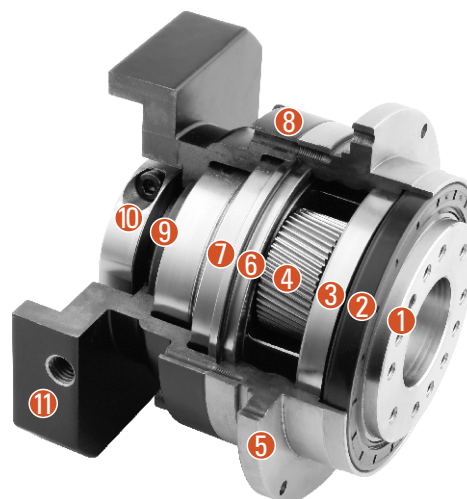


SD SERIES GEARBOX - PRODUCT SPECIFICATIONS

Sectional View

- ① Output shaft
- ② Oil seal
- ③ Output shaft front bearing
- ④ Planetary gear
- ⑤ Flange inner tooth
- ⑥ Output shaft rear bearing
- ⑦ Lock nut
- ⑧ Rear cover
- ⑨ Solar wheel
- ⑩ Locking device
- ⑪ Rear cover gasket



Reducer Performance Data

Specifications		Node Number	Reduction Ratio	SD064	SD090	SD110	SD140	SD200			
Rated Output Torque T_{2N}	Nm	1	4	48	-	-	560	1100			
			5	60	160	330	650	1200			
			7	50	140	300	550	1100			
			10	40	100	230	450	900			
		2	20	48	-	-	560	1100			
			25	60	160	330	650	1200			
			35	50	140	300	550	1100			
			40	48	130	270	560	1100			
			50	60	160	330	650	1200			
			70	50	140	300	550	1100			
			100	40	100	230	450	900			
			Emergency Stop Torque T_{2NOT}^2	Nm	1,2	4~100 3 Times of Output Rated Torque					
			Rated Input Speed n_{1N}	rpm	1,2	4~100 3000 3000 3000 3000 3000					
			Rated Input Speed n_{1B}	rpm	1,2	4~100 6000 6000 6000 6000 6000					
Super Precision Backlash P0	arcmin	1	4~10 ≤1 ≤1 ≤1 ≤1								
		2	15~100 - ≤3 ≤3 ≤3 ≤3								
Precision Backlash P1	arcmin	1	4~10 ≤3 ≤3 ≤3 ≤3								
		2	15~100 ≤5 ≤5 ≤5 ≤5								
Standard Backlash P2	arcmin	1	4~10 ≤5 ≤5 ≤5 ≤5								
		2	15~100 ≤7 ≤7 ≤7 ≤7								
Torsional Stiffness	Nm/arcmin	1,2	4~100 13 31 82 151 440								
Maximum bending moment M_{2B}^3	Nm	1,2	4~100 125 235 430 1300 3064								
Allowable Radial Force F_{2B}^3	N	1,2	4~100 1050 2850 2990 10590 16660								
Service Life	hr	1,2	4~100 20000*								
Efficiency η	%	1	4~10 ≥97%								
		2	15~100 ≥94%								
Weight	Kg	1	4~10 1.2 3.0 5.6 11.9 31.6								
		2	15~100 1.6 3.7 7.3 15.9 36.9								
Operating Temperature	°C	1,2	4~100 -10°C~+90°C								
Lubrication		1,2	4~100 Synthetic Lubricating Grease (NYOGEL 792D)								
Protection Class		1,2	4~100 IP65								
Mounting Position		1,2	4~100 Any Direction								
Noise Level at 1m Distance ($n_1=3000$ rpm, No Load)	dB(A)	1,2	4~100 ≤58 ≤60 ≤63 ≤65 ≤67								

Moment Of Inertia Of The Reducer

Specifications		Node Number	Reduction Ratio	SD064	SD090	SD110	SD140	SD200
Moment Of Inertia J_1	Kg·cm ²	1	4	0.14	-	-	7.54	25.03
			5	0.13	0.47	2.71	7.42	23.29
			7	0.13	0.45	2.62	7.14	22.48
			10	0.13	0.44	2.57	7.03	22.51
		2	20	0.03	-	-	2.71	7.42
			25	0.03	0.13	0.47	2.71	7.42
			35	0.03	0.13	0.47	2.71	7.42
			40	0.03	0.13	0.44	2.57	7.03
			50	0.03	0.13	0.44	2.57	7.03
			70	0.03	0.13	0.44	2.57	7.03
			100	0.03	0.13	0.44	2.57	7.03

