

# Automatic Pull Off Adhesion Tester

## BEVS 2201

### User Manual

#### (Version 201801)



Please read the manual before operation and keep it in case of need.



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## 1. Company Info

BEVS Industrial Co., Ltd. is a leading developer & manufacturer that specializes in coatings, ink, painting, resin testing instruments and laboratory whole solution.

We offer the complete and unique products in this field to meet customer's challenging demands of today and tomorrow, the products are complied with the standards of ISO, ASTM, DIN, BS, EN etc.

With strong supports and hard work by lots of end-users and worldwide agents, BEVS become more and more famous in the world and provides more competitive values for our customers.

## 2. Product Introduction

### 2.1 Brief Info

BEVS 2201 is a testing instrument for determining the adhesion of single or multi-coat system of paints, varnishes and related products.

BEVS 2201 is suitable for a wide range of substrates, deformable substrates such as thin metals, plastics and materials; hard substrates such as thick concrete slabs and metal sheets. For specific applications, the coating can be prepared directly on the surface of the dolly.

BEVS 2201 adopts a high-definition and high-sensitivity capacitive touch screen. It is of multi functions but programming is simple and easy to use.

Standard: GB/T 5210-2006, ISO 4624: 2002, ASTM D4541, ASTM D7234, ISO 4624, ISO 16276-1

### 2.2 Technical Specification

Model: BEVS 2201

Power supply: Built-in rechargeable battery which replaceable

Power adapter: DC 12.6 V

Power: 30 W

Dolly: Φ10mm, Φ14mm, Φ20mm, Φ50mm

Pull rate resolution: 0.5 seconds 1 MPa (145.04 psi)  
Pressure accuracy: 0.5 MPa (145.04psi) or 1% range  
Pressure resolution: 0.01 MPa (1 psi)  
Unit: MPa, psi  
Pull rate: adjustable and depending on dolly diameter  
Dimensions (length × width × height): 230 mm × 95 mm × 160 mm  
Mass: 5.8 kg

### 2.3 Structure



### 3. Operation

#### 3.1 Prepare Sample

- 1) Prepare the surface of dolly and coating where to be applied with an abrasive pad. Clean both surface using suitable solvent and let it dry.
- 2) Mix the adhesive on rubber sheet and coat it on the bottom of dolly evenly. The thickness of the adhesive is about 50-100 micrometers. Or apply the adhesive to the bottom of the dolly with a glue gun and a mixing tube. Press the dolly onto the polished coating and rotate it a few times to ensure that it is completely bonded to the primer without air bubbles. Use a cotton swab to wipe off the excess adhesive.
- 3) Place it in an oven at 120 ° C for 4 hours, or leave it for 24 hours at ambient temperature to cure.
- 4) Score the coating around the dolly with dolly cutter provided if required.

Now, totally ready for pulling.

