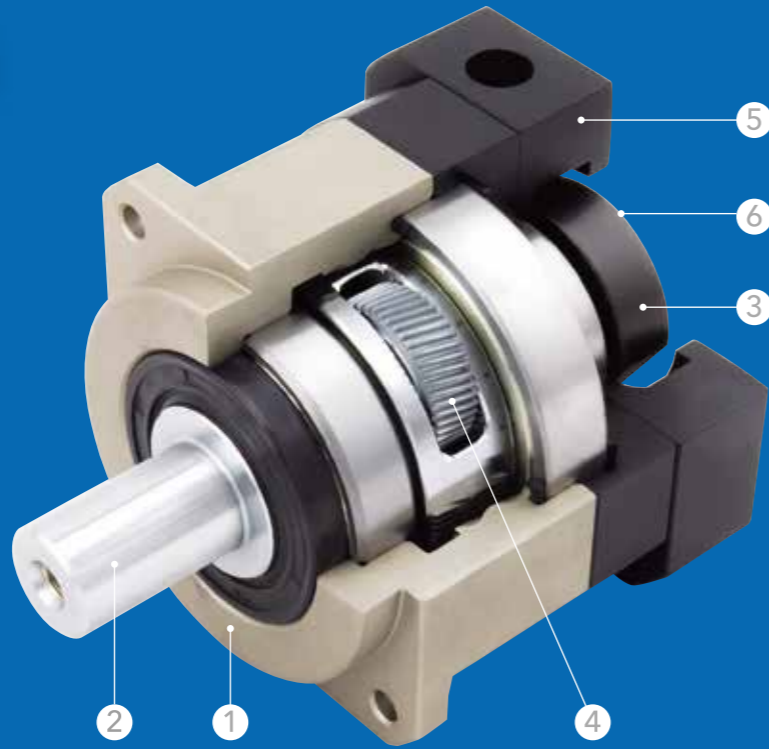


SG series



產品特點 PRODUCT FEATURES

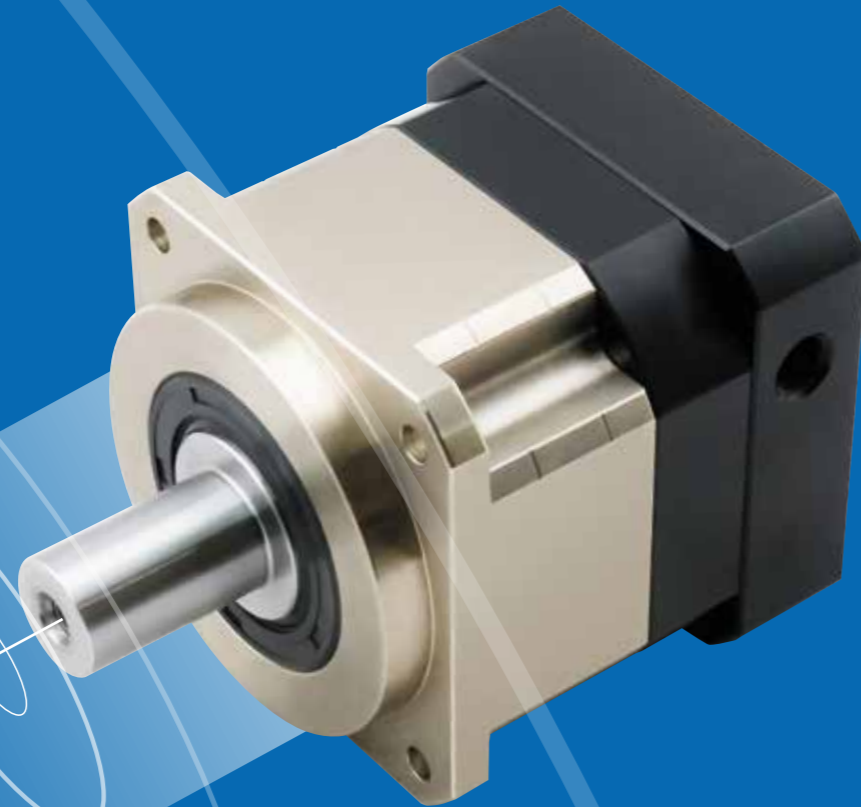
<p>1</p>  <p>齒輪箱和內環齒輪採一體式設計，結構緊湊、精密度高、輸出扭矩大。</p> <p>Gear box and internal ring gear are integrated designed, diameter maximized, high precision and high torque capacity are specialties.</p>	<p>2</p>  <p>行星臂架與輸出軸採一體式的設計結構，確保最大耐扭力剛性及穩定性。</p> <p>Integrated design of planet carrier and output shaft ensures the maximum torque stiffness and stability.</p>
<p>3</p>  <p>輸入端與馬達的連接機構，採用筒夾式的鎖緊經動力平衡分析，以確保在高輸入轉速下結合介面同心度和零背隙的動力傳遞。</p> <p>Riple 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.</p>	<p>4</p>  <p>齒輪材質選用鉻鉬釩合金鋼，經調質熱處理至基材硬度 HRC25 度，在利用氣體氮化方式將齒輪表面硬度提昇至600HV，以獲得最佳的耐磨耗及耐衝擊韌性。</p> <p>To gain the best abrasion performance and impact resistance, Chromium Molybdenum Vanadium Alloy steel is selected a raw material. Accompany with quenching and tempering heat treatment process, the core hardness is increased to 25HRC. Accompany with plasma nitriding heat treatment process, the surface hardness is increased to 600HV.</p>
<p>5</p>  <p>馬達連接板和襯套採模組化設計，適用於任何廠牌、型式的伺服馬達。</p> <p>Motor adapter and bushing module are modularized designed, which applied to types of servomotors.</p>	<p>6</p>  <p>減速機結構採螺旋齒輪設計，齒型齒合率為一般正齒輪的二倍以上，具有運轉平順、低噪音高輸出扭矩和低背隙的特性。</p> <p>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.</p>

