CONTROLS

CONSTRUCTION
MATERIALS
TESTING

Automatic and Smart Testing Systems Range

Automatic concrete strength testing
is now standard.

www.controls-group.com

WiZARD AUTO

Standard automatic Quality Control machines for compression and flexural testing

This all new automatic Quality Control compression machine is the outcome of 50 years of innovation and technical leadership in concrete testing equipment. Routine testing performance has made a step change improvement with CONTROLS adopting an automatic closed-loop PID control of load rate using VFD inverter-technology.

Flexible use with two analog channels for load sensors to connect an optional second frame.

Highly efficient, quiet and energy saving AC motor fitted with Inverter lowers running costs and is more environmentally-friendly.

Fast approach with dual stage pump and automatic switch to high pressure for loading improves productivity and efficiency.

User-friendly wide graphic display (128 x 80 pixel) for increased user comfort.

Streamlined printing process with optional integrated graphic printer.

RS232 for quick and simple data download in ASCII format.

High accuracy with 16-bit effective resolution (65,000 datapoint).

BENEFITS

No human error
Greatly reduces opportunities for operator errors, improving accuracy of results and repeatability.

Easy to use
Easy to use, even for operators with limited expertise.

Conforming to Standards
The machine automatically performs the test at correct test speed and conformance to Standards can be easily proven.

High performance
High speed pump closes the daylight above the specimen at the fastest speed allowing a very high throughput of tests.

Quiet operation
Increased operator comfort due to the significant noise reduction.

Energy saving
Respects the environment with up to 50% reduction in energy consumption.

PILOT PRO

Versatile automatic compression machines for standard failure tests

Pilot Pro is the best choice for Qualtiy Control laboratories to carry out a high throughput of routine failure tests including compression, flexure and indirect tensile tests.

Flexible optional second and third frame connection facility via manual selector.

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.

Fast approach with dual stage pump and automatic switch to high pressure for loading improving productivity and efficiency.

User-friendly wide graphic color 5.1" display (800 x 480 pixel)

Dual user interface via console display or PC with Datamanager software.

Easy data download to internal printer (optional), PC or USB memory stick.

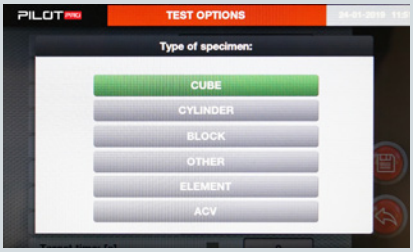
Optimum accuracy is obtained with 19-bit effective resolution (524,000 datapoint) and extended class-1 range.

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

INTUITIVE GRAPHICAL DISPLAY

Intuitive, quick and simple operation – The graphical interface is very intuitive and will guide you through each phase giving you consistency across testing procedures.

Multilingual functionality – The system is available in multiple languages and is fully compatible with non-Latin characters for Chinese, Cyrillic (and more) versions.



Handy test options – Navigate through test options such as type of specimen, type of test, Standards, units of measurements, etc.

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) and Displacement Control.

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	✗	✓
Displacement Control	✗	✓ *
Tensile tests	✗	✓ **

* With firmware upgrade 50-FW/DC ** With firmware upgrade FW/UTS

AUTOMAX PRO M

AUTOMAX PRO-M Power Control System fitted with superior hydraulics can also perform, in addition to standard failure tests, Modulus of Elasticity Determination tests and characterizations of Fiber Reinforced Concrete (FRC) under displacement-control and tensile tests on steel rebars.

