

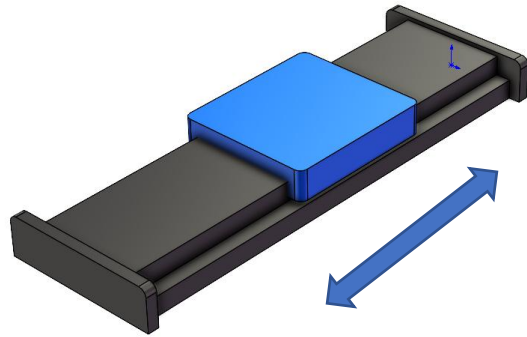
PART ONE

SELECTION GUIDE

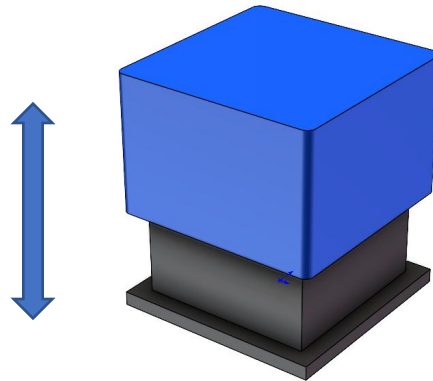
PRECISION-STAGE

- Structural collocation form

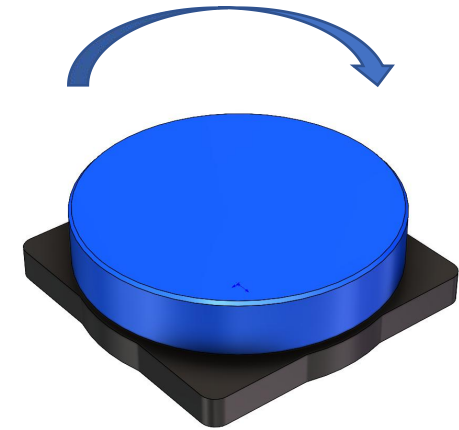
The most commonly used application frame and structure - single axis structure



Horizontal 1D module



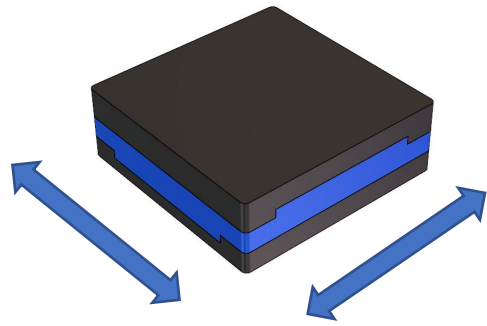
Vertical Z axis module



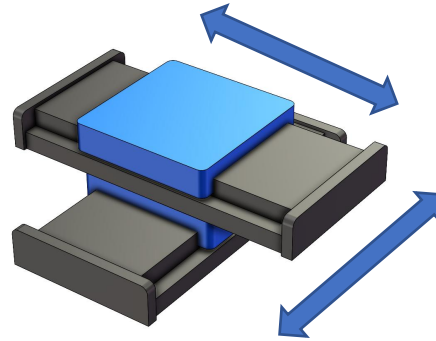
Rotate R platform

- Structural collocation form

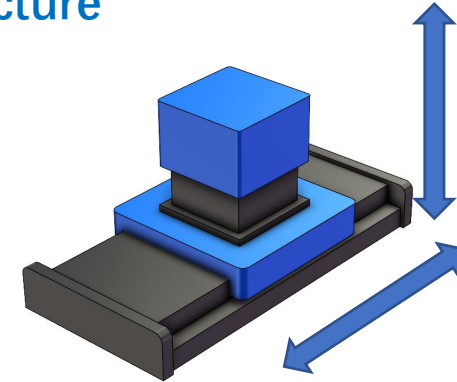
The most commonly used application frame and structure - biaxial structure



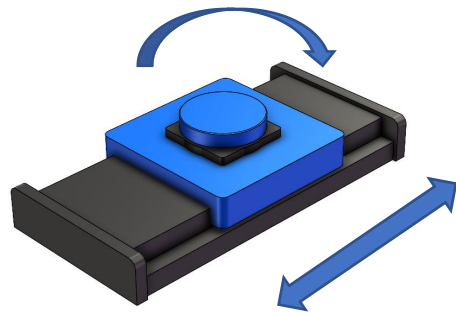
Integrated XY platform



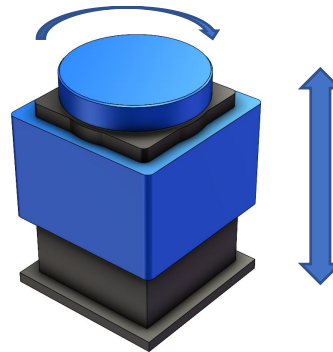
Cross cross XY stage



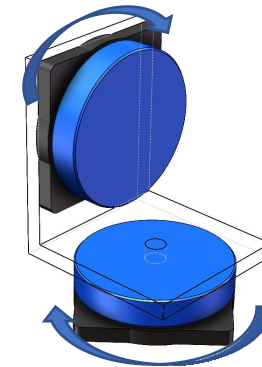
XZ platform



XR Stage



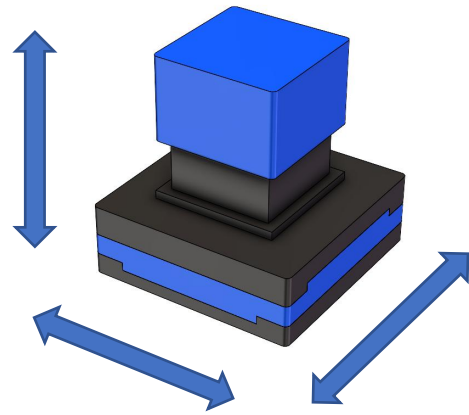
RZ Stage



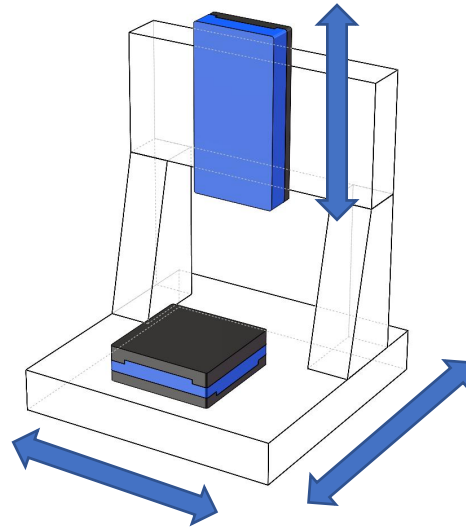
RR Single Arm Gimbal Stage

- Structural collocation form

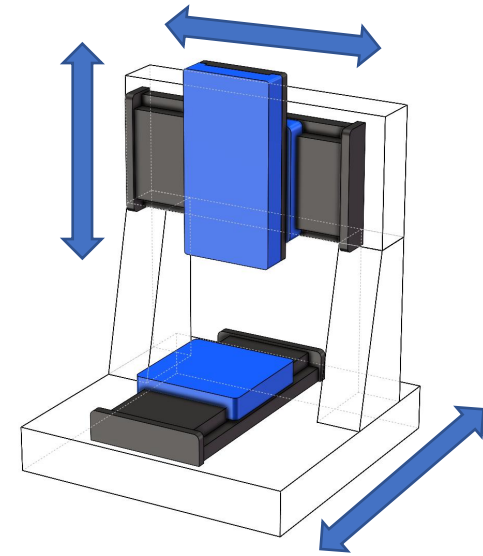
The most commonly used application frame and structure-XYZ



Integrated XYZ platform



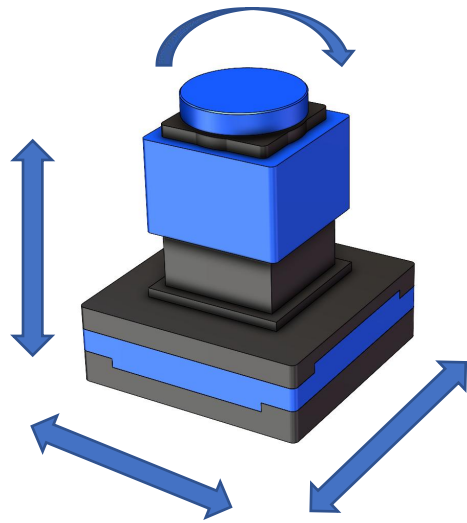
XY+Z Stage



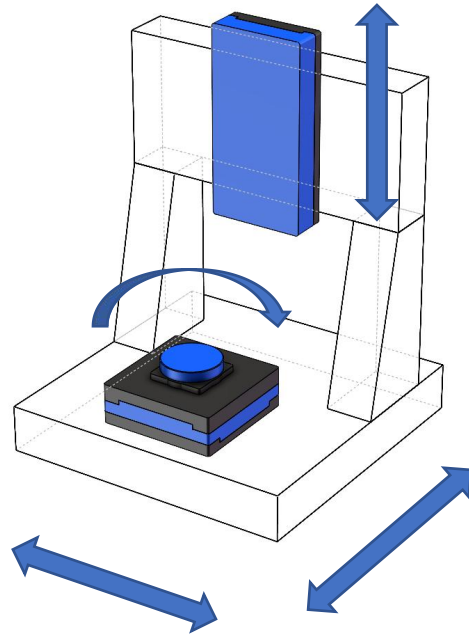
Y+XZ Stage

- Structural collocation form

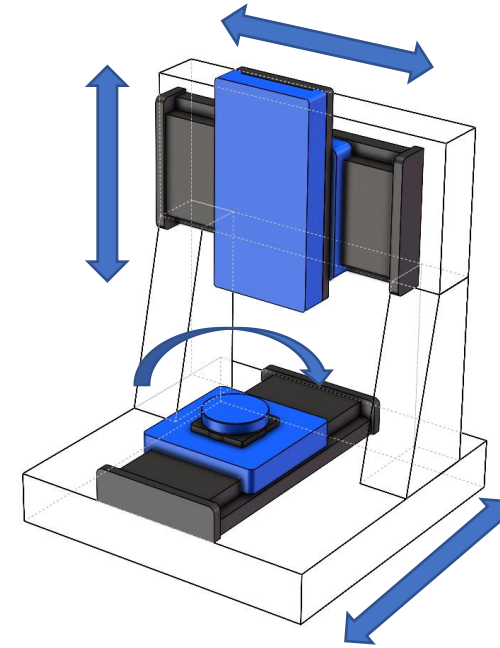
The most commonly used application frame and structure-XYZR structure



Integrated XYZR platform



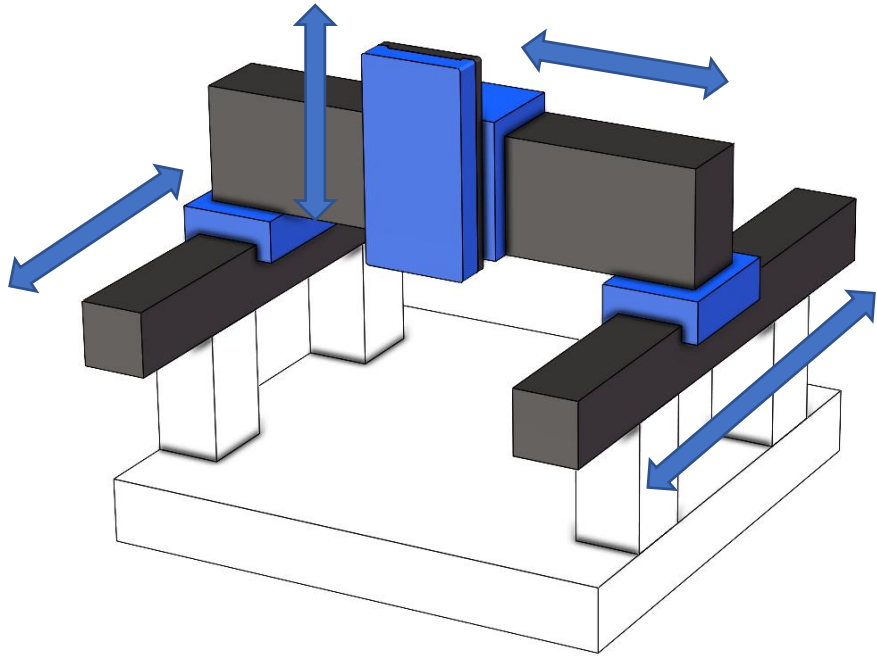
XYR+Z Stage



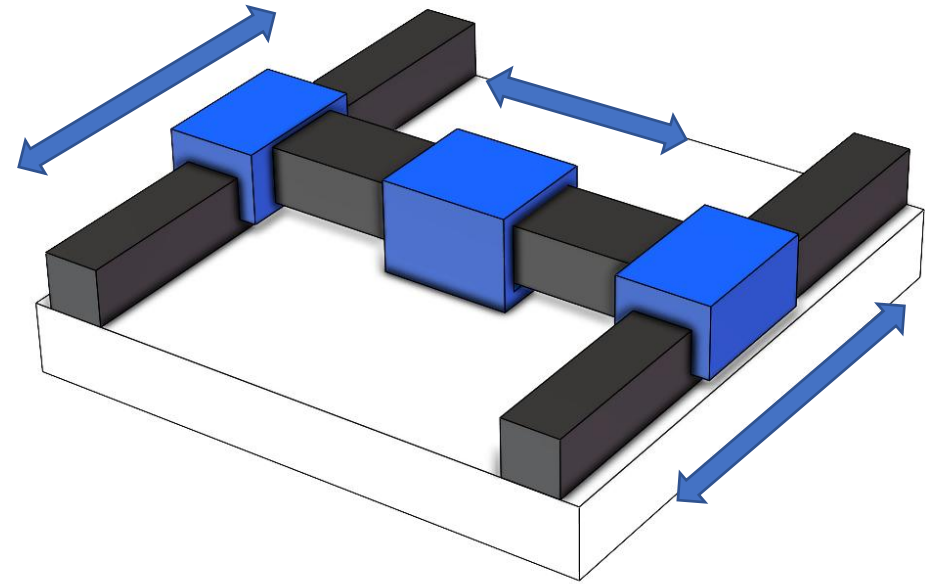
YR+XZ Stage

- Structural collocation form

The most commonly used application frame and structure-Double drive gantry structure



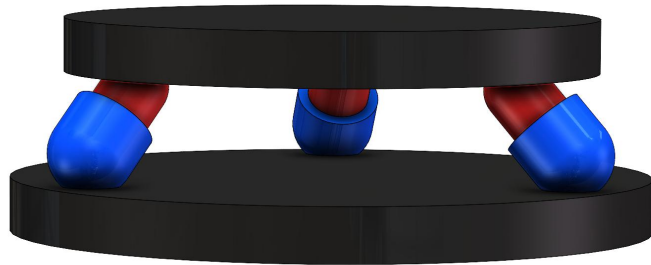
Double drive gantry structure XYZ-dy stage



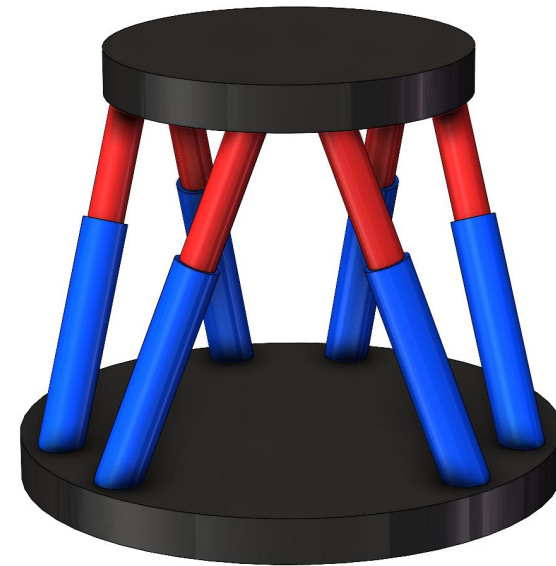
Coplanar double drive gantry XY-dy platform

