

HDA-M1 Component Sets

Heavy Duty Pancake Type (with hubs) Harmonic Gearing

Features

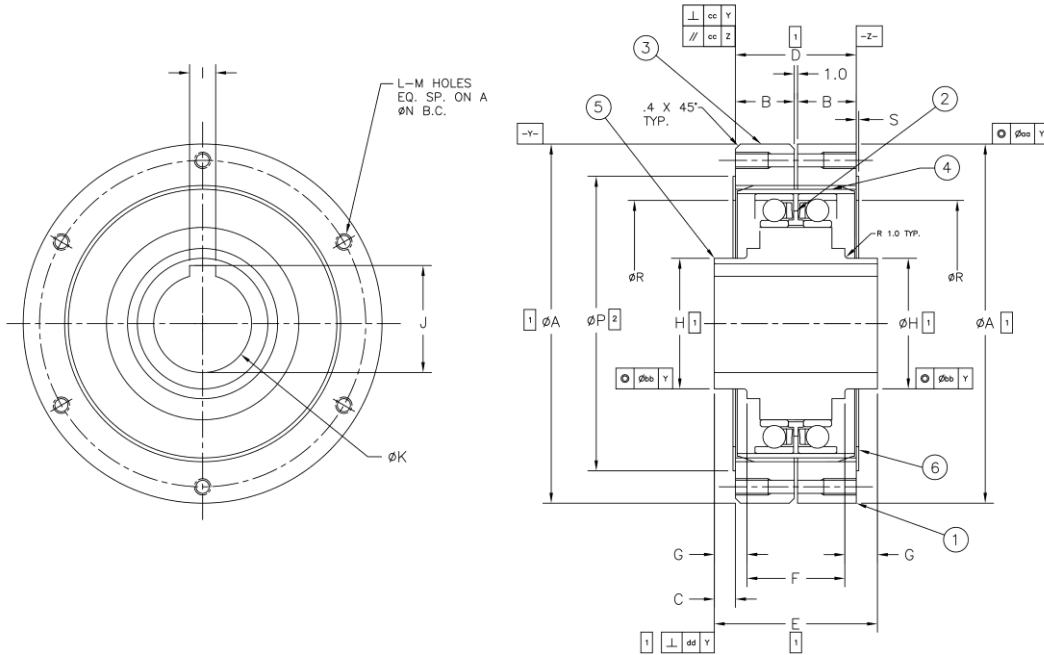
- Extended hubs for bearing mounting
- Low backlash
- Large center bore
- Compact design
- High torque-to-weight ratio
- High positional accuracy
- High ratios and torque



Standard Specifications

Size	Ratio	Rated Speed rpm	Torque at Rated Speed		Repeated Torque Limit		Momentary Torque Limit		Maximum Input Speed	
			Nm	in lb	Nm	in lb	Nm	in lb	Oil	Grease
									rpm	
20	50	2000	20	180	41	360	51	450	5000	3500
	60		23	204	46	408	58	510		
	80		27	240	54	480	68	601		
	84		27	240	54	480	68	601		
	100		34	300	68	601	85	751		
	120		34	300	68	601	85	751		
	126		34	300	68	601	85	751		
	160		34	300	68	601	85	751		
25	50	2000	34	300	68	601	85	751	5000	3000
	60		38	336	76	673	95	841		
	80		43	384	87	769	109	961		
	100		54	480	109	961	136	1201		
	120		54	480	109	961	136	1201		
	150		54	480	109	961	136	1201		
	160		54	480	109	961	136	1201		
	200		54	480	109	961	136	1201		
32	50	2000	68	601	136	1201	170	1501	4500	3000
	60		81	721	163	1441	204	1802		
	66		81	721	163	1441	204	1802		
	78		109	961	217	1922	271	2402		
	80		109	961	217	1922	271	2402		
	100		130	1153	261	2306	326	2883		
	104		130	1153	261	2306	326	2883		
	135		130	1153	261	2306	326	2883		
	160		130	1153	261	2306	326	2883		
	200		130	1153	261	2306	326	2883		
40	50	2000	122	1081	244	2162	305	2702	4500	3000
	62		136	1201	271	2402	339	3003		
	78		217	1922	434	3843	543	4804		
	80		217	1922	434	3843	543	4804		
	84		217	1922	434	3843	543	4804		
	100		258	2282	516	4564	645	5705		
	120		258	2282	516	4564	645	5705		
	125		258	2282	516	4564	645	5705		
	160		258	2282	516	4564	645	5705		
	200		258	2282	516	4564	645	5705		
50	50	1700	229	2025	458	4050	572	5063	3500	2500
	60		272	2405	543	4809	679	6012		
	78		386	3417	772	6835	965	8543		
	80		386	3417	772	6835	965	8543		
	100		501	4430	1001	8860	1251	11074		
	120		501	4430	1001	8860	1251	11074		
	150		501	4430	1001	8860	1251	11074		
	200		501	4430	1001	8860	1251	11074		
65	80	1450	767	6792	1535	13583	1918	16979	1500	1500
	96		863	7641	1727	15281	2158	19102		
	100		863	7641	1727	15281	2158	19102		
	126		959	8490	1918	16979	2398	21224		
	135		959	8490	1918	16979	2398	21224		
	160		959	8490	1918	16979	2398	21224		
	200		959	8490	1918	16979	2398	21224		
	267		959	8490	1918	16979	2398	21224		
80	80	1200	1532	13563	3065	27126	3831	33907	1500	1500
	100		1852	16388	3703	32777	4629	40971		
	125		2043	18084	4086	36168	5108	45210		
	168		2043	18084	4086	36168	5108	45210		
	200		2043	18084	4086	36168	5108	45210		
100	100	1000	3393	30026	6785	60052	8481	75065	1500	1500
	120		3393	30026	6785	60052	8481	75065		
	150		3596	31828	7192	63655	8990	79569		
	160		3800	33629	7599	67259	9499	84073		
	200		3800	33629	7599	67259	9499	84073		
	250		3800	33629	7599	67259	9499	84073		
	315		3800	33629	7599	67259	9499	84073		

