



SSR Series

Circle output flange
Straight type gearbox, Standard / Premium



SAR Series

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

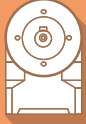
SSR / SAR

- 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.



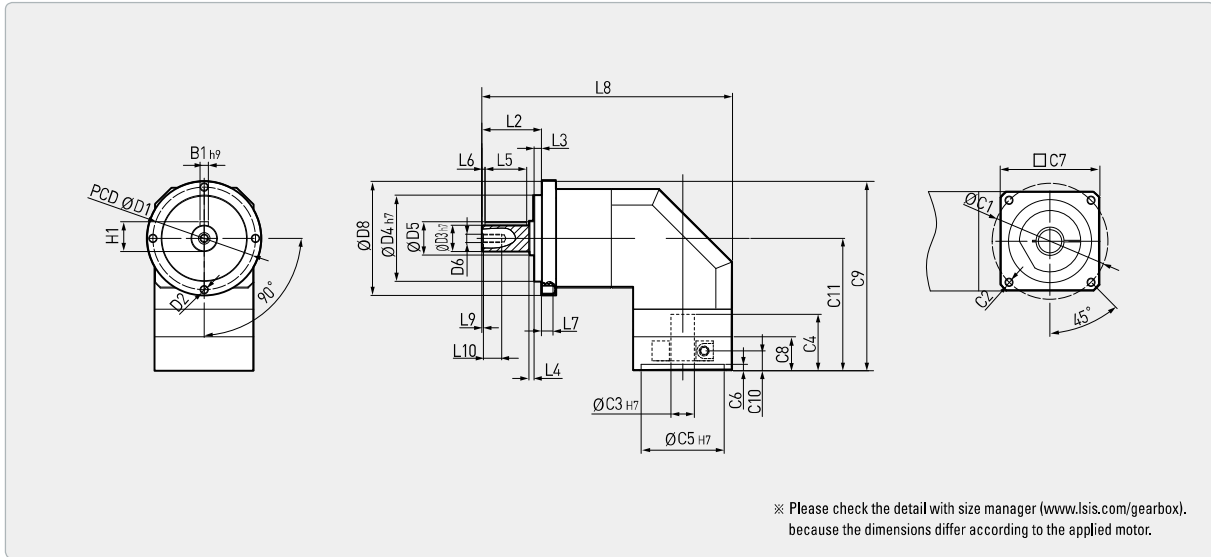
SAR Series

Division	Stage	Gear ratio	050	070	090	120	155	
Nominal Output Torque (Nm)	1	3	★	55	138	255	448	
		4	17	49	134	280	517	
		5	18	53	146	304	580	
		7	16	46	132	279	512	
		9	13	40	110	229	431	
		10	13	40	108	238	451	
		14	-	46	132	278	512	
		15	19	-	-	-	-	
	2	20	17	40	108	238	451	
		25	18	53	146	304	580	
		30	★	48	138	281	533	
		35	16	46	132	279	512	
		40	17	49	134	280	517	
		45	13	40	108	236	446	
		50	18	53	146	304	580	
		63	17	48	138	281	533	
		70	16	46	132	284	512	
		81	13	40	110	229	431	
		90	13	40	110	229	431	
		100	13	40	108	238	451	
		120	-	-	138	255	448	
		140	-	-	132	279	512	
		180	-	-	110	229	431	
		200	-	-	108	238	451	
Emergency Stop Torque (Nm)	1,2	3-200	3 times nominal output torque					
Nominal Input Speed (rpm)	1,2	3-200	5,000	5,000	4,000	4,000	3,000	
Max. Input Speed (rpm)	1,2	3-200	10,000	10,000	8,000	8,000	6,000	
Torsional Rigidity (Nm/Arcmin)	1,2	3-200	3	6	12	22	50	
Max. Radial Load (N)	1,2	3-200	700	1,200	3,200	6,800	9,300	
Max. Axial Load (N)	1,2	3-200	360	650	1,600	3,400	4,500	
Backlash (Arcmin)	S	1	3-20	≤ 10	≤ 10	≤ 10	≤ 10	≤ 10
		2	25-200	≤ 12	≤ 12	≤ 12	≤ 12	≤ 12
	P	1	3-20	≤ 7	≤ 7	≤ 7	≤ 7	≤ 7
		2	25-200	≤ 9	≤ 9	≤ 9	≤ 9	≤ 9
Service Life (Hrs)	1,2	3-200	20,000 (10,000 under continuous operation)					
Efficiency (%)	1	3-20	≥ 97					
	2	25-100	≥ 94					
Weight (kg)	1A	3-20	≤ 0.9	≤ 1.5	≤ 6.0	≤ 12.0	≤ 24.0	
	2A	25-200	≤ 1.2	≤ 2.0	≤ 7.5	≤ 13.5	≤ 26.0	
	2B	25-200	-	≤ 1.9	≤ 7.3	≤ 12.8	≤ 25.0	
Operating Temp (°C)	1,2	3-100	-10 ~ 90					
Lubrication	1,2	3-200	Grease (VIGO Grease RE #0)					
Degree of Gearbox Protection	1,2	3-200	IP65					
Noise (dB)	1,2	3-200	≤ 61	≤ 63	≤ 66	≤ 69	≤ 71	
Inertia (kgcm²)	1A	3-10	0.09	0.36	2.27	6.88	23.50	
		14,20	-	0.08	1.89	6.23	21.75	
	2B	15, 20	-	-	-	-	-	
		25-100	-	0.09	0.36	2.27	6.88	
		120-200	-	-	0.32	1.89	6.23	
	2A	15, 20	0.09	-	-	-	-	
		25-100	0.09	0.36	2.27	6.88	23.50	
		120-200	-	-	1.89	6.23	21.75	

