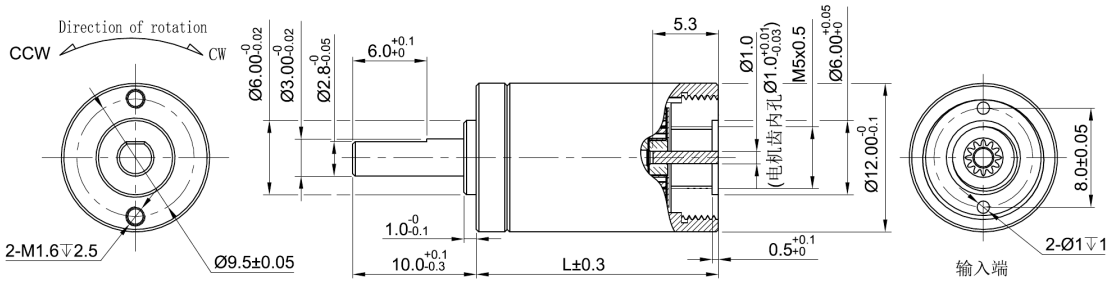
12P | Ø12 mm Micro Planetary Gearhead

GEARHEAD ONLY / PRODUCT TECHNICAL DATASHEET

SIGGEAR / 12P / DRAWING SG01PD12

REV 1.1 | 17 NOV 2026

01 MECHANICAL INTERFACE / SOURCE DRAWING



Drawing: SG01PD12 | Dimensions and tolerances as shown | Input side at right | L tolerance: ±0.3 mm

02 GENERAL TECHNICAL DATA

Nominal outside diameter	**Ø12 mm**	Number of stages	**1–4**
Gearhead body length	**11.35–19.60 mm**	Backlash at no load	**<= 1.5°**
Reduction ratio range	**3.5:1–509.1:1**	Operating temperature	**-40 to +120 °C**
Max. radial load (10 mm from flange)	**7.85 N**	Radial shaft play	**<= 0.04 mm**
Max. axial shaft load	**2.45 N**	Axial shaft play	**<= 0.20 mm**
Compatible motor input-speed range (tested)	**1,000–50,000 rpm**	Validated motor pairing	**EC1225-01A / 12 VDC**

Housing and gears: steel. Output bearing: ball bearing. Input-speed range reflects SigGear-confirmed compatibility with tested motor configurations.

03 PERFORMANCE BY REDUCTION STAGE

STAGE	L (mm)	RATED ALLOWABLE (mN·m)	MAX. MOMENTARY (mN·m)	EFF. (%)	AVAILABLE REDUCTION RATIOS (x:1)
1	11.35	196.1	392.3	90%	3.5 / 4 / 4.75
2	14.10	294.2	588.4	80%	12.25 / 14 / 16 / 16.6 / 19 / 22.6
3	16.85	353.0	706.1	73%	42.9 / 49 / 56 / 58.2 / 64 / 66.5 / 76 / 79 / 90.25 / 107.2
4	19.60	411.9	823.8	66%	150.1 / 171.5 / 196 / 203.7 / 224 / 232.7 / 256 / 266 / 276.4 / 304 / 315.9 / 361 / 375.1 / 428.7 / 509.1

• Rated allowable torque is a continuous-load reference. Maximum momentary torque is a peak limit and is not a continuous rating.
• Stage efficiency values are reference values. Confirm ratio-specific performance and the source drawing revision before production.
• Input-speed compatibility is based on tested motor configurations from 1,000 to 50,000 rpm; evaluate the actual load and duty cycle for each application.