



TRANSMISSIONS



Mechanical Power Transmission

Dunlop BTL Ltd

European Distribution Centre
MPT House
Brunswick Road
Cobbs Wood Industrial Estate
Ashford, Kent. UK
TN23 1EL

Contact us

-  +44 (0)1233 663340
-  +44 (0)1233 664440
-  sales@dunlopbtll.com
-  www.dunlopbtll.com

Manufacturing Facilities

UNITED KINGDOM

FRANCE

GERMANY

ITALY

SPAIN

POLAND

CZECH REPUBLIC

SLOVAKIA

SERBIA

CHINA

USA



Engineering Data	211
Dunflex Couplings	213
HRC Couplings	215
Jaw Couplings	216
Rigid Couplings	217



DUNFLEX COUPLING ENGINEERING DATA

Coupling Size	Flange Face Spacing (mm)	Gap Between Tyre Ends (mm)	Nominal Torque (Nm)	Max Speed (rev/min)	Max Par Mis (mm)	Max End Float (mm)	Size	Torque (Nm)
F40	22	2	24	4500	1.1	1.3	M6	15
F50	25	2	66	4500	1.3	1.7	M6	15
F60	33	2	127	4000	1.6	2.0	M6	15
F70	23	3	250	3600	1.9	2.3	M8	24
F80	25	3	375	3100	2.1	2.6	M8	24
F90	27	3	500	3000	2.4	3.0	M10	40
F100	27	3	675	2600	2.6	3.3	M10	40
F110	25	3	875	2300	2.9	3.7	M10	40
F120	29	3	1330	2050	3.2	4.0	M12	50
F140	32	5	2325	1800	3.7	4.6	M12	55
F160	30	5	3770	1600	4.2	5.3	M16	80
F180	46	6	6270	1500	4.8	6.0	M16	105
F200	48	6	9325	1300	5.3	6.6	M16	120
F220	55	6	11600	1100	5.8	7.3	M20	165
F250	59	6	14675	1000	6.6	8.2	M20	165

NB. All flexible inserts have an angular misalignment capacity up to 4 deg.

DUNFLEX couplings can accommodate simultaneous maximum misalignment in all planes without imposing undue loads on adjacent bearings and the excellent shock absorbing properties of the flexible insert reduce vibration and torsional oscillations. Inserts are available in natural rubber compounds for use in ambient temperatures of -15°C to +70°C and chlorophene compound should be used when fire resistance and anti-static (F.R.A.S) properties are required.

POWER RATINGS

SPEED RPM	COUPLING SIZE														
	F40	F50	F60	F70	F80	F90	F100	F110	F120	F140	F160	F180	F200	F220	F250
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
200	0.50	1.38	2.66	5.24	7.85	10.5	14.1	18.3	27.9	48.7	79.0	131	195	243	307
300	0.75	2.07	3.99	7.85	11.8	15.7	21.2	27.5	41.8	73.0	118	197	293	364	461
400	1.01	2.76	5.32	10.5	15.7	20.9	28.3	36.6	55.7	97.4	158	263	391	486	615
500	1.26	3.46	6.65	13.1	19.6	26.2	35.3	45.8	69.6	122	197	328	488	607	768
600	1.51	4.15	7.98	15.7	23.6	31.4	42.4	55.0	93.6	146	237	394	586	729	922
700	1.76	4.84	9.31	18.3	27.5	36.6	49.5	64.1	97.5	170	276	460	684	850	1076
720	1.81	4.98	9.57	18.8	28.3	37.7	50.9	66.0	100	175	284	473	703	875	1106
800	2.01	5.53	10.6	20.9	31.4	41.9	56.5	73.3	111	195	316	525	781	972	1229
900	2.26	6.22	12.0	23.6	35.3	47.1	63.6	82.5	125	219	355	591	879	1093	1383
960	2.41	6.63	12.8	25.1	37.7	50.3	67.9	88.0	134	234	379	630	937	1166	1475
1000	2.51	6.91	13.3	26.2	39.3	52.4	70.7	91.6	139	243	395	657	976	1215	1537
1200	3.02	8.29	16.0	31.4	47.1	62.8	84.8	110	167	292	474	788	1172	-	-
1400	3.52	9.68	18.6	36.6	55.0	73.3	99.0	128	195	341	553	919	-	-	-
1440	3.62	9.95	19.1	37.7	56.5	75.4	102	132	201	351	568	945	-	-	-
1600	4.02	11.1	21.3	41.9	62.8	83.8	113	147	223	390	632	-	-	-	-
1800	4.52	12.4	23.9	47.1	70.5	94.2	127	165	251	438	-	-	-	-	-
2000	5.03	13.8	26.6	52.4	78.5	105.5	141	183	279	The figures in heavier type are for standard motor speeds. All these power ratings are calculated at constant torque. For speeds below 100 rev/min and intermediate speeds use nominal torque ratings.					
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	-	-						

