

DATA SHEET

300 and 300/15 kN AUTOMAX PRO, Top-of-the-range Automatic compression-flexural cement testers

ASTM C109 | ASTM C349 | ASTM C348 | EN 196-1

MAIN FEATURES

- **Huge boost in efficiency and error elimination:** LinK-LAB – Integrated testing station solution for seamless connection and data inputs from many ancillary devices for dimensional measurement, weight, bar code, etc.
- **Fully automatic – time saving:** Full test-cycle automation maximizes productivity and ensures tests are performed accurately according to pre-set methods, eliminating operator variables.
- **Highly accurate and energy saving:** Our DC motor technology quietly and efficiently delivers super accurate load control at both low-speed and low-loads.
- **Intuitive, quick and simple operation:** The integrated control system features an intuitive 7" color graphical display, which works like a tablet or smart-phone, and makes AUTOMAX PRO quick and simple to operate.
- **Standards compliant – peace of mind:** Hardware and firmware are in total compliance with all the main international cement testing standards.
- **Pioneering web services:** WEBCARE Remote Assistance will enable connection to your testing system for remote technical support whilst the i-LAB cloud-based services will allow sharing of your data with authorized 3rd parties, including real time viewing of the test.
- **Multilingual functionality:** The system is available in multiple languages and is fully compatible with non-Latin characters for Chinese, Cyrillic (and more).

GENERAL DESCRIPTION

Frames

These machines, featuring a very rigid four columns frame, have been designed for the testing of the cement prism either in compression or in flexure.

Four versions are available:

65-L27F1x

models, double testing chamber, 15/300 kN cap., inbuilt flexural jig for 40x40x160 cement prisms and compression apparatus for portions of 40x40x160 mm prisms broken in flexure.

Conforming to EN 196-1, 1015-11.

65-L28F1x

models, double testing chamber, 15/300 kN cap., fitted with round platens for testing in compression and flexion cement, mortar, resins and other materials.

Conforming to EN 196-1, 1015-11, ASTM C109, C348, C349 using the suitable accessories.

65-L18F1x

models, 300 kN cap., fitted with round platens for testing cement, mortar, resins and other materials and other materials.

Conforming to EN 196-1, 1015-11, ASTM C109, C349 using the suitable accessories.

65-L38F1x

models, 300 kN cap., fitted with round platens for testing cement, mortar, resins and other materials featuring increased vertical and horizontal daylight.

Conforming to EN 196-1, 1015-11, ASTM C109, C349 using the suitable accessories.

DATA SHEET

All models are fitted with high accuracy load cell/s or load measurement

Models fitted with compression platens 165 mm dia. (65-L28F1x, 65-L18F1x) have a vertical span of 200 mm hence can house all standard accessories for cement and mortar testing (see accessories) and furthermore can be used to test other specimens directly on the standard compression platens adjusting, if necessary, the vertical daylight, with the suitable distance pieces (see accessories).

Model 65-L38D1x features increased vertical and horizontal daylight to allow different kind of test, for example it's possible to perform flexural test on concrete beams with suitable accessory, see [Flexural test device for concrete beams](#)

Compression platens can be supplied complete with Platen surface hardness certificate. See upgrading option

Automax PRO, Automatic power and control system

See technical specifications.

Safety features

Includes: Max. pressure valve to avoid machine overloading; piston travel limit switch; emergency stop button; front door and rear transparent fragment guard on request, see Upgrading Options.

