CONTROLS

CONSTRUCTION
MATERIALS
TESTING

AUTOMAX PRO

Smart, Automatic and Connected Concrete Power and Control Unit

www.controls-group.com

AUTOMAX PRO

Smart, automatic and connected Compact-Line compression machines

Integrated computerized control system for quick, intuitive and efficient testing

The leading-edge high definition 7" color graphical display is easy-to-follow and works like a tablet or smart-phone. This makes it easy to perform test and access the latest international Standards resulting in more rapid training of new staff and higher testing through-put.

Active control of up to 4 frames with selection via display or PC (no manual operation or valve switching required).

Variable speed with permanent magnet DC motor for superior performances at low load rates and low load value. Soft platen-to-specimen contact for more accurate speed control from the very beginning of the ramp.

High speed pump closes the daylight above the specimen at the fastest speed for maximum sample throughput.

Automatic and seamless reporting to all major US LIMS systems via our Data Manager software.

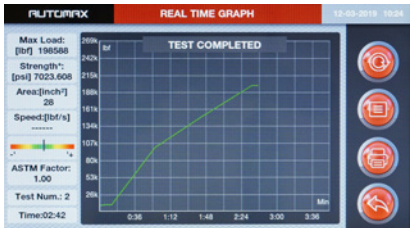
Large intuitive graphic color 7" display similar to tablet or phone 800 x 480 pixel.

Dual user interface via console display or PC with optional DATAMANAGER software.

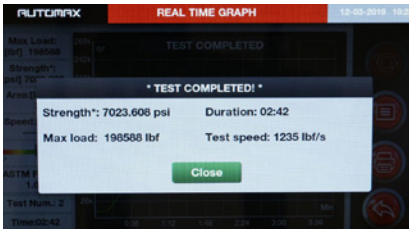
Oversampling function increasing the sampling rate when specimen is approaching the failure for better identification of peak value.

Optimum accuracy is obtained with 19-bit effective resolution (524,000 datapoint) and extended class-1 range.

Main menu



Test is complete and results accurate



Calculation of test speed

Smart Connectivity

AUTOMAX PRO introduces new features and capabilities that will revolutionize the operations of any progressive construction quality testing laboratories.

LinK·LAB
LABORATORY CONNECTIVITY PACKAGE

LinkLAB is CONTROLS' new proprietary **Laboratory Connectivity Package** that brings total reliability and transparency to your testing process. It allows your machine to take direct inputs from many ancillary devices, reducing error-prone manual tasks and eliminating transposing errors. The addition of an integrated smart camera for recording your testing ensures that you can deliver unadulterable results that can be easily documented and shared.

Two models available

Link-LAB Local
Available for systems that operate stand-alone using the controller only without a PC.

Link-LAB Enterprise
Available for new and existing systems controlled by PC via DATAMANAGER Software.

Sample Information Acquisition

Direct acquisition provides a tidier operation eliminating the possibility for data transposition errors.

Compatible devices include but are not limited to:

- ✓ calipers
- ✓ digital balances
- ✓ ID bar-code readers

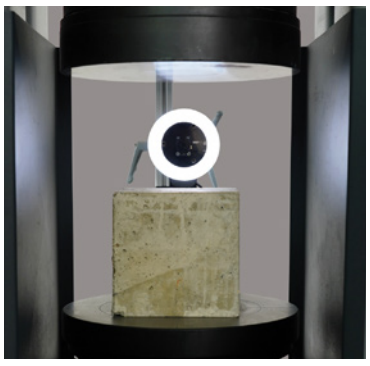
Test Video Recording *

High Resolution Video Recording
Fit your compression machine with an integrated high resolution smart camera to record all your testing.

Video recording not only proves that a test has been performed but also provides unalterable test results, raising the bar of reliability and transparency. At the end of a test, easily save your recording and test results in the PC software's archive.

Automatic Sample Identification
The SID READER module is an extra tool to be activated in the PC software allowing the smart camera to read and recognize the barcode on a sample.

The sample ID, read by the camera, will be displayed during the test and recorded along with the other data such as data, time, elapsed time, load and strength values.

