CONTROLS | CONTROLS GROUP

CONSTRUCTION MATERIALS TESTING SOLUTIONS

AUTOMAX PRO AUTOMAX PRO M

Smart, Automatic and Connected
Concrete Power and Control Units

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.

Two models available

AUTOMAX PRO AUTOMAX PRO M

AUTOMAX PRO allows automatic performance of basic failure tests on concrete and cement whilst the higher-spec AUTOMAX PRO-M, with factory-fitted advanced hydraulics, can perform advanced concrete tests such as Modulus of Elasticity (MOE).

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 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.

	AUTOMAX PRO	AUTOMAX PRO M
Automatic basic failure tests	✓	✓
Elastic Modulus determination	✗	✓

AUTOMAX PRO M

AUTOMAX PRO-M Power Control System fitted with superior hydraulics can also perform, in addition to standard failure tests, the Modulus of Elasticity Determination test.

Simultaneous display of load, specific load, actual load rate, load/time graph and stress/strain graphs.

Automatic performance of Elastic Modulus tests according to the main International Standards with automatic calculation of tests results.

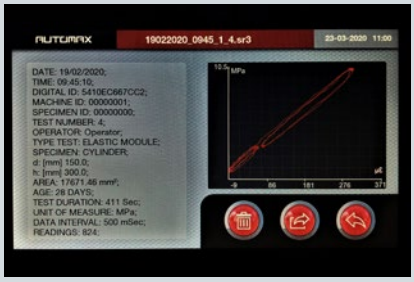
6 channels to be factory configured:

- 2 channels for load sensors
- 2 channels for load or displacement/strain sensors
- 2 channels for displacement/strain sensors.

Flow-sharing technology to perform loading and unloading cycles at controlled rate.

Elastic modulus determination with AUTOMAX PRO-M 3000kN EN compression machine.

INTUITIVE GRAPHICAL DISPLAY



Elastic Modulus test results

Elastic Modulus and Poisson ratio determinations

Elastic Modulus test settings

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.** It allows your AUTOMAX Pro to be a connected part of your laboratory infrastructure by taking inputs from any number of ancillary measuring systems and devices increasing efficiency and eliminating transposing errors.

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.

Seamless Device Integration

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

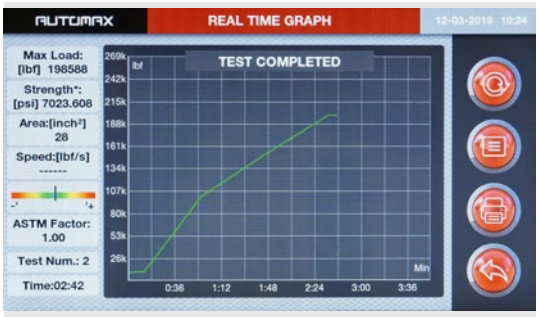
Compatible devices include but are not limited to:

- ✓ dimensional measuring stations
- ✓ calipers
- ✓ weighing systems
- ✓ ID bar-code readers

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

Flow-sharing technology to perform loading and unloading cycles (AUTOMAX PRO-M only)

Hardware

524.000 points high-resolution / stability analogue channels

6 channels to be factory configured:
- 2 channels for load sensors (pressure transducers and load cells)
- 2 channels for load sensors (pressure transducers and load cells) or displacement / strain sensors (AUTOMAX PRO-M only)
- 2 channels for displacement/strain sensors (AUTOMAX PRO-M only)

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 8 GB SD card

USB port for test data storage on 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 and load / displacement or load / strain graphs (AUTOMAX PRO-M only)

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 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 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.

Software Packages

50-SW/DM

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

AUTOMAX Pro fitted with Serial Printer

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.

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.

Models Overview

AUTOMAX PRO

			CAPACITY [kN]				
			1,500	2,000	3,000	4,000	5,000
STANDARD	EN	Cubes/Cylinders	-	C46F02	C56F02	C68F02	C78F02
		Blocks	-	C47F02	C57F02	C69F02	C79F02
	ASTM*	Cylinders	A12F02	A42F02	A52F02	-	-
		Blocks	-	-	-	-	-

AUTOMAX PRO M

			CAPACITY [kN]				
			1,500	2,000	3,000	4,000	5,000
STANDARD	EN	Cubes/Cylinders	-	C46F02/M	C56F02/M	C68F02/M	C78F02/M
		Blocks	-	C47F02/M	C57F02/M	-	-
	ASTM*	Cylinders	A12F02/M	A42F02/M	A52F02/M	-	-
		Blocks	-	-	-	-	-

Note: For 110V, 60 Hz versions change last code number from 2 to 4. Example: 50-C46F04, C56F04, C68F04.

*These machines can be calibrated in lbf unit. For the codes change second last code number from 0 to 1.

CONTROLS Customer Care

At CONTROLS we are proud of our products. 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.**
- To order or upgrade your product, please contact our sales department at **sales@controls-group.com.**

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

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