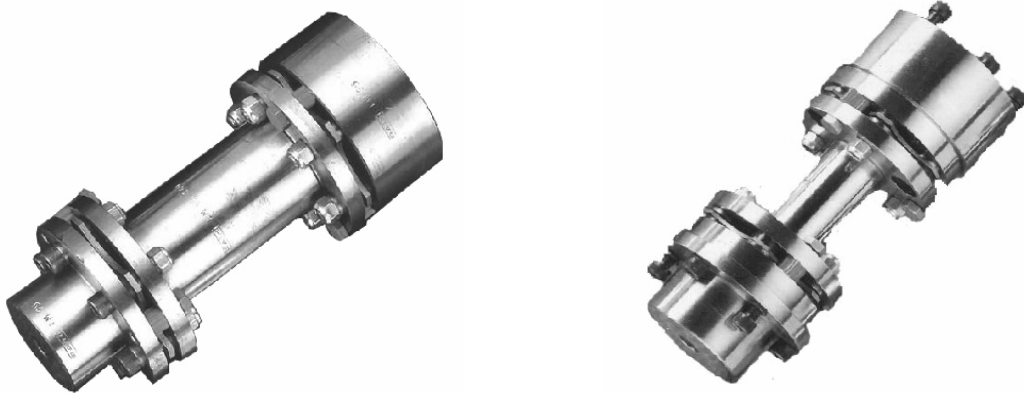


**RATHI TRANSPOWER PVT. LTD. PUNE - INDIA**

**PRODUCT MANUAL  
DISC-O-FLEX COUPLING  
TYPE –**

**LM, EM, LMC, LMK, FLM, FEM, LMH & EMH**



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## DISC-O-FLEX COUPLING

### STANDARD FEATURES

- Zero maintenance
- High power to weight ratio: All metallic couplings in steel having high torque carrying capacity with light weight.
- No wearing parts
- No lubrication
- Zero backlash: Manufactured with precise tolerances to accommodate zero backlash which is required for the applications where lost motion is not acceptable such as servo or stepper driven positioning systems, custom designs for high torque applications & where dynamic balancing to accurate grades is required.
- Inherently balanced: As these couplings are machined symmetrically with the axis of rotation & all are in steel construction, there is no possibility of casting defects like porosity, blow holes. Hence the coupling is inherently balanced.
- Dynamically balanced to any precise grade of balancing as per ISO-1940.
- Easy installation with drop out spacer: Replacement of flexible element is possible without disturbing either of the equipments.
- Can be visually inspected without disturbing the assembly.
- All the non-stainless steel parts are coated with anti-corrosive agent.
- Antifly spacers: Available in construction with antifly spacers. Unlikely breakage of flexible elements will not allow the spacer to fly off the assembly.
- Non-standard material, length thru' bore, hub dia., spacer lengths are also available on request.
- Available with std. SAE flanges for the application like diesel engine flywheels.
- Available with floating shafts for the applications like cooling tower fans.
- Available with single blade pack: used where parallel misalignment is zero.
- Available in non-sparking constructions: Used where the electrically insulated couplings are required.

## DISC-O-FLEX COUPLING AT A GLANCE

COUPLING TYPE		LM	EM	LMH	EMH
FEATURES					
Size (range)		5 to 2500 (12 Sizes)	4 to 1880 (12 sizes)	5 to 2500 (12 Sizes)	4 to 1880 (12 sizes)
Power Rating Range(kW/100 RPM)		0.35 TO 140	0.35 TO 140	0.67 TO 280	0.67 TO 280
Torque Range (Nm)		33 to 13369	33 to 13369	64 to 26738	64 to 26738
Bore Range(mm)		8 to 165	8 to 255	8 to 165	8 to 255
Dynamic Balancing Grade as per ISO-1940		Optional #	Optional #	Optional #	Optional #
Individual Component Balancing		No	No	No	No
Std. material of Hubs		ASTM A-1040	ASTM A-1040	ASTM A-1040	ASTM A-1040
Std. material of Spacer	LM/LMH(5-95) EM/EMH(4-65)	ASTM A-1040	ASTM A-1040	ASTM A-1040	ASTM A-1040
	LM/LMH (170-2500) EM/EMH (125-1880)	ASTM A-106, ASTM A-105	ASTM A-106, ASTM A-105	ASTM A-106, ASTM A-105	ASTM A-106, ASTM A-105
Other materials (Available on request)		Optional	Optional	Optional	Optional
Material for Flexible Element		Special Stainless Steel	Special Stainless Steel	Special Stainless Steel	Special Stainless Steel
Meets API Specification		No	610 & 671	No	610 & 671
Anti-flail Spacer		No	Yes	No	Yes
Non sparking		Optional	Optional	Optional	Optional
Max. Working Temp.		250°C	250°C	250°C	250°C

#- Dynamic balancing is optional in case of LM, EM, LMH & EMH. Balancing can be done to Grade 6.3 or 2.5 at extra cost.

### DISC-O-FLEX FAMILY

SR	PART DESCRIPTION	LM/LMH	EM/EMH
1	Hub Type I	●	●
2	Hub Type II	●	●
3	Spacer	●	●
4	ADAPTER		●
5	Element Blades	●	●
6	Socket Head Cap Screws for Blade pack	●	●
7	Bushes	●	●
8	Sleeves	●	
9	Nylock Nuts	●	
10	Caps		●
11	Special Nuts		●
12	Socket Head Cap Screws for hubs		●
13	Hub Type III		●
14	Hub Type IV		●

