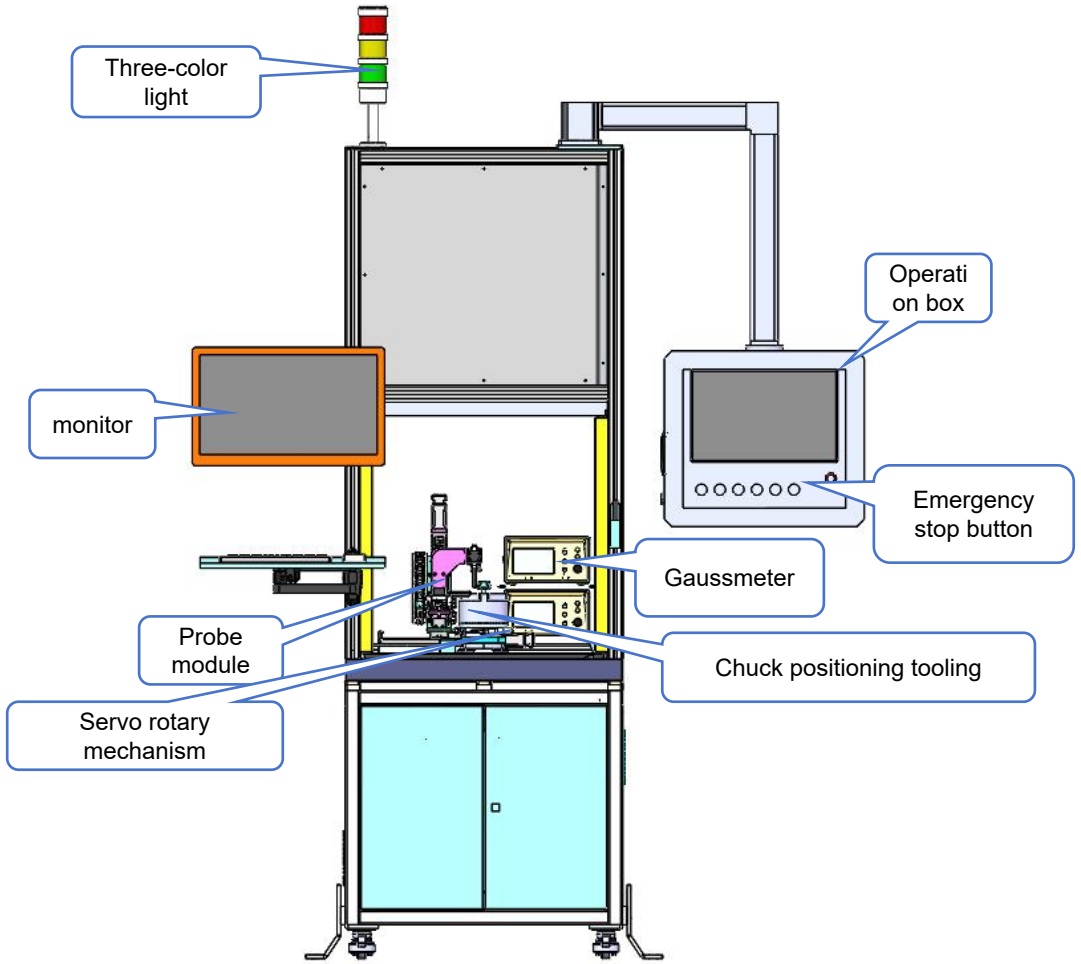
Shenzhen Magnet Laboratories Co., Ltd.

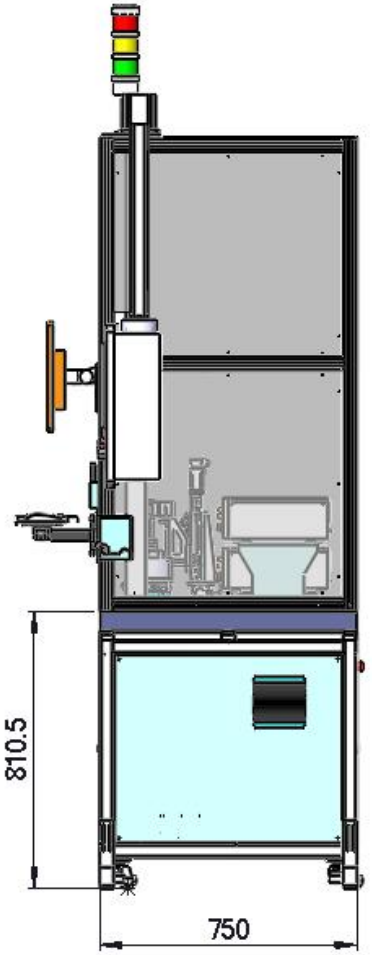
Be a pioneer in innovative magnetic processing technology

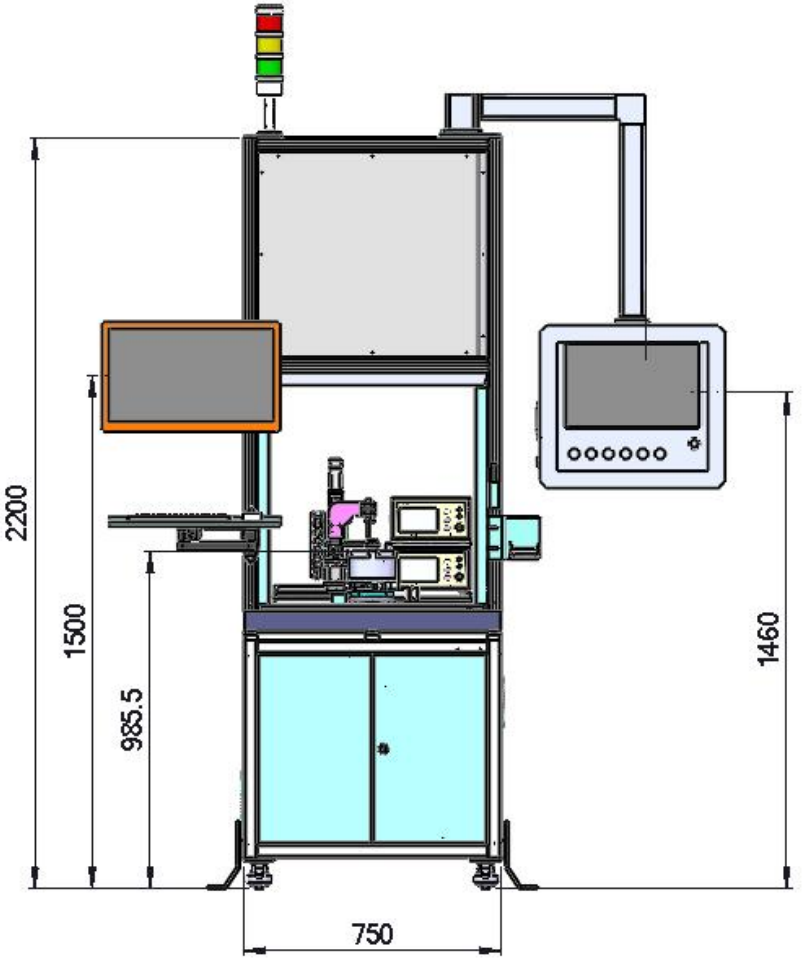
Become a leader in magnetic product application solutions

