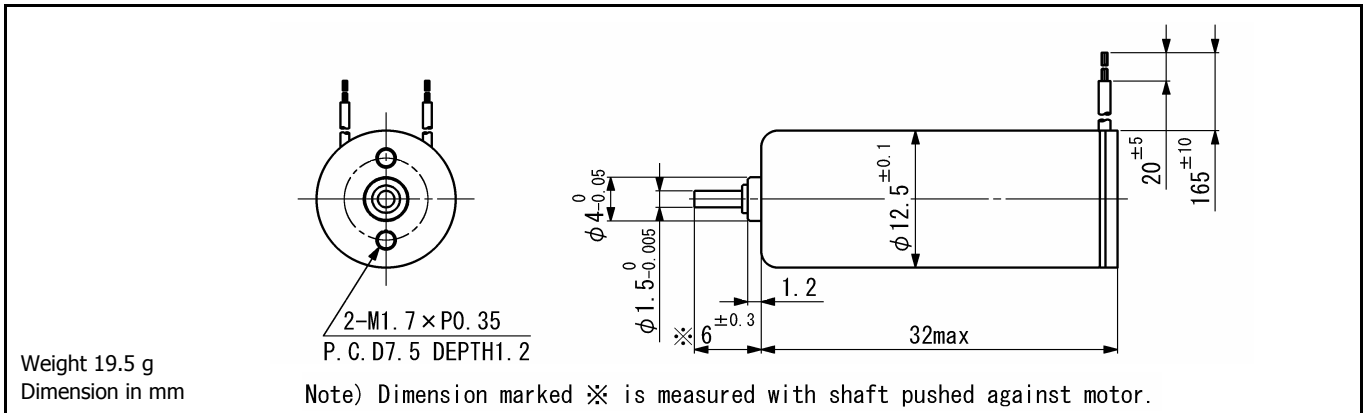


SCL12-30

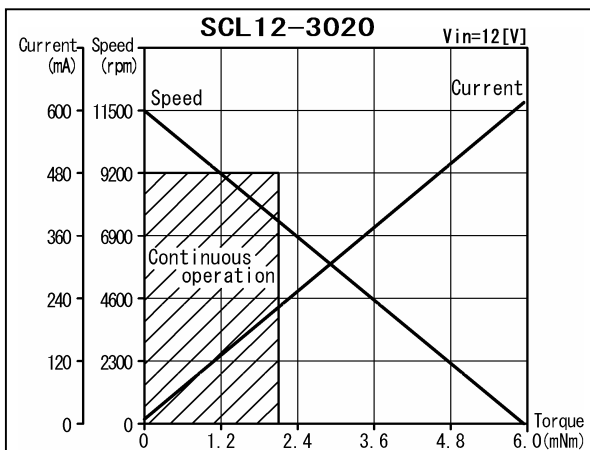
Precious metal commutation



For combination with gearheads: SSG12, SPG12

Ordering number	SCL12-3003	SCL12-3005	SCL12-3020	SCL12-3043
1 Nominal voltage	6	6	12	15 V
2 Terminal resistance	2.93	4.6	19.5	43 Ω
3 Output power	3	1.9	1.8	1.3 W
4 Efficiency	80.5	80	77	72 %
5 No-load speed	13750	11640	11500	12840 rpm
6 No-load current	21.3	15	9	8 mA
7 Stall torque	8.24	6.27	5.95	3.71 mNm
8 Friction torque	0.09	0.07	0.09	0.09 mNm
9 Back-EMF constant	0.43	0.51	1.03	1.14 mV/rpm
10 Torque constant	4.12	4.86	9.81	10.9 mNm/A
11 Slope of N-T curve	1648	1860	1930	3460 rpm/mNm
12 Coil inductance	0.079	0.1	0.38	0.41 mH
13 Mechanical time constant	8.1	8.8	6.7	7.6 ms
14 Rotor inertia	0.47	0.45	0.33	0.21 gcm ²

Continuous operation				
15 Speed range	11000	9300	9200	10300 rpm
16 Max. torque	2.28	2.15	2.09	1.54 mNm

