

## DRC & Tyreflex Couplings



## DRC Couplings

Sold as a direct replacement for the well-known 'HRC' Couplings, DRC units offer a simple, effective, low-cost solution where a flexible or semi-elastic solution is required. They allow for incidental misalignment (typically up to 1 deg), absorb shock loads, and dampen small amplitude vibrations.

The coupling consists of two flanges, each with three interlocking "dogs", which are separated by a nitrile rubber element.

The couplings are most commonly supplied with taper bush fixing, but are also stocked with solid flanges, for machining to a defined bore. The flanges can be supplied to take the taper bush mounting into the face of the flange 'F', or into the flange hub 'H'.

FRAS elements are also available.



## Tyreflex Couplings

The Tyreflex coupling is usually used in more demanding conditions than the DRC. It is a torsionally elastic coupling which is capable of accommodating angular misalignment up to 4deg; as well as high levels of parallel misalignment and end float. Being a torsionally soft coupling, it is able to protect against vibration, impact loads and heavy shocks; it also reacts to sudden changes in loading.

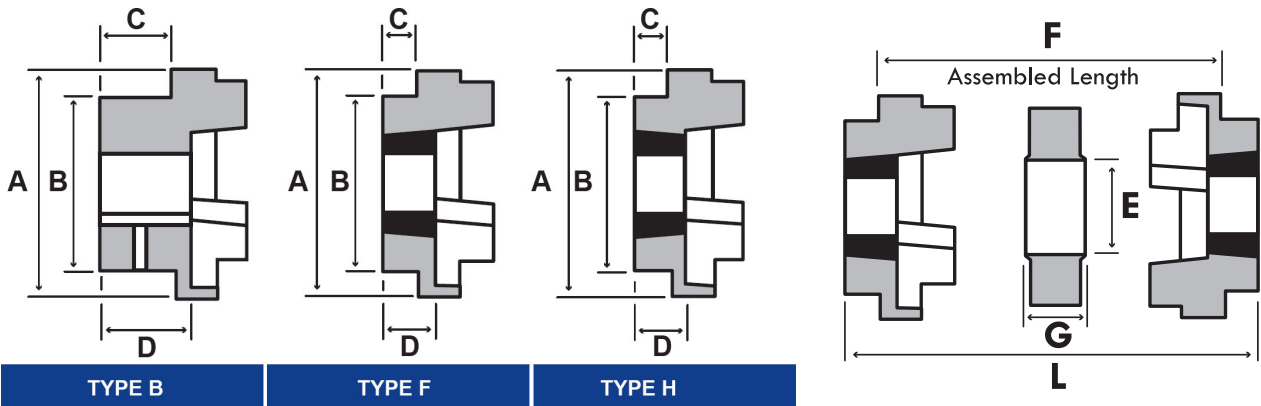
The coupling consists of two flanges, connected by a natural rubber "tyre". The "tyre" is locked to each flange by a bolted clamping system.

As with DRC, Tyreflex couplings are most commonly supplied with taper bush fixing, but solid flanges are also stocked for those wishing to machine the bore. Also similar to DRC, the flanges are available in either face-mount form 'F', or hub-mount form 'H'.

FRAS Tyres are also available – the chloroprene compound used for these takes the upper working temperature limit from 50°C to 70°C.



