

RHSG Series of Harmonic reducer

RHSG-I Series



RHSG-I is standard hollow hat shaped harmonic reducer, with compact structure. The input shaft is directly matched with the wave generator's inner bore by a flat key. Generally, the circular spline end will be fixed, and the flex-spline end is the output.

RHSG-II Series



RHSG-II is standard hollow hat shaped harmonic reducer, with compact structure. The input shaft is connected to the wave generator's inner hole through an Oldham coupling. Generally, the circular spline end will be fixed, and the flex-spline end is the output.

RHSG-III Series



RHSG-III is standard hollow hat shaped harmonic reducer, with compact structure. The wave generator's center is a hollow shaft, the reducer inside designed with bearing support. This model is very suitable for threading. The fully sealed structure is easy to install.

RHSG-IV Series



RHSG-IV is standard hollow hat shaped harmonic reducer. The wave generator cam comes with an input shaft. The reducer inside designed with bearing support. This model is very suitable for threading. The fully sealed structure is easy to install.

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Start Torque of RHSG-I/II series (cNm)							
Ratio \ Model	14	17	20	25	32	40	45
30	6.4	9.3	15	25	54	-	-
50	4.1	6.1	7.8	15	31	62	85
80	2.8	4	4.9	9.2	19	38	54
100	2.5	3.4	4.3	8	18	35	47
120	-	3.2	3.8	7.3	15	30	43
160	-	-	3.5	7	14	27	36

Start Torque of RHSG-III series (cNm)							
Ratio \ Model	14	17	20	25	32	40	45
30	11	30	43	64	112	-	-
50	8.8	27	36	56	85	136	165
80	7.5	25	33	50	74	117	138
100	6.9	24	32	49	72	112	131
120	-	23	31	48	68	110	126
160	-	-	30	46	65	105	122

Start Torque of RHSG-IV series (cNm)							
Ratio \ Model	14	17	20	25	32	40	45
30	6.8	11	19	26	63	-	-
50	5.7	9.7	14	22	41	72	94
80	4.4	7.2	11	15	29	52	68
100	3.7	6.5	9.9	14	27	47	60
120	-	6	9.3	13	24	44	55
160	-	-	9	12	22	39	50

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RHSG Rigidity ($\times 10^4 \text{N} \cdot \text{m/rad}$)								
Ratio	Model	14	17	20	25	32	40	45
30	K1	0.19	0.34	0.57	1	2.4	-	-
	K2	0.24	0.44	0.71	1.3	3	-	-
	K3	0.34	0.67	1.1	2.1	4.9	-	-
50	K1	0.32	0.77	1.24	2.38	5.13	10.00	15.00
	K2	0.45	1.05	1.71	3.23	7.41	14.00	20.00
	K3	0.54	1.24	2.19	4.18	9.31	18.00	26.00
80 and above	K1	0.45	0.95	1.52	2.95	6.37	13.00	18.00
	K2	0.58	1.33	2.38	4.75	10.45	20.00	29.00
	K3	0.67	1.52	2.76	5.42	11.40	23.00	33.00

Buckling torque (Nm)								
Model	14	17	20	25	32	40	45	
30	140	270	440	1300	890	-	-	
50 and above	210	420	700	1300	2800	5200	6300	

Pawl torque (Nm)								
Ratio	Model	14	17	20	25	32	40	45
30		59	100	170	340	720	-	-
50		110	190	280	580	1200	2300	3500
80		140	260	450	880	1800	3600	5000
100		100	200	330	680	1300	2700	4000
120		-	150	310	610	1200	2400	3600
160		-	-	280	580	1200	2300	3300

Hysteresis loss (arc min)								
Ratio	Model	14	17	20	25	32	40	45
30		3	3	3	3	3	-	-
50		2	2	2	2	2	2	2
80 and above		1	1	1	1	1	1	1

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Model	Reduction Ratio	Rated torque at 2000r/min	Allowable peak torque at start and stop	Allowable average torque	Allowable Max. Momentary torque	Max. input Speed	Allowable average input speed	Back lash (arc sec)	Transmission accuracy (arc sec)	Noise (Db)
		Nm	Nm	Nm	Nm	r/min	r/min	≤	≤	≤
14	30	3.8	8.6	7.8	16	8000	3500	60	120	60
	50	6.6	23	8.6	43			20	90	60
	80	9.6	29	13.5	57			20	90	60
	100	9.6	34	13.5	66			10	90	60
17	30	8.4	15.2	11.5	29	7000	3500	30	90	60
	50	19.8	42	32	86			20	90	60
	80	27.5	53	33	108			20	90	60
	100	30	66	49	134			10	90	60
	120	30	66	49	107			10	90	60
20	30	14	26	19	48	6000	3500	20	90	60
	50	32	69	42	121			20	60	60
	80	42	91	58	158			20	60	60
	100	50	102	61	182			10	60	60
	120	50	108	61	182			10	60	60
	160	50	113	61	182			10	60	60
25	30	26	48	36	90	5500	3500	20	60	60
	50	48	121	68.5	230			20	60	60
	80	78	169	107	315			20	60	60
	100	84	194	133	351			10	60	60
	120	84	207	133	376			10	60	60
	160	84	217	133	388			10	60	60
32	30	51	95	71	190	4500	3500	20	90	60
	50	94	267	133	472			20	60	60
	80	146	376	206	702			20	60	60
	100	169	411	267	800			10	60	60
	120	169	436	267	848			10	60	60
	160	169	459	267	848			10	60	60
40	50	169	497	242	847	4000	3000	20	60	60
	80	255	641	351	1210			20	60	60
	100	328	702	460	1334			10	60	60
	120	363	762	557	1458			10	60	60
	160	363	800	557	1458			10	60	60
45	50	229	650	345	1235	3800	3000	20	60	60
	80	407	918	507	1651			20	60	60
	100	459	982	650	2041			10	60	60
	120	523	1070	806	2288			10	60	60
	160	523	1147	819	2483			10	60	60