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Wontec
www.wontec.com.cn 万臣

Specialising in medical motion module solutions



COMPANY
BORCHURE

www.wontec.com.cn



COMPANY PROFILE

Wontec is committed to the meticulous integration of a variety of transmission products for the medical equipment, automation industry to provide high quality and cost-effective products for the customer’s R & D selection to provide one-stop service.

Products and Services:

- A.

Needles for IVD instruments:
biochemical, luminescent, blood cell sampling needles, pipette needles, sample needles, cleaning needles, etc; optimal nano-polishing technology for the inner and outer walls, the smallest inner diameter can be 0.1mm.
- B.

Surface treatment capabilities:
Teflon coating, low-temperature black chrome plating (Raydent), superhydrophobic inner and outer wall surfaces;
- C.

Servo stepper products:
torque mode full range of electric jaws, rotary jaws, drive one motor; compatible with CANopen\can\rs485\modbus protocol, IO is equally controllable;
- D.

Liquid level detection module:
According to different application scenarios of users, anti-interference type, high sensitivity type, communication feedback type, etc. can be provided;
Adaptive base tolerance values for various needles or tips to enhance needle versatility;
- E.

Linear drive products:
standing hollow 8, 10, 12, 13, 16 ball spline, micro-small stainless steel guide, miniature precision bearings;
- F.

Sampling module:
medical device sampling ZR, XZ module, including bus interface, liquid level detection, precision suction needle;
structure size can be customised according to customer requirements;
- G.

Machining capacity:
four-axis CNC machining centre, CNC lathe, CNC hobbing machine, five-axis walking machine, external polishing machine, fluid polishing machine, cylindrical grinder, surface grinder, wire cutting and other equipment.
- H.

Embedded trackballs:
full range of trackballs 16, 19, 25, 30, 36, 38, 50, etc;

Focus on quality Pursue excellence

In order to ensure the quality of our products and create core value for our customers, we have passed ISO9001 and strictly implemented it. We provide environmentally friendly product resources to our customers with high quality service and cutting-edge technology.





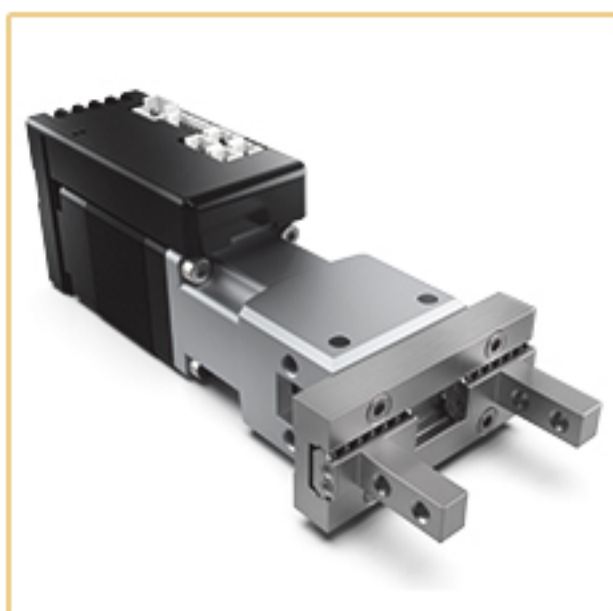
Medical Sampling Needles	P.01
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Medical mixing paddles	P.08
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Liquid level sensors	P.11
WTLLS-C	P.11
WTLLS-FCC	P.11
WTLLS-C PRO	P.12
Ultrasonic Needle Driver Board	P.12
Integrated pipetting process control board	P.13
Typical Wiring for Liquid Level Detection	P.14



Intelligent electric jaws	P.15
WTEC20 Collection	P.17
WTEC28 Collection	P.19
WTEC42 Collection	P.20



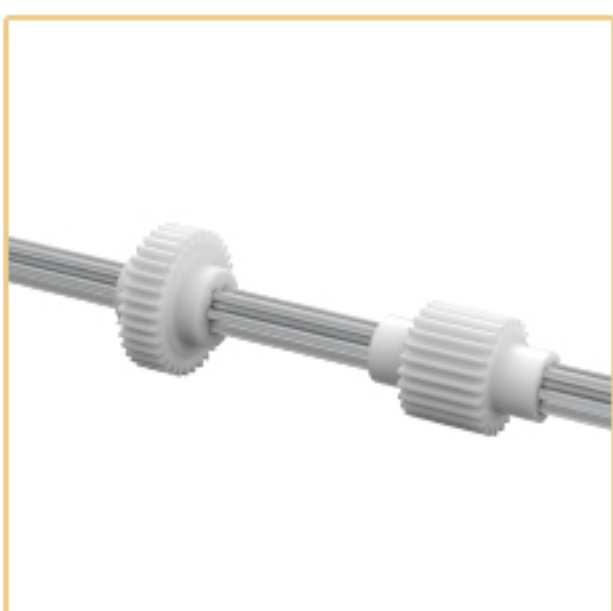
Rotary electric claw	P.21
WTEX 28	P.21
WTET 28	P.21



Intelligent stepper motor all-in-one	P.23
--------------------------------------	------



Integrated piston pumps	P.25
-------------------------	------



Involute Spline Gear Units	P.27
----------------------------	------



Rack and pinion rolling spline pair	P.28
-------------------------------------	------



Sliding rack and pinion vice	P.29
------------------------------	------



Rolling rotary spline sub	P.30
---------------------------	------



ball screw	P.31
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Miniature guideways	P.32
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Precision Ball Spline Sets	P.33
Dimension drawing	P.37



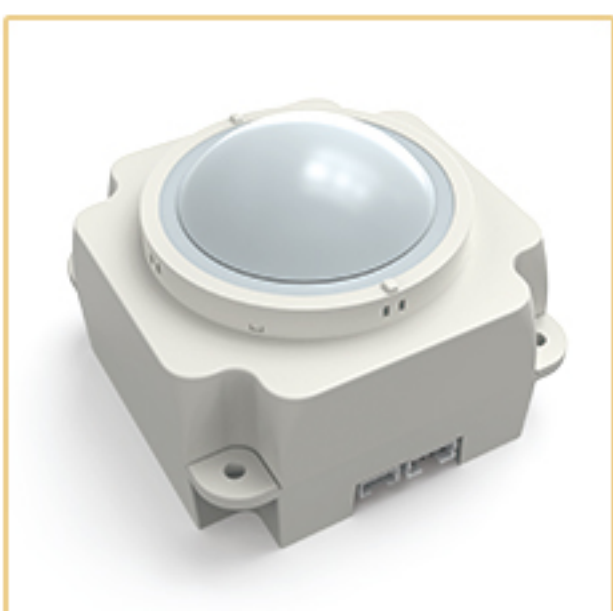
XZ Pipette Arms	P.39
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ZR Module Sampling Module	P.40
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Precision bearings	P.42
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Trackball for ultrasound	P.43
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MEDICAL SAMPLING NEEDLES

- ①Scrubbing Needle
- ②Puncture Sampling Needle
- ③Sample Filling Needle (with heating)
- ④Sample Filling Needle
- ⑤Open Sampling Needle
- ⑥Inspiration Needle
- ⑦Sample Needle

Wontec Technology has internal polishing and bending and spinning technologies for SUS tubes of various sizes, and can meet the various requirements of users for the production of sampling needles and other such products.



MEDICAL SAMPLING NEEDLES

PRODUCT ADVANTAGES

Sampling and cleaning needles for chemiluminescence, blood cells, biochemical analysers, urine analysers and other equipment.

Materials available: 304, 316L, pure titanium.

The interior is lean ground with fluid polishing equipment to achieve a mirror finish.

To reduce residue, the needle tip portion can be made reducer.

Specification sheet (material 316L)			
SERIAL NUMBER	(OD*ID)	SERIAL NUMBER	(OD*ID)
1	0.7*0.4	25	1.8*1.3
2	0.8*0.6	26	1.8*1.5
3	1.0*0.7	27	1.9*1.4
4	1.02*0.3	28	2.0*0.2
5	1.1*0.8	29	2.0*0.3
6	1.2*0.3	30	2.0*0.61
7	1.2*0.8	31	2.0*0.81
8	1.3*0.9	32	2.0*1.0
9	1.4*1.0	33	2.0*1.2
10	1.5*0.7	34	2.0*1.37
11	1.5*1.12	35	2.0*1.4
12	1.5*1.21	36	2.0*1.5
13	1.6*0.51	37	2.0*1.6
14	1.6*0.56	38	2.4*1.8
15	1.6*0.58	39	2.5*1.50
16	1.6*0.76	40	2.4*1.8
17	1.6*0.79	41	2.5*1.52
18	1.6*1.0	42	2.5*1.9
19	1.6*1.2	43	2.5*2.00
20	1.6*1.4	44	2.53*0.65
21	1.7*1.4	45	2.7*2.2
22	1.7*1.5	46	3.0*1.5
23	1.75*1.0	47	3.0*2.0
24	1.75*1.5	48	

Medical Sampling Needles

► Sampling and cleaning needles for chemiluminescence, blood cells, biochemical analysers, urine analysers and other equipment.



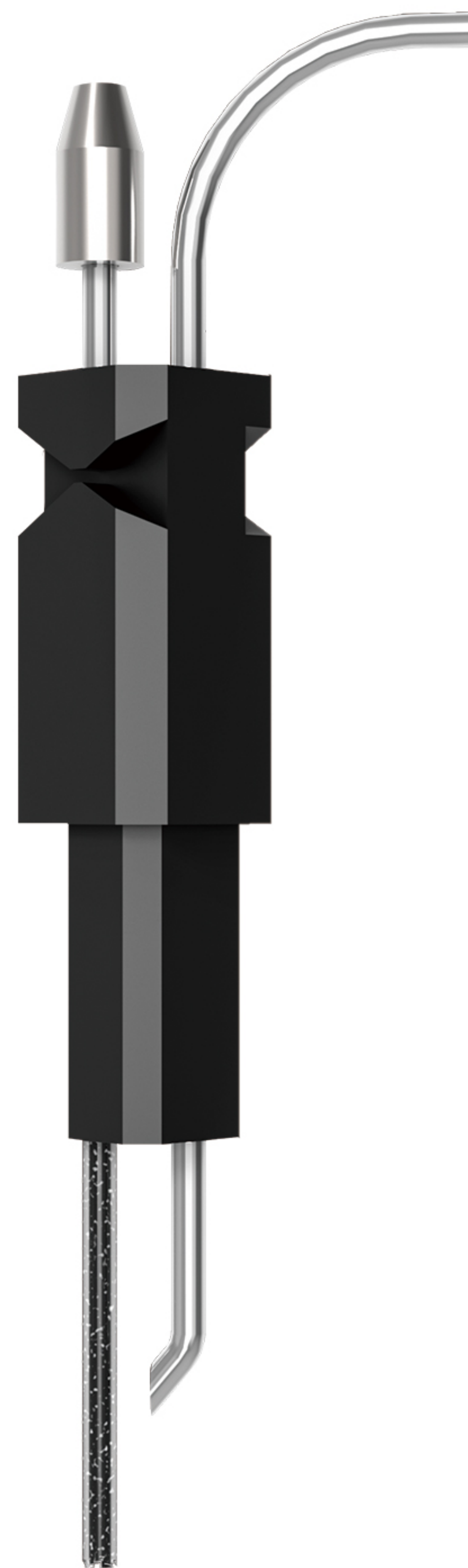
scrubber



Cleaning Needles



Cleaning Needles



Cleaning Needles



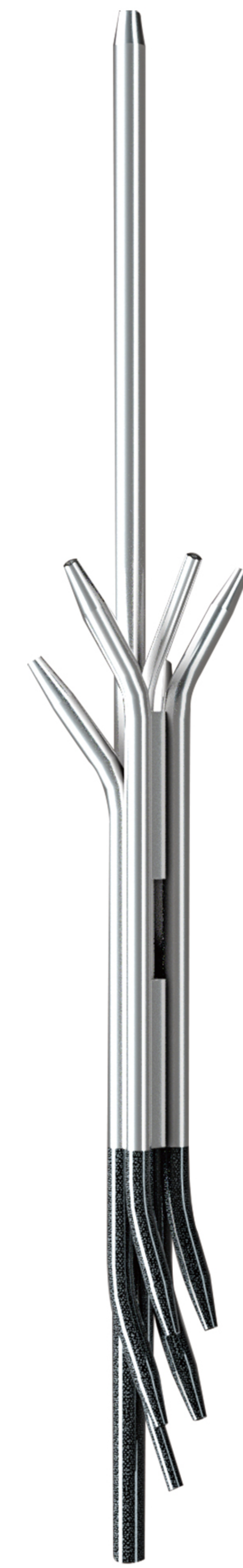
Heating Needle



Heating Needle



Heating Needle



Staining Needle

Medical Sampling Needles

► Sampling and cleaning needles for chemiluminescence, blood cells, biochemical analysers, urine analysers and other equipment.



Sampling needle



Anti-collision
Sampling needles



Sampling needle



Sampling needle



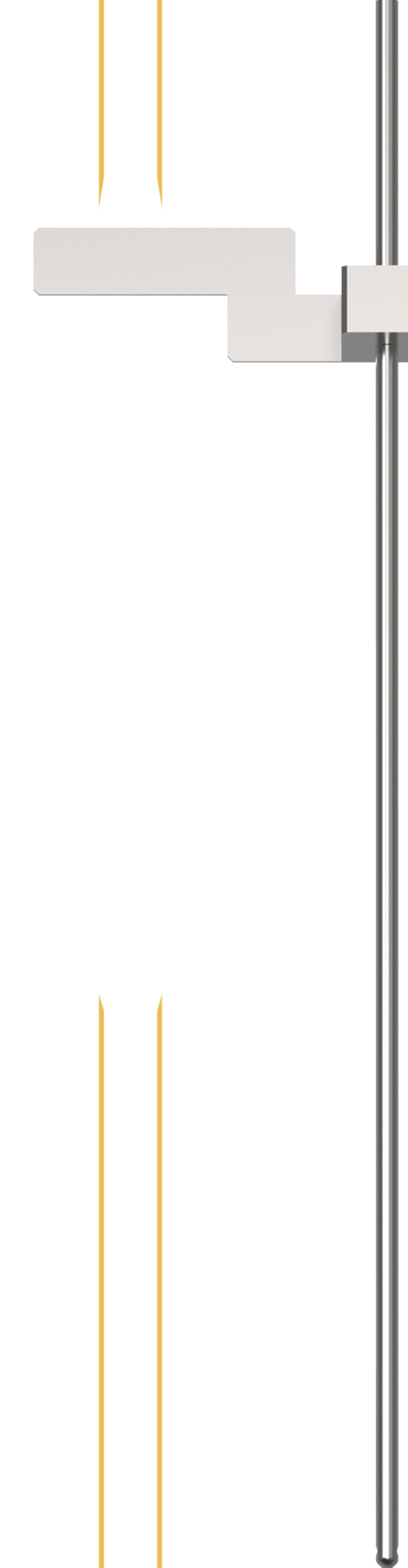
Puncture needle



Puncture needle



Puncture needle



Puncture needle

Medical Sampling Needles

► Sampling and cleaning needles for chemiluminescence, blood cells, biochemical analysers, urine analysers and other equipment.

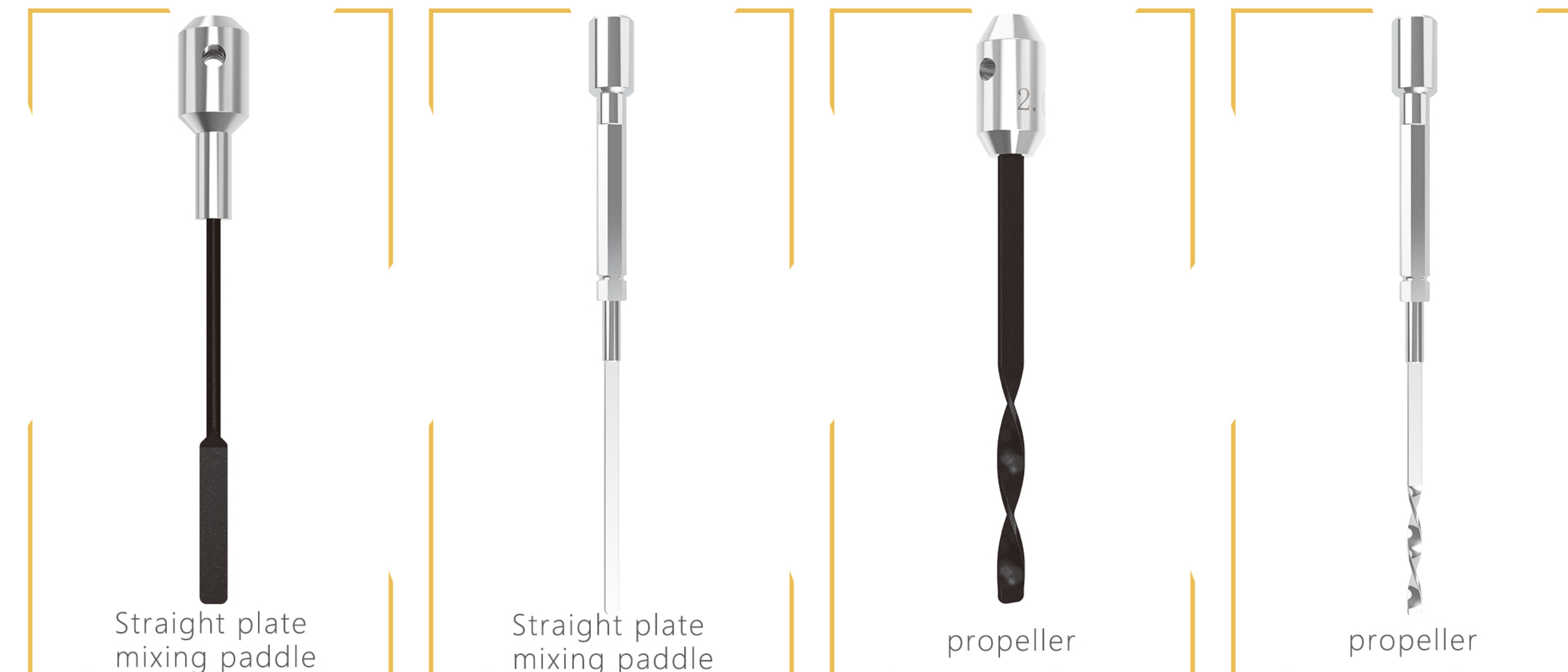


Medical mixing paddles

► Straight plate mixing paddle, spiral mixing paddle

3D MODELS AND APPLICATION SCENARIOS

► CAN BE DOWNLOADED AND VIEWED
BY SCANNING THE QR CODE.



PRODUCT ADVANTAGES

- Used for high and low concentration stirring and mixing, so that the liquid medium forced convection and uniform mixing reaction.
- One-piece machining and moulding with good symmetry.
- It can be customised according to drawings to meet various needs of customers.
- Ultra-hydrophobic plating on metal surfaces, colourless and transparent, no hanging liquid; plating is wear-resistant, acid and alkali resistant.



PIPE WITH MIRROR-POLISHED INNER WALL

TECHNICAL INTRODUCTION

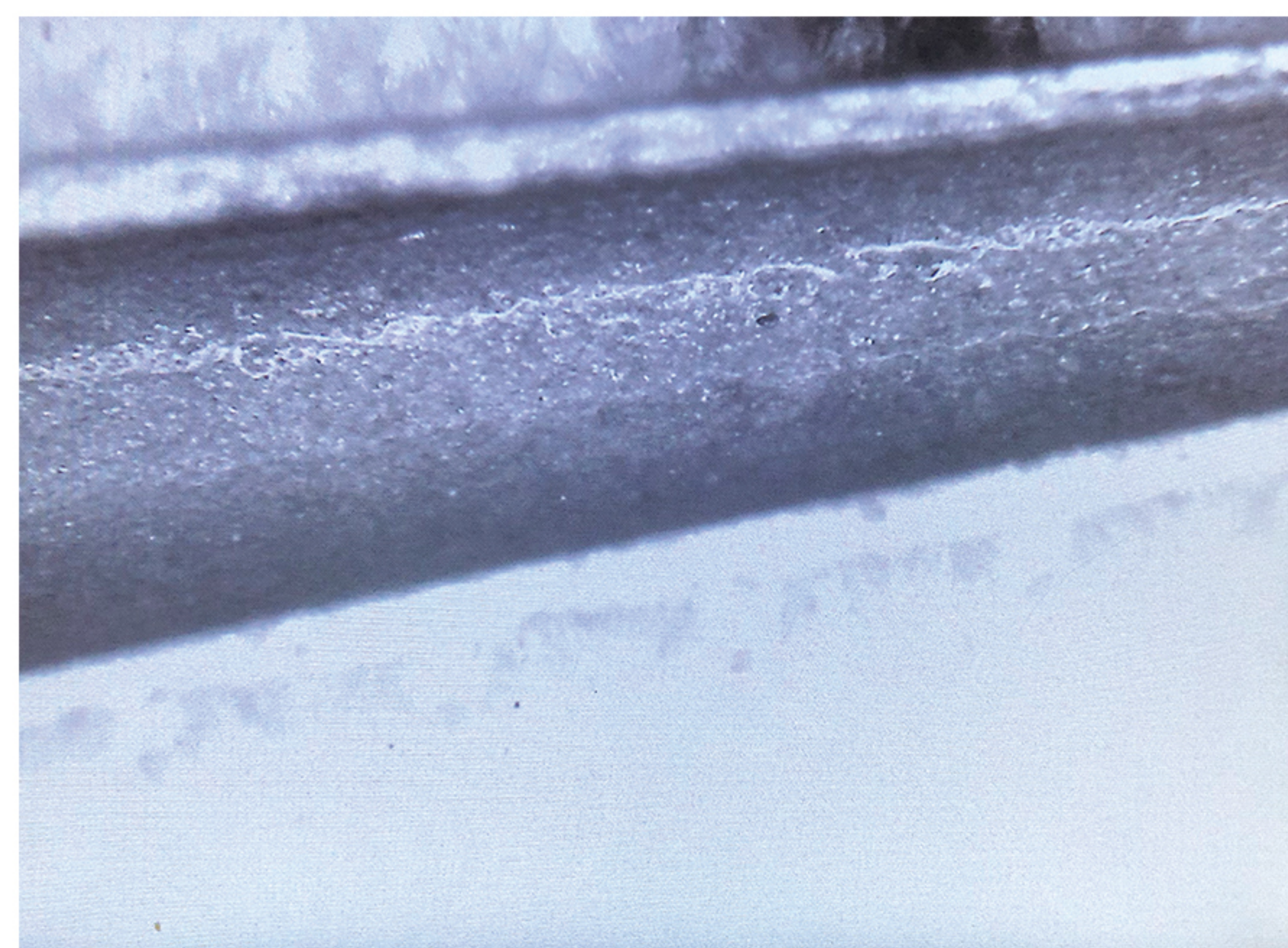
- Highly clean tubes for our customers

Tubes used for analytical testing must have a high degree of cleanliness, especially capillary tubing, which is difficult to remove once impurities have been retained in the inner wall. Winchen Technology provides customers with high-standard tubing through management of the tube-making stage and precision polishing at a later stage.

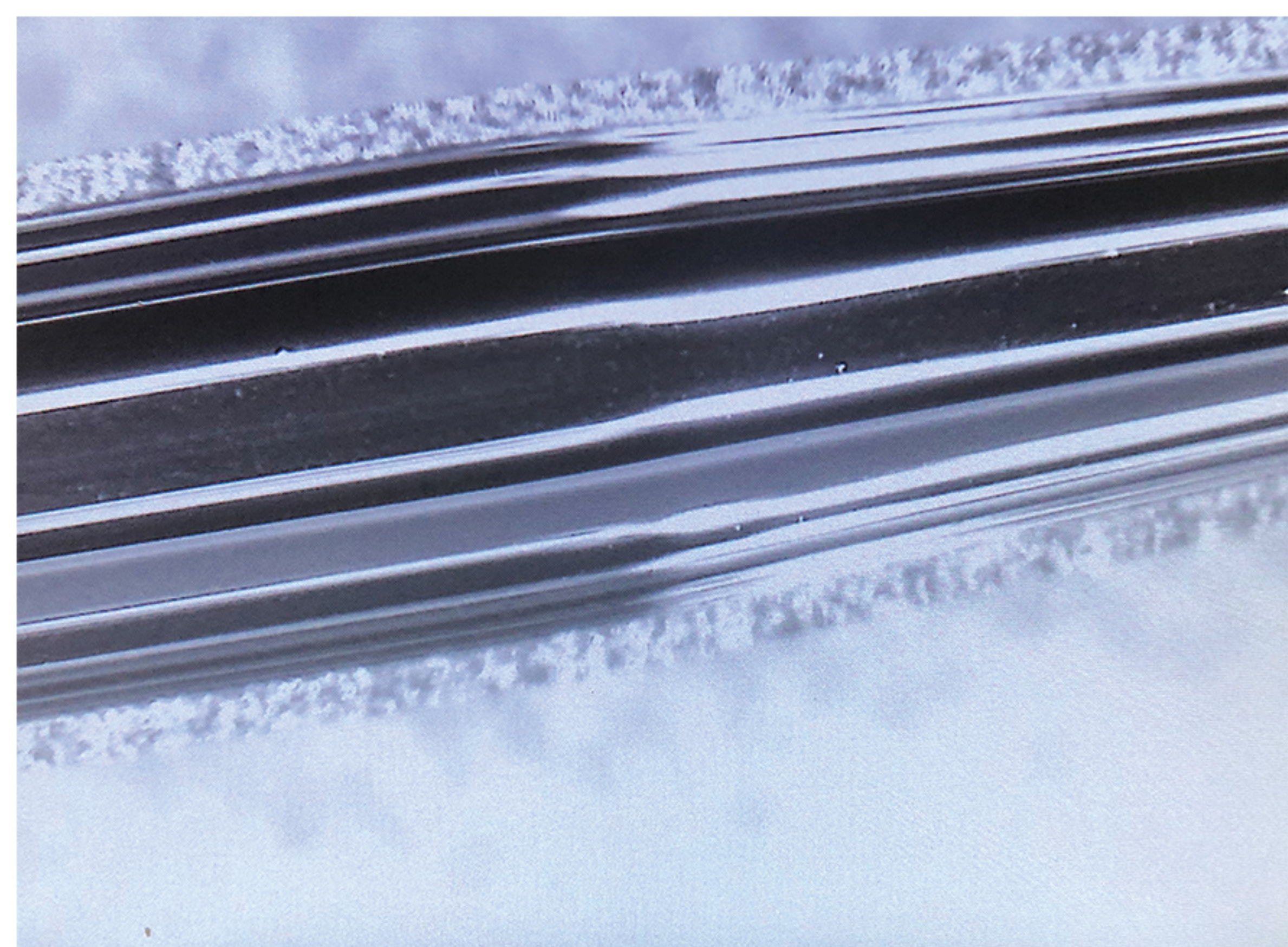
- Further improvement of internal wall finish

Thanks to the project of Shenzhen Science and Innovation Commission ‘Re-2019N045 Key Technology Research and Development of High Precision Sampling Needle for High-end IVD Equipment’, our company undertook the technical research of capillary wall polishing, and the mid-term evaluation of the project was passed in 2021, and the technical indexes of our company’s inner wall polishing have already exceeded the preset target of the project.

Regarding internal wall polishing, Watson Technology has made the following comparisons

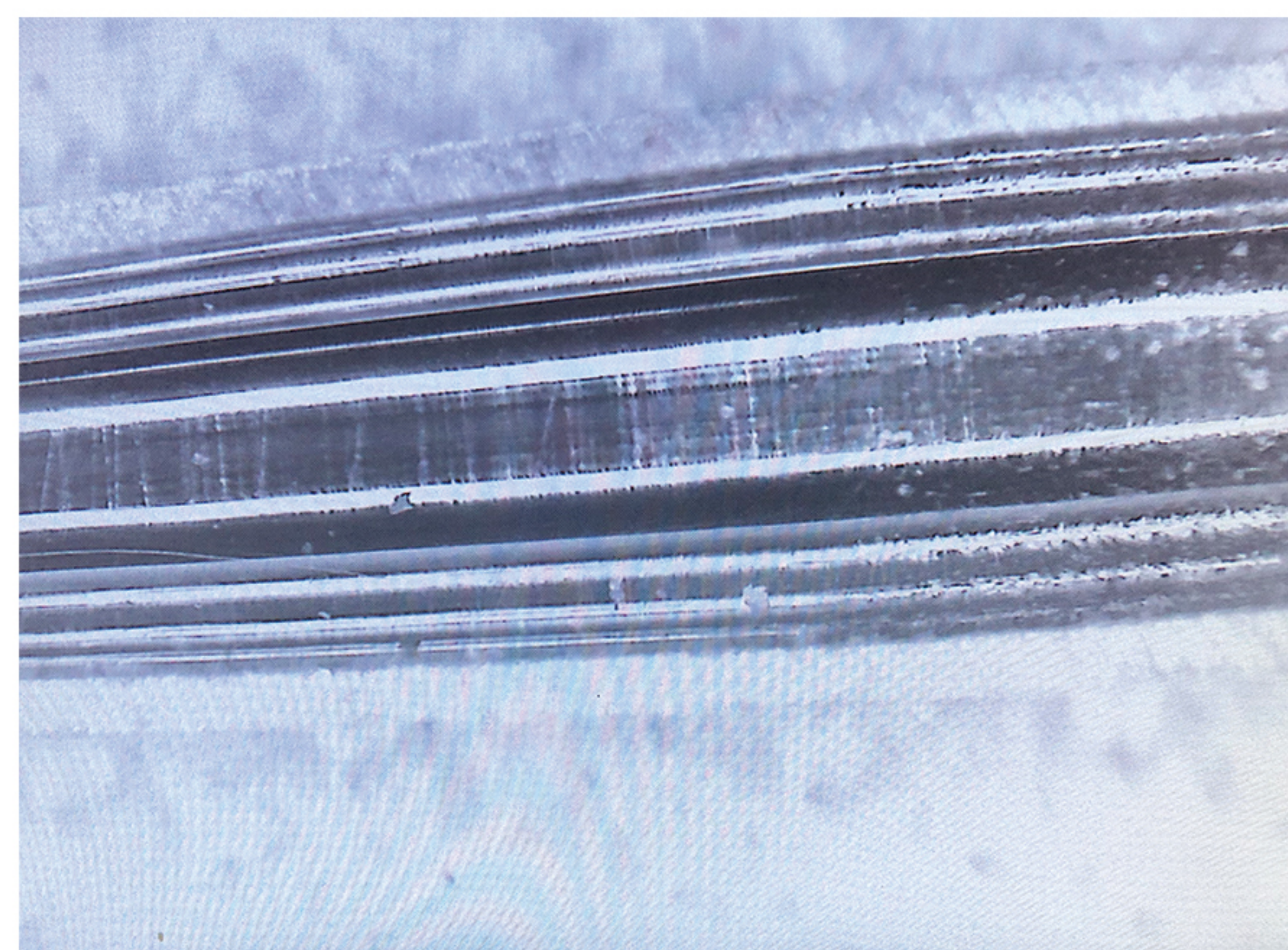


Original Tubing

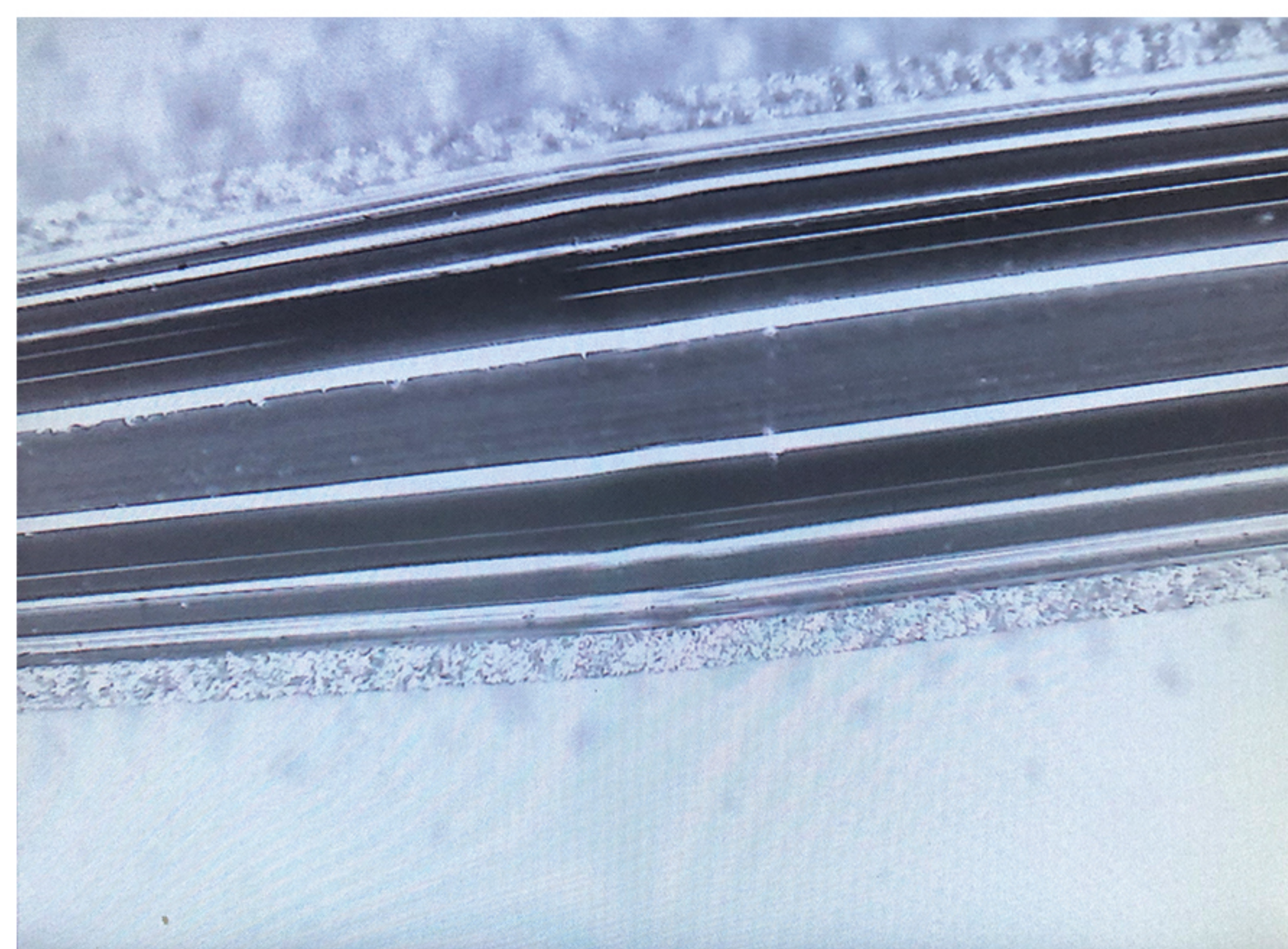


After polishing the inner wall

- Inner wall polishing
- Wontec Technology applies different inner wall polishing techniques to mirror polish straight and variable diameter tubes with different inner diameters, including ultra-fine thin-walled syringes with an inner diameter of 0.1mm, which can also achieve Ra



Imported samples



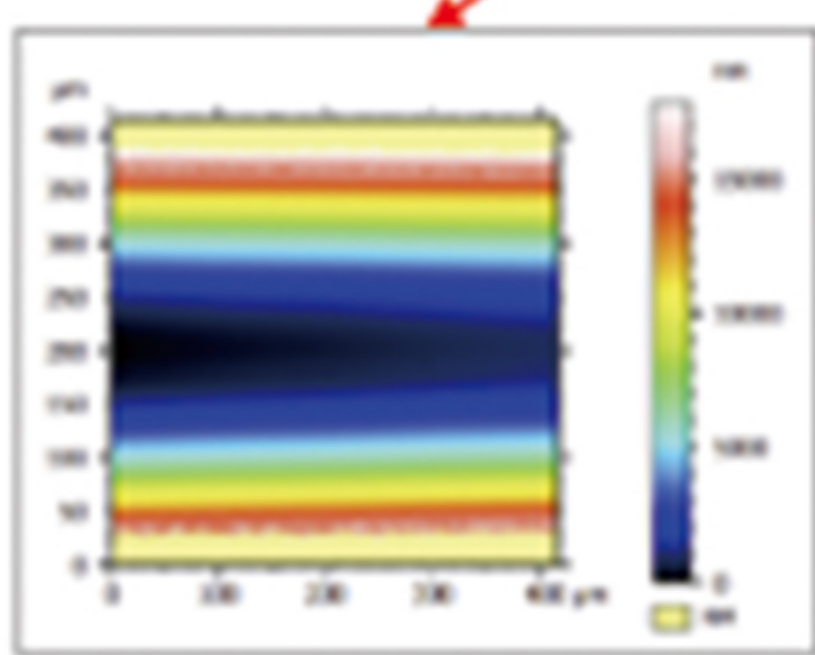
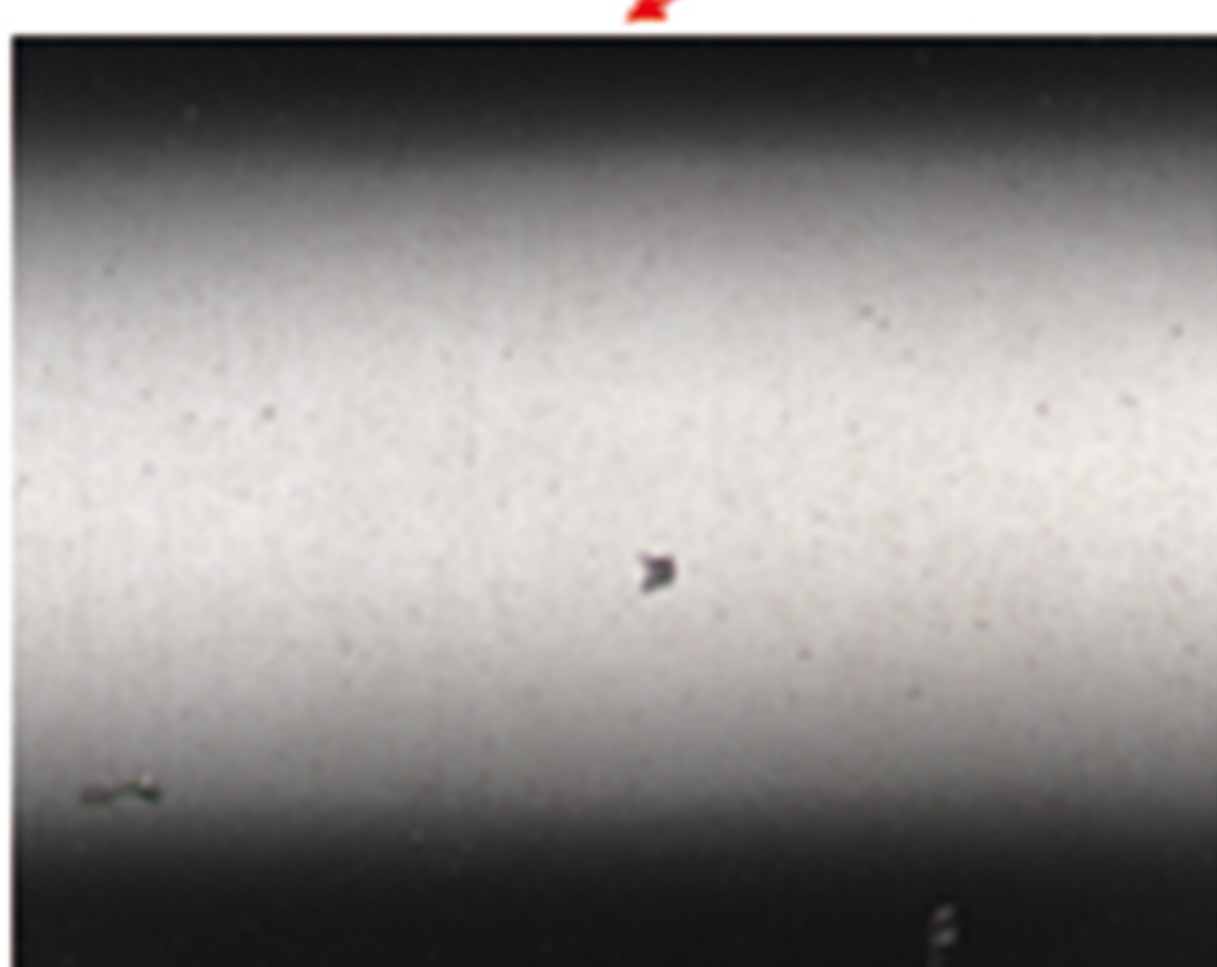
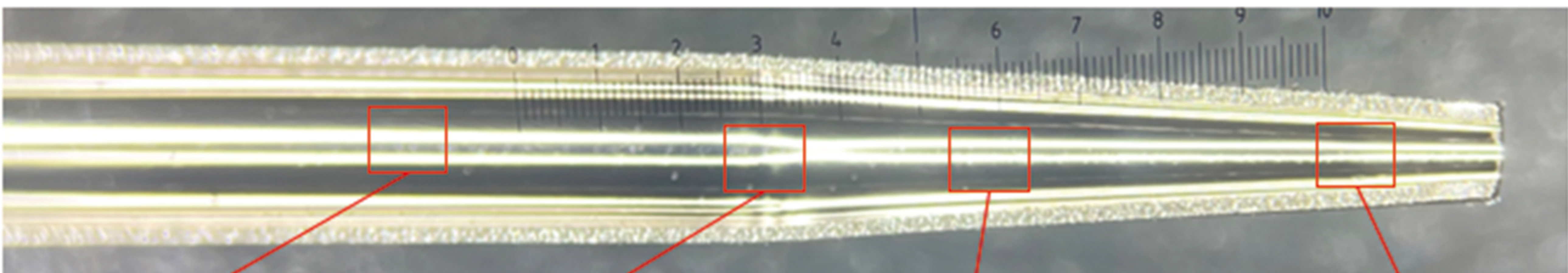
Wontec

- Product Comparison
- Imported reducer samples are compared with the internal polishing of the reducers produced by Wontec.

