Couplings

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MASTER - Range of Flexible Coupling

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Master

J - Series Jaw Coupling

The **J Series** coupling is a dependable element that offers an economical solution to a wide range of shaft to shaft application. It is designed to compensate moderate shaft misalignments and is effective in absorbing vibration and damp shocks and at the same time providing smooth transmission of torque on both directions of rotations.

The Range

JL	Basic or standard type with various types of element.
JW	Similar to JW type but with Wrap on Element c/w retaining collars for easy removal of element.
JWS	A spacer added to the JW coupling. The spacer in the centre provides easy separation without removing the coupling half body.

Elements

The elements which are made from Nitride to Shore 80° or 92° hardness ensures resilient performance.
PU material elements can transmit greater torque of 1.5 times over nitride material and it is available upon request.
It is interchangeable with most similar makes and is a simple designed coupling that is dependable, economical and with high misalignment capabilities.

Materials

Hub & Spacer : in Aluminium BS1490LM4 and Cast iron to BS1452:1961-Gr12/15 *
Elements : NBR, Urethane, Bronze

Type of Elements

Element	Temperature Range	Max Misalignment	
		Angle º	Parallel (mm)
NBR	-40ºC to 100ºC	1	0.38
Urethane	-35ºC to 70ºC	1	0.38
Bronze	-40ºC to 230ºC	1/2	0.38
Hytrel®	-50ºC to 120ºC	1/2	0.25

Spider Element

Wrap On Element

SELECTION

Use the following procedure when making selection for the J series coupling.

SELECTION PROCEDURE

(a) Check the type of load and prime mover to determine service factor from ***Table 1***

(b) Used the absorbed power or running power and multiply by the service factor obtained from ***Table 1*** to get the the required Design Power.

(c) Select from the chart in ***Table 3*** by moving across the table and against the speed as indicated on the left column for a power equals or greater than the Design Power. Coupling size is mentioned on top column in ***Table 3.***

(d) Check the bores in the dimensions data in page 3 and if max. bore is smaller than the required bore sizes, then select the next larger size that can accept the bore sizes.

EXAMPLE

Application : Centrifugal pump
Motor : 7.5kw/1450 rpm
Duty : 12 hours
Shaft diameters. : Motor shaft at 38mm
: Pump shaft at 40mm

(a) Service Factor is 1
(d) Design Power = 7.5 x 1 = 7.5kw
(c) Coupling selected is **Size JL 110**
(d) Max bore for this coupling is 42mm hence the selection is correct.

$$\textit{Torque} = \frac{\textit{Design power x 9550}}{\textit{rpm}}$$

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J - Series Jaw Coupling

The Range

JL Type

JW Type

JWS - (Spacer) Type

Performance

Table 1 - Element Power Factor

Load Characteristics	Electric Motor	Steam Turbine Engine 4 Cylinders	Reciprocating Engine
Uniform	1	2	2
Moderate Shock	2	2	3
Heavy Shock	2	3	3

Table 2 - Element Power Factor

Element Material	Power Factor
NBR	1
Urethane	1.5
Bronze & Hytrel	2.5

Table 3 - Power Rating (kW)

speed	Coupling Size										
rpm	035	050	070	075	090	095	100	110	150	190	225
50	0.002	0.016	0.03	0.05	0.09	0.11	0.25	0.47	0.74	1.02	1.38
100	0.004	0.032	0.05	0.11	0.17	0.23	0.49	0.94	1.49	2.04	2.77
300	0.01	0.10	0.16	0.32	0.52	0.68	1.48	2.81	4.46	6.13	8.30
600	0.02	0.19	0.31	0.63	1.03	1.37	2.96	5.61	8.93	12.26	16.59
800	0.03	0.26	0.41	0.85	1.37	1.83	3.95	7.48	11.90	16.34	22.12
1000	0.04	0.32	0.52	1.06	1.72	2.28	4.93	9.35	14.88	20.43	27.65
1200	0.05	0.39	0.62	1.27	2.06	2.74	5.92	11.22	17.86	24.52	33.19
1500	0.06	0.49	0.78	1.59	2.58	3.42	7.40	14.03	22.32	30.64	41.48
1800	0.07	0.58	0.93	1.90	3.09	4.11	8.88	16.83	26.78	36.77	49.78
2400	0.10	0.78	1.24	2.54	4.12	5.48	11.84	22.44	35.71	49.03	66.37
3000	0.12	0.97	1.55	3.17	5.15	6.85	14.80	28.05	44.64	61.29	82.96
3600	0.14	1.17	1.87	3.81	6.18	8.22	17.75	33.66	53.57	73.55	99.56
Max. Speed (rpm) *	18000	14000	11000	10000	8000	8000	7000	5000	4000	3600	3600
Max. Torque (Nm)	0.4	3.1	4.95	10.1	16.4	21.8	47.1	89.3	142.1	195.1	264.1

* max speed -- coupling required dynamic balancing on high speed.

** Coupling weight

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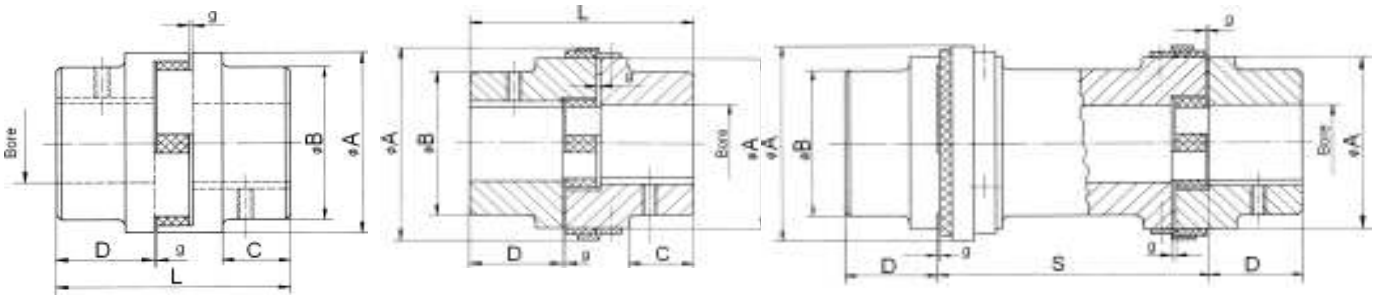
J - Series Jaw Coupling

Dimensions



JL Type **JW Type** **JWS Type**

Type / Size		ØA		ø B	C	D	L	g	Straight Flange		Taper Flange F&H Flange				Spacer Length
		JL	JS JW						Bore ø		C	Bush	Bore ø		S (mm)
									min.	max.			min.	max.	
JL	030	16	-	16	-	7	21	1	-	10	-	-	-	-	-
	050	27	-	27	-	15	42	1	5	16	-	-	-	-	-
	070	36	-	36	-	19	51	2	9	20	-	-	-	-	-
	075	45	-	45	-	21	55	2	9	22	-	-	-	-	-
JL JW JWS	090	54	65	49	9	21	55	2	9	28	-	-	-	-	100, 140, 180
	095	54	65	49	13	25	63	2	9	28	-	-	-	-	100, 140, 180
	100	65	78	65	-	27	88	2	9	38	-	**1108**	9	28	100, 140, 180
	110	85	96	76	30	35	108	3	10	42	14	**1210**	11	32	100, 140, 180
	150	96	111	80	30	35	115	3	10	48	12	**1210**	11	32	100, 140, 180
	190	115	129	102	35	45	133	3	10	60	8	**1610**	14	42	100, 140, 180
	225	127	142	111	45	45	153	3	10	65	15	**2012**	14	50	100, 140, 180

* coupling required dynamic balance on high speed.

Coupling Size	Weight in kgs		
	JL	JS	JW (min - max)
030	0.1		
050	0.2		
070	0.3		
075	0.5		
090	0.7	0.7	1 -- 1.25
095	0.8	0.8	1.1 -- 1.3
100	1.6	1.6	2 -- 2.5
110	3.1	3	4.1 -- 4.8
150	4.2	4.2	5 -- 6.1
190	7.7	7.7	9.6 -- 10.2
225	10.5	10.5	13.4 -- 15

** Weight based on min bore size and without spacer.

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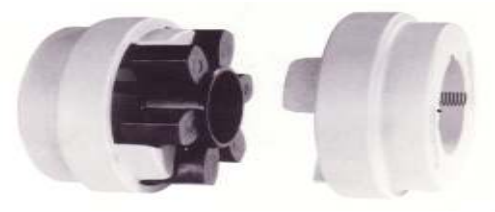
Duraflex DRC Flexible Coupling



DURAFLEX DRC is a general coupling which comprise of two flanges and an elastomeric element. The F and H flanges are designed to use with taper bush permitting a quick and easy mean of installation and removal of couplings. A total of 8 sizes with torque rating up to 3150Nm. It provides positive power transmission between shafts and at the same time accepting moderate level of misalignment. The rubber element cushions transient peak torque therebyefficiently reduces vibrations and shock load. Standard element in natural rubber or neoprene and FRAS element are available.

Materials

Flanges : GG25 cast iron and phosphate finished
Elements : NBR / Neoprene, FRAS (fire resistant and anti-static)

Advantages/Features

- **Economy** - *Power capacities are designed to balance with the shaft diameters*
- **Torque to Bore Range** - *8 sizes with torque up to 3150Nm and max. bore to suit taper locking bush at 90mm dia.*
- **Installation/Maintenance** - *Only a hexagon wrench is required during installation. Easy maintenance as no lubricant needed.*
- **Misalignment** - *Incidental parallel, angular and axial misalignment.*

SELECTION

Using the following steps to determine the selection of the coupling.

A: Service Factor
Refer to table 1 for correct service factor

B: Design Power
The design power is obtained by using nominal running power multiple by service factor.

C: Coupling Size
Refer to power rating chart as showed in Table 2 and from the speed required, read across the line and choose a coupling that show equal or greater power rating than the required design power.

D: Bore Size
Check from Table 3 or 4 and choose the correct flanges to suit the bore requirement.

EXAMPLE

A DURAFLEX DRC coupling is required to transmits 18.5kW at 1450 rpm between a motor and a centrifugal pump.
Electric motor with a shaft diameter of 38mm. Pump shaft is 42mm and taper locking bush is required. Duty is 8 hours/day.

A: Service Factor
From Table 1, the service factor is 1.0

B: Design Power
Design power is 18.5 x 1 = 18.5 kW

C: Coupling Size
By reading across Table 2, the size selected is DRC 110 F/H

D: Bore Size
Checking Table 3, DRC 110 FH with bush 1610 at 42mm and 38mm is suitable for this application.

Master

Performance

Table 1. Service Factor

Classification of Driven Machine NOTES: Special cases, on applications where fluctuations of torque, vibration and substantial shock and shock and on reciprocating machines e.g. piston type pumps, internal combustion engines and compressors, please check with our technical department.	Electric Motor Steam Engine Duty cycle per day			Internal Combustion Engines Steam Engines Water Turbines Duty cycle per day		
	< 10	10 to 16	> 16	< 10	10 to 16	> 16
Class A Agitators, Brewing machinery, Centrifugal pumps & Compressors. Belt Conveyors, Line shafts, Dynamometers, Generators. Fan to 7.7kw. Blowers & exhausts except positive displacement type.	1	1.2	1.3	1	1.4	1.6
Class B Clay working machines, Machine tools, Paper mill beaters & winders, Rotary pumps, Rotary screens, Rubber extruders, Textile machinery. Fans over 7.5kW.	1.6	1.8	2	2	2.3	2.5
Class C Bucket elevators, Cooling tower fans, Piston pumps and compressors. Paper mills calendars, Foundry machinery, Hammer mill, Presses, Pulp grinders, Rubber calendars, displacement blowers.	2	2	2.5	3	3	3
Class D Reciprocating conveyors, Crushers, Mills (ball, pebble and rod) Rubber mills & mixers. Vibratory screen.	2.5	2.8	3.2	3	3.6	4

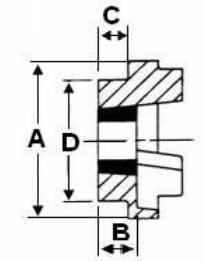
Table 2 - Power Ratings (kW)

speed (rpm)	**Coupling Size**							
	DRC 70	**DRC 90**	**DRC 110**	**DRC 130**	**DRC 150**	**DRC 180**	**DRC 230**	**DRC 280**
100	0.33	0.84	1.67	3.29	6.30	10.00	20.90	33.00
200	0.66	1.68	3.34	6.58	12.60	20.00	41.80	66.00
400	1.32	3.36	6.68	13.16	25.20	40.00	83.60	132.00
600	1.98	5.04	10.02	19.74	37.80	60.00	125.40	198.00
750	2.48	**6.30**	**12.53**	**24.68**	**47.25**	**75.00**	156.75	**247.50**
800	2.64	6.72	13.36	26.32	50.40	80.00	167.20	264.00
950	3.14	**7.98**	**15.87**	**31.26**	**59.85**	**95.00**	198.55	**315.50**
1200	3.96	10.08	20.04	39.48	75.60	120.00	250.80	396.00
1450	4.79	**12.18**	**24.22**	**47.71**	**91.35**	**145.00**	303.05	478.50
1600	5.28	13.44	26.72	52.64	100.80	160.00	334.40	**528.00**
1800	5.94	15.12	30.06	59.22	113.40	180.00	376.20	594.00
2000	6.60	16.80	33.40	65.80	126.00	200.00	418.00	660.00
2200	7.26	18.48	36.74	72.38	138.60	220.00	459.80	726.00
2400	7.92	20.16	40.08	78.96	151.20	240.00	501.60	
2600	8.58	21.84	43.42	85.54	163.80	260.00	543.40	
2850	9.41	**23.94**	**47.60**	**93.77**	**179.55**	**285.00**		
3000	9.90	25.2	50.10	98.70	189.00	300.00		
3200	10.56	26.88	53.44	105.28	201.60			
3600	11.88	30.24	60.12	118.44	226.80			
Nominal Torque (Nm)	11.9	80	160	315	600	950	2000	3150
Max. Torque (Nm)	31.5	180	360	720	1500	2350	5000	7200
Misalignment Radial ** mm	0.3	0.3	0.3	0.4	0.4	0.4	0.5	0.5
Misalignment Axial ** mm	+ 0.2	+ 0.5	+ 0.6	+ 0.8	+ 0.9	+ 1.1	+ 1.3	1.7
Misalignment Angular ** Deg	1º	1º	1º	1º	1º	1º	1º	1º

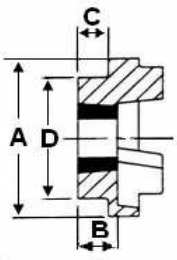
Figures in BOLD are for standard motor speed

** Max. misalignment

Dimensions



F Flange



H Flange

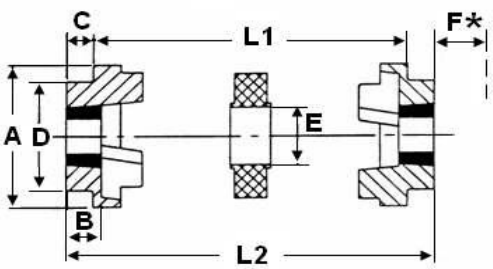
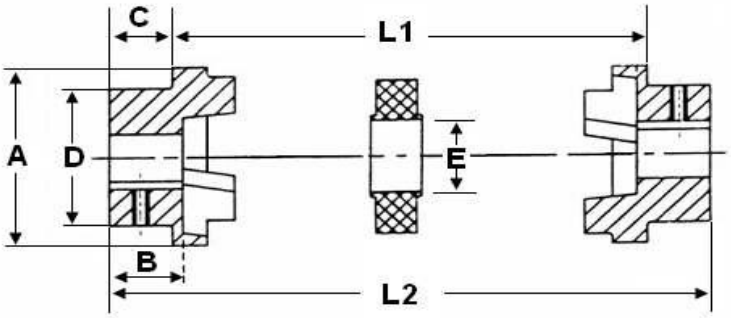


TABLE 3 ***TAPER BUSHING COUPLING - DIMENSIONS FOR HUB "F" & " H" TYPE***

Coupling Size	Bush Size	Max Bore (mm)	Dimensions in mm								Wt (kgs)
			A	B	C	D	E	F*	L1	L2	
DRC 70	1008	25	69	23.5	20	60	31	29	25	65	1.0
DRC 90	1108	28	85	23.5	19.5	70	32	29	31	70	1.7
DRC 110	1610	42	112	26.5	18.5	100	45	38	45	82	5.0
DRC 130	1610	42	130	26.5	18	105	50	38	53	89	5.5
DRC 150	2012	50	150	33.5	23.5	115	62	42	60	107	7.1
DRC 180	2517	65+	180	46.5	34.5	125	77	48	73	142	16.6
DRC 230	3020	75	225	52.5	39.5	155	99	55	86	165	26.0
DRC 280	3525	90	275	66.5	51	206	119	67	106	208	50.0

F* Clearance distance required for tightening and loosening of hub

\+ Shallow keyway BS 46 Part I



BB Flanges

TABLE 4 ***PLAIN BORE COUPLING - DIMENSIONS FOR HUB "B" TYPE***

Coupling Size	Min. Bore (mm)	Max. Bore (mm)	Dimensions in mm								Wt (kgs)
			A	B	C	D	E	L1	L2		
DRC 70	-	32	69	25	21	55	31	25	68	M6	1.1
DRC 90	-	42	85	34	30	60	32	31	91	M6	1.7
DRC 110	-	55	112	44	36	80	45	45	117	M10	4.2
DRC 130	-	60	130	50	41	90	50	53	136	M10	6.3
DRC 150	-	70	150	58	47	104	62	60	155	M10	9.5
DRC 180	-	80	180	68	55	120	77	73	184	M10	15
DRC 230	48	100	225	85	71	150	99	86	229	M12	28
DRC 280	60	115	275	106	90	206	119	106	286	M16	63

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Tireflex - Flexible Coupling

TIREFLEX is a highly resilient coupling and offers many features that are desirable in a flexible coupling. This coupling can accomodates max. misalignment in all planes without imposing loads on the adjacent bearings. In addition, its rubber element has excellent shock absorbing properties that will reduces vibrations and oscillations.

Materials

Flanges : *C45 steel and phosphate finished.*

Elements : *NBR / Neoprene, FRAS (fire resistant & anti-static) suitable to operate up to 50ºC to 70ºC when 70ºC is contaminated by oil or greases.*

: *Reinforced with fabric to ensure higher life .*

Advantages/Features

- **High Misalignment Capacity -** *Parallel to 4mm Angular to 4º and End Float to 8mm*
- **Tensional Soft -** *Absorbs shock loads and protects machinery from premature failures*
- **Damping -** Reduces vibrations and torsional oscillations
- **No Back Lash -** *Free of backlash as it does not create "snatch" during take-up of drive.*
- **Maintenance Free -** *No lubrication as no moving parts. No dismantling of components for inspection.*
- **Installation/Replacement of Element** - *No special skill or tools Checking of alignment is easy by placing a straight edge across the outside diameter of flange.*
- **Environment** -*Suitable for most conditions with NBR elements. FRAS can be used in fire hazard areas and avoid static built up*

SELECTION

Using the following steps to determine the selection.

A: Service Factor

Refer to table 1 for correct service factor

B: Design Power

The design power is obtained by using nominal power multiply by service factor.

C: Coupling Size/Bore Size

Refer to power rating chart as showed in Table 2 and read across the line against the speed required. Choose a coupling that shows equal or greater in power rating then the required design power. Check Table 3-4 for the correct coupling size.

