

US

12|2008

RING-flex®

Torsionally Rigid Disc Couplings



Partner for performance
www.gerwah.com

GERWAH®



A Global Presence For You

The RINGFEDER POWER TRANSMISSION GMBH was founded in 1922 in Krefeld, Germany to fabricate and promote Friction Spring technology. Today we have expanded our offerings to top power transmission and damping products. Innovative thinking sets us apart and allows us to develop progressive and economical solutions to support our customers.





Special applications require special solutions

Our extensive range of RINGFEDER POWER TRANSMISSION products can be applied to solve most applications. We don't just sell, but by understanding the individual requirements of our customers (e.g. loads on the components, easy installation/removal capability and reduction of production costs) assist you in every step with innovative engineering to plan efficient and technically mature solutions.

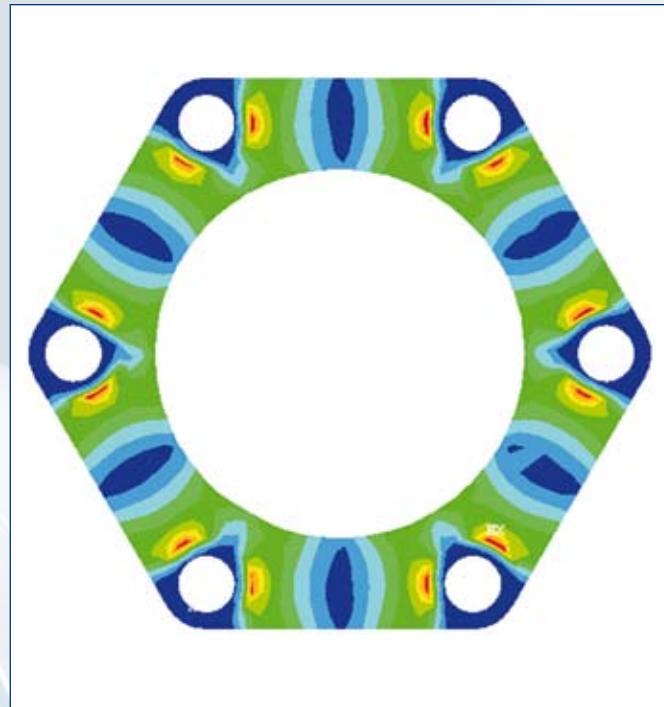


Introduction Basis of RING-flex®

Torsionally Stiff, Flexible[®] Multiple-Disc Couplings

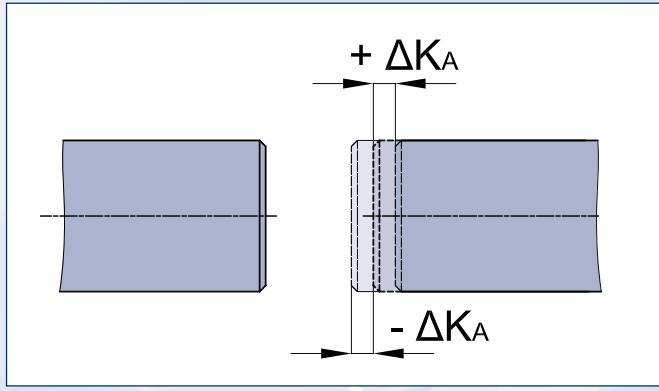
RING-flex®, Backlash-Free Couplings are a 100% steel construction. The flexible portion of this coupling consists of a disc pack developed with the help of FEM analysis and made of stainless steel. The steel hubs are connected to the disc packs by means of exact precision sleeves and highly resilient bolts.

Depending on customer requirements, the hubs can be attached to

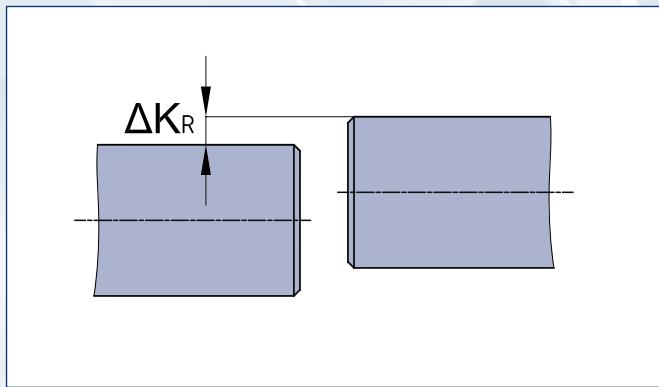


the shafts in different ways, e.g. by means of Shrink Disc or - particularly inexpensive - with Locking Assemblies. This guarantees a really backlash-free connection of the two shaft ends that is simple and trouble free.

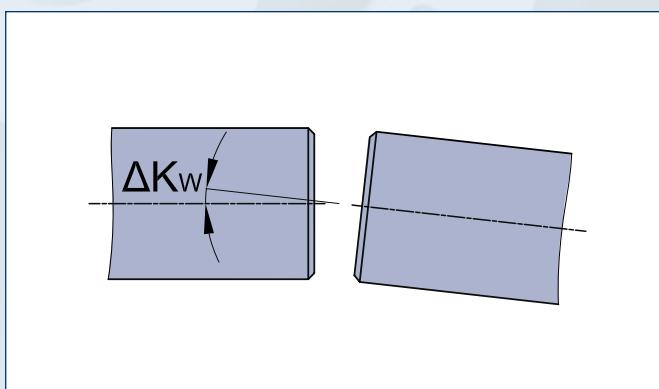
The disc packs guarantee high transmissible torques while compensating for axial, radial and angular misalignments.



axial misalignment



radial misalignment



angular misalignment

Content

02 New Pages Corporate Image

04 Introduction RING-flex®

05 Content

06 Basis of RING-flex® Couplings

Mounting with key

08 Characteristics

10 RING-flex® GS/HS

12 RING-flex® GD/HD

16 RING-flex® GC/HC

18 RING-flex® HD-FL (Large Sizes)

Mounting with Clamping Hub

32 Characteristics

34 RING-flex® CCD

36 RING-flex® CCS

38 RING-flex® CHS

40 RING-flex® CHD

42 RING-flex® CHC

44 Technical Information

49 FAX Inquiry

51 We also offer

Mounting with RINGFEDER® Shrink Disc

20 Characteristics

22 RING-flex® XGS/XHS

24 RING-flex® XGD/XHD

28 RING-flex® XGC/XHC

30 RING-flex® XHD-FL (Large Sizes)

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in the interests of technical progress. Upon the issue of this catalogue all previous brochures and questionnaires on the products displayed are no longer valid.

Basis of RING-flex® Coupling

RING-flex®: The Advantages of the System

1. No Tooth Backlash

An important property for synchronous operation or for machines that are frequently used in start/stop or reverse operation. RING-flex® couplings are ideally suited to applications in which the positioning accuracy of the control system in both directions is important.

4. High Speeds

Due to the very strict production tolerances, RING-flex® allows precise vertical alignment and a high level of true running accuracy, making it ideal for applications involving high speeds even with irregular rotary forces.

2. Torsional Stiffness

The design of the coupling guarantees a high level of torsional stiffness, which is an important property for applications in packaging machines, servomotor drives, printing presses and machine tools.

5. High Service Life

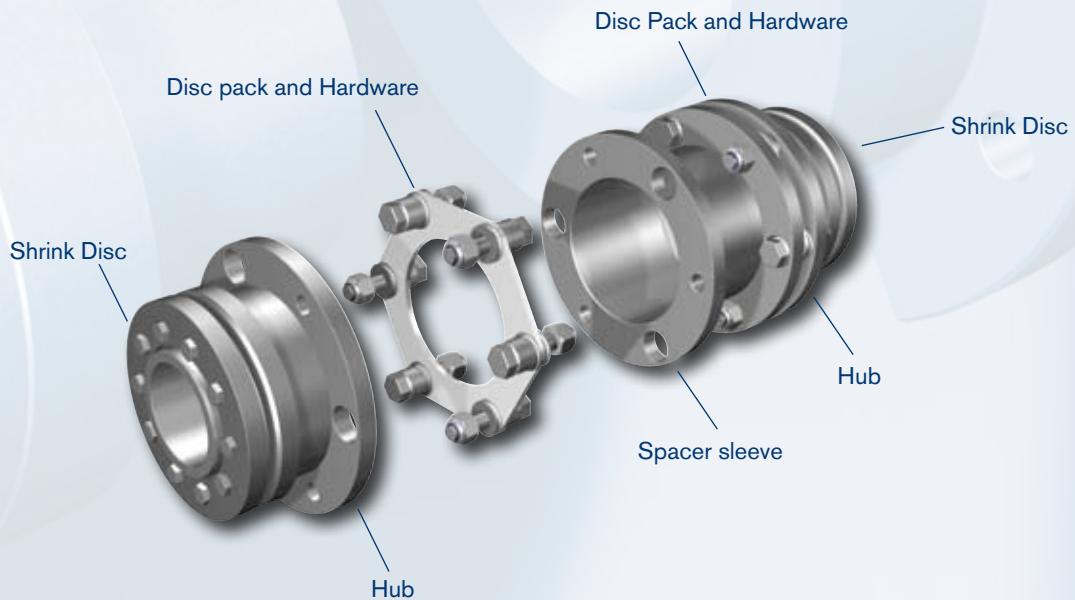
The highly accurate disc pack insures optimum force distribution, and is designed to handle stresses from torque and misalignment, while providing a long service life.

3. High Temperatures

RING-flex® couplings can be used under extreme temperature conditions up to 240 °C/460 °F, e.g. in high-temperature fluid pumps.

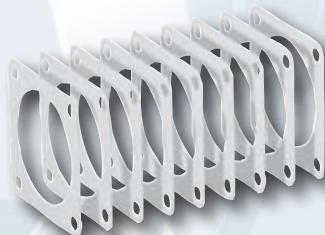
6. Maintenance-Free Operation

RING-flex® couplings are maintenance-free and do not require greasing or cleaning.



4 bolt design

- Element Pack consists of individual discs
- Low or medium speeds
- Angular misalignment 1° per disc pack
- Low or medium torque



6 bolt design

- Unitized Disc Pack
- Higher speeds
- Angular misalignment 1° per disc pack
- Higher torque



compact design

- Unitized Disc Pack
- High speeds
- Angular misalignment 1° per disc pack
- Low to medium torques
- Low inertia



8 bolt design

- Unitized Disc Pack
- Angular misalignment 0.3° - 0.5° per disc pack
- High torque



Characteristics

Mounting with key

RING-flex® GS/HS, GD/HD, GC/HC, HD-FL

Multiple-disc coupling for compensating of axial and angular misalignments

Versions with 2 disc packs can also be used to compensate for radial misalignments.

- **High torsional stiffness**
- **High transmissible torques**
- **Can be used up to temperatures of approx. 240 °C/460 °F**
- **Maintenance-free operation**
- **Attachment of the coupling to the shafts with keys**



RING-flex® GS/HS, GD/HD, GC/HC, HD-FL

RING-flex® GS/HS

Coupling without spacer

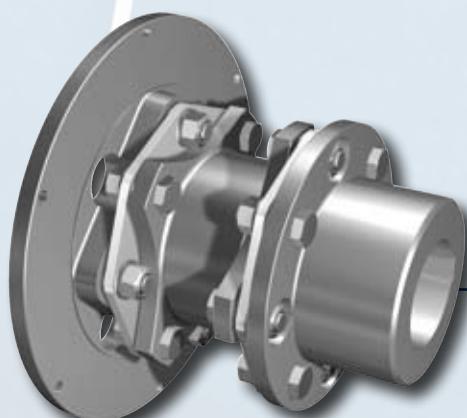


RING-flex® GD/HD

Coupling with standard spacer

RING-flex® GC/HC

Coupling with short spacer



RING-flex® HD-FL (Large Sizes)

Coupling with standard spacer
Ready for SAE Flywheel Mounting

A, D₃, L_F, S₁ = main dimensionsD₁, D₂ = max. max. bore size with keywayD₄ = pilot boreL_o = overall lengthT_{nom.} = nominal torque capacityT_{max.} = max. torque capacityT_L = tightening torque screws disc pack

RPM = max. speed

Δ_{axial} = axial misalignmentΔ_{angular} = angular misalignment

J = moment of inertia



RING-flex® HS-75-6

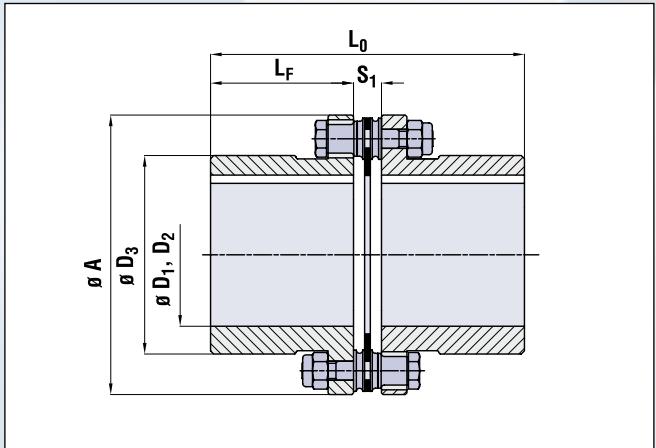
Size	A mm inches	D ₁ ; D ₂ max. mm inches	D ₃ mm inches	D ₄ mm inches	L _F mm inches	S ₁ mm inches	L _o mm inches
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GS-Series

10-4	81 3.19	32 1.3	45 2.00	/	50 1.97	6.9 0.27	106.9 4.2
20-4	93 3.66	35 1.38	50 1.97	/	55 2.17	8.1 0.32	118.1 4.7
30-4	104 4.09	41 1.6	61 2.40	/	55 2.17	8.6 0.34	118.6 4.7
40-4	126 4.96	48 1.9	70 2.76	/	65 2.56	12.2 0.48	142.2 5.6
50-4	143 5.63	54 2.1	81 3.19	/	70 2.76	12.7 0.50	152.7 6.0
60-4	168 6.61	75 3.0	105 4.13	/	75 2.95	14.1 0.56	164.2 6.5
70-4	194 7.64	70 2.8	118 4.65	/	90 3.54	15.5 0.61	196 7.7
80-4	214 8.43	110 4.3	136 5.35	/	110 4.33	20.6 0.81	240.6 9.5

HS-Series

17-6	70.5 2.78	35 1.4	47 1.85	10 0.39	39.5 1.56	7.5 0.30	86.5 3.4
32-6	88 3.46	45 1.8	62 2.46	14 0.55	45 1.77	8.8 0.35	98.8 3.9
75-6	116.5 4.59	60 2.4	81 3.19	15 0.59	55 2.17	10.4 0.41	120.4 4.7
135-6	140.5 5.53	70 2.8	94 3.70	19 0.75	60 2.36	12 0.47	132 5.2
240-6	166.5 6.56	90 3.5	115 4.53	25 0.98	75 2.95	13 0.51	163 6.4
400-6	198.5 7.81	100 3.9	136 5.35	30 1.18	90 3.54	15 0.59	195 7.7
650-6	238 9.37	120 4.7	169 6.65	36 1.42	125 4.92	20.8 0.82	270.8 10.7
1100-6	238 9.37	125 4.92	169 6.65	36 1.42	125 4.92	22.2 0.87	272.2 10.72
2100-8	295 11.61	150 5.9	205 8.10	49 1.93	160 6.30	28 1.10	348 13.7
3600-8	345 13.58	180 7.1	254 10.00	59 2.32	200 7.87	32.2 1.27	432.2 17.0



Example: RING-flex® HS-75-6-50-60

type	size	D ₁	D ₂
HS	75-6	50	60

Sectional view

Size	T _{nom.} Nm in-lbs	T _{max.} Nm in-lbs	T Nm ft-lbs	RPM 1/min	Δ axial ± mm ± inches	Δ angular degree	Weight kg lbs	J kg m ² lb in ²
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GS-Series

10-4	90 797	135 1195	11 8	4500	1.4 0.1	1	1.2 2.6	0.0 2.5
20-4	180 1593	270 2390	23 17	4300	1.5 0.1	1	1.8 4	0.0 5.0
30-4	250 2213	375 3319	23 17	4200	1.8 0.1	1	2.4 5.3	0.0 8.6
40-4	570 5045	855 7567	54 40	4000	2.1 0.1	1	4.3 9.5	0.0 22.5
50-4	890 7877	1335 11816	79 58	3800	2.4 0.1	1	6.7 14.8	0.0 44.3
60-4	1140 10.090	1.710 15.135	79 58	3600	3.2 0.1	1	9.1 20.1	0.0 93.3
70-4	1.800 15931	2.700 23897	156 115	3000	3.5 0.1	1	16.4 36.2	0.1 201.6
80-4	2450 21684	3675 32526	156 115	3000	4 0.2	1	23.2 51.1	0.1 349.5