- Structural collocation form

The most commonly used application frame and structure-Parallel motion platform



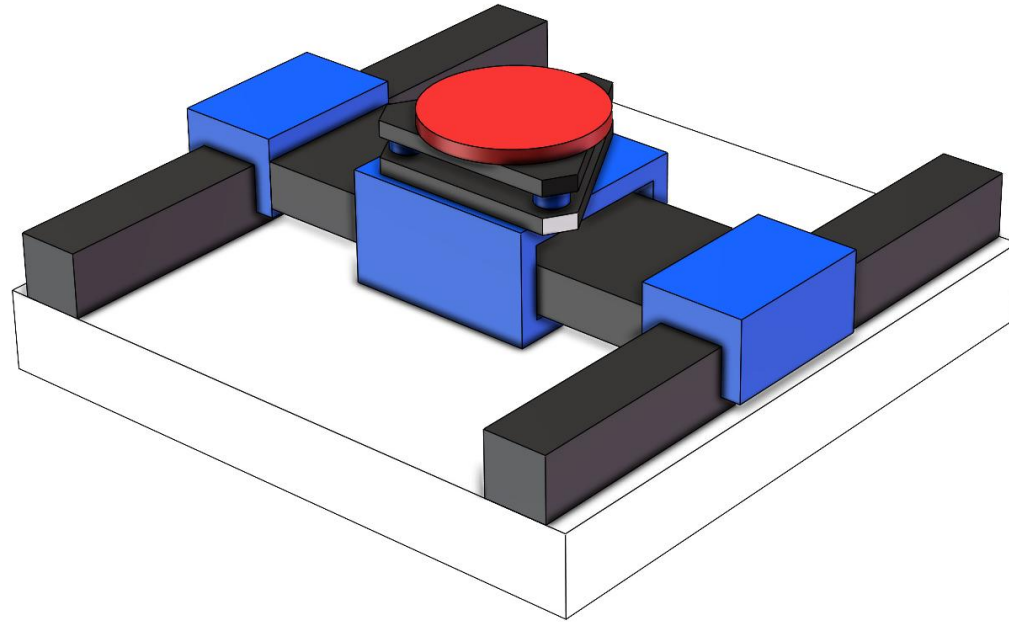
Three-axis parallel platform



Six-axis parallel platform

- Structural collocation form

The most commonly used application frame and structure-XYZ
-2022 Main product



XYZR scanning processing platform with leveling rotation

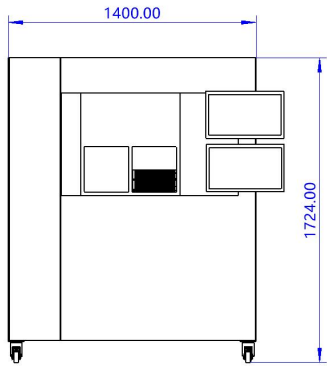
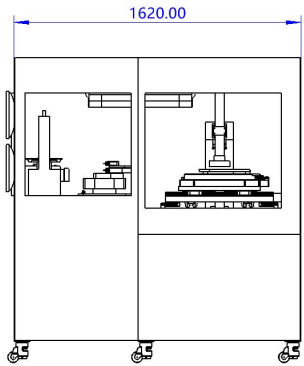
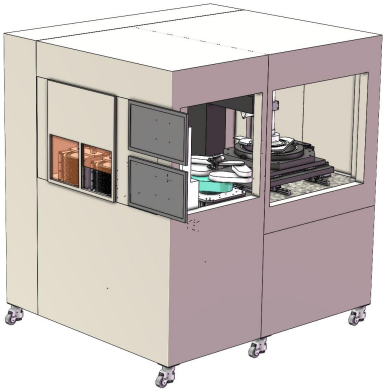
PART TWO

PRODUCT DESCRIPTION

PRECISION-STAGE

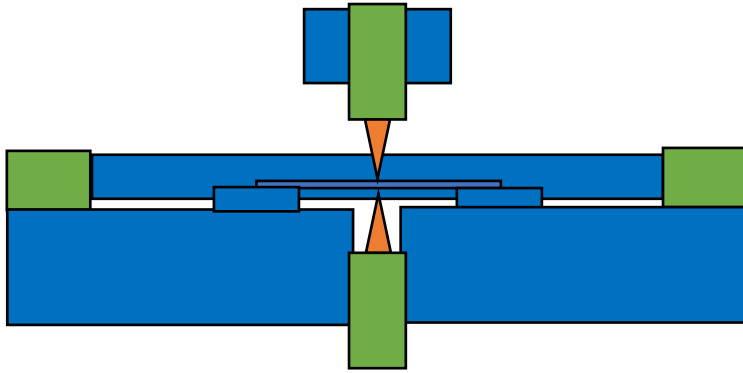
- WMS-D8 Thickness measuring machine for wafer

Support customization

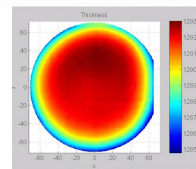
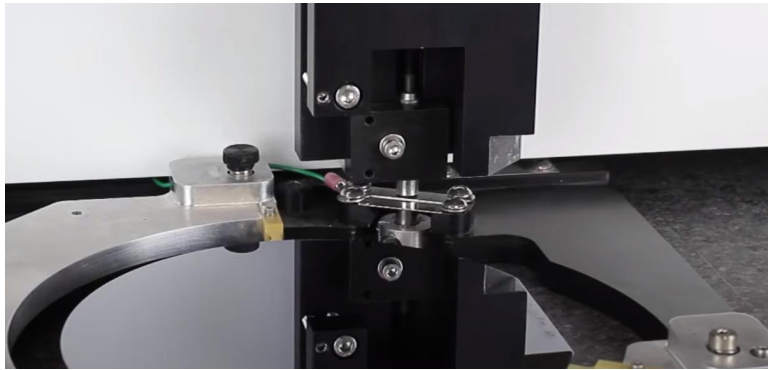


- For the up-and-down measurement of the bare wafer, the maximum compatibility is 8in wafer
- Support multiple sensors, and up to 3 probe sensors at the same time
- Measurement accuracy $\ll 0.5\mu\text{m}$ (if the sample surface roughness difference is too large, there will be error fluctuations)
- It adopts linear motor + air bearing guide rail gantry movement mechanism, which has high precision and supports continuous work for a long time
- Automatic positioning of wafer position on substrate with visual aid
- Support custom editing of measurement points
- Upgraded and optimized system vibration isolation mechanism, the test is not sensitive to environmental requirements
- The Z-axis optimized closed-loop function with incoder supports the expansion of the measurement range (the sensor has a measurement stroke of 1mm and can be extended to a maximum position of 40mm)
- Using the touch screen function
- MES system interface docking communication upward throwing customization
- Automatic standard film precision correction
- Robot automatic loading and unloading
- Support sorting and classification after detection
- Standard model supports 2 cassettes (expandable to 4 cassettes)
- Optional wafer angle calibration table (wafer edge patrol machine)
- Optional upgrade function BOW/WRAP/SORI/thin film stress and other upgrade software analysis functions

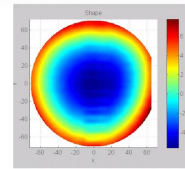
Support customization



- Measurement accuracy $\leq 0.5\mu\text{m}$
- Fragmentation rate $\leq 0.05\%$
- Mean time between failures ≥ 5000 hours
- Measurement points (definable, 5/9/25/custom point)
- Measurement efficiency: for 5-point test, the single-chip test time is $< 5\text{sec}$, and the loading and unloading is 10sec per piece (calculated on the basis of 30 days and 22 hours, $6 \times 60 \times 22 \times 30 > > 100\text{k/month}$)
- Equipment utilization rate $> 90\%$
- Support 4, 6, 8in substrate material detection (including single throw, double throw)



Thickness



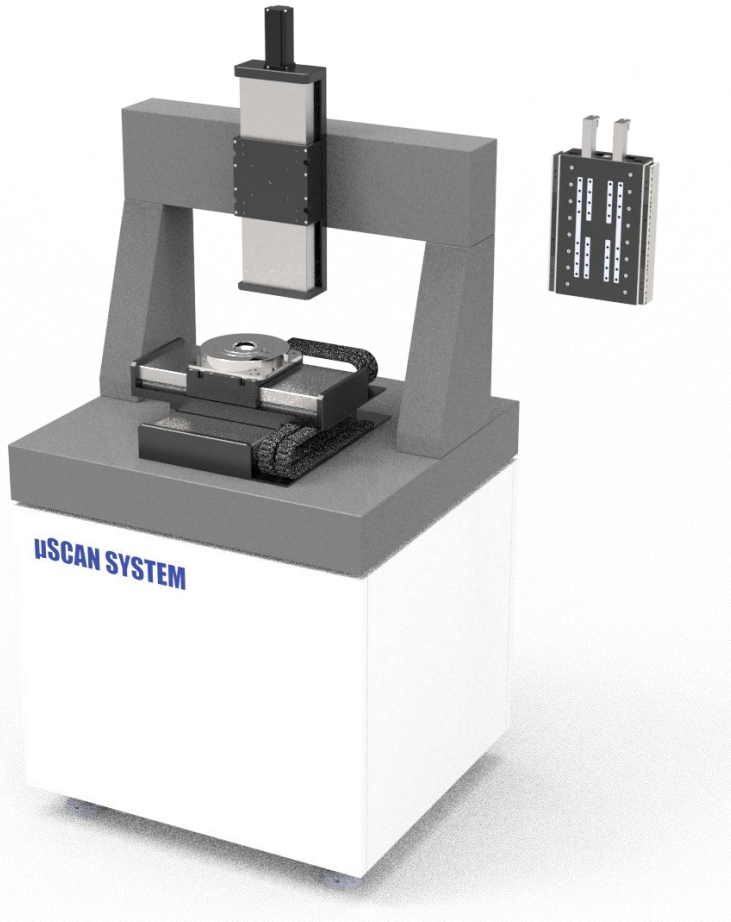
Bow, Warp, SORI

The double-sided sample measurement option allows simultaneous measurement of the top and bottom surfaces and determination of sample thickness, total thickness variation (TTV) and various surface parameters such as roughness, waviness and flatness on both sides. Full wafer shape measurements are also possible by analyzing global and local wafer parameters. Provide wafer sorting function, which can be adjusted according to customer requirements. Additional sensors can be retrofitted later.

Specification	Resolution	Repeatability	Accuracy
Thickness: wafer $< 500\mu\text{m}$ Output mode: median, maximum, minimum, average	0.01 μm	$\pm 0.15\mu\text{m}$	0.5 μm
Thickness: $500\mu\text{m} < \text{wafer} < 3\text{mm}$ Output mode: median, maximum, minimum, average	0.01 μm	$\pm 0.2\mu\text{m}$	1 μm
Bow/Warp	0.1 μm	$\pm 1\mu\text{m}$	1 $\mu\text{m} + 0.5\%$ 量程

- μSCAN series of products

μSCAN -1 Nano Scanning Stage



The μSCAN series scanning system is a high-performance integrated system recently launched by our company. The whole machine uses high-rigidity granite as the base, cooperates with high-performance linear motors and servo platforms, and is mainly used for high-precision scanning, processing, testing and other applications. The selection of standard stroke parameters supports fast delivery, which greatly reduces the combination defects caused by the customer's unfamiliarity with the combination and the performance shortcomings caused by the unfamiliarity with the debugging.

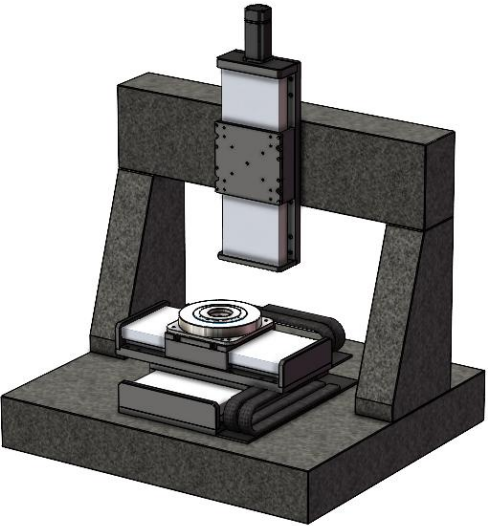
Main Features of μSCAN Series
 XY axis is composed of U1 series high-performance linear motor platform (labyrinth seal has good protection effect and no wearing parts and dust)
 The R-axis is a high-precision flat DD motor
 The Z-axis is equipped with U3 series high-precision servo motor platform (optional NFZ240 high-performance linear motor platform)
 The base is made of high-performance stone such as Jinan Blue or Indian Black, and the precision can be selected from 0 or 00
 Frame and vibration isolation system can be selected according to application requirements
 The XY motion system is optimized to support fast start-stop and continuous tuning applications (10kg load, 2mm stroke motion plus tuning <30ms (movement time 20ms, settling time 5-8ms))*1

Specification of axes	Y Axes	X Axes	R Axes	Z Axes
Model of Axes	U1LM320-XX	U1LM240-XX	DDR224	U3SVM210-XX
Travel range	100/200/300/400	100/200/300/400	360°	50/100/200/300
Incoder resolution	100nm	100nm	1sec	-
Repeatability	≤1um (±0.5)	≤1um (±0.5)	≤±1sec	≤3um (±1.5)
Maximum speed*2	1000mm/s	1000mm/s	4rps	200mm/s
Maximum load	50kg			30kg
Motor thrust	220N/440N	330N/660N	20Nm	-
Flatness of motion	≤±5um	≤±5um	≤5um	≤±5um

*1 Rapid start-stop movement has high requirements on drive control and parameter setting, please consult the manufacturer for details
 *2 The maximum speed is related to the stroke size, load and drive control system, please consult the manufacturer for specific requirements on speed

• μ SCAN Series product selection guide

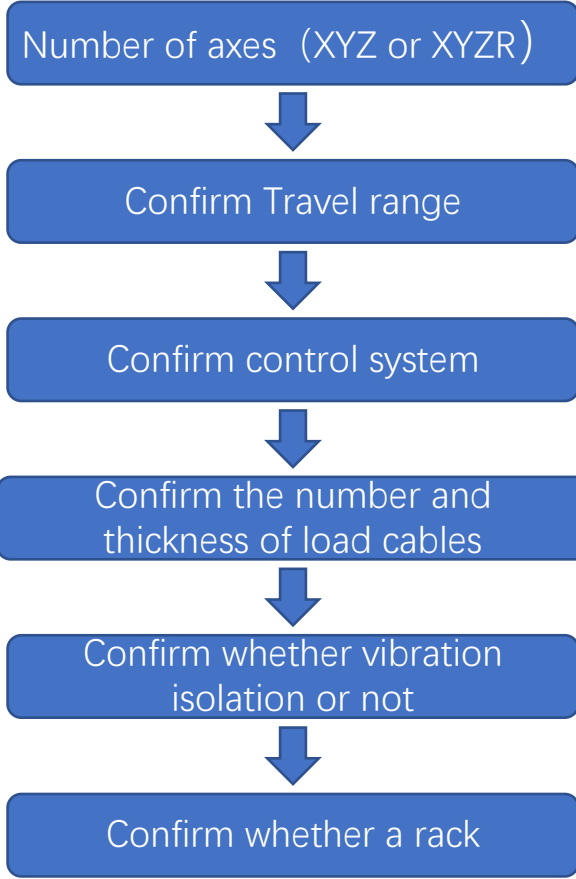
Support customization



Device body
(Granite must be selected: the size of the granite table is fixed for all strokes, and the height is determined according to the Z-axis stroke)



Rack body
(This item is optional: including the rack and vibration isolators)



