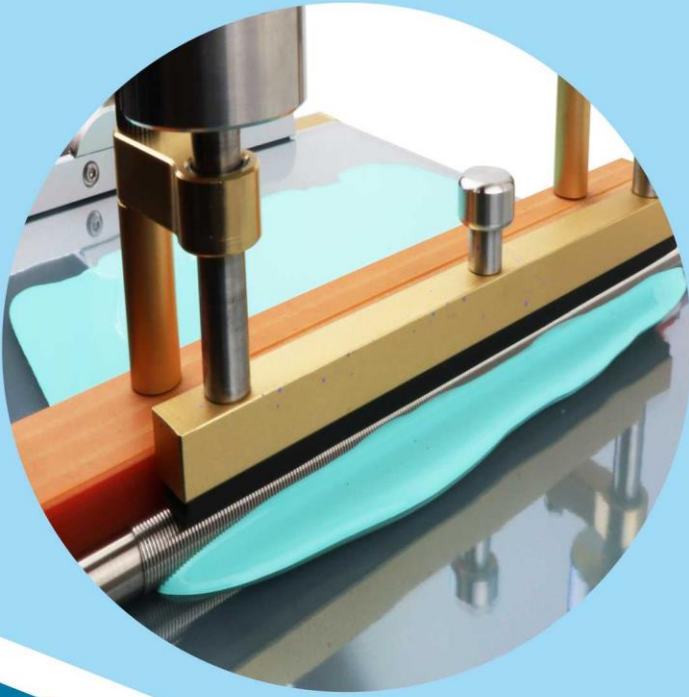




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Film Application Solution

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1. Mini Automatic Film Applicator



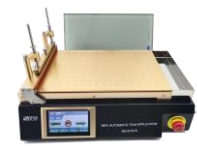
1) Introduction

The BEVS 1818 Mini Automatic Film Applicator is an ideal machine for preparing a wide variety of product samples including paint, varnish, cosmetics and glue on substrates. Its special structure ensures the application smooth without the ridges which happens during the film application.

2) Feature

- Touch screen, easy control
- With weights which added to ensure pressure
- Compatible with wide range of small film applicators
- With anti-dripping pan
- With clamp to ensure substrate fixed firmly
- Vacuum adjustable
- Special design to minimize vibration
- Beds changeable

3) Technical info

Model		BEVS 1818G/V/GV	BEVS 1818S	BEVS 1818H
Speed		1~200mm/s	1~200mm/s	1~200mm/s
Stroke		250mm	240mm	250mm
Resolution		1mm/s	1mm/s	1mm/s
Substrate size		330×220mm	330×220mm	330×220mm
Platform/Bed		Glass/vacuum, changeable	Glass Not changeable	Heated vacuum Ambient +5 to 150°C Not changeable
Bar Coater	Dia.	8~18mm	8~18mm	8~18mm
	Film width	200mm	200mm	200mm
Machine size		435×290×185mm	435×290×185mm	480×340×300mm
Standard		ASTM D823	ASTM D823	ASTM D823
Power supply		110/220V, 50/60Hz		
Power		<100W	<100W	900W
N. W.		17Kg	15Kg	23Kg
				
BEVS 1818G		BEVS 1818V	BEVS 1818GV	BEVS 1818H

4) Order info

BEVS 1818S Mini Automatic Film Applicator with glass bed, not changeable

BEVS 1818G Mini Automatic Film Applicator with glass bed

BEVS 1818V Mini Automatic Film Applicator with vacuum bed, including an external pump

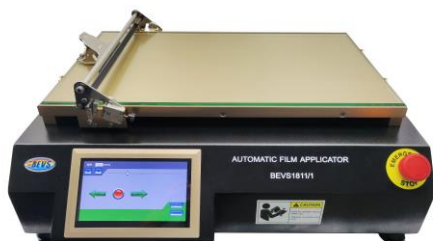
BEVS 1818GV Mini Automatic Film Applicator with glass and vacuum bed, including an external pump

BEVS 1818H Mini Automatic Film Applicator with heated vacuum bed, not changeable, including an external pump

5) Compatible with small film applicator

				
Single Sided Applicator	Two Sided Applicator	Four Sided Applicator	Cube Applicator	Adjustable Applicator
				
