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# FRIGMAIRES INTERNATIONAL

8, JANATA INDUSTRIAL ESTATE, OPP. HIGH STREET PHOENIX MILL, LOWER PAREL (W), MUMBAI – 400 013. INDIA  
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## MACHINES AND EQUIPMENT FOR CEMENT AND DRY MORTAR LABORATORIES



**Combined compression-flexure testing machine  
250 kN/15 kN**

EN 196-1, ASTM C109

**with round pressure plates**

For various compression and flexure devices

- Precision according to EN ISO 7500-1: class 1
- Measuring ranges:  
Compressive strength testing: 2.5... 250 kN  
Flexure strength testing: 0.15... 15 kN  
Diameter of pressure plates: 165 mm
- Digital controller
- Option: PC-control with possibility of printer connection
- Force measurement by means of electronic load cells
- Safety guards polycarbonate made



**ALPINE Air Jet Sieve**

Analysis range for sieves with dia. = 200 / 203 mm:  
20 µm to 4 mm; for sieves with dia. 76 mm: 10 µm to  
2.5 mm, Sub-atmospheric pressure: 1.500 to  
5.500 Pa,  
Air flow: 30 to 115 m<sup>3</sup> / h, Motor speed: 18 rpm,



**Blaine air permeability apparatus**

EN 196-6, ASTM C204, BS 4550

with electric pump and time registration



**Electronic Blaine air permeability apparatus,  
fully automatic**

EN 196-6, ASTM C204, BS 4550

Fully automatic testing and analysis

With software, but without PC



### Air entrainment meter "TESTING", Cap.1 litre

EN 1015-7, EN 459-2

for determination of air content of freshly mixed mortar

With hand operated pump, for testing freshly mixed direct reading in %



### Langavant calorimeter

EN 196-9

Used to measure the heat of hydration of cement by the semi-adiabatic method



### Vicat apparatus

DIN 1164

to determine the consistency, the setting time and the optimum water content of cement paste



### Computer- controlled Vicat needle apparatus with 6 measuring points, fully automatic

EN 196-3, EN 480-2

with programmed test sequences,

Tests can be performed in air or in water bath with constant temperature

The unit automatically records initial set time and final set time

1.0366.ASTM, ASTM C191

for ASTM under 95% humidity with special coverplate



### Hägermann flow table, electrically powered

EN 1015-3, EN 13395-1

With counter and glass table top



### Le Chatelier mould

EN 196-3

To determine the volume constancy (soundness) of cement

Finish electroless nickel



### Vibratory sieve shaker EML 200 Premium with clamping system classic, quick clamping device TwinNut

With controlled amplitude for **dry sieving**

For test sieves up to **203 mm dia.**

Sieve charging cap. up to max. 8.7 kg



### High-pressure autoclave

ASTM C141, C151

Operating pressure 25 bar

For determination of the volume constancy (soundness) of mortar prisms 40 x 40 x 160 mm or 1" x 1" x 11 1/4"



### Mortar mixer, 5 litre capacity

#### Automatic program control and sand feeder

Fully automatic sand feeder and operation of the actually stored mixing programs (Can also be operated manually)

Manual supply of cement and water



1.0205 + 1.0206.02

### Precision three-gang mould for jolting table

40.1 x 40 x 160 mm

EN 196

Polished bright surface with numbered webs and nutplates

**Electroless nickel plated**



### **Vibrating table for three-gang moulds**

EN 196-1

With fast-action clamp fitting

#### **Smooth styling stainless steel**

The switch box is mounted on a tripod on the vibrating table.

Peak-to-peak value:  $0.75 \pm 0.05$  mm

Oscillation frequency: 50 Hz, sinusoidal waveform

Digital timer



### **Humidity storage cabinet for mortar prisms in three-gang moulds and cubes,**

**Made of stainless steel**

EN 196-1, ASTM C109

Curing temperature:  $+ 20^{\circ}\text{C} \pm 1^{\circ}\text{C}$

Humidity:  $95\% \pm 3\%$

Electronic adjustable control for temperature and humidity



Similar illustration

### **Water bath for standing mortar specimens**

Stainless steel frame with **2 stainless steel tanks**

Wet storage capacity for 192 specimens

Stainless steel grating to fix the specimens

Thermostat heating system

**(with cooling device)**



**Bond strength tester “TESTING”, electric, 10 kN**

To determine the bond strength  
Class 1, **servo-controlled**  
Precision 0.01 kN  
With built-in rechargeable battery  
Service life: approx. 50-70 tests with full batteries  
Interface RS232

max. tensile force 6 kN  
max. tensile force 15 kN  
max. tensile force 20 kN



**Type C shrinkage measuring device „C“**

DIN 52450  
For 40 x 40 x 160 mm specimens  
Precision dial gauge, 5 mm pointer range  
0.001 mm graduations  
Including Type C reference bar



**Water retention by the filter paper method**

DIN 18555-7, EN 459-2  
Complete with filter papers (20 pcs.) and fibrous fleeces (100 pcs.)



**Shrinkage channel for grout and floating screed**

To measure shrinkage or expansion  
Made of stainless steel  
Measuring length 1000 mm  
Including digital gauge with data output, measuring range 12 mm, accuracy 0.01 mm

