

SG SERIES

Product Features

SG



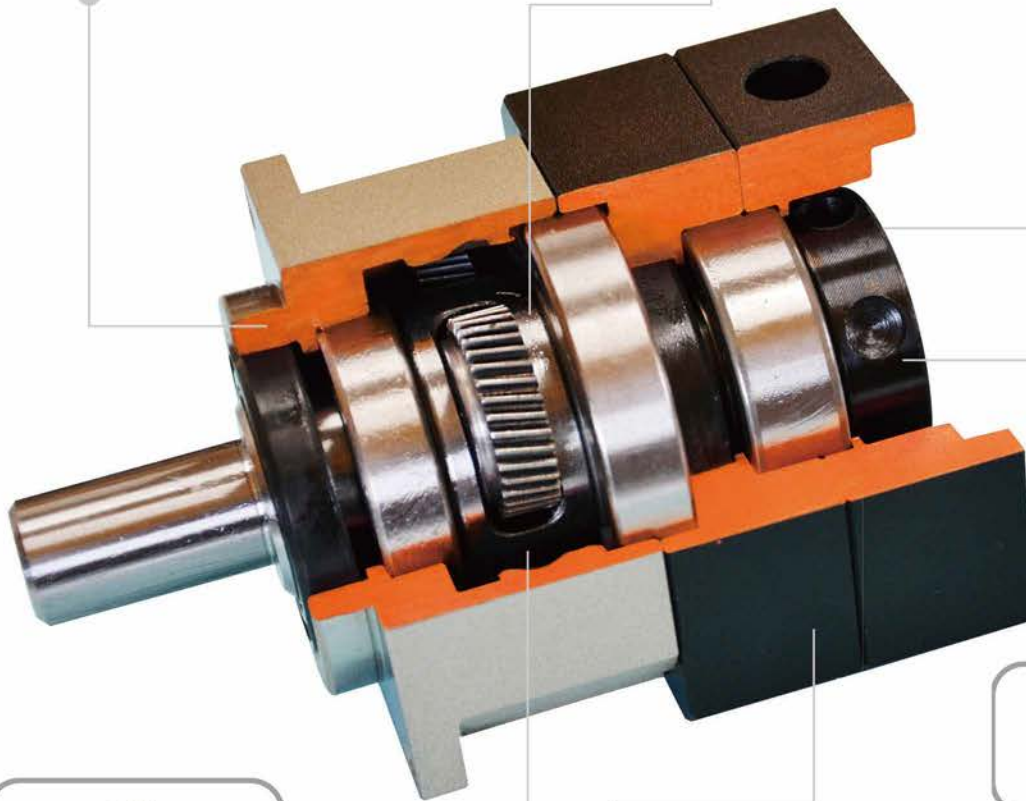
Gear box and internal ring gear are integrated designed, diameter maximized, high precision and high torque capacity are specialties.



Integrated design of planet carrier and output shaft ensures the maximum torque stiffness and stability.



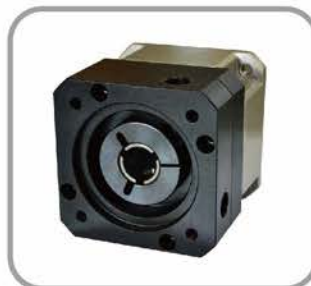
Triple split collet with dynamic balanced set collar clamping system provides backlash free power transmission and eliminates slippage. 100% concentricity allows for smooth rotation and higher input speed capability.



To gain the best abrasion performance and impact resistance · Chromium Molybdenum Vanadium Alloy steel is selected as raw material. Accompany with quenching and tempering heat treatment process · the core hardness is increased to 25 HRC · Accompany with plasma nitriding heat treatment process · the surface hardness is increased to 600 HV.



Adopting helical gear design, the contact ratio of planetary reducer is twice higher than vertical one. Smooth running, high output torque and low backlash are distinguished features.



Motor adapter and bushing module are modularized designed · which applied to types of servomotors.

