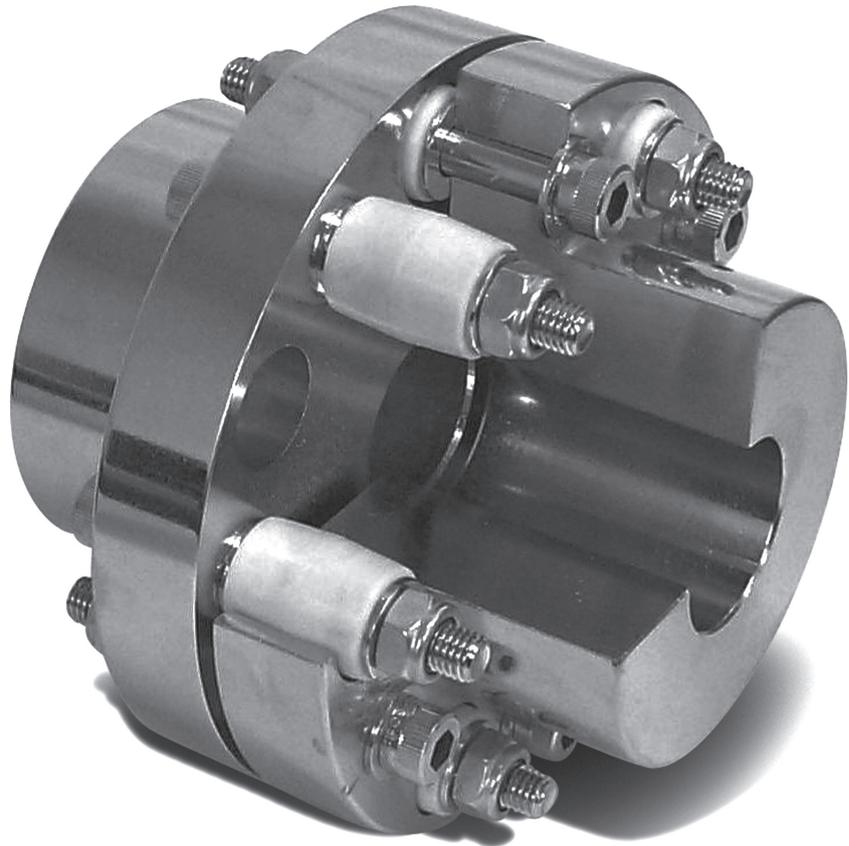


Eflex and Powerpin Flexible Couplings

Bibby Transmissions Flexible Couplings

- *Accepts parallel, angular and axial misalignment*
- *Torsionally flexible*
- *Simple assembly*
- *Wide range of standard designs*
- *No lubrication*
- *80 or 90 shore hardness close fitting elements*
- *Steel or cast iron hubs*
- *Horizontal or vertical operation*
- *Brake drum or disc and special designs available*
- *Parallel or Taper bore alternatives*



The Eflex and Powerpin range of couplings are non-lubricated flexible couplings capable of accepting parallel, angular and axial misalignment and can provide considerable torsional flexibility. The use of flexible elements of 80 or 90 Shore Hardness (90 Shore as standard) provide the couplings with a range of torsional stiffness characteristics. The ability of these elements to absorb shock and dampen vibration is due to the structure of the material and its behaviour when subjected to fluctuating loads. The couplings are therefore suitable for applications where shock or vibratory loads are encountered.

The flexible elements are always in contact with their mating components and due to their special design properties, they are able to accommodate a generous amount of misalignment even under shock load conditions.

Coupling flanges are supplied in steel up to and including size 380. Larger sizes are available in high grade cast iron, SG iron or alternatively steel.

Assembly of **Eflex** and **Powerpin** couplings is easily made with simple standard workshop tools (spanner and allen key). Routine maintenance consists of checking alignment periodically, with an occasional check on the wear of flexible elements. Changing elements takes a matter of minutes only.

Bibby Transmissions will always be pleased to provide further information. All enquiries on the couplings shown here and on other variations of **Eflex** or **Powerpin** should be accompanied with full details of application.

