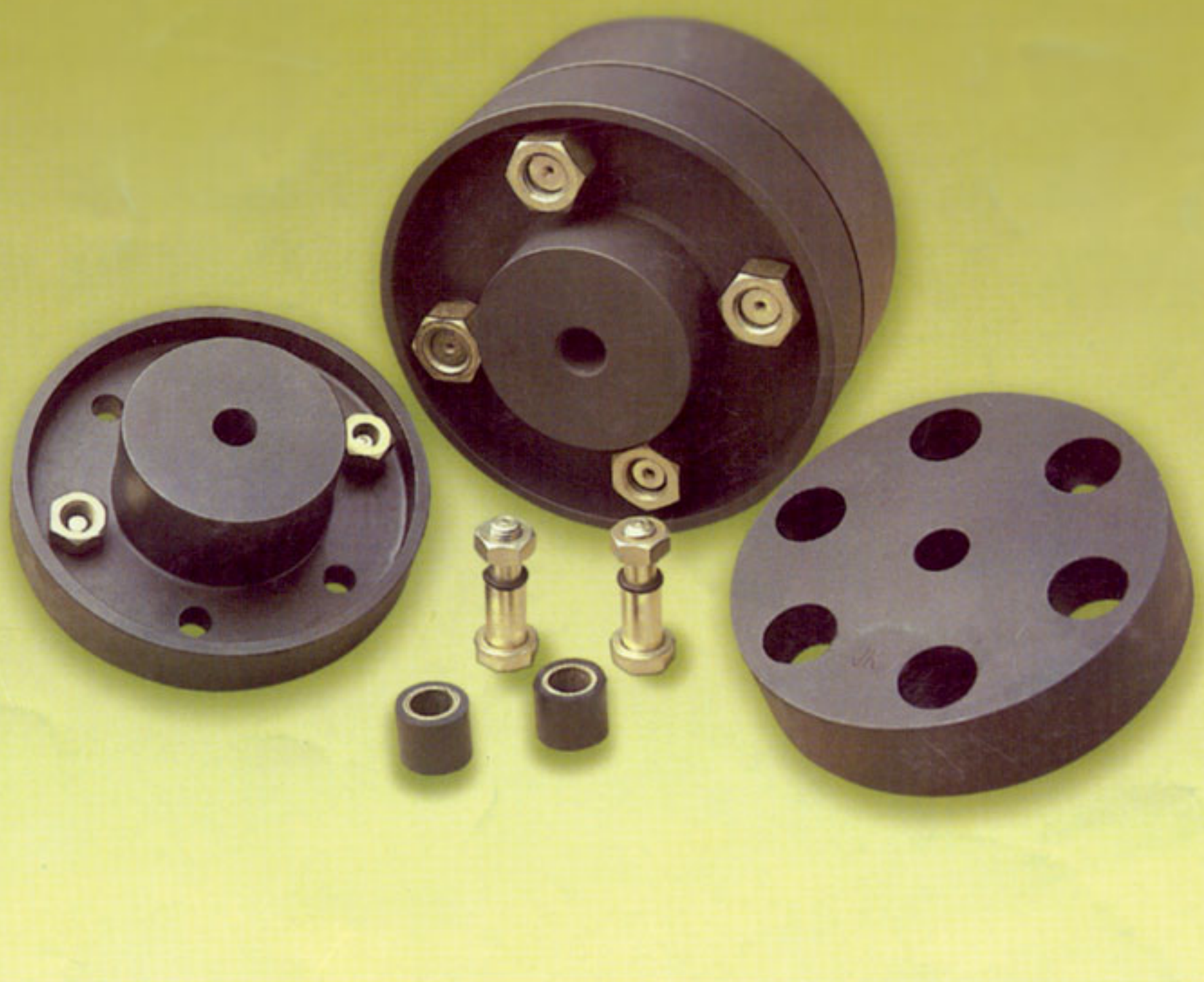
Fenner Bush Type Flexible Couplings



Fenner

POWERTRAN

BUSH TYPE FLEXIBLE COUPLING SELECTION

The function of a flexible coupling is to transmit torque from one shaft to another in cases where limited misalignment may occur and also to absorb shock loads.