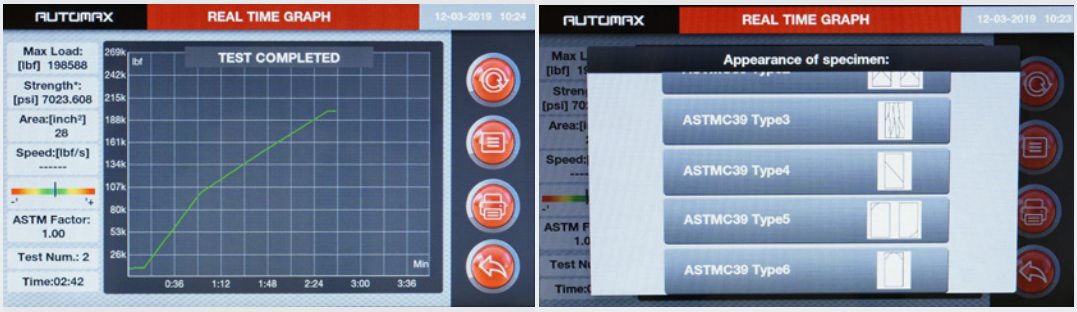


* Only available if your machine is fitted with LINK-LAB Enterprise

Fully Compliant and Versatile

Now you can perform a list of pre-set test methods without any operator variation. The machine automatically performs the test at correct test speeds, plus conformance to Standards can be easily proven.

Robust design and build in full compliance with ASTM C39 and EN 12390-3



Standard testing features include: rapid approach, soft-touch test start, initial pause for specimen alignment, double load rate option, height/ diameter correction factor, final calculation of effective-load-rate-applied, peak sensitivity expressed in percentage and saving of specimen failure type image. This ensure the system is fully compliant with all the main international concrete testing standards including ASTM C39 and EN 12390-3.

Quick and simple to operate even for operators with limited expertise

The easy-to-use high-definition graphical interface based on tablet and smart-phone display technology includes handy features such as graphical failure-type, specimen-geometry and access to the latest international testing standards.

Wide variety of materials tested

Improved PID algorithms and multi-PID settings ensure the system can be perfectly tuned for a variety of material with differing characteristics.

Multilingual functionality

Wherever you are, the system can be adapted to your local language, units or Standards and is fully compatible with non-Latin characters for Chinese, Cyrillic, etc.

Technical Specifications

Hydraulics

Dual stage HPU: centrifugal low pressure for fast approach automatically switches to radial multi-piston high pressure for loading

DC motor: 720 W, 50-60 Hz

Maximum working pressure: 700 bar

Load / unload electrovalve for test execution via display / PC and automatic stop at specimen failure

Third and fourth frame option, control of up to 4 frames by selection via display / PC

ES Energy Saving technology to reduce power consumption and promote silent operation

Hardware

524.000 points high-resolution / stability analogue channels

4 channels for load sensors (pressure transducers and load cells)

Control frequency: 250 Hz

Sampling frequency: 250 Hz

7", 800 x 480 px, 16m colors, icon-driven touchscreen graphic display (like tablet or phone)

Unlimited storage capacity for test data on internal 16 GB SD card

USB port for test data storage or for firmware upgrade by external USB memory stick

Ethernet port for PC / Internet / network communication

Optional integrated graphic printer including Load-Time plot

RS 232 port for data downloading in ASCII format

Firmware

Execution of compression, flexure, indirect tensile, ACV tests in automatic mode with load rate controlled by a closed-loop PID system

Execution of loading ramps allowing the manual increase or decrease the test speed during the test

Pause command to maintain steady load can be enabled at a pre-set value before the test or as required while testing

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 test results

Download data to internal printer (optional) or to PC via RS 232 port or to USB memory stick

Ethernet port for PC / network communication

Multi-coefficient linearization of the calibration curve for better accuracy at low loads avoiding the use of a second pressure transducer.

Recording facility for up to 9 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 (e.g. cylinder with neoprene pads and low strength specimens) and test methods (e.g ACV and flexure, indirect tensile).