EXAMPLE

Select Tireflex coupling between motor and gear .
Application is belt conveyor. Motor is 18.5kw/1450rpm
Duty: 24 hrs/day. Motor shaft 42mm, gear shaft 38mm
Taper bush locking required.

A: Service Factor

From Table 1, the service factor is 1.5

B: Design Power

Design power is 18.5Kw x 1.5 = 27.75 Kw

C: Coupling Size/ Bore Size

By reading across Table 2, the size selected is T70 rated 37.4kw at 1440rpm. Table 4, dimensions showed that coupling with bush 1610 at 42mm/38mm bores.

Table 1. Service Factor

Classification of Driven Machine NOTES: Special cases, on applications where fluctuations of torque, vibration and substantial shock and on reciprocating machines e.g. piston type pumps, internal combustion engines and compressors, please check with our technical department.	Electric Motor Steam Engines			Internal Combustion Engines Steam Engines Water Turbines		
	Duty cycle per day			Duty cycle per day		
	< 10	10 to 16	> 16	< 10	10 to 16	> 16
Class A Agitators, Centrifugal pumps & Compressors. Belt Conveyors, Line Shafts, Generators, Dynamometers, Fan to 7.7kw. Blowers & exhausts except positive displacement type.	0.8	0.9	1.0	1.3	1.4	1.5
Class B Clay working machines, Machine tools, Paper mill beaters & winders, Rotary pumps, Rotary screens, Rubber extruders, Textile machinery. Fans over 7.5kW.	1.3	1.4	1.5	1.8	1.9	2.0
Class C Bucket elevators, Cooling tower fans, Piston pumps &compressors. Paper mills calendars, Foundry machinery, Hammer mill, Pulp grinders, Rubber calendars, displacement blowers.	1.8	1.9	2.0	2.3	2.4	2.5
Class D Reciprocating conveyors, Crushers, Ball Mills, Rubber mills & mixers, Vibratory screen	2.3	2.4	2.5	2.8	2.9	3.0

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Performance

TABLE 2: POWER RATING (KW)

Speed (rpm)	Coupling Size														
	T 40	**T 50**	**T 60**	**T 70**	**T 80**	**T 90**	**T 100**	**T 110**	**T 120**	**T 140**	**T 160**	**T 180**	**T 200**	**T 220**	**T 250**
100	0.25	0.65	1.3	2.6	3.9	5.2	7	9.15	13.9	24	39.2	65	97.5	121	153
200	0.5	1.3	2.6	5.2	7.8	10.4	14	18.3	27.8	48	78.4	130	195	242	306
300	0.75	1.95	3.9	7.8	11.7	15.6	21	27.5	41.7	72	117.6	195	292.5	363	459
400	1	2.6	5.2	10.4	15.6	20.8	28	36.6	55.6	96.0	156.8	260	390	484	612
500	1.25	3.25	6.5	13	19.5	26	35	45.8	69.5	120	196	325	487.5	605	765
600	1.5	3.9	7.8	15.6	23.4	31.2	42	54.9	83.4	144	235.2	390	585	726	918
720	**1.8**	**4.68**	**9.4**	**18.7**	**28.1**	**37.4**	**50.4**	**65.9**	**100.1**	**172.8**	**282.2**	**468**	**702**	**871.2**	**1102**
800	2	5.2	10.4	20.8	31.2	41.6	56	73.2	111.2	192	313.6	520	780	968	1224
900	2.25	5.85	11.7	23.4	35.1	46.8	63	82.4	125.1	216	352.8	585	877.5	1089	1377
960	**2.4**	**6.24**	**12.5**	**25.0**	**37.4**	**49.9**	**67.2**	**87.8**	**133.4**	**230.4**	**376.3**	**624**	**936**	**1162**	**1469**
1000	2.5	6.5	13	26	39	52	70	91.5	139	240	392	650	975		
1200	3	7.8	15.6	31.2	46.8	62.4	84	109.8	166.8	288	470.4	780			
1300	3.25	8.45	16.9	33.8	50.7	67.6	91	119.0	180.7	312	509.6	845			
1440	**3.6**	**9.36**	**18.7**	**37.4**	**56.2**	**74.9**	**100.8**	**131.8**	**200.2**	**345.6**	**564.5**	**936**			
1550	3.88	10.08	20.2	40.3	60.5	80.6	108.5	141.8	215.5	372					
1800	4.5	11.7	23.4	46.8	70.2	93.6	126	164.7	250.2						
2000	5	13	26	52	78	104	140	183.0							
2200	5.5	14.3	28.6	57.2	85.8	114.4	154	201.3							
2400	6	15.6	31.2	62.4	93.6	124.8	168								
2600	6.5	16.9	33.8	67.6	101.4	135.2	182								
2880	**7.2**	18.7	**37.4**	**74.9**	**112.3**	**149.8**									
3000	7.5	19.5	39	78	117	156									
3200	8	20.8	41.6	83.2											
3600	9.0	23.4	46.8												

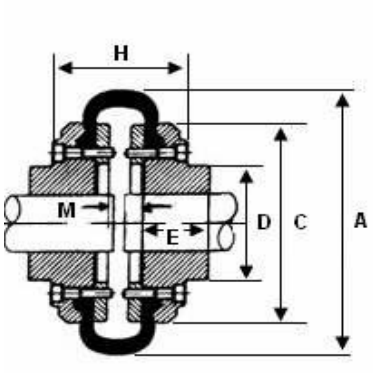
For speed below 100 rpm, please use nominal torque ratings

CHARACTERISTICS

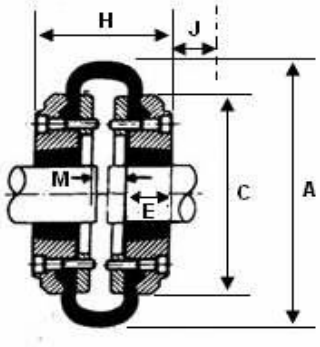
CHARACTERISTICS	**T40**	**T50**	**T60**	**T70**	**T80**	**T90**	**T100**	**T110**	**T120**	**T140**	**T160**	**T180**	**T200**	**T220**	**T250**
Nominal Torque Nm	24	62	123	246	369	492	662	865	1314	2269	3705	6144	9216	11438	14462
Maximum Torque Nm	60	160	310	470	750	1080	1500	2100	3500	5600	9300	16400	23500	33100	42700
Torsional Stiffness Nm/ 0	5	13	26	41	63	91	126	178	295	470	775	1370	1955	2760	3560
Max. Parallel Misalignment	1.1	1.3	1.6	1.9	2.1	2.4	2.6	2.9	3.2	3.7	4.2	4.8	5.3	5.8	6.6
Max. End Float mm±	1.3	1.7	2	2.3	2.6	3	3.3	3.7	4	4.6	5.3	6	6.6	7.3	8.2
Resonance Factor VR	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7
Approx. Weight kg	0.1	0.3	0.5	0.7	1	1.1	1.1	1.4	2.3	2.6	3.4	7.7	8	10	16

DIMENSIONS

Size T 40 - T 60



BB Type



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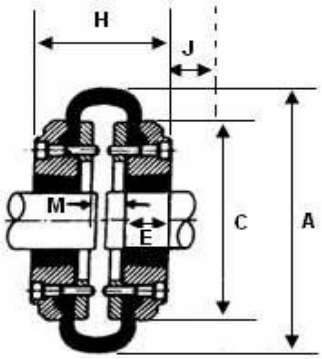


HH Type

TABLE 3: SIZE T 40 TO T 60

Model	Flange Type	Bush Size	Max Bore mm	Max Bore ins	H	E	J +	A	D	C	M	Weight (kgs) Tyre	Weight (kgs) Flange *	Inertia kgm²
T 40	B	--	32	1.1/4"	66	32	29	104	--	82	22	0.1	0.75	0.00075
	F	1008	25	1"	56	22	29	104	--	82	22	0.1	0.75	0.00075
	H	1008	25	1"	56	22	29	104	--	82	22	0.1	0.75	0.00075
T 50	B	--	38	1.1/2"	90	32	38	133	79	100	25	0.25	1.10	0.00115
	F	1210	32	1.1/4"	76	25	38	133	79	100	25	0.25	1.10	0.00115
	H	1210	32	1.1/4"	76	25	38	133	79	100	25	0.25	1.10	0.00115
T 60	B	--	45	1.3/4"	110	38	38	165	70	125	33	0.45	1.75	0.00530
	F	1610	42	1.5/8"	84	25	38	165	103	125	33	0.45	1.75	0.00530
	H	1610	42	1.5/8"	84	25	38	165	103	125	33	0.45	1.75	0.00530

Dimensions in Millimeters unless otherwise stated.

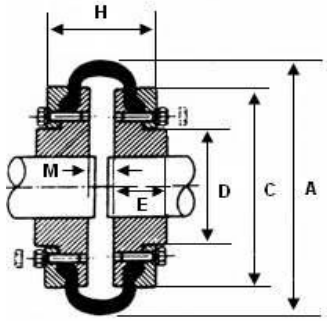
* Estimate weight of each flange with mid range bore

Inertia + Based on one flange with mid range bore

J+ Clearance distance for tightening and loosening the bush and clamping ring screws for Size 40 to 60.

DIMENSIONS

Size T 70 - T 250



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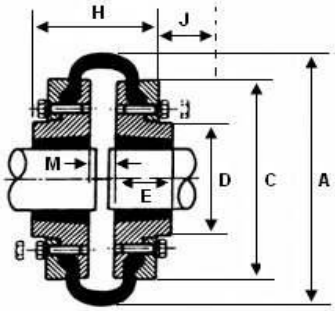

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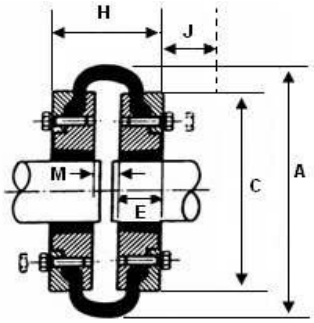


HH Type

TABLE 4: SIZE T 70 TO T 250

Model	Flange Type	Bush Size	Max Bore mm	Max Bore ins	H	E	J +	A	D	C	M	Weight (kgs) Tyre	Weight (kgs) Flange *	Inertia kgm²
T 70	B	--	50	2"	94	35	--	187	80	144	23	0.59	2.75	
	F	2012	50	2"	88	32	--						2.75	0.009
	H	1610	42	1.5/8"	84	25	42						2.75	
T 80	B	--	60	2.1/2"	110	42	--	211	97	167	25	0.77	4.51	0.018
	F	2517	60	2.1/2"	116	45	--		95				4.51	0.018
	H	2012	50	2"	90	32	48		97				4.21	0.017
T 90	B	--	70	2.3/4"	127	49	--	235	112	188	27	0.91	6.65	0.032
	F	2517	60	2.1/2"	119	45	--		108				6.55	0.031
	H	2517	60	2.1/2"	119	45	48		108				6.55	0.031
T100	B	--	80	3.1/4"	141	56	--	254	125	216	27	1.1	9.35	0.056
	F	3020	75	3"	131	51	--		120				9.35	0.056
	H	2517	60	2.1/2"	119	45	48		113				8.85	0.055
T110	B	--	90	3.1/2"	151	63	--	279	128	233	25	1.36	11.82	0.081
	F	3020	75	3"	127	51	--		134				11.02	0.079
	H	3020	75	3"	127	51	55		134				11.02	0.079
T120	B	--	100	4"	169	70	--	314	143	264	29	1.73	32.05	0.0138
	F	3525	100	4"	159	65	--		140				15.63	0.0138
	H	3020	75	3"	131	51	55		140				15.04	0.013
T 140	B	--	130	5"	221	94	--	359	178	311	32	2.04	21.18	0.255
	F	3525	100	4"	163	65	--						21.28	0.255
	H	3525	100	4"	163	65	67						21.28	0.255
T 160	B	--	140	5.1/2"	234	102	--	402	187	345	30	3.4	35.8	0.469
	F	4030	115	4.1/2"	184	77	80		197				32.5	0.380
	H	4030	115	4.1/2"									32.5	0.380
T 180	B	--	150	6"	274	114	--	470	200	398	46	7.7	49.1	0.871
	F	4535	125	5"	224	89	89		205				42.2	0.847
	H	4535	125	5"									42.2	0.847
T 200	B	--	150	6"	276	114	--	508	200	429	48	8	58.2	1.300
	F	4535	125	5"	226	89	89		205				53.6	1.280
	H	4535	125	5"									53.6	1.280
T 220	B	--	160	6.1/8"	309	127	--	562	218	474	45	10	79.6	2.141
	F	5040	130	5"	259	102	92		223				72.0	2.103
	H	5040	130	5"									72.0	2.103
T 250	B	--	190	7.1/2"	323	132	--	628	254	532	59	15	104.0	3.504

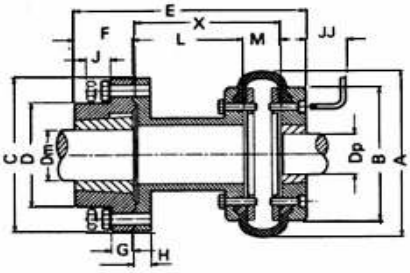
Dimensions in Millimeters unless otherwise stated.

* Estimate weight of each flange with mid range bore

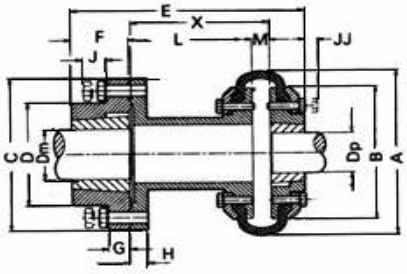
Inertia + Based on one flange with mid range bore

J+ Clearance distance for tightening & loosening the bush for Size T70-T250

Spacer Coupling



Size T40 to T60



Size T70 to T180

TABLE 4: Dimension Of Spacer Coupling T40 to T180

Model	X DBSE	A	B	C	D	E	F	G	H	J	JJ †	L	M	Bush Size Max. Bore		Mass * kg	Inertia ** kgm²
														D	Dm		
T40-D118-100	100	104	82	118	83	150	25	14	12	14	29	81	22	1008-25	1210-32	5.1	0.0050
T50-D118-100	100	133	79	118	83	153	25	14	12	14	38	78	25	1210-32	1210-32	5.9	0.0580
T50-D127-100	100	133	79	127	80	166	25	18	15	14	38	78	25	1210-32	1610-42	6.3	0.0104
T50-D127-140	140	133	79	127	80	206	25	18	15	14	38	118	25	1210-32	1610-42	6.6	0.0105
T60-D127-100	100	165	70	127	80	166	25	18	15	14	38	70	33	1610-42	1610-42	7.9	0.0185
T60-D127-140	140	165	70	127	80	206	25	18	15	14	38	110	33	1610-42	1610-42	8.0	0.0186
T70-D178-100	100	187	80	178	123	179	45	22	15	19	13	79	23	2012-50	2517-60	14.0	0.0483
T70-D178-140	140	187	80	178	123	218	45	22	15	19	13	119	23	2012-50	2517-60	14.4	0.0486
T70-D178-180	180	187	80	178	123	259	45	22	15	19	13	159	23	2012-50	2517-60	14.9	0.0489
T70-D178-250	250	187	80	178	123	328	45	22	15	19	13	229	23	2012-50	2517-60	15.8	0.0494
T80-D178-140	140	211	95	178	123	232	45	22	15	19	16	117	25	2517-60	2517-60	17.8	0.0669
T80-D178-180	180	211	95	178	123	272	45	22	15	19	16	157	25	2517-60	2517-60	18.2	0.0675
T80-D178-250	250	211	95	178	123	342	45	22	15	19	16	227	25	2517-60	2517-60	19.0	0.0686
T90-D178-140	140	235	108	178	123	231	45	22	15	19	16	114	27	2517-60	2517-60	22.0	0.0916
T90-D178-180	180	235	108	178	123	271	45	22	15	19	16	154	27	2517-60	2517-60	22.4	0.0919
T90-D216-140	140	235	108	216	146	237	51	29	20	28	16	114	27	3020-75	3020-75	25.0	0.1290
T90-D216-180	180	235	108	216	146	277	51	29	20	28	16	154	27	3020-75	3020-75	25.5	0.1300
T90-D216-250	250	235	108	216	146	347	51	29	20	28	16	224	27	3020-75	3020-75	27.3	0.1320
T100-D216-140	140	254	120	216	146	245	51	29	20	28	16	114	27	3020-75	3020-75	30.8	0.1770
T100-D216-180	180	254	120	216	146	285	51	29	20	28	16	154	27	3020-75	3020-75	31.3	0.1780
T100-D216-250	250	254	120	216	146	355	51	29	20	28	16	224	27	3020-75	3020-75	32.2	0.1800
T110-D216-140	140	279	134	216	146	245	51	29	20	28	16	118	25	3020-75	3020-75	34.4	0.2410
T110-D216-180	180	279	134	216	146	285	51	29	20	28	16	158	25	3020-75	3020-75	34.9	0.2420
T110-D216-250	250	279	134	216	146	355	51	29	20	28	16	228	25	3020-75	3020-75	36.0	0.2430
T110-D248-140	140	279	134	248	178	259	65	34	25	25	16	118	25	3020-75	3020-75	48.9	0.3050
T110-D248-180	180	279	134	248	178	299	65	34	25	25	16	158	25	3020-75	3020-75	50.8	0.3080
T110-D248-250	250	279	134	248	178	369	65	34	25	25	16	228	25	3020-75	3020-75	54.2	0.3140
T120-D248-140	140	314	140	248	178	273	65	34	25	28	16	114	29	3525-95	3525-95	52.2	0.4430
T120-D248-180	180	314	140	248	178	313	65	34	25	28	16	154	29	3525-95	3525-95	52.8	0.4400
T120-D248-250	250	314	140	248	178	383	65	34	25	28	16	224	29	3525-95	3525-95	54.6	0.4460
T140-D248-180	180	359	178	248	178	312	65	34	25	28	17	150	32	3525-95	3525-95	65.1	0.6820
T140-D248-250	250	359	178	248	178	382	65	34	25	28	17	220	32	3525-95	3525-95	66.7	0.6860
T140-D298-180	180	359	178	298	210	324	77	35	25	25	17	150	32	3525-95	4030-110	85.4	0.8330
T140-D298-250	250	359	178	298	210	394	77	35	25	25	17	220	32	3525-95	4030-110	91.4	0.8520
T160-D298-180	180	402	197	298	210	337	77	35	25	28	19	153	30	4030-110	4030-110	96.0	1.1210
T160-D298-250	250	402	197	298	210	407	77	35	25	28	19	223	30	4030-110	4030-110	99.2	1.1300
T180-D330-180	180	470	205	330	230	319	77	40	30	38	19	137	46	4535-120	4535-120	128.0	2.2000
T180-D330-250	250	470	205	330	230	419	89	40	30	38	19	207	46	4535-120	4535-120	139.0	2.3080

Master

FL Type Flexible Coupling

FL Flexible Coupling -- The two halves(flanges) are designed in concave jaw on the inside and is peripherally offset by half a pitch in relation to another. In between it accommodates a spider element. This element comes in few materials to give different performances and characteristics. The elements are crowned so that it can avoid pressure contact on edge when shafts are misaligned.

