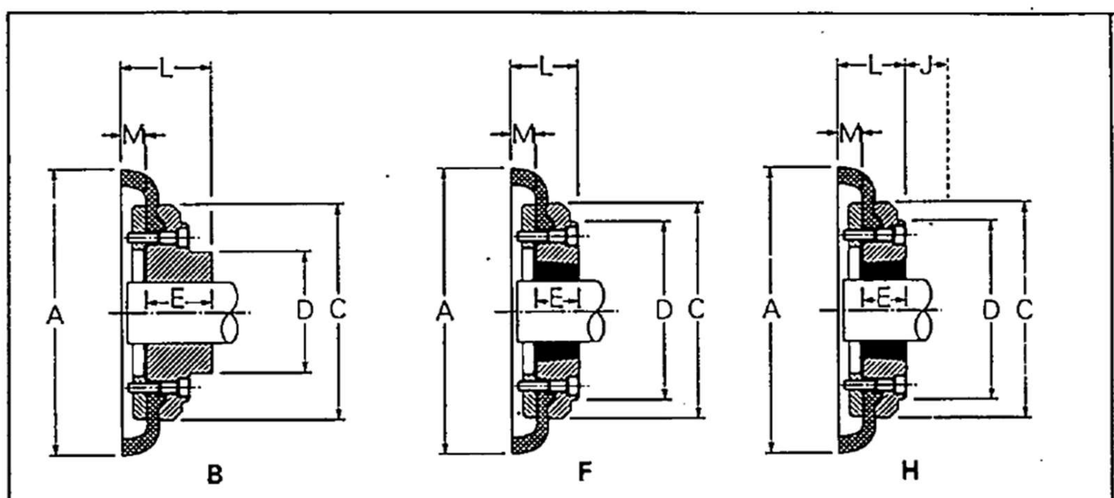
Tyre coupling

Roflex®

FLEXIBLE TYRE COUPLING provide all desirable features of an Ideal flexible coupling including Taper Bush fixing. The flanges in steel are available in either F & H for Taper Bush fitting or B type which is bored to size. This coupling has been successfully subjected under normal circumstances to angular misalignment upto 4 degree, parallel misalignment upto 3 mm and end float upto 8 mm. The desing of this coupling, having a flexible member with remarkable durability, suppresses the initial shock load and eliminates to a marked degree the stresses common to power driven machinery. No lubrication is necessary which is best suitable for drives installed in brewing and foodstuff industries.

SIZE F40-F60



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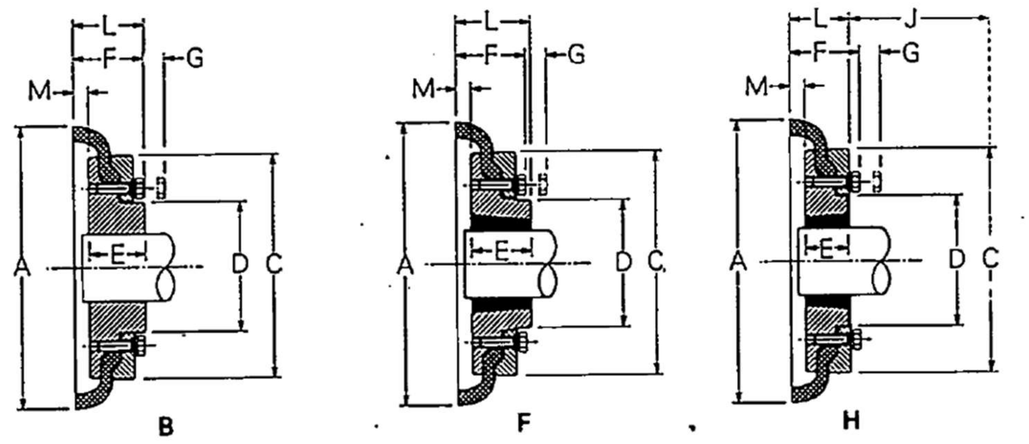


