



# SSR Series

Circle output flange  
Straight type gearbox, Standard / Premium



# SAR Series

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

SSR / SAR

- 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

		SSR				
Stage	Gear ratio	050	070	090	120	155
1A	3~10	○	○	○	○	○
2B	15~100	⊗	○	○	○	○
2A	15~100	○	○	○	○	○
1M/2M	3~100	⊗	⊗	⊗	⊗	⊗

		SAR				
Stage	Gear ratio	050	070	090	120	155
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.

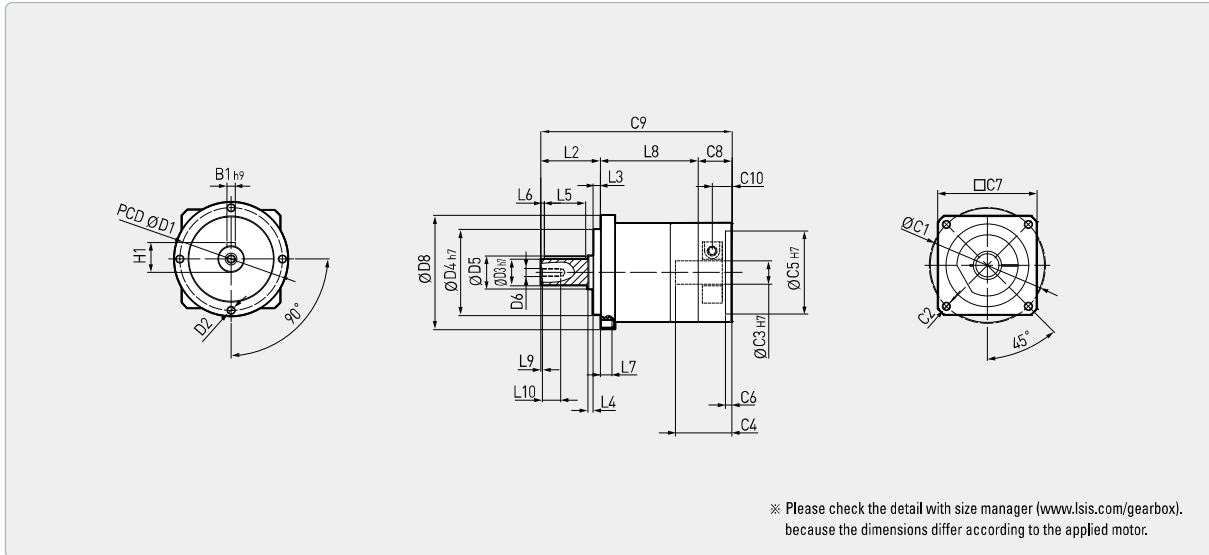


Division	Stage	Gear ratio	050	070	090	120	155	205	
<b>Nominal Output Torque (Nm)</b>	1	3	★	55	138	255	448	828	
		4	17	49	134	280	517	995	
		5	18	53	146	304	580	1,125	
		7	16	46	132	279	512	1,038	
		9	13	40	110	229	431	888	
		10	13	40	108	238	451	915	
	2	15	19	55	138	255	448	828	
		20	17	49	134	20	517	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	
		<b>Emergency Stop Torque (Nm)</b>	1,2	3-100	3 times nominal output torque				
<b>Nominal Input Speed (rpm)</b>	1,2	3-100	5,000	5,000	4,000	4,000	3,000	3,000	
<b>Max. Input Speed (rpm)</b>	1,2	3-100	10,000	10,000	8,000	8,000	6,000	6,000	
<b>Torsional Rigidity (Nm/Arcmin)</b>	1,2	3-100	3	6	12	22	50	140	
<b>Max. Radial Load (N)</b>	1,2	3-100	700	1,200	3,200	6,800	9,300	15,100	
<b>Max. Axial Load (N)</b>	1,2	3-100	360	650	1,600	3,400	4,500	7,500	
<b>Backlash (Arcmin)</b>	<b>S</b>	1	3-10	≤ 8	≤ 8	≤ 8	≤ 8	≤ 8	≤ 8
		2	15-100	≤ 10	≤ 10	≤ 10	≤ 10	≤ 10	≤ 10
	<b>P</b>	1	3-10	≤ 5	≤ 5	≤ 5	≤ 5	≤ 5	≤ 5
		2	15-100	≤ 7	≤ 7	≤ 7	≤ 7	≤ 7	≤ 7
<b>Service Life (Hrs)</b>	1,2	3-100	20,000 (10,000 under continuous operation)						
<b>Efficiency (%)</b>	1	3-10	≥ 97						
	2	15-100	≥ 94						
<b>Weight (kg)</b>	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	
<b>Operating Temp (°C)</b>	1,2	3-100	-10 ~ 90						
<b>Lubrication</b>	1,2	3-100	Grease (VIGO Grease RE #0)						
<b>Degree of Gearbox Protection</b>	1,2	3-100	IP65						
<b>Noise (dB)</b>	1,2	3-100	≤ 55.0	≤ 57.0	≤ 59.0	≤ 62.0	≤ 64.0	≤ 66.0	
<b>Inertia (kgcm<sup>2</sup>)</b>	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	24.29	
		50-100	0.03	0.13	0.44	2.69	7.05	23.63	

