

E044N

VICATRONIC - THE WORLD'S MOST POPULAR AUTOMATIC VICAT APPARATUS

AUTOMATIC COMPUTERISED TROPICALIZED VICAT RECORDING APPARATUS

STANDARDS: EN 196-3 | EN 480-2 | EN 13279-2 (gypsum) | ASTM C187, C191 | DIN 1168, 1196 | NF P15-414, P15-431 | AASHTO T131

The Vicatronic apparatus, that is designed and manufactured using the most recent and sophisticated technology, is used for the initial and final setting time determination of cements or mortar pastes.

The unit is manufactured with **anticorrosion and tropicalised** components to be used in places with humidity not below 90% and 20°C. controlled temperature as required by EN Specifications.

The entire test is made in a fully automatic way and gives a very precise and repeatable result. The results are printed on the incorporated printer and this eliminates the manual operations of installing and zeroing the paper graph on the drum.

The use of the appliance is extremely simplified by the guiding menu that is available in english, french, spanish, german, polish, italian language.

The Vicatronic is supplied with the standard programs to make automatically, all the tests according to the following Standards:

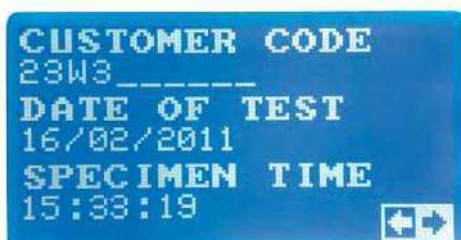
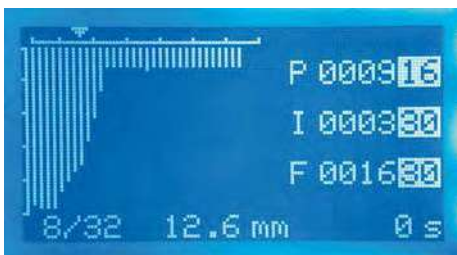
EN 196-3 | EN 13279-2 gypsum | EN 480-2 | ASTM C191 | DIN 1164 | DIN 1168 gypsum | NF P15/431 | BS 4550 | AASHTO T131

MAIN FEATURES

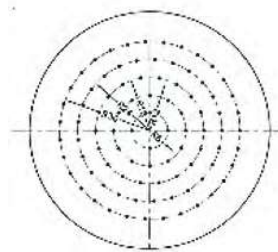
- Large high contrast and high resolution LCD screen.
- Real time graphic display of the test.
- Fully automatic test performance.
- Customizable programs for research tests.
- Suitable to operate through the embedded control unit or a separate PC.



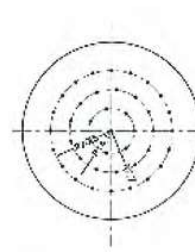
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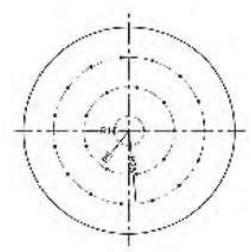
90 penetrations program



ASTM



EN



PROBES

The mobile probe weighs 300 g (1000 g following the EN, NF Standards), the penetration needle has 1.13 mm diameter (1 mm following ASTM Standard) and its fall can be programmed in free fall or in guided fall. Totally flexible as far as the time is concerned, the penetrations time can be selected between 0.5 minutes and 999 minutes (fix interval between two penetrations of a test) or can change during the test up to 5 different phases with different interval time; it can even change automatically during the setting time fixing a penetration depth. The two options described here above can be combined together.

The penetration measure is read by a very accurate encoder having a resolution of 0.1 mm

The Vicatronic also calculates, visualises and prints:

- The time from the moment of the sample preparation (set by the operator).
- The time the test starts.
- The residual time to the next penetration.
- The residual time to the end of the test
- The number of penetrations made and the residual penetrations to be made.

TIMER 0 – 999 MINUTES

The firmware allows activating a delay on the appliance to the beginning of the test. This program is particularly useful when the approximate setting time of the mortar is known and the operator wants to start the working of the Vicatronic after a certain time in order to concentrate the penetrations with a short interval of time between them and have better measuring values.

TEST RESULTS

The Vicatronic can memorise all the test parameters and results and keeps a file with a capacity of more than 50 complete tests.

In case of a power cut, even a short one, during the test execution, the test will be invalidated and the appliance will be automatically stop keeping the set data.

