Lovejoy / Sier-Bath Heavy Duty Flanged Sleeve Gear Couplings

FHDFR Type Flex-Rigid Couplings

The FHDFR Type coupling consists of one flex hub, one sleeve with bolt-on seal carrier, one rigid hub and one accessory kit. This coupling is supplied with exposed bolts only.

Features

- Patented Vari-Crown® tooth form for long life
- Standard 20° pressure angle
- Heat treated bolts for greater strength
- Corrosion resistant bolts and nuts for ease of maintenance
- Provides parallel, angular misalignment and end float
- Designed for high-torque low-speed applications that occur in mill operations

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FHDFR Type Performance Data

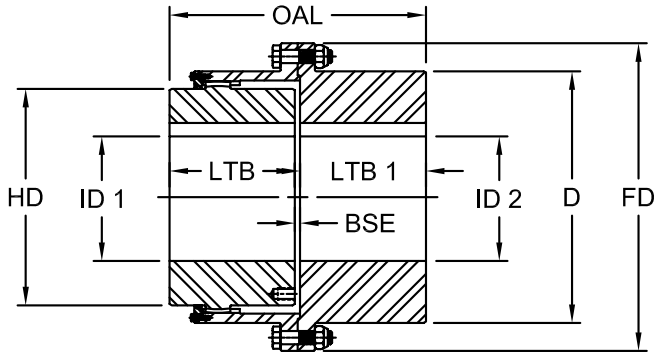
Size	Nominal Torque in-lb x 1000	Nominal Torque Nm	Maximum Speed Unbal RPM	Maximum Speed Bal RPM	ID1 Flex Hubs Max Bore Std Keyway in	ID1 Flex Hubs Max Bore Std Keyway mm	ID2 Rigid Hubs Max Bore Std Keyway in	ID2 Rigid Hubs Max Bore Std Keyway mm	Weight lbs	Weight kg	Max Angular Misalignment Degrees
7	1,008	110	2,000	3,000	9.500	255	12.000	320	1,017	462	0.75° Per Gear Mesh
8	1,324	150	1,900	2,850	11.500	310	14.000	375	1,609	730	
9	1,827	210	1,750	2,625	12.500	340	15.500	415	2,128	966	
10	2,521	280	1,550	2,325	13.750	355	17.000	455	2,723	1,236	
11	3,466	390	1,400	2,100	15.500	410	18.500	500	3,640	1,653	
12	4,412	500	1,300	1,950	17.000	435	20.250	—	4,508	2,047	
13	5,249	600	1,150	1,725	18.250	480	22.000	—	5,600	2,542	
14	6,429	730	1,050	1,575	19.500	—	23.500	—	6,837	3,104	
15	7,752	880	900	1,350	21.000	—	24.250	—	8,244	3,743	
16	9,454	1 070	800	1,200	22.500	—	26.000	—	9,848	4,471	
18	12,605	1 420	550	825	25.500	—	28.000	—	12,673	5,754	
20	17,017	1 920	450	675	28.000	—	31.000	—	18,113	8,223	
22	21,429	2 420	380	570	31.000	—	34.000	—	23,671	10,747	
24	26,471	2 990	325	485	34.000	—	37.000	—	29,958	13,601	
26	32,773	3 700	280	420	37.000	—	40.000	—	37,014	16,845	
28	39,076	4 410	240	360	40.000	—	43.000	—	44,012	19,981	
30	47,269	5 340	220	330	42.000	—	46.000	—	51,065	23,184	

Ordering Information

- Application: Driver and Driven.
- Type and size of coupling, horizontal, vertical etc.
- Power: Motor horspower or torque requirement.
- Speed: Motor RPM or Driven RPM.
- Distance between shaft ends (BSE).
- Shaft sizes.

