

## BEVS Industrial Co.,Ltd

SEITE

2019-2020

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**Intelligent Robotic Testing And Inspection System**  
**Testing Equipment Developer And Manufacturer**  
**For Paint, Coating & Ink**



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## Company Profile

BEVS is a world leader in the design and manufacture of test, measurement and inspection intelligent equipment and intelligent robotic system to the coatings and paint industry.

We provide industry leading, innovative, high quality products to the worldwide customers, especially BEVS intelligent robotic testing and inspection system to cater to the needs of the competitive and technological industry.

With strong supports and hard work by lots of end-users and worldwide agents, BEVS has a global network with agents in over 60 countries to offer more competitive values for our customers.

### Mission

Efficiency, Precision & Stability

### Ideal

Continuous effort in becoming the industry leader

### Spirit

Team, enterprising, change & make strong

### Value

Win by quality, credit by sincerity



Patent No. :  
ZL 2015 1 0192397.3



Patent No. :  
ZL 2016 1 0370252.2



Patent No. :  
ZL 2017 1 0258685.3



Patent No. :  
ZL 2015 1020379.9



Patent No. :  
ZL 2018 2 0044967.3



Patent No. :  
ZL 2017 2 1861055.7



Patent No. :  
ZL 2017 2 1860505.0



Patent No. :  
ZL 2014 2 08474938



Patent No. :  
ZL 2014 2 01452938



Patent No. :  
ZL 2015 2 1021204. X



Patent No. :  
ZL 2014 2 0145358. 9



Patent No. :  
ZL 2014 2 0145393. 0

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## Dispersion

### Laboratory Mixer

#### Introduction:

BEVS 2501 series Laboratory Mixer adopts frequency-adaptor to adjust speed with the advanced touch-screen control design. Enable to disperse, mix and grind by changing different impellers. Through the touch-screen to set the speed (RPM) and the time of disperse, mix and grind. It's the best choice for R&D, laboratory and spot testing.



#### Technical Specification:

- ◆ Touch-screen control technology and emergency switch
- ◆ Time Adjustable
- ◆ Maximum Speed: 9000 rpm
- ◆ Electromotor: Frequency modulation motor adoption
- ◆ Lifting System: Manual or automatic lift
- ◆ Milling disc is available

#### Application:

This Laboratory Mixer is applicable to the high-speed stir, dissolution and dispersion of liquid and solidification material in coating, paint, ink, pigments, cosmetic, foodstuff, resin, adhesive, latex, medicine, petroleum and other fields.



#### Order Information:

Order No.	Motor Power (w)	Speed (rpm)	Lifting Distance (mm)	Lifting Type	Vessel Supported (L)
BEVS 2501/1	550	30-9000	250	Manual	0.5/1.5
BEVS 2501/1L	550	30-9000	250	Manual	0.5/1.5
BEVS 2501/2L	750	60-6000	280	Manual	0.5/1.5
BEVS 2501/2A	750	60-6000	280	Automatic	1.5/3/5
BEVS 2501/3A	1100	60-6000	330	Automatic	3/5/10
BEVS 2501/5A	1500	300-6000	400	Automatic	5/10/20

◆ Standard equipped with 4 discs. "L"- lengthened shaft, "A"- automatic lift.

#### Order Information of Accessories:

Order No.	Dispersing Disc Dia. (mm)
BEVS 2501/P/001	30
BEVS 2501/P/003	40
BEVS 2501/P/004	50
BEVS 2501/P/005	60
BEVS 2501/P/006	80
BEVS 2501/P/007	100
BEVS 2501/P/008	120
BEVS 2501/P/009	150
BEVS 2501/P/022	200
/	Milling disc dia. (mm)
BEVS 2501/P/025	45 (Nylon)
BEVS 2501/P/026	60 (Nylon)
BEVS 2501/P/027	45 (Tefelon)
BEVS 2501/P/028	60 (Tefelon)



Order No. of Accessories	Double Wall Stainless Dispersing Vessel (L)
BEVS 2511/1	0.5
BEVS 2511/2	1.5
BEVS 2511/3	3
BEVS 2511/4	5
BEVS 2511/5	10
BEVS 2511/6	20



## Fineness of Grind Gauge

### Introduction:

BEVS Fineness of Grind Gauge is manufactured according to the GB/T1724. ISO1524 standard.

### Application:

Paint, plastic, pigment, printing ink, paper, ceramic, pharmaceutical, food and many other industries.

### Technical Specification:

Material: Stainless steel

### Order Information:

Item	Order No.	Effective Groove Size (L×W) (mm)	Measurement Range (μm)	Dimension (mm)	Division Value	Unit	Number of Grooves
Single-Channel Grind Gauge	1903/25	140×12.5	0-25	175×65×13	2.5	μm	1
	1903/50	140×12.5	0-50	175×65×13	5	μm	1
	1903/100	140×12.5	0-100	175×65×13	10	μm	1
Double-Channel Grind Gauge	1908/25	140×12.5	0-25	175×65×13	2.5	H & μm	2
	1908/50	140×12.5	0-50	175×65×13	5	H & μm	2
	1908/100	140×12.5	0-100	175×65×13	10	H & μm	2
Wide Single Channel Grind Gauge	1906/25	140×37	0-25	175×65×13	2.5	H & μm	1
	1906/50	140×37	0-50	175×65×13	5	H & μm	1
	1906/100	140×37	0-100	175×65×13	10	H & μm	1
Triple-Channel Grind Gauge	1905	140×12.5	0-25/50/100	175×85×13	2.5/5/10	μm	3

### Order Information of Accessories

BEVS1907 Scraper For Fineness of Grind Gauge



## Specific Gravity Cup

### Introduction:

BEVS supplies the Specific Gravity Cups which are made of robust aluminum or stainless steel with 3 different specifications, 50cc/1000cc/83.3cc (US gallon).

### Precision:

The manufacturing accuracy of Specific Gravity Cups is  $\pm 0.2\%$  under the room temperature at  $15^{\circ}\text{C} \sim 25^{\circ}\text{C}$ .

### Standard:

BS3900 A19, ISO 2811, DIN 53217, ASTM 1475



### Order Information:

Order No.	Volume (ml)	Material
BEVS 2101/50	50	Aluminum
BEVS 2101/100	100	Aluminum
BEVS 2101/A	83.3	Aluminum
BEVS 2102/50	50	Stainless Steel
BEVS 2102/100	100	Stainless Steel
BEVS 2102/A	83.3	Stainless Steel



### Unit Conversion:

When apply the Specific Gravity Cup with the volume of 100cc, convert format as follows:

- ◆ When the unit is used "pound/Us gallon", specific gravity weight (g)  $\times 0.1$
- ◆ When the unit is used "g/liter", specific gravity = weight (g)  $\times 10$
- ◆ When the unit is used "kg/liter", specific gravity = weight (g) / 100

## Viscosity

### Zahn Cup

#### Introduction:

BEVS 1107 Zahn Cup is designed according to the standard of ASTM D4212-93 Zahn Cup, it can be used to measure the viscosity of Newtonian or near-Newtonian liquids. Adjustable in anywhere such as the workshop, factory and lab etc. And quickly measure the viscosity of liquids. This Flow Cup is widely used in ink and printing industry.



#### Technical Specification:

- ◆ Material: Stainless steel
- ◆ Size: 44 ml

#### Order Information:

Order No.	Orifice (mm)	Viscosity Range (cSt)	Flow Time (Sec)
BEVS 1107/1	1.92	5 ~ 60	35~80
BEVS 1107/2	2.70	20~250	20~80
BEVS 1107/3	3.85	100~800	20~80
BEVS 1107/4	4.40	200~1200	20~80
BEVS 1107/5	5.40	400~1800	20~80

### Ford Cup

#### Introduction:

It is designed according to ASTM D1200, D333 and D365 standards and widely used to measure the viscosity of paints, inks, lacquers and other liquids. It is made of high quality aluminum with a stainless steel nozzle insert and the capacity is 100ml.



Evaluate the viscosity of the material by measuring the time of a certain amount specimen in the aluminum cup outflows from the stainless steel nozzle in the bottom.

#### Technical Specification:

- ◆ Material: Cup body-aluminum alloy;  
Nozzle-stainless steel
- ◆ Volume: 100 ml



#### Order Information:

Order No.	Orifice (mm)	Viscosity Range (cSt)	Flow Time (Sec)
BEVS 1101/1	2.1	10~35	55~100
BEVS 1101/2	2.8	25~120	40~100
BEVS 1101/3	3.4	49~220	30~100
BEVS 1101/4	4.1	70~370	30~100
BEVS 1101/5	5.8	200~1200	30~100

## DIN Cup

### Introduction:

BEVS DIN Cup is designed according to DIN 53211 standard and adapts to test the thin liquid in low viscosity.



### Technical Specification:

- ◆ Orifice Precision:  $\pm 0.02\text{mm}$
- ◆ Volume: 100 ml
- ◆ Material: Cup body-aluminum alloy; Nozzle-stainless steel

### Order Information:

Order No.	Orifice (mm)	Viscosity Range (cSt)	Flow Time (Sec)
BEVS 1108/2	2	15-30	25-150
BEVS 1108/4	4	112-685	25-150
BEVS 1108/6	6	550-1500	25-150

## Frikmar Cup

### Introduction:

BEVS Frikmar Cup is based on standard DIN 53211 with a handle to allow dipping test easily.

### Technical Specification:

- ◆ Nozzle precision:  $\pm 0.02\text{ mm}$
- ◆ Volume: 100 ml
- ◆ Material: Cup body-aluminum alloy, Nozzle-stainless steel



### Order Information:

Order No.	Orifice (mm)	Viscosity Range (cSt)	Flow Time (Sec)
BEVS 1109/2	2	15-30(approx.)	25-150
BEVS 1109/4	4	112-685(approx.)	25-150
BEVS 1109/6	6	550-1500(approx.)	25-150

## Afnor Cup

### Introduction:

BEVS NF Cup is designed according to French NFT30-014 standard and it is widely used by European company and French company especially.

### Technical Specification:

- ◆ Volume:  $100 \pm 1\text{ ml}$
- ◆ Material: Cup body-aluminum alloy  
Nozzel-stainless steel
- ◆ Flow Time: 30-300 secs.



### Order Information:

Order No.	Orifice (mm)	Viscosity Range (cSt)	Flow Time (Sec)
BEVS 1118/2.5	2.5	5-140	30-300
BEVS 1118/4	4	50-1100	30-300
BEVS 1118/6	6	510-5100	30-300

## ISO Cup

### Technical Specification:

- ◆ Volume:  $108 \pm 1\text{ ml}$
- ◆ Material: Cup body-aluminum alloy  
Nozzle-stainless steel
- ◆ Flow Time: 30-100 secs



### Order Information:

Order No.	Orifice (mm)	Viscosity Range (cSt)	Flow Time (Sec)
BEVS 1106/3	3	7-42	30-100
BEVS 1106/4	4	35-135	30-100
BEVS 1106/5	5	91-325	30-100
BEVS 1106/6	6	188-684	30-100

## Iwata Cup

### Introduction:

Quickly measure the flow time of paint and other similar liquid in the laboratory or on testing spot. It is widely applied to the coatings R&D department.

### Technical Specification:

- ◆ Orifice: 3.5mm
- ◆ Material: Stainless steel with Nickel-plated
- ◆ Viscosity Range: 10-60 secs
- ◆ Standard: JIS

### Order Information:

BEVS NK-2 Iwata Cup



## Cup Stand

### Introduction:

BEVS flow cup is used in concert with Ford cup, DIN cup, Afnor cup, ISO cup and other similar cups to provide the level of platform. It is made up of three adjustable stainless steel poles and aluminum level bubble plate.



### Technical Specification:

- ◆ Material: Poles- stainless steel  
Aluminum ring plate with level bubble

### Order Information:

BEVS 1102 Cup Stand



## Intelligent Krebs Viscometer(Auto Type)

### Introduction:

BEVS1112/1112U is an advanced touch screen control automatic viscometer of leading industry, the most suitable for measuring the non-newtonian fluid such as coating, paint, adhesives, pulp, printing ink etc.