減速機性能資料 REDUCER PERFORMANCE INFORMATION

規格 Model NO.	符號 Symbol	單位 Unit	節數 Stage	減速比 Ratio	42	60	90	115	142	180	
額定輸出力矩 Rated Output Torque	T _{2N}	Nm	L1	3	21	57	160	333	620	1,200	
				4	20	52	145	298	552	1,065	
				5	23	62	158	338	615	1,215	
				6	21	57	155	318	610	1,115	
				7	20	52	145	308	580	1,115	
				8	18	47	140	288	555	1,060	
				9	15	42	143	270	520	980	
				10	15	42	138	285	548	1,050	
				L2	15	21	57	160	330	620	2,000
					20	20	52	145	298	552	1,800
			25		23	62	156	338	615	1,980	
			30		21	57	155	318	610	1,900	
			35		20	52	145	308	560	1,850	
			40		18	47	140	290	550	1,821	
			50		23	62	165	338	610	1,980	
			60		21	57	155	318	570	1,900	
			70		20	52	145	308	560	1,850	
			80		18	47	141	290	548	1,821	
			90	15	42	144	270	510	1,650		
			100	15	42	138	288	540	1,700		
最大輸入轉速 Max. Input Speed	n _{1B}	rpm	L1 / L2	3~100	10,000	10,000	8,000	8,000	6,000	6,000	
額定輸入轉速 Rated Input Speed	n _{1N}	rpm	L1 / L2	3~100	5,000	5,000	4,000	4,000	3,000	3,000	
超精密背隙 PS Backlash PS	-	arcmin	L1	3~10	≤1						
			L2	15~100	≤3						
高精密背隙 P0 Backlash P0	-	arcmin	L1	3~10	≤3						
			L2	15~100	≤5						
精密背隙 P1 Backlash P1	-	arcmin	L1	3~10	≤5						
			L2	15~100	≤7						
最大加速扭矩 Max. Acceleration Torque	T _{2B}	Nm	L1 / L2	3~100	1.8倍額定輸出力矩 / 1.8 Times Of Nominal Output Torque						
最大輸出(急停)扭矩 Max. Output(Emergency Stop) Torque	T _{2NOT}	Nm	L1 / L2	3~100	3倍額定輸出力矩 / 3 Times Of Nominal Output Torque						
扭轉剛性 Torsional Rigidity	-	Nm/arcmin	L1 / L2	3~100	3	7	14	25	50	145	
容許徑向力 Max. Radial Force	F _{2rB}	N	L1 / L2	3~100	780	1,530	3,250	6,700	9,400	14,500	
容許軸向力 Max. Axial Force	F _{2aB}	N	L1 / L2	3~100	390	765	1,625	3,350	4,700	7,750	
使用壽命 Service Life	hr	hr	L1 / L2	3~100	S5週期運轉 > 20,000 ; (S1連續運轉 > 10,000 hrs) S5 Cycle Operation : > 20,000 (S1 Continuous Operation : > 10,000 hrs)						
使用溫度 Operation Temperature	-	°C	L1 / L2	3~100	-25°C ~ 90°C						
效率 Efficiency	η	%	L1	3~10	≤97						
			L2	15~100	≤94						
潤滑 Lubrication	-	-	L1 / L2	3~100	合成潤滑油脂 / Synthetic Lubrication Grease						
噪音值 Noise Level	-	dB	L1	3~10	≤56	≤60	≤63	≤63	≤65	≤67	
			L2	15~100	≤56	≤60	≤63	≤63	≤65	≤67	
防護等級 Protection Class	-	IP	L1 / L2	3~100	IP 65						
安裝方向 Mounting Position	-	-	L1 / L2	3~100	任意方向 / Any Direction						
重量 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	