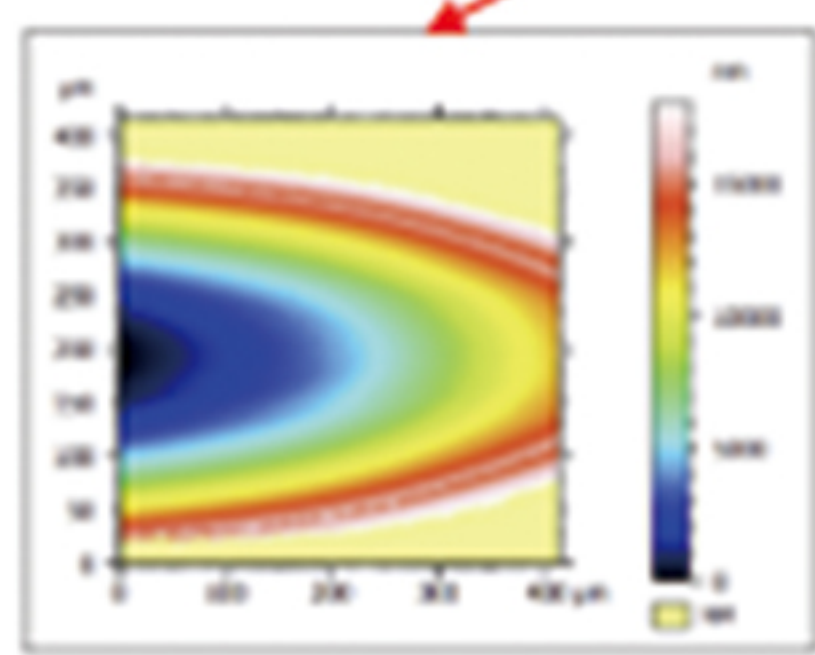
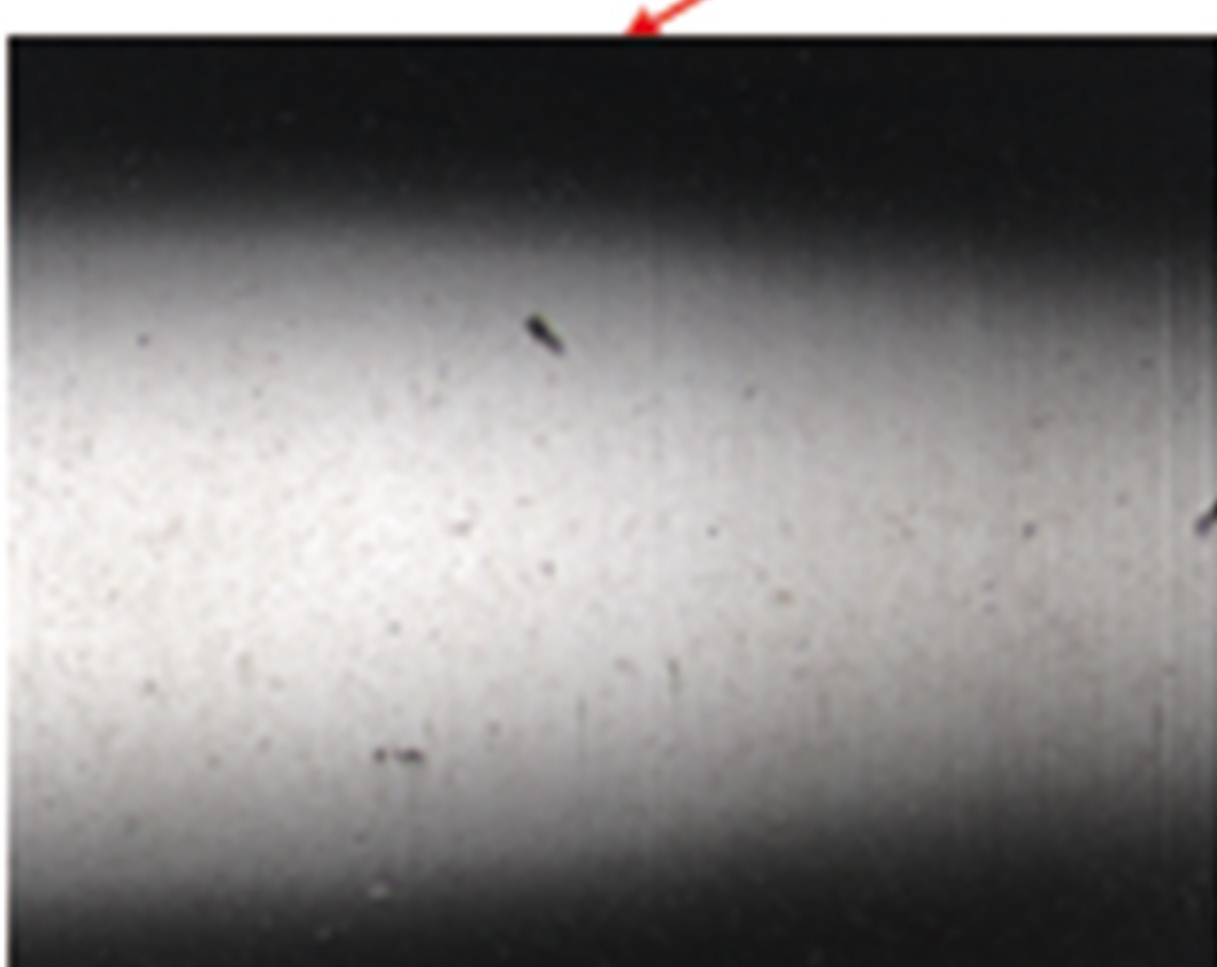
COMPARISON OF INNER WALL POLISHING

TECHNICAL INTRODUCTION

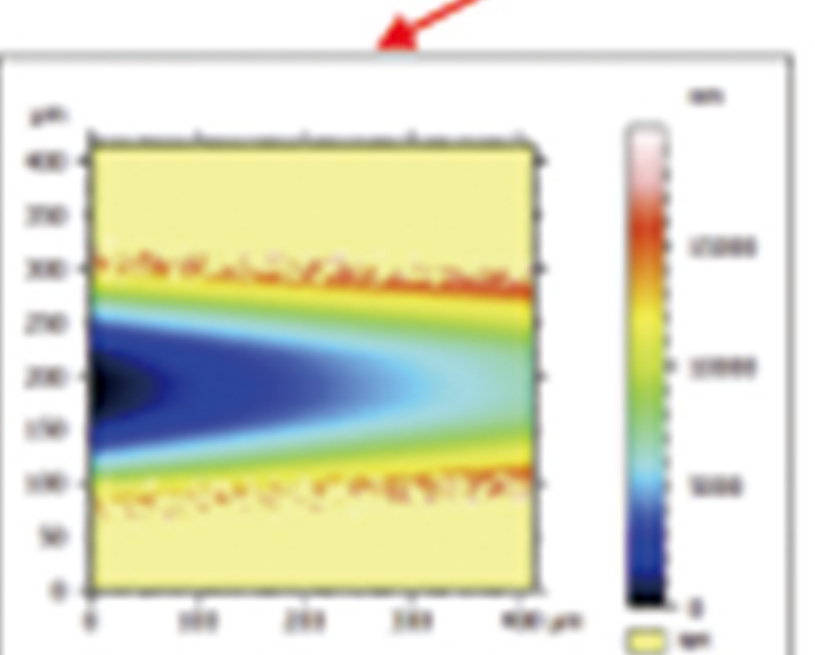
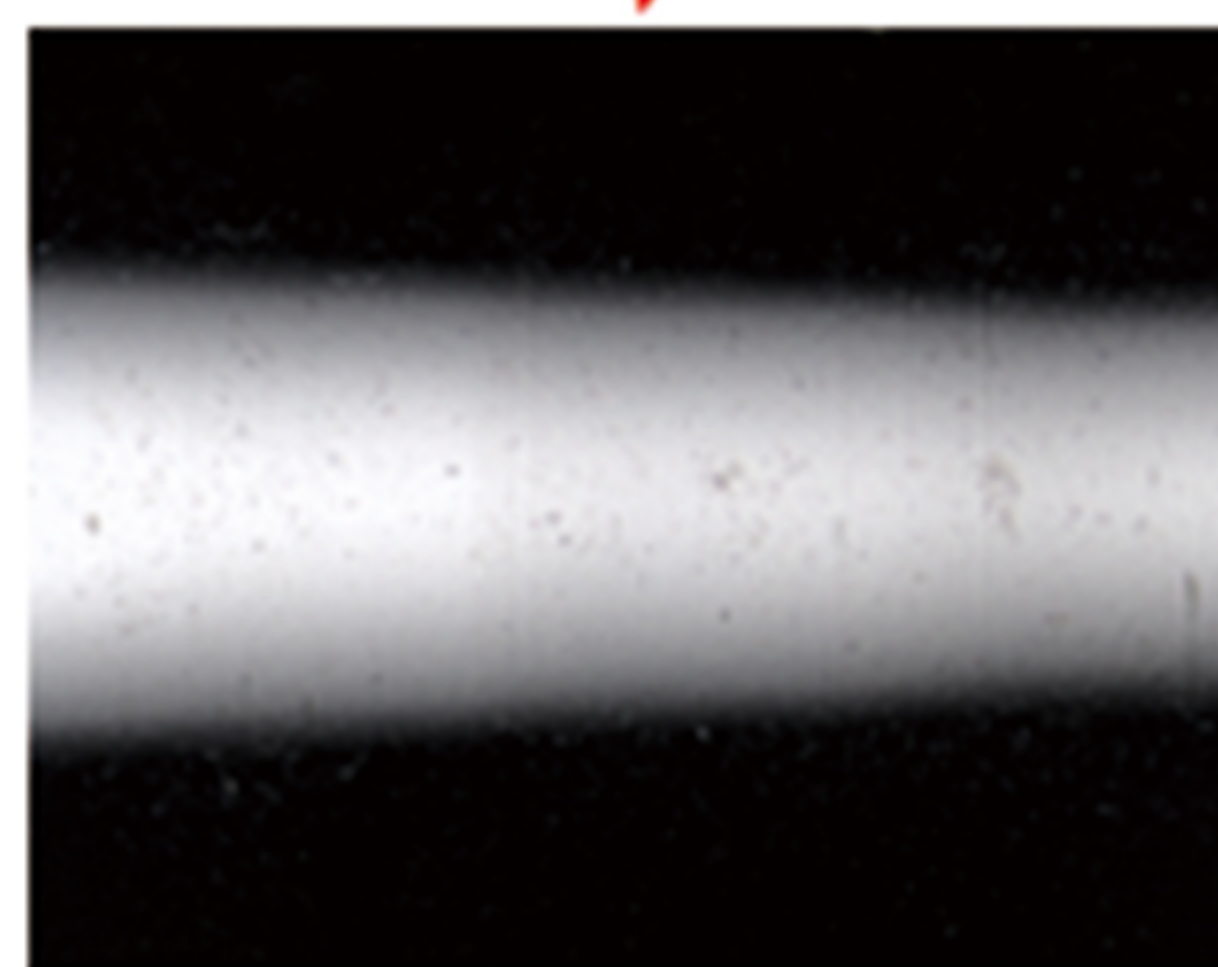
(C202500004301-01) 316L Internal Needle Internal Surface Quality Testing



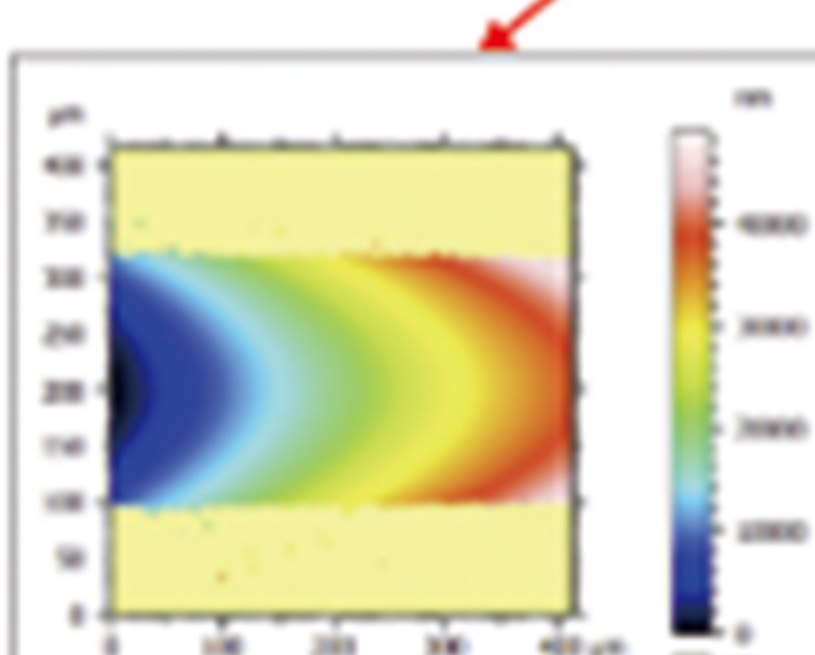
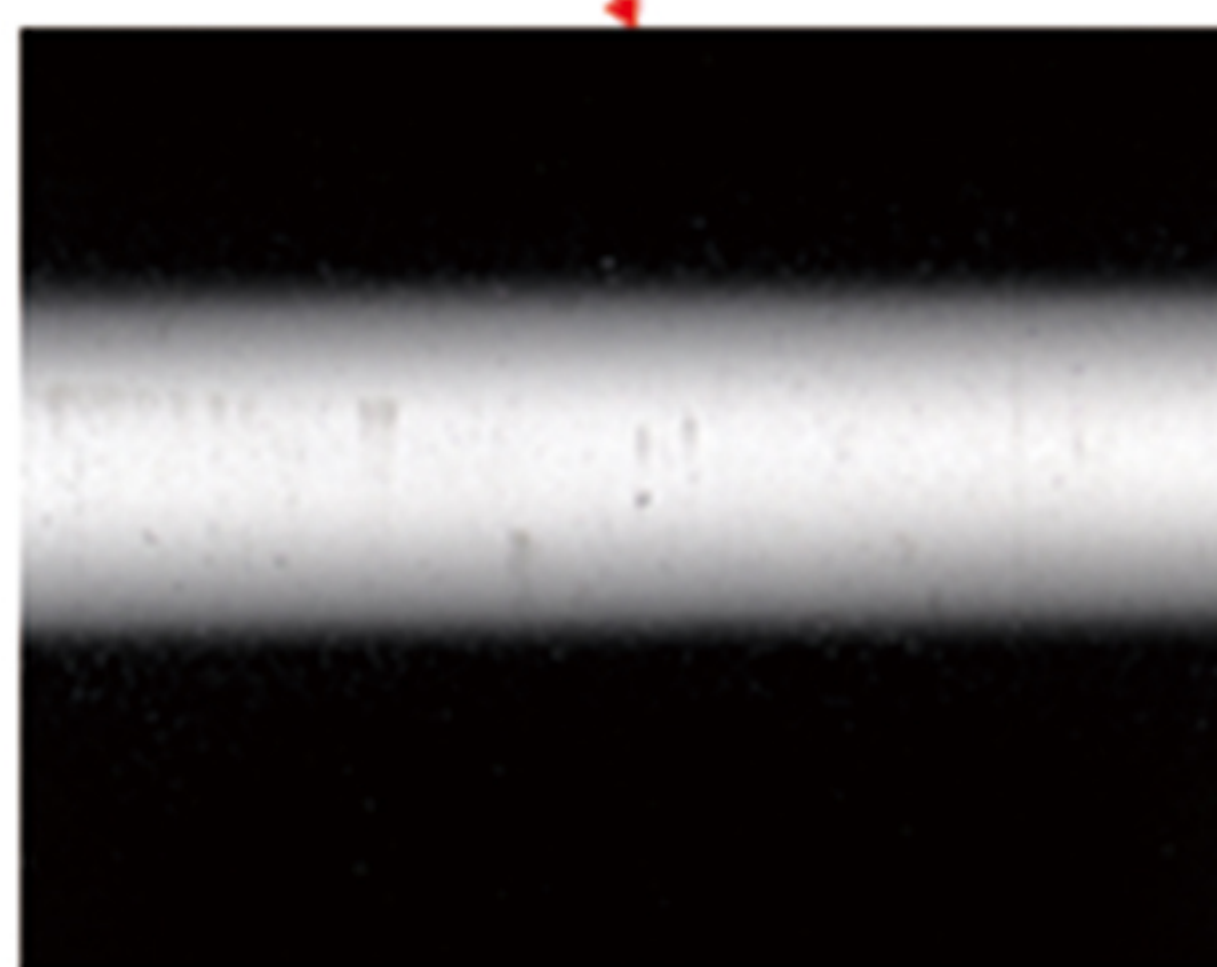
roughness
Ra 0.00260μm(2.60nm)



roughness
Ra 0.0175μm(17.5nm)

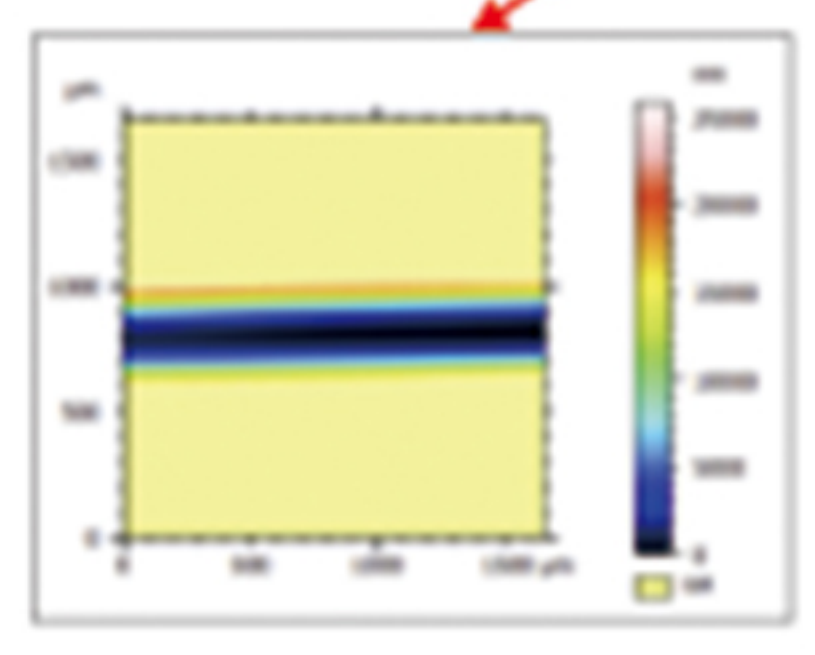
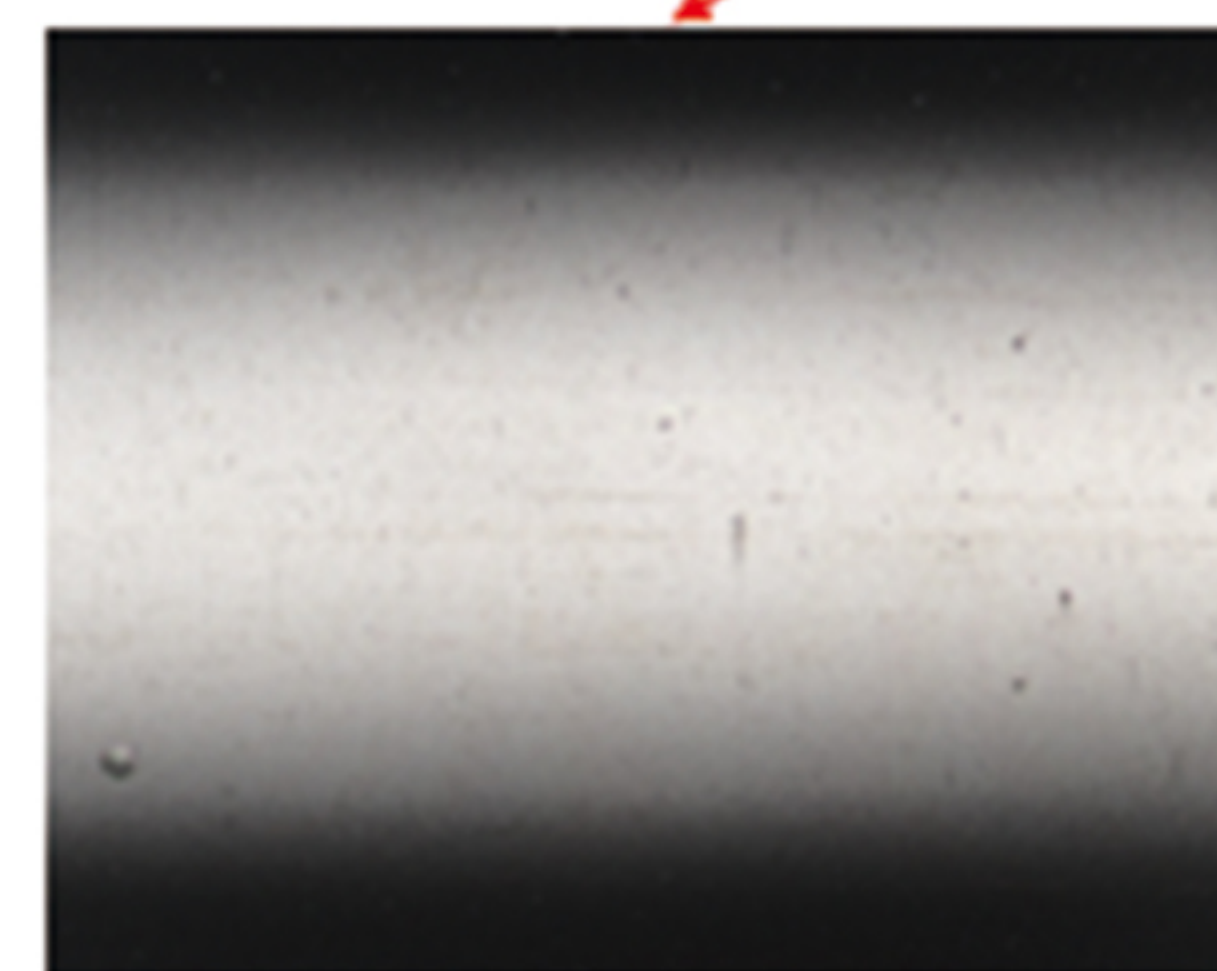
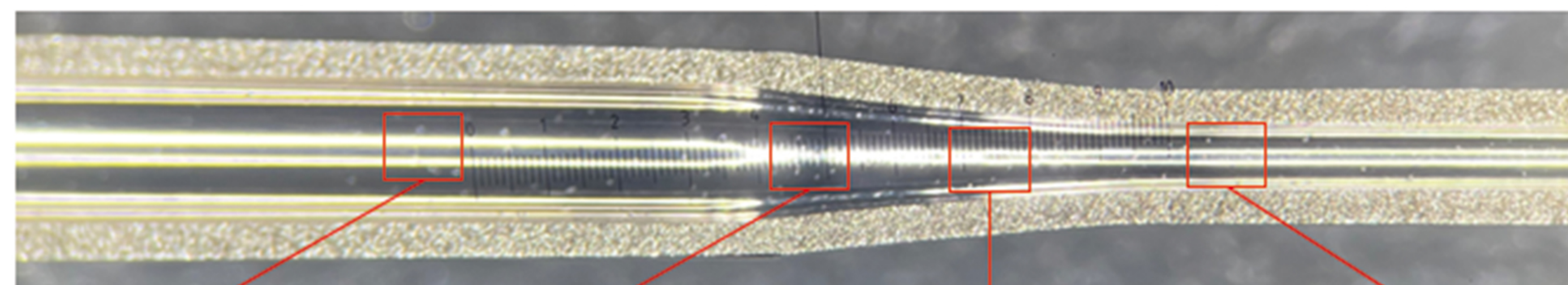


roughness
Ra 0.0105μm(10.5nm)

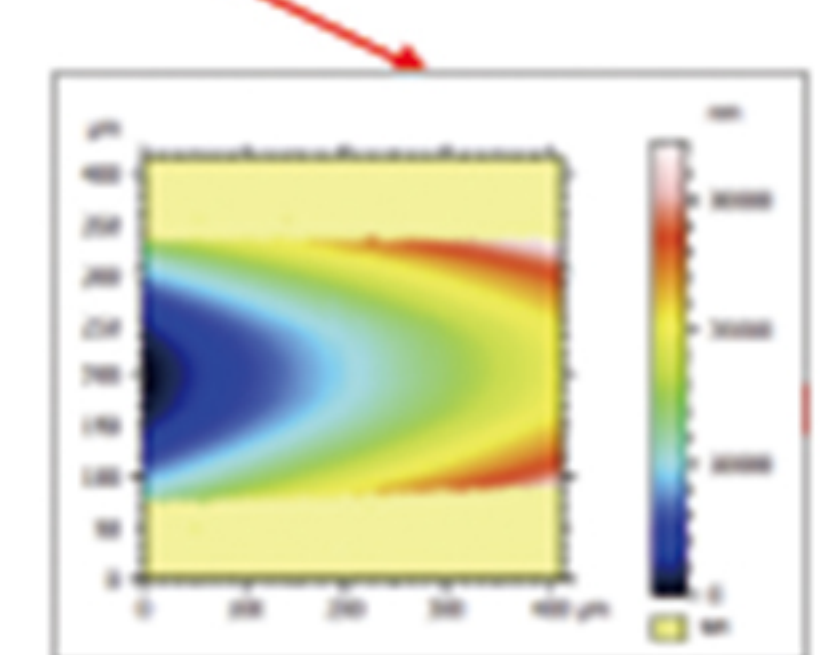
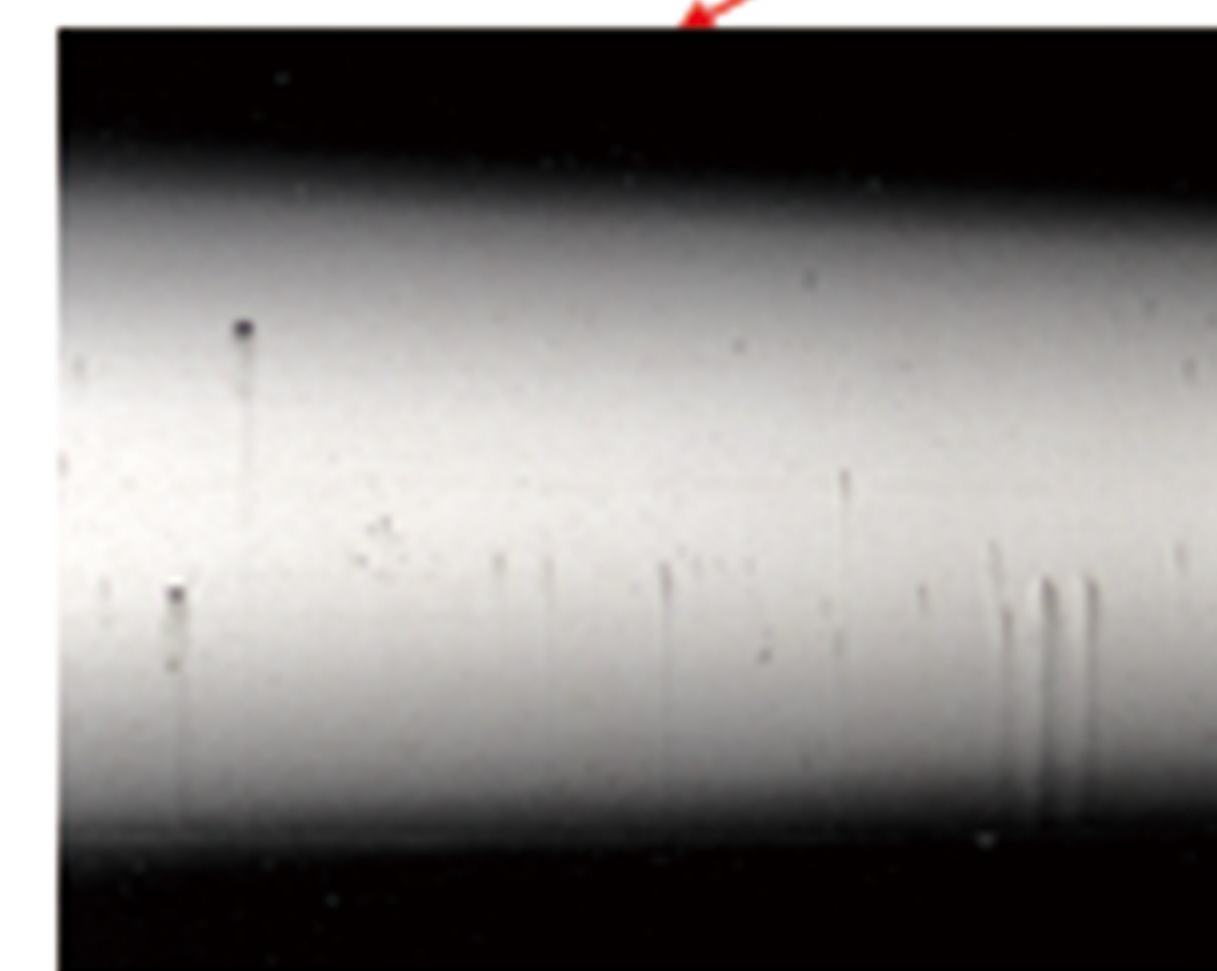


roughness
Ra 0.0358μm(35.8nm)

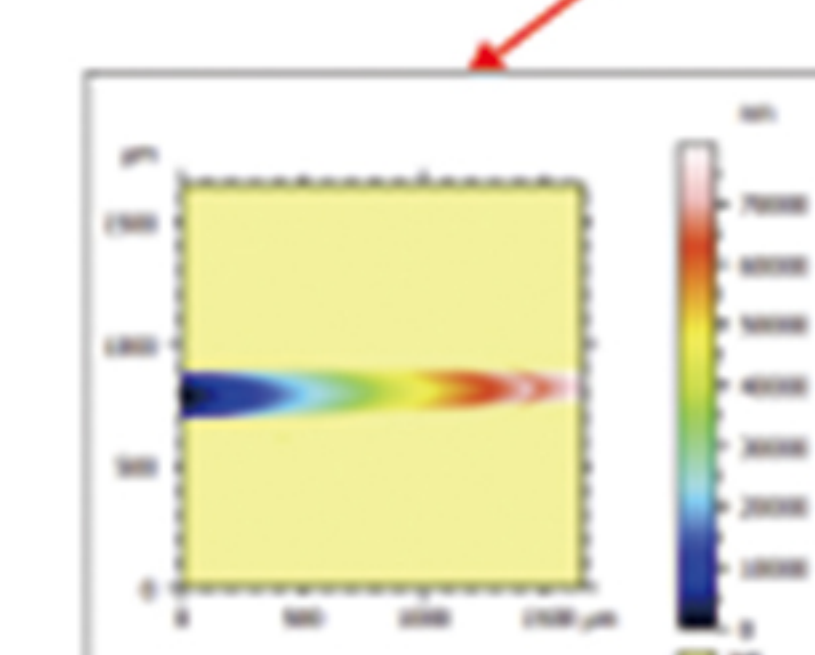
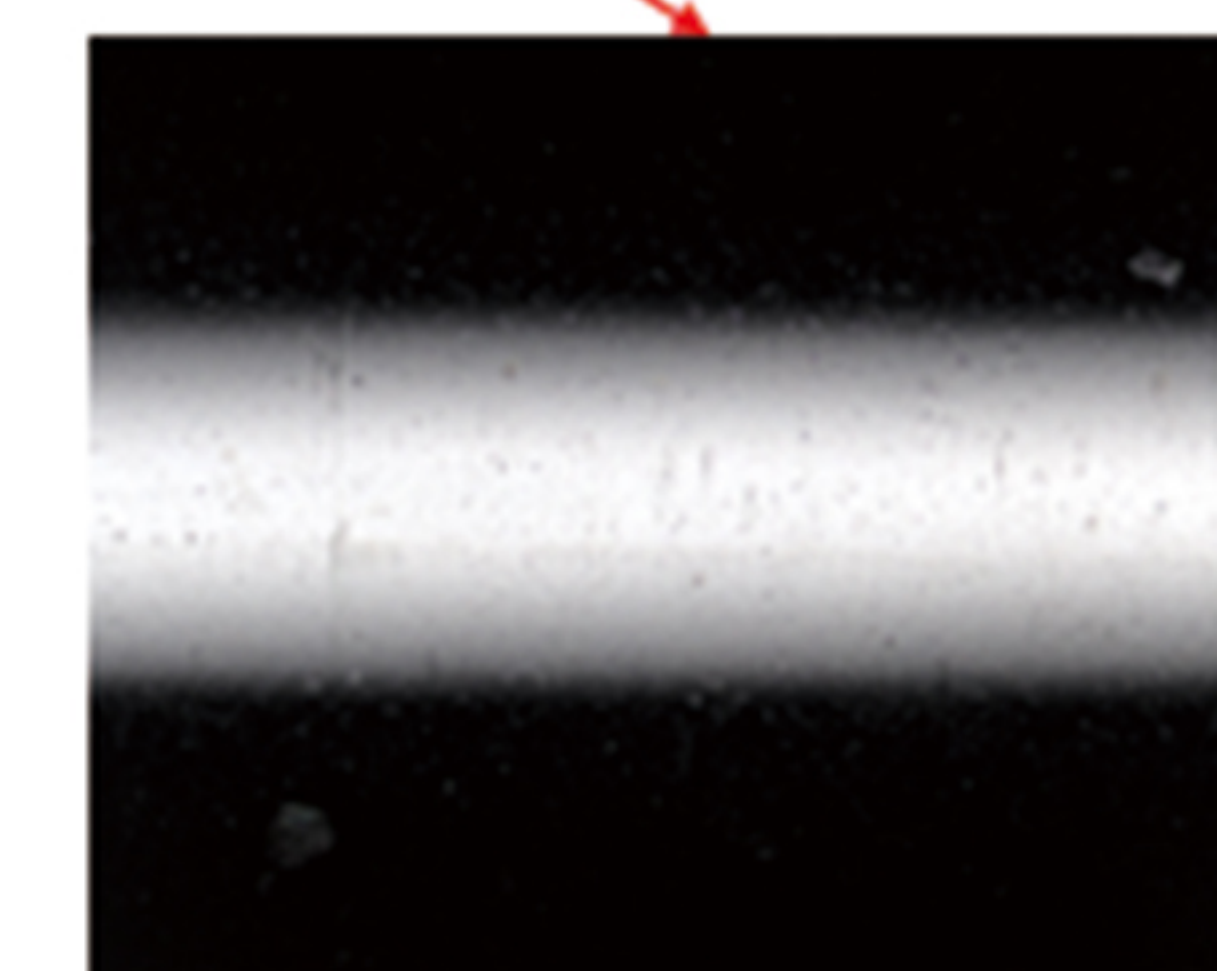
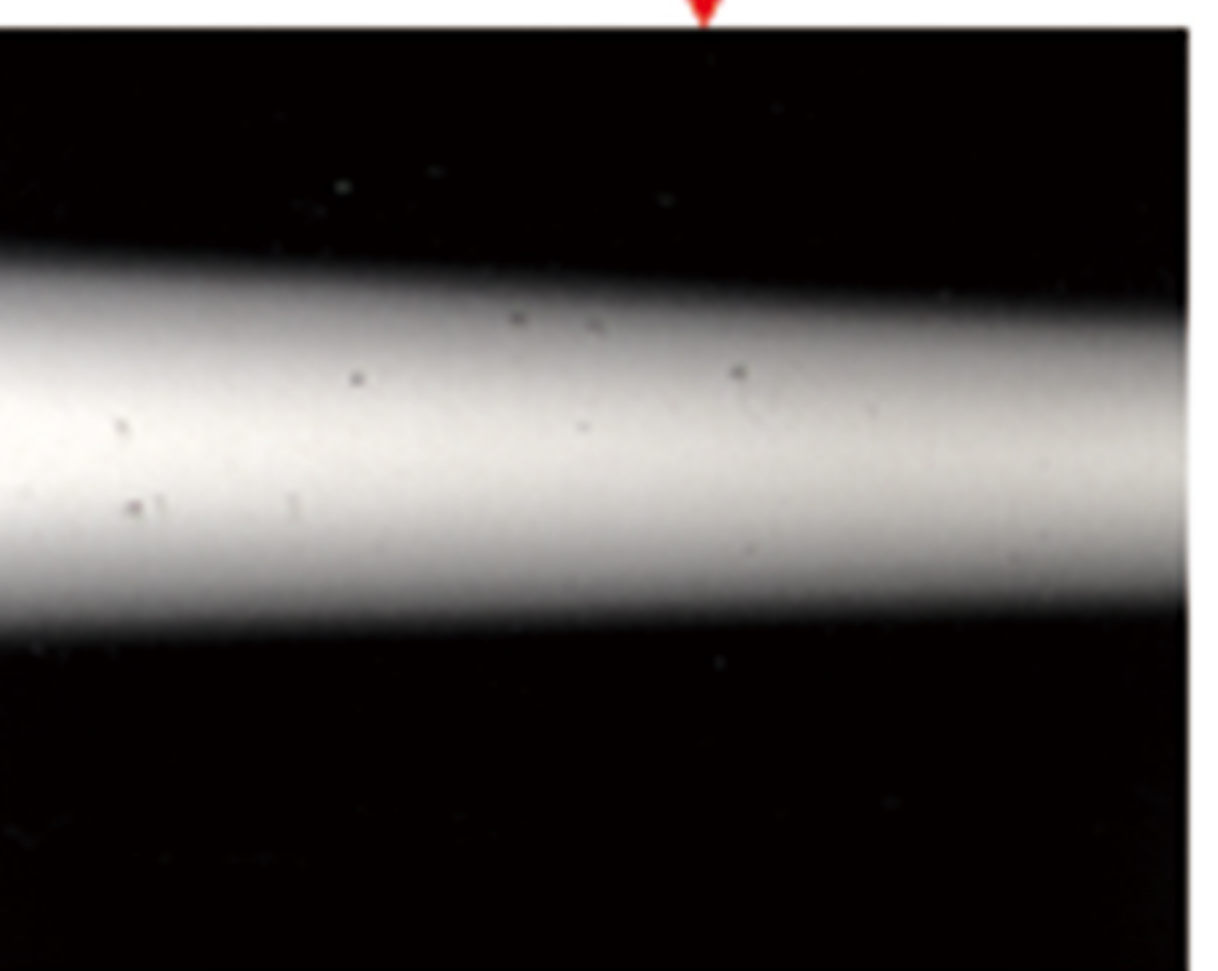
(WT10001004) 316L Internal Needle Internal Surface Quality Testing



roughness
Ra 0.00585μm(5.85nm)



roughness
Ra 0.0391μm(39.1nm)



roughness
Ra 0.0388μm(38.8nm)