### Technical Specification:

- ◆ Range: 40~141KU/27-5274cp/32-1099g
- ◆ Resolution: 0.1KU/5cp/1g
- ◆ Accuracy:  $\pm 1\%$  of full scale
- ◆ Repeatability:  $\pm 0.5\%$  of full scale
- ◆ Rotation speed: 200rpm $\pm 1$ rpm
- ◆ Power consumption: Max.35W
- ◆ Power: 200~250V or 100-120V

### Application:

- ◆ Paint, coating and ink
- ◆ Food Industry
- ◆ Pharmaceutical Industry
- ◆ Auto Industry
- ◆ Laboratory

### Order Information:

BEVS 1112 Intelligent Krebs Viscometer  
BEVS 1112U Intelligent Krebs Viscometer  
BEVS 1112/P/1 Spindle  
BEVS 1112/P/2 Sample can, 500 ml  
BEVS 1112/P/3 Sample can, 250 ml(with holder)



BEVS 1112

### Feature:

- ◆ Automatic measuring
- ◆ The spindle automatic lift
- ◆ Touch-screen operation
- ◆ Measurement Unit : KU, g, cp
- ◆ Start test time and stop time can be preset
- ◆ Real-time display measurement graph
- ◆ Measurement report output available
- ◆ With temperature probe



BEVS 1112U (New Design)



## Intelligent Krebs Viscometer (Manual Type)

### Introduction:

BEVS 1133 is a new manual type Intelligent Krebs Viscometer that adopting the new touch screen technology. It is applied for measuring Newton fluid or near non Newton liquids such as paint, coatings, adhesives, pulp, ink etc. High precision DC motor ensures accuracy value.



### Features:

- ◆ Easy operation
- ◆ Humanization design
- ◆ Touch screen control
- ◆ Units: KU, G, cP simultaneously display
- ◆ Available to preset start test time and duration
- ◆ Real-time graph display between viscosity and time
- ◆ Real-time display environment temperature
- ◆ Available to measure sample temperature
- ◆ Output measurement report

### Setting interface



Main Interface



System Setting



Running Setting



Data Interface

### Technical Specification:

Range	40-141KU / 27-5274cp / 32-1099g
Resolution	0.1KU / 1g / 5cp
Accuracy	±1%
Repeatability	±0.5% (Full Scale)
Rotation Speed	200±1rpm
Power	Max.18W
Power	100-250V 50-60Hz

### Standard:

ASTM D562

### Application:

Coatings, food, pharmaceutical, automobile paint

### Order Information:

BEVS 1133 Intelligent Krebs Viscometer (Manual Type)  
 BEVS 1112/P/1 Spindle  
 BEVS 1112/P/2 Sample can, 500 ml  
 BEVS 1112/P/3 Sample can, 250 ml (with holder)



## Intelligent Cone and Plate Viscometer

### Introduction:

BEVS 1132 Intelligent Cone and Plate Viscometer is a highly accurate instrument that research the rheological properties of fluid products. It is a automatic viscometer with adjustable shear rate and controllable temperature. High precision DC motor and automatic lifting platform to keep the viscosity measurement becomes simpler and more accurate.

Since Newtonian or non-Newtonian fluids show different viscosities relative to the shear rate, the BEVS1132 Intelligent Cone and Plate Viscometer strictly control the shear rate of 10,000 S<sup>-1</sup> (BS standard) and 12,000 S<sup>-1</sup> (ASTM standard). In addition, the shear rate of 333-20000 S<sup>-1</sup> can also be freely controlled by the operator.

Since most viscosity measurements are very sensitive to temperature, the BEVS 1132 can accurately control the temperature control plate from +5 - 75 °C by placing the sample on the temperature control plate. The temperature curve and the shear rate viscosity curve can be obtained. The portable instrument makes it more practical and versatile in the study of rheological properties of Newtonian or non-Newtonian products.



### Technical Specification:

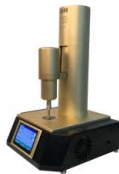
- ◆ Rotational speed : 100-1500 rpm
- ◆ Shear rate : 333-20000 s<sup>-1</sup>
- ◆ Controllable temperature range : +5 - 75°C
- ◆ Cone : 5 models ( Cone 1 , Cone 2 , Cone 3 , Cone 4 , Cone 5 )

Model	Cone	Range	
BEVS 1132/5	Cone 1	0 - 5P	0 - 500cP
BEVS 1132/10	Cone 2	0 - 10P	0 - 1000cP
BEVS 1132/20	Cone 3	0.1 - 20P	10 - 2000cP
BEVS 1132/50	Cone 4	0.1 - 50P	10 - 5000cP
BEVS 1132/100	Cone 5	0.1 - 100P	10 - 10000cP

- ◆ Resolution : 1Cp
- ◆ Measurement accuracy : ±1% (full scale)
- ◆ Measurement repeatability : ±0.5% ( full scale )
- ◆ Temperature resolution : 0.1°C
- ◆ Temperature accuracy : ±0.3°C
- ◆ Input voltage : 100-240VAC / 50-60Hz

### Features:

- ◆ Automatic lifting
- ◆ Automatic measurement
- ◆ Compatible with various speeds
- ◆ High definition touch screen display
- ◆ Display temperature and viscosity curve
- ◆ Display shear rate
- ◆ Precise temperature control
- ◆ Output data and report

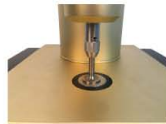


### Application:

Food, cosmetic, pharmaceutical, coating, ink, mining, construction, petrochemical, polymer

### Standard:

BS 3900 A7-1, ASTM D 4287, ISO 2884-1



### Order information:

BEVS 1132 Intelligent Cone and Plate Viscometer (without cone)  
 BEVS 1132/5 Cone 1 with 5 oils (0-5P)  
 BEVS 1132/10 Cone 2 with 5 oils (0-10P)  
 BEVS 1132/20 Cone 3 with 5 oils (0.1-20P)  
 BEVS 1132/50 Cone 4 with 5 oils (0.1-50P)  
 BEVS 1132/100 Cone 5 with 5 oils (0.1-100P)

## Intelligent Rotothinner

### Introduction:

BEVS 1131 Intelligent Rotothinner is used to measure the viscosity of most non-Newtonian and Newtonian fluids. The speed is 562 rpm. It is a two-in-one instrument for researching the viscosity of materials and on-line inspection of products. It is easy to continuously monitor the viscosity of the test sample when adding thinner or additives. The instrument can also start to test the viscosity according to the preset time. The testing time can be freely chosen by operators, and the temperature of samples can be measured in real time. It provides accurate data related to shear properties. It is ideal for R&D, laboratory and QC application.

### Technical Specification:

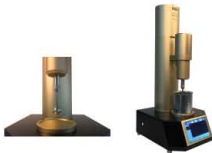
- ◆ Spindle speed : 562 rpm  $\pm$  1%
- ◆ Spindle : 3 models of spindles ( spindle 1, spindle 2, spindle 3 )

Model	Spindle	Range
BEVS 1131/25	Spindle 1	0 - 25P 0 - 2500cP
BEVS 1131/80	Spindle 2	0.1 - 80P 10 - 8000cP
BEVS 1131/360	Spindle 3	1 - 360P 100 - 36000cP

- ◆ Resolution : 1Cp
- ◆ Accuracy :  $\pm$ 1% ( full scale )
- ◆ Repeatability:  $\pm$ 0.5% ( full scale )
- ◆ Sample can: 250ml tin can
- ◆ Input voltage : 100-240VAC / 50-60Hz
- ◆ Weight : 10kg

### Features:

- ◆ Automatic lifting
- ◆ Automatic measurement
- ◆ High definition touch screen display
- ◆ High precision measuring motor
- ◆ Easy to operate and use
- ◆ Data saving and output



### Order Information:

BEVS 1131 Intelligent Rotothinner (without spindle)  
 BEVS 1131/25 Spindle 1 (0-25P)  
 BEVS 1131/80 Spindle 2 (0.1-80P)  
 BEVS 1131/360 Spindle 3 (1-360P)

### Standard:

ISO 2884, BS 3900 A7

## Application of Film

### Automatic Film Applicator

#### Introduction:

BEVS Automatic Film Applicators are made with high precision machined components, sturdy mainframe and heavy duty power train assembly, to ensure long term reliable operation. Consistent drawdown conditions such as speed, flatness, combined with applicator gap and geometry are essential to obtain perfectly reproducible samples, this eliminating human error and uncertainty.



#### Software Introduction:

- ◆ Advanced touch screen technology

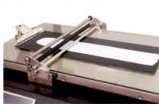


- ◆ Film size:A4, A3 and User Defined

- ◆ Adjustable speed



◆ Report output: tab in the coating's name, viscosity, thickness for the report to be output.



#### ■ Technical Specification:

Model	BEVS 1811/1	BEVS 1811/2	BEVS 1811/3
Speed	10 - 140 / 50 - 300 mm/s, pls select the speed when ordering		
Stroke Length (Max)	360mm	360mm	360mm
Test Panel	420×300mm	420×300mm	420×300mm
Test Platform	Glass bed with clamp	Vacuum bed	Heated vacuum bed
Bar Coater Diameter	10-13mm	10-13mm	10-13mm
Capacity Length	320mm	320mm	320mm
Standard	ASTM D823/C	ASTM D823/C	ASTM D823/C
Vacuum pump	/	Built-in	Built-in

#### Electrically Heated Vacuum Bed

BEVS automatic vacuum applicator is also available with an electrically heated vacuum bed. The bed temperature can be set from ambient +5°C to + 150°C and temperature is uniform over the whole bed.

- ◆ Minimum temperature: Ambient + 5°C
- ◆ Maximum temperature: + 150°C
- ◆ Temperature accuracy: 1°C



#### ■ Order Information:

BEVS 1811/1	Automatic Film Applicator (with glass bed)
BEVS 1811/2	Automatic Film Applicator (with vacuum bed)
BEVS 1811/3	Automatic Film Applicator (with electrically heated vacuum bed)

## Mini Automatic Film Applicator

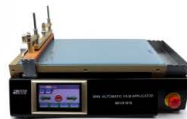
#### ■ Introduction:

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



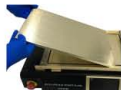
#### ■ Technical Specification:

- ◆ Max size for the sample(L x W x H): 250 x 160 x 8 mm (included the substrate)
- ◆ Speed: 1-200mm/s (Adjustable)
- ◆ Speed Precision: 1mm/s
- ◆ Plate (glass or vacuum): 355 x 229 x 10 mm
- ◆ With a 2 kg weight set: 4 x 25g, 2 x 50g, 4 x 100g, 2 x 200g
- ◆ Power Supply: 100-230 V, 50/60 Hz
- ◆ Dimensions (L x W x H): 450 × 300 × 210 mm



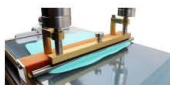
#### ■ Features:

- ◆ Big LCD touch screen, easy control
- ◆ With removable weights to ensure steadiness while working
- ◆ Compatible with wide range of film application tools
- ◆ With drip pan holding bar coater
- ◆ With clamp to ensure substrate fixed firmly
- ◆ Vacuum pressure adjustment
- ◆ Special design to minimize vibration to ensure high quality film
- ◆ Two beds available, easy to replace



#### ■ Standard:

ASTM D823



#### ■ Order Information:

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 bed and vacuum bed, including an external pump
BEVS 1818/P/001	Vacuum bed
BEVS 1818/P/002	Glass bed
BEVS 1818/P/003	External pump for vacuum bed

## Automatic Panel Sprayer

#### ■ Introduction:

The BEVS 1828 Automatic Panel Sprayer is a fast, intelligent and automatic device for spraying panel, with advantage of reliable uniform coating for testing and evaluation. It is equipped with a 10-inch high-definition touch screen display for easy operation and has features like a one-button start, fully automatic spray, automatic cleaning spray gun, quick change of paint and spray gun. It is an advanced spraying equipment with intelligent programming spraying process, a good choice for spraying test panel in laboratory.