Where the static and dynamic stiffness is required for systems analysis, details are available on request.

Eflex only

For details of brake drum couplings.

Powerpin only

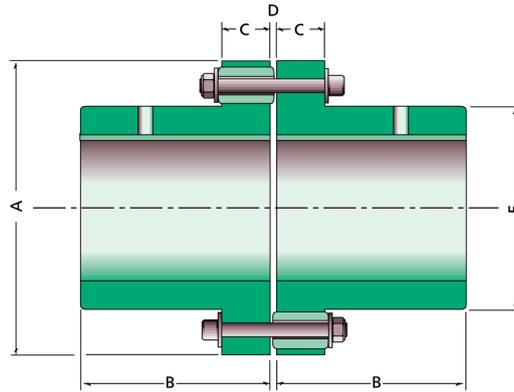
For details of Powerpin flexible couplings.

Spares Kits for Eflex Flexible Couplings

Size	Pin & Buffer Assembly	Buffer Assembly
72	NE070F1AK	NE07BAB
90	NES090F1AK	NE09BAB
125	NES125F1AK	NE12BAB
145	NES145F1AK	NE14BAB
165	NES145F1AK	NE14BAB
195	NES195F1AK	NE19BAB
240	NES240F1AK	NE24BAB
290	NES290F1AK	NE29BAB
320	NES290F1AK	NE29BAB
350	NES350F1AK	NE35BAB
380	NES350F1AK	NE35BAB
470	NE470F1AK	NE47BAB
510	NE510F1AK	NE51BAB
560	NE560F1AK	NE56BAB
630	NE630F1AK	NE63BAB
710	NE710F1AK	NE71BAB
760	NE710F1AK	NE71BAB
840	NE710F1AK	NE71BAB

Eflex Flexible Couplings

Bibby Transmissions Flexible Couplings



Please note: Ratings quoted are for couplings with the maximum number of pins and 90A Shore buffers.

Consult Bibby Transmissions for coupling ratings when fitted with 80A Shore Buffers.

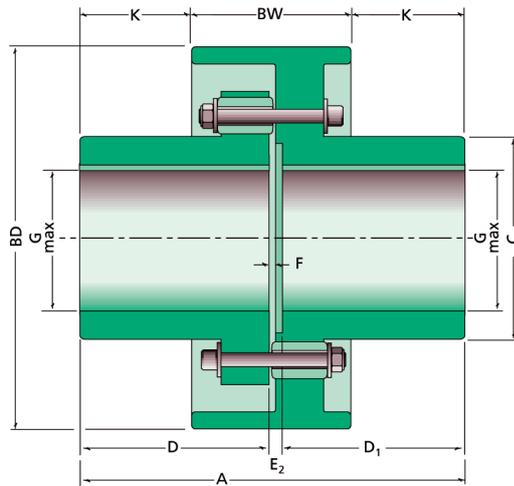
Ratings are reduced in ratio to the actual numbers of pins and buffers fitted. Preferred numbers per set are available from Bibby Transmissions.