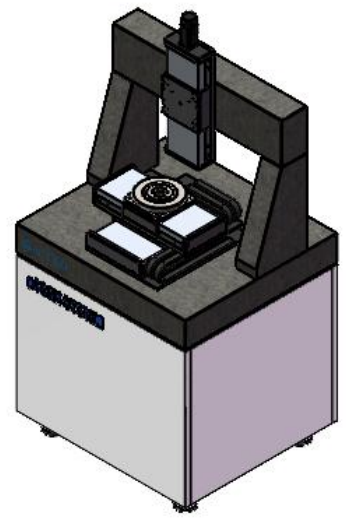
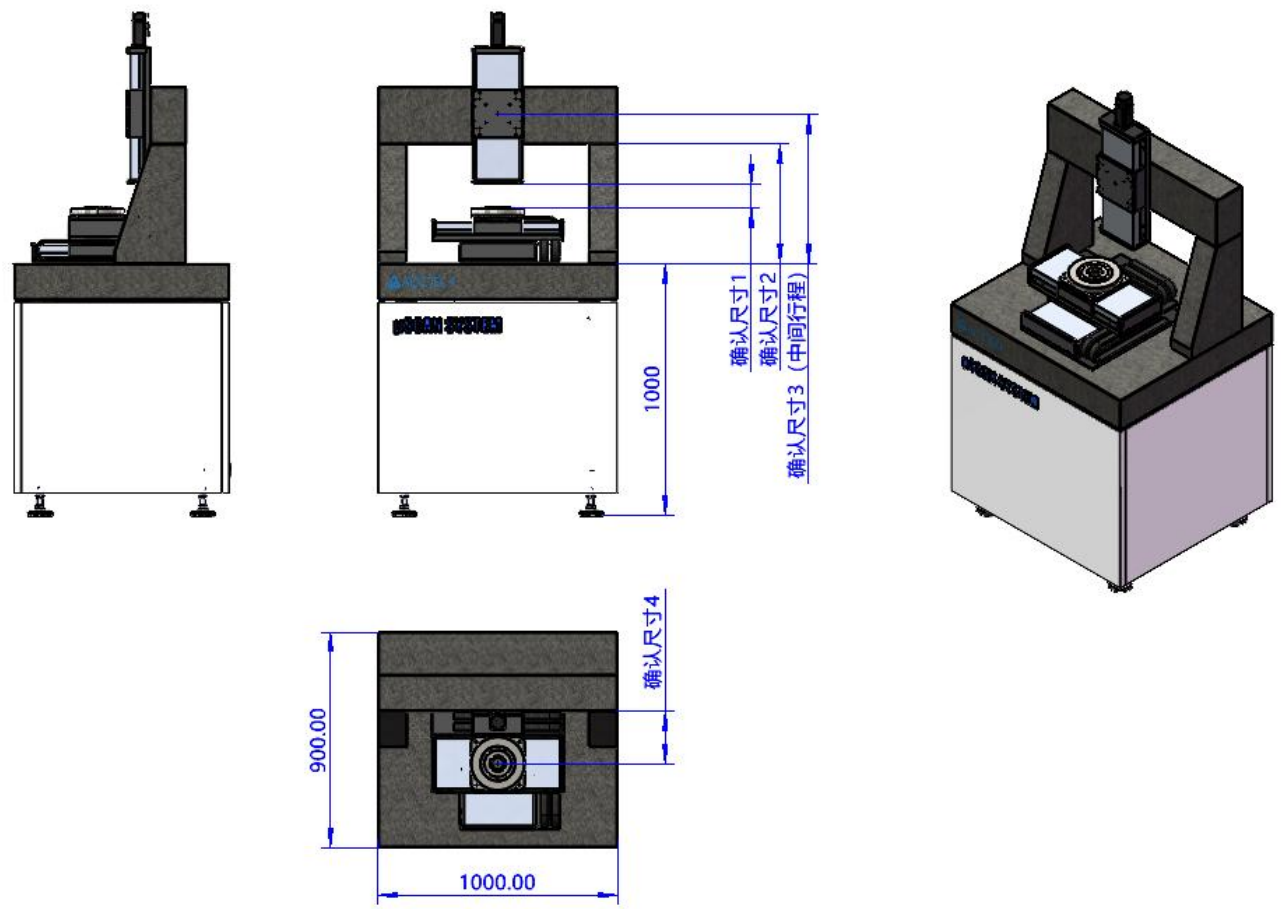
Y axes travel range: 100/200/300/400
X axes travel range: 100/200/300/400
Z axes travel range: 50/100/200/300
R axes travel range: 360°

2 kind of control system:
MCS-ZMC (good for point to point movement) :
Positive motion 4-axis bus controller + Gaochuang driver x4MCS-ACS (Suitable for movement with trajectory planning) : 4-axis master controller+ACS driver x3+ Panasonic Servo Driver

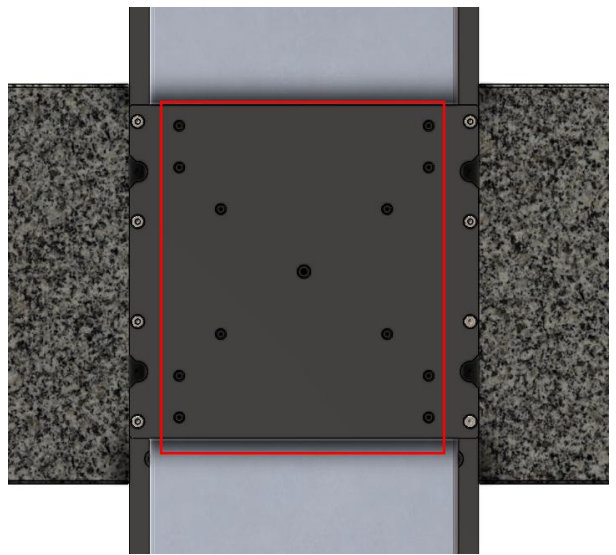
The natural frequency is required to be below 10Hz to choose a foamed polyurethane vibration isolator
The natural frequency is required to be below 3Hz to choose an air flotation vibration isolator

- μ SCAN Series product selection guide

Support customization

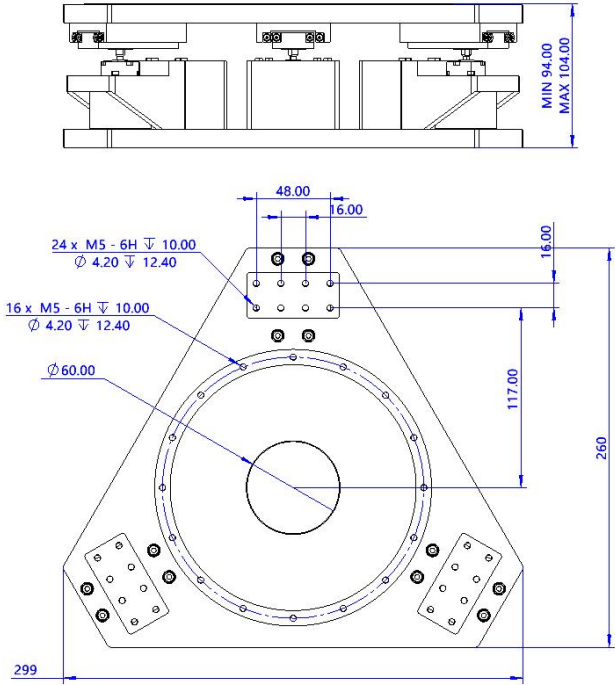
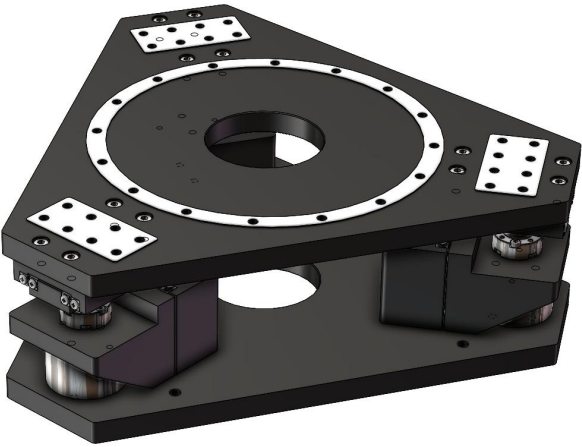


Precautions for size confirmation:
Marble countertop length and width 1000x900x150 fixed size
After confirming the itinerary, please check with the technology to confirm the size 1/2/3/4
If we do not need to provide the rack, we also need to provide marble hoisting holes and screw mounting holes
The screw holes on the slides of each axis can be processed according to customer requirements



- TRI series parallel motion platform

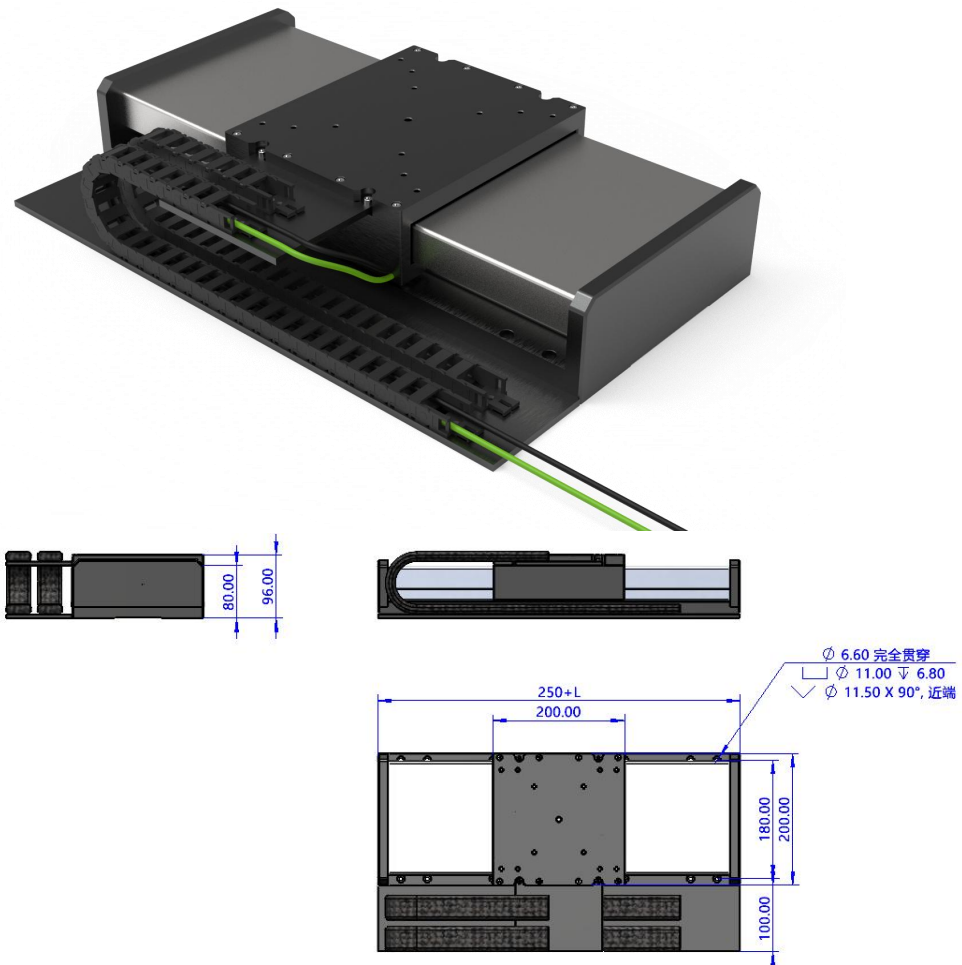
TRI-R5 Three-axis parallel leveling platform



Specification	Parameter
Z axes max travel	±5mm
Z axes resolution	4.88nm
Z axes Repeat Positioning Accuracy	±0.2um
Positional stability	±20nm
Max speed	5mm/s
Max acceleration	2m/s
θX/θY Max travel	±2.5°
θ axes resolution	0.15sec
θ axes Repeat Positioning Accuracy	±1sec
Max speed	1°/s
Max acceleration	20°/s ²
Counterweight balance	Pneumatic balance (minimum air pressure 0.1MPa maximum air pressure 0.6MPa)
Max load	20kg

- U1LM Series Linear Motor Stages

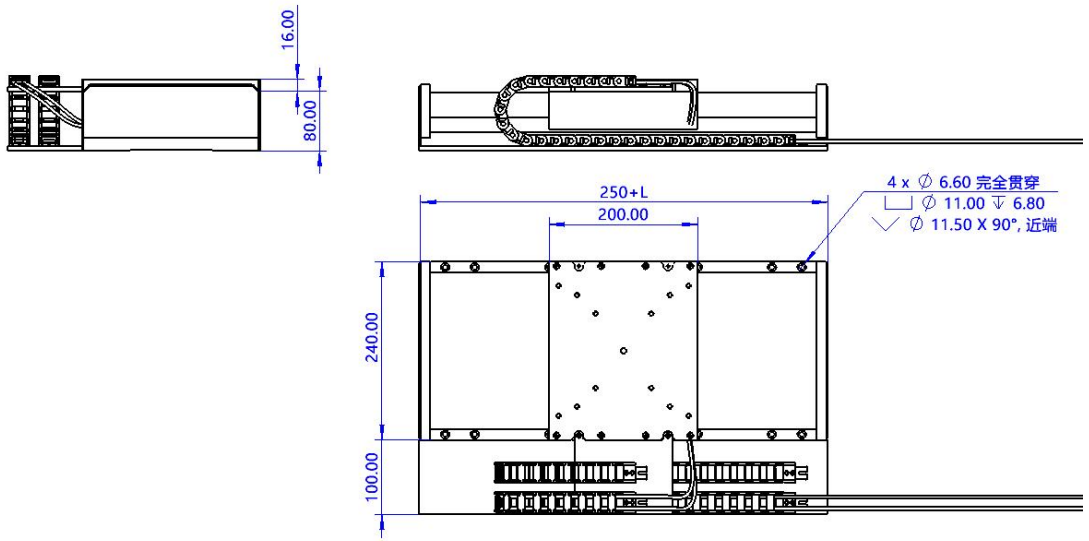
U1LM200-XX Series Linear Motor Stages



Specification	U1LM200-100	-200	-300	-400	-500	-600	-800
Effective skills [mm]	100	200	300	400	500	600	800
Optical Incoder resolution [nm]	100nm (standard digital quantity) optional other models Opticval Encode resolution or 1vpp analog quantity						
Repeatability [nm]	≤±0.5um						
Positioning accuracy	Uncalibrated ±4um/100mm (less than ±1.5um after calibration)						
Straightness [um]	±1.5	±2.5	±3.5	±4	±5	±6.5	±8
Flatness um]	±1.5	±2.5	±3.5	±4	±5	±6.5	±8
Motor thrust	Continuous 132N/peak 232N						
Max speed	2m /s						
Maximum acceleration	3G						
Moving mass	6.5kg						
Load Capacity-Horizonta[kg]	40kg						
Load Capacity-Side [kg]	20kg						

- U1LM Series Linear Motor Stages

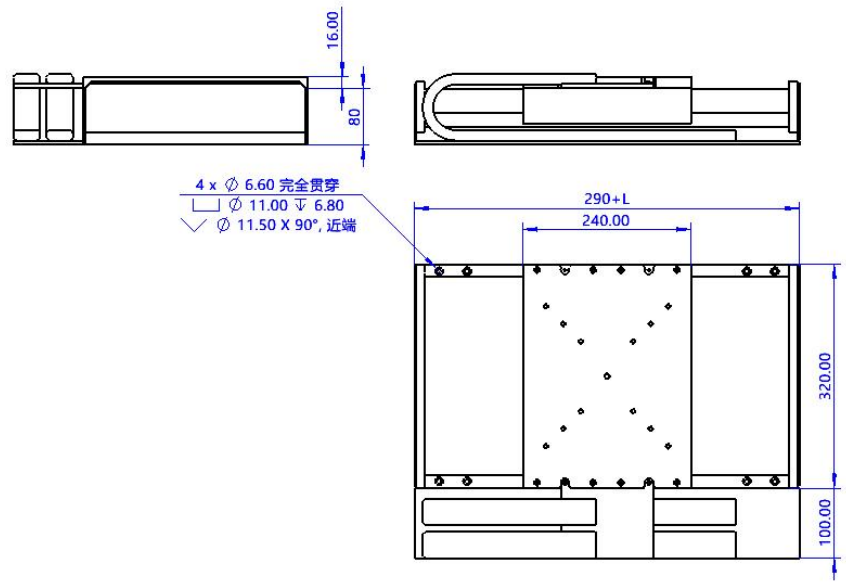
U1LM240-XX Series Linear Motor Stages



Specification	U1LM240-100	-200	-300	-400	-500	-600	-800
Travel [mm]	100	200	300	400	500	600	800
Optical Encode resolution [nm]	100nm Other types of grating resolution or 1vpp analog quantity can be selected						
Repeatability Accuracy [nm]	≤±0.5um						
Positioning accuracy	Uncalibrated ±4um/100mm (less than ±1.5um after calibration)						
Straightness [um]	±1.5	±2.5	±3.5	±4	±5	±6.5	±8
Flatness [um]	±1.5	±2.5	±3.5	±4	±5	±6.5	±8
Motor thrust	Continuous 220N/peak 440N						
Max speed	2m /s						
Max acceleration(no load)	5G						
Moving mass	8kg						
Load Capacity-Horizontal [kg]	50kg						
Load Capacity-Side [kg]	25kg						