Characteristic & Performance

- **Compact Design -** *Torsionally rigid, low weight and inertia, small dimensions yet transmitting high torques. Ideal for application with damping torsional vibrations.*
- **Free of Maintenance** - *No lubrication are seals required.*
- **Flange materials** - *Different materials to suit a wide range of application applications.*
- **Spider Element** - *Various materials to give different performances. Operation temperature range from -40ºC to + 100ºC and peak at 120°C without causing damages to the coupling. Resistant to oil,ozone, wear and ageing.*

Materials

Flanges (Hub) Available in Aluminium AL 2024, Cast iron GG 25 and Steel

Spider Elements

PU Material & Colour	*Temperature Range*	*Type of Flange Used*	*Typical Application*
Shore 92 A - Yellow	-40ºC to + 90ºC	All type of materials	Engineerings/Hydraulic
Shore 95/98 A - Red	-30ºC to + 90ºC	Cast iron & Steel	High damping vibrations

SELECTION

Using the following steps to determine the correct selection.

A: *Service Factor*
Refer to Table f1- temperature factor , Table f2 - No. of Stop/ Start (f2) and Table f3 - Load Condition factor (f3)
SF = f1 x f2 x f3

B: *Design Torque*
The design torque is obtained by using the nominal torque multiple by the service factor Tabel f1,f2,f3

Design Torque **T d =** $\frac{\text{kW x 9550}}{\text{n}}$ (Nm) x SF (f1.f2.f3)

C: *Coupling Size*
Refer to page 14 to 16 to check against the torque rating of the coupling. Choose a size that is either the same or greater rating then the required design torque.

D: *Bore Size*
Check the selected coupling max, bore size and choose the next larger size that meets the bore requirement.

EXAMPLE

A coupling required between a motor and pump.
Motor is 37kw/1500rpm. Motor shaft is 60mm.
Pump shaft is 48mm and operated at 30ºC amb.
tempature with Stop/start at 5 per hour.
Select a FL type coupling.- steel hub type

A: From Table f1,f2,f3, service factor is 1x1x1.5 = 1.5

B: T d $\frac{\text{kW x 9550}}{\text{n}}$ x SF

= $\frac{\text{37 x 9550}}{\text{1500}}$ x 1 x 1 x 1.5

= 353Nm

C: Page14 the selected coupling is **FL42** which is higher rated than the design torque at 450Nm.

D: But FL42 max bore is only at 42mm. The next larger size **is FL48/60** which has a max bore 48mm/60mm. This coupling is suitable.

Table f1

Temperature	-30ºC / +30ºC	+40ºC	+60ºC	+80ºC
factor	1	1.2	1.4	1.8

Table f2

Stop/Start per hour	0 - 100	101 - 200	201 - 400	401 - 800
factor	1	1.2	1.4	1.6

Table f3

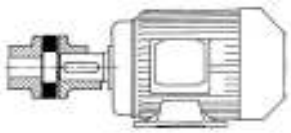
Load Condition	**factor**
Light Shock	1.5
Medium Shock	1.8
Heavy Shock Load	2.2

Megadrive

Master

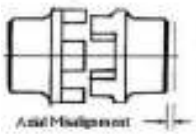
FL Type Flexible Coupling

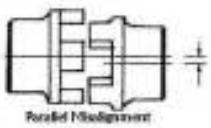
Coupling Quick Selection - Motor Size



Electric Motor			2 poles 3000rpm		Coupling Size	4 poles 1500rpm		Coupling Size	6 poles 1000rpm		Coupling Size	8 poles 750rpm		Coupling Size
Frame Size	2 poles	4, 6, 8 Poles	kW	Torque (Nm)		kW	Torque (Nm)		kW	Torque (Nm)		kW	Torque (Nm)	
56	9 x 20		0.09	0.32	**9**	0.06	0.43	**9**	0.0037	0.43	**9**			
			0.12	0.41		0.09	0.64		0.0045	0.52				
63	11 x 23		0.18	0.62	**14**	0.12	0.88	**14**	0.06	0.7	**14**			
			0.25	0.86		0.18	1.3		0.09	1.1				
71	14 x 30		0.37	1.3		0.25	1.8		0.18	2		0.09	1.4	**14**
			0.55	1.9		0.37	2.5		0.25	2.8		0.12	1.8	
80	19 x 40		0.75	2.5	**19**	0.55	3.7	**19**	0.37	3.9	**19**	0.18	2.5	**19**
			1.10	3.7		0.75	5.1		0.55	5.8		0.25	3.5	
90 S	24 x 50		1.50	5		1.1	7.5		0.75	8		0.37	5.3	
90 L			2.20	7.4		1.5	10	**24**	1.1	12	**24**	0.55	7.9	**24**
100 L	28 x 60		3	9.8	**24**	2.2	15		1.5	15.0		0.75	11	
						3	20					1.1	16	
112 M			4	13		4	27		2.2	22		1.5	21	
132 S	38 x 80		5.5	18.0	**28**	5.5	36	**28**	3	30.0	**28**	2.2	30	**28**
			7.5	25.0										
132 M						7.5	49		4	40.0		3	40	
									5.5	55.0				
160 M	42 x 110		11	36	**38**	11	72	**38**	7.5	75.0	**38**	4	54	**38**
			15	49								5.5	74	
160 L			18.5	60		15	98		11	109.0		7.5	100	
180 M	48 x 110		22	71	**42**	18.5	121	**42**			**42**			**42**
180 L						22	144		15	148.0		11	145	
200 L	55 x 110		30	97		30	196		18.5	181.0		15	198	
			37	120					22	215.0				
225 S	55 x 110	60 x 140				37	240	**48**				18.5	244	**48**
225 M			45	145		45	292	**55**	30	293.0	**55**	22	290	**55**
250 M	60 x 140	65 x 140	55	177	**48**	55	356		37	361.0	**65**	30	392	**65**
280 S	65 x 140	75 x 140	75	241	**55**	75	484	**65**	45	438.0		37	483	**65**
280 M			90	289		90	581	**75**	55	535.0	**75**	45	587	**75**
315 S		80 x 170	110	353	**65**	110	707		75	727.0		55	712	
315 M			132	423		132	849		90	873.0		75	971	**90**
315 L			160	513		160	1030	**90**	110	1070.0	**90**	90	1170	
			200	641	**75**	200	1290		132	1280.0		110	1420	
		85 x 170							160	1550.0		132	1710	
315			250	802		250	1600		200	1930.0				
			315	1010	**90**									
355	75 x 140	95 x 170	355	1140										
			400	1280										
			500	1600										
400	80 x 170	110 x 210	560	1790										

Misalignment





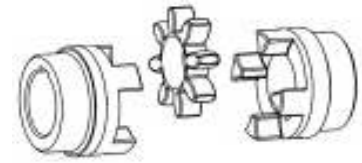
Misalignment	14	19	24	28	38	42	48	55	65	75	90
Max. Axial Misalignment	1	1.2	1.4	1.5	1.8	2	2.1	2.2	2.6	3	3.4
Max. Parallel Misalignment	0.17	0.2	0.22	0.25	0.28	0.32	0.36	0.38	0.42	0.48	0.5
Max. Angular Misalignment Angle º	1.2	1.2	0.9	0.9	1	1	1.1	1.1	1.2	1.2	1.2
Max. Angular Misalignment (mm)	0.7	0.8	0.9	1.1	1.4	1.7	2.0	2.3	2.7	3.3	4.3

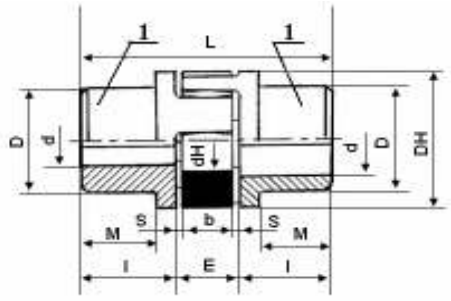
Master

FL Type Flexible Coupling

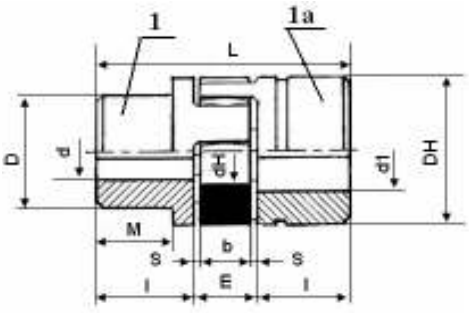
Steel Hub

Hub Type 1/1

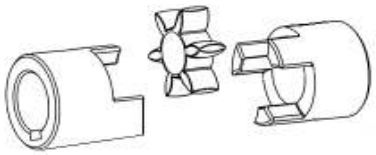


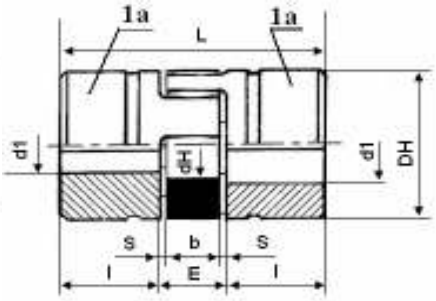


Hub Type 1/1a



Hub Type 1a/1a

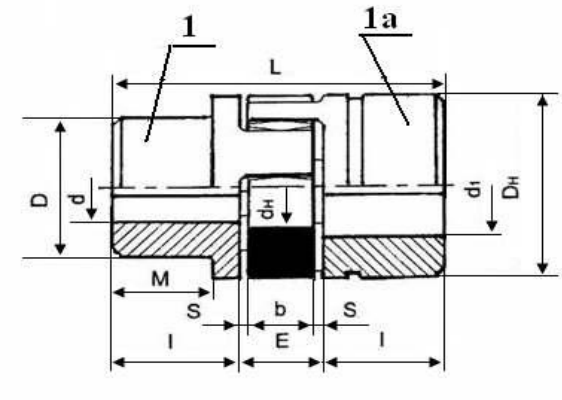


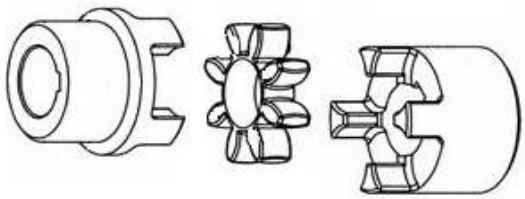


Steel Hub

Coupling Size	Hub Type	Dimensions														Torque Rating Nm	
		Bore Dia (mm)					D	DH	L	E	l	M	S	b	dH	Spider Element	
		Pilot	d Ø		d1 Ø											92 Sh A	98 Sh A
			min	max	min	max											
FL-S 19/24	**1a** / **1a**	6			6	24		40	66	16	25		2	12	18	10	17
FL-S 24/28	**1a** / **1a**	8			8	28		55	78	18	30		2	14	27	35	60
FL-S 28/38	**1a** / **1a**	10			10	38		65	90	20	35		2.5	15	30	95	160
FL-S 38	**1** / **1**	11	12	38			66	80	114	24	45	37	3	18	38	190	325
FL-S 38/45	**1** / **1a**	11	12	38	38	45	66	80	114	24	45	37	3	18	38	190	325
FL-S 42	**1** / **1**	13	14	42			75	95	126	26	50	40	3	20	46	265	450
FL-S 42/55	**1** / **1a**	13	14	42	42	55	75	95	126	26	50	40	3	20	46	265	450
FL-S 48	**1** / **1**	14	15	48			85	105	140	28	56	45	3.5	21	51	310	525
FL-S 48/60	**1** / **1a**	15	15	48	48	60	85	105	140	28	56	45	3.5	21	51	310	525
FL-S 55	**1** / **1**	18	20	55			98	120	160	30	65	52	4	22	60	410	685
FL-S 55/70	**1** / **1a**	18	20	55	55	70	98	120	160	30	65	52	4	22	60	410	685
FL-S 65	**1** / **1**	50	22	65			115	135	185	35	75	61	4.5	26	68	625	940
FL-S 65/75	**1** / **1a**	20	22	65	65	75	115	135	185	35	75	61	4.5	26	68	625	940
FL-S 75	**1** / **1**	28	30	75			135	160	210	40	85	69	5	30	80	1280	1920
FL-S 75/90	**1** / **1a**	28	30	75	75	90	135	160	210	40	85	69	5	30	80	1280	1920
FL-S 90	**1** / **1**	38	40	90			160	200	245	45	100	81	5.5	34	100	2400	3600
FL-S 90/100	**1** / **1a**	38	40	90	90	100	160	200	245	45	100	81	5.5	34	100	2400	3600

Cast Iron Hub



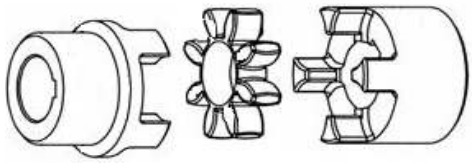


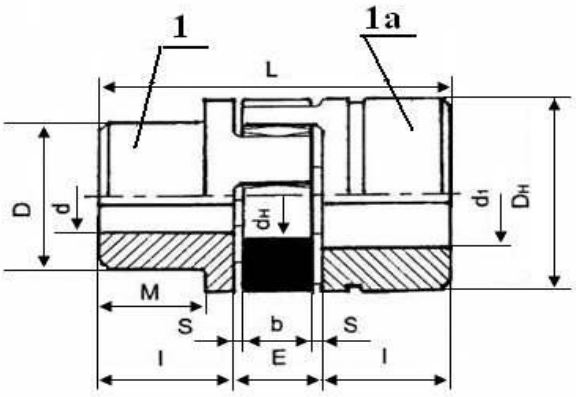
Hub Type 1/1a

Cast Iron Hub

Coupling Size	Hub Type	Dimensions															Torque Rating Nm	
		Bore Dia (mm)					D	DH	L	E	l	M	S	b	dH		
		Pilot	*d Ø*		*d1 Ø*											*Spider Element*	
			min	*max*	*min*	*max*										*92 Sh A*	*98 Sh A*
FL-C 19/24	**1**	6	6	16			32	40	66	16	25	20	2	12	18	10	17
	1a				6	24											
FL-C 24/28	**1**	8	9	24			40	55	78	18	30	24	2	14	27	35	60
	1a				24	32											
FL-C 28/38	**1**	10	10	28			48	65	90	20	35	28	2.5	15	30	95	160
	1a				28	38											
FL-C 38/45	**1**	11	12	38			66	78	114	24	45	37	3	18	38	190	325
	1a				38	45											
FL-C 42/55	**1**	13	14	42			75	94	126	26	50	40	3	20	46	265	450
	1a				42	55											
FL-C 48/60	**1**	15	15	48			85	104	140	28	56	45	3.5	21	51	310	525
	1a				48	60											
FL-C 55/70	**1**	18	20	55			98	118	160	30	65	52	4	22	60	410	685
	1a				55	70											
FL-C 65/75	**1**	20	22	65			115	133	185	35	75	61	4.5	26	68	625	940
	1a				65	75											
FL-C 75/90	**1**	28	30	75			135	158	210	40	85	69	5	30	80	1280	1920
	1a				75	90											
FL-C 90/100	**1**	38	40	90			160	180	245	45	100	81	5.5	34	100	2400	3600
	1a				90	100											

Aluminum Hub





Hub Type 1/1a

Aluminum Type Hub

Coupling Size	Hub Type	Dimensions														Torque Rating Nm	
		Bore Dia (mm)					D	DH	L	E	l	M	S	b	dH	Spider Element	
		Pilot	*d Ø*		*d1 Ø*											*92 Sh A*	*98 Sh A*
			min	*max*	*min*	*max*											
FL-A 19/24	**1**	6	6	19			32		66	16	25	20	2	12	18	10	17
	1a				6	24		41				--					
FL-A 24/28	**1**	9	9	24			40		78	18	30	24	2	14	27	35	60
	1a	24			24	28		56				--					
FL-A 28/38	**1**	10	10	28			48		90	20	35	28	2.5	15	30	95	160
	1a	28			28	38		67				--					
FL-A 38/45	**1**	12	12	38			66		114	24	45	37	3	18	38	190	325
	1a	38			38	45		78									

Master Nylon-Sleeve Coupling

GF Gear Coupling -- It consists of two steel hubs with external gear teeth and phosphate. They are assembled by a synthetic resin sleeve This sleeve is made from high molecular polyamide to give a longer maintenance free life. It is above to operate in a temperature range of -20 ºC to 80ºC and at 120ºC for a short duration.

Characteristic & Performance

- **Compact Design -** *Light weight , high torque and low inertia. Small shaft gap for close coupled applications*
- **Free of Maintenance** - *Nylon sleeve is resistant to dust, moisture, most chemicals and petroleum products. Easy cleaning with visual inspection as no lubrication required.*
- **Crown Tooth** - *The crowned teeth provide larger contact and thereby lower the stress on teeth giving the coupling a better life expectation.*

SELECTION

Using the following steps to determine the selection of the coupling.

A: *Service Factor*
Refer to Table f1- temperature factor , Table f2- No. of Stop/Start and Table f3 - Load Condition factor
SF = f1 x f2 x f3

B: *Design Torque*
The design torque is obtained by using the nominal torque multiple by the service factor. (SF)

Design Torque **T d =** $\frac{\text{kW x 9550}}{\text{n}}$ (Nm) x SF (f1.f2.f3)

C: *Coupling Size*
Refer to page 19 to check against the torque rating of the coupling. Choose a size that is either the same or greater rating then the required design torque.

D: *Bore Size*
Check the selected coupling max, bore size choose the next larger size that meet the bore requirement.

EXAMPLE

A coupling required to couple between an electric motor to a pump. Motor is 15kw/1000rpm.
Motor shaft is 24mm dia and compressor shaft is 28mm. Operation temperature at 30ºC.
Duty: 10 stop/start per hour
Select a Nylon Sleeve coupling.

A: From Table f1,f2,f3, Service Factor is 1x1x1.5 = 1.5

B: T d $\frac{\text{kW x 9550}}{\text{n}}$ x SF

= $\frac{\text{15 x 9550}}{\text{1000}}$ x 1 x 1 x 1.5

= 143Nm

C: From page 18 and 19 the selected coupling is **GF 48** having a rating of 160Nm which is greater than the design torque of 143Nm.

D: This size has a maximum bore of 48mm which is greater than the requirement.