Liquid level sensors

WTLLS-C

FEEDBACK LIQUID LEVEL DETECTION SENSOR

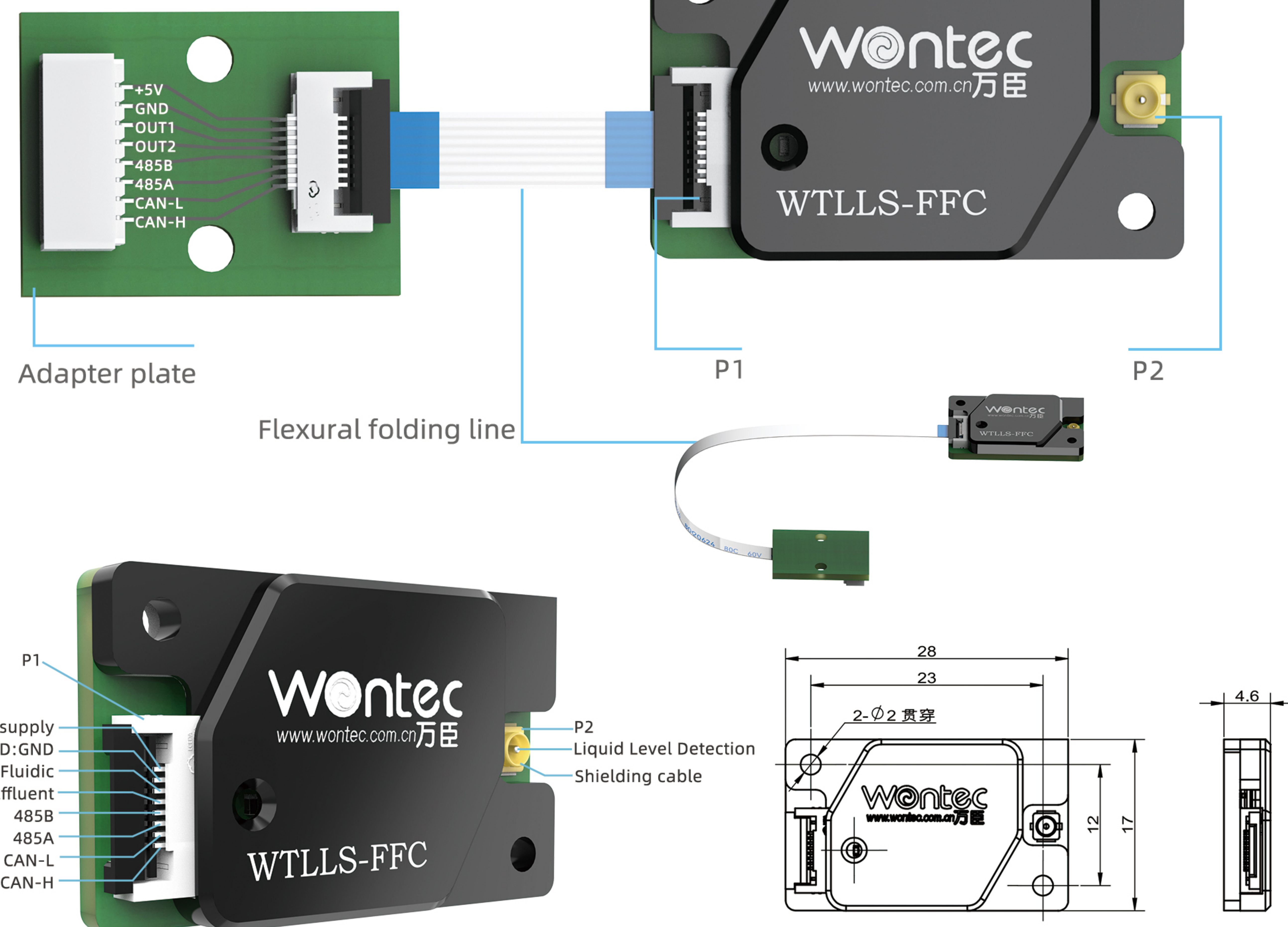


PRODUCT ADVANTAGES

- Voltage input: DC5V.
- Environmental Adaptive Peeling Function.
- Reduced size to 28mm x 17mm x 4.5mm (with case).
- Installation of insulated chassis, ultra-thin body, rugged and durable.
- Power supply power consumption <1W.
- Operating temperature: -40 ~ 85°C (industrial grade).
- Two level trigger signal outputs, two communication signal outputs.
- Liquid detection accuracy up to 5ul (with media), 20ul in stable use.

WTLLS-FFC

8PIN FLEXIBLE FFC, SNAP-IN CONNECTOR, ANTI-BENDING, MORE SPACE-SAVING

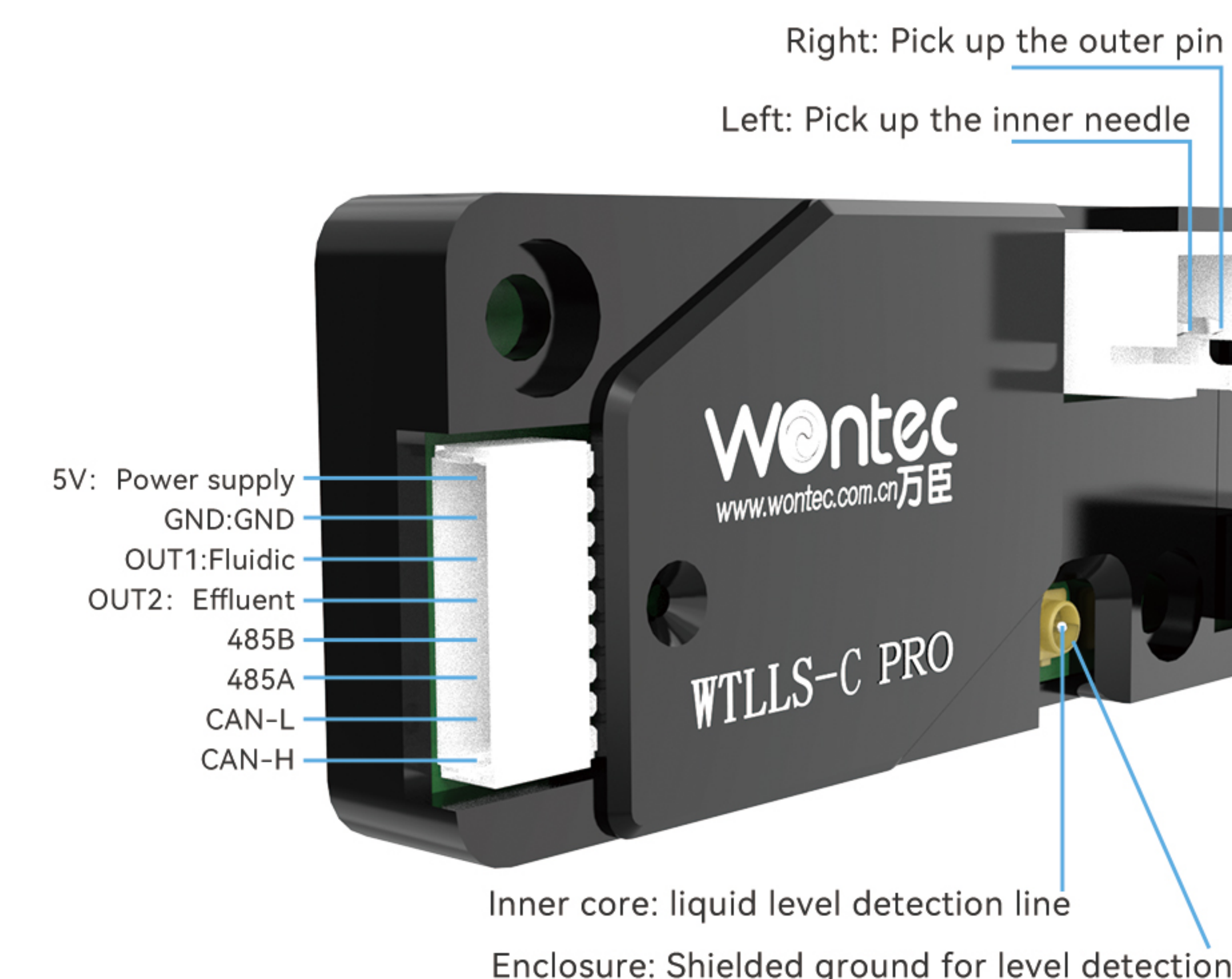


LIQUID LEVEL SENSORS

WTLLS-C PRO/ULTRASOUND DRIVER BOARD

WTLLS-C PRO

兼容XH2.54-2PIN或IPEX输入接口



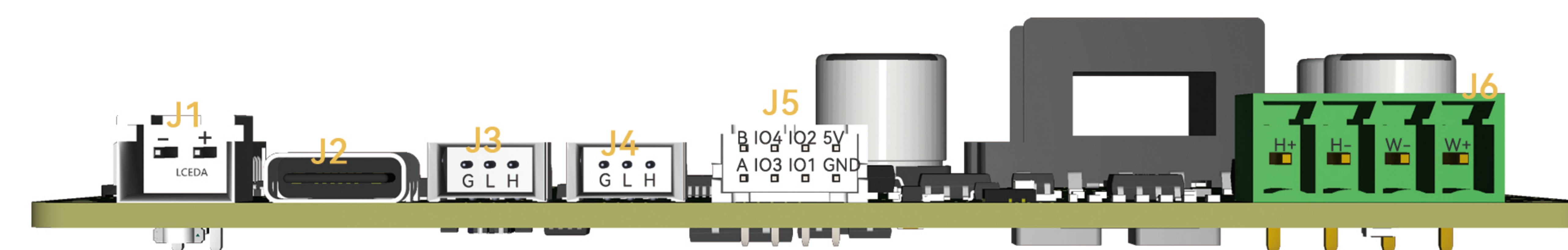
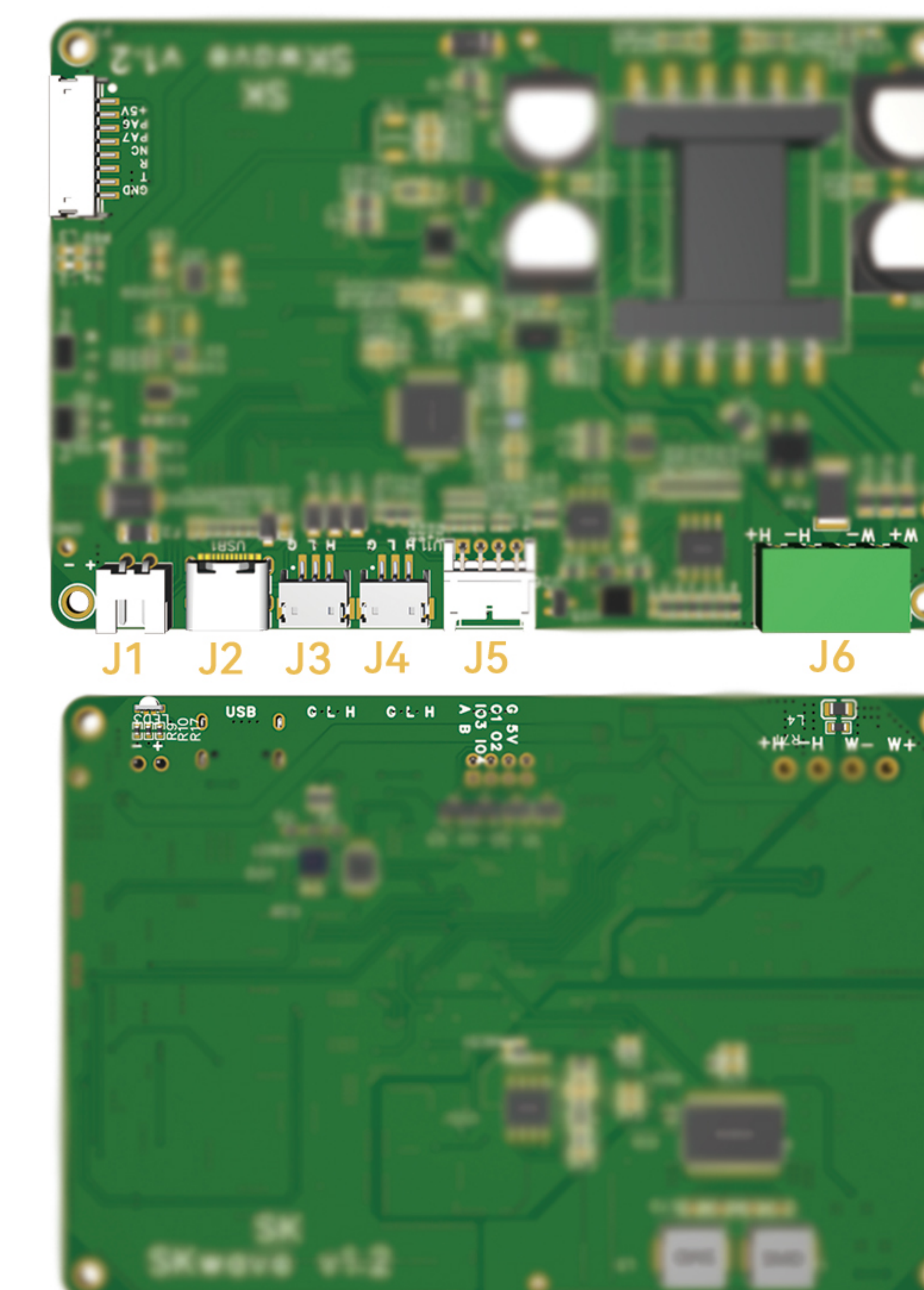
PRODUCT ADVANTAGES

- Voltage input: DC5V.
- Environmental Adaptive Peeling Function.
- Reduced size to 47mm x 19mm x 13.3mm (with case).
- Installation of insulated chassis, ultra-thin body, rugged and durable.
- Power supply power consumption <1W.
- Operating temperature: -40 ~ 85°C (industrial grade).
- One level trigger signal output, one anti-bottom signal output.
- Liquid detection accuracy up to 5ul (with media), 20ul in stable use.
- Communication interface: RS485/CAN (can change the sensitivity of the detection level, station number, etc.).
- Compatible with XH2.54-2PIN or IPEX input connector.

Ultrasound driver board

PRODUCT ADVANTAGES

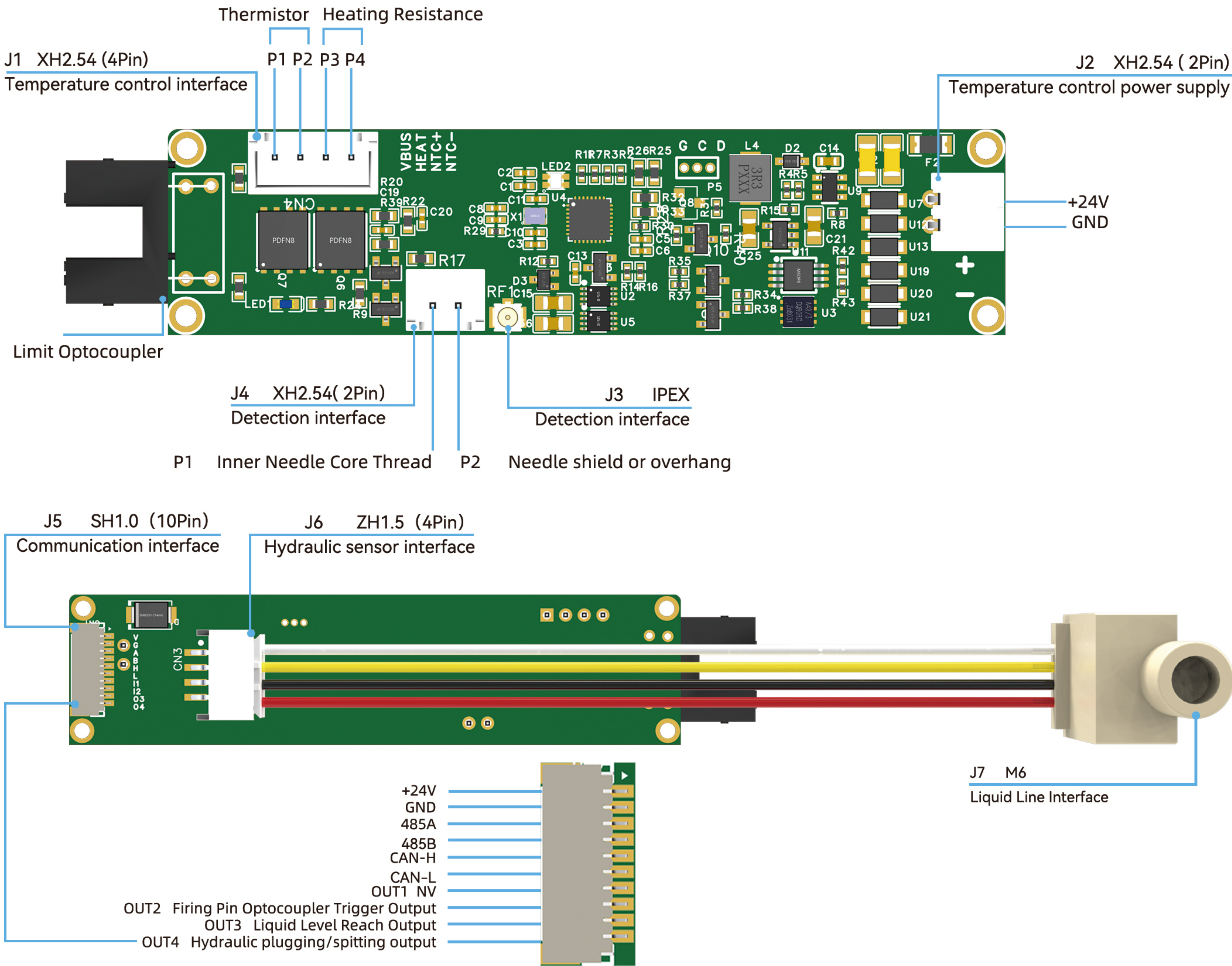
- New generation of 32-bit ARM technology, cost-effective
- Good smoothness, low noise, low vibration
- Multiple communication interfaces: CAN, RS485, IO, TTL and USB.
- Full digital control
- LED result indication
- Wide frequency range
- Frequency tracking function
- Isolated output, safe and reliable



INTEGRATED PIPETTING PROCESS CONTROL BOARD

TECHNICAL INTRODUCTION

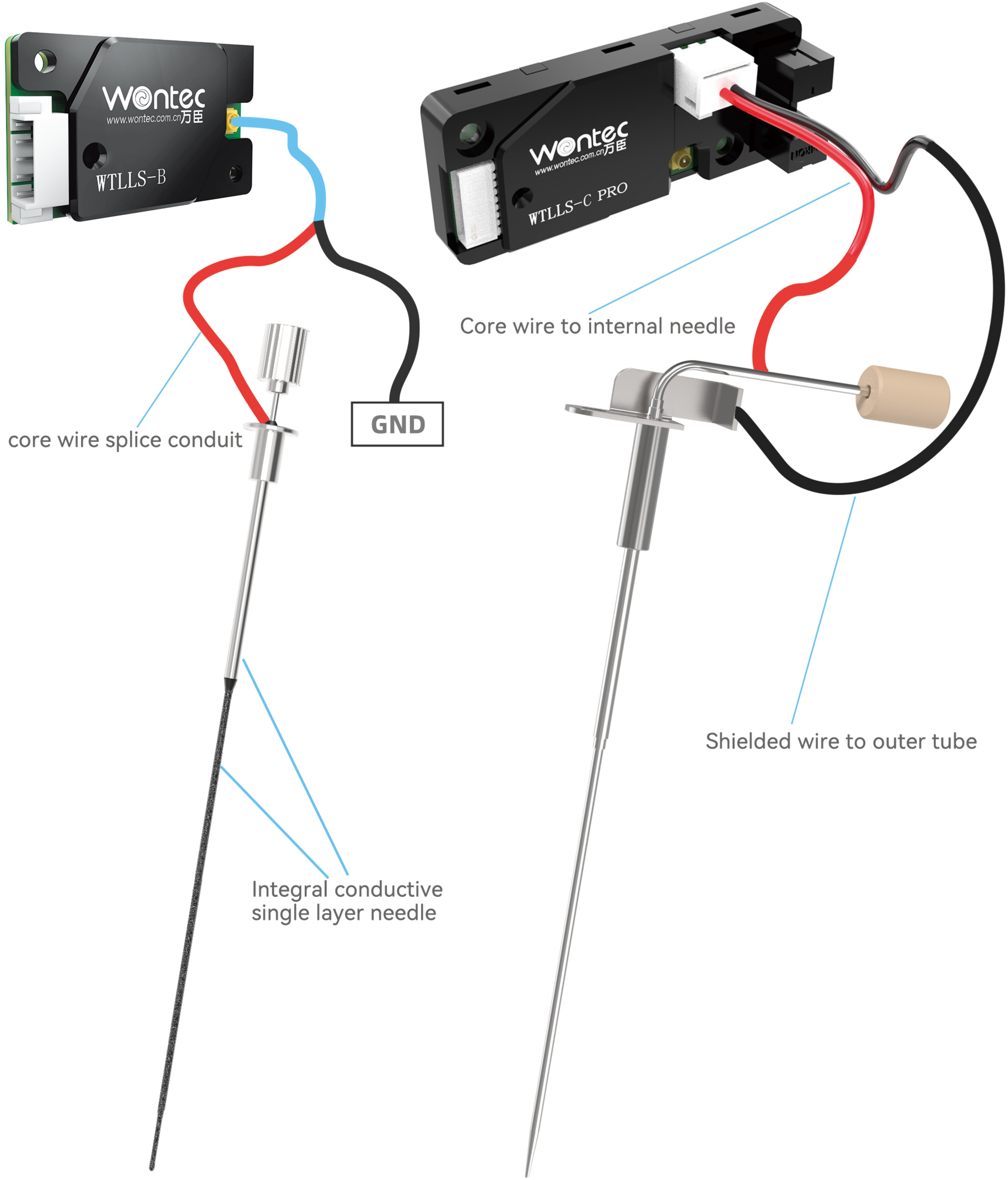
User interface



PRODUCT ADVANTAGES

- Voltage input: DC24V
- Highly accurate liquid level detection function.
- Needle heating control function, accuracy $\pm 1^{\circ}\text{C}$.
- Liquid circuit plugging detection function, adjustable suction plugging and spitting plugging thresholds.
- Needle Touch Bottom Anti-collision Function.
- Liquid Level Detection Line is compatible with either XH2.54-2PIN or IPEX inputs.
- Three IO outputs: liquid level trigger signal, needle bottoming signal, liquid line blocking signal.
- Operating temperature: $-40 \sim 85^{\circ}\text{C}$ (industrial grade).
- Sizes: 91.9mm x 20.2mm x 13.1mm.
- Communication interface: RS485/CAN.

TYPICAL WIRING FOR LIQUID LEVEL DETECTION



Single layer pin wiring diagram

Dual-channel wiring diagram

Intelligent electric jaws

WTEC20
- 20 Standard (drive side mounted)

WTEC20L
- 20 extension (driver side mounted)

WTEC20S
- 20 Standard Self-Locking (Driver Tail Mount)

WTEC20LS
- 20 Extended Self-Locking (Driver Tail Mount)

WTEC20B
-20 standard (drive tailpiece)

WTEC20BL
-20 Extended (Driver Tail Mount)

WTEC20T
- 20 Three-jaw self-locking type

WTEC28
- 28 Standard

WTEC28L
- 28 Extended

WTEC28S
- 28 Standard Self-Locking

WTEC28LS
- 28 Extended Self-Locking

WTEC28LP
- 28 Plus Extended Self-Locking

WTEC42L
- 42 Extended Self-Locking

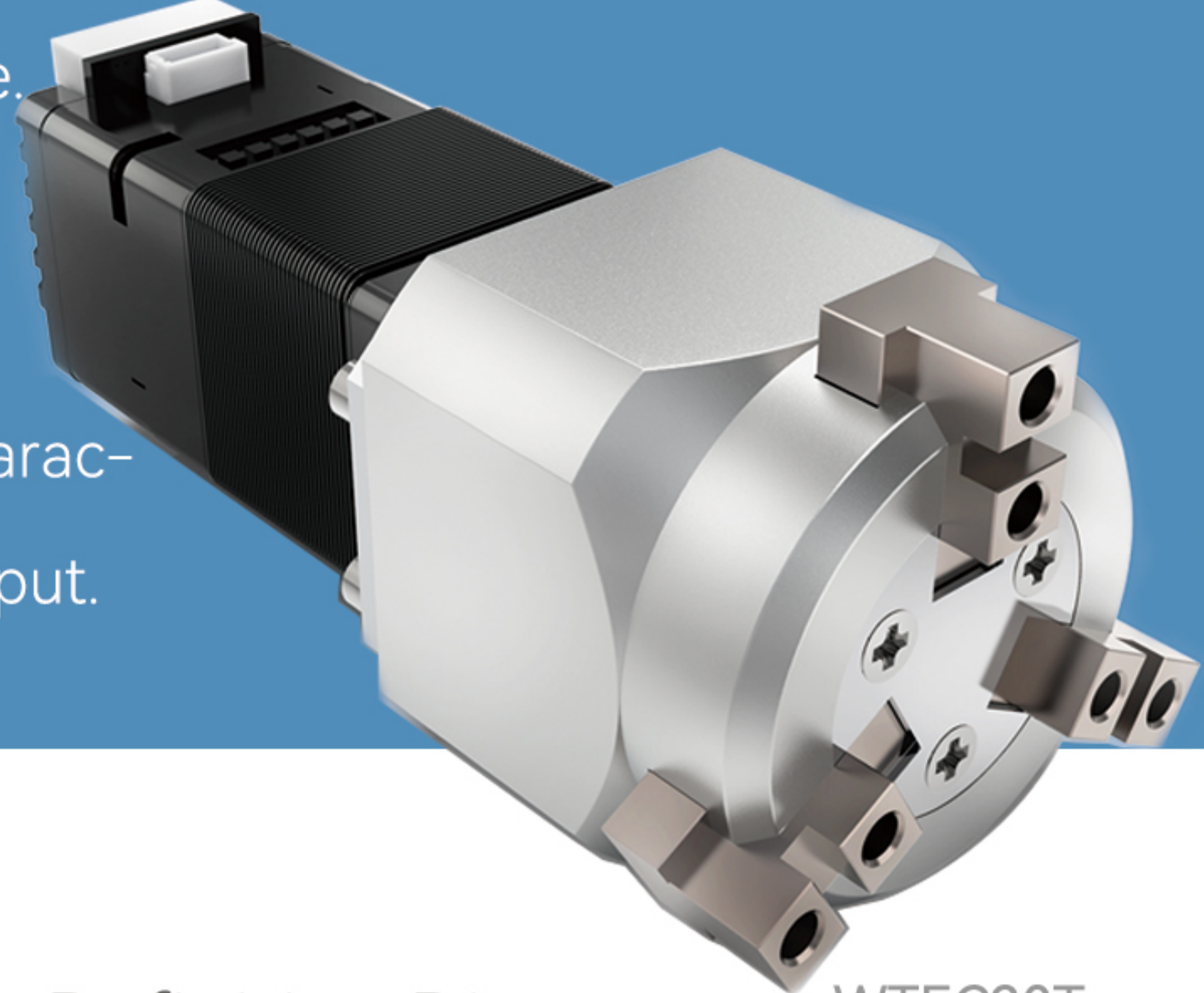
WTEX28
- rotary electric claw

WTET28
- rotary electric claw

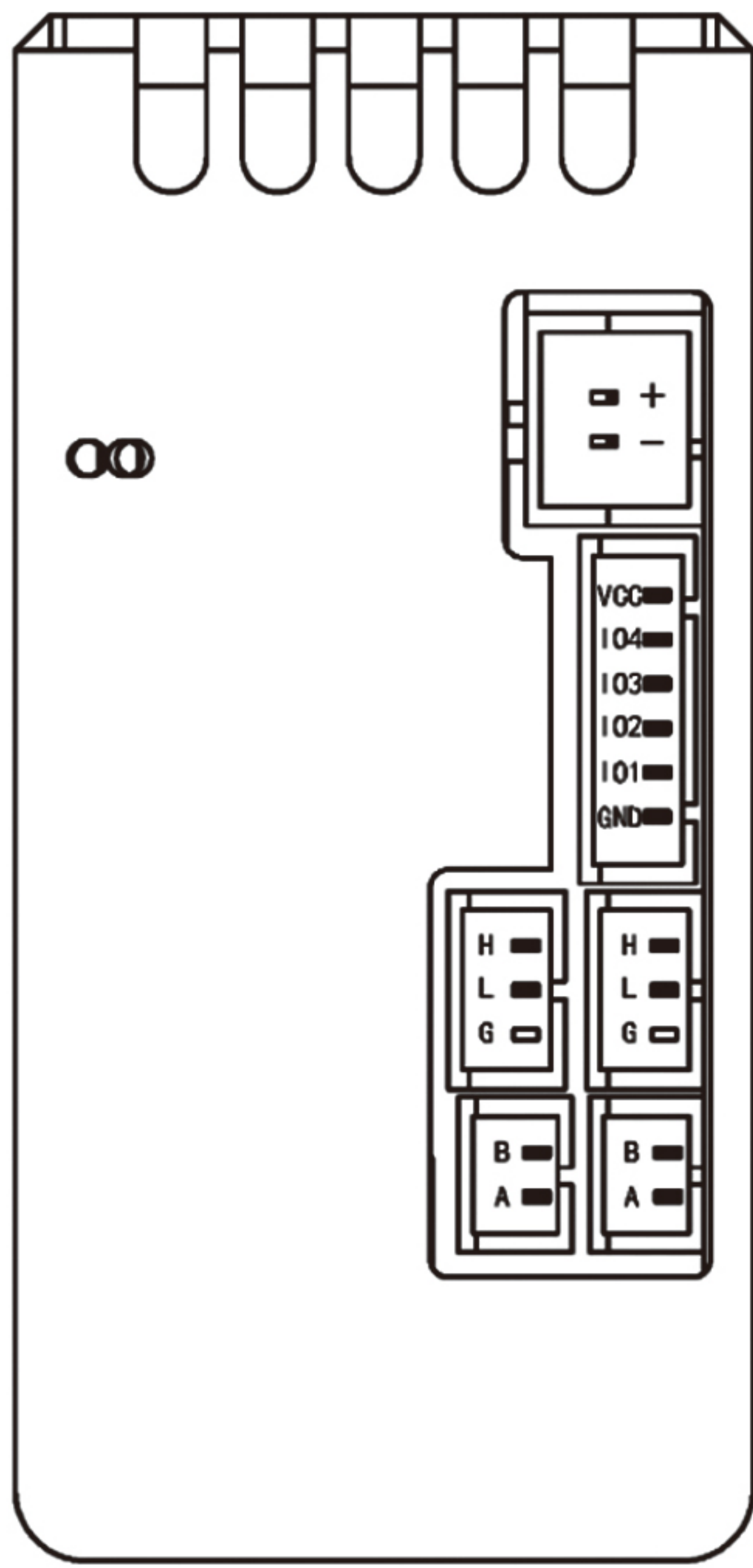


Intelligent electric

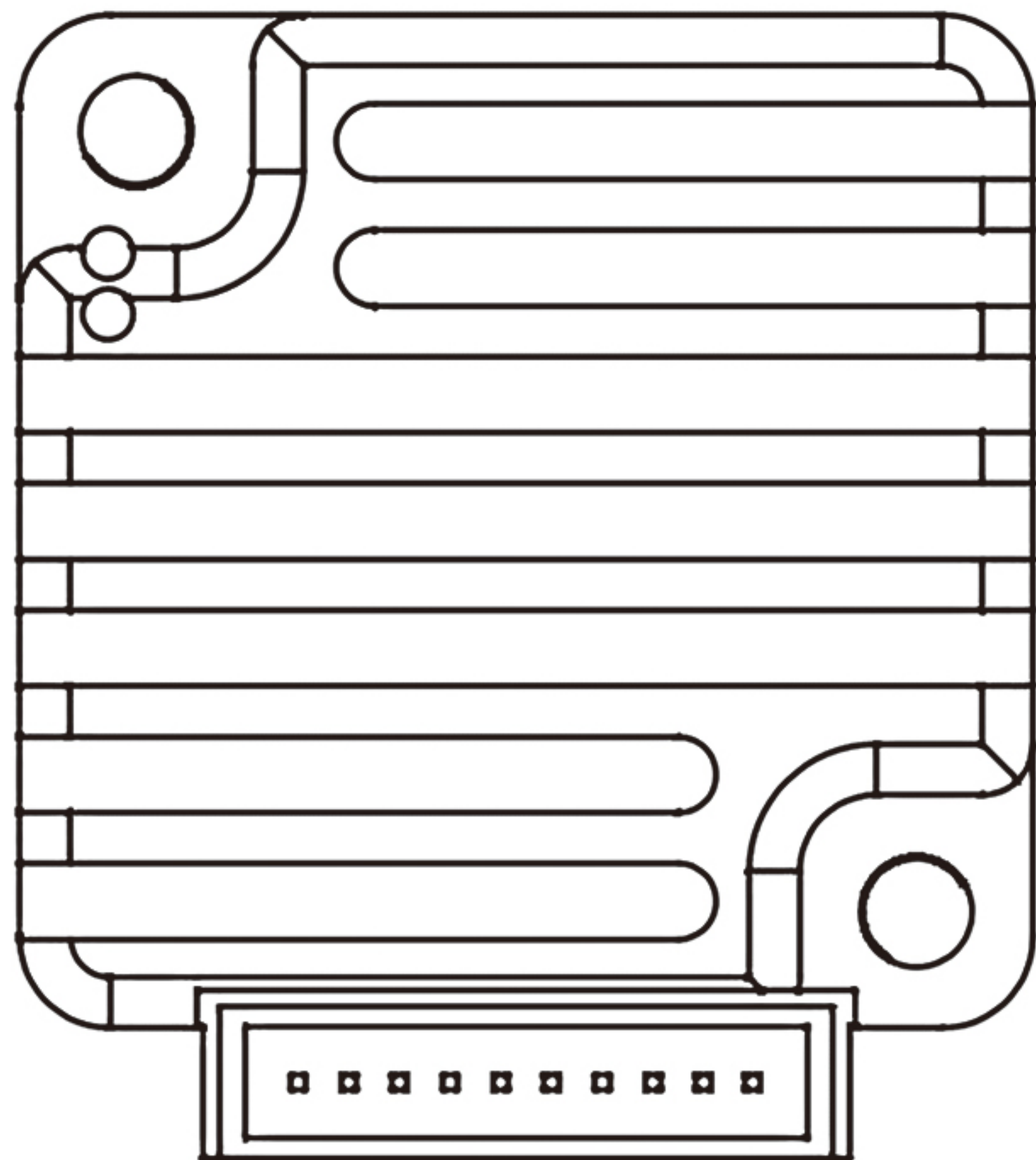
PRODUCT ADVANTAGES

- Support RS485 or CAN communication control, also can be easily and flexibly controlled by IO.
 - The drive encoder synthesis is a closed-loop one-piece design, resulting in a reduced size.
 - Integrated torque feedback mode makes the electric claw intelligent and can be used offline.
 - The clamping force can be preset or changed online to meet the user's needs.
 - It monitors whether an object is clamped or not and gives a feedback signal.
 - After clamping, the preset clamping force can be continuously maintained (similar to the characteristics of the air claw), and if the clamped object is disengaged, an alarm signal will be output.
- 