Reducer Performance Information

	Unit	Stage	Ratio	42	60	90	115	142	180
Rated Output Torque T_{2N}	Nm	L1	3	21	57	135	216	352	603
			4	20	52	145	298	552	1065
			5	23	62	165	338	660	1215
			6	21	57	155	318	610	1115
			7	20	52	145	308	560	1115
			8	18	47	125	268	510	1015
			9	15	42	105	238	460	915
			10	15	42	105	238	460	915
		L2	15	21	57	135	216	352	603
			20	20	52	145	298	552	1065
			25	23	62	165	338	660	1215
			30	21	57	155	318	610	1115
			35	20	52	145	308	560	1115
			40	18	47	125	268	510	1015
			50	23	62	165	338	660	1215
			60	21	57	155	318	610	1115
			70	20	52	145	308	560	1115
			80	18	47	125	268	510	1015
			90	15	42	105	238	460	915
			100	15	42	105	238	460	915
Max. Input Speed n_{1B}	rpm	L1/L2	3~100	10,000	10,000	8,000	8,000	6,000	6,000
Rated Input Speed n_{1N}	rpm	L1/L2	3~100	5,000	5,000	4,000	4,000	3,000	3,000
Backlash PS	arcmin	L1	3~10	≤ 1					
		L2	15~100	≤ 3					
Backlash P0	arcmin	L1	3~10	≤ 3					
		L2	15~100	≤ 5					
Backlash P1	arcmin	L1	3~10	≤ 5					
		L2	15~100	≤ 7					
Max. Acceleration Torque T_{2B}	Nm	L1/L2	3~100	1.8 Times of nominal output torque					
Max. Output(Emergency Stop) Torque T_{2NOT}	Nm	L1/L2	3~100	3 Times of nominal output torque					
Torsional Rigidity	Nm/arcmin	L1/L2	3~100	3	7	14	25	50	145
Max. Radial Force F_{2rB}	N	L1/L2	3~100	780	1,530	3,250	6,700	9,400	14,500
Max. Axial Force F_{2aB}	N	L1/L2	3~100	390	765	1,625	3,350	4,700	7,250
Service Life	hr	L1/L2	3~100	S5 Cycle Operation ; > 20,000 (S1 Continuous Operation ; > 10,000 hrs)					
Operation Temperature	°C	L1/L2	3~100	-25°C ~ 90°C					
Efficiency η	%	L1	3~10	≤ 97					
		L2	15~100	≤ 94					
Lubrication		L1/L2	3~100	Synthetic Lubrication Grease					
Noise Level	dB	L1	3~10	≤ 56	≤ 60	≤ 63	≤ 63	≤ 65	≤ 67
		L2	15~100	≤ 56	≤ 60	≤ 63	≤ 63	≤ 65	≤ 67
Protection Class	IP	L1/L2	3~100	IP 65					
Mounting Position		L1/L2	3~100	Any direction					
Weight	kg	L1	3~10	0.5	1.2	3.5	7.5	15.5	30
		L2	15~100	0.8	1.8	5.2	11.2	22.5	48

