PHE 50GCCPLATE	1	–	–
Type 2	PHE 50GCSLT2RSB	2	PHE 50GCST2COVER	2	PHE 50GCKIT	1	PHE 50GCCPLATE	1	–	–
Type 3	PHE 50GSCLT3RSB	2	PHE 50GCST3COVER	2	PHE 50GCKIT	1	PHE 50GCCPLATE	1	–	–
							PHE 50GCT3DISC	2	–	–
Single engagement slide type 1 and 2										
Type 1	PHE 50GCRSB	1	PHE 50GCSCOVER	1	PHE 50GCKIT	1	PHE 50GCCPLATE	1	–	–
	PHE 50GCSERSB	1	–	–	–	–	–	–	–	–
Type 2	PHE 50GCST2RSB	1	PHE 50GCSCOVER	1	PHE 50GCKIT	1	PHE 50GCCPLATE	1	–	–
	PHE 50GCSERSB	1	–	–	–	–	–	–	–	–
Single engagement floating shaft	PHE 50GCSERSB	2	PHE 50GCCOVER	2	PHE 50GCKIT	2	PHE 50GCFSHAFT ... MM	1	–	–
	PHE 50GCRSB	2	–	–	–	–	PHE 50GCDISCKIT	2	–	–
Double engagement vertical	PHE 50GCVRSB	2	PHE 50GCVCOVER	2	PHE 50GCKIT	1	50GCVCTRKIT	1	–	–
Single engagement vertical	PHE 50GCVRSB	1	PHE 50GCVCOVER	1	PHE 50GCKIT	1	50GCVCTRKIT	–	–	–
	PHE 50GCSERSB	1	–	–	–	–	–	–	–	–
Single engagement vertical floating	PHE 50GCVRSB	1	PHE 50GCVCOVER	1	PHE 50GCKIT	1	50GCVCTRKIT	2	–	–
	PHE 50GCFSERSB	1	–	–	–	–	–	–	–	–
	PHE 50GCVRSB	1	PHE 50GCVCOVER	1	PHE 50GCKIT	1	PHE 50GCFSHAFT ... MM	1	–	–
	PHE 50GCSERSB	1	–	–	–	–	–	–	–	–
Rigid flanged sleeve	PHE 50GCRRSB	2	–	–	PHE 50GCRKIT	1	–	–	–	–
Taper bushing	PHE 50GFTB	As required	–	–	PHE 80GCRKIT	1	PHE 80GCRRING	1	–	–
Size 80 and above	PHE 80GCRRSB	2	–	–	PHE 80GCRKIT	1	PHE 80GCRRING	1	–	–
Brake capability option[1]	PHE 50GCX...MM	2	PHE 50GCCOVER	2	PHE 50GCDKIT	1	–	–	PHE 50GCDISC...MM	1
	PHE 50GCRSB	2	PHE 50GCCOVER	2	PHE 50GCDKIT	1	–	–	PHE 50GCDISC...MM	1

[1] The limitations in the couplings' torque capacity, when fitted with a taper bushing, is based on the maximum recommended torque for the relevant taper bushing with a standard keyway.
For this reason it is uneconomical, but not unfeasable, to offer larger size couplings with taper bushing options.
For bored to size designations, add bore size in mm. For example: PHE 50GCX500MM.
For shrouded bolt covers use cover number, e.g. PHE 50SGCCOVER and PHE 50SGCKIT for the assembly kit.
The assembly kit includes oil seals, gasket, bolts and lock-nuts.

Installation

The performance of the coupling depends largely upon how it is installed, aligned and maintained.

1 **Mount the flanged sleeves with the seal rings before the hubs**
Clean all metal parts using non-flammable solvent and check hubs, shafts and keyways for burrs and remove if necessary. Lightly coat the seals with grease and place well back on the shafts before mounting the hubs. Optionally both shafts can be lubricated with light oil or anti-seize compound. Mount the hubs on their respective shafts so that each hub face is flush with the end of the shaft unless otherwise indicated (→ **fig. 1**).

2 **Gap and angular alignment**
Use a feeler gauge equal in thickness to the gap specified in **table 2** on **page 25**. Insert the gauge as shown in image (→ **fig. 2**) to the same depth at 90° intervals and measure the clearance between the gauge and hub face. The difference in the minimum and the maximum measurements must not exceed the angular limits specified in **table 2** on **page 25**.

3 **Offset alignment**
Align the two hubs so that a straight edge rests squarely on both hubs as in image (→ **fig. 3**), and also at 90° intervals. The clearance must not exceed the parallel offset installation limits specified in **table 2** on **page 25**. Tighten all foundation bolts (→ **fig. 4**) and repeat steps 2 and 3. Realign the coupling if necessary.

4 **Pack with grease and assemble the sleeves**
Pack the gears of the hubs with grease. Insert the gasket between the sleeves and position the sleeves with the lubrication holes approximately 90° apart. Then push the sleeves into position and using the supplied fasteners, bolt the sleeves together. Once the coupling is assembled, remove the lubrication plugs from the sleeves. Insert a grease fitting in one of the holes and pump grease into the sleeve until it is forced out of the opposite lubrication holes (→ **fig. 5**). Replace the lubrication plugs. The installation is complete.

