Precision Planetary Gearbox

NEW PRODUCT

Product Introduction

DINGS
Precision Motion Specialist

Introduction

Product: Precision 13Planetary Gear box
Product Model: 16PGX8-30L-0-0-00MC（Example）

How to work

General NGW type ix fixed by the ring gear, the sun gear is input at high speed and planet carrier is output at low speed. According to a certain reduction ratio, speed of the output end is reduced and output torque is increased.

Part Numbering

00	PGX	00	-0L	-0-0-00	XX	
Outer Dia.	Planetary Gear	Ratio	Gearbox length	Serial #	Gear machining method	
					Machining	MC
					Powder Metallurgy	PM
					Injection Mold	PL

Application

Precision planetary gearbox has advantage as small size, high power density, large speed ratio range, coaxial arrangement of input and output, also high efficiency. It is widely used in military, medical, automotive part, small home appliances, home appliances, solar energy, intelligent robotics and general automation equipment.

Product Features

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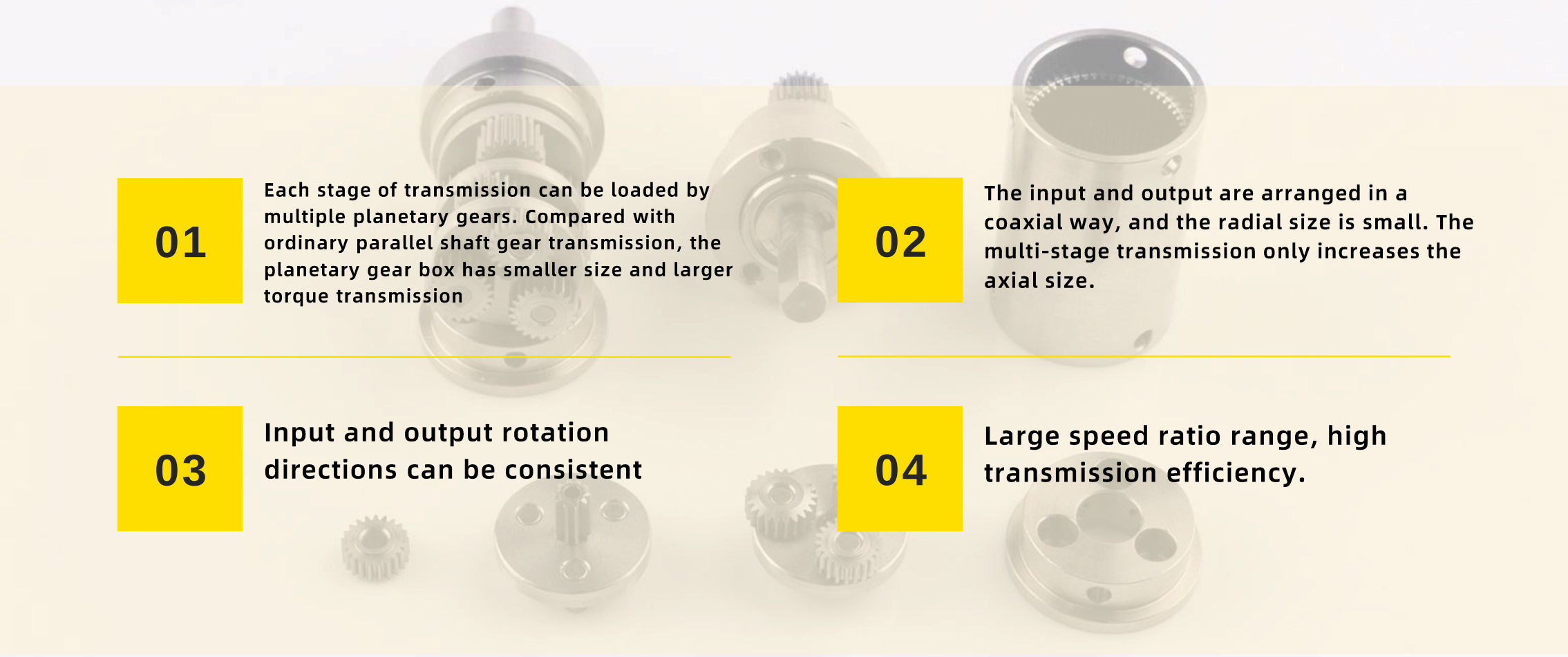

01

Each stage of transmission can be loaded by multiple planetary gears. Compared with ordinary parallel shaft gear transmission, the planetary gear box has smaller size and larger torque transmission

02

The input and output are arranged in a coaxial way, and the radial size is small. The multi-stage transmission only increases the axial size.