Model Number	A	C	D	F	Bush Size No.	Max. Bore	Type F & H			Weight kg.	Max. Speed rpm.	Nominal Torque Nm.	Max. Torque Nm.	Torsional Torque Nm.	Max. parallel misalign-ment	Max. end float mm.
							L	E	J							
F 040 F	104	82	-	-	1008	25	33	22	29	0.8	4500	24	64	5	1.1	1.3
F 040 H	104	82	-	-	1008	25	33	22	29	0.8	4500	24	64	5	1.1	1.3
F 040 B	104	82	-	-	-	32	33	22	-	0.8	4500	24	64	5	1.1	1.3
F 050 F	133	100	79	-	1210	32	38	25	38	1.2	4500	66	160	13	1.3	1.7
F 050 H	133	100	79	-	1210	32	38	25	38	1.2	4500	66	160	13	1.3	1.7
F 050 B	133	100	79	-	-	38	45	32	-	1.2	4500	66	160	13	1.3	1.7
F 060 F	165	125	70	-	1610	42	42	25	38	2.0	4000	127	318	26	1.6	2.0
F 060 H	165	125	70	-	1610	42	42	25	38	2.0	4000	127	318	26	1.6	2.0
F 060 B	165	125	70	-	-	45	55	38	-	2.0	4000	127	318	26	1.6	2.0
F 070 F	187	144	80	50	2012	50	44	32	42	3.1	3600	250	487	41	1.9	2.3
F 070 H	187	144	80	50	1610	42	42	25	38	3.1	3600	250	487	41	1.9	2.3
F 070 B	187	144	80	50	-	50	47	35	-	3.1	3600	250	487	41	1.9	2.3
F 080 F	211	167	95	54	2517	65	58	45	48	4.9	3100	375	759	63	2.1	2.6
F 080 H	211	167	97	54	2012	50	45	32	42	4.6	3100	375	759	63	2.1	2.6
F 080 B	211	167	97	54	-	60	55	42	-	4.9	3100	375	759	63	2.1	2.6
F 090 F	235	188	108	60	2517	65	60	45	48	7.0	3000	500	1096	91	2.4	3.0
F 090 H	235	188	108	60	2517	65	60	45	48	7.0	3000	500	1096	91	2.4	3.0
F 090 B	235	188	112	60	-	70	64	49	-	7.1	3000	500	1096	91	2.4	3.0
F 100 F	254	216	120	62	3020	75	66	51	55	9.9	2600	675	1517	126	2.6	3.3
F 100 H	254	216	113	62	2517	65	60	45	48	9.4	2600	675	1517	126	2.6	3.3
F 100 B	254	216	125	62	-	80	71	56	-	9.9	2600	675	1517	126	2.6	3.3
F 110 F	279	233	134	62	3020	75	64	51	55	11.7	2300	875	2137	178	2.9	3.7
F 110 H	279	233	134	62	3020	75	64	51	55	11.7	2300	875	2137	178	2.9	3.7
F 110 B	279	233	128	62	-	90	76	53	-	12.5	2300	875	2137	178	2.9	3.7
F 120 F	314	264	140	67	3525	90	80	65	67	16.5	2050	1330	3547	296	3.2	4.0
F 120 H	314	264	140	67	3020	75	66	51	55	15.9	2050	1330	3547	296	3.2	4.0
F 120 B	314	264	143	67	-	100	85	70	-	16.9	2050	1330	3547	296	3.2	4.0
F 140 F	359	311	178	73	3525	90	82	65	67	22.3	1800	2325	5642	470	3.7	4.6
F 140 H	359	311	178	73	3525	90	82	65	67	22.3	1800	2325	5642	470	3.7	4.6
F 140 B	359	311	178	73	-	130	111	94	-	22.2	1800	2325	5642	470	3.7	4.6
F 160 F	402	345	197	78	4030	115	92	77	80	32.5	1600	3425	9339	778	4.2	5.3
F 160 H	402	345	197	78	4030	115	92	77	80	32.5	1600	3425	9339	778	4.2	5.3
F 160 B	402	345	187	78	-	140	117	102	-	35.8	1600	3425	9339	778	4.2	5.3
F 180 F	470	398	205	94	4535	125	112	89	89	42.2	1500	5700	16455	1371	4.8	6.0
F 180 H	470	398	205	94	4535	125	112	89	89	42.2	1500	5700	16455	1371	4.8	6.0
F 180 B	470	398	200	94	-	150	137	114	-	49.1	1500	5700	16455	1371	4.8	6.0
F 200 F	508	429	205	103	4535	125	113	89	89	53.6	1300	8620	23508	1959	5.3	6.6
F 200 H	508	429	205	103	4535	125	113	89	89	53.6	1300	8620	23508	1959	5.3	6.6
F 200 B	508	429	200	103	-	150	138	114	-	58.2	1300	8620	23508	1959	5.3	6.6
F 220 F	562	474	223	118	5040	125	129.5	102	92	72	1100	11600	33125	2760	5.8	7.3
F 220 H	562	474	223	118	5040	125	129.5	102	92	72	1100	11600	33125	2760	5.8	7.3
F 220 B	562	474	218	118	-	160	154.5	127	-	79.6	1100	11600	33125	2760	5.8	7.3
F 250 B	628	532	254	125	-	190	161.5	132	-	104	1000	14675	42740	3562	6.6	8.2