- U1LM Series Linear Motor Stages

U1LM320-XX Series Linear Motor Stages

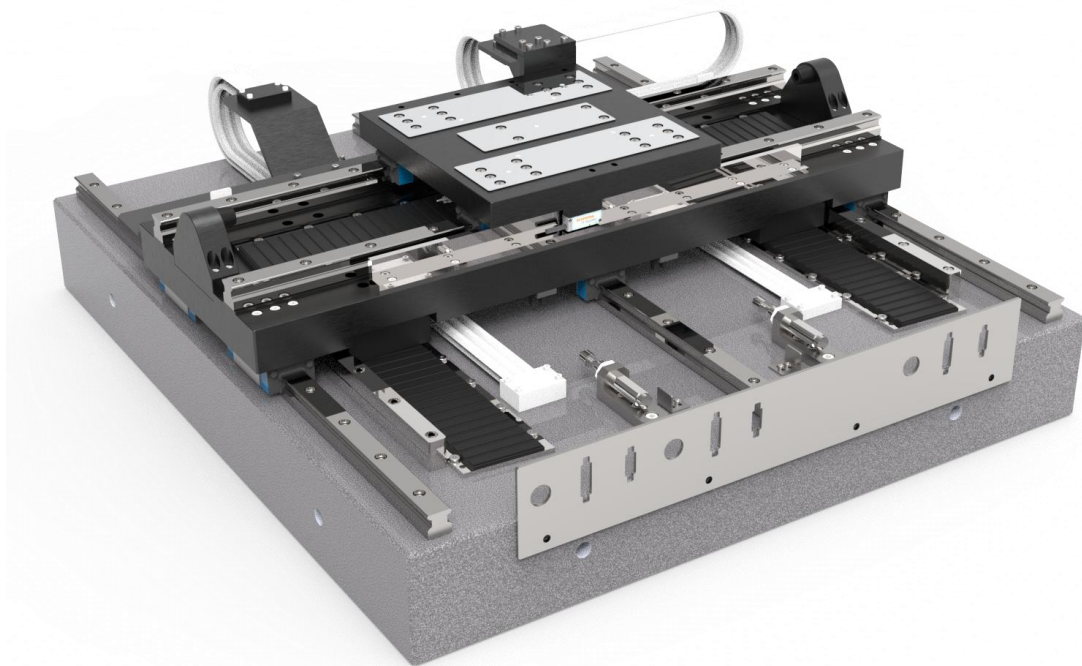


Specification	U1LM320-100	-200	-300	-400	-500	-600	-800
Travel [mm]	100	200	300	400	500	600	800
Optical Encode resolution [nm]	100nm (standard digital quantity) optional other models Optical Encode resolution or 1vpp analog quantity						
Repeatability Accuracy [nm]	$\leq \pm 0.5 \mu m$						
Straightness [μm]	Uncalibrated $\pm 4 \mu m / 100 mm$ (less than $\pm 1.5 \mu m$ after calibration)						
Flatness [μm]	± 1.5	± 2.5	± 3.5	± 4	± 5	± 6.5	± 8
Motor thrust	Continuous 330N/peak 660N						
Max Speed	2m /s						
Max acceleration(no load)	5G						
Moving mass	12kg						
Load Capacity-Horizontal [kg]	50kg						
Load Capacity-Side [kg]	25kg						

- Linear Motor Stage

GLMT-XY High Precision Linear Motor Stage)

XY Linear motor stage

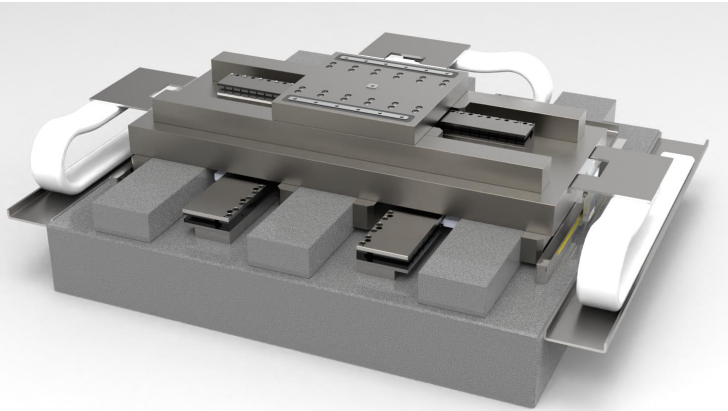


Specification	250x250	360x360
Motor type	Three-phase iron core motor	
Optical Encode resolution	sin/cos 4.88nm (other higher resolutions are optional)	
X axes Motor thrust [N]	Continuous 220N peak 440N	
Y axes Motor thrust [N]	Continuous 330N*2 Peak 660N*2	
X axes No-load acceleration [g]	4.5G	
Y axes No-load acceleration [g]	3G	
Min step size [nm]	10nm (with nanopwm or linear driver)	
Travel [mm]	250x250	360x360
Repeatability Accuracy [um]	±0.5	±0.5
Accuracy [um]	±1	±1.5
Flatness [um]	±2	±3
Straightness [um]	1.5	1.5
Max Speed [mm/s]	500mm/s	
Max load [kg]	50kg	

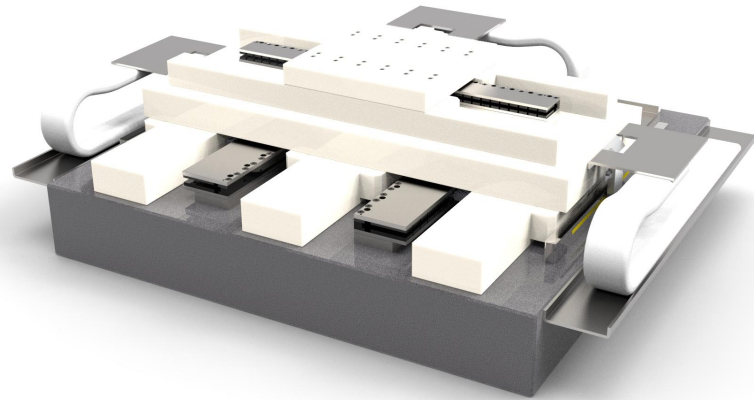
- Linear Motor Stage

ABT-XY-360X360 (Ceramic linear motor stage)

XY Air bearing Linear Motor Stage



Common material



Ceramic material

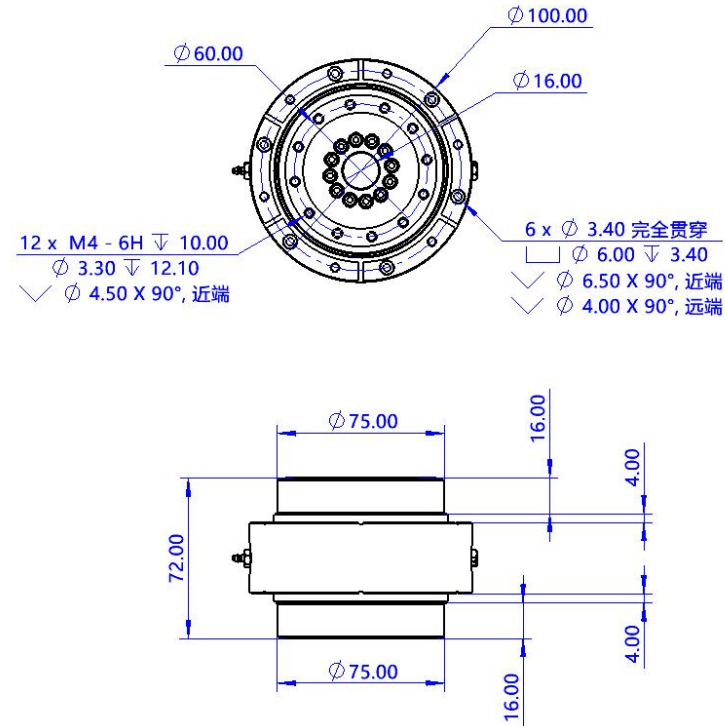
The ceramic version uses high-purity alumina as the air-floating structure and guide elements. Compared with granite and metal, alumina ceramics have a smaller expansion coefficient, and the advantages of Straightness, hardness, and wear resistance.

Specification	Common material	Ceramic material
Motor type	Three-phase iron core motor	
Optical Encode resolution	sin\cos 4.88nm (other higher resolutions are optional)	
X axes Motor thrust [N]	Continuous 90N peak 315N	
Y axes Motor thrust [N]	Continuous 219N*2 Peak 750N*2	
X axes No-load acceleration [g]	4.5G	
Y axes No-load acceleration [g]	3G	
Min step size [nm]	10nm (with nanopwm or linear driver)	
Travel [mm]	360x360	
Repeatability Accuracy [um]	±0.15	±0.1
Accuracy [um]	±0.5	±0.3
Flatness [um]	±1	±0.5
Straightness [um]	1.5	1
Max Speed [mm/s]	500mm/s	
Max Load [kg]	50kg	

- Air bearing rotary stage

3R-NG

Unpowered air bearing rotary stage



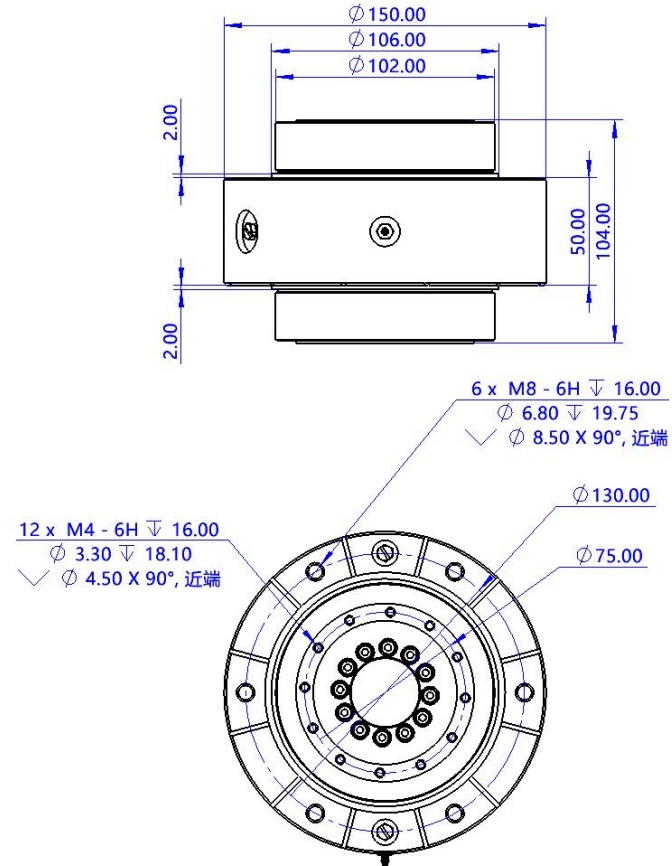
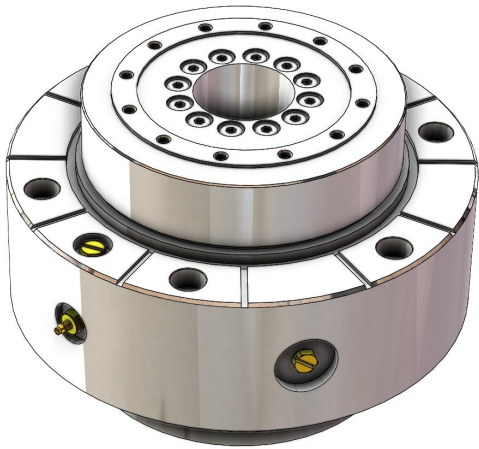
Specification		Stationary state	Working condition
Min Load capacity	Axial Load	190N	95N
	Radial Load	500N	250N
	Moment Load	10Nm	5Nm
Minimum stiffness	Radial	60N/um	
	Axial	175N/um	
	Flip	0.12Nm/urad	
Synchronous motion error	Radial	100nm	
	Axial	100nm	
	Flip	1urad	
Mass	over mass	3200g	
	Rotor	1300g	
Rotational inertia		0.0009kg·m ²	
Max Rotating speed		15,000rpm	
Max consumed air		20SLPM	

Test air pressure: 0.7MPa

- Air bearing rotary stage

4R-NG

Unpowered air bearing rotary stage



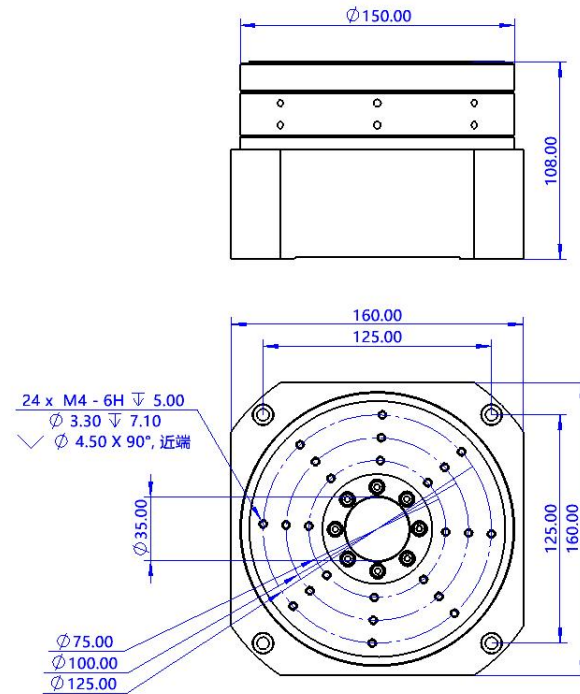
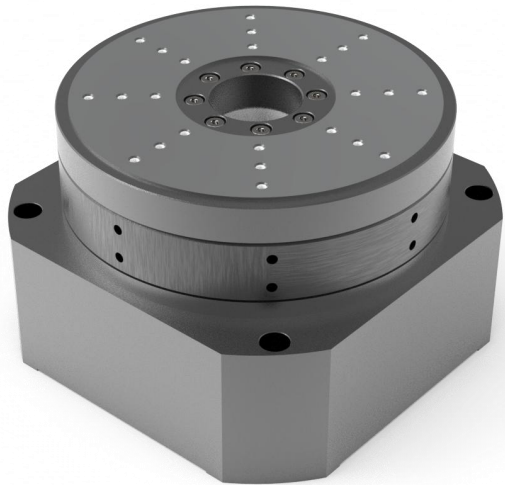
Specification		Stationary state	Working condition
Min Load capacity	Radial load	300N	150N
	Axial Load	1200N	600N
	Moment load	30Nm	15Nm
Minimum stiffness	Radial	80N/um	
	Axial	230N/um	
	Moment	0.3Nm/urad	
Synchronous motion error	Radial	100nm	
	Axial	100nm	
	Flip	1urad	
Mass	Over mass	9300g	
	Rotor	3300g	
Rotational inertia		0.005kg·m ²	
Max Rotating speed		7,500rpm	
Max consumed air		23SLPM	

Test air pressure: 0.7MPa

- Air bearing rotary stage

ART160

Direct Drive Air Floatation Stage

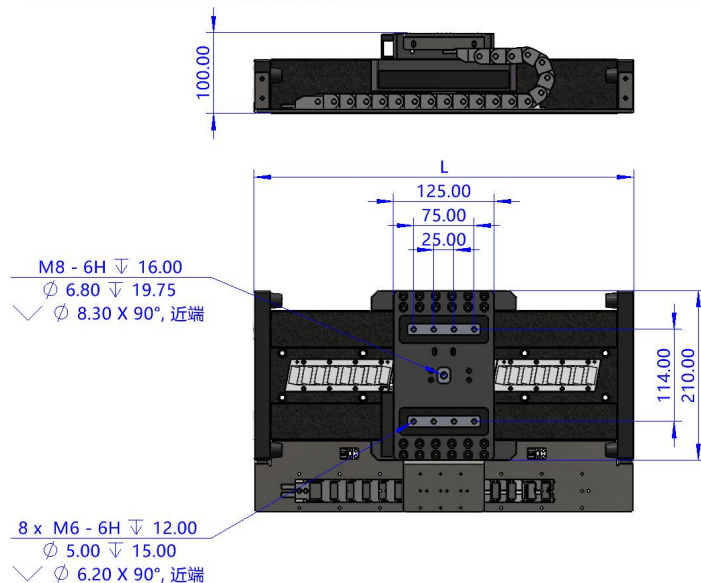
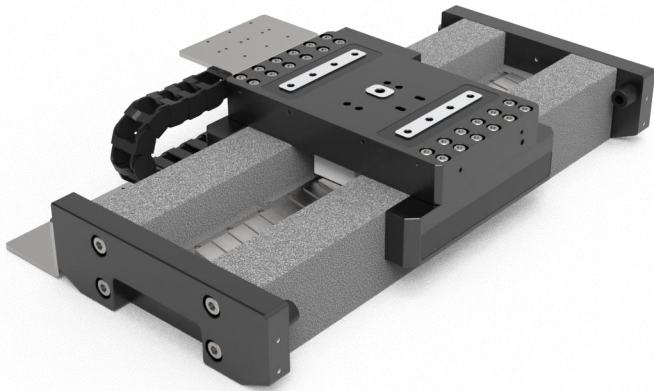


Specification	Parameter
Motor torque	1.7Nm rated 3.5Nm peak
Maximum revolution	200rpm
Encoder	11840line
Encoder resolution	0.55sec (The digital quantity corresponds to 0.1um, and a higher resolution of 1Vpp is optional)
Repeatability Accuracy	$\leq \pm 1\text{sec}$
Axial max load capacity (5bar)	650N
Radial max load capacity (5bar)	246N
Axial max stiffness (5bar)	240N/um
Radial max stiffness (5bar)	82N/um
Axial max bounce	<100nm
Radial max bounce	<100nm
Air consumption	20NL/min

