

FH Flywheel Coupling & HH Coupling



 **Guardian[®]**
Couplings

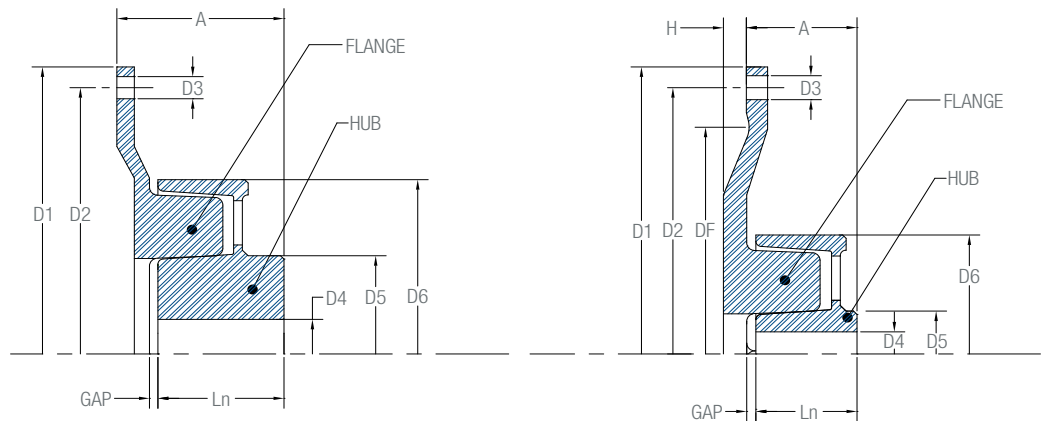
An Altra Industrial Motion Company

FEATURES AND ADVANTAGES

The FH/HH coupling is considered a failsafe jaw coupling that has progressive characteristics. For instance the dynamic torsional stiffness is enhanced with increasing the coupling load. This type of feature gives a distinct advantage in applications where a wide range is used and the torque increases with speed. The resulting characteristics provide the FH/HH coupling with a relatively low torsional stiffness that places the critical speed (resonance) below the operational speed of the system.

The five standard coupling sizes cover a nominal torque range up to 88,500 in-lbs. These couplings may be favorably used in applications such as diesel engine-generator sets, welding sets, blowers, compressors, and centrifugal pumps.

The FH/HH coupling hubs and flanges are produced from a high strength cast iron. The rubber is manufactured from NBR which is resistant to oil and abrasion. It is available in three different hardness levels 50, 60, and 75 shore A. These couplings can operate in a temperature range of -15°F to 195°F.



Technical Data

Coupling Size	Hardness Shore A	Nominal Torque TKN in-lbs	Maximum Torque TKM in-lbs	Max. Vibratory Torque TKV in-lbs	Dampening Factor	Amplification at Resonance	Torsional Stiffness (in-lbs / Radian x 1000)				Max. Rotational Speed
							25% TKN	50% TKN	75% TKN	100% TKN	
6	50	2,478	8,850	1,239	1.15	5.5	19.47	31.86	48.68	72.57	5900
	60	3,540	12,390	1,770	1.25	5.0	28.32	38.94	53.98	75.23	
	75	5,310	15,930	2,655	1.35	4.7	65.49	77.00	112.40	169.92	
12	50	4,965	17,700	2,478	1.15	5.5	60.18	115.94	174.35	235.41	4800
	60	7,080	24,780	3,540	1.25	5.0	90.27	140.72	202.67	284.10	
	75	10,620	31,860	5,310	1.35	4.7	181.43	259.31	392.94	580.56	
25	50	11,063	33,188	5,532	1.15	5.5	209.75	256.65	431.88	561.09	4300
	60	14,160	49,560	7,080	1.25	5.0	266.39	376.13	516.84	689.42	
	75	22,125	66,375	11,063	1.35	4.7	575.25	770.84	1,111.56	1,600.08	
50	50	22,125	66,375	11,063	1.15	5.5	325.68	502.68	681.45	862.00	3400
	60	28,320	99,120	14,160	1.25	5.0	560.21	697.38	855.80	1,035.45	
	75	44,250	132,750	22,125	1.35	4.7	1,159.35	1,431.00	1,705.40	1,979.75	
6	50	44,250	177,000	22,125	1.15	5.5	769.95	1,075.28	1,398.30	1,750.53	2700
	60	56,640	198,240	28,320	1.25	5.0	1,173.51	1,558.49	2,003.64	2,508.09	
	75	88,500	265,500	44,250	1.35	4.7	2,492.16	3,292.20	4,109.00	4,944.50	

SAE Flange Dimensions

SAE Flywheel Size	D1 Outer Diameter		D2 Bolt Circle		# of Holes	D3 Hole Size	
	in.	mm	in.	mm		in.	mm
6.5	8.500	215.9	7.875	200.0	6 x 60°	.354	9
7.5	9.500	241.3	8.750	222.3	8 x 45°	.354	9
8	10.375	263.5	9.625	244.5	6 x 60°	.433	11
10	12.375	314.3	11.625	295.3	8 x 45°	.433	11
11.5	13.875	352.4	13.125	333.4	8 x 45°	.433	11
14	18.375	466.7	17.250	438.2	8 x 45°	.512	13
18	22.500	571.5	21.375	542.9	6 x 60°	.670	17