Fig. 1

Fig. 2

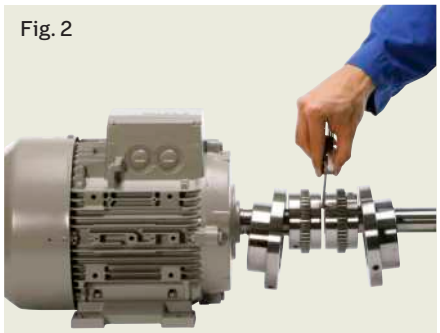


Fig. 3

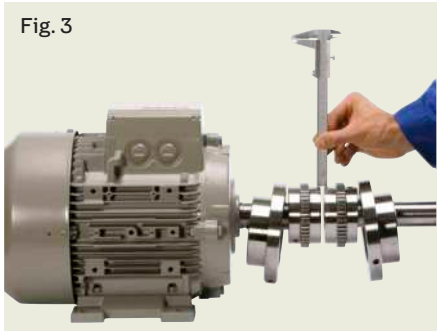


Fig. 4

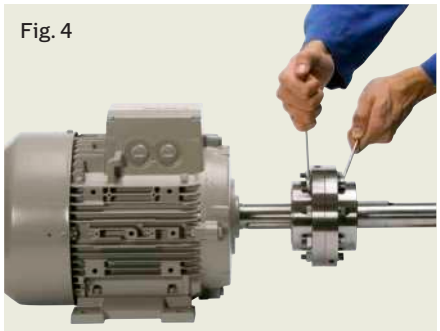
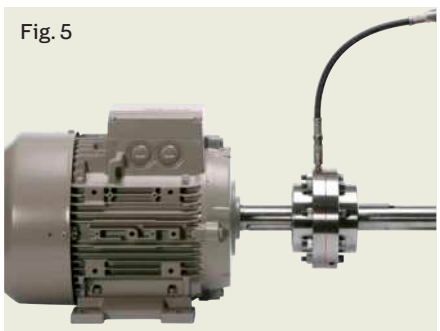
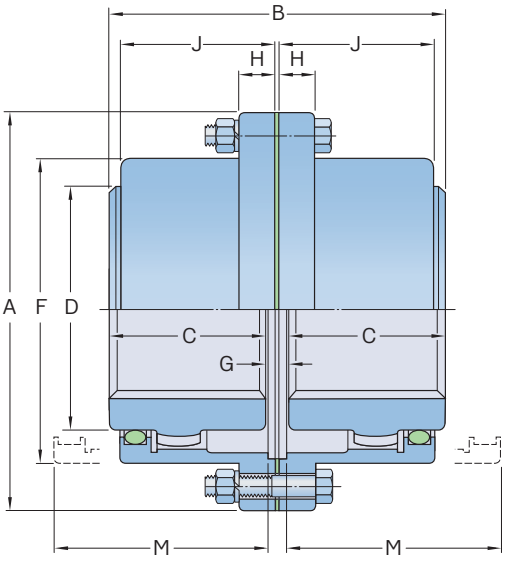