PHYSICAL CHARACTERISTICS

CHARACTERISTICS	COUPLING SIZE														
	F40	F50	F60	F70	F80	F90	F100	F110	F120	F140	F160	F180	F200	F220	F250
Maximum speed rev/min	4500	4500	4000	3600	3100	3000	2600	2300	2050	1800	1600	1500	1300	1100	1000
Nominal Torque Nm T_{KN}	24	66	127	250	250	500	675	875	1330	2325	3770	6270	9325	11600	14675
Maximum Torque Nm T_{KMAX}	64	160	318	487	487	1096	1517	2137	3547	5642	9339	16455	23	33125	42740
Torsional Stiffness Nm/°	5	13	26	41	41	91	126	178	296	470	778	1371	1959	2760	3562
Max. parallel misalignment (mm)	1.1	1.3	1.6	1.9	1.9	2.4	2.6	2.9	3.2	3.7	4.2	4.8	5.3	5.8	6.6
Maximum End Float mm $\pm$	1.3	1.7	2.0	2.3	2.3	3.0	3.3	3.7	4.0	4.6	5.3	6.0	6.6	7.3	8.2
Approximate mass, kg	0.1	0.3	0.5	0.7	1.0	1.1	1.1	1.4	2.3	2.6	3.4	7.7	8.0	10	15
Alternating Torque $\pm$ Nm @ 10Hz T_{KW}	11	26	53	81	127	183	252	356	591	940	1556	2742	3918	5521	7124
Resonance Factor V_B	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7
Damping Coefficient Ψ	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9

Maximum torque figures should be regarded as short duration overload ratings for use in such circumstances as direct-on-line starting.

HRC COUPLING ENGINEERING DATA

HRC Couplings - These semi elastic couplings designed for general use purpose use, permit quick and easy assembly by means of Taper Lock bush fixing. Fully machined outside diameters allow alignment by simple straight edge methods. Shaft connection is 'fail safe' due to interacting dog design.

SPEED RPM	POWER RATINGS (kW) - COUPLING SIZE							
	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	19.9	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
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	-	-	-
Nominal Torque (Nm)	31.5	80	160	315	600	950	2000	3150
Max Torque (Nm)	72	180	360	720	1500	2350	5000	7200