Size	Coupling Rating Nm						Coupling Rating kW/rpm						Max rpm	Bore mm		Dimensions mm					Coupling Weight (Solid Hubs) kg	MR ² (Solid Hubs) kgm ²				
	F2	F3	F4	F6	F8	F9	F12	F16	F2	F3	F4	F6		F8	F9	F12	F16	①	Min	Max			A	B	C	D
72	25		50						0.0026		0.0052						5000	12	20	72	29	15	2	35	1.16	0.00065
90	81		162		325				0.0085		0.017		0.034				6000	16	35	90	40	17	3	48	2.53	0.002
125		225		450		675	900		0.0235		0.047		0.0705	0.094			5800	16	50	125	50	20	3	70	6.00	0.009
145		375		750		1125	1500		0.0392		0.0785		0.1178	0.157			5500	16	58	145	65	25	5	80	10.10	0.02
165		525		1050		1575	2100		0.055		0.11		0.165	0.220			4800	22	75	165	70	25	5	100	14.70	0.037
195		1050		2100		3150	4200		0.11		0.22		0.33	0.440			4400	32	90	195	90	30	5	120	27.13	0.09
240			2250		4500		6750	9000		0.235		0.471		0.706	0.942		3600	42	110	240	105	35	5	150	46.60	0.246
290				8500		12750	17000				0.889		1.334	1.779		3000	60	130	290	125	50	6	180	86.20	0.70	
320					11000		16500	22000			1.151		1.726	2.302		2600	70	150	320	151	50	6	210	124.30	1.17	
350						15000	22500	30000			1.57		2.355	3.140		2400	76	160	350	161	60	6	225	161.70	1.88	
380						18750	28125	37500			1.962		2.943	3.925		2200	80	180	380	181	60	6	245	206.40	2.73	
470						17200	25800	34400			1.801		2.701	3.602		1420	-	175	470	191	75	6	280	290.00	6.20	
510						25000	37500	50000			2.618		3.927	5.236		1300	-	200	510	211	75	6	320	380.00	9.20	
560						34000	51000	68000			3.560		5.341	7.121		1200	-	215	560	235	80	10	350	500.00	15.50	
630						48000	72000	96000			5.025		7.537	10.050		1000	-	240	630	265	90	10	395	714.00	26.00	

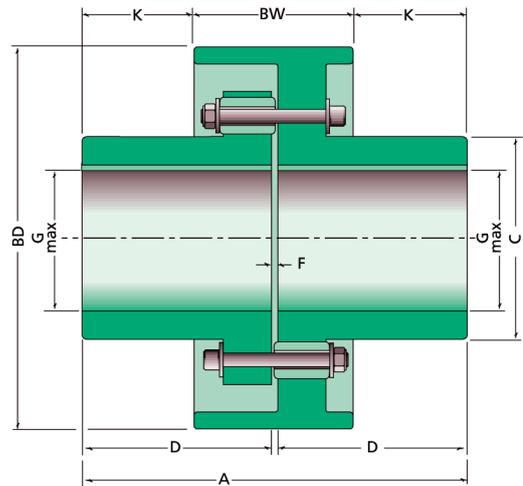
- ① Information relates to couplings with maximum number of pins and standard stiffness elements. Sizes up to 380 (excluding 72) have steel hubs, others can be offered in cast iron, SG iron or steel.
- ② Refer to Bibby Transmissions for limited end float or special designs.
- ③ Unless specified otherwise, hubs will be bored H7.
- ④ Axial restraint of the hub on the shaft should be provided by set screws when transition fits are specified.
- ⑤ All dimensions subject to confirmation.

Eflex Brake Drum Couplings

Bibby Transmissions Flexible Couplings



Coupling Size 90,125.



Coupling Size 145,165,195.

Standard sizes of brake drum couplings with inch and metric dimensioned drums are shown in the table below.

Larger and non-standard sizes of brake drums can be supplied. Please consult Bibby Transmissions.