減速機轉動慣量 REDUCER MOMENT OF INERTIA

規格 Model NO.	符號 Symbol	單位 Unit	節數 Stage	減速比 Ratio	42	60	90	115	142	180	
轉動慣量 Moment of Inertia	J ₁	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		



SG Lseries High Precision Planetary Reducer

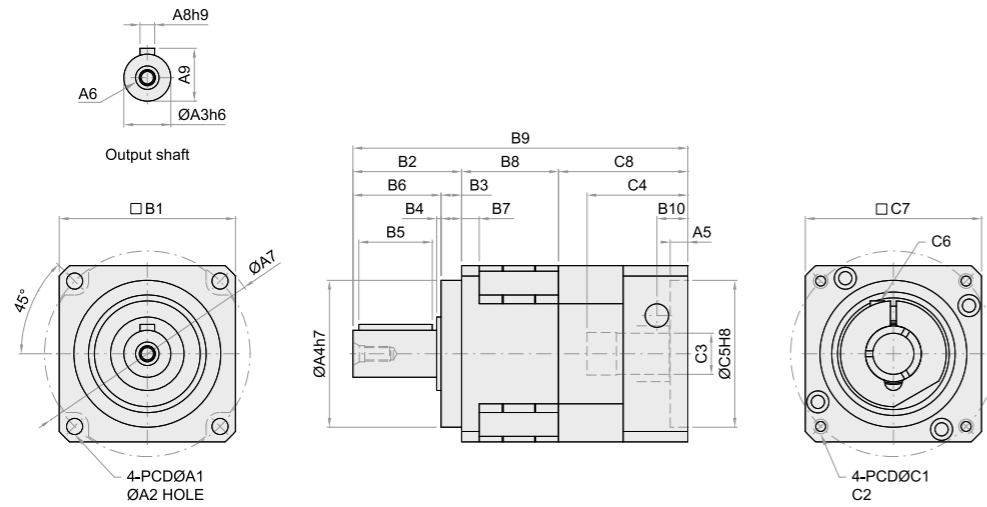
減速機性能資料 REDUCER PERFORMANCE INFORMATION

規格 Model NO.	符號 Symbol	單位 Unit	節數 Stage	減速比 Ratio	42	60	90	115	142	180	
額定輸出力矩 Rated Output Torque	T _{2N}	Nm	L1	3	21	57	160	333	620	1,200	
				4	20	52	145	298	552	1,065	
				5	23	62	158	338	615	1,215	
				6	21	57	155	318	610	1,115	
				7	20	52	145	308	580	1,115	
				8	18	47	140	288	555	1,060	
				9	15	42	143	270	520	980	
				10	15	42	138	285	548	1,050	
				L2	15	21	57	160	330	620	2,000
					20	20	52	145	298	552	1,800
			25		23	62	156	338	615	1,980	
			30		21	57	155	318	610	1,900	
			35		20	52	145	308	560	1,850	
			40		18	47	140	290	550	1,821	
			50		23	62	165	338	610	1,980	
			60		21	57	155	318	570	1,900	
			70		20	52	145	308	560	1,850	
			80	18	47	141	290	548	1,821		
			90	15	42	144	270	510	1,650		
100	15	42	138	288	540	1,700					
最大輸入轉速 Max. Input Speed	n _{1B}	rpm	L1 / L2	3~100	10,000	10,000	8,000	8,000	6,000	6,000	
額定輸入轉速 Rated Input Speed	n _{1N}	rpm	L1 / L2	3~100	5,000	5,000	4,000	4,000	3,000	3,000	
標準背隙 Backlash	-	arcmin	L1	3~10	≤8						
			L2	15~100	≤12						
最大加速扭矩 Max. Acceleration Torque	T _{2B}	Nm	L1 / L2	3~100	1.8倍額定輸出力矩 / 1.8 Times Of Nominal Output Torque						