Reducer Moment of inertia

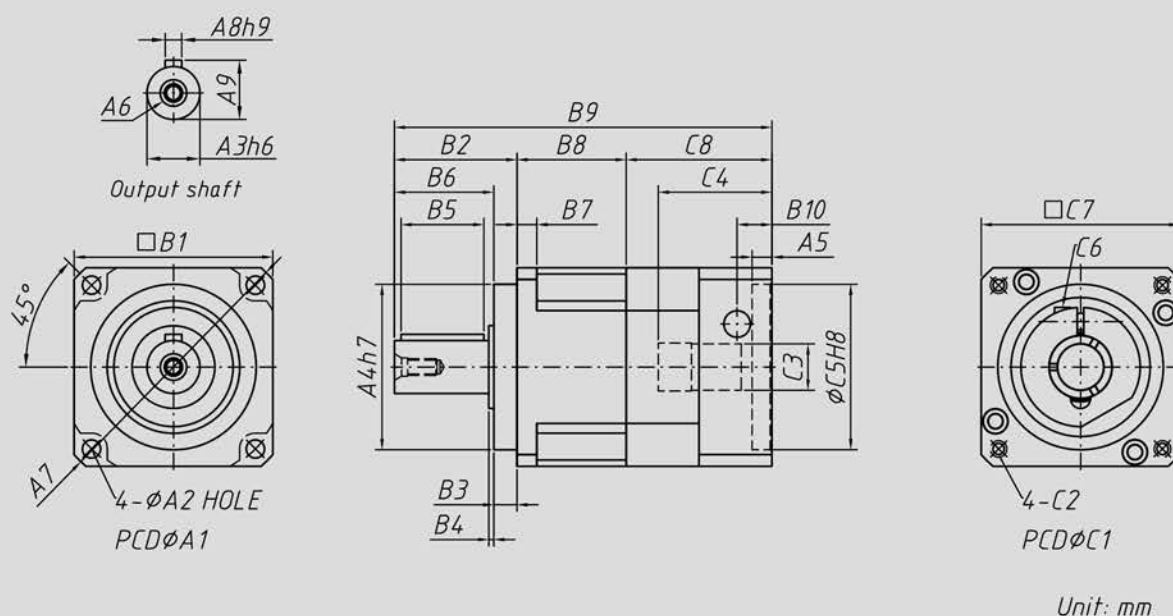
	Unit	Stage	Ratio	42	60	90	115	142	180
Moment of inertia	kg.cm ²	L1	3	0.03	0.16	0.61	3.25	9.21	28.98
			4	0.03	0.14	0.48	2.74	7.54	23.67
			5	0.03	0.13	0.47	2.71	7.42	23.29
			6	0.03	0.13	0.45	2.65	7.25	22.75
			7	0.03	0.13	0.45	2.62	7.14	22.48
			8	0.03	0.13	0.44	2.58	7.07	22.59
			9	0.03	0.13	0.44	2.57	7.04	22.53
			10	0.03	0.13	0.44	2.57	7.03	22.51
		L2	15	0.03	0.03	0.13	0.47	2.71	7.42
			20	0.03	0.03	0.13	0.47	2.71	7.42
			25	0.03	0.03	0.13	0.47	2.71	7.42
			30	0.03	0.03	0.13	0.47	2.71	7.42
			35	0.03	0.03	0.13	0.47	2.71	7.42
			40	0.03	0.03	0.13	0.47	2.71	7.42
			50	0.03	0.03	0.13	0.44	2.57	7.03
			60	0.03	0.03	0.13	0.44	2.57	7.03
			70	0.03	0.03	0.13	0.44	2.57	7.03
			80	0.03	0.03	0.13	0.44	2.57	7.03
			90	0.03	0.03	0.13	0.44	2.57	7.03
			100	0.03	0.03	0.13	0.44	2.57	7.03

MODEL : SG SERIES

1-Stage (Ratio:3~10)



