

# Automatic Cupping Tester

## BEVS 1606

### User Manual



## Version 201503

This manual shall be read carefully before starting. Directions included in this operation manual shall be strictly followed.

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## 1 Company Profile

BEVS Industrial Co., Ltd. is a leading 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

BEVS Automatic Cupping Tester is a advance 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 downloaded the image and video to the PC to analyze 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. It is the best choice for R&D and QC people.

### 2.1 Technical Specification

Stroke length	0-15mm, accuracy: $\pm 0.011\%$ of set speed
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	70mm
Max. panel thickness steel	1.25 mm(Standard Speed 0.2mm/s)
Max. panel thickness aluminum	3mm( Standard Speed 0.2mm/s)
Power Supply	230 VAC, 50 Hz(110V-60HZ option)
Max. cupping force	15KN

## 2.2 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

## 3 Operation Introduction

### 3.1 Operating Environment

3.1.1 When using the instrument, should be paid attention to the following points.

3.1.1.1 Forbid the operation in too hot environment

3.1.1.2 Forbid the operation in too wet environment

3.1.1.3 Forbid the operation in vibration environment and keep the environment clean.

3.1.2 This instrument is used in the laboratory, the technical indicator of operation environment as following.

3.1.2.1 Temperature 10°C~35°C

3.1.2.2 Humidity 15~85% No Condensation

### 3.2 Power

Must use the power with the ground wire

### 3.3 Operation Guideline

3.3.1 The welcome screen and select the language, as below Figure1:



Figure 1

3.3.2The main interfaces as shown in Figure 2:

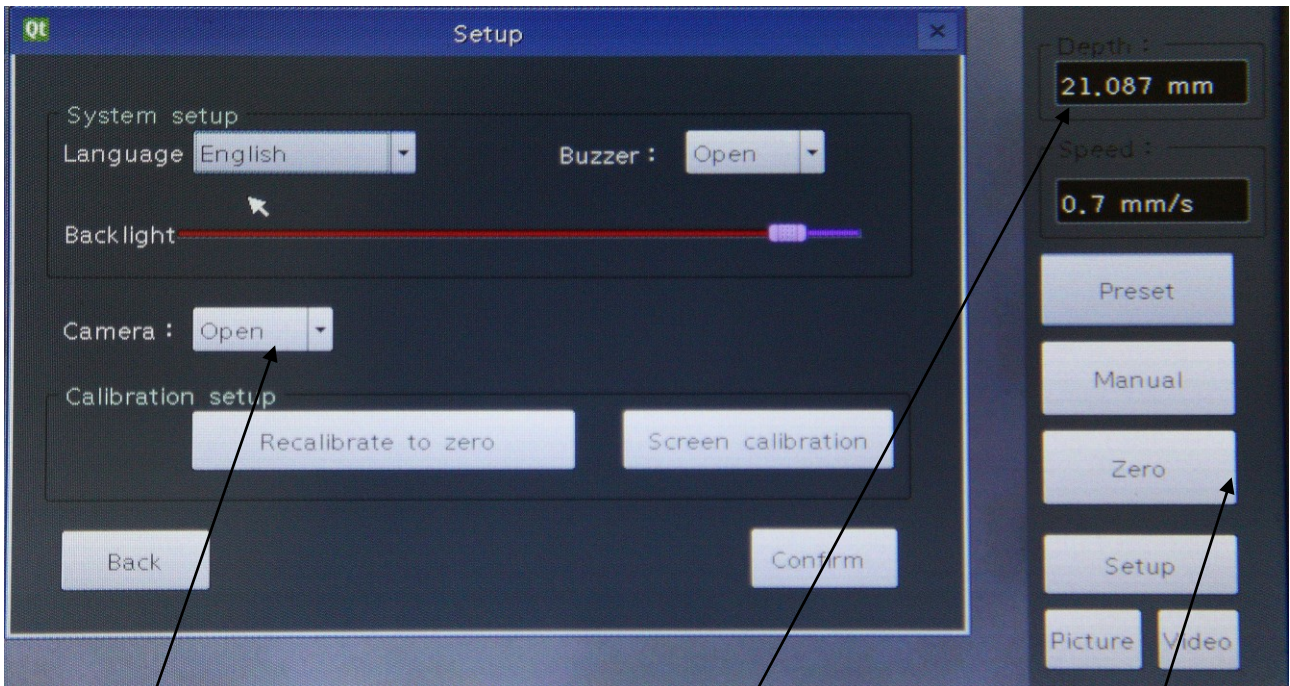


Figure 2

Realtime display cupping process

Realtime show cupping speed and depth

The operation button area

### 3.3.3 The Cupping Test:

1.If it's the first time to do the cupping test, please click the button "Preset" to enter into the below interface:

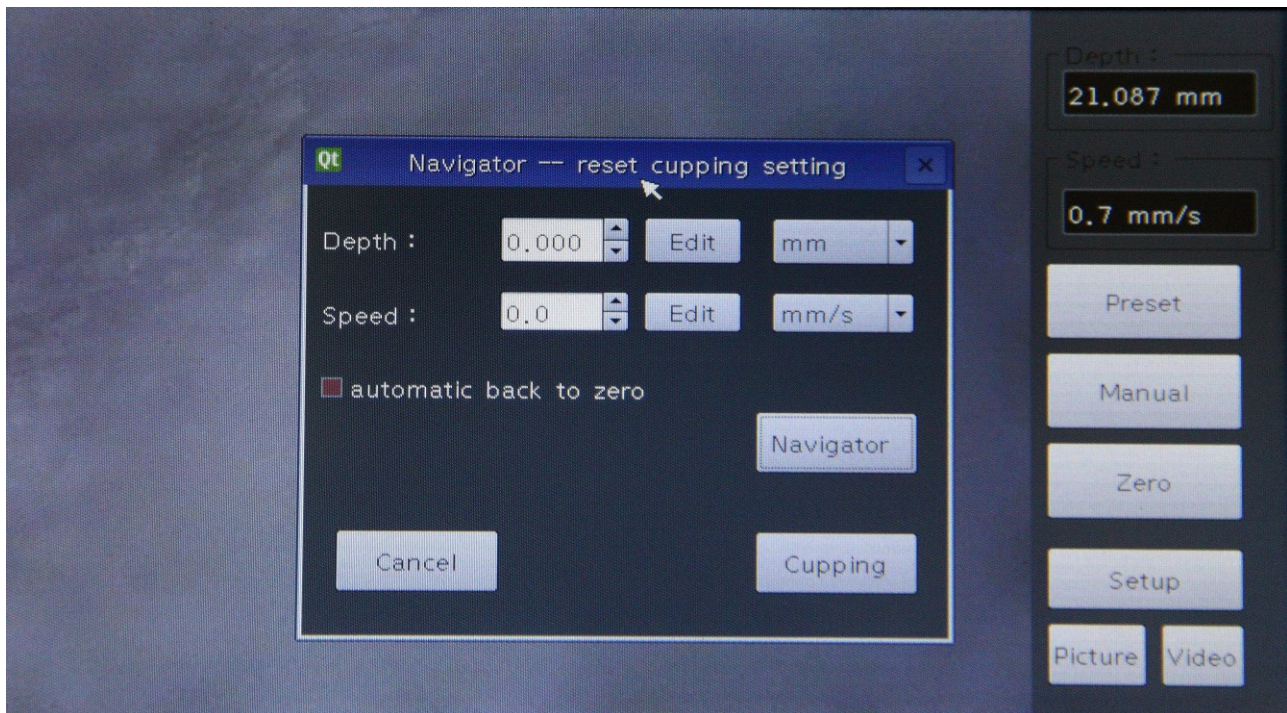


Figure 3

1.1 In this interface, you can set the "Depth" and "Speed" as request.

1.2 The option of "automatic back to zero" means when the test is finished, the machine will back to zero automatically.

1.3 Before you click the "cupping" button, must ensure the camera system's regulation is clear, and the machine has been calibrated to zero.

1.4 Well noted that the bench has been fitted with test board for calibration. The test board's specification must in this machine's specifications range. Or you may damage the machine.