HS-Series

17-6	170 1505	290 2567	8 6	8400	0.5 0.0	1	1.3 2.8	0.0 1.7
32-6	320 2832	560 4956	14 10	6800	0.6 0.0	1	2.5 5.4	0.0 5.6
75-6	750 6638	1310 11594	31 23	5400	0.8 0.0	1	5.2 11.5	0.0 33.9
135-6	1350 11949	2360 20888	62 46	4600	1 0.0	1	8.2 18.1	0.0 46.4
240-6	2400 21242	4200 37173	110 81	3800	1.2 0.1	1	14.7 32.4	0.0 118.7
400-6	4000 35403	7000 61955	180 133	3400	1.4 0.1	1	25 55.1	0.1 285.9
650-6	6500 57530	11370 100633	280 207	3000	1.7 0.1	1	48.7 107.4	0.2 778.1
1100-6	11000 97360	19250 170370	320 263	3000	1.2 0.05	0.70	49 107	0.228 778W
2100-8	21000 185866	36750 325265	570 421	2500	1.1 0.0	0.5	93 205	0.7 2406.1
3600-8	36000 318627	63000 557597	1.000 739	2100	1.3 0.1	0.5	183 359.4	1.8 5995.1

Mounting with key

RING-flex® GD

A, D₃, L_F, S₁ = main dimensions

D₁, D₂ = max. bore size with keyway

D₄ = pilot bore

S₂ = spacer length

L₀ = overall length

T_{nom.} = nominal torque capacity

T_{max.} = max. torque capacity

TL = tightening torque screws disc pack

RPM = max. speed

Δ_{axial} = axial misalignment

Δ_{angular} = angular misalignment

Δ_{radial} = radial misalignment

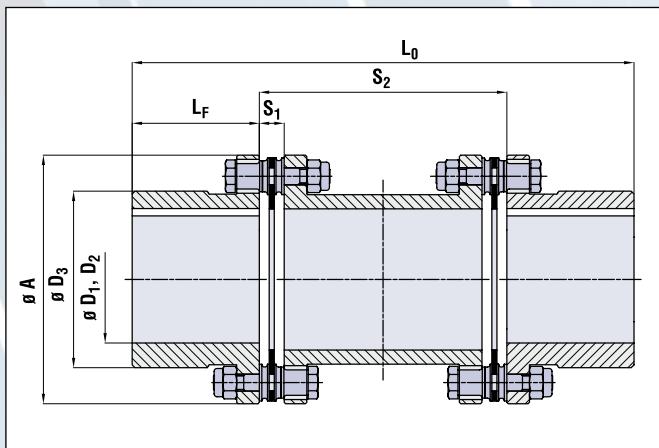
J = moment of inertia



RING-flex® GD-70-4

Size	A mm inches	D ₁ ; D ₂ max. mm inches	D ₃ mm inches	D ₄ mm inches	L _F mm inches	S ₁ mm inches	S ₂ mm inches	L ₀ mm inches
GD-Series								
10-4	81 3.19	32 1.26	45 2.00	/	50 1.97	6.9 0.27	57 2.24	157 6.18
20-4	93 3.66	35 1.38	50 1.97	/	55 2.17	8.1 0.32	70 2.76	180 7.09
30-4	104 4.09	41 1.61	61 2.40	/	55 2.17	8.6 0.34	66 2.6	176 6.93
40-4	126 4.96	48 1.89	70 2.76	/	65 2.56	12.2 0.48	84 3.31	214 8.43
50-4	143 5.63	54 2.13	81 3.19	/	70 2.76	12.7 0.5	92 3.62	233 9.17
60-4	168 6.67	75 2.95	105 4.13	/	75 2.95	14.1 0.56	97 3.82	246 9.69
70-4	194 7.64	70 2.76	118 4.65	/	90 3.54	15.5 0.61	117 4.61	297 11.69
80-4	214 8.43	110 4.33	136 5.35	/	110 4.33	20.6 0.81	130 5.12	359 14.13

All bold dimensions are standard lengths



Sectional view

Example: RING-flex® GD-240-6-75-80-100

type	size	D ₁	D ₂	S ₂
GD	70-4	70	70	117

Size	T _{nom.}	T _{max.}	T _L	RPM	Δ _{axial}	Δ _{angular}	Δ _{radial}	Weight	J
	Nm in-lbs	Nm in-lbs	Nm ft-lbs	1/min	± mm ± inches	degree	mm inches		
GD-Series									
10-4	90 797	135 1195	11 8	4500	2.7 0.11	2	0.5 0.02	2 4.4	0.0012 4.07
20-4	180 1593	270 2390	23 17	4300	3 0.12	2	0.6 0.02	3.1 6.8	0.0025 8.4
30-4	250 2213	375 3319	23 17	4200	3.7 0.15	2	0.5 0.02	4 8.8	0.0042 14.2
40-4	570 5045	855 7567	54 40	4000	4.2 0.17	2	0.7 0.03	7.3 16.1	0.011 38.4
50-4	890 7877	1335 11816	79 58	3800	4.9 0.19	2	0.9 0.04	11.6 25.6	0.022 76.4
60-4	1140 10090	1710 15135	79 58	3600	6.4 0.25	2	0.9 0.04	14.1 31.1	0.046 155.5
70-4	1800 15931	2700 23897	156 115	3000	6.9 0.27	2	1.7 0.07	25.6 56.4	0.098 333.9
80-4	2450 21684	3675 32526	156 115	3000	8 0.31	2	1.8 0.07	35.8 78.9	0.167 569.4

Mounting with key

RING-flex® HD

A, D₃, L_F, S₁ = main dimensions

D₁, D₂ = max. bore size with keyway

D₄ = pilot bore

S₂ = spacer length

L_O = overall length

T_{nom.} = nominal torque capacity

T_{max.} = max. torque capacity

TL = tightening torque screws disc pack

RPM = max. speed

Δ_{axial} = axial misalignment

Δ_{angular} = angular misalignment

Δ_{radial} = radial misalignment

J = moment of inertia



RING-flex® HD-75-6

Size	A mm inches	D ₁ ; D ₂ max. mm inches	D ₃ mm inches	D ₄ mm inches	L _F mm inches	S ₁ mm inches	S ₂		L _O	
							mm inches	mm inches	mm inches	mm inches

HD-Series

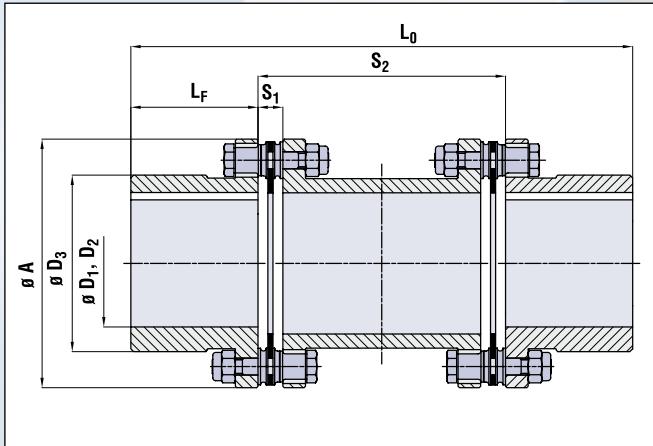
17-6	70.5 2.78	35 1.38	47 1.85	10 0.39	39.5 1.56	7.5 0.3	60 2.36	100 3.94	140 5.51	139 5.47	179 7.05	219 8.62		
32-6	88 3.46	45 1.77	62 2.46	14 0.55	45 1.77	8.8 0.35	70 2.76	80 3.15	100 3.94	140 5.51	160 6.3	170 6.69	190 7.48	230 9.06
75-6	116.5 4.59	60 2.36	81 3.19	15 0.59	55 2.17	10.4 0.41	100 3.94	140 5.51	180 7.09	210 8.27	250 9.84	290 11.42		
135-6	140.5 5.53	70 2.76	94 3.70	19 0.75	60 2.36	12 0.47	100 3.94	140 5.51	180 7.09	220 8.66	260 10.24	300 11.81		
240-6	166.5 6.56	90 3.54	115 4.53	25 0.98	75 2.95	13 0.51	100 3.94	140 5.51	180 7.09	250 9.84	290 11.42	330 12.99		
400-6	198.5 7.81	100 3.94	136 5.35	30 1.18	90 3.54	15 0.59	140 5.51	180 7.09		320 12.6	360 14.17			
650-6	238 9.37	120 4.72	169 6.65	36 1.42	125 4.92	20.8 0.82	140 5.51	180 7.09	250 9.84	390 15.35	430 16.93	500 19.69		
1100-6	238 9.37	125 4.92	169 6.65	/	125 4.92	22.2 0.87	142.4 5.61	182.4 7.18	252.4 9.94	392.4 15.45	432.4 17.02	502.4 19.78		
2100-8	295 11.6	150 5.9	205 8.10	49 1.9	160 6.3	28 1.1	200 7.9	250 9.8		520 20.5	570 22.4			
3600-8	345 13.6	180 7.1	254 10.00	59 2.3	200 7.9	32.2 1.3	224 8.8	250 9.8	300 11.8	624 24.6	650 25.6	700 27.6		

All bold dimensions are standard lengths

Size	A mm inches	D ₁ ; D ₂ max. mm inches	D ₃ mm inches	L _F mm inches	S ₁ mm inches	S ₂	L _O	
							mm inches	mm inches

HD-Series

7200-8	457 18.00	200 8.00	295 11.63	184 7.25	34 1.32	259 10.18	627 24.68	
13500-8	559 22.00	250 10.00	368 14.50	229 9.00	40 1.56	298 11.72	755 29.72	



Example: RING-flex® HD-240-6-75-80-100

type	size	D ₁	D ₂	S ₂
HD	240-6	75	80	100

Sectional view

Size	T _{nom.}	T _{max.}	T _L	RPM	Δ _{axial}	Δ _{angular}	Δ _{radial}	Weight		J
	Nm in-lbs	Nm in-lbs	Nm ft-lbs	1/min	± mm ± inches	degree	mm inches	kg lbs	kg m ² lb in ²	

HD-Series

17-6	170 1505	290 2567	8 6	8400	1.1 0.04	2	0.8 0.03	1.5 0.05	2.2 0.06	1.54 3.4	1.66 3.7	1.79 3.9	0.0008 2.60	0.0008 2.77	0.0009 2.97		
32-6	320 2832	560 4956	14 10	6800	1.2 0.05	2	1.0 0.03	1.1 0.04	1.5 0.05	2.1 0.07	3.1 6.8	3.15 6.9	3.26 7.2	3.48 7.7	0.0025 8.61	0.0026 8.75	0.0026 9.05
75-6	750 6638	1310 11594	31 223	5400	1.6 0.06	2	1.4 0.05	2.1 0.07	2.8 0.09	6.55 14.4	6.85 15.1	7.14 15.7	0.0093 31.71	0.0099 33.69	0.010 35.77		
135-6	1350 11949	2360 20888	62 46	4600	2.1 0.08	2	1.5 0.04	2.1 0.07	2.8 0.09	10.29 22.7	10.72 23.6	11.16 24.6	0.021 71.52	0.022 74.45	0.023 77.36		
240-6	2400 21242	4200 37173	110 81	3800	2.5 0.1	2	1.4 0.04	2.1 0.07	2.8 0.09	17.81 39.3	18.5 40.8	19.19 42.3	0.052 176.82	0.054 183.79	0.056 190.8		
400-6	4000 35403	7000 61955	180 133	3400	2.8 0.11	2	2.0 0.06	2.7 0.09		30.16 66.5	30.92 68.2		0.124 424.14	0.127 435.18			
650-6	6500 57530	11370 100633	280 207	3000	3.4 0.13	2	2.0 0.08	2.6 0.10	3.8 0.15	58.65 129.3	60.5 133.4	62 137		0.334 1142	0.346 1181	0.360 1230	
1100-6	11000 97360	19250 170370	320 236	3000	1.2 0.05	1.4	1.6 0.06	2.1 0.08	2.70 0.11	59 129	60 133	62 137		0.334 1142	0.346 1181	0.360 1230	
2100-8	21000 185866	36750 325265	570 421	2500	2.2 0.1	1	2 0.1	2.5 0.1		58.7 129.3	60.5 133.4		1.068 3648.1	1.099 3753.6			
3600-8	36000 318627	63000 557597	1000 739	2100	2.5 0.1	1	2 0.1	2.5 0.1	3 0.1	205.3 452.7	207.3 457	211.1 465.3		2.615 8935.4	2.636 9006.2	2.676 9142.1	

Size	T _{nom.}	T _{max.}	T _L	RPM	RPM	Δ _{axial}	Δ _{angular}	Δ _{radial}	weight	J
	Nm lb-in	Nm lb-in	Nm lb-ft	1/min unbalanced	1/min balanced	+/- mm +/- inches	degrees	mm inches	kg lbs	kg-m ² lb-in ²

HD-Series

7200-8	72300 640000	144600 1280000	2170 1600	3500	5900	3.0 0.12	0.33	1.2 0.05	245 540	6.441 22009
13500-8	135600 1200000	260000 2300000	3660 2700	3100	4800	3.6 0.14	0.33	1.4 0.05	446 984	17.690 60443

A, D₃, L_F, S₁ = main dimensions

D₁, D₂ = max. bore size with keyway

D₄ = pilot bore

S₂ = spacer length

L₀ = overall length

T_{nom.} = nominal torque capacity

T_{max.} = max. torque capacity

TL = tightening torque screws disc pack

RPM = max. speed

Δ_{axial} = axial misalignment

Δ_{angular} = angular misalignment

Δ_{radial} = radial misalignment

J = moment of inertia



RING-flex® HC-75-6

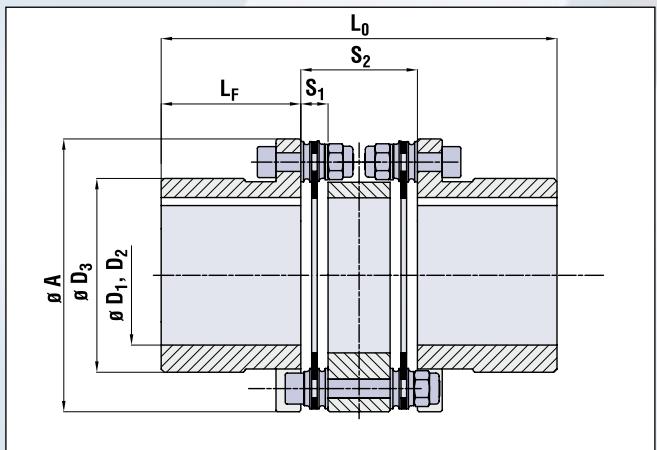
Size	A mm inches	D ₁ ; D ₂ max. mm inches	D ₃ mm inches	D ₄ mm inches	L _F mm inches	S ₁ mm inches	S ₂ mm inches	L ₀ mm inches
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GC-Series

10-4	81 3.19	32 1.26	45 1.77	/	50 1.97	6.9 0.27	37 1.46	137 5.39
20-4	93 3.66	35 1.38	50 1.97	/	55 2.17	8.1 0.32	41 1.61	151 5.94
30-4	104 4.09	41 1.61	61 2.40	/	55 2.17	8.6 0.34	40 1.57	150 5.91
40-4	126 4.96	48 1.89	70 2.76	/	65 2.56	12.2 0.48	55 2.17	185 7.28
50-4	143 5.63	54 2.13	81 3.19	/	70 2.76	12.7 0.50	66 2.60	206 8.11
60-4	168 6.61	75 2.95	105 4.13	/	75 2.95	14.1 0.56	68 2.68	217 8.54
70-4	194 7.64	70 2.76	118 4.65	/	90 3.54	15.5 0.61	85 3.35	265 10.43
80-4	214 8.43	110 4.33	136 5.35	/	110 4.33	20.6 0.81	84.8 3.34	305 12.01

HC-Series

17-6	70.5 2.78	35 1.38	47 1.85	10 0.39	39.5 1.56	7.5 0.30	31.2 1.23	110.2 4.34
32-6	88 3.46	45 1.77	63 2.46	14 0.55	45 1.77	8.8 0.35	37.6 1.48	127.6 5.02
75-6	116.5 4.59	60 2.36	81 3.19	15 0.59	55 2.17	10.4 0.41	46.3 1.82	156.3 6.15
135-6	140.5 5.53	70 2.76	94 3.70	19 0.75	60 2.36	12 0.47	55.0 2.17	175 6.89
240-6	166.5 6.56	90 3.54	115 4.53	25 0.98	75 2.95	13 0.51	62.6 2.46	212.6 8.37
400-6	198.5 7.81	100 3.94	136 5.35	30 1.18	90 3.54	15 0.59	71.8 2.83	251.8 9.91