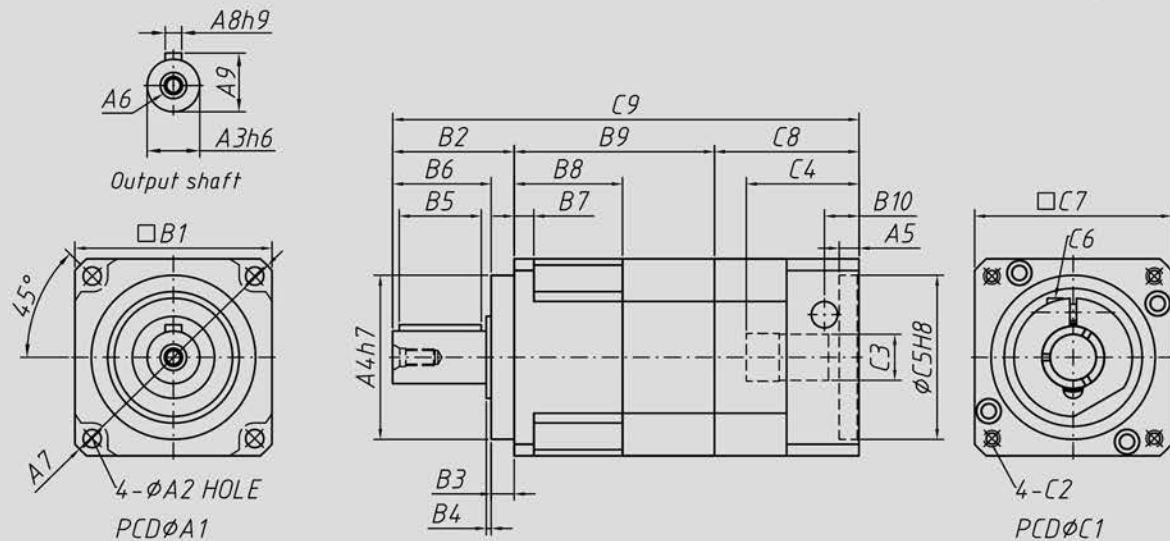
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Model Code	42	60	90	115	142	180
A1	50	70	100	130	165	215
A2	3.5	5.5	6.5	8.5	10.5	13.5
A3	13	16	22	32	40	55
A4	35	50	80	110	130	160
A5	6	6	7.5	22.5	11	12
A6	M4 x P0.7	M5 x P0.8	M8 x P1.25	M12 x P1.75	M16 x P2.0	M20 x P2.5
A7	56	80	116	148	185	240
A8	5	5	6	10	12	16
A9	15	18	24.5	35	43	60
B1	42.6	60	90	115	142	180
B2	26	37	48	65	97	104.5
B3	5.5	7	10	12	15	20
B4	1.6	1.5	1.5	2	3	2.5
B5	15	25	30	40	63	70
B6	20.5	30	38	53	82	84.5
B7	4	6	8	10	12	16
B8	28.3	33	43	54	72	87.5
B9	88.65	114	138	190	251	292
B10	11	13.5	14	15	23	27.5
C1	46	70	90	145	165	200
C2	M4 x P0.7	M5 x P0.8	M6 x P1.0	M8 x P1.25	M10 x P1.5	M12 x P1.75
C3	8	14, 19	19, 24	24, 28	35, 42	42
C4	26	34	43	67.5	68	72.5
C5	30	50	70	110	130	114.3
C6	M3 x P0.5	M5 x P0.8	M6 x P1.0	M8 x P1.25	M10 x P1.5	M12 x P1.75
C7	42.6	60	90	130	142	180
C8	34.35	44	47	71	82	100

MODEL : SG SERIES

2-Stage (Ratio:15~100)



Unit: mm

Model Code	42	60	90	115	142	180
A1	50	70	100	130	165	215
A2	3.5	5.5	6.5	8.5	10.5	13.5
A3	13	16	22	32	40	55
A4	35	50	80	110	130	160
A5	6	6	7.5	22.5	11	12
A6	M4 x P0.7	M5 x P0.8	M8 x P1.25	M12 x P1.75	M16 x P2.0	M20 x P2.5
A7	56	80	116	148	185	240
A8	5	5	6	10	12	16
A9	15	18	24.5	35	43	60
B1	42.6	60	90	115	142	180
B2	26	37	48	65	97	104.5
B3	5.5	7	10	12	15	20
B4	1.6	1.5	1.5	2	3	2.5
B5	15	25	30	40	63	70
B6	20.5	30	38	53	82	84.5
B7	4	6	8	10	12	16
B8	28.3	33	43	54	72	87.5
B9	54.3	61	83	102	123	177.5
B10	11	13.5	14	15	23	27.5
C1	46	70	90	145	165	200
C2	M4 x P0.7	M5 x P0.8	M6 x P1.0	M8 x P1.25	M10 x P1.5	M12 x P1.75
C3	8	14, 19	19, 24	24, 28	35, 42	42
C4	26	34	43	67.5	68	72.5
C5	30	50	70	110	130	114.3
C6	M3 x P0.5	M5 x P0.8	M6 x P1.0	M8 x P1.25	M10 x P1.5	M12 x P1.75
C7	42.6	60	90	130	142	180
C8	34.35	44	47	71	82	100
C9	114.65	142	178	238	312	382