COUPLINGS

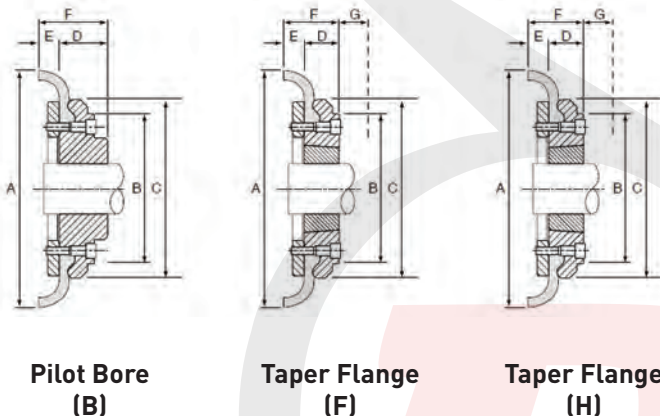


DUNFLEX COUPLINGS

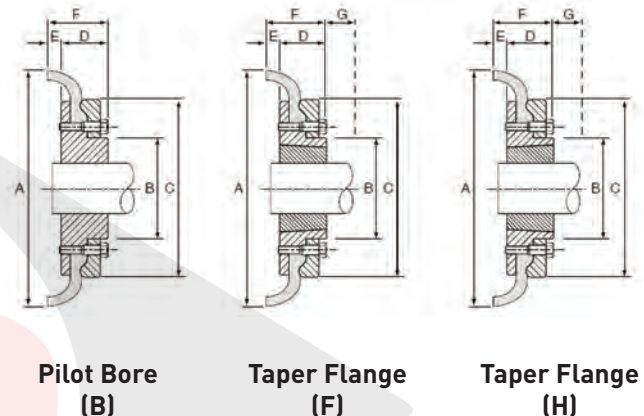
Description

DUNFLEX coupling flanges are available in either F (Taper Bush fits inside) or H (Taper Bush fits outside) or pilot bored (PB) which can be bored in house to the required size. They can accommodate simultaneous misalignment without imposing undue loads on adjacent bearings, they have excellent shock absorbing properties that reduces vibration and torsional oscillation. Inserts are available in either natural rubber for use in ambient temperatures between -50°C & $+50^{\circ}\text{C}$ or chloroprene rubber for use in temperatures between -15°C and $+70^{\circ}\text{C}$ fire resistance and anti-static properties (F.R.A.S).

Sizes 040 to 060



Sizes 070 to 250



DUNFLEX COUPLINGS

Coupling Size	Bush Size	Max Bore		A	B	C	E	G	Types F & H		Types B		Clamping Screw	Weight (kg)	Inertia (kgm ²)
		Metric	Inch						F	D	F	D			
F040B	-	32	-	104	-	82	11.0	29	-	-	33.0	22	M5	0.8	0.00074
F040F	1008	25	1"	104	-	82	11.0	29	33.0	22	-	-	-	0.8	0.00074
F040H	1008	25	1"	104	-	82	11.0	29	33.0	22	-	-	-	0.80	0.00074
F050B	-	38	-	133	79	100	12.5	38	-	-	-	-	-	-	0.00115
F050F	1210	32	1.1/4"	133	79	100	12.5	38	38.0	25	-	-	-	1.2	0.00115
F050H	1210	32	1.1/4"	133	79	100	12.5	38	39.0	25	-	-	-	1.2	0.00115
F060B	-	45	-	165	70	125	16.5	38	-	-	55.0	38	M6	2.0	0.0052
F060F	1610	42	1.5/8"	165	103	125	16.5	38	42.0	25	-	-	-	2.0	0.0052
F060H	1610	42	1.5/8"	165	103	125	16.5	38	42.0	25	-	-	-	2.0	0.0052
F070B	-	50	-	187	80	144	11.5	-	-	-	47.0	35	M10	3.1	0.009
F070F	2012	50	2"	187	80	144	11.5	42	44.0	32	-	-	-	3.1	0.009
F070H	1610	42	1.5/8"	187	80	144	11.5	38	42.0	25	-	-	-	3.0	0.009
F080B	-	60	-	211	98	167	12.5	-	-	-	55.0	42	M10	4.9	0.018
F080F	2517	60	2.1/2"	211	97	167	12.5	48	58.0	45	-	-	-	4.9	0.018
F080H	2012	50	2"	211	98	167	12.5	42	45.0	32	-	-	-	4.6	0.017
F090B	-	70	-	235	112	188	13.5	-	-	-	63.5	49	M12	7.1	0.032
F090F	2517	60	2.1/2"	235	108	188	13.5	48	59.5	45	-	-	-	7.0	0.031
F090H	2517	60	2.1/2"	235	108	188	13.5	48	59.5	45	-	-	-	7.0	0.031
F100B	-	80	-	254	125	216	13.5	-	-	-	70.5	56	M12	9.9	0.055

