



SKF Flex couplings

Selection



SKF Flex combines excellent vibration dampening and shock loading capacity with unrivaled misalignment accommodation to provide a high performance coupling solution.

Easy to install and maintenance free, SKF Flex is available with both bored to size (B) and taper bush mounting. Taper bush mounting includes face (F), hub (H) and a more versatile reversible option (R) that allows for the mounting orientation (F or H) to be decided at installation. SKF Flex flanges are phosphate coated for improved corrosion resistance. A complete coupling consists of 2 flanges and 1 tyre.

The addition of a standard sized spacer flange can be used to accommodate applications where it is advantageous to move either shaft axially without disturbing either driving or driven machines.

SKF Flex tyres are available in natural rubber compounds for use in ambient temperatures between -50 °C and +50 °C. Chloroprene rubber compounds are available for use in adverse operating conditions (e.g. oil or grease contamination) and can be used in temperatures of -15 °C to +70 °C. The Chloroprene component should be used where fire-resistance and antistatic (F.R.A.S.) properties are required.

Selection

Service Factor

- Determine the required service factor from the table below.

Design Power

- Multiply the normal running power by the service factor. This gives the design power for coupling selection.

Coupling Size

- Using the Power Ratings table read across from the appropriate speed until a power greater than the design power is found. The required SKF Flex coupling is given at the head of the column.

Bore Size

- Using the dimensions table check that chosen flanges can accommodate both driving and driven shafts.

Example

A SKF Flex coupling is required to transmit 30 kW from an Electric motor running at 1440 rev/min to a centrifugal pump for 14 hours per day. The motor shaft is 30 mm diameter and the pump shaft is 25 mm diameter. Taper bush is required.

1. Service factor

The appropriate service factor is 0,9.

2. Design Power

Design power = 30 x 0,9 = 27 kW

3. Coupling size

By reading across from the 1440 rev/min in the power ratings table the first power figure to exceed the required 27 kW in step(2) is 37,70 kW. The size of the coupling is 70 SKF Flex.

4. Bore Size

By referring to the dimensions table it can be seen that both shaft diameters fall within the bore range available. A note to make is that for this coupling size taper bush sizes differ between face and hub mounting.

Service Factors

		Type of driving unit: Electric motors and steam Turbines			Type of driving unit: Internal combustion engines, steam engines and water turbines		
		Duty hours per day			Duty hours per day		
		Up to 10	10 to 16	Over 16	Up to 10	10 to 16	Over 16
Light	Agitators/Mixers [liquids], belt conveyors [uniform loading], blowers and exhausters, centrifugal pumps and compressors, fans [below 7,5 kW]	0,8	0,9	1,0	1,3	1,4	1,5
Medium	Agitators/Mixers [non-liquid], Belt and chain conveyors [variable loading], fans [over 7,5 kW], generators, lines shafts, machine tools, rotary pumps and compressors [other than centrifugal] Machinery for food processing, laundries and printing industries	1,3	1,4	1,5	1,8	1,9	2,0
Heavy	Heavy duty conveyors [bucket, drag/shovel, screw], hammer mills, presses, punches, shears, piston pumps and compressors Machinery for brick, textile, paper, saw mill industries	1,8	1,9	2,0	2,3	2,4	2,5
Very Heavy	Crushers [gyratory, jaw, roll], Heavy duty mills [ball, rod, tube], Hoists	2,3	2,4	2,5	2,8	2,9	3,0

It is recommended that keys are fitted for applications where load fluctuation is expected



SKF Flex couplings

Selection

- ▶ Belts
- ▶ Chains
- ▶ Couplings
- ▶ Bushings and Hubs
- ▶ Sprockets
- ▶ Pulleys
- ▶ Smart tools

Power Ratings (kW)

Speed	Coupling Size														
RPM	40	50	60	70	80	90	100	110	120	140	160	180	200	220	250
50	0.13	0.35	0.66	1.31	1.96	2.62	3.53	4.58	6.96	12.17	19.74	32.83	48.82	60.73	76.83
100	0.25	0.69	1.33	2.62	3.93	5.24	7.07	9.16	13.93	24.35	39.48	65.65	97.64	121.47	153.66
200	0.50	1.38	2.66	5.24	7.85	10.47	14.14	18.32	27.85	48.69	78.95	131.31	195.29	242.93	307.33
300	0.75	2.07	3.99	7.85	11.78	15.71	21.20	27.49	41.78	73.04	118.43	196.96	292.93	364.40	460.99
400	1.01	2.76	5.32	10.47	15.71	20.94	28.27	36.65	55.71	97.38	157.91	262.62	390.58	485.86	614.66
500	1.26	3.46	6.65	13.09	19.63	26.18	35.34	45.81	69.63	121.73	197.38	328.27	488.22	607.33	768.32
600	1.51	4.15	7.98	15.71	23.56	31.41	42.41	54.97	83.56	146.07	236.86	393.93	585.86	728.80	921.99
700	1.76	4.84	9.31	18.32	27.49	36.65	49.48	64.14	97.49	170.42	276.34	459.58	683.51	850.26	1075.65
720	1.81	4.98	9.57	18.85	28.27	37.70	50.89	65.97	100.27	175.29	284.23	472.71	703.04	874.55	1106.39
800	2.01	5.53	10.64	20.94	31.41	41.88	56.54	73.30	111.41	194.76	315.81	525.24	781.15	971.73	1229.32
900	2.26	6.22	11.97	23.56	35.34	47.12	63.61	82.46	125.34	219.11	355.29	590.89	878.80	1093.19	1382.98
960	2.41	6.63	12.77	25.13	37.70	50.26	67.85	87.96	133.70	233.72	378.97	630.28	937.38	1166.07	1475.18
1000	2.51	6.91	13.30	26.18	39.27	52.36	70.68	91.62	139.27	243.46	394.76	656.54	976.44	1214.66	1536.65
1200	3.02	8.29	15.96	31.41	47.12	62.83	84.82	109.95	167.12	292.15	473.72	787.85	1171.73	–	–
1400	3.52	9.68	18.62	36.65	54.97	73.30	98.95	128.27	194.97	340.84	552.67	919.16	–	–	–
1440	3.62	9.95	19.15	37.70	56.54	75.39	101.78	131.94	200.54	350.58	568.46	945.42	–	–	–
1600	4.02	11.06	21.28	41.88	62.83	83.77	113.09	146.60	222.83	389.53	631.62	–	–	–	–
1800	4.52	12.44	23.94	47.12	70.68	94.24	127.23	164.92	250.68	438.22	–	–	–	–	–
2000	5.03	13.82	26.60	52.36	78.53	104.71	141.36	183.25	278.53	–	–	–	–	–	–
2200	5.53	15.20	29.26	57.59	86.39	115.18	155.50	201.57	–	–	–	–	–	–	–
2400	6.03	16.59	31.92	62.83	94.24	125.65	169.63	–	–	–	–	–	–	–	–
2600	6.53	17.97	34.58	68.06	102.09	136.13	183.77	–	–	–	–	–	–	–	–
2800	7.04	19.35	37.24	73.30	109.95	146.60	–	–	–	–	–	–	–	–	–
2880	7.24	19.90	38.30	75.39	113.09	150.79	–	–	–	–	–	–	–	–	–
3000	7.54	20.73	39.90	78.53	117.80	157.07	–	–	–	–	–	–	–	–	–
3600	9.05	24.88	47.87	94.24	–	–	–	–	–	–	–	–	–	–	–
Nominal Torque Nm	24	66	127	250	375	500	675	875	1330	2325	3770	6270	9325	11600	14675
Max Torque Nm	64	160	318	487	759	1096	1517	2137	3547	5642	9339	16455	23508	33125	42740

Maximum torque figures should be treated as a short duration overload ratings occurring in circumstances such as direct-on-line starting.

For speeds not shown calculate the nominal torque for the design application using the formula below and select coupling according to nominal torque ratings.

$$\text{Nominal Torque (Nm)} = \frac{\text{Design power (kW)} \times 30000}{\text{RPM} \times \pi}$$

Physical Characteristics

Coupling Size	Maximum Speed	Mass	Inertia	Torsional Stiffness	Misalignment			Nominal Torque	Max Torque	Screw Size	Clamping Screw Torque (NM)	Tyre Designation	
	RPM	kg	kg/m ²	Nm/°	Angular	Parallel	Axial	Nm	Nm			Natural	F.R.A.S.
F40	4500	0.1	0.00074	5	4	1.1	1.3	24	64	M6	15	PHE F40NRTYRE	PHE F40FRTYRE
F50	4500	0.3	0.00115	13	4	1.3	1.7	66	160	M6	15	PHE F50NRTYRE	PHE F50FRTYRE
F60	4000	0.5	0.00520	26	4	1.6	2.0	127	318	M6	15	PHE F60NRTYRE	PHE F60FRTYRE
F70	3600	0.7	0.00900	41	4	1.9	2.3	250	487	M8	24	PHE F70NRTYRE	PHE F70FRTYRE
F80	3100	1.0	0.01700	63	4	2.1	2.6	375	759	M8	24	PHE F80NRTYRE	PHE F80FRTYRE
F90	3000	1.1	0.03100	91	4	2.4	3.0	500	1096	M10	40	PHE F90NRTYRE	PHE F90FRTYRE
F100	2600	1.1	0.05400	126	4	2.6	3.3	675	1517	M10	40	PHE F100NRTYRE	PHE F100FRTYRE
F110	2300	1.4	0.07800	178	4	2.9	3.7	875	2137	M10	40	PHE F110NRTYRE	PHE F110FRTYRE
F120	2050	2.3	0.01300	296	4	3.2	4.0	1330	3547	M12	50	PHE F120NRTYRE	PHE F120FRTYRE
F140	1800	2.6	0.25500	470	4	3.7	4.6	2325	5642	M12	55	PHE F140NRTYRE	PHE F140FRTYRE
F160	1600	3.4	0.38000	778	4	4.2	5.3	3770	9339	M16	80	PHE F160NRTYRE	PHE F160FRTYRE
F180	1500	7.7	0.84700	1371	4	4.8	6.0	6270	16455	M16	105	PHE F180NRTYRE	PHE F180FRTYRE
F200	1300	8.0	1.28100	1959	4	5.3	6.6	9325	23508	M16	120	PHE F200NRTYRE	PHE F200FRTYRE
F220	1100	10.0	2.10400	2760	4	5.8	7.3	11600	33125	M20	165	PHE F220NRTYRE	PHE F220FRTYRE
F250	1000	15.0	3.50500	3562	4	6.6	8.2	14675	42740	M20	165	PHE F250NRTYRE	PHE F250FRTYRE

