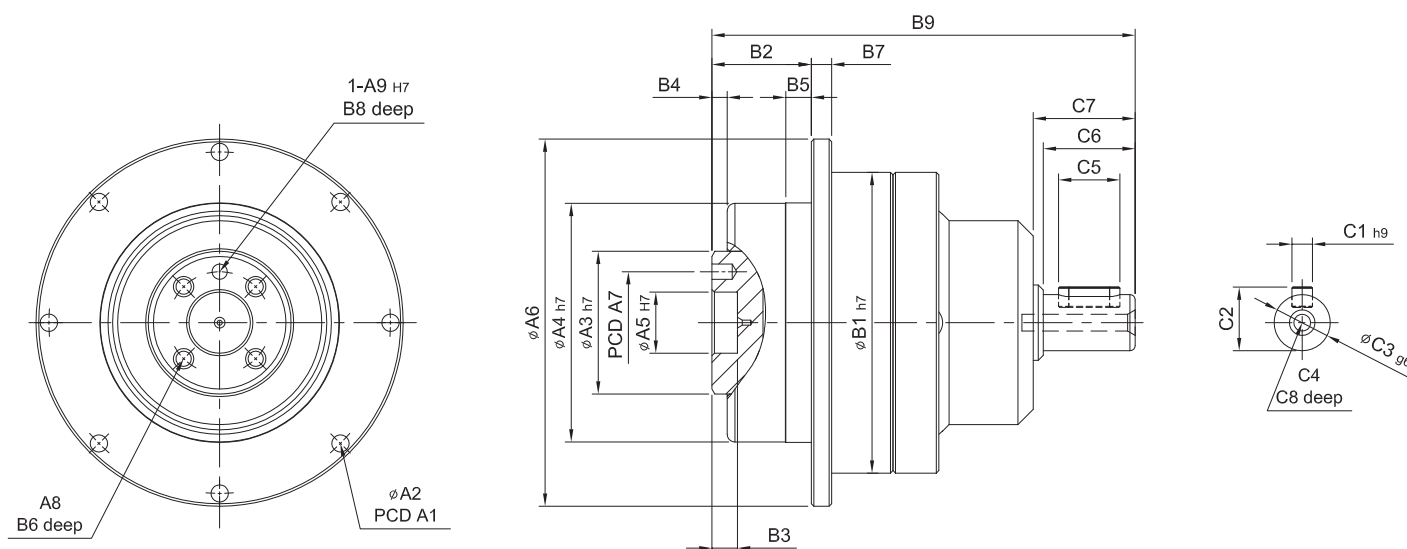
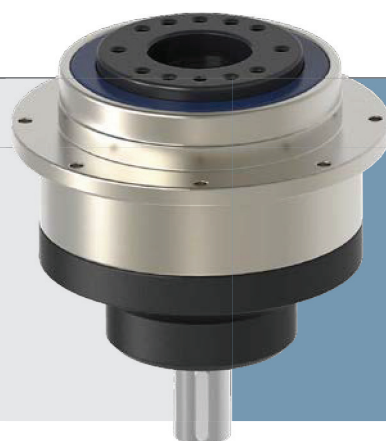