03

Input and output rotation directions can be consistent

04

Large speed ratio range, high transmission efficiency.

Product Structure

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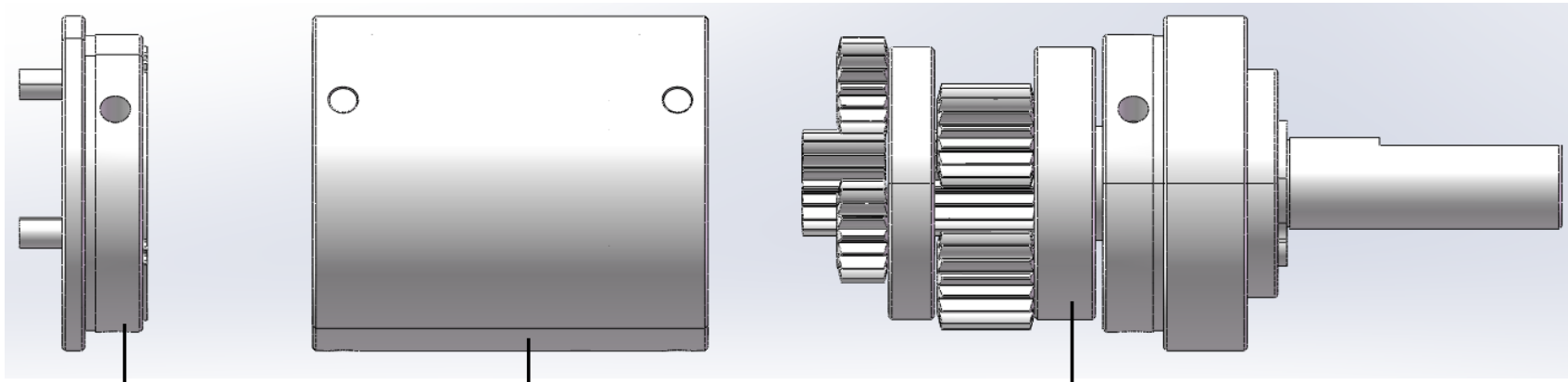

[Product Structure Description]

Motor Joint Assembly : includes motor joint, gasket and screw which is the connection between gearbox and motor

Inner Gear Ring Assembly : includes inner gear ring and fixed pin, which is the main transmission component used to accommodate other moving parts of planetary gear mechanism and connect input and output end parts

Planetary Gear Components : includes motor gears, planetary gears at all levels, planetary carriers at all levels, bearing chambers, bearings, output shafts, etc., constitute the power transmission chain, which is input by high speed and low torque at the motor end. After decelerating by planetary gear sets at all levels, low speed and high torque output at the output shaft end is realized.