Example: RING-flex® GC-40-4-35-40

type	size	D ₁	D ₂
GC	40-4	35	40

Sectional view

Size	T _{nom.}	T _{max.}	T _L	RPM	Δ axial	Δ angular	Δ radial	Weight	J
	Nm in-lbs	Nm in-lbs	Nm ft-lbs	1/min	± mm ± inches	degree	mm inches	kg lbs	kg m ² lb in ²

GC-Series

10-4	90 797	135 1195	11 8	4500	2.7 0.11	2	0.5 0.02	1.5 3.3	0.0008 2.82
20-4	180 1593	270 2390	23 17	4300	3 0.12	2	0.5 0.02	2.2 4.9	0.0017 5.94
30-4	250 2213	375 3319	23 17	4200	3.7 0.15	2	0.5 0.02	2.9 6.4	0.0029 10.00
40-4	570 5045	855 7567	54 40	4000	4.2 0.17	2	0.8 0.03	5.4 11.9	0.0078 26.70
50-4	890 7877	1335 11816	79 58	3800	4.9 0.19	2	1 0.04	8.1 17.9	0.016 52.80
60-4	1.140 10.090	1710 15135	79 58	3600	6.4 0.25	2	1 0.04	10.8 23.8	0.034 116.10
70-4	1.800 15931	2700 23897	156 115	3000	6.9 0.27	2	1.3 0.05	20.7 45.6	0.071 244.00
80-4	2450 21684	3675 32526	156 115	3000	8 0.31	2	1.3 0.05	28.9 63.7	0.122 416.70

HC-Series

17-6	170 1505	290 2567	8 6	8400	1.1 0.04	2	0.4 0.02	1.48 3.3	0.0007 2.43
32-6	320 2832	560 4956	14 10	6800	1.2 0.05	2	0.5 0.02	2.89 6.4	0.0022 7.45
75-6	750 6638	1310 11594	31 23	5400	1.6 0.06	2	0.6 0.02	6.0 13.7	0.0080 27.20
135-6	1350 11949	2360 20888	62 46	4600	2.1 0.08	2	0.7 0.03	9.7 21.4	0.018 62.32
240-6	2400 21242	4200 37173	110 81	3800	2.5 0.10	2	0.8 0.03	17.2 37.9	0.050 170.78
400-6	4000 35403	7000 61955	180 207	3400	2.8 0.11	2	1.0 0.03	28.9 63.7	0.122 416.28

Mounting with key

RING-flex® HD-FL (Large Sizes)

A, D₃, L_F, S₁ = main dimensions

D₁ = max. bore size with keyway

S₂ = spacer length

L_O = overall length

T_{nom.} = nominal torque capacity

T_{max.} = max. torque capacity

T_L = tightening torque screws disc pack

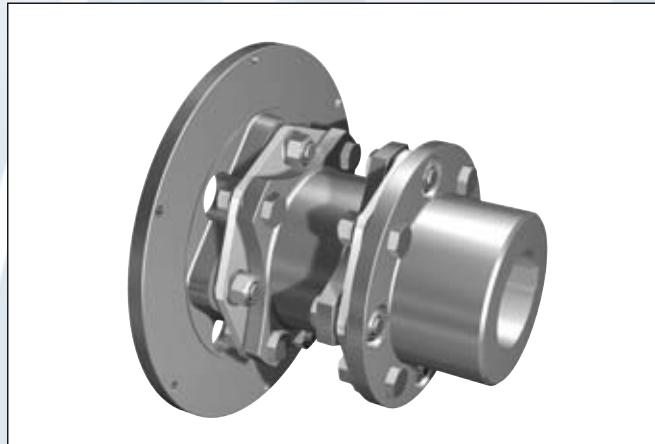
RPM = max. speed

Δ_{axial} = axial misalignment

Δ_{angular} = angular misalignment

Δ_{radial} = radial misalignment

J = moment of inertia



RING-flex® HD/FL

Size	A	D ₁ :D ₂	D ₃	L _F	S ₁	S ₂	L _O
	mm inches	mm inches	mm inches	mm inches	mm inches	mm inches	

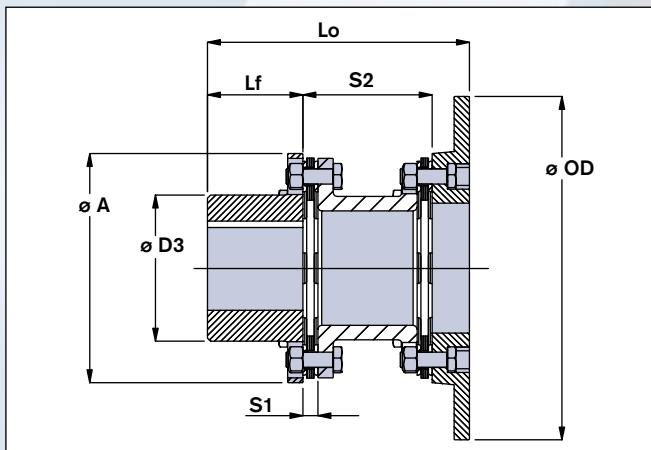
HD-FL-Series

450-8	213 8.38	95 3.75	138 5.44	73 2.88	14 0.57	135 5.31	149 5.88		208 8.19	223 8.76	
1350-8	279 11.00	115 4.50	165 6.51	108 4.25	19 0.75	181 7.14	194 7.64	223 8.76	289 11.39	302 11.89	330 13.01
3400-8	381 15.00	175 6.88	243 9.57	159 6.25	25 0.98	251 9.89	277 10.89		410 16.14	435 17.14	
7200-8	457 18.00	200 8.00	295 11.63	184 7.25	34 1.32	316 12.44	343 13.51		500 19.69	527 20.76	
13500-8	559 22.00	250 10.00	368 14.50	229 9.00	40 1.56	375 14.76	400 15.76	438 17.26	604 23.76	629 24.76	667 26.26

Size	SAE J620 FLYWHEEL ADAPTER MOUNTING							
	10	11.5	14	16	18	21	24	
450-8		X	X	X	X			
1350-8				X	X	X		X
3400-8				X	X	X		X
7200-8					X	X		X
13500-8						X		X
SAE DIMENSIONS								
OD	mm inches	314.3 12.375	352.4 13.875	466.7 18.375	517.5 20.375	571.5 22.500	673.1 26.500	733.4 28.875
BC	mm inches	295.3 11.625	333.4 13.125	438.2 17.250	489.0 19.250	542.9 21.375	641.4 25.250	692.2 27.250
QTY		8	8	8	8	6	12	12
DIA	mm inches	10 0.41	10 0.41	13 0.53	13 0.53	17 0.65	17 0.65	20 0.78

(1) - Weight and J calculated with hub at maximum bore and minimum available flywheel adapter size.

OD = Outside Diameter
 BC = Bolt Circle Diameter
 QTY = Numbers of Holes
 DIA = Adapter Bolt Hole Size



Example: RING-flex® HD/FL 1350-8-4.00-11.5-194

type	size	D ₁	SAE	S ₂
HD/FL	1350-8	4.00	11.5	194

Sectional view

Size	T _{nom.}	T _{max.}	T _L	RPM	Δ axial	Δ angular	Δ radial	weight (1) kg lbs	J (1) kg·m ² lb·in ²
	Nm lb-in	Nm lb-in	Nm lb-ft	1/min unbalanced	+/- mm +/- inches	degrees	mm inches		
HD-FL-Series									
450-8	4500 40000	6780 60000	150 110	3400	1.5 0.06	0.33	0.7 0.03	0.8 0.03	
1350-8	13500 120000	20300 180000	490 360	2500	2.0 0.08	0.33	0.9 0.04	1.0 0.04	1.2 0.05
3400-8	27100 240000	40600 360000	1140 840	1800	2.5 0.10	0.33	1.3 0.05	1.4 0.06	
7200-8	63200 560000	94900 840000	2170 1600	1500	3.0 0.12	0.33	1.6 0.06	1.8 0.07	222 489
13500-8	124200 1100000	186400 1650000	3660 2700	1200	3.6 0.14	0.33	1.9 0.08	2.1 0.08	227 501
							395	402	418
							871	887	922
									17.244
									17.432
									58922
									59563
									19.203

Characteristics

Mounting with RINGFEDER® Shrink Disc

RING-flex®

XGS/XHS, XGD/XHD, XGC/XHC, XHD-FL

Multiple-disc coupling for compensating of axial, angular and radial misalignments

- Permanently backlash-free attachment of the multiple-disc coupling by means of RINGFEDER Shrink Disc
- Overall length adaptable to customer requirements by the use of various center spacers (XGD/XHD, XGC/XHC)
- High torsional stiffness
- Backlash-free transmission of high torques
- Can be used up to temperatures of approx. 240 °C/460 °F
- Maintenance-free operation



Vehicle Dyno



Pump Drive

RING-flex® XGS/XHS, XGD/XHD, XGC/XHC, XHD-FL

RING-flex® XGS/XHS

Coupling without spacer



RING-flex® XGD/XHD

Coupling with standard spacer

RING-flex® XGC/XHC

Coupling with short spacer



RING-flex® XHD-FL (Large Sizes)

Coupling with standard spacer ready for
SAE flywheel mounting

A, L_F, S₁, D₃ = main dimensions**D₁, D₂** = max. bore size**D** = maximum Shrink Disc size**D₄** = pilot bore**L₀** = overall length**T_{nom.}** = nominal torque capacity**T_{max.}** = max. torque capacity**T_L** = tightening torque screws disc pack**RPM** = max. speed**Δ_{axial}** = axial misalignment**Δ_{angular}** = angular misalignment**J** = moment of inertia

RING-flex® XHS-32-6-36

Size	A mm inches	D mm	D ₁ ; D ₂ mm inches	D ₃ mm inches	D ₄ mm inches	L _F mm inches	S ₁ mm inches	L ₀ mm inches
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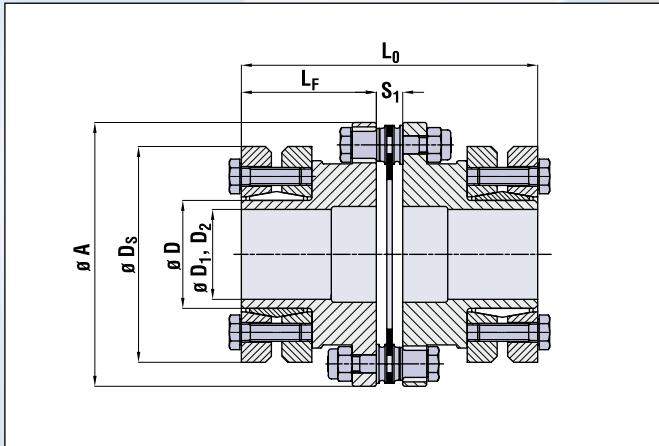
XGS-Series

10-4	81 3.19	36	32 1.26	45 2.00	/	50 1.97	6.9 0.27	106.9 4.21
20-4	93 3.66	44	36 1.42	50 1.97	/	55 2.17	8.1 0.32	118.1 4.65
30-4	104 4.09	55	48 1.89	61 2.40	/	55 2.17	8.6 0.34	118.6 4.67
40-4	126 4.96	62	52 2.05	70 2.76	/	65 2.56	12.2 0.48	142.2 5.6
50-4	143 5.63	80	70 2.76	81 3.19	/	70 2.76	12.7 0.5	152.7 6
60-4	168 6.61	90	75 2.95	105 4.13	/	75 2.95	14 1	164 6
70-4	194 7.64	90	85 3.35	118 4.65	/	90 3.54	15.5 0.61	196 7.72
80-4	214 8.43	125	95 3.74	136 5.35	/	110 4.33	20.6 0.81	240.6 9.47

XHS-Series

17-6	71 2.78	44	37 1.44	47 1.85	10 0.39	40 1.56	7.6 0.30	86.6 3.41
32-6	88 3.46	50	42 1.65	62 2.46	14 0.55	45 1.77	8.9 0.35	98.8 3.89
75-6	117 4.59	68	60 2.36	81 3.19	15 0.59	55 2.17	10.4 0.41	120.4 4.74
135-6	140 5.53	80	70 2.76	94 3.70	19 0.75	60 2.36	12 0.47	132 5.20
240-6	167 6.56	110	115 4.53	115 4.53	25 0.98	75 2.95	13 0.51	163 6.42
400-6	198 7.81	125	95 3.74	136 5.35	30 1.18	90 3.54	15 0.59	195 7.68
650-6	238 9.37	165	125 4.92	169 6.65	36 1.42	125 4.92	21 0.82	271 10.66
1100-6	238 9.37	165	125 4.92	169 6.65	36 1.42	125 4.92	22.2 0.87	272.2 10.72
2100-8	295 11.61	195	155 6.10	205 8.10	49 1.93	160 6.30	28 1.10	348 13.70
3600-8	345 13.58	240	190 7.48	254 10.00	59 2.32	200 7.87	32 1.27	432 17.02

1) Maximum Torque Capacity ($T_{max.}$) may be limited by shaft size. See page 45.



Sectional view

Example: RING-flex® XHS-32-6-44-32-36

type	size	D	D ₁	D ₂
XHS	32-6	44	32	36

Size	T _{nom.} Nm in-lbs	T _{max.} (t) Nm in-lbs	T _L Nm ft-lbs	RPM 1/min	Δ axial ± mm ± inches	Δ angular degree	Weight kg lbs	J kg m ² lb in ²
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XGS-Series

10-4	90 797	135 1195	11 8	4500	1.4 0.06	1	1.8 4	0.00139 4.74
20-4	180 1.593	270 2390	23 17	4300	1.5 0.06	1	2.8 6.2	0.00260 8.89
30-4	250 2.213	375 3319	23 17	4200	1.8 0.07	1	3.9 8.6	0.00574 19.60
40-4	570 5.045	855 7567	54 40	4000	2.1 0.08	1	6.1 13.4	0.011112 38.00
50-4	890 7.877	1335 11816	79 58	3800	2.4 0.09	1	10.3 22.7	0.0284 97.20
60-4	1.140 10.090	1710 15135	79 58	3600	3.2 0.13	1	14 30.9	0.0502 171.40
70-4	1.800 15.931	2700 23897	156 115	3000	3.5 0.14	1	23 51	0.0768 262.30
80-4	2.450 21.684	3675 32526	156 115	3000	4 0.16	1	36 78	0.2219 758.30

XHS-Series

17-6	170 1505	290 2567	8 6	8400	0.5 0.02	1	1.3 2.8	0.0007 2.46
32-6	320 2832	560 4956	14 10	6800	0.5 0.02	1	2.4 5.4	0.0015 5.03
75-6	750 6638	1310 11594	31 23	5400	0.8 0.03	1	5.2 11.5	0.010 33.9
135-6	1350 11949	2360 20888	63 46	4600	1.0 0.04	1	8.2 18.1	0.014 46.4
240-6	2400 21242	4200 37173	110 81	3800	1.2 0.05	1	15 32	0.035 119
400-6	4000 35403	7000 61955	180 133	3400	1.4 0.06	1	25 55	0.084 286
650-6	6500 57530	11370 100633	280 207	3000	1.7 0.07	1	49 107	0.228 778
1100-6	11000 97360	19250 170370	320 236	3000	1.2 0.05	0.70	49 107	0.228 778
2100-8	21000 185966	36750 325265	570 421	2500	1.1 0.04	0.50	93 205	0.704 2406
3600-8	36000 318627	63000 557597	1000 739	2100	1.3 0.05	0.50	163 359	1.755 5995

- A, L_F, S₁** = main dimensions
D₁, D₂ = max. bore size
D = maximum Shrink Disc size
D₄ = pilot bore
S₂ = spacer length
L₀ = overall length
T_{nom.} = nominal torque capacity
T_{max.} = max. torque capacity
T_L = tightening torque screws disc pack
RPM = max. speed
Δ_{axial} = axial misalignment
Δ_{angular} = angular misalignment
Δ_{radial} = radial misalignment
J = moment of inertia



RING-flex® XHD-32-6-36

Size	A	D	D ₁ ; D ₂	D ₃	D ₄	L _F	S ₁	S ₂	L ₀
	mm inches	mm	mm inches	mm inches	mm inches	mm inches	mm inches	mm inches	