Innovative magnetic energy development technology empowers global intelligent manufacturing

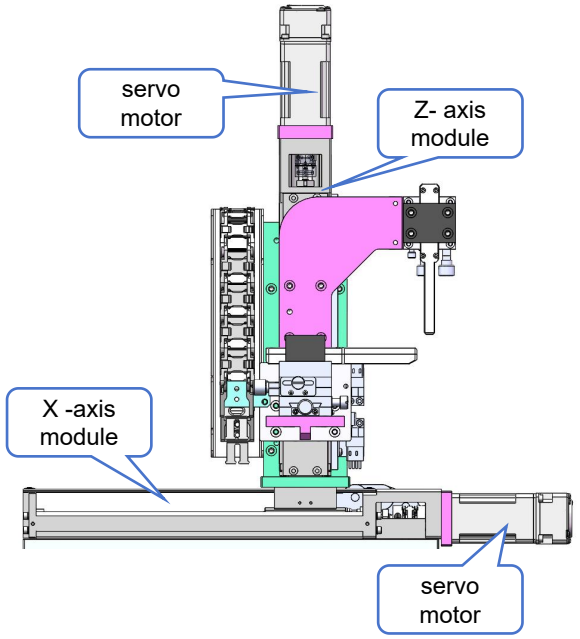
Device appearance

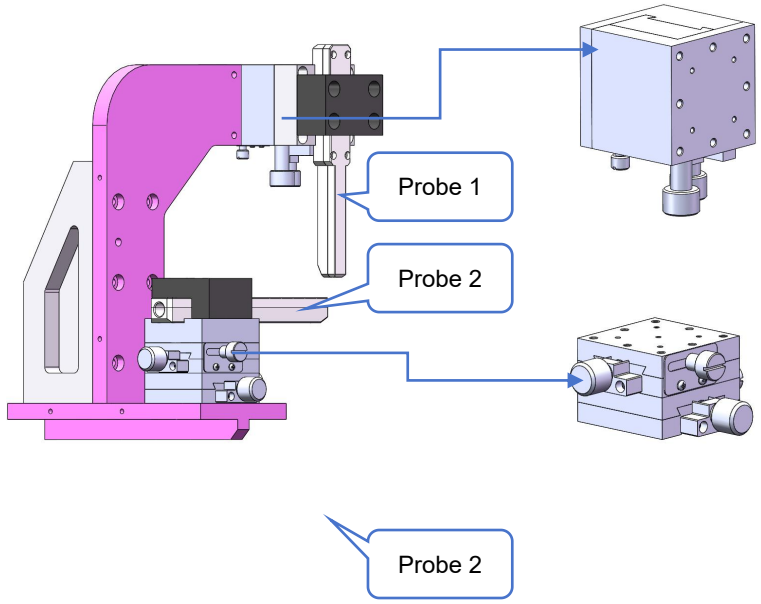






Probe module

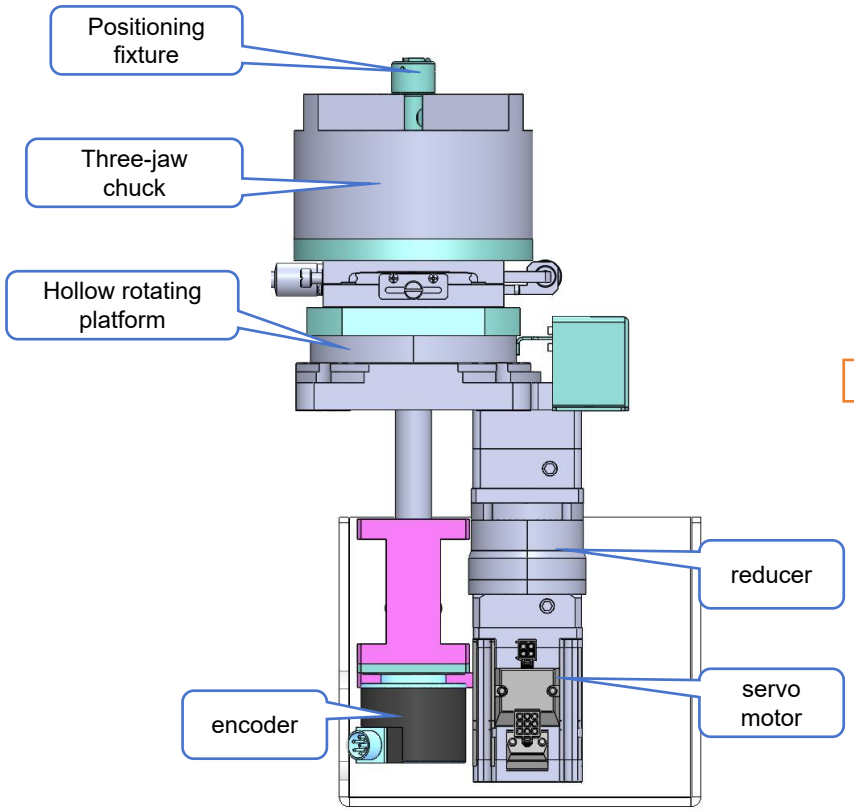


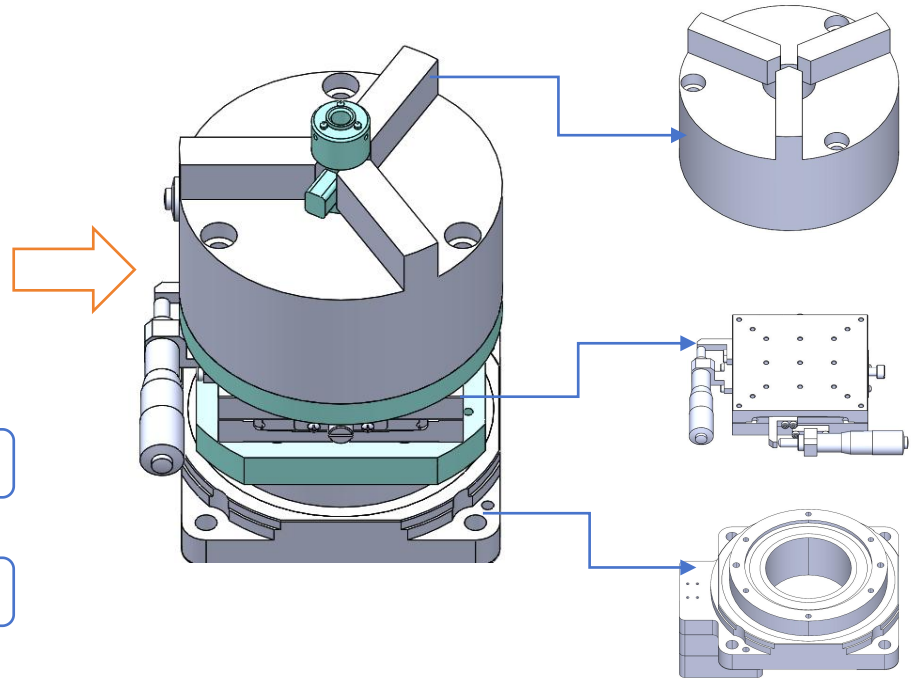


Note: Use the YZ axis translation stage to adjust the probe No. 1 up and down ,forward and backward to the correct position

Note: Use the XY axis translation stage to adjust the No. 2 probe left and right,forward and backward to the correct position

Positioning rotation mechanism



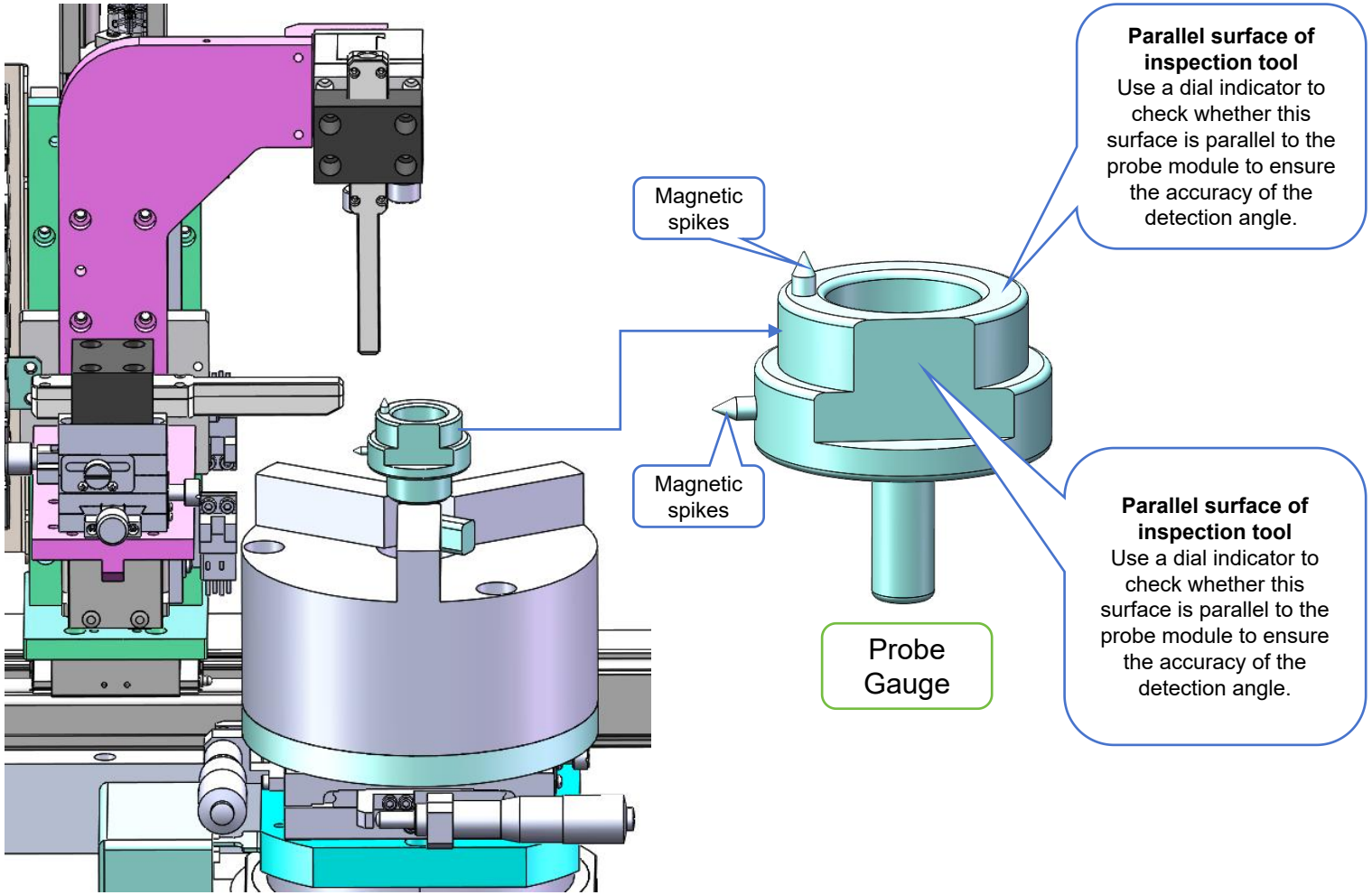


Note: The rotor fixture adopts three-jaw chuck to achieve multiple clamping to maintain concentricity and verticality requirements

Note: Use micrometer XY translation stage to ensure the concentricity between tooling and hollow rotating platform and tooling runout adjustment

Description: The hollow rotating platform is used to enable the entire clamping structure to rotate stably

Probe Gauge



Description: 1. Use magnetic testing tools to test the concentricity, parallelism and runout of the chuck structure to obtain qualified data.
2. Use magnetic spikes to test the probe and read the highest data, achieving dual-station simultaneous testing of products.

