



TYRE FLEX COUPLINGS

Technoex 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, Technoex 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. Technoex angles are phosphate coated for improved corrosion resistance. A complete coupling consists of 2 angles and 1 tyre.

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 design power is found.

The required Technoex coupling is given at the head of the column.

Bore Size

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

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

Technoex 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 re-resistance and antistatic (F.R.A.S.) properties are required.

Example

A Technoex 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 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 1,440 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

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 (s.f)

Driven machine		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 Load	Agitators/Mixers [liquids], belt conveyors [uniform loading], blowers and exhausters, centrifugal pumps and compressors, fans [below 7.5kW]	1.10	1.15	1.2	1.3	1.4	1.5
Medium Load	Agitators/Mixers [non-liquids], Belt and chain conveyors [variable loading], fans [over 7.5kW], 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 Load	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 Load	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

Power Ratings (kW)

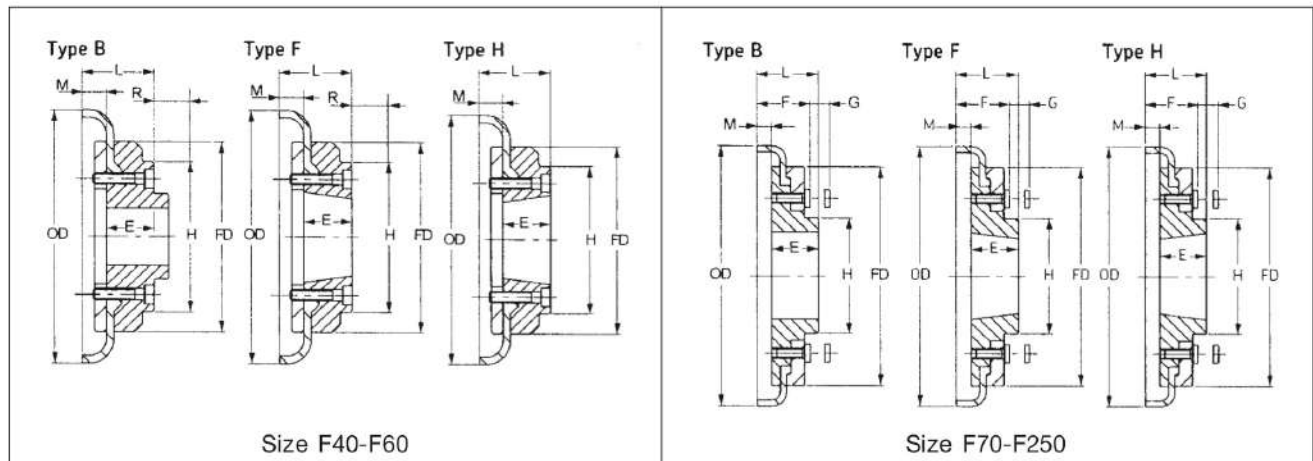
Speed (rpm)	Coupling Size														
	40	50	60	70	80	90	100	110	120	140	160	180	200	220	250
50	0.13	0.35	0.66	1.31	1.96	2.62	3.53	4.58	6.96	12.17	19.74	32.83	48.82	60.73	76.83
100	0.25	0.69	1.33	2.62	3.93	5.24	7.07	9.16	13.93	24.35	39.48	65.65	97.64	121.47	153.66
200	0.50	1.38	2.66	5.24	7.85	10.47	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	1,075.65
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	1,106.39
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	1,229.32
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	1,093.19	1,382.98
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	1,166.07	1,475.18
1,000	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	1,214.66	1,536.65
1,200	3.02	8.29	15.96	31.41	47.12	62.83	84.82	109.95	167.12	292.15	473.72	787.85	1,171.73	-	-
1,400	3.52	9.68	18.62	36.65	54.97	73.30	98.95	128.27	194.97	340.84	552.67	919.16	-	-	-
1,440	3.62	9.95	19.15	37.70	56.54	75.39	101.78	131.94	200.54	350.58	568.46	945.42	-	-	-
1,600	4.02	11.06	21.28	41.88	62.83	83.77	113.09	146.60	222.83	389.53	631.62	-	-	-	-
1,800	4.52	12.44	23.94	47.12	70.68	94.24	127.23	164.92	250.68	438.22	-	-	-	-	-
2,000	5.03	13.82	26.60	52.36	78.53	104.71	141.36	183.25	278.53	-	-	-	-	-	-
2,200	5.53	15.20	29.26	57.59	86.39	115.18	155.50	201.57	-	-	-	-	-	-	-
2,400	6.03	16.59	31.92	62.83	94.24	125.65	169.63	-	-	-	-	-	-	-	-
2,600	6.53	17.97	34.58	68.06	102.09	136.13	183.77	-	-	-	-	-	-	-	-
2,800	7.04	19.35	37.24	73.30	109.95	146.60	-	-	-	-	-	-	-	-	-
2,880	7.24	19.90	38.30	75.39	113.09	150.79	-	-	-	-	-	-	-	-	-
3,000	7.54	20.73	39.90	78.53	117.80	157.07	-	-	-	-	-	-	-	-	-
3,600	9.05	24.88	47.87	94.24	-	-	-	-	-	-	-	-	-	-	-
Nominal Torque (Nm)	24	66	127	250	375	500	675	875	1,330	2,325	3,770	6,270	9,325	11,600	14,675
Max Torque (Nm)	64	160	318	487	759	1,096	1,517	2,137	3,547	5,642	9,339	16,455	23,508	33,125	42,740