- Air bearing stage

EC-ABL-X

One-dimensional air floating Precision Linear Stages

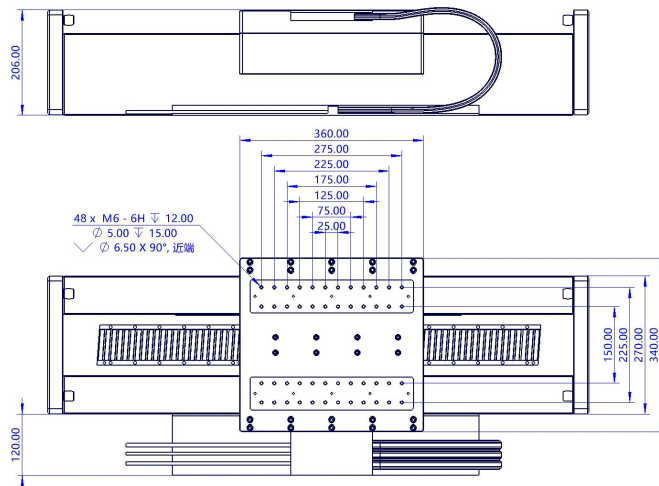
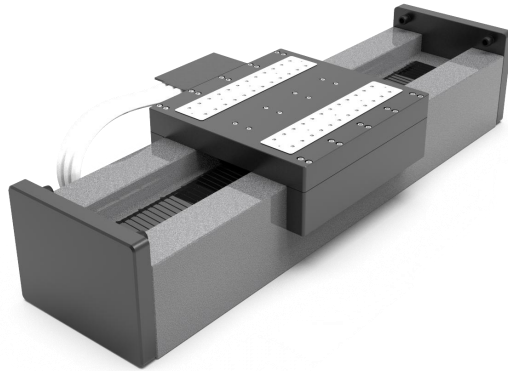


Specification	EC-ABL-200	-300	-400	-500
Motor type	Linear motor with iron core			
Optical Encode resolution	Default 0.1um (optional analog, up to 1nm)			
Motor thrust	Continuous 90N/peak 190N			
Acceleration (no load)	5G			
Travel [mm]	100	200	300	400
Repeatability Accuracy [um]	$\leq \pm 0.2$ um (if optional 5nm grating, up to ± 50 nm)			
Accuracy [um]	2um/100mm (less than 0.5um/100mm after calibration)			
Flatness [um]	$\leq \pm 0.4$	$\leq \pm 0.5$	$\leq \pm 0.7$	$\leq \pm 0.8$
Straightness [um]	$\leq \pm 0.5$			
Max Speed [mm/s]	1000 (depending on the drive and stroke)			
Max load capacity [kg]	10kg			

- Air bearing stage

EC-ABL-X

One-dimensional air floating motion stage

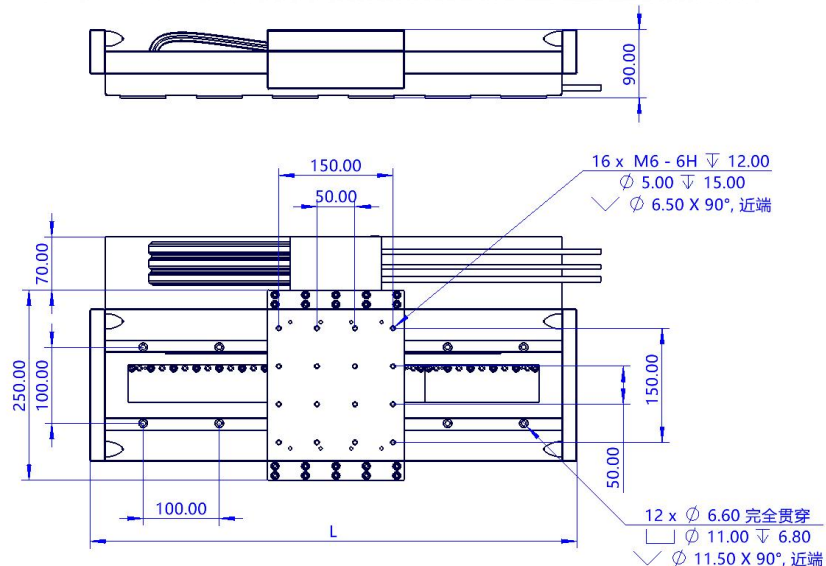
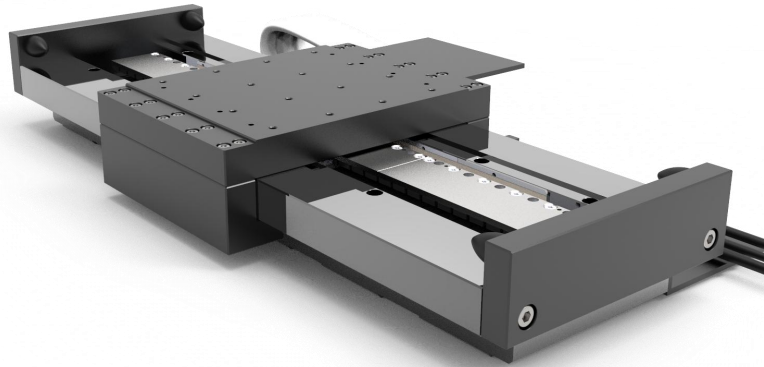


Specification	ABLE340-500	-1000	-1500	-2000
Motor type	Linear motor with iron core			
Optical Encode resolution	Default 0.1um (optional analog, up to 1nm)			
Motor thrust	Continuous 550N/peak 1100N			
Acceleration (no load)	5G			
Travel [mm]	500	1000	1500	2000
Repeatability Accuracy [um]	≤±0.3um (if optional 5nm grating, up to ±50nm)			
Accuracy [um]	2um/100mm (After calibration, it can be less than 0.5um/100mm)			
Flatness [um]	≤±0.5	≤±1	≤±1.2	≤±2
Straightness [um]	≤±0.5/20mm			
Max Speed [mm/s]	3000(depending on drive and stroke)			
Max load capacity [kg]	200kg			

- Air bearing stage

ABL250-X

One-dimensional Ultra-precision air bearing platform

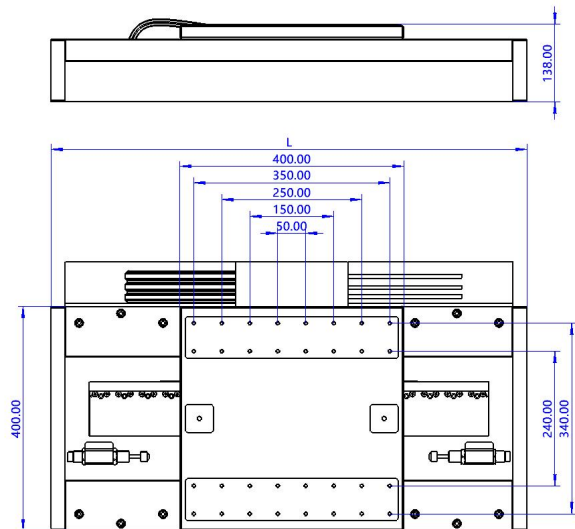
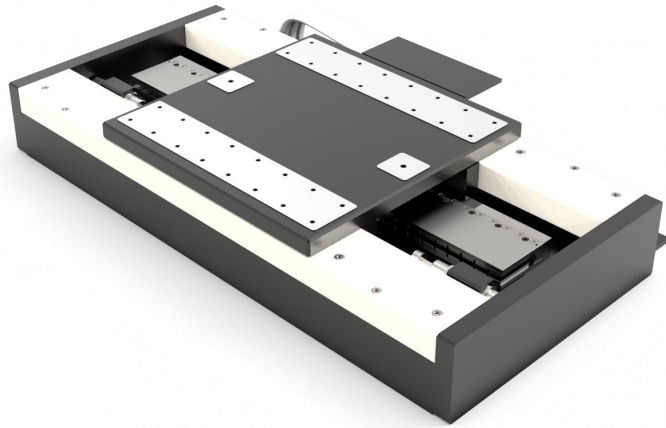


Specification	ABL250-100	-200	-300	-400	-500	-600
Effective travel [mm]	100	200	300	400	500	600
Opticval Encode resolution [nm]	5nm Opticval Encode resolution					
Repeatability Accuracy [nm]	± 50	± 50	± 100	± 150	± 200	± 250
Accuracy	2 μ m/100mm (After calibration can be less than 0.3 μ m/100mm)					
Straightness [μ m]	± 0.4	± 0.5	± 0.6	± 0.75	± 1	± 1.5
Flatness [μ m]	± 0.4	± 0.6		± 1		± 1.5
Max Speed	2m /s					
Max acceleration(no load)	2G					
Load Capacity-Horizontal [kg]	35kg					
Load Capacity-Side [kg]	20kg					

- Air bearing stage

ABW400-X

One-dimensional air floating platform

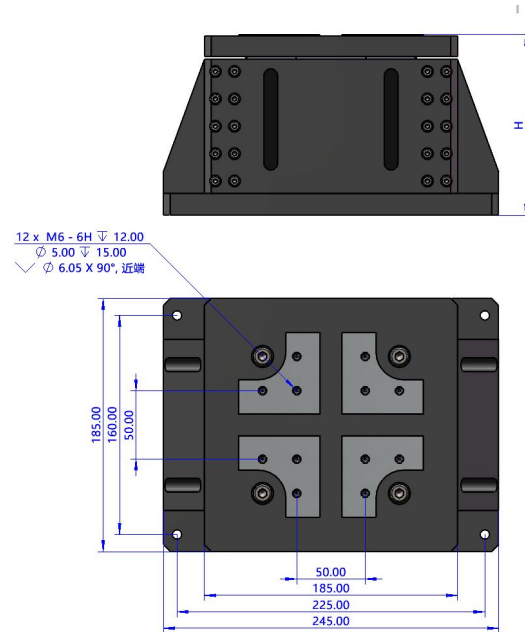


Specification	ABW400-200	-300	-400	-600	-800	-1000
Effective travel [mm]	200	300	400	600	800	1000
Optical Encode resolution [nm]	5nm Optical Encode resolution					
Repeatability Accuracy [nm]	±100	±100	±150	±200	±300	±350
Accuracy	2μm/100mm (After calibration can be less than 0.3μm/100mm)					
Straightness [μm]	±0.4	±0.5	±0.6	±0.75	±1	±1.5
Flatness [μm]	±0.4	±0.6		±1		±1.5
Max Speed	2m /s					
Max acceleration(no load)	2G					
Load Capacity-Horizontal [kg]	35kg					
Load Capacity-Side [kg]	20kg					

- Air bearing stage

ABVT-Z

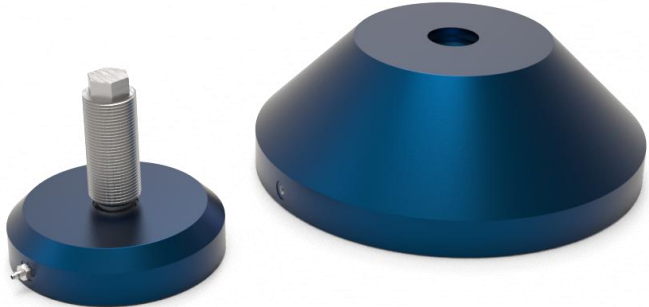
Vertical axis air bearing stage



Specification	ABVT-Z20	-Z38
Motor type	VOICE COIL MOTOR	
Optical Encode resolution	sin\cos 4.88nm (Other higher resolutions are optional)	
Motor thrust	Continuous 27N/ Peak 119N	Continuous 45N/peak 192N
Min step-size[nm]	10nm(with nanopwm or linear driver)	
Travel [mm]	20	38
Repeatability Accuracy [um]	±50nm	
Accuracy [um]	±150nm	
Flatness [um]	1um	1.5um
Straightness [um]	0.5um	0.7um
Max Speed [mm/s]	50mm/s	
Max load capacity [kg]	6kg(Pneumatic constant force spring balance)	

- Air bearing rail - round air bearing pad (porous graphite)

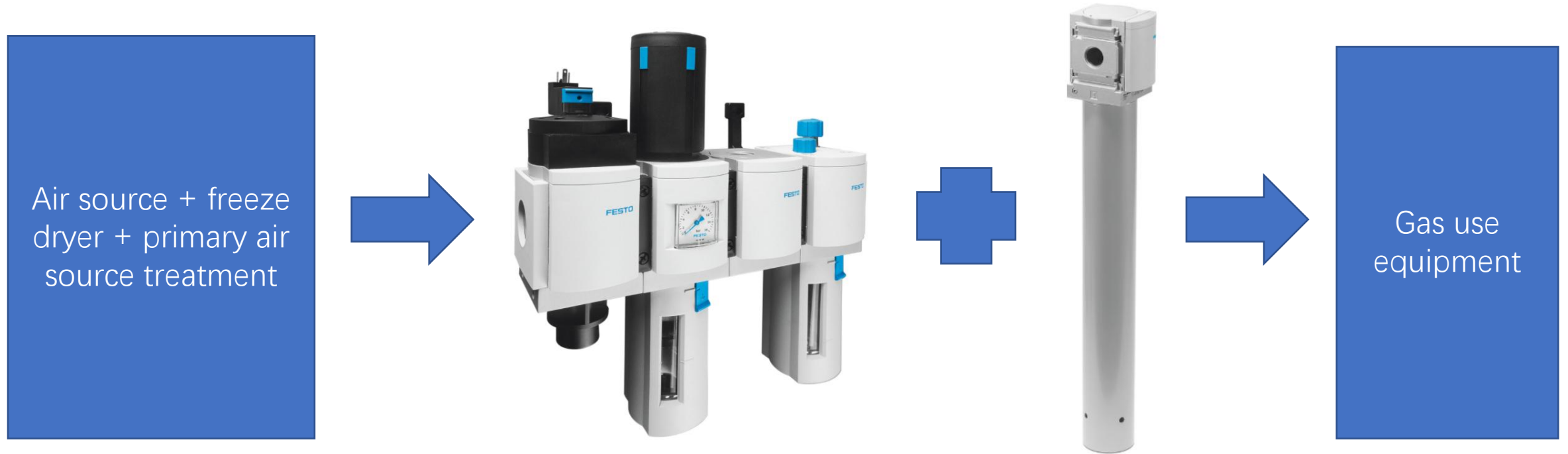
Support customization



Model	Size (mm)	Load(0.4 MPa)	Stiffness (N/mm)	Air gap height (um)	Flatness (um)	Maxbarometric pressure (Mpa)	Air construction (S/min)	Radius (mm)
CR25R	25	80	18	5	0.5	0.65	0.68	13
CR30R	30	165	22	5	0.5	0.65	0.9	13
CR40R	40	220	28	5	0.5	0.65	1.2	13
CR50R	50	355	58	5	0.5	0.65	1.5	13
CR60R	60	657	75	5	0.5	0.65	1.7	13
CR70R	70	867	108	5	0.5	0.65	2.1	13
CR80R	80	1110	114	5	0.5	0.65	2.5	13
CR100R	100	1776	175	6	0.5	0.65	2.8	20
CR125R	125	2775	254	6	0.5	0.65	3.2	20
CR150R	150	4444	350	6	0.5	0.65	3.4	25
CR175R	175	5423	580	6	0.5	0.65	3.6	25
CR200R	200	7770	700	6	0.5	0.65	3.8	25

- Air floatation platform filter components

FESTO Gas filter components



The air flotation guide rail has high requirements on the gas source, and it is generally necessary to ensure that the gas is dry, pure, free of oil and large magazine particles

Recommended reference gas source standard:

Clean (filtration to 1.0 micron or better) ISO 8573–1 Class 1

Oil-free - ISO 8573–1 Class 1

Dry (-15°C dew point) - ISO 8573–1 Class 3

- Air bearing rail - round air bearing pad (microhole array)

Support customization

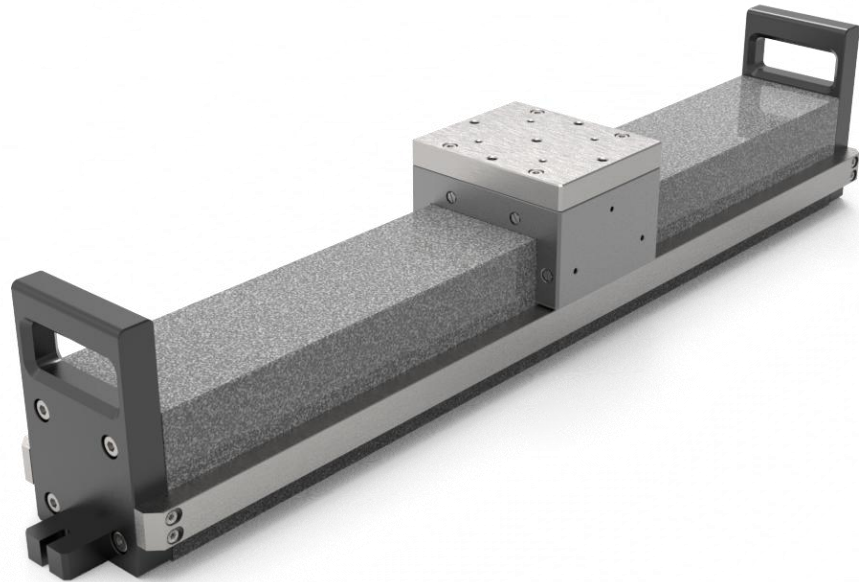


Model	Size (mm)	load (0.4MPa)	stiffness (N/mm)	Air gap height (um)	Flatness (um)	Max.Air Pressure (Mpa)	Air consumption (S/min)	Radius (mm)
PHD30R	30	150	25	6.5	0.5	0.9	0.5	13
PHD45R	45	285	64	6	0.5	0.9	1	13
PHD60R	60	500	110	6	0.5	0.9	1.1	13
PHD80R	80	800	240	6	0.5	0.9	0.8	13
PHD100R	100	1300	200	10	0.5	0.9	4	20
PHD125R	125	2100	320	10	0.5	0.9	6	20
PHD150R	150	3700	500	9	0.5	0.9	3.8	25
PHD210R	210	6000	720	8	0.5	0.9	6	25