#### ■ Features:

- ◆ With 10-inch high-definition touch screen
- ◆ Intelligent programming spray process
- ◆ Three-axis automatic spraying
- ◆ Optional single or dual spray gun
- ◆ Automatic control of spray pressure
- ◆ Quick replacement of the spray gun



#### ■ Spray Parameters:

- ◆ Panel moving speed: X-axis 50-300 mm/s; Y-axis 1-30 mm/s; Z-axis 50-300 mm/s
- ◆ Gun distance: 150-250 mm
- ◆ Atomization pressure: 0-0.7 Mpa
- ◆ Spray width (manual adjustment)
- ◆ Sample flow volume (manual adjustment)
- ◆ Spray gun nozzle diameter (optional according to actual conditions)

#### ■ System Parameters:

- ◆ Applicable paint type: water-based or solvent-based
- ◆ Applicable paint viscosity range: 1-20000cps
- ◆ Moving speed: X-axis 50-300 mm/s; Y-axis 1-30 mm/s; Z-axis 50-300 mm/s
- ◆ Stroke length: 500 x 100 x 350 mm (X x Y x Z axis)
- ◆ Gun distance: 150-250 mm
- ◆ Atomization air pressure: 0-0.7 Mpa
- ◆ System pressure: 0-0.7 Mpa
- ◆ Panel lift height: 350 mm
- ◆ Spraying area: max 300 x 450 mm; or 9 pcs of 100 x 150 mm standard panels
- ◆ Spray gun type: gravity or automatic spray gun
- ◆ Dimension (Lx W x H): 955 x 550 x 1200 mm (1700 mm extension rod)

#### ■ Functions:

- ◆ Three-axis (X, Y, Z,) automatic control; X and Z axes are linked according to the setting program, and the Y-axis is automatically adjusted according to the distance parameter manually input or the preset in the mode (only for standard equipped spray gun)
- ◆ With cross wet spray process
- ◆ Multi-viscosity mode preset, input the required film thickness value and spray area, the system automatically calculates the spray cycles, the path and the start/end of the spray position, and spray the required thickness
- ◆ Custom spray mode: input parameters such as spray movement speed, gun distance, atomization pressure, spray cycles, start and end spray position, etc. It automatically sprays according to the set parameters. The custom mode parameters can be saved and applied next time
- ◆ The interface displays the current parameters in real time, such as the current coating thickness, the run spray cycles, remaining spray cycles, the estimated final film thickness, and the estimated remaining time
- ◆ Real-time monitor the environment, automatically power off to prevent explosion when reaching the set VOC (Optional function)



#### ■ Standard:

ASTM D823/A



#### ■ Application:

Automotive, aerospace, industrial and protective coatings, high performance coatings

#### ■ Order Information:

BEVS 1828 Automatic Panel Sprayer (Including one automatic spray gun)

## Hiding Power Chart

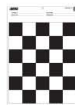
#### ■ Introduction:

BEVS 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.

BEVS Hiding Power Charts consists of black and white areas, which are selected from the high quality specialty papers and covered with a high quality UV coating on the surface.



BEVS 2902/5



BEVS 2902/13

#### ■ Technical Specification and Order Information:

Model	Name	Surface Treatment	Dimension (mm)	Qty/carton	Pattern
BEVS 2902/5	Hiding Power Charts	UV coated	250x180	500	Half white and half black
BEVS 2902/13	Hiding Power Charts	UV coated	250x180	500	Black and white chequer

## Film Application Kit

#### ■ Introduction:

In order to on-site make film to obtain good coatings and instantly detect the performance of coatings in real time, BEVS has developed a practical set of film-application instruments, which has exquisite appearance and durability.

This kit includes 22 items for viscosity, adhesion, fineness detection and film making. It enables you to more intuitively and systematically understand the film application and testing products. It is the best portable instrument kit for sales engineers or after-sales engineers.

### ■ Technical Information:

Classification	No.	Model	Description	Qty
Viscosity	1	BEVS1101 / 3	Ford Cup	1
	2	BEVS1108 / 4	Din Cup	1
	3	BEVS1106 / 4	ISO Cup	1
	4	BEVS1118 / 4	Alnor Cup	1
	5	BEVS1102	Cup Stand	1
Specific Gravity	6	BEVS2101 / 50	Specific Gravity Cup (Al)	1
	7	BEVS2102 / 50	Specific Gravity Cup (SS)	1
Fineness	8	BEVS1908 / 100	Double Channel Grind Gauge	1
Flowability	9	BEVS1809 / 2	Sagging Applicator	1
	10	BEVS1810 / 2	Levelling Applicator	1
Permeability	11	BEVS1122 / 2	Payne Permeability Cup	1
	12	BEVS200 / 4	Bar Coater (4µm)	1
Film Application	13	BEVS200 / 100	Bar Coater (100µm)	1
	14	BEVS1805 / 1	Cube Applicator	1
	15	BEVS1803 / 60 / 2	Four Sided Applicator	1
	16	BEVS1806A / 100	Adjustable Applicator	1
	17	BEVS1819 / 80 / 1	Four Sided Applicator with Reservoir	1
	Thickness	18	BEVS1701 / 1	Wet Film Gauge (SS)
19		BEVS1701 / 3	Wet Film Gauge (Al)	1
20		BEVS1702 / 100	Wet Film Thickness Wheel	1
Adhesion	21	BEVS2202 / 1	Cross Hatch Cutter	1
	22	BEVS2203	Multi-hatch Gauge	1

Packing box dimension: 520×370×155mm  
Total weight: 10kg



### ■ Order Information:

BEVS 1830 Film Application Kit

### Single Sided Applicator

#### ■ Introduction:

Control the actual thickness of dry film or wet film by the precise test of coating. Excellent consistency and repeatability coating is required when testing the coating opacity, abrasion, sag performance and other quality tests.



#### ■ Technical Specification:

- ◆ High grade stainless steel material
- ◆ H-Sharp design
- ◆ Available in 2 film widths: 50 or 75 mm
- ◆ Available in 6 film thickness gap sizes: 50, 75, 100, 125, 150 and 200 µm

#### ■ Order Information:

Order No.	Film Width(mm)	Gap (µm)
BEVS 1801/50/50	50	50
BEVS 1801/50/75	50	75
BEVS 1801/50/100	50	100
BEVS 1801/50/125	50	125
BEVS 1801/50/150	50	150
BEVS 1801/50/200	50	200
BEVS 1801/75/50	75	50
BEVS 1801/75/75	75	75
BEVS 1801/75/100	75	100
BEVS 1801/75/125	75	125
BEVS 1801/75/150	75	150
BEVS 1801/75/200	75	200

- Other width and gap size are available upon request.

## Two Sided Applicator

### Introduction:

Control the actual thickness of dry film or wet film by the precise test of coating. The coating with excellent consistency and repeatability is required when doing the coating opacity, wear-resistance, sag-resistance performance and other quality tests. Many standards ISO, GB, ASTM also require that coatings are in the same thickness. The thickness of coating can be controlled by applicator, that's the most common way to prepare the samples.



### Technical Specification:

- ◆ High grade stainless steel
- ◆ C-Shaped design
- ◆ Film Width: 80 mm
- ◆ Overall Length: 90 mm



### Order Information:

Order No.	Film Width(mm)	Gap (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

- Other width and gap size are available upon request.

## Four Sided Applicator

### Introduction:

The cylindrical shape provides excellent result especially on fire substrate and smooth surface. By simply rotating through 90° and the next gap can be used.



### Technical Specification:

- ◆ High grade stainless steel
- ◆ Available in 2 film widths: 60/80mm
- ◆ Available in 4 gaps



### Order Information:

Model	Film Width(mm)	Gap( μm )
BEVS 1803/60/1	60	30, 60, 90, 120
BEVS 1803/60/2	60	50, 100, 150, 200
BEVS 1803/60/F13	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/F13	80	25, 50, 75, 100

- Other width and gap size are available upon request.



## Four Sided Applicator With Reservoir



### Order Information:

Model	Film Width(mm)	Gap( $\mu$ m )
BEVS 1819/60/1	60	30, 60, 90, 120
BEVS 1819/60/2	60	50, 100, 150, 200
BEVS 1819/80/1	80	30, 60, 90, 120
BEVS 1819/80/2	80	50, 100, 150, 200

Other width and gap size are available upon request.

## Cube Applicator

### Technical Specification:

- High grade stainless steel
- Enable to form the parallel film strips with high repeatability
- Easily compare with different samples
- Two kinds of widths for each applicator



### Order Information:

Model	Film Width(mm)	Gap( $\mu$ m )
BEVS 1805/1	16	37, 75
BEVS 1805/2	41	50, 100
BEVS 1805/3	16	50, 100

Other width and gap size are available upon request.

## Adjustable Applicator

### Introduction:

Adjustable Applicator is applied to evaluate the slight difference of the film thickness accurately. It can control the film thickness by adjusting the two differentiators and scraper. And the gap is the final thickness.

### Technical Specification:

- Stainless steel - wear resistance
- 6 film widths are available: 50/100/150/200/250/300 mm
- Precision:  $\pm 2\mu$ m
- Film thickness range: 0-3500 $\mu$ m
- In 10  $\mu$ m increment



### Order Information:

BEVS 1806/50	Adjustable Applicator	Width 50 mm
BEVS 1806/150	Adjustable Applicator	Width 150 mm
BEVS 1806/250	Adjustable Applicator	Width 250 mm
BEVS 1806/300	Adjustable Applicator	Width 300 mm

Other width and gap size are available upon request.

In order to facilitate the rapid application of wet film and quick cleaning after use, BEVS developed two new models of adjustable film applicator.

### BEVS 1806/A:

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



### Order Information:

BEVS 1806A/50	Adjustable Applicator	Width 50 mm
BEVS 1806A/100	Adjustable Applicator	Width 100 mm
BEVS 1806A/150	Adjustable Applicator	Width 150 mm
BEVS 1806A/200	Adjustable Applicator	Width 200 mm
BEVS 1806A/250	Adjustable Applicator	Width 250 mm
BEVS 1806A/300	Adjustable Applicator	Width 300 mm

Other width and gap size are available upon request.

**BEVS 1806/B:** Smart design for quick cleaning after use.



**Order Information:**

BEVS 1806B/50	Adjustable Applicator	Width 50 mm
BEVS 1806B/100	Adjustable Applicator	Width 100 mm
BEVS 1806B/150	Adjustable Applicator	Width 150 mm
BEVS 1806B/200	Adjustable Applicator	Width 200 mm
BEVS 1806B/250	Adjustable Applicator	Width 250 mm
BEVS 1806B/300	Adjustable Applicator	Width 300 mm

Other width and gap size are available upon request.

**Digital Adjustable Applicator**

**Introduction:**

The BEVS 1806F Adjustable Applicator is designed according to ASTM D823E. It consists of two precise digital micrometers, a high precise scraper and a special alumina frame without baffle.

**Technical Information:**

- ◆ 5 film width available: 100/150/200/250/300 mm
- ◆ Precision:  $\pm 1 \mu\text{m}$
- ◆ Thickness range: 0-3500  $\mu\text{m}$
- ◆ In 1  $\mu\text{m}$  increment



**Order Information:**

- BEVS1806F/100 Digital Adjustable Applicator (Film width: 100 mm)
- BEVS1806F/150 Digital Adjustable Applicator (Film width: 150 mm)
- BEVS1806F/200 Digital Adjustable Applicator (Film width: 200 mm)
- BEVS1806F/250 Digital Adjustable Applicator (Film width: 250 mm)
- BEVS1806F/300 Digital Adjustable Applicator (Film width: 300 mm)

**Bar Coater**

**Introduction:**

- ◆ BEVS bar applicator is a fully new generation technology against traditional wire bar, ideal for the application of inks and coatings onto flexible materials such as paper, card, textiles, leather, automatic film applicator etc.



- ◆ The wet film thickness applied is controlled by the area of the groove between the coils of bar, the minimum thickness can be reach to 4 $\mu\text{m}$ .