**DRC COUPLING DIAGRAMS**



**DRC COUPLING - DIMENSIONS**

Size	Common Dimensions					Type F & H					Type B				
	A	B	E	F1+	G	Bush Size	Max. Bore		C	D	Bore Dia's			C	D
							mm	ins.			Max	Preferred	Min		
70	69	60	31	25	18	1008	25	1"	20.0	23.5	32	24.28	0	20	23.5
90	85	70	32	30.5	22.5	1108	28	1 1/8"	19.5	23.5	42	38.42	0	26	30.0
110	112	100	45	45	29	1610	42	1 5/8"	18.5	26.5	55	42.48	0	37	45.0
130	130	105	50	53	36	1610	42	1 5/8"	18.0	26.5	60	55.60	0	39	47.5
150	150	115	62	60	40	2012	50	2"	23.5	33.5	70	60.65	0	46	56.0
180	180	125	77	73	49	2517	60	2 1/2"	34.5	46.5	80	65.75	0	58	70.0
230	225	155	99	85.5	59.5	3020	75	3"	39.5	52.5	100	80	48	77	90.0
280	275	206	119	105.5	74.5	3525	100	4"	51.0	66.5	115		60	90	105.5

**DRC COUPLING - ORDERING CODES**

Size	Type F	Type H	Type B Unbored	Standard Element
70	DRC070F	DRC070H	DRC070S	DRCE070
90	DRC080F	DRC080H	DRC080S	DRCE080
110	DRC110F	DRC110H	DRC110S	DRCE110
130	DRC130F	DRC130H	DRC130S	DRCE130

Size	Type F	Type H	Type B Unbored	Standard Element
150	DRC150F	DRC150H	DRC150S	DRCE150
180	DRC180F	DRC180H	DRC180S	DRCE180
230	DRC230F	DRC230H	DRC230S	DRCE230
280	DRC280F	DRC280H	DRC280S	DRCE280

**DRC COUPLING - DIMENSIONS & CHARACTERISTICS**

Size	Assembled Length (L*) Comprising Flange Tyres			Dynamic Stiffness (Nm/o)	Axial	Nominal Torque (Nm)
	FF, FH, HH	FB, HB	BB			
70	65.0	65.0	65.0		+ 0.2	31
90	69.5	76.0	82.5		+ 0.5	80
110	82.0	100.5	119.0	65	+ 0.6	160
130	89.0	110.0	131.0	130	+ 0.8	315

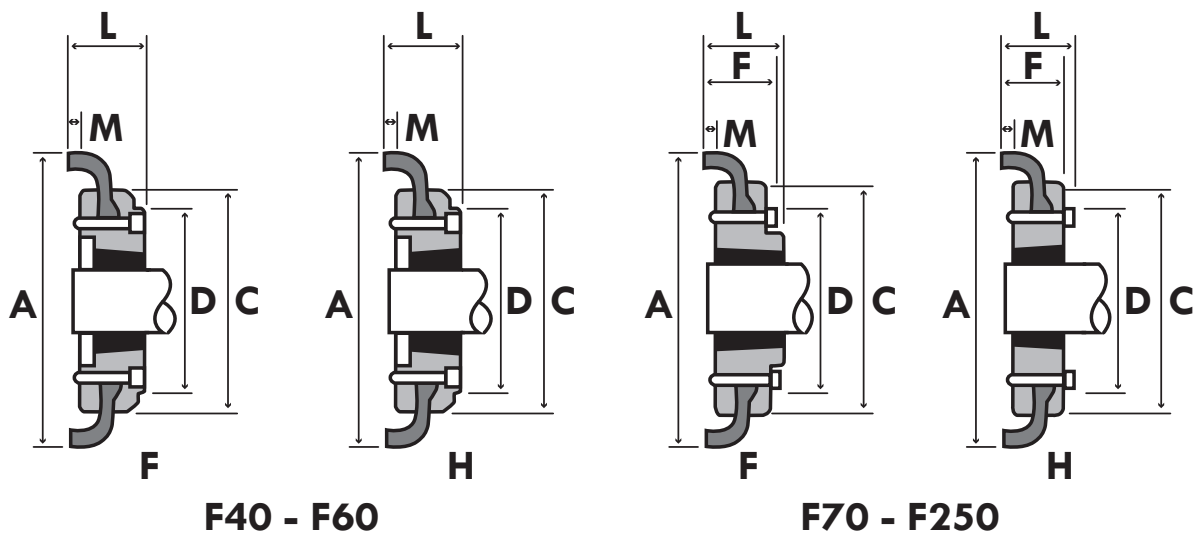
Size	Assembled Length (L*) Comprising Flange Tyres			Dynamic Stiffness (Nm/o)	Axial	Nominal Torque (Nm)
	FF, FH, HH	FB, HB	BB			
150	107.0	129.5	152.0	175	+ 0.9	600
180	142.0	165.5	189.0	229	+ 1.1	950
230	164.5	202.0	239.5	587	+ 1.3	2000
280	207.5	246.5	285.5	1025	+ 1.7	3150