Maximum torque gures 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.

$$\text{Nominal torque (Nm)} = \frac{\text{Design power (kw)} \times 9,550}{n \text{ (rpm)}}$$

Power Ratings (kW)

Coupling Size	Maximum Speed	Mass	Inertia	Torsional Stiffness	Misalignment			Nominal torque	Max Torque	Screw Size	Tyre Designation	
					Angular	Parallel	Axial				Natural	F.R.A.S.
	rpm	kg	kg/m ²	Nm/°	°	mm	mm	Nm	Nm			
F40	4,500	0.1	0.00074	5	4	1.1	1.3	24	64	15	F40NR	F40FR
F50	4,500	0.3	0.00115	13	4	1.3	1.7	66	160	15	F50NR	F50FR
F60	4,000	0.5	0.00520	26	4	1.6	2.0	127	318	15	F60NR	F60FR
F70	3,600	0.7	0.00900	41	4	1.9	2.3	250	487	24	F70NR	F70FR
F80	3,100	1.0	0.01700	63	4	2.1	2.6	375	759	24	F80NR	F80FR
F90	3,000	1.1	0.03100	91	4	2.4	3.0	500	1,096	40	F90NR	F90FR
F100	2,600	1.1	0.05400	126	4	2.6	3.3	675	1,517	40	F100NR	F100FR
F110	2,300	1.4	0.07800	178	4	2.9	3.7	875	2,137	40	F110NR	F110FR
F120	2,050	2.3	0.01300	296	4	3.2	4.0	1,330	3,547	50	F120NR	F120FR
F140	1,800	2.6	0.25500	470	4	3.7	4.6	2,325	5,642	55	F140NR	F140FR
F160	1,600	3.4	0.38000	778	4	4.2	5.3	3,770	9,339	80	F160NR	F160FR
F180	1,500	7.7	0.84700	1,371	4	4.8	6.0	6,270	16,455	105	F180NR	F180FR
F200	1,300	8.0	1.28100	1,959	4	5.3	6.6	9,325	23,508	120	F200NR	F200FR
F220	1,100	10.0	2.10400	2,760	4	5.8	7.3	11,600	33,125	165	F220NR	F220FR
F250	1,000	15.0	3.50500	3,562	4	6.6	8.2	14,675	42,740	165	F250NR	F250FR



