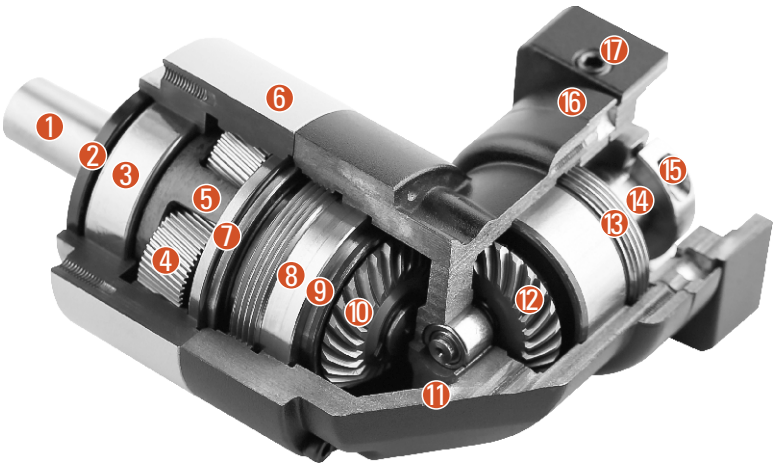
SER SERIES GEARBOX - PRODUCT SPECIFICATIONS

Sectional View



① Output shaft
② Oil seal
③ Output shaft front bearing
④ Planetary gear
⑤ Solar wheel
⑥ Front cover
⑦ Output shaft rear bearing
⑧ Adjusting nut
⑨ Double row angular contact bearing
⑩ Output bevel gear
⑪ Right angle box
⑫ Input bevel gear
⑬ Lock nut
⑭ Input coupling
⑮ Locking device
⑯ Rear cover
⑰ Rear cover gasket

Reducer Performance Data

Specifications		Node Number	Reduction Ratio	070SER	090SER	120SER	155SER
Rated Output Torque T_{2N}	Nm	1	3	36	90	195	342
			4	48	120	260	520
			5	60	150	325	650
			6	55	150	310	600
			7	50	140	300	550
			8	45	120	260	500
			9	40	100	230	450
			10	40	100	230	450
			14	42	140	300	550
			20	40	100	230	450
		2	25	-	150	325	650
			30	-	150	310	600
			35	-	140	300	550
			40	-	120	260	500
			45	-	100	230	450
			50	-	100	230	650
			60	-	150	310	600
			70	-	140	300	550
			80	-	120	260	500
			90	-	100	230	450
			100	-	100	230	450
			120	-	150	310	600
			140	-	140	300	550
			160	-	120	260	550
			180	-	100	230	450
			200	-	100	230	450
Emergency Stop Torque T_{2NOT} [2]	Nm	1,2	3～200	3 Times of Output Rated Torque			
Rated Input Speed n_{1N}	rpm	1,2	3～200	3000	3000	3000	3000
Rated Input Speed n_{1B}	rpm	1,2	3～200	6000	6000	6000	6000
Super Precision Backlash P0	arcmin	1	3～20	-	≤2	≤2	≤2
		2	25～200	-	≤4	≤4	≤4
Precision Backlash P1	arcmin	1	3～20	≤4	≤4	≤4	≤4
		2	25～200	-	≤7	≤7	≤7
Standard Backlash P2	arcmin	1	3～20	≤6	≤6	≤6	≤6
		2	25～200	-	≤9	≤9	≤9
Torsional Stiffness	Nm/arcmin	1,2	3～200	7	14	25	50
Allowable Radial Force F_{2rB} [3]	N	1,2	3～200	1530	3250	6700	9400
Allowable Axial Force F_{2aB} [3]	N	1,2	3～200	765	1625	3350	4700
Service Life	hr	1,2	3～200	20000*			
Efficiency η	%	1	3～20	≥97%			
		2	25～200	≥94%			
Weight	Kg	1	3～20	2.1	6.4	13	24.5
		2	25～200	-	7.8	14.2	27.5
Operating Temperature	℃	1,2	3～200	-10℃～+90℃			
Lubrication		1,2	3～200	Synthetic Lubricating Grease			
Protection Class		1,2	3～200	IP65			
Mounting Position		1,2	3～200	Any Direction			
Noise Level at 1m Distance (n_1=3000rpm, No Load)	dB(A)	1,2	3～200	≤63	≤65	≤68	≤70

