NEW

AUTOMATIC PERMEABILIMETER AUTOBLAINE *Premium*

Ref. 111-101451

"PROBABLY, THE MOST ADVANCED AUTOMATIC PERMEABILIMETER IN THE WORLD"...

The Blaine apparatus is used to determine the fineness of cement (and other powdery products) in terms of specific surface in cm^2g^{-1} or m^2kg^{-1}, for the control of the milling process.

The automatic Blaine Permeability AUTOBLAINE PREMIUM model allows to execute mainly tests according to the following standards:

- **EN 196-6**: "Methods of testing cement - Part 6: Determination of fineness".
- **ASTM C204**: "Standard Test Methods for Fineness of Hydraulic Cement by Air-Permeability Apparatus".

In these 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 and others powder materials.

The new AUTOBLAINE PREMIUM equipment also has applications in the field of research and various industrial sectors, including the **pharmaceutical industry.**

AUTOBLAINE PREMIUM

✓ **Self-calculated weight.** The equipment indicates that the required weight has been reached.

AUTOBLAINE PREMIUM connected to analytical balance

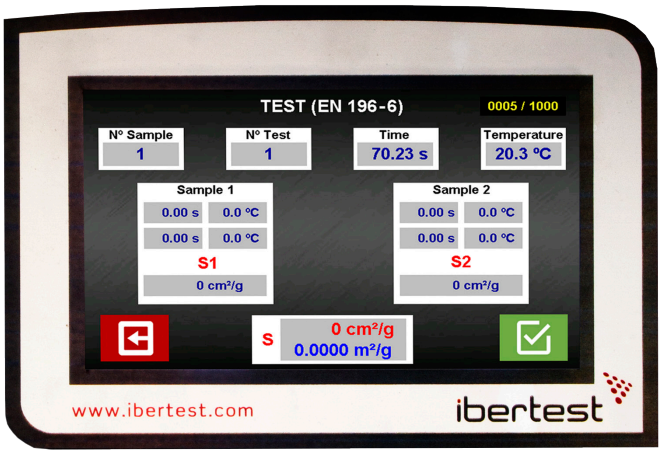
AUTOBLAINE PREMIUM connected to analytical balance and PC (via WinPerm64)

ADVANTAGES OF AUTOBLAINE PREMIUM

- **Integration with analytical balance** for a direct measuring of the mass in the blaine apparatus, as well as automatic calculation of the difference between the required self-calculated weight and the current one.
- **Automatic calculation of the specific surface of cement:** the device calculates the Blaine number as a function of time of fall of manometer fluid.
- **Precise detection of the manometric liquid** at all levels through 4 LED photodiodes.
- **Size of specimen according to the Standard** (It is not required samples with bigger size than the standard)
- **100% stand-alone equipment.** It is not required PC use for handling and tests storage in the memory.
- **Can be connected to a PC** for results export and integration with other applications, through WinPerm64 software.
- **Complete supply**, including all necessary elements and accessories to start testing from day one.

OTHER ADVANTAGES

- **Ergonomic visualization** of tests and their results on the display.
- **New User-friendly interface** by means of a 7" resistive touch screen with IP65 waterproff protection.
- **Instrument validation,** the equipment meets the validation requirements demanded by automatic methods for determining the Blaine fineness (standard ASTM C204).
- **Higher accuracy and precision,** in comparison to the manual method, since errors in time measurements are much lower.
- **Increase of the repeatability** of the test results removing the uncertainty of measurement caused by the human factor.
- **2 access levels,** user and manager (password protected).
- **Removable trap** for storage of accessories and fungible elements.



New touch screencontrol board of 7"

AUTOMATION

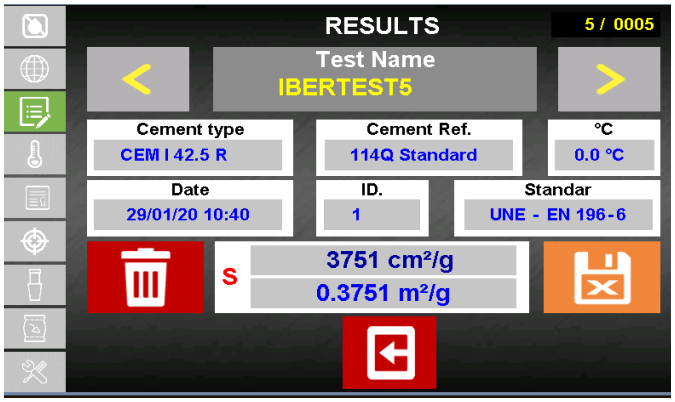
The operation of AUTOBLAINE PREMIUM is automatic in the following processes:

- **Calibration:** with calculation of the K constant of equipment according to EN and/or ASTM.
- **Test performing:** manometric fluid aspiration, timing of fall and detecting pass between the glass tube marks.
- **Making all calculations**: showing the test results in the screen.
- **Compressor self-adjustment:** with automatic flow regulation to operate in any atmospheric pressure conditions.