20 Series Intelligent Electric Gripper Drive Side Mount Interface Definition Diagram WTEC20T

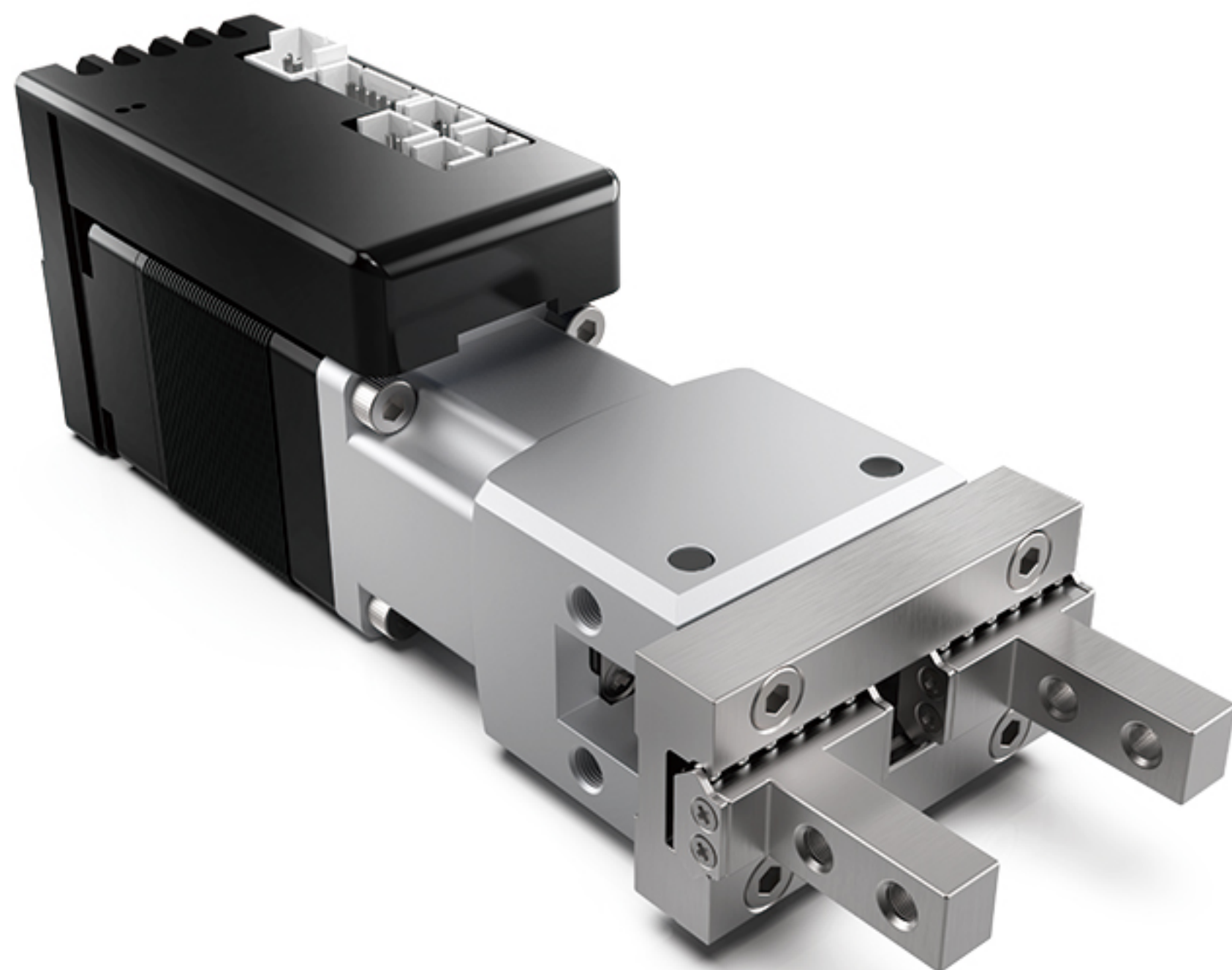


20 Series Intelligent Electric Gripper Drive Tail Mount Interface Definition Diagram

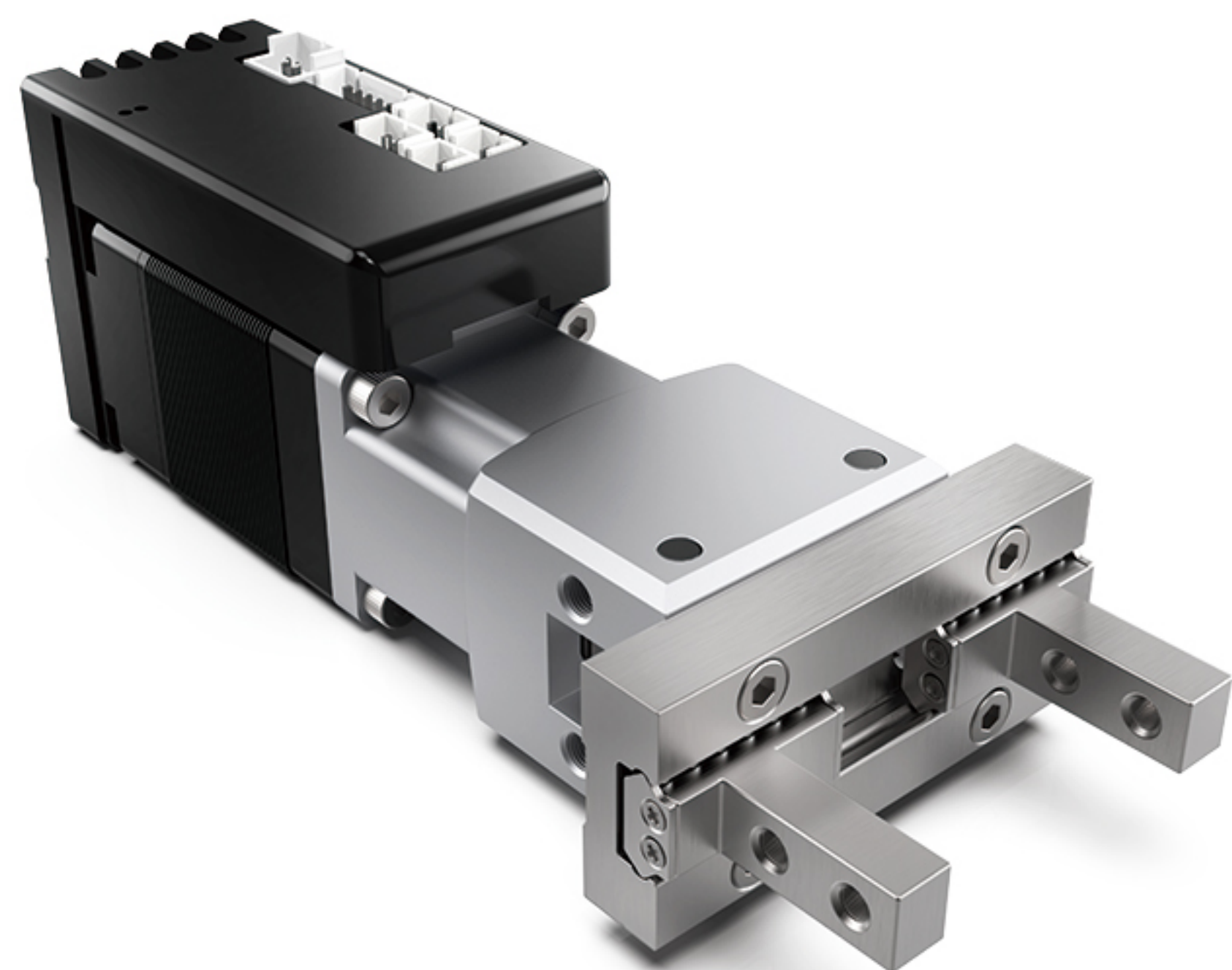


I04 I03 I02 I01 CANL CANH 485B 485A GND 24V

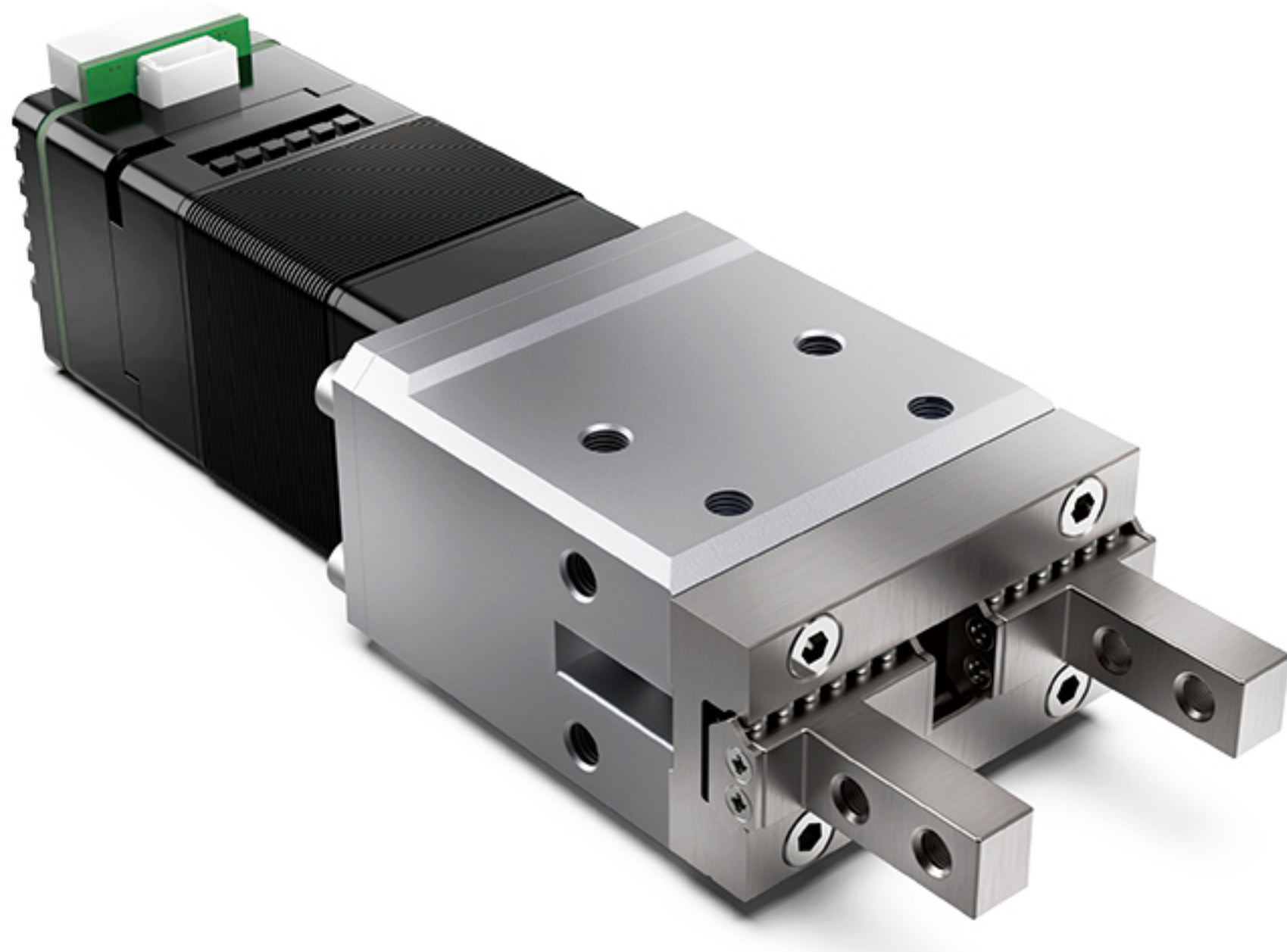
INTELLIGENT ELECTRIC GRIPPER WTEC20 SERIES (PARALLEL FINGERS)



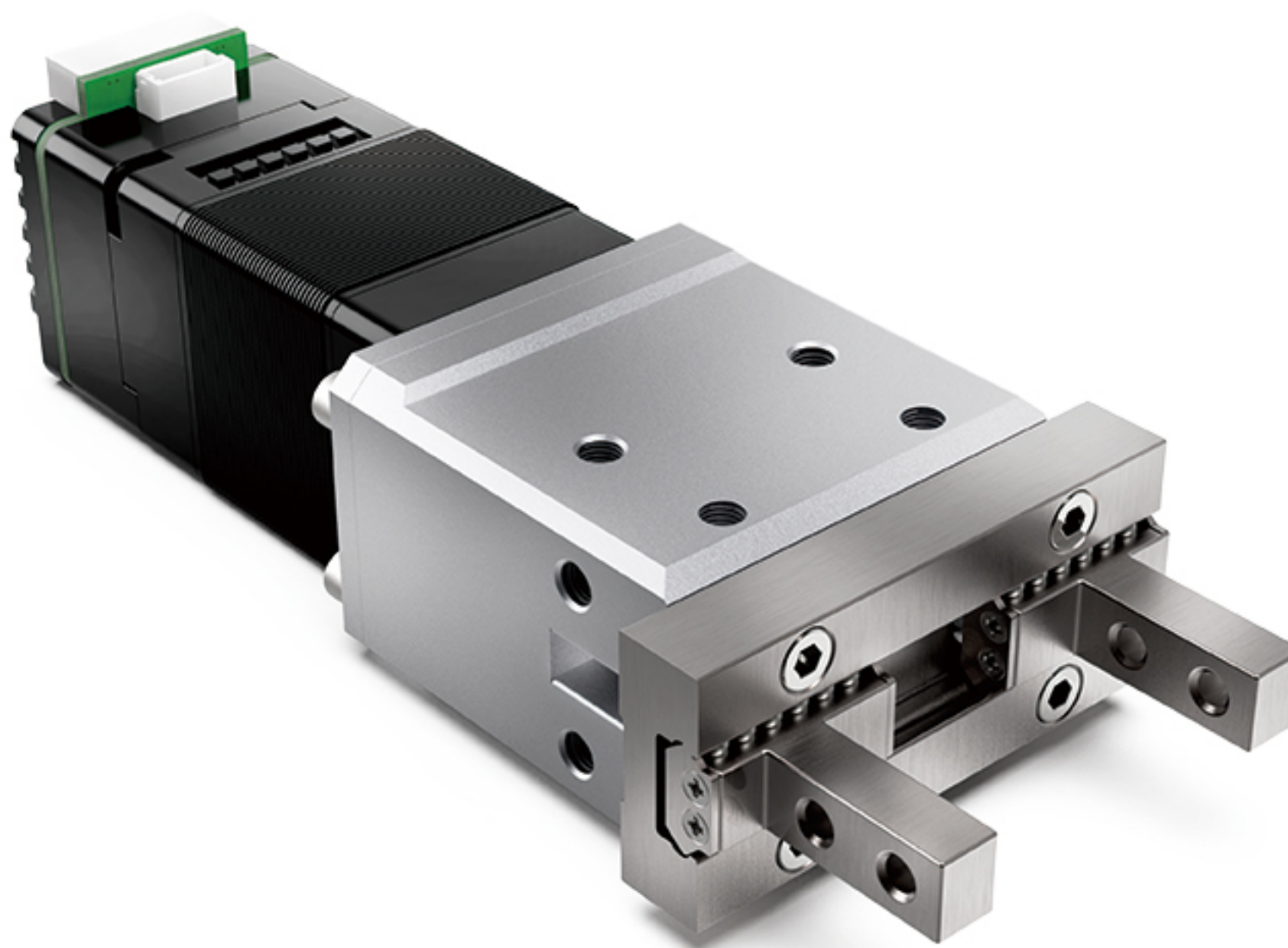
WTEC20



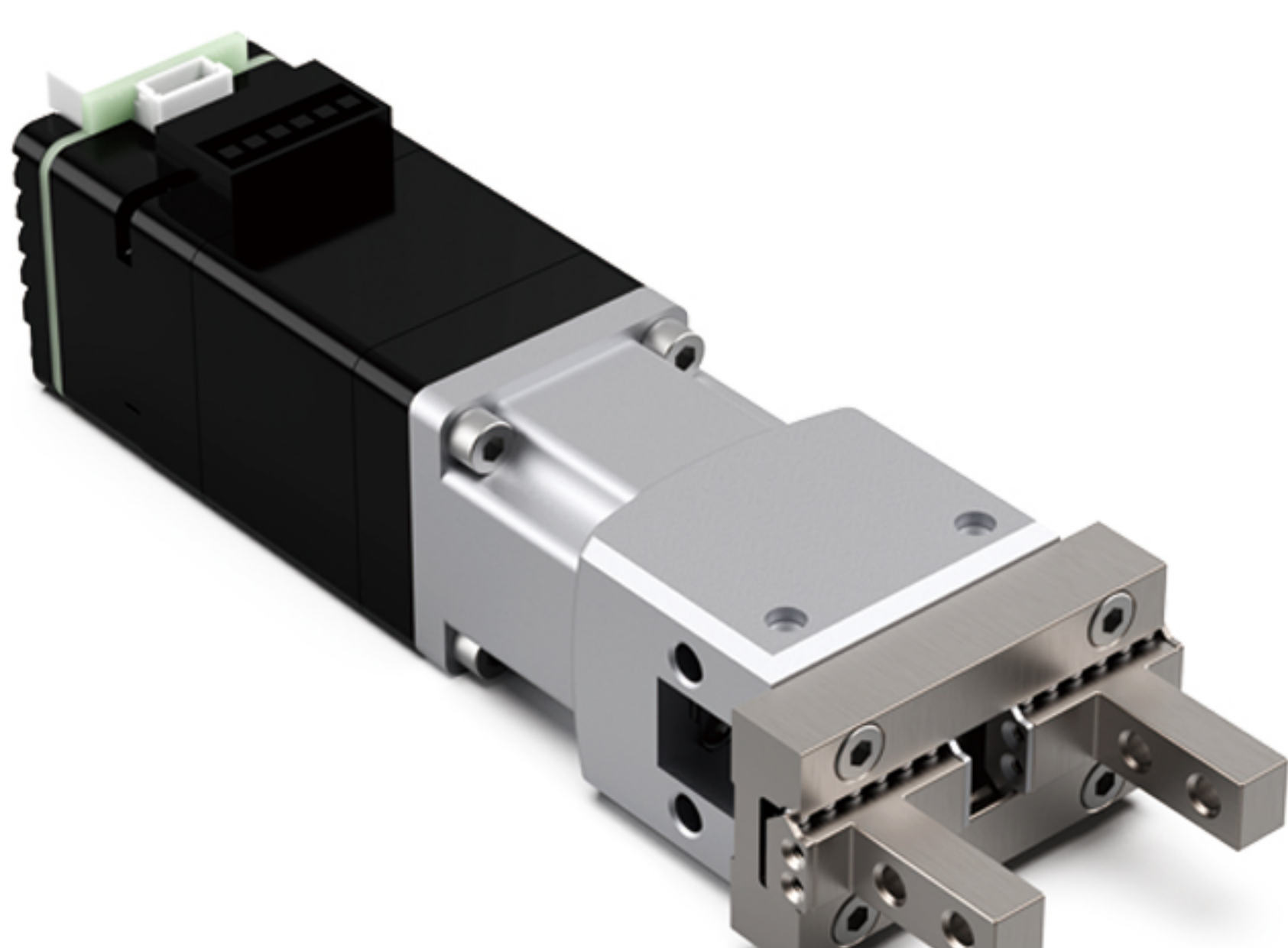
WTEC20L



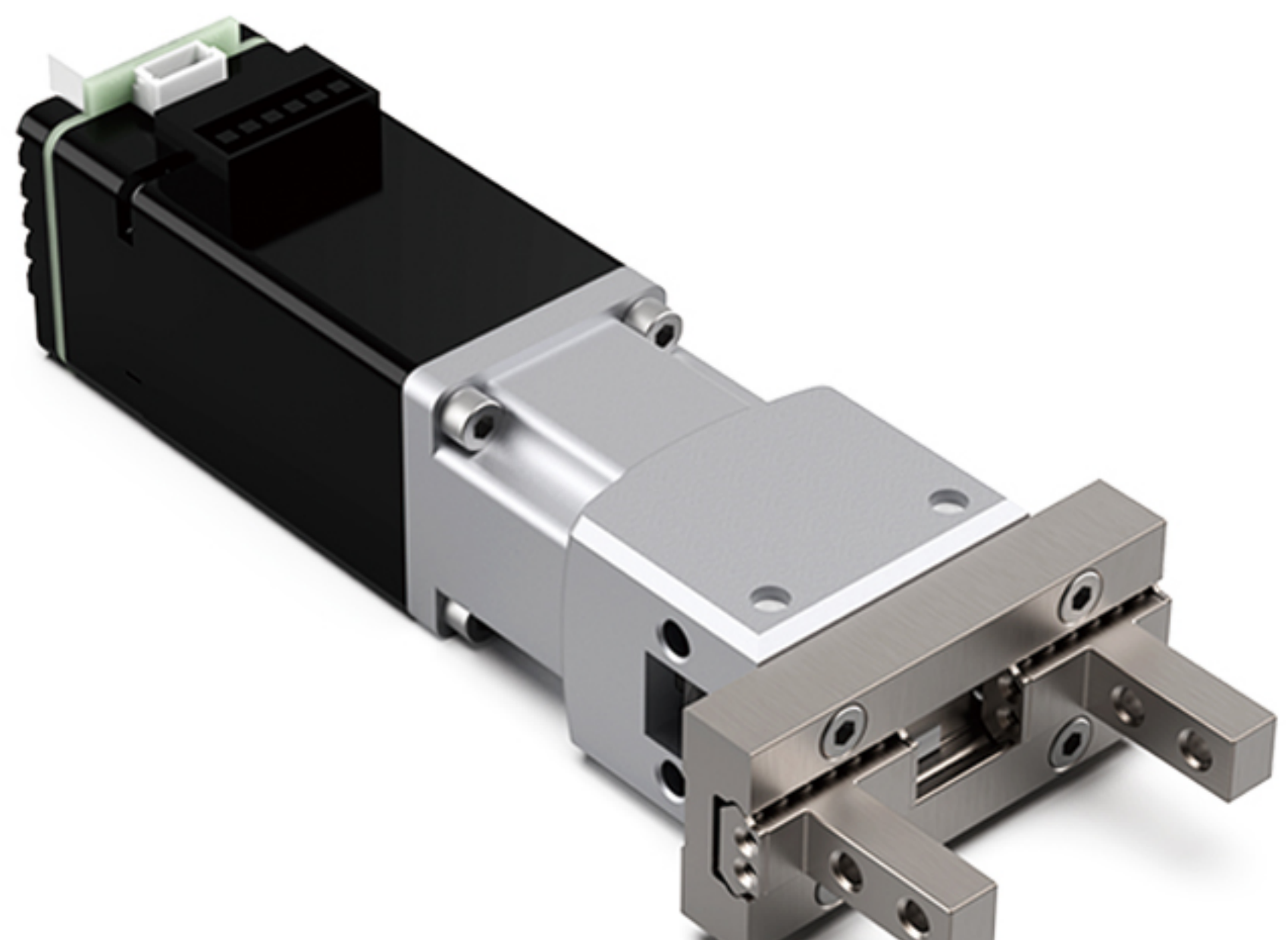
WTEC20S



WTEC20LS



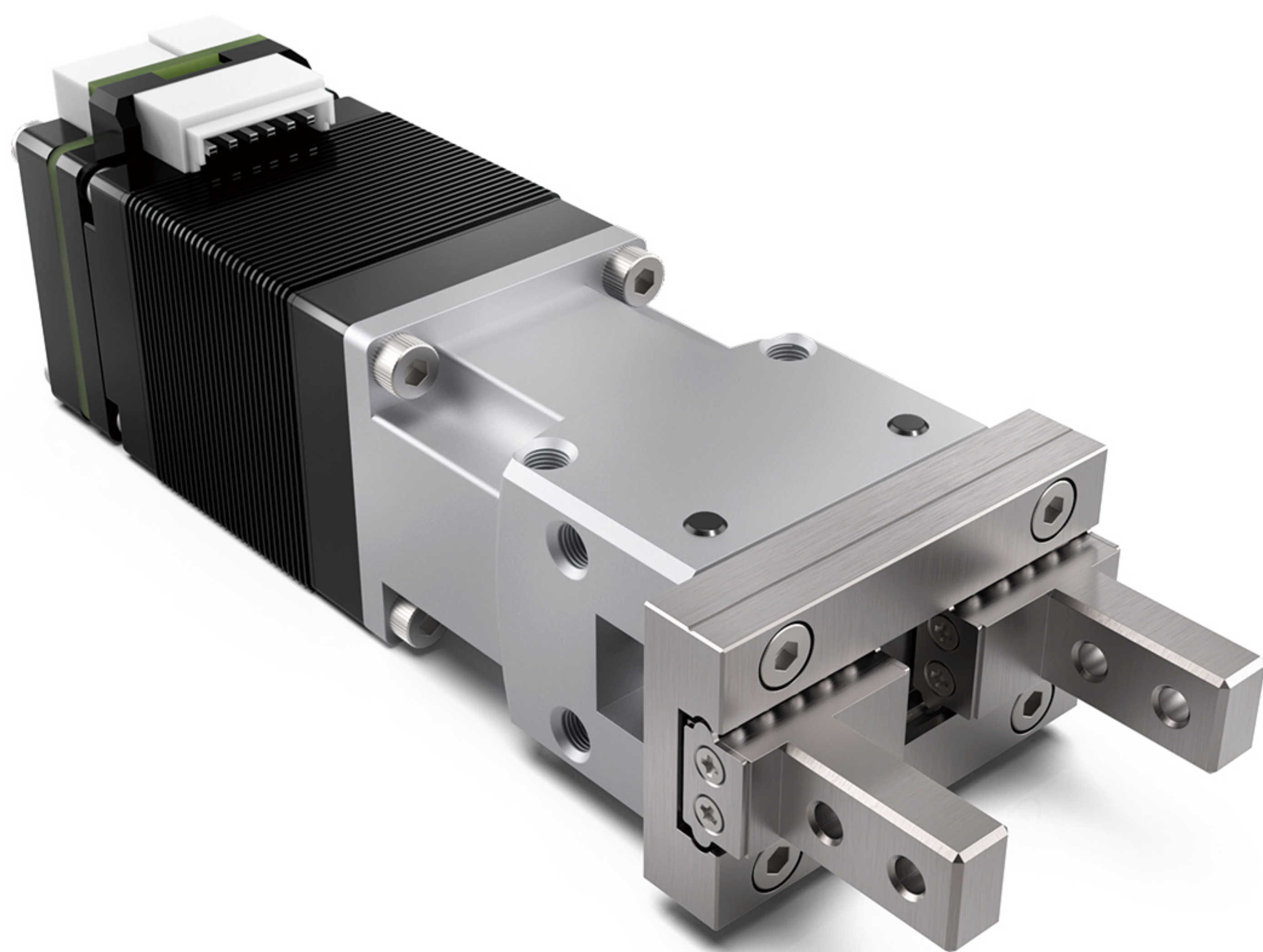
WTEC20B



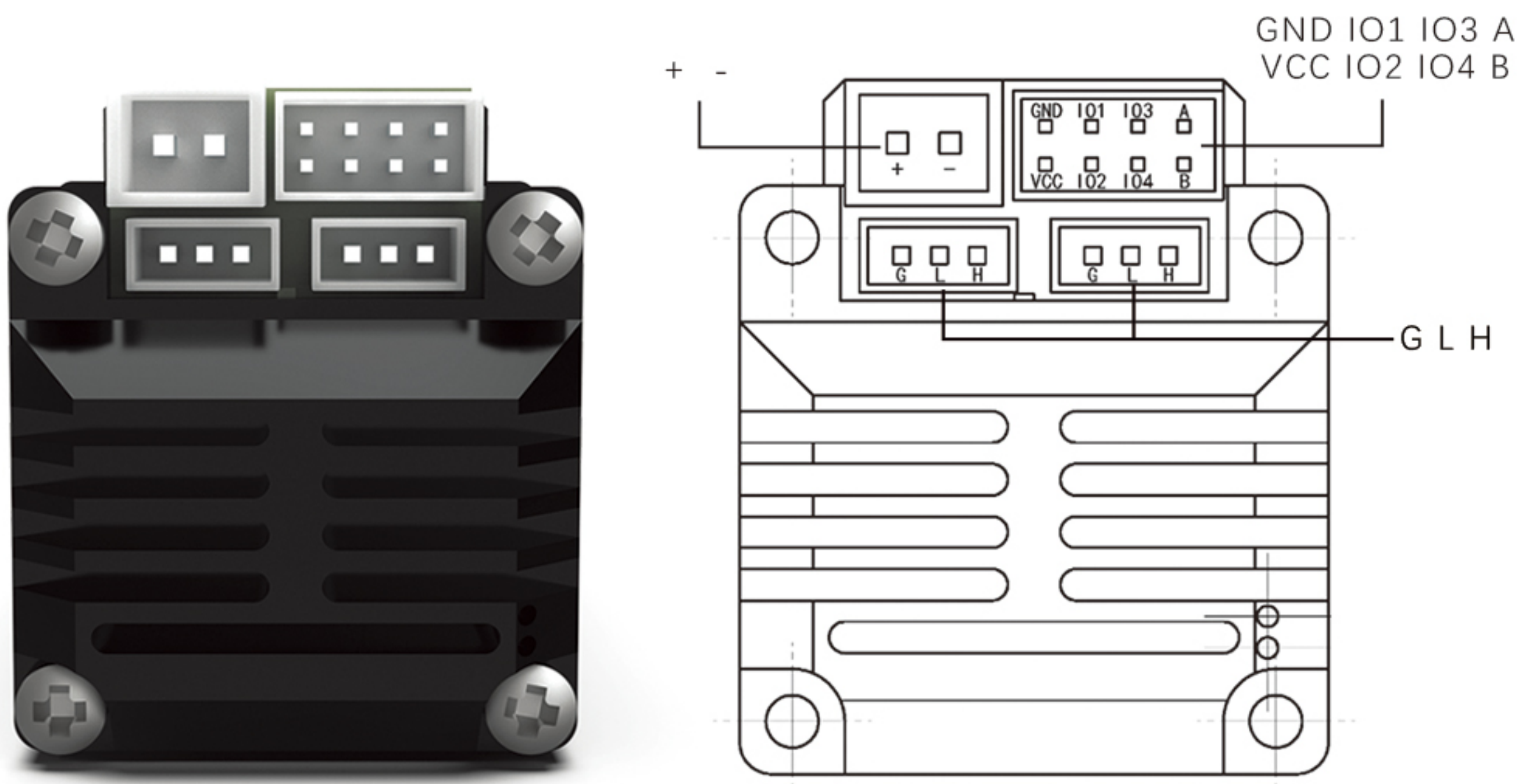
WTEC20BL

Performance Parameters 20 Series

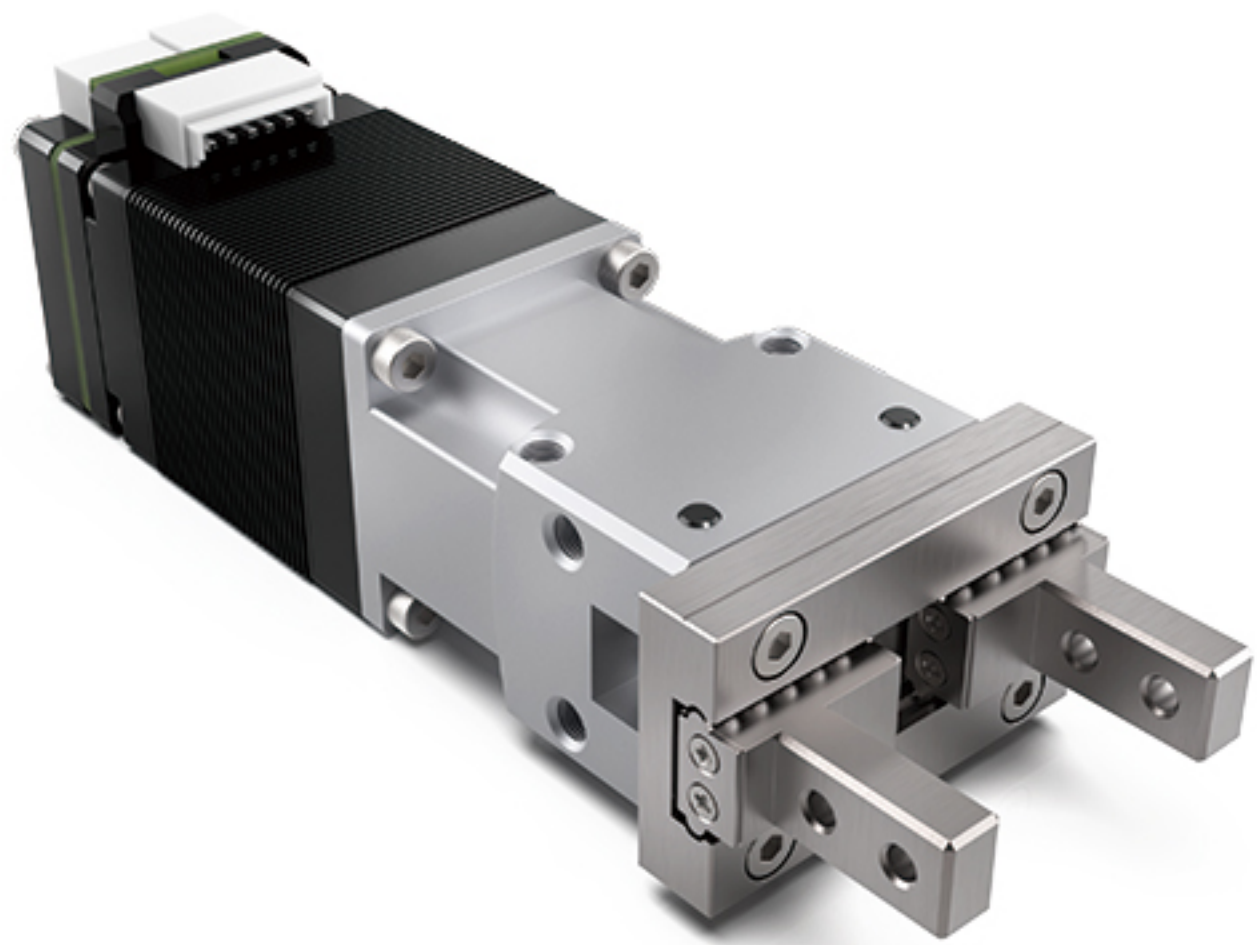
	ITEMS	WTEC20	WTEC20L	WTEC20S	WTEC20LS	WTEC20B	WTEC20BL	WTEC20T
	Itinerary	4mm	8mm	4mm	8mm	4mm	8mm	4mm
	clamping force	5-20N	5-20N	5-20N	5-20N	5-20N	5-50N	5-25N
Recommended Clamping Weight	≤350N	≤300N	≤350N	≤300N	≤350N	≤300N	≤350N	≤350N
	Stroke adjustable	adjustable	adjustable	adjustable	adjustable	adjustable	adjustable	adjustable
	Adjustable clamping force	adjustable	adjustable	adjustable	adjustable	adjustable	adjustable	adjustable
	Clamping method	Torque mode	Torque mode	Torque mode	Torque mode	Torque mode	Torque mode	Torque mode
Lubrication of moving elements				Maintenance-free for 4 million cycles				
Temperature range				25°C-70°C				
Operating humidity range				20%-85%non-condensing				
Controller Placement	Fuselage side, orientation selectable			Motor Tail				
control method			Compatible with RS485\Custom CAN\CANopen\IO					
Body weight	0.112kg	0.117kg	0.112kg	0.117kg	0.112kg	0.117kg	0.2kg	
Individual trip movement time	≤0.10s	≤0.15s	≤0.10s	≤0.15s	≤0.10s	≤0.15s	≤0.10s	
Motor Type				stepper motor				
rated voltage	24V	24V	24V	24V	24V	24V	24V	
peak current	1.6A	1.6A	1.6A	1.6A	1.0A	1.6A	1.6A	
Standby Current				≤50mA				
note		The maximum clamping weight is directly related to the way the fixture is designed, and the maximum clamping weight is about three times the recommended clamping weight;						