Dimensions of TECHNOFLEX 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
			Min mm	Max mm	L	E	L	E										
F40	F	1008	9	25	33.0	22	-	-	-	104	82.0	-	-	29	-	11.0	0.8	0.00074
F40	H	1008	9	25	33.0	22	-	-	-	104	82.0	-	-	29	-	11.0	0.8	0.00074
F40	B	-	-	30	-	-	33.0	22	M5	104	82.0	-	-	29	-	11.0	0.8	0.00074
F50	F	1210	11	32	37.5	25	-	-	-	133	100.0	79	-	38	-	12.5	1.2	0.00115
F50	H	1210	11	32	37.5	25	-	-	-	133	100.0	79	-	38	-	12.5	1.2	0.00115
F50	B	-	-	38	-	-	45.0	32	M5	133	100.0	79	-	38	-	12.5	1.2	0.00115
F60	F	1610	14	42	41.5	25	-	-	-	165	125.0	103	-	38	-	16.5	2.0	0.00520
F60	H	1610	14	42	41.5	25	-	-	-	165	125.0	103	-	38	-	16.5	2.0	0.00520
F60	B	-	-	45	-	-	55.0	38	M6	165	125.0	70	-	38	-	16.5	2.0	0.00520
F70	F	2012	14	50	43.5	32	-	-	-	187	142.0	80	50	42	13	11.5	3.1	0.00900
F70	H	1610	14	42	36.5	25	-	-	-	187	142.0	80	50	38	13	11.5	3.0	0.00900
F70	B	-	-	60	-	-	47.0	35	M10	187	142.0	80	50	-	13	11.5	3.1	0.00900
F80	F	2517	16	60	57.5	45	-	-	-	211	165.0	97	54	48	16	12.5	4.9	0.01800
F80	H	2012	14	50	44.5	32	-	-	-	211	165.0	98	54	32	16	12.5	4.6	0.01700
F80	B	-	-	63	-	-	55.0	42	M10	211	165.0	98	54	-	16	12.5	4.9	0.01800
F90	F	2517	16	60	58.5	45	-	-	-	235	187.0	108	60	48	16	13.5	7.0	0.03100
F90	H	2517	16	60	58.5	45	-	-	-	235	187.0	108	60	48	16	13.5	7.0	0.03100
F90	B	-	-	75	-	-	62.5	49	M12	235	187.0	112	60	-	16	13.5	7.1	0.03200
F100	B	-	-	80	-	-	69.5	56	M12	254	214.0	125	62	-	16	13.5	9.9	0.05500
F100	F	3020	25	75	64.5	51	-	-	-	254	214.0	120	62	55	16	13.5	9.9	0.05500
F100	H	2517	16	60	58.5	45	-	-	-	254	214.0	113	62	48	16	13.5	9.4	0.05400
F110	B	-	-	90	-	-	75.5	63	M12	279	232.0	128	62	-	16	12.5	12.5	0.08100
F110	F	3020	25	75	63.5	51	-	-	-	279	232.0	134	62	55	16	12.5	11.7	0.07800
F110	H	3020	25	75	63.5	51	-	-	-	279	232.0	134	62	55	16	12.5	11.7	0.07800
F120	B	-	-	100	-	-	84.5	70	M16	314	262.0	144	67	-	16	14.5	16.9	0.13700
F120	F	3525	35	100	79.5	65	-	-	-	314	262.0	140	67	67	16	14.5	16.5	0.13700
F120	H	3020	25	75	65.5	51	-	-	-	314	262.0	140	67	55	16	14.5	15.9	0.13000
F140	B	-	-	125	-	-	110.5	94	M20	359	312.5	180	73	-	17	13.0	22.2	0.25400
F140	F	3525	35	100	81.0	65	-	-	-	359	312.5	180	73	67	17	13.0	22.3	0.25500
F140	H	3525	35	100	81.0	65	-	-	-	359	312.5	180	73	67	17	13.0	22.3	0.25500
F160	B	-	-	140	-	-	117.0	102	M20	402	348.0	197	78	-	19	15.0	35.8	0.46900
F160	F	4030	40	115	91.0	76	-	-	-	402	348.0	197	78	80	19	15.0	32.5	0.38000
F160	H	4030	40	115	91.0	76	-	-	-	402	348.0	197	78	80	19	15.0	32.5	0.38000
F180	B	-	-	150	-	-	137.0	114	M20	470	396.0	205	94	-	19	23.0	49.1	0.87100
F180	F	4535	55	125	112.0	89	-	-	-	470	396.0	205	94	89	19	23.0	42.2	0.84700
F180	H	4535	55	125	112.0	89	-	-	-	470	396.0	205	94	89	19	23.0	42.2	0.84700
F200	B	-	-	150	-	-	138.0	114	M20	508	432.0	205	103	-	19	24.0	58.2	1.30100
F200	F	4535	55	125	113.0	89	-	-	-	508	432.0	205	103	89	19	24.0	53.6	1.28100
F200	H	4535	55	125	113.0	89	-	-	-	508	432.0	205	103	89	19	24.0	53.6	1.28100
F220	B	-	-	190	-	-	154.5	127	M20	562	472.0	224	118	-	20	27.5	79.6	2.14200
F220	F	5040	70	125	129.5	102	-	-	-	562	472.0	224	118	92	20	27.5	72.0	2.10400
F220	H	5040	70	125	129.5	102	-	-	-	562	472.0	224	118	92	20	27.5	72.0	2.10400
F250	B	-	-	190	-	-	161.5	132	M20	628	532.0	254	125	-	25	29.5	104.0	3.50500