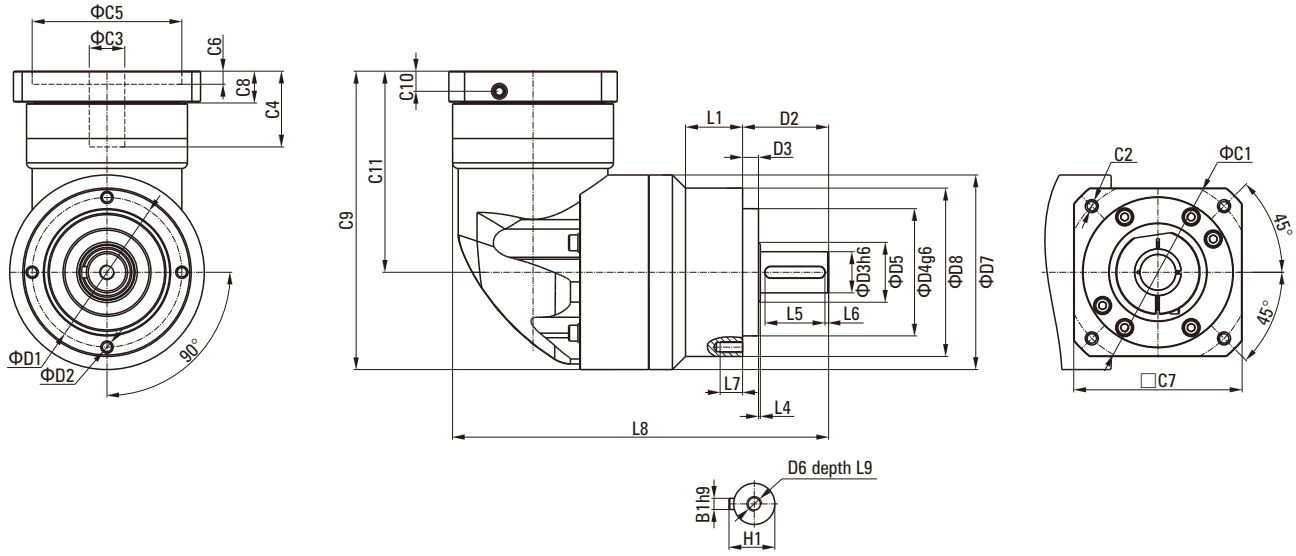
Moment Of Inertia Of The Reducer

Specifications		Node Number	Reduction Ratio	060SBR	090SBR	115SBR	142SBR
Moment Of Inertia J_1	Kg·cm^2	1	3～10	0.35	2.25	6.84	23.4
			14	0.07	1.87	6.25	21.8
			20	0.07	1.87	6.25	21.8
		2	25～100	0.09	0.35	2.25	6.84
			120～200	-	0.31	1.87	6.25

1.Gear ratio($i=N_{in}/N_{out}$) 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=3～20)