Product Parameters

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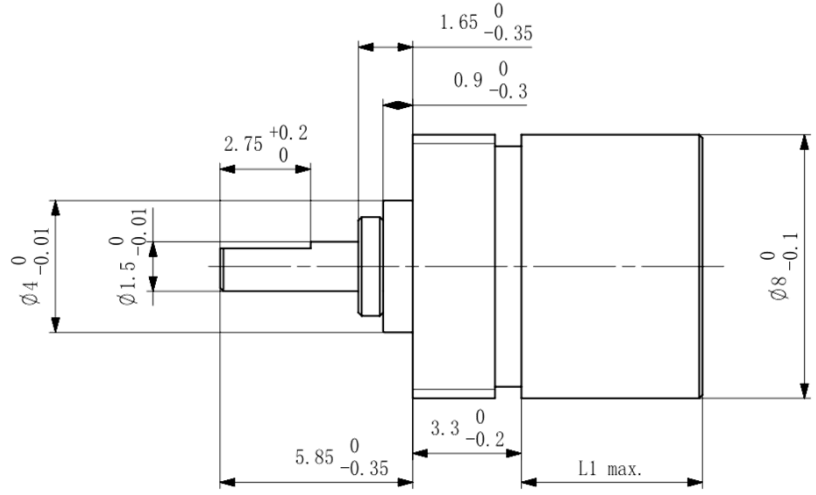
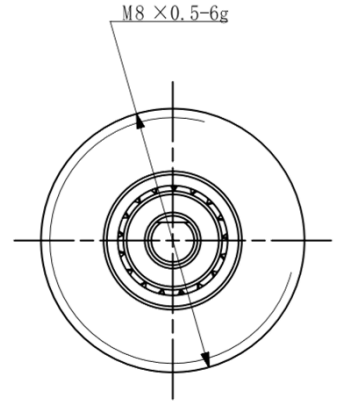
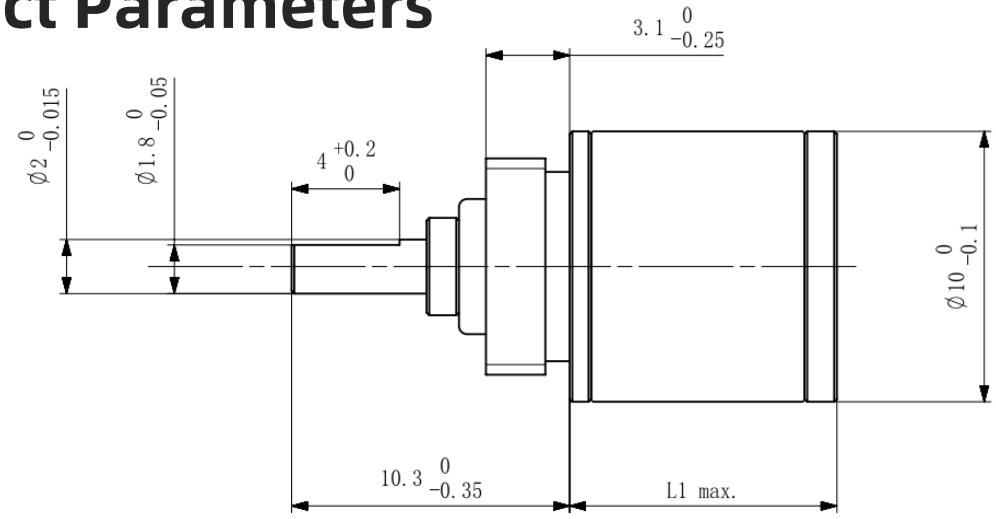


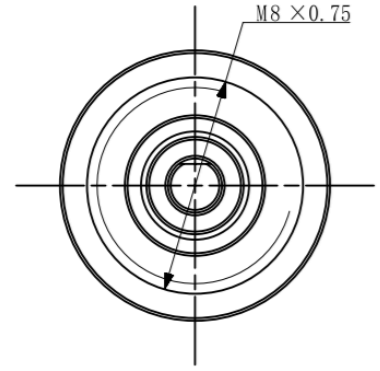


8PGX Φ8mm Series

Stage		Stage 1	Stage 2
Reduction Ratio	X : 1	4	16
Max. Continuous Torque	N.m	0.01	0.02
Max. Continuous Output Power	W	0.84	0.52
Max. Continuous Speed Transfer	rpm	12000	12000
Max. Axial Load (Dynamic)	N	5	5
Max. Radial Load（5mm from Flange）	N	5	6
Max. Efficiency	%	90	81
Max. Backlash	°	1.8	2.0
Gearbox Length	mm	5.5	8.1
Weight	g	2.6	3.2

Product Parameters





10PGX Φ10mm Series

Stage		Stage 1	Stage 2	Stage 3	Stage 4
Reduction Ratio	X : 1	4.25	18	76.8	326
Max. Continuous Torque	N.m	0.01	0.03	0.10	0.15
Max. Continuous Output Power	W	1.6	1.2	1.0	0.4
Max. Continuous Speed Transfer	rpm	12000	12000	12000	12000
Max. Axial Load (Dynamic)	N	5	5	5	5
Max. Radial Load（5mm from Flange）	N	5	10	15	20
Max. Efficiency	%	90	81	73	65
Max. Backlash	°	1.5	1.8	2.0	2.2
Gearbox Length	mm	10.1	13.6	17.1	20.6
Weight	g	6.7	7.2	7.7	8.2