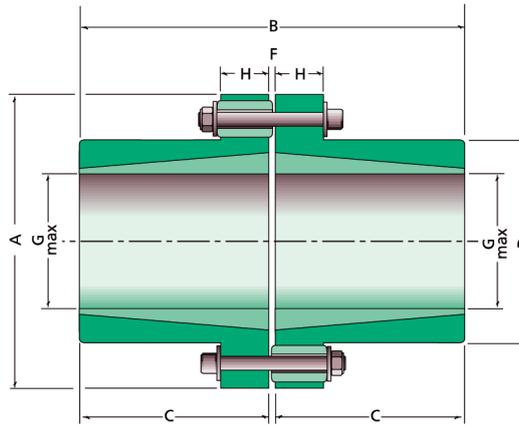
Standard Sizes

Coupling Size	A	BD	C	D1	D	E2	F	G Max Bore	K	BW	Weight* kg	MR ² * kgm ²	GD ² * kgm ²	Max rpm
90/B04	83	4"	48	37	40	6	3	28	14.5	2.13"	2.95	0.0032	0.0128	4750
125/B06	103	6"	70	47	50	6	3	42	102	3.25"	7.82	0.0200	0.0800	3600
145/B08	135	8"	80	65	65	-	5	50	13.5	4.25"	15.64	0.072	0.288	2850
165/B10	145	10"	100	70	70	-	5	60	9.0	5.00"	25.15	0.185	0.740	2250
195/B12	185	12"	120	90	90	-	5	75	22.5	5.50"	44.43	0.438	1.752	1850
90/B100	83	100	48	37	40	6	3	28	14.00	55	2.84	0.0030	0.012	4750
125/B160	103	160	70	47	50	6	3	42	10.75	82.5	9.50	0.0285	0.114	3600
145/B200	135	200	80	65	65	-	5	50	13.5	108	15.67	0.070	0.280	2850
165/B250	145	250	100	70	70	-	5	60	9.0	127	25.11	0.175	0.0700	2250
195/B315	185	315	120	90	90	-	5	75	22.5	140	48.22	0.544	2.176	1850

*Values are for couplings with no bore.

Powerpin Flexible Couplings

Bibby Transmissions Flexible Couplings



The use of readily available standard Taper Bushes to lock the Powerpin coupling flanges on to their respective shafts means they are ready for immediate service. The Taper Bushes enter the coupling hubs from the flange end of the hubs as standard. Hubs suitably machined to accept Taper Bushes from the reverse direction are available to order.

Coupling Size	No. of Pins	Coupling Rating		Bush Ref. No.	*Max Bore G	Max. Safe Speed rpm	Dimensions in mm						Ø Weight kg	Ø MR ² kgm ²	Ø GD ² kgm ²
		Nm	kW/rpm				A	B	C	D	F	H			
900/F6	6	228	0.0239	1008	25	4750	90	53	25	48	3	17	2.0	0.0018	0.0072
1250/F8	8	400	0.0419	1215	32	4500	125	83	40	70	3	20	5.2	0.0083	0.0332
1450/F8	8	680	0.0712	1815	42	4250	145	85	40	80	5	25	8.0	0.018	0.072
1650/F8	8	880	0.0922	2017	50	3750	185	99	47	100	5	25	11.4	0.032	0.128
1950/F8	8	1600	0.1676	2525	60	3400	195	135	65	120	5	30	20.7	0.078	0.312
2400/F12	12	3780	0.3959	3030	75	2750	240	165	80	150	5	35	37.7	0.212	0.848
2900/F12	12	7500	0.7854	3535	90	2300	290	188	91	180	8	50	68.4	0.602	2.408
3200/F12	12	10200	1.0682	4040	100	2000	320	216	105	210	6	50	93.7	0.964	3.856
3500/F12	12	14520	1.5206	4545	110	1900	350	246	120	225	6	60	127.7	1.600	6.400
3800/F12	12	18300	1.9164	5050	125	1750	380	266	130	245	6	60	158.7	2.282	9.128

*Taper Bushes at maximum bore have keyways shallower than standard.

Ø Values are for couplings with no bore.

Coupling Selection Procedure

Information Required

- Type of Prime Mover
- Kilowatt (kW) or Torque Rating
- Rotational speed rpm
- What application the coupling is to be used on
- Type of duty (eg. reversing or unidirectional, frequency of starts and peak torques)
- Diameter of drive and driven shafts
- Any limitation of axial travel
- Any other physical limitations
- Any other specific needs

Note: Where high peak loads can occur and for brake applications please contact Bibby Transmissions.

- The system peak torque is the maximum load created by the driving or driven equipment.
- Occasional peak torques of twice the catalogue rating can be accommodated providing they occur less than 1000 times during the life of the coupling.
- For drives where the operation is near or actually passes through a major torsional natural frequency, a mass elastic analysis of the system is advised. When the Service Factor in Table 1 is greater than 2 consult your supplier or Bibby Transmissions.