SERVOBX Planetary Reducers

SDD Series

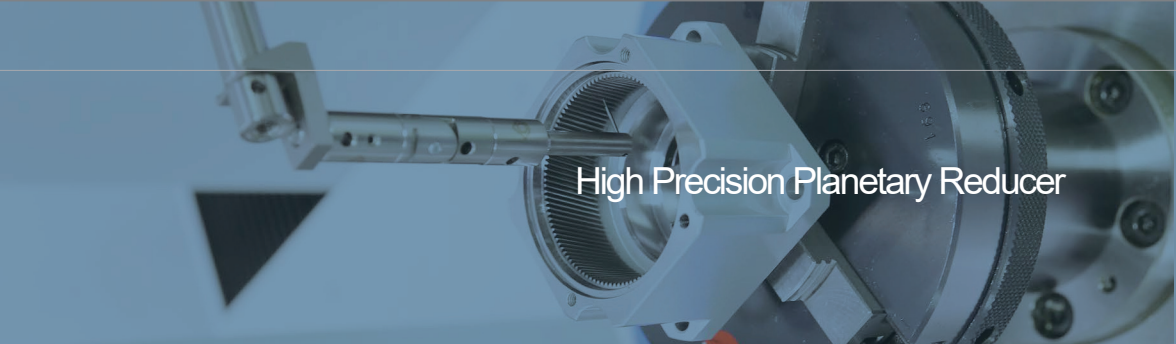
1-Stage

RATIO : 4, 5, 7, 10



unit: mm

Model Code	47	64	90	110	140	200	255
A1	67	79	109	135	168	233	280
A2	8-3.4	8-4.5	8-5.5	8-5.5	12-6.6	12-9.0	16-13.5
A3	28	40	63	80	100	160	180
A4	47	64	90	110	140	200	255
A5	12	20	31.5	40	50	80	100
A6	72	86	118	146	179	248	300
A7	20	31.5	50	63	80	125	140
A8	4 - M3 x P0.5	7 - M5 x P0.8	7 - M6 x P1.0	11 - M6 x P1.0	11 - M8 x P1.25	11 - M10 x P1.5	12 - M16 x 2.0
A9	3	5	6	6	8	10	12
B1	59	70	98	125	156	212	255
B2	19.5	19.5	30	29	38	50	66
B3	5	7	12	12	12	16	20
B4	1.5	4	6	6	6	8	12
B5	5	6	10	10	15	15	20
B6	6.5	8	12	12	16	22	32
B7	4	5	7	8	10	12	18
B8	4	6	6	7	7	10	10
B9	83	99	134	160	195	252	322.5
C1	4	5	5	6	10	12	16
C2	12.5	16	18	24.5	35	43	59
C3	11	14	16	22	32	40	55
C4	M4 x P0.7	M5 x P0.8	M6 x P1.0	M8 x P1.25	M12 x P1.75	M14 x P2.0	M16 x P2.0
C5	12	20	20	30	40	50	75
C6	18	24	28	36	50	60	85
C7	20	26.3	31.5	40	54	65	90
C8	8	10	12	16	24	28	32



High Precision Planetary Reducer

SDD 1-Stage

■ Performance

Parameter \ Model No.	Sym	Unit	Ratio	47	64	90	110	140	200	255
Rated Output Torque (Nominal output torque)	T_{2N}	Nm	4	22	60	160	335	650	1,200	2,020
			5	20	50	155	333	618	1,189	2,010
			7	19	47	142	309	573	1,108	1,870
			10	16	43	136	294	549	1,059	1,779
Max. Acceleration Torque	T_{2B}	Nm	4 ~ 10	1.8 Times of Rated Output Torque						
Max. Output Torque Emergency Stop Torque	T_{2NOT}	Nm	4 ~ 10	3 Times of Rated Output Torque						
Rated Input Speed	n_{1N}	rpm	4 ~ 10	3,000	3,000	3,000	3,000	3,000	3,000	2,000
Max. Input Speed	n_{1B}	rpm	4 ~ 10	6,000	6,000	6,000	6,000	5,000	4,000	3,000
Backlash Ps		arcmin	4 ~ 10	-	-	≤ 1	≤ 1	≤ 1	≤ 1	≤ 1
Backlash P0		arcmin	4 ~ 10	≤ 3	≤ 3	≤ 3	≤ 3	≤ 3	≤ 3	≤ 3
Backlash P1		arcmin	4 ~ 10	≤ 5	≤ 5	≤ 5	≤ 5	≤ 5	≤ 5	≤ 5
Backlash P2		arcmin	4 ~ 10	≤ 7	≤ 7	≤ 7	≤ 7	≤ 7	≤ 7	≤ 7
Torsional Rigidity		Nm/arcmin	4 ~ 10	6	14	30	86	155	450	1,126
Max. Radial Force Ball Bearing	F_{2rB}	N	4 ~ 10	2,040	2,520	8,460	12,720	14,070	35,200	39,600
Max. Axial Force Ball Bearing	F_{2aB}	N	4 ~ 10	1,020	1,260	4,230	6,360	7,035	17,600	19,800
Max. Radial Force Taper Bearing	F_{2rB}	N	4 ~ 10	-	-	14,660	23,000	37,200	73,600	107,200
Max. Axial Force Taper Bearing	F_{2aB}	N	4 ~ 10	-	-	7,330	11,500	18,600	36,800	53,600
Service Life	L_H	hr	4 ~ 10	S5 Cycle Operation: >30,000 (S1 Continuous Operation: >15,000 hrs)						
Efficiency	η	%	4 ~ 10	≥ 97						
Operating Temperature		°C	4 ~ 10	- 25° C ~ + 90° C						
Lubrication			4 ~ 10	Synthetic Grease						
Protection Class			4 ~ 10	IP65						
Mounting Position			4 ~ 10	Any						
Noise Level		dB	4 ~ 10	≤ 56	≤ 58	≤ 60	≤ 63	≤ 65	≤ 67	≤ 70
Weight $\pm 3\%$		Kg	4 ~ 10	0.71	1.3	3.6	6.2	12	32	53

■ Mass Moments of Inertia (kg.cm²)