Product Parameters

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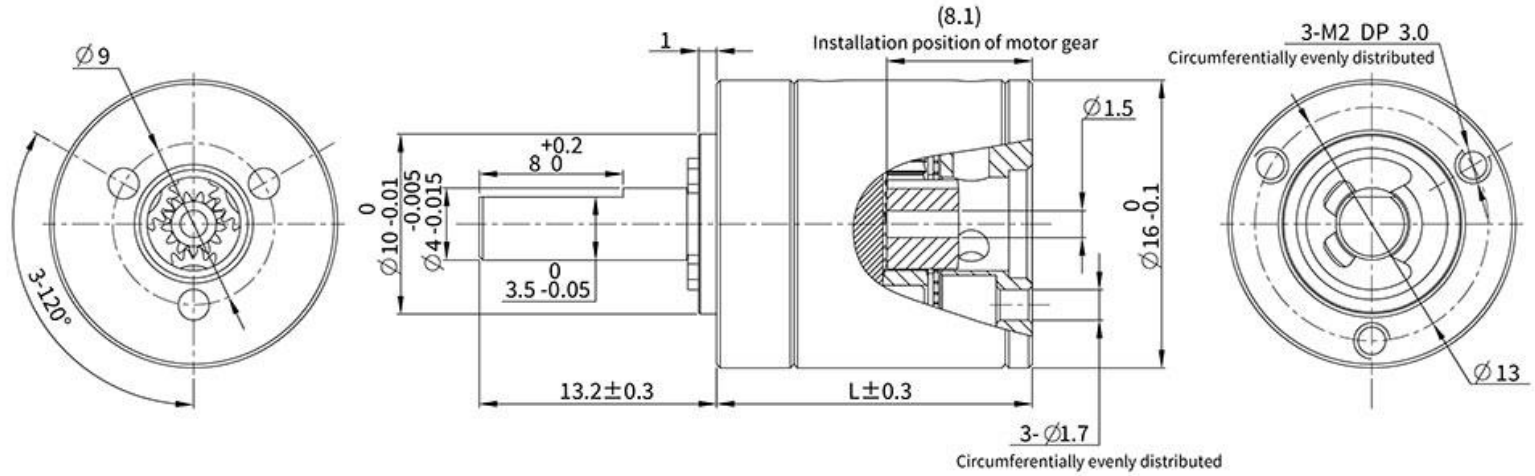

16PGX Φ16mm Series

Stage		Stage 1	Stage 2	Stage 3	Stage 4
Reduction Ratio	X : 1	3.947, 5.307	16, 21 , 28	62, 83, 111, 150	243, 326, 439, 590, 794
Max. Continuous Torque	N.m	0.20	0.25	0.35	0.45
Max. Continuous Output Power	W	6.5	3.2	1.6	0.6
Max. Continuous Speed Transfer	rpm	12000	14000	16000	16000
Max. Axial Load (Dynamic)	N	20	20	20	20
Max. Radial Load（5mm from Flange）	N	30	45	70	70
Max. Efficiency	%	90	80	75	65
Max. Backlash	°	1.0	1.2	1.3	1.4
Gearbox Length	mm	18.7	25.5	30.2	35
Weight	g	25	31	37	42

Product Parameters

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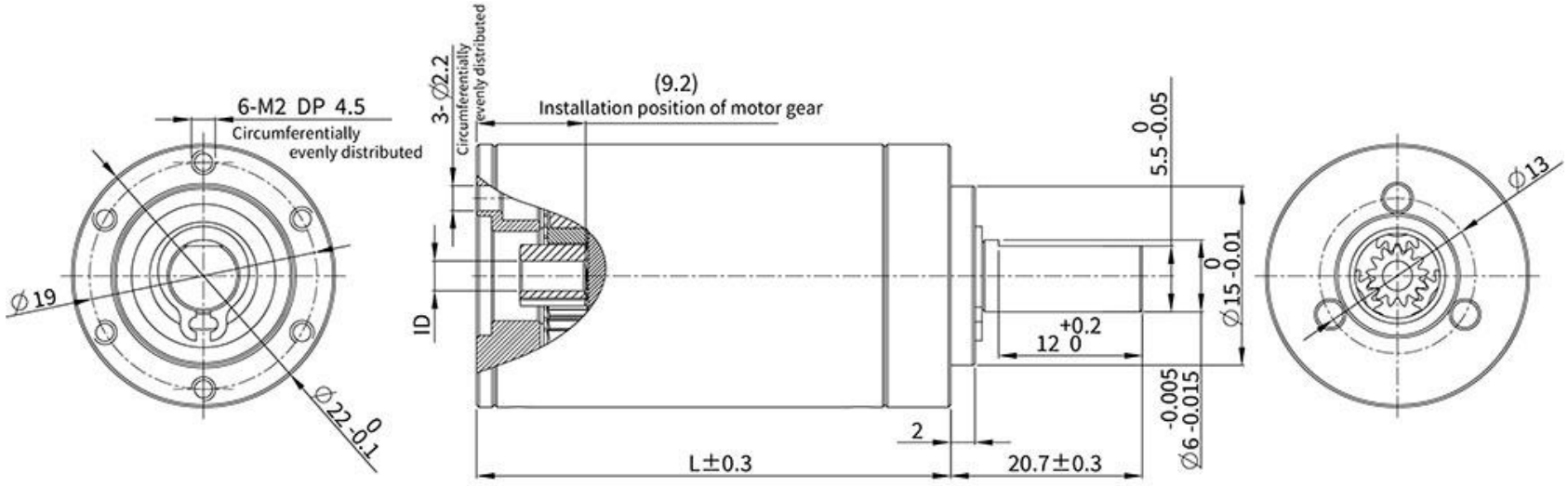