TECHNICAL SPECIFICATIONS

AUTOMAX PRO AUTOMATIC POWER AND CONTROL SYSTEM

Hydraulics

- DC motor, 720W, 50-60Hz
- Maximum working pressure 700 bar
- Load/unload electrovalve for test execution via display/PC and automatic stop at specimen failure
- Active control of up to 4 frames by selection via display/PC (third and fourth frame as option). See accessories.
- ES Energy Saving technology to reduce the power consumption and enable silent operation

Hardware

- 524,000 points high-resolution/stability analog channels
- 4 channels for load sensors
- Control frequency 250 Hz
- Sampling frequency 250 Hz
- 7", 800 x 480 pixel, 16 M colors, icon-driven capacitive sensing touchscreen graphic display
- Unlimited storage capacity for test data on internal 8 GB SD card
- USB port for test data storage on external USB memory stick and for firmware upgrade
- Ethernet port for PC / Internet /network communication
- Optional integrated graphic printer including Load-Time plot
- RS 232 port for data downloading in ASCII format
- Wi-Fi or GSM module available as option

Firmware

- Execution of compression, flexure tests in automatic mode with load rate controlled by a closed-loop P.I.D. system
- Execution of loading ramps with the possibility to manually increase or decrease the test speed during the test
- Possibility to reach at controlled speed a load target and to keep a steady loading phase.
- Simultaneous display of load, specific load, actual load rate, load/time graph
- Zoom option on the test graph
- Saving of the specimen failure type (to EN or ASTM) in the test results
- Download data to internal printer (optional) or to PC via RS 232 port or to USB memory stick
- PC / network communication via Ethernet

DATA SHEET

- Multi-coefficient linearization of the calibration curve for better accuracy at low loads thus avoiding the use of a second pressure transducer
- Recording facility for up to 10 test profiles for each channel including: type of test (e.g. compression, flexural, indirect tensile), specimen size and shape, load rate, test standard and other general information. Each one of the recorded test profiles can be recalled automatically to save time
- Improved PID algorithm and Multi PID selection. Up to 3 different PID settings can be tuned for a variety of materials (ACV, flexure, compression with neoprene pads, etc.)
- Compatible with the newly released Datamanager software, tailored for construction material testing laboratories, for real-time data acquisition, display and management
- Peripheral devices integration and web services available as option (see page...)
- Automatic load measurement verification procedure, by connecting suitable load cells and our digital readout unit to PC
- Language selection (including Cyrillic and Chinese)
- Unit selection (kN, ton, lbf)
- USB port for firmware upgrade and safe backup of the original configuration data (PID, calibration, etc.), in case of loss and/or data corruption. The restore of the machine to the factory settings is easy avoiding the need of any technical support.

Models 65-	L27F12 L27F14	L18F12 L18F14	L38F12 L38F14	L28F12 L28F14
Max. Load kN	15/300	300	300	15/300
Load measurement by	Load cells	Load cell	Load cell	Load cells
Ram travel mm	30/50	50	50	30/50
Vert. span mm	50	200	350	200
Horiz. span mm	220	220	260	220
Platen dim. mm	40x40	Dia. 165	Dia. 165	Dia. 165
Flexural jig 40x40x160 mm	included	-	-	-
Overall dim. mm lxgxxh	922x337 x964	862x344 x964	862x344 x1114	890x337 x964
Weight approx kg	260	215	228	266
Class 1 measuring Range from kN:	1.5 to 15 30 to 300	30 to 300	30 to 300	1.5 to 15 30 to 300
Class 1 measuring range from kN:*	0.75 to 15 3 to 300	3 to 300	30 to 300	0.75 to 15 3 to 300

*With the special calibration procedure, code 50-C0050/CAL for the 300 kN load scale and with the special procedure 50-C0050/CAL5 for the 15 kN load scale. To be specified at time of order.

ORDERING INFO

300kN compression testers

65-L18F12

300 kN cap., automatic compression tester for cement, mortar, resins and other materials using the suitable accessory. Load measurement by precision load cell. AUTOMAX PRO control system. Round compression platens 165 mm dia. 230 V, 50-60 Hz. 1 ph.

65-L18F14

Same as above but 110 V, 60 Hz, 1 ph

DATA SHEET

65-L38F12

300 kN cap., automatic compression tester for cement, mortar, resins and other materials using the suitable accessory. Load measurement by precision load cell. AUTOMAX PRO control system. Round compression platens 165 mm dia. Version with increased testing space: vertical 350 mm, horizontal 260 mm. 230 V, 50-60 Hz, 1 ph.