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



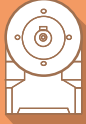
SAR Series

Dimension	SAR0501A	SAR0701A	SAR0901A	SAR1201A	SAR1551A
D1	44	62	80	108	140
D2	M4 X 0.7P	M5 X 0.8P	M6 X 1.0P	M8 X 1.25P	M10 X 1.5P
D3 h7	12	16	22	32	40
D4 h7	35	52	68	90	120
D5	13	20	30	40	60
D6	M4 X 0.7P	M5 X 0.8P	M8 X 1.25P	M12 X 1.75P	M16 X 2.0P
D7	-	-	-	-	-
D8	49	69	94	119	155
L1	-	-	-	-	-
L2	24.5	36	46	70	97
L3	4	4.5	6	7	15
L4	2.5	3	3.5	5	3
L5	14	25	32	40	65
L6	2	2	3	10	5
L7	6.5	7.5	10	12	15
* L8	114	151.2	203	281	352
L9	1.5	1.5	1.5	2	2
L10	9.5	10.5	13.5	18	34
* 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	85	114.5	154	202	248.5
* C10	10	12	13.4	28	29.5
C11	60.5	80	107	142.5	169
B1 h9	4	5	6	10	12
H1	13.5	18	24.5	35	43

(1) C(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 ν , ν means fit tolerance (KS B 0401).

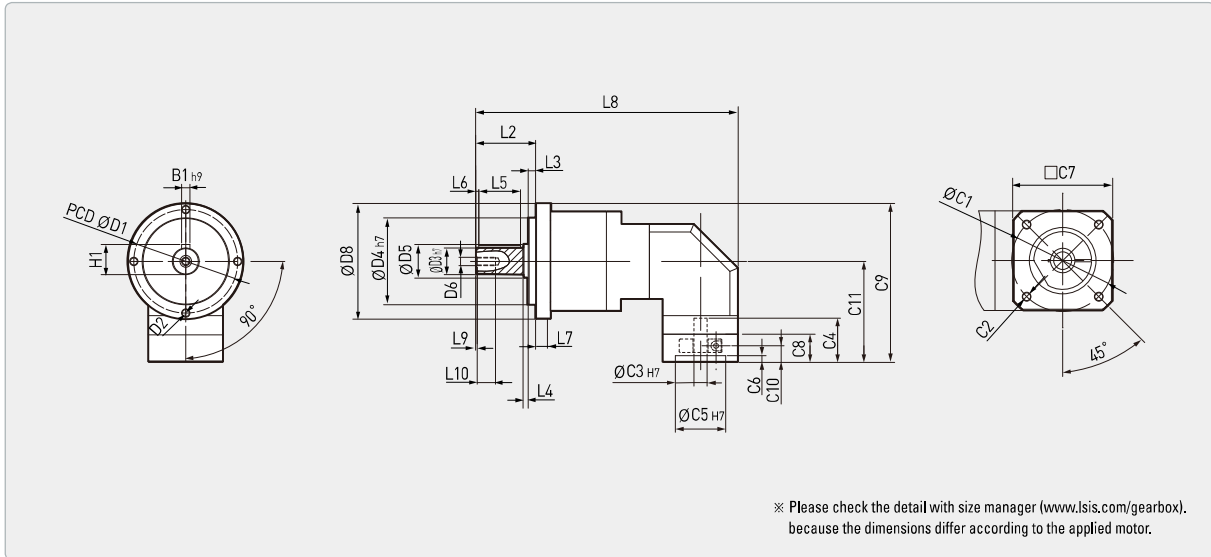
(3) () is M Type-made to order.