22PGX Φ22mm Series

Stage		Stage 1	Stage 2	Stage 3	Stage 4
Reduction Ratio	X : 1	3.9, 5.3, 6.6	16, 21 , 26, 28, 35, 44	62, 83, 103, 111, 138, 150, 172, 186, 231	243, 326, 406, 439, 546, 590, 679, 734, 794, 913, 987, 1135, 1227, 1526
Max. Continuous Torque	N.m	0.50	0.70	1.20	1.50
Max. Continuous Output Power	W	24	12	6.0	1.6
Max. Continuous Speed Transfer	rpm	8000	10000	12000	12000
Max. Axial Load (Dynamic)	N	40	40	40	40
Max. Radial Load（5mm from Flange）	N	65	100	120	120
Max. Efficiency	%	90	81	74	66
Max. Backlash	°	0.85	1.05	1.2	1.35
Gearbox Length	mm	22.3	33	39.6	46.3
Weight	g	59	83	97	112

Product Parameter

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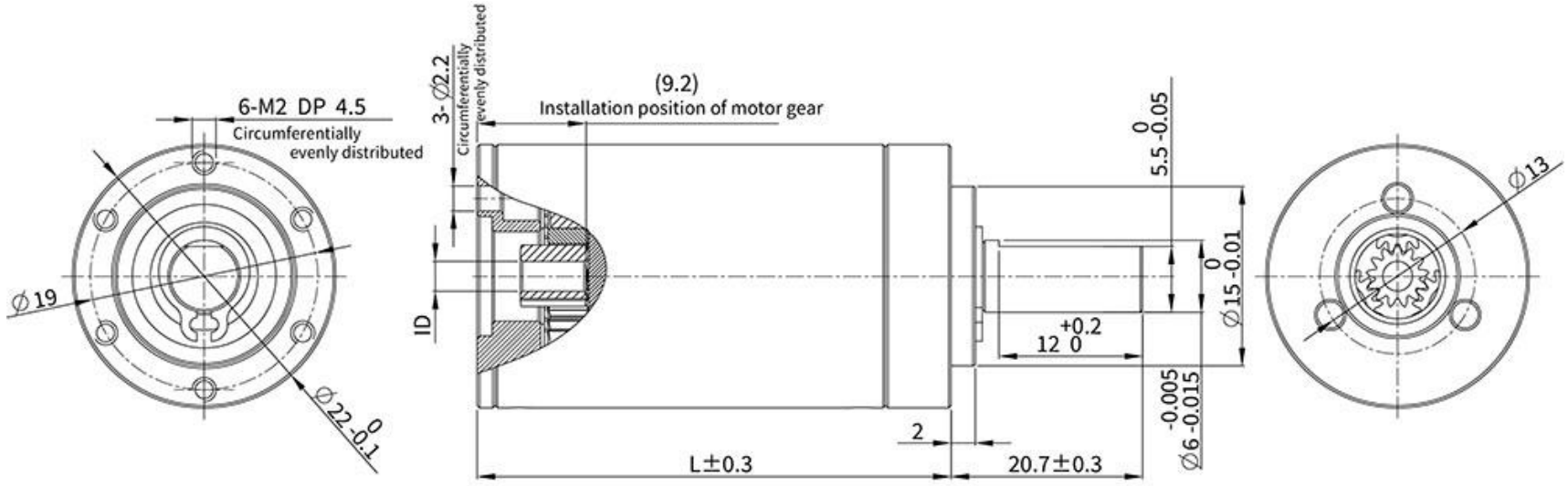