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



SSR Series

Dimension	SSR0501A	SSR0701A	SSR0901A	SSR1201A	SSR1551A	SSR2051A
<b>D1</b>	44	62	80	108	140	184
<b>D2</b>	M4 X 0.7P	M5 X 0.8P	M6 X 1.0P	M8 X 1.25P	M10 X 1.5P	M12 X 1.75P
<b>D3 h7</b>	12	16	22	32	40	55
<b>D4 h7</b>	35	52	68	90	120	160
<b>D5</b>	13	20	30	40	60	75
<b>D6</b>	M4 X 0.7P	M5 X 0.8P	M8 X 1.25P	M12 X 1.75P	M16 X 2.0P	M20 X 2.5P
<b>D7</b>	-	-	-	-	-	-
<b>D8</b>	49	69	94	119	155	205
<b>L1</b>	-	-	-	-	-	-
<b>L2</b>	24.5	36	46	70	97	100
<b>L3</b>	4	4.5	6	7	15	15
<b>L4</b>	2.5	3	3.5	5	3	3
<b>L5</b>	14	25	32	40	65	70
<b>L6</b>	2	2	3	10	5	6
<b>L7</b>	6.5	7.5	10	12	15	20
<b>L8</b>	47.5	59	80.9	101.5	116.5	144
<b>L9</b>	1.5	1.5	1.5	2	2	2
<b>L10</b>	9.5	10.5	13.5	18	34	42
<b>* C1</b>	46	70	90	145	200	200
<b>* C2</b>	M4 X 0.7P	M5 X 0.8P	M6 X 1.0P	M8 X 1.25P	M12 X 1.75P	M12 X 1.75P
<b>* C3 h7</b>	8	14	19	24	35	42
<b>* C4</b>	26.5	34	43.1	62	82	86
<b>* C5 h7</b>	30	50	70	110	114.3	114.3
<b>* C6</b>	4	4	6	7	7	7
<b>* C7</b>	45	60	90	132	180	180
<b>* C8</b>	17	20.5	23.5	42	47	47
<b>* C9</b>	89	115.5	150.4	213.5	260.5	291
<b>* C10</b>	10	12	13.4	28	29.5	28.5
<b>B1 h9</b>	4	5	6	10	12	16
<b>H1</b>	13.5	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](http://www.lsis.com/gearbox).

(2) In XX<sub>YY</sub>, YY means fit tolerance (KS B 0401).