The Fenner Bush Type Flexible Coupling of the cushioned drive type, transmits the torque through high tensile steel bolts to the machine input shaft. Highly developed rubber compounds are used in bushes to absorb shock loads, torsional vibrations and slight misalignments.

Simple and compact in construction, the Fenner Coupling is capable of transmitting high torques at maximum speeds. The flanges are manufactured with cast iron, grade 20 of IS. 210. This type of coupling permits drive in either direction and requires neither lubrication nor adjustment after fitting. The flexible bushes remain unaffected by water, dust and atmospheric conditions.

Machines which are to be coupled by flexible couplings should first be aligned with all possible accuracy. The capacity of the coupling will then deal with misalignments which occur by reason of temperature variations or heavy shaft loading. Setting of machine foundations or bearing wear will also cause extra loading to be imposed on the coupling. Any, or all of these conditions can occur once the machines have been coupled.

Flanges are bored to suit requirements and are keywayed to British Standard Specification, unless otherwise stated. They can also be supplied with the listed minimum bore to permit machining on site.

Power requirements for the standard couplings range from 0.81 Kw to 249 Kw at 100 r.p.m. and sizes from BC1 to NBC11

Details required for coupling selection are :

1. Type of driven machine and operating hours per day.
2. Speed and power absorbed by driven machine (If absorbed power is not known, it is calculated based on power rating of the prime mover).
3. Diameter of shafts to be connected.

PROCEDURE :

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 the Design Power which is used as a basis for selecting the coupling.

c) **Coupling Size** : Refer to Table 3 and from the appropriate speed, read across until a power greater than that required in step (b) is found. The size of coupling required is given at the head of that column.

d) **Bore Size** : Check from dimension in Table 2, whether the chosen flanges can accommodate the required bores.

TABLE 1 : SERVICE FACTORS	PRIME MOVER				
DRIVEN MACHINE	**Electric Motor Steam Trubine Shafting**	**Steam Engine Water Turbine**	**IC Engine Multi-Cylinder**	**IC Engine Single Cylinder Diesel Multi-Cylinder**	**Diesel Engine Single Cylinder**
Even Torque Machines; Smooth Loads, Generators; Centrifugal Pumps; Blowers; Small Fans; Line Shafting.	1.00	1.25	1.50	2.00	2.50
Machine Tools (light); Beaters; Exhausters; Wood-working Machines (light); Alternators; Welding Generators; Textile Machines.	1.25	1.50	1.75	2.25	2.75
Multi-Crank Compressors and Pumps; Generators (fluctuating loads); Rotary Dryers & Screens; Rotary Compressors; Planers; Wood-Working Machines (heavy); Pulp Grinders; Shakers; Mine Fans	1.50	1.75	2.00	2.75	3.00
Wire Mills; Cement Mills; Small Printing Presses.	1.75	2.00	2.25	3.00	3.25
Single Crank Compressors & Pumps; Hammers; Ball & Tube Mills; Rolling Mills (light); Shearing Machines; Punches; Rock& Stone Crushers; Brick Making and similar Machines; Printing Presses (large); Grinders; Pulverisors; Cranes & Winches; Mechanical Shovels & Dredges; Winding Gears and Drums.	2.00	2.25	2.50	3.25	3.50
Heavy Rolling Mill Drives; Continuous, Prolonged & Reversing Drives; Severe Traction and Haulage Loads.	2.25	2.50	2.75	3.50	3.75