28PGX Φ28mm Series

Stage		Stage 1	Stage 2	Stage 3	Stage 4
Reduction Ratio	X : 1	3.9, 5.3, 6.6	16, 21 , 26, 28, 35	62, 83, 103, 111, 138, 150, 172, 186, 231	243, 326, 406, 439, 546, 590, 679, 734, 794, 913, 987, 1135, 1227, 1526
Max. Continuous Torque	N.m	1.25	2.90	5.0	5.0
Max. Continuous Output Power	W	100	50	25	22
Max. Continuous Speed Transfer	rpm	6000	7000	8000	8000
Max. Axial Load (Dynamic)	N	110	110	110	110
Max. Radial Load（5mm from Flange）	N	160	180	180	180
Max. Efficiency	%	90	81	74	65
Max. Backlash	°	0.55	0.7	0.9	1.0
Gearbox Length	mm	24.2	36.9	43.5	50.2
Weight	g	103	150	174	198

Product Parameter

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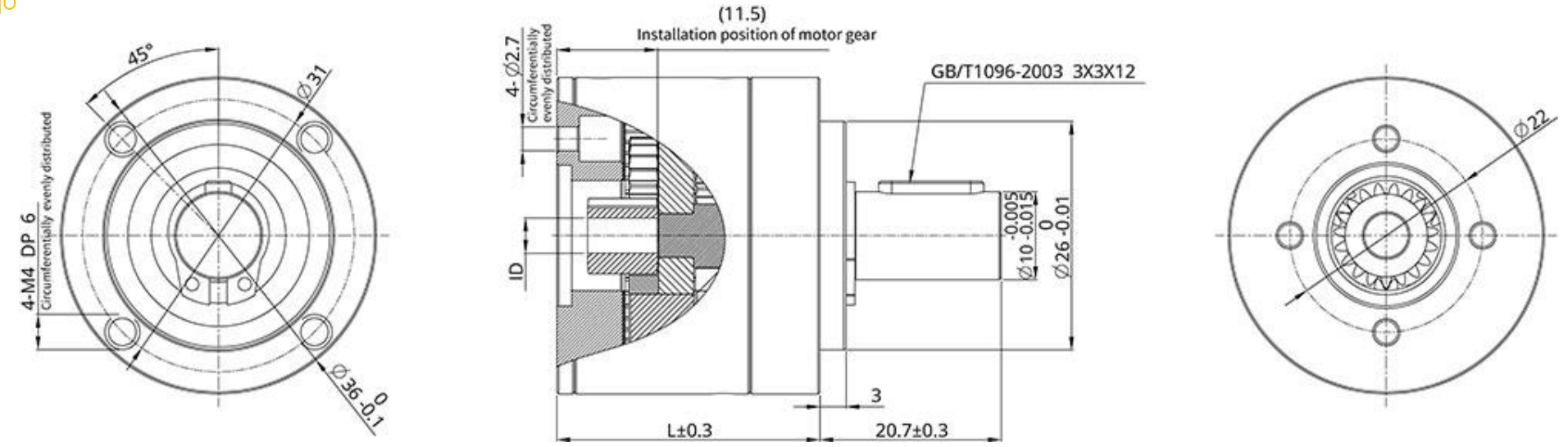
Precision Motion Specialist



36PGX Φ36mm Series

Stage		Stage 1	Stage 2	Stage 3	Stage 4
Reduction Ratio	X : 1	3.9, 5.3	16, 21 , 26, 28, 35	62, 83, 103, 111, 138, 150, 172, 186, 231	243, 326, 406, 439, 546, 590, 679, 734, 794, 913, 987, 1135, 1227, 1526
Max. Continuous Torque	N.m	2.30	5.40	9.30	9.30
Max. Continuous Output Power	W	185	90	45	40
Max. Continuous Speed Transfer	rpm	5000	6000	7000	7000
Max. Axial Load (Dynamic)	N	240	240	240	240
Max. Radial Load（5mm from Flange）	N	200	250	250	250
Max. Efficiency	%	90	80	75	65
Max. Backlash	°	0.5	0.6	0.7	0.8
Gearbox Length	mm	30	44.7	51.3	58
Weight	g	156	238	277	315