Table f1

Temperature	-30ºC / +30ºC	+40ºC	+60ºC	+80ºC
factor f1	1	1.2	1.4	1.8

Table f2

Stop/Start per hour	0 - 100	101 - 200	201 - 400	401 - 800
factor f2	1	1.2	1.4	1.6

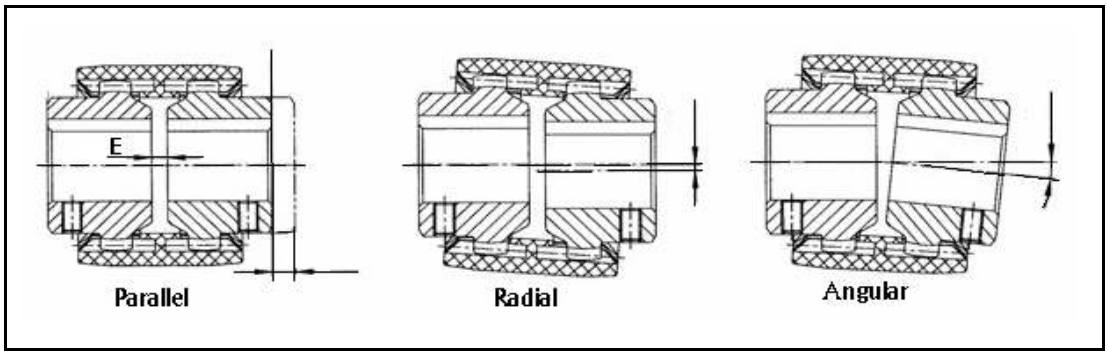
Table f3

Load Condition	*factor f3*
Light Shock	1.5
Medium Shock	1.8
Heavy Shock Load	2.2

Peformance

Table 2 - Power Ratings

Coupling Size	Speed (rpm)												Max. Speed rpm	Torque Nm	
	10	50	100	300	500	750	1200	1450	1800	2500	3000	3600		Nom.	Max
GF 14	0.01	0.03	0.07	0.20	0.34	0.51	0.81	0.98	1.22	1.70	2.03	2.44	13000	12	22
GF 19	0.01	0.07	0.14	0.43	0.71	1.07	1.70	2.06	2.56	3.55	4.26	5.11	11000	18	30
GF 24	0.03	0.15	0.29	0.88	1.46	2.19	3.50	4.23	5.26	7.30	8.76	10.5	10000	24	36
GF 28	0.07	0.36	0.72	2.15	3.58	5.37	8.59	10.4	12.9	17.9	21.5	25.8	8000	48	85
GF 32	0.12	0.60	1.20	3.60	6.00	9.00	14.4	17.4	21.6	30.0	36.0	43.2	7200	65	110
GF 38	0.21	1.07	2.15	6.4	10.7	16.1	25.8	31.1	38.6	53.7	64.4	77.3	6500	95	170
GF 42	0.29	1.43	2.85	8.6	14.3	21.4	34.2	41.3	51.3	71.3	85.5	102.6	6200	115	220
GF 48	0.51	2.53	5.05	15.2	25.3	37.9	60.6	73.2	90.9	126.3	151.5	181.8	5500	160	300
GF 55	1.35	6.77	13.5	40.6	67.7	101.6	162.5	196.3	243.7	338.5	406.2	487.4	4600	300	600
GF 65	2.39	11.9	23.9	71.6	119.4	179.0	286.4	346.1	429.7	596.8	716.1	859.3	4000	400	800



Coupling Size	Maximum misalignment **		
	Parallel	Radial (mm)	Angular
GF 14 **GF 19**	+ / - 4mm	+ / - 0.3mm	+ / - 1° per hub
GF 24 **GF 28** **GF 32** **GF 38** **GF 42** **GF 48** **GF 55** **GF 65**	+ / - 4mm	+ / - 0.4mm	+ / - 1° per hub

GF Coupling

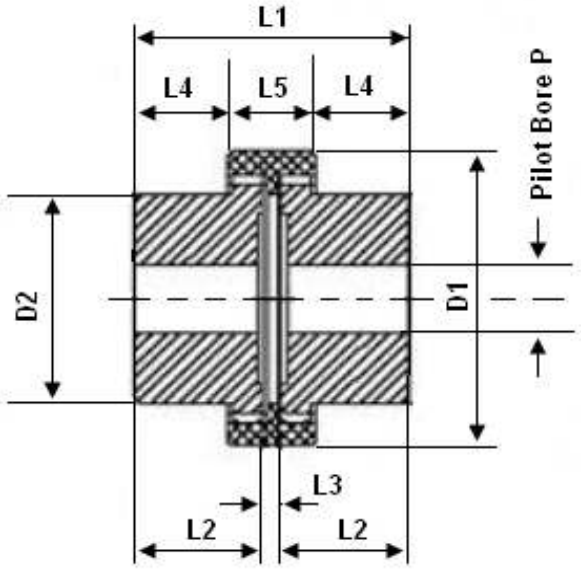


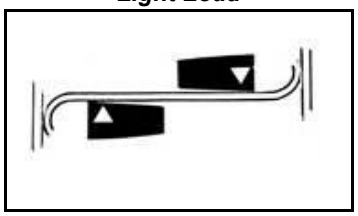
Table 2 - Dimensions

Coupling Size	Pilot Bore P		Dimensions						
	Min mm	Max mm	L1	L2	L3	L4	L5	D1	D2
GF 14	5	14	45	20	5	4	37	40	25
GF 19	10	19	47	21	5	5	37	48	32
GF 24	10	24	50	21	8	5	40	52	36
GF 28	6	28	78	35	8	16	46	66	44
GF 32	12	32	78	35	8	15	48	76	50
GF 38	12	38	78	35	8	15	48	83	58
GF 42	12	42	84	38	8	17	50	92	68
GF 48	12	48	96	45	6	23	50	98	68
GF 55	25	55	120	55	10	28	65	125	83
GF 65	30	65	144	70	13	41	72	140	96

SteelGrid - When torque is transmitted during operation, the taper spring in the coupling flex and in the process de-tune vibrations and cushions shock load. The outcome is a positive protection against damaging effects caused by vibrations, shock and impact loads. This unique characteristic also can helps to accommodate misalignments and axial movement without damaging the other components. This makes the coupling an excellent choice for engineers to apply in demanding applications.
Torsional flexibility prevents the build up of resonance in the system and helps to dampen shock and vibrations by up to 30%. This result in reduction in peak loadings thus protects and extends the life of the equipments.

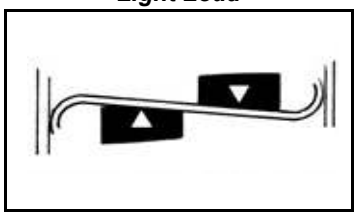
Performance

Light Load



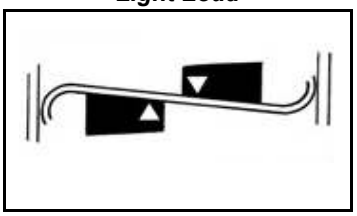
Load is concentrated at the outer edges of the coupling hub teeth. The flexible steel grids between the two points remains free and flex under load variations.

Light Load



The distance between the two points on the hub teeth shortened as the loads increased. The free span still remains and it is capable to cushion shock loads.

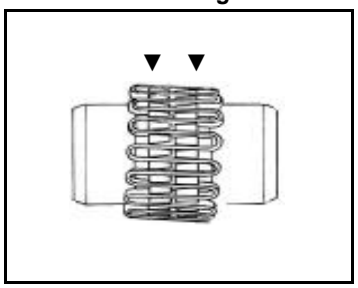
Light Load



This is an extreme overload condition, the grid contacts fully on the hub teeth and transmits maximum load directly. Coupling remains flexible and works within its rated capacity

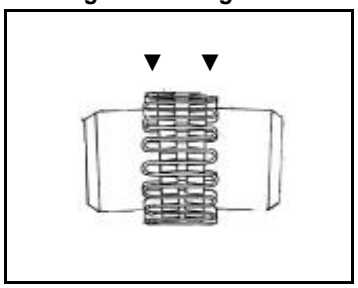
The Steelflex coupling will accommodate a combination of misalignments during installation or during machine displacement, settlement etc.

Parallel misalignment



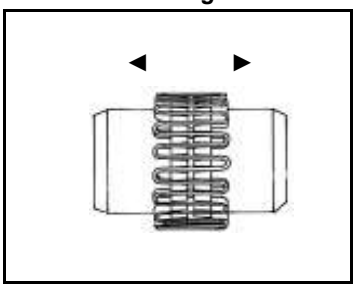
The movement of the grip in the hub grooves accommodates parallel misalignment and simultaneously this action functions as a cushion to absorb shock and vibration.

Angular misalignment



The resilient of the grid allows the sliding and angular movement without any loss of power. This is due to the unique groove grid design.

Axial misalignment



The grid slides freely in the grooves and this permits the end float on both the driving and driven shafts.
Limited end float is possible by an end float kits on request.

Interchangeability

Our **Steelflex** couplings are fully interchangeable with most manufacturers and they come with horizontal and vertical split covers. The internal parts are common for the two type of covers.

SELECTION

Using the following steps to determine the selection of the coupling.

A: *Service Factor*
Refer to Table 1 for the correct service factor

B: *Design Torque*
The design torque is obtained by using the nominal torque multiple by the service factor

$$\text{Design Torque } \mathbf{T\,d} = \frac{kW \times 9550}{n} \times SF \quad (Nm)$$

C: *Coupling Size*
Refer to page 23 and 24 and check against the torque rating of the coupling. Choose a size that is either the same or greater rating then the required design torque.

D: *Bore Size*
Check the selected coupling max, bore size and choose the next large size that meet the bore's requirement.

EXAMPLE

A coupling required to couple between an electric motor to a compressor. Motor is 300kw/1000rpm. Motor shaft is 85mm dia and compressor shaft is 75mm. SteelGrid H type coupling is required.

A: From Table 1, the service factor is 1

B:
$$T\,d \quad \frac{kW \times 9550}{n} \times 1$$
$$= \quad \frac{300 \times 9550}{1000} \times 1$$
$$= \quad 2865Nm$$

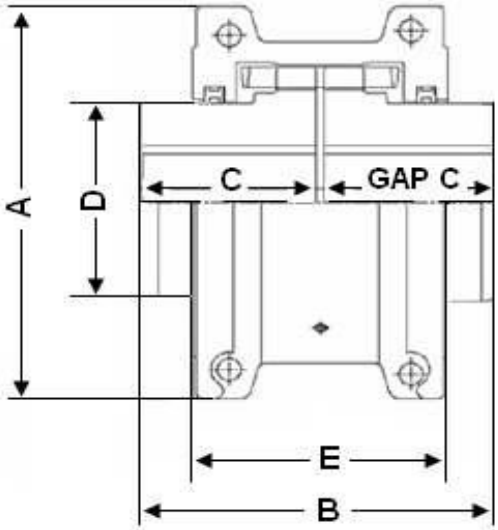
C: From page 22, the selected coupling is **Size 1090H** which has a rating of 3438Nm that is greater than the design torque of 2865Nm.

D: This size has a maximum bore of 95mm which is adequate against the required bore size. Therefore this coupling is suitable.
Selected: **SteelGrid 1090H** .

Table 1 : Service Factor

Classification of Driven Machine	**Service Factor**
NOTES: The service factors set out below are for general guidance. Where substantial frequent shocks occurred on starting and stopping machinery and in some instance where inching ,reversing and for high peak torque application, please consult our technical department.	
Class A Agitators, Generators, Blowers and Exhausts except positive displacement type. Belt conveyors, Centrifugal pumps & Compressors, Belt conveyors, Line shafts, Fans to 7.5Kw	1
Class B Clay working machines, Machine tools, Rubber extruders, Paper mill beaters & winders, Fan over 7.5Kw, Rotary pumps, Rotary Screens, Textile machinery,	1.8
Class C Cooling tower fans, Piston pumps & compressors, Hammer mills, Foundry machinery, Bucket elevators, Paper mill , Rubber calendars, Presses & pulp grinders, Positive Displacement blowers	2.5
Class D Reciprocating conveyors, Crushers, Rubber Mills & Mixer Ball Mills Vibratory screens	3.2

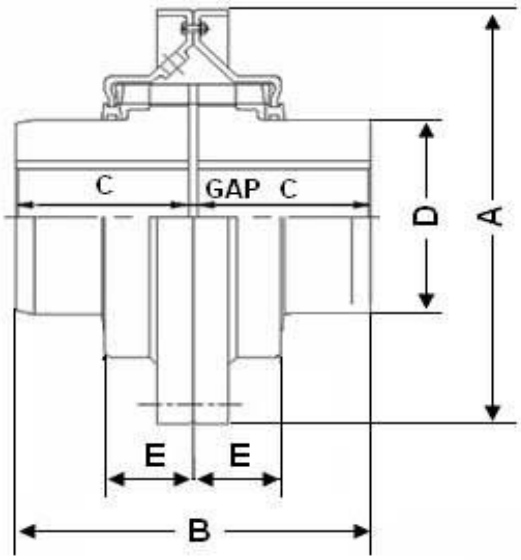
H Type - Horizontal Casing

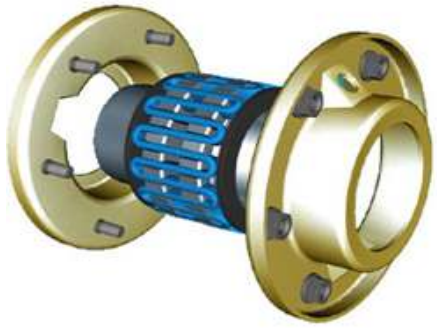


Dimension

Size	Kw at 100 rpm	Max Speed rpm	Torque Nm	Bore Dia (mm)		Dimensions					Gap (mm)			Wt
				Max	Min	A	B	C	D	E	Min	Normal	Max	kg
1020 H	0.5	4500	47.7	30	12	102	98	47.5	39.7	66.5	1.5	3	4.5	1.9
1030 H	1.44	4500	137.5	35	12	110	98	47.5	49.2	68.3	1.5	3	4.5	2.6
1040 H	2.4	4500	229.2	43	12	118	105	50.8	57.1	70	1.5	3	4.5	3.4
1050 H	4.2	4500	401	50	12	138	124	60.3	66.7	79.5	1.5	3	4.5	5.4
1060 H	6.6	4350	630	55	19	151	130	63.5	76.2	92	1.5	3	4.5	7.3
1070 H	9.7	4125	926	65	19	162	156	76.2	87.3	95	1.5	3	4.5	10
1080 H	20.1	3600	1919	78	27	194	181	88.9	104.8	116	1.5	3	4.5	18
1090 H	35.8	3600	3418	95	27	213	200	98.4	123.8	122	1.5	3	6	25
1100 H	60.4	2400	5768	107	41	250	246	120.6	142	155.5	1.5	3	6	42
1110 H	90.3	2250	8623	117	41	270	259	127	160.3	161.5	1.5	4.5	9.5	54
1120 H	132	2025	12606	136	60	308	305	149.2	179.4	191.5	1.5	4.5	9.5	81
1130 H	191.7	1800	18307	165	67	346	330	161.9	217.5	195	1.5	6	12.5	121
1140 H	276.1	1650	26367	184	67	384	372	182.8	254	201	1.5	6	12.5	178
1150 H	384.3	1500	36700	203	108	453	372	182.9	269.2	271.3	1.5	6	12.5	234
1160 H	540.3	1350	51598	228	120	502	402	198.1	304.8	278.9	1.5	6	12.5	317
1170 H	720	1225	68760	279	133	567	438	215.9	355.6	304.3	1.5	6	12.5	448
1180 H	998.5	1100	95356	311	152	630	484	238.8	393.7	321.1	1.5	6	12.5	619
1190 H	1320	1050	126060	339	152	676	524	259.1	436.9	325.1	1.5	6	12.5	776
1200 H	1800	900	171900	361	177	757	565	279.4	497.8	355.6	1.5	6	12.5	1057
1210 H	2400	820	229200	386	177	844	622	304.8	533.4	431.8	3	12.7	24	1424
1220 H	3241	730	309515	411	203	920	622	325	571.5	490.2	3	12.7	24	1784

V Type - Vertical Casing

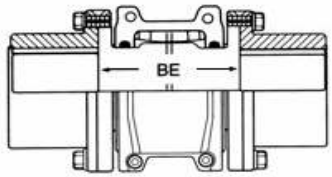




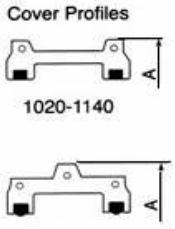
Dimension

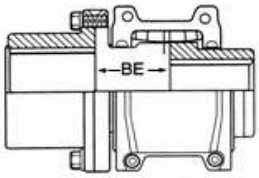
Size	Kw at 100 rpm	Max Speed rpm	Torque Nm	Bore Dia (mm)		Dimensions					Gap (mm)			Wt
				Max	Min	A	B	C	D	E	Min	Normal	Max	kg
1020 V	0.5	6000	47.7	30	12	111	98	47.5	39.7	24.2	1.5	3	4.5	2
1030 V	140	6000	137.5	35	12	121	98	47.5	49.2	25.0	1.5	3	4.5	2.6
1040 V	2.4	6000	229.2	43	12	129	105	50.8	57.1	25.7	1.5	3	4.5	3.4
1050 V	4.2	6000	401	50	12	148	124	60.3	66.7	31.2	1.5	3	4.5	5.4
1060 V	6.6	6000	630	55	19	162	130	63.5	76.2	32.2	1.5	3	4.5	7.3
1070 V	9.7	5500	926	65	19	173	156	76.2	87.3	33.7	1.5	3	4.5	10.4
1080 V	20	4750	1919	78	27	200	181	88.9	104.8	44.2	1.5	3	4.5	17.7
1090 V	36	4000	3418	95	27	232	200	98.4	123.8	47.7	1.5	3	6	25.4
1100 V	60	3250	5768	107	41	267	246	120.6	142.0	60	1.5	3	6	42.2
1110 V	90	3000	8623	117	41	286	259	127	160.3	64.2	1.5	4.5	9.5	54.4
1120 V	132	2700	12606	136	60	319	305	149.2	179.4	73.4	1.5	4.5	9.5	81.6
1130 V	191	2400	18307	165	67	378	330	161.9	217.5	75.1	1.5	6	12.5	123
1140 V	276	2200	26367	184	67	416	372	182.8	254	78.2	1.5	6	12.5	180
1150 V	384	2000	36700	203	108	477	372	182.9	269.2	106.9	1.5	6	12.5	230
1160 V	540	1750	51598	228	120	534	402	198.1	304.8	114.3	1.5	6	12.5	321
1170 V	720	16000	68760	279	133	585	438	215.9	355.6	119.4	1.5	6	12.5	449
1180 V	998	1400	95356	311	152	630	484	238.8	393.7	130	1.5	6	12.5	591
1190 V	1320	1300	126060	339	152	685	524	259.1	436.9	135	1.5	6	12.5	761
1200 V	1800	1100	171900	361	177.8	737	565	279.4	497.8	145	1.5	6	12.5	1021
1210 H	2400	820	229200	386	177	830	622	304.8	497.8	167.5	3	12.7	24	1389
1220 H	3241	730	309515	411	203	872	622	325	497.8	195.0	3	12.7	24	1746