### 3.2 Software Guidance

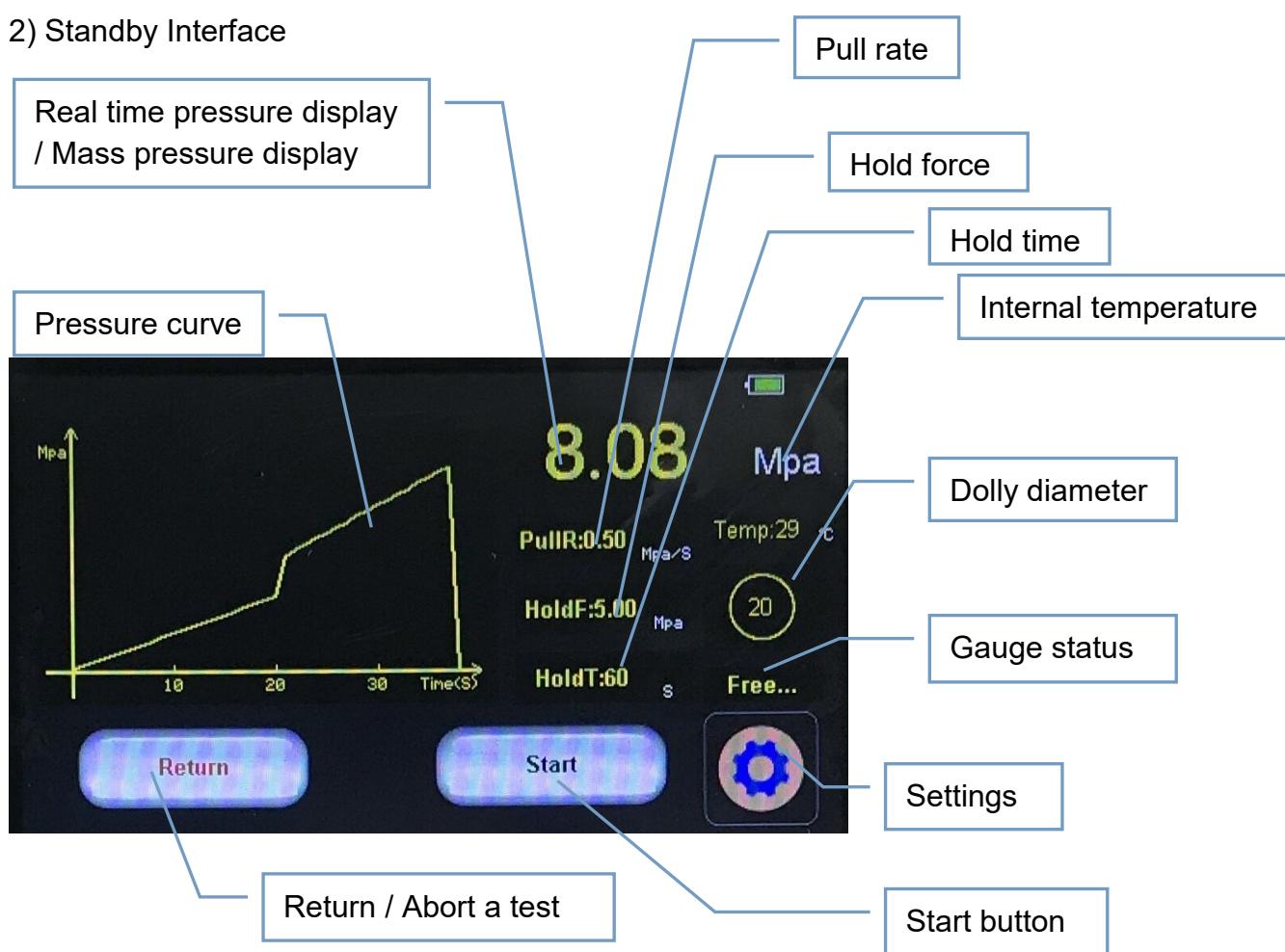
#### 1) Power on/off

Long press the power button for 3 seconds to power the gauge on.