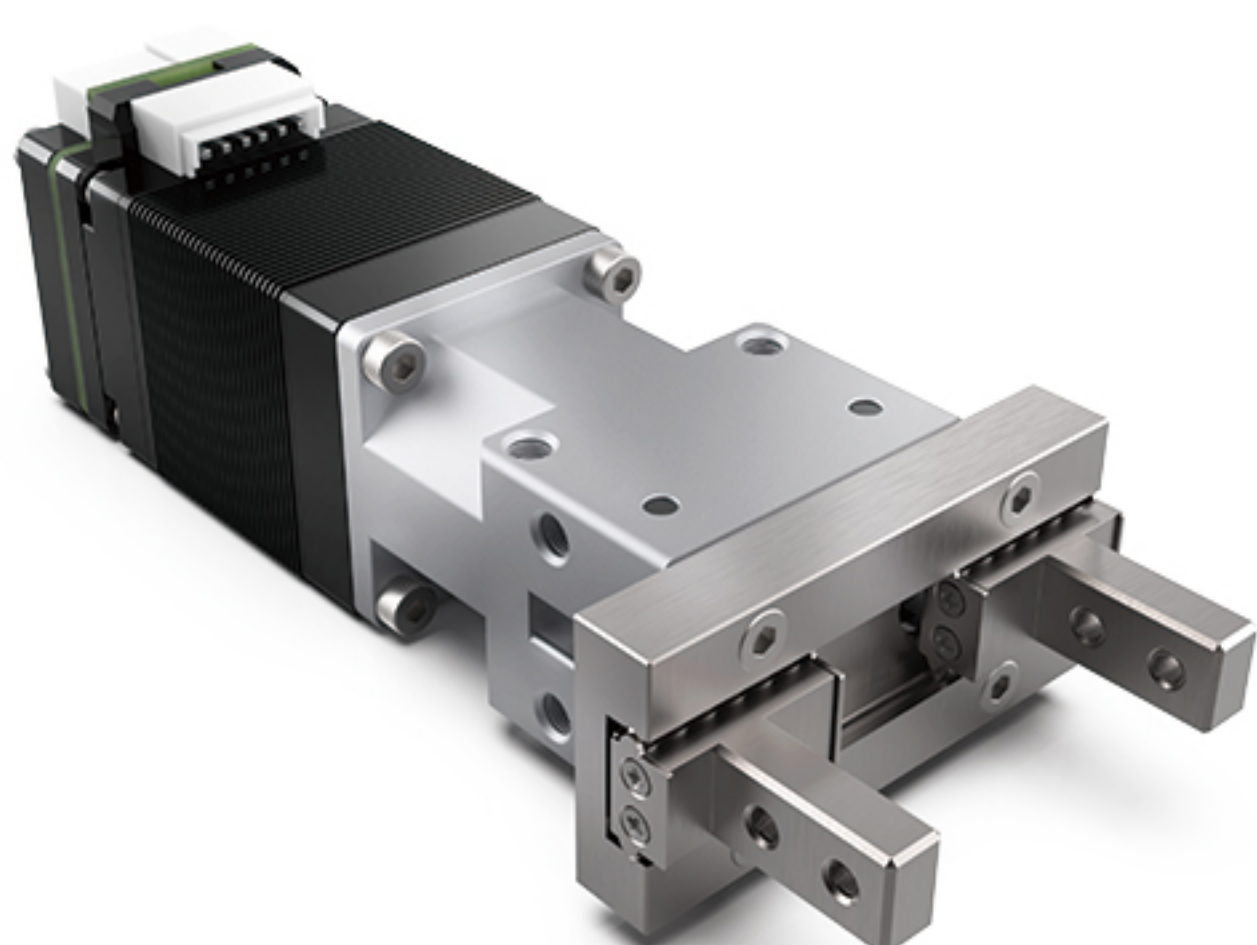
WTEC28



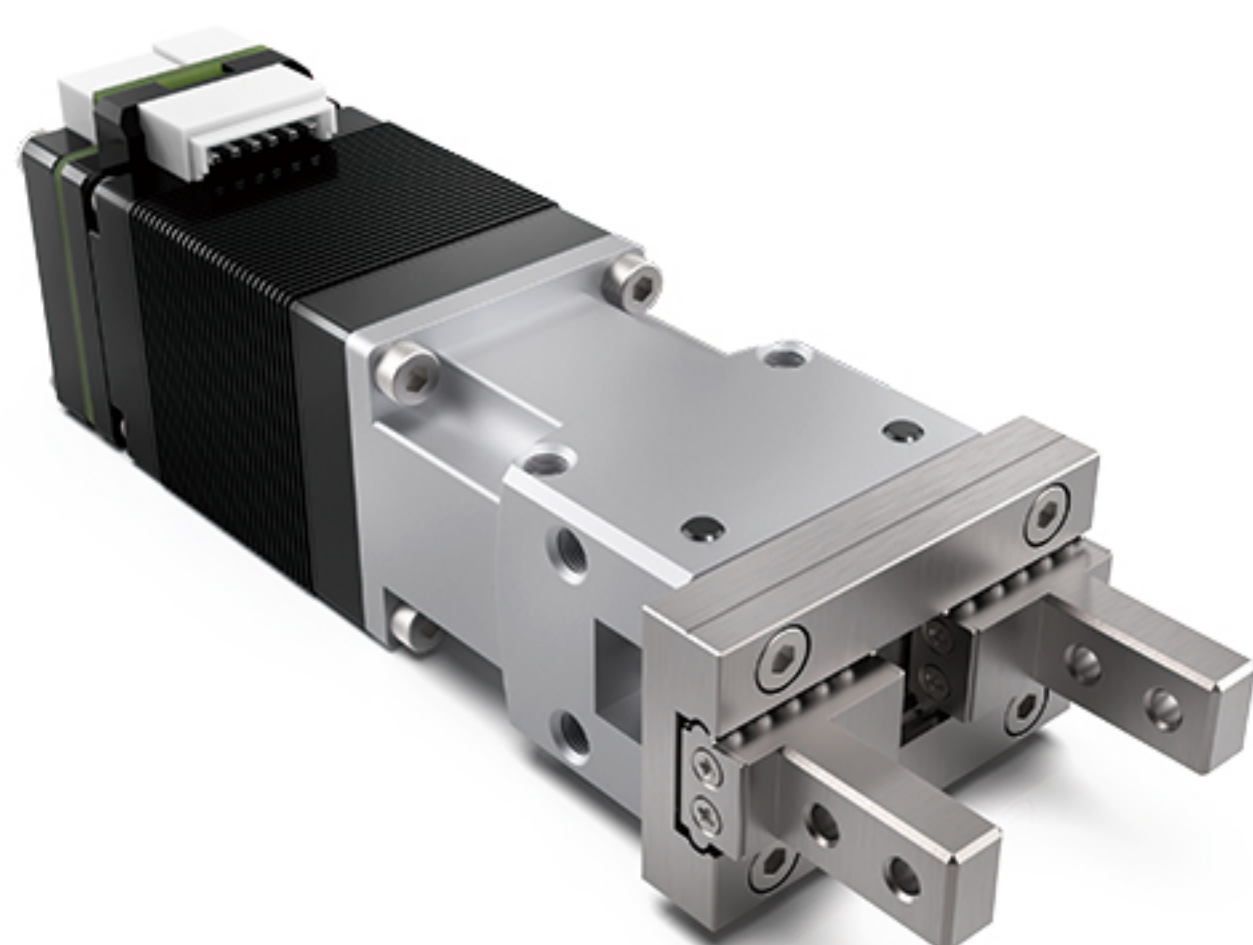
WTEC-28 SERIES INTELLIGENT ELECTRIC GRIPPER
DRIVER INTERFACE DEFINITION DIAGRAM



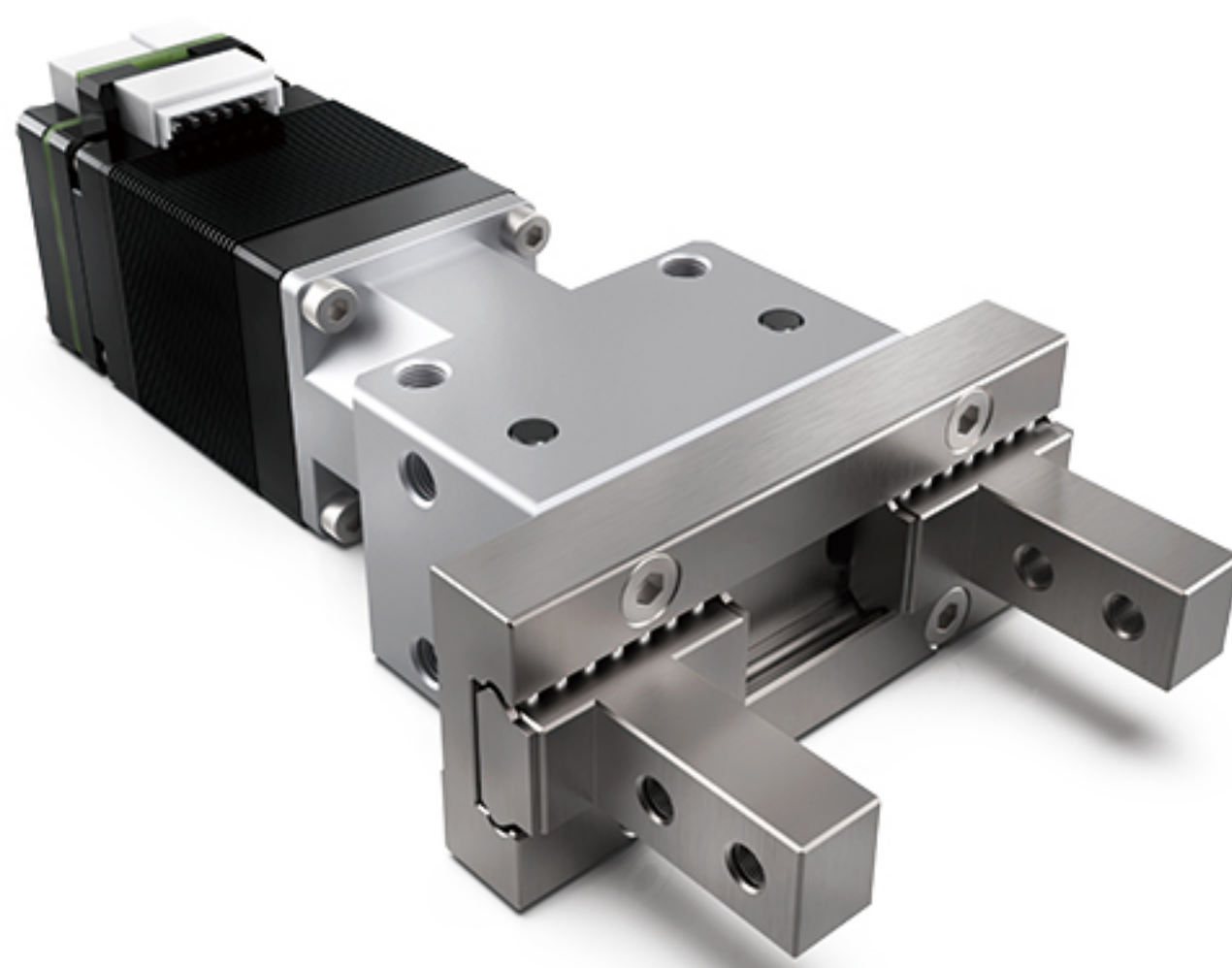
WTEC28S



WTEC28L



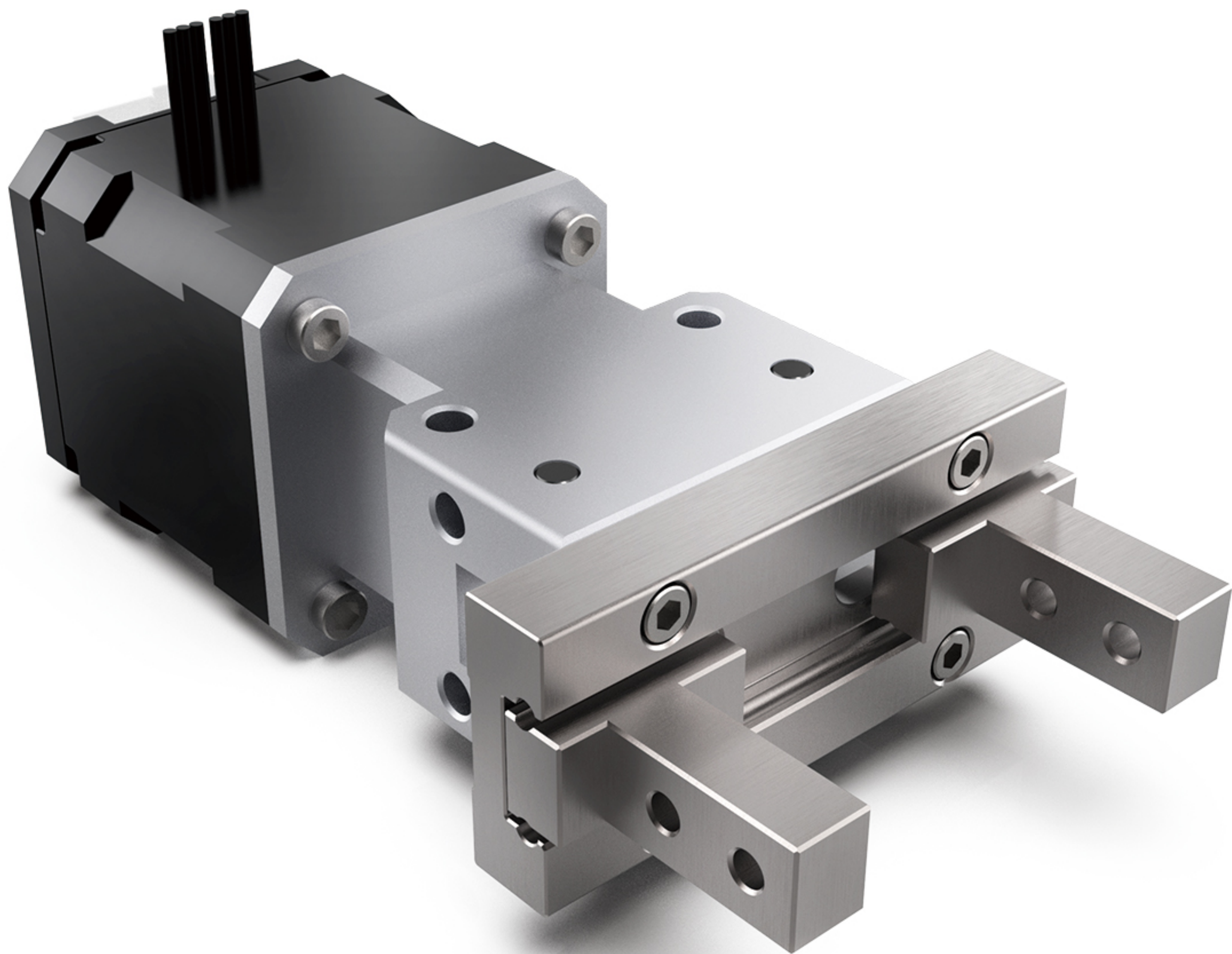
WTEC28LS



WTEC28LP

Performance Parameters 28 Series

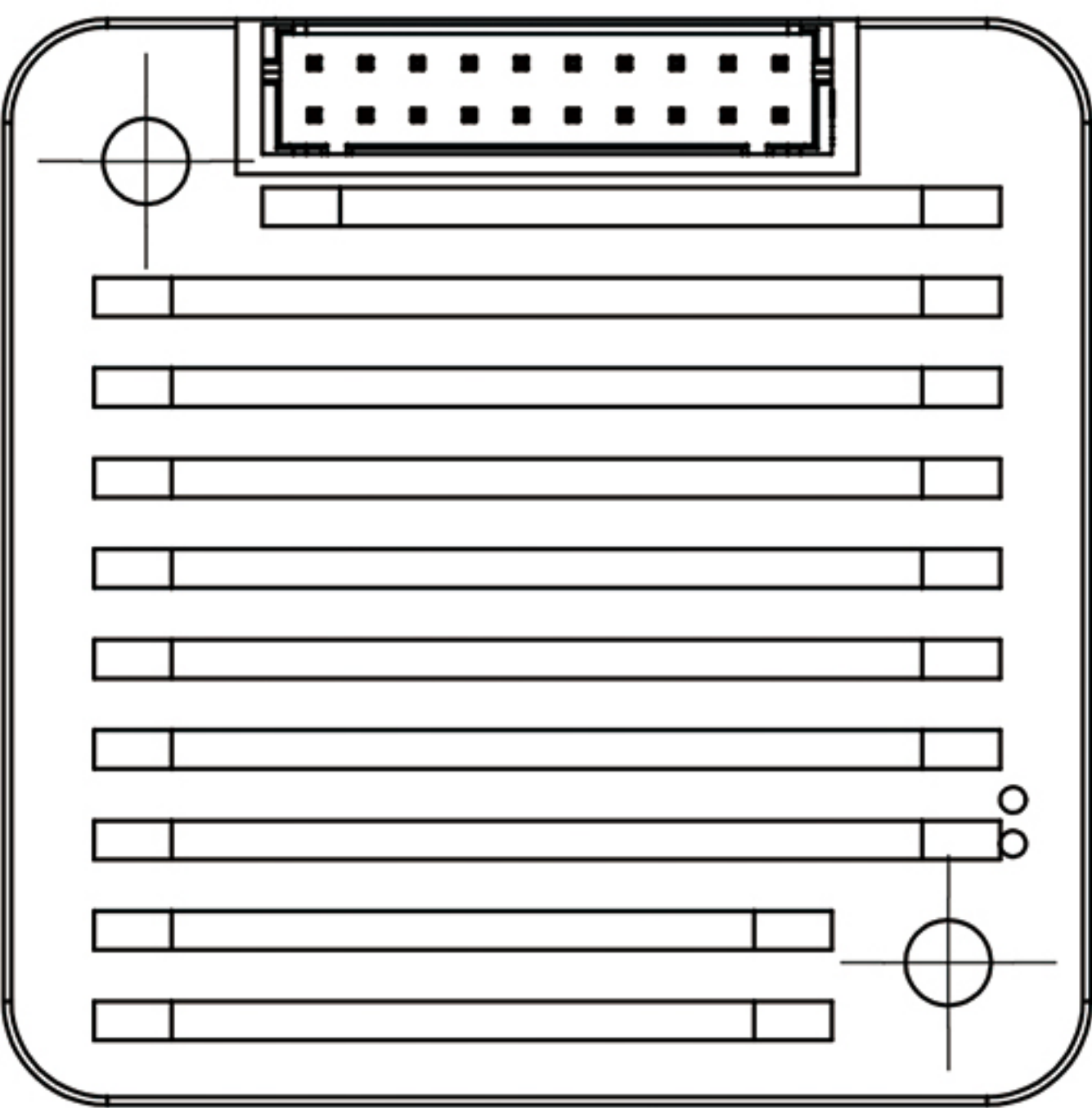
ITEMS	WTEC28	WTEC28S	WTEC28L	WTEC28LS	WTEC28LP
Itinerary	8mm	8mm	14mm	14mm	19mm
clamping force	8-40N	8-40N	8-40N	8-40N	8-35N
Recommended Clamping Weight	≤800g	≤800g	≤800g	≤800g	≤1000g
Stroke adjustable	adjustable	adjustable	adjustable	adjustable	adjustable
Adjustable clamping force	adjustable	adjustable	adjustable	adjustable	adjustable
Clamping method	Torque mode	Torque mode	Torque mode	Torque mode	Torque mode
Lubrication of moving elements	Maintenance-free for 5 million cycles		Maintenance-free for 4 million cycles		
Temperature range	25°C-70°C				
Operating humidity range	20%-85%non-condensing				
Controller Placement	Motor Tail				
control method	Compatible with RS485\Custom CAN\CANopen\IO				
Body weight	0.27kg	0.25kg	0.275kg	0.225kg	0.112kg
Individual trip movement time	≤0.15s	≤0.15s	≤0.20s	≤0.20s	≤0.10s
Motor Type	stepper motor				
rated voltage	24V	24V	24V	24V	24V
peak current	1.6A	1.6A	1.6A	1.6A	1.0A
Standby Current	≤100mA				
note	The maximum clamping weight is directly related to the way the fixture is designed, and the maximum clamping weight is about three times the recommended clamping weight;				



WTEC42L

WTEC-42 SERIES INTELLIGENT ELECTRIC GRIPPER
DRIVER INTERFACE DEFINITION DIAGRAM

VM GND 485-A 485-B CAN-H CAN-L VIO1 VIO2 VIO3 VIO4
VM GND 485-A 485-B CAN-H CAN-L VIO1N VIO2N VIO3N VIO4N



Performance Parameters 42 Series

ITEMS	WTEC42L
Itinerary	19mm
clamping force	320N
Recommended Clamping Weight	≤3kg
Stroke adjustable	adjustable
Adjustable clamping force	adjustable
Clamping method	Torque mode
Lubrication of moving elements	Maintenance-free for 4 million cycles
Temperature range	25°C-70°C
Operating humidity range	20%-85%non-condensing
Controller Placement	Motor Tail
control method	Compatible with RS485\Custom CAN\CANopen\IO
Body weight	0.53kg
Individual trip movement time	≤0.40s
Motor Type	stepper motor
rated voltage	24V
peak current	3A
Standby Current	≤100mA
note	The maximum clamping weight is directly related to the way the fixture is designed, and the maximum clamping weight is about three times the recommended clamping weight;

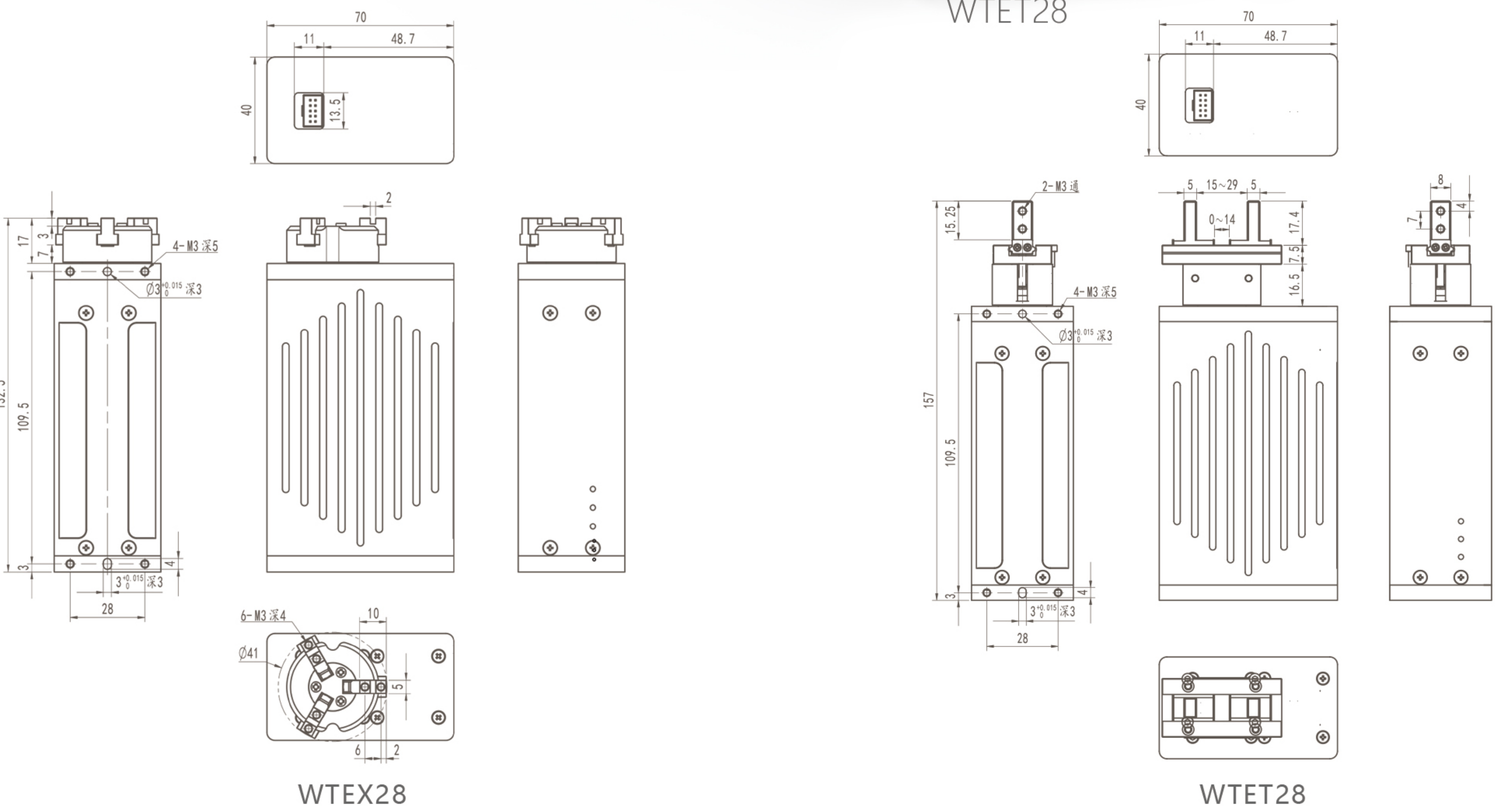
Intelligent Rotary Claw

PRODUCT ADVANTAGES

- Small size, light weight and compact structure.
- Unlimited number of revolutions for precise angular positioning.
- Supports torque mode clamping.
- Full detection of the presence or absence of clamped objects.
- Supports torque mode capping.
- Monitor for adequate tightening/loosening.
- RS-485 communication control.
- Streamlined instruction set with host computer software.
- Ultra-quiet and high lifespan.
- The Z-axis module can be used for more fully automated functions.

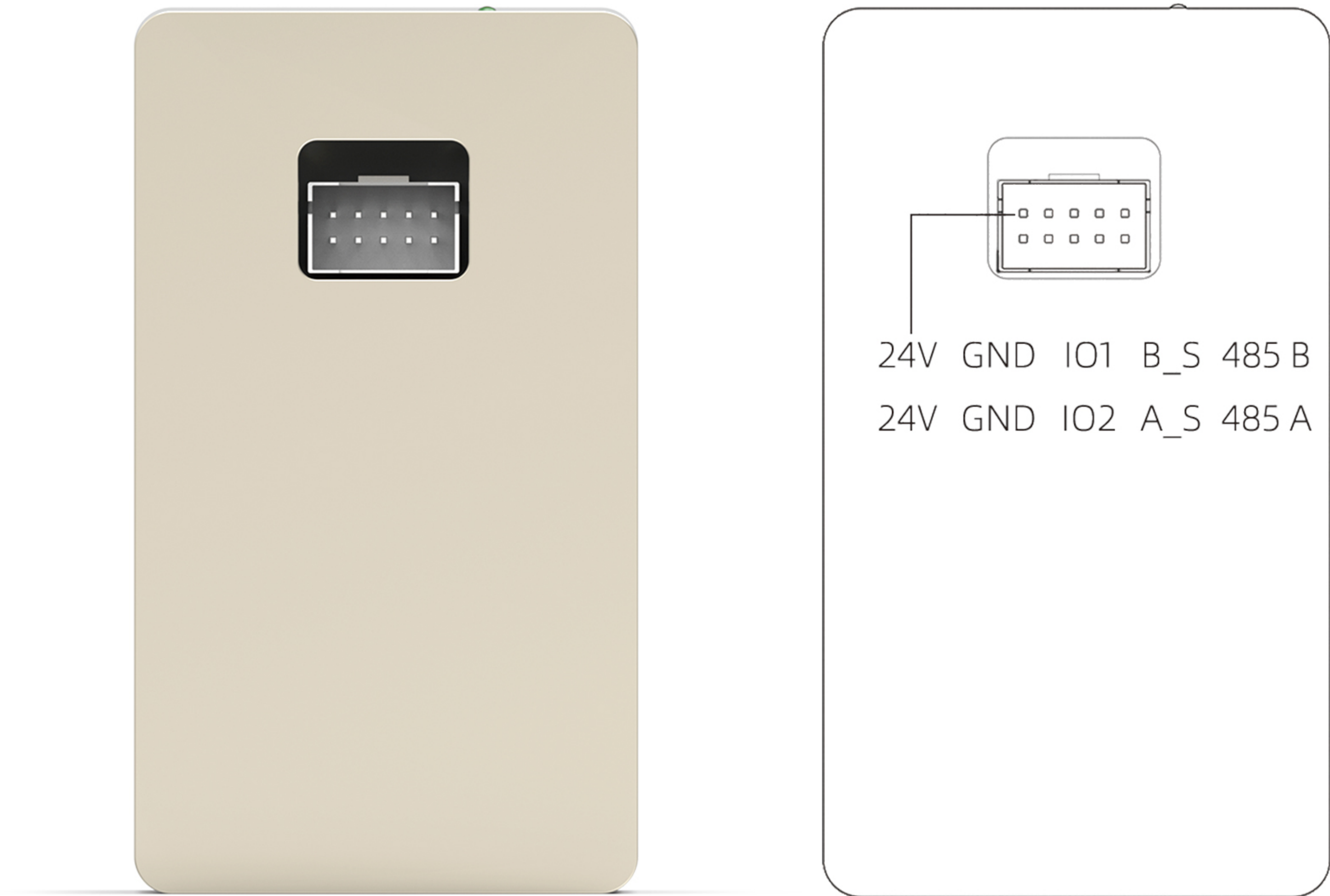


WTEX28



INTELLIGENT ROTARY CLAW SERIES

INTELLIGENT ROTARY CLAW DRIVER INTERFACE DEFINITION DIAGRAM



Performance Parameters rotary electric claw

ITEMS	WTEX28	WTET28
power supply	DC24V, peak current 2000mA	
Interface Specifications	PHB2.0_2*5AS	
Communication protocols	RS-485 (compatible with ASCII, MODBUS RTU communication protocol)	
Working environment	Working temperature 15°C-35°C, humidity 20%-85% without condensation	
Working Principle	The stepper motor drives the screw nut to drive the reciprocating jaws and spindle rotation, and the integrated encoder realises closed-loop servo control.	
Total travel of jaws	9mm	14mm
Maximum clamping force	100N	100N
Clamping speed	15mm/s	15mm/s
Maximum rotation speed	360	360
Maximum rotating torque	1.5NM	1.5NM
Weights	0.75kg	0.75kg
Sizes	L: 70mm,W: 40mm, H: 133m,	L: 70mm, W: 40mm, H: 157mm,

Intelligent stepper motor all-in-one

PRODUCT ADVANTAGES

- Support RS485\Modbus\can\CANopen\IO control.
- The driver + encoder is mounted at the end of the motor for closed-loop control, resulting in an even smaller size.
- The all-in-one machine can work in torque or positioning mode without inputting pulses and is controlled by communication commands.
- Integrated torque return-to-zero reset mode with the option to omit the return-to-zero sensor on the motion module.
- The actuator can be directly connected to level sensors with special application return point sensors.
- Save wiring mode, only 4 wires are needed to connect with the upper computer, two are DC24V power supply and two communication wires.
- Supports 254 station numbers (00 to 253) in hexadecimal 0X00 to XFD.
- Parameter setting (subdivision, current, speed, acceleration/deceleration, displacement, torque, etc.)
- Changes can be made at any time via the host computer.
- Execution actions are accomplished through simple control commands.
- Motion positioning can be done with absolute or relative value commands.
- Precision cast aluminium alloy shell, high strength, low temperature rise, corrosion resistance.
- Suitable for 20/28/42/57 size two-phase 4-wire stepper motors.
- The drive is protected against temperature and torque overload.



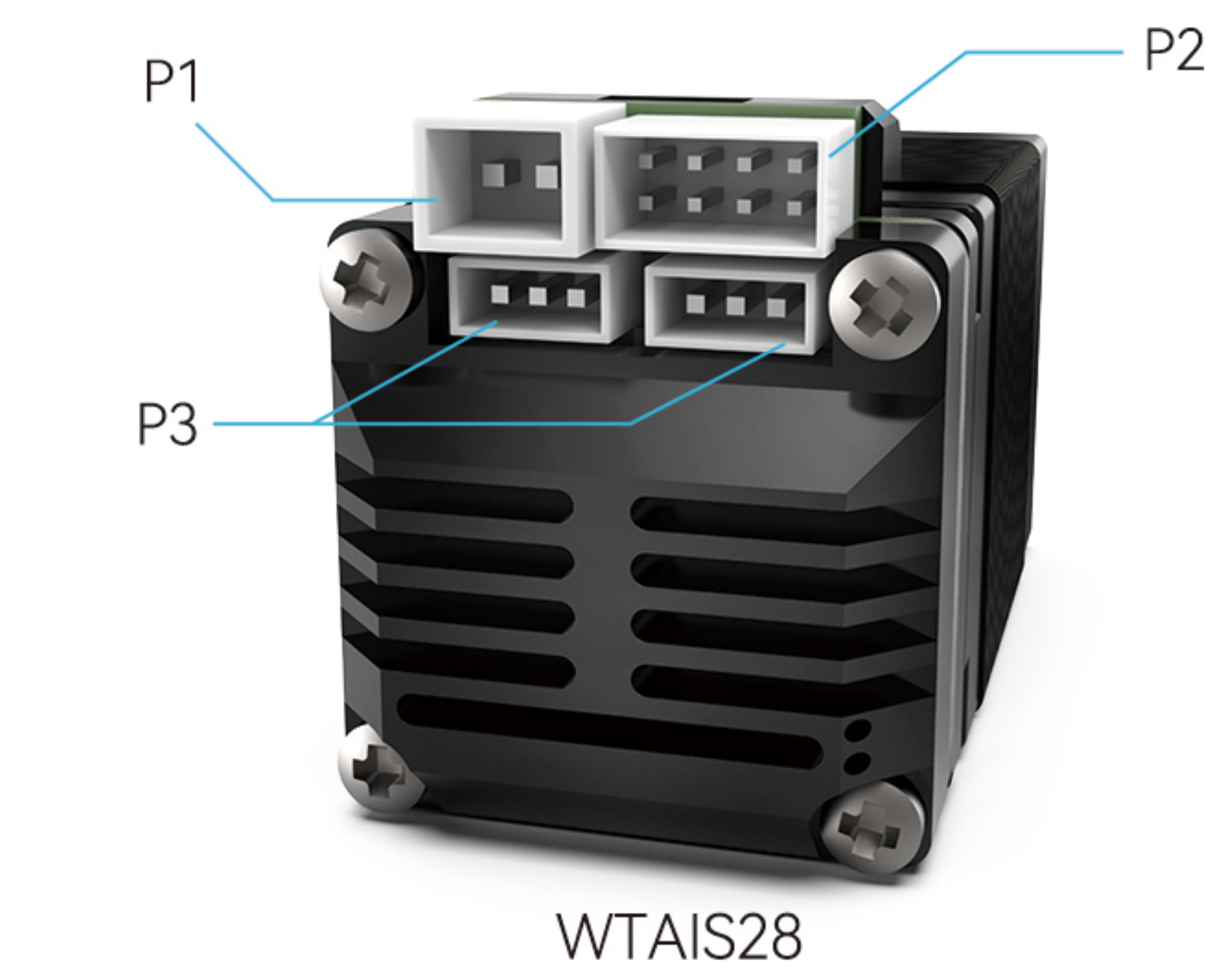
Performance Parameters

Item	Parametric	Item	Parametric
Supply Voltage	DC24V	Cooling method	Natural cooling
Output Current	1.5A-5A	Environmental temperature	-40℃~85℃
Breakdown accuracy	10000	Environmental humidity	<80% RH, no condensation, no condensation
Insulation resistance	≥100MQ	Environmental Vibration	3G MAX
Dielectric strength	0.5KV,1min	Environmental situation	No dust, no oil mist, no aggressive gases

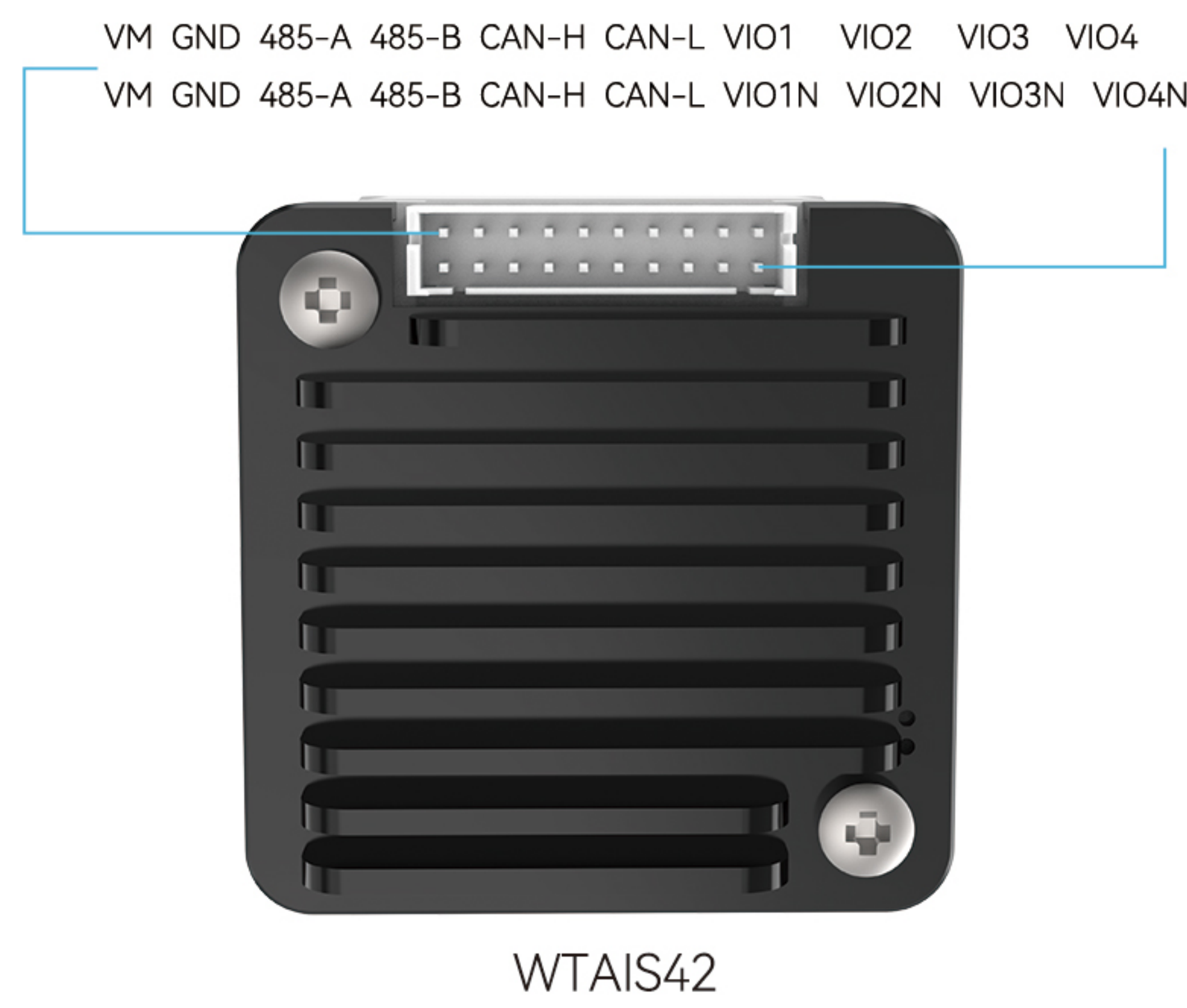
INTERFACE DEFINITION



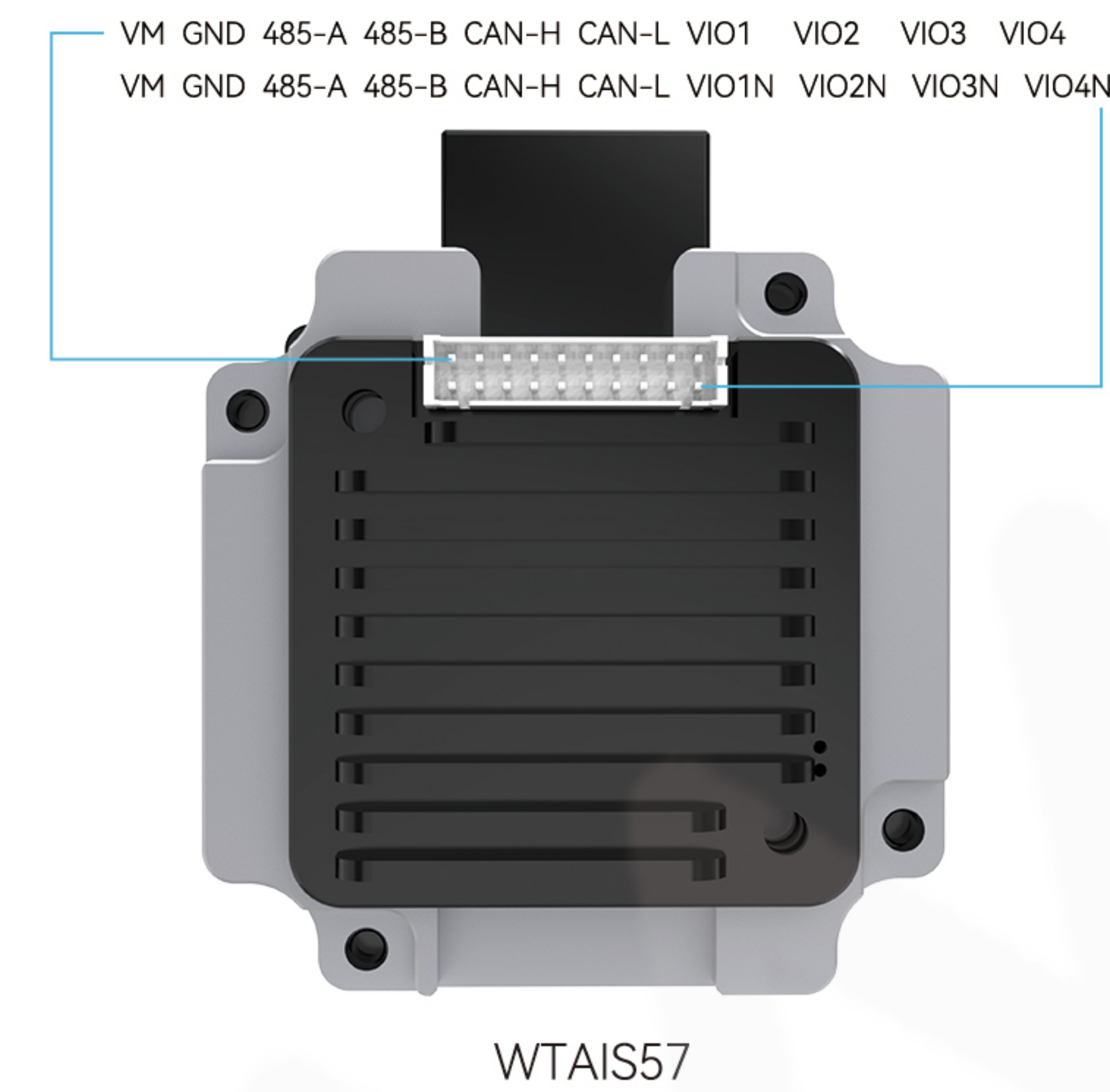
Connector	Pin	Name	Pin Description
P1	Pin1	POWER	GND
	Pin2	GND	Digital land
	Pin3	485	485A
	Pin4		485B
	Pin5	CAN	H
	Pin6		L
	Pin7	IO	IO 1
	Pin8		IO 2
	Pin9		IO 3
	Pin10		IO 4



Connector	Pin	Name	Pin Description
P1	Pin1	POWER	+24V
	Pin2	GND	GND
P2	Pin1	GND	Digital land
	Pin2	VCC	+5Vexports, amps20mA
	Pin3	IO	IO1
	Pin4		IO2
	Pin5		IO3
	Pin6		IO4
	Pin7	485	485A
	Pin8		485B
P3	Pin1	CAN	G
	Pin2		L
	Pin3		H



Connector	Pin	Name	Pin Description
Power Connector	Pin1	VM	+24V
	Pin2		
	Pin3	GND	Digital land
	Pin4		
communication	Pin5	485	485A
	Pin6		485B
	Pin7		
	Pin8		
	Pin9	CAN	H
	Pin10		L
	Pin11		
	Pin12		
IO	Pin13	IN	VIO1
	Pin14		VIO1N
	Pin15		VIO2
	Pin16	OUT	VIO2N
	Pin17		VIO3
	Pin18		VIO3N
	Pin19	OUT	VIO4
	Pin20		VIO4N