Spacer Version
FS - Full Spacer HS - Half Spacer

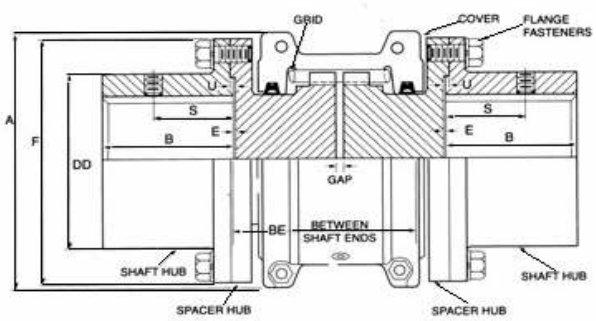


Full Spacer FS

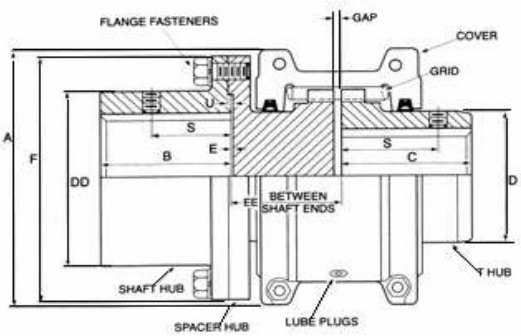




Half Spacer HS



Full Spacer FS



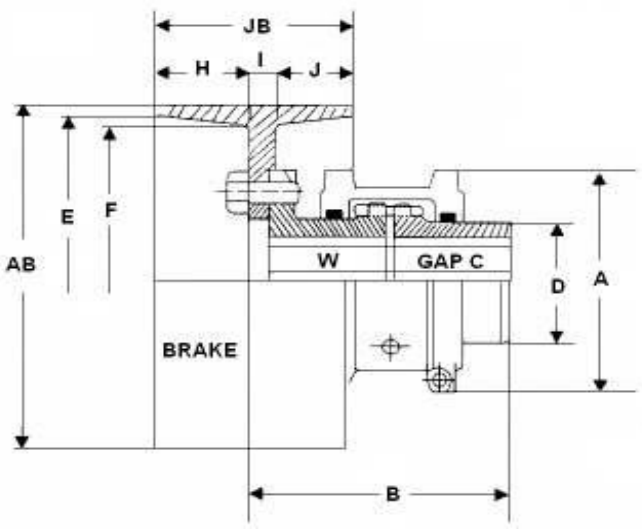
Half Spacer HS

Dimensions

Size FS/HS	kW at 100 rpm	Max Speed rpm	Torque Nm	Bore Dia (mm)		Dimensions														Bolts On Flange
						A	B	C	D	BE(FS) *		BE(HS) *		DD	F	S		E	Gap	
				Max	Min					Min	Max	Min	Max			Shaft Hub	T' Hub			
1020	0.5	3600	48	30	12	102	35	47.5	39.7	89	203	45	102	52	86	27.5	34.5	0.8	5	4
1030	1.4	3600	138	35	12	110	41	47.5	49.2	89	216	45	109	59	94	31.5	39.1	0.8	5	8
1040	2.4	3600	229	43	12	118	54	50.8	57.1	89	216	45	109	78	113	27.5	40.1	0.8	5	8
1050	4.2	3600	401	50	12	138	60	60.3	66.7	112	216	57	109	87	126	40.6	44.7	0.8	5	8
1060	6.6	3600	630	55	19	151	73	63.5	76.2	127	330	64	166	103	145	43.2	52.3	1.5	5	8
1070	9.7	3600	926	65	19	162	79	76.2	87.3	127	330	64	166	109	153	46.7	53.8	1.5	5	12
1080	20	3600	1910	78	27	194	89	88.9	104.8	184	406	93	204	122	178	49.8	64.5	1.5	5	12
1090	36	3600	3438	95	27	213	102	98.4	123.8	184	406	93	204	142	210	56.9	71.6	1.5	5	12
1100	60	2400	5730	107	41	250	90	120.6	142	203	406	103	205	171	251	-	-	1.5	6.5	12
1110	90	2250	8595	117	41	270	104	127	160.3	210	406	106	205	196	277	-	-	1.5	6.5	12
1120	132	2025	12606	136	60	308	119	149.2	179.4	246	406	125	205	225	319	-	-	1.5	9.5	12
1130	191	1800	18240	165	67	346	135	161.9	217.5	257	406	130	205	238	346	-	-	1.5	9.5	12
1140	276	1650	26358	184	67	384	152	182.8	254	267	406	135	205	266	386	-	-	1.5	9.5	12
1150	384	1500	36672	203	108	453	173	182.9	269.2	345	371	175	187	334	425	-	-	5	9.5	14
1160	540	1350	51570	228	120	502	186	198.1	304.8	356	406	180	205	366	457	-	-	6.6	9.5	14
1170	720	1225	68760	279	133	567	220	215.9	355.6	384	445	194	224	425	527	-	-	8.4	9.5	16
1180	998	1100	95309	311	152	630	249	238.8	393.7	400	490	202	247	451	591	-	-	5	9.5	16
1190	1320	1050	126060	339	152	676	276	259.1	436.9	411	530	207	267	508	660	-	-	5	9.5	18
1200	1800	900	171900	361	177	757	305	279.4	497.8	445	575	224	289	530	711	-	-	6	9.5	18

** BE = Distance between shaft ends.*
FS = Full spacer
HS = Half spacer

Brake Drum Type - BW



Size	Standard brake wheel					
	Motor power (40%ED KW)			Brake Torque kgM		
1020						
1030						
1040	2.2			5		
1050	5.5			10		
1060	5.5	7.5	11	10	14	21.2
1070	15			30		
1080	30			30		
1090	75		90	63	80	
1100	45			132		
1110	75		90	180		
1120	110		132	335		
1130	160		200	400		475
1140	160		200	400		475

Dimensions

Size	Brake Wheel Size (mm)		Coupling Max. Brake Rating Nm	Bore Dia (mm)		Dimensions										
	AB	JB		Max	Min	A	B	C	D	E	F	H	I	J	W	Gap
1020 BW			11	30	12	102	67	48	39.6						60	3
1030 BW			35	35	12	111	68	48	49						60	3
1040 BW	160	80	65	43	12	117	70	51	57	145	140	40	12	28	60	3
1050 BW	200	100	118	50	12	138	79	60	66	184	178	50	17	33	60	3
1060 BW	200	100	208	55	19	151	92	63	76	184	178	50	17	33	88	3
1070 BW	250	125	330	65	19	162	95	76	87	230	224	62.5	22	40.5	88	3
1080 BW	315	160	637	78	27	194	115.8	89	105	292	285	80	23	57	88	3
1090 BW	355	180	1078	95	27	213	122.2	98	124	330	320	90	26	64	88	3
1100 BW	400	200	1896	107	41	251	155.4	121	142	374	362	100	28	72	119	5
1110 BW	450	224	2847	117	41	270	161.5	127	160	422	410	112	32	80	146	5
1120 BW	500	250	4338	136	60	308	191.5	149	179	462	445	125	35	90	152	6
1130 BW	560	280	6493	165	67	346	195.1	162	218	516	495	140	45	95	159	6
1140 BW	560	280	8812	361	177	384	201.2	184	253	516	495	140	45	95	183	6

INSTALLATION AND MAINTENANCE

Installation

Proper installation and regular maintenance will ensure the coupling achieve its maximum performance and life expectation. Standard workshop tools such as wrenches, a straight edge and feeler gauge or dial gauge are all that required to install the **Steelflex** coupling. Please observe the following installation instructions:

Instructions

1: Use non-flammable solvent to clean all metal parts. Lightly coat seals with grease and place both seals on shafts before mounting the coupling hubs to the driving and driven shaft.

2: Using a spacer bar, check the nominal gap between the two hubs. The difference in max. measurement must not exceed the angular limit. (see table 2 for the limitations)

3: Using a straight edge, ensure that the two hubs align squarely and too at 90° interval. The clearance must not exceed the limit in Table 2)

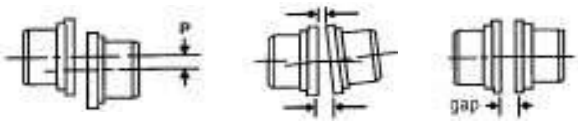
4: Grease the tooth of the groove hub and assemble the grid in one direction.

5: Grease the grid and place oil seals on the hubs. Place the gasket on housing cover and tighten it.
Grease the grid and place oil seals on the hubs

6: After assembly, adequate lubrication is important to maintain maximum performance and life expectation.

Table 2 : Misalignment capacity.

Size	Recommended Installation		Operating		Nominal gap
	Parallel Offset p	Angular (1/16°)	Parallel Offset p	Angular (1/4°)	+/-10%
1020	0.15	0.06	0.3	0.24	3
1030	0.15	0.07	0.3	0.29	3
1040	0.15	0.08	0.3	0.32	3
1050	0.20	0.10	0.4	0.39	3
1060	0.20	0.11	0.4	0.45	3
1070	0.20	0.12	0.4	0.5	3
1080	0.20	0.15	0.4	0.61	3
1090	0.20	0.17	0.4	0.7	3
1100	0.28	0.20	0.5	0.82	4.5
1110	0.28	0.22	0.5	0.9	4.5
1120	0.28	0.25	0.56	1.01	6
1130	0.30	0.3	0.56	1.19	6
1140	0.30	0.33	0.56	1.34	6
1150	0.30	0.39	0.6	1.56	6
1160	0.30	0.44	0.6	1.77	6
1170	0.30	0.5	0.6	2	6
1180	0.38	0.56	0.76	2.26	6
1190	0.38	0.61	0.76	2.44	6
1200	0.38	0.68	0.76	2.72	6



Parallel Misalignment | Angular Misalignment | Normal Gap

Lubrication

1: Grease on the grid before assembling covers. Fill up grease through the lub plugs after assembled the coupling.

2: Add grease at every three months interval or after every 240 hours of operation.
Replaced grease after every 3 months or every 4000 hours of operation.

3: Refer table 3 for a selection of suitable grease against the ambient temperature.

Table 3 - Lubricant (NLGI Grade #2)

Lubricant Manufacturer	Ambient Temperature	
	0° F - 150°F -18° C - 66°C	-30° F - 100°F -34° C - 38°C
Amoco Oil Co	Amolith Grease 2	Amolith Grease 2
Chevron USA	Dura Lith EP-2	Dura Lith EP-2
Exxon	Ronex MP	Ronex MP
Gulf Oil	Gulfcrown Grease #2	Gulfcrown Grease #2
Mobile	Mobilux EP 111	Mobilux # 1
Shell	Alvania Grease #2	Alvania Grease #2
Texaco	Starplex HD2	Multifak EP2
Valvoline Oil	Val-Lith EP #2	Val-Lith EP #2

S Series Gear Coupling - follow the JIS and AGMA standards and is interchangeable with major manufacturers of gear couplings.The gear teeth are crowned and its high quality finishing ensure that the coupling performances meet the demands of most applications.

Characteristic & Performance

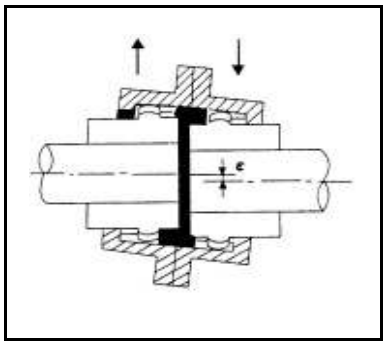
- **High Torque** - *Capable of transmitting high torque on small size and highly efficient.*
- **Low Stress** - *The crowned teeth provide larger contact area and thereby lower the stress on teeth giving the coupling a better life expectation.*
- **Material** - *Made from S45C and suitable for high speed with peak load. Special material is possible upon request.*

Standard Material

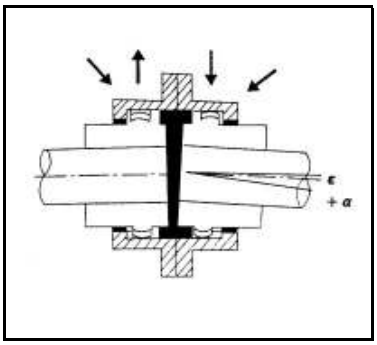
Internal Gear, Crowned Teeth, Flange	Bolt	O Ring
SM 45C - N	SM 45C-H	NBR

Misalignment

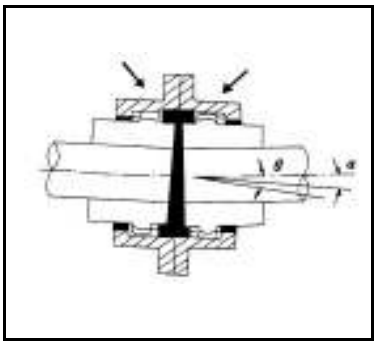
When transmitting torque you need to select the correct type of coupling to achieve the maximum optimum efficiency and reliability. Our gear couplings with it crowned barrel shaped tooth are the best solution to the problem and are designed to handle the misalignments of the connected shafts.
Below charts showed the misalignment value of the coupling.



Parallel Misalignment
The driving and driven shafts are parallel to each other but not on the same straight line.



Angular Misalignment
The two shafts installed with a limited angle.
End Float
The two shafts slide slightly along the gear teeth.



Composite Misalignment
The three (3) misalignments appear mixed in an application.

Allowable Misalignment Table

F	*Coupling Size*																
	10	*15*	*20*	*25*	*30*	*35*	*40*	*45*	*50*	*55*	*60*	*70*	*80*	*90*	*100*	*110*	*120*
ε	1.2	1.3	1.7	2.1	2.4	2.9	3.2	3.6	4.1	4.5	5	5.9	6.7	7.4	8.2	12.7	12.7
θº	3(1.5)	3(1.5)	3(1.5)	3(1.5)	3(1.5)	3(1.5)	3(1.5)	3(1.5)	3(1.5)	3(1.5)	3(1.5)	2(1)	2(1)	2(1)	2(1)	2(1)	2(1)

SELECTION

Selection of coupling.

A: *Service Factor*
Refer to Table 1 for the correct service factor

B: *Design Torque*
The design torque is obtained by using the nominal torque multiple by the service factor

$$\text{Design Torque } \mathbf{T\,d} = \frac{\text{kW x 9550}}{\text{n}} \text{ X SF (Nm)}$$

C: *Coupling Size*
Refer to page 29 to 31 and check against the torque rating of the coupling. Choose a size that is either the same or greater rating then the required design torque.

D: *Bore Size*
Check the max. bore allowable for this selected coupling .

EXAMPLE

A coupling required to couple between an electric motor to a gear reducer. Application: rotary screen. Motor is 300kw at 1450 rpm and shaft is 80mm dia and reducer shaft is 85mm and max parallel alignment allowed is 1.5mm

A: From Table 1, the service factor is 2

B: $\mathbf{T\,d} \frac{\text{kW x 9550}}{\text{n}}$ X 2

$= \frac{\text{300 x 9550}}{\text{1450}}$ X 2 = 3591 Nm

C: From page 29 , the selected coupling is for a **Size 25 DE which has a rating of 6399Nm. This is greater than 3951Nm** designed torque.

D: This size has a maximum bore of 92mm which is adequate against the requirement. Therefore this coupling is suitable.

Table 1 : Service Factor

Classification of Driven Machine	**Service Factor**
NOTES: The service factors set out below are for general guidance. Where substantial frequent shocks occurred on starting and stopping machinery and in some instance where inching ,reversing and for high peak torque application, please consult our technical department.	
Class A Agitators, Generators, Blowers and Exhausts except positive displacement type. Belt conveyors, Centrifugal pumps & Compressors, Belt conveyors, Line shafts, Fans to 7.5Kw	1.5
Class B Clay working machines, Machine tools, Rubber extruders, Paper mill beaters & winders, Fan over 7.5Kw, Rotary pumps, Rotary Screens, Textile machinery,	2
Class C Cooling tower fans, Piston pumps & compressors, Hammer mills, Foundry machinery, Bucket elevators, Paper mill , Rubber calendars, Presses & pulp grinders, Positive Displacement blowers	2.5
Class D Reciprocating conveyors, Crushers, Rubber Mills & Mixer Ball Mills Vibratory screens	3.5

Grease Lubrication

1: Grease the flanged sleeve and gear teeth and fill enough after assembly.
2: Add grease every month or 250 hours of operation. Replace grease every 3 months or 4000 hours of operation.
3: The recommendation of grease type and speeds can be found in ***Table 2***.

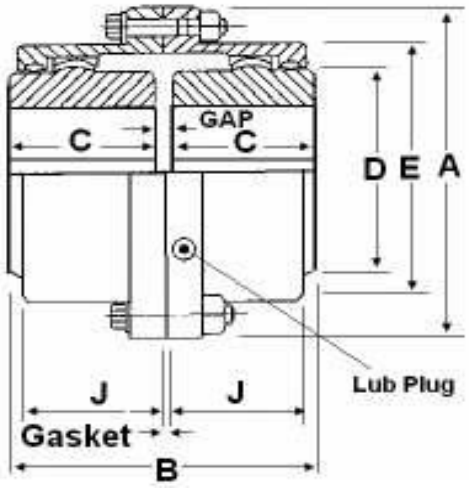
Table 2 *Temperature -17ºC to 70ºC.*

Coupling Speed rpm	**Coupling Size**														
	10	**15**	**20**	**25**	**30**	**35**	**40**	**45**	**50**	**55**	**60**	**70**	**80**	**90**	**100**
max.	7000	6000	5000	4750	4400	3900	3600	3200	2900	2650	2450	2150	1750	1550	1450
min.	1030	700	550	460	380	330	290	250	230	210	190	160	140	120	110

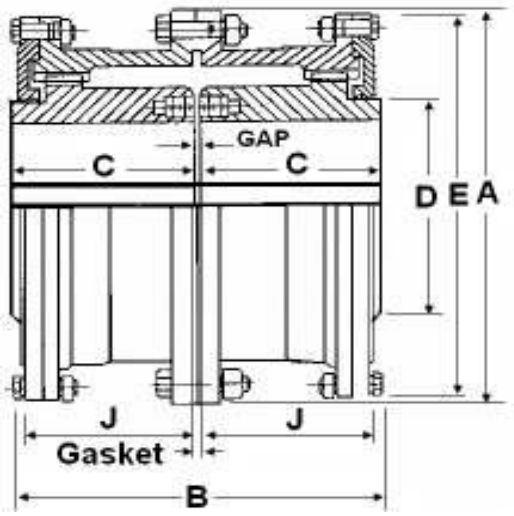
GREASE	***Make***			
	Gulf Oil	**Shell**	**Texaco**	**Mobil**
Grease No. 1	Gulfcrown EP #1	Alvania Grease EP #1	Multifak EP - 1	Mobilux EP - 1
Grease No. 0	Gulfcrown EP #0	Alvania Grease EP RO	Multifak EP - 0	Mobilux EP - 0

Note: Lubricants listed is a guide and should not be used as an exclusive recommendation.

