



SSS Series

Square output flange
Straight type gearbox, Standard / Premium



SAS Series

Square output flange
Right-angle type gearbox, Standard / Premium

- Best-in-class backlash
- High output torque
- Low noise level
- High efficiency
- Maintenance free
- Balanced motor pinion
- Gear ratios available from 3:1 up to 200:1
- No need to replace lubrication to expand the lifespan

		SSS					
Stage	Gear ratio	045	060	090	115	142	180
1A	3~10	○	○	○	○	○	○
2B	15~100	⊗	○	○	○	○	○
2A	15~100	○	○	○	○	○	○
1M/2M	3~100	⊗	⊗	⊗	⊗	⊗	⊗

		SAS				
Stage	Gear ratio	045	060	090	115	142
1A	3~10	○	○	○	○	-
	14, 20	⊗	○	○	○	-
2B	15, 20	⊗	⊗	⊗	⊗	-
	25~100	⊗	○	○	○	-
	120~200	⊗	⊗	○	○	-
2A	15, 20	○	⊗	⊗	⊗	-
	25~100	○	○	○	○	-
	120~200	⊗	○	○	○	-
1M/2M	3~200	⊗	⊗	⊗	⊗	-

○ : Standard, △ : Custom made, ⊗ : Contact sales person.

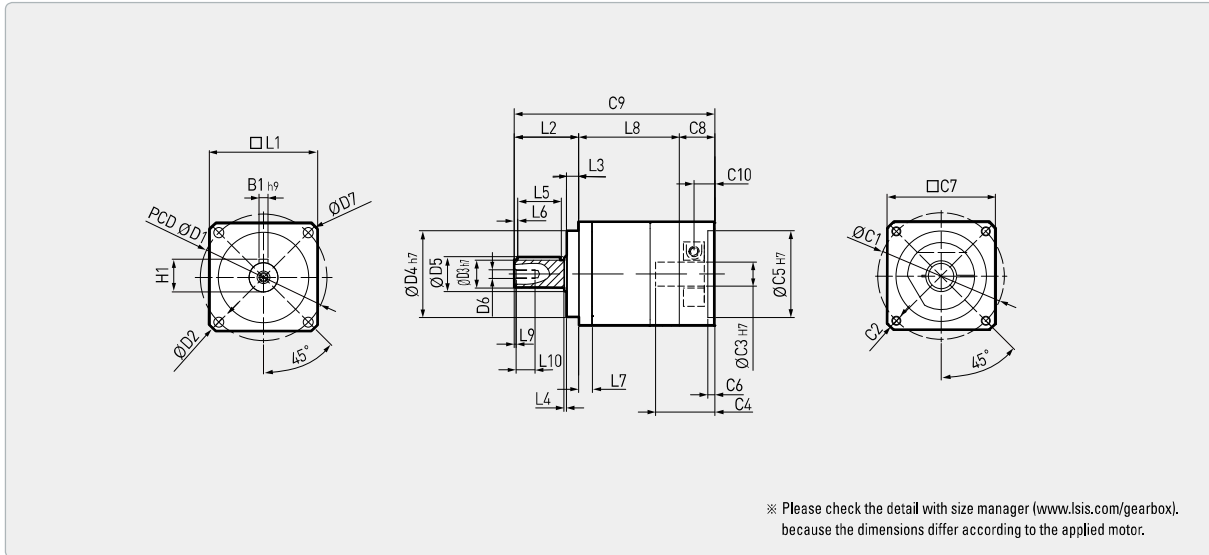


Division	Stage	Gear ratio	045	060	090	115	142	180	
Nominal Output Torque (Nm)	1	3	★	55	138	255	448	828	
		4	17	49	134	280	517	995	
		5	18	53	146	304	580	1,125	
		7	16	46	132	279	512	1,038	
		9	13	40	110	229	431	888	
		10	13	40	108	238	451	915	
	2	15	19	55	138	255	448	828	
		20	17	49	134	20	517	995	
		25	18	53	146	304	580	1,125	
		30	★	48	138	281	533	1,043	
		35	16	46	132	279	512	1,038	
		40	17	49	134	280	517	995	
		45	13	40	108	234	446	921	
		50	18	53	146	304	580	1,125	
		63	17	48	138	281	533	1,043	
		70	16	46	132	284	512	1,038	
		81	13	40	110	229	431	888	
		90	13	40	110	229	431	888	
		100	13	40	108	238	451	915	
		Emergency Stop Torque (Nm)	1,2	3-100	3 times nominal output torque				
Nominal Input Speed (rpm)	1,2	3-100	5,000	5,000	4,000	4,000	3,000	3,000	
Max. Input Speed (rpm)	1,2	3-100	10,000	10,000	8,000	8,000	6,000	6,000	
Torsional Rigidity (Nm/Arcmin)	1,2	3-100	3	6	12	22	50	140	
Max. Radial Load (N)	1,2	3-100	700	1,200	3,200	6,800	9,300	15,100	
Max. Axial Load (N)	1,2	3-100	360	650	1,600	3,400	4,500	7,500	
Backlash (Arcmin)	S	1	3-10	≤ 8	≤ 8	≤ 8	≤ 8	≤ 8	≤ 8
		2	15-100	≤ 10	≤ 10	≤ 10	≤ 10	≤ 10	≤ 10
	P	1	3-10	≤ 5	≤ 5	≤ 5	≤ 5	≤ 5	≤ 5
		2	15-100	≤ 7	≤ 7	≤ 7	≤ 7	≤ 7	≤ 7