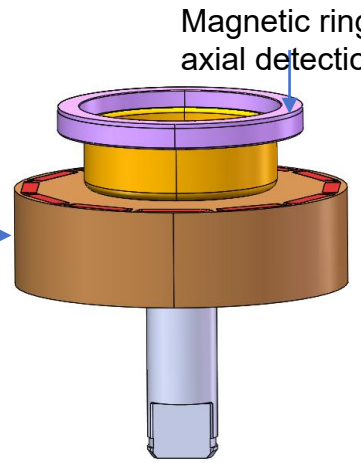
illustrate:

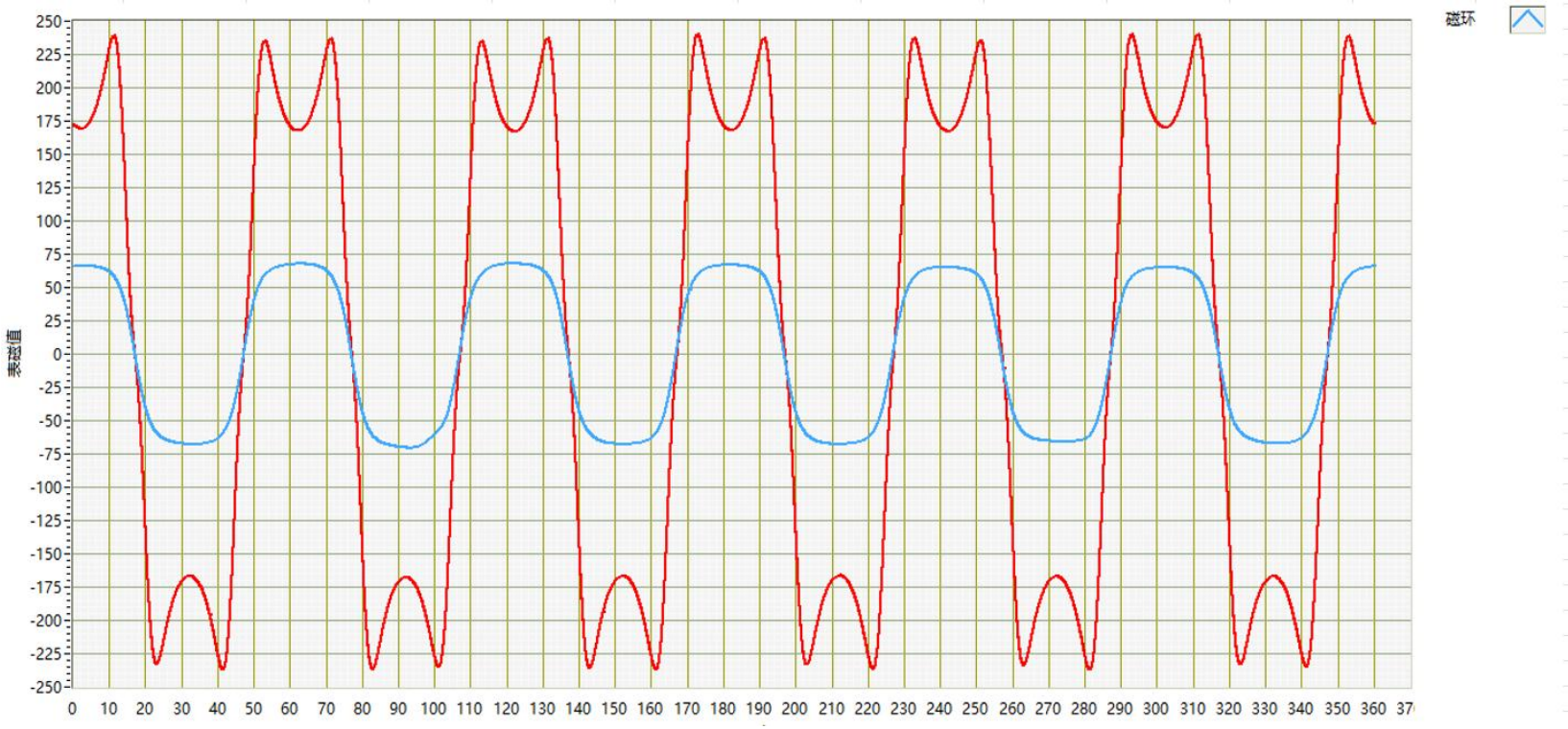
The rotor is precisely positioned on this fixture, which adopts three-point and center positioning to facilitate loading and unloading while maintaining uniform detection accuracy .

Device parameters

	project	MAS-5050-M-2S	Remark
surface magnetic Inspection Test work do tower	Input power	AC220V±5% 50/60Hz	
	Input current	< 20A	
	Rated power	< 5KW	
	Measuring range	0~10T	
	Minimum resolution	0.01mT	
	Probe repeatability accuracy (radial / axial)	±0.01mm	
	Coaxiality between rotor and fixture	≤0.05mm	Detect rotor bearing position
	Amount of collected data	36,000	
	Angular resolution	0.01°	
	Production pace	≤ 20 s	Excluding loading and unloading
	Equipment Features	1) Surface magnetic detection software processes and analyzes data 2) Dual probe detection: axial + radial 3) Touch screen debugging and monitoring 4) Polarity determination 5) Magnetic peak value, area, and angle monitoring corresponding to each layer and pole 6) Test data can be uploaded to the system 7) Measure the angle between the sensor magnetic ring magnetic field and the peripheral main rotor magnetic field	

Surface magnetic waveform curve (schematic)