Lovejoy / Sier-Bath Heavy Duty Flanged Sleeve Gear Couplings

FHDFR Type Flex-Rigid Couplings



FHDFR Type Dimensional Data

	OAL	ID1		ID2		LTB	LTB1	BSE	FD	D	HD
		Flex Hubs Max Bore Std Keyway		Rigid Hubs Max Bore Std Keyway							
Size	in	in	mm	in	mm	in	in	in	in	in	in
7	17.81	9.500	255	12.000	320	8.69	8.69	0.50	20.75	15.75	13.00
8	22.50	11.500	310	14.000	375	11.00	11.00	0.50	23.25	18.34	15.50
9	23.56	12.500	340	15.500	415	11.50	11.50	0.56	26.00	20.38	17.00
10	24.63	13.750	355	17.000	455	12.00	12.00	0.63	28.00	22.31	18.50
11	26.88	15.500	410	18.500	500	13.13	13.13	0.63	30.50	24.36	21.00
12	28.38	17.000	435	20.250	—	13.88	13.88	0.63	33.00	26.63	22.75
13	30.00	18.250	480	22.000	—	14.63	14.63	0.75	33.75	28.88	24.75
14	31.75	19.500	—	23.500	—	15.50	15.50	0.75	38.00	31.00	26.50
15	33.75	21.000	—	24.250	—	16.50	16.50	0.75	40.50	32.97	28.50
16	35.75	22.500	—	26.000	—	17.38	17.38	1.00	43.00	35.13	30.38
18	37.00	25.500	—	28.000	—	18.00	18.00	1.00	47.25	39.25	34.25
20	43.25	28.000	—	31.000	—	21.13	21.13	1.00	53.50	43.50	38.00
22	47.13	31.000	—	34.000	—	23.00	23.00	1.13	59.00	47.63	41.81
24	50.63	34.000	—	37.000	—	24.75	24.75	1.13	64.25	51.75	45.50
26	54.13	37.000	—	40.000	—	26.50	26.50	1.13	68.50	55.88	49.38
28	55.38	40.000	—	43.000	—	27.13	27.13	1.13	73.75	60.00	53.00
30	56.38	42.000	—	46.000	—	27.63	27.63	1.13	78.00	64.13	57.00

Notes:
- Exposed Bolt Design is standard.
- Puller Holes are standard.
- Interference bores with no set screws are standard unless otherwise specified.
- Inch bore and keyway tolerances conform to ANSI / AGMA 9002-B04, for bores above 18 inches, keyways are to ANSI B17.1.
- Metric bore and keyway tolerances conform to ISO 286 and ANSI / AGMA 9112-A04.
- Consult Lovejoy Technical Support for metric bores larger than 500mm.

Lovejoy / Sier-Bath Heavy Duty Flanged Sleeve Gear Couplings

FHDFS Type Floating Shaft Couplings

The FHDFS Type coupling consists of two flex-rigid couplings and one floating shaft. The coupling is supplied with the rigid hubs outboard unless otherwise specified. The coupling comes with exposed bolts only.

Features

- Patented Vari-Crown® tooth form on Flex Hubs for long life
- Standard 20° pressure angle
- Heat treated bolts for greater strength
- Corrosion resistant bolts and nuts for ease of maintenance
- Accommodates parallel and angular misalignment
- Removal of center assembly allows forease of maintenance without repositioning machinery
- Rigid hubs outboard allows for larger shaft diameters
- Designed for high-torque low-speed applications that occur in mill operations

FHDFS Type Performance Data

Size	Nominal Torque in-lb	Nominal Torque Nm	Maximum Speed[1] Unbal RPM	Maximum Speed[1] Bal RPM	ID1 Flex Hubs Max Bore Std Keyway in	ID1 Flex Hubs Max Bore Std Keyway mm	ID2 Rigid Hubs Max Bore Std Keyway in	ID2 Rigid Hubs Max Bore Std Keyway mm	Weight lbs	Weight kg	Max Angular Misalignment Degrees
7	1,008,000	113 900	2,000	3,000	9.500	255	12.000	320	1,017	462	
8	1,323,000	149 000	1,900	2,850	11.500	310	14.000	375	1,609	730	
9	1,827,000	206 400	1,750	2,625	12.500	340	15.500	415	2,128	966	
10	2,521,000	280 000	1,550	2,325	13.750	355	17.000	455	2,723	1,236	
11	3,500,000	390 000	1,400	2,100	15.500	410	18.500	500	3,640	1,653	
12	4,400,000	500 000	1,300	1,950	17.000	435	20.250	—	4,508	2,047	0.75°
13	5,300,000	600 000	1,150	1,725	18.250	480	22.000	—	5,600	2,542	Per Gear Mesh
14	6,400,000	730 000	1,050	1,575	19.500	—	23.500	—	6,837	3,104	
15	7,700,000	880 000	900	1,350	21.000	—	24.250	—	8,244	3,743	
16	9,500,000	1 070 000	800	1,200	22.500	—	26.000	—	9,848	4,471	
18	12,600,000	1 420 000	550	825	25.500	—	28.000	—	12,673	5,754	
20	17,000,000	1 920 000	450	675	28.000	—	31.000	—	18,113	8,223	
22	21,400,000	2 420 000	380	570	31.000	—	34.000	—	23,671	10,747	
24	26,500,000	2 990 000	325	488	34.000	—	37.000	—	29,958	13,601	
26	32,800,000	3 700 000	280	420	37.000	—	40.000	—	37,104	16,845	
28	39,100,000	4 410 000	240	360	40.000	—	43.000	—	44,012	19,981	
30	47,300,000	5 340 000	220	330	42.000	—	46.000	—	51,065	23,184	

