

# Lakshmi Gear Couplings

Lakshmi Curved Tooth Flexible Gear Couplings are the result of several years of experience in the field of manufacturing of Mechanical Power Transmission.

Lakshmi Couplings are distinguished by their mechanical flexibility and compensation of Angular, Parallel and Axial misalignment of the connected shafts are used in Metal Rolling Mills, Paper Machinery, Cranes, Dredgers, Rubber, Plastic industries, Cement Plants, Conveyors, Elevators, compressors, Fans, Blowers, Screens and other general industries. Flexible Gear couplings basically consist of 2 hubs, with crowned external teeth and 2 outer sleeves with internal spur teeth formed by gear shaper M/C

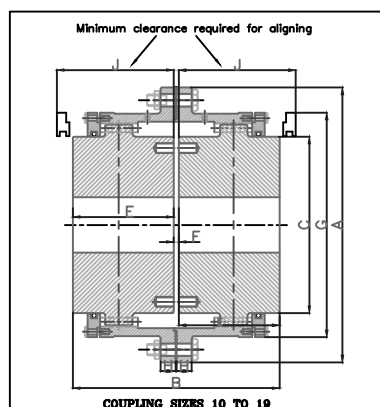
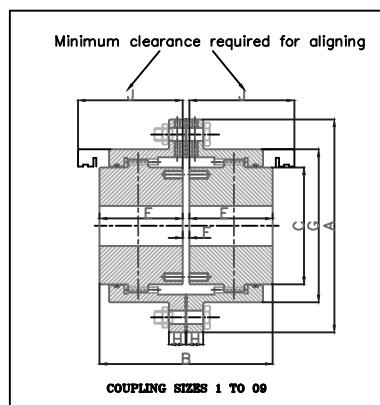
Gear Hubs and the outer sleeves are manufactured from carbon steel and are hardened to the required degree. They are machined to fine tolerances for proper meshing of the gears as well as for inter-changeability.

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

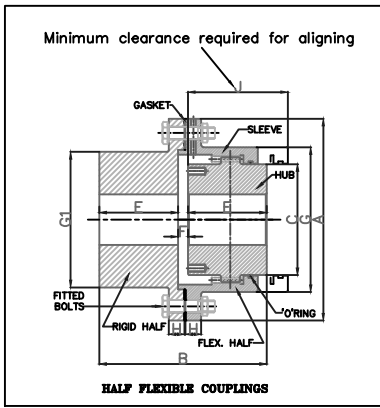
The internal teeth of the sleeves are generated on gear shaper to ensure correct profile. The coupling sleeves are joined together with high tensile steel bolts fitted using a gasket in between them.

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 stand high degree of temperature upto 120°C.

Seal carries have been provided for sizes from LGC 10 to LGC 19 facilities inspection and replacement of 'o'rings without disturbing alignment.