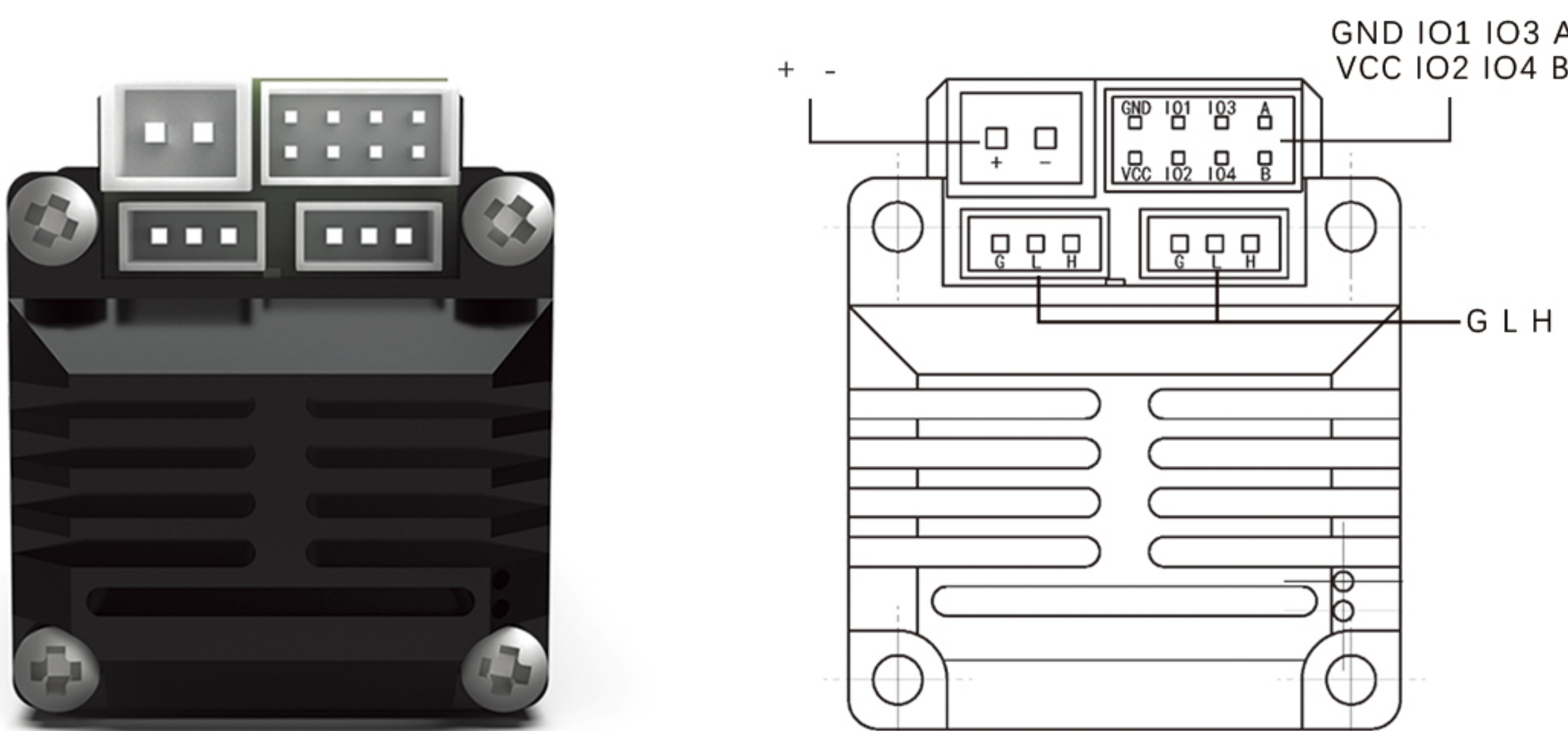


Connector	Pin	Name	Pin Description
Power Connector	Pin1	VM	+12V~36V
	Pin2		
	Pin3	GND	Digital land
	Pin4		
communication	Pin5	485接口	485A
	Pin6		485B
	Pin7		
	Pin8		
	Pin9	CAN接口	H
	Pin10		L
	Pin11		
	Pin12		
IO	Pin13	IN	VIO1
	Pin14		VIO1N
	Pin15		VIO2
	Pin16	OUT	VIO2N
	Pin17		VIO3
	Pin18		VIO3N
	Pin19	OUT	VIO4
	Pin20		VIO4N

Integrated piston pumps

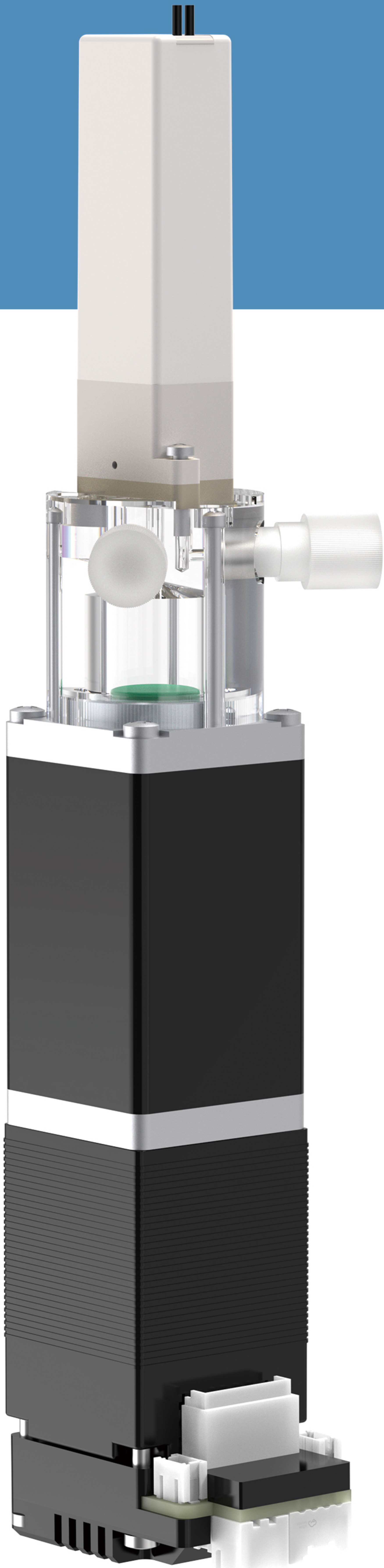
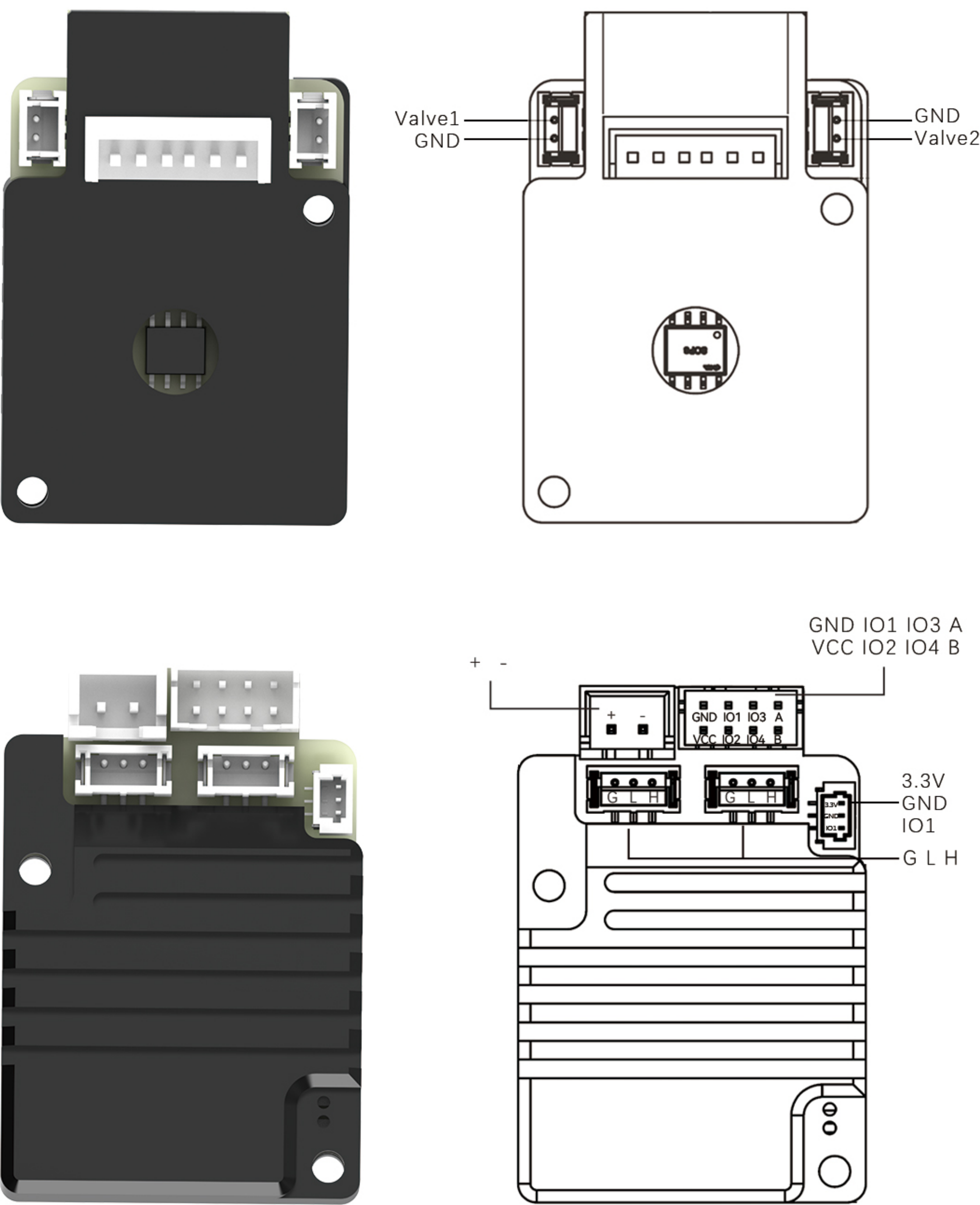
PRODUCT ADVANTAGES

- Compact, high performance, long life, maintenance free;
- Easy to use and compatible with RS485 and CAN communication protocols;
- With less space requirement and lower noise, it is particularly suitable for integration in miniature automation instruments;
- Six-stage suction or spit calibration for liquids of different viscosities, up to 8 sets of compensation data can be stored separately;
- Spit cut-off function to reduce hanging liquid.



28 DRIVER INTERFACE DEFINITION DIAGRAM

ADD SOLENOID VALVE CONTROL IO TO DRIVE BOARD



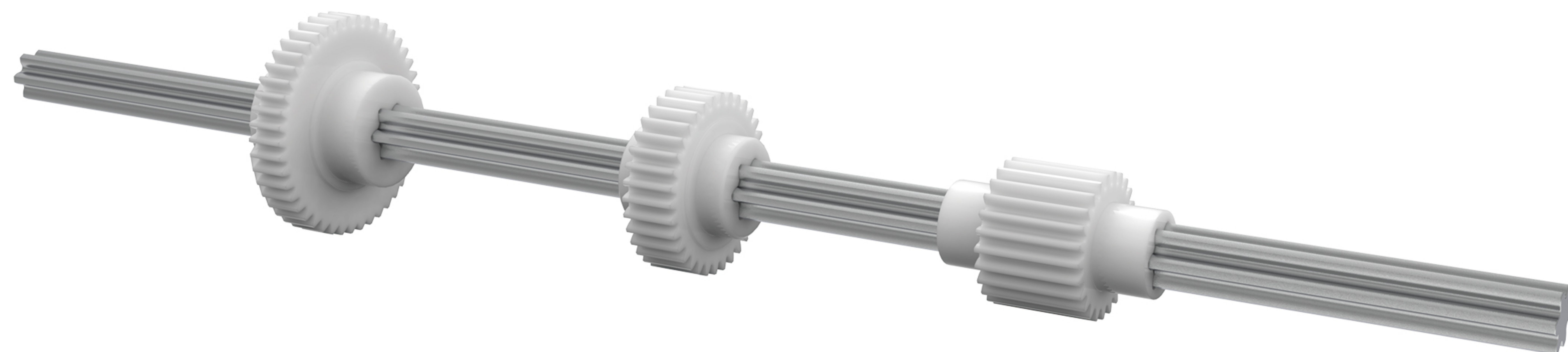
INTERFACE DEFINITION



Performance Parameters

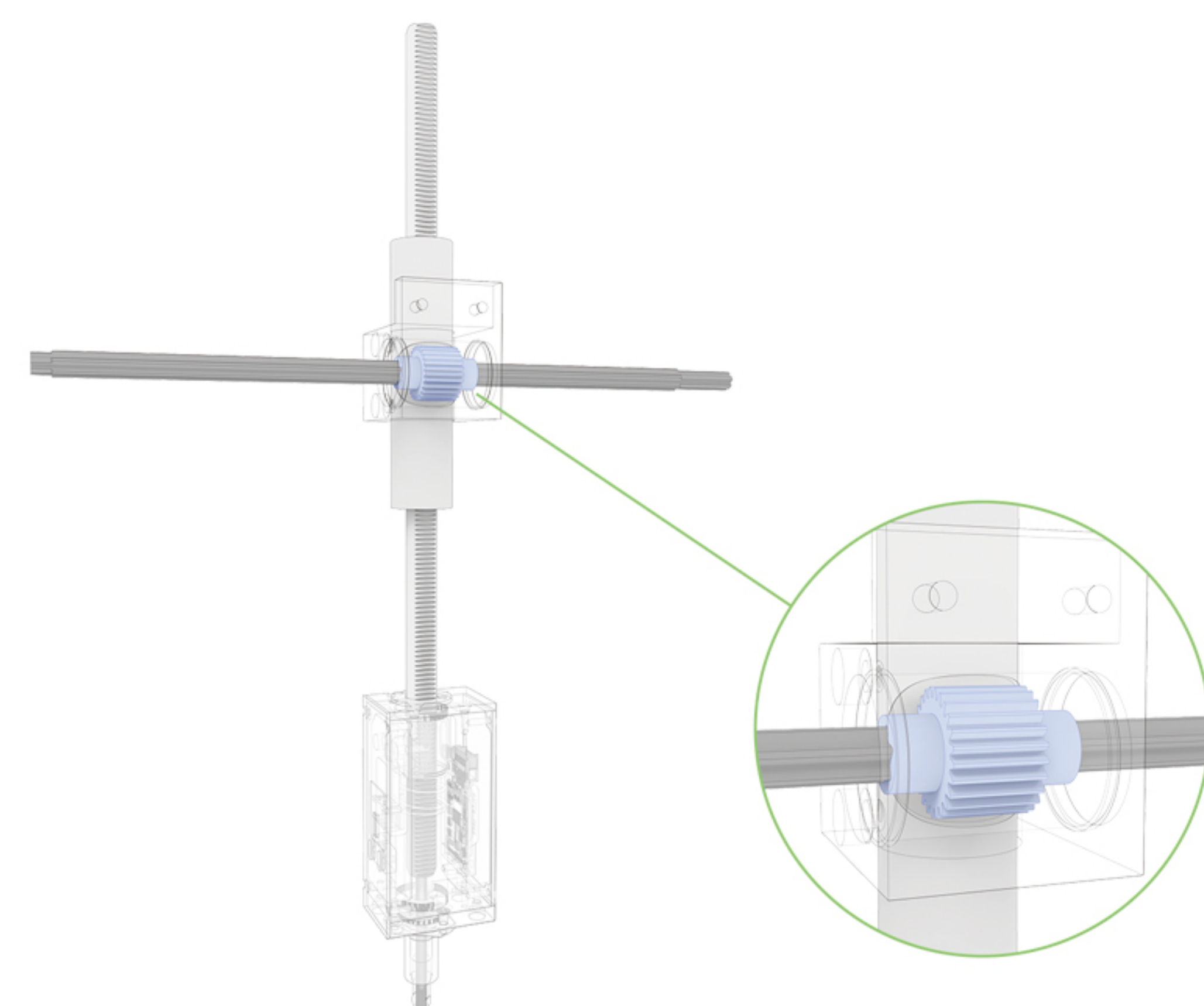
Pump type	ESM50UL	ESM250UL	ESM1000UL	ESM5000UL
Maximum displacement(ul)	50	250	1000	5000
Plunger Diameter (mm)	2.52	5.64	11.29	23.5
Liquid volume per step (nl/step)	0.5	2.5	10	50
Stroke (mm)	10	10	10	11.5
Maximum motor speed (r/s)	4000			
Drive fine fraction (step/r)	10000			
Lead (mm)	1			
Stroke per step (mm/step)	0.0001 (converted by drive subdivision)			
Aspiration and Discharge Repeatability (CV)	<1.2 per cent (measured at no less than 2 per cent of range discharge)			
	<1.0 per cent (measured at no less than 10 per cent of range discharge)			
	<0.5 per cent (measured at 100 per cent range discharge)			
Lifetime (10,000 cycles)	500			
Interface form	1/4-28UNF			
Installation Requirements	4-M3 (screw-in length less than 3.5 mm)			
Overall dimensions (mm)	135x33x28	136x42x86	135x33x28	136x42x86

INVOLUTE SPLINE GEAR UNITS WT10403



PRODUCT ADVANTAGES

This product is a spline drive shaft + gear motion sub, widely used in medical equipment sampling arm Y-axis, can be more accurate torque through the gear to the motion actuator, and the gear can be free and smooth sliding along the axial direction.



Performance Parameters

Items		parametric
lengths(mm)		100 (customisable)
D(mm)		5.84
d(mm)		3.71
pinion1	modulus	0.5
	number of teeth	45
	Diameter of indexing circle	22.5
	pressure angle	20°
	material	POM
	colour	White
pinion2	modulus	0.5
	number of teeth	34
	Diameter of indexing circle	17
	pressure angle	20°
	material	POM
	colour	White
pinion3	modulus	0.5
	number of teeth	25
	Diameter of indexing circle	12.5
	pressure angle	20°
	material	POM
	colour	White

RACK AND PINION ROLLING SPLINE PAIR

Stainless steel with chrome-plated surface



RACK AND PINION PRECISION SPLINE SUB

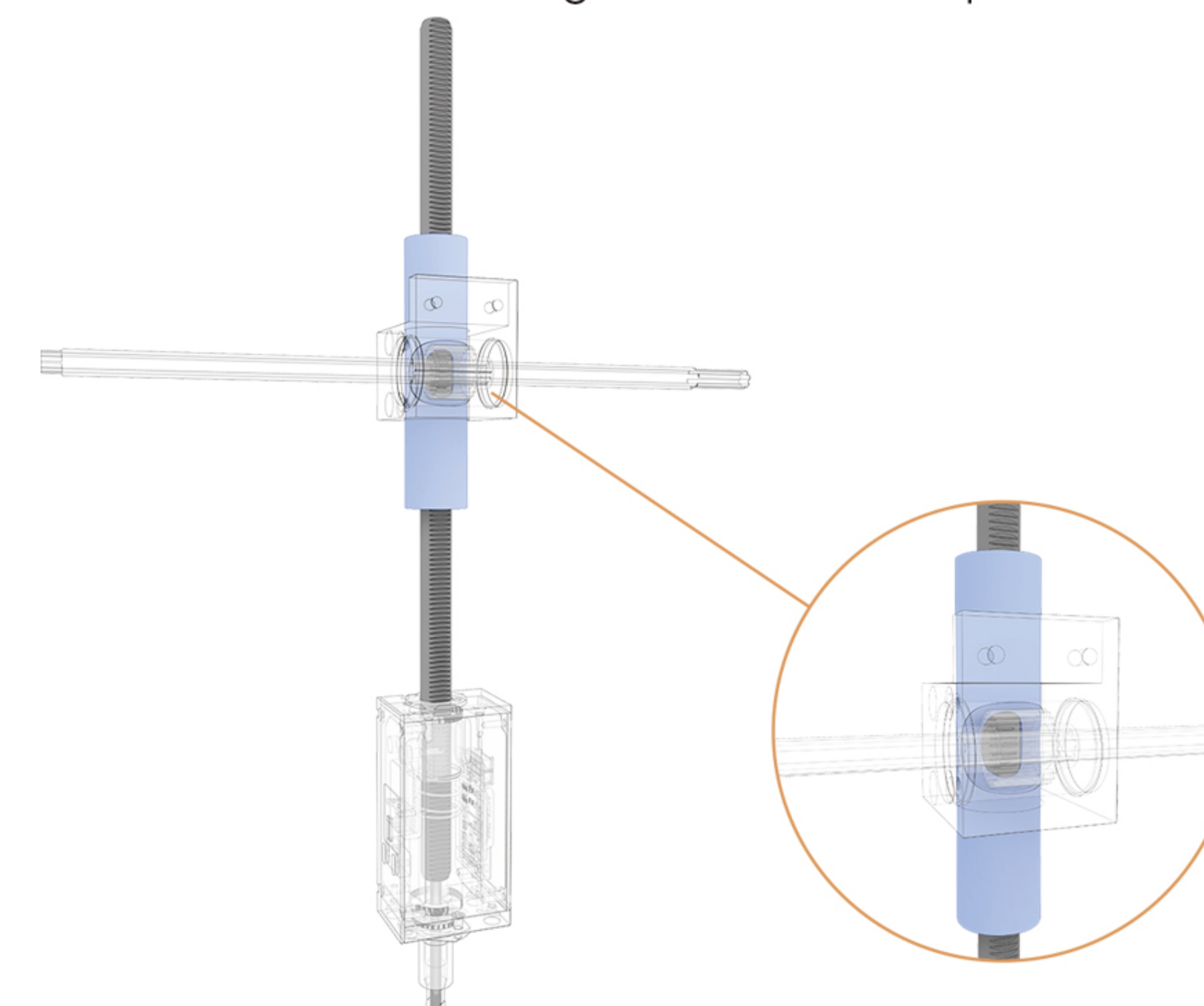
Bearing steel with cold plated surface

Precise and gapless, flexible and reliable



PRODUCT ADVANTAGES

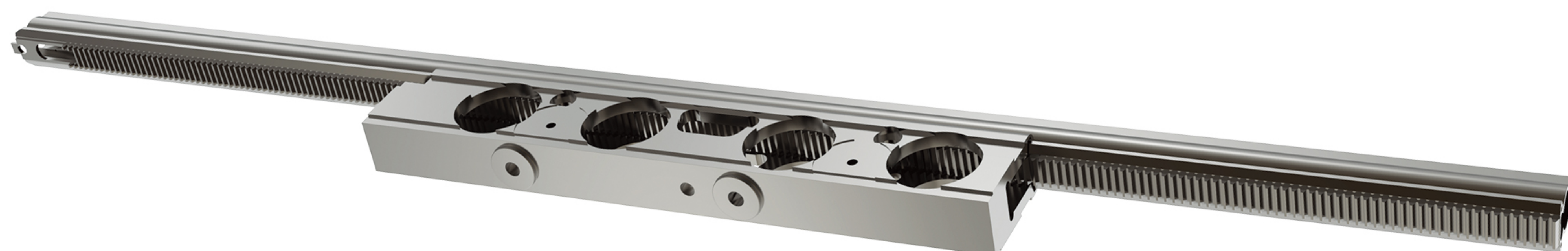
This product is widely used in the Z-axis of all kinds of sampling arms. The internal spline stopping and guiding adopt the rolling friction method, which has the advantages of compactness, flexibility, high precision and long service life. The hollow rack and pinion shaft can facilitate the passage of pipelines and make the Z-axis more compact and beautiful. Length and mounting dimensions can be customised according to customer requirements.



Performance Parameters

Items	parametric
L (mm)	250
W (mm)	7.8
Outside diameter S1(mm)	8
inside diameter S2(mm)	5
Nut Size M(mm)	16
Nut Size N(mm)	69
Nut Size B(mm)	1.75
Rack Module m	0.5
Basic rated torque Cr (kgf.m)	0.44
Rated life(Km)	>3000
weights(Kg)	0.12

SLIDING RACK AND PINION VICE WT13602

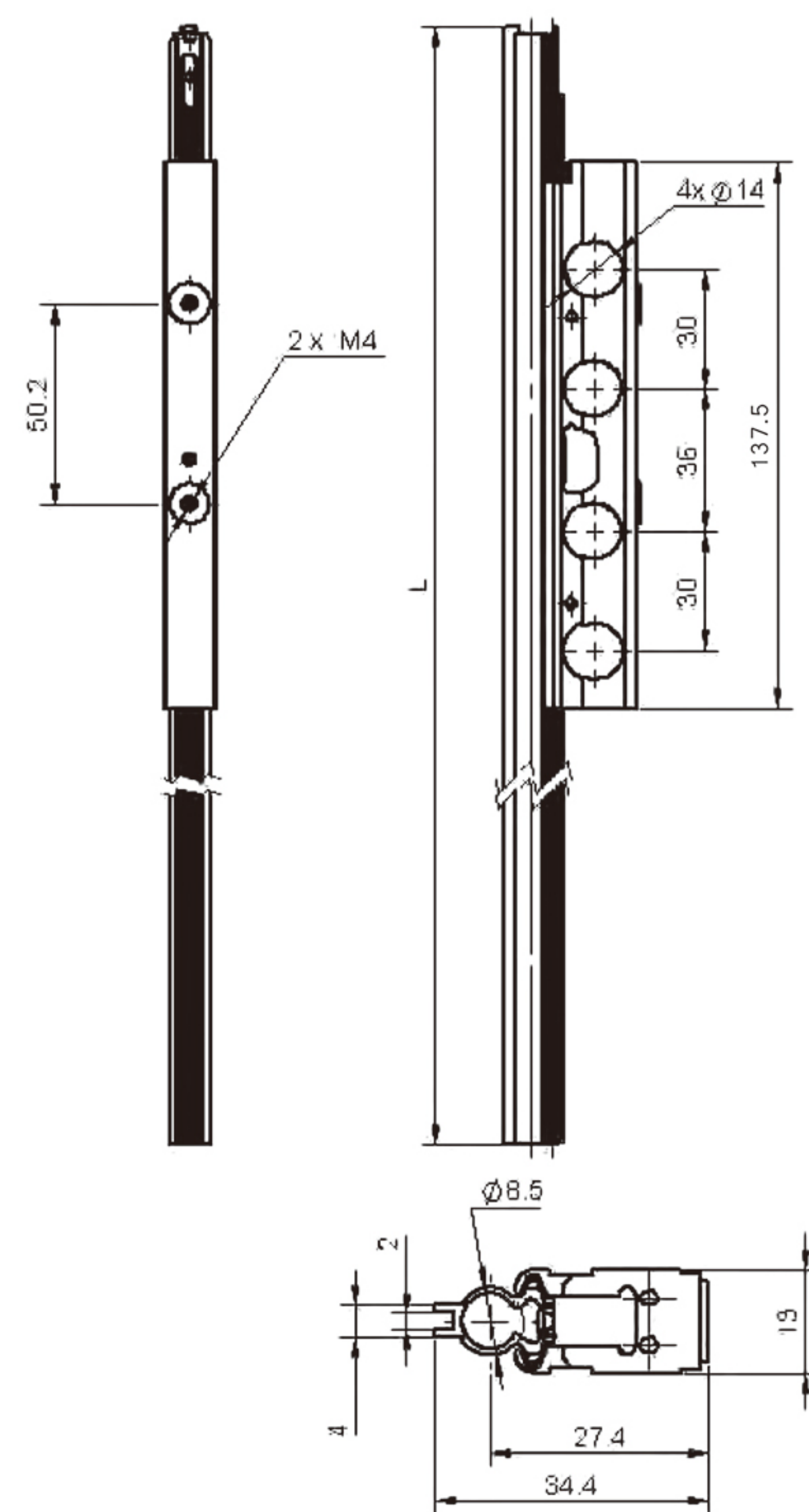


PRODUCT ADVANTAGES

This product can be widely used in the Z-axis of single-channel and multi-channel sampling arms. High-grade aluminum and special hardening treatment ensure smooth operation and high life span. Internal spline stop-rotation guiding and rack-and-pinion drive, with the advantages of compactness, flexibility, high precision and long life. Hollow rack and pinion shaft, which can facilitate the passage of pipelines, makes the Z-axis more compact and beautiful, and the length and mounting dimensions can be customised according to customers' requirements.

Performance Parameters

Items	parametric
lengths (mm)	348 (customisable)
Rack Module m	0.5
Rack end mounting dimensions	Customisable
Guide Channel Mounting Dimensions	Customisable
Material	AL7075
Surface treatment	Hard oxide
Overall straightness of rack and pinion	<0.1mm
Basic rated torque Cr (Kgf.m)	0.3
Rated life	>1000
Weights	0.1

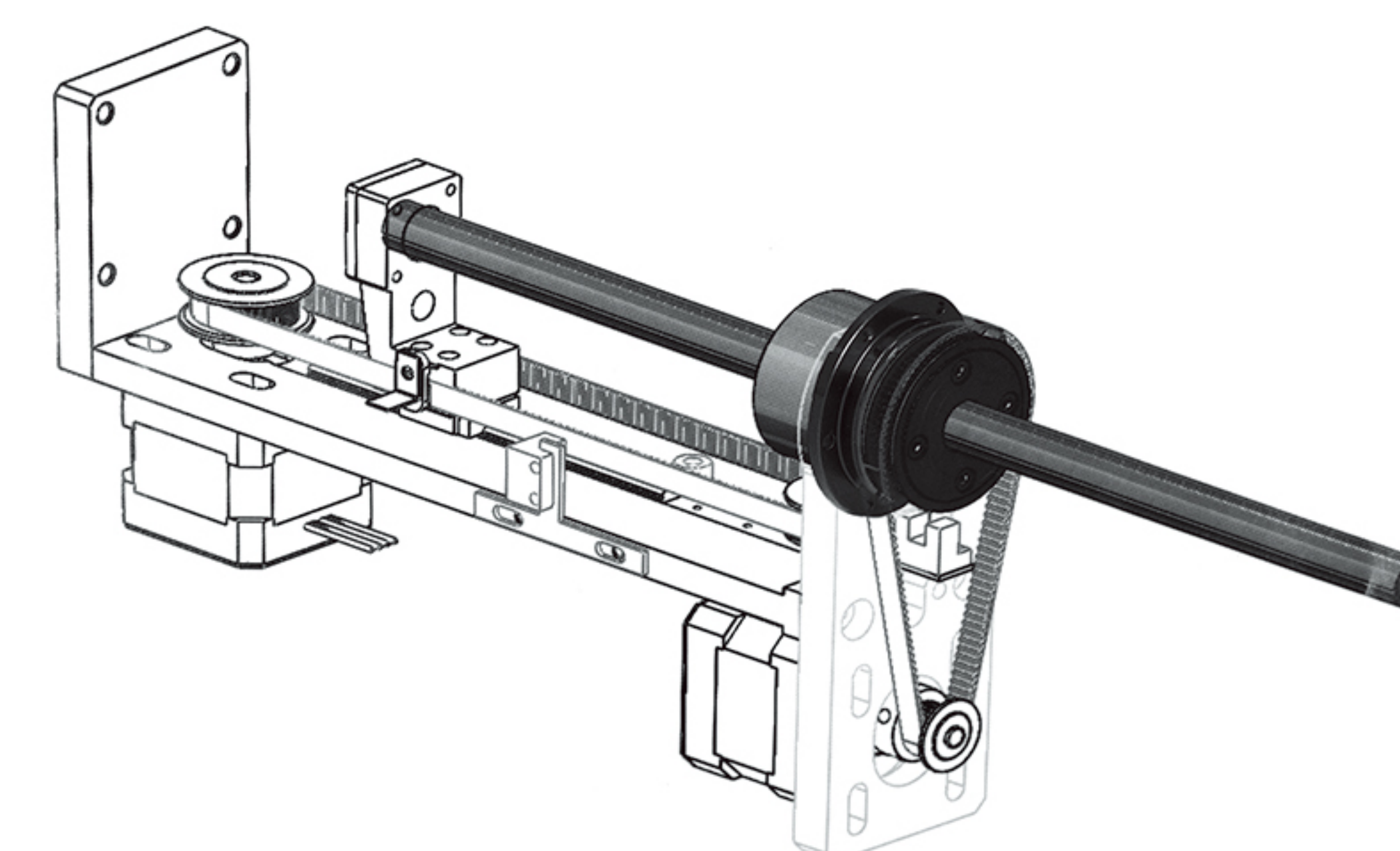


ROLLING ROTARY SPLINE SUB WTX13



PRODUCT ADVANTAGES

A rotary ball spline is a spline with a special bearing housing mounted on the outer diameter of the spline outer barrel to enable the ball spline to operate. By rotating or stopping the outer cylinder, both rotary and linear modes of operation can be performed with only one shaft. The hollow shaft, which can facilitate the passage of pipelines, makes the Z-axis more compact and beautiful, and the length and mounting dimensions can be customised according to customers' needs.



Performance Parameters

Items	parametric
lengths (mm)	300(customisable)
Spline shaft diameter	Ø
Shaft End Mounting Dimensions	Customisable
material	GCr15
Surface treatment	Low Temperature Black Chrome (Raydent)
Belt pulley specifications	MXL60(customisable)
Overall straightness of rack and pinion	<0.1mm
Basic rated torque C r (kgf.m)	1.51
Basic load rating C (kgf)	222
Rated life (Km)	>3000
Weights	0.38

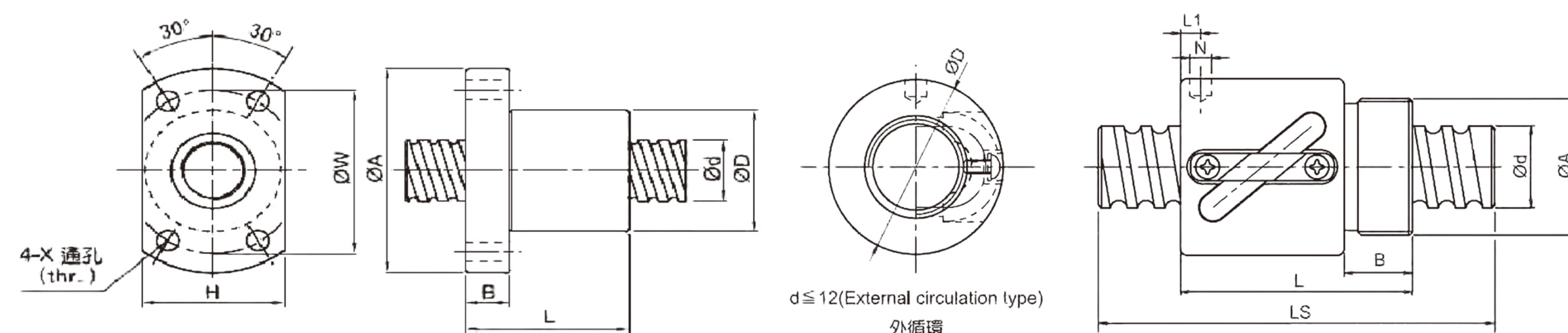
BALL SCREW



Relevant parameters

l: Guide Da: bead diameter n: number of bead circles k: rigidity (kgf/um) Ca: dynamic load rating (kgf) Coa: static load rating (kgf)

Model- Number Series	Reference data for ball screws and nuts																
	d	l	Da	D	A	B	L	W	H	X	Y	Z	Q	n	Ca	Coa	k
SFKR00601	6	1	0.8	12	24	3.5	15	18	16	3.4				1x3	111	224	9
SFKR00801	8	1	0.8	14	27	4	16	21	18	3.4				1x4	161	403	14
SFKR00802		2	1.2	14	27	4	16	21	18	3.4				1x3	222	458	13
SFKR0082.5		2.5	1.2	16	29	4	26	23	20	3.4				1x3	221	457	13
SFKR01002	10	2	1.2	18	35	5	28	27	22	4.5				1x3	243	569	15
SFS01205-2.8	12	5	2.5	24	40	10	31	32	30	4.5				2.8*1	536	794	12.5
SFS01210-2.8		10	2.5	24	40	10	48.5	32	30	4.5				2.8*1	422	711	12
SFSR01610-2.8	15	10	2.778	28	48	10	47	38	40	5.5			M6*1P	2.8*1	592	1131	14
SFSR01620-1.8		20	2.778	28	48	10	57	38	40	5.5			M6*1P	1.8*1	415	768	9
SFUR01605-4	16	5	3.175	28	48	10	50	38	40	5.5			M6	4	888.1	1525	22.1
SFUR01610-3		10	3.175	28	48	10	57	38	40	5.5			M6	3	716.4	1232	16.6