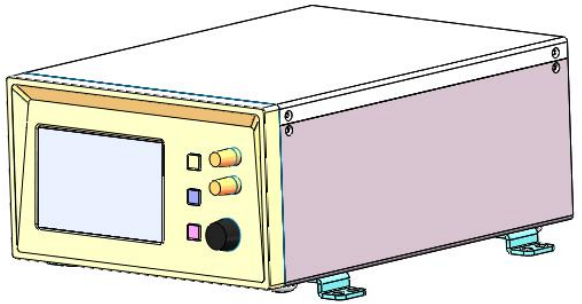




Gaussmeter

Gaussmeter TM-10A-NN			
Serial number	project	Technical Parameters	Remark
1	Measuring range	0~10T	
2	Range gear	0.1T/1T/10T	
3	Accuracy	±0.5% of range	
4	Communication interface	RS-232 , RS-485 , USB (optional)	
5	Temperature coefficient	Better than ±0.05%/℃	
6	size	Length 304mm x Width 229mm x Height 136mm	
7	weight	About 5kg	

Gaussmeter



Probe

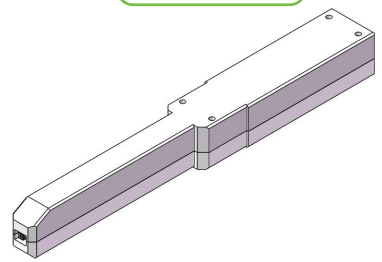


Table Magnetics Software Function Introduction

Serial number	Test items	Notes
1	Detection parameters	Standard peak value, standard area, standard angle, oblique pole angle, magnetic pole number calculation, starting polarity judgment, magnetic flux display (optional)
2	Algorithm Analysis	Maximum value, minimum value, average value, total value, center value, symmetry, etc. of single-layer core
3	Waveform display	One-dimensional curve graph, two-dimensional plane graph, three-dimensional stereogram
4	Software Features	Compatible with rotor testing for various project models; parameter configurations such as starting pole type, number of poles, number of stacks, probe detection distance, and project number can be set; judgment criteria can be imported in multiple ways, such as one-click import based on actual measured data of standard parts, or by user-specified standards; supports dual-channel simultaneous detection mode and test result status query; waveform graphs are highly controllable, with the ability to hide and display waveform curves of each layer at will, and multiple layers of curves can be displayed simultaneously for comparison; and provides multiple data correction methods for basic parameters such as peak value, area, and pole misalignment angle;
5	Test report	The data is stored in a local path in a table format. The data storage path can be configured to specify a folder path (the default is drive D).
6	MES data interaction	Data can be stored in MES data through PLC , MySQL , FTP , Oracle and other database methods ;

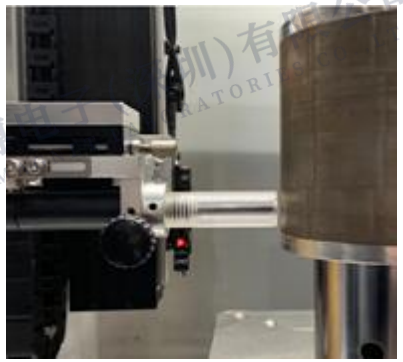
Surface magnetic detection

Surface magnetic detection principle

The Teslameter probe is moved to the specified position through the multi-axis module, and the measured rotor is driven by the motor to perform uniform circular motion. The rotor surface magnetic field measured by the Teslameter probe is digitally processed by the Teslameter and transmitted to the computer. The computer-specific magnetic detection software corresponds the magnetic detection data and the rotation angle to 36,000 points /360 °, scans the magnetic distribution of the entire circle of the rotor at a specified height, and then moves the Teslameter probe to the specified position of the next layer to repeat the measurement and complete it. The surface magnetic distribution software processes the data and compares the upper and lower limits of the specified parameters (magnetic pole peak value, magnetic pole area, magnetic pole angle) to generate a measurement report and judge the detection result to output an OK or NG signal. The detection is displayed as a 2D waveform using a one-dimensional Hall probe.