SIZE	Power/ 100rpm in KW	Torque in NM	Max. bore	Max. Speed RPM	Dimensions MM										Weight		GD2 kg m <sup>2</sup> .	Clamping Bolt size	No. of Bolts	Weight Kg.
					A	B	H	E	F	C	G1	G	J	in kgs	kg m <sup>2</sup> .					
LGC-0	6	495	35	8000	116	93	14	45	3	50	70	76	45	4.2	0.09	M6X40	6	0.2		
LGC-1	11.5	1100	50	6700	170	115	17	55	5	65	90	110	65	11	0.15	M12X50	6	0.3		
LGC-2	28.5	2720	60	6100	185	145	17	70	5	85	110	125	85	16	0.25	M12X50	6	0.4		
LGC-3	51.5	4920	75	5200	220	175	20	85	5	105	130	150	105	26	0.46	M16X60	6	0.8		
LGC-4	96.5	9220	90	4500	250	215	20	105	5	130	160	175	125	41	1.1	M16X60	8	1.0		
LGC-5	150	14320	110	3950	290	230	25	110	10	155	185	200	140	63	1.94	M20X75	8	1.8		
LGC-6	230	21960	125	3500	320	260	25	125	10	175	215	235	155	86	3.1	M20X75	8	2.4		
LGC-7	390	37250	145	3250	350	290	25	140	10	205	240	268	175	120	5.3	M20X75	10	3.6		
LGC-8	515	49180	165	3000	380	330	25	160	10	230	285	290	200	164	8.4	M20X75	12	4.0		
LGC-9	644	61500	200	2600	430	340	25	165	10	270	315	332	210	211	15.5	M24X90	10	5.6		
LGC-10	930	88800	230	2300	490	370	25	180	10	315	370	390	230	311	28.9	M24X90	12	9.0		
LGC-11	1265	120800	260	2100	545	410	30	200	10	350	380	456	270	455	52.3	M24X90	14	13		
LGC-12	1600	152800	300	1900	590	490	30	240	10	404	420	490	300	632	87	M24X90	14	15		
LGC-13	2880	275000	330	1550	680	535	35	260	10	445	480	555	320	888	156	M30X135	14	17		
LGC-14	3980	380000	370	1400	732	575	35	280	15	500	520	610	340	1100	231	M30X135	16	19		
LGC-15	4765	455000	410	1350	780	655	35	320	15	540	560	660	385	1442	354	M30X135	18	26		
LGC-16	6800	650000	450	1150	900	720	45	350	25	630	650	750	425	2125	675	M36X140	18	42		
LGC-17	9000	850000	520	1050	1000	820	45	400	20	720	750	855	490	3105	1280	M36X150	20	60		
LGC-18	11800	1120000	620	950	1100	920	55	450	20	820	820	950	535	4375	2200	M36X160	20	65		
LGC-19	15500	1470000	710	825	1250	1000	55	485	30	915	920	1050	560	5595	3590	M48X160	20	75		



**MISALIGNMENT:**

The crowing of the the coupling allows to with stand parallel misalignment from 06mm for LGC-o, and varies up to 10.25mm for LGC-19, and angular misalignment up to a maximum of 1.5 per gear mesh.The coupling can also absorb axial displacement of the shafts from 0.5 to small coupling to maximum of 3 mm for large coupling

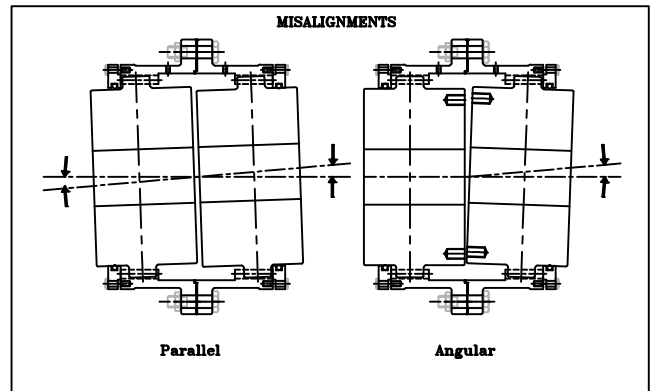
**SERVICE FACTOR:**

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.

**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 peak load.
- 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 couplings is required to transmit 200 Kw from an Electric M0ter running at 960 rev/min to a CRUSHER Machine.Considering the peak load as 180% of full load.The Motor shafts as 100 mm and the CRUSHER shafts 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 :200x180/100X2=720 KW
- d)Power to be transmitted at 100 rev/min:  
 $720 \times 100 / 960 = 75 \text{ KW}$
- e)Coupling size :By referring to the Table,coupling size LGC4,has got a rating of 96 KW at 100 rev/mim which exceeds the required power of 75 KW.The Bore range is 40 mm to 100 mm  
As the shaft size required is more,Hence,size LGC 5 is selected for the appication.

**LUBRICATIONS:**

The coupling must be filled with grease or oil.It is recommended to use gease where the maximum temperature is within 80C and for temperature above 80C,oil should be used.When using grease it is suggested to fill the coupling completely with lithium based grease with EP additives .When the couplings is to be filled with oil,fill half the coupling with EP Gear Oil.

Tailmade Gear Spacer Couplings and Torsion Shafts Couplings are also manufactured & supplied as per requirements.