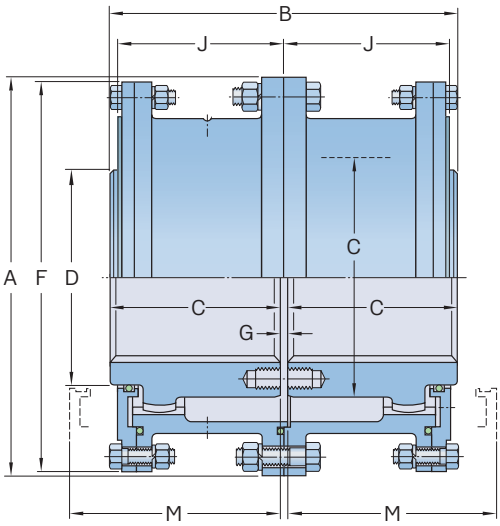
Fig. 5



Double engagement



Size 10 to 70

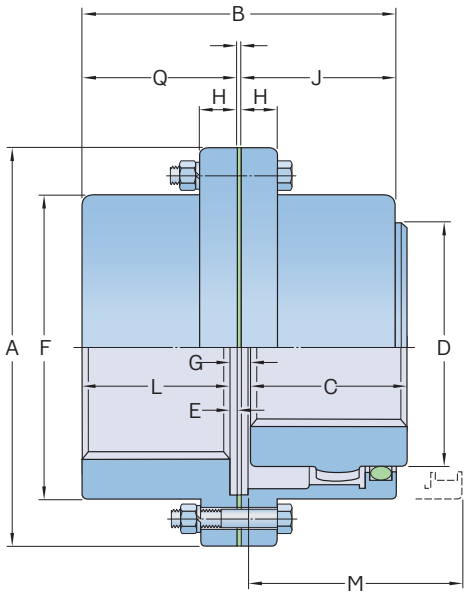


Size 80 to 200

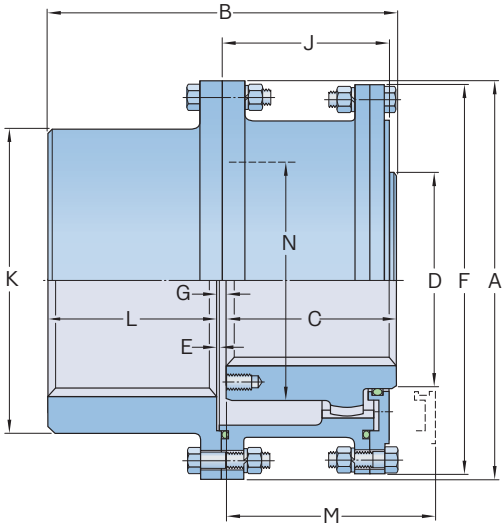
Size	Power per 100 r/min	Rated torque	Speed	Bore diameter		Dimensions								Gap	Lubricant weight	Coupling weight without bore
						A	B	C	D	F	H	J	M[1]	G		
			Max.	Min.	Max.									Min.		
–	kW	Nm	r/min	mm										mm	kg	
10 GC	11.9	1 139	8 000	13	50	116	89	43	69	84	14	39	51	3	0.04	5
15 GC	24.6	2 350	6 500	20	65	152	101	49	86	105	19	48	61	3	0.07	9
20 GC	44.7	4 270	5 600	26	78	178	127	62	105	126	19	59	77	3	0.12	16
25 GC	78.3	7 474	5 000	32	98	213	159	77	131	155	21.8	72	92	5	0.23	29
30 GC	127	12 100	4 400	38	111	240	187	91	152	180	21.8	84	107	5	0.36	43
35 GC	194	18 500	3 900	51	134	279	218	106	178	211	28.4	98	130	6	0.54	68
40 GC	321	30 609	3 600	64	160	318	248	121	210	245	28.4	111	145	6	0.91	97
45 GC	440	42 000	3 200	77	183	346	278	135	235	274	28.4	123	166	8	1.04	136
50 GC	593	56 600	2 900	89	200	389	314	153	254	306	38.1	141	183	8	1.77	190
55 GC	775	74 030	2 650	102	220	425	344	168	279	334	38.1	158	204	8	2.22	249
60 GC	947	90 400	2 450	115	244	457	384	188	305	366	25.4	169	229	8	3.18	306
70 GC	1 420	135 000	2 150	127	289	527	452	221	343	425	28.4	196	267	10	4.35	485
80 GC	1 780	170 000	1 750	102	266	591	508	249	356	572	–	243	300	10	9.53	703
90 GC	2 360	226 000	1 550	115	290	660	565	276	394	641	–	265	327	13	12.25	984
100 GC	3 250	310 000	1 450	127	320	711	623	305	445	699	–	294	356	13	14.97	1 302
110 GC	4 320	413 000	1 330	140	373	775	679	333	495	749	–	322	384	13	17.69	1 678
120 GC	5 810	555 000	1 200	153	400	838	719	353	546	826	–	341	403	13	20.87	2 114
130 GC	7 528	719 000	1 075	165	440	911	762	371	584	886	–	367	435	19	32.65	2 595
140 GC	9 539	911 000	920	175	460	966	806	393	635	940	–	378	457	19	33.10	3 107
150 GC	11 518	1 100 000	770	190	490	1 029	857	419	686	1 003	–	408	483	19	40.81	3 765
160 GC	13 715	1 310 000	650	250	525	1 111	908	441	736	1 086	–	419	502	25	43.08	4 708
180 GC	17 382	1 660 000	480	285	600	1 219	939	457	838	1 194	–	435	521	25	49.90	6 260
200 GC	22 406	2 140 000	370	315	660	1 359	1 099	537	927	1 306	–	514	635	25	68.00	8 582

[1] Minimum clearance required for aligning coupling.
Double engagement couplings are designed for most horizontal, close coupled applications. This coupling accommodates both offset and angular misalignment, as well as end float.
Applications include: fans, pumps, steel and paper mill drives, cranes and conveyors.
Bore tolerances will be K7 and key width (b) will be P9 (close fit) for coupling sizes 130 and bigger unless stated otherwise.
Weights are given, in kg, with minimum listed bore, excluding lubricant.

