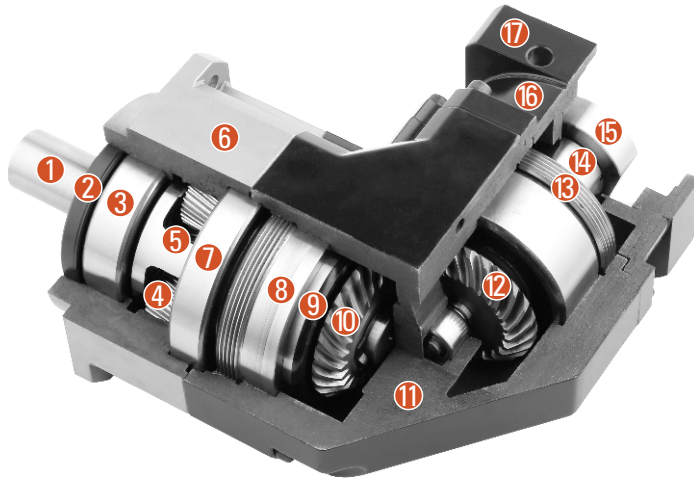


SBR SERIES GEARBOX - PRODUCT SPECIFICATIONS

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	060SBR	090SBR	115SBR	142SBR	180SBR	220SBR
Rated Output Torque T_{2N}	Nm	1	3	36	90	195	342	588	1140
			4	48	120	260	520	1040	1680
			5	60	150	325	650	1200	2000
			6	55	150	310	600	1100	1900
			7	50	140	300	550	1100	1800
			8	45	120	260	500	1000	1600
			9	40	100	230	450	900	1500
			10	40	100	230	450	900	1500
			14	42	140	300	550	1100	1800
			20	40	100	230	450	900	1500
		25	-	150	325	650	1200	2000	
		30	-	150	310	600	1100	1900	
		35	-	140	300	550	1100	1800	
		40	-	120	260	500	1000	1600	
		45	-	100	230	450	900	1500	
		50	-	100	230	650	1200	2000	
		60	-	150	310	600	1100	1900	
		70	-	140	300	550	1100	1800	
		80	-	120	260	500	1000	1600	
		90	-	100	230	450	900	1500	
100	-	100	230	450	900	1500			
120	-	150	310	600	1100	1900			
140	-	140	300	550	1100	1800			
160	-	120	260	550	1000	1600			
180	-	100	230	450	900	1500			
200	-	100	230	450	900	1500			
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	3000	2000
Rated Input Speed n_{1B}	rpm	1,2	3~200	6000	6000	6000	6000	6000	4000
Super Precision Backlash P0	arcmin	1	3~20	-	≤2	≤2	≤2	≤2	≤2
		2	25~200	-	≤4	≤4	≤4	≤4	≤4
Precision Backlash P1	arcmin	1	3~20	≤4	≤4	≤4	≤4	≤4	≤4
		2	25~200	-	≤7	≤7	≤7	≤7	≤7
Standard Backlash P2	arcmin	1	3~20	≤6	≤6	≤6	≤6	≤6	≤6
		2	25~200	-	≤9	≤9	≤9	≤9	≤9
Torsional Stiffness	Nm/arcmin	1,2	3~200	7	14	25	50	145	145
Allowable Radial Force F_{zR}^3	N	1,2	3~200	1530	3250	6700	9400	14500	50000
Allowable Axial Force F_{zAB}^3	N	1,2	3~200	765	1625	3350	4700	7250	25000
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	51	51
		2	25~200	-	7.8	14.2	27.5	54	95
Operating Temperature	°C	1,2	3~200	-10°C ~ +90°C					
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 ($n_1=3000$ rpm, No Load)	dB(A)	1,2	3~200	≤63	≤65	≤68	≤70	≤72	≤72

Moment Of Inertia Of The Reducer

Specifications		Node Number	Reduction Ratio	060SBR	090SBR	115SBR	142SBR	180SBR	220SBR
Moment Of Inertia J_r	Kg·cm ²	1	3~10	0.35	2.25	6.84	23.4	68.9	68.9
			14	0.07	1.87	6.25	21.8	65.6	65.6
			20	0.07	1.87	6.25	21.8	65.6	65.6
		2	25~100	-	0.35	6.25	21.8	65.6	65.6
			120~200	-	0.31	6.25	21.8	65.6	65.6

