

**RATHI**<sup>®</sup>

**DISC-O-FLEX**  
**COUPLINGS**



Rathi Disc-O-Flex couplings are fully metallic couplings, consisting of two hubs, one centre spacer member, two sets of stainless steel element blades bolted together with high tensile bolts. Replacement of element blades is easy, simple and is possible without disturbing drive or driven equipment.

## FEATURES

- High power - to - weight ratio.
- No wearing parts, no lubrication required.
- Easy installation with 'Drop Out' spacer.
- Accommodates angular, parallel and axial misalignments.
- Non stainless steel parts coated with a durable anticorrosive coating.
- High temperature application.
- Replaceable element blades.
- Visual inspection possible without disassembling equipment.
- Inherently balanced.
- High torsional rigidity with low axial stiffness.
- Special options including spacer lengths, modified hubs, special materials are available.
- Floating shaft/cooling tower couplings are available.
- Backlash free.
- High speed capability.
- Dynamic balancing to customer specifications.
- Machined to high precision standards.
- Lightweight couplings.

Rathi Disc-O-Flex couplings are available in LM, EM series.

### TYPE - LM

- Normal duty coupling.
- Suitable for general industrial applications.

### TYPE - EM / RSK

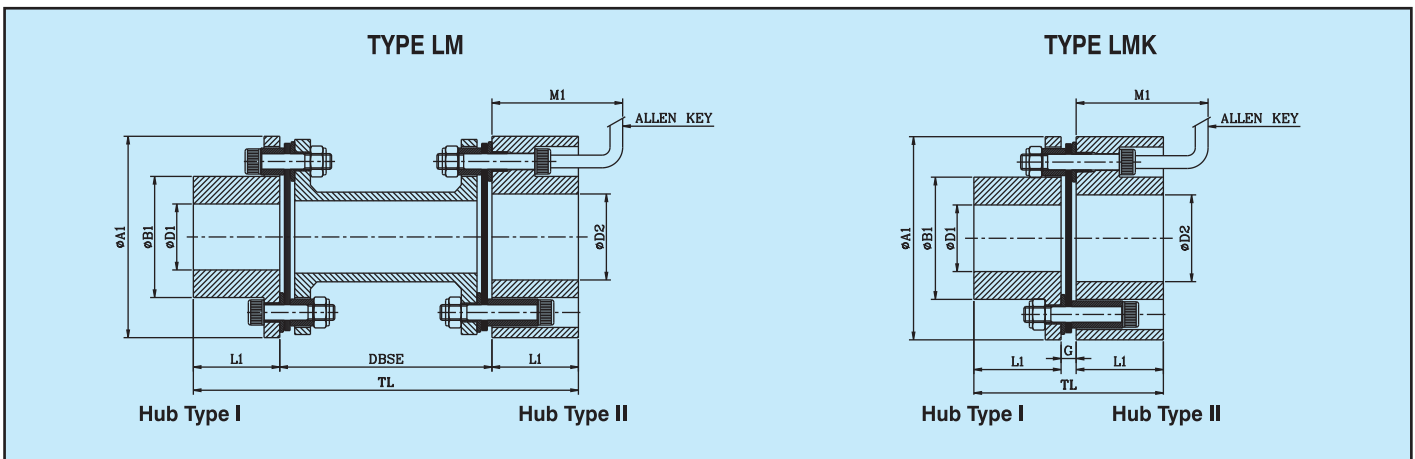
- High performance coupling.
- Specially suitable for petrochemical & fertilizer industries.
- API-610 / API-671 compliance available on request.
- Coupling with antifly spacer.

## SELECTION PROCEDURE

- 1) Select an appropriate SERVICE FACTOR from table given below.
- 2) Multiply the rated running power by the service factor. This gives DESIGN POWER at rated speed (rpm). Now convert this to design power at 100 rpm. This is used as a basis for coupling selection.
- 3) Refer to the rating column and read until the power greater than or equal to the design power at 100 rpm is found. The size of the Disc-O-Flex coupling is given in the corresponding first column.
- 4) Select either standard type I or type II hubs to suit shaft sizes. Select either Type III or Type IV hub in type EM for larger shaft sizes.
- 5) Specify the distance between shaft ends (DBSE).

## SERVICE FACTORS

Duty	Prime Mover		
	Electric Motor Steam or Gas Turbine	Steam Engine or Water Turbine	Gas or Oil Engine
<b>Constant Torque</b> e.g. centrifugal pumps, compressor, light conveyors, alternators & light fans.	1.0	1.5	3.0
<b>Slight Torque Fluctuations</b> e.g. machine tools, screw compressors, screw pumps, liquid ring compressors & rotary dryers.	1.5	2.0	3.0
<b>Substantial Torque Fluctuations</b> e.g. reciprocating pumps, low viscosity mixers, cranes & winches.	2.0	2.5	4.0
<b>Exceptionally High Torque Fluctuations</b> e.g. rotary presses, reciprocating compressors, high viscosity mixers & marine propellers.	3.0	3.5	5.0