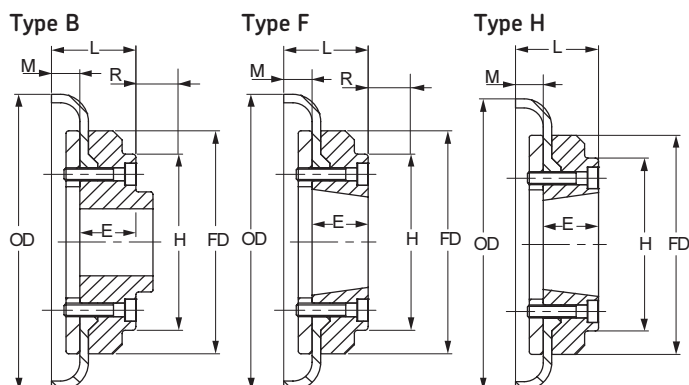


SKF Flex couplings

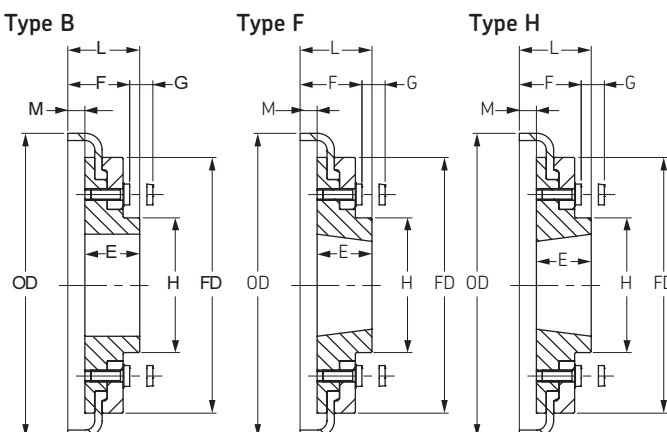
Dimensions



Sizes 40-60



Sizes 70-250



Dimensions of SKF Flex flanges types B, F & H

Size	Type	Bush No.	Bore		Types F & H		Type B		Key Screw	O.D	FD	H	F	R*	G+	M	Mass →	Inertia →	Designation
			Min	Max	L	E	L	E											
40	F	1008	9	25	33,0	22	—	—	—	104	82,0	—	—	29	—	11,0	0,8	0,00074	PHE F40FTBFLG
40	H	1008	9	25	33,0	22	—	—	—	104	82,0	—	—	29	—	11,0	0,8	0,00074	PHE F40HTBFLG
40	B	—	—	30	—	—	33,0	22	M5	104	82,0	—	—	29	—	11,0	0,8	0,00074	PHE F40RSBFLG
50	F	1210	11	32	37,5	25	—	—	—	133	100,0	79	—	38	—	12,5	1,2	0,00115	PHE F50FTBFLG
50	H	1210	11	32	37,5	25	—	—	—	133	100,0	79	—	38	—	12,5	1,2	0,00115	PHE F50HTBFLG
50	B	—	—	38	—	—	45,0	32	M5	133	100,0	79	—	38	—	12,5	1,2	0,00115	PHE F50RSBFLG
60	F	1610	14	42	41,5	25	—	—	—	165	125,0	103	—	38	—	16,5	2,0	0,00520	PHE F60FTBFLG
60	H	1610	14	42	41,5	25	—	—	—	165	125,0	103	—	38	—	16,5	2,0	0,00520	PHE F60HTBFLG
60	B	—	—	45	—	—	55,0	38	M6	165	125,0	70	—	38	—	16,5	2,0	0,00520	PHE F60RSBFLG
70	F	2012	14	50	43,5	32	—	—	—	187	142,0	80	50	42	13	11,5	3,1	0,00900	PHE F70FTBFLG
70	H	1610	14	42	36,5	25	—	—	—	187	142,0	80	50	38	13	11,5	3,0	0,00900	PHE F70HTBFLG
70	B	—	—	60	—	—	47,0	35	M10	187	142,0	80	50	—	13	11,5	3,1	0,00900	PHE F70RSBFLG
80	F	2517	16	60	57,5	45	—	—	—	211	165,0	97	54	48	16	12,5	4,9	0,01800	PHE F80FTBFLG
80	H	2012	14	50	44,5	32	—	—	—	211	165,0	98	54	32	16	12,5	4,6	0,01700	PHE F80HTBFLG
80	B	—	—	63	—	—	55,0	42	M10	211	165,0	98	54	—	16	12,5	4,9	0,01800	PHE F80RSBFLG
90	F	2517	16	60	58,5	45	—	—	—	235	187,0	108	60	48	16	13,5	7,0	0,03100	PHE F90FTBFLG
90	H	2517	16	60	58,5	45	—	—	—	235	187,0	108	60	48	16	13,5	7,0	0,03100	PHE F90HTBFLG
90	B	—	—	75	—	—	62,5	49	M12	235	187,0	112	60	—	16	13,5	7,1	0,03200	PHE F90RSBFLG
100	B	—	—	80	—	—	69,5	56	M12	254	214,0	125	62	—	16	13,5	9,9	0,05500	PHE F100RSBFLG
100	F	3020	25	75	64,5	51	—	—	—	254	214,0	120	62	55	16	13,5	9,9	0,05500	PHE F100FTBFLG
100	H	2517	16	60	58,5	45	—	—	—	254	214,0	113	62	48	16	13,5	9,4	0,05400	PHE F100HTBFLG
110	B	—	—	90	—	—	75,5	63	M12	279	232,0	128	62	—	16	12,5	12,5	0,08100	PHE F110RSBFLG
110	F	3020	25	75	63,5	51	—	—	—	279	232,0	134	62	55	16	12,5	11,7	0,07800	PHE F110FTBFLG
110	H	3020	25	75	63,5	51	—	—	—	279	232,0	134	62	55	16	12,5	11,7	0,07800	PHE F110HTBFLG
120	B	—	—	100	—	—	84,5	70	M16	314	262,0	143	67	—	16	14,5	16,9	0,13700	PHE F120RSBFLG
120	F	3525	35	100	79,5	65	—	—	—	314	262,0	140	67	67	16	14,5	16,5	0,13700	PHE F120FTBFLG
120	H	3020	25	75	65,5	51	—	—	—	314	262,0	140	67	55	16	14,5	15,9	0,13000	PHE F120HTBFLG
140	B	—	—	125	—	—	110,5	94	M20	359	312,5	180	73	—	17	16,0	22,2	0,25400	PHE F140RSBFLG
140	F	3525	35	100	81,0	65	—	—	—	359	312,5	180	73	67	17	16,0	22,3	0,25500	PHE F140FTBFLG
140	H	3525	35	100	81,0	65	—	—	—	359	312,5	180	73	67	17	16,0	22,3	0,25500	PHE F140HTBFLG
160	B	—	—	140	—	—	117,0	102	M20	402	348,0	197	78	—	19	15,0	35,8	0,46900	PHE F160RSBFLG
160	F	4030	40	115	91,0	76	—	—	—	402	348,0	197	78	80	19	15,0	32,5	0,38000	PHE F160FTBFLG
160	H	4030	40	115	91,0	76	—	—	—	402	348,0	197	78	80	19	15,0	32,5	0,38000	PHE F160HTBFLG
180	B	—	—	150	—	—	137,0	114	M20	470	396,0	205	94	—	19	23,0	49,1	0,87100	PHE F180RSBFLG
180	F	4535	55	125	112,0	89	—	—	—	470	396,0	205	94	89	19	23,0	42,2	0,84700	PHE F180FTBFLG
180	H	4535	55	125	112,0	89	—	—	—	470	396,0	205	94	89	19	23,0	42,2	0,84700	PHE F180HTBFLG
200	B	—	—	150	—	—	138,0	114	M20	508	432,0	205	103	—	19	24,0	58,2	1,30100	PHE F200RSBFLG
200	F	4535	55	125	113,0	89	—	—	—	508	432,0	205	103	89	19	24,0	53,6	1,28100	PHE F200FTBFLG
200	H	4535	55	125	113,0	89	—	—	—	508	432,0	205	103	89	19	24,0	53,6	1,28100	PHE F200HTBFLG
220	B	—	—	160	—	—	154,5	127	M20	562	472,0	224	118	—	20	27,5	79,6	2,14200	PHE F220RSBFLG
220	F	5040	70	125	129,5	102	—	—	—	562	472,0	224	118	92	20	27,5	72,0	2,10400	PHE F220FTBFLG
220	H	5040	70	125	129,5	102	—	—	—	562	472,0	224	118	92	20	27,5	72,0	2,10400	PHE F220HTBFLG
250	B	—	—	190	—	—	161,5	132	M20	628	532,0	254	125	—	25	29,5	104,0	3,50500	PHE F250RSBFLG

All dimensions in mm unless otherwise specified

For coupling sizes 70, 80, 100 and 120 F flanges require a larger bush than H flanges.

* Is the clearance required to allow tightening/loosening of the clamping screws, and the taper bushing. Use of a shortened wrench will reduce this dimension.

+ The amount by which the clamping screws need to be withdrawn to release the tyre.

→ Mass and Inertia figures are for a single flange with midrange bore and include clamping ring, screws, washers and half tyre.

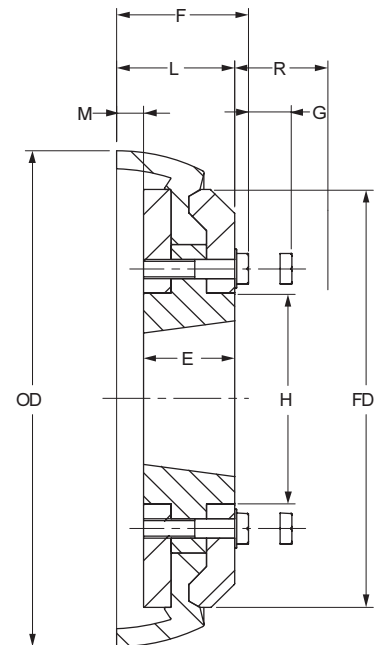
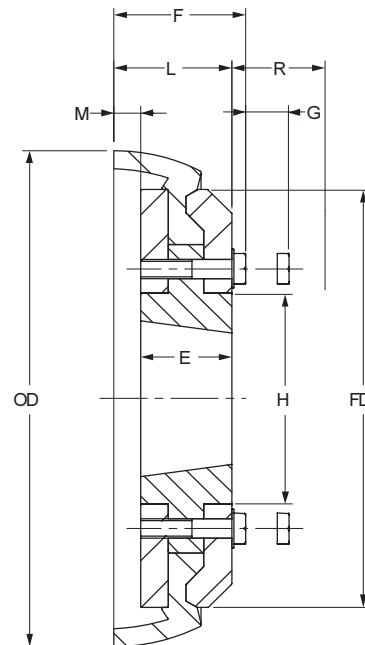


SKF Flex couplings

Reversible

- ▶ Belts
- ▶ Chains
- ▶ Couplings
- ▶ Bushings and Hubs
- ▶ Sprockets
- ▶ Pulleys
- ▶ Smart tools

Sizes 70-120



Dimensions of SKF Flex flanges type R

Size	Bush No.	Bore		Type R			Screw over Key	O.D	FD	H	F	G+	M	Mass→	Inertia→	Designation
		Min	Max	L	E	R*										
		mm	mm	mm	mm	mm								kg	kg/m ²	
F70	1610	14	42	37,0	25	42	M8	187	142	80	44,25	13	11,5	3,0	0,009	PHE F70RTBFLG
F80	2012	14	50	45,5	32	48	M8	211	165	98	52,75	16	12,5	4,6	0,017	PHE F80RTBFLG
F90	2517	16	60	58,5	45	48	M10	235	187	112	67,86	16	13,5	7,0	0,031	PHE F90RTBFLG
F100	2517	16	60	59,5	45	55	M10	254	214	125	68,86	16	13,5	9,4	0,054	PHE F100RTBFLG
F110	3020	25	75	64,5	51	55	M10	279	232	134	73,68	16	12,5	11,7	0,078	PHE F110RTBFLG
F120	3020	25	75	66,5	51	67	M12	314	262	140	77,18	16	14,5	15,9	0,130	PHE F120RTBFLG

All dimensions in mm unless otherwise specified

* The clearance required to allow tightening/loosening of the clamping screws.