Double Engagement - DE



Size 10 to 60



Size 70 to 120

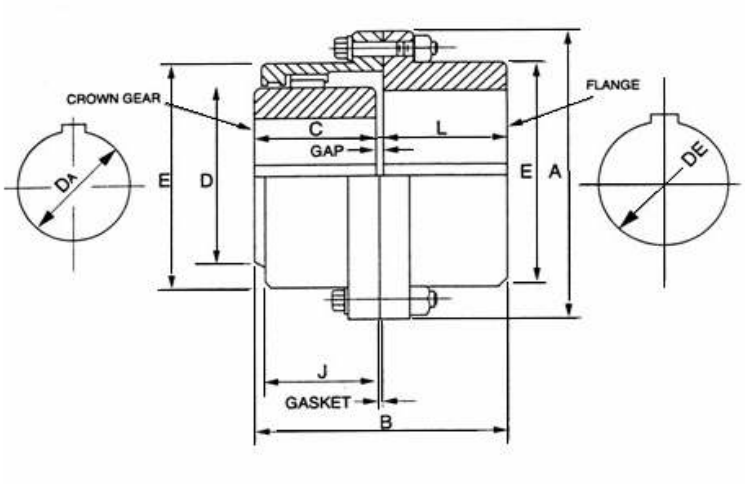
Dimension Size 10 to 60

Size	kW at 1 rpm	Max Speed rpm	Torque Nm	Bore Dia mm		Dimensions						Gap	Wt kg
				Min	Max	A	B	C	D	E	J		
10 DE	0.09	8000	860	13	48	116	89	43	69	84	39	3	5
15 DE	0.20	6500	1910	19	60	152	101	49	86	105	48	3	9
20 DE	0.37	5600	3534	25	73	178	127	62	105	126	59	3	16
25 DE	0.67	5000	6399	32	92	213	159	77	131	155	72	5	26
30 DE	1.12	4400	10696	38	105	240	187	91	152	180	84	5	43
35 DE	1.72	3900	16426	51	124	279	218	106	178	211	98	6	68
40 DE	2.61	3600	24926	64	146	318	248	121	210	245	111	6	98
45 DE	3.58	3200	34189	76	165	346	278	135	235	274	123	8	136
50 DE	4.85	2900	46318	89	178	389	314	153	254	306	141	8	191
55 DE	6.34	2650	60547	102	197	425	344	168	279	334	158	8	250
60 DE	8.21	2450	78405	114	222	457	384	188	305	366	169	8	307

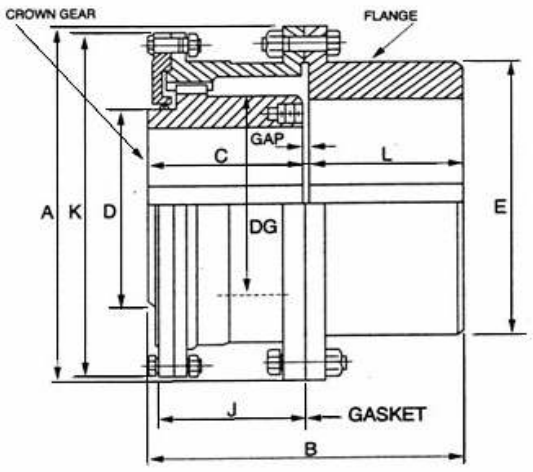
Dimension Size 70 to 120

Size	kW at 1 rpm	Max Speed rpm	Torque Nm	Bore Dia mm		Dimensions						Gap	Wt kg
				Min	Max	A	B	C	D	J	K		
70 DE	11.94	2150	114027	89	254	527	451.5	221	343	196	517	9.5	486
80 DE	15.67	1750	149649	102	279	591	507.5	249	356	243	572	9.5	704
90 DE	21.27	1550	203129	114	305	660	565	276	394	265	641	13	985
100 DE	29.85	1450	285068	127	343	711	623	305	445	294	499	13	1302
110 DE	41.05	1330	392028	140	387	775	679	333	495	322	749	13	1679
120 DE	52.24	1200	498892	152	425	838	719	353	546	341	826	13	2114

Single Engagement - SE



Size 10 - 60



Size 70 - 120

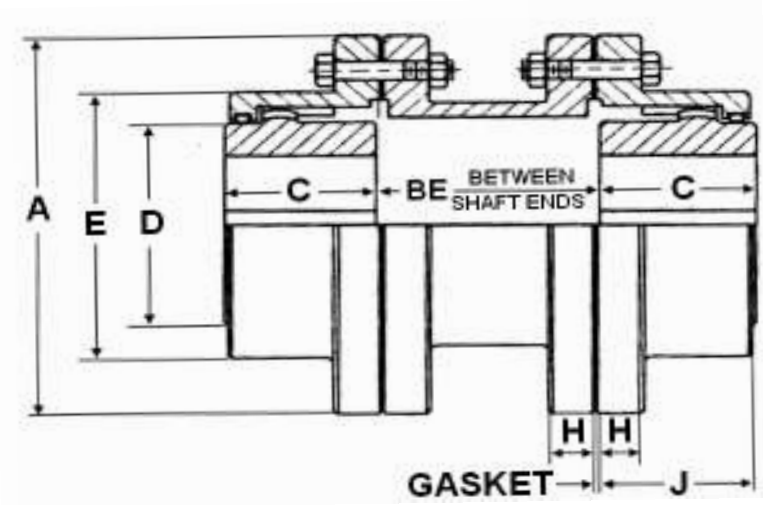
Dimensions Size 10 to 60

Size	kW at 1 rpm	Max Speed rpm	Torque Nm	Bore Dia			Dimensions							Gap	Wt Kg
				Min	Max										
					DE	DA	A	B	C	D	E	J	L		
10 SE	0.09	8000	860	13	60	48	116	87	43	69	84	39	40	4	5
15 SE	0.20	6500	1910	19	75	60	152	99	49	86	105	48	46	4	10
20 SE	0.37	5600	3534	25	92	73	178	124	62	105	126	59	58	4	16
25 SE	0.67	5000	6399	32	111	92	213	156	77	131	155	72	74	5	27
30 SE	1.12	4400	10696	38	130	105	240	184	91	152	180	84	88	5	43
35 SE	1.72	3900	16426	51	149	124	279	213	106	178	211	98	102	5.5	62
40 SE	2.61	3600	24926	64	171	146	314	243	121	210	245	111	115	7	100
45 SE	3.58	3200	34189	76	194	165	346	274	135	235	274	123	131	8	136
50 SE	4.85	2900	46318	89	222	178	389	309	153	254	306	141	147	9	195
55 SE	6.34	2650	60547	102	248	197	425	350	168	279	334	158	173	9	263
60 SE	8.21	2450	78405	114	267	222	457	384	188	305	366	169	186	10	325

Dimensions Size 70 to 120

Size	kW at 1 rpm	Max Speed rpm	Torque Nm	Bore Dia			Dimensions								Gap	Wt kg
				Min	Max											
					DE	DA	A	B	C	D	DG	E	J	K		
70 SE	11.94	2150	114027	89	305	254	527	454	221	343	356	425	196	517	13	508
80 SE	15.67	1750	149649	102	343	279	591	511	249	356	368	451	243	572	13	700
90 SE	21.27	1550	203129	114	381	305	660	566	276	394	419	508	265	641	14	985
100 SE	29.85	1450	285068	127	406	343	711	626	305	455	470	530	294	699	16	1252
110 SE	41.05	1330	392028	140	445	387	775	682	333	495	521	584	322	749	16	1638
120 SE	52.24	1200	498892	152	495	425	838	722	353	546	572	648	341	826	16	2078

Spacer Version - DE-S



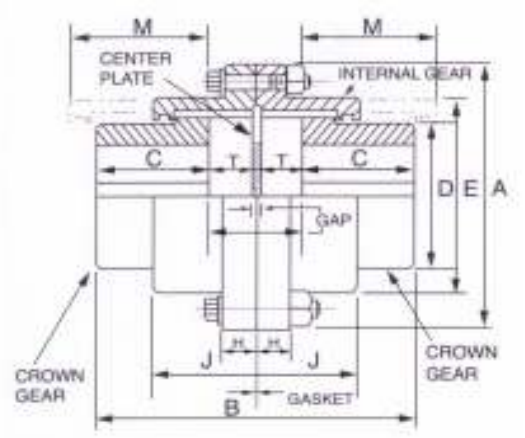
Size	kW at 1 rpm	Max Speed rpm	Torque Nm	Bore Dia (mm)		Min								Wt Kg
						A	BE		C	D	E	H	J	
				Min.	Max.		Min.	Max.						
10 DE-S	0.09	7000	860	13	48	116	83	311	43	69	84	14	39	6.8
15 DE-S	0.20	5500	1910	19	60	152	83	311	49	86	105	19	48	13.6
20 DE-S	0.37	4600	3534	25	73	178	83	311	62	105	126	19	59	20.4
25 DE-S	0.67	4000	6399	32	92	213	95	311	77	131	155	22	72	38.6
30 DE-S	1.12	3600	10696	38	105	240	95	311	91	152	180	22	84	54.4
35 DE-S	1.72	3100	16426	51	124	279	120	311	106	178	211	28	98	88.5
40 DE-S	2.61	2800	24926	64	146	318	120	311	121	210	245	28	111	123
45 DE-S	3.58	2600	34189	76	165	346	120	311	135	235	274	28	123	165
50 DE-S	4.85	2400	46318	89	178	289	146	311	153	254	306	38	141	238
55 DE-S	6.34	2200	60547	102	197	425	146	311	168	279	334	38	158	306
60 DE-S	8.21	2100	78405	114	222	457	146	311	188	305	366	25	169	358
70 DE-S	11.94	1800	114027	127	254	527	146	311	221	356	425	28	196	562

HORIZONTAL SLIDE TYPE - HS

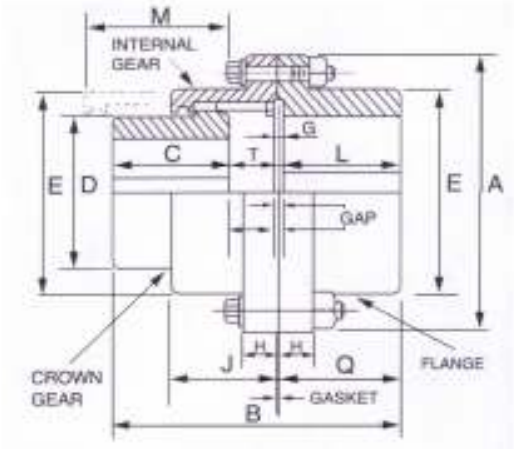
Size	HS -Double					
	B	T max		Gap		Wt kg
	Max	Half	Total	Min	Max	
10DE -HS	126	16	32	8	40	5
15DE -HS	125	23	46	8	54	9
20DE -HS	186	27	54	8	62	16
25DE -HS	231	34	68	9	77	30
30DE -HS	263	36	72	9	81	41
35DE -HS	313	45	90	11	101	68
40DE -HS	364	54	108	14	122	100
45DE -HS	406	60	120	16	136	136
50DE -HS	460	68	136	18	154	193
55DE -HS	510	78	156	18	174	254
60DE -HS	563	83	166	21	187	318
70DE -HS	669	99	198	26	224	499

Size	HS- Single				
	B Max	T Max	Gap		Wt kg
			Min	Max	
10SE -HS	106	19	8	40	5
15SE -HS	124	25	8	54	9
20SE -HS	153	29	8	62	16
25SE -HS	192	36	9	77	30
30SE -HS	222	38	9	81	43
35SE -HS	262	48	11	101	68
40SE -HS	300	57	14	122	100
45SE -HS	338	64	16	136	136
50SE -HS	382	73	18	154	195
55SE -HS	433	83	18	174	263
60SE -HS	473	89	21	187	324
70SE -HS	561	107	26	224	510

Double Engagement - HS-DE



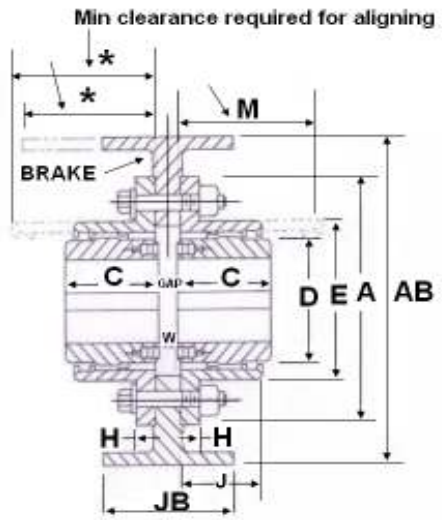
Single Engagement HS-SE



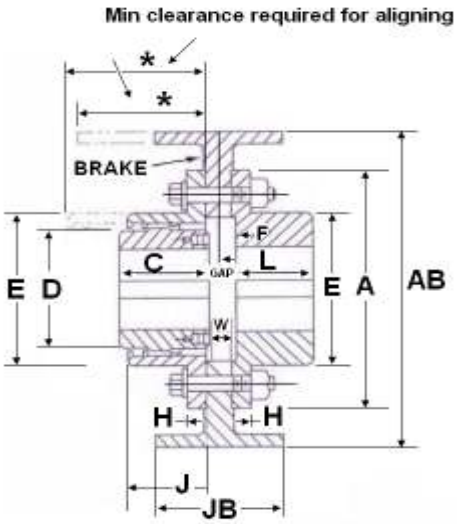
Note: "M"- vary accordingly to sliding distance

SIZE DE-HS SE-HS	kw 1rpm	Max Speed rpm	Torque Nm	Bore Dia(mm)			Dimensions (mm)								
				Min.	Max.		A	C	D	E	G	H	J	L	Q
					Gear	Flange									
10	0.09	5300	860	13	48	60	116	43	69	84	2.5	14	39	40	42
15	0.20	4300	1910	19	60	75	152	49	86	105	2.5	19	48	46	49
20	0.37	3700	3534	25	73	92	178	62	105	126	2.5	19	59	58	61
25	0.67	3300	6399	32	92	111	213	77	131	155	2.5	22	72	74	76
30	1.12	2900	10696	38	105	130	240	91	152	180	2.5	22	84	88	90
35	1.72	2600	16426	51	124	149	279	106	178	211	2.5	28	98	102	105
40	2.61	2400	24926	64	146	171	318	121	210	245	4	28	111	115	119
45	3.58	2100	34189	76	165	194	346	135	235	274	4	28	123	131	135
50	4.85	1900	46318	89	178	222	389	153	254	306	5	38	141	147	152
55	6.34	1800	60547	102	197	248	425	168	279	334	5	38	158	173	178
60	8.21	1600	78405	114	222	267	457	188	305	366	6.6	25	169	186	193
70	11.94	1400	114027	127	254	305	527	221	356	425	8.4	28	196	220	229

Brake Drum Type - BD



Double Engagement BD-DE

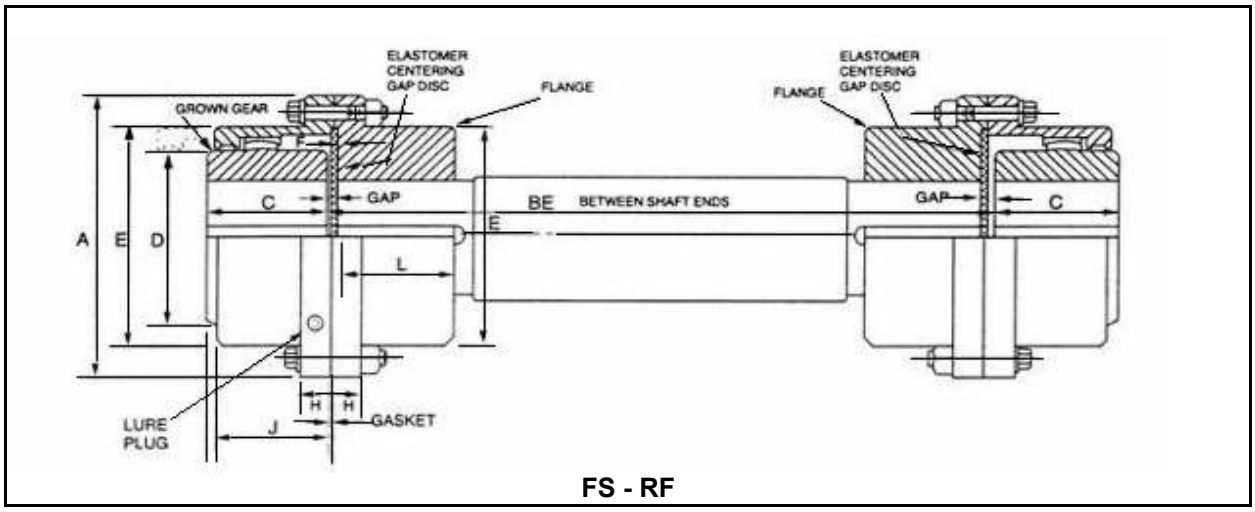


Single Engagement BD-SE

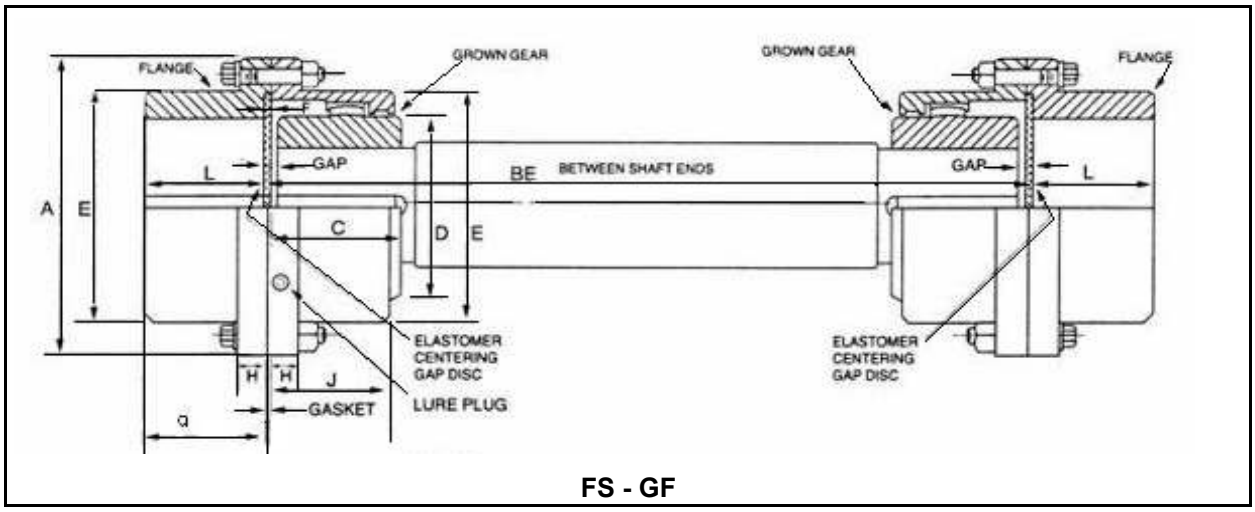
Size	Standard brake wheel	
	Motor power (40% ED kw)	Brake torque (kg.m)
10 BD	2.2 3.7	65.7
15 BD	5.5 7.5 11	98 137 208
20 BD	15	294
25 BD	22	392
30 BD	30	519
35 BD	37 45	588 784
40 BD	55	1294
45 BD	75 90	1765
50 BD	110 132	3286
55 BD	160 200	3924 4659
60 BD	250 300	8829
70 BD	350 400	14715

Size	Brake Wheel Dimension mm		Coupling Brake Rating Max Nm	Bore Dia(mm)			Dimensions											
				Min	*Max*		A	Max		C	D	E	F	H	L	M	W	Gap
	AB	JB			Gear	Flange		GD	GS									GD GS
10BD	160	80	25	13	30	60	113	99	97	43	69	2.5	14	14	40	51	10	13 14
15BD	200	100	570	19	35	75	152	114	112	49	86	2.5	19	19	46	61	13	16 17
20BD	250	125	1051	25	43	92	178	140	137	62	105	2.5	19	59	58	76	13	16 17
25BD	250	125	1898	32	50	111	213	173	170	77	131	2.5	22	72	74	91	14	19 19
30BD	315	160	3118	38	55	130	240	201	198	91	152	2.5	22	84	88	107	14	19 19
35BD	355	180	4813	51	65	149	279	237	233	106	178	2.5	28	98	102	130	19	25 25
40BD	400	200	7322	64	78	171	318	267	262	121	210	4	28	111	115	145	19	25 16
45BD	450	224	10033	76	95	194	346	297	293	135	235	4	28	123	131	165	19	27 27
50BD	500	250	13558	89	107	222	389	339	334	153	254	5	38	141	147	183	25	34 34
55BD	560	280	17795	102	117	248	425	369	375	168	279	5	38	158	173	203	25	34 34
60BD	762	362	23049	114	136	267	457	409	410	188	350	6.6	25	169	176	229	25	36 36
70BD	760	362	33489	127	165	305	527	477	479	221	356	8	28	196	220	267	25	38 38

FLOATING SHAFT TYPE - FS-RF & FS-GF



FS - RF



FS - GF

SIZE FS-GF FS-RF	kw 1rpm	Max. speed rpm	Torque Nm	Bore Dia(mm)			Dimensions (mm)												
				Min.	*Max.*		A	BE Min		C	D	E	F	H	J	L	Q	Gap	Wt kg
					Gear	Flange		GF	RF										
10	0.09	8000	860	13	48	60	116	92	133	43	69	84	2.5	14	39	40	42	4	5
15	0.20	6500	1910	19	60	75	152	105	159	49	86	105	2.5	19	48	46	49	4	9
20	0.37	5600	3534	25	73	92	178	129	197	62	105	126	2.5	19	59	58	61	4	16
25	0.67	5000	6399	32	92	111	213	162	241	77	131	155	2.5	22	72	74	76	5	27
30	1.12	4400	10696	38	105	130	240	189	279	91	152	180	2.5	22	84	88	90	5	43
35	1.72	3900	16426	51	124	149	279	219	324	106	178	211	2.5	28	98	102	105	5.5	68
40	2.61	3600	24926	64	146	171	318	248	419	121	210	245	4	28	111	115	119	7	100
45	3.58	3200	34189	76	165	194	346	281	508	135	235	274	4	28	123	131	135	8	136
50	4.85	2900	46318	89	178	222	389	316	533	153	254	306	5	38	141	147	152	9	195
55	6.34	2650	60547	102	197	248	425	367	572	168	279	334	5	38	158	173	178	9	263
60	8.21	2450	78405	114	222	267	457	397	597	188	305	366	6.6	25	169	186	193	10	324
70	11.94	2150	114027	127	254	305	527	470	673	221	356	425	8.4	28	196	220	229	10	508

Master Rollerflex Chain Coupling

ROLLERFLEX chain couplings consist of three high strength components, two sprockets being connected by a length of precision duplex roller chains. The sprockets are hardened for longer service life and is available in pilot or finished bore. Fitting with taper bushing is available upon request.

