

## VICAT APPARATUS

101-0079-Series

Standard: ASTM C187-04; ASTM C191-04; ASHTO T129-06; ASHTO T131-06

# MatCivTest

MATERIAL CIVIL TEST EQUIPMENT

### 101-E0079-10 VICAT TEST SET

Used for determination of setting time and consistency of cement by Vicat Method. The apparatus consists of a metal frame with a sliding rod. An adjustable indicator moves over a graduated scale. The needle or plunger is attached to the bottom end of the rod to make up the test weight of 300g. The frame is supplied without accessories, which have to be ordered separately depending on the requirement



### 101-E0079-20 AUTOMATIC VICAT APPARATUS

The Automatic Vicat Apparatus provides a completely automatic method for determining the initial and final setting time of cements or mortar pastes. Advanced electronics technologies provide superior performances and total flexibility. The Automatic Vicat Apparatus is easy to operate and accurate in test results, can be an ideal helper in your experiments.



### 101-E0079-30 COMPUTER CONTROLLED VICAT NEEDLE APPARATUS

Computer-controlled Vicat needle apparatus is an automatic testing equipment for determination of the setting time of cement. It has 8 measuring points, automatically tests the cement setting by imitating manual testing, and automatically prints experimental data and measurement results without manual intervention during the testing process. It can completely replace the manual test process and the functions of constant temperature and humidity chamber.



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## AUTOMATIC VICAT APPARATUS

- Automatic Position Calibration
  - \* Fully automatic, one key operation, automatic accurate position calibration
- Position Storage
  - \* After the position calibration is completed, it will be stored in memory,
  - \* no need to repeat the calibration
- Automatic Test Process
  - \* One key operation, automatic penetration measurement,
  - \* and automatic lifting of components after completion
- Intelligent Test Control
  - \* The penetration displacement value is displayed in real time,
  - \* no need for frequent visual inspection during the test
- No Needle Replacement For Initial And Final Testing
  - \* The initial and final setting test needles are shared,
  - \* reducing costs and workload
- Intelligent Judgement Of Results
  - \* Automatically judge the result data according to the requirements of the test specification, and prompt the operation
- Data Report Storage
  - \* Test data is automatically made into charts and stored;
  - \* equipped with RS485 communication and USB port



### Technical Parameters

Time Control	Time display resolution: 0.1S , Time control accuracy: $\leq \pm 0.1S$
Displacement	Using high-precision LCDT displacement sensor, split structure, no friction when the needle fails Range 0 - 50mm Displacement display resolution: 0.01mm Relative displacement accuracy: 0.01mm
Data Storage	200 sets
Slide Assembly	300g $\pm$ 1g (including test rod/test needle), meets the requirements of the standard
Interface	RS485 data output interface USB data export interface
Accessories	Supporting glass plate $\phi$ 10mm consistency plunger $\phi$ 1.13mm needle and $\phi$ 70/80mm conical mould to EN ( $\phi$ 1mm needle and $\phi$ 60/70mm conical to ASTM/AASHTO optional)
Dimension	390mm x 310mm x 575mm (length x width x height)
Power Supply	220 $\pm$ 10% VAC/50Hz; maximum 40W

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## 101-E0079-30

### COMPUTER CONTROLLED VICAT NEEDLE APPARATUS

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#### Additional Details:

After 240 sets of automatic and manual synchronisation time comparison tests, the relative error rate of the machine is less than 1%, which proves that its test accuracy and reliability. The initial setting and final setting depth error is  $\pm 0.05\text{mm}$ , and the measurement hole spacing error is  $\pm 0.05\text{mm}$  (not affected by the smoothness of the cement slurry surface). Replacing new samples at any position during the test will not affect the normal testing of other samples. The operators can check and query the current test status on the screen.

#### Technical Specifications

Power Supply:	220V/50Hz, power of constant temperature and humidity system: 50W
Measuring Point:	8, automatic alarm when the time for each mould is up.
Needle:	2pc, diameter $\phi 1.13\pm 0.5\text{mm}$ , weight $300\pm 1\text{g}$
Vicat Mould:	8 sets, 65/75 dia. x 40mm
Base Plate:	8 pcs, metal, 3mm
Working Environment:	No dust, strong electricity, strong magnetism and strong electric wave interference
Functions:	Automatic detection and correction function/Fault alarm function
Test Chamber Temperature:	$20\pm 1$ , humidity: $\geq 90\%$ (automatic control)
Measuring Range:	0-50mm, accuracy 0.1mm
Dimensions:	900 x 500 x 640mm
Weight:	65kg