**Technical Specification:**

- ◆ Excellent stainless steel bar : dia $\varnothing$ 10mm
- ◆ Two film width available :200 or 320 mm
- ◆ Total bar length:240 or 400mm

**Feature:**

- ◆ Not peel off
- ◆ Easy to clean
- ◆ Apply to 4 $\mu\text{m}$

**Order Information:**

Model	Film Width(mm)	Wet Film Thickness( $\mu\text{m}$ )	Model	Film Width(mm)	Wet Film Thickness( $\mu\text{m}$ )
BEVS 200/4	200	4	BEVS 320/4	320	4
BEVS 200/6		6	BEVS 320/6		6
BEVS 200/8		8	BEVS 320/8		8
BEVS 200/10		10	BEVS 320/10		10
BEVS 200/12		12	BEVS 320/12		12
BEVS 200/15		15	BEVS 320/15		15
BEVS 200/20		20	BEVS 320/20		20
BEVS 200/25		25	BEVS 320/25		25
BEVS 200/30		30	BEVS 320/30		30
BEVS 200/40		40	BEVS 320/40		40
BEVS 200/50	50	BEVS 320/50	50		
BEVS 200/60	60	BEVS 320/60	60		
BEVS 200/80	80	BEVS 320/80	80		
BEVS 200/100	100	BEVS 320/100	100		
BEVS 200/120	120	BEVS 320/120	120		
BEVS 200/150	150	BEVS 320/150	150		
BEVS 200/200	200	BEVS 320/200	200		

**Bar Coater Handle**

**Order Information:**

BEVS 200/S for BEVS 200 Bar Coater Series



## Sagging Applicator

### Introduction:

The instrument is used for sag resistance evaluation to ensure a uniform film thickness by selecting suitable thickness, which is conducive to verticals, corners, holes, circular pieces of painting controlled.

Viscosity, fineness, thickness are major factors in the impact of sagging.



### Technical Specification:

- ◆ High-grade stainless steel
- ◆ 10 different films incremented by 25µm
- ◆ Wet film width 6mm, Spacing 1.5mm



### Standard:

ASTM D4400, D373

### Order Information:

Order No.		Range (µm)
BEVS 1809/1	Sagging Applicator	50, 75, 100, 125, 150, 175, 200, 225, 250, 275
BEVS 1809/2	Sagging Applicator	250, 275, 300, 325, 350, 375, 400, 425, 450, 475
BEVS 1809/3	Sagging Applicator	450, 475, 500, 525, 550, 575, 600, 625, 650, 675
BEVS 1809/4	Sagging Applicator	650, 675, 700, 725, 750, 775, 800, 825, 850, 875
BEVS 1809/5	Sagging Applicator	850, 875, 900, 925, 950, 975, 1000, 1025, 1050, 1075
BEVS 1809/F1	Quadruplex Sagging Applicator	100, 200, 300, 400, 500
BEVS 1809/F2	Quadruplex Sagging Applicator	600, 700, 800, 900, 1000

Other sizes are available upon request.

## Levelling Applicator

### Introduction:

The instrument is made for evaluating the liquid coating in a horizontal state in order to select an appropriate coating state by controlling the physical properties of the coating.



### Technical Specification:

- ◆ High-grade stainless steel
- ◆ 5 pairs of coating stripes with increased thickness  
100-200-300-500-1000 µm  
250-500-1000-2000-4000 µm

### Standard:

ASTM D2801



### Order Information:

Order No.		Range (µm)
BEVS 1810/1	Levelling Applicator	100, 200, 300, 500, 1000
BEVS 1810/2	Levelling Applicator	250, 500, 1000, 2000, 4000

Other sizes are available upon request.

## Drying

### Payne Permeability Cup

#### Introduction:

This BEVS simple instrument is used to determine the permeability of films of paints, varnishes, coatings, coating systems and related products, it consists of aluminum cup, seal ring and threaded ring cover.

Under a controlled environment, the coating film is cut out to form a disc and fixed by seal ring/cover onto the cup which fill required liquid (distilled water) or dry desiccant, weight loss or gain of the cup's content over a specified time which is used to determine the rate of vapor transmission through the film. It is recommended to carry out the test in three times due to the film imperfections.

#### Features:

- ◆ Precision machining ensures exposure area
- ◆ Exposed area :10cm<sup>2</sup> or 25cm<sup>2</sup>
- ◆ High grade anodized aluminum
- ◆ Easy to use and clean



#### Standard:

ASTM D1653, ISO 7783



#### Order Information:

BEVS 1122/1 Permeability Cup 25cm<sup>2</sup>

BEVS 1122/2 Permeability Cup 10cm<sup>2</sup>

### Drying Time Recorder

#### Introduction:

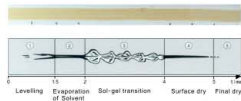
◆ BEVS Drying Time Recorder is used for the test of drying time or gel behavior of a variety of paints and coatings. It has the characteristics of intuition and good reproducibility, and can accurately evaluate drying time in all stages.

◆ Initiative design of touch screen control, customized user-defined start time and test time, make the operation more intuitive and simple.



#### Technical Specification:

- ◆ Dimension: 550×530×200 mm
- ◆ The number of tracks: 10
- ◆ Length of strips: 300 mm
- ◆ Driver: 5 sets of motors, 2 track / motor
- ◆ Drying Time:
  - Standard track: 6, 12, 24, 48 hours;
  - Customized track (track 1):
 Except the standard time, the user can customize the start and test time.
- ◆ Function reset during the testing: During the test, user can change the test time and re-start again.



### ■ Test Timing Table:

Track No.	Testing Time(hour)					Function Reset
	6	12	24	48	User Defined	
1	✓	✓	✓	✓	✓	✓
2	✓	✓	✓	✓	✓	✓
3	✓	✓	✓	✓	✓	✓
4	✓	✓	✓	✓	✓	✓
5	✓	✓	✓	✓	✓	✓

Remark: "✓": The test can be performed.

"User Defined": User can set the test time between 1 to 48 hours upon request, so that can conduct the personalized test.

"Function reset": During the test, user can change the test time and re-start again.

### ■ Standard:

ASTM D5895

### ■ Order Information:

BEVS1815 Drying Time Recorder

Standard delivery list: 10 x glass strip, 10 x stylus, 1x BEVS 1805/1 Cube Applicator.

### Accessories of Dry Time Recorder-- Glass Strip Holder

### ■ Introduction:

The holder is used to simply apply the paint to the glass strip to achieve film combined with cube applicator.

It is made by high grade stainless steel to place the glass strip to allow the operator to hold the strip in position, cube applicator is positioned on the glass strip and fill paint into applicator depending on the demand and then applicator is drawn to the end of the glass strip.



### ■ Order Information:

BEVS 1815/P/003 Glass Strip Holder

BEVS 1815/P/004 Weight, set of 10, 5 grams per weight

BEVS 1815/P/005 Glass strip

BEVS 1805/1 Cube Applicator

## Thickness

### Paint Inspection Gauge(PIG)

### ■ Introduction:

BEVS1707 PIG is using destructive method to measure coating thickness, containing single and multiple coats, applied on all of substrates, e.g.: aluminum, iron, plastic, wood, concrete, glass etc.



### ■ Using Principle:

A cut is made on the test surface with a V-shaped tool. The coating thickness can be measured with the built-in microscope under the LED light.



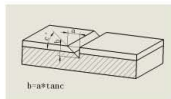
### ■ Standard:

ASTM D4138, DIN 50986, ISO 2808

### ■ Technical Specification:

Cutter	Cut Angle	Range(μm)	D Factor(μm)
No.1	45°	20-1800	20
No.2	63.4°	10-900	10
No.3	84.3°	2-180	2

### ■ Measurement Principle:



### ■ Operating Steps:

Step	Illustration	Description
1		Prepare the inspecting area.
2		Draw a line with the marker pen on the surface.
3		Cut the coating vertically and make sure it is lacerated.
4		Read the graduation-scale with the microscope to attain thickness.

### ■ Order Information:

BEVS 1707 Paint Inspection Gauge  
Including 3 cutters(No. 1/2/3 each), battery, marker pen and carrying case

### ■ Order Information of Accessories:

BEVS 1707/P/010	Cutter No.1
BEVS 1707/P/020	Cutter No.2
BEVS 1707/P/030	Cutter No.3



## Powder Coating Thickness Gauge

### ■ Introduction:

BEVS 1703 Powder Coating Thickness Gauge is a non-contact, non-destructive and rapid measuring portable instrument for the thickness of powder coatings in pre-cured and cured status. It adopts the new technology in the field of photothermic measurement.

The measurement data can be sent to the mobile phone, pad, computer, spraying control system and other terminals in real time. It is easy to achieve rapid measurement in assembly line and it can be widely used in laboratory and workshop for the real-time detection and control.

Flexible operation: the sample or gauge can be moveable during measurement.

### ■ Technical Specification:

Measuring Range	0 - 350μm
Accuracy	±3%
Resolution	±1%
Measuring Distance	Approx. 30mm
Measuring Spot	1.5 x 1.5mm
Measuring Time	0.5 - 2s
Port	MiniUSB,WIFI
Battery Type	3.7V(2500mAh) Rechargeable lithium battery
Substrates	Metal

### ■ Features:

- ◆ Data wireless encryption transmission in real time
- ◆ Automatic measurement
- ◆ Measurable for irregular sample
- ◆ Measurable for wet and dry film thickness
- ◆ Data enables to save and output
- ◆ Statistics: measure times, graph, max. and min. value

### ■ Standard:

DIN EN 15042-2

### ■ Order Information:

BEVS 1703 Powder Coating Thickness Gauge



## Wet Film Thickness Wheel

### Introduction:

- ◆ Precision gauge to check the wet film thickness
- ◆ Made of high grade stainless steel



### Standard:

BS-ISO-ASTM

### Order Information:

BEVS 1702/25	Wet Film Thickness Wheel	0-25 $\mu$ m
BEVS 1702/50	Wet Film Thickness Wheel	0-50 $\mu$ m
BEVS 1702/100	Wet Film Thickness Wheel	0-100 $\mu$ m
BEVS 1702/200	Wet Film Thickness Wheel	0-200 $\mu$ m
BEVS 1702/300	Wet Film Thickness Wheel	0-300 $\mu$ m
BEVS 1702/500	Wet Film Thickness Wheel	0-500 $\mu$ m
BEVS 1702/1000	Wet Film Thickness Wheel	0-1000 $\mu$ m
BEVS 1702/2000	Wet Film Thickness Wheel	0-2000 $\mu$ m

- Other scales are available upon request

## Wet Film Gauge (Stainless Steel)

### Introduction:

This Wet Film Gauge is used to measure the wet film thickness on smooth & flat coated surfaces such as lacquer, varnish, adhesive and other materials. It is made of high grade stainless steel, easy to clean with related solvent but hardly be damaged.



### Technical Specification:

- ◆ Shape of pentagon
- ◆ Two scales available
- ◆ Measuring Range ( $\mu$ m)
- 20-350
- 25-2700

### Standard:

ASTM-ISO

### Order Information:

BEVS 1701/1 20-350 $\mu$ m Wet Film Gauge  
 BEVS 1701/2 25-2700 $\mu$ m Wet Film Gauge

- Other scales are available upon request

## Wet Film Gauge (Aluminum)

### Technical Specification:

- ◆ Measuring range: 25-2000  $\mu$ m
- ◆ Size: 89 $\times$ 66 $\times$ 0.8mm

### Order Information:

BEVS 1701/3 25-2000 $\mu$ m Wet Film Gauge

- Other logo and company names can be printed upon request



## Oven Loggermaster

### Introduction:

BEVS Oven Loggermaster is the latest generation of Oven Temperature Logger for robust comprehensive, intelligent and easy-to-use, which used to measure and store the temperature profiles of both the sample and the oven during the cure process. The record data can be downloaded to the loggermaster software for a comprehensive evaluation of the oven conditions.