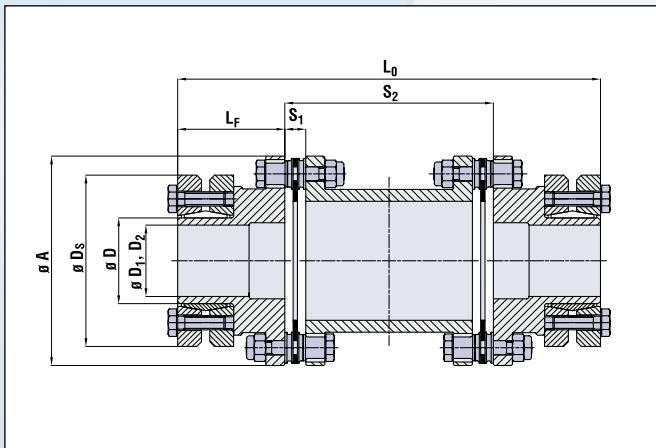
XGD-Series

10-4	81 3.19	36	32 1.26	45 2.00	/	50 1.97	6.9 0.27	57 2.24	157 6.18
20-4	93 3.66	44	36 1.42	50 1.97	/	55 2.17	8.1 0.32	70 2.76	180 7.09
30-4	104 4.09	55	48 1.89	61 2.40	/	55 2.17	8.6 0.34	66 2.60	176 6.93
40-4	126 4.96	62	52 2.05	70 2.76	/	65 2.56	12.2 0.48	84 3.31	214 8.43
50-4	143 5.63	80	70 2.76	81 3.19	/	70 2.76	12.7 0.50	92 3.62	233 9.17
60-4	168 6.61	90	75 2.95	105 4.13	/	75 2.95	14.1 0.56	97 3.82	246 9.69
70-4	194 7.64	90	85 3.35	118 4.65	/	90 3.54	15.5 0.61	117 4.61	297 11.69
80-4	214 8.43	125	95 3.74	136 5.35	/	110 4.33	20.6 0.81	130 5.12	350 13.78

XHD-Series

17-6	71 2.78	44	37 1.44	47 1.85	10 0.39	40 1.56	7.6 0.30	60 2.36	100 3.94	140 5.51	139 5.47	179 7.05	219 8.62		
32-6	88 3.46	50	42 1.65	62 2.46	14 0.55	45 1.77	8.9 0.35	70 2.76	80 3.15	100 3.94	140 5.51	160 6.30	170 6.69	190 7.48	230 9.06
75-6	117 4.59	68	60 2.36	81 3.19	15 0.59	55 2.17	10.4 0.41	100 3.94	140 5.51	180 7.09	210 8.27	250 9.84	290 11.42		
135-6	140 5.53	80	70 2.76	94 3.70	19 0.75	60 2.36	12 0.47	100 3.94	140 5.51	180 7.09	220 8.66	260 10.24	300 11.81		
240-6	167 6.56	110	115 4.53	115 4.53	25 0.98	75 2.95	13 0.51	100 3.94	140 5.51	180 7.09	250 9.84	290 11.42	330 12.99		
400-6	198 7.81	125	95 3.74	136 5.35	30 1.18	90 3.54	15 0.59	140 5.51	180 7.09	220 12.60	320 14.17	360 14.17			
650-6	238 9.37	165	125 4.92	169 6.65	36 1.42	125 4.92	21 0.82	140 5.51	180 7.09	250 9.84	390 15.35	430 16.93	500 19.09		
1100-6	238 9.37	165	125 4.92	169 6.65	36 1.42	125 4.92	22.2 0.87	142.4 5.61	182.4 7.18	252.4 9.94	392.4 15.45	432.4 17.02	502.4 19.78		
2100-8	295 11.61	195	155 6.10	205 8.10	49 1.93	160 6.30	28 1.10	200 7.87	250 9.84	320 11.81	520 20.47	570 22.44			
3600-8	345 13.58	240	190 7.48	254 10.00	59 2.32	200 7.87	32 1.27	224 8.82	250 9.84	300 11.81	624 24.57	650 25.59	700 27.56		

All bold dimensions are standard



Sectional view

Example: RING-flex® XHD-135-6-90-70-75-140

type	size	D	D ₁	D ₂	S ₂
XHD	135-6	90	70	75	140

Size	T _{nom.} Nm in-lbs	T _{max.} 1) Nm in-lbs	T _L Nm ft-lbs	RPM. 1/min	△ axial ± mm ± inches	△ angular degree	△ radial mm inches	Weight kg lbs	J kg m ² lb in ²
XGD-Series									
10-4	90 797	135 1195	11 9	4500	2.7 0.11	2	0.9 0.0354	2.5 5.5	0.00186 6.35
20-4	180 1593	270 2390	23 17	4300	3 0.12	2	1 0.0394	4.1 9.0	0.00360 12.3
30-4	250 2213	375 3319	23 17	4200	3.7 0.15	2	1 0.0394	5.5 12.1	0.00735 25.7
40-4	570 5045	855 7567	54 40	4000	4.2 0.17	2	1.2 0.0472	9.2 20.3	0.01577 53.9
50-4	890 7877	1335 11816	79 58	3800	4.9 0.19	2	1.2 0.0472	15.3 33.7	0.0378 129.3
60-4	1140 10090	1710 15135	79 58	3600	6.4 0.25	2	1.4 0.0551	19.0 41.9	0.0684 233.6
70-4	1800 15931	2700 23897	156 115	3000	6.9 0.27	2	1.7 0.0669	32.1 70.8	0.1155 394.8
80-4	2450 21684	3675 32526	156 115	3000	8 0.31	2	1.8 0.0709	47.9 105.6	0.2863 978.3

XHD-Series

17-6	170 1505	290 2567	8 6	8400	1.1 0.04	2	0.8 0.03	1.5 0.05	2.2 0.06	1.5 3.4	1.7 3.7	1.8 3.9	0.0008 2.60	0.0008 2.77	0.0009 2.97		
32-6	320 2832	560 4956	14 10	6800	1.2 0.05	2	1.0 0.03	1.1 0.04	1.5 0.05	2.1 0.07	3.1 6.8	3.1 6.9	3.3 7.2	3.5 7.7	0.0025 8.61	0.0026 8.75	0.0026 9.05
75-6	750 6638	1310 11594	31 23	5400	1.6 0.06	2	1.4 0.05	2.1 0.07	2.8 0.09	6.5 14.4	6.8 15.1	7.1 15.7	0.009 31.7	0.010 33.7	0.010 35.8		
135-6	1350 11949	2360 20888	63 46	4600	2.1 0.08	2	1.5 0.04	2.1 0.07	2.8 0.09	10 23	11 24	11 25	0.021 71.5	0.022 74.5	0.023 77.4		
240-6	2400 21242	4200 37173	110 81	3800	2.5 0.10	2	1.4 0.04	2.1 0.07	2.8 0.09	18 39	19 41	19 42	0.052 176.8	0.054 183.8	0.056 190.1		
400-6	4000 35403	7000 61955	180 133	3400	2.8 0.11	2	2.0 0.06	2.7 0.09	2.2 0.09	30 67	31 68	31 68	0.124 424.1	0.127 435.2			
650-6	6500 57530	11370 100633	280 207	3000	3.4 0.13	2	2.0 0.08	2.6 0.10	3.8 0.15	59 129	60 133	62 137	0.334 1142	0.346 1181	0.360 1230		
1100-6	11000 97360	19250 170370	320 236	3000	1.2 0.05	1.4	1.6 0.06	2.1 0.08	2.70 0.11	59 129	60 133	62 137	0.334 1142	0.346 1181	0.360 1230		
2100-8	21000 185866	36750 325265	570 421	2500	2.2 0.09	1	1.4 0.06	1.8 0.07		113 249	116 256		1.068 3648	1.099 3754			
3600-8	36000 318627	63000 557597	1000 739	2100	2.5 0.1	1	1.6 0.06	1.8 0.07	2.2 0.09	205 453	207 457	211 465	2.615 8935	2.636 9006	2.676 9142		

1) Maximum Torque Capacity (T_{max}) may be limited shaft size. See page 45.

Mounting with RINGFEDER® Shrink Disc

RING-flex® XHD

A, L_F, S₁	= main dimensions
D₁, D₂	= max. bore size
D	= maximum Shrink Disc size
S₂	= spacer length
L_O	= overall length
T_{nom.}	= nominal torque capacity
T_{max.}	= max. torque capacity
T_L	= tightening torque screws disc pack
T_S	= tightening torque Shrink Disc
RPM	= max. speed
Δ_{axial}	= axial misalignment
Δ_{angular}	= angular misalignment
Δ_{radial}	= radial misalignment
J	= moment of inertia



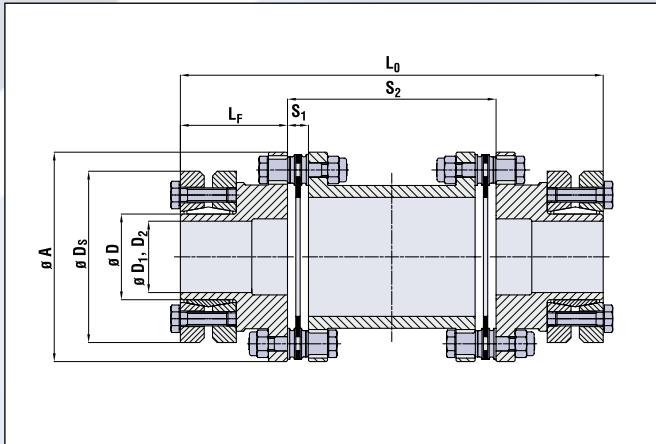
RING-flex® XHD-32-6-36

Size	A mm inches	D mm	D ₁ :D ₂ max mm inches	D ₃ mm inches	L _F mm inches	S ₁ mm inches	S ₂ mm inches	L _O mm inches
------	-------------------	---------	---	--------------------------------	--------------------------------	--------------------------------	--------------------------------	--------------------------------

XHD-Series

450-8	213 8.38	110	85 3.35	138 5.44	73 2.88	14 0.57	117 4.62	264 10.38
1350-8	279 11.00	155	115 4.53	165 6.51	108 4.25	19 0.75	168 6.60	384 15.10
3400-8	381 15.00	240	190 7.48	243 9.57	159 6.25	25 0.98	202 7.94	519 20.44
7200-8	457 18.00	280	230 9.06	295 11.63	184 7.25	34 1.32	259 10.18	627 24.68
13500-8	559 22.00	360	295 11.61	368 14.50	229 9.00	40 1.56	298 11.72	755 29.72

1) Maximum Torque Capacity (T_{max}) may be limited by shaft size. See page 45.



Sectional view

Example: RING-flex® XHD-135-6-90-70-75-140

type	size	D	D ₁	D ₂	S ₂
XHD	135-6	90	70	75	140

Size	T _{nom.} Nm lb-in	T _{max. 1)} Nm lb-in	T _L Nm lb-ft	RPM 1/min unbalanced	RPM 1/min balanced	Δ _{axial} +/- mm +/- inches	Δ _{angular} degrees	Δ _{radial} mm inches	weight kg lbs	J kg-m ² lb-in ²
XHD-Series										
450-8	4500 40000	9000 80000	150 110	6100	12000	1.5 0.06	0.33	0.5 0.02	20 45	0.117 399
1350-8	13500 120000	27000 240000	490 360	5000	9800	2.0 0.08	0.33	0.8 0.03	51 113	0.479 1635
3400-8	33900 300000	67800 600000	1140 840	4100	7100	2.5 0.10	0.33	0.9 0.04	130 287	2.378 8726
7200-8	72300 640000	144600 1280000	2170 1600	3500	5900	3.0 0.12	0.33	1.2 0.05	245 540	6.441 22009
13500-8	135600 1200000	260000 2300000	3660 2700	3100	4800	3.6 0.14	0.33	1.4 0.05	446 984	17.690 60443

A, L _F , S ₁	= main dimensions
D ₁ , D ₂	= max. bore size
D	= max. Shrink Disc size
D ₄	= pilot bore
S ₂	= spacer length
L ₀	= overall length
T _{nom.}	= nominal torque capacity
T _{max.}	= max. torque capacity
T _L	= tightening torque screws disc pack
RPM	= max. speed
Δ _{axial}	= axial misalignment
Δ _{angular}	= angular misalignment
Δ _{radial}	= radial misalignment
J	= moment of inertia



RING-flex® XHC-32-6-36

Size	A	D	D ₁ ; D ₂	D ₃	D ₄	L _F	S ₁	S ₂	L ₀
	mm inches	mm	mm inches	mm inches	mm inches	mm inches	mm inches	mm inches	mm inches

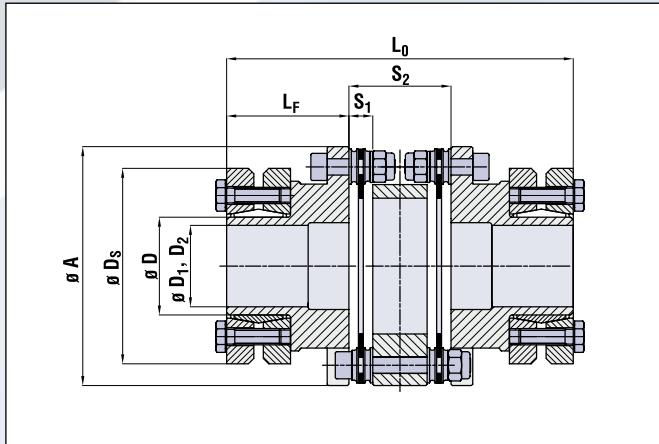
XGC-Series

10-4	81 3.19	36	32 1.26	45 1.77	/	50 1.97	6.9 0.27	37 1.46	137 5.39
20-4	93 3.66	44	36 1.42	50 1.97	/	55 2.17	8.1 0.32	41 1.61	151 5.94
30-4	104 4.09	55	48 1.89	61 2.40	/	55 2.17	8.6 0.34	40 1.57	150 5.91
40-4	126 4.96	62	52 2.05	70 2.76	/	65 2.56	12.2 0.48	55 2.17	185 7.28
50-4	143 5.63	80	70 2.76	81 3.19	/	70 2.76	12.7 0.5	66 2.6	206 8.11
60-4	168 6.61	90	75 2.95	105 4.13	/	75 2.95	14.1 0.56	68 2.68	217 8.54
70-4	194 7.64	90	85 3.35	118 4.65	/	90 3.54	15.5 0.61	85 3.35	265 10.43
80-4	214 8.43	125	95 3.74	136 5.35	/	110 4.33	20.6 0.81	84.8 3.34	305 12.01

XHC-Series

17-6	71 2.78	44	37 1.44	47 1.85	10 0.39	40 1.56	7.6 0.30	31.2 1.23	110.2 4.34
32-6	88 3.46	50	42 1.65	63 2.46	14 0.55	45 1.77	8.9 0.35	37.6 1.48	127.6 5.02
75-6	117 4.59	68	60 2.36	81 3.19	15 0.59	55 2.17	10.4 0.41	46.3 1.82	156.3 6.15
135-6	140 5.53	80	70 2.76	94 3.70	19 0.75	60 2.36	12 0.47	55.1 2.17	175 6.89
240-6	167 6.56	110	115 4.53	115 4.53	25 0.98	75 2.95	13 0.51	62.5 2.46	212.6 8.37
400-6	198 7.81	125	95 3.74	136 5.35	30 1.18	90 3.54	15 0.59	71.9 2.83	251.7 9.91

1) Maximum Torque Capacity (T_{max}) may be limited by shaft size. See page 45.



