RCSG Series of Harmonic reducer

RCSG-I Series

RCSG-I is standard cup-shaped 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.

RCSG-II Series

RCSG-II is standard cup-shaped 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.

RCSG-III Series

RCSG-III is composed of three parts: a flexspline, a rigid circular spline,and a wave generator. The flexspline is standard cup-shaped structure. The input shaft is directly matched with the wave generator's inner bore by flat key or screws.

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Start Torque of RCSG-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	-	-	4	7	14	27	36

Start Torque of RCSG-III series (cNm)									
Ratio \ Model	8	11	14	17	20	25	32	40	45
30	1.3	2.7	6.4	9.3	15	25	54	-	-
50	0.8	1.6	4.1	6.1	7.8	15	31	62	70
80	-	-	2.8	4	4.9	9.2	19	38	45
100	0.6	1.1	2.5	3.4	4.3	8	18	35	40
120	-	-	-	3.2	3.8	7.3	15	30	36
160	-	-	-	-	4	7	14	27	32

Rigidity of RCSG series（× 10^4N·m/rad)										
Ratio \ Model		8	11	14	17	20	25	32	40	45
30	K1	0.034	0.084	0.19	0.34	0.57	1	2.4	-	-
	K2	0.044	0.13	0.24	0.44	0.71	1.3	3	-	-
	K3	0.054	0.16	0.34	0.67	1.1	2.1	4.9	-	-
50	K1	0.04	0.22	0.32	0.77	1.24	2.38	5.13	10.00	15.00
	K2	0.07	0.30	0.45	1.05	1.71	3.23	7.41	14.00	20.00
	K3	0.08	0.32	0.54	1.24	2.19	4.18	9.31	18.00	26.00
80 and above	K1	0.09	0.27	0.45	0.95	1.52	2.95	6.37	13.00	18.00
	K2	0.10	0.34	0.58	1.33	2.38	4.75	10.45	20.00	29.00
	K3	0.12	0.44	0.67	1.52	2.76	5.42	11.40	23.00	33.00

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Buckling torque (Nm)									
Model	8	11	14	17	20	25	32	40	45
30	35	90	190	330	560	100	2200	-	-
50 and above	35	90	260	500	800	1700	3500	6700	8900

Pawl torque (Nm)									
Model / Ratio	8	11	14	17	20	25	32	40	45
30	11	29	59	100	170	340	720	-	-
50	12	34	110	190	280	580	1200	2300	3500
80	-	-	140	260	450	880	1800	3600	5000
100	14	43	100	200	330	650	1300	2700	4000
120	-	-	-	150	310	610	1200	2400	3600
160	-	-	-	-	280	580	1200	2300	3300

Hysteresis loss (arc min)									
Model / Ratio	8	11	14	17	20	25	32	40	45
30	3	3	3	3	3	3	3	-	-
50	3	2	2	2	2	2	2	2	2
80 and above	2	2	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	⩽	⩽	⩽
8	30	0.9	1.8	1.4	3.3	8000	3500	59	120	60
	50	1.8	3.3	2.3	6.6			35	120	60
	100	2.4	4.8	3.3	9			20	120	60
11	30	2.2	4.5	3.4	8.5	8000	3500	49	120	60
	50	3.5	8.3	5.5	17			24	120	60
	100	5	11	8.9	25			20	120	60
14	30	3.8	8.5	6.5	16	8000	3500	60	90	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	11.5	28	7000	3500	30	90	60
	50	19.8	42	32.5	86			20	90	60
	80	27.5	53	33.5	108			20	90	60
	100	30	66	48.5	134			10	90	60
	120	30	66	48.5	107			10	90	60
20	30	14	26	19	48	6000	3500	20	60	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	107.5	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	60	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