TYRE - FLEX COUPLINGS
TYPE - T / TO / RST

The flexible capabilities of the Tyreflex Coupling help to accommodate angular, parallel and axial misalignments.

Parallel Misalignment upto 6 mm.Angular Misalignment upto 4^0. End Float upto 8 mm. Suitable in ambient temp. upto 70^0C.

CUSHIONING SHOCK LOADS

Tyreflex being a torsionally soft coupling protects against vibration, impact loads and heavy shocks in the event of sudden load changes.

EASE OF ASSEMBLY / DISASSEMBLY

Alignment is quickly checked by placing a straight edge across the outside diameters of the flanges.

Installation or replacement of new tyre is achieved without disturbing driver or driven shafts, simply by loosening the clamping screws, placing a new tyre between the flanges and clamping rings and then tightening the clamping screws.

TYRE-FLEX COUPLING - RST

Tyre-flex Spacer Couplings RST are specifically designed for motor-pump installations, where it is desirable not to disturb drive/driven equipment while servicing impellers, packing glands, etc.

The maintenance time-reduction feature is valuable on pumps, compressors and many other applications.

It comprises of a spacer assembly and a standard Tyre-flex coupling. The spacer assembly consists of a flanged shaft and a spacer adapter taper bored to suit standard Taper Bush.

SELECTION PROCEDURE - T/TO

(a) Service Factor
Determine the required service factor from table 1.

(b) Design Power
Multiply the normal running power by the service factor. This gives **Design Power** which is used as a basis for selecting the coupling.

(c) Coupling Size
Refer table 2 and from the appropriate speed read across until a power greater than that required is found. The size of Tyre-flex coupling required is given in that column..

(d) Bore Size
Check from table 3 that selected coupling can accommodate required bores.

SELECTION PROCEDURE - RST

1. Select a suitable size of Tyre-flex coupling using the procedure.
2. Refer size column in table A and locate the size of coupling selected.
3. Read across this size until required DBSE can be accommodated.
4. The size of the spacer coupling is given in the first column of table A.
5. Refer coupling dimensional table A to check that the required bores can be accommodated.

TYRE - FLEX COUPLINGS
TECHNICAL DATA

SERVICE FACTORS

SPECIAL CLASSES For applications where substantial shock, vibration and torque fluctuations occur and for reciprocating machines e.g. internal combustion engines, piston pumps and compressors, refer to Rathi Transpower Pvt. Ltd. with full application details for analysis.	**Type of Driving Unit**					
	Electric Motors Steam Turbines			Internal Combustion Engines Steam Engines Water Engines		
	Hours per day duty			**Hours per day duty**		
Type of Driven Machine	upto 10	over 10 to 16 incl.	Over 16	upto 10	over 10 to16 incl.	Over 16
CLASS 1 Agitators, Brewing mahinery, Centrifugal compressors and pumps, Belt Conveyors, Dynamometers, Lineshafts, Fans upto 7.5 kW, Blower and exhausters (except positive displacement), Generators.	0.8	0.9	1.0	1.3	1.4	1.5
CLASS 2 Clay working machinery, General machine tools, Paper mill beaters and winders, Rotary pumps, Rubber extruders, Rotary Screens, Textile Machinery, Marine Propellers, and Fans over 7.5 kW.	1.3	1.4	1.5	1.8	1.9	2.0
CLASS 3 Bucket elevators, Cooling tower fans, Piston compressors & pumps, Foundry machinery, Metal presses, Paper mill Calenders, Hammer mills, Presses and pulp grinders, Rubber Calenders, Pulverisers and Positive displacement blowers.	1.8	1.9	2.0	2.3	2.4	2.5
CLASS 4 Reciprocating conveyors, Gyratory crushers, Mills (ball, pebble and rod). Rubber Machinery (Banbury Mixers and Mills) and Vibratory screens.	2.3	2.4	2.5	2.8	2.9	3.0

POWER RATING (kW)

Speed rpm	**Size T /TO**														
	4	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**14**	**16**	**18**	**20**	**22**	**25**
100	0.25	0.69	1.33	2.62	3.93	5.24	7.07	9.16	13.9	24.3	39.5	65.7	97.6	121	154
750	1.87	5.17	9.97	19.65	29.47	39.30	53.02	68.70	104.25	182.25	296.25	492.75	732	907.5	1155
1000	2.50	6.90	13.30	26.20	39.30	52.40	70.70	91.60	139.0	243.0	395.0	657.0	976	1215	1537
1500	3.75	10.35	19.95	39.30	58.95	78.60	106.05	137.40	208.50	364.50	592.50*	986.5*	-	-	-
1800	4.50	12.42	23.94	47.16	70.74	94.32	127.26	164.88	250.20	437.40*	-	-	-	-	-
3000	7.50	20.70	39.90	78.60	117.90*	157.20*	-	-	-	-	-	-	-	-	-
3600	9.00	24.84	47.98	94.32	-	-	-	-	-	-	-	-	-	-	-

- All these power ratings are calculated at constant torque.
- For speeds below 100 rpm and intermediate speeds use normal torque ratings.