Sectional view

Example: RING-flex® XHC-17-6-44-32-36

type	size	D	D ₁	D ₂
XHC	17-6	44	32	36

Size	T _{nom.} Shaft Size Nm in-lbs	T _{max.} (2) Nm in-lbs	T _L Nm ft-lbs	RPM. 1/min	Δ axial ± mm ± inches	Δ angular degree	Δ radial mm inches	Weight kg lbs	J kg m ² lb in ²
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XGC-Series

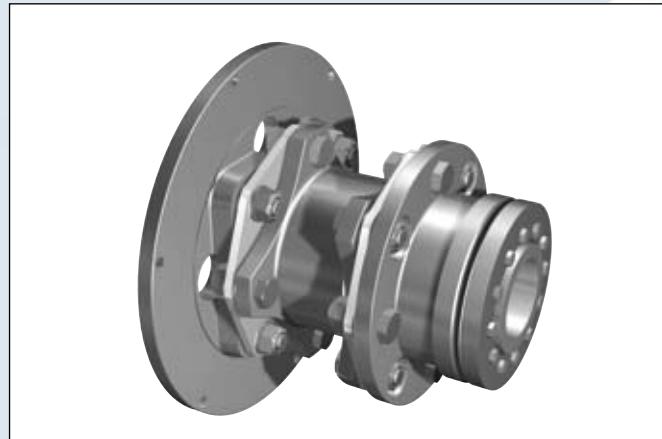
10-4	90 797	135 1195	11 8	4500	2.7 0.11	2	0.5 0.020	2 4.4	0.00149 5.10
20-4	180 1593	270 2390	23 17	4300	3 0.12	2	0.5 0.020	3.3 7.3	0.00287 9.80
30-4	250 2213	375 3319	23 17	4200	3.7 0.15	2	0.5 0.020	4.1 9	0.00474 16.20
40-4	570 5045	855 7567	54 40	4000	4.2 0.17	2	0.8 0.032	7.2 15.9	0.01235 42.20
50-4	890 7877	1335 11816	79 58	3800	4.9 0.19	2	1 0.039	9.4 20.7	0.0200 68.30
60-4	1140 10090	1710 15135	79 58	3600	6.4 0.25	2	1 0.039	14.7 32.4	0.0474 161.90
70-4	1800 15931	2700 23897	156 115	3000	6.9 0.27	2	1.3 0.051	27.1 59.7	0.0891 304.60
80-4	2450 21684	3675 32526	156 115	3000	8 0.31	2	1.3 0.051	41 90.4	0.1911 652.80

XHC-Series

17-6	170 1505	290 2567	8 6	8400	1.1 0.04	2	0.3 0.01	1.5 3.3	0.0007 2.43
32-6	320 2832	560 4956	14 10	6800	1.2 0.05	2	0.4 0.02	2.9 6.4	0.0022 7.45
75-6	750 6638	1310 11594	31 23	5400	1.6 0.06	2	0.5 0.02	6.2 13.7	0.008 27.2
135-6	1350 11949	2360 20888	63 46	4600	2.1 0.08	2	0.7 0.03	9.7 21.4	0.018 62.3
240-6	2400 21242	4200 37173	110 81	3800	2.5 0.10	2	0.7 0.03	17 38	0.050 171
400-6	4000 35403	7000 61955	180 133	3400	2.8 0.11	2	0.7 0.03	29 64	0.122 416

1) Maximum Torque Capacity (T_{max}) may be limited by shaft size. See page 45.

A, L _F , S ₁	= main dimensions
D ₁ , D ₂	= max. bore size
D	= maximum Shrink Disc size
D ₄	= pilot bore
S ₂	= spacer length
L _O	= overall length
T _{nom.}	= nominal torque capacity
T _{max.}	= max. torque capacity
T _L	= tightening torque screws disc pack
RPM	= max. speed
Δ _{axial}	= axial misalignment
Δ _{angular}	= angular misalignment
Δ _{radial}	= radial misalignment
J	= moment of inertia



RING-flex XHD/FL

Size	A	D	D ₁ max	D ₃	L _F	S ₁	S ₂	L _O
	mm inches	mm	mm inches	mm inches	mm inches	mm inches	mm inches	

XHD-FL-Series

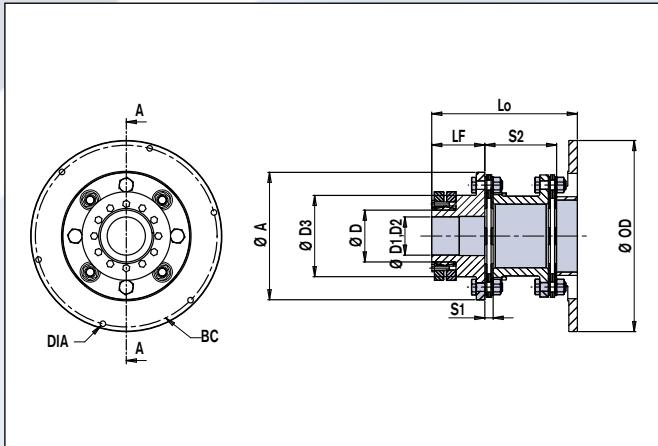
450-8	213 8.38	110	85 3.35	138 5.44	73 2.88	14 0.57	135 5.31	149 5.88	208 8.19	223 8.76		
1350-8	279 11.00	155	115 4.53	165 6.51	108 4.25	19 0.75	181 7.14	194 7.64	223 8.76	289 11.39	302 11.89	330 13.01
3400-8	381 15.00	240	190 7.48	243 9.57	159 6.25	25 0.98	251 9.89	277 10.89		410 16.14	435 17.14	
7200-8	457 18.00	280	230 9.06	295 11.63	184 7.25	34 1.32	316 12.44	343 13.51		500 19.69	527 20.76	
13500-8	559 22.00	360	295 11.61	368 14.50	229 9.00	40 1.56	375 14.76	400 15.76	438 17.26	604 23.76	629 24.76	667 26.26

Size		SAE J620 FLYWHEEL ADAPTER MOUNTING						
		10	11.5	14	16	18	21	24
450-8		X	X	X	X	X		
1350-8				X	X	X	X	X
3400-8				X	X	X	X	X
7200-8						X	X	X
13500-8							X	X
SAE DIMENSIONS								
OD	mm	314.3	352.4	466.7	517.5	571.5	673.1	733.4
	inches	12.375	13.875	18.375	20.375	22.500	26.500	28.875
BC	mm	295.3	333.4	438.2	489.0	542.9	641.4	692.2
	inches	11.625	13.125	17.250	19.250	21.375	25.250	27.250
QTY		8	8	8	8	6	12	12
DIA	mm	10	10	13	13	17	17	20
	inches	0.41	0.41	0.53	0.53	0.65	0.65	0.78

OD = Outside Diameter
BC = Bolt Circle Diameter
QTY = Numbers of Holes
DIA = Adapter Bolt Hole Size

(1) - Weight and J calculated with hub at maximum bore and minimum available flywheel adapter size.

(2) - Maximum Torque Capacity (T_{max.}) may be limited by shaft size. See page 45.



Example: RING-flex® XHD 1350-8-140-4.00-11.5-194

Typ/type	Größe/size	D	D ₁	SAE	S ₂
XHD	1350-8	140	4.00	11.5	194

Sectional view

Size	T _{nom.}	T _{max.}	T _L	RPM	△ axial	△ angular	△ radial	weight	J
	Nm lb-in	Nm lb-in	Nm lb-ft	1/min unbalanced	+/- mm +/- inches	degrees	mm inches	(1) kg lbs	(1) kg-m ² lb-in ²

XHD-FL-Series

450-8	4500 40000	6780 60000	150 110	3400	1.5 0.06	0.33	0.7 0.03	0.8 0.03	21 46	21 47	0.164 561	0.166 566			
1350-8	13500 120000	20300 180000	490 360	2500	2.0 0.08	0.33	0.9 0.04	1.0 0.04	1.2 0.05	58 127	58 128	60 132	0.943 3223	0.947 3237	0.956 3268
3400-8	27100 240000	40600 360000	1140 840	1800	2.5 0.10	0.33	1.3 0.05	1.4 0.06		118 260	121 267		2.417 8258	2.452 8378	
7200-8	63200 560000	94900 840000	2170 1600	1500	3.0 0.12	0.33	1.6 0.06	1.8 0.07		222 489	227 501		6.533 22321	6.615 22602	
13500-8	124200 1100000	186400 1650000	3660 2700	1200	3.6 0.14	0.33	1.9 0.08	2.1 0.08	2.3 0.09	395 871	402 887	418 922	17.244 58922	17.432 59563	19.203 65615

Characteristics

Mounting with Clamping Hub

RING-flex® CCS, CCD

Multiple-disc coupling with axial, angular and parallel (CCD) misalignment capability

- Aluminum Hub Construction for low inertia and weight, high speeds
- Minimized dimensions
- Can be used up to temperatures of approx. 240 °C/460 °F
- Maintenance-free operation



Machine Tool

RING-flex® CHS, CHD, CHC

Multiple-disc coupling for compensating of axial, angular and radial (CHD and CHC) misalignments

- Permanently backlash-free attachment of the disc coupling by means of clamping hub
- Overall length adaptable to customer requirements through the use of different spacer sleeves (CHD) or very short length with close coupled sleeve (CHC)
- High torsional stiffness
- Backlash-free transmission of high torques
- Can be used up to temperatures of approx. 240 °C/460 °F
- Maintenance-free operation

RING-flex® CCS, CCD, CHS, CHD, CHC

RING-flex® CCS

Aluminum Clamping Hub Coupling without spacer



RING-flex® CHS

Clamping Hub Coupling without spacer



RING-flex® CHD

Clamping Hub Coupling with standard spacer



RING-flex® CHC

Clamping Hub Coupling with short spacer

A, F, L_F, S₁ = main dimensions**D₁, D₂** = max. bore size**L₀** = overall length**T_{nom.}** = nominal torque capacity**T_{max.}** = max. torque capacity**T_L** = tightening torque screws disc pack**T_S** = tightening torque Clamping Hub**RPM** = max. speed**Δ_{axial}** = axial misalignment**Δ_{angular}** = angular misalignment**J** = moment of inertia

RING-flex® CCS-17-6-16-28

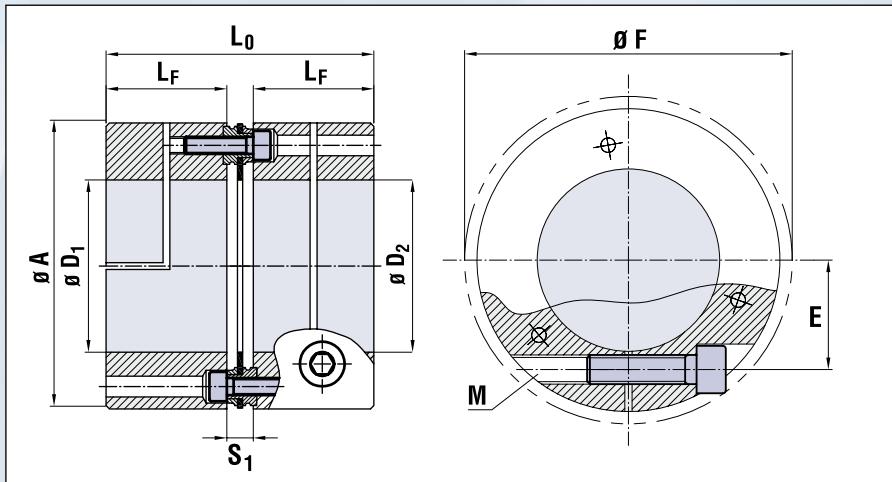
Size	A mm inches	D ₁ ; D ₂ min. mm inches	D ₁ ; D ₂ max. mm inches	F mm inches	L _F mm inches	S ₁ mm inches	L ₀ mm inches
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CCS-Series

9-6	56 2.2	14 0.55	30 1.18	58 - 62 2.28 - 2.44	25 0.98	2.9 0.11	52.9 2.08
17-6	72 2.83	19 0.75	40 1.57	77 - 81 3.03 - 3.19	31 1.22	3.5 0.14	65.5 2.58
32-6	93 3.66	28 1.1	60 2.36	98 - 100 3.86 - 3.94	35 1.38	4.8 0.19	74.8 2.94

Shaft Diameter		h7 Shaft Tolerance	
mm		inches	
6 0.24	10 0.39	+0.0 / -0.0006	
10 0.39	18 0.71	+0.0 / -0.0007	
18 0.71	30 1.18	+0.0 / -0.0008	
30 1.18	50 1.97	+0.0 / -0.0010	
50 1.97	80 3.15	+0.0 / -0.0012	

compact design



Example:
RING-flex® CCS-17-6-16-28

type	size	D ₁	D ₂
CCS	17-6	16	28

Sectional view

Size	T _{nom.} (1) Nm in-lbs	T _L Nm ft-lbs	RPM. 1/min	Δ axial ± mm ± inches	Δ angular degree	Weight kg lbs	J kg m ² lb in ²
CCS-Series							
9-6	150 1328	6 4	10000	0.4 0.016	1	0.3 0.66	0.0002 0.54
17-6	340 3009	8 6	8400	0.5 0.02	1	0.6 1.32	0.0005 1.6
32-6	550 4868	14 10	6800	0.6 0.024	1	1.07 2.36	0.0016 5.48

Size	D ₁ ; D ₂ mm inches (2)																				Screws	TS Nm ft-lb	
	14 0.55	15 0.59	16 0.63	18 0.71	19 0.75	20 0.79	22 0.87	24 0.94	25 0.98	28 1.10	30 1.18	32 1.26	35 1.38	38 1.50	40 1.57	42 1.65	45 1.77	48 1.89	50 1.97	55 2.17	60 2.36		
9-6	Nm lb-in	110 9974	120 1062	130 1151	150 1328																	M8	33 24
	Nm lb-in					90 797	100 885	110 974	120 1062	130 1151	140 1239	150 1328										M6	14 10
17-6	Nm lb-in			190 1682	210 1859	250 2213	270 2390	290 2567	320 2832	330 2921												M10	65 48
	Nm lb-in										240 2124	250 2213	270 2390	300 2655	320 2832	340 3009						M8	33 24
32-6	Nm lb-in					240 2124	260 2301	280 2478	310 2744	320 2832	365 3231	390 3452	420 3717	460 4071	500 4425	530 4691	550 4868					M10	65 48
	Nm lb-in															380 3363	400 3540	430 3806	470 4160	500 4425	M8	33 24	

(1) Maximum Torque Capacity (T_{max}) depends on shaft size

(2) Recommend shaft tolerance is h7 - See Chart on facing page

A, F, L_F, S₁ = main dimensions

D₁, D₂ = max. bore size

S₂ = spacer length

L₀ = overall length

T_{nom.} = nominal torque capacity

T_{max.} = max. torque capacity

T_L = tightening torque screws disc pack

T_s = tightening torque Clamping Hub

RPM = max. speed

Δ_{axial} = axial misalignment

Δ_{angular} = angular misalignment

Δ_{radial} = radial misalignment

J = moment of inertia



RING-flex® CCD-32-6-30-40

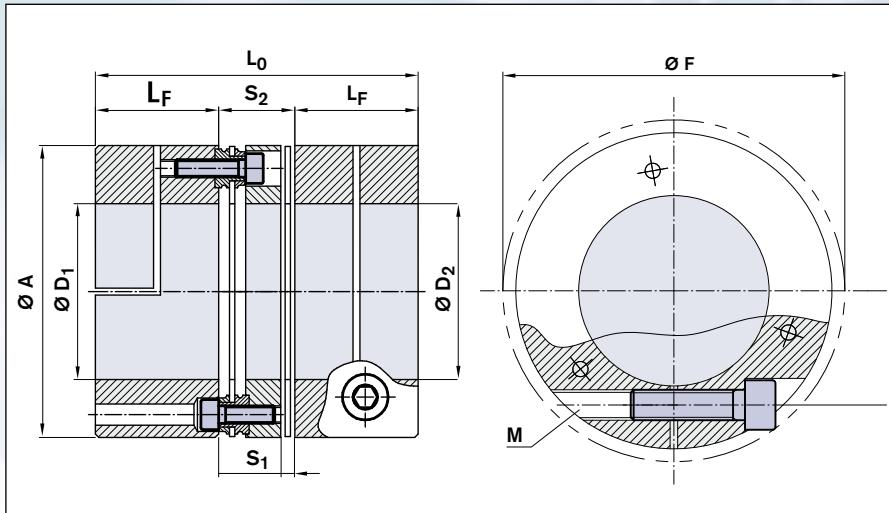
Size	A mm inches	D ₁ ; D ₂ min. mm inches	D ₁ ; D ₂ max. mm inches	F mm inches	L _F mm inches	S ₁ mm inches	S ₂ mm inches	L ₀ mm inches
------	-------------------	---	---	-------------------	--------------------------------	--------------------------------	--------------------------------	--------------------------------

CCD-Series

9-6	56 2.20	14 0.55	30 1.18	58 -62 2.28 -2.44	25 0.98	2.9 0.11	14.3 0.56	64.3 2.53
17-6	72 2.83	19 0.75	40 1.57	77 -81 3.03 -3.19	31 1.22	3.5 0.14	17 0.67	79 3.11
32-6	93 3.66	28 1.10	60 2.36	97 -100 3.82 -3.94	35 1.38	4.8 0.19	20.6 0.81	90.6 3.57

Shaft Diameter		h7 Shaft Tolerance	
mm inches		mm inches	
6 0.24	10 0.39	+0.0 / -0.0006	
10 0.39	18 0.71	+0.0 / -0.0007	
18 0.71	30 1.18	+0.0 / -0.0008	
30 1.18	50 1.97	+0.0 / -0.0010	
50 1.97	80 3.15	+0.0 / -0.0012	

compact design



Example:

RING-flex® CCD-32-6-30-40

type	size	D ₁	D ₂
CCD	32-6	30	40

Sectional view

Size	T _{nom.} (1) Nm in-lbs	T _L Nm ft-lbs	RPM. 1/min	Δ _{axial} ± mm ± inches	Δ _{angular} degree	Δ _{radial} mm inches	Weight kg lbs	J kg m ² lb in ²
CCD-Series								
9-6	150 1328	6 4	10000	0.8 0.03	1	0.2 0.008	0.36 0.8	0.0002 0.89
17-6	340 3009	8 6	8400	1 0.04	1	0.2 0.009	0.73 1.61	0.0007 2.48
32-6	550 4686	14 10	6800	1.2 0.05	1	0.3 0.011	1.3 2.87	0.0023 7.94