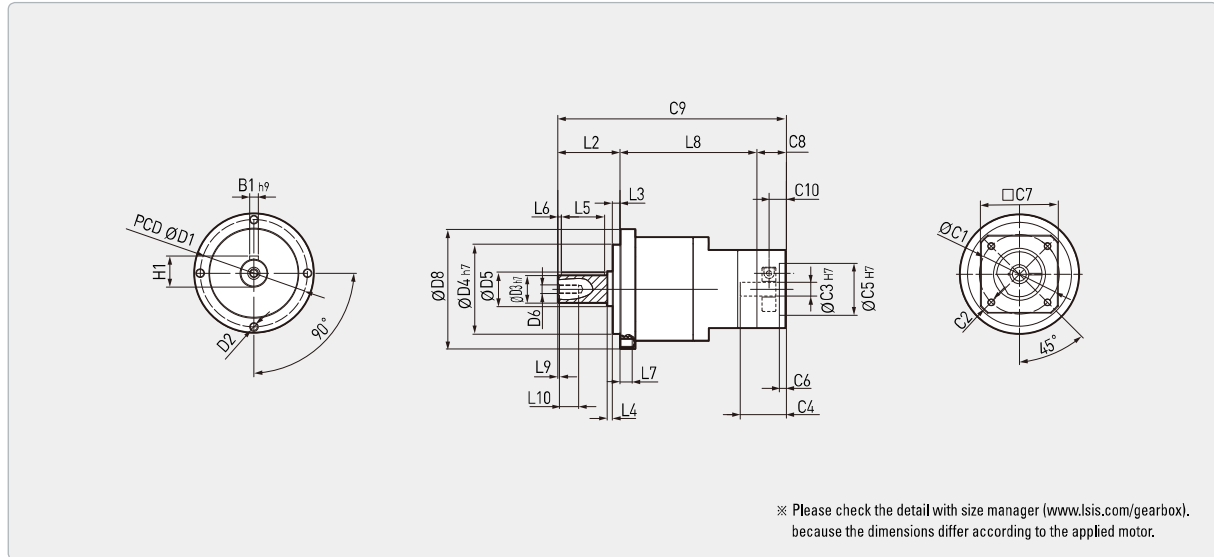
(3) ( ) is M Type-made to order.



SSR Series

## Double Stage B Type

### Drawing of Planetary Gearbox



Dimension	SSR0702B	SSR0902B	SSR1202B	SSR1552B	SSR2052B
<b>D1</b>	62	80	108	140	184
<b>D2</b>	M5 X 0.8P	M6 X 1.0P	M8 X 1.25P	M10 X 1.5P	M12 X 1.75P
<b>D3 h7</b>	16	22	32	40	55
<b>D4 h7</b>	52	68	90	120	160
<b>D5</b>	20	30	40	60	75
<b>D6</b>	M5 X 0.8P	M8 X 1.25P	M12 X 1.75P	M16 X 2.0P	M20 X 2.5P
<b>D7</b>	-	-	-	-	-
<b>D8</b>	69	94	119	155	205
<b>L1</b>	-	-	-	-	-
<b>L2</b>	36	46	70	97	100
<b>L3</b>	4.5	6	7	15	15
<b>L4</b>	3	3.5	5	3	3
<b>L5</b>	25	32	40	65	70
<b>L6</b>	2	3	10	5	6
<b>L7</b>	7.5	10	12	15	20
<b>L8</b>	79	103.5	140.4	161	203
<b>L9</b>	1.5	1.5	2	2	2
<b>L10</b>	10.5	13.5	18	34	42
<b>* C1</b>	46	70	90	145	200
<b>* C2</b>	M4 X 0.7P	M5 X 0.8P	M6 X 1.0P	M8 X 1.25P	M12 X 1.75P
<b>* C3 H7</b>	8	14	19	24	35
<b>* C4</b>	26.5	34	43.1	62	82
<b>* C5 H7</b>	30	50	70	110	114.3
<b>* C6</b>	4	4	6	7	7
<b>* C7</b>	45	60	90	132	180
<b>* C8</b>	17	20.5	23.5	42	47
<b>* C9</b>	132	170	233.9	300	350
<b>* C10</b>	10	12	13.4	28	29.5
<b>B1 h9</b>	5	6	10	12	16
<b>H1</b>	18	24.5	35	43	59

