RATH®

DISC-O-FLEX COUPLINGS

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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 anticorrossive 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

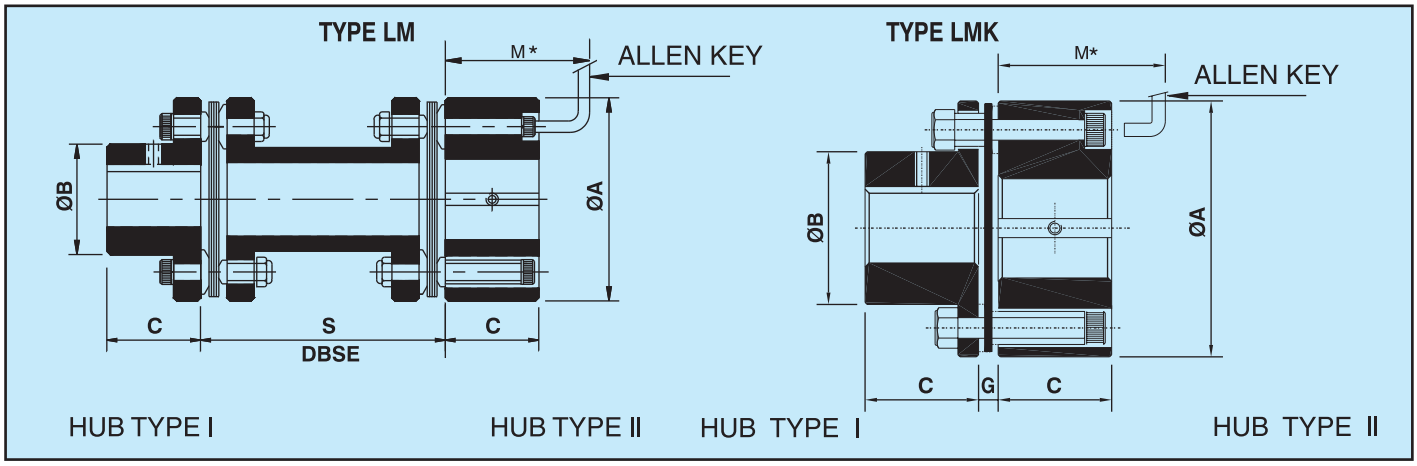
- High performance coupling.
- Specially suitable for petrochemical & fertilizer industries.
- API-671 compliance available on request.
- Coupling with antifly spacer.

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
Constant Torque e.g. centrifugal pumps, compressor, light conveyors, alternators & light fans.	1.0	1.5	3.0
Slight Torque Fluctuations e.g. machine tools, screw compressors, screw pumps, liquid ring compressors & rotary dryers.	1.5	2.0	3.0
Substantial Torque Fluctuations e.g. reciprocating pumps, low viscosity mixers, cranes & winches.	2.0	2.5	4.0
Exceptionally High Torque Fluctuations e.g. rotary presses, reciprocating compressors, high viscosity mixers & marine propellers.	3.0	3.5	5.0



TECHNICAL DATA - LM

Coupling Size	kW at 100 rpm	Torque Nm	Max Speed rpm	Bore			Min. DBSE 'S'	Std. DBSE 'S'	C	ØA	ØB	* M	Weight in kg. Approx.		M. I.(WR^2) in kgm^2 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	0.35	33	7500	8	20	22	41	100	25	55	30	65	0.9	2	0.0003	0.0003	0.016
10	0.67	64	7500	10	22	25	55	140	30	63	35	75	1.3	2.3	0.0007	0.0004	0.031
35	1.67	159	7000	12	30	38	57	100	40	82	45	85	2.47	3.2	0.0021	0.0011	0.025
95	5.4	516	6000	17	40	50	82	140	45	102	57	95	4.6	3.2	0.006	0.0011	0.04
170	9.0	859	5200	17	52	70	89	180	55	128	77	110	8.1	7	0.018	0.0047	0.099
220	14.0	1337	4800	22	65	80	108	140	60	146	94	120	12.1	8.4	0.036	0.0088	0.176
400	25.0	2387	4400	27	80	100	114	180	70	176	115	140	20	13.1	0.09	0.021	0.305
520	35.0	3342	4200	32	90	115	126	180	90	197	132	175	30.5	21.7	0.17	0.056	0.432
1000	53.0	5061	4000	42	105	130	143	250	95	225	147	185	43.4	21.7	0.32	0.056	0.6
1300	75.0	7162	3800	47	115	140	168	180	105	250	162	195	61.6	27.1	0.55	0.067	0.8
2000	105.0	10027	3700	52	120	155	180	250	115	275	178	215	82	42.8	0.88	0.167	1.5
2500	140.0	13369	3600	62	135	165	180	300	130	300	190	235	107.1	42.8	1.38	0.167	1.4