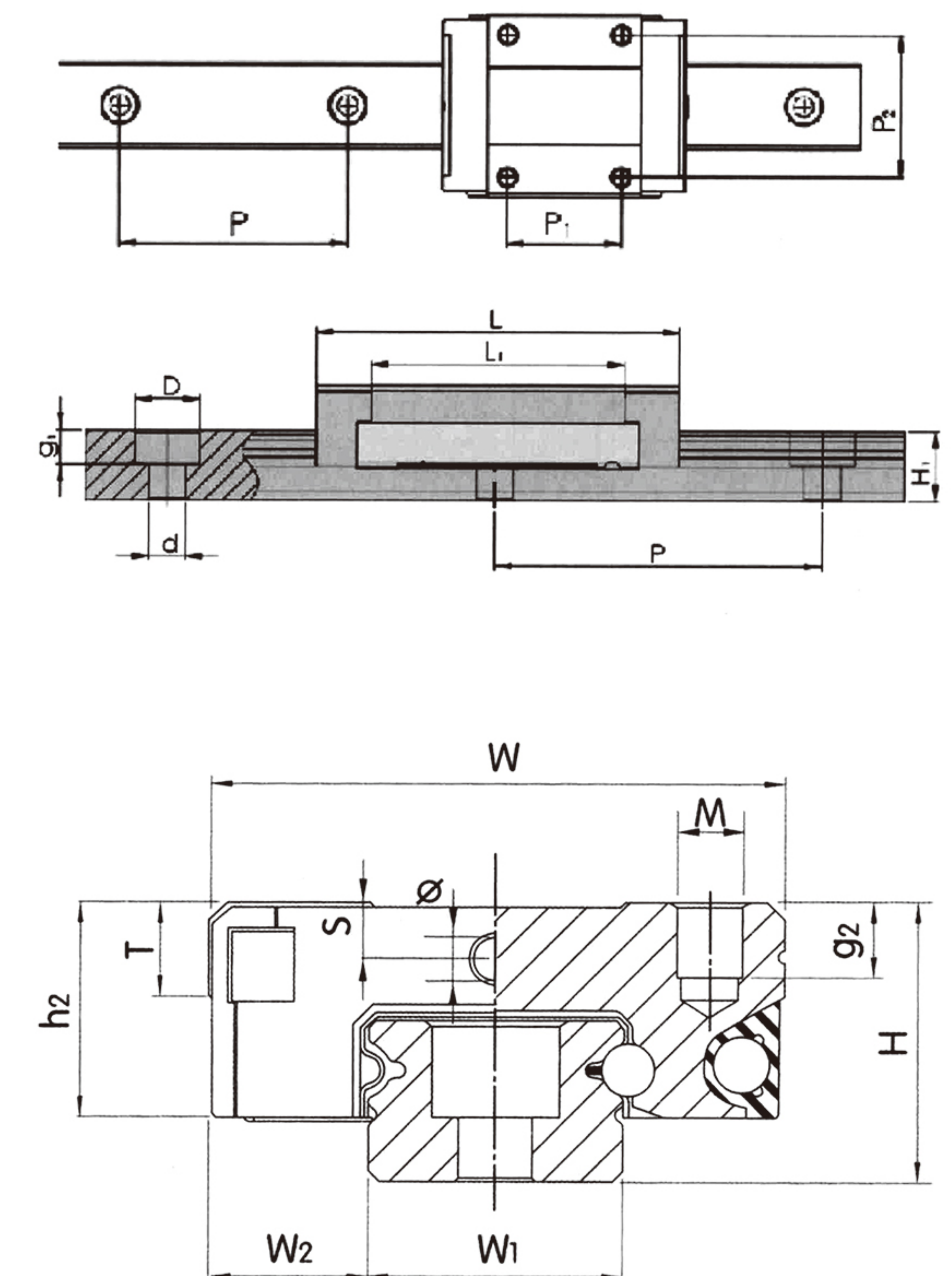
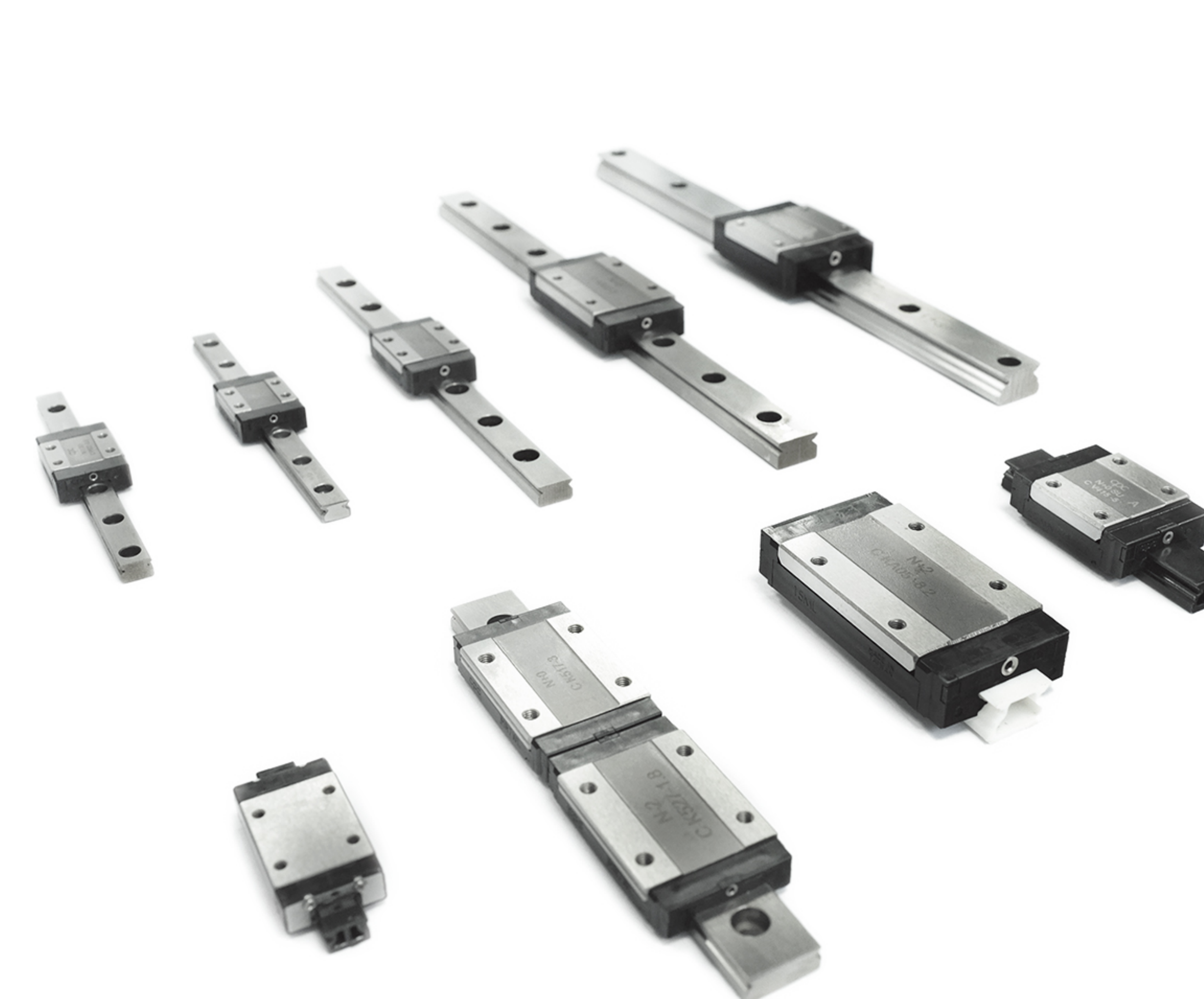


Relevant parameters

l: Guide Da: bead diameter n: number of bead circles k: rigidity (kgf/um) Ca: dynamic load rating (kgf) Coa: static load rating (kgf)

Model- Number Series	Reference data for ball screws and nuts														
	d	l	Da	D	A	B	L	L1	N	L2	Q	n	Ca	Coa	k
BSHR0082.5-2.5	8	2.5	1.2	17.5	M15x1p	7.5	23.5	10	3			2.5x1	189	381	11
BSHR01002-3.5	10	2	1.2	19.5	M17x1p	7.5	22	3	3.2			3.5x1	277	664	17
BSHR01004-2.5	10	4	2	25	M20x1p	10	34	3	3			2.5x1	400	754	14

MINIATURE GUIDEWAYS



Relevant parameters

CPC Model	WON Model	Assembly Size		Track Size(mm)				Slide Size(mm)					
		H	W2	W1	H1	P	Dxdxg1	W	L	L1	P1	P2	Φ
MR15ML	M15L	16	8.5	15	9.5	40	6x3.5x4.5	32	60	44	25	25	1.8
MR15MN	M15N	16	8.5	15	9.5	40	6x3.5x4.5	32	43	27	20	25	1.8
MR12ML	M12L	13	7.5	12	7.5	25	6x3.5x4.5	27	47.6	34	20	20	1.3
MR12MN	M12N	13	7.5	12	7.5	25	6x3.5x4.5	27	35.4	22	15	20	1.3
MR9ML	M9L	10	5.5	9	5.5	20	6x3.5x3.5	20	40.9	30.8	16	15	1.3
MR9MN	M9N	10	5.5	9	5.5	20	6x3.5x3.5	20	30.6	20.5	10	15	1.3
MR7ML	M7L	8	5	7	4.7	15	4.2x2.4x2.3	17	31.2	21.8	13	12	1.1
MR7MN	M7N	8	5	7	4.7	15	4.2x2.4x2.3	17	23.7	14.3	8	12	1.1
MR5ML	M5N	6	3.5	5	3.5	15	3.5x2.4x1	12	19.6	13.5	7	-	0.7
MR5MN	M5C	6	3.5	5	3.5	15	3.5x2.4x1	12	16	10	-	8	0.7
MR3ML	-	4	2.5	3	2.6	10	M1.6	8	16	11	5.5	-	0.3
MR3MN	-	4	2.5	3	2.6	10	M1.6	8	11.7	6.7	3.5	-	0.3

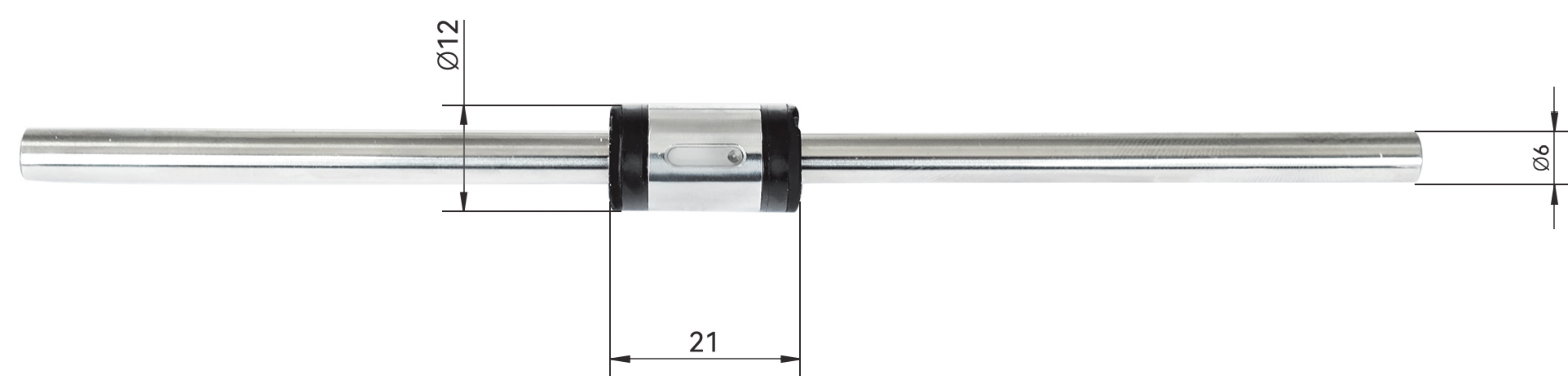


Precision Ball Spline Sets

► Precision Ball Spline - Straight Precision Ball Spline - Flange Type

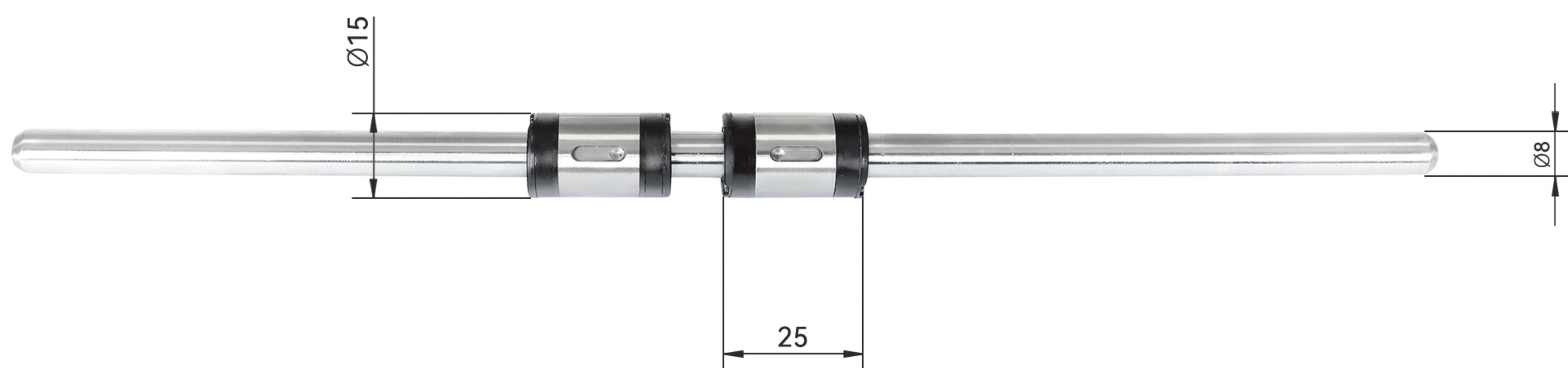
WSP 6

Hollow inner diameter 3mm



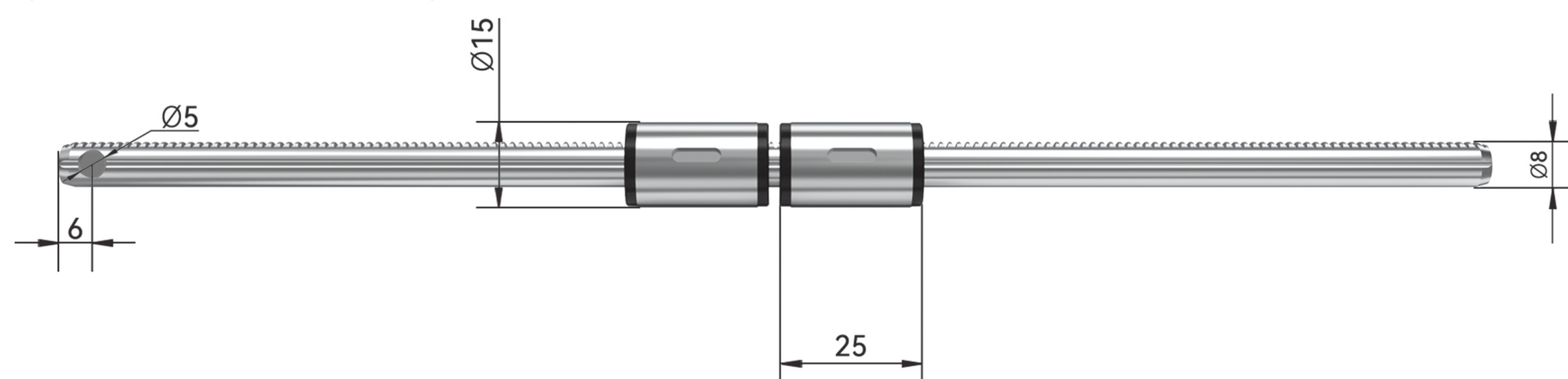
WSP 8T

Hollow inner diameter 4mm



TLT 008

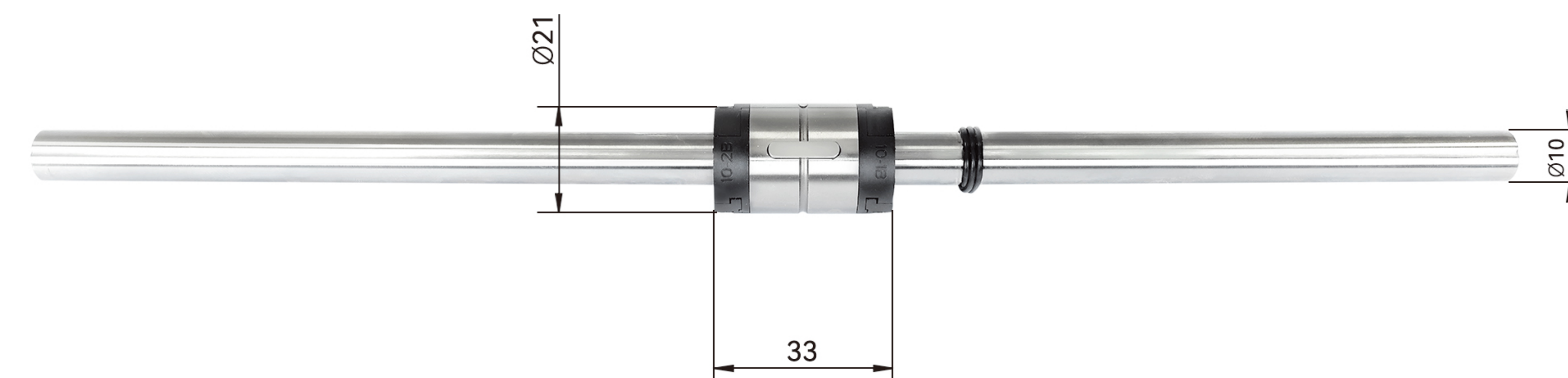
Hollow inner diameter 5mm
Spline sub with rack and pinion (m=0.5)



PRECISION BALL SPLINE - STRAIGHT

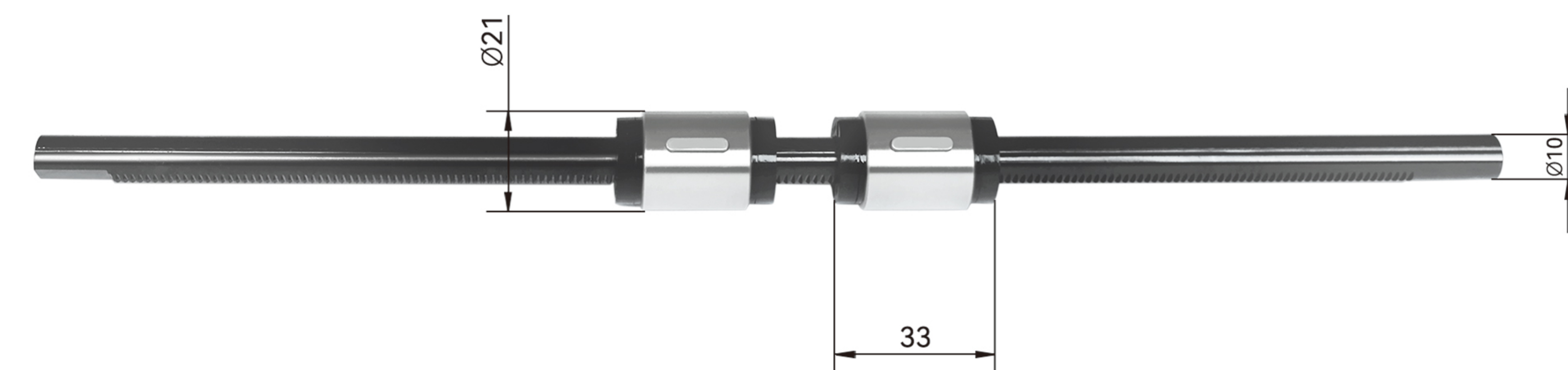
SLT 10

Hollow inner diameter 5mm



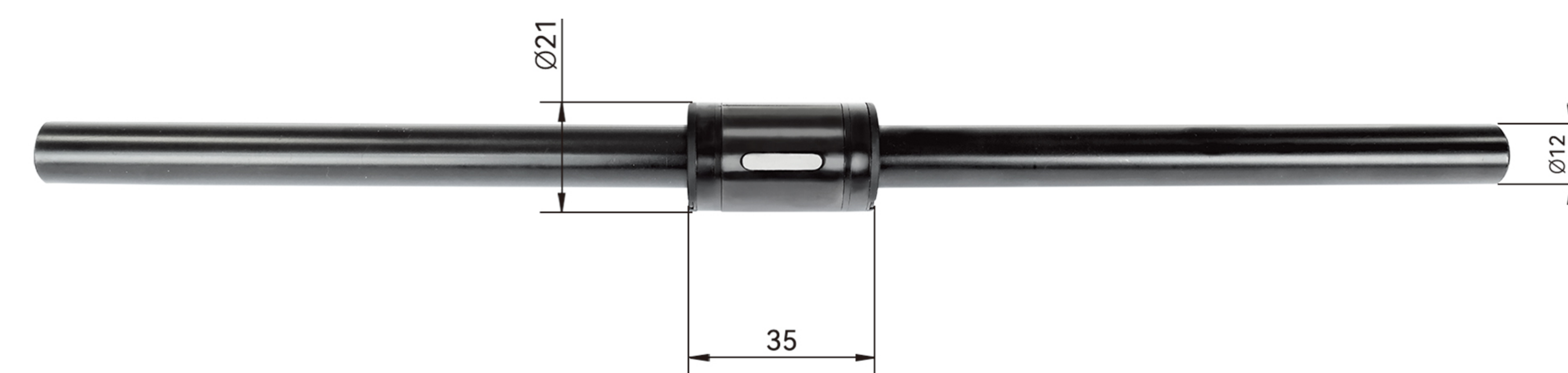
SLT 10

Hollow inner diameter 5mm Spline sub with rack and pinion (m=0.5)



WSP 12

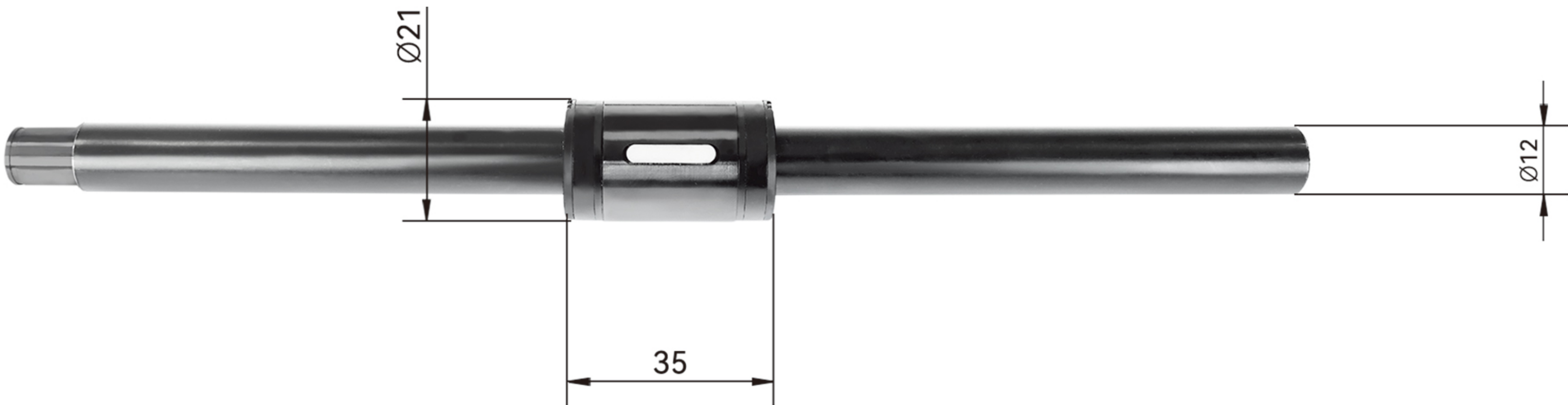
Hollow inner diameter 6.5mm, Machinable up to 8mm