DUNFLEX COUPLING continued

Coupling Size	Bush Size	Max Bore		A	B	C	E $\parallel$	G	Types F & H		Types B		Clamping Screw	Weight (kg)	Inertia (kgm ²)
		Metric	Inch						F	D	F	D			
F100F	3020	75	3"	254	120	216	13.5	55	65.5	51	-	-	-	9.9	0.055
F100H	2517	60	2.1/2"	254	113	216	13.5	48	59.5	45	-	-	-	9.4	0.054
F110B	-	90	-	279	128	233	12.5	-	-	-	75.5	63	M12	12.5	0.081
F110F	3020	75	3"	279	134	233	12.5	55	63.5	51	-	-	-	11.7	0.078
F110H	3020	75	3"	279	134	233	12.5	55	63.5	51	-	-	-	11.7	0.078
F120B	-	100	-	314	143	264	14.5	-	-	-	94.5	70	M16	16.9	0.137
F120F	3525	100	4"	314	140	264	14.5	67	79.5	65	-	-	-	16.5	0.137
F120H	3020	75	3"	314	140	264	14.5	55	65.5	51	-	-	-	15.9	0.13
F140B	-	130	-	359	178	311	16.0	-	-	-	110.5	94	M20	22.2	0.254
F140F	3525	100	4"	359	178	311	16.0	67	81.5	65	-	-	-	22.3	0.255
F140H	3525	100	4"	359	178	311	16.0	67	81.5	65	-	-	-	22.3	0.255
F160B	-	140	-	402	187	345	15.0	-	-	-	117.0	102	M20	35.8	0.469
F160F	4030	115	4.1/2"	402	197	345	15.0	80	92.0	77	-	-	-	32.5	0.38
F160H	4030	115	4.1/2"	402	197	345	15.0	80	92.0	77	-	-	-	32.5	0.38
F180B	-	150	-	470	200	398	23.0	-	-	-	137.0	114	M20	49.1	0.871
F180F	4535	125	5"	470	205	398	23.0	89	112.0	89	-	-	-	42.2	0.847
F180H	4535	125	5"	470	205	398	23.0	89	112.0	89	-	-	-	42.2	0.847
F200B	-	150	-	508	200	429	24.0	-	-	-	138.0	114	M20	58.2	1.301
F200F	4535	125	5"	508	205	429	24.0	89	113.0	89	-	-	-	53.6	1.281
F200H	4535	125	5"	508	205	429	24.0	89	113.0	89	-	-	-	53.6	1.281
F220B	-	160	-	562	218	474	27.5	-	-	-	154.5	127	M20	79.6	2.142
F220F	5040	125	5"	562	223	474	27.5	92	129.5	102	-	-	-	72.0	2.104
F220H	5040	125	5"	562	223	474	27.5	92	129.5	102	-	-	-	72.0	2.104
F250B	-	190	-	628	254	532	29.5	-	-	-	161.5	132	M20	104.0	3.505

Notes.

G = Wrench clearance needed to allow for the tightening or loosening of the bush on the shaft as well as the flange clamping screws.

E = Half the distance required between flanges faces.

= Weight and inertia figures are for a single flange including mid range bore, clamping ring, screws and half of an insert.





COUPLINGS

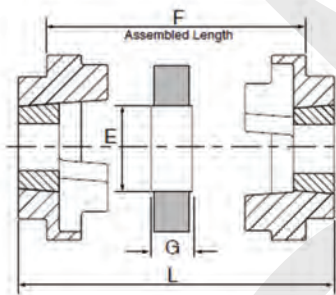


HRC COUPLINGS

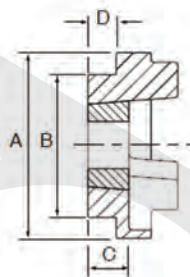
Description

HRC coupling flanges are available in either F (Taper Bush fits inside) or H (Taper Bush fits outside) or pilot bored (PB) which can be bored in house to the required size. These semi-elastic couplings are designed for general purpose use, they permit quick and easy assembly by means of taper bush fixing to the mating shaft.

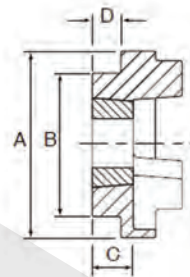
Inserts are available in either natural rubber for use in ambient temperatures between -50°C & $+50^{\circ}\text{C}$ or chloroprene rubber for use in temperatures between -15°C and $+70^{\circ}\text{C}$ fire resistance and anti-static properties (F.R.A.S.).



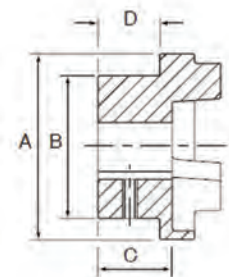
HRC Assembly



F Flange (Taper Bore)



H Flange (Taper Bore)



B Flange (Pilot Bore)