**DRC COUPLING - POWER RATINGS IN kW**

Speed rev/min	Coupling Sizes							
	70	90	110	130	150	180	230	280
100	0.33	0.84	1.68	3.30	6.28	9.95	20.9	33.0
200	0.66	1.68	3.35	6.60	12.6	19.5	41.9	65.0
400	1.32	3.35	6.70	13.2	25.1	39.8	83.8	132
600	1.98	5.03	10.1	19.8	37.7	59.7	126	198
720	2.37	6.03	12.1	23.8	45.2	71.6	151	238
800	2.64	6.70	13.4	26.4	50.3	79.6	168	264
960	3.17	8.04	16.1	31.7	60.3	95.5	201	317
1200	3.96	10.1	20.1	39.6	75.4	119	251	396
1440	4.75	12.1	24.1	47.5	90.5	143	302	475

Speed rev/min	Coupling Sizes							
	70	90	110	130	150	180	230	280
1600	5.28	13.4	26.8	52.8	101	159	335	528
1800	5.94	15.1	30.2	59.4	113	179	377	594
2000	6.60	16.8	33.5	66.0	126	199	419	660
2200	7.26	18.4	36.9	72.6	138	219	461	726
2400	7.92	20.1	40.2	79.2	151	239	503	
2600	8.58	21.8	43.6	85.8	163	259	545	
2880	9.50	24.1	48.3	95	181	286		
3000	9.90	25.1	50.3	99	188	298		
3600	11.9	30.1	60.3	118	226			
<b>Nominal Torque (Nm)</b>	31.5	80	160	315	600	950	2000	3150
<b>Max Torque (Nm)</b>	72	180	360	720	1500	2350	5000	7200

**TYREFLEX COUPLING - DIAGRAMS**



**TYREFLEX COUPLING - DIMENSIONS**

Size	Type	Bush No.	Max Bore		Types F&H		A	C	D	F	M	Mass (kg)
			Metric	Imperial	L	E						
TF40	F	1008	25	1	33	22	104	82	-	-	11	0.8
	H	1008	25	1	33	22	104	82	-	-	11	0.8
TF50	F	1210	32	1 1/4	38	25	133	100	79	-	12.5	1.2
	H	1210	32	1 1/4	38	25	133	100	79	-	12.5	1.2
TF60	F	1610	42	1 5/8	42	25	165	125	103	-	16.5	2.0
	H	1610	42	1 5/8	42	25	165	125	103	-	16.5	2.0
TF70	F	2012	50	2	44	32	187	144	80	50	11.5	3.1
	H	1610	42	1 5/8	42	25	187	144	80	50	11.5	3.0
TF80	F	2517	60	2 1/2	58	45	211	167	95	54	12.5	4.9
	H	2012	50	2	45	32	211	167	97	54	12.5	4.6
TF90	F	2517	60	2 1/2	59.5	45	235	188	108	60	13.5	7.0
	H	2517	60	2 1/2	59.5	45	235	188	108	60	13.5	7.0
TF100	F	3020	75	3	65.5	51	254	216	120	62	13.5	9.9
	H	2517	60	2 1/2	59.5	45	254	216	113	62	13.5	9.4
TF110	F	3020	75	3	63.5	51	279	233	134	62	12.5	11.7
	H	3020	75	3	63.5	51	279	233	134	62	12.5	11.7
TF120	F	3525	100	4	79.5	65	314	264	140	67	14.5	16.5
	H	3020	75	3	65.5	51	314	264	140	67	14.5	15.9
TF140	F	3525	100	4	81.5	65	359	311	178	73	16	22.3
	H	3525	100	4	81.5	65	359	311	178	73	16	22.3