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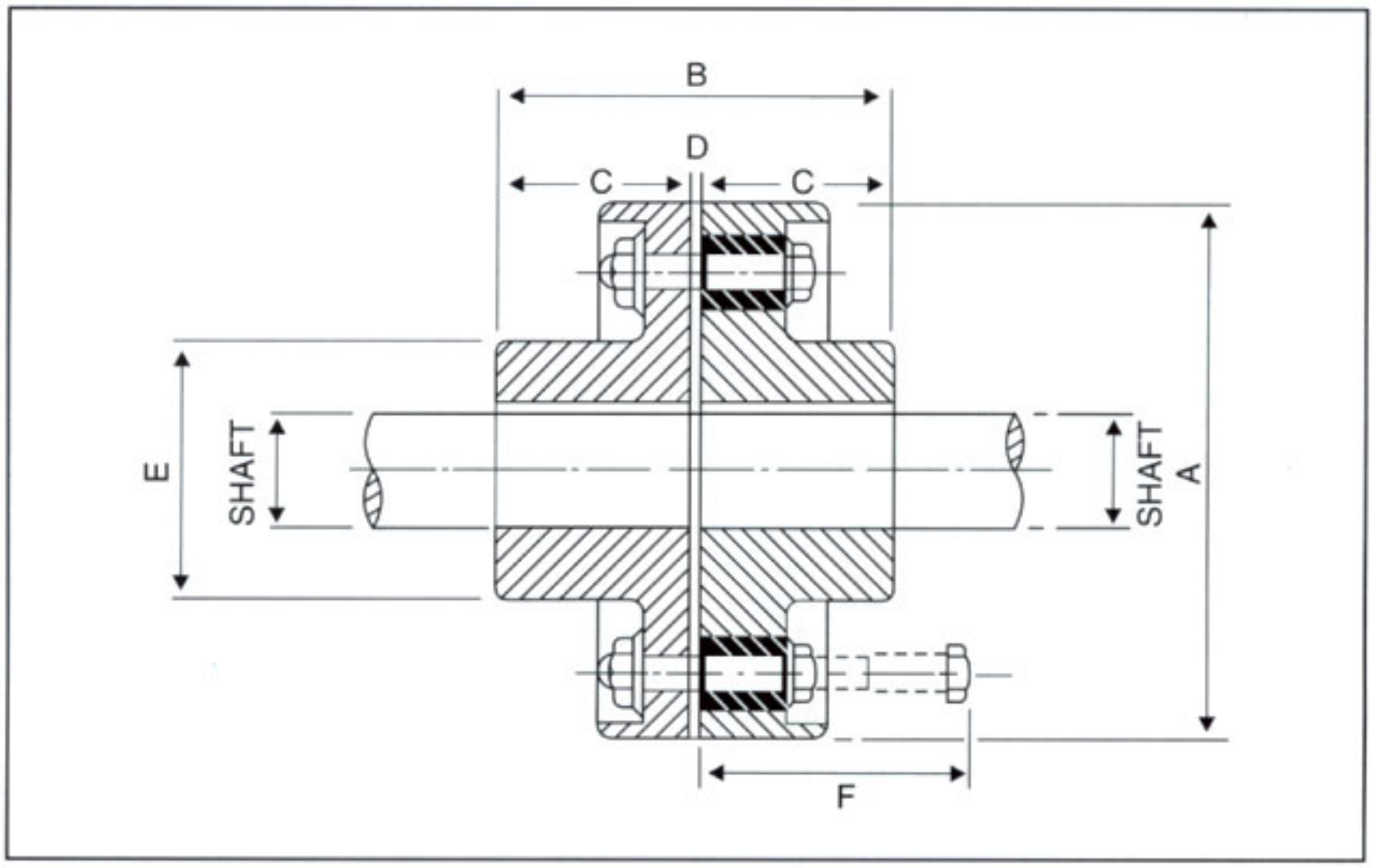

TABLE 2 : DIMENSIONS

Size	No. of Pins	Torque Nm	Min. Bore (mm)	Max. Bore (mm)	Max. Speed rev/min	A	B	C	D	E	F
BC1	3	77	12.7	28	6100	95	79	38	3	40	58
BC2	4	310	12.7	30	5100	114	99	48	3	42	70
BC2A	6	516	16	42	4400	130	105	51	3	60	70
BC3	4	621	16	48	3600	160	107	51	5	68	114
BC4	4	831	20	65	3000	191	125	60	5	90	114
BC4A	6	1241									
BC5	6	1662	25	75	2600	225	157	76	5	105	114
BC6	8	2359	45	95	2300	254	183	89	5	135	114
BC6A	10	2932									
BC6B	12	3533									
NBC7	12	4154	60	115	1950	290	235	115	5	170	114
NBC7A	14	5195	60	120	1900	300	235	115	5	180	130
NBC8	16	5816	65	130	1850	310	255	125	5	195	130
NBC8A	18	7268	65	135	1650	340	265	130	5	200	130
NBC8B	12	8729	70	140	1590	360	276	135	6	210	200
NBC9	13	9932	80	150	1470	390	316	155	6	225	200
NBC9A	15	13274	90	160	1400	410	336	165	6	240	200
NBC10	16	14420	100	170	1300	440	366	180	6	255	200
NBC10A	17	18050	110	180	1200	480	386	190	6	270	212
NBC11	20	23780	120	190	1080	530	406	200	6	285	212