HRC COUPLINGS

Coupling No.	Nominal torque Nm	Overall Diameter A	Hub Diameter B	Flange Length F	Insert Bore Dia E	Insert Width G	Parallel Misalignment (mm)	Weight (kg)	Assembled Length		
									L FF, FH, HH	L FB, HB	L BB
HRC70	31	69	60	25.5	31	18.5	0.3	1.00	65.5	65.5	65.5
HRC90	80	85	70	30.5	32	22.5	0.3	1.17	69.5	76.5	82.5
HRC110	160	112	100	45.5	45	29.5	0.3	5.00	82.5	100.5	119.5
HRC130	315	130	105	53.5	50	36.5	0.4	5.46	89.5	110.5	131.5
HRC150	600	150	115	60.5	62	40.5	0.4	7.11	107.5	129.5	152.5
HRC180	950	180	125	73.5	77	49.5	0.4	16.65	142.5	165.5	189.5
HRC230	2000	225	155	85.5	99	59.5	0.5	26.05	164.5	202.5	239.5
HRC280	3150	275	206	105.5	119	74.5	0.5	50.05	207.5	246.5	285.5

Angular misalignment capacity up to 1 deg. Mass is for an FF, FH or HH coupling with mid range Taper Bushes

F refers to combinations of flanges: FF, FH, HH, FB, HB, BB.

HRC TYPE F & H

Coupling No.	Bush Size	(mm)	(ins)	Shoulder Width D	Hub Width C
HRC70	1008	25	1	20.0	23.5
HRC90	1108	28	1.1/8	19.5	23.5
HRC110	1610	42	1.5/8	18.5	26.5
HRC130	1610	42	1.5/8	18.0	26.5
HRC150	2012	50	2	23.5	33.5
HRC180	2517	60	2.1/2	34.5	46.5
HRC230	3020	75	3	39.5	52.5
HRC280	3525	100	4	51.0	66.5

HRC TYPE B

Coupling No.	Max Bore (mm)	Pilot Bore (mm)	Keyway Screw Size	Shoulder Width D	Hub Width C
HRC70	32	8	M6	20	23.5
HRC90	42	10	M6	26	30.5
HRC110	55	10	M10	37	45.5
HRC130	60	15	M10	39	47.5
HRC150	70	20	M10	46	56.5
HRC180	80	25	M10	58	70.5
HRC230	100	25	M12	77	90.5
HRC280	115	30	M16	90	105.5



COUPLINGS

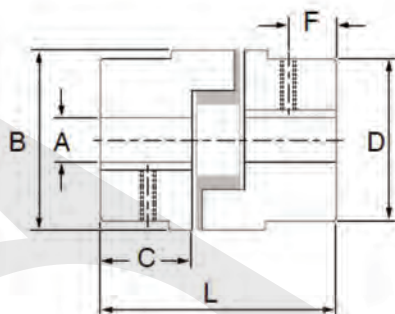


JAW COUPLING

Description

Jaw coupling flanges are available either pilot bored (PB) which can be bored in house to the required shaft size they are also conveniently held in stock in all popular metric and imperial bore sizes with corresponding key way and 2 grub screws at 90° to each other for securing to a shaft.

They suit general purpose applications that cater for misalignment, shock loads and damp out small amplitude vibrations.



JAW COUPLING SECTION

Coupling No.	Nominal torque (Nm)	Pilot Bore A (mm)	Max Bore A (mm)	Overall Diameter B	Assembled Length L	Hub Width C	Hub Diameter D	Set Screw Position F	Size	Complete Weight (kg)
L035	-	3	8	16.0	20	7	16.0	3.0	M3	0.06
L050	3.51	6	14	27.5	44	16	27.5	6.5	M6	0.10
L070	5.77	9	19	35.0	51	19	35.0	9.5	M6	0.25
L075	11.90	9	24	44.5	54	21	44.5	8.0	M6	0.45
L090	19.20	9	24	54.0	54	21	54.0	8.7	M6	0.55
L095	25.80	9	28	54.0	64	25	54.0	11.5	M6	0.65
L100	55.40	12	35	65.0	89	35	65.0	12.5	M8	1.60
L110	105.00	15	42	84.0	108	43	84.0	20.5	M10	3.00
L150	150.00	15	48	96.0	115	45	96.0	22.5	M10	4.90
L190	200.00	19	55	115.0	133	54	102.0	22.5	M12	7.00
L225	280.00	19	60	127.0	153	64	108.0	25.5	M12	9.00

Angular misalignment capacity up to 1 deg.