+ The amount by which the clamping screws need to be withdrawn to release the tyre.

→ Mass and Inertia figures are for a single flange with midrange bore and include clamping ring, screws, washers and half tyre.



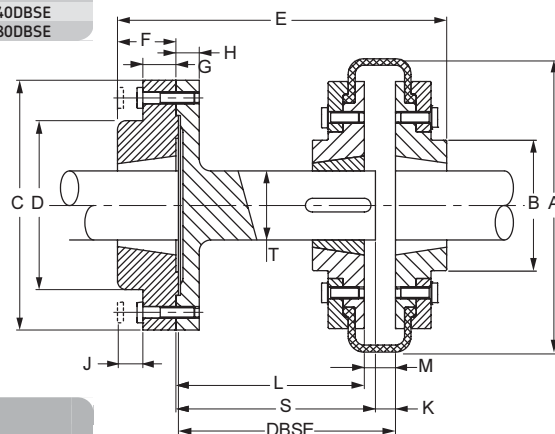
SKF Flex spacer couplings



Distance Between Shaft Ends (DBSE)

Spacer	Distance Between Shaft Ends (DBSE)		Coupling Size	Spacer Bush Size	Bore		Coupling Bush Size	Bore		Designation
	Nominal (min)	Max			Min	Max		Min	Max	
	mm	mm			mm	mm		mm	mm	
SM12	80	90	40	1210	11	32	1008	9	25	PHE SM12-80DBSE
SM12	100	110	40	1210	11	32	1008	9	25	PHE SM12-100DBSE
SM16	100	113	40	1615	14	42	1008	9	25	PHE SM16-100DBSE
SM16	140	150	40	1615	14	42	1008	9	25	PHE SM16-140DBSE
SM16	100	116	50	1615	14	42	1210	11	32	PHE SM16-100DBSE
SM16	140	156	50	1615	14	42	1210	11	32	PHE SM16-140DBSE
SM16	100	124	60	1615	14	42	1610	14	42	PHE SM16-100DBSE
SM16	140	164	60	1615	14	42	1610	14	42	PHE SM16-140DBSE
SM25	100	114	70	2517	16	60	2012	14	50	PHE SM25-100DBSE
SM25	140	154	70	2517	16	60	2012	14	50	PHE SM25-140DBSE
SM25	180	194	70	2517	16	60	2012	14	50	PHE SM25-180DBSE
SM25	100	117	80	2517	16	60	2517	16	60	PHE SM25-100DBSE
SM25	140	157	80	2517	16	60	2517	16	60	PHE SM25-140DBSE
SM25	180	197	80	2517	16	60	2517	16	60	PHE SM25-180DBSE
SM25	140	158	90	2517	16	60	2517	16	60	PHE SM25-140DBSE
SM25	180	198	90	2517	16	60	2517	16	60	PHE SM25-180DBSE
SM30	140	158	100	3020	25	75	3020	25	75	PHE SM30-140DBSE
SM30	180	198	100	3020	25	75	3020	25	75	PHE SM30-180DBSE
SM30	140	156	110	3020	25	75	3020	25	75	PHE SM30-140DBSE
SM30	180	196	110	3020	25	75	3020	25	75	PHE SM30-180DBSE
SM35	140	160	120	3525	35	100	3525	35	100	PHE SM35-140DBSE
SM35	180	200	120	3525	35	100	3525	35	100	PHE SM35-180DBSE
SM35	140	163	140	3525	35	100	3525	35	100	PHE SM35-140DBSE
SM35	180	203	140	3525	35	100	3525	35	100	PHE SM35-180DBSE

The SKF Flex coupling spacer is used to join two shafts ends that cannot be positioned close enough to just use a coupling alone. The spacer also allows removal of a shaft without needing to move either the driving or the driven machine. For example, this allows easy and fast replacement of impellers in pump applications.



Spacer Coupling Dimensions

Spacer	Distance Between Shaft Ends (DBSE)		Coupling Size	Dimensions													
	Nominal (min)	Max		A	B	C	D	E	F	G	H	J	K	L	M	S	T
SM12	80	90	40	104	82	118	83	134	25	14	15	14	6	65	22	77	25
SM12	100	110	40	104	82	118	83	140	25	14	15	14	22	77	22	77	25
SM16	100	113	40*	104	82	127	80	157	38	18	15	14	9	88	22	94	32
SM16	140	150	40*	104	82	127	80	187	38	18	15	14	9	128	22	134	32
SM16	100	116	50	133	79	127	80	160	38	18	15	14	9	85	25	94	32
SM16	140	156	50	133	79	127	80	200	38	18	15	14	9	125	25	134	32
SM16	100	124	60	165	103	127	80	161	38	18	15	14	9	78	33	94	32
SM16	140	164	60	165	103	127	80	201	38	18	15	14	9	118	33	134	32
SM25	100	114	70+	187	80	178	123	180	45	22	16	14	9	80	23	94	48
SM25	140	154	70+	187	80	178	123	220	45	22	16	14	9	120	23	174	48
SM25	180	194	70+	187	80	178	123	260	45	22	16	14	9	160	23	174	48
SM25	100	117	80	211	95	178	123	193	45	22	16	14	9	78	25	94	48
SM25	140	157	80	211	95	178	123	233	45	22	16	14	9	118	25	134	48
SM25	180	197	80	211	95	178	123	273	45	22	16	14	9	158	25	174	48
SM25	140	158	90	235	108	178	123	233	45	22	16	14	9	116	27	134	48
SM25	180	198	90	235	108	178	123	273	45	22	16	14	9	156	27	174	48
SM30	140	158	100	254	120	216	146	245	51	29	20	17	9	116	27	134	60
SM30	180	198	100	254	120	216	146	285	51	29	20	17	9	156	27	174	60
SM30	140	156	110	279	134	216	146	245	51	29	20	17	9	118	25	134	60
SM30	180	196	110	279	134	216	146	285	51	29	20	17	9	158	25	174	60
SM35	140	160	120	314	140	248	178	272	63	34	20	17	9	114	29	134	80
SM35	180	200	120	314	140	248	178	312	63	34	20	17	9	154	29	174	80
SM35	140	163	140	359	178	248	178	271	63	34	20	17	9	111	27	134	80
SM35	180	203	140	359	178	248	178	312	63	34	20	17	9	151	27	174	80

* F40 'B' Flange must be used to fit spacer shaft
+ 'F' Flange must be used to fit spacer shaft.

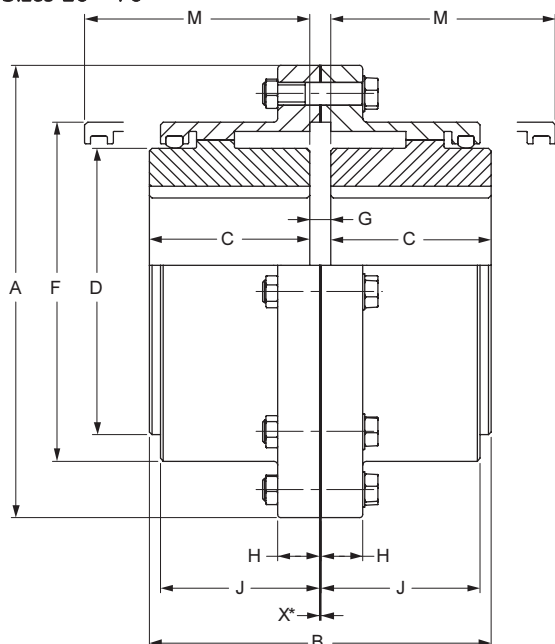


Gear couplings

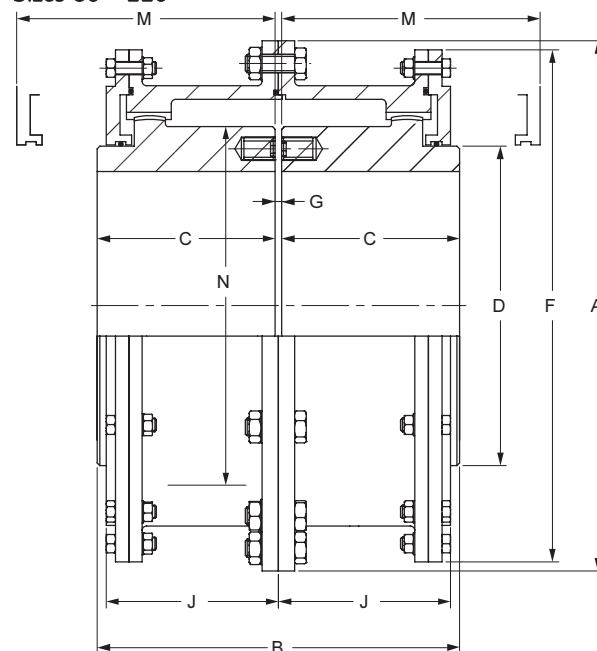
Double engagement

- ▶ Belts
- ▶ Chains
- ▶ Couplings
- ▶ Bushings and Hubs
- ▶ Sprockets
- ▶ Pulleys
- ▶ Smart tools

Sizes 10 - 70



Sizes 80 - 120



Designations

Size	Hub Designations	Cover Designations	Assembly Kit
10	PHE 10GCRSB	PHE 10GCCOVER	PHE 10GCKIT
15	PHE 15GCRSB	PHE 15GCCOVER	PHE 15GCKIT
20	PHE 20GCRSB	PHE 20GCCOVER	PHE 20GCKIT
25	PHE 25GCRSB	PHE 25GCCOVER	PHE 25GCKIT
30	PHE 30GCRSB	PHE 30GCCOVER	PHE 30GCKIT
35	PHE 35GCRSB	PHE 35GCCOVER	PHE 35GCKIT
40	PHE 40GCRSB	PHE 40GCCOVER	PHE 40GCKIT
45	PHE 45GCRSB	PHE 45GCCOVER	PHE 45GCKIT
50	PHE 50GCRSB	PHE 50GCCOVER	PHE 50GCKIT
55	PHE 55GCRSB	PHE 55GCCOVER	PHE 55GCKIT
60	PHE 60GCRSB	PHE 60GCCOVER	PHE 60GCKIT
70	PHE 70GCRSB	PHE 70GCCOVER	PHE 70GCKIT
80	PHE 80GCRSB	PHE 80GCMCOVER	PHE 80GCFCOVER
90	PHE 90GCRSB	PHE 90GCMCOVER	PHE 90GCFCOVER
100	PHE 100GCRSB	PHE 100GCMCOVER	PHE 100GCFCOVER
110	PHE 110GCRSB	PHE 110GCMCOVER	PHE 110GCFCOVER
120	PHE 120GCRSB	PHE 120GCMCOVER	PHE 120GCFCOVER

The assembly kit includes oil seals, gasket, bolts and lock-nuts.