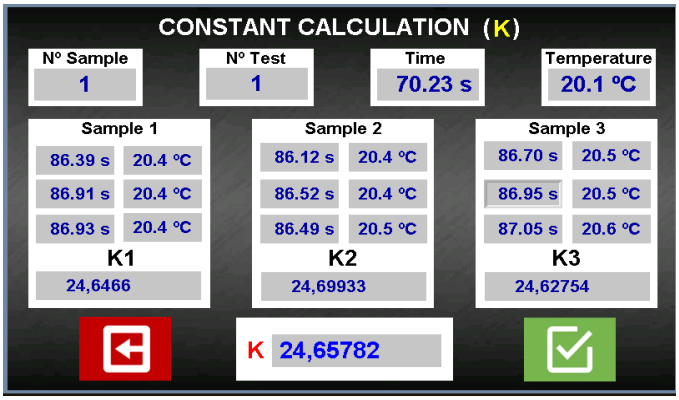
NEW MODERN AND INTUITIVE INTERFACE

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

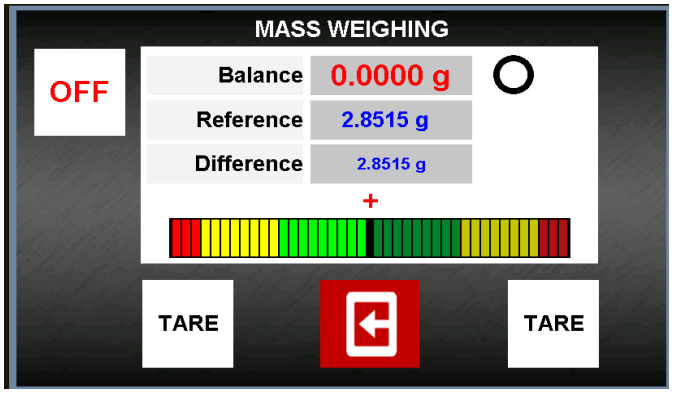
- **Simplicity and intuitivity,** thanks to the new design of the buttons and menus which provides the user a faster operation and quick access to all functions.
- **Modern design**, ergonomic and attractive.
- **Display of menus and results,** thanks to the new 7" screen with dust and splash resistance.



Results screen



K constant calculation screen



Direct reading of the mass provided by the analytical balance

COMPRISES THE FOLLOWING ELEMENTS:

- 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 Ø12,7 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.

Elements included in the standard supply

Resistive touch screen display

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.

Permeability cell
Ref. 210-103564

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

Removable tray for storage of accessories and fungible elements

SPECIFICATIONS

Specifications - AUTOBLAINE PREMIUM	
Screen	Color LCD 7” touch screen with IP65 waterproff protection.
Level detectors	Accurate liquid dection through **4 LED photodiodes**, two for upper and lower test levels and two additional for filling level and safety.
Time resolution	0,01 s
Isolation	Detachable protective screen, made in polycarbonate, with stainless steel frame.
Temperature measurement	By means of a Pt-100 probe. The computer displays a warning if the temperature measured by the probe is outside the range imposed by the testing Standard. Adjustable temperature by the administrator, for the performing of corrections with a referen-ce termometer.
Temperature resolution	0,1 °C
Manometric liquid	Light mineral oil with optimal viscosity. Non-toxic (safety datasheet is comprised).
Light	LED back-light for a perfect visual monitoring of the manometric liquid level.
Fluid lift	Automatic by air compression (avoids the risk of liquid get into the air pump).
Compressor	Self-adjustment according to the atmospheric pressure. The compressor adjusts the air flow for different site conditions and performs a correct elevation of the manometric liquid.
Predefined testing methods	On-screen wizard to perform the tests, including specific protocols for conducting the test according to EN 196-6 or ASTM C204. 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 C204. Certified Portland cement (Reference Material 46h) or other laboratory reference material can be used. The temperature probe is adjustable to match with an external certified thermometer (requires password).
Cement types	Up to 20 different types of cement can be memorized. (more cements on request) Independent calculation methods for each cement type.
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 nonvolatile 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.
Analytical balance or desktop printer connection	Can be connected to an analytical balance, which enables the direct measuring of mass on the AUTOBLAINE PREMIUM apparatus. The equipment indicates that the required weight, Self-calculated, has been reached.
Selectable Languages	Spanish, English and French (others on request).
Weight	13,3 kg
Dimensions	220 x 405 x 420 mm (width x depth x height)
Power supply	Single-phase 110-240 V + Ground ~ 50 / 60 Hz

