C-Tech
Laboratory equipment co..limited

PAVEMENT MATERIALS STRENGTH TESTER MQS-2A

PRODUCT MANUAL

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CONTENTS

I. Description

Features

This machine adopts the combination of advanced computer technology and high-precision sensor technology. It is easy to operate, accurate in test data, and stable in performance. The instrument is equipped with overload protection. The instrument is automatically tested and recorded.

There is no need to manually shift the gear lever to change the test speed. The system will automatically distinguish the test and no-load speed and automatically switch, automatically test, and automatically record.

This host adopts two-column support, and its mechanical structure is reasonable, so as to ensure the accuracy of the instrument.

The design is simple and elegant. After the pressure sensor is installed, it can be used to determine the unconfined compressive strength of various binder stabilized soil specimens, split test, and other tests that require vertical load.

Technical specifications

- Maximum rated load: 200KN
- The maximum lifting distance of the screw: 200mm
- Electric speed: high speed: 50mm/min low speed: 1mm/min
- Manual speed: 0.2mm/each cycle of crank
- Pressure measuring range: 0-200.0KN
- Working voltage: host 380V±10% (three-phase four-wire) controller 220V±10%
- Working temperature: 10-30℃ Guaranteed working temperature: 5-35℃

II. Operation

Calibration

Press the sensor calibration button and enter the password: 61208229 to enter the pressure or displacement selection interface.

Pressure calibration

Select the load cell range (30KN 50KN 200KN) to enter the calibration interface.

Take 200KN as an example:

Install the proving ring, and press "0KN calibration" button when no load, and press "40KN calibration" button when the standard proving ring reaches 40KN and the data is stable. By analogy, after calibrating to 200KN, press "calibration complete". The calibration method for other pressure ranges is the same.

Displacement calibration

After selecting the displacement sensor, enter the displacement calibration interface. The calibration method is the same as the pressure calibration.

System time setting

Press the "System Time Setting" button, for example, set the time as: 2017-06-13 12:31

Enter 20170613 in the system date setting and 123100 in the system time setting.

Data reading

Press the "data reading" button, enter the corresponding number point "query" to view the results, if you need to print, press the "print" button.

III. Test procedure

CBR penetration test

Fix the 0-50KN force sensor in the middle of the upper beam, connect the plug to the force channel, and connect the dual displacement sensor to the displacement channel. Select CBR penetration test, enter the test configuration interface, select the sensor range 0-50KN, the default sampling point type is 1, enter the test number (automatically +1 after the default test).

① Sampling points are 0.3mm, 0.6mm, 0.9mm, 1.2mm, 1.5mm, 2.0mm, 2.5mm, 3.0mm, 3.5mm, 4.0mm, 4.5mm, 5.0mm, a total of 12 points.

② Sampling points are 0.3mm, 0.5mm, 1.0mm, 1.5mm, 2.0mm, 2.5mm, 3.0mm, 3.5mm, 4.0mm, 4.5mm, 5.0mm, 5.5mm, a total of 12 points.

③ Sampling points are 12 points of 0.3mm, 0.6mm, 1.0mm, 1.5mm, 2.0mm, 2.5mm, 3.0mm, 4.0mm, 4.5mm, 5.0mm, 5.5mm, 6.0mm.

④ Sampling points are 0.3mm, 0.6mm, 1.0mm, 1.5mm, 2.0mm, 2.5mm, 3.0mm, 4.0mm, 5.0mm, 6.0mm, 8.0mm, 10.0 mm, a total of 12 points.

Press the "Enter Test" button to enter the test interface.

Put the test piece that has been soaked in water on the working plate of the host, and install the penetrating rod and the displacement bracket in sequence according to the requirements of the CBR test specification, and make the penetrating rod and the top surface of the test piece fully contact.

Adjust the measuring range of the displacement sensor to be close to the upper scale line, and the test equipment work is completed.

If the load value is not zero at this time, you can click the "load reset" key to reset the force value. After clicking the "Test" button, a prompt interface will automatically pop up. After clicking "OK", the test motor starts to work. Operate the shift lever according to the prompts, and the spindle rises at this time.

When 45N is monitored, the force value and displacement are automatically cleared and enter the test data collection stage until the set test data collection points are all completed.

The meter will analyze the collected data and display the results. After the test is completed, click the "Save" button to store the data, if you need to print, press the "Print" button.

Unconfined compressive strength test

Fix the 0-200KN force sensor in the middle of the upper beam, and the plug is connected to the force channel. There is no need to use the displacement sensor. Screw the upper pressure plate assembly on the force sensor and tighten the screws.

Select "Unconfined Compression Test" to enter the configuration interface to select the sensor range, select the diameter of the test piece, test number, and the number of test pieces, and click "Enter Test" after completion. At this time, if the load value is not zero, you can click the "force value reset" button to reset the force value.

If the distance between the test piece and the upper indenter is too far, you can press " Quick rise", the prompt interface will pop up automatically, and operate according to the prompt requirements.

After the test piece approaches the indenter, click "Stop", then click the "Test" button, and perform the pressure test according to the prompts. After the specimen reaches the crushing peak, the instrument automatically records the test data and the spindle automatically drops. At this time, it is a slow drop.

When the force value is displayed as zero, you can click the "Quick drop" button and follow the prompt information to perform a quick drop operation. After the test is completed, click the "List" button to view the test results, click the "Save" button to store the data, if you need to print, press the "Print" button.

Marshall test

Fix the 0-50KN force sensor in the middle of the upper beam, connect the plug to the force channel, and the displacement 1 sensor to the displacement channel.

Select Marshall test, enter the test configuration interface, select the sensor range 0-50KN, and enter the test number (automatically +1 after the default test). Press the "Enter Test" button to enter the test interface.

If the load value is not zero at this time, click the "Load reset" button to reset the load. If the distance between the test piece and the upper indenter is too far, you can click the "up" button to adjust. After the test piece approaches the indenter, click "Stop", and then click the "Test" button to perform the Marshall test. After the experiment is completed, the meter will automatically record the test data and the spindle will automatically descend, and click the "Stop" button after descending to a suitable position.

After the test is completed, click the "Save" button to store the data. If you need to print, press the "Print" button.

IV. Cautions

- If the power grid has a lot of interference or the voltage is unstable, it should be equipped with a purification power supply, UPS or AC voltage stabilizer.
- The power cord and the control line of the loading part should not be subjected to force.
- The instrument should not share a power socket with high-power electrical appliances.
- The instrument should be placed in a cool and dry place.
- When using the instrument, pay attention to prevent dust from entering the printer or the instrument, and put it in the packing box when not in use.
- Please do not open the inside of the instrument at will, and do not repair it yourself, so as to avoid accidents or aggravate the damage to the instrument.

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