Single engagement



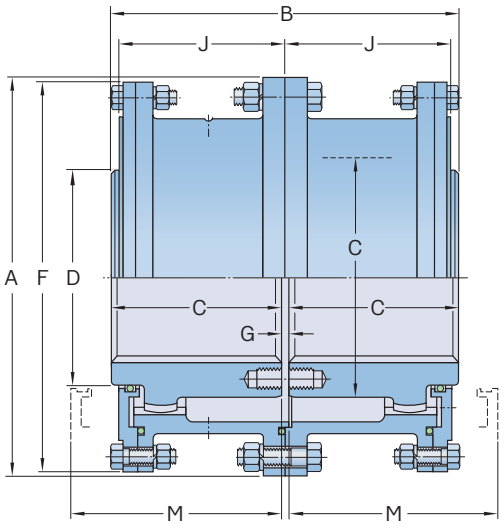
Size 10 to 70



Size 80 to 120

Size	Power per 100 r/min	Rated torque	Speed	Bore diameter Flex hub	Bore diameter Se hub		Dimensions												Gap	Lubricant weight	Coupling weight without bore
							A	B	C	D	E	F	H	J	K[1]	L	M[2]	Q			
			Max.	Max.	Max.	Min.													Min.		
–	kW	Nm	r/min	mm															mm	kg	
10 GCSE	11.9	1 139	8 000	48	60	13	116	87	43	69	2.5	84	14	39	–	40	51	42	4	0.02	4.5
15 GCSE	24.6	2 350	6 500	60	75	19	152	99	49	86	2.5	105	19	48	–	46	61	49	4	0.04	9.1
20 GCSE	44.7	4 270	5 600	73	92	25	178	124	62	105	2.5	126	19	59	–	58	77	61	4	0.07	15.9
25 GCSE	78.3	7 474	5 000	92	111	32	213	156	77	131	2.5	155	21.8	72	–	74	92	76	5	0.12	27.2
30 GCSE	127	12 100	4 400	105	130	38	240	184	91	152	2.5	180	21.8	84	–	88	107	90	5	0.18	43.1
35 GCSE	194	18 500	3 900	124	149	51	279	213.5	106	178	2.5	211	28.4	98	–	102	130	105	6	0.27	61.2
40 GCSE	321	30 609	3 600	146	171	64	318	243	121	210	4.1	245	28.4	111	–	115	145	119	7	0.47	99.8
45 GCSE	440	42 000	3 200	165	194	76	346	274	135	235	4.1	274	28.4	123	–	131	166	135	8	0.57	136.1
50 GCSE	593	56 600	2 900	178	222	89	389	309	153	254	5.1	306	38.1	141	–	147	183	152	9	0.91	195.0
55 GCSE	775	74 030	2 650	197	248	102	425	350	168	279	5.1	334	38.1	158	–	173	204	178	9	1.13	263.1
60 GCSE	947	90 400	2 450	222	267	114	457	384	188	305	6.6	366	25.4	169	–	186	229	193	10	1.70	324.3
70 GCSE	1 420	135 000	2 150	254	305	127	527	454	221	343	8.4	425	28.4	196	–	220	267	229	13	2.27	508
80 GCSE	1 780	170 000	1 750	279	343	102	591	511	249	356	–	572	–	243	450.8	249	300	–	13	4.99	698.5
90 GCSE	2 360	226 000	1 550	305	381	114	660	566	276	394	–	641	–	265	508.0	276	327	–	14	6.35	984.3
100 GCSE	3 250	310 000	1 450	343	406	127	711	626	305	445	–	699	–	294	530.4	305	356	–	16	7.71	1 251.9
110 GCSE	4 320	413 000	1 330	387	445	140	775	682	333	495	–	749	–	322	584.2	333	384	–	16	9.07	1 637.5
120 GCSE	5 810	555 000	1 200	425	495	152	838	722	353	546	–	826	–	341	647.7	353	403	–	16	10.89	2 077.5

[1] May be an “as cast” version depending on coupling size and bore.
[2] Minimum clearance required for aligning coupling.
These single engagement couplings are not designed for floating shaft applications and only accommodate angular misalignment.
For floating shaft applications, please, refer to **page 30** and **33**.

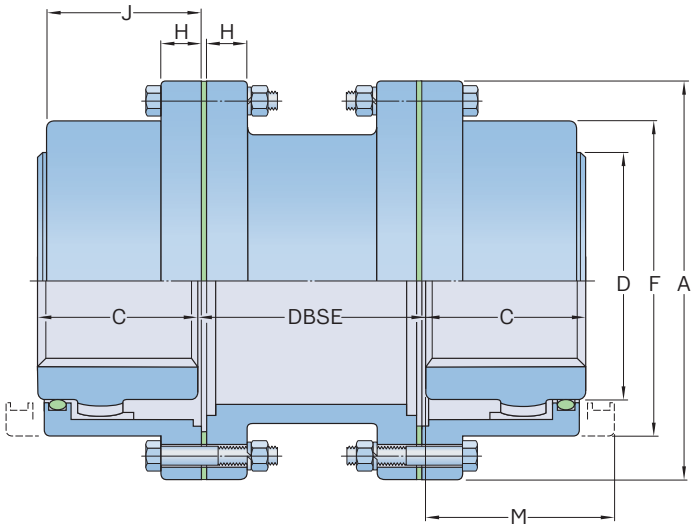


Size 80 to 160

Size	Rated torque[1] Standard Material: C45	Heat treated (HT) Material: C45 HT	Alloy (XT) Material: 4140 HT	Speed	Bore diameter[2]		Coupling weight without bore
				Max.	Min.	Max.	
–	kNm			r/min	mm		kg
80 GC	170	203.8	233.7	1 750	101	266	703
90 GC	226	271.2	315	1 550	114	290	984
100 GC	310	372	442.4	1 450	127	320	1 302
110 GC	413	495.6	608.9	1 330	139	373	1 678
120 GC	555	666	776.7	1 200	152	400	2 114
130 GC	719	862.1	924.6	1 075	165	440	2 595
140 GC	911	1 092.5	1 138	920	175	460	3 107
150 GC	1 100	1 320	1 351	770	190	490	3 765
160 GC	1 310	1 570	1 635	650	250	525	4 708
180 GC	1 660	1 985	Refer to SKF	480	285	600	6 260
200 GC	2 140	2 565	Refer to SKF	370	315	660	8 562

[1] The figures for the HT and XP are indicative only.
Applications for the HT and XP series couplings should be referred to SKF PTP for confirmation of both capacity and suitability for the specific application.
[2] Bore tolerances will be K7 unless stated otherwise. Key width (b) tolerance will be P9 (close fit). The maximum bores listed are for standard keyways to DIN6883/1 (up to and including 500 mm only). Above 500 mm bore, keyway dimensions MUST be specified as not covered by international standards. Shallow keys, when required, will be to DIN6885/3.
[3] Weights are given in kg, with the minimum listed bore, and excluding lubricant.