- Air bearing linear ruler

STRIGHT-LITE-S

Straightness measurement

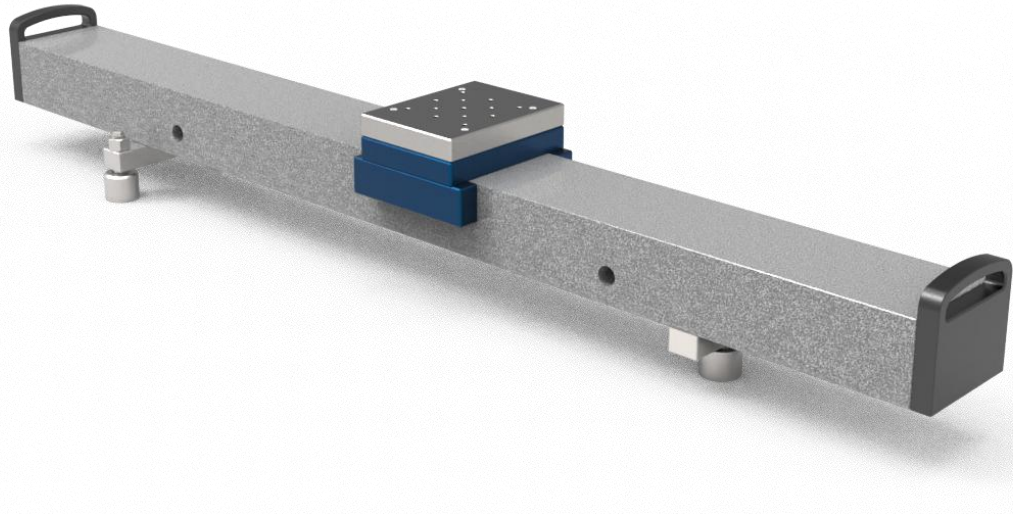


Speticication	STL-S600	STL-S800
Measuring range	600mm	800mm
Straightness computational formula	$0.5+0.5 \times 10^{-6} \times L(\mu\text{m})$	
Straightness	<0.8 μm	<0.9 μm
Air consumption	3.2L/min	
sectional dimension of stone	100mm x 100mm	
Preload way	Magnetic preload	
Max load capacity	15kg	
Max torque resistance	1.2Nm	
Weight	27kg	

- Air bearing linear ruler

STRIGHT-MASTER

Compatible four direction
Straightness measurement

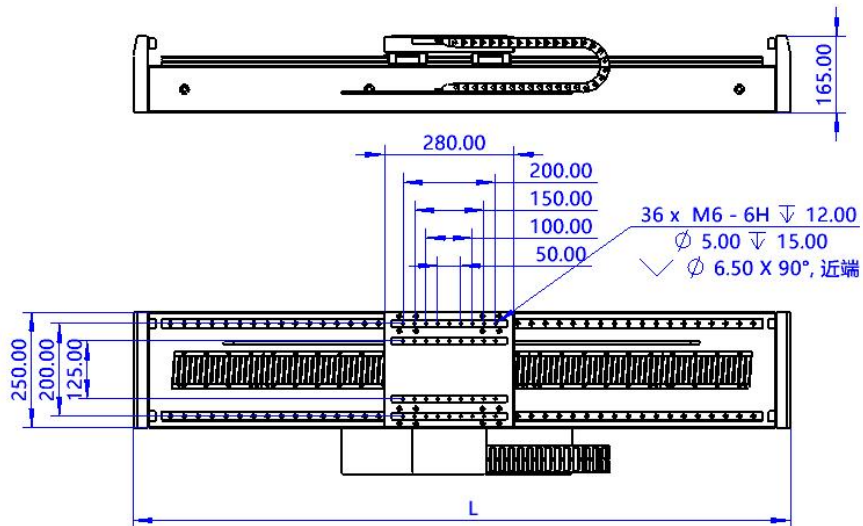
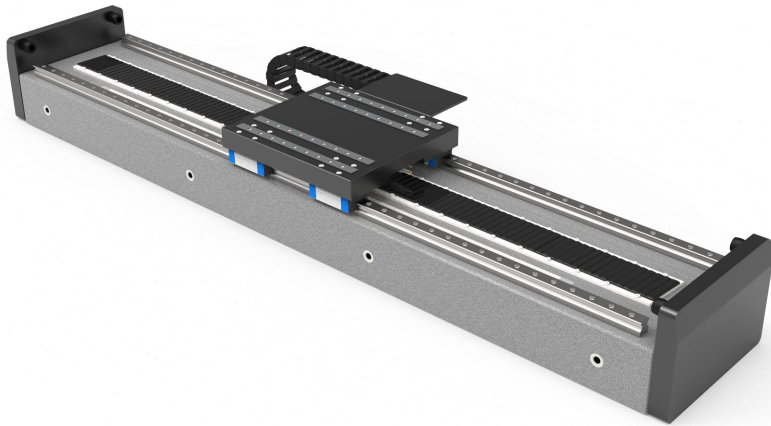


Specification	STM-S150	STM-S200
Travel	800-1420mm	1400-2300mm
Stone length	1020-1640mm	1620-2520mm
sectional dimension of stone (width * height)	150x100mm	150x200mm
Weight	(45kg/L[m])+9kg	(90kg/L[m])+15kg
Input air pressure	0.6MPa	
Preload way	vacuum preloading	
Gas flow	6L/min + vacuum generator 40L/min	
Straightness	0.5um+0.5x10e-6L(L is max travel range)	
Flatness	same with Straightness	
Max torque resistance	1.5Nm	

- Linear Motor Stage

LMS250GT-X linear positioning stage)

One-dimensional linear motor motion stage

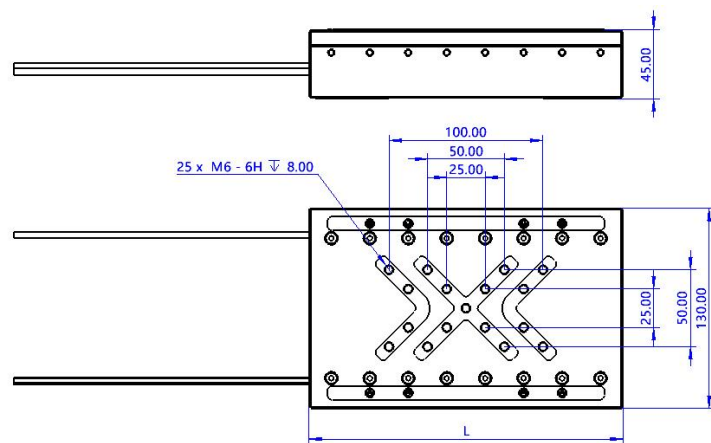


Specification	LMS250GT-500X	-1000X	-1500X	-2000X
Effective distance [mm]	500	1000	1500	2000
Opticval Encode resolution [nm]	default 0.1um (Max 1nm optional)			
Repeatability Accuracy [um]	±0.3			
Accuracy [um]	2um/100mm (less than 0.5um/100mm after calibration)			
Flatness [um]	±2.5	±5	±7.5	±10
Straightness [um]	±2	±5	±7.5	±10
Max Speed [m/s]	2			
Max Acceleration [G]	4			
Max load capacity [kg]	300			
L [mm]	920	1420	1920	2420

- Linear Motor Stage

UMS130-X (High precision Linear Motorized Translation Stage)

One-dimensional linear motor motion stage

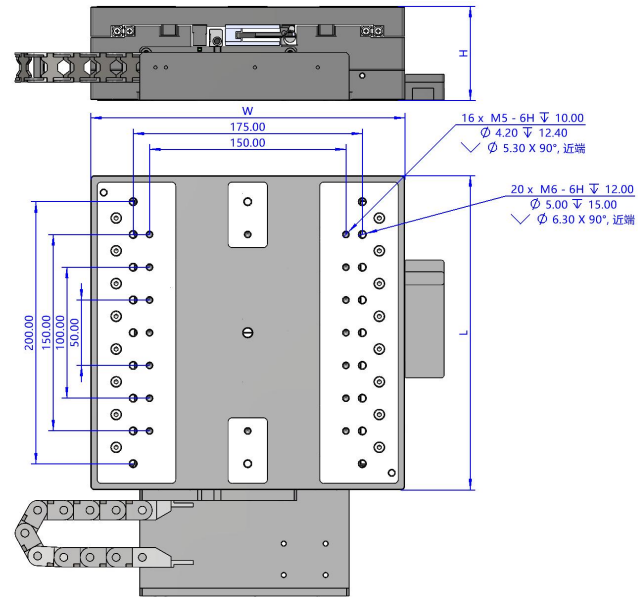


Specification	UMS130-60X	-110X	-160X
Motor type	Three-phase ironless motor		
Encoder type	Incremental grating 0.1um (optional up to 1nm grating, absolute optional)		
Motor thrust	Rated 40N Peak 90N		
Acceleration (no load)	3G	2.5G	2G
Position limitation type	Mechanical, photoelectric, software (triple limit protection)		
Material	Aluminum alloy 6061-T6 (Optional stainless steel)		
Travel range mm	60	110	160
Accuracy um	±3um (Calibration ±0.5um)		
Repeatability Accuracy um	±0.1um (±50nm corresponds to grating above 5nm)		
Max Speed mm/s	300mm/s		
Max load capacity kg	6	8	12

- Linear Motor Stage

LMT-XY (High precision Linear Motor Stage)

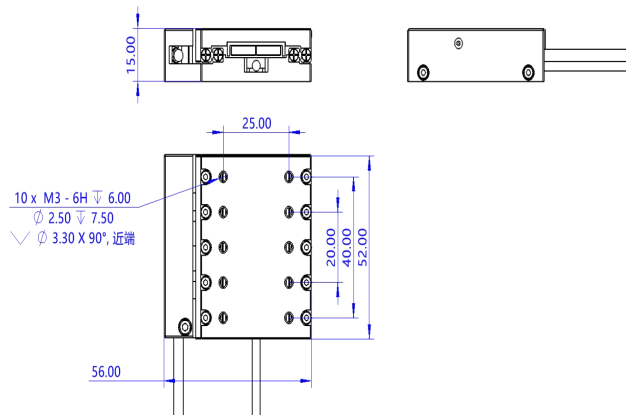
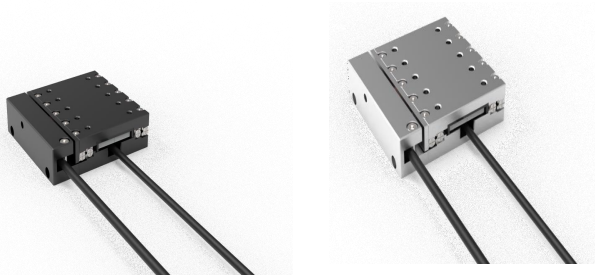
XY Linear motor motion Stage



Specification	LMT-XY-100X100	-200X200
Motor type	Three-phase ironless motor	
Opticval Encode resolution	sin\cos 4.88nm (Other higher resolutions are optional)	
Motor thrust	Continuous 40N/peak 90N	Continuous 60N/peak 210N
min step size[nm]	10nm (with nanopwm or linear driver)	
Travel [mm]	100x100	200x200
Repeatability Accuracy [um]	± 0.3	
Accuracy [um]	± 1	
Flatness [um]	6um	8um
Straightness [um]	1um	1.5um
Max Speed [mm/s]	500mm/s	
Max load capacity [kg]	15kg	30kg

Linear motor motion stage

NLS Ultra-Thin Mini Nano positioning stage



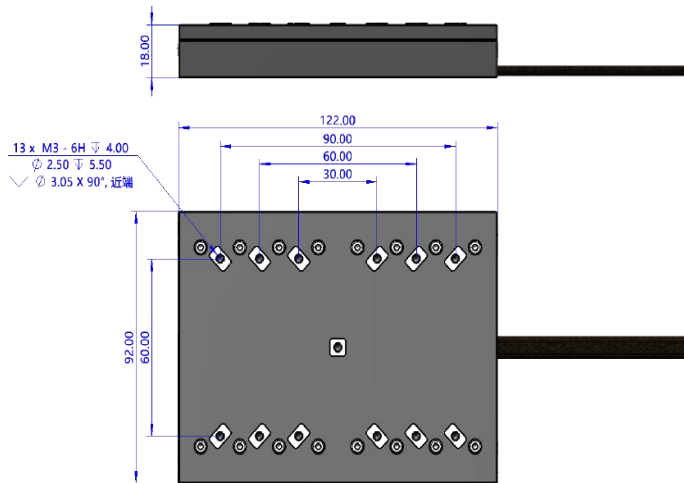
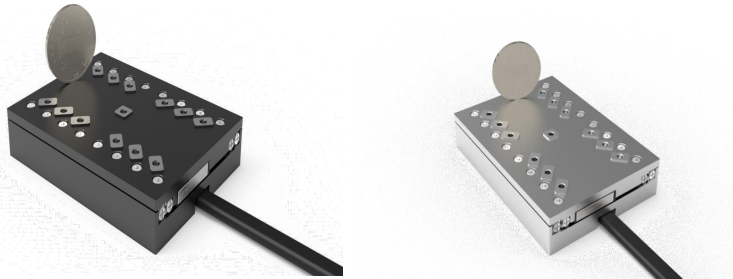
NLS50-20-1V-B

- Ultra-thin, linear motor drive. stroke 20mm
- Extremely small size, profile 52mm x 56mm x 15mm
- 50 nm minimum incremental motion
- Repeat positioning accuracy: $\leq 100\text{nm}$
- Grating resolution 1nm (1vpp)
- Rated thrust 1N Peak thrust 2.5N
- Imported cross guide rail
- Maximum load: 2Kg
- Smooth continuous motion, industrial-grade service life
- Fast start, fast response

Specification	Parameter
Travel	32mm
Encoder type	Optical encoder (1Vpp)
Resolution	1 - 5nm
Effective minimum displacement	50nm(-S format accuracy 20nm)
Repeatability accuracy	$\pm 100\text{nm}$ (-S format accuracy $\pm 50\text{nm}$,)
Rated pushing force	2N
Peak push and pull force	5N
Max speed	200mm/s
Acceleration (no load)	4G
Load in horizontal	2KG
Motor drive form	Special tiling linear motor
Guide rail	Cross Roller Guide
Size	82mm x 52mm x 16mm
Length of cable	3m
Material	Aluminum alloy (optional stainless steel)
Driver interface	USB; Dual RJ45 100Mbps EtherCAT

Linear motor motion stage

NLS Ultra-Thin Mini linear motion stage



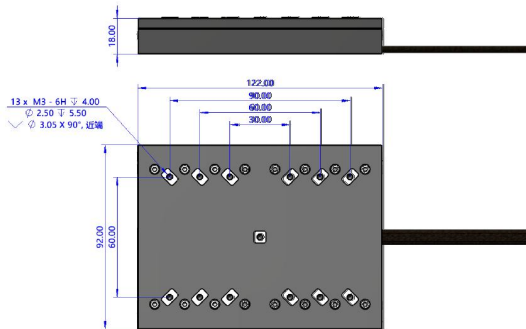
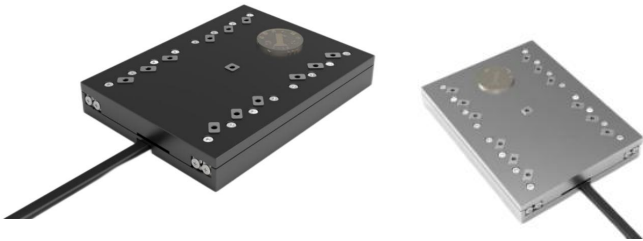
NLS60-32-1V-B

- LS60-32-1V-B Features
- Ultra-thin, linear motor drive. Stroke 32mm
- Extremely small size, profile 82mm x 60mm x 16mm
- 50 nm minimum incremental motion
- Repeat positioning accuracy: $\leq 100\text{nm}$
- Grating resolution 1nm (1vpp)
- Rated thrust 2N Peak thrust 5N
- Imported cross guide rail
- Maximum load: 2Kg
- Smooth continuous motion, industrial-grade service life