1.5 If just to begin to use the machine, strongly suggest to choose the "Navigator" to enter to the interface as below:

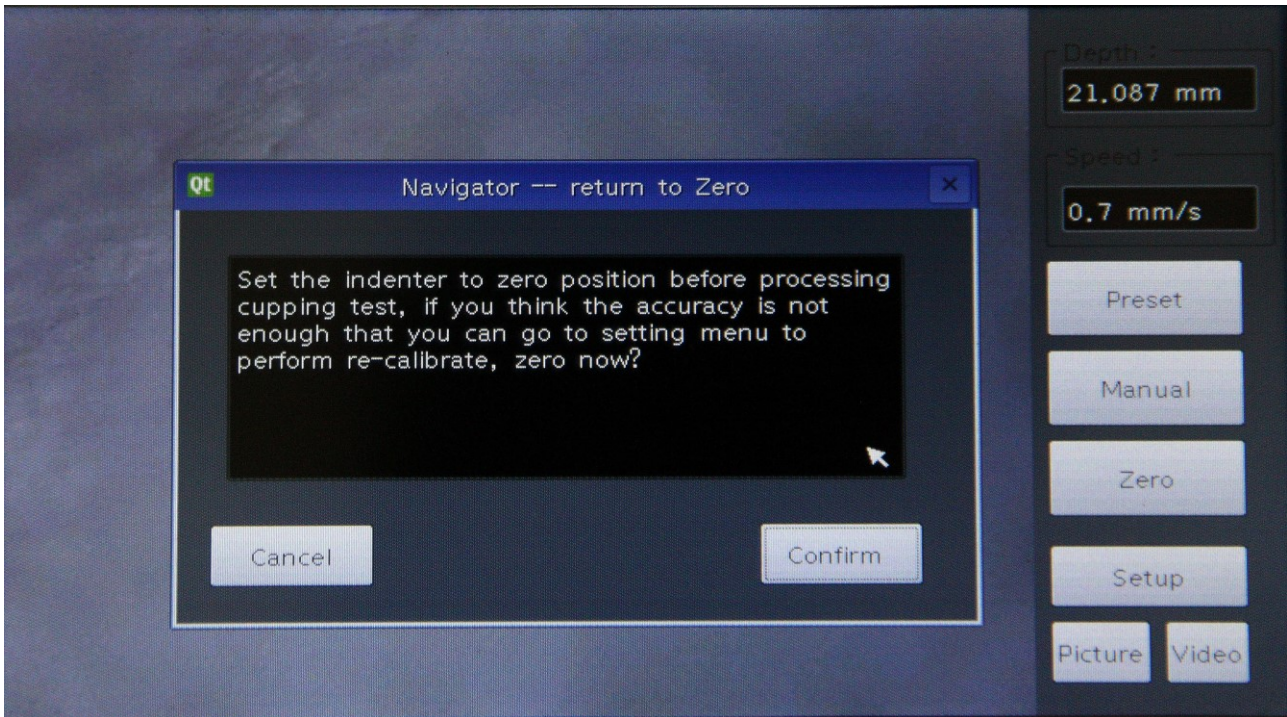


Figure 4

2 If you first use the machine, the machine has been accurately calibrate to zero when out of factory. You can chose “confirm” to the interface below, just chose “Next” button:

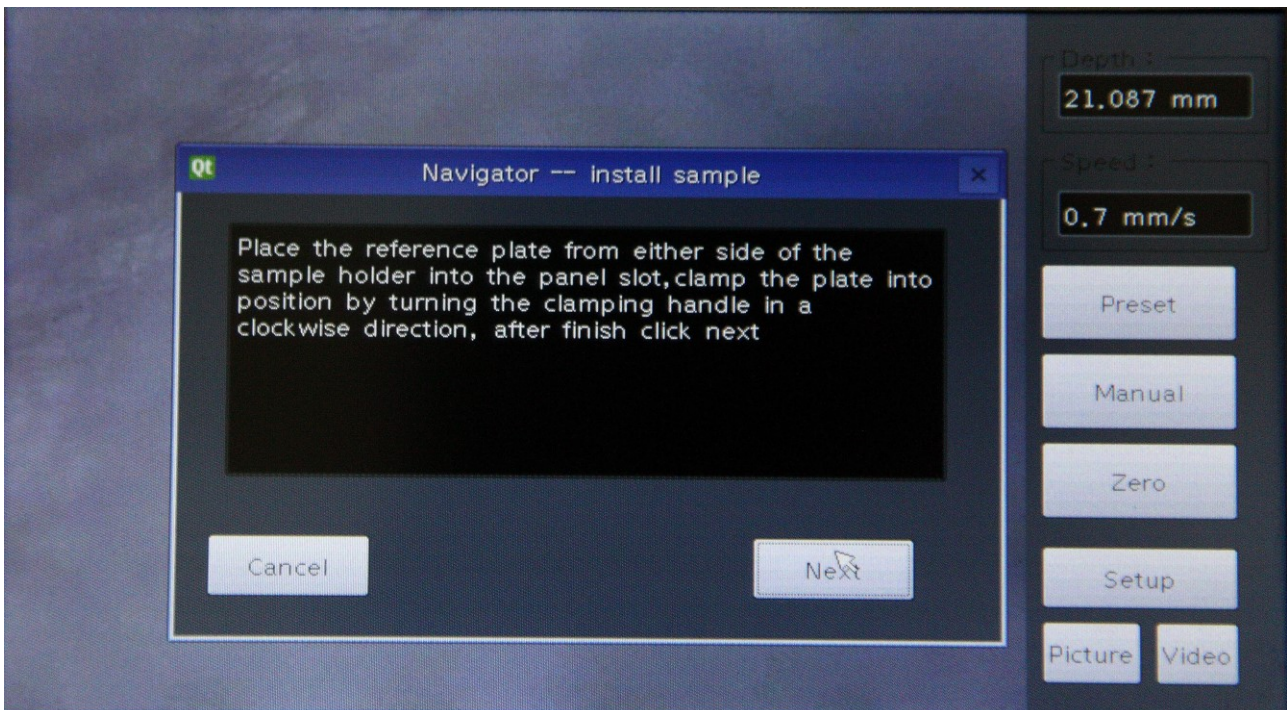


Figure 5

3 When in the interface below Figure 6, should install the test board firstly:

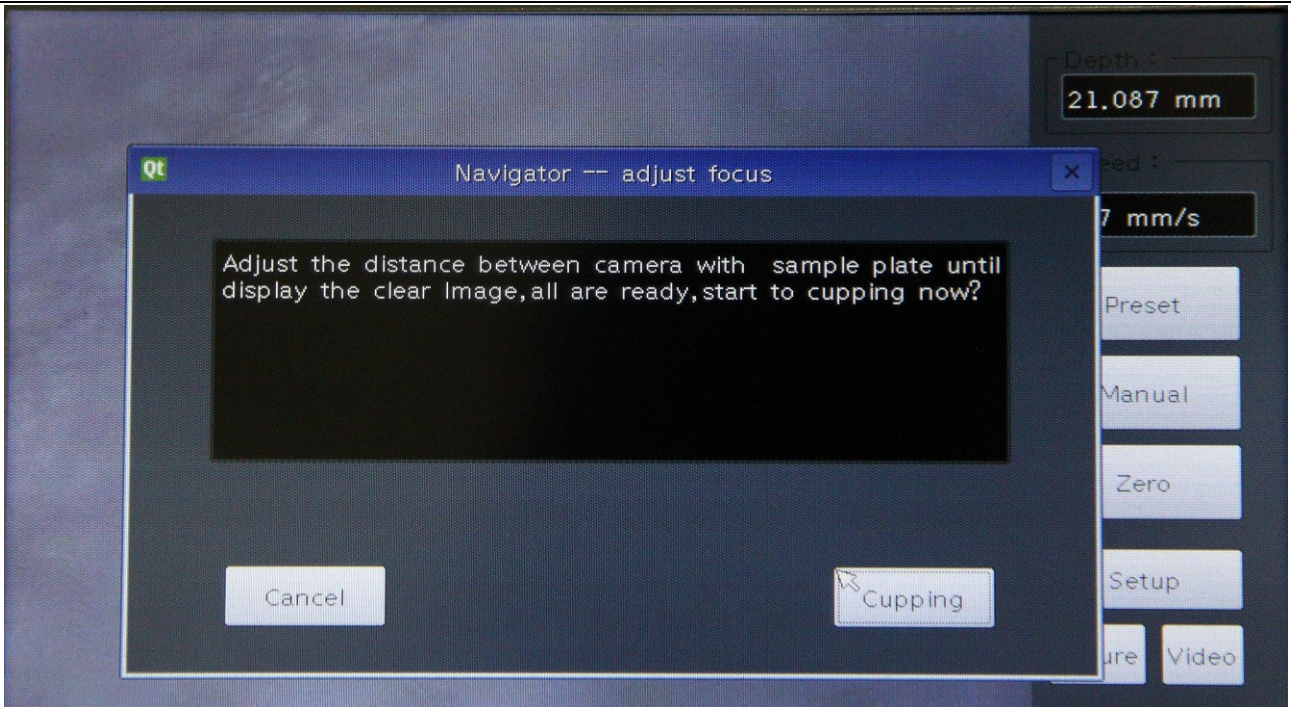


Figure 6

If you have not adjusted the camera, please adjust the camera in this step. The camera focus has been adjusted in place when out of factory, you only need to well-place the camera and the USB firstly, and then tighten the three screws.