Eight Sided Applicator	Four Sided Applicator With Reservoir	Sagging Applicator	Levelling Applicator	Bar Coater

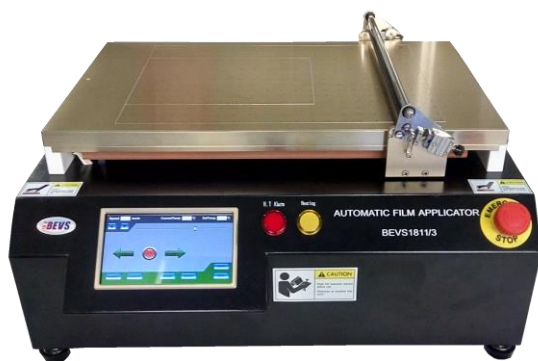
2. Automatic Film Applicator



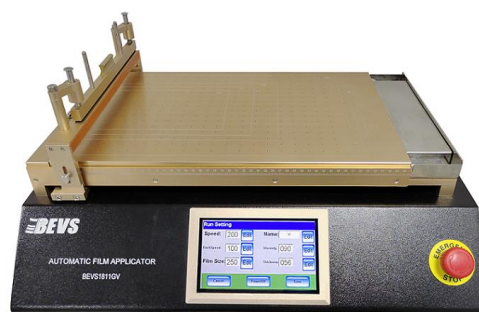
BEVS 1811/1



BEVS 1811/2



BEVS 1811/3



BEVS 1811GV

1) Introduction

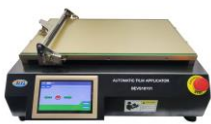
The BEVS 1811 Automatic Film Applicator is an ideal machine for preparing a wide variety of product samples including paint, varnish, cosmetics and glue on substrates. Its special structure ensures the application smooth without the ridges which happens during the film application.

2) Feature

- LCD touch screen, easy control
- Compatible with wide range of small film applicators
- With clamp to ensure substrate fixed firmly
- For big size substrate

3) Technical info

Model		BEVS 1811/1	BEVS 1811/2	BEVS 1811/3	BEVS 1811GV
Standard speed		50~300mm/s	50~300mm/s	50~300mm/s	1~350mm/s
Optional speed		10~140mm/s, pls mention it if needed			— —
Stroke		380mm	380mm	380mm	455mm
Resolution		1mm/s	1mm/s	1mm/s	1mm/s
Substrate size		420×300mm	420×300mm	420×300mm	500×330mm
Platform/Bed		Glass	Vacuum	Heated vacuum	Glass and vacuum, Changeable
Heating		— —	— —	Yes	— —
Temp. range		— —	— —	Ambient +5 to 150°C	— —
Temp. accuracy		— —	— —	±2°C	— —
Temp. uniformity		— —	— —	±5°C	— —
Bar Coater	Dia.	10~13mm	10~13mm	10~13mm	10~13mm
	Film width	320mm	320mm	320mm	320mm
Bar coater fixing unit		Yes			No
Standard		ASTM D823	ASTM D823	ASTM D823	ASTM D823

Power supply	110/220V, 50/60Hz			
Power	<100W	<100W	<2000W	<100W
				
BEVS 1811/1	BEVS 1811/2	BEVS 1811/3	BEVS 1811GV	

4) Order info

BEVS 1811/1 Automatic Film Applicator with glass bed
BEVS 1811/2 Automatic Film Applicator with vacuum bed, pump built in
BEVS 1811/3 Automatic Film Applicator with heated vacuum bed, pump built in
BEVS 1811GV Automatic Film Applicator with glass and vacuum bed, pump built in

5) Compatible with small film applicator

				
Single Sided Applicator	Two Sided Applicator	Four Sided Applicator	Cube Applicator	Adjustable Applicator
				
Eight Sided Applicator	Four Sided Applicator With Reservoir	Sagging Applicator	Levelling Applicator	Bar Coater

3. BEVS 1818 series and BEVS 1811 series comparison

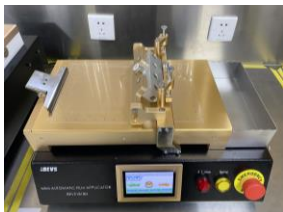
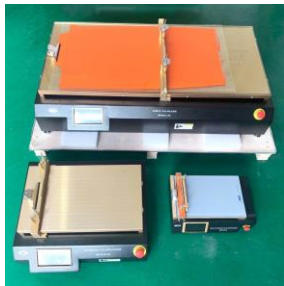
■ Standard comes with