** Analítical balance not included, please refer to our sales department*

WinPerm64 *for AUTOBLAINE PREMIUM*

Standards EN 196-6, ASTM C204

WINPERM64 SOFTWARE FOR ACQUISITION, DATA MANAGEMENT AND REPORTING OF AUTOMATED EQUIPMENT AUTOBLAINE PREMIUM.

This software automates the acquisition of data from tests stored in AUTOBLAINE PREMIUM, management of database thereof and reporting with data obtained from them.

AUTOBLAINE PREMIUM connected to PC vía Winperm64

STRONG POINTS AND ADVANTAGES

The most relevant are indicated as follows:

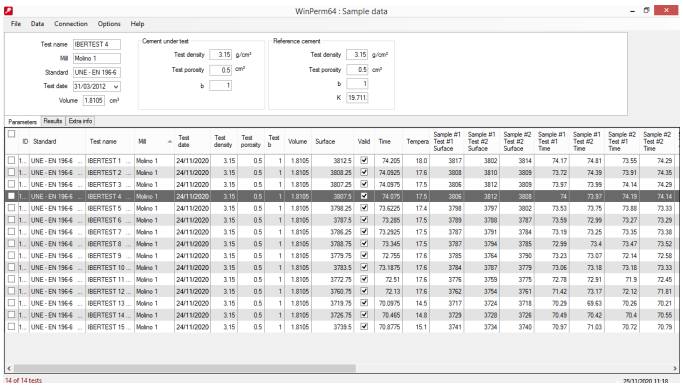
- Easy acquisition of results and test parameters.
- Unlimited results storage.
- Friendly test management: user can filter and categorize according to user criteria.
- Automatic report generation (i.e. .pdf or printing formats).
- Possibility of communication with other commercial applications and laboratory management tools.

REPORT GENERATION

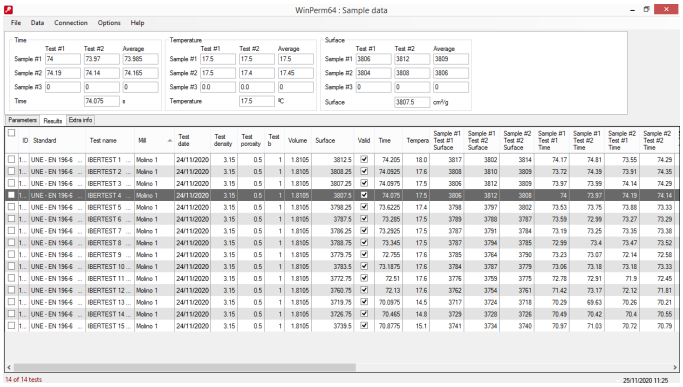
WinPerm64 enables the automatic generation of test reports and can be created from default templates (which vary depending on the standard) or through others that can be customized.

ACQUISITION AND PERFORMANCE MANAGEMENT

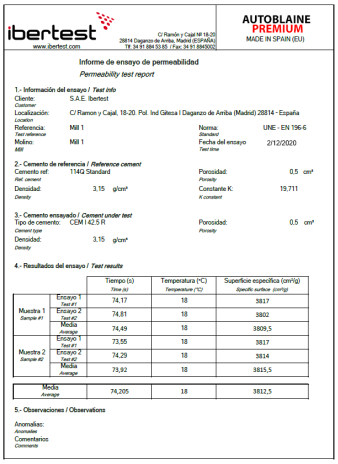
WinPerm64 software application shows clearly and simply all sample information and the results of each test.



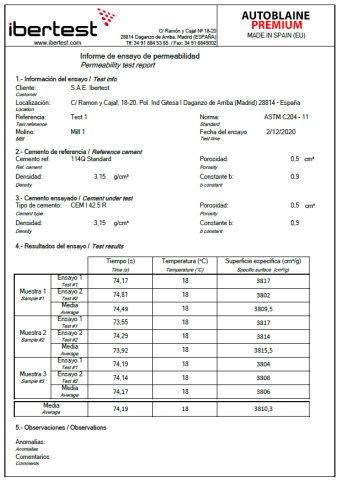
Data of samples



Results



Report example EN 196-6



Report example ASTM C204