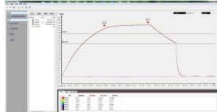


### Technical Specifications:

- ◆ Range: 0°C-1200°C
- ◆ Accuracy:  $\pm 0.3^\circ\text{C}$
- ◆ Resolution: 0.1°C
- ◆ Probe type: K type
- ◆ Channel: 6
- ◆ Operation temperature: 0-60°C
- ◆ Interval: From 1 second to 1 hour
- ◆ Interface: USB
- ◆ Batteries: 3 x 1.5AA type
- ◆ Battery life: 1200 hours continuous use or 10000 hours stand-by
- ◆ Size: 85 x 105 x 30 mm

### Flexible Evaluation of Data:

- ◆ Quick display - the logger display shows the maximum temperature and data percentage or graphic representation for each probe.
- ◆ Extensive analysis - download the data to PC, comprehensive calculations and full customized reports are easily got as each system is supplied with the powerful analysis software.



### Features:

- ◆ Measures up to 6 channels in one time
- ◆ Long battery life
- ◆ Large screen for numerical or graphical display of data
- ◆ USB interface provides easy data transfer for evaluation
- ◆ High quality thermocouple type K probes
- ◆ Measure temperature both in horizontal and vertical as the component is passed through the cure process
- ◆ Start and stop logging at a pre-set temperature
- ◆ Memory stores up to 260,000 readings



### Thermal Insulation Systems:

- ◆ All BEVS2301 recorder is equipped with a high quality thermal insulation system.
- ◆ Advanced heat absorber



- ◆ The insulation box is equipped with advanced stainless steel shell, which can be customized according to the demand for other purposes.

Model	Dimension L*W*H (mm)	Weight ( Kg )	Max. Temp. (°C)	Picture
BEVS 2302	275*225*140	4	300	
BEVS 2303	300*250*183	6.8	500	
BEVS 2305	280*200*70	2.8	250	
BEVS 2308	230*140*55	1.7	100	

### Probe Type:

- ◆ A wide range of K-Type temperature probes is available with 1.5m, 3m or 6 m cable length.

### Order Information of Probe:

Order No.	Cable length(m)	Cable type	Application	Probe type	Max. T. (°C)
PL8001/02/03	1.5/3.0/6.0	teflon	air	clamp	300
PL8004/05/06	1.5/3.0/6.0	teflon	air	magnetic	300
PL8007/08/09	1.5/3.0/6.0	teflon	surface	clamp	300
PL8010/11/12	1.5/3.0/6.0	teflon	surface	magnetic	300
PL8013/14/15	1.5/3.0/6.0	teflon	universal	ring Ø6mm	300
PL8016/17/18	1.5/3.0/6.0	teflon	universal	wire	300
PL8019/20	1.5/3.0	ss braided lead	surface	magnetic	480
PL8021/22	1.5/3.0	ss braided lead	surface	clamp	480
PL8023/24	1.5/3.0	ss braided lead	universal	ring Ø6mm	480
PL8025/26/27	1.5/3.0/6.0	ss braided lead	air	clamp	480
PL8028/29/30	1.5/3.0/6.0	Inconel bendable HT	universal	ring Ø6mm	1000

### Order Information:

- BEVS 2301 Oven Loggermaster
- BEVS 2302 300°C Thermal Insulation System, include insulation box, gasket and heat absorber
- BEVS 2303 500°C Thermal Insulation System, include insulation box, gasket and heat absorber
- BEVS 2305 250°C Thermal Insulation System, include insulation box, gasket and heat absorber
- BEVS 2308 100°C Thermal Insulation System, include insulation box and gasket



## Bench Glossmeter

### Introduction:

This small, portable instrument is made for measuring the gloss of curved surface, small pieces, specially shaped surface of small products, application in the area of coatings, automobiles, toys, furniture, plastics, banknotes, teeth, ceramics etc.



### Technical Specification:

#### Features:

- ◆ Automatic calibration
- ◆ One button operation
- ◆ Colorful touch screen displaying readings, statistics and calibration procedure status.
- ◆ Calibration can be done automatically within one second
- ◆ Up to 3000 readings stored.
- ◆ Convenient measurement with infrared sensor switch
- ◆ Footswitch available for simple measurement

#### Standard:

- ◆ ASTM D523, DIN 67530

#### Order Information:

BEVS 1506 Bench Glossmeter  
Delivery with 1x calibration tile, 1x USB cable, 1x footswitch and 1x sensor switch.

#### Order Information of Accessories:

BEVS1506/P/001 Standard Calibration Tile  
BEVS1506/P/002 USB Databale  
BEVS1506/P/003 Footswitch  
BEVS1506/P/004 Optical Sensor Switch

- ◆ Angle: 60°
- ◆ Range: 0-2000GU
- ◆ Repeatability:  $\pm 0.5$ GU (0-199.9GU)
- ◆ Precision: 1GU
- ◆ Measurement area: 2x2mm
- ◆ Display resolution: 320x240
- ◆ Control: Touch screen with one key measurement
- ◆ Memory: 3000 readings
- ◆ Operation temperature: -10°C ~ 40°C
- ◆ Port: USB
- ◆ Dimension: 220x190x85mm (LxWxH)
- ◆ Weight: 3kg



Sensor Switch



Footswitch

## 60°Glossmeter

### Introduction:

BEVS 60°Glossmeter is designed according to ISO 2813, ASTM D2457, GB9754, GB9966, GB8807 standards.

### Feature:

- ◆ Light and portable, adjustable knob type.
- ◆ Single AA alkaline battery can be used for a long time.
- ◆ Long lifetime light source, stable performance.



### Application:

- ◆ Furniture, electrical appliances and automotive industry: printing ink, paint, wooden products, leather products etc.
- ◆ Decorative industry: Marble, granite, ceramic tile, floor etc.
- ◆ Printing and packing industry: Plastic and paper.
- ◆ Other kinds of materials and objects.

### Order Information:

BEVS 1501 60°Glossmeter(delivery with two calibration tiles)  
BEVS 1501/P/010 Black calibration tile  
BEVS 1501/P/020 White calibration tile

### Technical Specification:

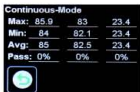
- ◆ Reading range : 0.0-199.9 GU
- ◆ Indication error:  $\leq \pm 1.2$  GU
- ◆ Stability:  $\pm 0.4$  GU / 30 Mins
- ◆ Measuring area: 14x30 mm
- ◆ Dimension: 122x49x94 mm (LxWxH)
- ◆ Power supply: 1.5 V

## Intelligent Glossmeter

### Introduction:

This BEVS portable intelligent glossmeter has a wide range of applications from matt to high gloss measurements, with advanced touch screen technology and ideal for production and laboratory.

Samples can be measured separately at each angle or at 2 or 3 angles simultaneously and effectively processed using the powerful built-in software.



### Technical Specification:

- ◆ Angle: 20°, 60°, 85°
- ◆ Measurement range: 0-2000GU
- ◆ Repeatability:  $\pm 0.2$ (0-199.9GU),  $\pm 0.2\%$ (200-2000);
- ◆ Reproducibility:  $\pm 0.5$ (0-199.9GU),  $\pm 0.5\%$ (200-2000);
- ◆ Precision: 1GU
- ◆ Measuring area(mm): 10x10 (20°), 9x15(60°), 5x38(85°)
- ◆ Display resolution: 320 x 240
- ◆ Control: Touch screen with one key measurement
- ◆ Memory: Basic mode: 3000 batches  
Statistics mode: 3000 batches  
Continuous mode: 1000 batches
- ◆ Data port: USB & blue tooth

### Features:

- ◆ Automatic calibration integrated in protective holder.
- ◆ Touch screen with one button measurement
- ◆ Display reading, statistics and calibration procedure on colorful touch screen
- ◆ One second to complete automatic calibration
- ◆ Memory up to 16000 x 3 readings
- ◆ Multi- languages menu available
- ◆ Built-in battery with USB port
- ◆ Transfer data to PC via USB cable, more extended functions
- ◆ Blue tooth connection
- ◆ Real-time to view measurement data via mobile phone



### Standard:

- ◆ ISO 2813, ASTM D523, DIN 67530

### Order Information:

- BEVS 1503 Intelligent Tri-Glossmeter (20°/60°/85°)
- BEVS 1503/1 Intelligent Glossmeter (20°)
- BEVS 1503/2 Intelligent Glossmeter (60°)
- BEVS 1503/3 Intelligent Glossmeter (85°)



## Color

### Color Assessment Cabinet

#### Introduction:

To avoid reducing the assessment error when performing color contrast, it is easy to simulate different light sources to compare color difference via touch screen panel. Idea application for the graphic arts, photographic, textile, dyeing, packaging, printing, leather, inks, knitwear, plastic, automotive and ceramics industries.



#### Features:

- ◆ Up to 6 lights sources
- ◆ Easy to operate via touch screen
- ◆ Automatically alternating among lights sources

#### Illuminants:

Light Source	Description	Color Temperature	Power
D65	International Standard Artificial Daylight	6500K	18W
TL84	Applied to stores in Europe, Japan and China	4000K	18W
CWF	(Cool White Fluorescent) American Standard	4150K	18W
F	"Sun-setting Light Yellow" incandescent light source (imitation of sunset)	2700K	40W
UV	Viewing under ultraviolet light to detect and evaluate optical brighteners or fluorescent pigments	365nm	18W
U30	Warm White Fluorescent, American Standard	3000K	18W

#### Order Information:

Model	D65	TL84	CWF	F	UV	U30	Size
							(L×W×H)
BEVS1201/5	2	2	2	4	1	0	710x405x570 mm
BEVS1201/6	2	2	2	4	1	2	710x530x570 mm

Optional accessory: 45" Sample observing table

### Non Contact Automatic Color Measurement Machine

#### Introduction:

BEVS Non Contact Automatic Color Measurement Machine (NCACM) is an intelligent and automatic non-contact color measurement system based on BEVS intelligent control system with spectrophotometer. It has high integration and scalability. BEVS NCACM is able to realize continuous and fast non-contact measurement and the efficiency increased by more than 60% than normal human measurement. It can also reduce the damage and scratch the products with non-contact during measuring. BEVS NCACM has a more prominent advantage in measuring small sample, it can measure many samples at same time with fixture.



#### Features:

- ◆ Spectrophotometer calibration, real-time display measurement data.
- ◆ Automatic measurement by programming and control XY axis module positioning to coordinate XY points.
- ◆ Connecting USB Camera to assist verification and positioning.
- ◆ Edit measurement program freely.
- ◆ Real-time automatically save data.
- ◆ Output testing report.

### System Parameters:

No.	Description	Specification
1	Single measurement time	0.2s
2	Min measurement interval	0.2s
3	Min measurement area	0.75x 1mm
4	Maxsamplesize	180x 180mm
5	X axis speed	10-500mm/s
6	Y axis speed	10-500mm/s
7	Z axis speed	10-100mm/s
8	Accuracy of colormeter	$\Delta E^*ab < 0.2$
9	Repeated positioning accuracy of XY axis	0.1mm
10	The distance between sample surface and measurement point of color meter	1±0.2mm
11	Grossweight	180 KG
12	Input electricity	Voltage 220V/50Hz Power 450W
13	Working Temperature	15-30 ℃
14	Humidity	20-80% RH (No condensation)
15	Dimension	LxWxH (980x730x1550mm)

### Order Information:

BEVS 3212 Non Contact Automatic Color Measurement Machine  
(Enable to customize upon requirements)

## Adhesion

### Multi-hatch Gauge

#### Introduction:

BEVS 2203 Multi-hatch Gauge is designed and manufactured according to BS3962-6, standard with the convenient and simple feature. It's widely used to measure the coating film adhesion of plastic and wood.



#### Features:

- ◆ Adhesion
- ◆ Wet film thickness
- ◆ Cross cutting line



#### Order Information:

BEVS 2203 Multi-hatch Gauge  
BEVS PJ/35 3M scotch tape

## Cross Hatch Cutter

### Introduction:

BEVS 2202 Cross Hatch Cutter is designed and manufactured according to ISO 2409.

GB / T9286-98, BS 3900 E6, ASTM

D3359 standards.



