

## Portable Static Meter

AP-YV1301/1302/1303

AP-YF1201



Normal type & Explosion-proof

Question

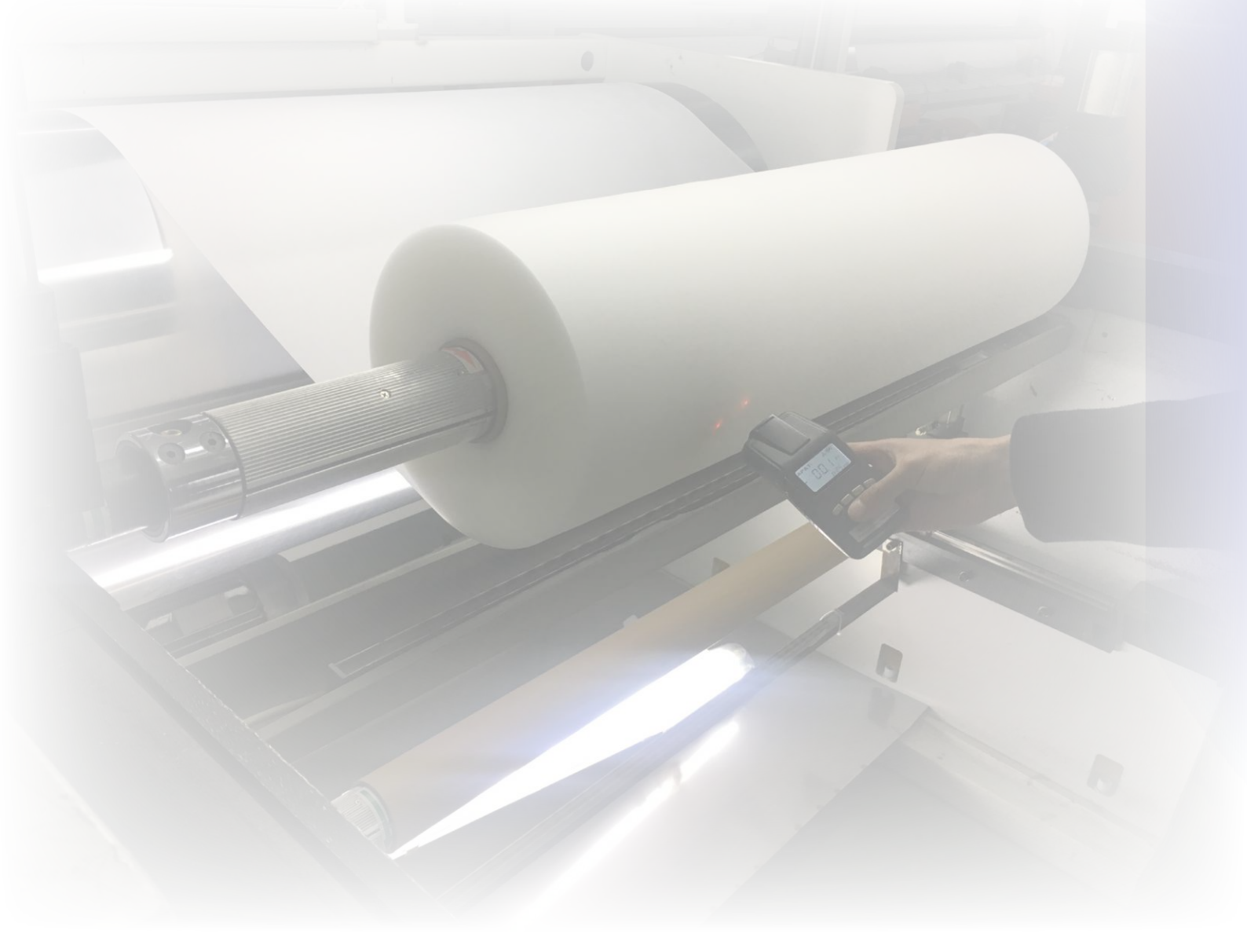
Q1:Where is electrostatic easy to be generated?