Physical Characteristics

TABLE 07-04 : PHYSICAL CHARACTERISTICS

Size	Max. Speed (rev/min)	Torque (Nm)		Moment of inertia MR^2 (kgm^2)	Torsional Stiffness ($Nm/^{O}$)	Maximum Misalignment (mm)	
		Nominal	Max.			Parallel	End float ±
F40	4500	21	64	0.00148	5	1.1	1.3
F45	**4500**	**37**	**110**	**0.00250**	**9**	**1.2**	**1.5**
F50	4500	53	160	0.00349	13	1.3	1.7
F60	4000	106	318	0.01030	26	1.6	2.0
F70	3600	162	487	0.01811	41	1.9	2.3
F80	3100	253	759	0.03679	63	2.1	2.6
F85	**3000**	**305**	**915**	**0.05015**	**76**	**2.2**	**2.8**
F90	2880	365	1096	0.06374	91	2.4	3.0
F100	2600	505	1517	0.11989	126	2.6	3.3
F110	2300	712	2137	0.16012	178	2.9	3.7
F120	2050	1182	3547	0.34302	296	3.2	4.0
F140	**1800**	**1881**	**5642**	**0.69452**	**470**	**3.7**	**4.6**
F160	1600	3113	9339	1.21767	778	4.2	5.3
F180	1500	5485	16455	2.01800	1371	4.8	6.0
F200	1300	8022	23508	4.03446	1959	5.3	6.6
F220	1100	9932	33125	8.67644	2760	5.8	7.3
F250	1000	12606	42740	16.85095	3562	6.6	8.2

Notes :

1. Maximum torque figures should be regarded as short duration overload ratings for use in such circumstances as direct-on-line starting etc.
2. All flexible tyres have an angular misalignment capacity upto 4^{o}

TABLE 07-05

Coupling Size		F40*	F45*	F50*	F60*	F70	F80	F85	F90	F100	F110	F120	F140	F160	F180	F200	F220	F250
M2 (mm)		23	23	28	36	42	47	48	50	58	50	55	26	16	30	48	56	60
Clamping Screw Torque	Nm	15	15	15	15	24	24	32	32	32	32	35	35	35	35	35	38	38

* Hexabonal Socket Cap Head Clamping Screws on these sizes.

INSTALLATION

INSTALLATION INSTRUCTIONS

Note : Satisfactory performance depends on correct installation and maintenance. All instructions in this manual must therefore be followed carefully.

1. Thoroughly clean all components, paying particular attention to the removal of the protective coating in the bore of the flanges.

2. Fit flanges to the shafts placing the external clamp rings on the shafts. (Where Taper-Lock® flanges are used, see separate fitting instructions supplied with the Taper-Lock® Bushes). Locate flanges so that dimension M2 is obtained (see paragraph 3). Flanges with internal clamping rings should then have the clamping rings fitted, engaging only two or three of the threads of the screws at this time.

3. Bring shafts into line until dimension M2 is obtained (table 07-05). If shaft end float is to occur, locate the shafts at mid-position of end float when checking dimension M2. Note that shaft ends may project beyond the faces of the flanges if required. In this event, allow sufficient space between shaft ends for end float and misalignment. Flanges should be fitted flush with the end of the shaft when used with Mill-Motor flanges.

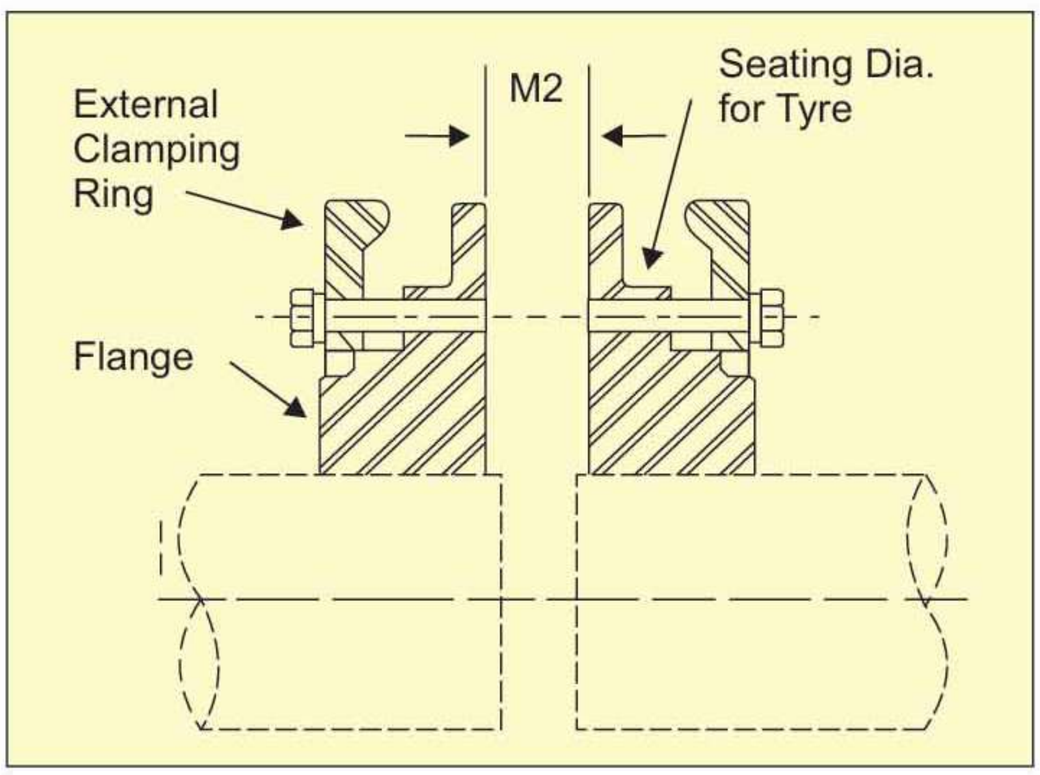
4. Check parallel alignment by laying a straight edge across the flanges at several positions around the circumference. Check angular alignment by measuring gap between flanges at several positions around the circumference. It is desirable to align the coupling as accurately as possible, particularly on high speed applications.