### Technical Specification:

Cutting Head No.	Gap (mm)	Blades	Cutters Edges	Coating Thickness (µm)
BEVS 2202/1	1	6	8	0-60
BEVS 2202/2	1	11	8	0-60
BEVS 2202/3	1.5	6	8	0-60
BEVS 2202/4	2	6	8	61-120
BEVS 2202/6	3	6	8	121-250

### Order Information

Standard Kit	Contain
BEVS 2202/1C	Cross Hatch Cutter + Carry Case + Hexagonal Screwdriver + Brush + Magnifier + Tape
BEVS 2202/2C	
BEVS 2202/3C	
BEVS 2202/4C	
BEVS 2202/6C	
Simple Kit	Contain
BEVS 2202/1S	Cross Hatch Cutter + Paper Box + Hexagonal Screwdriver
BEVS 2202/2S	
BEVS 2202/3S	
BEVS 2202/4S	
BEVS 2202/6S	

### Evaluation Criteria of Coating Adhesion Test:

Evaluation according to scale below:

Description	Performance	Class (ASTM)	Class (ISO)
The edges of the cuts are completely smooth; none of the squares of the lattice is detached.		5B	0
Detachment of small flakes of the coating at the intersections of cuts. A cross-cut area not significantly greater than 5% is affected.		4B	1
The coating has flaked along the edges and/or at the intersections of the cuts. A cross-cut area significantly greater than 5%, but not significantly greater than 15% is affected.		3B	2
The coating has flaked along the edges of the cuts partly or wholly in large ribbons, and or it has flaked partly or wholly on different parts of the squares. A cross-cut area significant greater than 35% is affected.		2B	3
The coating has flaked along the edges of the cuts in large ribbons and/or same square have detached partly or wholly. A cross-cut area significantly greater than 35%, but not significantly greater than 60% is affected.		1B	4
Any degree of flaking that cannot even be classified.		0B	5

## Multifunction Coating Performance Tester

### Introduction:

BEVS 2205 Multifunction Coating Performance Tester has the multi-function of cross cut adhesion testing, pencil hardness testing, scratch testing and linear abrasion testing. It is easy to operate by taking the full touch screen technology. Multi-functions in one can meet more requirements for customers.

This instrument enables to test the scratch resistance performance, adhesion performance, hardness and linear and linear abrasion on the coating. It has an automatic sample locking test platform, rotation and movement, test pressure adjustment and speed adjustment can be achieved.

With the improvement of product quality and QC frequency increasing, the traditional manual test method will be replaced by intelligent, automated method, to avoid human error caused by the operator.

BEVS 2205 provides fast and accurate test results for companies which have batch testing requirement, R&D department and testing organizations.



### Technical Specification:

- ◆ Panel Size: Max. Width 75mm
- ◆ Sample Thickness: 0.5 - 20mm
- ◆ Standard Load Range: 5 - 50N
- ◆ Special Load Range: 1 - 10N (Optional)
- ◆ Cutting Stroke Length: Max. 45mm
- ◆ Cutting Speed: 2 - 20mm/s
- ◆ Cutting Space: 1-5mm
- ◆ Scratch Stylus:  $\varnothing$  0.5/1.0/ 2.0mm
- ◆ Pencil: 9B - 9H
- ◆ Dimension: 550L x 410W x 520H mm
- ◆ Power Supply: 110/230V AC, 50/60Hz (Optional)
- ◆ Max Power: 500W

### Features:

- ◆ Four functions in one
- ◆ Full automatic operation
- ◆ Sample clamped automatically
- ◆ Rotated and moveable platform
- ◆ Automatic adjustment of load range
- ◆ Automatic adjustment of speed and stroke
- ◆ Cutting space adjustment
- ◆ Cutting number adjustment
- ◆ Data enables to save and output
- ◆ LCD color touch screen



◆ Function select



◆ Cross cut interface and setting of speed, space and cutting times, etc



◆ Scratch testing



◆ Linear abrasion testing



◆ Pencil hardness testing

### Standard:

ISO 2409, ISO 15184, ASTM D3359, ASTM D3363, BS 3900 E6, GB/T9286-98

### Order information:

BEVS 2205 Multifunction Coating Performance Tester (Include four types accessories)

BEVS 2205/P/010 Accessory for cross cut test



BEVS 2205/P/020 Accessory for pencil hardness test



BEVS 2205/P/030 Accessory for scratch test



BEVS 2205/P/040 Accessory for linear abrasion test



## Automatic Pull Off Adhesion Tester

## Introduction:

At present, cross cut method is used for qualitative evaluation of coating adhesion, but not quantitative testing. With quality control to improve and the development of new material, more and more users want to have the quantification on the adhesion and cohesion between coating and substrate, meanwhile, also need to monitor the influence change of adhesion of anti-corrosion coating on some outdoor concrete based coating, marine coating and bridge coating by the environmental temperature and humidity.

BEVS 2201 Automatic Pull Off Adhesion Tester adopts the full touch screen technology, It enables to test the adhesion of metal and other substrate and temperature and humidity on the surface to further evaluate the coating quality and lifetime.

BEVS 2201ATV Adhesion Tester Verifier is used to verify the accuracy of the pull-off tester. It is of exquisite design and digitally displays force value.

## Technical Specification:

## Basic specification

Dolly Diameter	10mm	14mm	20mm	50mm
Working range	10-100MPa (1450-14504psi)	5-50MPa (725-7252psi)	2.5-25MPa (362-3626psi)	0.4-4 MPa (58-380psi)
Range of pull off rate	0.8-3Mpa/s (116-435psi/s)	0.4-1.5Mpa/s (58-217psi/s)	0.2-0.75Mpa/s (29-108psi/s)	0.03-0.12Mpa/s (4-17psi/s)

Accuracy of put off rate: 2.5%+0.3s

Pressure accuracy: 1% full range

Pressure resolution: 0.01Mpa

Units: MPa, psi

Display Screen: Touch screen

## Power specification

Power: Build in rechargeable battery, 12.6V2A, 20000mA/H

Dimension: 210L×90W×140H mm

Packing list

Standard: 10 x10mm dolly, 10x14mm dolly, 10x20mm dolly, 1 x glue set, 1x 20mm cutter, 5x swab, 5x spile, 1x sandpaper, 1x Temp. & Humidity sensor



## Features:

- ◆ Wide range of applications: Metals, wood, concrete and other substrates
- ◆ Real time measure the temperature and humidity of product surface
- ◆ Loading up to 100Mpa
- ◆ Data reproducible measurement
- ◆ Enable to set the max. pull off force
- ◆ Enable to set the holding time of tension
- ◆ Data storage and quick view result
- ◆ Real time display the diagram of drawing rate
- ◆ USB data transmission
- ◆ Multiple dollies are available
- ◆ Big capacitive touch screen
- ◆ Set up time and date
- ◆ Build in rechargeable battery
- ◆ Onsite calibration available
- ◆ Bluetooth function



- ◆ Main Interface:  
Real time display curve and parameter.



- ◆ Setting interface:  
Set the related parameter and view the data.



## Standard:

ASTM D4541, ASTM D7234, ISO4624, ISO 16276-1, JIS K 5600 5-7

## Order Information:

BEVS 2201 Automatic Pull Off Adhesion Tester  
 BEVS 2201ATV Adhesion Tester Verifier  
 BEVS 2201/P/010 10mm dolly  
 BEVS 2201/P/014 14mm dolly  
 BEVS 2201/P/020 20mm dolly  
 BEVS 2201/P/050 50mm dolly  
 BEVS 2201/P/110 10mm cutter  
 BEVS 2201/P/120 20mm cutter

## Hardness

### Pencil Hardness Tester

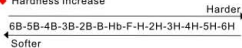
#### Introduction:

BEVS1301 Pencil Tester complies with the requirements of ASTM D3363 and ISO 15184 standard, through leaving a superficial trace on the dry coating film with a certain pencil hardness, the surface will be variably damaged by the hardest pencil to evaluate pass/fail or hardness. Recommend to apply on the smooth film surface. Use variety of different hardness pencils, the angle between pencil and the coated surface is 45°, scratch on the coated surface under a certain of force, the scratch resistance hardness of the coating is the pencil hardness which just scratched the coating.



#### Hardness Class:

- ◆ Hardness Increase



#### Technical Specification:

- ◆ Pressure of pencil tip: 1000/750/500g
- ◆ The angle between pencil and film surface is 45°
- ◆ Three points are touched on the tested surface (roller, pencil tip)
- ◆ With a set of Mitsubishi pencil(14pcs, 6B-6H)

#### Order Information:

BEVS 1301/500 Pencil Hardness Tester (500g)

BEVS 1301/750 Pencil Hardness Tester (750g)

BEVS 1301/1000 Pencil Hardness Tester (1000g)

- ◆ Mitsubishi pencils are available upon request

### Electric Pencil Hardness Tester

#### Introduction:

BEVS 1309 Electric Pencil Hardness Tester is a leading portable instrument with small size and user-friendly design. The pencil tip weight range is adjustable from 500 to 1000 grams and the test speed is adjustable from 0.5 mm/s to 8 mm/s.



#### Features:

- ◆ Adjust weight of pencil tip from 500 to 1000g manually
- ◆ Real-time read weight from display window
- ◆ With level bubble to indicate current horizontal state of tester



#### ■ Technical Specification:

- ◆ Moving speed: 0.5 - 8 mm/s (Estimated speed), adjust speed by knob
- ◆ Moving direction: One way, on or off by press button
- ◆ Control method: Control box external
- ◆ Compatible power supply: Charging bank (5V, DC) to reach low speed movement
- ◆ Dimension: 205 × 58 × 80mm (L × W × H)
- ◆ Total weight: 2.2 Kg
- ◆ Power: 100V - 220V convert to 12VDC



#### ■ Order Information:

BEVS 1309 Electric Pencil Hardness Tester

## Buchholz Indentation Tester

#### ■ Introduction:

BEVS Buchholz indentation tester can be used to evaluate of indentation resistance of plastic deformable coatings.

It is placed onto the specimen surface under a constant test load (500g) provided by a block tester, move the tester after 30 seconds, there is a trace left and then measure via a 20 x magnification illuminated microscope. The coating hardness is indicated by the length of the indentation mark.



#### ■ Features:

- ◆ Two support pins made of hardened stainless steel
- ◆ Circular tool made of hard metal
- ◆ Built-in bubble level to keep accuracy
- ◆ High precision microscope to obtain correct result



#### ■ Standard:

ISO 2815

#### ■ Order Information:

BEVS 1303 Buchholz Indentation Tester

Standard Delivery: Buchholz tester, precise illuminated microscope, indentation template, AA batteries.

BEVS 1303/P/001 20x Microscope

## Intelligent Pendulum Hardness Tester

### Introduction:

BEVS 1306 Intelligent Pendulum Hardness Tester, a user-friendly and intelligent-designed instrument, has a lot of unique features that ease defining hardness by full touch screen control automatically and it is widely used in the hardness evaluation of hard and soft coating and similar material.

BEVS 1306 Intelligent Pendulum Hardness Tester consists of measuring the damping time of a pendulum (K/P) oscillating on a test surface to indicate the hardness. It decreases faster on softer medium. The two pendulums are of the same principle but detailed parameter is different.

The instrument has a series of intelligent functions that automatically identify the level condition before testing, automatically warn, automatically monitor vibration level, and check whether the temperature and humidity of the environment meet the test requirements. It ensures a high precision results and eliminate the error caused by human or environment.

BEVS 1306 Intelligent Pendulum Hardness Tester is the best instrument to measuring the hardness for universities, scientific research and QC, especially in the development and application of automotive coatings.



### Technical Specification:

Pendulum type	Persoz	König
Weight/g	500±0.1	200±0.2
Ball diameter/mm	8	5
Deflection start/°	12	6
Deflection end/°	4	3
Oscillation period/s	1±0.01	1.4±0.02
Damping time on glass plate/s	430±10	250±10
Number of oscillation on glass plate/T	430±10	172-185
Voltage	100-240V (50/60HZ)	
Power	Max. 45W	
Environmental temperature and humidity	10°C-35°C, 80% RH	
Adjustment leveling range	0-3°	



### Features:

- ◆ LCD color touch screen
- ◆ Monitoring temperature and humidity
- ◆ Full automatic operation
- ◆ Automatically identify pendulum
- ◆ Automatically identify the level condition
- ◆ Vibration warning
- ◆ Data save and output  
(Measurement times, Max. value, Min. value)



- ◆ Main Interface:  
Real time display of pendulum type, total number of oscillations and duration.