Size	D ₁ ; D ₂ mm inches (2)																				Screws	TS Nm ft-lb	
	14 0.55	15 0.59	16 0.63	18 0.71	19 0.75	20 0.79	22 0.87	24 0.94	25 0.98	28 1.10	30 1.18	32 1.26	35 1.38	38 1.50	40 1.57	42 1.65	45 1.77	48 1.89	50 1.97	55 2.17	60 2.36		
9-6	Nm lb-in 9974	110 1062	120 1151	130 1328																		M8	33 24
	Nm lb-in				90 797	100 885	110 974	120 1062	130 1151	140 1239	150 1328											M6	14 10
17-6	Nm lb-in 1882		190 1859	210 2213	250 2390	270 2567	290 2832	320 2921	330 2921												M10	65 48	
	Nm lb-in									240 2124	250 2213	270 2390	300 2655	320 2832	340 3009							M8	33 24
32-6	Nm lb-in 2124				240 2301	260 2478	280 2744	310 2832	320 3231	365 3452	390 3717	420 4071	460 4425	500 4691	530 4888						M10	65 48	
	Nm lb-in															380 3363	400 3540	430 3806	470 4160	500 4425	M8	33 24	

(1) Maximum Torque Capacity (T_{max}) depends on shaft size

(2) Recommend shaft tolerance is h7 - See Chart on facing page

A, D, L_F, S₁ = main dimensions**D₁, D₂** = max. bore size**D₃** = pilot bore**L₀** = overall length**T_{nom.}** = nominal torque capacity**T_{max.}** = max. torque capacity**T_L** = tightening torque screws disc pack**T_S** = tightening torque Clamping Hub**RPM** = max. speed**Δ_{axial}** = axial misalignment**Δ_{angular}** = angular misalignment**J** = moment of inertia

RING-flex® CHS-32-6-35

Size	A mm inches	D mm inches	D ₁ ; D ₂ max. mm inches	D ₃ mm inches	L _F mm inches	S ₁ mm inches	L ₀ mm inches
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CHS-Series

17-6	70.5 2.78	47 1.85	25 0.98	10 0.39	39.5 1.56	7.5 0.3	86.5 3.41
32-6	88 3.46	62.5 2.46	35 1.38	14 0.55	45 1.77	8.8 0.35	98.8 3.89
75-6	116.5 4.59	82 3.23	45 1.77	15 0.59	55 2.17	10.4 0.41	120.4 4.74
135-6	140.5 5.53	98 3.9	60 2.36	19 0.75	60 2.36	12 0.47	132 5.2

Other sizes available upon request

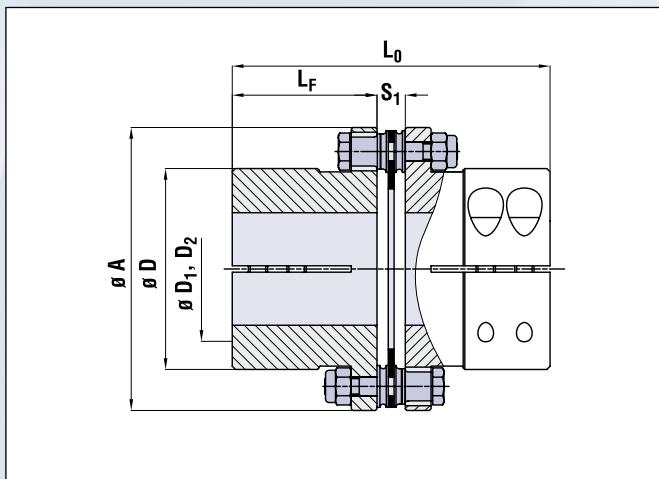
(1) Nominal (T_{nom}) and Maximum (T_{max}) depend on shaft size. See Chart BelowD₁; D₂
mm
inches
(2)

Size	15 0.59	16 0.63	18 0.71	19 0.75	20 0.79	22 0.87	24 0.94	25 0.98	28 1.10	30 1.18	32 1.26	35 1.38
------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------

CH-Series

17-6	Nm lb-in	65 575	75 664	90 797	100 885	115 1018	140 1239	170 1505	180 1593			
32-6	Nm lb-in					120 1062	150 1328	180 1593	210 1859	250 2213	300 2655	350 3098
75-6	Nm lb-in										360 3186	420 3717
135-6	Nm lb-in										340 3009	380 3363

(2) Recommended shaft tolerance is h7 - See Chart on facing page



Example: RING-flex® CHS-75-6-35-40

type	size	D ₁	D ₂
CHS	75-6	35	40

Sectional view

Size	T _{nom.} (1) Nm in-lbs	T _{max.} (1) Nm in-lbs	T _L Nm ft-lbs	T _S Nm ft-lbs	RPM	△ axial ± mm ± inches	△ angular degree	Weight kg lbs	J kg m ² lb in ²
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CHS-Series

17-6	170 1505	290 2567	8 6	17 13	8400	1.1 0.04	1.5	1.25 2.8	0.00049 1.67
32-6	320 2832	560 4956	14 10	41 30	6800	1.2 0.05	1.5	2.45 5.4	0.00164 5.6
75-6	750 6638	1310 11594	31 23	83 61	5400	1.6 0.06	1.5	5.2 11.5	0.00991 33.86
135-6	1350 11949	2360 20888	62 46	83 61	4600	2.1 0.08	1.5	8.2 18.1	0.01359 46.44

Size	D ₁ ; D ₂ mm inches (2)								Screw Size
	38 1.50	40 1.57	42 1.65	45 1.77	48 1.89	50 1.97	55 2.17	60 2.36	

CH-Series									
17-6									M6
32-6									M8
75-6	550 4868	650 5753	790 6992	790 6992					M10
135-6	470 4160	500 4425	600 5310	650 5753	750 6638	900 7966	1200 10621	1450 12830	M10

Shaft Diameter mm inches	h7 Shaft Tolerance mm inches	+0.0 / -0.0006	
		6 0.24	10 0.39
10 0.39	18 0.71	+0.0 / -0.0007	
18 0.71	30 1.18	+0.0 / -0.0008	
30 1.18	50 1.97	+0.0 / -0.0010	
50 1.97	80 4.73	+0.0 / -0.0012	

Mounting with Clamping Hub

RING-flex® CHD

A, D, L_F, S₁ = main dimensions

D₁, D₂ = max. bore size

D₃ = pilot bore

S₂ = spacer length

L₀ = overall length

T_{nom.} = nominal torque capacity

T_{max.} = max. torque capacity

T_L = tightening torque screws disc pack

T_s = tightening torque Clamping Hub

RPM = max. speed

Δ_{axial} = axial misalignment

Δ_{angular} = angular misalignment

Δ_{radial} = radial misalignment

J = moment of inertia



RING-flex® CHD-32-6-35

Size	A	D	D ₁ ; D ₂ max. mm inches	D ₃ mm inches	L _F mm inches	S ₁ mm inches	S ₂			L ₀ mm inches
	mm inches	mm inches					mm inches	mm inches	mm inches	

CHD-Series

17-6	70.5 2.78	47 1.85	25 0.98	10 0.39	39.5 1.56	7.5 0.3	60 2.36	100 3.94	140 5.51	139 5.47	179 7.05	219 8.62		
32-6	88 3.46	62.5 2.46	35 1.38	14 0.55	45 1.77	8.8 0.35	70 2.76	80 3.15	100 3.94	140 5.51	160 6.3	170 6.69	190 7.48	230 9.06
75-6	116.5 4.59	81 3.19	45 1.77	15 0.59	55 2.17	10.4 0.41	100 3.94	140 5.51	180 7.09	210 8.27	250 9.84	290 11.42		
135-6	140.5 5.53	94 3.7	60 2.36	19 0.75	60 2.36	12 0.47	100 3.94	140 5.51	180 7.09	220 8.66	260 10.24	300 11.81		

Other sizes available upon request

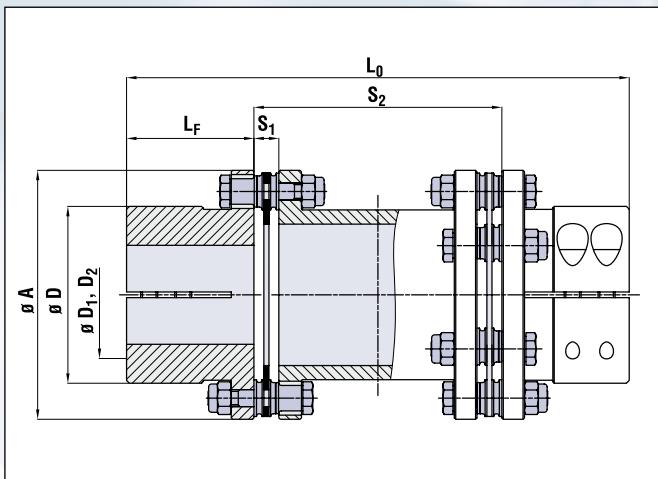
(1) Nominal (T_{nom}) and Maximum (T_{max}) depend on shaft size. See Chart Below

Size	D ₁ ; D ₂ mm inches (2)											
	15 0.59	16 0.63	18 0.71	19 0.75	20 0.79	22 0.87	24 0.94	25 0.98	28 1.10	30 1.18	32 1.26	35 1.38

CH-Series

17-6	Nm lb-in	65 575	75 664	90 797	100 885	115 1018	140 1239	170 1505	180 1593				
32-6	Nm lb-in					120 1062	150 1328	180 1593	210 1859	250 2213	300 2655	350 3098	360 3186
75-6	Nm lb-in										360 3186	420 3717	490 4337
135-6	Nm lb-in										340 3009	380 3363	420 3717

(2) Recommended shaft tolerance is h7 - See Chart on facing page



Sectional view

Example: RING-flex® CHD-135-6-50-55-140

type	size	D ₁	D ₂	S ₂
CHD	135-6	50	55	140

Size	T _{nom.} (1) Nm in-lbs	T _{max.} (1) Nm in-lbs	T _L Nm ft-lbs	T _S Nm ft-lbs	RPM	Δ _{axial} ± mm ± inches	Δ _{angular} degree	Δ _{radial}	Weight			J
	mm	inches	kg	lbs	kg m ²	lb in ²						
CHD-Series												
17-6	170 1505	290 2567	8 6	17 13	8400	1.1 0.04	1.5	0.7 0.028 0.047 0.055	1.66	1.79	0.001	0.001
32-6	320 2832	560 4956	14 10	41 30	6800	1.2 0.05	1.5	0.8 0.032 0.035 0.047 0.067	3.7	3.9	2.6	2.77
75-6	750 6638	1310 11594	31 23	83 61	5400	1.6 0.06	1.5	1.2 0.047 0.067 0.087	3.26	3.48	0.003	0.003
135-6	1350 11949	2360 20888	62 46	83 61	4600	2.1 0.08	1.5	1.4 0.055 0.067 0.087	7.2	7.7	8.61	8.75
											9.05	9.64

Size	D ₁ ; D ₂ mm inches (2)								Screw Size	Shaft Diameter mm inches	h7 Shaft Tolerance mm inches	
	38 1.50	40 1.57	42 1.65	45 1.77	48 1.89	50 1.97	55 2.17	60 2.36				
CH-Series												
17-6									M6	6 0.24	10 0.39	+0.0 / -0.0006
32-6									M8	10 0.39	18 0.71	+0.0 / -0.0007
75-6	550 4868	650 5753	790 6992	790 6992					M10	18 0.71	30 1.18	+0.0 / -0.0008
135-6	470 4160	500 4425	600 5310	650 5753	750 6638	900 7966	1200 10621	1450 12830	M10	30 1.18	50 1.97	+0.0 / -0.0010
										50 1.97	80 4.73	+0.0 / -0.0012

A, D₃, L_F, S₁ = main dimensions

D₁, D₂ = max. bore size

D₃ = pilot bore

S₂ = spacer length

L₀ = overall length

T_{nom.} = nominal torque capacity

T_{max.} = max. torque capacity

T_L = tightening torque screws disc pack

T_S = tightening torque Clamping Hub

RPM = max. speed

Δ_{axial} = axial misalignment

Δ_{angular} = angular misalignment

Δ_{radial} = radial misalignment

J = moment of inertia



RING-flex® CHC-32-6-35

Size	A mm inches	D mm inches	D ₁ ; D ₂ max. mm inches	D ₃ mm inches	L _F mm inches	S ₁ mm inches	S ₂ mm inches	L ₀ mm inches
------	-------------------	-------------------	---	--------------------------------	--------------------------------	--------------------------------	--------------------------------	--------------------------------

CHC-Series

17-6	70.5 2.78	47 1.85	25 0.98	10 0.39	39.5 1.56	7.5 0.3	31.2 1.23	110.2 4.34
32-6	88 3.46	62.5 2.46	35 1.38	14 0.55	45 1.77	8.8 0.35	37.6 1.48	127.6 5.02
75-6	116.5 4.59	81 3.19	45 1.77	15 0.59	55 2.17	10.4 0.41	46.3 1.82	156.3 6.15
135-6	140.5 5.53	94 3.7	60 2.36	19 0.75	60 2.36	12 0.47	55 2.17	175 6.89

Other sizes available upon request

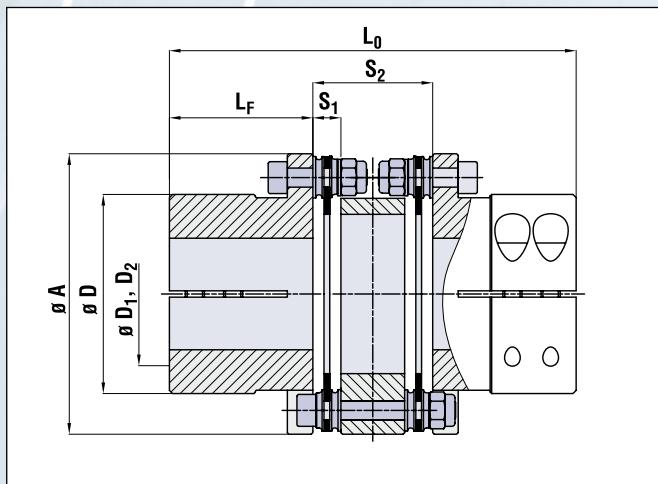
(1) Nominal (T_{nom}) and Maximum (T_{max}) depend on shaft size. See Chart Below

Size	D ₁ ; D ₂ mm inches (2)												
	15 0.59	16 0.63	18 0.71	19 0.75	20 0.79	22 0.87	24 0.94	25 0.98	28 1.10	30 1.18	32 1.26	35 1.38	

CH-Series

17-6	Nm lb-in	65 575	75 664	90 797	100 885	115 1018	140 1239	170 1505	180 1593				
32-6	Nm lb-in					120 1062	150 1328	180 1593	210 1859	250 2213	300 2655	350 3098	360 3186
75-6	Nm lb-in										360 3186	420 3717	490 4337
135-6	Nm lb-in										340 3009	380 3363	420 3717

(2) Recommended shaft tolerance is h7 - See Chart on facing page



Example: RING-flex® CHC-32-6-30-30

type	size	D ₁	D ₂
CHC	32-6	30	30

Sectional view

Size	T _{nom.} (1) Nm in-lbs	T _{max.} (1) Nm in-lbs	T _L Nm ft-lbs	T _S Nm ft-lbs	RPM	Δ _{axial} ± mm ± inches	Δ _{angular} degree	Δ _{radial} mm inches	Weight kg lbs	J kg m ² lb in ²
------	--	--	--------------------------------	--------------------------------	-----	--	--------------------------------	-------------------------------------	---------------------	--

CHC-Series

17-6	170 1505	290 2567	8 6	17 13	8400	1.1 0.04	1.5	0.3 0.012	1.48 3.3	0.001 2.43
32-6	320 2832	560 4956	14 10	41 30	6800	1.2 0.05	1.5	0.4 0.016	2.9 6.4	0.002 7.45
75-6	750 6638	1310 11594	31 23	83 61	5400	1.6 0.06	1.5	0.5 0.020	6.2 13.7	0.008 27.2
135-6	1350 11949	2360 20888	62 46	83 61	4600	2.1 0.08	1.5	0.7 0.028	9.7 21.4	0.018 62.32

Size	D ₁ ; D ₂ mm inches (2)								Screw Size
	38 1.50	40 1.57	42 1.65	45 1.77	48 1.89	50 1.97	55 2.17	60 2.36	

CH-Series

17-6									M6
32-6									M8
75-6	550 4868	650 5753	790 6992	790 6992					M10
135-6	470 4160	500 4425	600 5310	650 5753	750 6638	900 7966	1200 10621	1450 12830	M10

Shaft Diameter mm inches	h7 Shaft Tolerance mm inches		
6 0.24	10 0.39	+0.0 / -0.0006	
10 0.39	18 0.71	+0.0 / -0.0007	
18 0.71	30 1.18	+0.0 / -0.0008	
30 1.18	50 1.97	+0.0 / -0.0010	
50 1.97	80 4.73	+0.0 / -0.0012	

Technical Information

Selection Guide

The selection of the coupling size depends entirely on the torque to be transmitted and required shaft sizes. However, for the selection of the coupling type, application conditions (e.g., shaft misalignments, expansions and operating speeds) must be taken into consideration. For any special applications, please consult with us. When selecting a coupling size, make sure that under all operating conditions its torque capacity and speed range are not exceeded.