Specification	Parameter
Travel	32 mm
Encoder type	Optical encoder (1Vpp)
Resolution	1 - 5nm
Effective minimum displacement	50nm(-S format accuracy 20nm)
Repeatability accuracy	$\pm 100\text{nm}$ (-S format accuracy $\pm 50\text{nm}$,)
Rated pushing force	5N
Peak push and pull force	16N
Max speed	200mm/s
Acceleration (no load)	4G
Load in horizontal	4KG
Motor drive form	Special tiling linear motor
Guide rail	Cross Roller Guide
Size	122mm x 92mm x 18mm
Length of cable	3m
Material	Aluminum alloy (optional stainless steel)
Driver interface	USB; Dual RJ45 100Mbps EtherCAT

Linear motor motion stage

NLS 92-50-1V Ultra-Thin Mini motorized linear stage



NLS92-50-1V-B

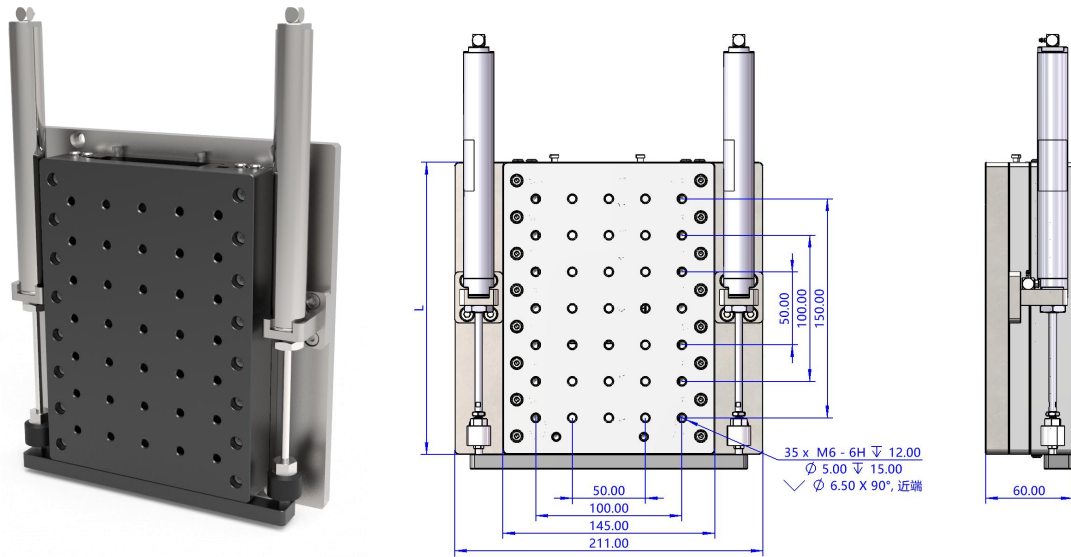
- Ultra-thin, linear motor drive. stroke 50mm
- Extremely small size, profile 122mm x 92mm x 18mm
- 50 nm minimum incremental motion
- Repeat positioning accuracy: $\leq 100\text{nm}$
- Raster resolution 1nm (1vpp)
- Nominal thrust 5N Peak thrust 16N
- Imported cross rail
- Maximum load: 4Kg
- Smooth continuous motion, industrial grade life

Specification	Parameter
Travel	50 mm
Encoder type	Optical encoder (1Vpp)
Resolution	1 - 5nm
Effective minimum displacement	50nm(-S format accuracy 20nm)
Repeatability accuracy	$\pm 100\text{nm}$ (-S format accuracy $\pm 50\text{nm}$,)
Rated pushing force	5N
Peak push and pull force	16N
Max speed	200mm/s
Acceleration (no load)	4G
Load in horizontal	4KG
Motor drive form	Special tiling linear motor
Guide rail	Cross Roller Guide
Size	122mm x 92mm x 18mm
Length of cable	3m
Material	Aluminum alloy (optional stainless steel)
Driver interface	USB; Dual RJ45 100Mbps EtherCAT

- Linear Motor Stage

LMT145-Z (High precision Nano Motorized Stage)

Vertical Z axis Linear Motor Stage

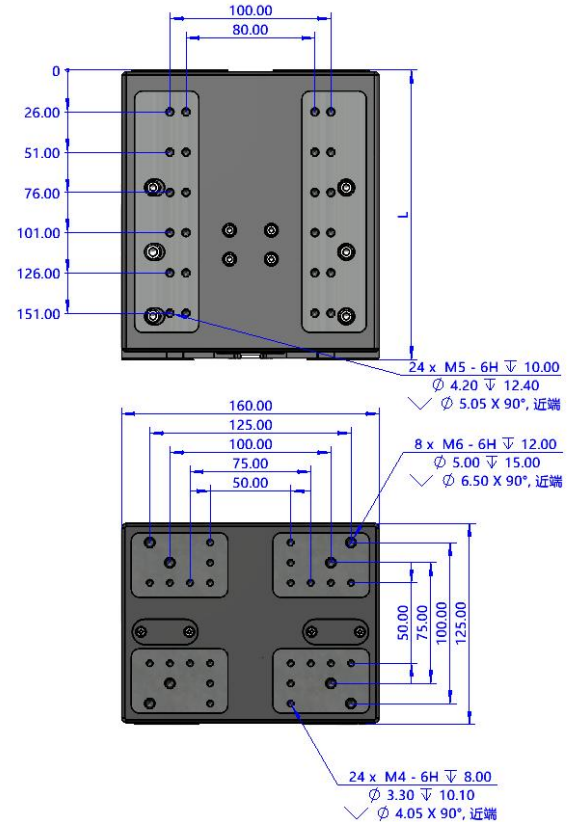


Specification	LMT145-Z50	-Z100
Motor type	Three-phase ironless motor	
Opticval Encode resolution	sin\cos 4.88nm (Other higher resolutions are optional)	
Motor thrust	Rated 40N Peak 90N	
min step size[nm]	10nm((with nanopwm or linear driver))	
行程 [mm]	50	100
Repeatability Accuracy [um]	±100nm	
Accuracy [um]	±300nm	
Flatness [um]	2	2.5
Straightness [um]	1	1.5
Max Speed [mm/s]	200mm/s	
Max load capacity [kg]	6kg(Pneumatic constant force spring balance)	

- Stepping motor stage

SST160-Z50

Z-axis stepper motor lifting table



Specification	SST160-Z25	-Z50
Motor type	Stepping motor	
Resolution	0.039um (Two-phase stepper motor 256 subdivision)	
min step size[nm]	0.1um(With nanopwm or linear driver)	
Travel [mm]	25	50
Repeatability Accuracy [um]	± 1	
Accuracy [um]	± 3	
Flatness [um]	3	5
Straightness [um]	1	1.2
Max Speed [mm/s]	25mm/s	
Max load capacity [kg]	6kg	

- Drive control system

Select the control system according to the application requirements

	Positive motion controller +SERVOTRONIX Driver	ACS controller + driver
Point-to-point application	★ ★ ★	★ ★
Trajectory interpolation (linear arc)	★	★ ★ ★
Uniform motion (speed fluctuation <0.1%)	★	★ ★ ★
Gantry structure double drive	★ ★	★ ★ ★
High following error (following error <±10count/100mm/s)	★	★ ★ ★
High frequency response (settling time <10ms)	★ ★ ★	★ ★
High precision application (Air flotation 100nm accuracy)	★	★ ★ ★

Basic performance version



Positive motion controller



SERVOTRONIX Driver

High performance version



ACS controller



ACS Linear Motor Driver

- Accuracy measurement scheme and standard

All the measurement data of our company are tested according to the national standard GB/T17421 or ISO230-2 on the factory indicators of the equipment. The main test indicators are as follows:

- Accuracy (Must check)
- Repeatability Accuracy (Must check)
- YY or ZZ (motion Flatness) Straightness
- PITCH/YAW/ROLL
- Max Speed
- Speed fluctuation etc.

Inspection and testing environment (accuracy higher than 1um needs to be available at the customer site to fully reproduce the accuracy):

1. Constant temperature workshop (temperature 20 ± 0.5 degrees Celsius), the equipment depends on the size, and the temperature is constant for more than 3 hours
2. Marble installation table (Flatness is better than $3\mu\text{m}/200\text{mm}$, corresponding to marble inspection platform above 00 grade)
3. Precision vibration isolator (3Hz precision air bearing vibration isolator, VC-C or above standard)
4. Power supply through the isolation transformer
5. There is no large vibration source within 10m nearby

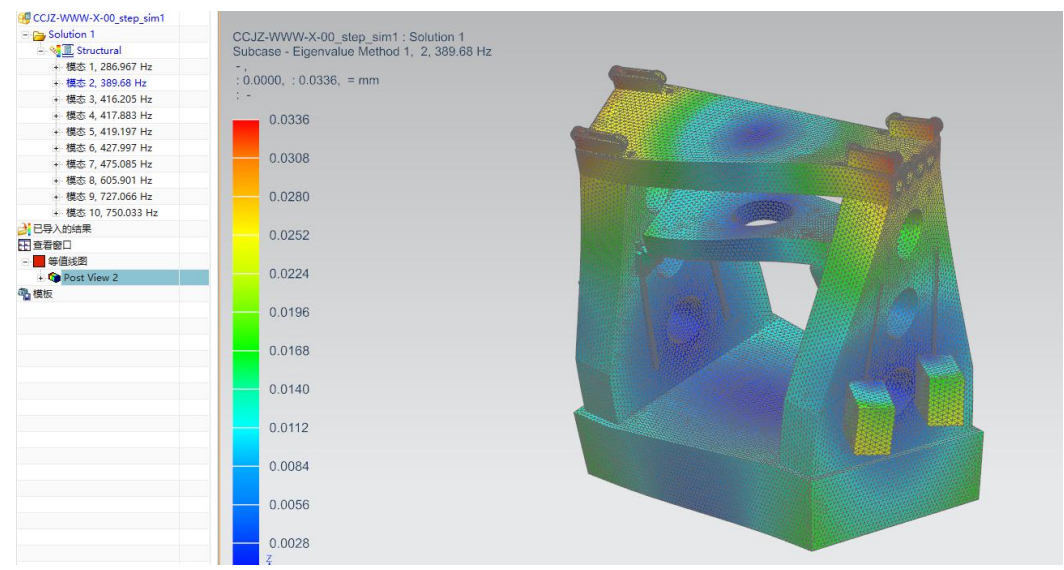
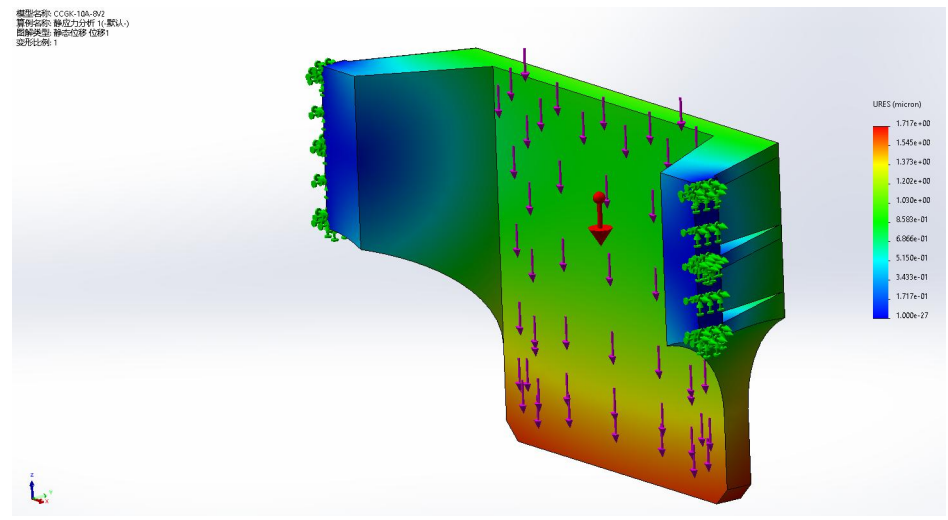


Measuring instrument: German ATTOCUBE three-channel laser interferometer

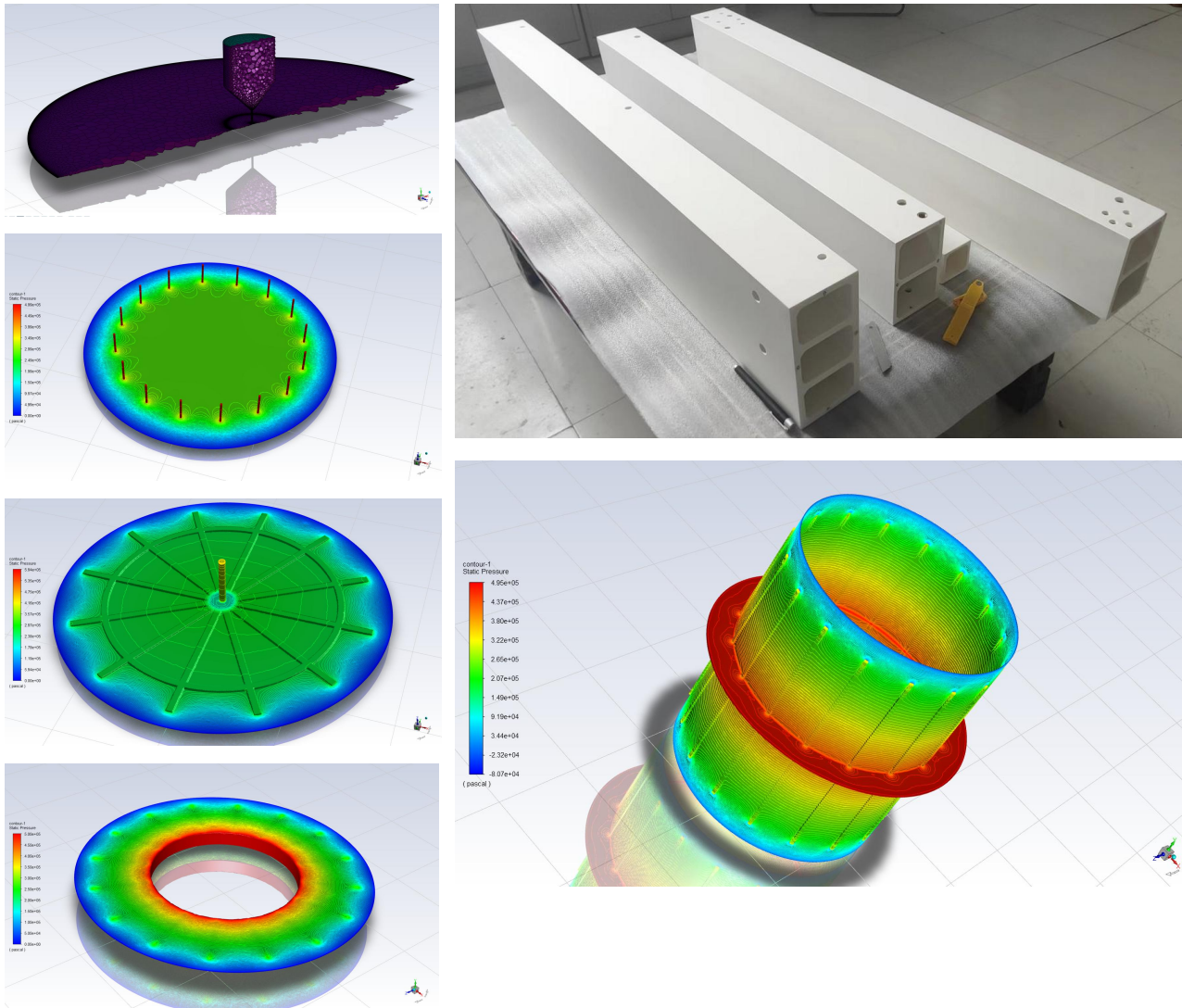
- Professional system design and modal simulation analysis

High-precision application is not just a simple stacking of various high-precision single-axis products, especially when it involves some high-speed and high-dynamic applications, the modal analysis of the system is particularly important. If the system design is unreasonable, within a certain working range, each axis system is particularly easy to couple with the low-order modes of the system, which will cause resonance and seriously affect the performance of high-precision application scenarios.

Our company uses the advanced modal simulation function of ANSYS or UG to analyze and optimize the system to meet the highest performance requirements of customers.



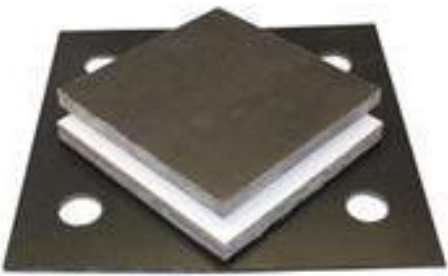
- Customized precision air bearing platform



Relying on years of experience in the design of high-precision and ultra-precision platforms, with the help of statics, modal analysis and finite element analysis, we provide customized designs for high-precision, High precision air-floating platforms, and optimize gas paths, support force calculation simulations, and stiffness calculations according to customer requirements. , to ensure that the whole system meets the best requirements.