- ◆ Setting Interface:  
Enable to set the related data and calibrate.

### Standard:

ISO 1522, ASTM D4366, NF T30-016, BS 3900 E5, DIN 53157

### Order Information:

BEVS 1306 Intelligent Pendulum Hardness Tester (K and P)  
 BEVS 1306/1 Intelligent Pendulum Hardness Tester (K)  
 BEVS 1306/2 Intelligent Pendulum Hardness Tester (P)  
 BEVS 1306/P/001 K Pendulum  
 BEVS 1306/P/002 P Pendulum

## Deformation

### Automatic Cupping Tester

#### Introduction:

- ◆ BEVS Automatic Cupping Tester is an advanced technology to efficiently assess the elasticity and cupping resistance of various coatings, with a new generation micro - electro and CCD technology, also has strong functions such as can be video or photo the deformation process or result that can be copied the image to U disk and then connect with PC to analyse the various factors between coating performance and substrate etc.
- ◆ Customized design software operation system and provide the USB port for mouse and U disk and camera, best choice for R & D and QC people.
- ◆ The test is either used as a "pass /fail " test by preset to a specified depth or defining the minimum depth at which a coating fails by gradually increasing the indentation, or carry out the deformation by indentation under standard conditions.



#### Technical Specification:

- ◆ Stroke length: 0-15mm, accuracy:  $\pm 0.01$ mm
- ◆ Indenter speed: 0.02-0.4mm/s, accuracy:  $\pm 0.5$ mm
- ◆ Control: Automatic
- ◆ Camera: Colorful CCD
- ◆ Light source: LED light source
- ◆ Cupping result: Digital (resolution 0.001mm)
- ◆ Interface: USB port for mouse & U disk & CCD
- ◆ Max. panel width: 70 mm
- ◆ Max. panel thickness (steel): 1.25 mm (Standard Speed 0.2mm/s)
- ◆ Max. panel thickness (aluminum): 3mm (Standard Speed 0.2mm/s)
- ◆ Max. cupping force: 15KN
- ◆ Power supply: 230 VAC-50 Hz (110V-60Hz option)



#### Features:

- ◆ Touch screen control technology
- ◆ Customized operation system
- ◆ Mouse directly connect with instrument
- ◆ Directly input testing parameter via screen or mouse
- ◆ Realtime display cupping process
- ◆ Realtime monitor cupping image
- ◆ Realtime show cupping speed and depth
- ◆ With video and photo
- ◆ Automatic calibration zero
- ◆ Manual and preset mode



#### Standard:

EN-ISO-DIN

#### External HD Camera

BEVS 1606 Automatic Cupping Tester is upgraded with a new function that enable to connect computer for better improvement in the image resolution and clarity, taking pictures and video are available as well. There are two ways to observe the process of cupping, the one is in the cupping tester, another is in the computer.



#### Order Information:

BEVS 1606 Automatic Cupping Tester (with internal camera)  
BEVS 1606/P/003 External HD Camera

## Cylindrical Mandrel Bend Tester

## ■ Introduction:

- ◆ A very robust mechanical unit for determining the elasticity, adhesion and elongation of dry paint on metal sheet.
- ◆ Perfect design, the instrument can be adapted to the diameter of the mandrel used.
- ◆ The coated specimens up to 70mm width, are bent perfectly and regularly on decreasing mandrels until cracks can be observed.
- ◆ Each instrument is supplied with a kit of 14 stainless steel mandrels with diameters of: 2,3,4,5,6,8,10,12,13,16,19,20,25 and 32 mm



## ■ Technical Specification:

- ◆ Maximum sample width: 70 or 100mm
- ◆ Sample thickness: 0.3 ~ 1 mm
- ◆ Mandrels with diameters: 2,3,4,5,6,8,10,12,13, 16,19,20,25 and 32mm



## ■ Standard:

ASTM D522



## ■ Order Information:

- BEVS 1603 Cylindrical Mandrel Bend Tester, width: 70mm
- BEVS 1603A Cylindrical Mandrel Bend Tester, width: 100mm
- Other mandrels are available upon request.

## Impact Tester

### Introduction:

BEVS Impact Tester is used to make the reliable evaluation of coatings resistance by simulating actual impact condition. A free falling object impacts coated surface and lead to craze in the substrate, test the destroy degree of crazing.

Most of coating in protective field must be carried out the impact test, such as painting, plating, plastic, varnish, resin, compound, coil coating, sheet and metal material etc.

### Instrument including:

- ◆ Sturdy substrate to connect tube frame
- ◆ Different falling weight
- ◆ Clamp ring to adjust the falling weight
- ◆ Up and down
- ◆ A graduated tube



Accessories of BEVS 1601/2



BEVS 1601/4

BEVS 1601/2

### Technical Specification:

#### BEVS 1601/1 Impact Tester

- ◆ Comply with ASTM D2794
- ◆ Falling weight: 8.9N (2 Lbs)
- ◆ Indenter diameter: 15.9 mm
- ◆ Die diameter: 16.3 mm
- ◆ Tuber height: 63.6 cm

#### BEVS 1601/2 Impact Tester

- ◆ Comply with ASTM D 2794, BS6496
- ◆ Falling weight: 17.9 N (4 Lbs)
- ◆ Indenter diameter: 15.9 mm
- ◆ Die diameter: 16.3 mm
- ◆ Tuber height: 101.7cm

#### BEVS 1601/3 Impact Tester

- ◆ Comply with BS3900, DIN55669, ISO6272
- ◆ Falling mass: 1 kg
- ◆ Indenter diameter: 20 mm
- ◆ Die diameter: 27 mm
- ◆ Tuber height: 100 cm

#### BEVS 1601/4 Impact Tester

- ◆ Comply with GB/T 1732
- ◆ Impact height: 50 cm
- ◆ Tube division scale : 1 cm
- ◆ Falling mass: 1 kg
- ◆ Indenter dia: 8 mm
- ◆ Die diameter: 15 mm
- ◆ Impact depth: 2 mm

#### BEVS 1601/5 Impact Tester

- ◆ Comply with GB/T 1732
- ◆ Impact height: 1 m
- ◆ Tube division scale: 1 cm
- ◆ Falling weight: 1 kg
- ◆ Indenter dia: 8 mm
- ◆ Die diameter: 15 mm
- ◆ Impact depth: 2 mm



BEVS 1601/5

BEVS 1601/2

### Order Information:

Order No.	Item	Standard	Height ( cm )
BEVS 1601/1	Impact Tester	ASTM D 2794	63.6
BEVS 1601/2	Impact Tester	ASTM D 2794, BS 6496	101.7
BEVS 1601/3	Impact Tester	BS3900, DIN55669, ISO6272	100
BEVS 1601/4	Impact Tester	GB / T 1732	50
BEVS 1601/5	Impact Tester	GB / T 1732	100

- Other indenter and die are available upon request.

## Conical Mandrel Bend Tester

### Introduction:

A very robust mechanical unit for determining the elasticity, adhesion and elongation of dried paint on sheet metal. It can be used in accordance with: ASTM D522.



### Standard:

ASTM D522

### Technical Specification:

- ◆ Size: 280×280×95mm (L×W×H)
- ◆ Gross Weight: 8Kg
- ◆ Size of the cone axis: Small end: ø3.1  
Big end: ø38  
Length: 203 mm
- ◆ Maximum of sample size: 200×100mm

### Features:

- ◆ High-quality steel
- ◆ Compact and firm structure
- ◆ Suitable for desktop use
- ◆ Simple and quick operation.

### Order Information:

BEVS 1605 Conical Mandrel Bend Tester



## Abrasion, Scrub & Washability

### Handle Abraser

### Introduction:

This instrument is designed according to the DuPont company standard, America CMA2004-04 and Britain BS7069 standard. It is widely used in the handle and ear abrasion resistance test for kitchen ware products.

Support table can lift flexibly, the jig can be adjusted freely with the humanization design, which is helpful to fix the product tightly.



### Technical Specification:

- ◆ Rotating Speed: 2-40 times/min
- ◆ Max Load: 60 KG
- ◆ Max Diameter of Product: Φ550 mm
- ◆ Range of Height: 0-400 mm
- ◆ Control System: Touch-screen control
- ◆ Voltage: 2 Phases@ 750W

### Order Information:

BEVS 2802/1 Handle Abraser (General type)

BEVS 2802/2 Handle Abraser (Intelligent type with touch-screen)

## Wet Abrasion Scrub Tester

### Introduction:

This machine is used to test the abrasion, scrub and washability performance for many kinds of materials, do the abrasion scrub test in wet and dry condition; touch screen control. It is widely used in water-based coating field.



### Technical Specification:

- ◆ Scrub rate: 37±1 cycles/min
- ◆ Maximum setting of abrasion times: 9999
- ◆ Sample thickness: 0-25 mm
- ◆ Test panel thickness range: 0-25 mm (Adjustable)
- ◆ Built-in fluid pump
- ◆ Big LCD design, touch-screen operation
- ◆ Operating Menu: Chinese or English
- ◆ Testing fluid flow is controlled by peristaltic pump

### Application:

Paint, coating, leather, wood, plastic, printing materials and fiber etc.

### Standards

- ◆ ASTM D2486, D3450
- ◆ DIN 53778
- ◆ ISO 11998

### Order Information:

#### ◆ BEVS 2805

Wet Abrasion Scrub Tester  
With one standard accessory as below

### Accessories: (Optional)

#### ◆ BEVS 2805 / 1 / P

Standard: DIN 53778  
Carriage assembly with pump, applied weight 250g, 2 brushes with natural bristle

#### ◆ BEVS 2805 / 2 / P

Standard: ASTM D2486  
Carriage assembly with pump, applied load 454g, 2 nylon brushes, 2 rubber pads with 325 × 12.7X0.25mm brass shim

#### ◆ BEVS 2805 / 3 / P

Standard: ASTM D3450  
Carriage assembly with pump, applied weight 1500g, 2 sponges

#### ◆ BEVS 2805 / 6 / P

Standard: ISO 11998  
Applied weight 135g, 2 non woven abrasive pads



DIN 53778



ASTM D2486



ASTM D3450



ISO 11998

## Scratch Tester

For product surface coating, such as coil coating, can ink, 3C ink and automobile surface coating etc. It is necessary to test its scratch resistance performance with the BEVS 2801 Scratch Tester.



### Introduction:

Scratch Tester is applied to the scratch resistance performance evaluation of single coating or complex coating system in insulated color coated sheet. It will be known the coating scratch resistance performance by evaluating whether the coating is scratched by tungsten carbide hemispherical stylus with a certain weight or the maximum load of the coating which can not be scratched.



The Scratch Tester of BEVS is complied with the standards of ISO1518, BS3900.

Enable to display the graph of scratch on the screen in real time and show the test result on the screen, it will directly display "OK" or "NG"



### Features:

- ◆ Big LCD design, touch-screen operation
- ◆ Adjustable work platform---More convenient
- ◆ Display the test result on the conductive substrate
- ◆ High Hardness Scriber---More durable
- ◆ Special design for sample clamp
- ◆ Show the testing procedure with real time graph



### Technical Specification:

- ◆ Scratch Speed: 30-40 mm/sec
- ◆ Moving Distance: 65 mm
- ◆ Power: 220 V/50 Hz or 110 V/60 Hz
- ◆ Stylus: Tungsten carbide hemispherical stylus, diameter: 1mm
- ◆ Metallic test panel size: 100×150×0.2mm (L×W×H)
- ◆ Loading up to 5 Kg
- ◆ With a 2 Kg weight set: 2x50g, 2x100g, 1x200g, 1x500g, 1x1000g



### Order Information:

BEVS 2801 Scratch Tester  
BEVS 2801/P/001 Tungsten carbide hemispherical stylus, diameter: 1mm

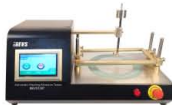




## Automatic Heating Abrasion Tester

### Introduction:

BEVS 1307 is suitable for testing the wear resistance and scratch resistance of various coatings, like plastics, leather, ceramics and others. According to the test requirements, different abrasion tools are used to test the materials. For example, the non-stick pan is heated and the non-stick coating is tested at a certain temperature.