1. Calculate the driving torque (T_{AN}) to be transmitted from

$$T_{AN} \text{ (in-lbs)} = 63000 \times \text{HP/RPM}$$

$$T_{AN} \text{ (Nm)} = 9550 \times \text{KW/RPM}$$

2. Determine required coupling Nominal Torque Capacity (T_{KN}) by finding the appropriate service factor (SM) in Table 1 for your application. Multiply the torque calculated above (T_{AN}) by this service factor.

$$T_{KN} \text{ (in-lbs)} = T_{AN} \times SM$$

Find T_{nom} in coupling data sheets that is larger than the calculated T_{KN} . This will be correct size of the coupling.

NOTE: RING-flex® Couplings can transmit higher torques for a short period of time without having to consider an additional service factor. Please consult coupling data sheets for Maximum Torque values.

3. Check if existing or predicted axial, angular and radial misalignments are within permissible values as shown in the catalog. If any one of the misalignments is close to the maximum allowable, the maximum misalignment in the other directions and the torque capacity will be effected. For this reason, we recommend selecting a coupling with more misalignment capacity than required.

4. Verify that the maximum hub bore and speed required. Do not exceed the maximum values for the coupling.

NOTE: For a given hub size, larger shafts can be used with the RINGFEDER® Shrink Disc rather than with traditional keyed connections.

5. If the RINGFEDER Shrink Disc or Locking Assembly connection is used, verify that the torque capacity of the locking device connection does not limit the couplings torque capacity. The locking device torque capacities for each shaft size can be found in the appropriate catalog.

6. Use Fig.1 and 2 to verify that your coupling does or does not need to be dynamically balanced.

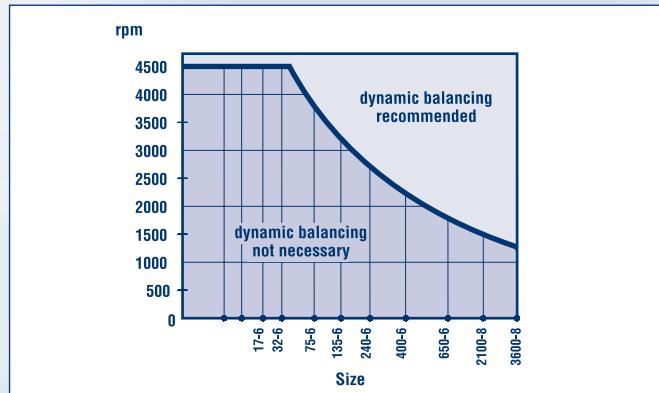


Fig. 1: H-Series

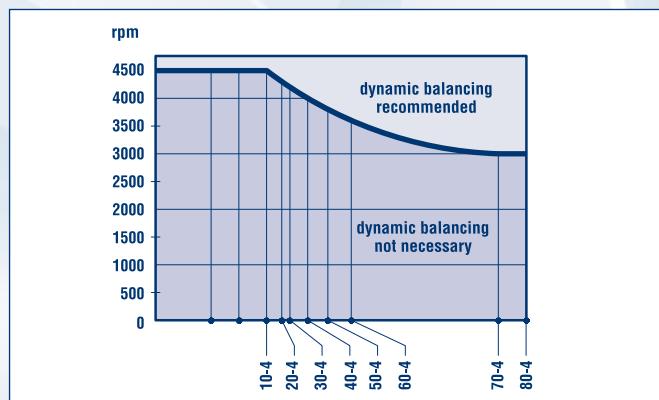


Fig. 2: G-Series

Load	Driven Equipment	Driving Equipment	
		Motor or Turbine	Reciprocating Engine
Uniform	Centrifugal Pumps; Conveyors-Evenly Loaded; Alternators; Fans and Blowers-Light Duty; Generators-Evenly Loaded; Mixers-Liquid	1.0	1.5
Light Shock	Centrifugal Pumps; Generators-Pulsating Load; Grinders; Hydraulic Pumps; Machine Tools; Oscillating Pumps; Textile Machinery; Woodworking Machinery	1.5	2.0
Medium Shock	Air Compressors-Multi-Cylinder; Cranes; Elevators; Hoists; Punch Presses; Reciprocating Pumps; Ship Drives	2.0	2.5
Heavy Shock	Air Compressors-Single-Cylinder; Dredges; Drilling Rigs; Mining Machinery; Rubber Mixers	2.5	3.0

Table 1: Service Factor (SM)

The service factors listed are intended only as a general guide.

For typical service factors used in various applications, refer to "AGMA Standard Load Classification and Service Factors for Flexible Couplings" (AGMA 514.02)

RING-flex® Coupling Installation Instructions

TOOLS REQUIRED:

- Torque Wrench and Sockets for Shrink Disc and Coupling Hex Bolts (see Tables 3 and 4)
- Open end wrench for Coupling Hex Bolts
- Straight Edge and/or Dial Indicator
- Feeler Gauges

THESE INSTRUCTIONS ARE FOR THE STANDARD COUPLINGS WITH NORMAL RUNNING CONDITIONS. ALL COUPLINGS SHIPPED LOOSELY ASSEMBLED. BOLTS MUST BE TORQUED PRIOR TO USE. SEE TABLES 2 AND 6.

It is recommended to disassemble the coupling for easier installation. Note Figures 8 and 9 for the correct arrangement of the bolts, washers, disc pack, and nuts.

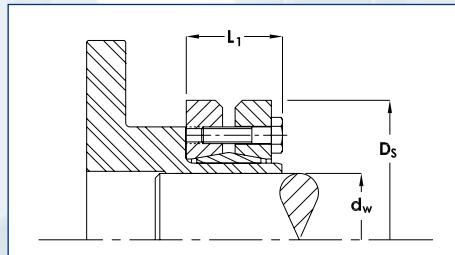


Fig. 3: Hub configuration for Shrink Disc connection

Table 2: Shrink Disc Dimensions - 4071 Series

RfN 4071 Size	d _w (inches) (mm)		T (lb-in) (Nm)		D _s (inches) (mm)	L ₁ (inches) (mm)
			Max Torque Capacity			
24	0.75 19	0.83 21	1505 170	2213 250	1.97 50	0.91 23
30	0.83 21	1.02 26	1668 188	3275 370	2.36 60	0.98 25
36	1.02 26	1.25 31.8	3894 440	5576 630	2.83 72	1.08 27.5
44	1.25 31.8	1.42 36	6287 710	7612 860	3.15 80	1.16 30
50	1.42 38	1.65 42	8316 940	12214 1380	3.54 90	1.24 32
55	1.65 42	1.89 48	10267 1160	16639 1880	3.94 100	1.36 34.5
62	1.89 48	1.65 42	16374 1850	21242 2400	4.33 110	1.36 35
68	1.97 50	2.36 60	17701 2000	27880 3150	4.53 115	1.36 34.5
75	2.17 55	2.56 65	22127 2500	34960 3950	5.43 138	1.50 38
80	2.36 60	2.76 70	28322 3200	40713 4600	5.71 145	1.50 38
90	2.56 65	2.95 75	42048 4750	64176 7250	6.10 155	1.75 44.5
100	2.76 70	3.15 80	61070 6900	79656 9000	6.69 170	1.95 49.5
110	2.95 75	3.35 85	63725 7200	95588 10800	7.28 185	2.24 57
125	3.35 85	3.74 95	97358 11000	132761 15000	8.46 215	2.40 61
140	3.74 95	4.13 105	133646 15100	177899 20100	9.06 230	2.70 68.5
155	4.13 105	4.53 115	194716 22000	247820 28000	10.43 265	2.85 72.5
165	4.53 115	4.92 125	274372 31000	345178 39000	11.42 290	3.19 81
175	4.92 125	5.31 135	318626 36000	398282 45000	11.81 300	3.19 81

d_w = Shaft Size D_s = Outside Diameter
 T = Torque capacity L₁ = Width

RfN 4071 Size	d _w (inches) (mm)		T (lb-in) (Nm)		D _s (inches) (mm)	L (inches) (mm)
			Max Torque Capacity			
185	5.31 135	5.71 145	460237 52000	548745 62000	12.99 330	3.78 96
195	5.51 140	6.10 155	575297 65000	721334 81500	13.78 350	3.78 96
200	2.56 150	2.95 160	42048 74000	64176 86000	13.78 350	3.78 96
220	6.30 160	6.69 170	840818 95000	973579 110000	14.57 370	4.49 114
240	6.69 170	7.48 190	1062086 120000	1380712 156000	15.94 405	4.80 122
260	7.48 190	8.27 210	1451518 164000	1814398 205000	16.93 430	5.24 133
280	2.56 210	2.95 230	42048 217000	64176 270000	18.11 460	5.79 147
300	9.06 230	9.65 245	2433948 275000	2787977 315000	19.09 485	6.10 155
320	9.45 240	10.24 260	2761425 312000	3310169 374000	20.47 520	6.10 155
340	9.84 250	10.63 270	3451781 390000	4071331 460000	22.44 570	6.65 169
350	10.63 270	11.22 285	3912018 442000	4425360 500000	22.83 580	6.89 175
360	11.02 280	11.61 295	4097883 463000	4620076 522000	23.23 590	6.89 175
380	11.42 290	12.20 310	5018358 557000	5823774 658000	25.39 645	7.20 183
390	11.81 300	12.60 320	5522849 624000	6354817 718000	25.98 660	7.20 183
400	12.40 315	12.99 330	5929982 670000	6584936 744000	26.77 680	7.20 183
420	12.99 330	13.78 350	6903562 780000	7965648 900000	27.17 690	7.99 203
440	2.56 340	2.95 360	42048 806000	64176 917000	29.53 750	8.54 217

If T is less than coupling torque, the max Coupling Torque Capacity = T

Technical Information

RfN 7110 Size	T _A (lb-ft) (Nm)	Socket Size (mm)
20	12 16	5
30	13 18	5
42	13 18	5
50	30 41	6
60	30 41	6

CH Cplg Size	T _A (lb-ft) (Nm)	Hex key Size (mm)
17-6	13 17	6
32-6	30 41	8
75-6	61 83	10
135-6	61 83	10

Table 4

RfN 4071 Size	T _A (lb-ft) (Nm)	Socket Size (mm)	RfN 4071 Size	T _A (lb-ft) (Nm)	Socket Size (mm)
24	3 4	8	185	185 251	24
30	3 4	8	195	185 251	24
36	9 12	10	200	185 251	24
44	9 12	10	220	185 251	24
50	9 12	10	240	362 491	30
55	9 12	10	260	362 491	30
62	9 12	10	280	362 491	30
68	9 12	10	300	362 491	30
75	22 30	13	320	362 491	30
80	22 30	13	340	362 491	30
90	22 30	13	350	362 491	30
100	22 30	13	360	362 491	30
110	44 60	17	380	620 841	36
125	44 60	17	390	620 841	36
140	74 100	19	400	620 841	36
155	74 100	19	420	620 841	36
165	185 251	24	440	620 841	36
175	185 251	24			

Table 5

Table 3

Attachment to Shaft – Clamping Hub (CH Series)

1. Inspect both driving and driven shafts making sure they are clean and free from burrs. Lightly oil shaft and hub bore. DO NOT USE MOLYKOTE OR SIMILAR LUBRICANTS.
2. Place hubs on shafts. Move first hub flush with the end of the hub. Tighten all Clamping Hub screws to torque recommended in Table 4. Use a Torque Wrench!
3. Follow instructions for axial alignment and then fit the second hub as explained in Step 2.
4. Repeat Step 2 for second hub. Be sure shaft is completely under clamping portion of hub.

Attachment to the Shaft – Bore and Keyway

1. Inspect shaft and hub bores and keyways to make sure that they are clean and free of burrs. Lightly oiling the shaft will also make it easier to assemble.
2. Place first hub on one shaft and second hub on the second shaft. Slide them until shaft ends are visible.
3. Hubs are supplied standard with a slight clearance fit. Interference fits would be recommended for bores larger than 3". For more information, please contact Ringfeder.
4. Move hubs to be flush with end of the shaft. Hubs will last longest when the key is engaged for the full length of the hub.
5. Fit key into hub and turn set screw until top of key is contacted in the hub.
6. Follow instructions for axial alignment and then secure second hub to shaft as explained in Steps 4 and 5.

Attachment to the Shaft – Shrink Disc

1. Inspect both driving and driven shafts making sure they are clean and free from burrs. Lightly oil shaft and hub bore. DO NOT USE MOLYKOTE OR SIMILAR LUBRICANTS.
2. Place first hub with Shrink Disc® on one shaft and the second hub on the other shaft. Slide them back so that both shaft ends are visible.
3. Move first hub to be flush with shaft end. Gradually tighten all Shrink Disc locking screws, in several passes, to specified tightening torque (T_A); see Table 5. Shrink Disc is not fully installed until one pass is completed without any bolts turning.

Table 5

Use Torque Wrench! For in-depth instructions, see appropriate catalog.

4. Follow instructions for axial alignment and then fit second hub to shaft as explained in Step 3 and Tables 4-5.
5. Proceed with locking second hub to the shaft by following the pertinent "Attachment to the Shaft" instructions

Attachment to Shaft – Locking Assembly

1. Inspect both driving and driven shafts making sure they are clean and free from burrs. Lightly oil shaft and hub bore. DO NOT USE MOLYKOTE OR SIMILAR LUBRICANTS.
2. Place first hub with Locking Assembly on shaft. Move the hub to be flush with the end of the shaft. This will insure that the Locking Assembly is fully engaged. Torque Locking Assembly bolts to values shown in Table 3. Locking Assembly is fully installed only after one pass can be made without any bolts moving. Use a Torque Wrench!

3. Follow instructions for axial alignment and then fit the second hub to shaft as explained in Step 2. Again, be sure that the Locking Assembly is fully supported by the shaft.

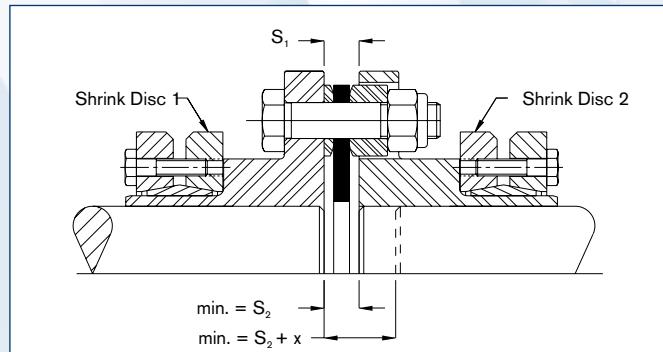


Fig. 3: Single Flexing

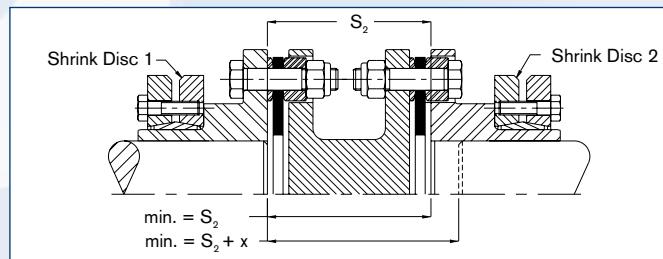


Fig. 4: Double Flexing

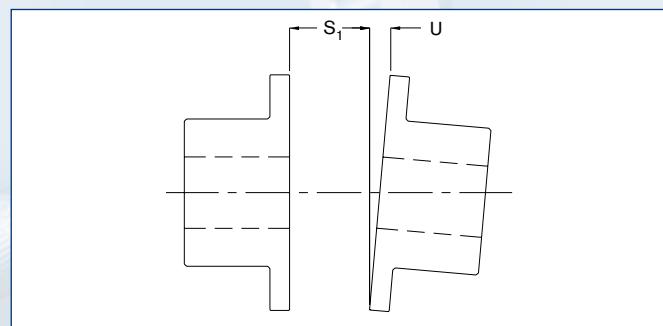


Fig. 5

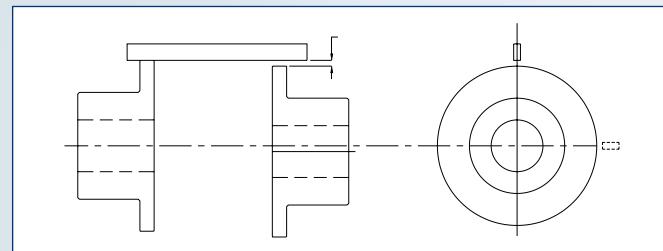


Fig. 6

Machinery Alignment

The life of the coupling is directly affected by the alignment accuracy between the two coupling halves. Careful initial alignment will permit the coupling to operate at full capacity and allow for some future operational misalignments (i.e. equipment settling). For this reason, the maximum misalignment values given in the next tables are 30% of the maximum values for the coupling. Keeping all three directions of misalignment within these limits will increase the coupling life.