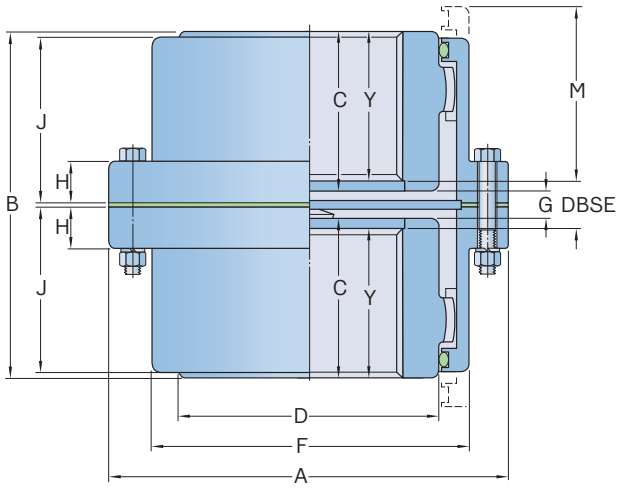
Double engagement
Spacer



Size	Power per 100 r/min	Rated torque	Speed	DBSE		Bore diameter		Dimensions							Lubricant weight	Coupling weight without bore and min. DBSE
								A	C	D	F	H	J	M[1]		
			Max.	Min.	Max.	Min.	Max.									
–	kW	Nm	r/min	mm											kg	
10 GCS	11.9	1 139	7 000	83	311	13	48	116	43	69	84	14	39	51	0.04	6.8
15 GCS	24.6	2 350	5 500	83	311	19	60	152	49	86	105	19	48	61	0.07	13.6
20 GCS	44.7	4 270	4 600	83	311	25	73	178	62	105	126	19	59	77	0.12	20.4
25 GCS	78.3	7 474	4 000	95	311	32	92	213	77	131	155	21.8	72	92	0.23	38.6
30 GCS	127	12 100	3 600	95	311	38	105	240	91	152	180	21.8	84	107	0.36	54.4
35 GCS	194	18 500	3 100	120	311	51	124	279	106	178	211	28.4	98	130	0.54	88.5
40 GCS	321	30 609	2 800	120	311	64	146	318	121	210	245	28.4	111	145	0.91	122.5
45 GCS	440	42 000	2 600	120	311	76	165	346	135	235	274	28.4	123	166	1.04	165.6
50 GCS	593	56 600	2 400	146	311	89	178	389	153	254	306	38.1	141	183	1.77	238.1
55 GCS	775	74 030	2 200	146	311	102	197	425	168	279	334	38.1	158	204	2.22	306.2
60 GCS	947	90 400	2 100	146	311	114	222	457	188	305	366	25.4	169	229	3.18	358.3
70 GCS	1 420	135 000	1 800	146	311	127	254	527	221	343	425	28.4	196	267	4.35	562.5

[1] Minimum clearance required for aligning coupling.
Double engagement spacer couplings are designed for pump and compressor applications.
The coupling consists of a standard double engagement coupling and a spacer tube which is available in various lengths.

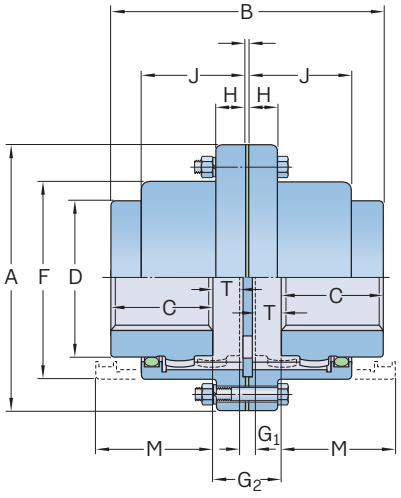
Double engagement
Vertical



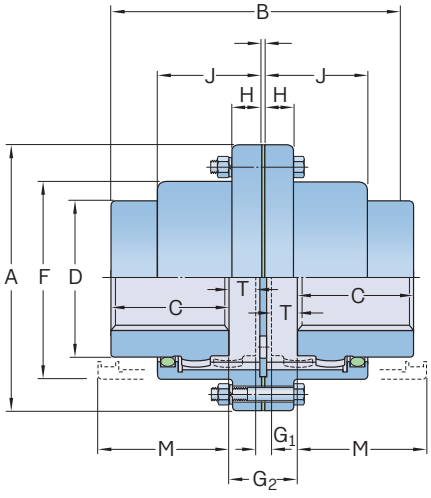
Size	Power per 100 r/min	Rated torque	Speed	Bore diameter		Dimensions										Gap	Lubricant weight	Coupling weight without bore
						A	B	C	D	F	H	J	M[1]	Y	DBSE	G		
			Max.	Max.	Min.											Min.		
–	kW	Nm	r/min	mm												mm	kg	
10 GCV	11.9	1 139	8 000	13	48	116	89	43	69	84	14	39	51	32.5	24	11	0.04	5
15 GCV	24.6	2 350	6 500	19	60	152	101	49	86	105	19	48	61	38.6	24	11	0.07	9
20 GCV	44.7	4 270	5 600	25	73	178	127	62	105	126	19	59	77	51.3	24	11	0.12	16
25 GCV	78.3	7 474	5 000	32	92	213	159	77	131	155	21.8	72	92	65.3	26	14	0.23	29
30 GCV	127	12 100	4 400	38	105	240	187	91	152	180	21.8	84	107	79.8	26	14	0.36	43
35 GCV	194	18 500	3 900	51	124	279	218	106	178	211	28.4	98	130	94.0	30	18	0.54	68
40 GCV	321	30 609	3 600	64	146	318	248	121	210	245	28.4	111	145	105.9	35	22	0.91	97
45 GCV	440	42 000	3 200	76	165	346	278	135	235	274	28.4	123	166	116.3	44	25	1.04	136
50 GCV	593	56 600	2 900	89	178	389	314	153	254	306	38.1	141	183	134.6	44	25	1.77	190
55 GCV	775	74 030	2 650	102	197	425	344	168	279	334	38.1	158	204	149.6	44	25	2.22	249
60 GCV	947	90 400	2 450	114	222	457	384	188	305	366	25.4	169	229	168.1	48	29	3.18	306
70 GCV	1 420	135 000	2 150	127	254	527	452	221	343	425	28.4	196	267	194.8	61	35	4.35	485