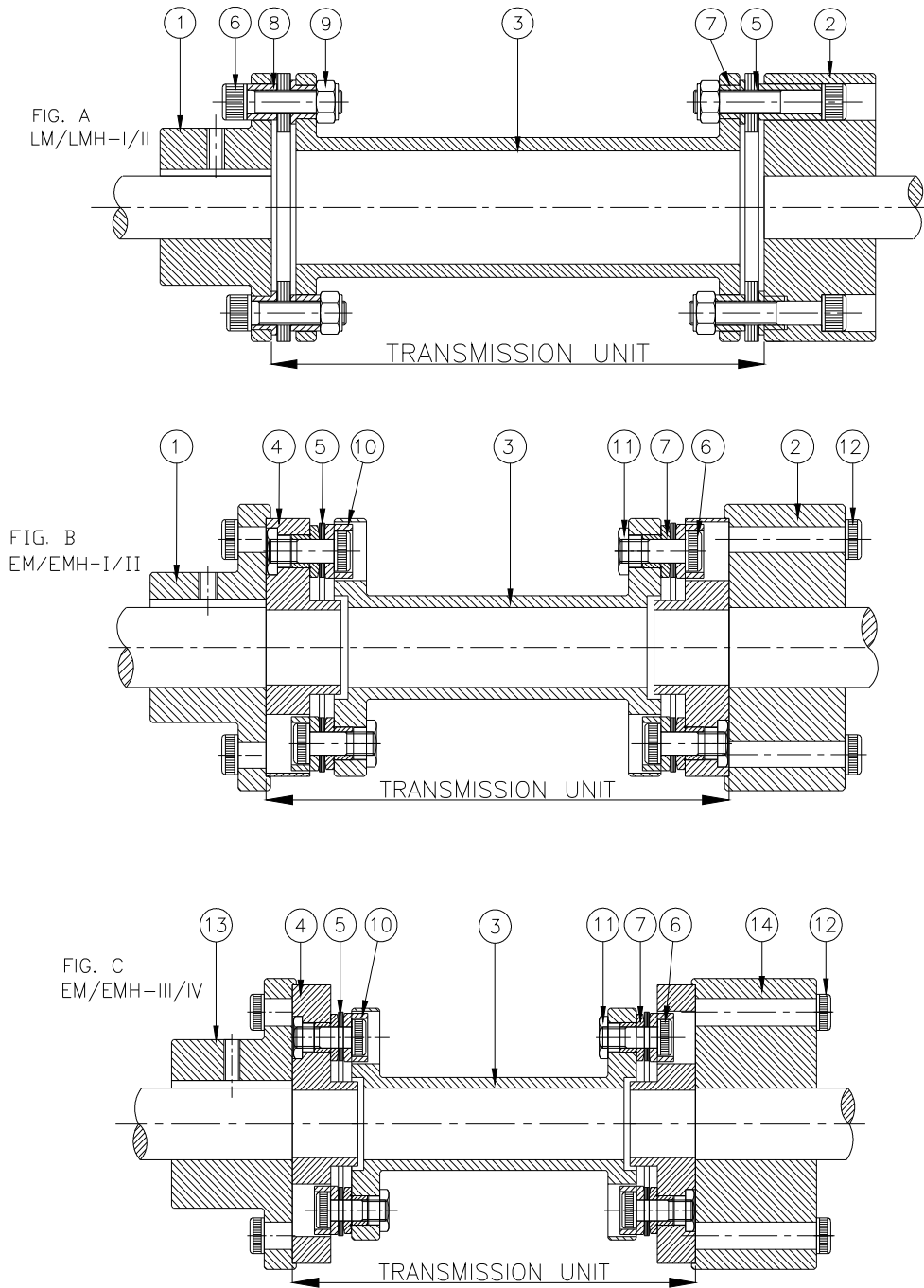
Applicable For type LM refer fig. A and For type EM refer fig. B & C.

**Red coloured bolts & sleeves are provided to protect the shims from damage in transportation & handling only. These should not be used during operation.**

## DISC-O-FLEX COUPLING

In place of Hub Type I & type II, Hub Type III & Type IV is available in type EM/EMH whenever required. These are used to accommodate bores more than max. bore sizes irrespective of coupling size.

### DISC-O-FLEX FAMILY



**DISC-O-FLEX COUPLING****STD. MATERIAL OF CONSTRUCTION**

PART		LM/LMH	EM/EMH
HUBS		ASTM A-1040	
SPACER	LM/LMH(5-95) SIZE, EM/EMH(4-65) SIZE	ASTM A-1040	
	LM/LMH(170-2500) SIZE EM/EMH(125-1880) SIZE	ASTM A-106, ASTM A-105	
ADAPTERS		-	ASTM A-1040
ELEMENT BLADES		STAINLESS STEEL	
BUSHES		ASTM A-1040	
SLEEVES		ASTM A-1040	-
CAPS		-	ASTM A-1040
SPECIAL NUT		-	ASTM A-1040
SOCKET HEAD CAP SCREWS		AH BOLT GR. 12.9	

- For non-sparking Sleeves, Caps : High Tensile Brass

Optional materials for Hubs & Adapters are Forged C.S., EN-19, and Stainless Steel.

For other requirement of material, consult RATHI.

## DISC-O-FLEX COUPLING

### THE DISC-PACK - HEART OF THE COUPLING

The set of Element Blades is the heart of the Disc-o-flex high performance couplings & transmits torque while accommodating angular, parallel & axial misalignment (i.e. end float).

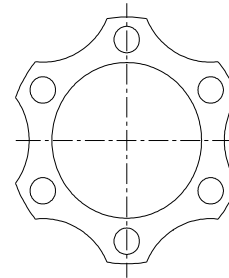


Fig. D

SCALLOPED DISC

#### A. DESIGN

Disc-o-flex blades have a `SCALLOPED' link design as shown in fig. D. This results in increased flexibility & subsequent lower reaction forces on the connected equipment bearings. This SCALLOPED shape of blade offers uniform stress distribution, increased misalignment capabilities & lower fatigue stresses on discs.

While transmitting torque, the disc-pack is exposed to constant stresses due to torque, centrifugal force, axial misalignment & pretension. It is also exposed to alternating stress due to angular misalignment.

#### B. CONSTRUCTION OF ELEMENT DISC-PACK

The element blade material is special high strength Half hard cold rolled Stainless Steel. It is manufactured on high precision tooling to get the dimensional accuracy & consistency.

##### **LM/LMH-Series Disc-pack**

It is a series of blades (4) assembled with sleeves (2) or (3), socket head cap screws (1), nylock nuts (5) & bushes (6) press fitted as shown in fig. E.

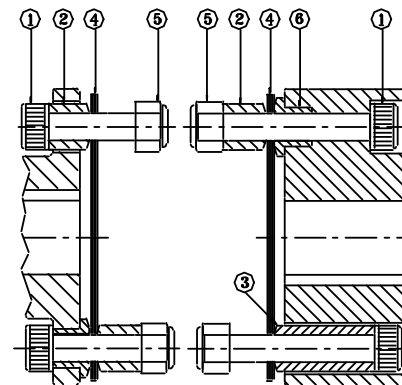


Fig. E

Ⓐ LM TYPE-1

Ⓑ LM TYPE-2

6	BUSH	ASTM A-1040	3	3	ASTM A-1040	3	3	
5	NYLOCK NUT	STD.	6	6	STD.	6	6	
4	BLADES	Stainless Steel	1 SET	1 SET	Stainless steel	1 SET	1 SET	
3	SLEEVE 2	ASTM A-1040	--	3	High Tensile Brass	--	3	
2	SLEEVE 1	ASTM A-1040	6	3	High Tensile Brass	6	3	
1	SOCKET HEAD CAP SCREWS	A.H. BOLT GR. 12.9	6	6	A.H. BOLT GR. 12.9	6	6	
SR	DESCRIPTION	MATERIAL	Type-I		MATERIAL	Type-I		
			Type-II			Type-II		
			QTY.			QTY.		
			STANDARD			NON-SPARKING		

## DISC-O-FLEX COUPLING

### HOW TO ORDER THE SPARES

TYPE LM/LMH (Refer Page No. 7.)