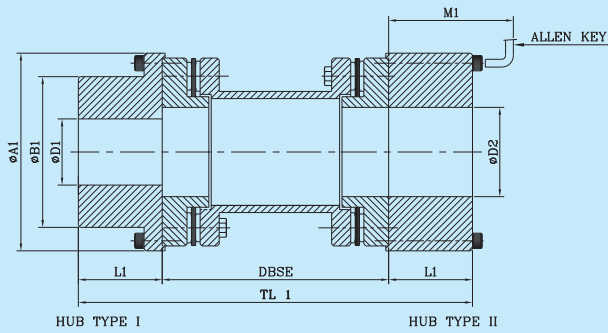
### TECHNICAL DATA - LM

Size	Kw @100 RPM	Torque Nm	Max Speed rpm	Bore			Min. DBSE 'S'	ØA1	ØB1	L1	Std. DBSE	TL (Std. DBSE)	# M1	Weight in kg. Approx.		M. I. (WR <sup>2</sup> ) in kgm <sup>2</sup> Approx.		Tors. Stiff. MNm/rad Approx.
				Min. ØD1 & ØD2	Max. ØD1   ØD2									Min. 'S'	Per Mtr 'S'	Min. 'S'	Per Mtr 'S'	
					Type I	Type II												
5	0.35	33	7500	8	20	22	40	55	30	25	100	150 190	65	0.76	2.03	0.0003	0.0003	0.012
10	0.67	64	7500	10	22	25	48	63	35	30	140	160 200	75	1.21	2.29	0.0006	0.0004	0.028
35	1.67	159	7000	12	30	38	50	82	45	40	100	180,220 260	85	2.30	3.19	0.0021	0.0011	0.058
95	5.4	516	6000	17	40	50	64	102	57	45	140	190,230 270	95	4.5	6.01	0.0062	0.0017	0.126
170	9.0	859	5200	17	52	70	76	128	77	55	180	210,250 290	110	7.8	6.98	0.0171	0.0047	0.244
220	14.0	1337	4800	22	65	80	78	146	94	60	140	260 300	120	11.59	8.38	0.0353	0.0088	0.420
400	25.0	2387	4400	27	80	100	90	176	115	70	180	280 320	140	19.29	13.08	0.0850	0.021	0.796
520	35.0	3342	4200	32	90	115	115	197	132	90	180	360 430	175	29.83	21.72	0.1682	0.056	1.004
1000	53.0	5061	4000	42	105	130	130	225	147	95	250	370 440	185	42.99	21.72	0.3120	0.056	1.571
1300	75.0	7162	3800	47	115	140	150	250	162	105	180	390,460 510	195	60.52	27.06	0.5328	0.067	2.294
2000	105.0	10027	3700	52	120	155	165	275	178	115	250	410,480 530	215	80.5	42.79	0.8610	0.167	3.530
2500	140.0	13369	3600	62	135	165	180	300	190	130	300	440,510 560	235	105.9	42.79	1.3471	0.167	4.220

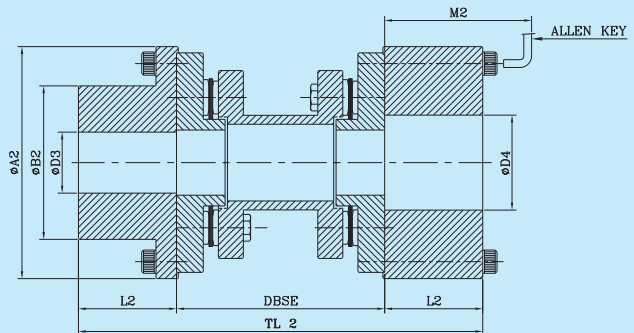
### TECHNICAL DATA - LMK

Size	kW at 100 rpm	Torque Nm	Max Speed rpm	Bore			ØA1	ØB1	L1	DBSE G	TL	* M1	Weight in kg. (Approx.)	M. I. (WR <sup>2</sup> ) in kgm <sup>2</sup> (Approx.)	Torsional Stiffness MNm/Rad (Approx.)
				Min. ØD1 & ØD2	Max. ØD1   ØD2										
					(Type I)	(Type II)									
5	0.35	33	7500	8	20	22	55	30	25	5.2	55.2	65	0.63	0.0012	0.036
10	0.67	64	7500	10	24	25	63	35	30	6.5	66.5	75	0.97	0.0019	0.043
35	1.67	159	7000	12	30	38	82	45	40	6.5	86.5	85	1.94	0.0036	0.062
95	5.4	516	6000	17	40	50	102	57	45	8.0	98.0	95	3.42	0.0082	0.118
170	9.0	859	5200	17	52	70	128	77	55	9.5	119.5	110	6.02	0.0177	0.260
220	14.0	1337	4800	22	65	80	146	94	60	12.0	132.0	120	8.63	0.0308	0.492
400	25.0	2387	4400	27	80	100	176	115	70	13.0	153.0	140	14.24	0.0700	1.228
520	35.0	3342	4200	32	90	115	197	132	90	14.4	194.4	175	22.21	0.1320	1.926
1000	53.0	5061	4000	42	105	130	225	147	95	16.2	206.2	185	30.62	0.2367	3.613
1300	75.0	7162	3800	47	115	140	250	162	105	19.5	229.5	195	42.70	0.3990	ON REQUEST
2000	105.0	10027	3700	52	120	155	275	178	115	21.5	251.5	215	57.30	0.6350	
2500	140.0	13369	3600	62	135	165	300	190	130	23.5	283.5	235	75.62	0.9976	