SAE Flange Dimensions *Continued*

FH Size	SAE Flywheel Size	Design	A	Ln.	D4 Min.	D4 Max.	D5	D6	Gap	DF	H	Weight	Flange Inertia	Hub Inertia
			in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	#	In-lbs Sec.2
6	8	1	2.875	2.165	-	2.362	3.543	6.300	.157	-	-	15	.241	.086
	8	1	4.331	3.622	-	2.362	3.543	6.300	.157	-	-	19	.241	.100
	10	1	2.875	2.165	-	2.362	3.543	6.300	.157	-	-	18	.498	.803
	10	1	4.331	3.622	-	2.362	3.543	6.300	.157	-	-	22	.498	.100
	11.5	2	2.323	2.165	-	2.362	3.543	6.300	.157	11.811	.394	21	.815	.803
	11.5	2	3.780	3.622	-	2.362	3.543	6.300	.157	11.811	.394	25	.815	.100
12	10	1	3.819	3.228	-	2.953	4.528	7.795	.157	8.858	.236	30	.576	.292
	10	1	4.764	4.173	-	2.953	4.528	7.795	.157	8.858	.236	34	.576	.318
	11.5	1	4.213	3.228	-	2.593	4.528	7.795	.157	-	-	32	.824	.292
	11.5	1	5.157	4.173	-	2.593	4.528	7.795	.157	-	-	36	.824	.318
	14	2	3.661	3.228	-	2.593	4.528	7.795	.157	13.583	.236	41	2.370	.292
	14	2	4.606	4.173	-	2.593	4.528	7.795	.157	13.583	.236	45	2.370	.318
25	11.5	1	4.213	3.228	-	3.150	4.882	8.661	.157	-	-	39	.936	.508
	11.5	1	5.787	4.803	-	3.150	4.882	8.661	.157	-	-	46	.936	.567
	14	2	3.661	3.228	-	3.150	4.882	8.661	.157	13.583	.236	47	2.482	.508
	14	2	5.236	4.803	-	3.150	4.882	8.661	.157	13.583	.236	55	2.482	.567
50	11.5	1	4.213	3.228	-	3.740	5.709	10.827	.157	-	-	54	1.189	1.292
	11.5	1	6.575	5.591	-	3.740	5.709	10.827	.157	-	-	70	1.189	1.458
	14	2	3.661	3.228	-	3.740	5.709	10.827	.157	13.583	.236	63	2.735	1.292
	14	2	6.024	5.591	-	3.740	5.709	10.827	.157	13.583	.236	79	2.735	1.458
100	14	2	3.661	3.543	2.559	4.724	7.560	13.780	.157	15.591	.591	107	4.129	4.460
	14	2	6.024	5.906	2.559	4.724	7.560	13.780	.157	15.591	.591	132	4.129	4.968
	18	1	4.724	3.543	2.559	4.724	7.560	13.780	.157	-	-	121	7.921	4.460
	18	1	7.087	5.906	2.559	4.724	7.560	13.780	.157	-	-	146	7.921	4.968

HOW TO ORDER

Coupling Size	Rubber Hardness	Flange Ø	OAL Required	Finished Bore
25	60	14	3.661	2.250

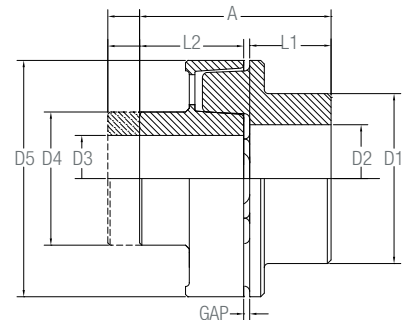
Coupling Dimensions

HH SIZE	TKN in-lbs	TKM in-lbs	Max RPM	A	L1	L2	Gap	D1	D2 Min.	D2 Max.	D3 Min.	D3 Max.	D4	D5	Weight
				in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.
6	5,310	15,930	5,900	4.48	2.17	2.17	.16	4.53	-	2.95	-	2.36	3.54	6.30	20
				5.94											3.62
12	10,620	31,860	4,800	5.94	2.56	3.23	.16	5.12	-	3.35	-	2.95	4.53	7.80	38
				6.89											4.17
25	22,125	66,375	4,300	6.54	3.15	3.23	.16	6.10	-	3.94	-	3.15	4.88	8.66	56
				8.11											4.80
50	44,250	132,750	3,400	7.13	3.74	3.23	.16	7.28	-	4.72	-	3.74	5.71	10.83	92
				9.49											5.59
100	88,500	265,500	2,700	8.43	4.72	3.54	.16	8.66	2.56	5.51	2.56	4.72	7.56	13.78	165
				10.79											5.91

Torsional Angle 3° - 5°	Angular Displacement 1°
Axial Displacement .118" Max.	Radial Displacement .040"

HH COUPLING

The Guardex HH design is a shaft to shaft version of the FH flywheel design. The HH is an elastic, torsionally soft jaw style coupling in compression, with a nominal torque rating to 88,500 in-lbs. These couplings are best suited for the absorption of shock loading, and consist of (2) cast iron hubs and variable durometer rubber elements.



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For application assistance:
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Couplings Cont.

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Marland Clutch

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Stieber Clutch

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