A complete 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.

Physical characteristics

Size	KW per 100 rpm	Rated torque	Max speed	Bore diameter		Dimensions (mm)								Coupling weight	Lubricant weight
		Nm	rpm	Min	Max	A	B	C	D	F	J	G	M		
10	11,9	1139	8000	13	50	116	89	43	69	84	39	3	51	5	0,04
15	24,6	2350	6500	20	65	152	101	49	86	105	48	3	61	9	0,07
20	44,7	4270	5600	26	78	178	127	62	105	126	59	3	76	16	0,12
25	78,3	7474	5000	32	98	213	159	77	131	155	72	5	91	29	0,23
30	127,0	12100	4400	39	111	240	187	91	152	180	84	5	107	43	0,36
35	194,0	18500	3900	51	134	279	218	106	178	211	98	6	130	68	0,54
40	321,0	30609	3600	64	160	318	248	121	210	245	111	6	145	97	0,91
45	440,0	42000	3200	77	183	346	278	135	235	274	123	8	165	136	1,04
50	593,0	56600	2900	89	200	389	314	153	254	306	141	8	183	190	1,77
55	775,0	74030	2650	102	220	425	344	168	279	334	158	8	203	249	2,22
60	947,0	90400	2450	115	244	457	384	188	305	366	169	8	229	306	3,18
70	1420,0	135000	2150	127	289	527	452	221	343	425	196	10	267	485	4,35
80	1780,0	170000	1750	102	266	591	508	249	356	572	243	10	300	703	9,53
90	2360,0	226000	1550	115	290	660	565	276	394	641	265	13	327	984	12,25
100	3250,0	310000	1450	127	320	711	623	305	445	699	294	13	356	1302	14,97
110	4320,0	413000	1330	140	373	775	679	333	495	749	322	13	384	1678	17,69
120	5810,0	555000	1200	153	400	838	719	353	546	826	341	13	403	2114	20,87

X* represents space taken by the gasket



Grid couplings

Horizontal split cover

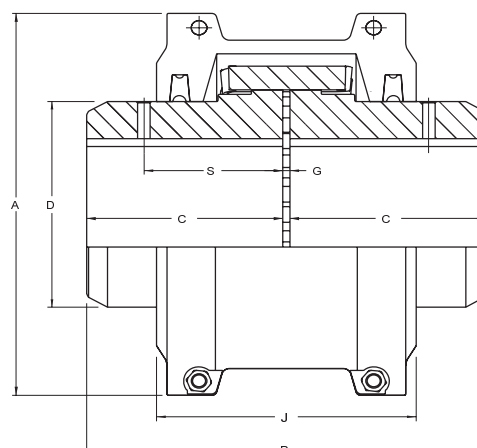


Designations

Size	Hub Designations	Grid Designations	Cover Designations
1020	PHE 1020TGRSB	PHE 1020TGGRID	PHE 1020TGHCover
1030	PHE 1030TGRSB	PHE 1030TGGRID	PHE 1030TGHCover
1040	PHE 1040TGRSB	PHE 1040TGGRID	PHE 1040TGHCover
1050	PHE 1050TGRSB	PHE 1050TGGRID	PHE 1050TGHCover
1060	PHE 1060TGRSB	PHE 1060TGGRID	PHE 1060TGHCover
1070	PHE 1070TGRSB	PHE 1070TGGRID	PHE 1070TGHCover
1080	PHE 1080TGRSB	PHE 1080TGGRID	PHE 1080TGHCover
1090	PHE 1090TGRSB	PHE 1090TGGRID	PHE 1090TGHCover
1100	PHE 1100TGRSB	PHE 1100TGGRID	PHE 1100TGHCover
1110	PHE 1110TGRSB	PHE 1110TGGRID	PHE 1110TGHCover
1120	PHE 1120TGRSB	PHE 1120TGGRID	PHE 1120TGHCover
1130	PHE 1130TGRSB	PHE 1130TGGRID	PHE 1130TGHCover
1140	PHE 1140TGRSB	PHE 1140TGGRID	PHE 1140TGHCover
1150	PHE 1150TGRSB	PHE 1150TGGRID	PHE 1150TGHCover
1160	PHE 1160TGRSB	PHE 1160TGGRID	PHE 1160TGHCover
1170	PHE 1170TGRSB	PHE 1170TGGRID	PHE 1170TGHCover
1180	PHE 1180TGRSB	PHE 1180TGGRID	PHE 1180TGHCover
1190	PHE 1190TGRSB	PHE 1190TGGRID	PHE 1190TGHCover
1200	PHE 1200TGRSB	PHE 1200TGGRID	PHE 1200TGHCover

A complete coupling consists of 2 hubs, 1 grid and 1 cover.

To order a spare kit assembly use suffix 'HKIT' after the coupling type, e.g. PHE 1020TGHKIT.



Physical characteristics

Size	KW per 100 rpm	Rated torque	Max speed	Bore diameter		Dimensions (mm)							G (mm)			Coupling weight	Lubricant weight
		Nm	rpm	Min	Max	A	B	C	D	J	S		Min	Normal	Max	kg	kg
1020	0,51	52	4500	12	30	101	98,0	47,5	39,7	66	39		1,5	3,0	4,5	1,9	0,03
1030	1,44	149	4500	12	36	111	98,0	47,5	49,2	68	39		1,5	3,0	4,5	2,6	0,04
1040	2,40	249	4500	12	44	117	104,6	50,8	57,1	70	40		1,5	3,0	4,5	3,4	0,05
1050	4,20	435	4500	12	50	138	123,6	60,3	66,7	79	45		1,5	3,0	4,5	5,4	0,05
1060	6,60	684	4350	19	57	150	130,0	63,5	76,2	92	52		1,5	3,0	4,5	7,3	0,09
1070	9,69	994	4125	19	65	162	155,4	76,2	87,3	95	54		1,5	3,0	4,5	10,0	0,12
1080	20,13	2050	3600	27	79	194	180,8	88,9	104,8	116	65		1,5	3,0	6,0	18,0	0,17
1090	35,79	3730	3600	27	95	213	199,8	98,4	123,8	122	72		1,5	3,0	6,0	25,0	0,25
1100	60,40	6280	2440	41	107	250	245,7	120,6	142,0	155	—		1,5	4,5	9,5	42,0	0,43
1110	90,23	9320	2250	41	117	270	258,5	127,0	160,3	161	—		1,5	4,5	9,5	54,0	0,51
1120	131,99	13700	2025	60	136	308	304,4	149,2	179,4	191	—		1,5	6,0	12,5	81,0	0,73
1130	191,64	19900	1800	66	165	346	329,8	161,9	217,5	195	—		1,5	6,0	12,5	121,0	0,91
1140	275,91	28600	1650	66	184	384	371,6	182,8	254,0	201	—		1,5	6,0	12,5	178,0	1,13
1150	384,04	39800	1500	108	203	453	371,8	182,9	269,2	271	—		1,5	6,0	12,5	234,0	1,95
1160	539,89	55900	1350	120	228	501	402,2	198,1	304,8	279	—		1,5	6,0	12,5	317,0	2,81
1170	719,60	74600	1225	133	279	566	437,8	215,9	355,6	304	—		1,5	6,0	12,5	448,0	3,49
1180	997,75	103000	1100	152	311	623	483,6	238,8	393,7	321	—		1,5	6,0	12,5	619,0	3,76
1190	1319,89	137000	1050	152	339	675	524,2	259,1	436,9	325	—		1,5	6,0	12,5	776,0	4,40
1200	1799,37	186000	900	177	361	757	564,8	279,4	497,8	356	—		1,5	6,0	12,5	1057,0	5,62



Grid couplings

Vertical split cover

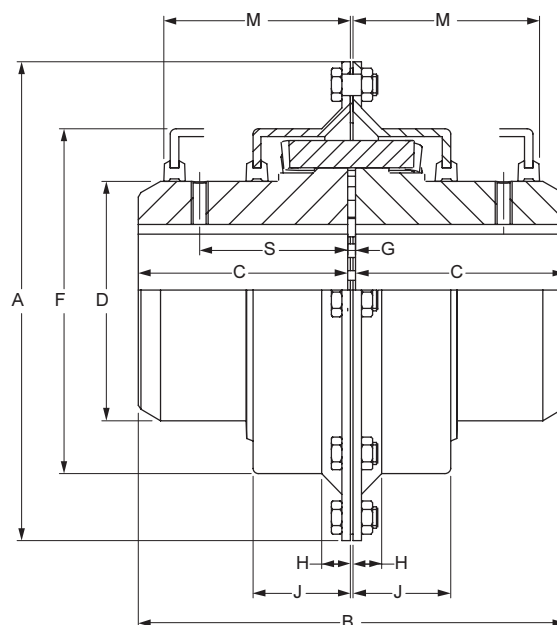
- ▶ Belts
- ▶ Chains
- ▶ Couplings
- ▶ Bushings and Hubs
- ▶ Sprockets
- ▶ Pulleys
- ▶ Smart tools

Designations

Size	Hub Designations	Grid Designations	Cover Designations
1020	PHE 1020TGRSB	PHE 1020TGGRID	PHE 1020TGVCOVER
1030	PHE 1030TGRSB	PHE 1030TGGRID	PHE 1030TGVCOVER
1040	PHE 1040TGRSB	PHE 1040TGGRID	PHE 1040TGVCOVER
1050	PHE 1050TGRSB	PHE 1050TGGRID	PHE 1050TGVCOVER
1060	PHE 1060TGRSB	PHE 1060TGGRID	PHE 1060TGVCOVER
1070	PHE 1070TGRSB	PHE 1070TGGRID	PHE 1070TGVCOVER
1080	PHE 1080TGRSB	PHE 1080TGGRID	PHE 1080TGVCOVER
1090	PHE 1090TGRSB	PHE 1090TGGRID	PHE 1090TGVCOVER
1100	PHE 1100TGRSB	PHE 1100TGGRID	PHE 1100TGVCOVER
1110	PHE 1110TGRSB	PHE 1110TGGRID	PHE 1110TGVCOVER
1120	PHE 1120TGRSB	PHE 1120TGGRID	PHE 1120TGVCOVER
1130	PHE 1130TGRSB	PHE 1130TGGRID	PHE 1130TGVCOVER
1140	PHE 1140TGRSB	PHE 1140TGGRID	PHE 1140TGVCOVER
1150	PHE 1150TGRSB	PHE 1150TGGRID	PHE 1150TGVCOVER
1160	PHE 1160TGRSB	PHE 1160TGGRID	PHE 1160TGVCOVER
1170	PHE 1170TGRSB	PHE 1170TGGRID	PHE 1170TGVCOVER
1180	PHE 1180TGRSB	PHE 1180TGGRID	PHE 1180TGVCOVER
1190	PHE 1190TGRSB	PHE 1190TGGRID	PHE 1190TGVCOVER
1200	PHE 1200TGRSB	PHE 1200TGGRID	PHE 1200TGVCOVER

A complete coupling consists of 2 hubs, 1 grid and 1 cover.