Advantages/Features

- **Economy** - *Low cost per kW transmitted hence long service life.*
- **High Capacity** - *Greater power with hardened sprocket and quality chains allow substantial power in a compact size. Suitable for high starting or static load applications*
- **Flexibility and Easy Installation** - *It permits moderate angular and parallel misalignment . Installation can be done easily by connecting the two sprockets onto both shafts and the chains thereafter. It is easy to dismantle chains and sprockets.*
- **Casing** - *It is recommended to use the casing at all time during operation and especially in application where speed is above 2000rpm and in corrosive and dustry environment.*

SELECTION

Use the following steps to determine the size of coupling

A: Service factor

Refer to Table 1 - Service Factor table

B: Design power

The design power is obtained by using nominal running power and multiple by the service factor.

C: Coupling Size/Bore size

Refer to Table 2 - Power rating table and from the speed, read across to choose a coupling that shows equal or greater power than the design power. Check the max. bore of the coupling against the required bore diameters in Table 3

EXAMPLE

A ROLLERFLEX chain coupling is required to connect a motor to a gear reducer. Motor is 37kw/1450rpm. Duty is 12hrs per day. Application is for a medium impact load conveyor belt drive. Motor shaft is 55mm and gear shaft is 50mm.

A: Service factor

Refer to Table 1 and the service factor is 2

B: Design power

Design power is 37kw x 2 = 74kw at 1450 rpm

C: Coupling Size/Bore size

Read across kW rating on Table 2, selection is for Size 6018. Check on Table 3 to confirm bore required at 55 can be satisfied.

Performance

Table 1 - Service Factor

Operating Conditions	Motor & Turbine		Combustion Engine	
	8 hours	8 - 16 hours	8 hours	8 - 16 hours
Light small impact load, no reversing and small degree of vibrations.	1	1.5	2	2.5
Medium impact load, no reversing and some degree of vibrations.	1.5	2	2.5	3
High and large impact load, reversing and high level of vibrations.	2	2.5	3	3.5

Misalignment

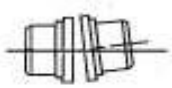
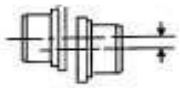
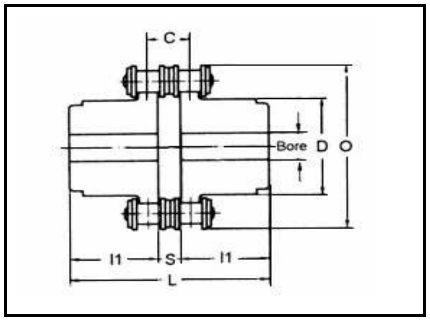
ANGULAR MISALIGNMENT	**PARALLEL MISALIGNMENT**	**Grease change intervals (casing attached)**		
MAX. ALLOWABLE: 1	MAX: 2% OF CHAIN PITCH	**Condition**	**1st Change**	**2nd Change**
		For operation at 50% or more on rated maximum speed.	1000 hrs	2000 hrs
		For operation at below 50% of rated maximum speed.	2000 hrs	4000 hrs

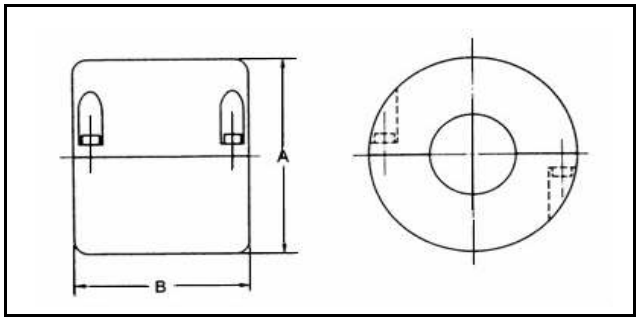
Table 2 - Power Rating

Speed	COUPLING SIZE														Lub Type
	3012	4012	4014	4016	5014	5016	5018	6018	6022	8018	8022	10020	12018	12022	
10	0.11	0.22	0.32	0.41	0.60	0.78	0.99	1.85	2.50	4.12	5.91	9.3	14	18	Lub. A
25	0.26	0.58	0.79	1.02	1.50	1.95	2.47	4.65	6.00	10.25	14.65	23.15	35.00	45.25	
50	0.52	1.15	1.58	2.03	3	3.9	4.93	9.3	12	20.5	29.3	46.3	70	90.5	
100	0.79	1.73	2.35	3.07	4.45	5.85	7.41	14	18.6	31	44.2	70	103	135	Lub. B
200	1.21	2.63	3.57	4.67	6.8	8.9	11.1	21	26.5	47	67	106	157	133	
300	1.58	3.46	4.7	6.15	8.95	11.5	14.7	28	37.5	62	88.5	140	207	203	
400	1.89	4.15	5.64	7.38	10.5	14	17.6	33.3	45	74	105	165	250	270	Lub C
500	2.26	4.96	6.75	8.83	12.8	16.6	21.1	40	54	89	125	200	299	387	
600	2.58	5.67	7.7	9.98	14.7	19	24.2	45.5	62	101	145	227	342	443	
800	3.17	7	9.54	12.3	18	23.6	30.0	56.5	76	126	178	280	423	548	
1000	3.86	8.5	11.62	15	22	32.7	36.4	69	93	153	217	342	516	668	
1200	4.4	9.92	13.19	17	25	39.8	41.4	78	105	174	246	390	587	759	
1500	5.33	11.3	15.5	20.7	30	46.3	50.3	95	128	211	298	473	713		
1800	6.23	13.4	18.4	24.1	35.2	50	58.6	111	149	246	350	551			
2000	6.7	14.4	19.8	26	38	60.3	63.1	120	161	265	377				
2500	8.1	17.6	24	31.6	46	70.2	76.5	145	195						
3000	9.42	20.4	28	36.7	53.3	81.4	89								
3600	11	23.8	32.6	42.5	62.2										
4000	12	26	35.6	46											
4800	14	30.5	41.8	54											
5200	14.6														
6000	16.5														
Max. Torque at 50rpm	100	215	295	385	560	735	930	1755	2370	3880	5588	8785	13235	17160	
Grease Filling (kgs)	0.08	0.12	0.16	0.17	0.24	0.25	0.26	0.42	0.48	0.79	1	1.7	3.5	4.5	

Lubrication Method
Lub.A: Monthly grease lubrication required.
Lub.B: Weekly or filled grease in the casing
Lub.C: Filled grease in casing.



Coupling without casing



Casing

Table 3 - Coupling Dimensions

Coupling	COUPLING											CASING		
	Chain		Bore		L	l1	S	D	O	C	Case Weight	A	B	Wt less Casing
	Pitch	Ref	Pilot	Max	mm	mm	mm	mm	mm	mm	Kg	mm	mm	(kgs)
3012	3/8"	06B	12	16	64.8	29.5	6	27.2	45	10.4	29.5	69	63	0.3
4012	1/2"	40-2	12	22	79.4	36	7.4	36	62	14.4	36	77	72	0.8
4014	1/2"	40-2	12	28	79.4	36	7.4	45	69	14.4	36	84	75	1.1
4016	1/2"	40-2	13.5	32	87.4	40	7.4	51.6	77	14.4	40	92	72	1.5
5014	5/8"	50-2	15	35	99.7	45	9.7	56	86	18.1	45	101	85	2.2
5016	5/8"	50-2	15	40	99.7	45	9.7	64	96	18.1	45	110	87	2.7
5018	5/8"	50-2	16	45	99.7	45	9.7	73.5	106	18.1	45	122	85	3.8
6018	3/4"	60-2	20	56	123.5	56	11.5	89.5	127	22.8	56	147	105	6.5
6022	3/4"	60-2	20	71	123.5	56	11.5	115	151	22.8	56	168	117	10.5
8018	1"	80-2	20	80	141.2	63	15.2	115	169	29.3	63	190	129	13.8
8022	1"	80-2	20	100	157.2	71	15.2	142	202	29.3	71	226	137	21.7
10020	1.1/4"	100-2	25	110	178.8	80	18.8	162	233	35.8	80	281	153	33
12018	1.1/2"	120-2	35	125	202.7	90	22.7	173	256	45.4	90	307	181	44
12022	1.1/2"	120-2	35	140	222.7	100	22.7	213	304	45.4	100	357	181	69

Master

PB - Pin & Bush Coupling

PB Type Pin and Bush type coupling is popular because of its simple construction and easy installation. It is virtually free from maintenance and its rubber bushing is a good absorber of vibration during operation.

Advantages/Features

- **Economy & Maintenance Free -** *inexpensive due to it simple construction. No lubrication is need hence is free of maintenance except for wear and free from maintenance except for wear and tear parts.*
- **No Thrust Load & Absorb Vibrations -** *There is no thrust load and rubber bush is a good absorber of vibration during power transmission*
- **Easy Installation -** *bolts and nuts connection make installation and dismantle of equipemnt simple.*

Dimensions

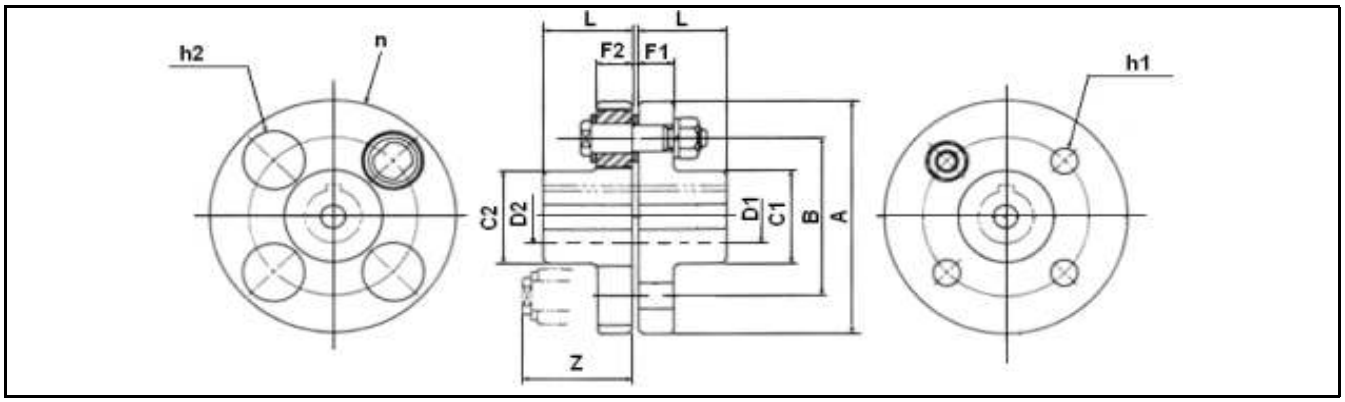


Table 3 - Coupling Dimensions (mm)

Coupling Size	Bore Dia (mm)			Hub		Flange		A	B	L	* t	Hole Dia. h1	Hole Dia. h2	No of Bolts n	Bolt Size	Z	Wt Unit
	Pilot	Bush Side D1 (max)	Pin Side D2 (max)	C1	C2	F1	F2										
PB 90	12	20	20	35.5	35.5	14	14	90	60	28	3	8	19	4	# 1	50	1.5
PB 100	12	25	25	42.5	42.5	16	16	100	67	35.5	3	10	23	4	# 2	56	2.2
PB 112	13	28	28	50	50	16	16	112	75	40	3	10	23	4	# 2	56	2.9
PB 125	13	32	28	56	50	18	18	125	85	45	3	14	32	4	# 3	64	3.9
PB 140	13	38	35	71	63	18	18	140	100	50	3	14	32	6	# 3	64	5.4
PB 160	15	45	45	80	80	18	18	160	115	56	3	14	32	8	# 3	64	7.6
PB 180	15	50	50	90	90	18	18	180	132	63	3	14	32	8	# 3	64	10.3
PB 200	20	56	56	100	100	22.4	22.4	200	145	71	3	20	41	8	# 4	85	15.7
PB 224	20	63	63	112	112	22.4	22.4	224	170	80	4	20	41	8	# 4	85	20.7
PB 250	25	71	71	125	125	28	28	250	180	90	4	25	51	8	# 5	100	30
PB 280	34	80	80	140	140	28	40	280	200	100	4	28	57	8	# 6	116	42
PB 315	41	90	90	160	160	28	40	315	236	112	4	28	57	10	# 6	116	56
PB 355	60	100	100	180	180	35.5	56	355	260	125	5	35.5	72	8	# 8	150	86
PB 400	60	110	110	200	200	35.5	56	400	300	125	5	35.5	72	10	# 8	150	109
PB 450	65	125	125	224	224	35.5	56	450	355	140	5	35.5	72	12	# 8	150	144
PB 560	85	140	140	250	250	35.5	56	560	450	160	5	35.5	72	14	# 8	150	225
PB 630	95	160	160	280	280	35.5	56	630	530	180	5	35.5	72	18	# 8	150	298

Note: * Clearance when coupling is assembled. The clearance value is equal to the thickness of washer.

BOLT		PIN								Washers		Bushing	
Bolt Size x L	No.	a	d1	e	f	g	h	j	k	t	u	p	q
M8 x 50	#1	8	9	12	10	4	17	15	14	3	14	18	14
M10 x 56	#2	10	12	16	13	4	19	17	16	3	18	22	16
M12 x 64	#3	14	16	19	17	5	21	19	19	3	25	31	18
M20 x 85	#4	20	22.4	28	24	5	26.4	24.6	29	4	32	40	22.4
M24 x 100	#5	25	28	34	30	6	32	30	32	4	40	50	28
M24 x 116	#6	28	31.5	38	32	6	44	30	36	4	45	56	40
M30 x 150	#8	35.5	40	48	41	8	61	38.5	41.5	5	56	71	56

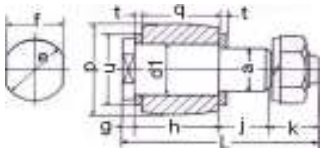


Table 1 - Power Rating

Speed rpm	COUPLING SIZE																
	PB 90	PB 100	PB 112	PB 125	PB 140	PB 160	PB 180	PB 200	PB 224	PB 250	PB 280	PB 315	PB 355	PB 400	PB 450	PB 560	PB 630
5			0.01	0.01	0.03	0.06	0.08	0.13	0.21	0.32	0.51	0.82	1.28	2.05	3.23	5.13	8.22
10		0.01	0.02	0.03	0.05	0.12	0.16	0.26	0.41	0.65	1.03	1.64	2.57	4.11	6.47	10.27	16.43
25	0.01	0.03	0.04	0.06	0.13	0.29	0.41	0.64	1.03	1.62	2.57	4.11	6.42	10.27	16.17	25.67	41.08
50	0.02	0.05	0.08	0.13	0.26	0.58	0.82	1.28	2.05	3.23	5.13	8.22	12.84	20.54	32.35	51.35	82.15
100	0.04	0.10	0.16	0.26	0.51	1.15	1.64	2.57	4.11	6.47	10.27	16.43	25.67	41.08	64.69	102.69	164.3
200	0.08	0.21	0.33	0.51	1.03	2.3	3.29	5.13	8.22	12.94	20.54	32.86	51.34	82.15	129.39	205.38	328.6
300	0.12	0.31	0.49	0.77	1.54	3.45	4.93	7.7	12.32	19.41	30.81	49.29	77.01	123.23	194.08	308.07	492.9
400	0.16	0.41	0.66	1.03	2.05	4.60	6.57	10.27	16.43	25.88	41.08	65.72	102.68	164.30	258.78	410.76	657.2
500	0.21	0.51	0.82	1.28	2.57	5.75	8.22	12.84	20.54	32.35	51.35	82.15	128.35	205.38	323.47	513.45	821.5
600	0.25	0.62	0.99	1.54	3.08	6.9	9.86	15.4	24.65	38.81	61.61	98.58	154.02	246.46	388.16	616.14	985.8
800	0.33	0.82	1.31	2.05	4.1	9.2	13.14	20.54	32.86	51.75	82.15	131.44	205.36	328.61	517.55	821.52	1314.4
1000	0.41	1.03	1.64	2.57	5.13	11.5	16.43	25.67	41.08	64.69	102.69	164.3	256.7	410.76	646.94	1026.9	1643
1100	0.45	1.13	1.81	2.82	5.64	12.65	18.07	28.24	45.19	71.16	112.96	180.73	282.37	451.84	711.63	1129.59	
1200	0.49	1.23	1.97	3.08	6.16	13.8	19.72	30.80	49.3	77.63	123.23	197.16	308.04	492.91	776.33		
1400	0.57	1.44	2.30	3.59	7.18	16.1	23	35.94	57.51	90.57	143.77	230.02	359.38	575.06	905.72		
1600	0.66	1.64	2.63	4.11	8.21	18.4	26.29	41.07	65.73	103.5	164.3	262.88	410.72	657.22			
1800	0.74	1.85	2.96	4.62	9.23	20.7	29.57	46.21	73.94	116.44	184.84	295.74	462.06				
2000	0.82	2.05	3.29	5.13	10.26	23	32.86	51.34	82.16	129.38	205.38	328.6					
2300	0.94	2.36	3.78	5.9	11.8	26.45	37.79	59.04	94.48	148.79	236.19						
2500	1.03	2.57	4.11	6.42	12.83	28.75	41.08	64.18	102.7	161.73							
2800	1.15	2.88	4.6	7.19	14.36	32.2	46	71.88	115.02								
3000	1.23	3.08	4.93	7.7	15.39	34.5	49.29	77.01									
3200	1.31	3.29	5.26	8.21	16.42	36.8	52.58	82.14									
3500	1.44	3.59	5.75	8.98	17.96	40.25	57.51										
4000	1.64	4.11	6.57	10.27	20.52	46											
Max. Torque (Nm)	4	10	16	25	49	110	157	245	392	618	981	1569	2452	3923	6178	9807	15691

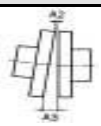
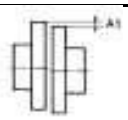
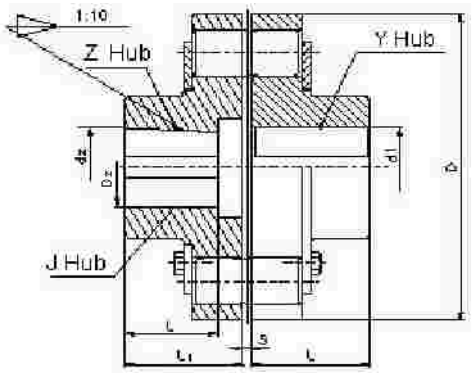
Type of Misalignment	Coupling Speed in rpm			
	2000 - 4000	500 - 2000	50 - 500	Below 50
 Angular A2 - A3	0.05	0.1	0.15	0.2
 Parallel A1	0.05	0.1	0.15	0.2

