

# Fenner



Bush Type  
Couplings

## Bush Type Flexible Couplings

08

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.

08-01

# F Fenner Bush Type Flexible Couplings

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, Gust 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 board 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 FBC1 to FBC11.

## Coupling Selection:

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 08-01.
- 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 08-03 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 08-02, whether the chosen flanges can accommodate the required bores.

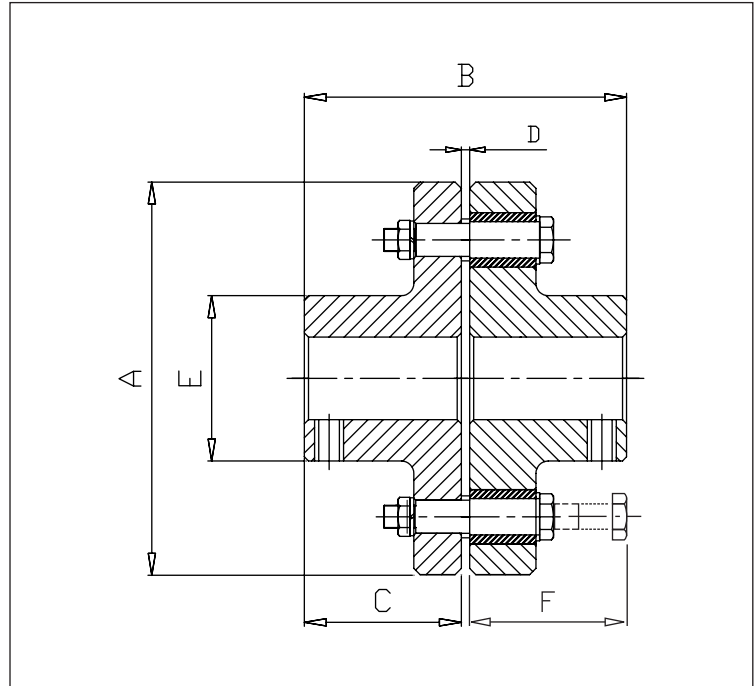
**Table 08-01: Service Factors**

Driven Machine	Prime Mover				
	Electric Motor Steam Turbine 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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### Notes:

- All dimensions are in millimeters.
- Simple maintenance. No lubrication required.
- Accommodate larger bore diameters.
- Dampens the shock and vibration.
- Grub screw is provided on the hub for locking of key in finish bore couplings.
- Standard range is available with cast iron flanges.
- For special application, we can provide forged steel flanges.
- It is recommended to use coupling guard for better safety.



**Table 08-02: Dimensions**

Coupling Size	Torque Nm	Max.Speed (RPM)	Bore Dia MIN	Bore Dia MAX	QTY N	A	B	C	D	E	F
FBC 1	77	6100	12.7	30	3	95	79	38	3	44	58
FBC 2	310	5100	12.7	35	4	114	99	48	3	51	70
FBC 2A	516	4400	16	45	6	130	105	51	3	67	70
FBC 3	621	3600	16	50	4	160	107	51	5	75	114
FBC 4	831	3000	20	70	4	191	125	60	5	105	114
FBC 4A	1241	3000	20	70	6	191	125	60	5	105	114
FBC 5	1662	2600	25	80	6	225	157	76	5	115	114
FBC 6	2359	2300	45	100	8	254	183	89	5	140	114
FBC 6A	2932	2300	45	100	10	254	183	89	5	140	114
FBC 6B	3533	2300	45	100	12	254	183	89	5	140	114
FBC 7	4154	1950	55	120	12	290	235	115	5	175	114
FBC 7A	5195	1900	55	125	14	300	235	115	5	185	130
FBC 8	5816	1850	60	135	16	310	255	125	5	200	130
FBC 8A	7268	1650	60	138	18	340	265	130	5	205	130
FBC 8B	8729	1590	65	142	12	360	276	135	6	212	200
FBC 9	9932	1470	70	152	13	390	316	155	6	225	200
FBC 9A	13274	1400	80	162	15	410	336	165	6	240	200
FBC 10	14420	1300	90	175	16	440	366	180	6	255	200
FBC 10A	18050	1200	100	185	17	480	386	190	6	270	212
FBC 11	23780	1080	110	195	20	530	406	200	6	285	212