* Dynamic balancing preferred at these speeds.

Poles	2	4	6	8
rpm	3000	1500	1000	750

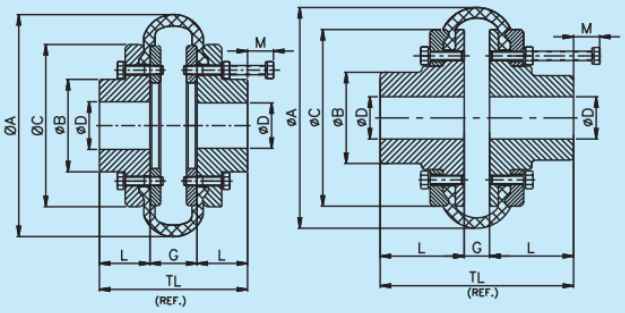
TECHNICAL DATA : FLEXIBLE TYRES

Size	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**14**	**16**	**18**	**20**	**22**	**25**
Max. Speed rpm	4500	4500	4000	3600	3100	3000	2600	2300	2050	1800	1600	1500	1300	1100	1000
Torsional Stiffness Nm/Deg.	5	13	26	41	63	91	126	178	296	470	778	1371	1959	2760	3562
Parallel Misalignment mm	1.1	1.3	1.6	1.9	2.1	2.4	2.6	2.9	3.2	3.7	4.2	4.8	5.3	5.8	6.6
End Float mm	1.3	1.7	2.0	2.3	2.6	3.0	3.3	3.7	4.0	4.6	5.3	6.0	6.6	7.3	8.2
Normal Torque Nm	24	66	127	250	375	500	675	875	1330	2325	3730	6270	9325	11600	14675
Max. Torque Nm	64	160	318	487	759	1096	1517	2137	3547	5642	9339	16455	23508	33125	42740