Parallel misalignment capacity up to 0.38mm

Mass is for a complete coupling with a pilot bore

Nitrile insert temperature range -40°C to 100°C



COUPLINGS

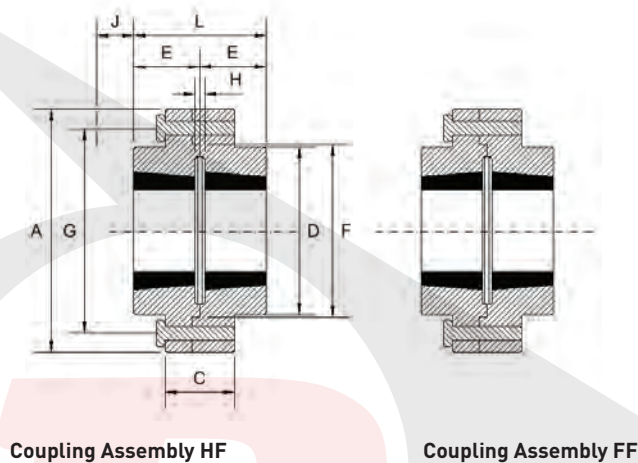


RIGID COUPLING DATA

Description

Taper Bore Rigid Couplings provide a convenient method of rigidly connecting ends of shafts. These couplings have a male and female flange fully machined. The male flange can have the taper bush fitted from the Hub side (H) or from the Flange side (F), the female flange always has the bush fitting (F).

This gives two possible coupling assemblies (HF) and (FF). When connecting horizontal shafts, the most convenient assembly should be chosen. When connecting vertical shafts use assembly (FF) only.



SELECTION

Part No.	Bush No.	Metric	Inch	A	C	D	E	F Nominal	G Nominal	H†	J*	L	Mass ‡ (kg)
RM12 FF	1210	32	1 1/4"	118	35	83	25	76	102	7	38	57	3.5
RM12 HF	1210	32	1 1/4"	118	35	83	25	76	102	7	38	57	3.5
RM16 FF	1610	42	1 5/6"	127	43	80	25	89	105	7	38	57	4.0
RM16 HF	1610	42	1 5/6"	127	43	80	25	89	105	7	38	57	4.0
RM25 FF	2517	60	2 1/2"	178	51	123	45	127	149	7	48	97	11
RM25 HF	2517	60	2 1/2"	178	51	123	45	127	149	7	48	97	11
RM30 FF	3020	75	3"	216	65	146	51	152	181	7	54	109	20
RM30 HF	3020	75	3"	216	65	146	51	152	181	7	54	109	20
RM35 FF	3525	100	4"	248	75	178	65	178	213	7	67	137	34
RM35 HF	3525	100	4"	248	75	178	65	178	213	7	67	137	34
RM40 FF	4030	110	4 1/2"	298	76	210	76	216	257	7	79	159	59
RM40 HF	4030	110	4 1/2"	298	76	210	76	216	257	7	79	159	59
RM45 FF	4535	125	5"	330	86	230	89	241	286	7	89	185	80
RM45 HF	4535	125	5"	330	86	230	89	241	286	7	89	185	80
RM50 FF	5040	125	5"	362	92	266	102	267	314	7	92	211	135
RM50 HF	5040	125	5"	362	92	266	102	267	314	7	92	211	135

All dimensions in millimetres unless otherwise stated.

* J is the wrench clearance to allow for tightening and loosening the bushing on the shaft. The use of a shortened wrench will permit this dimension to be reduced.

† H is the distance between shaft ends.

‡ Masses given are for couplings with mid-range bore Taper Lock Bushes.

Dunlop BTL Ltd

European Distribution Centre
MPT House
Brunswick Road
Cobbs Wood Industrial Estate
Ashford, Kent. UK
TN23 1EL

Contact us

-  +44 (0)1233 663340
-  +44 (0)1233 664440
-  sales@dunlopctl.com
-  www.dunlopctl.com

Manufacturing Facilities

UNITED KINGDOM
FRANCE
GERMANY
ITALY
SPAIN
POLAND
CZECH REPUBLIC
SLOVAKIA
SERBIA
CHINA
USA



TRANSMISSIONS

DUNLOP BTL Ltd, MPT House, Brunswick Road, Cobbs Wood Industrial Estate, Ashford, Kent TN23 1EL, UK
T: +44 (0)1233 663340 • F: +44 (0)1233 664440 • E: sales@dunlopbt.com • W: www.dunlopbt.com

DUNLOP™ and the Flying D device™ are used under licence by DUNLOP BTL Ltd.