Given quantity is for the sizes upto & including - 2500.

1) Hub with 6 bolts :

- Hub Type I + Sr. No. 1 + Sr. No. 2 + Sr. No. 5 + Sr. No. 6.
- Hub Type II + Sr. No. 1 + Sr. No. 2 + Sr. No. 3 + Sr. No. 5 + Sr. No. 6.
- Mention the type of Hub I or II.

2) Non sparking kit:

- For Hub Type I → Sr. No. 1 + Sr. No. 2 + Sr. No. 4 + Sr. No. 5 + Sr. No. 6
- For Hub Type II → Sr. No. 1 + Sr. No. 2 + Sr. No. 3 + Sr. No. 4 + Sr. No. 5 + Sr. No. 6
- Spacer couplings require - 2 Nos.
- Non-spacer couplings require - 1 No.

Important - Please specify the type of Hub I / II.

3) Only spacer without bolts :

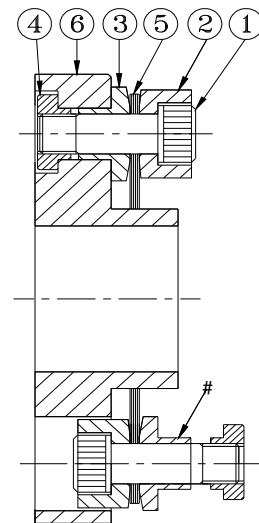
- Spacer + Sr. No. 6 press fitted in both the flanges.
- Mention the DBSE.

4) Element disc-pack without bolts: Sr.No 4

- Spacer couplings require - 2 Nos.
- Non-spacer couplings require - 1 No.

5) Hardware :

- For Hub Type I → Sr. No. 1 + Sr. No. 2 + Sr. No. 5.
- For Hub Type II → Sr. No. 1 + Sr. No. 2 + Sr. No. 3 + Sr. No. 5.
- Mention the type of Hub I/II.



**Fig. F**

EM/EMH -Series disc-pack(Factory assembled): It is a series of blades (5) assembled with caps (2), bushes (3), socket head cap screws (1), special nuts (4) & adapter (6) as shown in fig. F.

# - NOT PART OF DISC PACK ASSLY. IT IS SUPPLIED WITH SPACER.

6	ADAPTER	ASTM A-1040	1	ASTM A-1040	1
5	BLADES	Stainless Steel	1 SET	Stainless Steel	1 SET
4	SPECIAL NUT	ASTM A-1040	6	ASTM A-1040	6
3	BUSH	ASTM A-1040	3	ASTM A-1040	3
2	CAP	ASTM A-1040	6	High Tensile Brass	6
1	SOCKET HEAD CAP SCREW	H.T. GR. 12.9	6	H.T. GR. 12.9	6
SR	DESCRIPTION	MATERIAL	QTY.	MATERIAL	QTY.
		STD.		NON-SPARKING	
		MATERIAL OF CONSTRUCTION			

## DISC-O-FLEX COUPLING



## HOW TO ORDER THE SPARES

TYPE EM/EMH: (Refer Page No. 8.)

Given quantity is for the sizes upto & including – 1880 for EM/EMH Coupling

For sizes above, consult RATHI.

1) Standard Blade-pack :

For 'EM/EMH' - Sr. No. 1 + Sr. No. 2 + Sr. No. 3 + Sr. No. 4 + Sr. No. 5 + Sr. No. 6.

- Mention the type of Hub I/II or III/IV for EM/EMH.

- 2 Nos. are required per coupling.

2) Non sparking kit :

- Sr. No. 1 + Sr. No. 2 + Sr. No. 3 + Sr. No. 4 + Sr. No. 5 + Sr. No. 6.

- Mention the type of Hub I/II or III/IV.

- 2 Nos. are required per coupling.

3) Hub with 6 bolts

- Mention the type of Hub I,II,III or IV.

4) Only spacer without bolts

- Spacer with press fitted bushes (Sr. No. 3) in both the flanges.

- Mention the DBSE.

5) Hardware

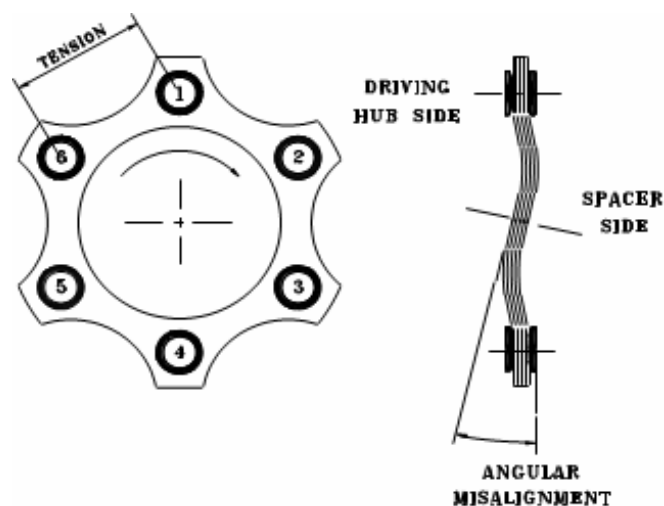
Hub bolts only.

- Mention the type of Hub I,II,III or IV.

Disc pack bolts can not be given as spares. In case of the failure in disc-pack bolts, the entire disc-pack has to be replaced.

## **TORQUE TRANSMISSION**

Fig. G shows holes 1, 3 & 5 in the disc-pack are bolted to the driving hub & are free in the clear holes either in spacers or in driven hub, while holes 2, 4 & 6 are bolted either to the driven hub or to the spacer & are free in the clear holes of driving hub. The torque path is from holes 1 to 6, 5 to 4 & 3 to 2.



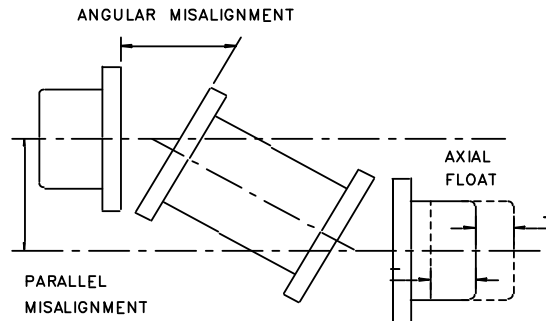
**Fig. G**

## DISC-O-FLEX COUPLING

### FLEXIBILITY

Flexibility depends upon the span between driving & driven hubs. The flexibility of the coupling is more for longer span.