At the end of the test the appliance will print automatically by the incorporated printer a report with all data concerning the last test made including a graph tracing each single penetration with its values of time and penetration number (see example printed).

| | | |
|--------------------|------------|---------|
| TEST NUMBER : | 0996 | |
| KIND OF TEST : | BS4558 | |
| POINTS MOVE (mm) | | |
| 17 | 0.00 | |
| 11 | 10.00 | |
| 5 | 10.00 | |
| 1 | 10.00 | |
| OPERATOR CODE : | F | |
| CUSTOMER CODE : | 28MG | |
| DATE OF TEST : | 15/02/2011 | |
| SPECIMEN TIME : | 14:36:16 | |
| START DELAY (m) : | 1 | |
| 1ST PEN TIME : | | |
| SPECIMEN TYPE : | X5 | |
| WATER COM. (EX) : | 89.0 | |
| TEMPERATURE (°C) : | 22.3 | |
| HUMIDITY (%) : | 69.1 | |
| FALL TYPE : | DRIVEN | |
| TIME TYPE : | FIXED | |
| FINAL SETTING : | NO | |
| TIME (m) : | 1/2 | |
| ID PEN. (mm) | | |
| | P [n.s] | I [n.s] |
| ID | PEN. (mm) | |
| 1 | 0.0 | |
| 2 | 0.0 | |
| 3 | 0.0 | |
| 4 | 0.0 | |
| 5 | 0.0 | |
| 6 | 0.0 | |
| 7 | 0.1 | |
| 8 | 5.4 | |
| 9 | 6.6 | |
| 10 | 7.9 | |
| 11 | 9.3 | |
| 12 | 11.1 | |
| 13 | 12.6 | |
| 14 | 13.6 | |
| 15 | 14.9 | |
| 16 | 15.8 | |
| 17 | 16.5 | |
| 18 | 19.3 | |
| 19 | 20.3 | |
| 20 | 21.6 | |
| 21 | 23.1 | |
| 22 | 24.8 | |
| 23 | 26.7 | |
| 24 | 28.3 | |
| 25 | 29.6 | |
| 26 | 31.1 | |
| 27 | 35.0 | |
| 28 | 37.2 | |
| 29 | 39.0 | |
| 30 | 40.5 | |
| 31 | 42.6 | |
| 32 | 42.5 | |
| 33 | 42.9 | |
| 34 | 42.9 | |

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1ST PENETR TIME
--:--:--
START DELAY [m]
1
SPECIMEN TYPE
X5

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COMBINED
ID      TIME [m]
34 *   1
34     1
34     1

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THRESHOLD
TIME 1 [m] : 1
THRES. [mm]: 48.0
TIME 2 [m] : 1

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Printing Example

PC CONNECTION AND NET OPTIONS

Despite the totally independent working of the machine that includes an incorporated printer, the Vicatronic has been designed for a PC connection (RS232) with the possibility to download the test data using a common program (Microsoft Hyper Terminal) that is normally incorporated with the Windows package of the PC. In this case the data processing will have to be made by the operator.

The **Vicat-Win** software (accessory mod. E044-11) allows receiving, managing, processing and completing the test dates; it will trace automatically the graph, personalise and print the test report.

The Vicatronic offers the possibility, buying the kit **Vicat-Net** (accessory mod. E044-12), to connect up to 20 appliances on a net managed by a PC through two pins RJ45 with RS485 protocol. This allows obtaining a complete remote control from the PC of each single Vicatronic.

The details of the performances are following:

- Transfer each single control or function of the Vicatronic on the PC
- Verify in real time each phase of the test being made.

- Automatically download the final results at the end of the test on all the connected Vicatronic.
 - Process and file at the same time all the tests without obliging the operator to move from his working place.
- Additionally the firmware has many other functions detailed in the technical chart that will be transmitted to the user interested to know more about it.

The Vicatronic is supplied complete with the incorporated printer, two hardened needles (one with 1 mm diameter and one with 1.13 mm diameter), two conical moulds EN and ASTM, a glass plate to hold the conical mould.

Power supply: 230V 1Ph 50-60Hz 50W

Dimensions: 400x200x470 mm

Weight: 13 kg approx.

