

Selection

The TransDrive HRC Coupling is a proven performer, consisting of two cast iron flanges and a rubber element, which performs under compression.

The modular design allows for a simple fitting and easy maintenance whilst the rubber element absorbs shock loading.

Selection Procedure

- ▶ **Service Factor** Determine appropriate service factor from the table below.
- ▶ **Design Power** Multiply running of driven machine by the service factor. This gives the Design Power which is used as a basis for coupling selection.
- ▶ **Coupling Size** Refer to the Power Ratings Table, page 21 and read across from the appropriate speed until a power equal to or greater than the Design Power is found. The size of the coupling required is given at the head of that column.
- ▶ **Bore Size** From the Dimension Table, page 20 check that the required bores can be accommodated.

Example

A shaft coupling is required to transmit 70kW between a 1200 rev/min DC electric motor and a Banbury Mixer running 8hrs/day. Motor shaft is 70mm and the mixer shaft is 75mm.

- ▶ **Service Factor** From the table below the service factor is 2,5.
- ▶ **Design Power** Design Power is $70 \times 2,5 = 175\text{kW}$.
- ▶ **Coupling Size** Reading across from 1200 rev/min in the speed column of the Power Ratings Table; 251kW is the first power to exceed the required 175kW (Design Power). The size of the coupling at the head of this column is 230.
- ▶ **Bore Size** The Dimensions Table, page 20 shows that both shaft diameters are within the bore range available.

Service Factors

Special Classes ₁	Type of Driving Unit					
	Electric Motors Steam Turbines			Internal Combustion Engines Steam Engines Water Turbines		
	Hours Per Day Duty			Hours Per Day Duty		
Driven Machine Class ₂	8 and under	Over 8 to 16 inclusive	Over 16	8 and under	Over 8 to 16 inclusive	Over 16
Uniform	1.00	1.12	1.25	1.25	1.40	1.60
Moderate Shock ₃ *	1.60	1.80	2.00	2.00	2.24	2.50
Heavy Shock ₄ **	2.50	2.80	3.12	3.12	3.55	4.00

*It is recommended that top clearance keys are fitted for applications where load fluctuation is expected.

**For Centrifugal Compressor multiply Service Factor by an additional 1.15.

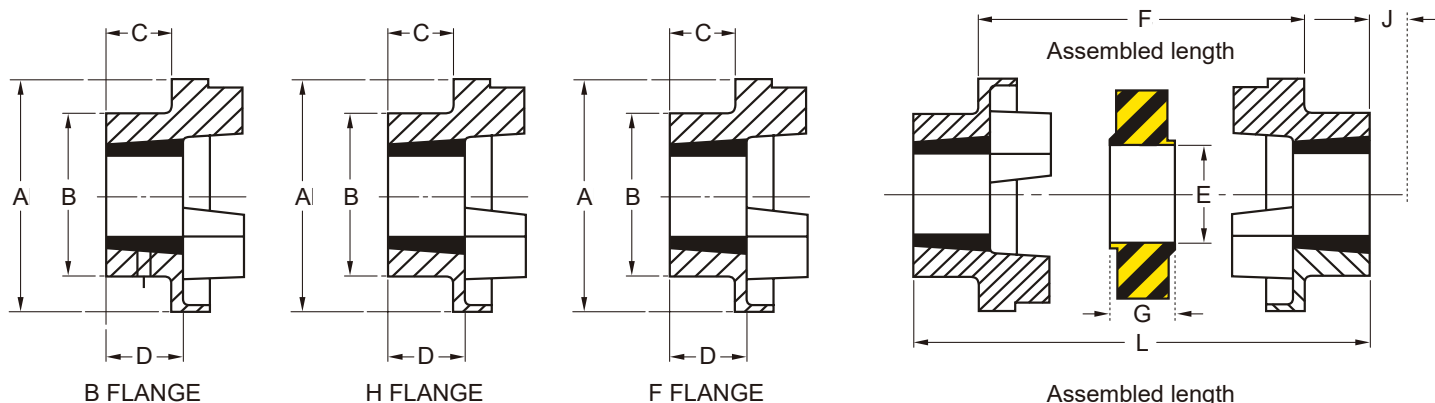
¹ For applications where substantial shock, vibration and torque fluctuation occur, and for reciprocating machines, e.g. internal combustion engines, piston type pumps and compressors, refer to TransDrive Power Transmission with full machine details for torsional analysis.