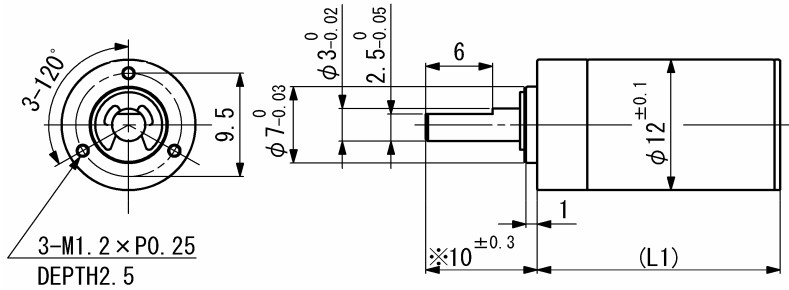


General specifications		
17 Operating temperature	-20...+60	°C
18 Max. coil temperature	+80	°C
19 Thermal resistances	R _{th1} = 10, R _{th2} = 37	K/W
20 Bearings type	Sintered sleeves	
21 Max. shaft radial load	1.2 (5 mm)	N
22 Max. shaft axial load	0.2	N
23 Max. axial load at standstill	9.8	N
24 Shaft radial play	0.05	mm
25 Shaft axial play	0.03...0.2	mm

Options: Lead wires length, terminals instead of lead wires, shaft length, special coils, commutator with capacitors.

SPG12

Planetary gearhead



Dimension in mm

Note) Dimension marked ※ is measured with shaft pushed against gearhead.

For combination with motors: SCL12-20, SCL12-22, SCL12-30

General specifications

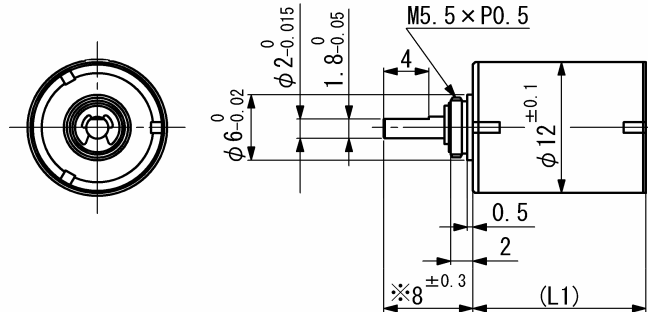
	SPG12	
Housing material	Metal	
Geartrain material	Steel	
Recommended max. input speed	8000	rpm
Operating temperature range	-10...+60	°C
Backlash at no-load per stage	≤ 1	°
Bearings on output shaft	Sintered sleeve bearings	
Max. shaft radial load (7 mm from flange)	4 (25)	N
Max. shaft axial load	2	N
Max. shaft press fit force	30	N
Shaft radial play	≤ 0.03	mm
Shaft axial play	≤ 0.3	mm

In parenthesis the max. radial load with ball bearing option.

Ratio (nominal)	Stage	Gearhead length, L1 [mm]	Gearhead weight [g]	Max. allowable torque [mNm]		Length with motor [mm]			Efficiency [%]	Direction of rotation
				Continuous	Intermittent	SCL12-20	SCL12-22	SCL12-30		
3.5 : 1	1	14.2	11.6	100	200	35.2	37.2	46.2	85	=
4.8 : 1	1	14.2	11.6	100	200	35.2	37.2	46.2	85	=
12 : 1	2	18	14.1	100	200	39	41	50	72	=
23 : 1	2	18	14.1	100	200	39	41	50	72	=
58 : 1	3	21.8	16.6	100	200	42.8	44.8	53.8	61	=
107 : 1	3	21.8	16.6	100	200	42.8	44.8	53.8	61	=
509 : 1	4	25.7	19.1	100	200	46.7	48.7	57.7	52	=

SSG12

Spur gearhead



Dimension in mm

Note) Dimension marked ※ is measured with shaft pushed against gearhead.

For combination with motors: SCL12-20, SCL12-22, SCL12-30

General specifications

	SSG12	
Housing material	Metal	
Geartrain material	Metal	
Recommended max. input speed	8000	rpm
Operating temperature range	-10...+60	°C
Max. backlash at no-load, 5 stages	≤ 5	°
Bearings on output shaft	Sintered sleeve bearings	
Max. shaft radial load (10 mm from flange)	3	N
Max. shaft axial load	1	N
Max. shaft press fit force	20	N
Shaft radial play	≤ 0.03	mm
Shaft axial play	≤ 0.2	mm

Ratio (nominal)	Stage	Gearhead length, L1 [mm]	Gearhead weight [g]	Max. allowable torque [mNm]		Length with motor [mm]			Efficiency [%]	Direction of rotation
				Continuous	Intermittent	SCL12-20	SCL12-22	SCL12-30		
16 : 1	3	14	8.3	12	30	35	37	46	73	≠
25 : 1	3	14	8.3	12	30	35	37	46	73	≠
47 : 1	4	16	9.2	15	30	37	39	48	66	=
74 : 1	4	16	9.2	15	30	37	39	48	66	=
94 : 1	4	16	9.2	15	30	37	39	48	66	=
175 : 1	5	18	10.2	15	30	39	41	50	59	≠
282 : 1	5	18	10.2	15	30	39	41	50	59	≠