□ Optional

○ Certificate

Model	Substrate Clamp	Glass bed	Vacuum bed	Adjustable vacuum	Heating	Stroke scale	Bar Coater Fixing Unit	Weight-added Fixing Unit	Film size	Placed in Glove box	Placed in fume hood	Certificate
BEVS 1811/1	■	■					■	□	A3		■	○
BEVS 1811/2	■		■	□			■	□	A3		■	○
BEVS 1811/3	■		■	□	■		■	□	A3		■	○
BEVS 1811GV	■	■	■	□		■		■	>A3			○
BEVS 1818S	■	■						■	A4	■	■	○
BEVS 1818G	■	■		■				■	A4	■	■	○
BEVS 1818V	■		■	■				■	A4	■	■	○
BEVS 1818GV	■	■	■	■				■	A4	■	■	○
BEVS 1818H	■		■	■	■			■	A4	■	■	○

4. Customized option

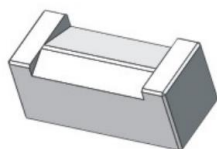
① Install air knife	② Install a vacuum gauge	③ Custom vacuum bed	④ Other size
			

5. Manual film applicator

1) Single Sided Applicator



BEVS 1801



BEVS1808



Introduction

The applicator is made of high grade stainless steel and is easy to clean, both models can be used with automatic film applicator. Model 1808 has two different inlet slopes which makes the test samples range wider and the test results are more ideal.

Technical parameter

- High-grade stainless steel, wear-resistant
- Available in two film widths: 50 and 75 mm
- Available in six film thicknesses: 50, 75, 100, 125, 150, 200μm

Ordering information

Order model	Film width (mm)	Thickness (μm)
BEVS 1801/50/50	50	50
BEVS 1801/50/75		75
BEVS 1801/50/100		100
BEVS 1801/50/125		125
BEVS 1801/50/150		150
BEVS 1801/50/200		200
BEVS 1801/75/50	75	50
BEVS 1801/75/75		75

BEVS 1801/75/100		100
BEVS 1801/75/125		125
BEVS 1801/75/150		150
BEVS 1801/75/200		200
BEVS 1808/50/1	50	50
BEVS 1808/75/1	75	100

- Different widths and gaps can be customized according to requirements

2) Two Sided Applicator



BEVS 1802

Product description

The applicator is made of high grade stainless steel, the C shaped design makes the sample gather to avoid leaking on the test panel. It can also be used on automatic film applicator.

Technical parameter

- High-grade stainless steel, wear-resistant
- C-shaped design is convenient for drawdown
- Overall length: 90mm

Ordering information

Order model	Film width (mm)	Thickness (μm)
BEVS 1802/1	80	25, 50
BEVS 1802/2	80	75, 100

BEVS 1802/3	80	150, 200
BEVS 1802/4	80	300, 400

■ Different widths and gaps can be customized according to requirements

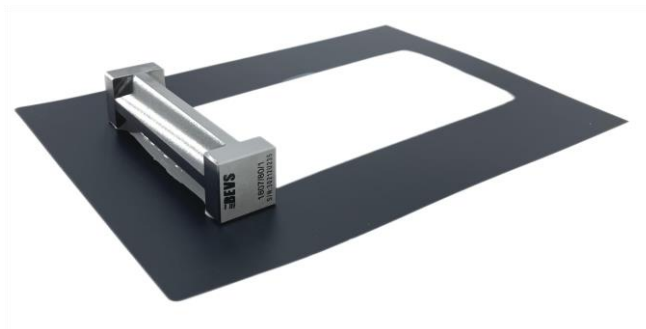
3) Four Sided Applicator



BEVS 1803



BEVS 1807



Product description

The applicator is made of high grade stainless steel and is easy to clean. Four gaps in one applicator makes it more suitable for the lab.