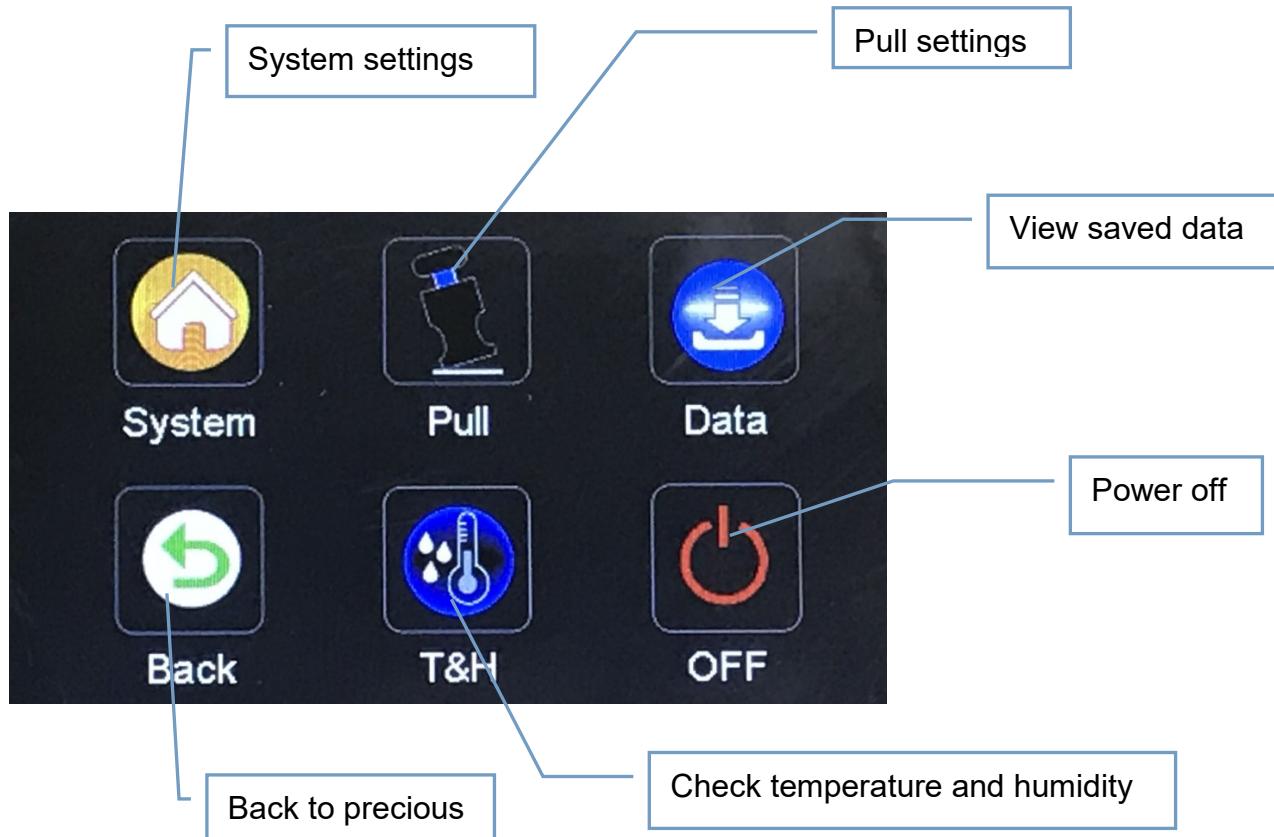
Click "Settings"  $\Rightarrow$  "Off".

When the program crashes or an unexpected situation occurs, press and hold the power button and the system will restart.