TYRE - FLEX COUPLINGS
TYPE - T / TO

WITHOUT TAPER BUSH

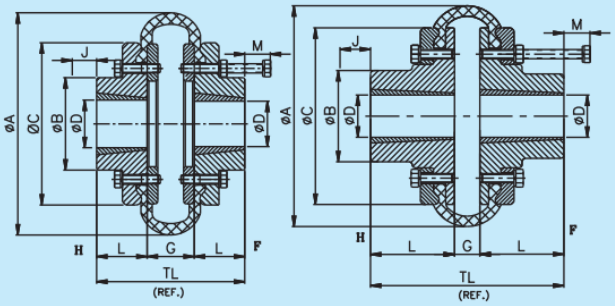
T-4 to T-12 TO-7 to TO-25



DIRECT SHAFT FITMENT– TYPE B

WITH TAPER BUSH

T-4 to T-12 TO-7 to TO-22



TAPER BUSH FITMENT– TYPE F/H

DIMENSIONS OF TYRE-FLEX HUB TYPES B, F & H

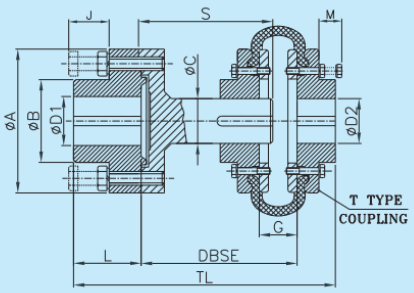
COUPLING SIZE	KW @ 100 RPM	MAX. SPEED (RPM)	TYPE	# BUSH SIZE	BORE ØD		# TYPE F/H			TYPE B		ØA	ØB	ØC	G	M	WT.(Kg)	M.I. (WR²) Kg-m ²
					PB	MAX.	TL	L	J	TL	L							
T-4	0.25	4500	B	-	10	32	-	-	-	68	22	104	-	82	24	17	1.9	0.00161
			F/H	1008	-	25	68	22	29	-	-						1.7	0.00148
T-5	0.69	4500	B	-	10	38	-	-	-	93	32	133	79	100	29	17	3.5	0.00358
			F/H	1210	-	32	79	25	38	-	-					19	2.7	0.00349
T-6	1.33	4000	B	-	15	45	-	-	-	111	38	165	73	125	35	8	5	0.0105
			F/H	1610	-	42	85	25	38	-	-		103			19	3.6	0.0103
T-7	2.62	3600	B	-	19	50	-	-	-	133	45	197	77	144	43	-	7.8	0.0198
T-8	3.93	3100	B	-	25	63	-	-	-	150	51	210	96	167	48	-	10.9	0.042
T-9	5.24	3000	B	-	30	75	-	-	-	165	57	235	110	188	51	-	15	0.0681
T-10	7.07	2600	B	-	32	80	-	-	-	178	60	254	125	216	58	-	21.5	0.1303
T-11	9.16	2300	B	-	32	90	-	-	-	183	65	279	140	233	53	-	28.8	0.1622
T-12	13.90	2050	B	-	38	100	-	-	-	210	76	314	152	264	58	-	43.1	0.365
TO-14	24.30	1800	B	-	58	125	-	-	-	210	89	359	195	311	32	26	60.6	0.6045
			F/H	3525	-	90	162	65	67	-	-					-	42.6	0.4922
TO-16	39.50	1600	B	-	65	140	-	-	-	234	102	395	216	345	30	-	86.4	1.2755
			F/H	4030	-	100	184	77	80	-	-						72.6	1.1134
TO-18	65.70	1500	B	-	70	150	-	-	-	278	116	470	220	398	46	-	133.3	2.1525
			F/H	4535	-	115	224	89	89	-	-						123	1.9514
TO-20	97.60	1300	B	-	70	150	-	-	-	276	114	508	220	429	48	-	144.6	3.1765
			F/H	4535	-	115	226	89	89	-	-						158.3	3.0129
TO-22	121	1100	B	-	75	160	-	-	-	308	127	562	240	470	54	-	181.63	4.7861
			F/H	5040	-	125	258	102	92	-	-						195.1	4.8954
TO-25	154	1000	B	-	85	190	-	-	-	324	132	628	275	532	60	-	281.1	8.129

NOTES:

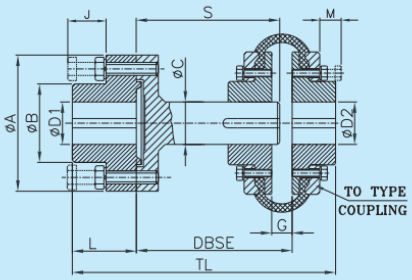
1) All Dimensions are in mm .
2) M is amount by which clamping screw need to be withdrawn to release tyre .
3) J is wrench clearance to allow for tightening and loosening of the bush on the shaft.
4) Shaft ends, although normally located G apart can project beyond flanges.
5) Weight & Moment of inertia specified for solid bores.
6) F/H construction for size 7 to 12 available in TO-07 to TO-12.
7) # Available only with taper bore, without taper bush.
8) FRAS (fire resistance antistatic) Tyres are available on request.

TYRE - FLEX SPACER COUPLINGS
TYPE - RST

T-4 to T-6



TO-7 to TO-14



DIMENSIONAL DATA

SPACER SIZE	TYPE	NOM. DBSE	BORE ØD1		ØA	ØB	TL		L	J	S		ØC	TYRE FLEX SIZE T/TO	BORE ØD2		G		M
			PB	MAX.			T	TO			T	TO			PB	MAX.	T	TO	
RST-12	B	80 100	10	42	118	83	127 147	- -	25	22	57 77	-	25	4	10	32	24	-	17
RST-16	B	100 140 100 140 100 140	18	48	127	80	160 200 170 210 176 216	-	38	24	94 134 94 134 94 134	-	32	4 4 5 5 6 6	10 10 10 10 15 15	32 32 38 38 45 45	24 24 29 29 35 35	-	17 17 17 17 8 8
RST-25	B	100 140 180 100 140 180 140 180	38	80	178	127	-	190 230 270 196 236 276 242 282	45	27		94 134 174 94 134 174 134 174	48	7 7 7 8 8 8 9 9	19 19 19 25 25 25 30 30	50 50 50 63 63 63 75 75	-	16 16 16 22 22 22 24 24	- - - 10 10 10 - -
RST-30	B	140 180 140 180	40	90	216	146	-	276 316 281 321	76	33	-	134 174 134	60	10 10 11 11	32 32 32 32	80 80 90 90	-	24 24 22 22	-
RST-35	B	140 180 180	66	110	248	178	-	305 345 358	89	33	-	134 174 174	80	12 12 14	38 38 58	100 100 125	-	25 25 32	- - 26

NOTES :-

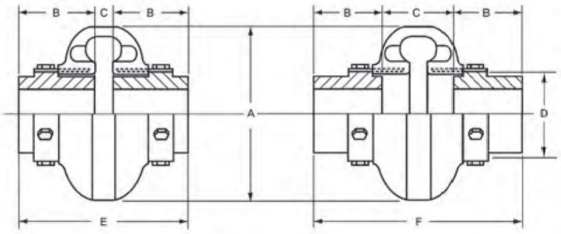
1) Special Spacers are available on request .
2) Refer Installation Instructions for Mounting and Dismounting. .
3) For Tyre coupling details, please refer tyre coupling catalogue.