65-L38F14

Same as above but 110 V, 60 Hz, 1 ph

300kN/15kN compression testers

65-L27F12

Double chamber automatic flexural-compression tester, 15/300 kN cap., inbuilt flexural jig for 40x40x160 mm prisms and compression apparatus for portions of 40x40x160 mm prisms broken in flexure to EN 196-1. Load measurement by precision load cells. AUTOMAX PRO control system. 230 V, 50-60 Hz, 1 ph.

65-L27F14

Same as above but 110 V, 60 Hz, 1 ph

65-L28F12

Double chamber automatic compression tester, 15/300 kN cap., for cement, mortar, resins and other materials using the suitable accessory. Load measurement by precision load cells. AUTOMAX PRO control system. Round compression platens 165 mm dia. 230 V, 50-60 Hz, 1 ph.

65-L28F14

Same as above but 110 V, 60 Hz, 1 ph

ACCESSORIES

[Compression devices for cement and mortars](#)

[Flexural test devices for mortar beams](#)

[Distance pieces to adjust the vertical daylight](#)

[Data manager PC software](#)

ADDITIONAL INFORMATION

The AUTOMAX PRO Super-Automatic cement testers, represent the more sophisticated and advanced evolution of the usual compression testers. This new and advanced system satisfies, first of all, the requirements for the automatic accurate and constant load rate application conforming to standards. The test cycle with closed loop digital feedback is automatically performed by simply pressing the start button. The other important innovation concern the "ES technology" which features the accurate oil flow control with no oil dispersion, silent operation, cold oil temperature and, finally, **low energy consumption** saving over the 30% energy compared to traditional systems. The automatic test procedure, once the specimen has been positioned and centered and the machine switched on is:

- Set test parameters, including load rate, on the touch screen (can be avoided by default for repetitive tests)
- Press the start button on the touch screen
- The machine automatically starts the rapid platen approach, switches to the test speed once the specimen comes into contact with the upper platen and, finally, releases the pressure upon specimen failure
- Save the test including data results and load/time graph. The test execution conforming to standards can be easily proved.

UPGRADING

Third frame facility

50-C10D/3F

Upgrading the Automax System for a third frame connection and control (expect 4000kN and 5000kN models). Frame selection via display/PC.

DATA SHEET

Graphic printer (To be factory installed)

50-Q60P/PR

Upgrading the AUTOMAX PRO to incorporate a serial graphic printer in the front panel allowing also load/time plot at the end of test.

Specifications:

- Very silent printing
- High speed: 50 mm/sec
- High resolution: 203 dpi=8 dots/mm
- Support test and graphic printing
- Easier maintenance with self-diagnostic
- Paper width: 57.5 mm

Safety fragment guard

65-L2701/P

Transparent rigid fragment guard for 65-L27D1x compression testers and frames

65-L1800/P

Transparent rigid fragment guard for 65-L18D1x compression testers and frames

65-L2800/P

Transparent rigid fragment guard for 65-L28D1x compression testers and frames

Fragment guard locking switch.

50-L0050/P To prevent the test execution with the safety guard open. It has to be factory installed directly on the transparent fragment guard.

Platens surface hardness certificate

50-L0050/HRD

Traceable hardness certificate for platens 165 mm dia. Min. hardness 55,5 HRC.

Available only for ordering with the machine

50-C0050/HRD5

Traceable hardness certificate for platens 40x40 mm. Min. hardness 60 HRC.

Available only for ordering with the machine

Special calibration procedures

50-C0050/CAL

Special calibration procedure to obtain class 1 from 1% of the 600kN scale

50-C0050/CAL5

Special calibration procedure to obtain class 1 from 5% of the 15kN scale



Double chamber 300/15 kN
AUTOMAX PRO compression
machine 65-L28F12