Dimensions



	20	25	32	40	50	65	80	100
ØA	70 ^{+0.010} _{-0.040}	85 ^{+0.012} _{-0.047}	110 ^{+0.012} _{-0.047}	135 ^{+0.014} _{-0.054}	170 ^{+0.014} _{-0.054}	215 ^{+0.015} _{-0.061}	270 ^{+0.017} _{-0.049}	330 ^{+0.018} _{-0.054}
B	12	14	18	21	26	35	41	50
C	6.5	5.5	6.5	12.5	12.5	8	11.5	14.5
D	25	29	37	43	53	71	83	101
E	38	40	50	68	78	87	106	130
F	21.5	25	30	44	54	59	74	92
G	8.25	7.5	10	12	12	14	16	19
ØH	20 ^{+0.009} _{-0.004}	30 ^{+0.009} _{-0.004}	40 ^{+0.011} _{-0.005}	50 ^{+0.011} _{-0.005}	60 ^{+0.012} _{-0.007}	70 ^{+0.012} _{-0.007}	90 ± 0.011	110 ± 0.011
I	4 ± .015	6 ± .015	8 ± .018	10 ± .018	12 ± .022	14 ± .022	18 ± .022	22 ± .026
J	13.8	22.8	33.3	38.3	43.3	53.8	69.4	85.4
ØK	12 ^{+0.018} ₊₀	20 ^{+0.021} ₊₀	30 ^{+0.021} ₊₀	35 ^{+0.025} ₊₀	40 ^{+0.025} ₊₀	50 ^{+0.025} ₊₀	65 ^{+0.03} ₊₀	80 ^{+0.03} ₊₀
L	6	6	6	6	6	6	6	6
M	M3 x 6	M4 x 8	M5 x 10	M6 x 12	M8 x 16	M10 x 20	M16	M20
ØN	60	75	100	120	150	195	240	295
ØP	54 ± .5	69.4 ± .5	92 ± .5	111 ± .5	134.4 ± .5	176 ± .5	-	-
ØR	47	59	77	95	119	150	-	-
S	.8	.8	.8	1.6	1.6	1.6	-	-
aa	.016	.016	.017	.019	.024	.027	.027	.027
bb	.013	.016	.016	.017	.021	.025	.025	.025
cc	.017	.024	.026	.026	.028	.034	.034	.034
dd	.010	.012	.012	.012	.015	.015	.015	.015
Weight kg (lb)	.6 (1.3)	1 (2.2)	2 (4.4)	3.6 (7.9)	7.2 (16)	14 (31)	17.6 (39)	21.5 (48)

- A. ITEM 1 STATIC CIRCULAR SPLINE MARKED "S"
ITEM 2 ONLY APPEARS WITH HDR & HDA
ITEM 3 DYNAMIC CIRCULAR SPLINE MARKED "D"
ITEM 4 FLEXSPLINE
ITEM 5 WAVE GENERATOR
ITEM 6 WEAR WASHERS
- B. DIMENSIONS MARKED 1 ESTABLISH INTERFACE AND INSTALLATION REQUIREMENTS, AND MUST BE MAINTAINED UNDER ALL OPERATING CONDITIONS.
- C. DIMENSIONS MARKED 2 ARE NECESSARY TO LOCATE WEAR WASHERS, ITEM 6, IN HDF 50 CAN BE LOCATED ON THE OUTER DIAMETER OF THE CIRCULAR SPLINE, DIMENSION A, OR ON THE PLOT DIAMETER DIMENSION V.
- E. DRAWING IS FOR DIMENSIONAL REVIEW ONLY.
DO NOT SCALE

Ordering Codes

HDA-AAA-BBB-M1-CCCC

Size: 020, 025, 032, 040, 050, 065, 80, 100

Ratio: 080, 084, 096, 100, 120, 125, 126, 132, 135, 150, 160, 168, 200, 267

Special Designator: by factory for non-standard units