- All dimensions are in mm. unless otherwise specified.
- For vertical installation contact RATHI.
- Non Standard DBSE available on request.
- Please specify type of hubs (I/I, I/II or II/II).
- Weight, M. I. and Stiffness are at max. bores with min. Std. DBSE with type I / II hub combination.
- Available for non-sparking applications on request.
- Coupling with taper bush also available on request.
- Coupling with sizes higher than 2500 available on request.
- \* M1' is only for hub type II.



$$TL1 = L1 + L1 + \text{STD DBSE}$$



$$TL2 = L2 + L2 + \text{STD DBSE}$$

### TECHNICAL DATA

Coup. Size	kW at 100 rpm	Torque Nm	Max Speed rpm	Bore								Min. DBSE 'S'	ØA1	ØA2	ØB1	ØB2	L1	L2	Std. DBSE	TL1 (STD DBSE)	TL2 (STD DBSE)	M1	M2	Weight in kg Approx.		M. I. (WR <sup>2</sup> ) in kgm <sup>2</sup> Approx.		Tors. Stiff. MNm/rad Approx.										
				Min.		Max.				Min. DBSE 'S'	ØA1													ØA2	ØB1	ØB2	L1		L2	Std. DBSE	TL1 (STD DBSE)	TL2 (STD DBSE)	M1	M2	Min. DBSE 'S'	Per Mtr Extra 'S'	Min. DBSE 'S'	Per Mtr Extra 'S'
				ØD1&ØD2 Type I/II	ØD3&ØD4 Type III/IV	ØD1 Type I	ØD2 Type II	ØD3 Type III	ØD4 Type IV																													
4	0.35	33	7500	8	8	19	32	24	42	51	61	69	32	40	25	30	100 140 180	150	160	70	80	1.27	1.20	0.0006	0.0001	0.016												
8	0.67	64	7500	8	10	24	42	38	48	65	69	90	40	55	30	40		160	180								80	90	1.95	1.32	0.0012	0.0002	0.031					
																		200	220															240	260			
25	1.67	159	7000	10	15	38	48	48	72	71	90	108	55	70	40	45	180	180	190	90	105	3.65	2.29	0.0039	0.0006	0.025												
																		220	230								260	270										
65	5.4	516	6000	15	20	48	72	65	92	95	108	135	70	86	45	55	140	190	210	105	120	5.92	3.19	0.0094	0.0011	0.040												
																		230	250								270	290										
125	9.0	859	5200	20	25	65	92	80	102	107	135	152	86	108	55	60	180	250	260	120	125	10.93	4.74	0.0283	0.0034	0.095												
																		290	300																			
165	14.0	1337	4800	25	30	80	102	90	120	129	152	182	108	130	60	70	180	260	320	125	135	17.67	8.38	0.0604	0.0088	0.170												
																		300	390																			
370	25.0	2387	4400	30	45	90	120	108	140	142	182	197	130	158	70	90	250	320	360	135	155	28.99	13.08	0.1410	0.0213	0.300												
																		390	430																			
390	35.0	3342	4200	45	55	108	140	127	155	153	197	225	158	181	90	95	250	360	370	155	160	51.81	21.72	0.3650	0.0561	0.430												
																		430	440																			
790	53.0	5061	4000	55	65	127	155	140	178	156	225	250	181	206	95	105	250	370	350	160	170	52.88	21.72	0.4181	0.0561	0.600												
																		440	420																			
1025	75.0	7162	3800	65	70	140	178	155	192	169	250	275	206	223	105	115	250	350	410	170	190	73.37	27.06	0.7067	0.0670	0.800												
																		420	480																			
1425	105.0	10027	3700	70	75	155	192	170	212	188	275	300	223	248	115	130	250	480	510	190	215	97.28	42.79	1.1340	0.1666	1.100												
																		510	540																			
1880	140.0	13369	3600	75	80	170	212	190	255	202	300	375	248	280	130	145	250	510	540	215	245	127.37	42.79	1.7740	0.1666	1.500												

- All dimensions are in mm. unless otherwise specified.
- For vertical installation contact RATHI.
- Non Standard DBSE available on request.
- Please specify type of hub. Possible combinations of hubs are hub type I/I, I/II, II/II, III/III, III/IV, IV/IV.
- Weight, M. I. and Stiffness are at max. bores with min. Std. DBSE with type I / II hub combination.
- Available for non-sparking applications on request.
- Min. Bores specified are for hub Type I/II for hub Type III/IV consult manufacturer.
- Coupling with taper bush also available on request.
- Couplings with sizes higher than 1880 are available on request.
- M1 is applicable for hub type II. M2 is applicable for hub type IV.

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