

EF_GC Series



Gear Couplings

ENGINEERING MOTION FOR BETTER TOMORROW



Gear Couplings





JK Fenner Curved Tooth Flexible Gear Couplings are the result of many years of experience in the field of Mechanical Power Transmission.

These Gear Couplings are distinguished by their mechanical flexibility and compensation of Angular, Parallel and Axial misalignments of the connected shafts. They are made for extensive use in Metal Rolling Mills, Paper Machinery, Cranes, Dredgers, Rubber and Plastic Industries, Cement Plants, Conveyors and Elevators, Compressors, Fans and Blowers, Screens and other general industries.



Flexible Gear Couplings basically consist of two hubs, with crowned external teeth and two outer sleeves with internal spur teeth.

Gear Hubs and the outer sleeves are manufactured from carbon steel and are hardened to the required degree. They are machined to fine tolerances for proper meshing of the gears as well as for interchangeability.

HUBS: The teeth of Gear Hubs are crowned and are generated by involute system. The amount of crowning and backlash values are so chosen as to ensure the best results in torque transmission, greater flexibility and smooth operations.

SLEEVES: The internal teeth of the sleeves are generated to ensure correct profile. The coupling sleeves are joined together with high tensile steel bolts (class 8.8 IS : 1367) fitted using a gasket in between them.

'O' RINGS : The setting of special 'O' Rings at the ends of coupling hubs prevents leakage of lubricants and entry of dust. The 'O' rings can also withstand high degree of temperature upto 120° C

SEAL CARRIERS : Seal carriers have been provided for sizes from EF_GC 12 to EF_GC 19 to facilitate inspection and replacement of O'rings without disturbing the alignment.

POWER RATINGS : The normal power ratings are given in the Table. For selection of the correct size of couplings, proper service factor depending on the type of machines and the peak load should be considered.

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SERVICE FACTOR : Generally, for medium duty use a service factor of 1.5. For heavy duty use a factor of 2 and for extra heavy duty a factor of 3 should be used. **For special applications please contact JKFenner with full details.**

LUBRICATION: The coupling must be filled with grease or oil. It is recommended to use grease where the maximum temperature is within 80°C and for temperature above 80°C, oil should be used. When using grease it is suggested to fill the coupling completely with Lithium based grease with EP additives (NLGI-No.1 consistency). When the coupling is to be filled with oil, fill half the coupling with EP Gear Oil.

RECOMMENDATION FOR GREASE & OIL:

- Grease: Indian Oil Servogem EP 1 or equivalent
- Oil: Indian Oil Servomesh SP 680 or equivalent

SELECTION OF THE COUPLINGS: The following details are required for selection of the coupling:

- 1. Type of driven machine.
- 2. Power absorbed by the driven machine and Peakload.
- 3. Speed and Diameter of the connecting shafts and space available for accommodating the coupling.





- 4. Maximum misalignment to be compensated.
- 5. Surrounding temperature.
- 6. Any other special feature of the drive.

Example : A gear coupling is required to transmit 250 KW from an Electric Motor running at 730 rev/min to a Pulper Machine. Considering the peak load as 180% of full load, the Motor shaft as 100 mm and the Pulper shaft as 110 mm, select a suitable gear coupling.

a) Service factor : 2 (for heavy duty application)

b) Peak load : 180% of full load.

c) Design power: $250 \times 180/100 \times 2 = 900$

KW

- d) Power to be transmitted at 100 rev/min : 900 x 100 / 730 = 123.3 KW
- e) Coupling size : By referring to the Table, coupling size EF_GC 5, has got a rating of 168 KW at 100 rev/min which exceeds the required power of 123.3KW. The bore range is selected for the application.