Table 2 - Service Factor

Load Classification	Example of Machines	Type of Prime Mover					
		Electric Motor		Gasoline Engine		Diesel Engine	
		8 - 10 hrs	16 - 24 hrs	8 - 10 hrs	16 - 24 hrs	8 - 10 hrs	16 - 24 hrs
Steady Low Starting Torque Non-reversing	Light load conveyor, agitator, Centrifugal & exhaust blowers (up to 10hp) and pump etc.	1	1.5	1.5	2	2	2.5
Uneven Load Moderate Shock Load Non-reversing	Conveyor, Elevator, Line Shafts, Rotary pump, Ball mill, Kiln, Hoist, Machine Tools, etc.	1.5	2	2	2.5	2.5	3
Heavy Shock Load High Starting Load Reversing Under Load	Hammer mill, Presses, Crusher , Reciprocating pump, Mixers, Marine vibrator screens, etc	2	2.5	2.5	3	3	3.5

Master

PBHL - Pin & Bush Coupling



Size	Nominal Torque Nm	Max Speed rpm	Max Bore			Length of hub			D	S	Misalignment			inertia Kg.cm2	wt kgs
						Y Hub	J, J1, Z Hub				Axial	Radial	Angle		
			d1	d2	dz	L	L	L1							
PBHL 01	250	8500	12 14			32	27	32	90	2.5	0.15	+/-0.5	=0º 30	0.002	2
			16 18 19			42	30	42							
			20 22 24			53	38	52							
PBHL 02	560	6300	20 22 24			52	38	52	120	2.5	0.15	+/-1	=0º 30	0.009	5
			25 28			62	44	62							
			30 32 35			82	60	82							
PBHL 03	1250	4750	30 32 35 38			82	60	82	160	2.5	0.15	+/-1	=0º 30	0.026	8
			40 42 45 48			112	84	112							
PBHL 04	2500	4870	40 42 45 48 50 55 56			112	84	112	195	3	0.15	+/-1.5	=0º 30	0.109	22
			60 63			142	107	142							
PBHL 05	3150	3450	50 55 56			142	107	142	220	3	0.15	+/-1.5	=0º 30	0.191	30
			60 63 65 70 71 75			142	107	142							
PBHL 06	6300	2720	60 63 65 70 71 75 78			142	107	142	280	4	0.20	+/-2	=0º 30	0.543	53
			85			172	132	172							
PBHL 07	11200	2360	70 71 75			142	107	142	320	4	0.20	+/-2	=0º 30	1.314	98
			80 85 90 95			172	132	172							
			100 110			212	167	212							
PBHL 08	16000	2120	80 85 90 95			212	167	212	360	5	0.20	+/-2	=0º 30	2.023	119
			100 110 120 125			212	167	212							
PBHL 09	22400	1850	100 110 120 125			212	167	212	410	5	0.20	+/-2	=0º 30	4.386	197
			130 140			252	303	252							
PBHL 10	35500	1600	110 120 125			212	167	212	480	6	0.25	+/-2.5	=0º 30	9.76	322
			130 140 150			252	202	252							
			160 170 180			302	242	302							
PBHL 11	50000	1400	130 140 150			252	202	252	540	6	0.25	+/-2.5	=0º 30	20.05	520
			160 170 180			302	242	302							
			190 200 220			352	282	352							
PBHL 12	80000	1220	190 200 220			302	242	302	630	7	0.25	+/-2.5	=0º 30	37.71	714
			160 170 180			352	282	352							
			240 250 260			410	330	--							
PBHL 13	125000	1080	190 200 220			352	282	352	710	8	0.25	+/-3	=0º 30	71.37	1057
			240 250 260			410	330	--							
			280 300			470	330	--							
PBHL 14	180000	950	240 250 260			410	330	--	800	8	0.25	+/-3	=0º 30	170.6	1956
			280 300 320			470	330	--							
			340			550	450								

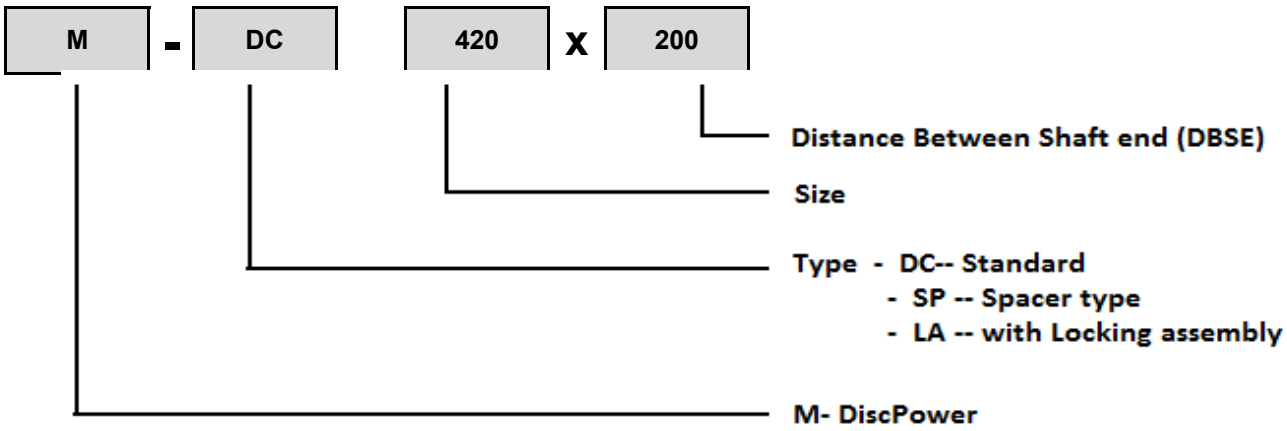
Megadrive

Disc coupling is fast becoming a preferred design for pump and compressor application not only in the gas and oil industries but throughout the heavy and process industries for it high torque, high speed and high misalignment features and it virtually maintenance free advantage.
A simple construction with two steel hubs connected with a flexible stainless steel disc packed. A drop in spacer assembly can be added to make it as a spacer coupling. The coupling provide excellent misalignment feature, easy installation and maintaianence free and above all it is able to transmit high torque and high speed.
The hubs can be built to accept shrink disc as a keyless locking system. In addition, hubs can be arranged in different designs and assemblies to suit each applications.

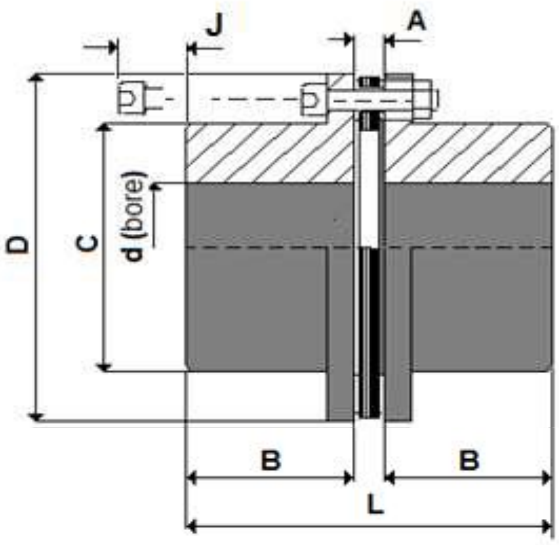
Advantages/Features

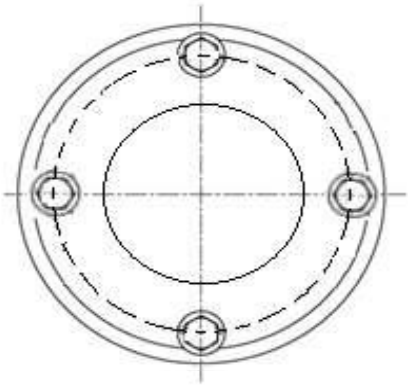
- ► Maintainence Free
- ► Easy to assembly and disassemble
- ► Accept torsional shock load and vibration
- ► Great balancing properties
- ► No lubrication
- ► Visual inspection without dismantling parts
- ► Inspection of disc during running is possible with strobe light
- ► High resistance to harsh environment conditions
- ► Extended life if properly selected and aligned
- ► Greater torque rating over power to overrall diameter ratio
- ► Low bending and axial reacted loads
- ► Simple design with virtually no wear parts if properly aligned

SELECTION



4 Bolts

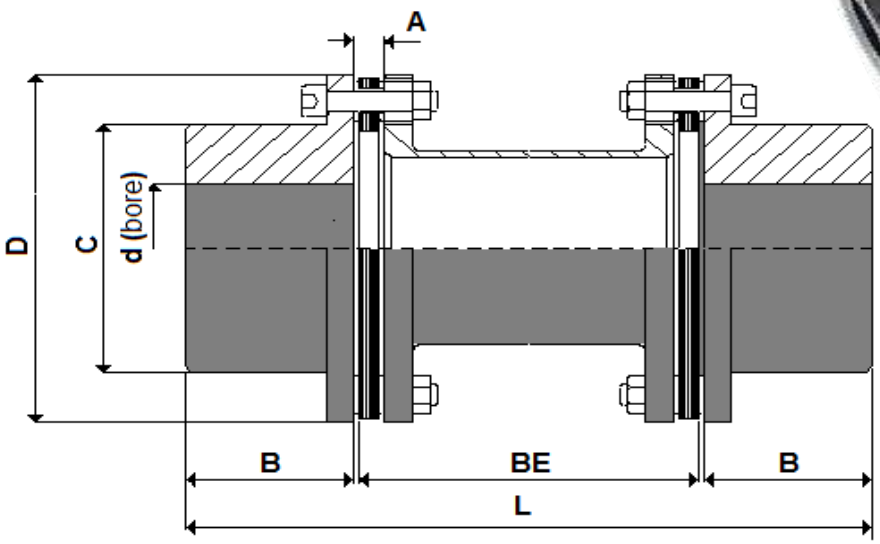




Dimensions in mm

Size	Torque Rating kgf.m	Max Speed rpm	d (bore)		D	A	B	L	J	Weight
			min.	max.						kg
405	3.4	10000	8	23	67	6.1	25.4	56.9	13	0.62
410	9.2	10000	10	32	81	6.6	25.4	57.4	16	1.1
415	18	10000	10	35	93	8.4	28.7	65.8	22	1.7
420	25	10000	10	42	104	11.2	33.5	78.2	20	2.5
425	43	8300	16	50	126	11.7	41.1	93.9	25	4.3
430	79	7300	16	58	143	1107	47.8	107.3	28	6.8
435	130	6200	25	74	168	16.8	57.2	131.2	23	11.5
440	210	5400	25	83	194	17	63.5	144	30	16.82
445	340	4900	45	95	214	21.6	76.2	174	22	24.5
450	500	4200	50	109	246	23.9	88.9	201.7	23	37
455	650	3800	50	118	276	27.2	101.6	230.4	40	53

6 Bolts

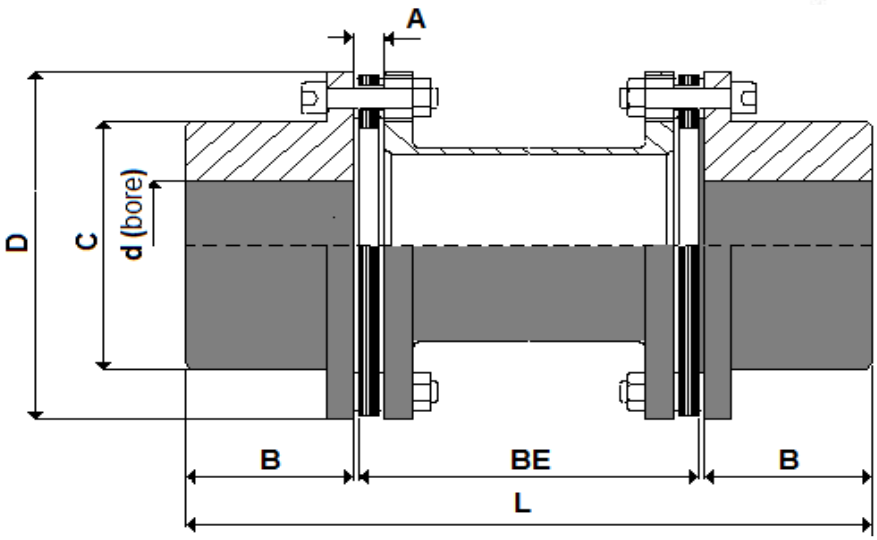


Dimensions in mm

Size	Torque Rating kgf.m	Max Speed rpm	Bore d max.	D	A	C	B	BE	L	Weight kg
610	840	3800	111	276	19	161	112	153	377	66
615	1090	3400	133	308	19	193	134	172	440	102
620	1820	3000	152	346	21	218	153	191	497	150
625	2690	2800	165	375	24	240	165	223	553	191
630	3410	2500	178	410	29	258	178	254	610	251
635	4070	2300	187	446	29	272	188	270	646	310
640	4720	2200	205	470	31	297	206	274	686	375
645	6100	2000	231	511	32	334	231	287	749	490

*BE is available with optional length upon request

8 Bolts

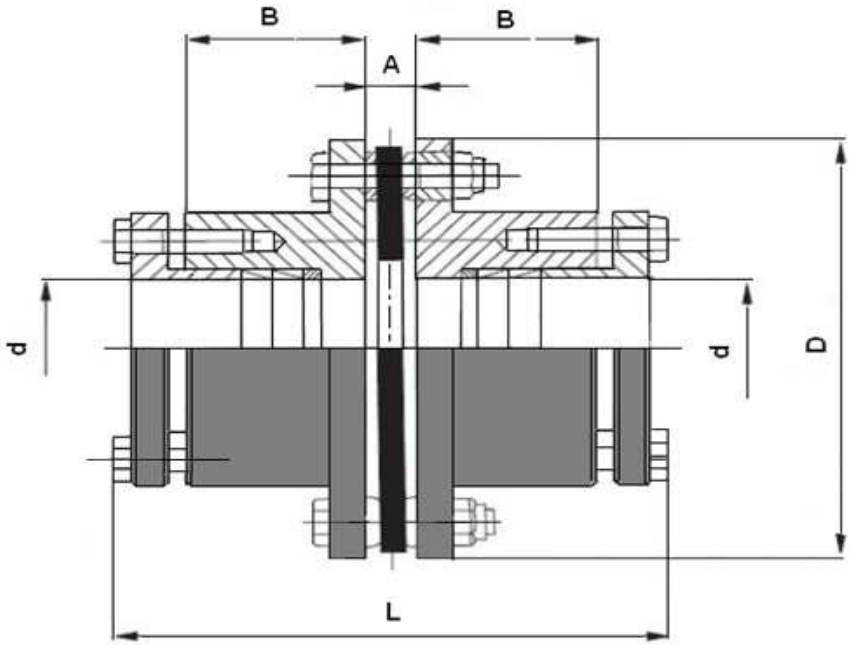


Dimensions in mm

Size	Torque Rating kgf.m	Max Speed rpm	Bore d max.	D	A	C	B	BE	L	Weight kg
810	1200	3800	111	276	19	161	134	153	421	72.6
815	1570	3400	133	308	19	193	160	172	492	112.2
820	2610	3000	152	346	21	218	183	191	557	165
825	3850	2800	165	375	24	240	198	223	619	210.1
830	4870	2500	178	410	29	258	214	254	682	276.1
835	5820	2300	187	445	29	272	225	270	720	341
840	6570	2200	205	470	31	297	247	274	768	412.5
845	8530	2000	231	511	32	334	278	287	843	539

*BE is available with optional length upon request

4 Bolts with shrink disc

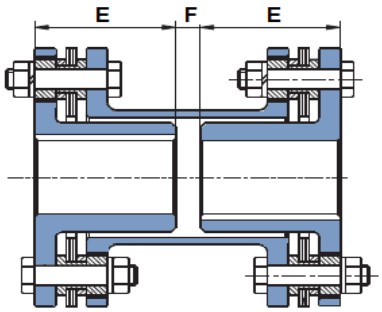


Dimensions in mm

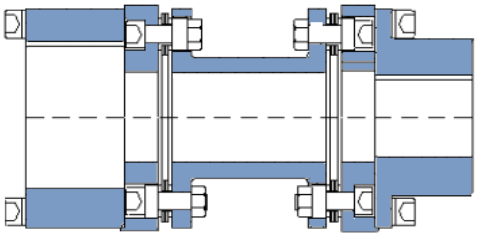
Size	Locking Assembly d x D	Rating Torque kgf.m	Max speed rpm	Bore d	L	D	B	A	Bolt	
									Size	Fastening
410	16 x 20	7.1	4500	16	79.4	81	25.4	6.6	4-M6x20	1
	18 x 22	8.3	4500	18	79.4	81	25.4	6.6	4-M6x20	1
	19 x 24	9.2	4500	19	79.4	81	25.4	6.6	4-M6x20	1.4
415	20 x 25	13.2	4300	20	91.8	93	28.7	8.4	4-M6x20	1.4
	22 x 26	15.7	4200	22	91.8	93	28.7	8.4	4-M6x20	1.4
420	24 x 28	17.4	4200	24	104.2	104	33.5	11.2	4-M6x20	1.4
	25 x 30	17.5	4200	25	104.2	104	33.5	11.2	4-M6x20	1.4
	28 x 32	20.8	4200	28	104.2	104	33.5	11.2	4-M6x20	1.4
	30 x 35	21.7	4200	30	108.2	104	33.5	11.2	4-M8z25	1.4
	32 x 36	32.5	4200	32	108.2	104	33.5	11.2	4-M8z25	1.4
425	35 x 40	33.9	4000	35	123.9	126	41.1	11.7	4-M8z25	2.5
	36 x 42	34	4000	36	123.9	126	41.1	11.7	4-M8z25	2.5
	38 x 44	36.3	4000	38	127.9	126	41.1	11.7	4-M6x30	2.5

Various configuration and bespoke couplings

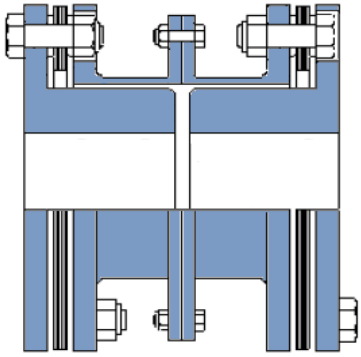
Using standard parts with various type of configurations



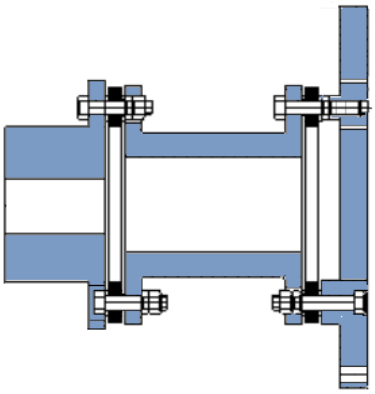
Hub reversed with spacer length dimensions E, F made to order



Larger hub on one side to accomodates bigger bore and for easy disassmble



Resversed hubs suitable for small distance between shaft ends. Double disk packs permit misalignments in all directions. Ideal replacement for non spacer gear coupling



With flywheel flange one side suitable for mounting to flywheel engine etc.

Examples of bespoke coupling - made to customer design

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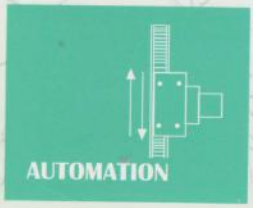

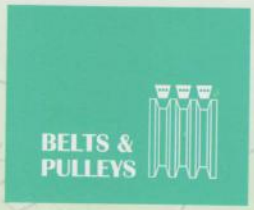

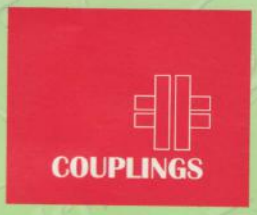

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