Service Life (Hrs)	1,2	3-100	20,000 (10,000 under continuous operation)						
Efficiency (%)	1	3-10	≥ 97						
	2	15-100	≥ 94						
Weight (kg)	1A	3-10	≤ 0.6	≤ 1.3	≤ 3.8	≤ 7.6	≤ 15.0	≤ 26.0	
	2A	15-100	≤ 0.8	≤ 1.8	≤ 5.0	≤ 10.3	≤ 19.6	≤ 30.0	
	2B	15-100	-	≤ 1.6	≤ 4.7	≤ 9.6	≤ 18.0	≤ 30.0	
Operating Temp (°C)	1,2	3-100	-10 ~ 90						
Lubrication	1,2	3-100	Grease (VIGO Grease RE #0)						
Degree of Gearbox Protection	1,2	3-100	IP65						
Noise (dB)	1,2	3-100	≤ 55.0	≤ 57.0	≤ 59.0	≤ 62.0	≤ 64.0	≤ 66.0	
Inertia (kgcm²)	1A	3	0.03	0.17	0.64	3.12	9.23	29.98	
		4	0.03	0.15	0.51	2.84	7.66	24.78	
		5	0.03	0.13	0.48	2.81	7.52	24.29	
		7	0.03	0.13	0.45	2.69	7.16	23.48	
		9	0.03	0.13	0.44	2.59	7.05	23.63	
		10	0.03	0.13	0.44	2.59	7.05	23.51	
	2B	15-45	-	0.03	0.13	0.48	2.81	7.52	
		50-100	-	0.03	0.13	0.44	2.69	7.05	
	2A	15-45	0.03	0.13	0.48	2.81	7.52	25.63	
		50-100	0.03	0.13	0.44	2.69	7.05	23.57	

Please contact LSIS sales person for ★ gear ratio. (1) Considering safety factors, nominal output torque is calculated. (2) Max. output torque is equivalent to 60% of the emergency stop torque.

Single Stage

Drawing of Planetary Gearbox



Dimension	SSS0451A	SSS0601A	SSS0901A	SSS1151A	SSS1421A	SSS1801A
D1	50	70	100	130	165	215
D2	3.5	5.5	6.8	8.7	11	13
D3 h7	13	16	22	32	40	55
D4 h7	35	50	80	110	130	160
D5	15	20	30	39.5	60	75
D6	M4 X 0.7P	M5 X 0.8P	M8 X 1.25P	M12 X 1.75P	M16 X 2.0P	M20 X 2.5P
D7	58	80	116	152	185	240
L1	45	60	90	115	142	180
L2	26.5	37	48	64	97	105
L3	5.5	7	10	12	15	20
L4	1	1.5	1.5	2	3	3
L5	15	25	32	40	65	70
L6	2	2	3	5	5	6
L7	6.5	8	11	12	19	18
* L8	45.5	58	78.9	96.5	116.5	139
L9	1.5	1.5	1.5	2	2	2
L10	9.5	10.5	13.5	18	34	42
* C1	46	70	90	145	200	200
* C2	M4 X 0.7P	M5 X 0.8P	M6 X 1.0P	M8 X 1.25P	M12 X 1.75P	M12 X 1.75P
* C3 h7	8	14	19	24	35	42
* C4	26.5	34	43.1	62	82	86
* C5 h7	30	50	70	110	114.3	114.3
* C6	4	4	6	7	7	7
* C7	45	60	90	132	180	180
* C8	17	20.5	23.5	42	47	47
* C9	89	115.5	150.4	202.5	260.5	291
* C10	10	12	13.4	28	29.5	28.5
B1 h9	5	5	6	10	12	16
H1	15	18	24.5	35	43	59