- Optional materials for the theme structure of the air floating platform:
- marble
 - Metal Aluminum alloy, stainless steel, Invar, etc.
 - Alumina ceramic Al₂O₃
 - Silicon carbide SiC

- Professional vibration isolator selection



Damping vibration isolation pad
Natural frequency: <10Hz



Air bearing vibration isolation pad
Natural frequency: <3H

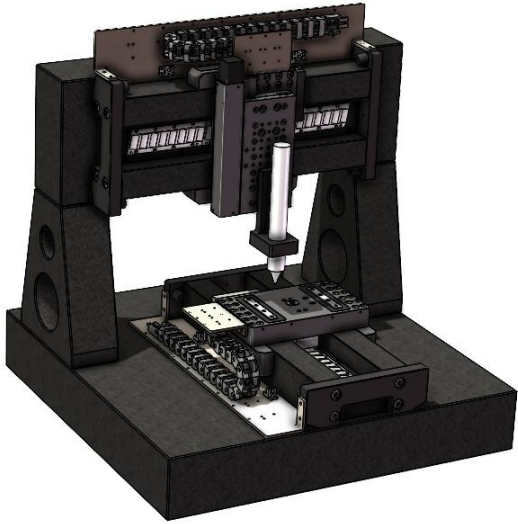


Active Vibration Isolation System
Natural frequency: <0.6Hz

According to different application scenarios and needs, choose different levels of vibration isolation system
Support the selection and matching of vibration isolators with different levels from VC-A to VC-E

Cooperative vibration isolator brand manufacturers:
Germany BILZ FBREEKA
Japan Kurashiki Chemical Industry NBK
China Jiangxi winning streak, think twice

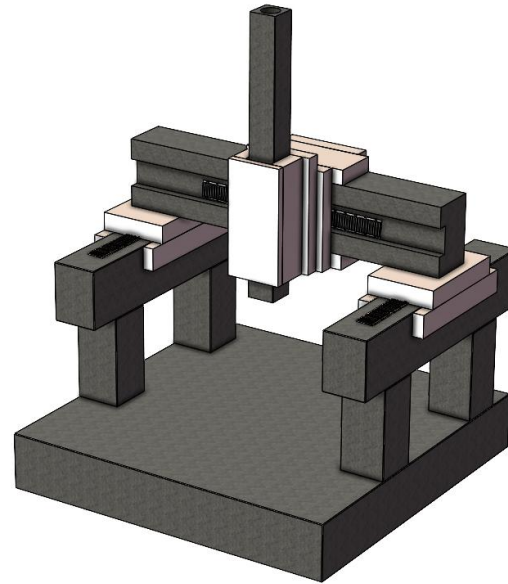
- Non-standard customized solution



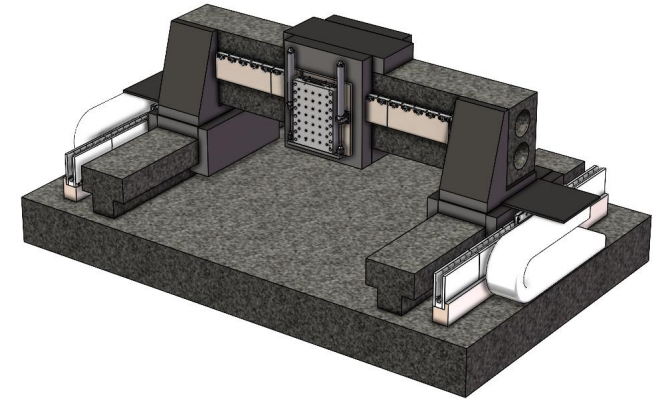
Lens Profile Scanner air bearing+non-contact detection



Small Step Altimeter
Linear Motor Stage
+non-contact detection

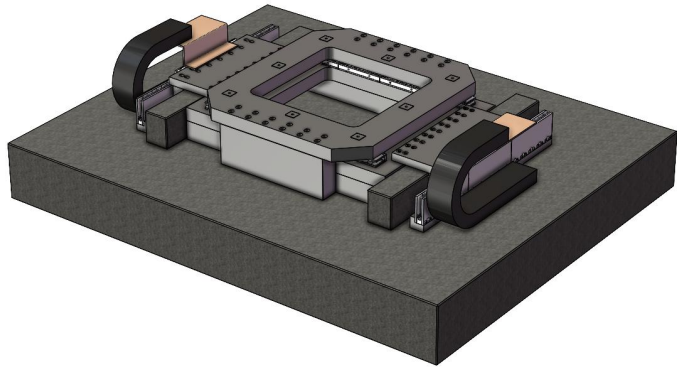


Gantry three coordinates
Air floating XYZ three-axis
gantryLinear Motor Stage

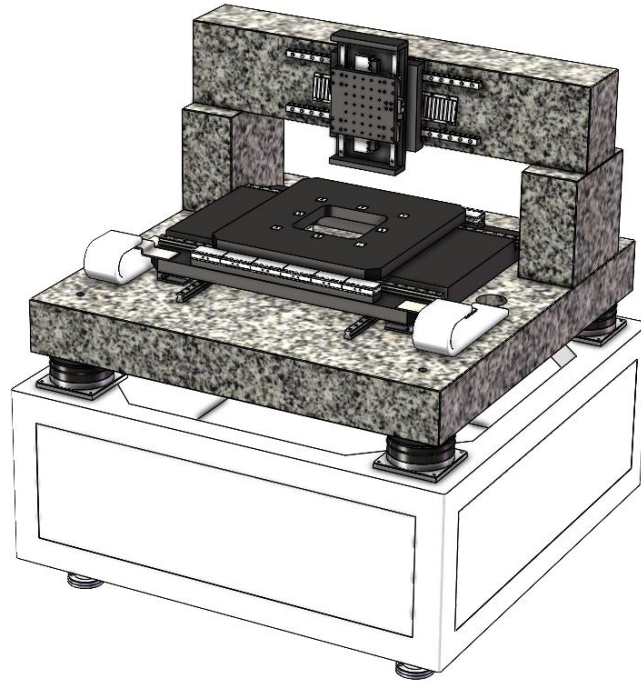


Gantry scanning platform
Air bearing XYZ three -axis
gantryLinear Motor Stage

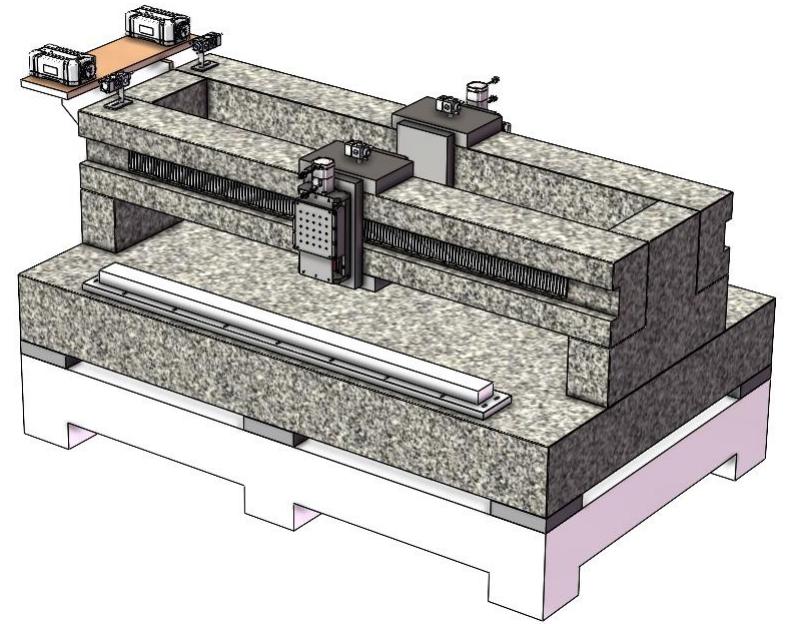
- Non-standard customized solution



Large-scale hollow air floating
gantry double drive platform
Large hollow scanning platform

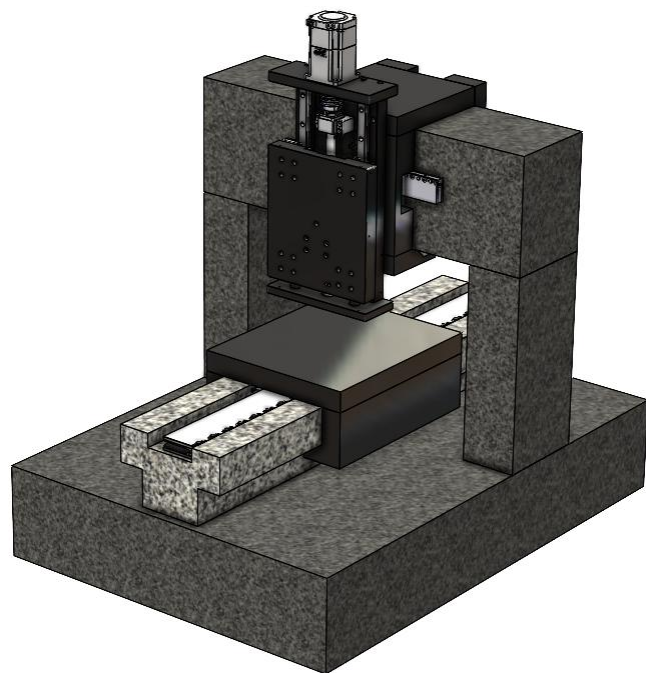


AOI upper and lower inspection
scanning platform XYZ large hollow
scanning platform

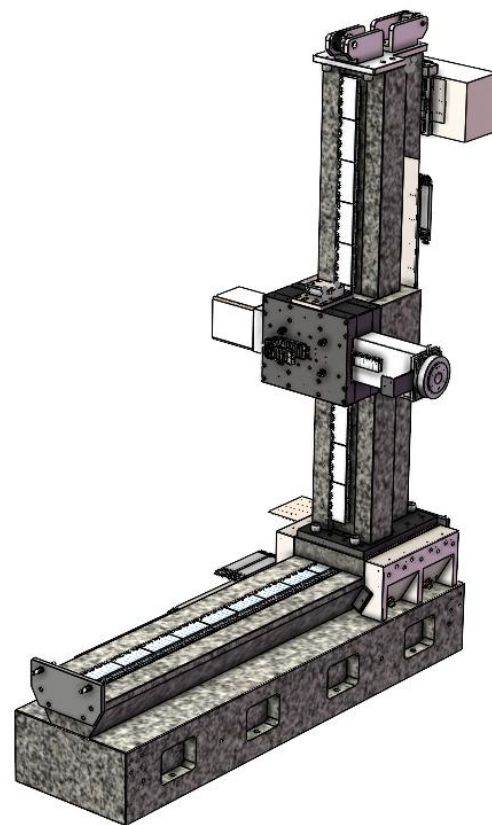


Double station grating
exposure machine
Air-floating double-station
grating direct writing
system

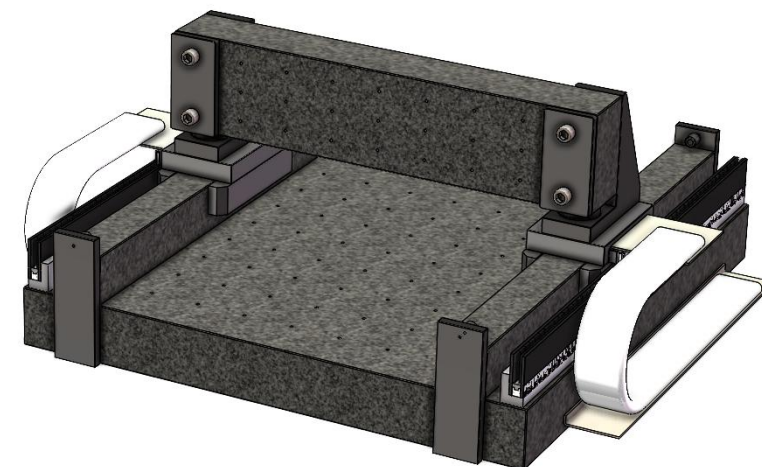
- Non-standard customized solution



High precision Gantry
scanning detection platform
Air floatation gantry
scanning system

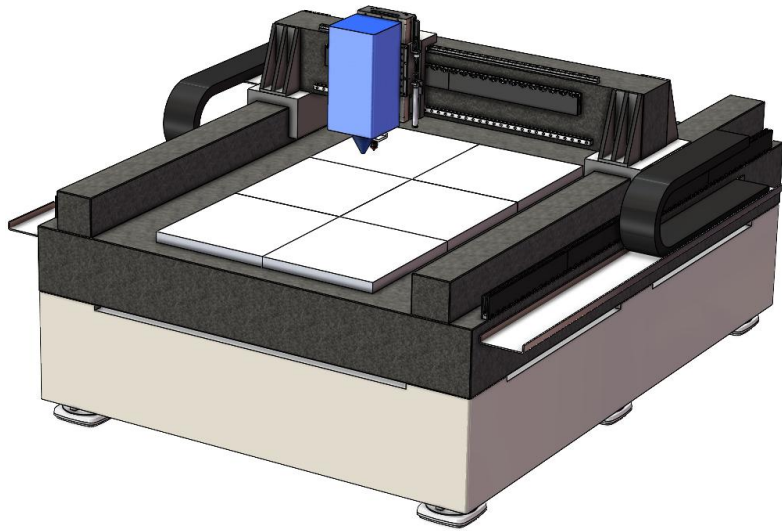


Single-arm air-floating
three-coordinate system
Air floatation XYZ three-
coordinate scanning system

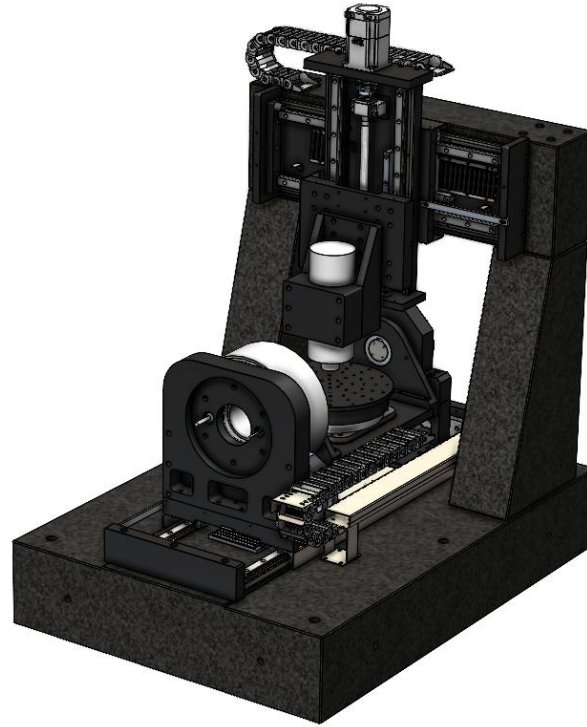


Air floating gantry double
drive platform
Air floatation XY gantry
scanning platform

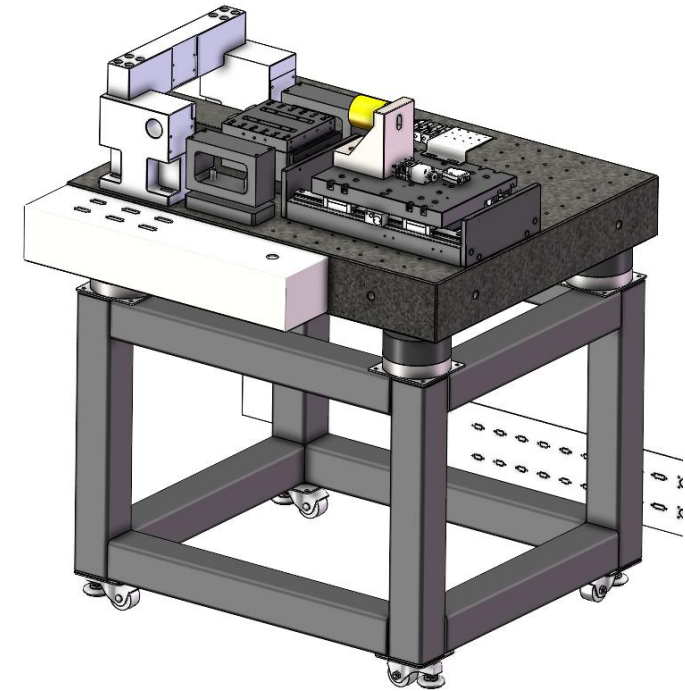
- Non-standard customized solution



Silver Paste Coating System
Air flotation XYZ three-axis
scanning coating system



Small high-precision 5-axis
machining center
Linear motor five-axis
machining center



Small Voice Coil Motor Test
Platform
Linear Motor Test System
Measuring force, thrust
fluctuation, reverse
electromotive force, speed
fluctuation, etc.