[1] Minimum clearance required for aligning coupling.

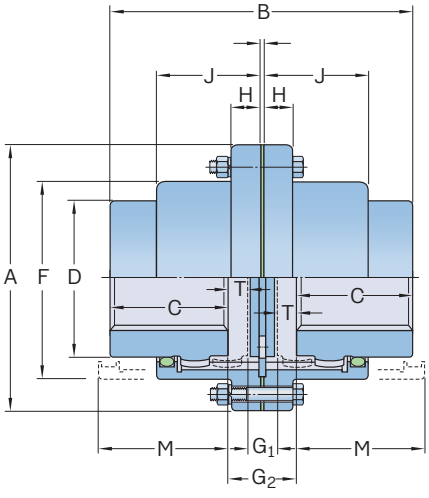
Double engagement
Slide



Type 1



Type 2



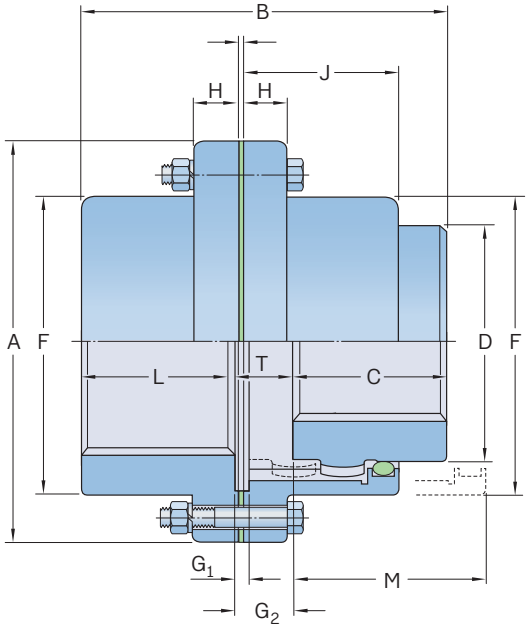
Type 3

Size	Power per 100 r/min	Rated torque	Speed	Bore diameter		Dimensions						Lubricant weight	Coupling weight without bore
						A	C	D	F	H	J		
			Max.	Min.	Max.								
–	kW	Nm	r/min	mm								kg	
10 GCSL	11.9	1 139	5 300	13	48	116	43	69	84	14	39	0.02	5
15 GCSL	24.6	2 350	4 300	19	60	152	49	86	105	19	48	0.04	9
20 GCSL	44.7	4 270	3 700	25	73	178	62	105	126	19	59	0.06	16
25 GCSL	78.3	7 474	3 300	32	92	213	77	131	155	21.8	72	0.11	29
30 GCSL	127	12 100	2 900	38	105	240	91	152	180	21.8	84	0.18	43
35 GCSL	194	18 500	2 600	51	124	279	106	178	211	28.4	98	0.27	68
40 GCSL	321	30 609	2 400	64	146	318	121	210	245	28.4	111	0.45	97
45 GCSL	440	42 000	2 100	76	165	346	135	235	274	28.4	123	0.51	136
50 GCSL	593	56 600	1 900	89	178	389	153	254	306	38.1	141	0.91	190
55 GCSL	775	74 030	1 800	102	197	425	168	279	334	38.1	158	1.13	249
60 GCSL	947	90 400	1 600	114	222	457	188	305	366	25.4	169	1.19	306
70 GCSL	1 420	135 000	1 400	127	254	527	221	343	425	28.4	196	2.18	485