Each blade pack can only accept angular & axial misalignment. Therefore two blade packs are required to accommodate parallel misalignment as shown in fig. H.



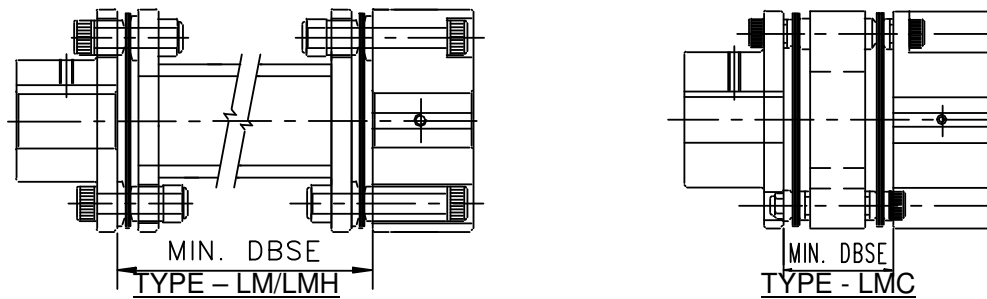
**Fig. H**

### COUPLING RATINGS

Sr. No.	Coupling Size		Rated Torque			Rated Power LM & EM			
			LM & EM			@100 RPM		@1500 RPM	
	LM	EM	Nm	kg m	Lbs-inch	Kw	HP	Kw	HP
1	5	4	33	3.4	292	0.35	0.47	5.25	7
2	10	8	64	6.5	566	0.67	0.9	10.05	14
3	35	25	160	16.3	1411	1.67	2.2	25.05	34
4	95	65	515	52.6	4564	5.4	7	81	109
5	170	125	860	87.6	7607	9	12	135	181
6	220	165	1337	136.3	11832	14	19	210	282
7	400	370	2388	243.4	21129	25	34	375	503
8	520	390	3342	340.7	29581	35	47	525	705
9	1000	790	5060	516	44794	53	71	795	1066
10	1300	1025	7161	730.1	63388	75	101	1125	1508
11	2000	1425	10025	1002.5	88743	105	141	1575	2111
12	2500	1880	13367	1336.7	118325	140	188	2100	2820

Sr. No.	Coupling Size		Rated Torque			Rated Power LMH & EMH			
			LMH & EMH			@100 RPM		@1500 RPM	
	LMH	EMH	Nm	kg m	Lbs-inch	Kw	HP	Kw	HP
1	5	4	64	6.5	566.4	0.67	0.9	10	13.4
2	10	8	98	10	867.4	1	1.3	15	20.1
3	35	25	223	22.7	1973.7	2.33	3.1	35	46.9
4	95	65	573	58.4	5071.5	6	8	90	120.7
5	170	125	1337	136.3	11833.5	14	18.8	210	281.6
6	220	165	2228	227.2	19719.5	23.33	31.3	350	469.4
7	400	370	4552	464.2	40288.6	47.67	63.9	715	958.8
8	520	390	6207	632.9	54936.6	65	87.2	975	1307.5
9	1000	790	9813	1000.6	86852.4	100.67	135	1510	2025
10	1300	1025	13687	1395.7	121140.2	143.33	192.2	2150	2883.2
11	2000	1425	17636	1798.4	156091.8	184.67	247.6	2770	3714.6
12	2500	1880	26738	2726.5	236651.4	280	375.5	4200	5632.3

**DISC-O-FLEX COUPLING**  
**MIN. DBSE OF LM, LMH & LMC COUPLING**



SIZE	MIN. DBSE			
	LM/LMH	FOR LM	FOR LMH	FOR LMC
5		41	41	30
10		55	55	35
35		57	58	40
95		82	84	45
170		89	95	55
220		108	115	70
400		114	124	75
520		126	139	85
1000		143	154	90
1300		168	177	100
2000		180	186	110
2500		180	190	120

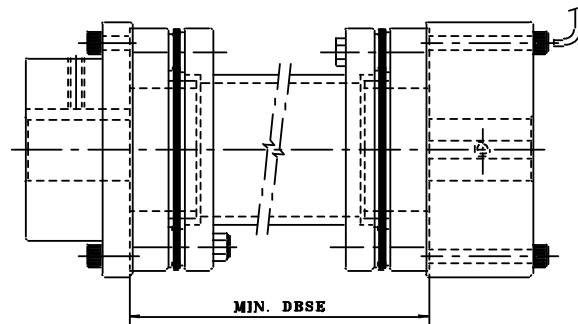
NOTE : \* ALL DIMENSIONS ARE IN mm.

\* IN CASE OF LM TYPE COUPLING THE MIN. DBSE WHICH CAN BE GIVEN IN THE SAME CONSTRUCTION AS SHOWN IN CATALOGUE. STILL SMALLER DBSE MAY BE POSSIBLE WITH A DIFFERENT CONSTRUCTION AS TYPE-LMC (AS SHOWN IN FIG. LMC)

\* OVERALL DIMENSIONS OF LMC ARE SAME AS THAT OF STANDARD CONSTRUCTION OF LM.

**MIN. DBSE OF EM/EMH COUPLING**

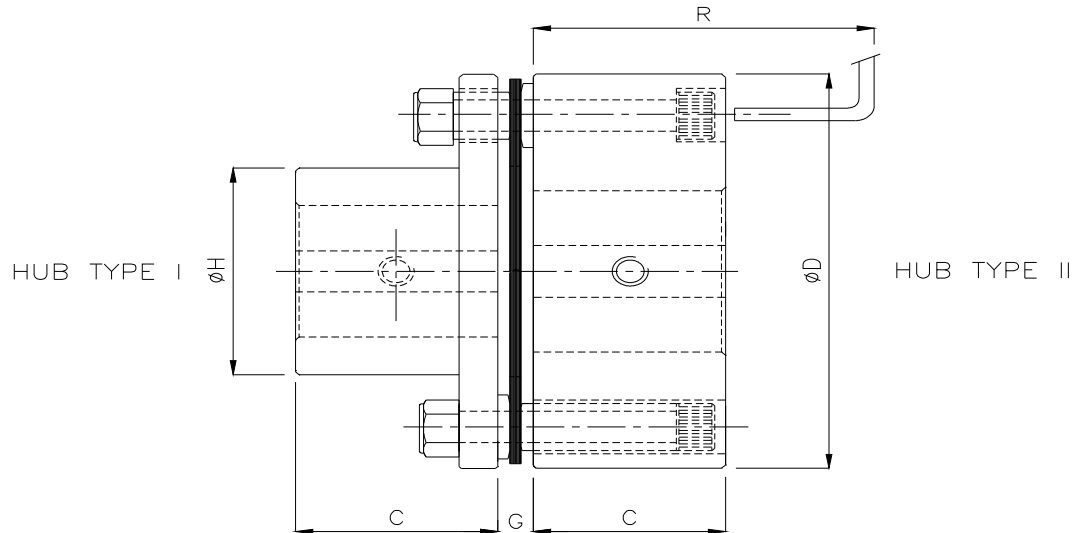
Sr. No.	Coupling Size EM/EMH	MIN. DBSE	
		EM	EMH
1	4	51	51
2	8	65	65
3	25	71	71
4	65	95	96
5	125	107	112
6	165	129	135
7	370	142	152
8	390	153	165
9	790	156	167
10	1025	169	178
11	1425	188	197
12	1880	202	212



NOTE : \* ALL DIMENSIONS ARE IN mm.

