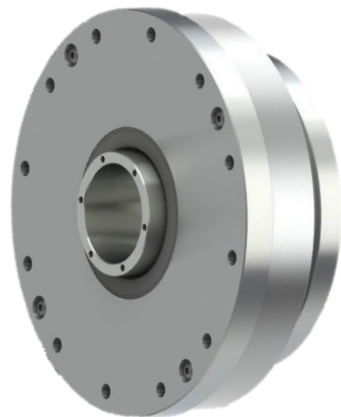


SHF-CR1 Gearheads

Harmonic Gearing with Integrated Cross Roller Bearing

Features

- Zero backlash
- Compact design
- High torque capacity
- High stiffness
- High positional accuracy
- Optimized tooth profile
- Repeatability to ± 0.25 arc-sec
- Customizable
- Large through hole



Standard Specifications (high torque option available)

Size	Ratio	Rated Torque at 2000 RPM		Repeated Torque Limit		Momentary Peak Torque Limit		Max Input Speed RPM		Moment of Inertia		Weight	
		Nm	in-lb	Nm	in-lb	Nm	in-lb	Oil	Grease	kgcm ²	lb-in ²	kg	lb
17	50	16	142	34	301	70	620	10,000	4,000	.234	.080	.8	1.7
	80	22	195	34	301	70	620						
	100	24	212	54	478	86	761						
	120	24	212	54	478	78	690						
20	50	25	221	56	496	98	867	10,000	4,000	.481	.164	1.1	2.3
	80	34	301	74	655	127	1124						
	100	40	354	82	726	147	1301						
	120	40	354	87	770	147	1301						
25	160	40	354	92	814	147	1301	7500	4,000	1.283	.438	1.7	3.7
	50	39	345	98	867	186	1646						
	80	67	593	137	1213	255	2257						
	100	67	593	157	1390	284	2514						
32	120	67	593	167	1478	304	2691	7,000	4,000	3.842	1.312	3.3	7.3
	160	67	593	178	1558	314	2779						
	50	76	673	216	1912	382	3381						
	80	118	1044	304	2691	568	5027						
	100	137	1213	333	2947	647	5726						
	120	137	1213	353	3124	686	6072						
	160	137	1213	372	3292	686	6072						

Cross Roller Bearing Specifications

Size	Pitch	Basic Dynamic Load C		Basic Static Load C ₀		Allowable Moment Load M _C		Moment of Rigidity K _m x 10 ⁴	
		kN	lb	kN	lb	Nm	In-lb	Nm/rad	Arc-min
17	60	10.4	2338	16.3	3664	124	1097	15.4	397
20	70	14.6	3282	22	4946	187	1655	25.2	649
25	85	21.8	4901	35.8	8046	258	2283	39.2	1009
32	111	38.2	8587	65.4	14702	580	5133	100	2575

Ordering Codes

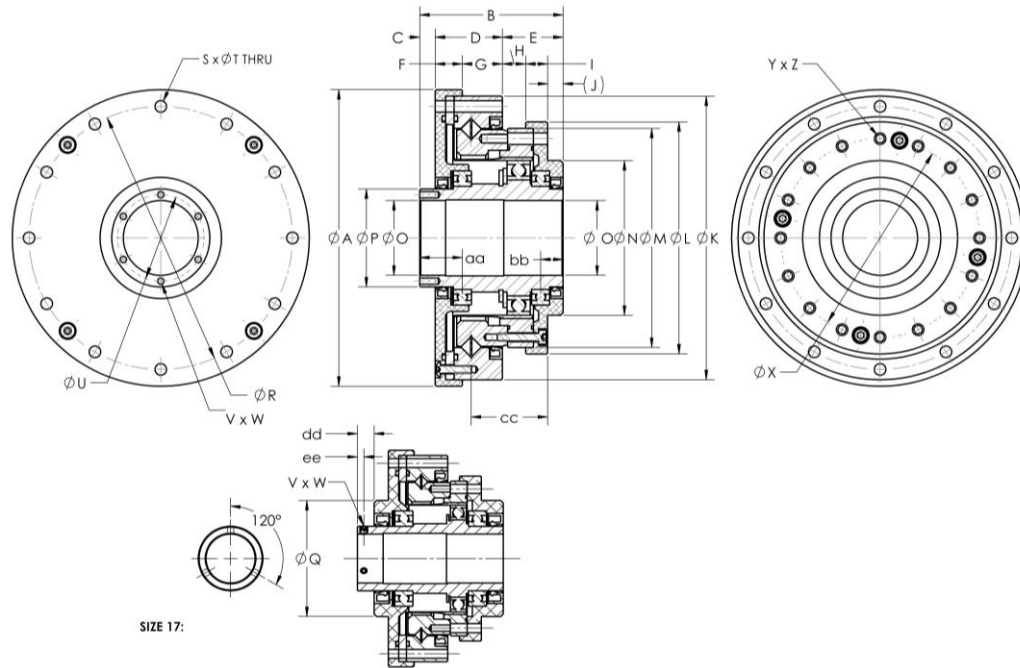
SHF-AAA-BBB-CR1-CCCCC

Size: 017, 020, 025, 032

Ratio: 050,080,100,120,160

Special Designator: by factory for non-standard units

Dimensions



	Size			
	17	20	25	32
ϕA h6	80	90	110	142
$B +0/-0.1$	56.5	51.5	55.5	65.5
C	40.5 $+0/-0.9$	42 $+0/-1.0$	45.5 $+0/-1.0$	53.5 $+0/-1.1$
D	20 $+0.5/-0.0$	21.5 $+0.6/-0.0$	24 $+0.6/-0.0$	28 $+0.6/-0.0$
E	20.5	20.5	21.5	25.5
F	2.5	3	3	3
G	6.5	7.5	10	14
H	3	3	3.3	3.6
ϕI h6	60	70	85	110
ϕJ h7	25	30	38	45
ϕK H7	19	21	21	36
	59.5	70	88	113.75
ϕM h7	25	30	38	45
ϕN h6	47	54	67	88
ϕO	74	84	102	132
P	12	12	12	12
ϕQ	3.5	3.5	4.5	5.5
R	4	4	4	4
ϕS	3.5	3.5	3.5	4.5
ϕT	-	25.5	33.5	40.5
U	3	6	6	6
V	M3 x 3	M3 x 6	M3 x 6	M3 x 6
W	16	16	16	16
ϕX	3.5	3.5	4.5	5.5
Y	-	4	4	4
ϕZ	-	3.5	3.5	4.5
ϕaa	45	53	66	86
ϕbb	38	45	56	73
cc	2.1	2.1	2	2
ϕdd	16.4	17.8	19.8	23.2
ϕee	45	53	66	86
ff	1	1.5	2.1	1.5
ϕgg	54	62	77	100
ϕhh	-	-	40	-
ii	-	-	6	-
jj	46.5	54	67	88
kk	1.1	1.4	1.4	2
ll	0.6	0.75	0.75	1.13