**TYREFLEX COUPLING - PHYSICAL CHARACTERISTICS (Flexible Tyres)**

Characteristics	Couplings									
	F40	F50	F60	F70	F80	F90	F100	F110	F120	F140
Maximum speed rev/min	4500	4500	4000	3600	3100	3000	2600	2300	2050	1800
Nominal Torque Nm Tkn	24	66	127	250	375	500	675	875	1330	2325
Maximum Torque Nm Tk max	64	160	318	487	759	1096	1517	2137	3547	5642
Torsional Stiffness Nm/o	5	13	26	41	63	91	126	178	296	470
Max. parallel misalignment	1.1	1.3	1.6	1.9	2.1	2.4	2.6	2.9	3.2	3.7
Maximum end float mm + or -	1.3	1.7	2.0	2.3	2.6	3.0	3.3	3.7	4.0	4.6
Approximate mass, kg	0.1	0.3	0.5	0.7	1.0	1.1	1.1	1.4	2.3	2.6
Alternating Torque + or - Nm at 10Hz Tzw	11	26	53	81	127	183	252	356	591	940
Resonance Factor Vr	7	7	7	7	7	7	7	7	7	7
Damping Coefficient	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9

**TYREFLEX COUPLING - POWER RATINGS IN kW**

Speed rev/min	Couplings									
	F40	F50	F60	F70	F80	F90	F100	F110	F120	F140
100	0.25	0.69	1.33	2.62	3.93	5.24	7.07	9.16	13.9	24.3
200	0.5	1.38	2.66	5.24	7.85	10.5	14.1	18.3	27.9	48.7
300	0.75	2.07	3.99	7.85	11.8	15.7	21.2	27.5	41.8	73.0
400	1.01	2.76	5.32	10.5	15.7	20.9	28.3	36.6	55.7	97.4
500	1.26	3.46	6.65	13.1	19.6	26.2	35.3	45.8	69.6	122
600	1.51	4.15	7.98	15.7	23.6	31.4	42.4	55	83.6	146
700	1.76	4.84	9.31	18.3	27.5	36.6	49.5	64.1	97.5	170
720	1.81	4.98	9.57	18.8	28.3	37.7	50.9	66.0	100	175
800	2.01	5.53	10.6	20.9	31.4	41.9	56.5	73.3	111	195
900	2.26	6.22	12.0	23.6	35.3	47.1	63.6	82.5	125	219
960	2.41	6.63	12.8	25.1	37.7	50.3	67.9	88.0	134	234
1000	2.51	6.91	13.3	26.2	39.3	52.4	70.7	91.6	139	243
1200	3.02	8.29	16.0	31.4	47.1	62.8	84.8	110	167	292
1400	3.52	9.68	18.6	36.6	55.0	73.3	99.0	128	195	341
1440	3.62	9.95	19.1	37.7	56.5	75.4	102	132	201	351
1600	4.02	11.1	21.3	41.9	62.8	83.8	113	147	223	390
1800	4.52	12.4	23.9	47.1	70.7	94.2	127	165	251	438
2000	5.03	13.8	26.6	52.4	78.5	105.5	141	183	279	
2200	5.53	15.2	29.3	57.6	86.4	115	155	202		
2400	6.03	16.6	31.9	62.8	94.2	126	170			
2600	6.53	18.0	34.6	68.1	102	136	184			
2800	7.04	19.4	37.2	73.3	110	147				
2880	7.24	19.9	38.3	75.4	113	151				
3000	7.54	20.7	39.9	78.5	118	157				
3600	9.05	24.9	47.9	94.2						