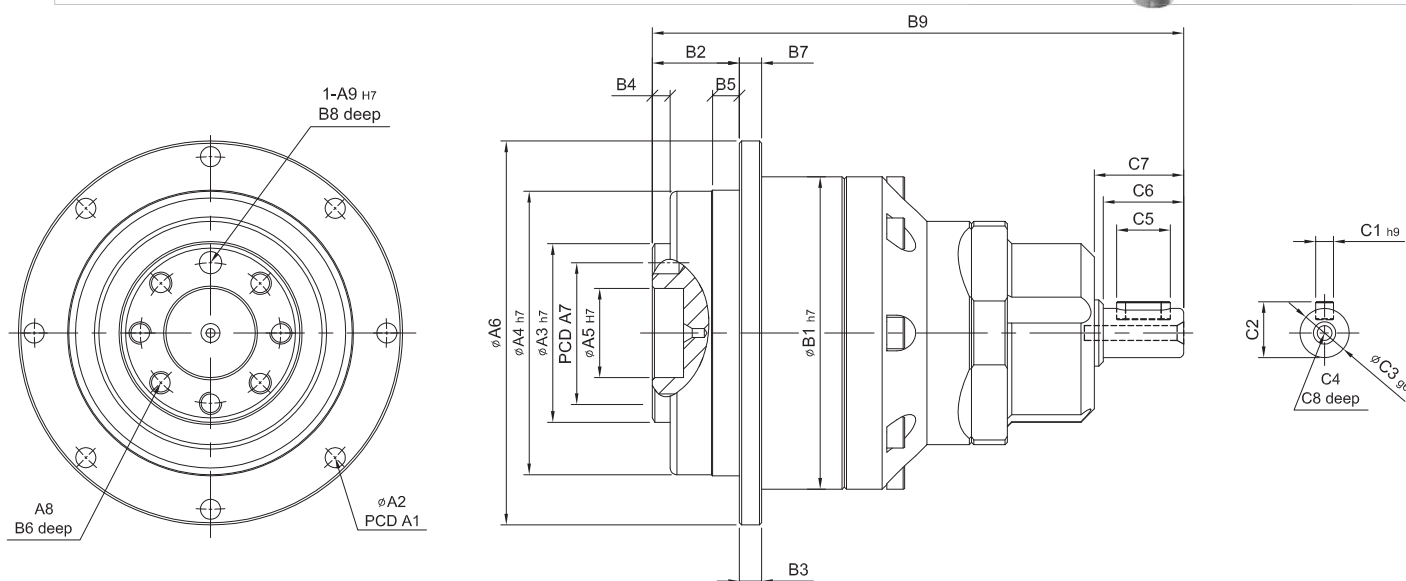
Ratio	47	64	90	110	140	200	255
4	0.03	0.13	0.47	2.75	7.46	24.00	55
5	0.03	0.12	0.45	2.70	7.41	23.23	53.19
7	0.03	0.12	0.45	2.64	7.12	22.11	50.78
10	0.03	0.12	0.43	2.56	7.01	22.21	50.50