To order a spare kit assembly use suffix 'VKIT' after the coupling type, e.g. PHE 1020TGVKIT



Physical characteristics

Size	KW per 100 rpm	Rated Torque	Max Speed	Bore Diameter		Dimensions (mm)										G (mm)			Coupling weight	Lubricant weight
		Nm	rpm	Min	Max	A	B	C	D	J	F	H	M	S	Min	Normal	Max	kg	kg	
1020	0,51	52	6000	12	30	111	98,0	47,5	39,7	24	64	10	48	39	1,5	3,0	4,5	2,0	0,03	
1030	1,44	149	6000	12	36	121	98,0	47,5	49,2	25	73	10	48	39	1,5	3,0	4,5	2,6	0,04	
1040	2,40	249	6000	12	44	128	104,6	50,8	57,1	26	83	10	51	40	1,5	3,0	4,5	3,4	0,05	
1050	4,20	435	6000	12	50	148	123,6	60,3	66,7	31	99	12	60	45	1,5	3,0	4,5	5,4	0,05	
1060	6,60	684	6000	19	57	162	130,0	63,5	76,2	32	111	13	64	52	1,5	3,0	4,5	7,3	0,09	
1070	9,69	994	5500	19	65	173	155,4	76,2	87,3	34	124	13	67	54	1,5	3,0	4,5	10,0	0,12	
1080	20,13	2050	4750	27	79	200	180,8	88,9	104,8	44	149	13	89	65	1,5	3,0	6,0	18,0	0,17	
1090	35,79	3730	4000	27	95	232	199,8	98,4	123,8	48	168	13	95	72	1,5	3,0	6,0	25,0	0,25	
1100	60,40	6280	3250	41	107	267	245,7	120,6	142,0	60	197	16	121	–	1,5	4,5	9,5	42,0	0,43	
1110	90,23	9320	3000	41	117	286	258,5	127,0	160,3	64	216	16	124	–	1,5	4,5	9,5	54,0	0,51	
1120	131,99	13700	2700	60	136	319	304,4	149,2	179,4	73	244	17	143	–	1,5	6,0	12,5	81,0	0,73	
1130	191,64	19900	2400	66	165	378	329,8	161,9	217,5	75	282	21	146	–	1,5	6,0	12,5	122,0	0,91	
1140	275,91	28600	2200	66	184	416	371,6	182,8	254,0	78	321	21	155	–	1,5	6,0	12,5	180,0	1,13	
1150	384,04	39800	2000	108	203	476	371,8	182,9	269,2	107	374	19	203	–	1,5	6,0	12,5	230,0	1,95	
1160	539,89	55900	1750	120	228	533	402,2	198,1	304,8	114	424	30	216	–	1,5	6,0	12,5	321,0	2,81	
1170	719,60	74600	1600	133	279	584	437,8	215,9	355,6	119	474	30	226	–	1,5	6,0	12,5	448,0	3,49	
1180	997,75	103000	1400	152	311	630	483,6	238,8	393,7	130	–	–	–	–	1,5	6,0	12,5	591,0	3,76	
1190	1319,89	137000	1300	152	339	685	524,2	259,1	436,9	135	–	–	–	–	1,5	6,0	12,5	761,0	4,40	
1200	1799,37	186000	1100	177	361	737	564,8	279,4	497,8	145	–	–	–	–	1,5	6,0	12,5	1021,0	5,62	



Chain couplings



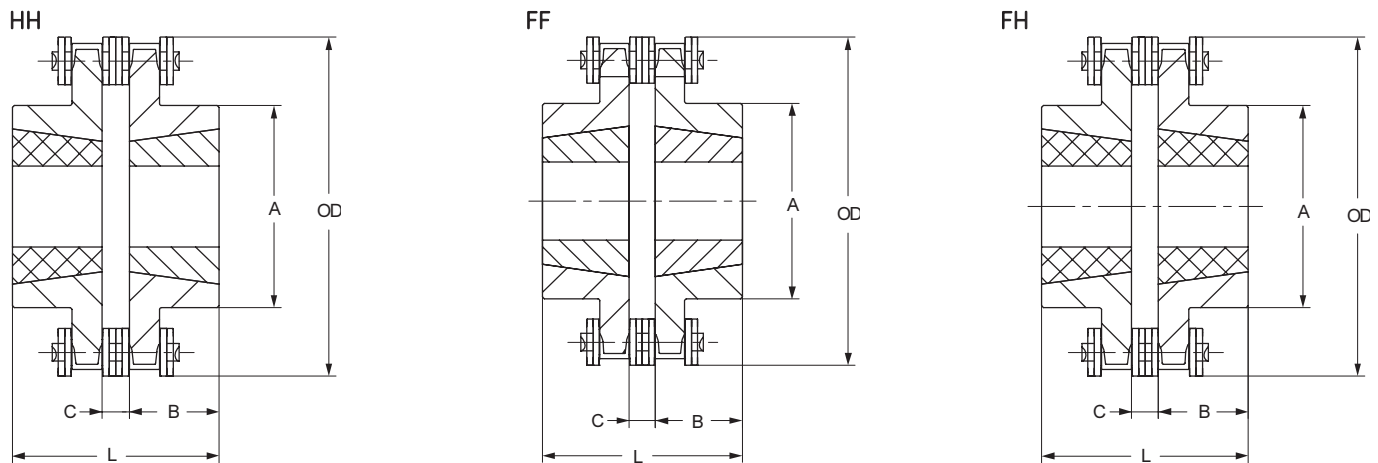
Selection

Chain couplings are able to transmit greater torques than the shafts that carry them making them ideal for high torque applications. Available with pilot bore, finished bore or taper bush (face or hub), flanges are linked together with duplex roller chain accommodating misalignments up to 2°.

To ensure maximum service life and reliability, particularly for high speed applications, it is recommended that all chain couplings are fitted with a cover and are properly lubricated.

Where the chain coupling is subject to reversing operations, shock or pulsating loads, or other severe operating conditions, a coupling one size larger should be selected.

Taper Bushed Couplings Assembly Configurations



Bored to Size Couplings

Coupling Size	Bore		A	B	C	L	OD	Weight	Recommended Maximum RPM	Nominal Torque		Chain Weight
	Min (Pilot)	Max								Nm	kg	
IS0816	15,9	23,8	50,0	28,96	7,1	65,0	77,0	0,45	5000	160	0,23	
IS1016	15,9	42,9	63,5	36,88	9,5	83,3	96,0	1,00	4000	250	0,54	
IS1018	19,1	50,8	75,4	43,26	9,5	87,1	106,4	1,59	3600	250	0,59	
IS1218	25,4	61,9	88,9	47,60	11,1	106,3	127,0	2,27	3000	630	1,00	
IS1220	28,6	69,9	98,4	50,80	11,1	112,7	139,7	2,95	2500	630	1,18	
IS1222	28,6	76,2	114,3	54,00	11,1	119,1	151,2	4,31	2500	630	1,23	
IS1618	28,6	79,4	115,9	60,70	14,7	136,1	169,1	4,99	2000	1600	2,40	
IS1620	38,1	90,5	136,5	66,10	14,7	146,9	185,3	7,40	2000	1600	2,68	
IS2018	38,1	98,4	144,5	70,90	18,3	160,1	211,5	9,21	1800	2500	4,45	
IS2020	38,1	117,5	170,7	79,80	18,3	177,9	231,8	14,43	1800	2500	4,95	
IS2418	50,8	119,1	171,5	88,30	21,8	198,4	254,0	16,70	1500	4000	7,85	
IS2422	50,8	155,6	222,3	102,10	21,8	226,0	302,0	31,76	1200	4000	9,62	

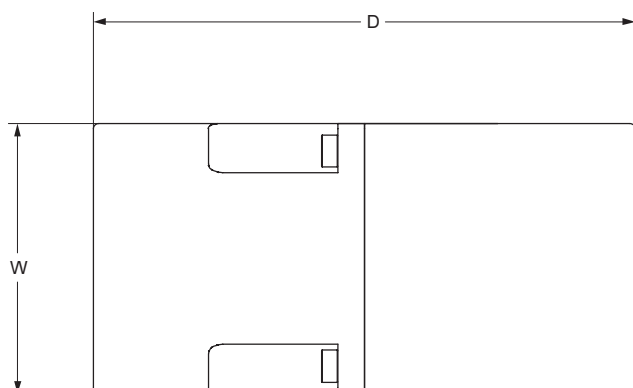
Taper Bushed Couplings Type “FTB” and “HTB”

Coupling Number	Bushing Data			A	B	C	L	OD	Weight
	No.	Min Bore	Max Bore						
IS0816	1108	12,7	28,6	50,0	22,2	7,1	51,6	77,0	0,41
IS1018	1610	12,7	41,3	75,4	25,4	9,5	60,3	106,4	0,50
IS1220	2012	12,7	50,8	98,4	31,8	11,1	74,6	139,7	1,23
IS1620	3020	23,8	76,2	136,5	50,0	14,7	116,3	185,3	2,77
IS2020	3535	30,2	88,9	170,7	88,9	18,3	196,1	231,8	8,62



Chain couplings

- ▶ Belts
- ▶ Chains
- ▶ Couplings
- ▶ Bushings and Hubs
- ▶ Sprockets
- ▶ Pulleys
- ▶ Smart tools



Coupling Covers

Cover Size	Aluminium		Plastic		Weight
	D	W	D	W	
	mm	mm	mm	mm	
IS0816**	101,6	50,8	101,6	58,7	0,42
IS1016**	130,2	60,3	130,2	66,7	0,59
IS1018**	130,2	60,3	130,2	66,7	0,59
IS1218**	161,9	74,6	161,9	77,8	1,11
IS1220**	161,9	74,6	161,9	77,8	1,11
IS1222*	208,0	101,6	208,0	101,6	2,21
IS1618	208,0	101,6	208,0	101,6	2,21
IS1620	208,0	101,6	208,0	101,6	2,21
IS2018	238,1	150,8	238,1	150,8	3,97
IS2020	257,2	133,4	257,2	133,4	5,74
IS2418	288,9	187,3	288,9	187,3	7,47
IS2422	336,6	201,6	336,6	201,6	8,85