² Agitators, Brewing Machinery, Centrifugal Compressors**, Conveyors, Centrifugal Fans and pumps, Generators, Sewage Disposal Equipment.

³ Clay working machinery, Crane Hoists, Laundry machinery, Wood working machinery, Machine Tools, Rotary Mills, Paper Mill machinery, Textile machinery.

⁴ Reciprocating conveyors, Crushers, Shakers, Metal Mills, Rubber machinery. (Banbury Mixers and Mills, Reciprocating Compressors).

Dimensions



Size	Bush	Bore		C	D	Bored to Size				Dia. A	Dia. B	Dia. C	F	G	L1	L2	L3	J
		Max	Min			Bore+		C	D									
						Max	Min											
70	1008	25	9	19.0	23.5	32	8	21	25	69	60	31	27	18	65	66.5	68	29
90	1108	28	9	18.5	23.5	38	8	26	30	85	65	32	32.5	22.5	69.5	75	82.5	29
110	1610	42	11	18.5	26.5	55	8	37	45	112	100	45	45	29	82	100.5	119	38
130	1610	42	14	17.5	26.5	60	36	47	55	130	105	50	54	36	89	117.5	145	38
150	2012	50	14	23.0	33.5	65	40	50	60	150	115	62	61	40	107	133.5	160	42
180	2517	60	16	34.0	46.5	80	46	58	70	180	125	77	74	49	142	165.5	189	48
230	3020	75	25	39.5	52.5	100	52	77	90	225	155	99	85.5	59.4	142	202	239.5	55
280	3535	90	35	74.0	90.5	115	62	90	105	275	185	119	107.5	74.5	142	270	284.5	67

All dimensions are in mm.

L 1 is the length with assembly combinations F.F - H.H F.H. / L 2 is the length with assembly combinations F.B - H.B / L 3 is the length with assembly combinations B.B

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

+ Bore limit H8 unless specified otherwise.

Physical Characteristics

Size	Power Rating Per 100 rev/min	Maximum Speed* (rev/min)	Torque Rating (Nm)		Moment of Inertia MR2 (kgm2)	Torsional Stiffness (Nm/o)	Maximum Misalignment		Mass (kg)
			Normal	Maximum			Parallel	Axial	
70	0.33	9100	31.5	72	0.00085	10.2	0.3	+0.20	1.00
90	0.84	7400	80	180	0.00115	25.5	0.3	+0.49	1.17
110	1.168	5630	160	360	0.00400	48.0	0.3	+0.61	5.00
130	3.30	4850	315	720	0.00780	84.0	0.4	+0.79	5.46
150	6.28	4200	600	1500	0.01810	176	0.4	+0.92	7.11
180	9.95	350	950	2350	0.04340	240	0.4	+1.09	16.60
230	20.9	2800	2000	5000	0.12068	336	0.5	+1.32	26.00
280	33.0	230	3150	7200	0.44653	960	0.5	+1.70	50.00

Maximum Coupling speeds are calculated using an allowable peripheral speed for hub material. For selection of smaller sizes with speeds in excess of 3600 rev/min - Power Transmission.

Mass is for Coupling with mid-range bore Taper Bushes.

For speeds below 100rpm or intermediate speeds use normal torque rating.

Every effort has been taken to ensure that the data listed in this catalogue is correct. Transdrive will not accept liability for any damage or loss caused as a result of the data in this catalogue.



Power Ratings (kW)

Speed rev/min	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	6.6	12.6	19.9	11.9	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	—	—	—

For speeds below 100 rev/min, and intermediate speeds, use normal torque ratings.