Product Parameter

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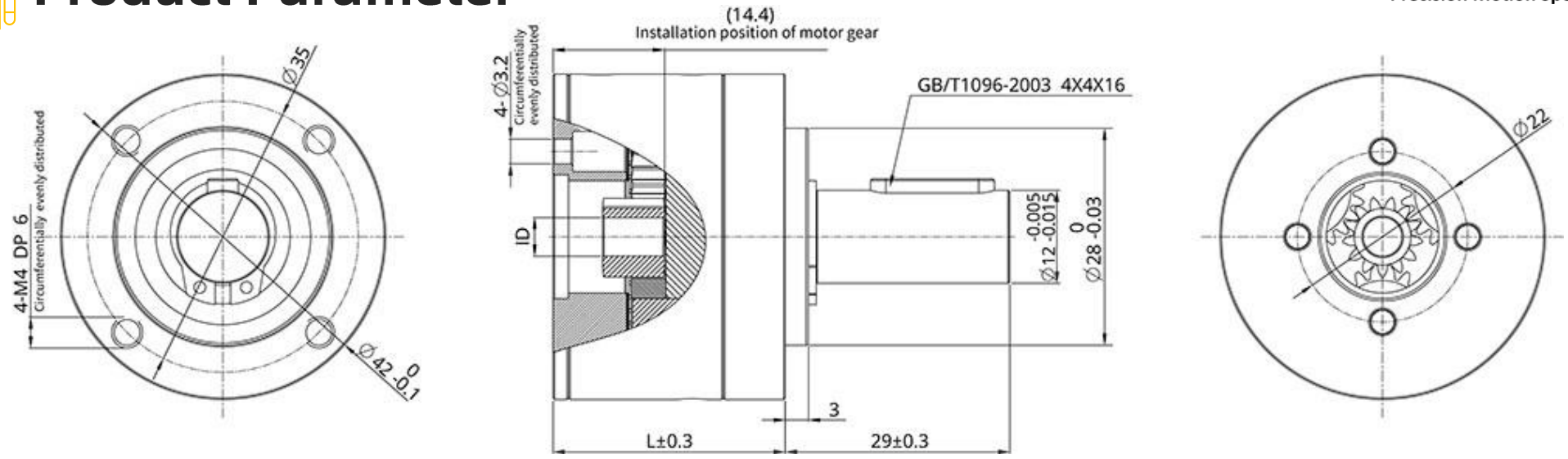

42PGX Φ42mm Series

Stage		Stage 1	Stage 2	Stage 3	Stage 4
Reduction Ratio	X : 1	3.9, 5.3	16, 21 , 26, 28, 35	62, 83, 103, 111, 138, 150, 172, 186, 231	243, 326, 406, 439, 546, 590, 679, 734, 794, 913, 987, 1135, 1227, 1526
Max. Continuous Torque	N.m	3.0	7.5	15	15
Max. Continuous Output Power	W	580	240	100	20
Max. Continuous Speed Transfer	rpm	6000	6000	6000	6000
Max. Axial Load (Dynamic)	N	200	200	200	200
Max. Radial Load（5mm from Flange）	N	350	525	750	750
Max. Efficiency	%	90	81	72	64
Max. Backlash	°	0.3	0.4	0.5	0.6
Gearbox Length	mm	36.1	54.9	63.6	72.4
Weight	g	252	405	476	544

Manufacturing

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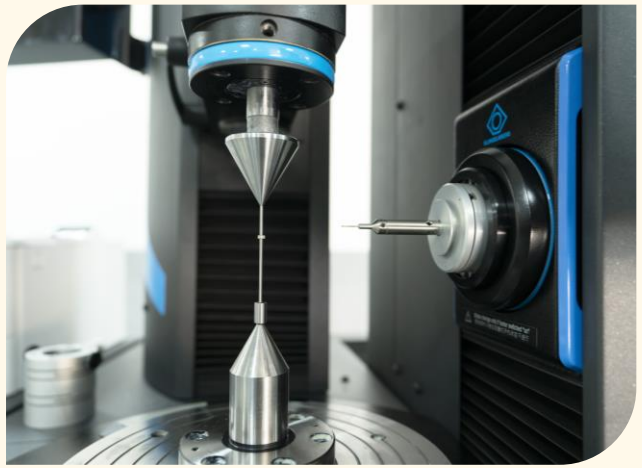
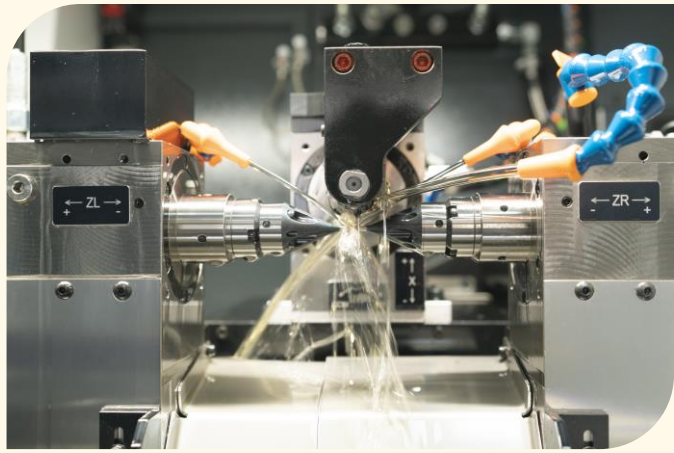
01

Use the gear measuring instrument of the same specification of the National Testing Center

02

Key parts are produced independently with imported equipment, with equipment investment of more than U$4.3Mil





Production & Measurement Equipment Introduction

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01

GF Machining Center

A machining center is an efficient and precise CNC machine tool that can process complex surfaces and precision parts.