* Use IS1618 cover – special seals available

** Will be supplied in plastic unless otherwise specified

Designations

Size	Hub				Chain	Covers
	Plain Bore	FTB	HTB	Bored to Size*		
IS0816	PHE IS0816RSB	PHE IS0816FTB	PHE IS0816HTB	PHE IS0816X...	PHE IS0816CHN	PHE IS0816COVER
IS1016	PHE IS1016RSB	–	–	PHE IS1016X...	PHE IS1016CHN	PHE IS1016COVER
IS1018	PHE IS1018RSB	PHE IS1018FTB	PHE IS1018HTB	PHE IS1018X...	PHE IS1018CHN	PHE IS1018COVER
IS1218	PHE IS1218RSB	–	–	PHE IS1218X...	PHE IS1218CHN	PHE IS1218COVER
IS1220	PHE IS1220RSB	PHE IS1220FTB	PHE IS1220HTB	PHE IS1220X...	PHE IS1220CHN	PHE IS1220COVER
IS1222	PHE IS1222RSB	–	–	PHE IS1222X...	PHE IS1222CHN	PHE IS1222COVER
IS1618	PHE IS1618RSB	–	–	PHE IS1618X...	PHE IS1618CHN	PHE IS1618COVER
IS1620	PHE IS1620RSB	PHE IS1620FTB	PHE IS1620HTB	PHE IS1620X...	PHE IS1620CHN	PHE IS1620COVER
IS2018	PHE IS2018RSB	–	–	PHE IS2018X...	PHE IS2018CHN	PHE IS2018COVER
IS2020	PHE IS2020RSB	PHE IS2020FTB	PHE IS2020HTB	PHE IS2020X...	PHE IS2020CHN	PHE IS2020COVER
IS2418	PHE IS2418RSB	–	–	PHE IS2418X...	PHE IS2418CHN	PHE IS2418COVER
IS2422	PHE IS2422RSB	–	–	PHE IS2422X...	PHE IS2422CHN	PHE IS2422COVER

* To complete bored to size designation, add bore size. For example:
PHE IS1016X22MM designates hub size IS1016 with a 22mm bore



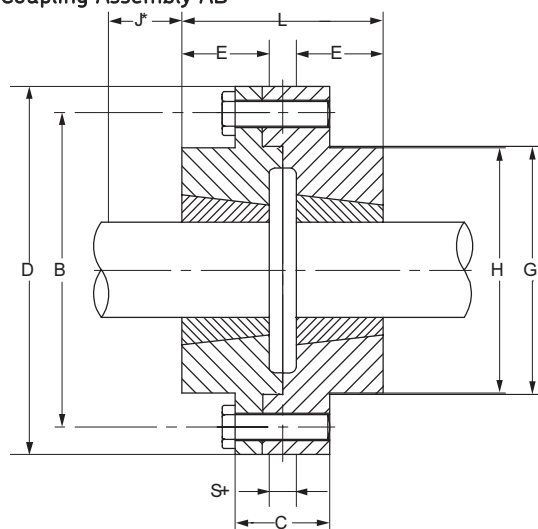
Rigid couplings

Taper bush Rigid couplings provide a convenient method of rigidly connecting ends of shafts. Taper bushes permit easier and quicker fixing to the shafts with the firmness of a shrunk on fit. These couplings have a fully machined male and female flange. The male flange can have the bushing fitted from the Hub side A (MH) or from the Flange side B (H); the female flange (F) always has the bushing fitted from the Flange side B. This gives two possible coupling assemblies as AB and BB. When connecting horizontal shafts, the most convenient assembly should be chosen. For connecting vertical shafts use assembly BB only.

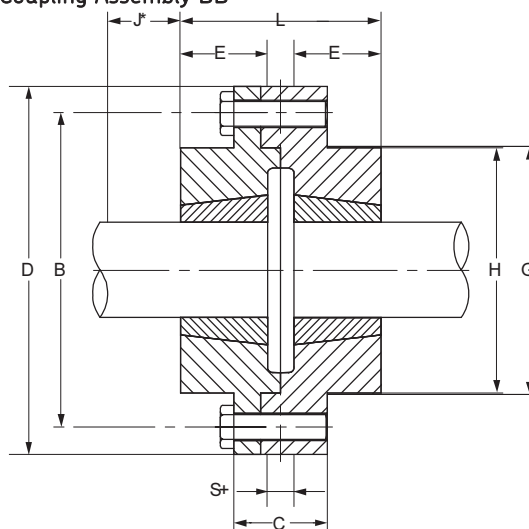
Selection

For all application using standard mild steel shafting it is sufficiently accurate to select the coupling by consideration of bore size alone. For all other applications consult SKF.

Coupling Assembly AB



Coupling Assembly BB



Taper Bushed Couplings

Coupling Size	Bushing Data		Dimensions									Weight** (kg)
	Bushing No	Max Bore (mm)	D	C	E	H	G Nominal	B Nominal	S+	J*	L	
R12	1210	32	118	35	25	83	76	102	7	38	57	3,5
R16	1615	42	127	43	38	80	89	105	7	38	83	4,5
R25	2517	60	178	51	45	123	127	149	7	48	97	11,0
R30	3020	75	216	65	51	146	152	181	7	54	109	20,0
R35	3525	100	248	75	65	178	178	213	7	67	137	34,0
R40	4030	110	298	76	76	210	216	257	7	79	159	59,0
R45	4535	125	330	86	89	230	241	246	7	89	185	80,0
R50	5040	125	362	92	102	266	267	314	7	92	211	135,0

All Dimensions in mm

J* is the wrench clearance to allow for tightening and loosening the bush on the shaft.

The use of a shortened wrench will permit this dimension to be reduced

S+ is the distance between shaft ends

** Weight given are for couplings with midrange Taper bushes.

Designations

Size	Coupling Assembly AB		Coupling Assembly BB	
	Male	Female	Male	Female
R12	PHE R12MHTB	PHE R12FTB	PHE R12HTB	PHE R12FTB
R16	PHE R16MHTB	PHE R16FTB	PHE R16HTB	PHE R16FTB
R25	PHE R25MHTB	PHE R25FTB	PHE R25HTB	PHE R25FTB
R30	PHE R30MHTB	PHE R30FTB	PHE R30HTB	PHE R30FTB
R35	PHE R35MHTB	PHE R35FTB	PHE R35HTB	PHE R35FTB
R40	PHE R40MHTB	PHE R40FTB	PHE R40HTB	PHE R40FTB
R45	PHE R45MHTB	PHE R45FTB	PHE R45HTB	PHE R45FTB
R50	PHE R50MHTB	PHE R50FTB	PHE R50HTB	PHE R50FTB

A complete coupling consists of one male and one female flange

Example: Coupling Assembly AB PHE R12MHTB and PHE R12FTB

Coupling Assembly BB PHE R12HTB and PHE R12FTB



FRC couplings

Selection

- ▶ Belts
- ▶ Chains
- ▶ Couplings
- ▶ Bushings and Hubs
- ▶ Sprockets
- ▶ Pulleys
- ▶ Smart tools

With a higher load capacity than Jaw couplings and maintenance free operation FRC couplings are designed as a general purpose coupling cushioning moderate shock loads, dampening small vibrations and accommodating incidental misalignments. Phosphate coated for improved corrosion resistance and available with fire-resistant and anti-static elements (F.R.A.S.) FRC couplings are offered in pilot bore, finished bore and taper bushed (face or hub), facilitating quick and simple installation. Fully machined outside diameters allow alignment by simple straight edge methods. Shaft connection is "fail safe" due to interlocking jaw design.

Selection

Service Factor

- Determine the required service factor from the table below.

Design Power

- Multiply the normal running power by the service factor. This gives the design power for coupling selection.

Coupling Size

- Using the Power Ratings table read across from the appropriate speed until a power greater than the design power is found. The required FRC coupling is given at the head of the column.

Bore Size

- Using the dimensions table check that chosen flanges can accommodate both driving and driven shafts.

Example

A FRC coupling is required to transmit 15 kW from an Electric motor running at 500 rev/min to a rotary pump for 15 hours per day. The motor shaft is 25 mm diameter and the pump shaft is 20 mm diameter.

1. Service factor

The appropriate service factor is 1,8.

2. Design Power

Design power = $15 \times 1,8 = 27 \text{ kW}$

3. Coupling size

By reading across from the 500 rev/min in the power ratings table the first power figure to exceed the required 27 kW in step(2) is 31,41 kW. The size of the coupling is 150 FRC.

4. Bore Size

By referring to the dimensions table it can be seen that both shaft diameters fall within the bore range available.

Service Factors

		Type of driving unit: Electric motors and steam Turbines			Type of driving unit: Internal combustion engines, steam engines and water turbines		
		Duty hours per day			Duty hours per day		
		Up to 10	10 to 16	Over 16	Up to 10	10 to 16	Over 16
Light	Agitators/Mixers [liquids], belt conveyors [uniform loading], blowers and exhausters, centrifugal pumps and compressors, fans [below 7,5 kW]	1	1,1	1,2	1,3	1,4	1,6
Medium	Agitators/Mixers [non-liquid], Belt and chain conveyors [variable loading], fans (over 7,5 kW), generators, line shafts, machine tools, rotary pumps and compressors (other than centrifugal) Machinery for food processing, laundries and printing industries	1,6	1,8	2	2	2,2	2,5
Heavy	Heavy duty conveyors [bucket, drag/shovel, screw], hammer mills, presses, punches, shears, piston pumps and compressors Machinery for brick, textile, paper, saw mill industries	2	2,2	2,3	2,5	2,6	2,8
Very Heavy	Crushers [gyratory, jaw, roll], Heavy duty mills [ball, rod, tube], Hoists	2,5	2,8	3,1	3,2	3,6	4

It is recommended that keys are fitted for applications where load fluctuation is expected



FRC couplings

Selection



Power Ratings (kW)

Speed	Coupling Size							
RPM	70	90	110	130	150	180	230	280
50	0,16	0,42	0,84	1,65	3,14	4,97	10,47	16,49
100	0,33	0,84	1,68	3,30	6,28	9,95	20,94	32,98
200	0,66	1,68	3,35	6,60	12,57	19,90	41,88	65,97
300	0,99	2,51	5,03	9,90	18,85	29,84	62,83	98,95
400	1,32	3,35	6,70	13,19	25,13	39,79	83,77	131,94
500	1,65	4,19	8,38	16,49	31,41	49,74	104,71	164,92
600	1,98	5,03	10,05	19,79	37,70	59,69	125,65	197,91
700	2,31	5,86	11,73	23,09	43,98	69,63	146,60	230,89
720	2,37	6,03	12,06	23,75	45,24	71,62	150,79	237,49
800	2,64	6,70	13,40	26,39	50,26	79,58	167,54	263,87
900	2,97	7,54	15,08	29,69	56,54	89,53	188,48	296,86
960	3,17	8,04	16,08	31,66	60,31	95,50	201,05	316,65
1000	3,30	8,38	16,75	32,98	62,83	99,48	209,42	329,84
1200	3,96	10,05	20,10	39,58	75,39	119,37	251,31	395,81
1400	4,62	11,73	23,46	46,18	87,96	139,27	293,19	461,78
1440	4,75	12,06	24,13	47,50	90,47	143,25	301,57	474,97
1600	5,28	13,40	26,81	52,77	100,52	159,16	335,08	527,75
1800	5,94	15,08	30,16	59,37	113,09	179,06	376,96	593,72
2000	6,60	16,75	33,51	65,97	125,65	198,95	418,85	659,69
2200	7,26	18,43	36,86	72,57	138,22	218,85	460,73	725,65
2400	7,92	20,10	40,21	79,16	150,79	238,74	502,62	—
2600	8,58	21,78	43,56	85,76	163,35	258,64	544,50	—
2800	9,24	23,46	46,91	92,36	175,92	278,53	—	—
2880	9,50	24,13	48,25	94,99	180,94	286,49	—	—
3000	9,90	25,13	50,26	98,95	188,48	298,43	—	—
3600	11,87	30,16	60,31	118,74	226,18	—	—	—
Nominal Torque	31	80	160	315	600	950	2000	3150
Max Torque	72	180	360	720	1500	2350	5000	7200

Maximum torque figures should be treated as a short duration overload ratings occurring in circumstances such as direct-on-line starting.