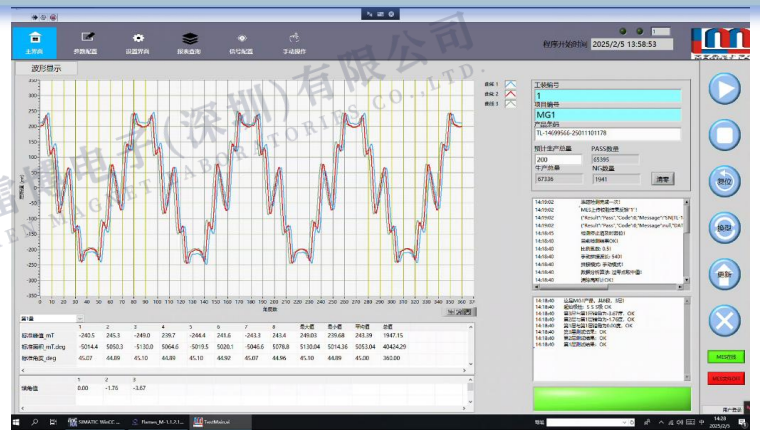
Detection probe + Gaussmeter

Scan the rotor layer by layer



Industrial computer + software analysis

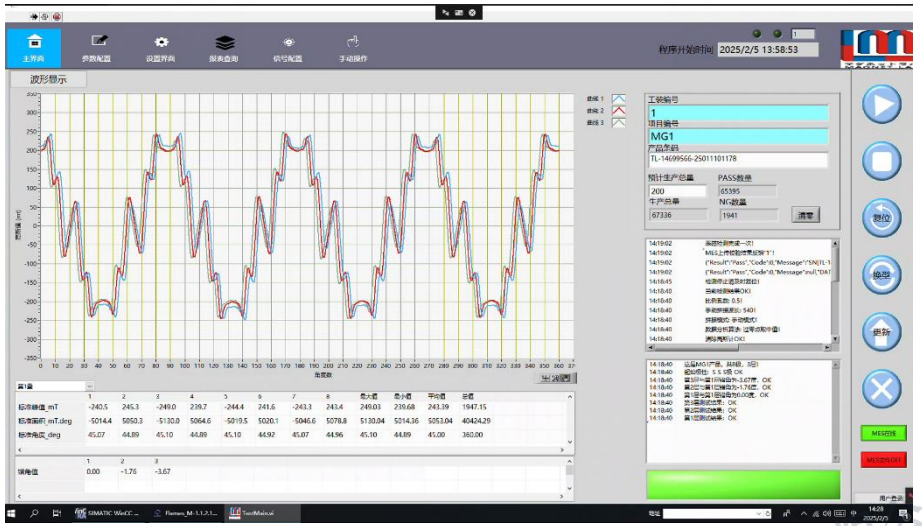
Surface magnetic test results



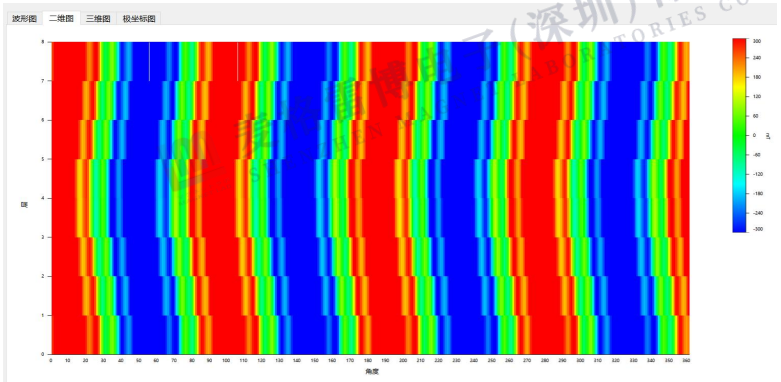
Surface magnetic detection

Surface magnetic detection parameters

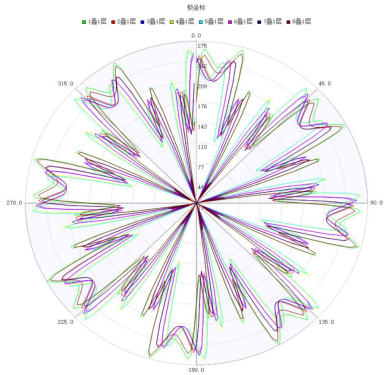
- Peak
- area
- Magnetic pole angle
- Magnetic field misalignment angle
- FFT analysis



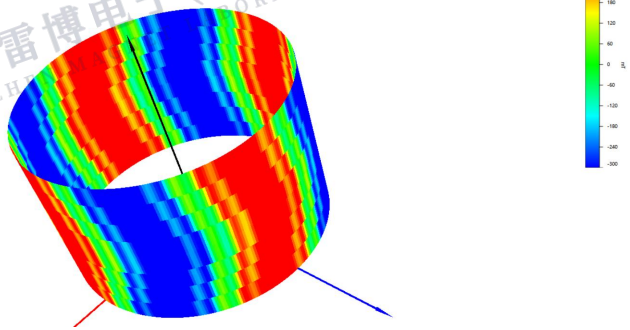
2D waveform graph



Flat 2D cloud map



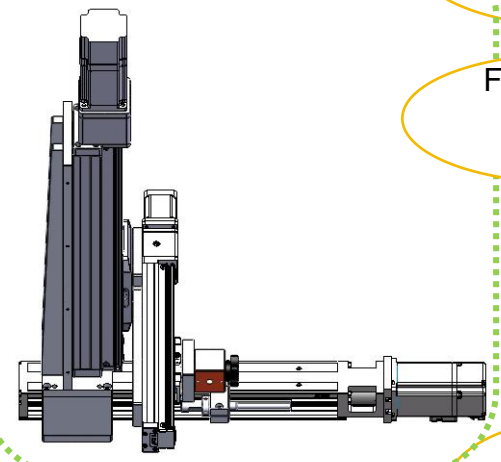
Polar Plot

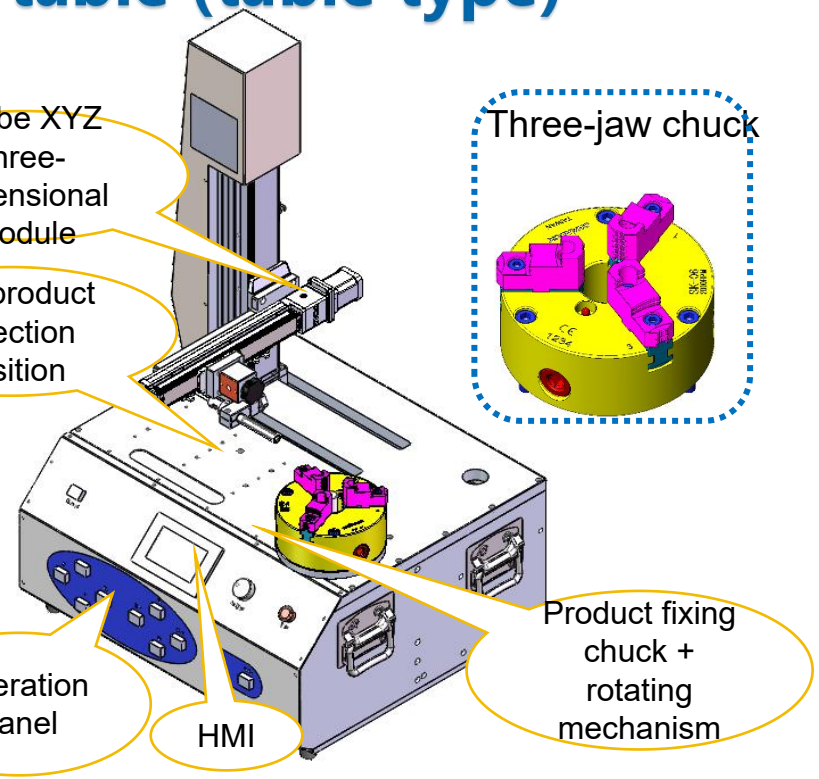


3D cloud map

Small magnetic table (table type)