Dimensional Drawing



Dimensional Table

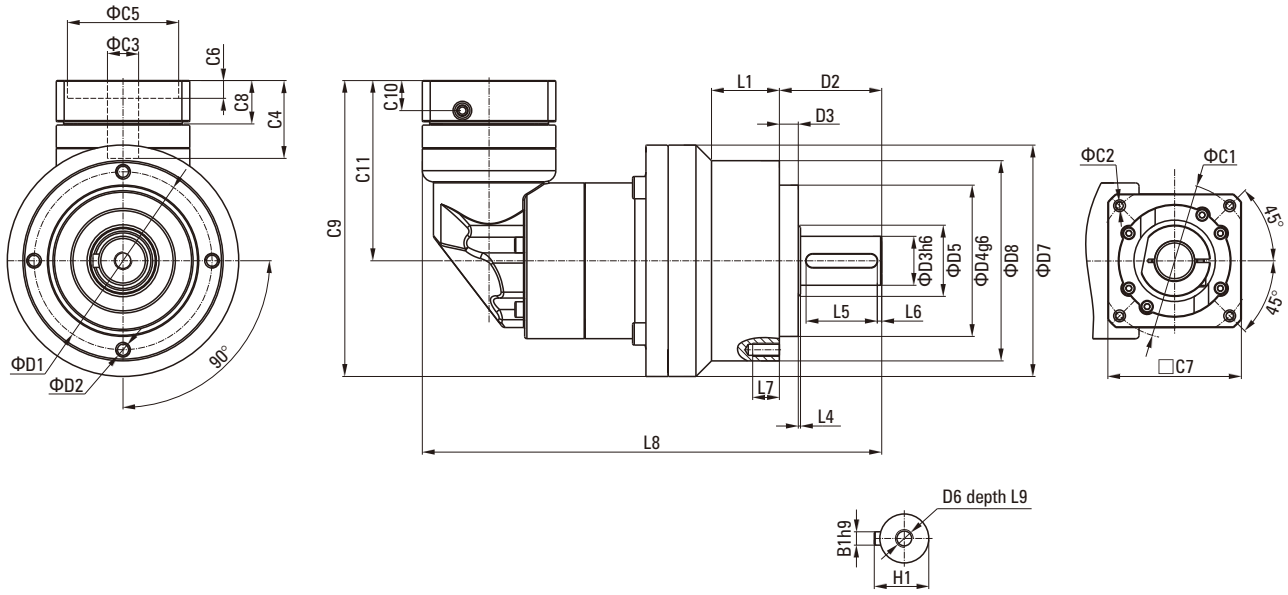
Unit: mm

Size	070SER	090SER	120SER	155SER
D1	62	80	108	140
D2	M5×0.8P	M6×1P	M8×1.25P	M10×1.5P
D3 $_{h6}$	16	22	32	40
D4 $_{g6}$	52	68	90	120
D5	22	30	40	75
D6	M5×0.8P	M8×1.25P	M12×1.75P	M16×2P
D7	70	104	130	162
D8	70	90	120	155
L1	-	33.5	38	50
L2	36	46	70	97
L3	6.5	8.5	17.5	15
L4	1	1	1.5	3
L5	25	32	40	63
L6	2	3	5	5
L7	10	12	16	20
L8	146	201	252	324.5
L9	12.5	19	28	36
C1	70	100	130	165
C2	M5×0.8P	M6×1P	M8×1.25P	M10×1.5P
C3	≤14/≤16	≤19/≤24	≤32	≤38
C4	34	40	50	60
C5	50	80	110	130
C6	8	4	5	6
C7	60	90	115	142
C8	19	17	19.5	22.5
C9	116.5	159.5	199	254.5
C10	13.5	10.75	13	15
C11	81.5	107.5	134	164.5
B1 $_{h9}$	5	6	10	12
H1	18	24.5	35	43

*070SBR 5,10 Reduction ratio provides C3≤16 to choose from.

DIMENSIONS (TWO STAGE, REDUCTION RATIO i=25~200)

Dimensional Drawing



Dimensional Table

Unit: mm

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D3 h6	16	22	32	40
D4 g6	52	68	90	120
D5	22	30	40	75
D6	M5×0.8P	M8×1.25P	M12×1.75P	M16×2P
D7	70	104	130	162
D8	70	90	120	155
L1	-	33.5	38	50
L2	36	46	70	97
L3	6.5	8.5	17.5	15
L4	1	1	1.5	3
L5	25	32	40	63
L6	2	3	5	5
L7	10	12	16	20
L8	167.5	207.5	283	358
L9	12.5	19	28	36
C1	46	70	100	130
C2	M4×0.7P	M5×0.8P	M6×1P	M8×1.25P
C3	≤11/≤12	≤14/≤16	≤19/≤24	≤32
C4	30	34	40	50
C5	30	50	80	110
C6	3.5	8	4	5
C7	48	60	90	115
C8	19.5	19	17	19.5
C9	109	133.5	172.5	215
C10	13.5	10.75	13	15
C11	81.5	107.5	134	164.5
B1 h9	5	6	10	12
H1	18	24.5	35	43

*070SBR 5,10 Reduction ratio provides C3≤16 to choose from.