最大輸出(急停)扭矩 Max. Output(Emergency Stop)Torque	T _{2NOT}	Nm	L1 / L2	3~100	3倍額定輸出力矩 / 3 Times Of Nominal Output Torque						
扭轉剛性 Torsional Rigidity	-	Nm/arcmin	L1 / L2	3~100	3	7	14	25	50	145	
容許徑向力 Max. Radial Force	F _{2rB}	N	L1 / L2	3~100	780	1,530	3,250	6,700	9,400	14,500	
容許軸向力 Max. Axial Force	F _{2aB}	N	L1 / L2	3~100	390	765	1,625	3,350	4,700	7,750	
使用壽命 Service Life	hr	hr	L1 / L2	3~100	S5週期運轉 > 20,000 ; (S1連續運轉 > 10,000 hrs) S5 Cycle Operation ; > 20,000 (S1 Continuous Operation ; > 10,000 hrs)						
使用溫度 Operation Temperature	-	°C	L1 / L2	3~100	-25°C ~ 90°C						
效率 Efficiency	η	%	L1	3~10	≤97						
			L2	15~100	≤94						
潤滑 Lubrication	-	-	L1 / L2	3~100	合成潤滑油脂 / Synthetic Lubrication Grease						
噪音值 Noise Level	-	dB	L1	3~10	≤56	≤60	≤63	≤63	≤65	≤67	
			L2	15~100	≤56	≤60	≤63	≤63	≤65	≤67	
防護等級 Protection Class	-	IP	L1 / L2	3~100	IP 65						
安裝方向 Mounting Position	-	-	L1 / L2	3~100	任意方向 / Any Direction						
重量 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	

減速機轉動慣量 REDUCER MOMENT OF INERTIA

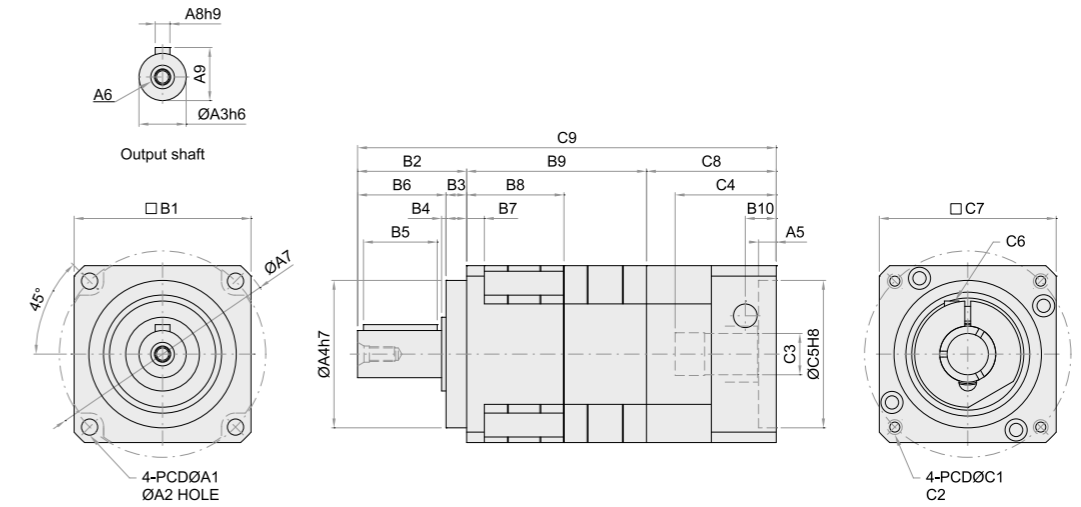
規格 Model NO.	符號 Symbol	單位 Unit	節數 Stage	減速比 Ratio	42	60	90	115	142	180	
轉動慣量 Moment of Inertia	J ₁	kg.cm ²	L1	3	0.03	0.16	0.61	3.25	9.21	28.98	
				4	0.03	0.14	0.48	2.74	7.54	23.67	
				5	0.03	0.13	0.47	2.71	7.42	23.29	
				6	0.03	0.13	0.45	2.65	7.25	22.75	
				7	0.03	0.13	0.45	2.62	7.14	22.48	
				8	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 / SGL SERIES L1-Stage (Ratio: 3~10)