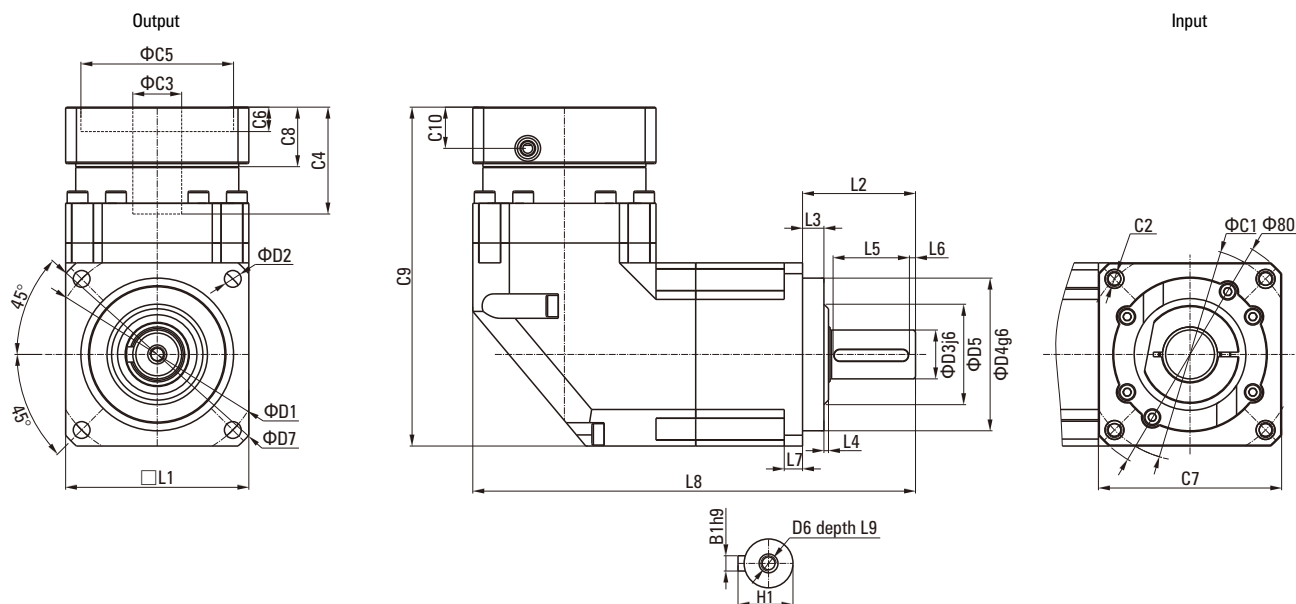
1. Gear ratio ($i = N_{in}/N_{out}$)2. Maximum acceleration torque $T_{25} = 60\%$ of T_{2NOT}

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 $i = 3 \sim 20$)