EF_GC Series GA

Size 1 to 11

Couplings Size 12 to 19



Table:01

Coupling Size	Power @ 100 rpm (kW)	Continuous Torque (Nm)	Bore Range (mm)				Dimensions (mm)								
			Min	Max	PB	Max in Rigid	A	В	D	E	F	G	G1	Н	J
EFGC 1	14	1350	15	45	12	55	113	93	14	45	3	66	78	80	74
EFGC 2	30	2850	20	60	18	75	144	105	19	51	3	86	101	104	84
EFGC 3	53	5060	30	75	28	95	174	130	18	63.5	3	105	126	130	105
EFGC 4	105	10000	35	95	32	110	212	160	22	77.5	5	129	152	156	123
EFGC 5	168	16050	40	110	36	130	234	185	22	90	5	151	178	181	148
EFGC 6	231	22010	55	130	52	155	274	216	29	105	6	178	208	209	172
EFGC 7	336	32064	65	155	60	180	312	246	29	120	6	213	245	247	193
EFGC 8	472	45072	80	175	75	200	337	278	29	135	8	235	271	273	215
EFGC 9	650	62078	90	195	85	230	380	308	38	150	8	263	306	307	240
EFGC 10	880	84100	100	215	95	240	405	358	38	175	8	286	330	338	279
EFGC 11	1125	115000	115	235	110	260	455	400	35	195	10	315	376	382	304
EFGC 12	1700	174000	150	275	140	300	520	450	28	220	10	370	430	440	415
EFGC 13	2600	275000	180	280	170	315	560	540	30	265	10	395	470	494	427
EFGC 14	3980	380090	200	355	190	380	690	576	35	280	16	465	555	565	478
EFGC 15	4713	450092	230	385	220	415	735	636	35	310	16	500	595	605	554
EFGC 16	6000	573000	260	450	250	480	820	696	42	340	16	574	670	685	616
EFGC 17	7900	754450	290	480	280	530	895	776	42	380	16	610	745	755	653
EFGC 18	9424	899992	320	515	310	550	925	840	45	410	20	670	775	785	660
EFGC 19	11600	1107800	330	540	320	580	995	925	55	450	25	710	830	840	825

* All dimensions are subject to alteration without notice



Note: Custom built Gear Spacer Couplings and Torsion Shaft Gear Couplings are also manufactured & supplied as per requirements. Please contact JK Fenner with all details.

Gear Couplings



Coupling	Max	No	Size	Maximu	um Misali	gnment	Approx W	/eight (Kg)	Moment	Amount of	
Size	Speed (RPM)	of Bolts	of Bolts	Parallel (mm)	Axial (mm)	Angular	Full Flex	Half Flex	of Inertia (Kgm2)	Kg. Ltr.	
EFGC 1	7000	6	M8x38	±0.4	±0.5	1.5°	4.5	4.4	0.005	0.21	0.17
EFGC 2	6200	6	M10x50	±0.4	±0.5	1.5°	8.5	8.6	0.015	0.5	0.4
EFGC 3	5650	6	M12x55	±0.8	±0.5	1.5°	15	14.9	0.040	0.8	0.6
EFGC 4	5100	6	M16x65	±0.8	±0.5	1.5°	27	26.8	0.103	1.0	0.7
EFGC 5	4700	8	M16x65	±1.0	±0.5	1.5°	37.8	38.4	0.189	1.5	1.4
EFGC 6	4350	8	M20x85	±1.0	±1.0	1.5°	60.8	63.7	0.430	2.5	2.0
EFGC 7	4000	8	M20x85	±1.2	±1.0	1.5°	90.7	95.7	0.844	3.6	3.1
EFGC 8	3800	10	M20x85	±1.2	±1.0	1.5°	118.7	124.8	1.320	4.0	4.1
EFGC 9	3600	10	M20x105	±1.3	±1.0	1.5°	168.6	177	2.451	5.5	4.9
EFGC 10	3450	14	M20x105	±1.5	±1.0	1.5°	230	236	3.722	7.5	7.3
EFGC 11	3300	14	M20x105	±1.5	±1.0	1.5°	312	320	6.11	11	11
EFGC 12	3050	14	M24x85	±1.5	±1.0	1.5°	443	455	11.82	13	15
EFGC 13	1900	16	M24x90	±1.5	±1.0	1.5°	590	605	16.56	14	18
EFGC 14	1400	16	M30x110	±1.5	±1.0	1.5°	886	865	39.27	23	22
EFGC 15	1395	18	M30x110	±1.5	±1.0	1.5°	1123	1115	57.84	37	31
EFGC 16	1200	18	M36x130	±1.5	±1.0	1.5°	1570	1551	102.65	50	45
EFGC 17	1000	20	M36x130	±1.5	±1.0	1.5°	2122	2060	171.76	51	61
EFGC 18	940	20	M36x130	±1.5	±1.0	1.5°	2390	2257	210.65	49	59
EFGC 19	900	22	M36x150	±1.5	±1.0	1.5°	3170	3150	324.12	54	62

* All dimensions are subject to alteration without notice

MISALIGNMENT:

The crowning of the teeth allows the coupling to withstand angular misalignment upto a maximum of 1.5° per gear mesh. The coupling can also absorb axial displacement of the shafts upto a maximum of 2 mm.





Gear Couplings



PRODUCT RANGE



Industrial Automation Product Range

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