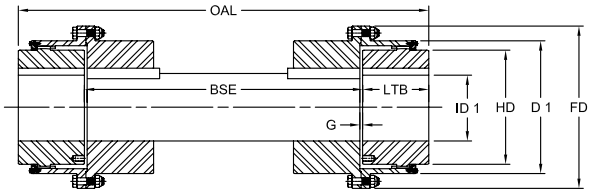
Note: ■ 1 indicates: Maximum RPM of floating shaft set determined by critical speed of floating shaft.

Ordering Information

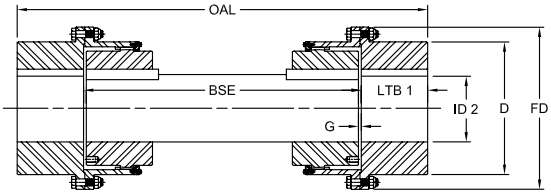
- Application: Driver and Driven.
- Type and size of coupling, horizontal, vertical etc.
- Power: Motor horspower or torque requirement.
- Speed: Motor RPM or Driven RPM.
- Distance between shaft ends (BSE).
- Connecting equipment shaft sizes.
- Specify which hubs are to be used on the equipment (Rigid or Flex).
- Rigid hubs will be used on the equipment unless otherwise specified.
- Length of floating shaft may affect max angular misalignment.

Lovejoy / Sier-Bath Heavy Duty Flanged Sleeve Gear Couplings

FHDFS Type Floating Shaft Couplings



Flex Hubs Outboard



Rigid Hubs Outboard

Maximum RPM of floating shaft set determined by critical speed of floating shaft

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FHDFS Type Dimensional Data

Size	OAL in	BSE in	ID1 Flex Hubs Max Bore Std Keyway in	ID1 mm	ID2 Rigid Hubs Max Bore Std Keyway in	ID2 mm	LTB 1 in	LTB in	G in	FD in	D in	D 1 in	HD in
7	To Be Determined From Customer Specifications		9.500	255	12.000	320	8.69	8.69	0.50	20.75	15.75	15.75	13.00
8			11.500	310	14.000	375	11.00	11.00	0.50	23.25	18.34	18.50	15.50
9			12.500	340	15.500	415	11.50	11.50	0.56	26.00	20.38	20.38	17.00
10			13.750	355	17.000	455	12.00	12.00	0.63	28.00	22.31	22.38	18.50
11			15.500	410	18.500	500	13.13	13.13	0.63	30.50	24.36	24.50	21.00
12			17.000	435	20.250	—	13.88	13.88	0.63	33.00	26.63	26.63	22.75
13			18.250	480	22.000	—	14.63	14.63	0.75	33.75	28.88	28.88	24.75
14			19.500	—	23.500	—	15.50	15.50	0.75	38.00	31.00	31.00	26.50
15			21.000	—	24.250	—	16.50	16.50	0.75	40.50	32.97	33.13	28.50
16			22.500	—	26.000	—	17.38	17.38	1.00	43.00	35.13	35.13	30.38
18			25.500	—	28.000	—	18.00	18.00	1.00	47.25	39.25	39.25	34.25
20			28.000	—	31.000	—	21.13	21.13	1.00	53.50	43.50	43.50	38.00
22			31.000	—	34.000	—	23.00	23.00	1.13	59.00	47.63	47.63	41.81
24			34.000	—	37.000	—	24.75	24.75	1.13	64.25	51.75	51.75	45.50
26			37.000	—	40.000	—	26.50	26.50	1.13	68.50	55.88	55.88	49.38
28			40.000	—	43.000	—	27.13	27.13	1.13	73.75	60.00	60.00	53.00
30			42.000	—	46.000	—	27.63	27.63	1.13	78.00	64.13	64.13	57.00

Notes:
- Exposed Bolt Design is standard.
- Puller Holes are standard.
- Interference bores with no set screws are standard unless otherwise specified.
- Inch bore and keyway tolerances conform to ANSI / AGMA 9002-B04, for bores about 18 inches, keyways are to ANSI B17.1.
- For metric bore and keyway tolerances, consult Lovejoy Engineering Section.
- Consult Lovejoy Technical Support for metric bores larger than 500mm.