Automated Blaine Apparatus – BlaineGen Plus

Standards: EN 196-6, ASTM C204

- ULTIMATE USER-FRIENDLINESS
- LEADING DEPENDABILITY AND RELIABILITY
- STRICT COMPLIANCE WITH INDUSTRY STANDARDS
- STOCKED CONSUMABLES AND SPARES
- TRUSTED AFTER SALES TECHNICAL SUPPORT
- LIFETIME PRODUCT SUPPORT ADVANTAGE

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Description

The Blaine apparatus is used to determine the fineness of cement (and other powdery products) in terms of specific surface in cm2g-1

The digital Automated BlaineGenPLUS model is manufactured according to specifications of the following standards:

- EN196-6 Methods of testing cement Determination of fineness.
- ASTM C 204 "Fineness of Hydraulic Cement by Air Permeametry Method".

In this test, cement is compressed under conditions defined by standard, taking a certain amount of air through the powder compacted.

The resistance to air flow is directly proportional to the fineness of grain, as long as the same testing conditions are respected.

The determination of specific surface serves to control the uniformity of the milling process in the cement plant, but can also be applied to control the particle size of other powder materials. Learn more about the full scope of Blaine Apparatus methods and operational instructions here.

Unique Features

No Computer is Required

The Automated Blaine Apparatus works as a stand-alone system. Alternatively, operator may connect the equipment to PC and manage results, export data, generate reports via the supplied software WinPerm64.

Integration with Analytical Balance

The system can measure the mass directly through the equipment.

Ergonomic Visualization of Tests Results

This is achieved thanks the standard 7" LCD touch screen display with IP65 protection.

4 Level Sensors

Designed to detect the correct manometric fluid level before the test and to determine when the oil has dropped completely between measurements, optimizing operating cycle times.

Watch Video

Watch the Automated Blaine Apparatus – BlaineGen Plus product video.

WATCH ON YOUTUBE

Automation

The operation of BLAINEGENPLUS is automatic in as concerns to:

- Automatic calibration with calculation of the K constant of the equipment according to EN and/or ASTM.
- Test performing: fluid aspiration, timing of the fall and detecting pass between the glass tube marks.
- Making all calculations, showing the test results in the screen.
- Automatic storage of all test data results.

Validation of the Apparatus

The BLAINEGENPLUS fulfills the requirements of validation demanded to the automatic methods for the determination of the refinement Blaine, and described in standard ASTM C 204-07, chapter 12.

The performance of the BLAINEGENPLUS overcomes in accuracy and precision to the manual method, because the errors in the measurements of time are much lower.

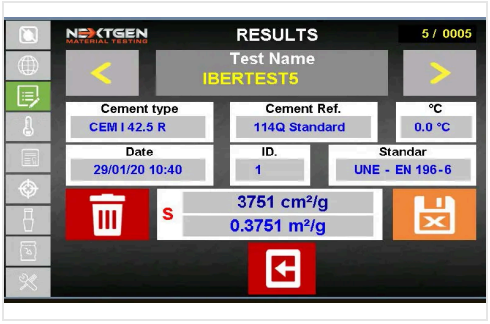
Calibration of the equipment must be done using a cement surface standard reference, as for example the standard reference material NIST 114q.

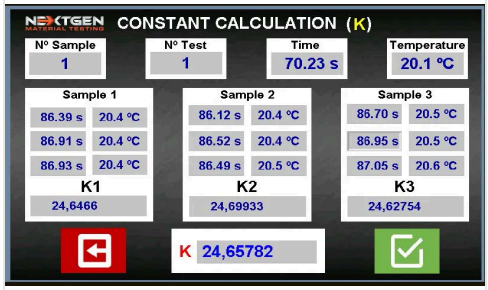
For optimum results testing should be carried out in a room with controlled temperature.