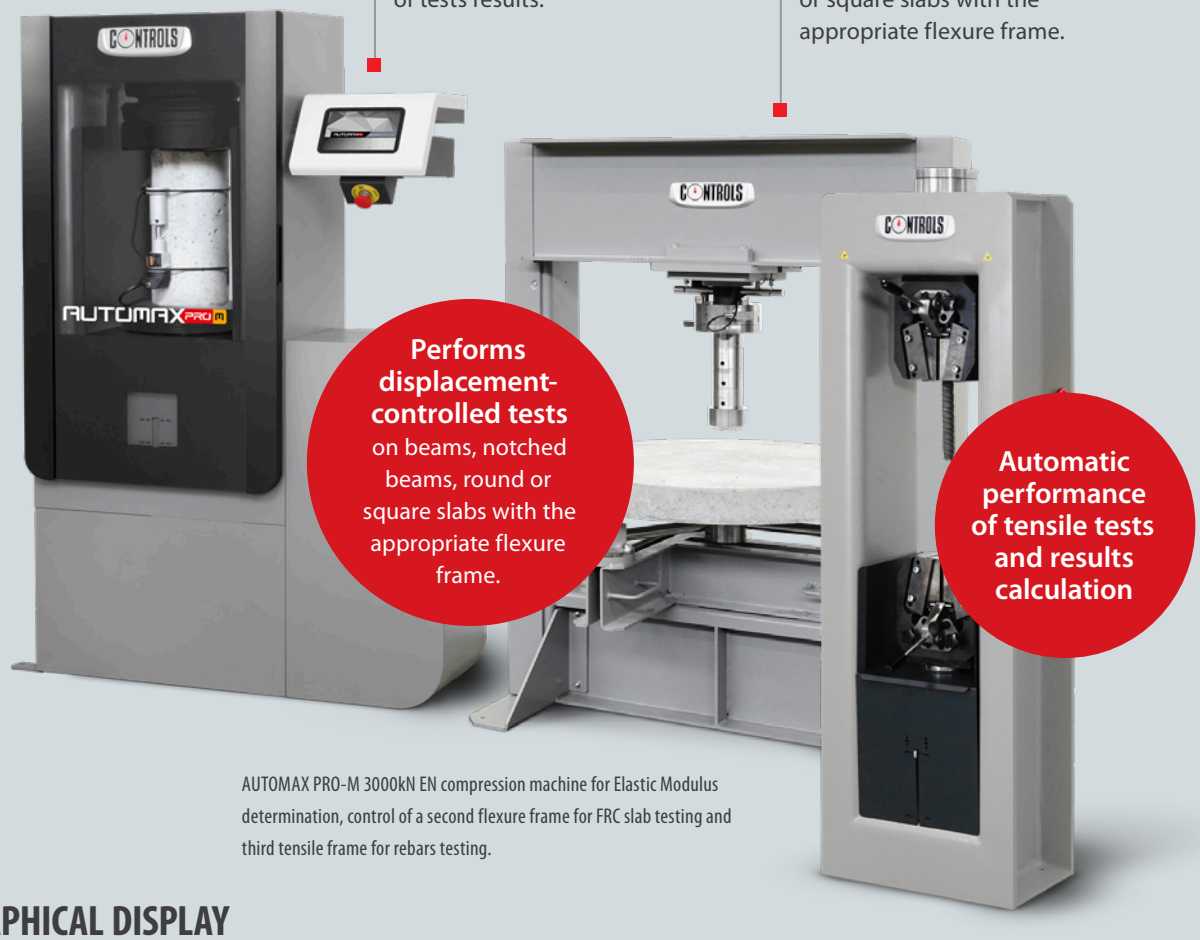
6 channels to be factory configured:

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

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

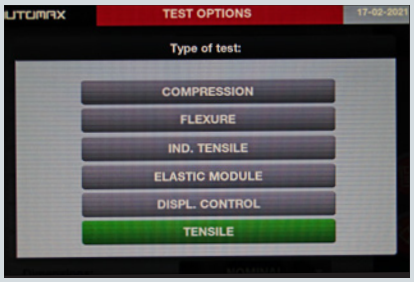
Performs displacement-controlled tests on beams, notched beams, round or square slabs with the appropriate flexure frame.