SAR Series

Double Stage B Type

Drawing of Planetary Gearbox



Dimension	SAR0702B	SAR0902B	SAR1202B	SAR1552B
D1	62	80	108	140
D2	M5 X 0.8P	M6 X 1.0P	M8 X 1.25P	M10 X 1.5P
D3 h7	16	22	32	40
D4 h7	52	68	90	120
D5	20	30	40	60
D6	M5 X 0.8P	M8 X 1.25P	M12 X 1.75P	M16 X 2.0P
D7	-	-	-	-
D8	69	94	119	155
L1	-	-	-	-
L2	36	46	70	97
L3	4.5	6	7	15
L4	3	3.5	5	3
L5	25	32	40	65
L6	2	3	10	5
L7	7.5	10	12	15
* L8	157	205.7	286.5	367.5
L9	1.5	1.5	2	2
L10	10.5	13.5	18	34
* C1	46	70	90	145
* C2	M4 X 0.7P	M5 X 0.8P	M6 X 1.0P	M8 X 1.25P
* C3 H7	8	14	19	24
* C4	26.5	34	43.1	62
* C5 H7	30	50	70	110
* C6	4	4	6	7
* C7	45	60	90	132
* C8	17	20.5	23.5	42
* C9	95	127	166.5	220
* C10	10	12	13.4	28
C11	60.5	80	107	142.5
B1 h9	5	6	10	12
H1	18	24.5	35	43

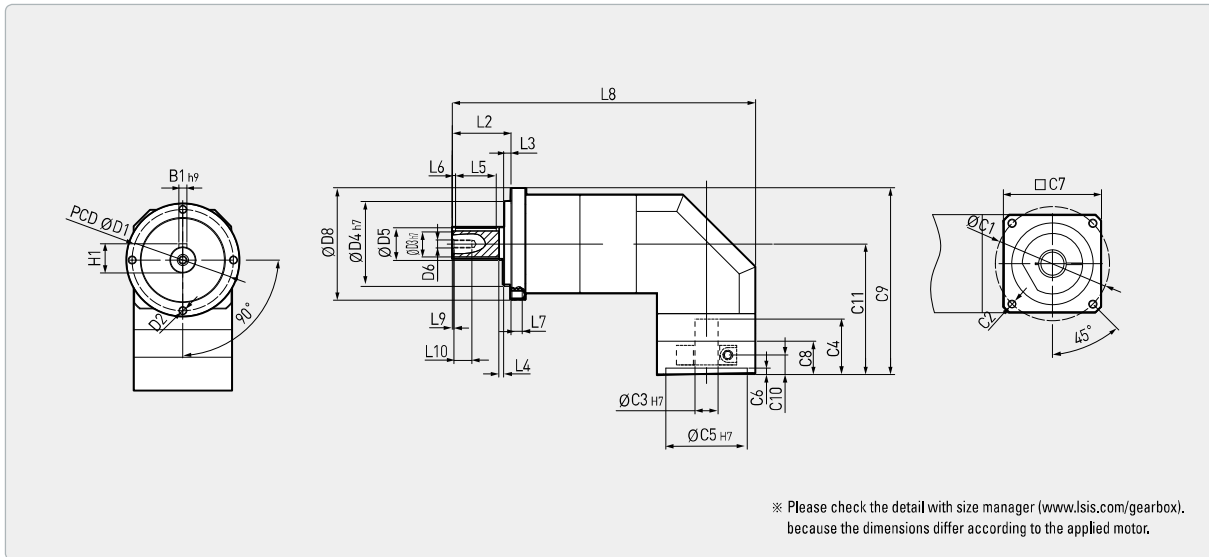
(1) C1-C10jis dimension for input shaft parts. Dimensions differ by motor types and makers. Find CAD file for exact dimensions of gearbox in www.lsis.com/gearbox.

(2) In XXYY, YY means fit tolerance (KS B 0401).

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

Double Stage A Type

Drawing of Planetary Gearbox



Dimension	SAR0502A	SAR0702A	SAR0902A	SAR1202A	SAR1552A
D1	44	62	80	108	140
D2	M4 X 0.7P	M5 X 0.8P	M6 X 1.0P	M8 X 1.25P	M10 X 1.5P
D3 h7	12	16	22	32	40
D4 h7	35	52	68	90	120
D5	13	20	30	40	60
D6	M4 X 0.7P	M5 X 0.8P	M8 X 1.25P	M12 X 1.75P	M16 X 2.0P
D7	-	-	-	-	-
D8	49	69	94	119	155
L1	-	-	-	-	-
L2	24.5	36	46	70	97
L3	4	4.5	6	7	15
L4	2.5	3	3.5	5	3
L5	14	25	32	40	65
L6	2	2	3	10	5
L7	6.5	7.5	10	12	15
* L8	143	185.7	247	306.5	392.5
L9	1.5	1.5	1.5	2	2
L10	9.5	10.5	13.5	18	34
* 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	85	114.5	154	186.4	238.5
* C10	10	12	13.4	28	29.5
C11	60.5	80	107	126.9	161
B1 h9	4	5	6	10	12
H1	13.5	18	24.5	35	43

(1) C(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.