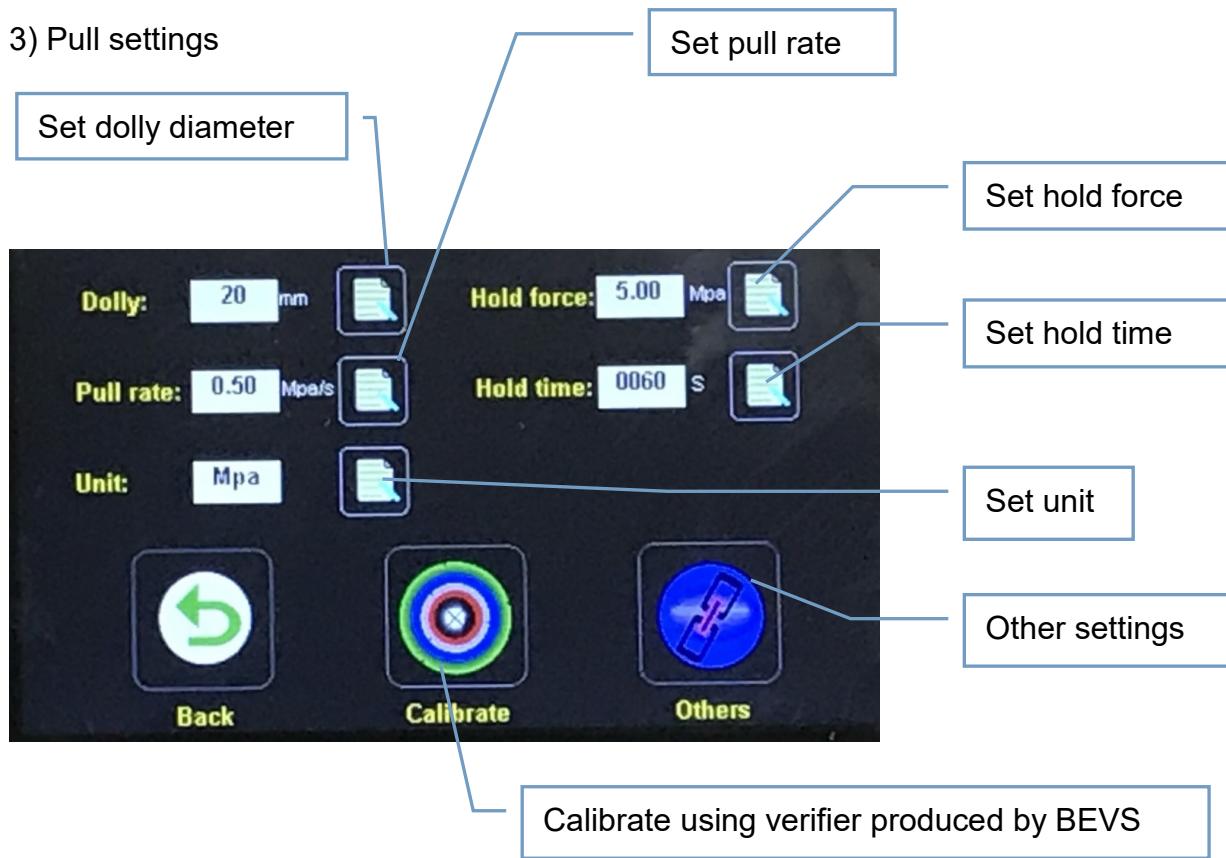
#### 2) Standby Interface



Click settings and get into the interface below.



### 3) Pull settings

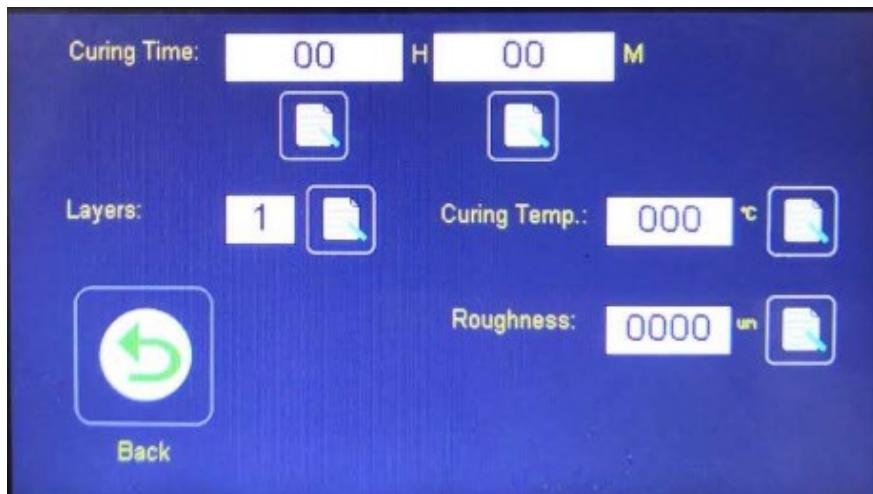


**NOTE**

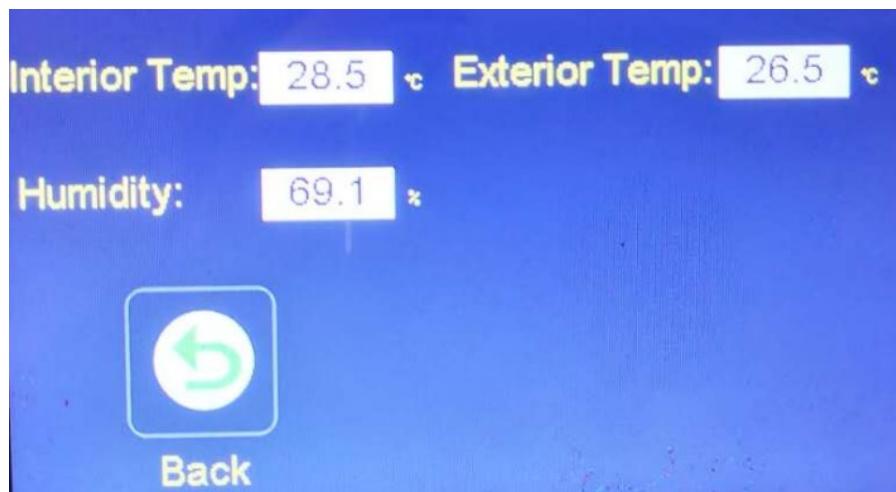
- a. Please set dolly diameter 10/14/20/50 mm only and keep it the same as the using one. Otherwise it will fail the test.
- b. Pull rate range:  
10mm: 0.8MPa/s ~ 3MPa/s (116psi/s - 435psi/s)  
14mm: 0.4MPa/s ~ 1.5MPa/s (58psi/s - 217psi/s)  
20mm: 0.2MPa/s ~ 0.75MPa/s (29psi/s - 108psi/s)  
50mm: 0.03MPa/s ~ 0.12MPa/s (4psi/s - 17psi/s)
- c. Unit: MPa/psi
- d. Hold force range:  
10mm: 10Mpa ~ 100MPa/s (1450psi - 14504psi)  
14mm: 5Mpa ~ 50MPa/s (725psi - 7252psi)  
20mm: 2.5Mpa ~ 25MPa/s (362psi - 3626psi)  
50mm: 0.4Mpa ~ 4MPa/ (58psi - 580psi)
- e. Please use the verifier produced by BEVS. A problem might occur if calibrated by other verifier.