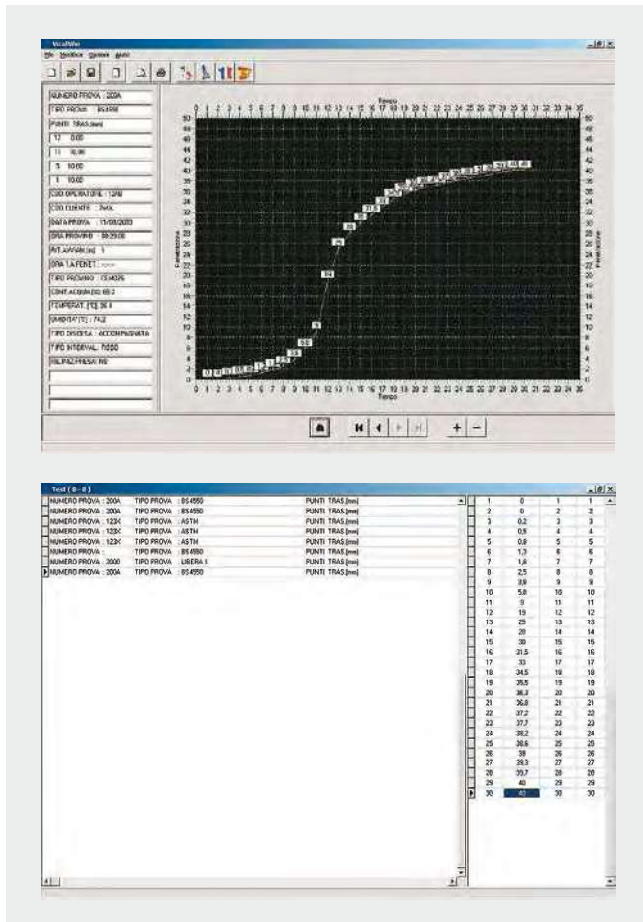
E044-03 N

VICATRONIC, identical to mod. E044 N, but with possibility of continuous penetrations each 15 seconds.

ACCESSORIES

E044-11 SOFTWARE **VICAT-WIN** complete with connection cable of 3 metres that allows by the RS232 port downloading, processing, printing and managing all the data directly from the PC.

E044-12 **VICAT-NET** KIT to connect up to 20 Vicatronic on a net by means of two connectors RS485 managed by a PC. The kit includes: the software, the RS232/485 converter and the cable for the connection of **one appliance**. For net connection of additional Vicatronics (up to max. 20) see the below accessory mod. E044-13



E044-13 COMPLETE KIT with cable for serial connection RS485, 5 metres long for the connection of one Vicatronic to the PC or to a net (cables with different length are available on demand).

E044-06**THERMOSTATIC CONTROLLED HEATING/COOLING SYSTEM "TWO" VICATRONIC**

The device produces water with suitable heating and cooling elements at controlled temperature of $20\text{ °C} \pm 0.5\text{ °C}$.

The water is forced into the tank E043 and then back to the bath allowing to perform the test at controlled temperature and humidity as requested by EN196-3 Standard. The system accepts ONE or TWO Vicatronic.

**E044-06****Specifications:**

Water capacity: 7.5 litres approx.

Optimized temperature range: 15 to 25 °C

Accuracy: $\pm 0.5\text{ °C}$

Power supply: 230V 1ph 50-60Hz 350W

Dimensions: 415x300x420 mm approx.

Weight: 20 kg approx.

ACCESSORY

B059M-11 TEMPERATURE PROBE, PT100: Measurement of the water temperature in real time. It's connected with the monitor in order to show the temperature during each test, to collect the data at the end of penetration and to include the temperature data in the final reading.

**E043****E043**

MOULD TANK to test the specimen immersed in water. The test must be performed in room having a controlled temperature of $20\text{ °C} \pm 1\text{ °C}$.

The saturated humidity is obtained by the immersion in water of the specimen as required by the standard EN196-3.

GYPSUM TEST

STANDARDS: EN 13279-2 | DIN 1168

E044-40 N

CONICAL PENETRATION NEEDLE, having 8 mm of diameter and 50 mm long, to make gypsum tests following EN, DIN Specifications.

E044-41 N

PROBE 100 g, to make test on gypsum following EN, DIN Specifications.

**E044-40N****E044-30****NEEDLE CLEANING DEVICE**

It removes the residual cement particles from the needle keeping it constantly lubricated.

**E044-30****Accessories and Spare Parts for E044N**

- E042-02N** CONSISTENCY PLUNGER $\text{Ø} 10 \times 50\text{ mm}$
- E042N** NEEDLE for final setting $\text{Ø} 1.13\text{ mm}$, BS, EN 196-3
- E042-01N** NEEDLE for final setting ASTM 1 mm diameter.
- E044-45** ADDITIONAL 700 g WEIGHT (EN, NF)
- E055-04** PLASTIC MOULD $\text{Ø} 80/90 \times 40\text{ mm}$ high following UNI
- E055-11** BRASS MOULD $\text{Ø} 80/90 \times 40\text{ mm}$ high following BS
- E055-13** PLASTIC MOULD $\text{Ø} 65/75 \times 40\text{ mm}$ high following DIN

SPARES

- E046N** $\text{Ø} 1.13\text{ mm}$ hardened needle (EN 196-3)
- E046-01N** $\text{Ø} 1\text{ mm}$ hardened needle (ASTM)
- E055-05** Plastic mould $\text{Ø} 60/70 \times 40\text{ mm}$ high following ASTM
- E055-07** Glass base plate
- E055-10** Plastic mould $\text{Ø} 70/80 \times 40\text{ mm}$. high following EN, NF
- E042-06N** Probe 300 g to EN 196-3
- E044-48N** Tang to fix the needle to the probe
- C127-11** Thermo-paper roll for printer (pack of 10 rolls)