All dimensions in mm unless otherwise specified

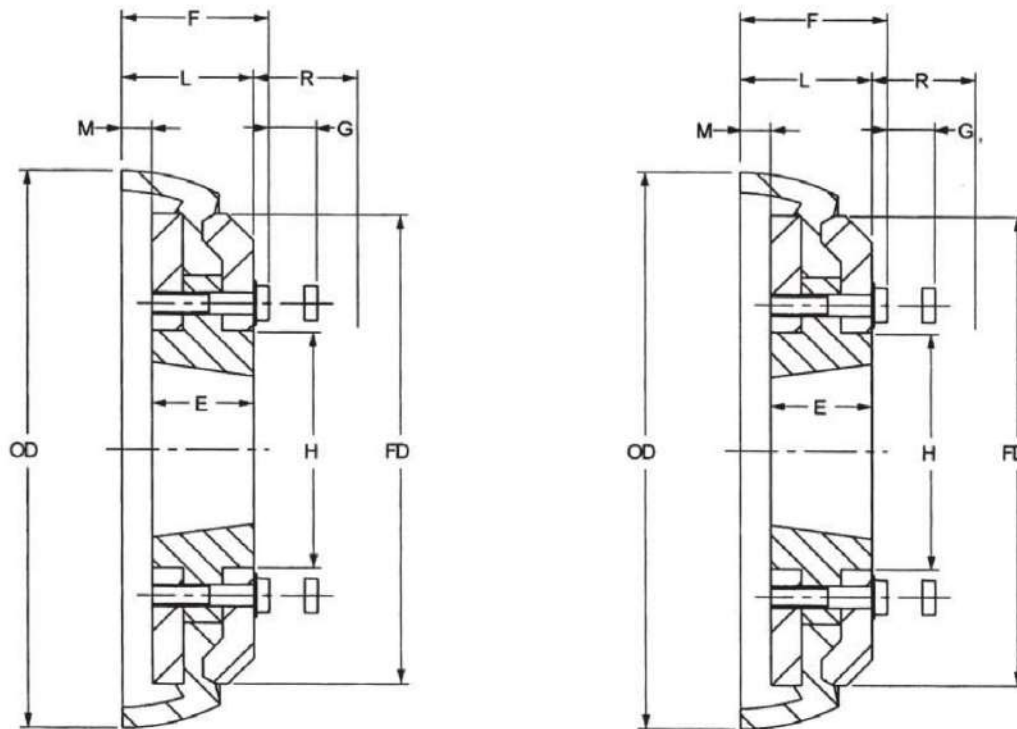
For coupling sizes 70,80,100 and 120 F angles require a larger bush than H angles.

* 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 angle with midrange bore and inclining ring, screws, washers and half tyre.

Reversible Size F70-F120



Dimensions of TECHNOFLEX angles type R

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

All Dimensions in mm unless otherwise specified

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

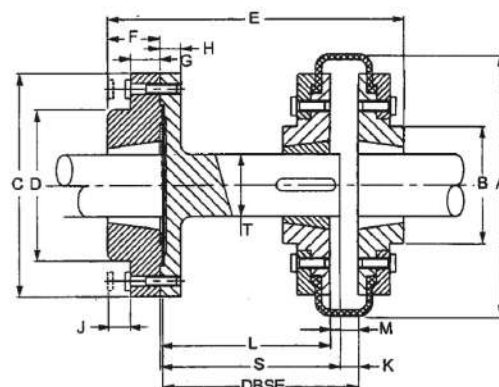
+ The amount by which the clamping screws need to be withdrawn to release the tyre.