PRECISION BALL SPLINE - STRAIGHT

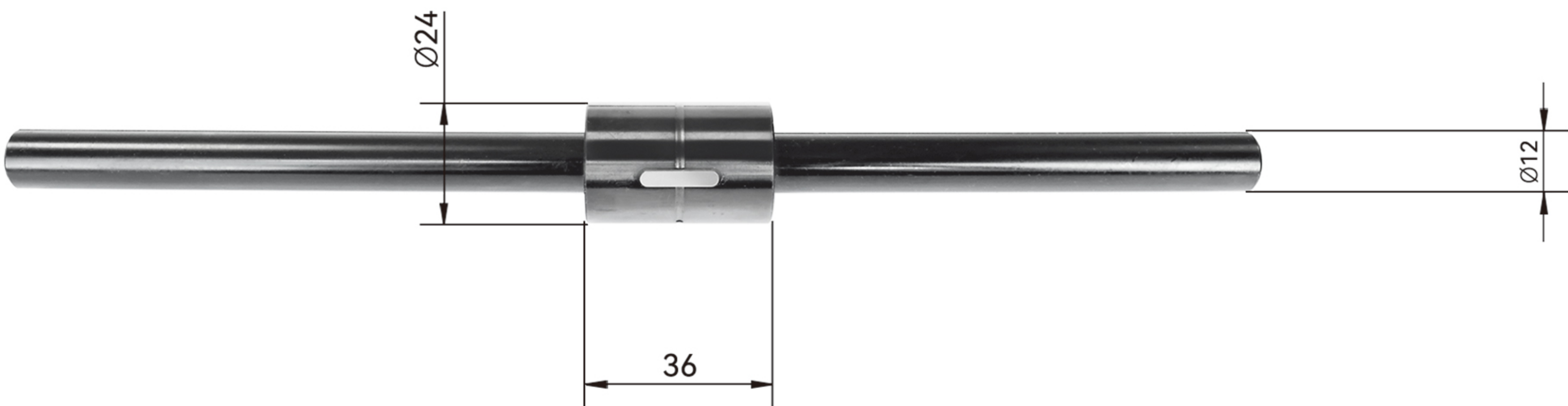
WSP 12

Hollow inner diameter 6.5mm,Machinable up to 8mm



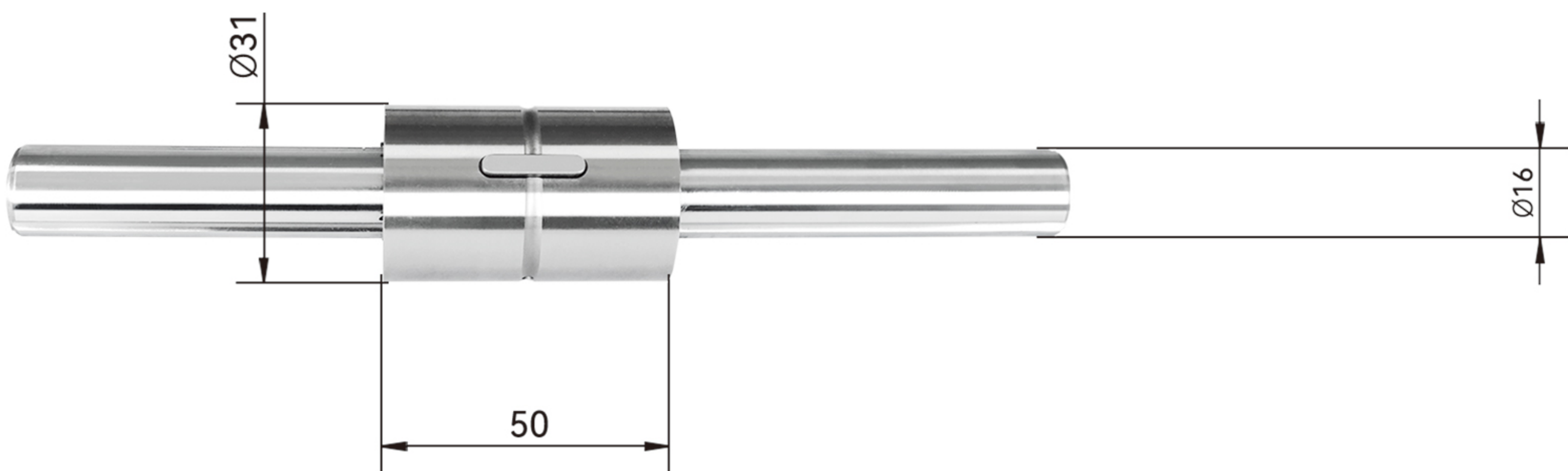
WSPT 12

Hollow inner diameter 6.5mm,最大可加工至 8mm



WLS 16

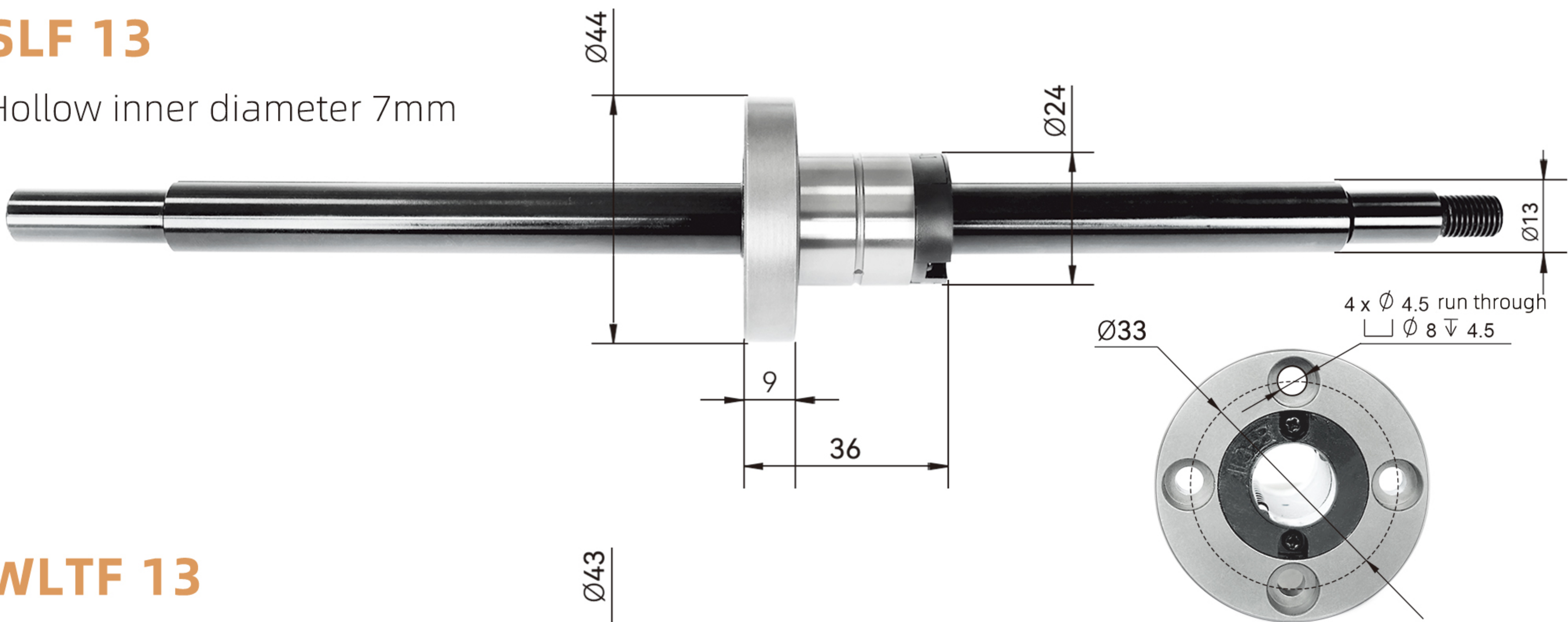
Hollow inner diameter 12mm



PRECISION BALL SPLINE - FLANGE TYPE

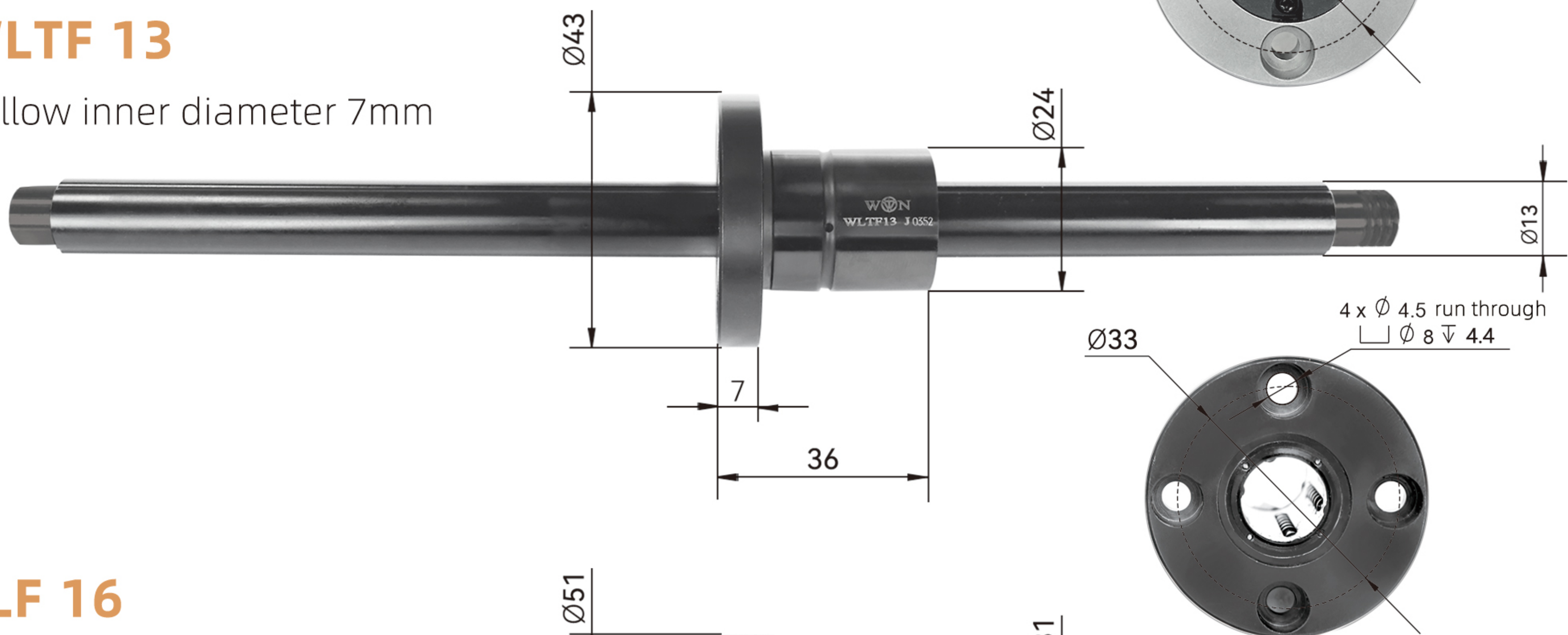
SLF 13

Hollow inner diameter 7mm



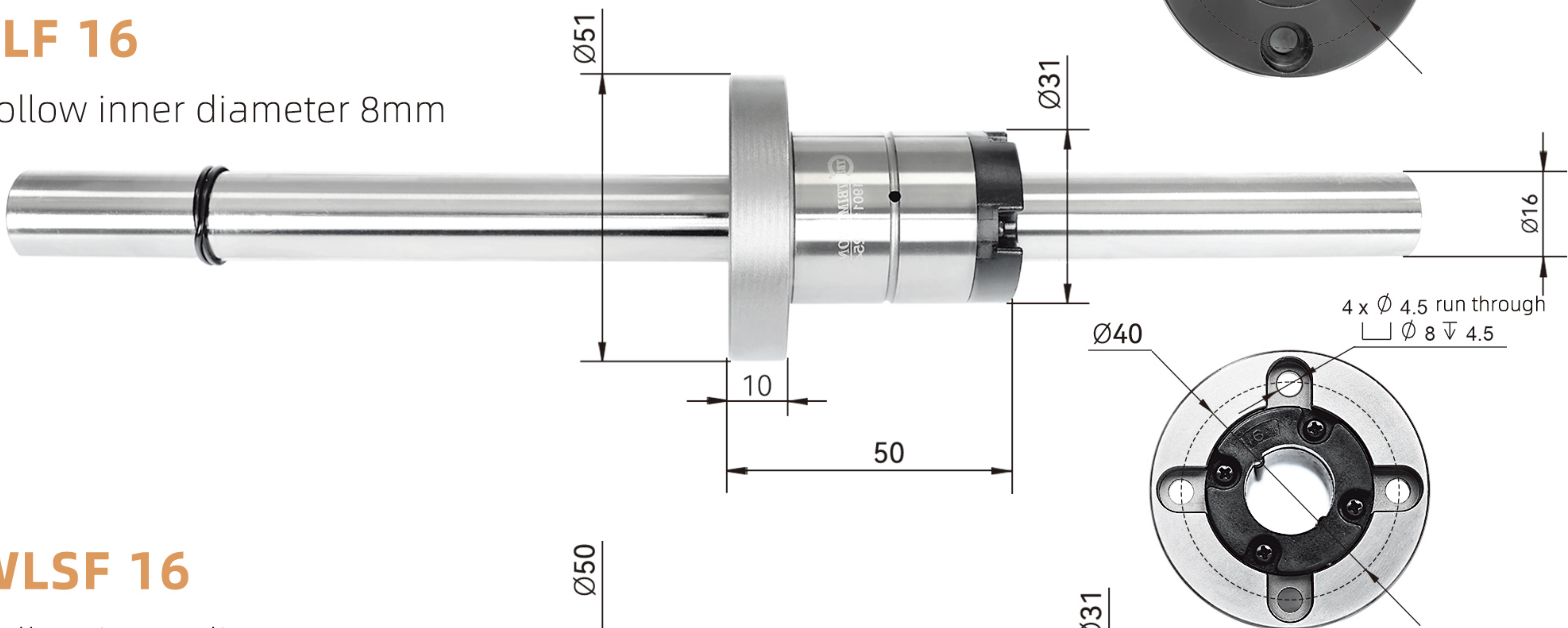
WLTF 13

Hollow inner diameter 7mm



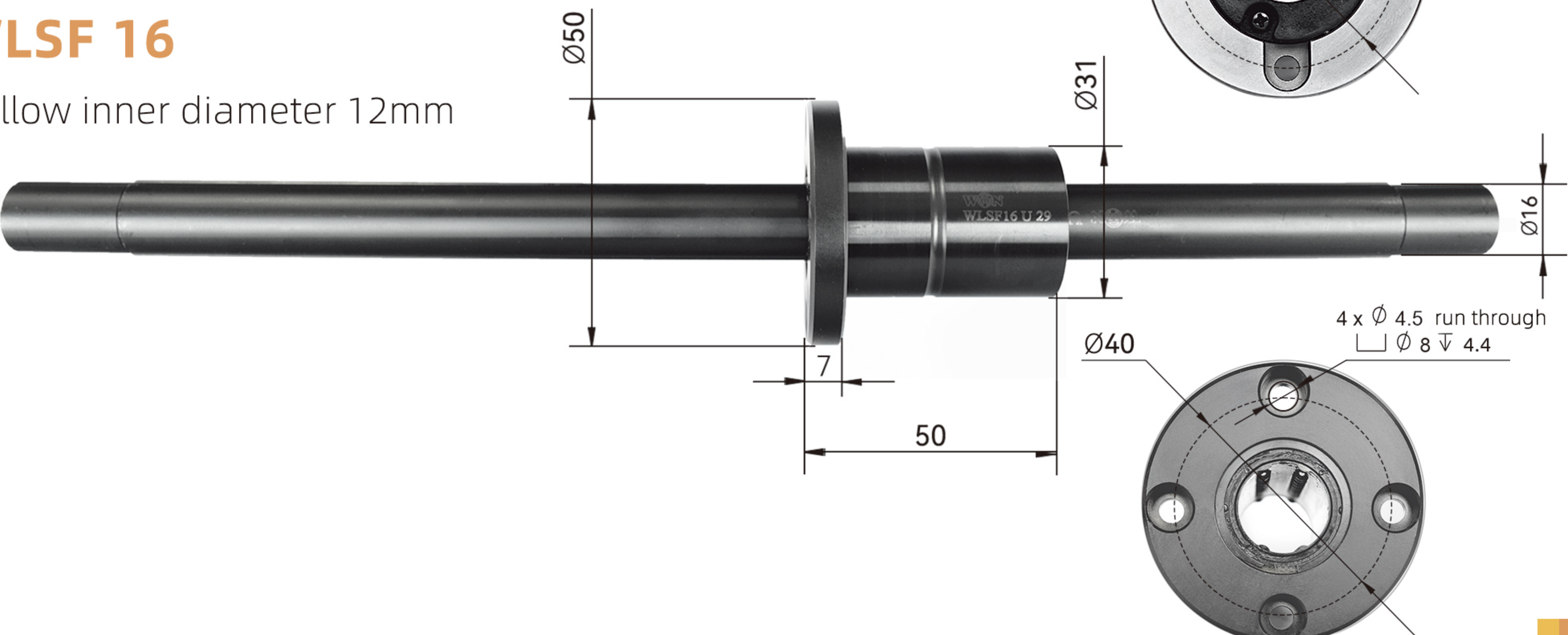
SLF 16

Hollow inner diameter 8mm



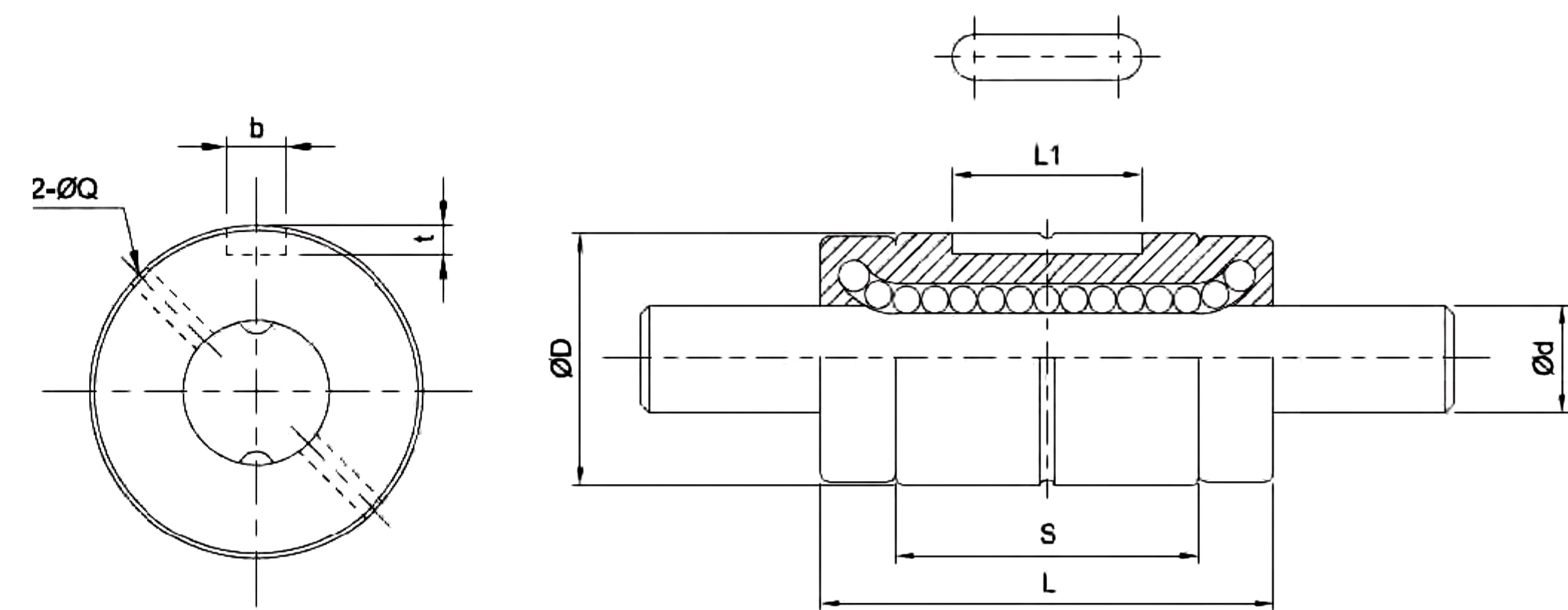
WLSF 16

Hollow inner diameter 12mm



PRECISION BALL SPLINE - STRAIGHT

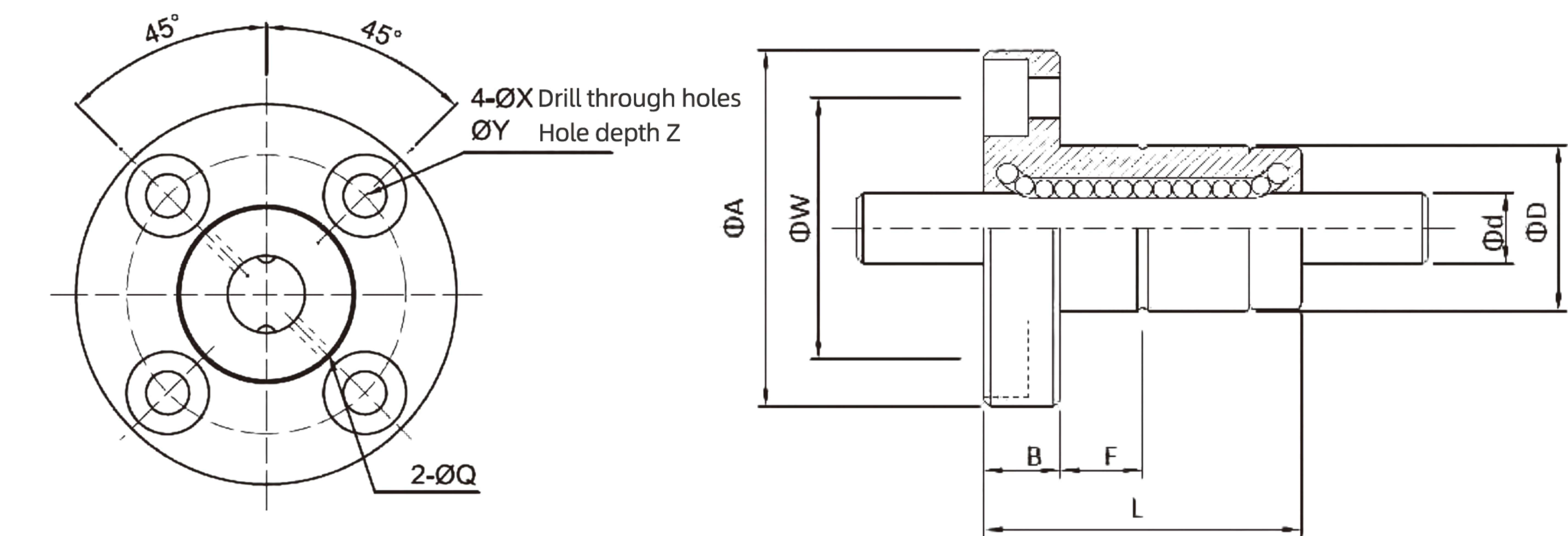
Dimension drawing



Relevant parameters

Model number	shaft diameter	ballbar	Spline bearing bush				Keyway Size shaft diameter			Basic rated load		Basic rated torque		Allowable static moment		weights	
	d		D	L	L1	oil hole	b	t	d	C	CO	CT	COT	MA1	MA2	Spline outer cylinder	spline shaft
	h7					Q	H8		h7	kgf	kgf	kgf.m	kgf.m	kgf.m	kgf.m	g	kg/m
WSPL5	5	2	10	26	6		2	1.2	5	90	120	0.27	0.36	0.32	2	7.9	14.9
WSP6	6	2	12	21	8		2	1.2	6	73	87	0.25	0.31	0.18	1.2	8.9	19
SLT006	6	2	14	25	10.5	1	2.5	1.2	6	137	225	0.46	0.76	0.39	3.48	14	0.22
WSPT6	6	2	14	25	10.5		2.5	1.2	6	120	220	0.1	0.2	0.5	3.63	8.9	19
SLT008	8	2	16	27	10.5	1.5	2.5	1.2	8	137	225	0.60	0.99	0.39	3.82	16	0.39
WSPT8	8	2	16	25	10.5		2.5	1.2	8	150	260	0.2	0.3	0.6	4.5	15.9	39
SLT010	10	2	21	33	13	1.5	3	1.5	10	285	397	1.62	2.25	0.95	8.53	37	0.60
WSPT10	10	2	21	33	13		3	1.5	10	290	500	0.4	0.8	1.6	9.8	31.5	60.5
SLT013	13	4	24	36	15	1.5	3	1.5	13	396	540	2.89	3.94	1.50	12.46	52	1.03
WSPT12	12	2	24	36	15		3	1.5	12	360	590	0.6	1.1	2	13.8	44	87.5
WSP12	12	2	21	35	15		3	1.8	12	220	270	1.5	1.9	1.1	6	44	87.5
SLT016	16	4	31	50	17.5	2	3.5	2	16	545	849	4.77	7.43	3.71	26.09	130	1.56
WLS16	16	4	31	50	17.5	2	4	2	16	624	1142	6.11	11.2	4.96		150	150
WSPT15	13.6	4	31	50	17.5		3.5	2	13.6	720	1290	3.2	3.5	6.8	39.3	59.5	111
SLT020	20	2	35	56	29	2	4	2.5	20	724	1109	7.9	12.09	5.53	38	188	2.44
WSPT20	18.2	4	35	63	29		4	2.5	18.2	1040	1819	5.8	5.7	11.7	90	130	202

PRECISION BALL SPLINE - FLANGE TYPE

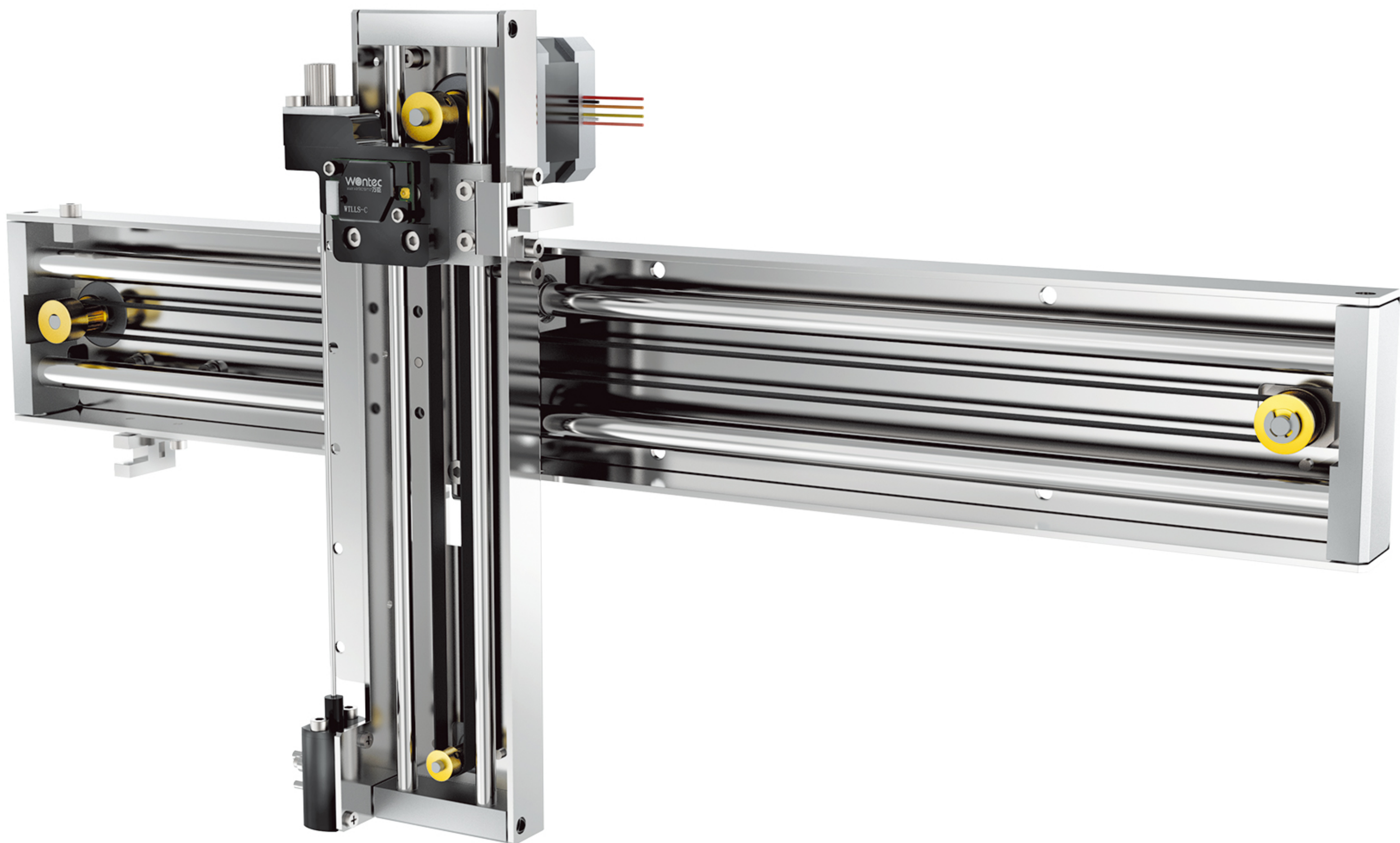


Model number	shaft diameter	ballbar	Spline bearing bush											Basic rated load		Basic rated torque		Allowable static moment		weights	
	d		D	L	A	B	F		W	X	Y	Z		C	CO	CT	COT	MA1	MA2		
	h7							Q						kgf	kgf	kgf.m	kgf.m	kgf.m	kgf.m	g	kg/m
SLF006	6	2	14	25	30	6	7.5	1	22	3.4	6.5	3.5		137	225	0.46	0.76	0.39	3.48	36.7	0.22
WSPTF6	6	2	14	25	30	5		1	22	3.4	6.5	3.3		120	220	0.1	0.2	0.5	3.6	37.2	19
SLF008	8	2	16	27	32	8	7.5	1.5	24	3.4	6.5	4.5		137	225	0.6	0.99	0.39	3.82	47	0.39
WSPTF8	8	2	16	25	32	5		1.5	24	3.4	6.5	3.3		150	260	0.2	0.3	0.6	4.4	39.5	39
SLF010	10	2	21	33	42	9	11	1.5	32	4.5	8	4		285	397	1.62	2.25	0.95	8.53	100	0.60
WSPTF10	10	2	21	33	42	6			32	4.5	8	4.4		290	500	0.4	0.8	1.6	9.8	64.2	60.5
SLF013	13	2	24	36	44	9	11	1.5	33	4.5	8	4.5		396	540	2.89	3.94	1.50	12.46	117	1.03
WSPTF12	12	2	24	36	44	7			33	4.5	8	4.4		360	590	0.6	1.1	2	13.7	124.7	87.5
SLF016	16	4	31	50	51	10	18	2	40	4.5	8	6		545	849	4.77	7.43	3.71	26.09	226	1.56
WLSF16	16	4	31	50	50	7	18	2	40	4.5	8	4.4		624	1142	6.12	11.2	4.7		200	150
WSPTF15	13.6	4	31	50	51	7			40	4.5	8	4.4		720	1289	3.2	3.4	6.8	39	265.7	111
SLF020	20	2	35	56	58	10	18	2	45	5.5	9.5	5.4		724	1109	7.9	12.09	5.53	38	303	2.44
WSPTF20	18.2	4	35	63	58	9			45	5.5	9.5	5.4		1039	1819	5.8	5.7	11.8	70	392.5	202



XZ Pipette Arms

WT12201



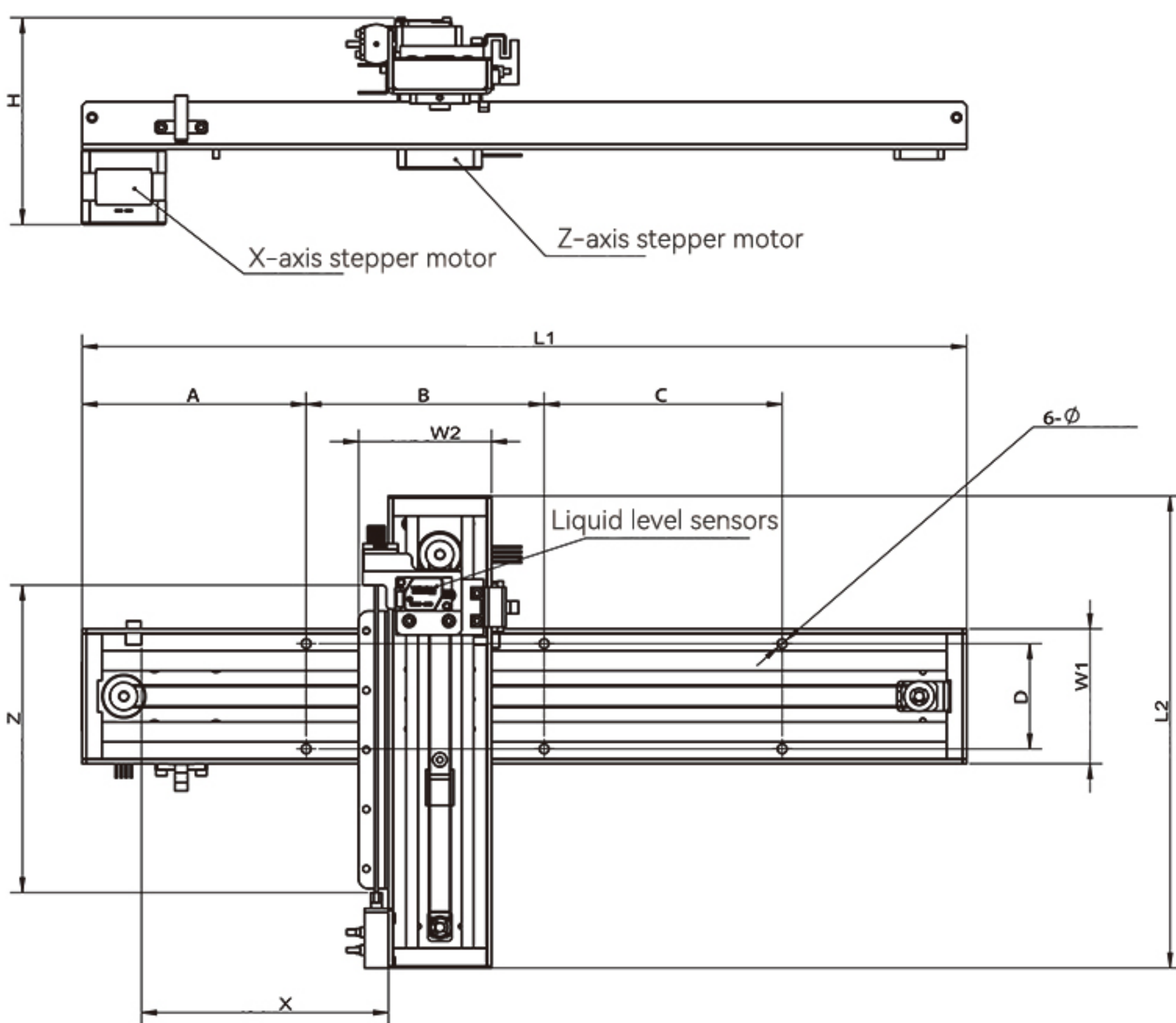
PRODUCT ADVANTAGES

Full sheet metal body, light and beautiful, can be matched with swabs, puncture needles, simple and economical design can greatly save the construction cost. Widely used in all kinds of automatic testing equipment sampling arm.

Performance Parameters

Items	parametric
Stroke X(mm)	366 (customisable)
Stroke Z(mm)	151 (customisable)
L1(mm)	446(L1=80+X)
L2(mm)	238 (L2=87+Z)
H(mm)	104.2
W1(mm)	68
W2(mm)	67
Mounting Dimensions A(mm)	113
Mounting Dimensions B(mm)	120
Mounting Dimensions C(mm)	120
Mounting Dimensions D(mm)	53
Mounting holes S	4.8
X-axis drive type	MXL Synchronous Wheel, Synchronous Belt
Z-axis drive type	MXL Synchronous Wheel, Synchronous Belt
Surface treatment	mirrors
Main Material	SUS304
Module weight (kg)	1.85

Dimension drawing



ZR Module Sampling Module

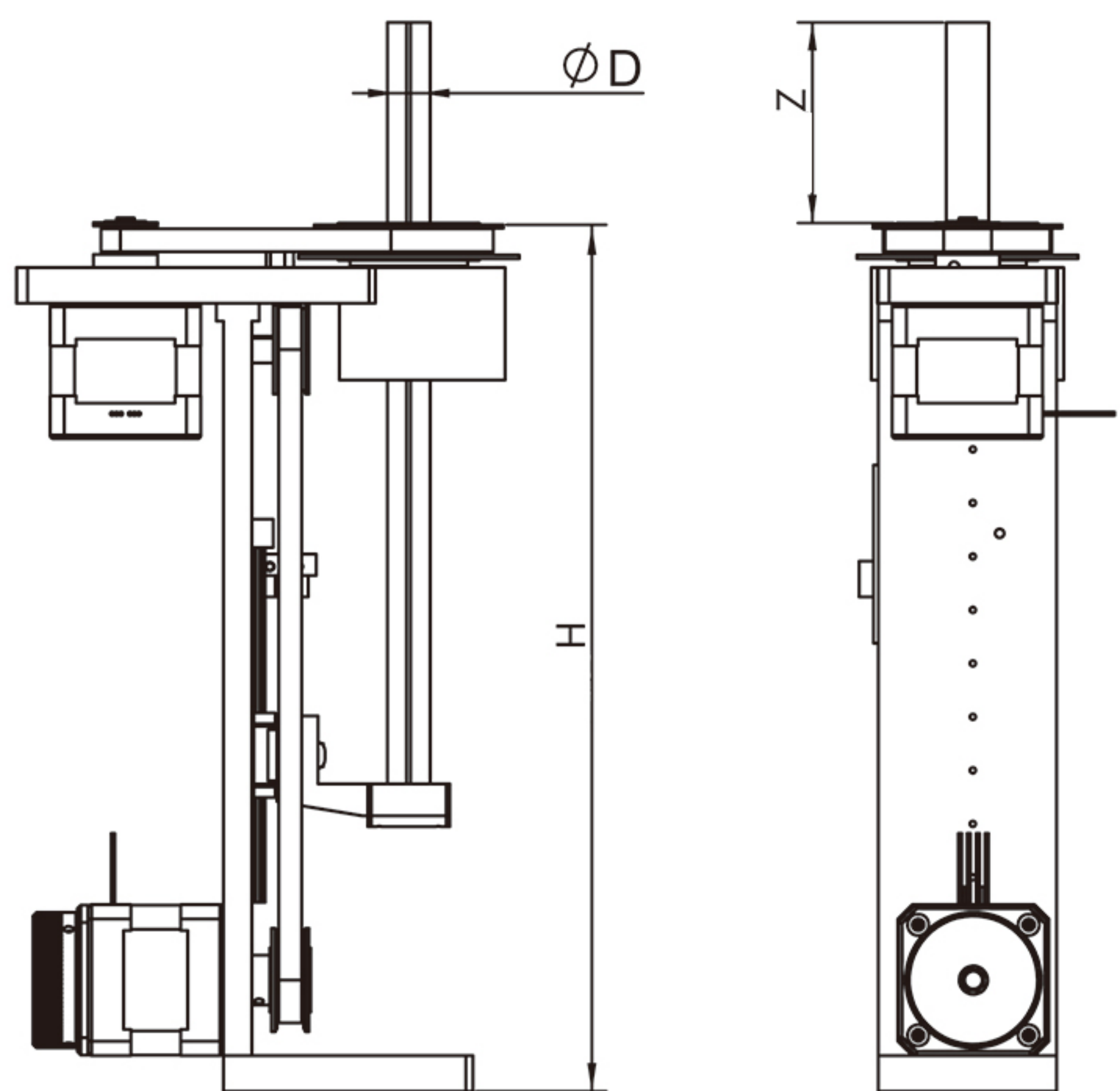
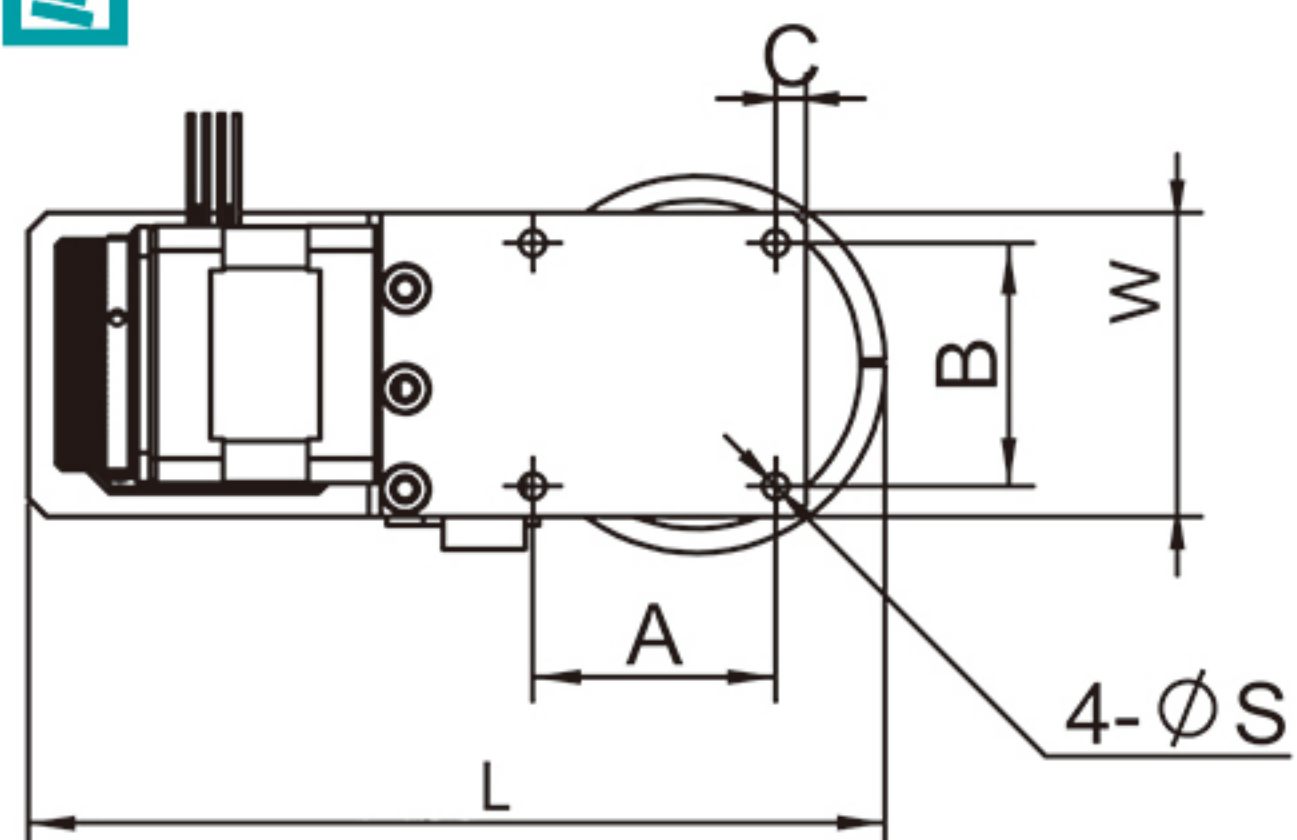
WT03402



Performance Parameters

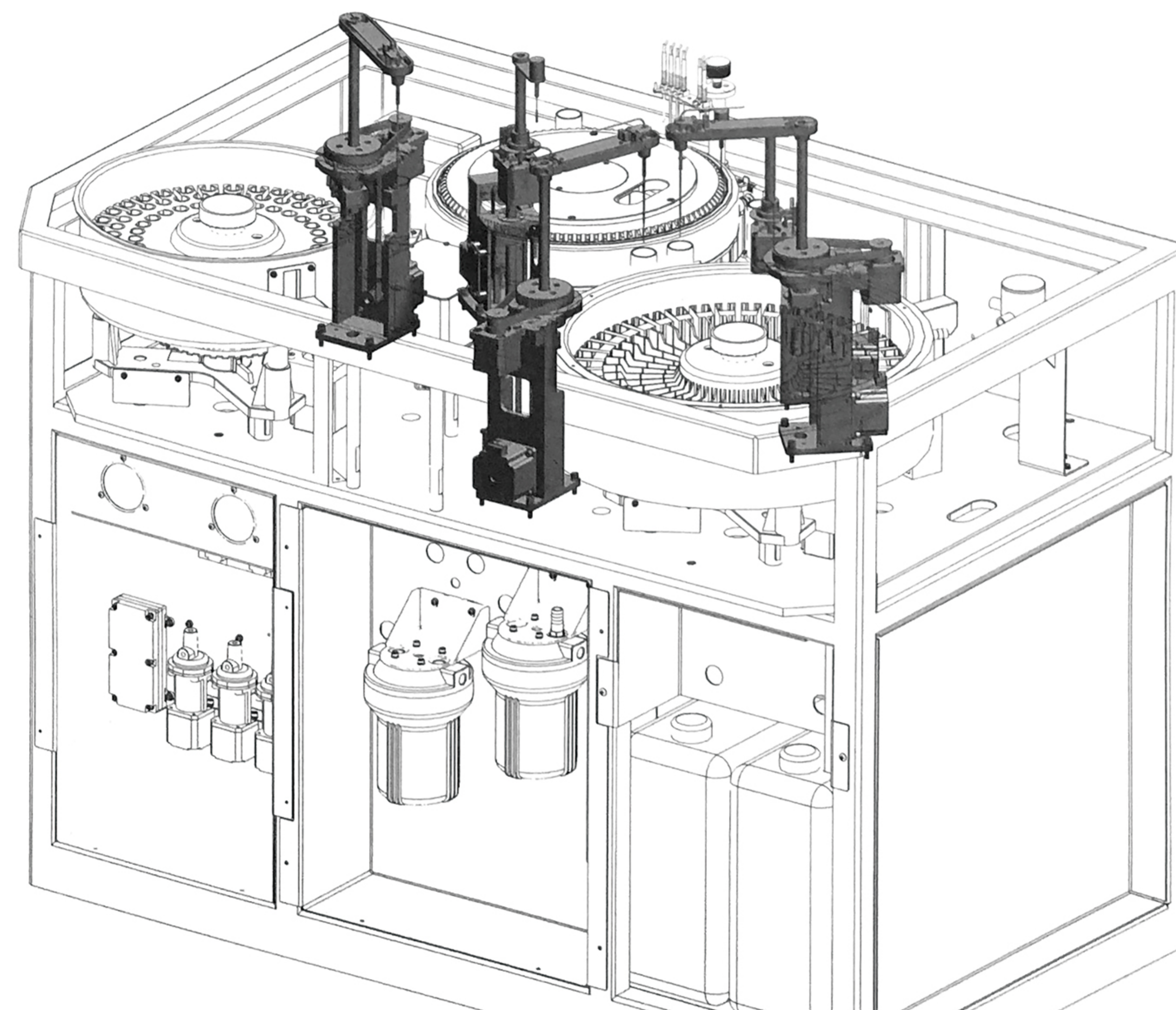
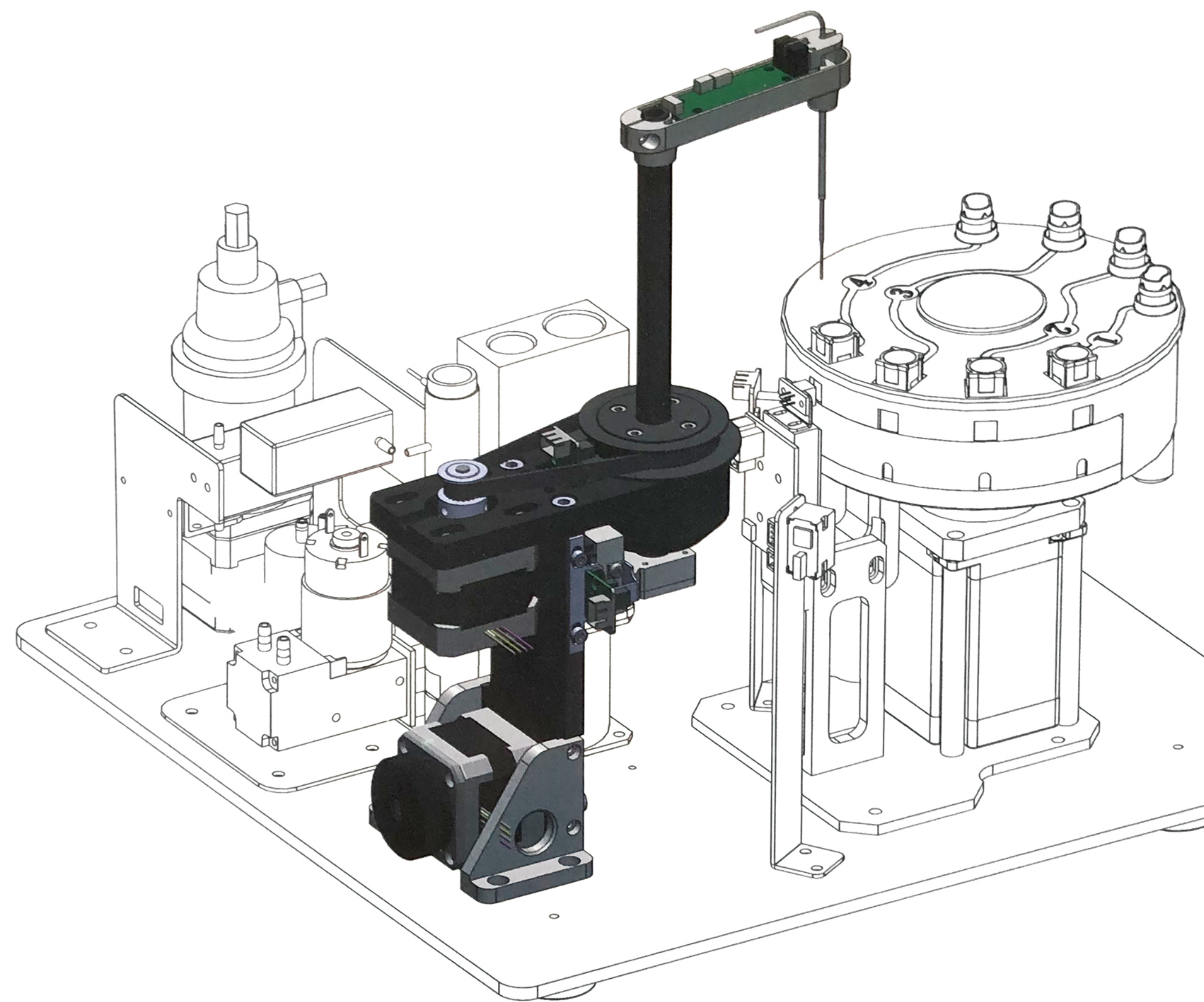
Items	parametric
Form distance Z (mm)	800 (customisable)
Turning anglea (+ - degrees)	180
H(mm)	243
W(mm)	50
L(mm)	141
Spline shaft diameter D(mm)	12
Mounting Dimensions A(mm)	40
Mounting Dimensions B(mm)	40
Mounting Dimensions C(mm)	5
Mounting holes S	4.2
Z-axis drive type	Synchronous Belt, Synchronous Wheel
R-axis drive type	Synchronous Belt, Synchronous Wheel
R-axis ratio	1:3.6
Surface treatment	Anodic oxidation
Main Material	Aluminium
Z-direction accuracy(mm)	0.05
R-direction accuracy (dm)	3
Module Weight (kg)	1.85

尺寸图



PRODUCT ADVANTAGES

This product has the industry's original power-off passive Z-direction fall prevention function, ZR axis are stepping motors, the R axis through the belt deceleration, can obtain a larger rotating torque, the overall structure is compact, commonly used in medical sampling arm. All dimensions and technical parameters can be customised according to customer requirements.



3D MODELS AND APPLICATION
SCENARIOS CAN BE DOWNLOADED AND
VIEWED BY SCANNING THE QR CODE



PRECISION BEARING



We are the main agent of Japan EZO high precision miniature bearings, thin-walled bearings, flanged bearings, stainless steel bearings, thrust bearings. Bearing bore diameter range: 0.6mm to 90mm, used in a variety of precision medical equipment, our company from the actual needs of the market, is committed to meet the special needs of users.

Common miniature bearings: MR63ZZ, MR74ZZ, MR105, MR126, 694ZZ, 696ZZ, 605ZZ, 627ZZ

Common flange type bearings: MF63ZZ, MF74ZZ, MF85, MF105ZZ, F694ZZ, F696ZZ, F605ZZ, F627ZZ

Common stainless steel bearings: SMR63ZZ, SS694ZZ, SSF693ZZ, SSF697ZZ, 6000H, 6200H, 6007H, 6300H

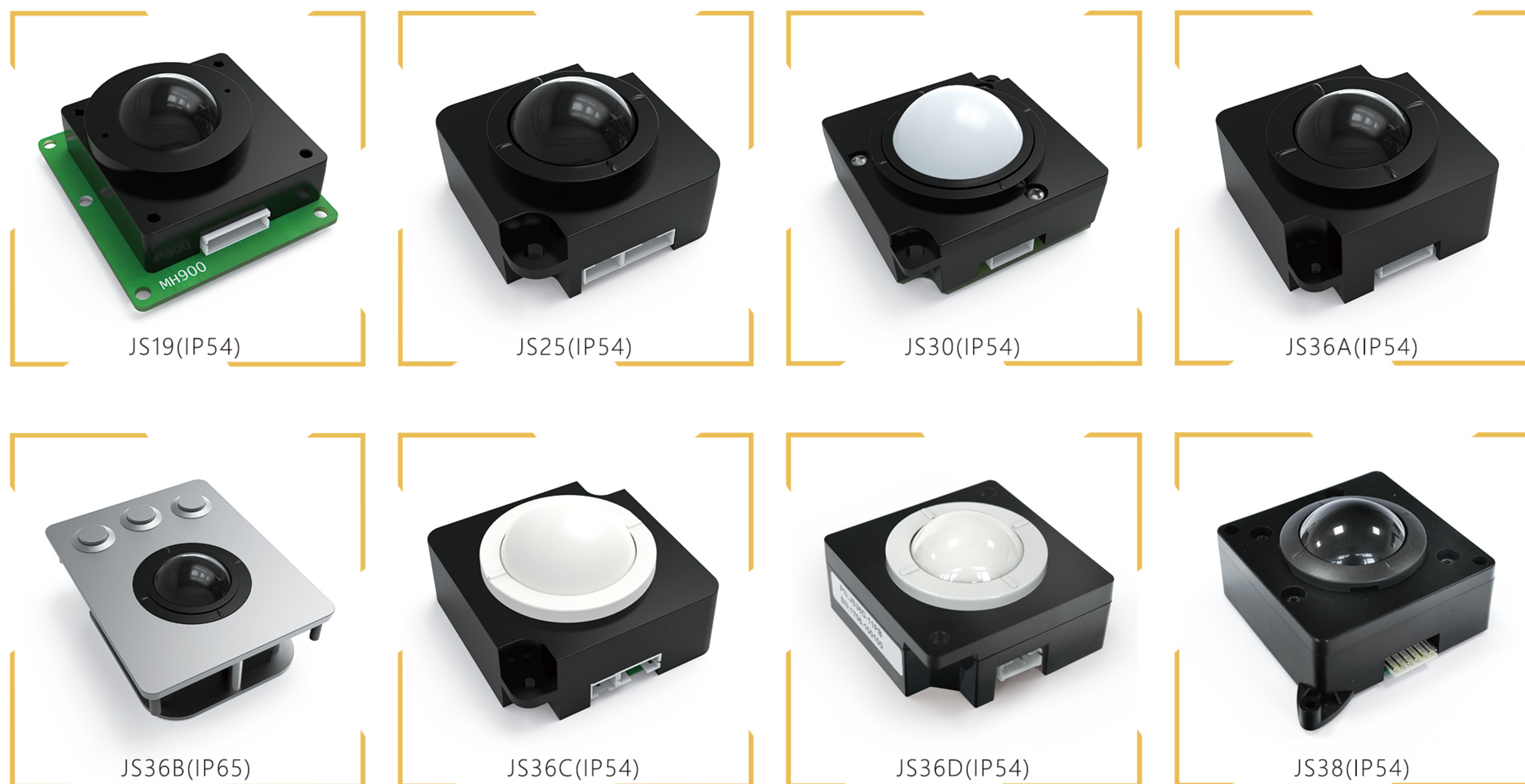
Common thin-walled bearings: 6700ZZ, 6804ZZ, 6807ZZ, 6808ZZ, 6812ZZ, 6900ZZ, ET2015, ER1212

Common Thrust Bearings: F3-8M, F4-9M, F5-12M, F6-12M, F10-18M, F2X-7, F8-16, F9-17, F10-18

Detailed selection information can be downloaded from the website: <http://www.wontec.com.cn/>

Trackball for ultrasound

► Wontec embedded trackballs are highly reliable and come in a wide range, making them the first choice for medical equipment, industrial control equipment, and other demanding applications.



3D MODELS AND APPLICATION
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Order number description

LS	16	—	5	1	P	B
Product Series Code	Sphere size specification	Interface Type	Connector Requirements	Ball Material Requirements	Sphere surface condition requirements	
JS、BS、LS...	16、19、25、36、38、50、75...	1—square wave 2—RS232 3—PS/2 4—USB 5—PS/2&USB 6—square wave&PS/2 7—other	1—standard 2—Customised	P—phenolic resin (chemistry) S—stainless steels O—other	B—glossy surface C—sandy surface	
N	B	1	0	0		
Sphere weight requirements	Sphere colour requirements	Parts other than spheres	Whether backlight is required	With or without other customisation		
L—unimportant N—standard W—aggravating	W—milky white B—black colour C—Customised	(dust rings, caps, screw caps, etc.) Colour requirements: 1—standard 2—Customised	0—none 1—have	0—none 1—have		

Outlined

Wontec embedded trackballs are highly reliable and come in a wide range of series, making them the first choice for medical equipment, industrial control equipment and other demanding requirements.

Working conditions

- environmental temperature -10℃ ~ +60℃
- Environmental humidity 30% ~ 95% (condensationless)

barometric pressure 700hPa ~ 1060hPa

Mounting angles Maximum 60° relative to the horizontal

Storage and transport conditions

- environmental temperature -25℃ ~ +80℃
- Environmental humidity 30% ~ 95% (condensationless)

barometric pressure 700hPa ~ 1060hPa

Vibration resistance 5G,5 ~2KHz arbitrary plane