1. Gear ratio ($i=N_1/N_{out}$)

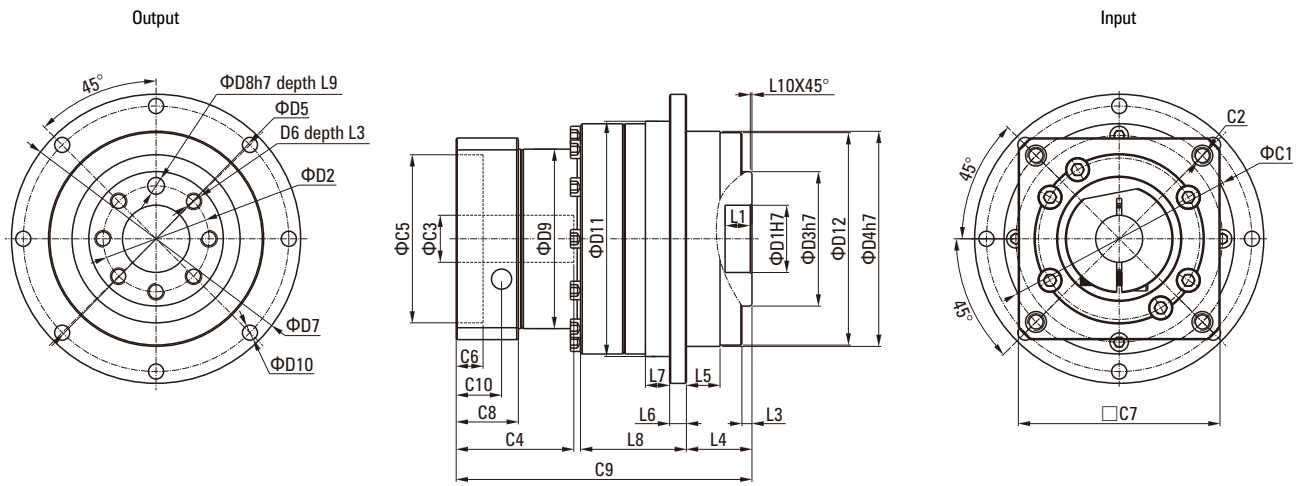
2. Maximum acceleration torque $T_{2B}=60\%$ of T_{2NOT}

3. When the output speed is 100rpm, it will act on the central position of the output shaft.

*Continuous operation, service life is 10000hrs

DIMENSIONS (SINGLE STAGE, REDUCTION RATIO $i=4\sim 10$)