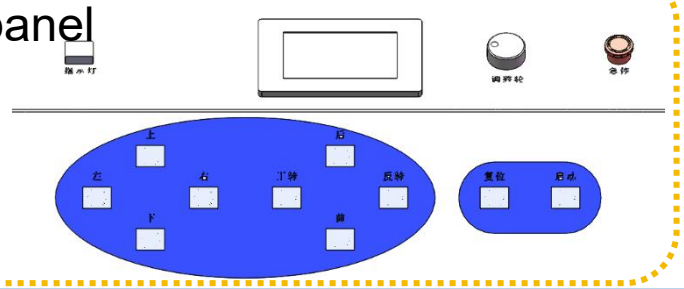
Probe module

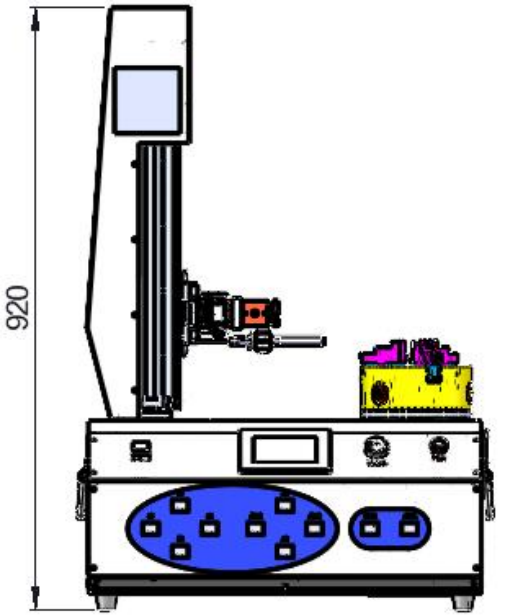


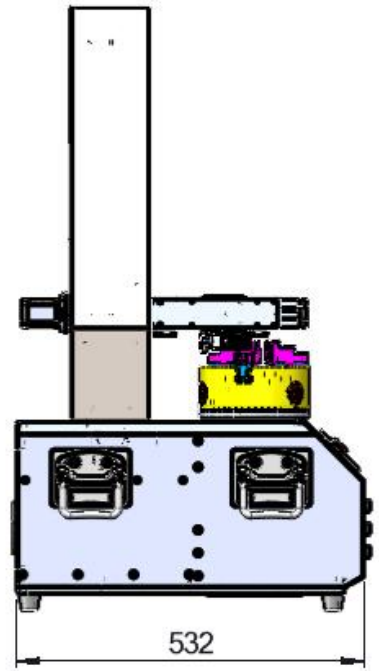


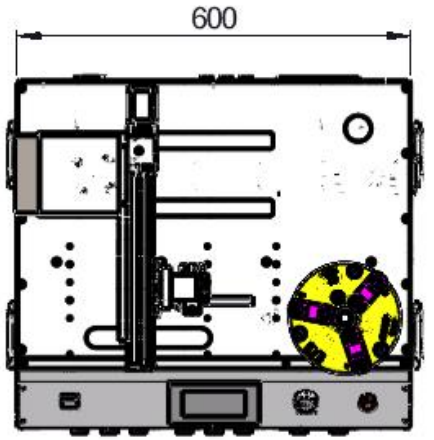
Three-jaw chuck

Operation panel





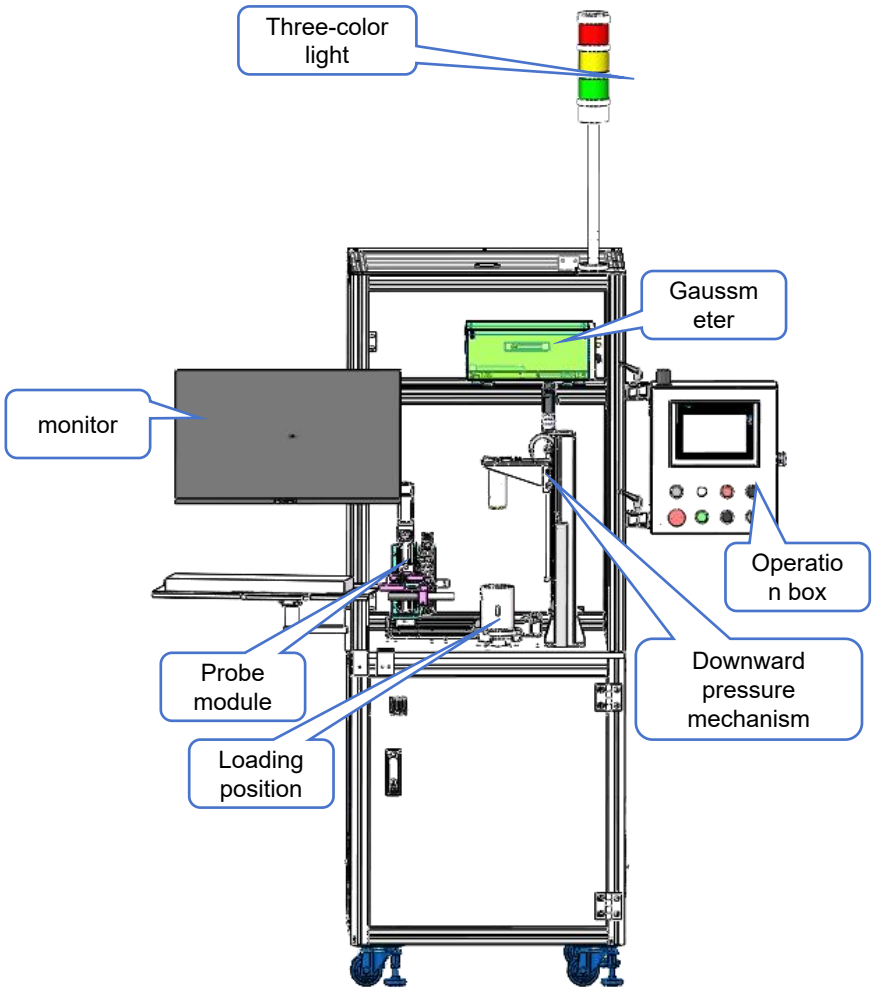


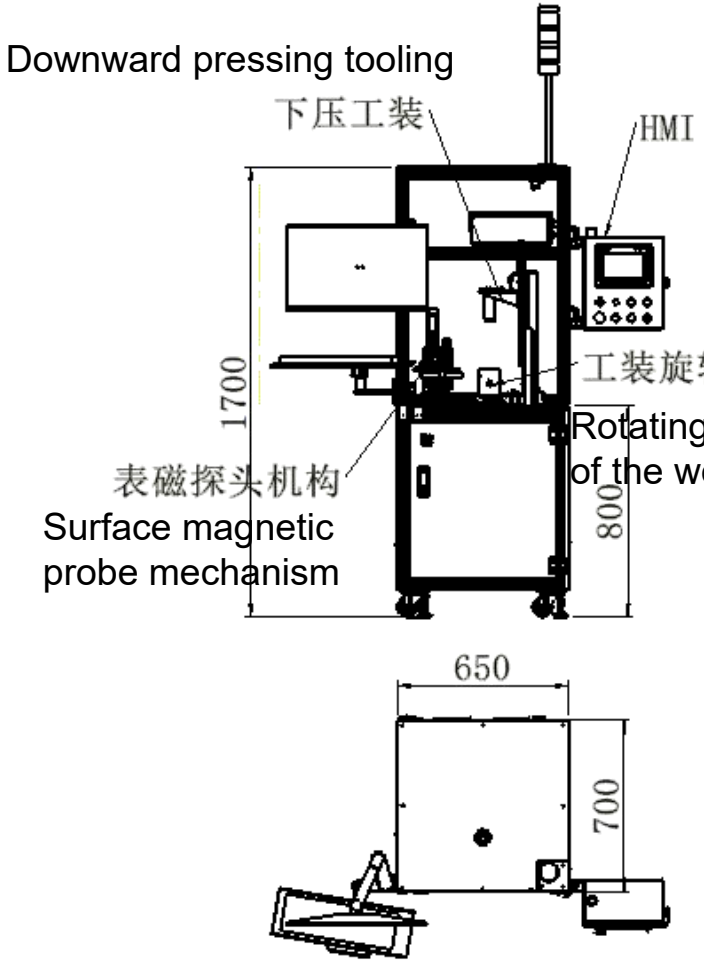


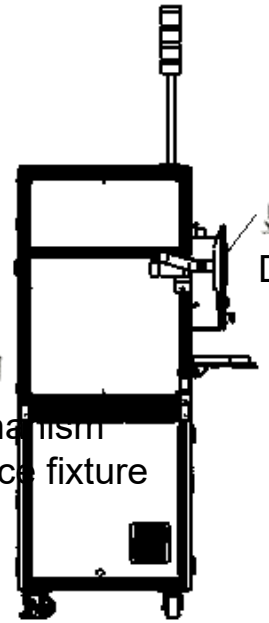
Small table magnetic table (table type) parameters

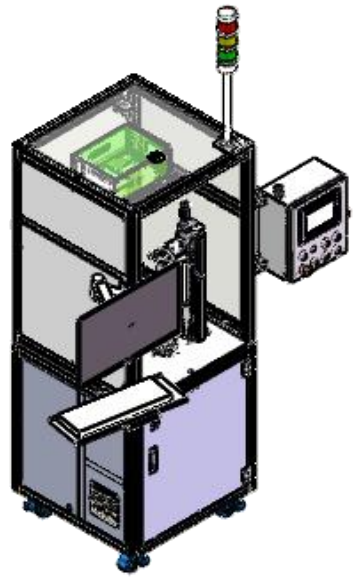
project	Small magnetic table (table type) MAS-CB-DS-01A	Remark
Input power	AC220V±5% 50/60Hz	
Input current	< 20A	
Rated power	< 2KW	
Detection beat	Round products ≤ 8s/ layer, flat / straight products ≤ 10mm/s (speed adjustable)	
Positioning accuracy	XYZ axis repeat positioning accuracy ≤ ±0.02mm ; rotation axis positioning accuracy ≤ ±0.05mm	
Detecting repeatability errors	± 1% ± 0.5mT	
Compatibility	rotor core is ≤ 150mm , the shaft length of the chuck clamping side is max 65mm , Chuck clamping side shaft diameter: 20~50mm , detection height: max 180mm Flat / linear products: 100mm long , 40mm wide , 1.5-30mm high , weight ≤ 20KG	
Chuck clamping range	Clamping side shaft diameter φ 8-90mm , shaft length 10-65mm	
Amount of collected data	10000/36000	
Equipment noise	≤ 75dB	
Device body color	RAL7035	
Detection beat	4~6s/ layer	
size	Width, depth and height (mm): 600*530*920	
weight	About 100Kg	
Main Features	1) Can display FFT , two-dimensional data graph, parameter data analysis chart 2) can be fitted based on the measured radial / tangential magnetic field , the measured waveform can be Fourier decomposed, and the magnetic field near the magnet can be scanned to generate a 3D waveform. 