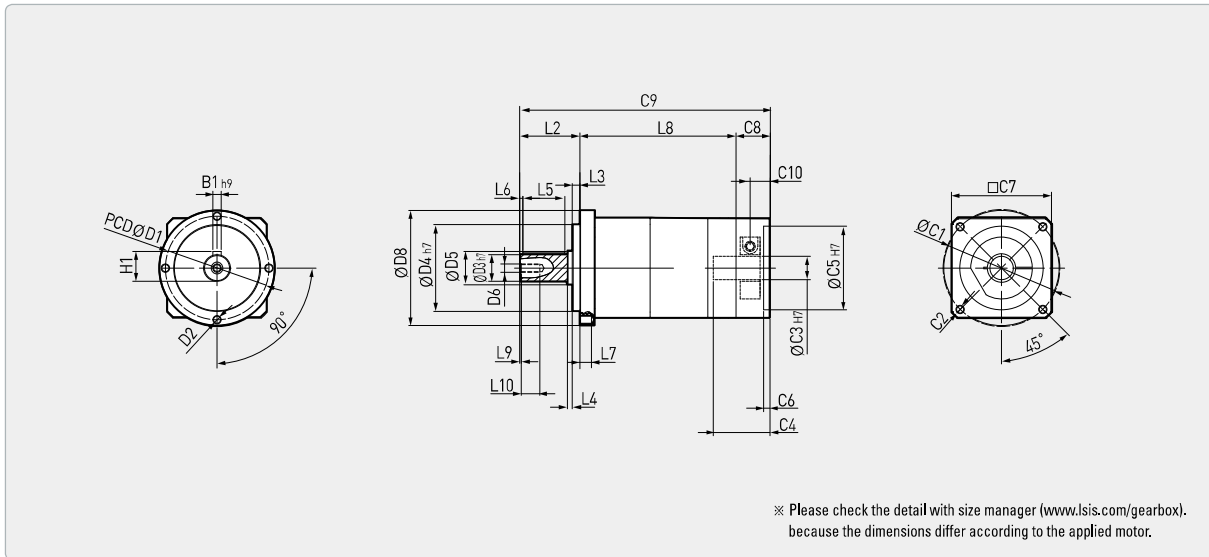
(1) C1-C10 is dimension for input shaft parts. Dimensions differ by motor types and makers. Find CAD file for exact dimensions of gearbox in [www.lsis.com/gearbox](http://www.lsis.com/gearbox).

(2) In XX<sub>YY</sub>, YY means fit tolerance (KS B 0401).

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

## Double Stage A Type

### Drawing of Planetary Gearbox



SSR Series

Dimension	SSR0502A	SSR0702A	SSR0902A	SSR1202A	SSR1552A	SSR2052A
<b>D1</b>	44	62	80	108	140	184
<b>D2</b>	M4 X 0.7P	M5 X 0.8P	M6 X 1.0P	M8 X 1.25P	M10 X 1.5P	M12 X 1.75P
<b>D3 h7</b>	12	16	22	32	40	55
<b>D4 h7</b>	35	52	68	90	120	160
<b>D5</b>	13	20	30	40	60	75
<b>D6</b>	M4 X 0.7P	M5 X 0.8P	M8 X 1.25P	M12 X 1.75P	M16 X 2.0P	M20 X 2.5P
<b>D7</b>	-	-	-	-	-	-
<b>D8</b>	49	69	94	119	155	205
<b>L1</b>	-	-	-	-	-	-
<b>L2</b>	24.5	36	46	70	97	100
<b>L3</b>	4	4.5	6	7	15	15
<b>L4</b>	2.5	3	3.5	5	3	3
<b>L5</b>	14	25	32	40	65	70
<b>L6</b>	2	2	3	10	5	6
<b>L7</b>	6.5	7.5	10	12	15	20
<b>L8</b>	76.5	93.5	124.9	141.8	174.5	203
<b>L9</b>	1.5	1.5	1.5	2	2	2
<b>L10</b>	9.5	10.5	13.5	18	34	42
<b>* C1</b>	46	70	90	145	200	200
<b>* C2</b>	M4 X 0.7P	M5 X 0.8P	M6 X 1.0P	M8 X 1.25P	M12 X 1.75P	M12 X 1.75P
<b>* C3 H7</b>	8	14	19	24	35	42
<b>* C4</b>	26.5	34	43.1	62	82	82
<b>* C5 H7</b>	30	50	70	110	114.3	114.3
<b>* C6</b>	4	4	6	7	7	7
<b>* C7</b>	45	60	90	132	180	180
<b>* C8</b>	17	20.5	23.5	42	47	47
<b>* C9</b>	118	150	194.4	253.8	318.5	350
<b>* C10</b>	10	12	13.4	28	29.5	28.5
<b>B1 h9</b>	4	5	6	10	12	16
<b>H1</b>	13.5	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](http://www.lsis.com/gearbox).

(2) In XX<sub>YY</sub>, YY means fit tolerance (KS B 0401).

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