**4) Sample data**

Click "Others" and get into below. Input the data if required for analysis.

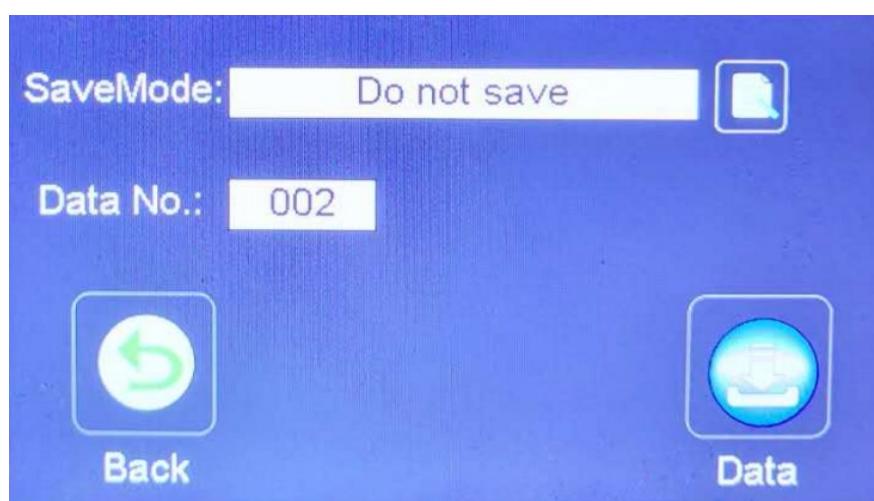
**5) View temperature and humidity**

Click "H&T" to check it. Please plug in the sensor provided to detect the humidity and exterior temperature.



6) View saved data

Click "Data", get into interface below. There are three modes: Do not save, Save directly and Ask before save, choose as required.



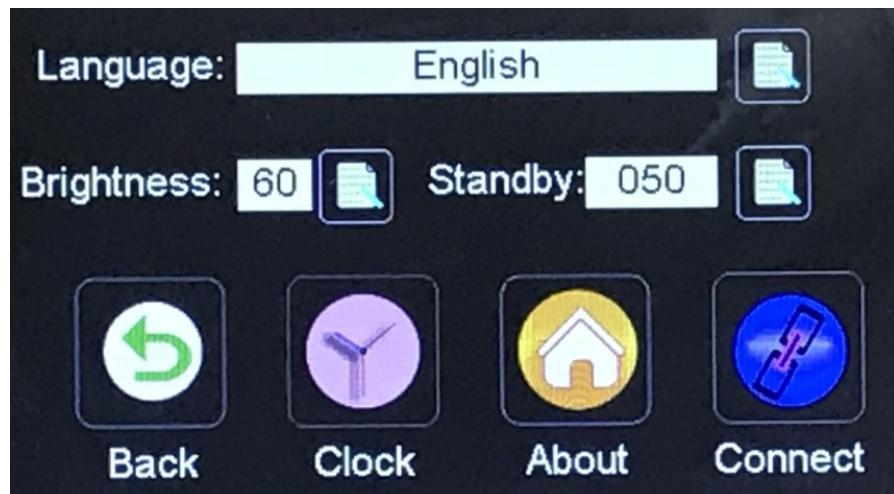
Click "Data" again to view the saved info.