## DISC-O-FLEX COUPLING

### DISC-O-FLEX NON SPACER COUPLING TYPE – LMK



COUP. SIZE	KW AT 1500 RPM	MAX SPEED RPM	BORE			C	ØD	ØH	G	R	WEIGHT IN Kgs	M.I. IN Kgs2	TORS'L STIF. (MNm/Radian)
			MIN	MAX.									
				TYPE I	TYPE II								
5	5	7500	8	20	22	25	55	30	5.2	65	0.55	0.0002	0.0360
10	10	7500	10	24	25	30	63	35	6.5	75	0.87	0.0003	0.0430
35	25	7000	12	30	38	40	82	45	6.5	85	1.8	0.0008	0.062
95	81	6000	17	40	50	45	102	57	8	95	3.2	0.0026	0.118
170	135	5200	17	52	70	55	128	77	9.5	110	5.83	0.0087	0.260
220	210	4800	22	65	80	60	146	94	12	120	8.4	0.017	0.492
400	375	4400	27	80	100	70	176	115	13	140	14.1	0.045	1.228
520	525	4200	32	90	115	90	197	132	14.4	170	22.1	0.089	1.926
1000	795	4000	42	105	130	95	225	147	16.2	165	30.7	0.16	3.613
1300	1125	3800	47	115	140	105	250	162	19.5	195	42.8	0.27	ON REQUEST
2000	1575	3700	52	120	155	115	275	178	21.5	215	57.6	0.44	
2500	2100	3600	62	135	165	130	300	190	23.5	235	76.2	0.67	

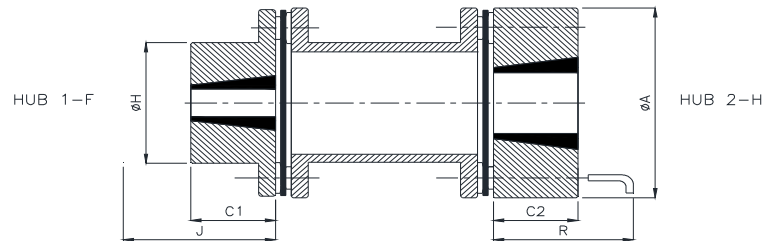
NOTE : \* ALL DIMENSIONS ARE IN mm. UNLESS OTHERWISE SPECIFIED.

\* COUPLING DYNAMICALLY BALANCED TO GR. 6.3 ISO 1940 (AFTER F.B. & KW)

\* WT., STIFFNESS & M.I. ARE AT MAX. BORES WITH ONE TYPE I & ONE TYPE II HUBS.

## DISC-O-FLEX COUPLING

### DISC-O-FLEX COUPLINGS WITH TAPER BUSHES TYPE-LMT



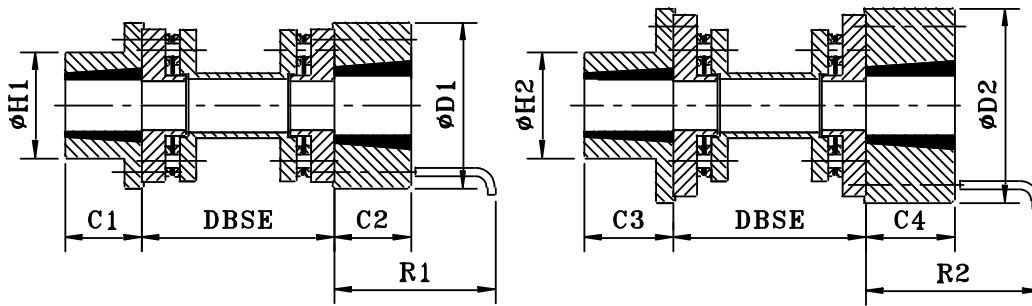
COUPLER SIZE	KW AT 1500 RPM	MAX SPEED RPM	BUSH NO.		BORE				DBSE STD.	A	H	C1	C2	# J	# R
					MIN		MAX.								
			HUB. 1	HUB. 2	HUB. 1	HUB. 2	HUB. 1	HUB. 2							
95	81	6000	1108	1210	10	12	28	32	100	102	57	23	26	52	76
170	135	5200	1610	1610	14	14	42	42	140	128	77	26	26	64	81
220	210	4800	2012	2517	14	16	50	60		146	94	33	45	75	105
400	375	4400	2517	3020	16	24	60	75		176	115	45	50	93	120
520	525	4200	3020	3020	24	24	75	75	140	197	132	50	50	105	130
1000	795	4000	3525	3525	35	35	90	90	250	225	147	65	65	132	135
1300	1125	3800	4040	4040	40	40	100	100		250	162	103	103	163	195
2000	1575	3700	4040	4545	40	55	100	115	250	275	178	103	115	163	225
2500	2100	3600	4545	5050	55	70	115	127		300	190	115	128	186	235

**NOTE :**

- ALL DIMENSIONS ARE IN mm.
  - SPECIFY THE STYLE & TYPES OF HUBS (i.e. 1H, 2H, 1F OR 2F).
  - NON-STD. DBSE AVAILABLE ON REQUEST. COUPLINGS WITHOUT SPACER ARE AVAILABLE. HOWEVER, THESE CAN'T TAKE PARALLEL OFFSET.
  - SPECIFIED MAX. SPEEDS ARE WITHOUT BALANCING. WITH BALANCING, SPEED CAN BE INCREASED. CONSULT MFRS.
  - AVAILABLE FOR NON-SPARKING APPLICATIONS ON REQUEST.
- # 'J' - WRENCH CLEARANCE REQUIRED FOR TIGHTENING & LOOSENING OF BUSH ON SHAFT.  
 # 'R' - CLEARANCE REQUIRED FOR DISMANTLING THE BLADEPACK WHEN HUB. II IS USED.