Axial Alignment

1. Bring equipment into the best visual alignment possible. Position the hubs axially so that the distance between shaft ends is within min. and max. dimensions S1 (Single Flexing) and S2 (Double Flexing) for standard couplings. See Figures 3 and 4. For non-standard couplings, check corresponding coupling drawing.
2. Now locate first hub so that the shaft end is flush with the hub face and lock into place. Please see pertinent "Attachment to the Shaft" instructions.
3. Move second hub into position axially using the S1 (Single Flexing) or S2 (Double Flexing)

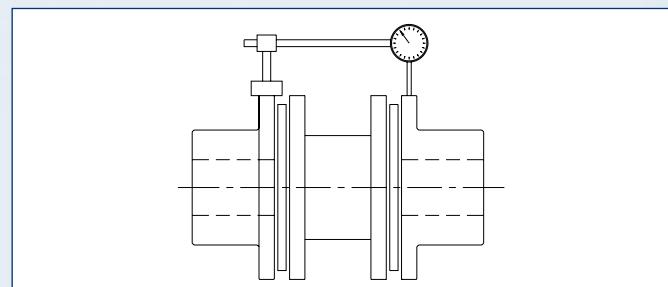


Fig. 7

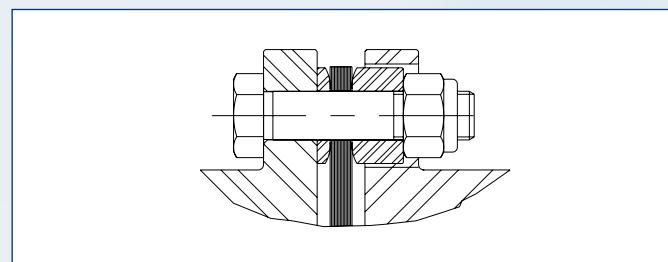


Fig. 8: G series Hardware Arrangement

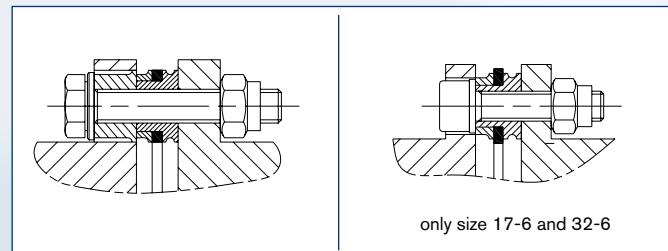


Fig. 9: H series Hardware Arrangement

Technical Information

Angular Alignment

- With a dial indicator measure the angular misalignment by determining the parallelism of the coupling flange faces.
- Dimension (U) as shown in Figure 5 should be measured in at least three points, equally spaced, to determine maximum value for (U). This must not exceed the max. allowable dimension stated in Table 6.
- Adjust or shim equipment to bring indicator reading within max. allowable angular misalignment (U).

Parallel (Radial) Alignment

- Initial parallel alignment can be checked by using a straight-edge across the hub flanges (per Fig. 6) to measure the approx. distance (r) as shown in Table 6. A more precise method is using the dial indicator whereby the parallel off-set is measured in at least two places 90 degrees apart while rotating one hub. This is shown in Fig. 7.
- Adjust or shim equipment to bring indicator reading within max. allowable parallel misalignment (r) per Table 6.

Installing Disc Pack and Sleeve

- Once the hubs are aligned in the axial, angular and parallel directions, install the disc pack and sleeve. Figures 8 and 9 show the hardware orientation for each coupling type.
PLEASE NOTE: It is very important on the Series 'G' couplings to position the washers with the rounded face towards the disc pack.
- At this point, the coupling bolts should be torqued to specified torque value (T); see Table 6. A torque wrench should be used to assure proper bolt tightening.
PLEASE NOTE: With the Series 'G' coupling, it is recommended to always turn the nut and hold the bolt head.
- It is a good practice to check the coupling alignment one last time after completing the assembly. This can be achieved by measuring the disc pack gap in 2 locations 180 degrees apart to find (2) lengths. The difference in these two measurements should not exceed (U); see Table 6. This completes the coupling installation.

CAUTION: All rotating equipment is potentially dangerous and must be properly guarded. It is the user's responsibility to check for all applicable safety codes and provide suitable guards and protection.

	S ₁ (inches) (mm)	S ₂ (inches) (mm)	+/- (inches) (mm)	U (inches) (mm)	r (inches) (mm)	T (LB-FT) (Nm)	Hex or Socket Size
Series G	Axial Alignment			Angular	Paralell	Bolt Information	
10-4	0.27 6.9	2.25 57	0.2 0.5	0.02 0.4	0.01 0.2	8 11	7/16"
20-4	0.32 8.1	2.75 70	0.03 0.8	0.02 0.5	0.01 0.3	17 23	1/2"
30-4	0.34 8.6	2.59 66	0.03 0.8	0.02 0.5	0.01 0.3	17 23	1/2"
40-4	0.48 12.2	3.31 84	0.04 1.0	0.03 0.7	0.02 0.4	40 54	5/8"
50-4	0.50 12.7	3.64 92	0.05 1.3	0.03 0.7	0.02 0.4	58 79	3/4"
60-4	0.56 14.1	3.83 97	0.06 1.5	0.03 0.9	0.02 0.5	58 79	3/4"
70-4	0.60 15	4.59 117	0.07 1.8	0.04 1.0	0.02 0.5	115 156	15/16"
80-4	0.81 21	5.10 130	0.08 2.0	0.04 1.1	0.02 0.5	115 156	15/16"

	S ₁ (inches) (mm)	S ₂ (inches) (mm)	+/- (inches) (mm)	U (inches) (mm)	r (inches) (mm)	T (LB-FT) (Nm)	Hex or Socket Size
Series H	Axial Alignment			Angular	Paralell	Bolt Information	
17-6	0.30 7.6	2.36 60	0.01 0.3	0.01 0.3	0.01 0.3	6 8	4 mm
32-6	0.35 8.80	2.76 70	0.01 0.3	0.01 0.3	0.01 0.3	10 14	5 mm
75-6	0.41 10.4	3.94 100	0.01 0.3	0.02 0.5	0.01 0.3	23 31	13 mm
135-6	0.47 12	3.94 100	0.01 0.3	0.02 0.6	0.01 0.3	46 62	16 mm
240-6	0.51 13.0	5.51 140	0.02 0.5	0.03 0.7	0.02 0.5	81 110	18 mm
400-6	0.59 15.0	5.51 140	0.02 0.5	0.03 0.8	0.02 0.5	133 180	14 mm
650-6	0.82 20.8	7.09 180	0.02 0.5	0.04 0.9	0.02 0.5	207 280	24 mm
2100-8	1.10 28.0	9.84 250	0.01 0.3	0.03 0.8	0.02 0.5	421 570	30 mm
3600-8	1.27 32.2	9.83 250	0.02 0.5	0.04 0.9	0.02 0.5	739 1000	36 mm

Table 6: Alignment Values and Coupling Bolt Information

Bore		Tolerance	
mm		mm	
inches		inches	
6 0,24	10 0,39		+0.0006 / -0.0
10 0,39	18 0,71		+0.0007 / -0.0
18 0,71	30 1,18		+0.0008 / -0.0
30 1,18	50 1,97		+0.0010 / -0.0
50 1,97	80 3,15		+0.0012 / -0.0
80 3,15	120 4,73		+0.0014 / -0.0

Table 7: Standard Bore Tolerances H7

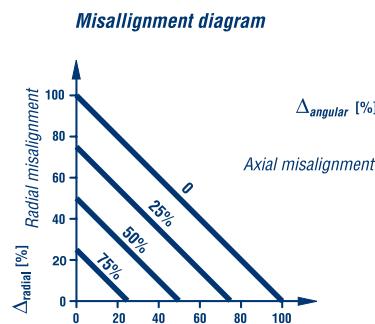
Technical Information

Misalignment and Misalignment Factor f_1

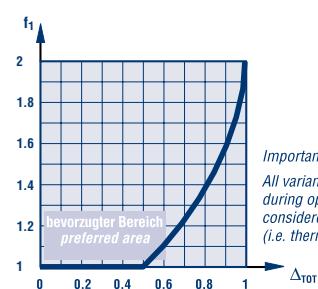
The maximum misalignments stated in the tables only apply if they occur individually. If there is a combination of misalignments, the permitted individual misalignments are reduced accordingly. The combined total angular misalignment D_{tot} is a function of the angular

misalignment Δ_{angular} and offset misalignment Δ_{radial} of the shafts, according to the following formula:

$$\Delta_{\text{tot}} [\text{°}] = \frac{\Delta_{\text{angular}}}{2} + \arctan \frac{\Delta_{\text{radial}}}{(S_2 - S_1)}$$



Misalignment diagram

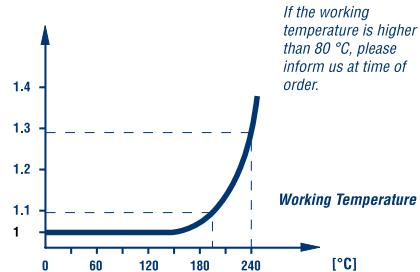


Important:
All variances that occur during operation have to be considered (i.e. thermal alterations).

Temperature Factor f_3

RING-flex® couplings are temperature-resistant up to 240 °C/460 °F. For higher temperatures the temperature factor f_3 must be taken into account (see diagram 3).

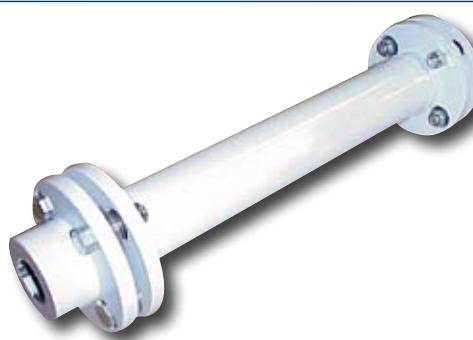
Temperature Factor f_3



If the working temperature is higher than 80 °C, please inform us at time of order.

Non-Standard Spacers

Many RING-flex® coupling applications require special spacer lengths and dimensions. At Ringfeder, we can offer spacer lengths up to 1m long.



GD coupling with special spacer for printing press application

Higher Speed or Special Couplings

Occasionally a coupling needs to meet certain industrial standards for safety or will be operated at high speeds. Ringfeder has the capability of supplying such solutions.



HD coupling that meets API 610

Fax Inquiry

On this page you can explain the application of a disc coupling and we will propose our solution.
Please send this page to:

USA and Mexico: **RINGFEDER POWER TRANSMISSION USA CORP. · FAX:+1 (201) 664-6053**

1. Application

Planned use of the coupling (machine, machine group or plant):

2. Type of Attachment (please check)

Key Shrink Disc Locking Assembly Clamping Hub Other (please enclose drawing)

3. Dimensions

Length (inch) Bore size D₁ (inch) Ø (inch) Bore size D₂ (inch)

4. Shaft Displacement

axial (inch) radial (inch) angular (degree)

5. Drive

Drive power P = kW Nominal torque of the drive Mt_{nom} = Nm

Input speed n = 1/min Peak torque of the drive Mt_{max} = Nm

6. Mass Moment of Inertia

On the drive side J_A = Nm On the driven side J_L = Nm

7. Environmental Influences

Temperature in the area of the coupling Temp = °C Special materials (e.g. stainless steel)

Are there any impacts on the load side? no slight medium severe

other, special influences

8. Expected Quantities

9. Target Price

Production Project Repair Number of items/p.a. \$/each

Please send your offer to:

Company Attention

Address

Phone Fax

E-mail

Delivery Program



Locking Devices



Locking Assemblies



Locking Elements



Shrink Discs®



Smart-Lock

Damping Technology



Friction Springs



DEFORM plus®
DEFORM plus® R



Fluid Elastomeric Damper

Special Solutions



Shaft Couplings



Locking Assemblies



Flange Couplings



Couplings



Magnetic Couplings



Metal Bellows Couplings



Servo-Insert Couplings



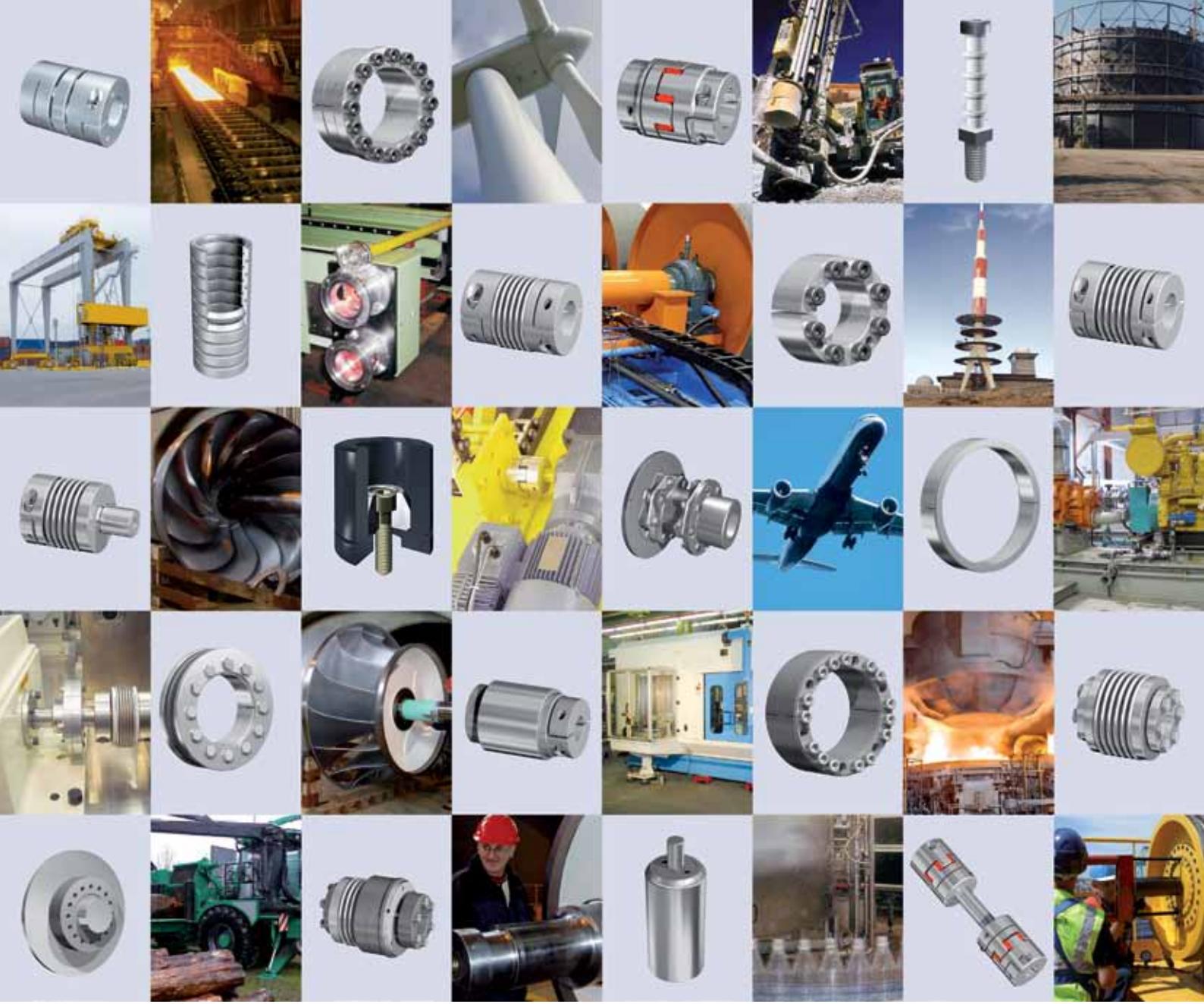
RING-flex® – torsionally
rigid Disc Couplings



Safety Couplings



Line Shafts



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