Technical parameter

- High-grade stainless steel wear-resistant material
- Film width: 60 mm or 80 mm
- 4 kinds of gaps, just rotate 90 degrees to use another gap
- Dimensions: 120×15×25.5 mm

Ordering information

Order model	Film width (mm)	Thickness (μm)
BEVS 1803/60/1	60	30, 60, 90, 120

BEVS 1803/60/2	60	50, 100, 150, 200
BEVS 1803/60/3	60	100, 200, 300, 400
BEVS 1803/60/4	60	300, 400, 500, 600
BEVS 1803/60/5	60	5, 10, 15, 20
BEVS 1803/60/6	60	25, 50, 75, 100
BEVS 1803/80/1	80	30, 60, 90, 120
BEVS 1803/80/2	80	50, 100, 150, 200
BEVS 1803/80/3	80	100, 200, 300, 400
BEVS 1803/80/4	80	300, 400, 500, 600
BEVS 1803/80/5	80	5, 10, 15, 20
BEVS 1803/80/6	80	25, 50, 75, 100
BEVS 1807/80/1	80	30, 60, 90, 120

■ Different widths and gaps can be customized according to requirements

4) Cube Applicator



Product description

The item is made of high grade stainless steel with special design which makes the film with high repeatability and easily compare with different samples. It is especially suitable for drying time recorder and min. film forming temperature instrument sample preparation.

Technical parameter

- High-grade stainless steel wear-resistant material
- Each applicator is available in two thicknesses
- Especially suitable for sample preparation of drying time recorders

Ordering information

Order model	Film width (mm)	Thickness (μm)
BEVS 1805/1	16	37, 75
BEVS 1805/2	41	50, 100
BEVS 1805/3	16	50, 100

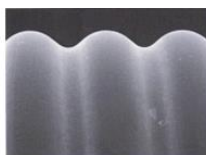
- Different widths and gaps can be customized according to requirements

5) Bar Coater

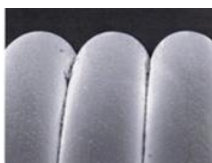


Introduction

BEVS bar coater adopts cold extrusion processing technology to process concave and convex wavy curves on the surface of the steel rod, so as to achieve better coating. It can reach the min. thickness of $4\mu\text{m}$.



The groove



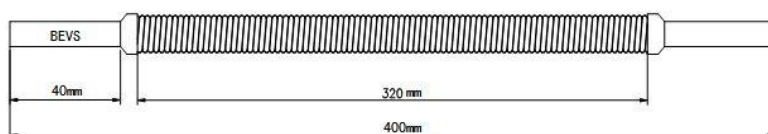
Other wire wrapped bar

Feature

- Not peel off
- Easy to clean
- Apply to 4μm

Specification

- High grade of stainless steel, Ø10mm
- Film Width: 200 Or 320mm
- Overall Length: 240 or 400mm



Order information

Order model	Film width (mm)	Thickness (μm)
BEVS 200/4...200	200	4, 6, 8, 10, 12, 15, 20, 25, 30, 40, 50, 60, 70, 80, 100, 120, 150, 200
BEVS 320/4...200	320	4, 6, 8, 10, 12, 15, 20, 25, 30, 40, 50, 60, 70, 80, 100, 120, 150, 200

Please specific the thickness while order.

Principle and use

If a very thin coating is required, it is recommended to use bar coater. The coating flows through the recesses between the wire rods, and then flows to produce thin coating.

Due to the volatilization of solvent, the dry film thickness of a coating is often less than its wet film thickness. Similarly, due to different physical characteristics, the wet film thickness is always smaller than the depth of the coating groove. The operator can learn an approximate coating thickness from the combination of specific coating, coating machine and coating method through practical experience. Knowledge of the coating composition enables the operator to know how to obtain the desired dry film thickness.

$$\text{Dry Film Thickness} = \frac{\text{Wet Film Thickness} \times \text{Solid content \%}}{100}$$

Groove Depth		Approx. Wet Film Thickness
mil	µm	
1-4	15-100	50% Groove Depth
5-12	101-300	60% Groove Depth
13-20	301-500	80% Groove Depth
>20	>500	90% Groove Depth

Handle



Order Information

BEVS 200/S	For BEVS 200 Bar Coater series only
------------	-------------------------------------

6) Adjustable Applicator

Model A With diversion baffle



Model B Without diversion baffle



Introduction

The adjustable applicator can make different thickness film by adjusting the two micrometers on top to lift up and down the scraper. The high-precision micrometer is in increments of 10µm.