## DISC-O-FLEX COUPLING

### DISC-O-FLEX COUPLINGS WITH TAPER BUSHES TYPE EMT



**HUB 1-F**

**HUB 2-H**

**HUB 3-F**

**HUB 4-H**

COUPLER SIZE	kW A 1500 RPM	MAX SPEED RPM	BUSH NO.				MAX. BORE FOR HUB TYPES				DBSE	C1	C2	C3	C4	ø D1	ø D2	ø H1	ø H2	# J1	# J2	# R1	# R2
			1	2	3	4	1	2	3	4													
25	25	7000	1108	1210	1610	2012	38	50	48	72	23	26	26	32	90	108	55	70	52	62	76	92	
65	81	6000	1610	2012	2012	2517	48	72	65	92	26	32	32	45	108	135	70	86	62	72	92	110	
125	135	5200	2012	2517	2517	3020	65	92	80	104	32	45	45	51	135	155	86	108	72	90	110	120	
165	210	4800	2517	3020	3020	3020	80	102	90	120	45	51	51	51	152	179	108	130	90	100	120	120	
370	375	4400	3020	3020	3525	4040	90	122	108	142	51	51	65	102	182	200	130	158	100	120	120	170	
390	525	4200	3525	4040	4040	4545	108	140	127	155	180	65	102	102	115	197	222	158	181	120	165	170	180
790	795	4000	4040	4545	5050	5050	127	158	140	178	250	102	115	127	127	225	250	181	206	165	200	180	195

**DISC-O-FLEX COUPLING**  
**REQUIREMENTS OF API-671**

*We offer Disc-o-flex Type EM/EMH coupling in compliance with API-671 with following details.*

Material of construction - ASTM-1040 (For Hub, Adapter )  
ASTM-1040 (For Spacer EM/EMH-4-65)  
ASTM A-106,ASTM A-105 (For Spacer EM/EMH-125-1880)

Component balancing - Gr. 2.5 as per ISO-1940

Service factor - 1.75 (unless otherwise specified) OR  
Min. 1.25 (with mutual agreement  
with Purchaser)

DBSE - Min. 457 mm. (unless otherwise specified)  
Can be as per customer's requirement.

Spacer - Anti-Flail (fail safe design)

Transmission Unit are removable without disturbing the factory assembled disc-pack which is used in intermediate - or high-speed applications.

Eccentricity of hub bore -  
≤ 5 microns for bores ≤ 102 mm.  
≤ 13 microns for bores ≥ 102 mm.

Face runout of mating faces is 25 microns per foot of dia.

When specified, electrically insulated (non-sparking) couplings can be given.

**REQUIREMENTS OF API-610**

*Disc-o-flex couplings in compliance with API-610 with following details can be supplied.*

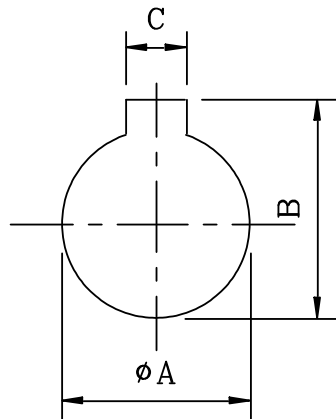
- Spacer type Min. DBSE 125 mm. (unless otherwise specified.)
- Dropout spacer.
- DYNAMIC BALANCING TO GR. 2.5
- Coupling hubs with tapped puller holes.



## DISC-0-FLEX COUPLING

### STANDARD TOLERANCES FOR FINISH BORE & KEYWAY

Unless otherwise specified, couplings are supplied with finish bore & keyway (as per IS 2048 : 1962) and tolerances in H7 & JS9 (as per IS-919 (Part 2) : 1993 standard).



$\phi A$  - Bore  
 B - Keyway Depth  
 C - Keyway Width

Bore Size (mm.)		H7 For Bores (mm.)	JS9 For Keyway Width (mm.)	For Keyway Depth (mm.)
Above	Upto & including			
3	6	+ 0.012 0	± 0.015	+ 0.1 0
6	10	+ 0.015 0	± 0.018	
10	18	+ 0.018 0	± 0.021	
18	30	+ 0.021 0	± 0.026	+ 0.2 0
30	50	+ 0.025 0	± 0.031	
50	80	+ 0.030 0	± 0.037	
80	120	+ 0.035 0	± 0.043	
120	180	+ 0.040 0	± 0.050	+ 0.3 0
180	250	+ 0.046 0	± 0.057	
250	315	+ 0.052 0	± 0.065	+ 0.4 0
315	400	+ 0.057 0	± 0.070	
400	500	+ 0.063 0	± 0.077	+ 0.5 0

**DISC-O-FLEX COUPLING****SELECTION PROCEDURE****Requirements**

Application :        Driver -  
                              Driven -

Application Rating :        kW -                                RPM -

Shaft sizes :                Driver -                                Driven -

Distance between shaft ends (DBSE) :

Service Factor (S.F.) to be taken :

**Selection Procedure****a) Service Factor**

Determine appropriate SERVICE FACTOR from service factor table given in catalogue.

**(b) Design Power**

Multiply running power of driven machinery by the service factor. This gives DESIGN POWER which is used as a basis for coupling selection.

**(c) Coupling Size**

Refer to rating table in catalogue for your required coupling size and read from the appropriate speed column until a power equal to or greater than the DESIGN POWER is found.

**(d) Bore size**

Refer respective coupling dimensional table to check that the required bores can be accommodated.

Select the type of Hubs accordingly. Possible combination of Hubs are Hub type I/I, I/II, II/II, III/III, III/IV & IV/IV only.

If bore sizes of selected coupling can't accommodate the shaft sizes, then go for next coupling size till shaft sizes can be accommodated.

**DISC-O-FLEX COUPLING****APPLICATIONS****Equipments:**

Agitators, Hammer mills, Blowers Line shafts, Conveyors, Machine tools, Crushers, Metal forming machines, Elevators, Mixers, Escalators, Pulverisers, Extruders, Pumps, Feeders, Screens, Generators, Wenchers.

**Industries:**

Cement Brewing & Distilling Food, Rolling Mills, Oil & Petroleum, Chemical & Fertiliser, Paper Mills, Rubber, Sewage Disposal, Sugar, Textile, Thermal Power Houses.