All dimensions are subject to alteration without notice

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TABLE 3 : POWER RATINGS (Kw)

Speed rev/min	COUPLING SIZES																			
	BC1	BC2	BC2A	BC3	BC4	BC4A	BC5	BC6	BC6A	BC6B	NBC7	NBC7A	NBC8	NBC8A	NBC8B	NBC9	NBC9A	NBC10	NBC10A	NBC11
100	0.81	3.25	5.4	6.5	8.7	13	17.4	24.7	30.7	37	43.5	54.4	60.9	76.1	91.4	104	139	151	189	249
200	1.62	6.5	10.8	13	17.4	26	34.8	49.4	61.4	74	87	108.8	121.8	152.2	182.8	208	278	302	378	498
300	2.43	9.75	16.2	19.5	26.1	39	52.2	74.1	92.1	111	130.5	163.2	182.7	228.3	274.2	312	417	453	567	747
400	3.24	13	21.6	26	34.8	52	69.6	98.8	122.8	148	174	217.6	243.6	304.4	365.6	416	556	604	756	996
500	4.05	16.25	27	32.5	43.5	65	87	123.5	153.5	185	217.5	272	304.5	380.5	457	520	695	755	945	1245
600	4.86	19.5	32.4	39	52.2	78	104.2	148.2	184.2	222	261	326.4	365.4	456.6	548.4	624	834	906	1134	1494
700	5.67	22.75	37.8	45.5	60.9	91	121.8	172.9	214.9	259	304.5	380.8	426.3	532.7	639.8	728	973	1057	1323	1743
720	5.83	23.4	38.9	46.8	62.6	93.6	125.3	177.8	221	266.4	313.2	391.7	438.5	547.9	658	749	1001	1087	1361	1793
800	6.48	26	43.2	52	69.6	104	139.2	197.6	245.6	296	348	435.2	487.2	608.8	731.2	832	1112	1208	1512	1992
900	7.29	29.25	48.6	58.5	78.3	117	156.6	223.3	276	333	391.5	489.6	548.1	684.9	822.6	936	1251	1359	1701	2241
960	7.77	31.2	51.8	62.4	83.5	124.8	167	237.1	294.7	355.2	417.6	522.2	584.6	730.6	877.4	998	1334	1450	1814	2390
1000	8.1	32.5	54	65	87	130	174	247	307	370	435	544	609	761	914	1040	1390	1510	1890	2490
1200	9.72	39	64.8	78	104.4	156	208.8	296.4	368.4	444	522	652.8	730.8	913.2	1097	1248	1668	1812	2268	
1400	11.34	45.5	75.6	91	121.8	182	243.6	345.8	429.8	518	609	761.6	852.6	1065	1280					
1440	11.66	46.8	77.8	93.6	125.3	187.2	250.6	355.7	442	532.8	626.4	783.4	877	1096	1316					
1600	12.96	52	86.4	104	139.2	208	278.4	395.2	491	592	696	870.4	974.4	1218	1462					
1800	14.58	58.5	97.2	117	156.6	234	313.2	444.6	552.6	666	783	979.2								
2000	16.2	65	108	130	174	260	348	494	614	740										
2200	17.82	71.5	118.8	143	191.4	286	382.8	543.4	675.4	814										
2400	19.44	78	129.6	156	208.8	312	417.6													
2600	21.06	84.5	140.4	169	226.2	338	452.4													
2800	22.68	91	151.2	182	243.6	364														
2880	23.33	93.6	155.5	187.2	250.6	374.4														
3000	24.3	97.5	162	195	261	390														
3500	28.35	113.75	189	260																
4000	32.4	130	216																	
4500	36.45	146.25																		