Q2:How is the static voltage?

Q3:How effective are anti-static measures?

Q4:How to choose the installation position of static eliminator?

## APPLICATION CASE



# Use in flammable and explosive environment

## Explosion-proof Static Meter

Explosion-proof grade: Ex ib IIB T5 Gb

This product can be used in flammable and explosive working places corresponding to IIB or lower level with this safe explosion-proof function



Can detect static electricity on the surface of any object

### Application field:

- Film Industry
- Textile Industry
- Coating Industry
- Printing Industry
- Injection molding Industry
- Electronics Industry
- Chemical Industry
- Medical Industry and etc.

# Dual LED Precise Positioning & Accurate Detection Distance

## Wide detection range

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It can perform not only high-precision measurement with a minimum display unit of 0.001kv, but also measurement on strongly charged workpieces of  $\pm 200$  kV, thus meeting a wide range of needs.

## High detection accuracy

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High-precision mode with accuracy  $\pm 10\%$ .

## Accurate detection distance

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The detection distance is  $25\text{mm} \pm 1.0\text{mm}$ .

## Convenience

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Small & light, comfortable button and easy to operate.



# Calibration

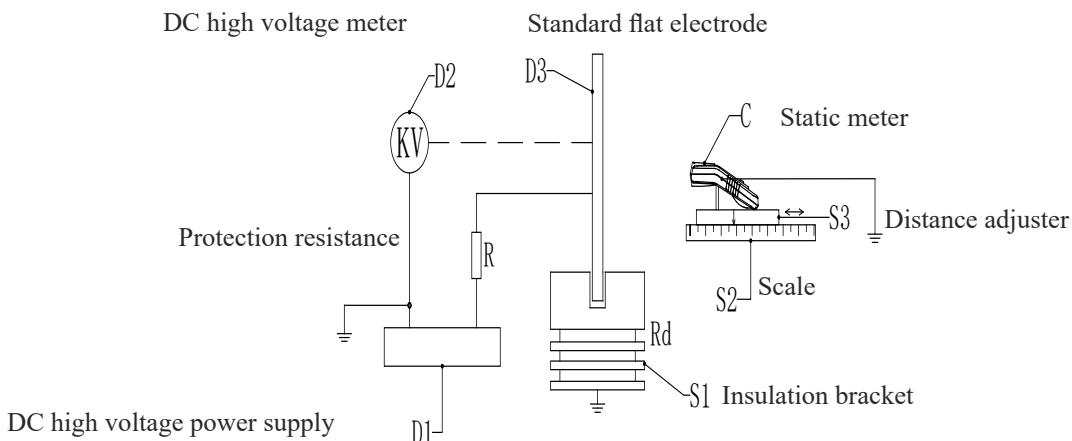
## Calibration condition

- Ambient temperature:  $20^{\circ}\text{C}\pm 3^{\circ}\text{C}$ .
- Relative humidity: 40-45%RH.
- No measurable electric field, magnetic field, positive and negative ions around.
- With ground wire, ground wire resistance  $< 1\Omega$ .

## Calibration equipment

The instruments and equipment used for calibration must be calibrated by the measurement technical institution to meet the calibration requirements and be within the validity period.

The calibration equipment mainly includes: DC high-voltage meter, DC high-voltage power supply, standard flat electrode, distance regulator, etc. The test meter is located on the center line of the calibration plate. The block diagram of the non-contact electrostatic voltmeter calibration device is as follows:



### Requirements to equipment or devices as follows:

C——calibrated product: static meter

D1——DC high voltage power supply: output range  $-30\text{KV}\sim+30\text{KV}$ , continuously adjustable, or minimum step 1V, measurement uncertainty less than 1/4 of the allowable error limit of the calibration table;

D2——DC high voltage meter: measuring range  $-40\text{KV}\sim+40\text{KV}$ , measurement uncertainty less than 1/4 of the allowable error limit of the calibration table;

D3——Standard plate electrode: The plate electrode should be round or square with rounded corner. The radius of curvature of the edge of the electrode should not cause corona. It is recommended to wrap the edge of the electrode with insulating material; the area of the plate should be large enough. The diameter or side length should be no less than 0.4m. Our calibration plate is stainless steel size 600mm\*600mm square.