Model	Code	42	60	90	115	142	180	220				
A1		50	70	100	130	165	215	250				
A2		3.5	5.5	6.5	8.5	10.5	13.5	17				
A3		13	16	22	32	40	55	75				
A4		35	50	80	110	130	160	180				
A5		6	6	6	7	7	8	10				
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	M20 x P2.5				
A7		56	80	116	148	185	240	292				
A8		5	5	6	10	12	16	20				
A9		15	18	24.5	35	43	59	79.5				
B1		42.6	60	90	115	142	180	220				
B2		26	37	48	65	97	104.5	150				
B3		5.5	7	10	12	15	20	30				
B4		1.6	1.5	1.5	2	3	2.5	15				
B5		15	25	30	40	60	70	90				
B6		20.5	30	38	53	82	84.5	120				
B7		4	6	8	10	12	16	20				
B8		28.3	33	43	54	72	87.5	97.4				
B9		88.65	114	138	190	251	292	391.4				
B10		11	10.5	14	30	23	27.5	45				
C1		46	70	90	145	165	200	265				
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	M14 x P2.0				
C3		8	14	19	19	24	24	35	35	42	42	55
C4		26.15	34.3	43	68.2	68.1	81.5	116				
C5		30	50	70	110	130	114.3	230				
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	M12 x P1.75				
C7		42.6	60	90	130	142	180	250				
C8		34.35	44	47	71	82	100	144				
C9		114.65	142	178	238	312	382	505.4				

MODEL: SG / SGL SERIES L2-Stage (Ratio: 15~100)



Model	Code	42	60	90	115	142	180	220				
A1		50	70	100	130	165	215	250				
A2		3.5	5.5	6.5	8.5	10.5	13.5	17				
A3		13	16	22	32	40	55	75				
A4		35	50	80	110	130	160	180				
A5		6	6	6	7	7	8	10				
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	M20 x P2.5				
A7		56	80	116	148	185	240	292				
A8		5	5	6	10	12	16	20				
A9		15	18	24.5	35	43	59	79.5				
B1		42.6	60	90	115	142	180	220				
B2		26	37	48	65	97	104.5	150				
B3		5.5	7	10	12	15	20	30				
B4		1.6	1.5	1.5	2	3	2.5	15				
B5		15	25	30	40	60	70	90				
B6		20.5	30	38	53	82	84.5	120				
B7		4	6	8	10	12	16	20				
B8		28.3	33	43	54	72	87.5	97.4				
B9		54.3	61	83	102	133	177.5	211.4				
B10		11	10.5	14	30	23	27.5	45				
C1		46	70	90	145	165	200	265				
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	M14 x P2.0				
C3		8	14	19	19	24	24	35	35	42	42	55
C4		26.15	34.3	43	68.2	68.1	81.5	116				
C5		30	50	70	110	130	114.3	230				
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	M12 x P1.75				
C7		42.6	60	90	130	142	180	250				
C8		34.35	44	47	71	82	100	144				
C9		114.65	142	178	238	312	382	505.4				