3) Calculate its zero crossing point, peak value, area, angle, slant polarity angle, torsion angle, and plane angle data, and perform FFT/THD analysis on the data to obtain the spectrum data graph 4) The motion control card controls the XYZU four-axis motion and obtains its position feedback 5) Motion control module provides manual control function 6) Provides functions such as software language pack, version management, log printing, and operating condition detection	

Small magnetic detection equipment (floor-standing type)









Small magnetic detection equipment (floor type) parameters

Small Magnetic Detection Equipment MAS-100100-M		
project	Technical Parameters	Remark
Input power	AC220V±5% 50/60Hz	
Input current	< 20A	
Rated power **Equipment noise**	< 5KW ≤ 75 dB	Except the moment of magnetization
Device color	RAL7035	Customizable
Aluminum profile groove sealing strip color	Hard black	Customizable
Detection beat	4~6 s/ layer	
Equipment size	Length, width and height: 650×700×1800mm	
Compatibility	Product outer diameter: 20-100mm Core height: 20-100mm Product total length: 50-350mm	
Repeatability detection accuracy	Magnetic pole area: ±1% ; Magnetic pole peak: ±1% Misalignment angle: ±0.1° ; Magnetic pole angle: ±1°	
Changeover time	≤10min	Workwear
Equipment Features	1) Mutually exclusive design to prevent misoperation 2) Touch screen debugging and monitoring 3) With physical position detection origin 4) Surface magnetic detection software processes and analyzes data 5) Touch screen debugging and monitoring 6) Polarity determination 7) The test data can be uploaded to the system .	