(1) C1-C10 is dimension for input shaft parts. Dimensions differ by motor types and makers. Find CAD file for exact dimensions of gearbox in www.lsis.com/gearbox.

(2) In XX_{yy}, yy means fit tolerance (KS B 0401).

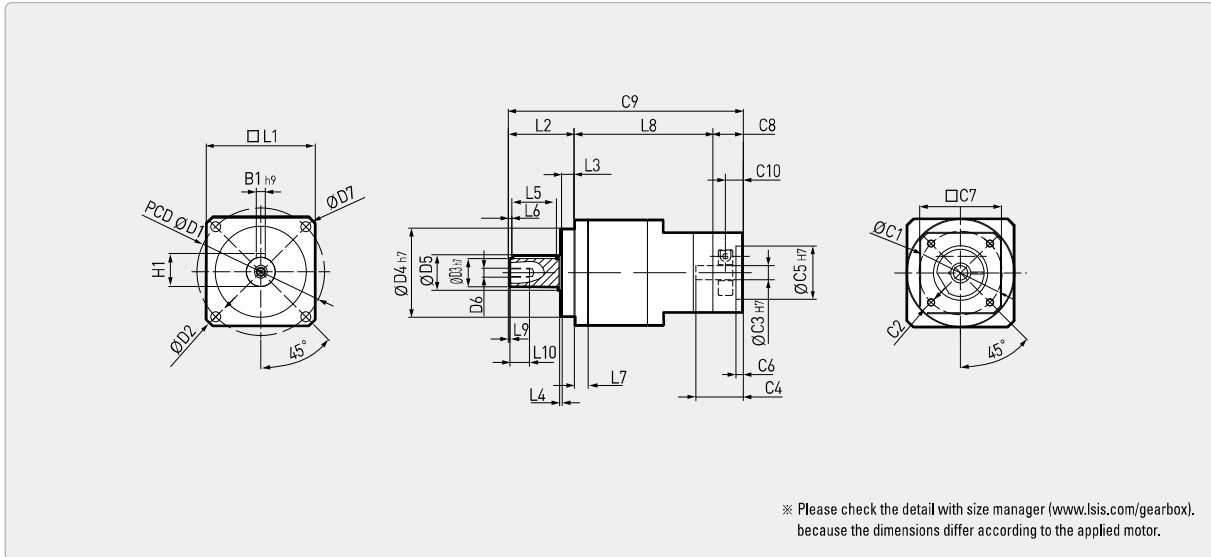
(3) () is M Type-made to order.



SSS Series

Double Stage B Type

Drawing of Planetary Gearbox



Dimension	SSS0602B	SSS0902B	SSS1152B	SSS1422B	SSS1802B
D1	70	100	130	165	215
D2	5.5	6.8	8.7	11	13
D3 h7	16	22	32	40	55
D4 h7	50	80	110	130	160
D5	20	30	39.5	60	75
D6	M5 X 0.8P	M8 X 1.25P	M12 X 1.75P	M16 X 2.0P	M20 X 2.5P
D7	80	116	152	185	240
L1	60	90	115	142	180
L2	37	48	64	97	105
L3	7	10	12	15	20
L4	1.5	1.5	2	3	3
L5	25	32	40	65	70
L6	2	3	5	5	6
L7	8	11	12	19	18
L8	78	101.5	135.4	161	198
L9	1.5	1.5	2	2	2
L10	10.5	13.5	18	34	42
* C1	46	70	90	145	200
* C2	M4 X 0.7P	M5 X 0.8P	M6 X 1.0P	M8 X 1.25P	M12 X 1.75P
* C3 h7	8	14	19	24	35
* C4	26.5	34	43.1	62	82
* C5 h7	30	50	70	110	114.3
* C6	4	4	6	7	7
* C7	45	60	90	132	180
* C8	17	20.5	23.5	42	47
* C9	132	170	222.9	300	350
* C10	10	12	13.4	28	29.5
B1 h9	5	6	10	12	16
H1	18	24.5	35	43	59