SERVOBX Planetary Reducers

SDD Series

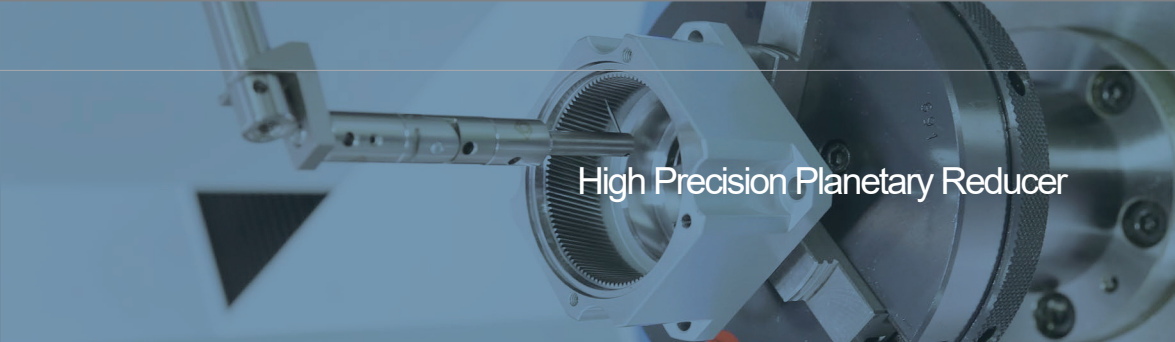
2-Stage

RATIO : 20, 25, 35, 40, 50, 70, 100



unit: mm

Model Code	47	64	90	110	140	200	255
A1	67	79	109	135	168	233	280
A2	8-3.4	8-4.5	8-5.5	8-5.5	12-6.6	12-9.0	16-13.5
A3	28	40	63	80	100	160	180
A4	47	64	90	110	140	200	255
A5	12	20	31.5	40	50	80	100
A6	72	86	118	146	179	248	300
A7	20	31.5	50	63	80	125	140
A8	4 - M3 x P0.5	7 - M5 x P0.8	7 - M6 x P1.0	11 - M6 x P1.0	11 - M8 x P1.25	11 - M10 x P1.5	12 - M16 x P2.0
A9	3	5	6	6	8	10	12
B1	59	70	98	125	156	212	255
B2	19.5	19.5	30	29	38	50	66
B3	5	7	12	12	12	16	20
B4	1.5	4	6	6	6	8	12
B5	5	6	10	10	15	15	20
B6	6.5	8	12	12	16	22	32
B7	4	5	7	8	10	12	18
B8	4	6	6	7	7	10	10
B9	109	119	159	190	231.5	299	350.5
C1	4	4	5	5	6	10	12
C2	12.5	12.5	16	18	24.5	35	43
C3	11	11	14	16	22	32	40
C4	M4 x P0.7	M4 x P0.7	M5 x P0.8	M6 x P1.0	M8 x P1.25	M12 x P1.75	M14 x P2.0
C5	12	12	20	20	30	40	50
C6	18	18	24	28	36	50	60
C7	20	20	26	31.5	40	54	65
C8	8	8	10	12	16	24	28



High Precision Planetary Reducer

SDD 2-Stage

■ Performance

Parameter \ Model No.	Sym	Unit	Ratio	47	64	90	110	140	200	255
Rated Output Torque (Nominal output torque)	T_{2N}	Nm	20	22	60	160	335	650	1,200	2,020
			25	20	50	155	333	618	1,189	2,010
			35	19	47	142	309	573	1,108	1,870
			40	22	60	160	335	650	1,200	2,020
			50	20	50	155	333	618	1,189	2,010
			70	19	47	142	309	573	1,108	1,870
			100	16	43	136	294	549	1,059	1,779
Max. Acceleration Torque	T_{2B}	Nm	20 ~ 100	1.8 Times of Rated Output Torque						
Max. Output Torque Emergency Stop Torque	T_{2NOT}	Nm	20 ~ 100	3 Times of Rated Output Torque						
Rated Input Speed	n_{1N}	rpm	20 ~ 100	3,000	3,000	3,000	3,000	3,000	3,000	2,000
Max. Input Speed	n_{1B}	rpm	20 ~ 100	6,000	6,000	6,000	6,000	5,000	4,000	3,000
Backlash Ps		arcmin	20 ~ 100	-	-	-	≤ 3	≤ 3	≤ 3	≤ 3
Backlash P0		arcmin	20 ~ 100	≤ 5	≤ 5	≤ 5	≤ 5	≤ 5	≤ 5	≤ 5
Backlash P1		arcmin	20 ~ 100	≤ 7	≤ 7	≤ 7	≤ 7	≤ 7	≤ 7	≤ 7
Backlash P2		arcmin	20 ~ 100	≤ 9	≤ 9	≤ 9	≤ 9	≤ 9	≤ 9	≤ 9
Torsional Rigidity		Nm/arcmin	20 ~ 100	6	14	30	86	155	450	1,126
Max. Radial Force Ball Bearing	F_{2rB}	N	4 ~ 10	2,040	2,520	8,460	12,720	14,070	35,200	39,600
Max. Axial Force Ball Bearing	F_{2aB}	N	4 ~ 10	1,020	1,260	4,230	6,360	7,035	17,600	19,800
Max. Radial Force Taper Bearing	F_{2rB}	N	4 ~ 10	-	-	14,660	23,000	37,200	73,600	107,200
Max. Axial Force Taper Bearing	F_{2aB}	N	4 ~ 10	-	-	7,330	11,500	18,600	36,800	53,600
Service Life	L_H	hr	20 ~ 100	S5 Cycle Operation: >30,000 (S1 Continuous Operation: >15,000 hrs)						
Efficiency	η	%	20 ~ 100	≥ 94						
Operating Temperature		°C	20 ~ 100	- 25° C ~ + 90° C						
Lubrication			20 ~ 100	Synthetic Grease						
Protection Class			20 ~ 100	IP65						
Mounting Position			20 ~ 100	Any						
Noise Level		dB	20 ~ 100	≤ 56	≤ 58	≤ 60	≤ 63	≤ 65	≤ 67	≤ 70
Weight ±3%		Kg	20 ~ 100	1.15	1.7	4.25	8.5	14.95	37.2	69

■ Mass Moments of Inertia (kg.cm²)

Ratio	47	64	90	110	140	200	255
20	0.03	0.03	0.15	0.45	2.7	7.22	23.22
25	0.03	0.03	0.15	0.45	2.7	7.22	23.22
35	0.03	0.03	0.15	0.45	2.7	7.22	23.22
40	0.03	0.03	0.15	0.45	2.7	7.22	23.22
50	0.03	0.03	0.14	0.4	2.6	7.05	23.07
70	0.03	0.03	0.14	0.4	2.6	7.05	23.07
100	0.03	0.03	0.14	0.4	2.6	7.01	22.67