## DISC-O-FLEX COUPLING

### WEIGHT & M.I. FOR LM-TYPE COUPLINGS

Coupling Size	Wt. in kgs		M.I. in kgm <sup>2</sup>			
	Min. STD DBSE	Per Metre. Extra DBSE	WR <sup>2</sup>		GD <sup>2</sup>	
5	0.9	2.0	0.0003	0.0003	0.0012	0.0012
10	1.3	2.3	0.0007	0.0004	0.0028	0.0024
35	2.47	3.2	0.0021	0.0011	0.0084	0.0044
95	4.6	3.2	0.006	0.0011	0.024	0.0044
170	8.1	7.0	0.018	0.0047	0.072	0.0188
220	12.1	8.4	0.036	0.0088	0.144	0.0352
400	20	13.1	0.09	0.021	0.36	0.084
520	30.5	21.7	0.17	0.056	0.68	0.224
1000	43.4	21.7	0.32	0.056	1.28	0.224
1300	61.6	27.1	0.55	0.067	2.2	0.268
2000	82	42.8	0.88	0.167	3.52	0.668
2500	107.1	42.8	1.38	0.167	5.52	0.668

Note : Weight & M.I. are at max. bores with min. std. DBSE with one type I and one type II hub.

### WEIGHT & M.I. FOR EM-TYPE COUPLINGS

Coupling Size	Wt. in kgs		M.I. in kg m <sup>2</sup>			
	Min. STD DBSE	Per Meter Extra DBSE	WR <sup>2</sup>		GD <sup>2</sup>	
4	1.30	1.20	0.0006	0.0001	0.0024	0.0004
8	2.00	1.30	0.001	0.0002	0.004	0.0008
25	3.76	2.41	0.0038	0.00047	0.152	0.00188
65	6.00	2.70	0.009	0.0009	0.036	0.0036
125	11.10	7.00	0.030	0.00047	0.12	0.00188
165	17.00	8.40	0.060	0.0088	0.24	0.0352
370	28.40	13.10	0.13	0.0213	0.52	0.0852
390	38.30	12.82	0.234	0.036	0.934	0.144
790	53.18	19.21	0.418	0.053	1.672	0.212
1025	74.40	27.10	0.700	0.067	2.80	0.268
1425	98.63	34.60	1.134	0.140	0.02452	0.56
1880	128.10	42.80	1.700	0.160	0.03448	0.64

Note : Weight & M.I. are at max. bores with min. std. DBSE with one type I and one type II hub.

## DISC-O-FLEX COUPLING

### WEIGHT & M.I. FOR LMH-TYPE COUPLINGS

Coupling Size	Wt. in kgs		M.I. in kgm <sup>2</sup>			
	Min. STD DBSE	Per Metre. Extra DBSE	WR <sup>2</sup>		GD <sup>2</sup>	
5	0.9	2.0	0.0003	0.0003	0.0012	0.0012
10	1.3	2.3	0.0007	0.0004	0.0028	0.0024
35	2.47	3.2	0.0021	0.0011	0.0084	0.0044
95	4.6	3.2	0.006	0.0011	0.024	0.0044
170	8.1	7.0	0.018	0.0047	0.072	0.0188
220	12.1	8.4	0.036	0.0088	0.144	0.0352
400	20	13.1	0.09	0.021	0.36	0.084
520	30.5	21.7	0.17	0.056	0.68	0.224
1000	43.4	21.7	0.32	0.056	1.28	0.224
1300	61.6	27.1	0.55	0.067	2.2	0.268
2000	82	42.8	0.88	0.167	3.52	0.668
2500	107.1	42.8	1.38	0.167	5.52	0.668

Note : Weight & M.I. are at max. bores with min. std. DBSE with one type I and one type II hub.

### WEIGHT & M.I. FOR EMH-TYPE COUPLINGS

Coupling Size	Wt. in kgs		M.I. in kg m <sup>2</sup>			
	Min. STD DBSE	Per Meter Extra DBSE	WR <sup>2</sup>		GD <sup>2</sup>	
4	1.30	1.20	0.0006	0.0001	0.0024	0.0004
8	2.00	1.30	0.001	0.0002	0.004	0.0008
25	3.76	2.41	0.0038	0.00047	0.152	0.00188
65	6.00	2.70	0.009	0.0009	0.036	0.0036
125	11.10	7.00	0.030	0.00047	0.12	0.00188
165	17.00	8.40	0.060	0.0088	0.24	0.0352
370	28.40	13.10	0.13	0.0213	0.52	0.0852
390	38.30	12.82	0.234	0.036	0.934	0.144
790	53.18	19.21	0.418	0.053	1.672	0.212
1025	74.40	27.10	0.700	0.067	2.80	0.268
1425	98.63	34.60	1.134	0.140	0.02452	0.56
1880	128.10	42.80	1.700	0.160	0.03448	0.64

Note : Weight & M.I. are at max. bores with min. std. DBSE with one type I and one type II hub.

## DISC-O-FLEX COUPLING

### RATHI DISC-O-FLEX COUPLINGS WITH TAPER BUSHES (TYPE-LMT) EQUIVALENT TO FENNER TORSIONALLY RIGID COUPLINGS WITH TAPER BUSHES (TYPE-TRC)

COUP. SIZE		kW AT 1500 RPM		O.D.		BOSS DIA		BUSH NO.			LENGTH THRU' BORE			#J		#R
TRC	LMT	TRC	LMT	TRC	LMT	TRC	LMT	TRC	LMT		TRC	LMT		TRC	LMT	LMT
									HUB.1	HUB.2		HUB.1	HUB.2			
20	170	32	135	128	128	85	77	1610	1610	1610	27	26	26	65	64	81
40	220	64	210	145	145	99	94	2012	2012	2517	36	33	45	78	75	105
100	400	160	375	180	180	114	115	2517	2517	3020	49	45	50	97	93	120
200	520	320	525	205	205	137	132	3020	3020	3020	49	50	50	110	105	130
400	1000	640	795	250	250	170	147	3525	3525	3525	69	65	65	136	132	135
630	1300	1004	1125	300	300	197	162	4030	4040	4040	80	103	103	160	163	195
800	2000	1275	1575	320	320	205	178	4535	4040	4545	93	103	115	182	174	222

- ALL DIMENSIONS ARE IN mm.
- FOR TYPE-LMT COUPLINGS, SPECIFY THE STYLE & TYPE OF HUBS.  
(i.e. 1-H, 2-H, 1-F OR 2-F)

# 'J' - WRENCH CLEARANCE REQUIRED FOR TIGHTENING & LOOSENING OF BUSH ON SHAFT.

# 'R' - IS THE CLEARANCE REQUIRED FOR DISMANTLING THE BLADEPACK WHEN HUB IS USED.

## DISC-O-FLEX COUPLING

### RATHI DISC-O-FLEX COUPLINGS (TYPE-LM) EQUIVALENT TO FENNER TORSIONALLY RIGID COUPLINGS (TYPE-TRC)

COUP. SIZE		kW @ 1500 RPM		OD		HUB DIA.		MAX. BORE			LENGTH THRU' BORE		# R
TRC	LM	TRC	LM	TRC	LM	TRC	LM	TRC	LM		TRC	LM	LM
									HUB.1	HUB.2			
40	170	64	135	145	128	99	77	65	52	70	65	55	110
100	220	160	210	180	146	114	94	80	65	80	80	60	120
200	400	320	375	205	176	137	115	85	80	100	80	70	140
400	1000	640	795	250	225	170	147	100	105	130	100	95	165
630	1300	1004	1125	300	250	197	162	115	115	140	115	105	195
800	2000	1275	1575	320	275	205	178	125	120	155	125	115	195

- ALL DIMENSIONS ARE IN mm.
  - FOR TYPE-LM COUPLINGS, SPECIFY THE TYPE OF HUBS.
- # 'R' - IS THE CLEARANCE REQUIRED FOR DISMANTLING THE BLADEPACK WHEN HUB IS USED.