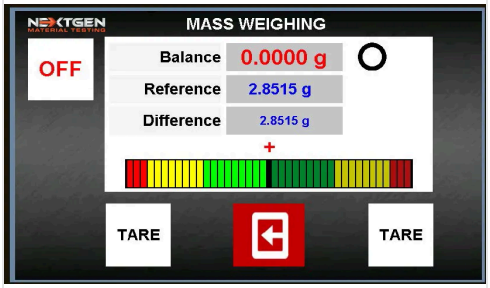
New Modern and Intuitive Interface

The AUTOBLAINE PREMIUM device incorporates a renewed interface which which provides the user an improved experience in terms of:

- Simplicity and intuitivity, thanks to the new design of the buttons and menus which provides the user a faster operation and quick access to all functions.
- Modern design, ergonomic and attractive.
- Display of menus and results, thanks to the new 7" screen with dust and splash resistance.







Standard Configurations Include

- Blaine manometric tube, made of glass, U-shape.
- Stainless steel Blaine cell, with plunger and perforated disc and certificate of volume as per EN 196-6a nd ASTM C204.
- Support made in stainless steel, to keep the cell in vertical position and to facilitate the introduction of the cement specimen.
- Extractor for the permeability cell (to extract the tested cement and the perforated disc).
- Manometric liquid. 50 mL.
- Paper filters Ø 12,7 mm. 1000 pcs. Filtration grade medium.
- Clamps for handling filters discs.
- Stainless steel spatula with curved double ends.
- Brush and paintbrush cleaning.
- Stylus (provided with LED flashlight and pen).
- Plastic funnel for filling the cell.
- Rubber stopper for leak testing.
- Pasteur plastic pipette.
- Syringe and suction tube for manometric liquid.
- Reference Portland Cement. 3 units x 5 g.
- Calibration certificate IBERTEST with NIST standard Portland cement.

Accesories and Spare Parts

STANDARD MATERIAL REFERENCE NIST SRM 46h
Ref. 210-104705
Certified Portland cement. Box of 10 pcs of 5g.

PERMEABILITY CELL COMPLETE SET (BLAINE)
Ref. 210-103564
Stainless steel Blaine cell, with plunger and perforated disc.

VERIFICATION OF BLAINE CELL VOLUME
Ref. 510-100015
Performed by the IBERTEST metrology Laboratory, with certificate according to EN 196-6.

FILTER PAPER DISCS. Ø 12,7 MM FOR BLAINE TEST.
Ref. 210-100464
Box of 1000 units

MANOMETRIC BLAINE TUBE
Ref. 210-100018
Glass made, U shaped, with stopcock

MANOMETER LIQUID. 100 ML FLASK
Ref. 210-100154

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Technical Specifications

BlaineGenPLUS	
Screen	Color LCD 5,7" touch screen
Level detectors	Precision photodiodes for detecting upper and lower levels and additional safety level detector. To in-crease accuracy, comprises backlight in red by means of a LED.
Time resolution	0.01 s
Isolation	Detachable protective screen, made in polycarbonate, with stainless steel frame
Temperature resolution	0.1 °C
Manometric liquid	Light mineral oil with optimal viscosity. Non-toxic (safety datasheet is comprised)
Rise of fluid	Automatic compression pump Compression avoids the risk of liquid get into the pump
Predefined testing methods	On-screen wizard to perform the tests, including specific protocols for conducting the test according to EN 196-6 or ASTM C 204. The wizard calculates automatically the weight of cement to test according to the measured density, desired porosity and verified volume (cement bed) of the Blaine cell.
Test development	Real time displaying of temperature, constant K, passing time and other parameters
Calibration standards	Up to 5 reference cements as standards in each testing methods EN 196-6 or ASTM C 204
Cement types	Up to 20 different types of cement can be memorized. (more cements on request) Independent calculation methods for each cement type

BlaineGenPLUS	
Blaine cells	Up to 5 Blaine cells can be selected for calculations. User can change and memorize the cement bed volume of all his Blaine cells
Test data storage	Up to 1000 complete data test can be memorized in a non-volatile memory. When 1000 tests are performed, the equipment shows a calibration advice warning.
PC link	USB 2.0 output. Allows to export the memorized data to a Windows Excel file.
Selectable Languages	Spanish, English and French (others on request)
Weight	13.5 kg
Dimensions	270 x 400 x 410 mm (width x depth x height)
Power supply	115V / 60 Hz / 1Ph or 230V / 50 Hz / 1 Ph
Visual alarms	The computer displays a warning if the temperature measured by the probe is outside the range imposed by the Testing Standard. The temperature sensor is adjustable to match with an external certified thermometer. (requires pas-sword)