Specification

- Made of stainless steel with high wear resistance
- Film Width: 50/100/150/200/250/300mm
- Accuracy: $\pm 2\mu\text{m}$
- Film Thickness Range: 0-3500 μm
- In 10 μm increments

BEVS 1806A With diversion baffle

- Diversion baffle make the operation more convenient.
- Smart magnetic design for quick cleaning after use.

Order Information

Name	Model	Film Width (mm)	Other
Adjustable Applicator	BEVS 1806A/50	50	With diversion baffle
	BEVS 1806A/100	100	
	BEVS 1806A/150	150	
	BEVS 1806A/200	200	
	BEVS 1806A/250	250	
	BEVS 1806A/300	300	

BEVS 1806B Without diversion baffle

- Smart magnetically design for quick cleaning after use.

Order Information

Name	Model	Film Width mm	Other
Adjustable Applicator	BEVS 1806B/50	50	Without diversion baffle
	BEVS 1806B/100	100	
	BEVS 1806B/150	150	
	BEVS 1806B/200	200	
	BEVS 1806B/250	250	
	BEVS 1806B/300	300	

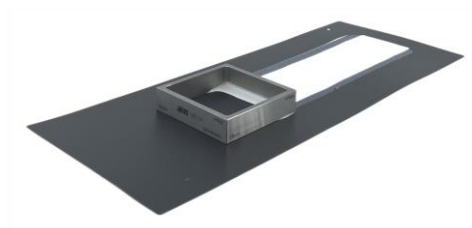
BEVS 1806E/F Digital Adjustable Applicator



Order Information

Name	Model	Film Thickness (mm)	Other
Digital Adjustable Applicator	BEVS 1806F/100	100	Without diversion baffle
	BEVS 1806F/150	150	
	BEVS 1806F/200	200	
	BEVS 1806F/250	250	
	BEVS 1806F/300	300	
	BEVS 1806E/100	100	With diversion baffle
	BEVS 1806E/150	150	
	BEVS 1806E/200	200	
	BEVS 1806E/250	250	
	BEVS 1806E/300	300	

7) Eight Sided Applicator



Introduction

The applicator is made of high grade stainless steel and is easy to clean. Eight gaps in one applicator makes it meet various demands.

Specification

- Made of high-grade stainless steel
- Film Width: 60mm
- Eight film thickness

Order Information

Model	Film Width (mm)	Thickness (μm)
BEVS 1817/1	60	25, 50, 75, 100, 125, 150, 175, 200

8) Four Sided Applicator With Reservoir



Order Information

Model	Film Width (mm)	Thickness (μm)
BEVS 1819/60/1	60	30, 60, 90, 120
BEVS 1819/60/2	60	50, 100, 150, 200
BEVS 1819/80/1	80	100, 200, 300, 400
BEVS 1819/80/2	80	300, 400, 500, 600

Customized is available upon request

9) Levelling Applicator



Introduction

The item is used to determine the flow of the paint in the 2D state when the wet film is placed in the horizontal state, so as to select an appropriate painting state by controlling the physical properties of the paint.

Specification

- ◆ Made of high-grade stainless steel
- ◆ 5 pairs of coating stripes with increased thickness

Order Information

Model	Name	Thickness Range μm
BEVS 1810/1	Levelling Applicator	100-200-300-500-1000
BEVS 1810/2	Levelling Applicator	250-500-1000-2000-4000

Customized is available upon request

10) Sagging Applicator



Introduction

Sagging Applicator is used for sagging resistance evaluation. Viscosity, fineness, thickness are major factors of sagging.

Specification

- ◆ Made of high-grade stainless steel
- ◆ 10 different films incremented by $25\mu\text{m}$
- ◆ Wet film width 6mm, spacing 1.5mm

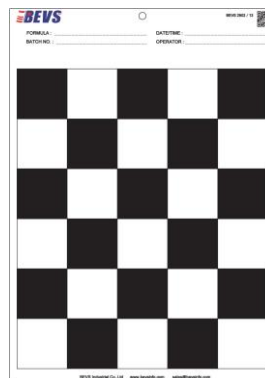
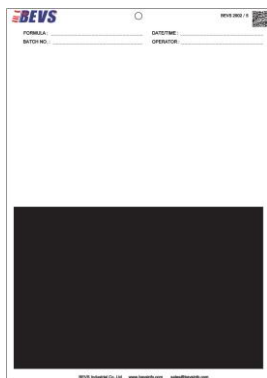
Order Information