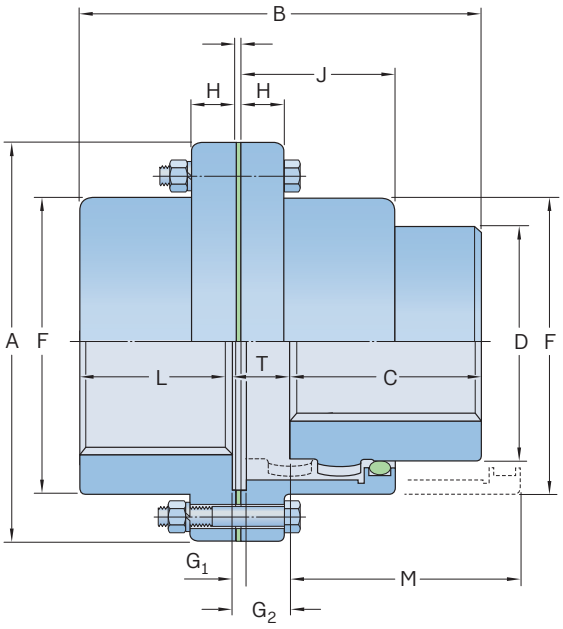
Size	Type 1						Type 2						Type 3					
	B	M[1]	T		Gap G_1	G_2	B	M[1]	T		Gap G_1	G_2	B	M[1]	T		Gap G_1	G_2
	Max.		Half Max.	Total			Max.		Half Max.	Total			Max.		Half Max.	Total		
–	mm						mm						mm					
10 GCSL	96	54	13	26	8	10	126	58	16	32	8	40	96	54	2	4	6	10
15 GCSL	127	60	10	20	8	29	152	69	23	46	8	54	127	60	7.5	15	14	29
20 GCSL	151	77	9	18	8	27	186	84	27	54	8	62	151	77	10	20	7	27
25 GCSL	188	93	12	24	9	34	231	102	34	68	9	78	188	93	6	12	21	34
30 GCSL	227	108	18	36	9	45	263	118	36	72	9	81	227	108	11.5	23	22	45
35 GCSL	274	124	25	50	11	61	313	135	45	90	11	102	274	124	14	28	33	61
40 GCSL	320	138	32	64	15	79	364	155	54	108	15	121	320	138	16	32	47	79
45 GCSL	355	154	35	70	16	86	406	163	60	120	16	136	355	154	19	38	47	86
50 GCSL	408	175	42	82	18	102	460	189	68	136	18	153	408	175	20.5	41	61	102
55 GCSL	470	191	58	116	18	134	510	221	78	156	18	174	470	191	21	42	92	134
60 GCSL	504	212	53	424	21	127	563	227	83	166	21	187	504	212	24.5	49	78	127
70 GCSL	592	245	62	490	26	150	669	235	99	198	26	223	592	245	27	54	96	150

[1] Minimum clearance required for aligning coupling.
Larger sizes available: contact SKF for details.
Double engagement slide couplings are designed for horizontal close coupled applications and are designed to accommodate thermal expansion of the shaft and large mechanical vibratory screens.
These couplings are available with 3 different ranges of axial capabilities.

Single engagement
Slide



Type 1



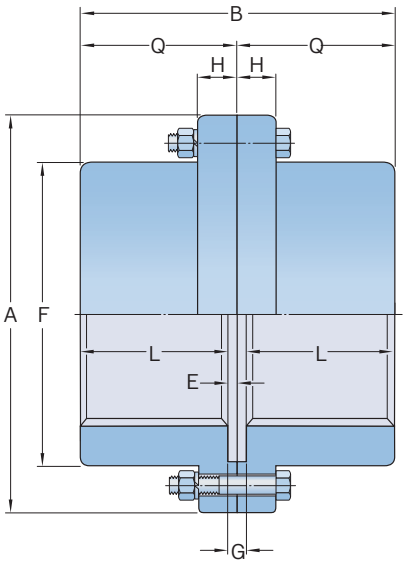
Type 2

Size	Power per 100 r/min	Rated torque	Speed	Bore diameter Flex hub	Bore diameter Se hub		Dimensions A	C	D	F	H	J	L	Lubricant weight	Coupling weight without bore
			Max.	Max.	Max.	Min.									
–	kW	Nm	r/min	mm										kg	
10 GCSL	11.9	1 139	5 300	48	60	13	116	43	69	84	14	39	40	0.01	5
15 GCSL	24.6	2 350	4 300	60	75	19	152	49	86	105	19	48	46	0.02	9
20 GCSL	44.7	4 270	3 700	73	92	25	178	62	105	126	19	59	58	0.04	16
25 GCSL	78.3	7 474	3 300	92	111	32	213	77	131	155	21.8	72	74	0.06	29
30 GCSL	127	12 100	2 900	105	130	38	240	91	152	180	21.8	84	88	0.11	43
35 GCSL	194	18 500	2 600	124	149	51	279	106	178	211	28.4	98	102	0.18	68
40 GCSL	321	30 609	2 400	146	171	64	318	121	210	245	28.4	111	115	0.27	97
45 GCSL	440	42 000	2 100	165	194	76	346	135	235	274	28.4	123	131	0.34	136
50 GCSL	593	56 600	1 900	178	222	89	389	153	254	306	38.1	141	147	0.54	195
55 GCSL	775	74 030	1 800	197	248	102	425	168	279	334	38.1	158	173	0.73	263
60 GCSL	947	90 400	1 600	222	267	114	457	188	305	366	25.4	169	186	0.96	324
70 GCSL	1 420	135 000	1 400	254	305	127	527	221	343	425	28.4	196	220	1.36	510