You can gently twist the shaft between the camera lens and test board to get the best viewing effect. Click the “Cupping” button to start the cupping test.

You can click the “Stopping cupping” button to stop cupping as request.

**Zero calibration:**

Click the “Setup” button in the main interface to recalibration, as shown in below figure 7:

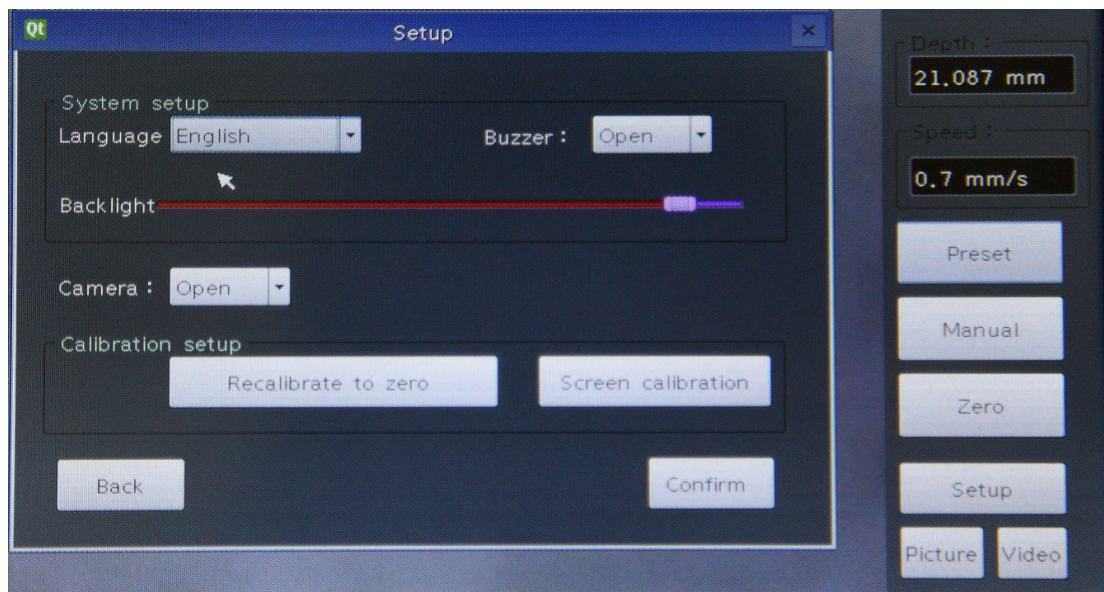


Figure 7



### **Normal “power off”:**

You can click the “Setup” button in the main interface to “power off”.

The machine will back to zero and power off automatically when the machine not back to zero, then turn off the power.

### **Abnormal “power off”:**

If the machine shut off directly by accident, you will be reminded to recalibrate to zero. Please follow the instrument to zero calibration, to ensure the accuracy of the machine.

### **Manual:**

The “manual” function means you can choose to cupping by hand operation, will cupping one time by each click.

### **Picture and Video:**

After well-placed the U-disk, the picture or video will store into U-disk automatically by click “Picture” or “Video” button.

## **4 Maintenance**

4.1 Regular maintenance is necessary

4.2 Make sure that the instrument is in off status and the power is in outage status

4.3 When the stylus across the film in the test plate, if some chippings happened, it means the stylus is broken, should change in time

4.4 Clean with the soft cloth, forbid to use the chemical reagent with corrosive

## **5 Attention**

5.1 Read the user manual carefully before operation

5.2 Keep the operation manual for the future reference

5.3 Learn more about the safe operation details

5.4 Not allow to operate in potential explosive environment and in liquid status

5.5 Must operate in the horizontal table

5.6 Not allow to touch the inner part when the instrument is working

## **6 Order Information**

BEVS 1606 Automatic Cupping Tester