It has advantages such as high precision, high speed, high flexibility and advanced automation.

GF adopts efficient vertical machining centers for large-sized cast iron structural components which can ensure good vibration absorption, high stability and high rigidity during continuous machining under large load-bearing conditions.

Production & Measurement Equipment Introduction

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02

Backlash Detector

The computer-controlled gearbox backlash arc minute measuring bench is composed of a loading system, rotation system, spatial adjustment mechanism, FTS (Fault tolerance system) precision testing system, computer control display system, and clamping mechanism.

It is suitable for performance testing of planetary gearbox backlash includes forward and backward no-load repeated positioning detection, return clearance, backlash testing, backlash arc minute measuring and minimum starting torque detection.

Production & Measurement Equipment Introduction

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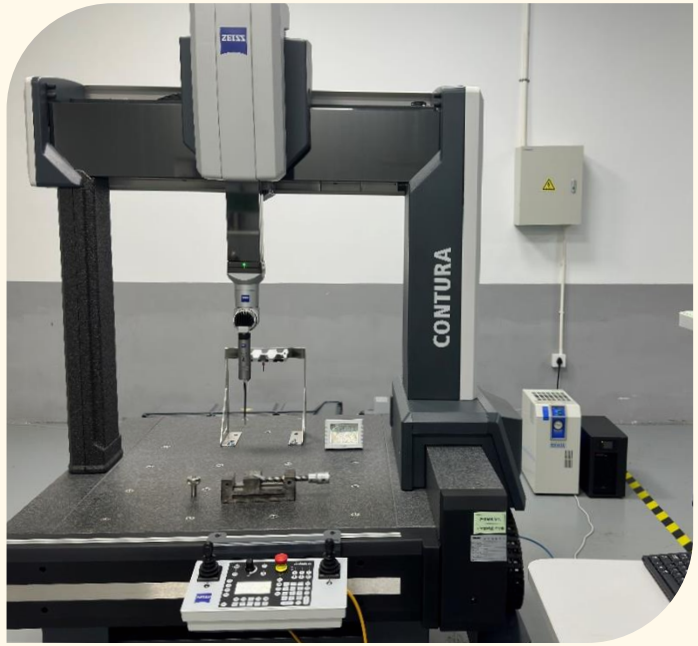
03

Zeiss Coordinate Measuring Machine

It is a measuring instrument used in the fundamental disciplines of engineering and technical science as well as the field of mechanical engineering in order to measure the geometric dimensions of products includes diameter, distance, angle, shape, position dimensions and output coordinate values of measurement elements.



Production & Measurement Equipment Introduction

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Precision Motion Specialist

04

Gear hobbing machine

Capable of cutting straight and helical cylindrical gears as well as machining worm gears, sprockets etc.

A gear processing machine tool for machining spur, helical, herringbone cylindrical gears, and worm gears using a hob according to the generation method.

Production & Measurement Equipment Introduction

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05

Klinberg Gear Measurement Center

It is an analytical instrument used in the fields of physics, engineering, technical science and mechanical engineering.

The measurement center can detect cylindrical gears, bevel gears, gear shapers and shavers, worm gears, rotors, hobs, broaches, rotational symmetric workpieces etc.

It can also be used for Fourier detection of new energy gears.

Production & Measurement Equipment Introduction

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06

Broacher

A machine tool that uses a broach as a tool to process through holes, flat surfaces and formed surfaces of workpieces.

Broaching can achieve high dimensional accuracy and small surface roughness, high productivity and is suitable for mass production in batches.

Production & Measurement Equipment Introduction

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07

Small Module Gear Hobbing Machine

The Swiss Lambert Wahli small module gear hobbing machine 500D is a representative product of its company with excellent performance.

It is used for high-performance and high-precision small module gear machining, eight axis CNC and is used in the clock, instrument and micro machinery industries.