14-8-13_20	14-8-13_25
14-8-13_21	14-8-13_26
14-8-13_22	18-5-22_27
14-8-13_23	wrtyu
14-8-13_24	14-8-14_29

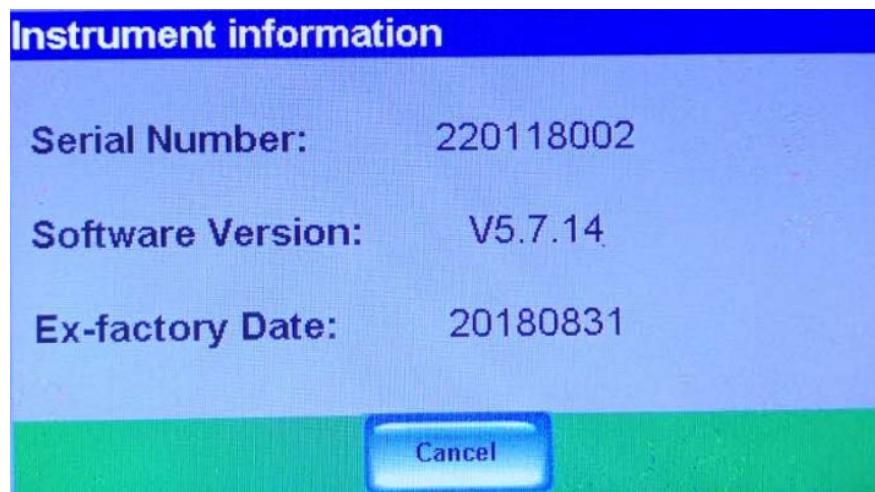
Cancel Previous Next

## 7) Other settings

- a. Choose language/Change display brightness/ Set standby time  
Click "System" and get into interface to select.

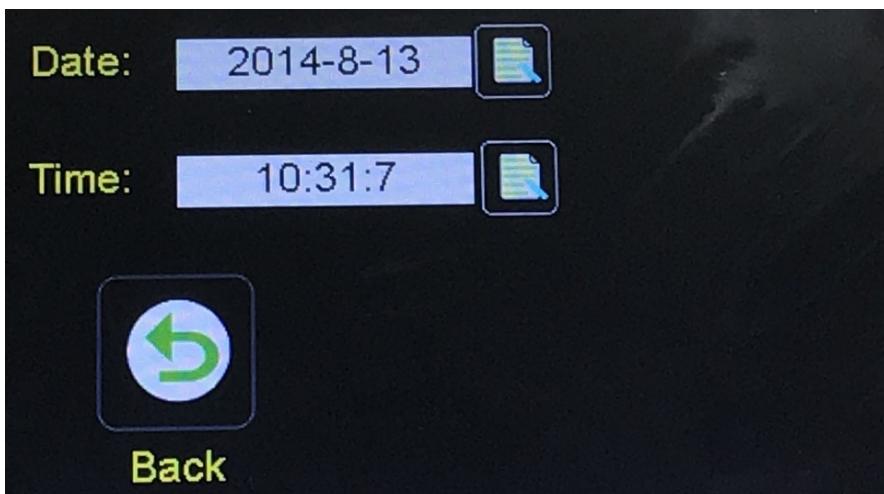


- b. Click "About" to view gauge info.



- c. Set date and time

Click "Clock" to set it. For example, set August 9, 2018, please input 180809; set time 9:07:22, please input 090722.



### 8) Calibrate

Please calibrate the gauge when necessary with verifier produced by BEVS, a password is needed, please read the verifier user manual for more info.

### 3.3 Steps

- 1) Prepare the coatings with dolly applied on, please see 3.1.
- 2) Choose the dolly diameter the same as above.
- 3) Set pull rate etc. and back to main interface.
- 4) Put pulling device onto the dolly, mount firmly.
- 5) Start.

### 4. Attentions

- \* Please keep dolly vertical to the coatings.
- \* Please allow the adhesives cure totally.
- \* In the case of low power, there will be a notice "Motor error" displayed when a test finished, just ignore it.
- \* Please charge the gauge not more than 4 hours.
- \* Long press the power button to power off the gauge in emergency.