Table 2

Number of Cylinders	Service Factor
6 and over	0.5 + S.F. Table 1
4 or less	1.0 + S.F. Table 1
Less than 4 Refer to Bibby Transmissions	

Table 1 – Service Factors

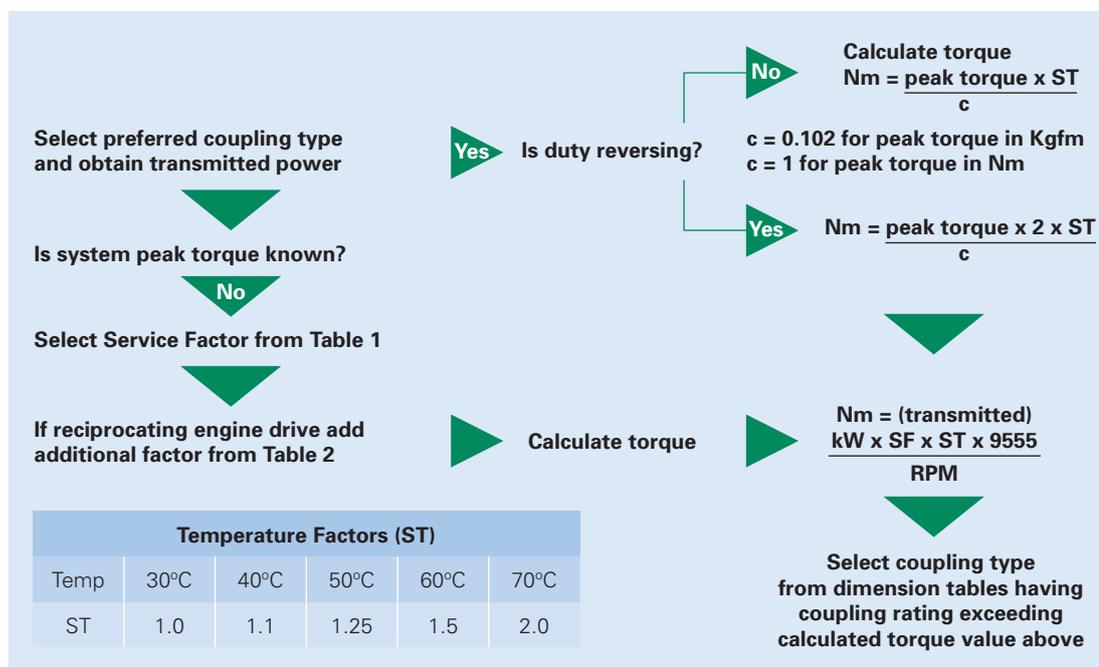
Complimentary to customers specialist knowledge of their own equipment

Torque Demands Driven Machine	Typical applications for electric motor or turbine driven equipment	Typical Service Factor
	Constant Torque such as Centrifugal Pumps, Blowers and Compressors	1
	Continuous duty with some torque variations including Extruders, Forced Draft Fans	1.5
	Light shock loads such as Briquetting Machine, Rubber Calendar or Crane and Hoist	2
	Moderate shock loading as expected from a Car Dumper, Ball Mill or Vibrating Screen	2.5
	Heavy shock load with some negative torques from Crushers, Hammer Mill and Barking Drum	3
	Applications like Reciprocating Compressors with frequent torque reversals, which do not necessarily cause reverse rotations	Consult Bibby Transmissions

Table 3

Maximum Coupling Bore Sizes		
Duty Class	Load Classification	Max. Bore Size
Uniform	Steady load, soft start, very rarely subjected to maximum loading	Catalogue Maximum Bore
Medium	Steady load with superimposed cyclic load fluctuations	<u>Boss Diameter</u> 1.45
Heavy	Repeated maximum load fluctuations/ shock loads	<u>Boss Diameter</u> 1.5
Extra Heavy	Regularly subjected to fully reversing maximum loads	<u>Boss Diameter</u> 1.6

Bibby Coupling Selection (If in doubt please consult your supplier)



Having selected the coupling type and size, now check the following.

- that the coupling running speed is lower than the permitted maximum.
- that the shaft spacing and coupling dimensions can be accommodated.
- that the maximum bore is suitable for the shaft. (If not, go to next size above and check again).
- acceptability of key stresses and boss strength for your specific duty. Refer to Table 3.