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

Distance Between Shaft Ends (DBSE)

Spacer	Distance Between Shaft Ends (DBSE) in mm		Coupling Size	Spacer Bore Size			Coupling Bore Size			Designation
	Nominal (min)	Max						Min	Max	
	mm	mm			mm	mm				
SC12	80	90	40	1210	11	32	1008	9	25	SC12-80DBSE
SC12	100	110	40	1210	11	32	1008	9	25	SC12-100DBSE
SC16	100	113	40	1615	14	42	1008	9	25	SC16-100DBSE
SC16	140	150	40	1615	14	42	1008	9	25	SC16-140DBSE
SC16	100	116	50	1615	14	42	1210	11	32	SC16-100DBSE
SC16	140	156	50	1615	14	42	1210	11	32	SC16-140DBSE
SC16	100	124	60	1615	14	42	1610	14	42	SC16-100DBSE
SC16	140	164	60	1615	14	42	1610	14	42	SC16-140DBSE
SC25	100	114	70	2517	16	60	2012	14	50	SC25-100DBSE
SC25	140	154	70	2517	16	60	2012	14	50	SC25-140DBSE
SC25	180	194	70	2517	16	60	2012	14	50	SC25-180DBSE
SC25	100	117	80	2517	16	60	2517	16	60	SC25-100DBSE
SC25	140	157	80	2517	16	60	2517	16	60	SC25-140DBSE
SC25	180	197	80	2517	16	60	2517	16	60	SC25-180DBSE
SC25	140	158	90	2517	16	60	2517	16	60	SC25-140DBSE
SC25	180	198	90	2517	16	60	2517	16	60	SC25-180DBSE
SC30	140	158	100	3020	25	75	3020	25	75	SC30-140DBSE
SC30	180	198	100	3020	25	75	3020	25	75	SC30-180DBSE
SC30	140	156	110	3020	25	75	3020	25	75	SC30-140DBSE
SC30	180	196	110	3020	25	75	3020	25	75	SC30-180DBSE
SC35	140	160	120	3525	35	100	3525	35	100	SC35-140DBSE
SC35	180	200	120	3525	35	100	3525	35	100	SC35-180DBSE
SC35	140	163	140	3525	35	100	3525	35	100	SC35-140DBSE
SC35	180	203	140	3525	35	100	3525	35	100	SC35-180DBSE

The TECHNOFLEX 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) in mm		Coupling Size	Dimensions															
	Nominal (mm)	Max (mm)		A	B	C	D	E	F	G	H	J	K	L	M	S	T		
SC12	80	90	40	104	82	118	83	134	25	14	15	14	6	65	22	77	25		
SC12	100	110	40	104	82	118	83	140	25	14	15	14	22	77	22	77	25		
SC16	100	113	40*	104	82	127	80	157	38	18	15	14	9	88	22	94	32		
SC16	140	150	40*	104	82	127	80	187	38	18	15	14	9	128	22	134	32		
SC16	100	116	50	133	79	127	80	160	38	18	15	14	9	85	25	94	32		
SC16	140	156	50	133	79	127	80	200	38	18	15	14	9	125	25	134	32		
SC16	100	124	60	165	103	127	80	161	38	18	15	14	9	78	33	94	32		
SC16	140	164	60	165	103	127	80	201	38	18	15	14	9	118	33	134	32		
SC25	100	114	70+	187	80	178	123	180	45	22	16	14	9	80	23	94	48		
SC25	140	154	70+	187	80	178	123	220	45	22	16	14	9	120	23	174	48		
SC25	180	194	70+	187	80	178	123	260	45	22	16	14	9	160	23	174	48		
SC25	100	117	80	211	95	178	123	193	45	22	16	14	9	78	25	94	48		
SC25	140	157	80	211	95	178	123	233	45	22	16	14	9	118	25	134	48		
SC25	180	197	80	211	95	178	123	273	45	22	16	14	9	158	25	174	48		
SC25	140	158	90	235	108	178	123	233	45	22	16	14	9	116	27	134	48		
SC25	180	198	90	235	108	178	123	273	45	22	16	14	9	156	27	174	48		
SC30	140	158	100	254	120	216	146	245	51	29	20	17	9	116	27	134	60		
SC30	180	198	100	254	120	216	146	285	51	29	20	17	9	156	27	174	60		
SC30	140	156	110	279	134	216	146	245	51	29	20	17	9	118	25	134	60		
SC30	180	196	110	279	134	216	146	285	51	29	20	17	9	158	25	174	60		
SC35	140	160	120	314	140	248	178	272	63	34	20	17	9	114	29	134	80		
SC35	180	200	120	314	140	248	178	312	63	34	20	17	9	154	29	174	80		
SC35	140	163	140	359	178	248	178	271	63	34	20	17	9	111	27	134	80		
SC35	180	203	140	359	178	248	178	312	63	34	20	17	9	151	27	174	80		

*F40'B' Flange must be used to t spacer shaft.

+F' Flange must be used to t spacer shaft.