# Fenner Bush Type Flexible Couplings - New Series

**Table 08-03: Power Rating (Kw)**

Speed rev/min	Coupling Sizes																			
	FBC1	FBC2	FBC2A	FBC3	FBC4	FBC4A	FBC5	FBC6	FBC6A	FBC6B	FBC7	FBC7A	FBC8	FBC8A	FBC8B	FBC9	FBC9A	FBC10	FBC10A	FBC11
100	0.81	3.25	5.4	6.5	8.7	13.0	17.4	24.7	30.7	37.0	43.0	54.4	60.9	76.1	91.4	104	139	151	189	240
200	1.62	6.5	10.8	13.00	17.40	26.0	34.8	49.4	61.4	74.0	87.0	108.8	121.8	152.2	182.8	208	278	302	378	498
300	2.43	9.75	16.2	19.50	26.10	39.0	52.2	74.1	92.1	111.0	130.5	163.2	182.7	228.3	274.2	312	417	453	567	747
400	3.24	13.0	21.6	26.00	34.80	52.0	69.6	98.8	122.8	148.0	174.0	217.6	243.6	304.4	365.6	416	556	604	756	996
500	4.05	16.25	27.0	32.50	43.50	65.0	87.0	123.5	153.5	185.0	217.5	272.0	304.5	380.5	457.0	520	695	755	945	1245
600	4.86	19.50	32.4	39.00	52.20	78.0	104.2	148.2	184.2	222.0	261.0	326.4	365.4	456.6	548.4	624	834	906	1134	1494
700	5.67	22.75	37.8	45.50	60.90	91.0	121.8	172.9	214.9	259.0	304.5	380.8	426.3	532.7	639.8	728	973	1057	1323	1743
720	5.83	23.40	38.9	46.80	62.60	93.6	125.3	177.8	221.0	266.4	313.2	391.7	438.5	547.9	658.0	749	1001	1087	1361	1793
800	6.48	26.0	43.2	52.00	69.60	104.0	139.2	197.6	245.6	296.0	348.0	435.2	487.2	608.8	731.2	832	1112	1208	1512	1992
900	7.29	29.25	48.6	58.50	78.30	117.0	156.6	223.3	276.0	333.0	391.5	489.6	548.1	684.9	822.6	936	1251	1359	1701	2241
960	7.77	31.2	51.8	62.40	83.50	124.8	167.0	237.1	294.7	355.2	417.6	522.2	584.6	730.6	877.4	998	1334	1450	1814	2390
1000	8.10	32.5	54.0	65.00	87.00	130.0	174.0	247.0	307.0	370.0	435.0	544.0	609.0	761.0	914.0	1040	1390	1510	1890	2490
1200	9.72	39.0	64.8	78.00	104.40	156.0	208.8	296.4	368.4	444.0	522.0	652.8	730.8	913.2	1097	1248	1668	1812	2268	
1400	11.34	45.5	75.6	91.00	121.80	182.0	243.6	345.8	429.8	518.0	609.0	761.6	852.6	1065	1280					
1440	11.66	46.8	77.8	93.60	125.30	187.2	250.6	355.7	442.0	532.8	626.4	783.4	877.0	1096	1316					
1600	12.96	52.00	86.4	104.00	139.20	208.0	278.4	395.2	491.0	592.0	696.0	870.4	974.4	1218	1462					
1800	14.58	58.50	97.2	117.00	156.60	234.0	313.2	444.6	552.6	666.0	783.0	979.2								
2000	16.2	65.00	108.0	130.00	174.00	260.0	348.0	494.0	614.0	740.0										
2200	17.82	71.50	118.8	143.00	191.40	286.0	382.8	543.4	675.4	814.0										
2400	19.44	78.00	129.60	156.00	208.80	312.0	417.6													
2600	21.06	84.50	140.40	169.00	226.20	338.0	452.4													
2800	22.68	91.00	151.20	182.00	243.60	364.0														
2880	23.33	93.60	155.50	187.20	250.60	374.4														
3000	24.30	97.50	162.00	195.00	261.00	390.0														
3500	28.35	113.75	189.00	260.00																
4000	32.40	130.00	216.00																	
4500	36.45	146.25																		