Size	Type 1 B	M[1)]	T	Gap G_1	G_2	Type 2 B	M[1)]	T	Gap G_1	G_2
	Max.		Max.			Max.		Max.		
–	mm					mm				
10 GCSL	90	54	3.6	4	8	105	58	18.5	4	23
15 GCSL	112	60	12.7	4	17	125	69	25.4	4	30
20 GCSL	136	77	11.7	4	16	154	84	29.5	4	34
25 GCSL	170	93	14.5	5	19	192	102	36.3	5	41
30 GCSL	204	108	20.1	5	25	222	118	38.1	5	43
35 GCSL	241	124	27.2	6	33	262	135	47.8	6	53
40 GCSL	279	138	36.3	7	43	300	155	57.4	7	65
45 GCSL	315	154	38.9	8	47	338	163	64	8	72
50 GCSL	356	175	47	9	56	382	189	72.6	9	81
55 GCSL	412.5	191	63	9	72	433	221	83.1	9	92
60 GCSL	445	212	59.7	10	70	475	227	89.4	10	100
70 GCSL	524	245	70.4	13	83	560	235	106.7	13	119

[1)] Minimum clearance required for aligning coupling.
Larger sizes available: contact SKF for details.
These couplings are available with 2 different ranges of axial capabilities.

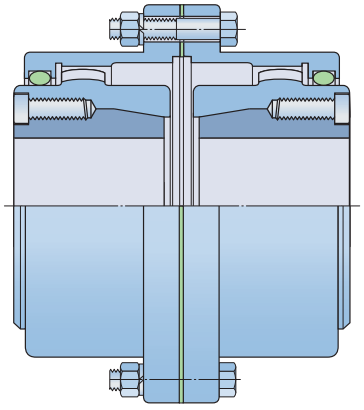
Rigid flanged sleeve



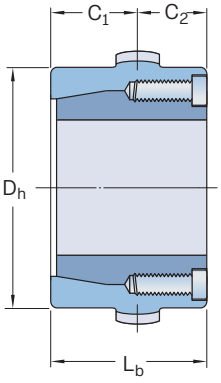
Size	Power per 100 r/min	Rated torque	Speed	Bore diameter		Dimensions							Gap	Coupling weight without bore
						A	B	E	F	H	L	Q	G	
			Max.	Min.	Max.								Min.	
–	kW	Nm	r/min	mm									mm	kg
10 GCR	11.9	1 139	8 000	13	60	116	84.5	2.5	84	14	40	39	5	5
15 GCR	24.6	2 350	6 500	19	75	152	97.5	2.5	105	19	46	48	5	9
20 GCR	44.7	4 270	5 600	25	92	178	122	2.5	126	19	58.5	59	5	16
25 GCR	78.3	7 474	5 000	32	111	213	152.5	2.5	155	21.8	73.5	72	5	28
30 GCR	127	12 100	4 400	38	130	240	181	2.5	180	21.8	88	84	5	43
35 GCR	194	18 500	3 900	51	149	279	209	2.5	211	28.4	102	98	5	68
40 GCR	321	30 609	3 600	64	171	318	239	4.1	245	28.4	115	111	8	102
45 GCR	440	42 000	3 200	76	194	346	269	4.1	274	28.4	130.5	123	8	140
50 GCR	593	56 600	2 900	89	222	389	305	5.1	306	38.1	147.5	141	10	205
55 GCR	775	74 030	2 650	102	248	425	355.5	5.1	334	38.1	172.5	158	10	280
60 GCR	947	90 400	2 450	114	267	457	386	6.6	366	25.4	186.5	169	13	335
70 GCR	1 420	135 000	2 150	127	305	527	457	8.4	425	28.4	220	196	17	536
80 GCR	1 780	170 000	1 750	102	343	591	514	8	572	31.5	249	243	16	703
90 GCR	2 360	226 000	1 550	114	381	660	568	8	641	38	276	265	16	984
100 GCR	3 250	310 000	1 450	127	406	711	629	9.7	699	44.2	305	294	19	1 210
110 GCR	4 320	413 000	1 330	140	445	775	686	9.7	749	50.8	333	322	19	1 610
120 GCR	5 810	555 000	1 200	152	495	838	724	9.7	826	53.8	353	341	19	2 114

Rigid flanged sleeve couplings are designed for horizontal, close coupled applications. These are excellent high torque couplings to use where there is no need to accommodate misalignment.

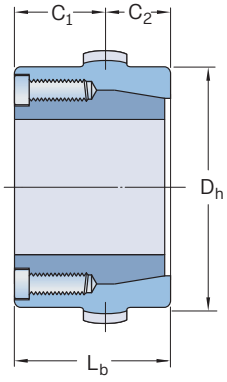
Gear couplings with taper bushing option



Gear coupling mounting in modified hubs



Type “F” mounting
$C_1 > C_2$
(standard configuration)



Type “H” mounting
$C_1 > C_2$
(non-preferred, not available in all series)

Size	Taper bushing designation	Bushing torque capacity	Bore diameter range[1]		Nominal hub length	Hub diameter
			Min.	Max.	Lb	D_h
–	–	Nm	mm		mm	mm
10 GCTB	1215	405	13	32	43	69
15 GCTB	1615	485	13	42	53	88
20 GCTB	2012	810	13	50	62	105
25 GCTB	2525	1 275	25	65	77	131
30 GCTB	3030	2 710	24	80	91	152
35 GCTB	3535	5 060	32	91	107	178
40 GCTB	4040	8 727	37	103	121	210

[1] The taper bushing combination may be used in full flex-flex or flex-rigid configuration.
Check rigid hub dimensions on **page 35**.