

**RATH**<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

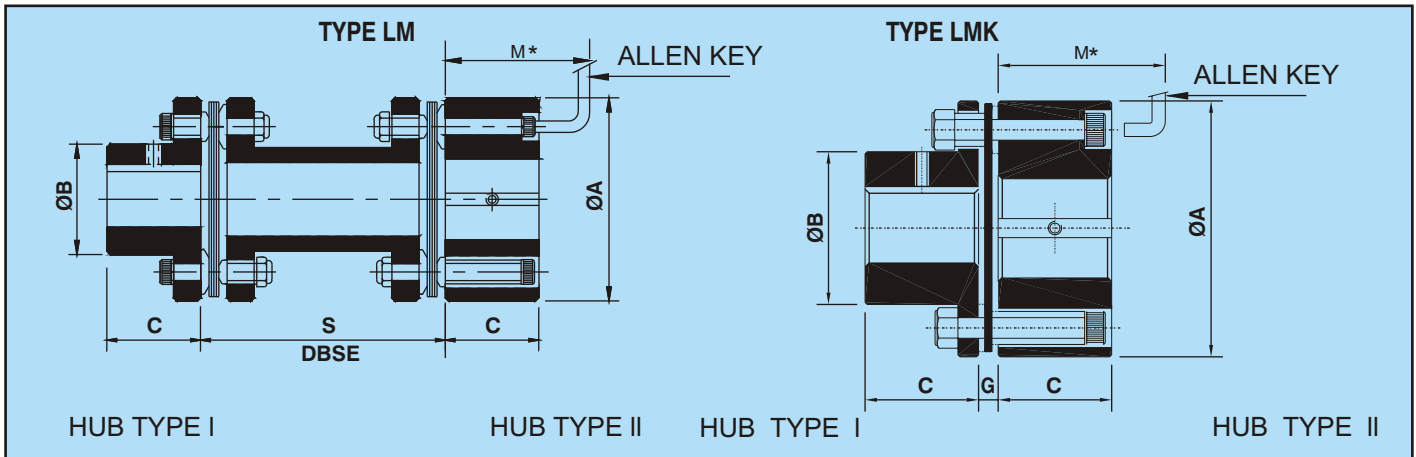
- High performance coupling.
- Specially suitable for petrochemical & fertilizer industries.
- API-671 compliance available on request.
- Coupling with antifly spacer.