### Technical Specification:

- ◆ Control: touch screen, user-friendly design
- ◆ Heating plate temperature: ambient ~ 450 °C
- ◆ Stroke length: 30mm, 60mm, 90mm
- ◆ Cycle: 20-190times/minute
- ◆ Weight: 250-1500g (250g increments)
- ◆ Abrasion tool: purchase according to test requirements
- ◆ Number of tests: 1-99999
- ◆ Sample specifications:
  - Square test specimen: (180 ~ 500) X (180 ~ 360) mm, height 0.5 ~ 150mm
  - Round test specimen: Ø180~Ø360mm, height 0.5~150mm
- ◆ Power: no heating: 35W, heating: 1500W
- ◆ Voltage: 200~250V or 100-120V optional

### Order Information:

BEVS 1307 Automatic Heating Abrasion Tester

## Coin Scratch Tester

### Introduction:

BEVS 1305 is used for testing the anti-abrasion and anti-scratch ability of coatings by coin, place the tester on the coatings horizontally, move the tester forwards and backwards to judge the coating hardness, abrasion and scratch.



### Technical Specification:

- ◆ Dimension: 112 x 81 x 95 mm
- ◆ Net weight: 2400 g
- ◆ Coin tip pressure: 1000 g
- ◆ Coin tip pressure with extra weight: 1500 g



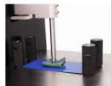
### Order Information:

BEVS 1305 Coin Scratch Tester

## Linear Abraser

### Introduction:

It is designed according to the American Dupont standard and applied to the abrasion resistant test for all kinds of nonconductive coating layers. Judge the abrasion degree of samples by using rubber, artificial sweat, steelwool or alcohol to scrub the surface of the samples.

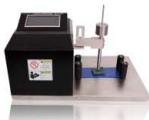


### Order Information:

#### BEVS 2803 Linear Abraser

Other fixtures and abrasants are available.

Order No.	Description	Picture
BEVS-2803P101	T-shaped fixture for scratch-resistant test	
BEVS-2803P104	Square fixture for flat abrasion test	
BEVS-2803P103	Blocker, diameter 14" for mid-abrasing action	?
BEVS-2803P105	Blocker, diameter 14" for mid-medium abrasion action	?
BEVS-2803P104	Blocker, diameter 14" medium coarse abrasion action	?



### Features

- ◆ Big LCD design, touch-screen operation
- ◆ Operating Menu: Chinese or English
- ◆ Adjustable speed intelligent system, ensure the accuracy of sample measurement
- ◆ Universal fixture to fix the sample in different shape & size

### Technical Specification:

- ◆ Humanized Screen, touch-screen control
- ◆ Rubbing Frequency: No sections and adjustable speed frequency
- ◆ Adjustable rubbing cycle times: 0 - 9999
- ◆ Adjustable stroke length: 20-99 times/min
- ◆ Adjustable rubbing distance: 10 - 50 mm
- ◆ Test platform: 350×400mm (L×W)



## Intelligent Robotic Coating Station

### Introduction:

BEVS3228N Intelligent Robotic Coating Station is integrated by intelligent instrument, robot, automatic control system and testing material.

The robot automatically completes the loading and unloading to achieve rapidly automatic drawdown, greatly improves the reproducibility and efficiency of the drawdown coating, and obtains the coating film which has the uniform physical, appearance and chemical properties. All kinds of instability caused by the factors such as velocity, pressure and direction in the application process are eliminated.



### Features:

- ◆ With AI sensor
- ◆ Real time Data encrypted transmission
- ◆ Testing automatically
- ◆ Free combination of instruments and equipment
- ◆ System work by remote command
- ◆ Data, analysis, and result report can be obtained at anytime and anywhere
- ◆ Sharing with intelligent and automated production workshop
- ◆ Shorten the R & D and testing cycle
- ◆ High efficiency and greatly reduced R & D cost
- ◆ Data saving and output
- ◆ Fast automatic drawdown with different coatings
- ◆ Fast automatic loading and unloading material
- ◆ Quick replacement of paints

### ■ Robot Parameters:

No.	Process name	Stroke (mm)	Pre-allocation time (s)	Maximum speed
1	Horizontal moving	1000	4	500 mm/s
2	Vertical drop of fixture	300	2	300 mm/s
3	Vertical rise of fixture	300	2	300 mm/s
4	clamp			0.6 s
5	Maximum acceleration	5m/s <sup>2</sup>		
6	Clamping fixture range	Single side 80mm-150mm		
7	Maximum weight of sample	2Kg.		

### ■ Drawdown Parameters:

- ◆ Moving speed: 10-100mm/S
- ◆ Length of stroke: 20-180mm
- ◆ Substrate size (maximum): 150x70mm
- ◆ Test platform: fine grinding aluminum alloy plate
- ◆ Coating device: Bar Coater



### ■ System parameters:

- ◆ Continuous coating drawdown speed: 40 s/pcs
- ◆ Duration of working: 7x 24h
- ◆ Compatible coatings: 10 kinds of paints
- ◆ Maximum storage standard samples: 200 pcs
- ◆ Maximum storage panel bracket: 20 pcs
- ◆ Maximum storage coated panel: 20 pcs
- ◆ Voltage: 220V/50Hz
- ◆ Power: 2.5 KW
- ◆ Air pressure: 0.5 Mpa (no oil and no water)
- ◆ Temperature: 0-45 °C
- ◆ Humidity: 20-80% RH (non - condensation)
- ◆ Vibration: <4.9 m/s
- ◆ Workstation size: 1400X1200X1900 mm (L X W X H)



### ■ For Coating Equipment:

Automatic pick-up and discharge, automatic unloading of paint sample and pipette recovery

### ■ Functions :

- ◆ Store many panels at a time and collect it automatically and quickly
- ◆ Store several Bar Coaters at a time and get the Bar Coaters and operate automatically and quickly
- ◆ Paints storing device, load and unload the paint by robot
- ◆ Drawdown by robot
- ◆ Ultrasound cleaning for bar coaters, save time and water, more environmentally friendly
- ◆ Fully automatic operations in the testing process, automatically collect panel into shelves
- ◆ Modular designs, convenient maintenance and enable rapidly upgrade
- ◆ A variety of drawdown modes can be selected. Drawdown for many times in one kind of coating and drawdown in turn in different coatings

### ■ Application:

Coatings, inks, packaging, printing, chemicals, universities, research institutes, testing institutions etc.



### ■ Order Information:

BEVS3228N Intelligent Robotic Coating Station  
Other Intelligent Robotic Coating Station can be customized upon request

## Intelligent Panel Coating Station

### Introduction:

BEVS 3226N Intelligent Panel Coating Station is a smart small mobile workstation that integrates intelligent instruments, mechanical actions, automatic control systems and test materials.

The station automatically completes the loading and unloading, realizes the rapid panel coated, greatly improves the reproducibility and efficiency of the coating, and obtains the uniform film which has the same physical properties, appearance and chemical properties. All kinds of instability caused by the factors such as velocity, pressure and direction in the application process are eliminated.



### Features:

- ◆ Real-time data encrypted transmission
- ◆ Free combination of instruments and equipment
- ◆ Remote command anytime, anywhere
- ◆ Get data, analysis, and results reporting anytime, anywhere
- ◆ Sharing with intelligent, automated workshop production
- ◆ Shorten research and development, testing cycle
- ◆ High efficiency and greatly reduced R&D costs
- ◆ Data saving and output
- ◆ Compatible with many different coatings and realize rapid automatic panel coated

### Technical Parameters for Each Process:

No.	Procedure Name	Stroke(mm)	Pre-allocated Time(s)	Max. Speed(mm/s)
1	Horizontal moving	1000	15	100
2	Fixture vertical down moving	300	4	100
3	Fixture vertical up moving	300	4	100
4	Clamping	/	2	50
5	Max. acceleration	100 m/s <sup>2</sup>		
6	Panel dimension	Length: 120-180 mm, Width: 50-100 mm		
7	Max. panel weight	500g		

### Spray Parameters:

- ◆ Applicable paint type: water-based and solvent-based
- ◆ Applicable paint viscosity range: 1-20000 cps
- ◆ Moving speed: X-axis 25-250 mm/s; Y-axis 25-250 mm/s
- ◆ Stroke length: X-axis 220 mm; Y-axis 220 mm
- ◆ Gun distance: 210 mm
- ◆ Atomization air pressure: 0.3-0.7 Mpa
- ◆ System pressure: 0.4-0.7 Mpa
- ◆ Spraying area: max. 100 × 180 mm



### System Parameters:

- ◆ Continuous spray speed: 60 s/pcs
- ◆ Continuous working time: 7 x 12 h
- ◆ Maximum storage paints: 10 pcs
- ◆ Maximum storage of standard substrate: 20 pcs
- ◆ Maximum storage coated panel: 20 pcs

### Main Structural Module:

- ◆ Moving mechanism: spray gun X, Y two-axis motion mechanism
- ◆ Test panel coding, paint syringe code-reading device
- ◆ Spray gun: A non-standard R&D spray system that can quickly change the type of paint
- ◆ Compressed air supply and pneumatic control system
- ◆ Panel fixing, loading, unloading and storage mechanism; paint syringe fixing, loading, unloading and storage mechanism
- ◆ Positioning connection device in workstations
- ◆ Automatic change mechanism of the paint syringe
- ◆ Spraying environment detection system: Real-time detection of humidity, temperature and VOC concentration in the internal working environment
- ◆ Waste discharge module: exhaust gas and sewage discharge device
- ◆ Electrical control system

#### ■ Functions:

- ◆ Full-automatic control of double-axis (X, Y) movement
- ◆ Preset multiple common viscosity spray mode, input the required coating thickness value, the system automatically spray
- ◆ Custom spray mode: input spray moving speed, gun distance, atomization pressure, paint pressure, spray cycles and other parameters, the system automatically sprays according to the set parameters, custom spray mode can be saved for next time
- ◆ The interface displays the current parameters in real time, such as the current coating thickness, the run spray cycles, remaining spray cycles, the estimated final film thickness, and the estimated remaining time
- ◆ Quick replacement of 10 kinds different paints
- ◆ Fully enclosed to avoid contamination of the external environment during spraying
- ◆ Real-time monitoring of humidity, temperature and VOC in the internal environment
- ◆ The waste is discharged by means of gas and sewage



#### ■ Order Information:

BEVS 3226N Intelligent Panel Coating Station  
(custom available upon request)

## Intelligent Robotic Testing System

With the constantly upgrading in industry 4.0, the robot and internet of things pay the more and more important role in technology revolution and industry upgrading for the traditional industry such as manufacturing etc. The traditional manual testing and inspection are also replaced by robot.

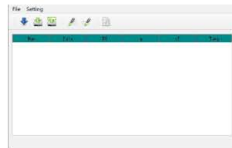
In order to greatly improve the competition and capacity of research, production and manufacturing. The work related with labor intensity, cost, time, efficiency etc. could be completed freely by robot during the process of daily research, testing, production and manufacturing.

Intelligent robotic testing system is applied to university, research institute, inspection organization, enterprise etc. User could customize the unique configuration upon different requirements to achieve the intelligent remote control and testing report output automatically and completed unmanned operation.

1. Robot with Mixer to achieve monitor the dispersion.



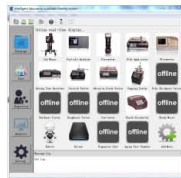
2. Robot with KU viscometer to achieve online measurement.



3. Robot with automatic film applicator to quickly achieve the batch and precision film.



Name	Speed	Roll Speed	Film Size	Velocity	Thickness



### Intelligent Robotic Inspection System

Intelligent robotic inspection system is applied in the quality control in the daily production and manufacturing such as the coating surface inspection of 3C products and automobile, precision machining parts inspection, product defect inspection etc.

4. Robot with multi-instruments to achieve automatic testing.



1. Robot with Intelligent online inspection



Date	Time	2F Data(G)	4F Data(G)	6F Data(G)	Standard(G)	2F UpperDev	2F LowerDev
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