Model	Thickness Range (μm)
BEVS 1809/1	50-75-100-125-150-175-200-225-250-275
BEVS 1809/2	250-275-300-350-375-400-425-450-475
BEVS 1809/3	450-475-500-525-550-575-600-625-650-675
BEVS 1809/4	650-675-700-725-750-775-800-825-850-875
BEVS 1809/5	850-875-900-925-950-1000-1025-1050-1075
BEVS 1809/6	100-200-300-400-500
BEVS 1809/7	600-700-800-900-1000

Customized is available upon request

6. Test Substrate

1) Hiding Power Chart



BEVS 2902 Hiding Power Chart tests a variety of coating and ink properties, such as hiding power, coating rate, sagging, leveling, color and so on. It is widely used in building materials coatings, industrial coatings, automotive coatings, food, cosmetics and other related industries.

- Specification: 250x180mm
- Packing: 500 pcs/box
- Standards: ASTM D344, D2805

Order Information

BEVS 2902/05 Hiding Power Chart (Half white and half black)

BEVS 2902/13 Hiding Power Chart (Black and white chequer)

2) Black & White Panel

- Specification: 432x165x0.25mm
- Packing: 100 pcs/box

Black Panel BEVS 2805/P/004	White Panel BEVS 2805/P/012
	

7. Accessories

1) Weight added fixing unit

Applied model: BEVS 1811 series Automatic Film Applicator

Load bearing bracket	Weights
	
	Qty: 200g*2, 100g*4, 50g*4

2) Protective Cover



Specification

- Material: Acrylic
- Thickness: 5mm
- Dimension: 620×420×200mm
- Apply with 1811/1, 1811/2, 1811/3
- When the heating temperature of 1811 / 3 reaches 60 Celsius and above, the protective cover cannot be used
- Detachable, easy to transport, customer self-assembling

Order Information

BEVS 1811/P/010 Protective Cover

8. Model selection and maintenance

	Auto Film Applicator	Bar Coater	Small Film Applicator	Sample
Model selection	BEVS 1811 series ● Glass ● Vacuum ● Vacuum + Heating	BEVS 320 series ● 1 thickness for each Bar Coater ● Apply for thin layer	Conventional - fixed film thickness Single Sided Applicator ● BEVS 1801 series ● BEVS 1808 series Two Sided Applicator ● BEVS 1802 series Four Sided Applicator ● BEVS 1803 series ● BEVS 1807 series ● BEVS 1819 series Eight Sided Applicator ● BEVS 1817 series Conventional – adjustable film thickness Adjustable Film Applicator ● BEVS1806 series Special use ● Dry Time BEVS 1805 series ● Levelling BEVS 1810 series ● Sagging BEVS 1809 series	❖ Coating ❖ Cosmetic ❖ Battery ❖ Ink ❖ Resin ❖ Pigment ❖ TiO₂ ❖ Film ❖ Pharmacy
	BEVS 1818 series ● Glass ● Vacuum ● Vacuum + Heating	BEVS 200 series ● 1 thickness for each Bar Coater ● Apply for thin layer		

Maintenance

Use environment	1. Ensure that the machine is used in a dry and non-corrosive environment 2. It shall be placed on a solid work surface 3. Working environment: the instrument is used indoors and the temperature is between 15 and 35 Celsius 4. The host power socket must have a reliable grounding wire
-----------------	---

Automatic Film Applicator	Small Film Applicator
➤ Turn off the power supply before maintenance. ➤ Check the tightness of the synchronous belt once a month and make appropriate adjustment. ➤ Disassemble the main body once a year. Tilt the bottom, remove the bottom cover, and loosen the screws at each corner. Clean the pull rod and lubricate it. Put the bottom cover back and place the instrument on a horizontal plane.	➤ The contact surface will collapse or deform due to falling and collision, and the coating error will occur. Care should be taken during use. ➤ Soft cotton cloth shall be used during cleaning after each drawing down to prevent scratching of the work surface. ➤ Some models have frames and screws. Calibration has been carried out at the factory, so the screws cannot be disassembled or can only be disassembled with the consent of the manufacturer, otherwise the coating error may be caused.