5. Open out tyre and fit over coupling flanges ensuring that the tyre beads seat properly on the flanges and/or clamping rings. To ensure proper seating, it may be necessary to strike the outside diameter of the tyre with a small mallet. When seated, there should be a gap between the ends of the tyre as shown in table 6.

TABLE 07-06

COUPLING SIZE	F40 TO F60	F70 TO F120	F140	F160 TO F180	F200 TO F250
Tyre Gap in mm.	2	3	5	6.5	8

6. Tighten clamping ring screws alternately and evenly (half turn at a time) working round each flange untill the required screw torque is achieved.



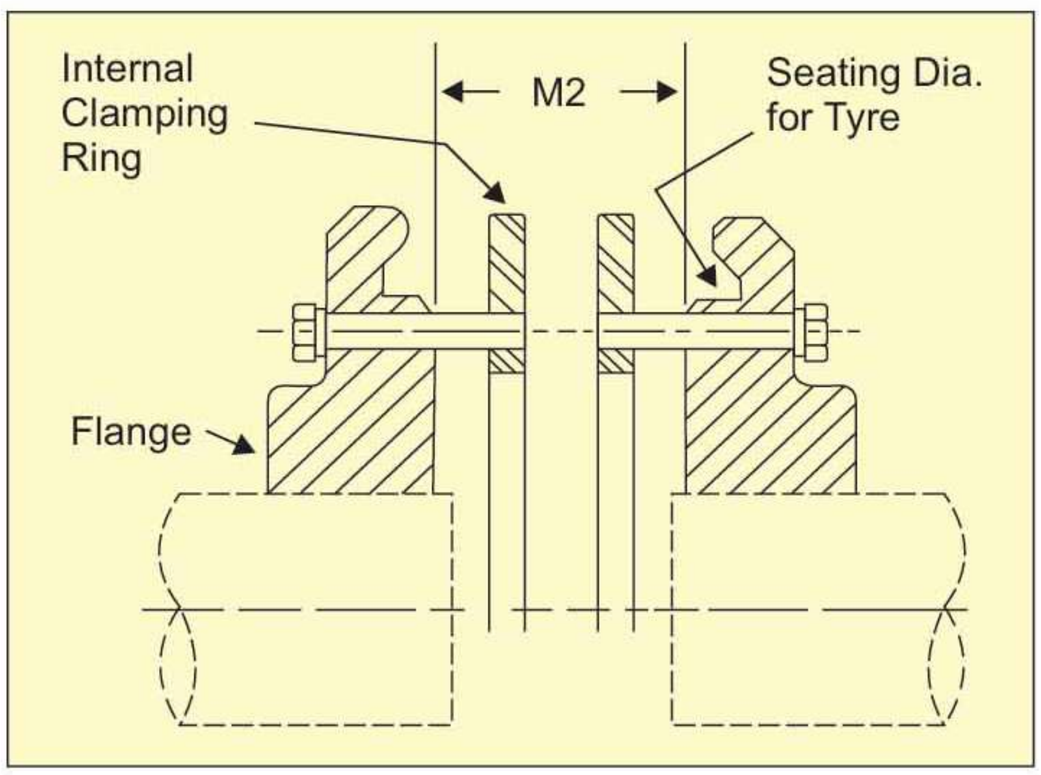


TABLE 07-05

Coupling Size		F40*	F45*	F50*	F60*	F70	F80	F85	F90	F100	F110	F120	F140	F160	F180	F200	F220	F250
M2 (mm)		23	23	28	36	42	47	48	50	58	50	55	26	16	30	48	56	60
Clamping Screw Torque	Nm	15	15	15	15	24	24	32	32	32	32	35	35	35	35	35	38	38

* Hexabonal Socket Cap Head Clamping Screws on these sizes.