**DISC-O-FLEX COUPLING****RATHI DISC-O-FLEX COUPLINGS TYPE-LM**  
**EQUIVALENT TO UNIQUE COUPLINGS - 80L SERIES**

UNIQUE			RATHI		
SIZE	HP @	MAX	SIZE	HP @	MAX
	100 rpm	BORE		100 rpm	BORE
65	0.42	24	LM-10	0.9	24
80	0.75	28	LM-35	2.23	30
100	1.8	32	LM-95	7.23	40
125	2.6	42	LM-170	12	52
150	4	42			
162	7	48			
180	9	55	LM-220	19	65
200	12	55			
220	15	65			
225	18	65			
250	25	80	LM-400	34	80
262	33	80			
300	56	90	LM-1000	71	105
312	56	100			
350	70	105	LM-1000	71	105
375	100	115	LM-1300	101	115
425	140	120	LM-2000	141	120
450	170	135	LM-2500	188	135

Note : Above comparison is based on Rating & Max. Bore.



**DISC-O-FLEX COUPLING****RATHI DISC-O-FLEX COUPLINGS TYPE-LM**  
**EQUIVALENT TO UNIQUE COUPLINGS - 80L – SPL SERIES**

UNIQUE				RATHI			
SIZE	HP @	MAX BORE		SIZE	HP @	MAX BORE	
	100 rpm	I	II		100 rpm	I	II
65	0.42	24	32	LM-10	0.89	22	25
80	0.75	28	35	LM-10	0.89	22	25
100	1.8	32	42	LM-35	2.23	30	38
125	2.6	42	55	LM-95	7.2	40	50
150	4	42	60	LM-95	7.2	40	50
162	7	48	65	LM-170	12	52	70
180	9	55	75	LM-220	19	65	80
200	12	60	80	LM-220	19	65	80
220	15	65	90	LM-220	19	65	80
250	25	80	105	LM-400	34	80	100
300	56	90	120	LM-1000	71	105	130

Note: Above comparison is based on Rating & Max. Bore.

## DISC-O-FLEX COUPLING

### RATHI DISC-O-FLEX COUPLINGS TYPE-EM EQUIVALENT TO UNIQUE COUPLINGS – 80-SPL SERIES

UNIQUE				RATHI					
SIZE	HP @ 100 rpm	MAX BORE		SIZE	HP @ 100 rpm	MAX BORE			
		I	II			I	II	III	IV
65	0.42	28	42	EM-8	0.9	24	42	38	48
80	0.75	38	48	EM-8	0.9	24	42	38	48
100	1.8	42	55	EM-25	2.2	38	50	48	72
125	2.6	48	65	EM-65	7	48	72	65	92
150	4	48	70	EM-65	7	48	72	65	92
162	7	55	75	EM-65	7	-	72	65	92
180	9	65	90	EM-125	12	65	92	80	104
200	12	70	95	EM-125	12	-	92	80	104
220	15	80	102	EM-165	19	80	102	90	120
225	18	75	100	EM-165	19	80	102	108	120
250	25	90	115	EM-370	33.5	90	122	108	142
262	33	90	115	EM-370	33.5	90	122	140	142
300	56	110	140	EM-790	71	127	158	140	178
312	56	110	140	EM-600	71	127	158	140	178
350	70	115	155	EM-1000	71	127	158	155	178
375	100	130	170	EM-1025	101	140	178	170	192
425	140	130	185	EM-1425	141	155	192	190	212

Note: Above comparison is based on Rating & Max. Bore.

**DISC-O-FLEX COUPLING****RATHI DISC-O-FLEX COUPLINGS TYPE-EM**  
**EQUIVALENT TO UNIQUE COUPLINGS – 80 SERIES**

UNIQUE			RATHI			
SIZE	HP @ 100 rpm	MAX BORE	SIZE	HP @ 100 rpm	MAX BORE	
					I	II
65	0.42	28	EM-8	0.9	-	42
80	0.75	38	EM-8	0.9	-	42
100	1.8	42	EM-25	2.2	-	50
125	2.6	48	EM-65	7	-	65
150	4	48	EM-65	7	-	65
162	7	55	EM-65	7	-	65
180	9	65	EM-125	12	-	80
200	12	70	EM-125	12	-	80
220	15	80	EM-165	19	80	-
225	18	75	EM-165	19	80	-
250	25	90	EM-370	33.5	90	-
262	38	90	EM-390	47	108	-
300	56	110	EM-790	71	127	-
312	56	10	EM-790	71	127	-
350	70	115	EM-790	71	127	-
375	100	130	EM-1025	101	140	-
425	140	130	EM-1425	141	155	-
450	170	145	EM-1880	188	170	-

Note : Above comparison is based on Rating & Max. Bore.

**DISC-O-FLEX COUPLING****RATHI DISC-O-FLEX COUPLINGS TYPE-LM/LMC  
EQUIVALENT TO UNIQUE COUPLINGS – DBZ SERIES**

UNIQUE			RATHI			
SIZE	HP @	MAX	SIZE	HP @	MAX BORE	
	100 rpm	BORE		100 rpm	I	II
50	0.25	18	LM-5	0.47	20	22
62	0.42	20	LM-5	0.47	20	22
75	0.60	25	LM-10	0.9	22	25
101	1.2	29	LM-35	2.2	30	38
126	2.1	35	LM-35	2.2	30	38
163	3.0	48	LM-95	7.2	40	50
201	5.3	55	LM-170	12	52	70
226	9.6	65	LM-170	12	52	70
263	15	75	LM-220	19	65	80
301	22	90	LM-400	33.5	80	100
351	39	100	LM-520	47	90	115
401	57	112	LM-1000	71	105	130
451	75	125	LM-1300	100.5	115	140

Note : Above comparison is based on Rating & Max. Bore.