——Protection resistance: The resistance of the resistor should be  $>20\text{KV}$ , the protection current and the current of the human body are  $<5\text{mA}$ , and the resistance value meets the requirements of the following formula:

$$R/(R+R_d) < 0.1\%$$

Where: for protection of resistance, the unit is ohm ( $\Omega$ );

The resistance of the insulating bracket is in ohms ( $\Omega$ ), the resistance is  $>1013\Omega$ , and the compressive strength is  $>25\text{KV}$ .

The above two resistors, their different resistance values, may cause the detected static voltage values to be different under the same standard voltage.

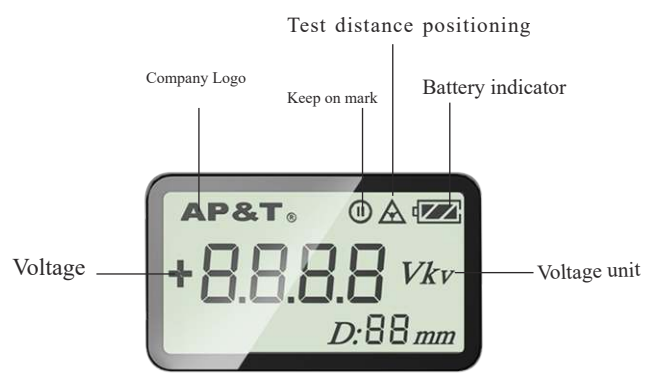
S1 - insulated bracket

S2——scale, measuring range: 5mm~700mm, measurement uncertainty less than 0.5mm

S3——Distance adjuster: Place the test meter on the calibration device. The front end of the test chart should be extended. The geometry and material of the support should be minimized to affect the electric field distribution around the front end of the test chart.



## Panel Function Introduction



# Specification

Type	Static meter			Explosion-proof static meter		
Model	AP-YV1301	AP-YV1302	AP-YV1303	AP-YF1201		
Detection range (KV)	0.001-±2.000	0.01-±20.00	0.1-±200.0	0.001-±2.000	0.01-±20.00	0.1-±200.0
Exterior color	Gray shell gray key	Black shell gray key	Black shell black key	Gray shell gray key	Black shell gray key	Black shell black key
Explosion-proof grade	—			Ex ib IIB T5 Gb		
Detection accuracy	±10%					
Detection distance	25mm±1.0mm					
Input voltage	DC3V(2*AAA)					
Working current	<100mA					
Power off	Press and hold the power button for 3 seconds or 180 seconds to automatically power off					
Working temperature	-18°C→+50°C					
Working humidity	0-85%RH					
Dimensions	141*71*38mm (L*W*H)					
Net weight	146g (including: 2 batteries)					
Gross weight	359g±20g (including: 4 batteries and packaging accessories)					

## Product size chart



### Installation tips

(1) Install the battery and switch on/off:

First open the battery cover on the back of the static meter and put in 2xAAA standard batteries in the package. Press switch button to open. See the picture above for details.

(2) Preparation before testing:

In order to ensure the normal use of the static meter, first confirm that the three-segment power display on the display screen is marked as full (or enough power) and the parameters reading on the screen are clearly visible. Check whether the various function buttons can be used normally. See the display function diagram for details:

(3) Detecting static electricity on the surface of the object:

When using, the static detection window of the meter should be parallel to the surface of the object to be measured, and 25mm which is the standard detection distance should be kept away from the surface of the object to be measured. It is recommended to use a ruler for distance calibration if conditions permit.

After measuring the data, data hold button can be pressed to keep the measured data on the display. Press the data hold button repeatedly to resume the detection status.

**Warning** The meter should be gradually approached to the surface of the charged object from far to near during detecting. Do not continue to be approach the charged object when the detection value reaches the range limit in order to avoid electrostatic discharge damage to the static meter.



# AP&T<sup>®</sup>

## Speciality Creates Value

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