ELASTOMER COUPLINGS

1. Facility protection for twirl and twist, impact and abrasion
2. Very simple replacement and maintenance without and grease
3. Very simple replacement without the separation of motor or connector on the related line due to it's simple structure
4. Possible for the dissimilar connection and assembling with same hub
5. Polyurethane based for having good water resistance, chemical resistance
6. Highest flexible elasticity on run
7. Less noise

Application

- Agitator
- Blower
- Compressor
- Conveyors
- Cranes and Hoists
- Elevators
- Fans
- Generators
- Pump
- Brewery and Distilling
- Food Industry
- Lumber Industry
- Pulp and Paper Mill
- Rubber Industry
- Steel Industry
- Textile Mills
- Aggregate Processing Cement



Coupling No.	Torque (kgf.m)	Max. Bore (mm)	Max. rpm	Power Rating (kw/rpm)	Dimensions (mm)						
					A	B	C		D	E	F
					Out Dia	Hub Length	Min. Shaft Spacing	Max. Shaft Spacing	Hub Dia	Total Length	
										In	Out
D-2	2.20	28	7,500	0.0023	89	24	35	47	47	83	95
D-3	4.20	34	7,500	0.0043	102	32	9	47	59	83	111
D-4	6.40	42	7,500	0.0066	116	37	9	47	66	83	121
D-5	11.00	48	7,500	0.0110	137	45	10	52	80	100	142
D-10	16.70	55	7,500	0.0170	162	45	11	53	93	101	143
D-20	26.70	60	6,600	0.0270	184	50	15	63	114	115	163
D-30	42.10	75	5,800	0.0430	210	56	12	68	138	124	180
D-40	63.40	85	5,000	0.0660	241	61	12	74	168	134	196
D-50	88.20	90	4,200	0.0900	279	69	12	86	207	150	224
D-60	144.00	105	3,800	0.1480	318	80	11	99	222	171	259
D-70	254.00	120	3,600	0.2620	356	85	18	109	235	189	281
D-80	455.00	155	2,000	0.4670	406	114	17	149	286	245	377
D-100	980.00	171	1,900	1.0000	533	140	44	95	359	324	375
D-120	1,961.00	190	1,800	2.0000	635	152	57	124	448	362	429

Specification Data with Taper-Lock Hubs													
Coupling No.	Taper Lock Bush No.	Torque (kgf.m)	Max. Bore (mm)	Max. rpm	Power Rating (kw/ rpm)	Dimensions (mm)						Weight (kg)
						A	B	C	D	E	F	
						Out Dia	Hub Length	In	Hub Dia	Total Length		
D-3	1008	4.2	25	7,500	0.0043	102	22	43.0	59	87		0.82
D-4	1008	6.4	25	7,500	0.0066	116	22	43.0	66	87		1.18
D-5	1108	11.0	28	7,500	0.0110	137	22	56.0	80	100		1.81
D-10	1610	16.7	35	7,500	0.0170	162	25	52.0	93	103		2.72
D-20	1610	26.7	42	6,600	0.0270	184	25	63.5	114	114		4.08
D-30	2012	42.1	50	5,800	0.0430	210	32	65.0	138	129		6.17
D-40	2517	63.4	65	5,000	0.0660	241	44	60.0	168	149		9.89
D-50	2517	88.2	65	4,200	0.0900	279	44	76.0	207	165		14.29
D-60	3020	144.0	75	3,800	0.1480	318	51	84.0	222	186		21.14
D-70	3535	254.0	100	3,600	0.2620	356	89	60.0	235	238		30.25
D-80	4040	455.0	100	2,000	0.4670	406	102	95.0	286	298		37.19
								In / Out		In	Out	
D-100	4545	980.0	110	1,900	1.0000	533	114	38 / 152	359	267	381	113.40
D-120	5050	1,961.0	125	1,800	2.0000	635	127	51 / 181	448	305	435	185.07