TECHNICAL DATA - LMK

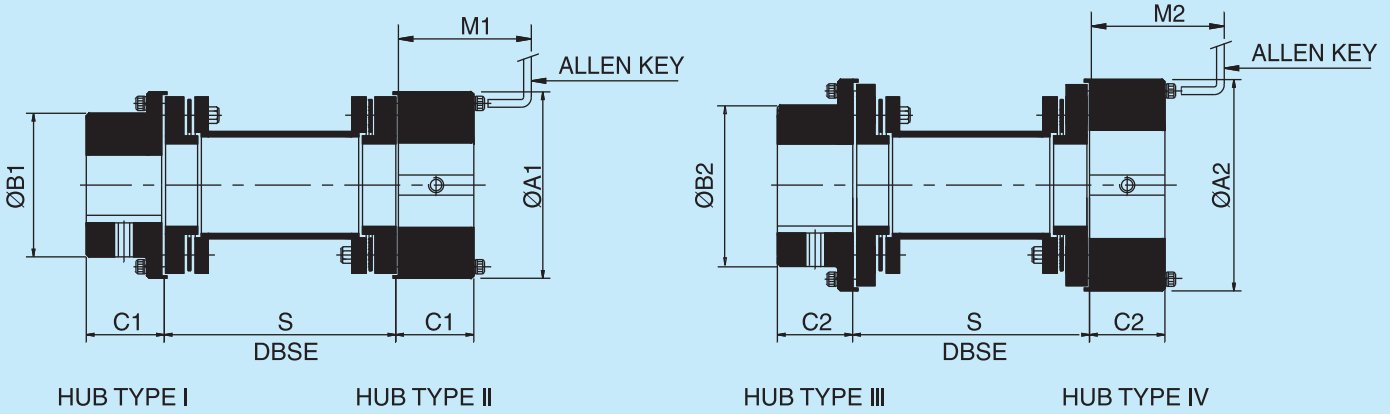
Coupling Size	kW at 100 rpm	Torque Nm	Max Speed rpm	Bore			DBSE G	C	ØA	ØB	* M	Weight in kg. (Approx.)	M. I.(WR^2) in kgm^2 (Approx.)	Torsional Stiffness MNm/Rad (Approx.)
				Min.	Max.									
					Type I	Type II								
5	0.35	33	7500	8	20	22	5.2	25	55	30	65	0.55	0.00020	0.0360
10	0.67	64	7500	10	24	25	6.5	30	63	35	75	0.87	0.00030	0.0430
35	1.67	159	7000	12	30	38	6.5	40	82	45	85	1.8	0.0008	0.062
95	5.4	516	6000	17	40	50	8	45	102	57	95	3.2	0.0026	0.118
170	9.0	859	5200	17	52	70	9.5	55	128	77	110	5.83	0.0087	0.260
220	14.0	1337	4800	22	65	80	12	60	146	94	120	8.4	0.017	0.492
400	25.0	2387	4400	27	80	100	13	70	176	115	140	14.1	0.045	1.228
520	35.0	3342	4200	32	90	115	14.4	90	197	132	175	22.1	0.089	1.926
1000	53.0	5061	4000	42	105	130	16.2	95	225	147	185	30.7	0.16	3.613
1300	75.0	7162	3800	47	115	140	19.5	105	250	162	195	42.8	0.27	ON REQUEST
2000	105.0	10027	3700	52	120	155	21.5	115	275	178	215	57.6	0.44	
2500	140.0	13369	3600	62	135	165	23.5	130	300	190	235	76.2	0.67	

- All dimensions are in mm. unless otherwise specified.
- For vertical installation contact RATHI.
- 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.

DISC-O-FLEX COUPLINGS

TYPE EM



TECHNICAL DATA

Coup. Size	kW at 100 rpm	Torque Nm	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^2) in kgm^2 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	Type III	Type IV															
4	0.35	33	7500	8	19	32	24	42	51	100	25	30	61	69	32	40	70	80	1.3	1.2	0.0006	0.0001	0.016
8	0.67	64	7500	8	24	42	38	48	65	140	30	40	69	90	40	55	80	90	2.0	1.3	0.001	0.0002	0.03
25	1.67	159	7000	10	38	48	48	72	71	180	40	45	90	108	55	70	90	105	3.76	2.41	0.0038	0.00047	0.025
65	5.4	516	6000	15	48	72	65	92	95		45	55	108	135	70	86	105	120	6.0	2.7	0.009	0.0009	0.04
125	9.0	859	5200	20	65	92	80	102	107	140	55	60	135	152	86	108	120	125	11.1	7.0	0.03	0.00047	0.095
165	14.0	1337	4800	25	80	102	90	120	129	180	60	70	152	182	108	130	125	135	17.0	8.4	0.06	0.0088	0.17
370	25.0	2387	4400	30	90	120	108	140	142		70	90	182	197	130	158	135	155	28.4	13.1	0.13	0.0213	0.3
390	35.0	3342	4200	45	108	140	127	155	153	180	90	95	197	225	158	181	155	160	38.3	12.82	0.2335	0.0360	0.43
790	53.0	5061	4000	55	127	155	140	178	156	250	95	105	225	250	181	206	160	170	53.18	19.21	0.4181	0.0530	0.6
1025	75.0	7162	3800	65	140	178	155	192	169		105	115	250	275	206	223	170	190	74.4	27.1	0.7	0.067	0.8
1425	105.0	10027	3700	70	155	192	170	212	188	250	115	130	275	300	223	248	190	215	98.63	34.6	1.134	0.14	1.1
1880	140.0	13369	3600	75	170	212	190	255	202		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.
- 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 one type I / II hub combination.
- Available for non-sparking applications on request.
- M1 is applicable for hub type II. M2 is applicable for hub type IV.
- 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.

ISO 9001 BUREAU VERITAS Certification

UKAS QUALITY MANAGEMENT 008

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