For speeds not shown calculate the nominal torque for the design application using the formula below and select coupling according to nominal torque ratings.

$$\text{Nominal Torque (Nm)} = \frac{\text{Design power (kW)} \times 30000}{\text{RPM} \times \pi}$$

Designations

Size	Type F	Type H	Type B Pilot bored	Standard Element -40 °C /+100 °C	FRAS Element -20 °C /+80 °C
70	PHE FRC70FTB	PHE FRC70HTB	PHE FRC70RSB	PHE FRC70NR	PHE FRC70FR
90	PHE FRC90FTB	PHE FRC90HTB	PHE FRC90RSB	PHE FRC90NR	PHE FRC90FR
110	PHE FRC110FTB	PHE FRC110HTB	PHE FRC110RSB	PHE FRC110NR	PHE FRC110FR
130	PHE FRC130FTB	PHE FRC130HTB	PHE FRC130RSB	PHE FRC130NR	PHE FRC130FR
150	PHE FRC150FTB	PHE FRC150HTB	PHE FRC150RSB	PHE FRC150NR	PHE FRC150FR
180	PHE FRC180FTB	PHE FRC180HTB	PHE FRC180RSB	PHE FRC180NR	PHE FRC180FR
230	PHE FRC230FTB	PHE FRC230HTB	PHE FRC230RSB	PHE FRC230NR	PHE FRC230FR
280	PHE FRC280FTB	PHE FRC280HTB	PHE FRC280RSB	PHE FRC280NR	PHE FRC280FR

A complete coupling consist of 2 hubs and 1 element.

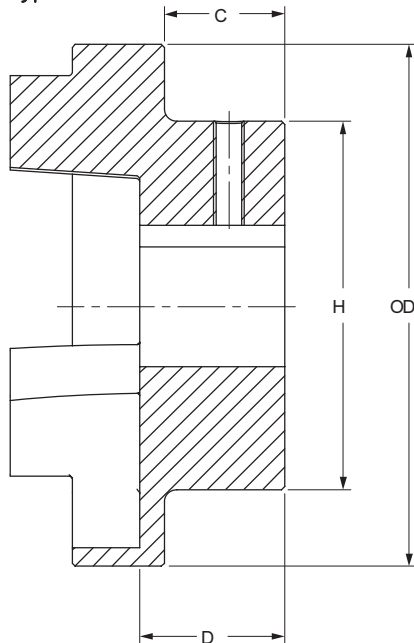


FRC couplings

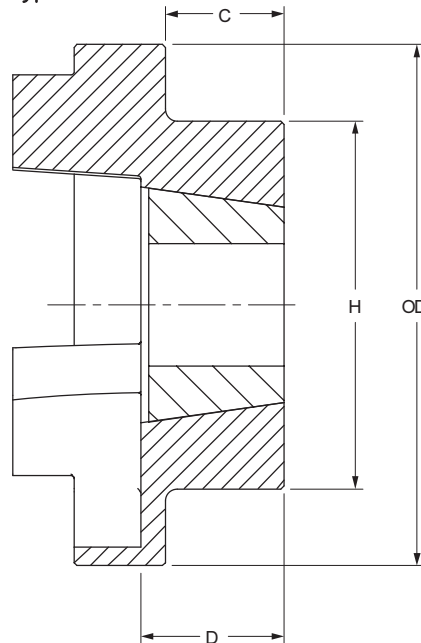
Selection

- ▶ Belts
- ▶ Chains
- ▶ Couplings
- ▶ Bushings and Hubs
- ▶ Sprockets
- ▶ Pulleys
- ▶ Smart tools

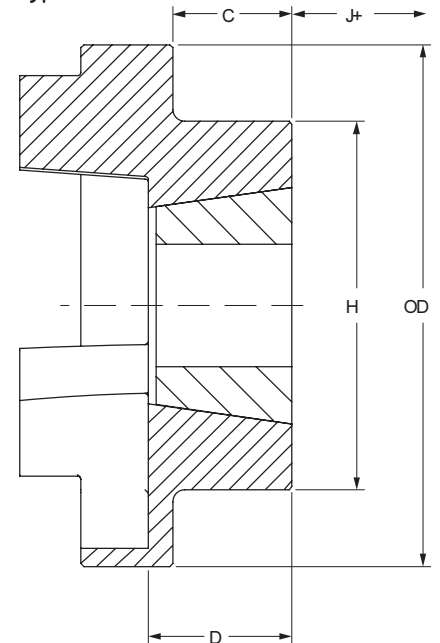
Type B



Type F



Type H



Dimensions

Size	Common Dimensions		Type F&H						Type B				
	OD	H	Bush size	Bore Min	Bore Max	C	D	J+	Bore Diametar Max	Bore Diametar Pilot	Key Screw	C	D
	mm	mm		mm	mm	mm	mm	mm	mm	mm		mm	mm
70	69	60	1008	9	25	20,0	23,5	29	32	10	M6	20	25,8
90	85	70	1108	9	28	19,5	23,5	29	38	10	M6	26	30,0
110	112	100	1610	14	42	18,5	26,5	38	55	10	M10	37	45,3
130	130	105	1610	14	42	18,0	26,5	38	60	20	M10	39	47,5
150	150	115	2012	14	50	23,5	33,5	42	70	28	M10	46	60,0
180	180	125	2517	16	60	34,5	46,5	48	80	28	M10	58	70,0
230	225	155	3020	25	75	39,5	52,5	55	100	45	M12	77	90,0
280	275	206	3525	35	100	51,0	66,5	67	115	55	M16	90	105,5

+ The clearance required for tightening/loosening the bush on the shaft

Assembled Dimensions and Characteristics

Size	Assembled Length Comprising Flange Types			Mass	Inertia	Torsional Stiffness	Misalignment			Nominal Torque	Max Torque
	FF,FH,HH	FB,HB	BB				Angular	Parallel	Axial		
	mm	mm	mm				°	mm	mm	Nm	Nm
70	65,0	65,0	65,0	1,00	0,00	—	1	0,3	0,2	31,5	72
90	69,5	76,0	82,5	1,17	0,00	—	1	0,3	0,5	80,0	180
110	82,0	100,5	119,0	5,00	0,00	65	1	0,3	0,6	160,0	360
130	89,0	110,0	131,0	5,46	0,01	130	1	0,4	0,8	315,0	720
150	107,0	129,5	152,0	7,11	0,02	175	1	0,4	0,9	600,0	1500
180	142,0	165,5	189,0	16,60	0,04	229	1	0,4	1,1	950,0	2350
230	164,5	202,0	239,5	26,00	0,12	587	1	0,5	1,3	2000,0	5000
280	207,5	246,5	285,5	50,00	0,45	1025	1	0,5	1,7	3150,0	7200

Mass is for an FF, FH or HH coupling with mid range taper bushes.



Jaw couplings

Selection



Jaw couplings provide a cost effective solution for standard power applications, cushioning moderate shock loads and dampening small vibrations.

Maintenance free and easy to install jaw couplings are available with a "snap wrap" element allowing element replacement in situ.

Urethane and Hytrel elements have a greater power rating than that of Nitrile and are recommended for applications where it is required to transmit high power or minimise coupling size.

Selection

Service Factor

- Determine the required service factor from the table below.

Design Power

- Multiply the normal running power by the service factor. This gives the design power for selecting a coupling with a Nitrile element.

Alternative Elements

- To allow coupling selection to take place on one power rating table (Nitrile) an element correction is required to give a new reference design power. This is found by dividing the design power calculated for a Nitrile element by the alternative element power factor.

Coupling Size

- Using the Power Ratings table read across from the appropriate speed until a power greater than the design power is found. The required Jaw coupling is given at the head of the column.

Bore Size

- Using the dimensions table check that chosen flanges can accommodate both driving and driven shafts.

Example

A Jaw coupling is required to transmit 4 kW from an Electric motor running at 300 rev/min to a centrifugal fan for 12 hours per day. The motor shaft is 20 mm diameter and the pump shaft is 18 mm diameter.

1. Service factor

The appropriate service factor is 1,1.

2. Design Power

Design Power = $4 \times 1,1 = 4,4 \text{ kW}$

3. Coupling size

By reading across from the 300 rev/min in the power ratings table the first power figure to exceed the required 4,4 kW in step(2) is 4,7 kW. In this case a Nitrile element can be used with a 150 Jaw coupling.

4. Bore Size

By referring to the standard bore and keyway table it can be seen that both shaft diameters fall within the bore range available.

Service Factors

		Type of driving unit: Electric motors and steam Turbines			Type of driving unit: Internal combustion engines, steam engines and water turbines		
		Duty hours per day			Duty hours per day		
		Up to 10	10 to 16	Over 16	Up to 10	10 to 16	Over 16
Light	Agitators/Mixers [liquids], belt conveyors [uniform loading], blowers and exhausters, centrifugal pumps and compressors, fans [below 7,5 kW]	1	1,1	1,2	1,5	1,6	1,7
Medium	Agitators/Mixers [non-liquid], Belt and chain conveyors [variable loading], fans [over 7,5 kW], generators, line shafts, machine tools, rotary pumps and compressors [other than centrifugal] Machinery for food processing, laundries and printing industries	1,5	1,6	1,7	2	2,1	2,3
Heavy	Heavy duty conveyors [bucket, drag/shovel, screw], hammer mills, presses, punches, shears, piston pumps and compressors Machinery for brick, textile, paper, saw mill industries	2	2,1	2,3	2,5	2,6	2,8
Very Heavy	Crushers [gyratory, jaw, roll], Heavy duty mills [ball, rod, tube], Hoists	2,5	2,8	3	3,2	3,5	4



Jaw couplings

Selection

- ▶ Belts
- ▶ Chains
- ▶ Couplings
- ▶ Bushings and Hubs
- ▶ Sprockets
- ▶ Pulleys
- ▶ Smart tools

Elements

Type	Temperature Range (°C)	Misalignment		Power Factor
		Angular °	Parallel mm	
Nitrile	-40 to 100	1	0,38	1
Urethane	-35 to 70	1	0,38	1,5
Hytrel®	-50 to 120	0,5	0,38	3