## 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



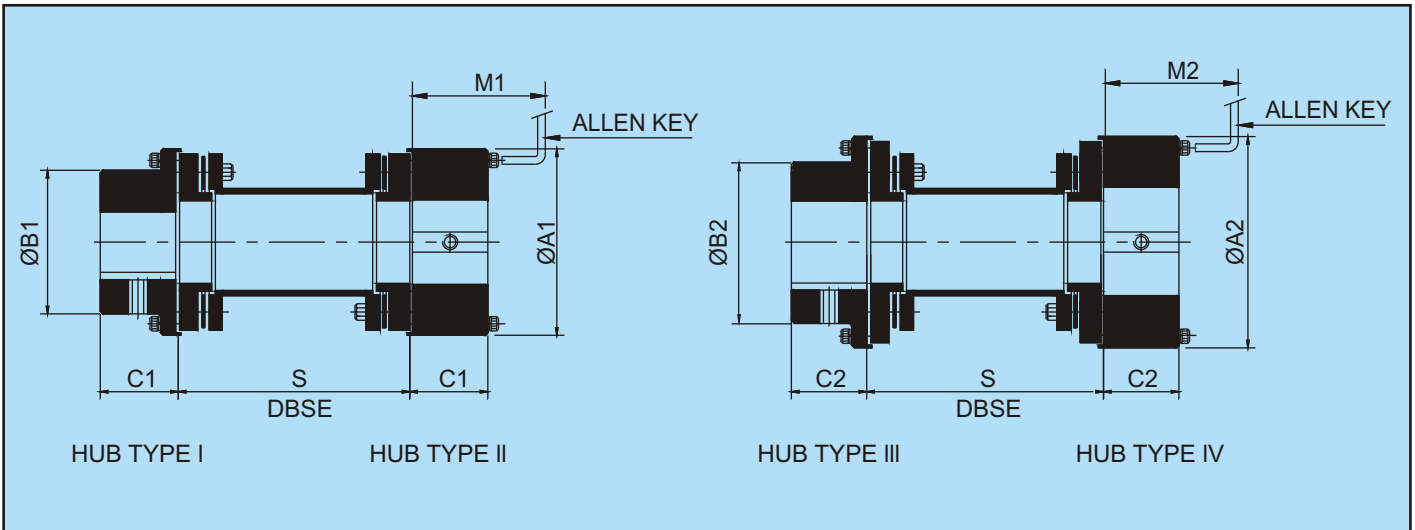
### TECHNICAL DATA - LM

Coup. Size	Torque Nm	kW at 100 rpm	Max Speed rpm	Bore			Std. DBSE 'S'	C	ØA	ØB	* M	Weight in kg. Approx.		M. I. (WR <sup>2</sup> ) in kgm <sup>2</sup> Approx.		Tors. Stiff. MNm/rad Approx.	
				Min.	Max.							Min. Std. 'S'	Per Mtr Extra 'S'	Min. Std. 'S'	Per Mtr Extra 'S'		
					Type I	Type II											
5	33	0.35	7500	8	20	22	40	100	25	55	30	65	0.7	2.0	0.0002	0.0003	0.016
10	64	0.67	7500	10	22	25	48	140	30	63	35	75	1.1	2.3	0.0003	0.0004	0.031
35	160	1.67	7000	12	30	38	50	100	40	82	45	85	2.45	2.41	0.0017	0.00047	0.025
95	515	5.4	6000	17	40	50	64		45	102	57	95	4.5	3.2	0.004	0.001	0.040
170	860	9.0	5200	17	52	70	76	140	55	128	77	110	8.3	7.0	0.012	0.005	0.099
220	1337	14.0	4800	22	65	80	78	180	60	146	94	120	11.8	8.4	0.036	0.008	0.176
400	2388	25.0	4400	27	80	100	90	140	70	176	115	140	19.5	13.1	0.07	0.02	0.305
520	3342	35.0	4200	32	90	115	115		90	197	132	175	29.3	12.22	0.13	0.0355	0.432
1000	5060	53.0	4000	42	105	130	130	180,250	95	225	147	165	43	19.62	0.24	0.0541	0.600
1300	7161	75.0	3800	47	115	140	150	180	105	250	162	195	62	27.1	0.5	0.07	0.800
2000	10025	105.0	3700	52	120	155	165	250	115	275	178	195	81	36.3	0.66	0.1486	1.500
2500	13367	140.0	3600	62	135	165	180	300	130	300	190	235	107	42.8	1	0.1	1.400

### TECHNICAL DATA - LMK

Coupling Size	Torque Nm	kW at 100 rpm	Max Speed rpm	Bore			DBSE G	C	ØA	ØB	* M	Weight in kg. (Approx.)	M. I. (WR <sup>2</sup> ) in kgm <sup>2</sup> (Approx.)	Torsional Stiffness MNm/Rad (Approx.)
				Min.	Max.									
					Type I	Type II								
5	33	0.35	7500	8	20	22	5.2	25	55	30	65	0.55	0.0002	0.036
10	64	0.67	7500	10	24	25	6.5	30	63	35	75	0.87	0.0003	0.043
35	160	1.67	7000	12	30	38	7.5	40	82	45	85	1.8	0.0008	0.062
95	515	5.4	6000	17	40	50	8	45	102	57	95	3.2	0.0026	0.118
170	860	9.0	5200	17	52	70	9.5	55	128	77	110	5.83	0.0087	0.260
220	1337	14.0	4800	22	65	80	12	60	146	94	120	8.4	0.017	0.492
400	2388	25.0	4400	27	80	100	13	70	176	115	140	14.1	0.045	1.228
520	3342	35.0	4200	32	90	115	14.4	90	197	132	170	22.1	0.089	1.926
1000	5060	53.0	4000	42	105	130	16.2	95	225	147	165	30.7	0.16	3.613
1300	7161	75.0	3800	47	115	140	19.5	105	250	162	195	42.8	0.27	ON REQUEST
2000	10025	105.0	3700	52	120	155	21.5	115	275	178	195	57.6	0.44	
2500	13367	140.0	3600	62	135	165	23.5	130	300	190	235	76.2	0.67	