Dimensional Drawing



Dimensional Table

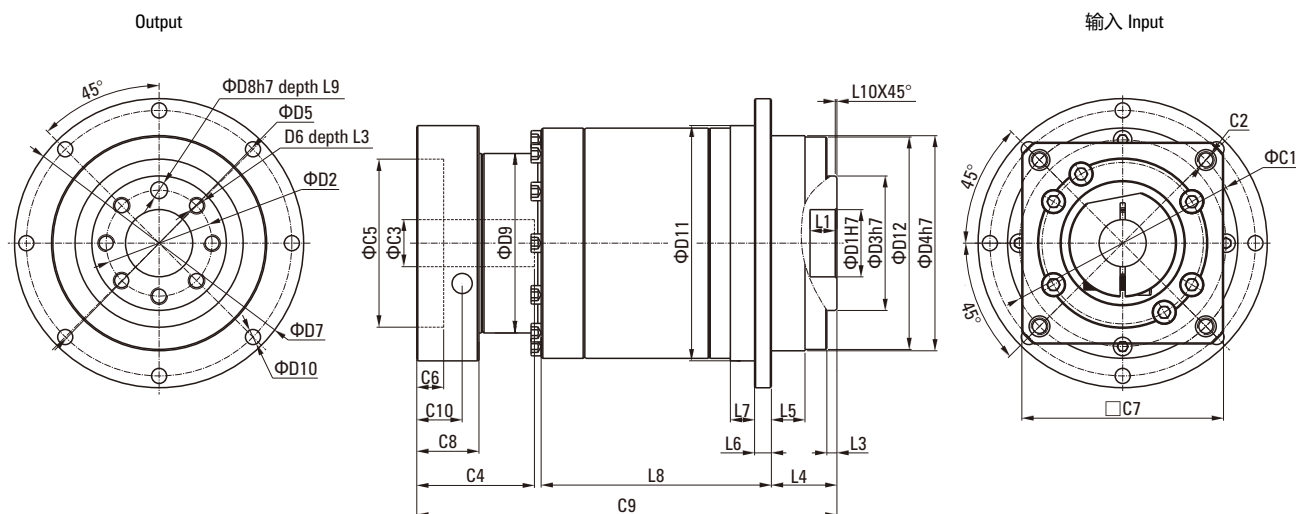
Unit: mm

Size	SD064	SD090	SD110	SD140	SD200
D1 _{h7}	20	31.5	40	50	80
D2	31.5	50	63	80	125
D3 _{h7}	40	63	80	100	160
D4 _{h7}	64	90	110	140	200
D5	79	109	135	168	233
D6	7×M5×0.8P	7×M6×1P	11×M6×1P	11×M8×1.25P	11×M10×1.5P
D7	86	118	145	179	247
D8 _{h7}	5	6	6	8	10
D9	55	77	90	113	138
D10	8×4.5	8×5.5	8×5.5	12×6.6	12×9
D11 _{h7}	70	95	120	152	212
D12	63.2	89.2	109.2	139.2	199.2
L1	8	12	12	12	16
L2	8	13.5	13.5	17	22.5
L3	3	6	6	9	8
L4	19.5	30	29	38	50
L5	7	10	10	14.6	15
L6	4	7	8	10	12
L7	7.7	8	10	12	15
L8	28.5	27	37	62	69.5
L9	6	7	7	7	10
L10	0.5	1	1	1	1
C1 [†]	70	100	130	165	215
C2 [†]	M5×0.8P	M6×1P	M8×1.25P	M10×1.5P	M12×1.75P
C3 [†]	*≤14/≤16	≤19/≤24	≤32	≤38	≤48
C4 [†]	34	40	50	60	85
C5 [†] ₀₆	50	80	110	130	180
C6 [†]	8	4	5	9	6
C7 [†]	60	90	115	142	190
C8 [†]	19	17	19.5	22.5	29
C9 [†]	82.5	99.5	121.5	151	199.5
C10 [†]	13.5	10.75	13	15	20.75
OD	66×2	90×3	110×3	145×3	200×5

*060SD 5,10 Reduction ratio provides C3≤16 to choose from.

DIMENSIONS (TWO STAGE, REDUCTION RATIO $i=20\sim 100$)

Dimensional Drawing



Dimensional Table

Unit: mm

Size	SD064	SD090	SD110	SD140	SD200
D1 _{h7}	20	31.5	40	50	80
D2	31.5	50	63	80	125
D3 _{h7}	40	63	80	100	160
D4 _{h7}	64	90	110	140	200
D5	79	109	135	168	233
D6	7×M5×0.8P	7×M6×1P	11×M6×1P	11×M8×1.25P	11×M10×1.5P
D7	86	118	145	179	247
D8 _{h7}	5	6	6	8	10
D9	45.5	53.4	77	102	125
D10	8×4.5	8×5.5	8×5.5	12×6.6	12×9
D11 _{h7}	70	95	120	152	212
D12	63.2	89.2	109.2	139.2	199.2
L1	8	12	12	12	16
L2	8	13.5	13.5	17	22.5
L3	3	6	6	6	8
L4	19.5	30	29	38	50
L5	7	10	10	14.6	15
L6	4	7	8	10	12
L7	7.7	8	10	12	15
L8	65	60	87.5	110	132.5
L9	6	7	7	7	10
L10	0.5	1	1	1	1
C1 ^s	46	70	100	130	165
C2 ^s	M4×0.7P	M5×0.8P	M6×1P	M8×1.25P	M10×1.5P
C3 ^s	*≤11/≤12	≤14/≤15.875/≤16	≤19/≤24	≤32	≤38
C4 ^s	30	34	40	50	60
C5 ^s _{GS}	30	50	80	110	130
C6 ^s	3.5	8	4	5	6
C7 ^s	48	60	90	115	142
C8 ^s	19.5	19	17	19.5	22.5
C9 ^s	108	134	160	204	248
C10 ^s	13.25	13.5	10.75	13	15
OD	66×2	90×3	110×3	145×3	200×5

*060SD 5,10 Reduction ratio provides C3≤16 to choose from.