Compatible with the newly released DATAMANAGER software, tailored for construction material testing laboratories, for real-time data acquisition, display and management

Peripheral devices integration with Link-LAB

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)

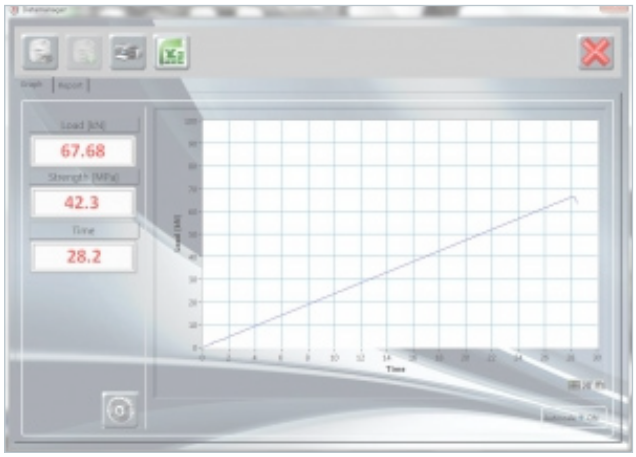
USB port for firmware upgrade and safe backup of the original configuration data (PID, calibration, etc.), in case of loss and / or data corruption. The restore to factory settings function is easy to use and reduces the need of any technical support.

Technical Specifications

Software Packages

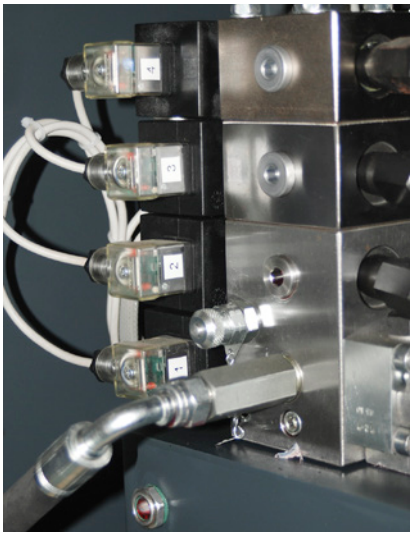
50-SW/DM

DATAMANAGER software package for compression, indirect tensile, 3 points and 4 points flexural tests on different types of specimens.



The PC allows:

- Remote control of the whole system and the automatic execution of test including: fast approaching, zeroing, application of correct load rate, automatic interruption at the end of the test, numerical and graphical management of test results, etc.
- Active frame selection via software.
- Printing and saving of customized test reports both for single and batch tests in Excel format .
- Choice of several languages plus ability to customize with a further local language.
- Automatic load measurement verification procedure including data acquisition and printing of traceable calibration certificates when connected to the digital readout unit (model 82-P0801/E) and the suitable load cell.



Upgrading Options

THIRD AND FOURTH FRAME CONNECTION

The AUTOMAX PRO system can control two frames as standard and it can be upgraded with a hydraulic valve for controlling (not simultaneously) a third and a fourth frame.

Note: when connecting a low capacity frame (i.e. flexural or cement) pressure regulator 65-L1400/X5 may be necessary for AUTOMAX PRO testers. Please ask our technical department.

50-C10D/3F

Electrovalve for third frame connection.

50-C20E/4F

Electrovalve for fourth frame connection.
To be used with 50-C10D/3F.

Upgrading Options

SERIAL PRINTER INSTALLATION

AUTOMAX PRO systems can be upgraded by incorporating a serial printer in the rear panel with the following specifications:

- Very quiet printing
- High speed: 50mm / sec
- High resolution: 200 dpi = 8 dots / mm
- Paper width: 58 mm

The printer allows test results (including load / time plot) to be printed at the end of the test.

50-Q60P/PR
Installation of a serial printer on the AUTOMAX PRO control panel allowing load / time plot.

AUTOMAX Pro fitted with Serial Printer

Models Overview

	CAPACITY [kN]					
	330 [klbf]	**450 [klbf]**	**660 [klbf]**	**1,500 [kN]**	**2,000 [kN]**	**3,000 [kN]**
AUTOMAX PRO	A12F14	A42F14	A52F14	A12F04	A42F04	A52F04

Note: For 220V, 50-60 Hz versions change last code number from 4 to 2. Example: 50-A42F12, A52F12, A12F12/M.

CONTROLS

CONTROLS Customer Care

As one of the longest established manufacturing companies in the world of Construction Materials Testing solutions, we are dedicated to supplying high quality, accurate, affordable, easy to use systems.

As a valued customer of CONTROLS, you will receive continuous, expert support and advice for your equipment. Furthermore, we can offer full installation and training in the correct operation of your CONTROLS equipment.

For support from our expert Customer Care Team, contact your local CONTROLS office / distributor or email **customercare@controls-group.com.**

For more information, please visit **www.controls-group.com.**

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