- All dimensions are in mm. unless otherwise specified.
  - 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 one I / II hub combination.
  - Available for non-sparking applications on request.
  - Coupling speed can be increased. Consult manufacturer.
  - Coupling with taper bush also available on request.
  - Coupling with sizes higher than 2500 available on request.
  - Hub Combination I/I & I/II are available for LMK couplings.
- \* M' is only for hub type II.



### TECHNICAL DATA

Coup. Size	Torque Nm	kW at 100 rpm	Max Speed rpm	Bore				Min. DBSE 'S'	Std. DBSE 'S'	C1	C2	ØA1	ØA2	ØB1	ØB2	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. 'S'	Per Mtr 'S'	Min. 'S'	Per Mtr 'S'		
					Type I	Type II	Type III																Type IV
4	33	0.35	7500	8	19	32	24	42	55	25	30	61	69	32	40	70	80	1.3	1.2	0.0006	0.0001	0.016	
8	64	0.67	7500	8	24	42	38	48	65	30	40	69	86	40	55	80	90	2.0	1.3	0.001	0.0002	0.030	
25	160	1.67	7000	10	38	50	48	72	70	40	45	90	108	55	70	90	105	3.76	2.41	0.0038	0.00047	0.025	
65	515	5.4	6000	15	48	72	65	92	80	45	55	108	135	70	86	105	120	6.0	2.7	0.009	0.0009	0.040	
125	860	9.0	5200	20	65	92	80	104	90	55	60	135	155	86	108	120	125	11.1	7.0	0.03	0.00047	0.095	
165	1337	14.0	4800	25	80	102	90	120	120	60	70	152	179	108	130	125	135	17.0	8.4	0.06	0.0088	0.17	
370	2388	25.0	4400	30	90	122	108	142	130	70	90	182	200	130	158	135	155	28.4	13.1	0.13	0.0213	0.30	
390	3342	35.0	4200	45	108	140	127	155	130	90	95	197	222	158	181	155	160	38.3	12.82	0.2335	0.036	0.43	
790	5060	53.0	4000	55	127	158	140	178	135	95	105	225	250	181	206	160	170	53.18	19.21	0.4181	0.053	0.6	
1025	7161	75.0	3800	65	140	178	155	192	140	105	115	250	275	206	223	170	190	74.4	27.1	0.7	0.067	0.8	
1425	10025	105.0	3700	70	155	192	170	212	150	115	130	275	300	223	248	190	215	98.63	34.6	1.134	0.14	1.1	
1880	13367	140.0	3600	75	170	215	190	255	175	130	145	300	375	248	280	215	245	128.1	42.8	1.7	0.16	1.5	

- All dimensions are in mm. unless otherwise specified.
- 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 one type I / II hub combination.
- Available for non-sparking applications on request.
- Coupling speed can be increased. Consult manufacturer.
- ⊛ 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.

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	<p><b>Rathi Transpower Pvt Ltd</b>                  Rathi Chambers, 7, Deccan College Road,                  Pune 411 006.(INDIA)                  Phone : 91-20-30517201                  Fax : 91-20-30517212                  E-mail : enquiry@rathigroup.com                  Website : www.rathicouplings.com</p>	<p><b>Distributor</b></p>
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