Dimensional Drawing



Dimensional Table

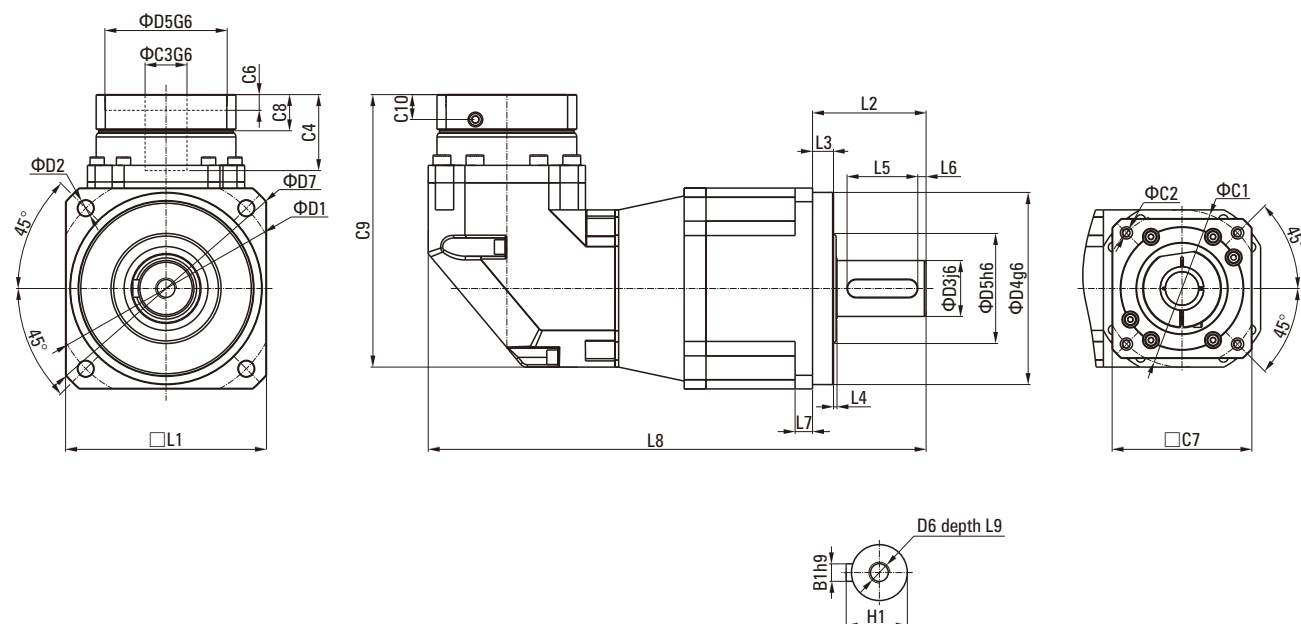
Unit: mm

Size	060SBR	090SBR	115SBR	142SBR	180SBR
D1	70	100	130	165	215
D2	5.5	6.6	9	11	13
D3 _{HS}	16	22	32	40	55
D4 _{FS}	50	80	110	130	160
D5	45	65	95	75	95
D6	M5×0.8P	M8×1.25P	M12×1.75P	M16×2P	M20×2.5P
D7	80	116	152	185	240
L1	60	90	115	142	180
L2	37	48	65	97	105
L3	7	10	12	15	20
L4	1.5	1.5	2	3	3
L5	25	32	40	63	70
L6	2	3	5	5	6
L7	6	8	10	12	15
L8	145	203	259	333	394
L9	12.5	19	28	36	42
C1 ⁴	70	100	130	165	215
C2 ⁴	M5×0.8P	M6×1P	M8×1.25P	M10×1.5P	M12×1.75P
C3 ⁴	*≤14/≤16	≤19/≤24	≤32	≤38	≤48
C4 ⁴	30	40	50	60	85
C5 ⁴ _{FS}	50	80	110	130	180
C6 ⁴	8	4	5	6	6
C7 ⁴	60	90	115	142	190
C8 ⁴	19	17	19.5	22.5	29
C9 ⁴	111.5	152.5	191.5	235.5	303.5
C10 ⁴	13.5	10.75	13	15	20.75
B1 _{HS}	5	6	10	12	16
H1	18	24.5	35	43	59

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

DIMENSIONS (TWO STAGE, REDUCTION RATIO $i=25\sim 200$)

Dimensional Drawing



Dimensional Table

Unit: mm

Size	060(A)SBR	090SBR	115SBR	142SBR	180SBR	180SBR
D1	70	100	130	165	215	250
D2	5.5	6.6	9	11	13	17
D3 ^{h6}	16	22	32	40	55	75
D4 ^{g6}	50	80	110	130	160	180
D5	45	65	95	75	95	115
D6	M5×0.8P	M8×1.25P	M12×1.75P	M16×2P	M20×2.5P	M20×2.5P
D7	80	116	152	185	240	292
L1	60	90	115	142	180	220
L2	37	48	65	97	105	138
L3	7	10	12	15	20	30
L4	1.5	1.5	2	3	3	3
L5	25	32	40	63	70	90
L6	2	3	5	5	6	7
L7	6	8	10	12	15	20
L8	170	206.5	285	365	394	521
L9	12.5	19	28	36	42	42
C1	70	70	100	130	165	215
C2	M5×0.8P	M5×0.8P	M6×1P	M8×1.25P	M10×1.5P	M12×1.75P
C3 ^{g6}	≤14/≤16	≤14/≤16	≤19/≤24	≤32	≤38	≤48
C4	34	34	40	50	60	85
C5 ^{g6}	50	50	80	110	130	180
C6	8	8	4	5	6	6
C7	60	60	90	115	142	190
C8	19	19	17	19.5	22.5	29
C9	111	126.5	165	205	254.5	323.5
C10	13.5	13.5	10.75	13	15	20.75
B1 ^{h8}	5	6	10	12	16	20
H1	18	24.5	35	43	59	79.5

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