Power Ratings (kW) – Nitrile Elements

Speed	Coupling Size									
RPM	50	70	75	90	95	100	110	150	190	225
50	0,018	0,030	0,06	0,10	0,14	0,3	0,5	0,8	1,1	1,5
100	0,037	0,060	0,12	0,20	0,27	0,6	1,1	1,6	2,1	2,9
200	0,074	0,121	0,25	0,40	0,54	1,2	2,2	3,1	4,2	5,9
300	0,110	0,181	0,37	0,60	0,81	1,7	3,3	4,7	6,3	8,8
400	0,147	0,242	0,50	0,80	1,08	2,3	4,4	6,3	8,4	11,7
500	0,184	0,302	0,62	1,01	1,35	2,9	5,5	7,9	10,5	14,7
600	0,221	0,363	0,75	1,21	1,62	3,5	6,6	9,4	12,6	17,6
700	0,257	0,423	0,87	1,41	1,89	4,1	7,7	11,0	14,7	20,5
720	0,265	0,435	0,90	1,45	1,95	4,2	7,9	11,3	15,1	21,1
800	0,294	0,483	1,00	1,61	2,16	4,6	8,8	12,6	16,8	23,5
900	0,331	0,544	1,12	1,81	2,43	5,2	9,9	14,1	18,8	26,4
960	0,353	0,580	1,20	1,93	2,59	5,6	10,6	15,1	20,1	28,1
1000	0,368	0,604	1,25	2,01	2,70	5,8	11,0	15,7	20,9	29,3
1200	0,441	0,725	1,50	2,41	3,24	7,0	13,2	18,8	25,1	35,2
1400	0,515	0,846	1,74	2,81	3,78	8,1	15,4	22,0	29,3	41,1
1440	0,529	0,870	1,79	2,90	3,89	8,4	15,8	22,6	30,2	42,2
1600	0,588	0,967	1,99	3,22	4,32	9,3	17,6	25,1	33,5	46,9
1800	0,662	1,088	2,24	3,62	4,86	10,4	19,8	28,3	37,7	52,8
2000	0,735	1,208	2,49	4,02	5,40	11,6	22,0	31,4	41,9	58,6
2200	0,809	1,329	2,74	4,42	5,94	12,8	24,2	34,6	46,1	64,5
2400	0,882	1,450	2,99	4,83	6,48	13,9	26,4	37,7	50,3	70,4
2600	0,956	1,571	3,24	5,23	7,02	15,1	28,6	40,8	54,5	76,2
2800	1,029	1,692	3,49	5,63	7,56	16,2	30,8	44,0	58,6	82,1
2880	1,059	1,740	3,59	5,79	7,78	16,7	31,7	45,2	60,3	84,4
3000	1,103	1,813	3,74	6,03	8,10	17,4	33,0	47,1	62,8	88,0
3600	1,323	2,175	4,49	7,24	9,73	20,9	39,6	56,5	75,4	105,5
Nominal Torque Nm	3,51	5,77	11,9	19,2	25,8	55,4	105	150	200	280

Data is for standard Nitrile element. For both nominal torque of Urethane and Hytrel multiply nominal torques of Nitrile by element power factors. For speeds not shown calculate the nominal torque for the design application using the formula below and select coupling according to nominal torque ratings.

$$\text{Nominal Torque (Nm)} = \frac{\text{Design power (kW)} \times 30000}{\text{RPM} \times \pi}$$



Jaw couplings

Selection



Standard Bore and Keyway Chart

Bore mm	Keyway mm	Coupling Size									
		050	070	075	090	095	100	110	150	190	225
9	3 x 1,4	X	X	X	X	-	-	-	-	-	-
10	3 x 1,4	X	X	X	X	-	-	-	-	-	-
11	4 x 1,8	X	X	X	X	-	-	-	-	-	-
12	4 x 1,8	X	X	X	X	X	-	-	-	-	-
14	5 x 2,3	X	X	X	X	X	X	-	-	-	-
15	5 x 2,3	-	X	X	X	X	X	-	-	-	-
16	5 x 2,3	-	X	X	X	X	X	X	X	-	-
17	5 x 2,3	-	X	X	X	X	X	X	X	-	-
18	6 x 2,8	-	X	X	X	X	X	X	X	-	-
19	6 x 2,8	-	X	X	X	X	X	X	X	X	-
20	6 x 2,8	-	-	X	X	X	X	X	X	X	-
22	6 x 2,8	-	-	X	X	X	X	X	X	X	-
24	8 x 3,3	-	-	-	X	X	X	X	X	X	X
25	8 x 3,3	-	-	-	-	X	X	X	X	X	X
28	8 x 3,3	-	-	-	-	X	X	X	X	X	X
30	8 x 3,3	-	-	-	-	-	X	X	X	X	X
32	10 x 3,3	-	-	-	-	-	X	X	X	X	X
35	10 x 3,3	-	-	-	-	-	X	X	X	X	X
38	10 x 3,3	-	-	-	-	-	X	X	X	X	X
40	12 x 3,3	-	-	-	-	-	-	X	X	X	X
42	12 x 3,3	-	-	-	-	-	-	X	X	X	X
45	14 x 3,8	-	-	-	-	-	-	-	X	X	X
48	14 x 3,8	-	-	-	-	-	-	-	X	X	X
50	14 x 3,8	-	-	-	-	-	-	-	-	X	X
55	16 x 4,3	-	-	-	-	-	-	-	-	X	X
60	18 x 4,4	-	-	-	-	-	-	-	-	-	X

Designations

Size	Hub Type L	Element				Ring Kit	Spacer	
		Nitrile Standard	Nitrile Wrap	Urethane	Hytrel®		100 mm	140 mm
35	PHE L035HUB	PHE L035NR	-	PHE L035UR	PHE L035HL	-	-	-
50	PHE L050HUB	PHE L050NR	-	PHE L050UR	PHE L050HL	-	-	-
70	PHE L070HUB	PHE L070NR	-	PHE L070UR	PHE L070HL	-	-	-
75	PHE L075HUB	PHE L075NR	-	PHE L075UR	PHE L075HL	-	-	-
90	PHE L090HUB	PHE L090/095NR	-	PHE L090/095UR	PHE L090/095HL	-	-	-
95	PHE L095HUB	PHE L090/095NR	PHE L095NRWRAP	PHE L090/095UR	PHE L090/095HL	PHE L095RINGKIT	PHE L095X100SPACER	PHE L095X140SPACER
100	PHE L100HUB	PHE L100NR	PHE L100NRWRAP	PHE L100UR	PHE L100HL	PHE L100RINGKIT	PHE L100X100SPACER	PHE L100X140SPACER
110	PHE L110HUB	PHE L110NR	PHE L110NRWRAP	PHE L110UR	PHE L110HL	PHE L110RINGKIT	PHE L110X100SPACER	PHE L110X140SPACER
150	PHE L150HUB	PHE L150NR	PHE L150NRWRAP	PHE L150UR	PHE L150HL	PHE L150RINGKIT	PHE L150X100SPACER	PHE L150X140SPACER
190	PHE L190HUB	PHE L190NR	PHE L190NRWRAP	PHE L190UR	PHE L190HL	PHE L190RINGKIT	PHE L190X100SPACER	PHE L190X140SPACER
225	PHE L225HUB	PHE L225NR	PHE L225NRWRAP	PHE L225UR	PHE L225HL	PHE L225RINGKIT	PHE L225X100SPACER	PHE L225X140SPACER

When ordering bored to size and keywayed hubs it is required that the bore diameter is added to the designation found in the table above.

Where a keyway is NOT required the designation should be suffixed with a P.

PHE L150-18MM = Hub Size 150 with 18 mm bore and keyway

PHE L070-16MMP = Hub Size 070 with 16 mm bore (no keyway)

A complete coupling consists of 2 hubs and 1 element.

A complete coupling with spacer consists of 2 hubs, 2 ring kits and 1 spacer.

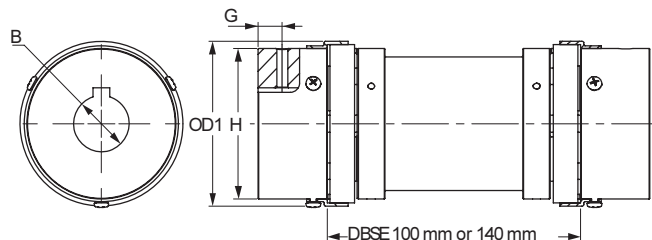
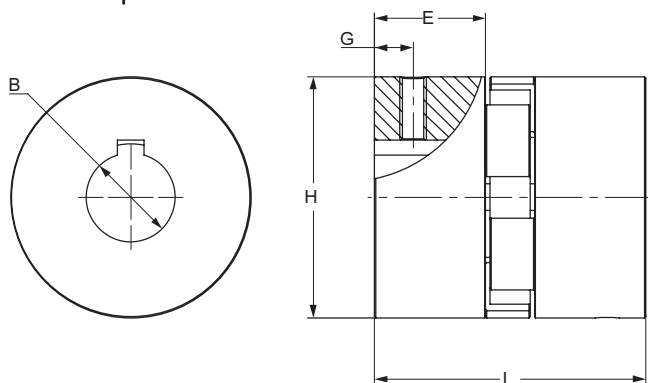


Jaw couplings

Dimensions

- ▶ Belts
- ▶ Chains
- ▶ Couplings
- ▶ Bushings and Hubs
- ▶ Sprockets
- ▶ Pulleys
- ▶ Smart tools

Hubs & Spacers



Jaw coupling spacers are available in 100 mm or 140 mm lengths for sizes 090 to 225. Jaw couplings are used with "snap wrap" Nitrile elements to allow spacer removal and axial shaft movement without disturbing either driving or driven machines.

Dimensions

Size	Dimensions								Set Screw	Approx + mass	Max Speed
	B		OD	OD1*	L	E	H	G			
	Pilot	Max	mm	mm	mm	mm	mm	mm		kg	RPM
35	3,20	9,5	15,9	—	20,6	6,7	15,9	—	—	0,03	31000
50	6,35	14,0	27,5	—	44,0	16,0	27,5	6,5	M6	0,05	18000
70	6,35	19,0	35,0	—	51,0	19,0	35,0	9,5	M6	0,12	14000
75	6,35	24,0	44,5	—	54,0	21,0	44,5	9,0	M6	0,22	11000
90	6,35	24,0	54,0	—	54,0	21,0	54,0	8,7	M6	0,28	9000
95	11,11	28,0	54,0	64	64,0	25,0	54,0	11,0	M8	0,31	9000
100	12,70	35,0	65,0	77	89,0	35,0	65,0	11,0	M8	0,75	7000
110	15,87	42,0	84,0	97	108,0	43,0	84,0	19,0	M10	1,50	5000
150	15,87	48,0	96,0	112	115,0	45,0	96,0	22,0	M10	2,40	4000
190	19,05	55,0	115,0	130	133,0	54,0	102,0	22,0	M12	3,50	3600
225	19,05	60,0	127,0	143	153,0	64,0	108,0	29,0	M12	4,50	3600

* Outer diameter of ring kit

+ Mass of hub with pilot bores

DBSE = Distance between shaft ends

Hub material is high grade cast iron. Spacer material is aluminium.