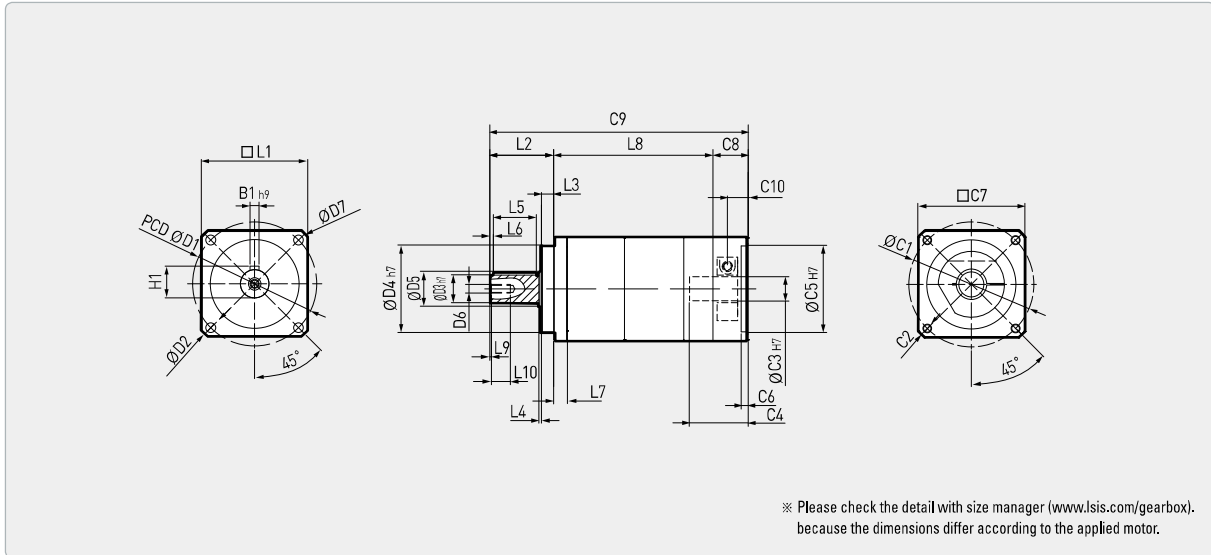
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(3) () is M Type-made to order.

Double Stage A Type

Drawing of Planetary Gearbox



Dimension	SSS0452A	SSS0602A	SSS0902A	SSS1152A	SSS1422A	SSS1802A
D1	50	70	100	130	165	215
D2	3.5	5.5	6.8	8.7	11	13
D3 h7	13	16	22	32	40	55
D4 h7	35	50	80	110	130	160
D5	15	20	30	39.5	60	75
D6	M4 X 0.7P	M5 X 0.8P	M8 X 1.25P	M12 X 1.75P	M16 X 2.0P	M20 X 2.5P
D7	58	80	116	152	185	240
L1	45	60	90	115	142	180
L2	26.5	37	48	64	97	105
L3	5.5	7	10	12	15	20
L4	1	1.5	1.5	2	3	3
L5	15	25	32	40	65	70
L6	2	2	3	5	5	6
L7	6.5	8	11	12	19	18
L8	74.5	92.5	122.9	136.8	174.5	198
L9	1.5	1.5	1.5	2	2	2
L10	9.5	10.5	13.5	18	34	42
* C1	46	70	90	145	200	200
* C2	M4 X 0.7P	M5 X 0.8P	M6 X 1.0P	M8 X 1.25P	M12 X 1.75P	M12 X 1.75P
* C3 h7	8	14	19	24	35	42
* C4	26.5	34	43.1	62	82	82
* C5 h7	30	50	70	110	114.3	114.3
* C6	4	4	6	7	7	7
* C7	45	60	90	132	180	180
* C8	17	20.5	23.5	42	47	47
* C9	118	150	194.4	242.8	318.5	350
* C10	10	12	13.4	28	29.5	28.5
B1 h9	5	5	6	10	12	16
H1	15	18	24.5	35	43	59

(1) (C1-C10) is dimension for input shaft parts. Dimensions differ by motor types and makers. Find CAD file for exact dimensions of gearbox in www.lsis.com/gearbox.

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