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

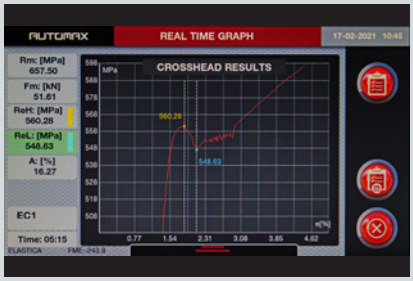


AUTOMAX PRO-M 3000kN EN compression machine for Elastic Modulus determination, control of a second flexure frame for FRC slab testing and third tensile frame for rebars testing.

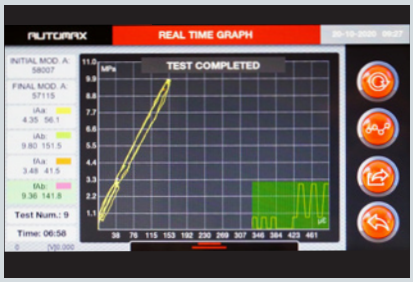
INTUITIVE GRAPHICAL DISPLAY



Easily select your test method



Tensile test results



Elastic Modulus test results

AUTOMAX MULTITEST

Automatic Control Console for concrete, cement, MOE and steel testing

Versatile and modular Automatic Computerized Control Console for concrete, cement, MOE and steel rebar testing allowing modular upgrades from basic failure tests to advanced displacement controlled tests for FRC Fiber Reinforced Concrete.

Wide range of test methods available through the addition of software packages on the high spec all-in-one supplied PC.

High productivity
Double stage Hydraulic Power Unit (HPU) with rapid approach and precise oil flow control allowing high throughput of accurate test (up to 40/hour).

Environmentally friendly
Adopts the latest ES (Energy Saving) technology for reduction of power consumption and silent operation.

Integrated PC control
Test cycle, with closed-loop digital feedback, is automatically performed by pressing the start button via PC.

500 Hz high control frequency
for optimum oil flow adjustment during critical tests.

Modular and expandable
two control, expandable to four, with active frame selection via software.

Maximum versatility and flexibility
with 14 channels available to connect several types of sensors.

Suitable for

All test methods
from basic failure (compression, flexure, splitting, tension) through cyclic tests for Elastic Modulus and Poisson's Ratio determination up to advanced displacement controlled tests for FRC Fiber Reinforced Concrete.

All sample types
tested by connecting up to four frames ranging from 1,500 kN to 5,000 kN in compression and 500 kN in tension.

All budgets
systems can be upgraded incrementally by adding suitable testing frames, accessories and dedicated software packages.

All users
system suitable to any user thanks to four easy-to-use software packages tailored to guide the operator through all test phases:

- **DATAMANAGER (included)** for standard failure tests and automatic reporting
- **E-MODULE (optional)** for Modulus of Elasticity and Poisson Ratio determinations
- **UTS (optional)** for tensile tests on steel rebars
- **D-CONTROL (optional)** for displacement-controlled tests.

AUTOMAX MULTITEST AUTOMAX PRO M

MOE and Poisson's Ratio measurement

Automax Multitest and Pro-M allow you to run loading/unloading customized sequences for Modulus of Elasticity (MOE) and Poisson's Ratio determination in full automatic mode.

Full automatic control of the whole loading/unloading steps sequence and strain measurement in MOE and Poisson's Ratio tests. The E-MODULE software package automatically calculates test results according to EN 12390-13 (method A and B) and ASTM C469 and generates test reports for easy analysis.



E-MODULE software (82-SW/EM)
For automatic determination of Modulus of Elasticity and Poisson's ratio

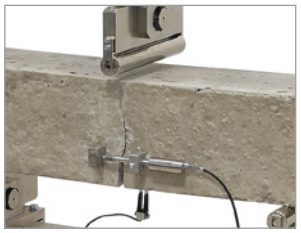
AUTOMAX MULTITEST AUTOMAX PRO M

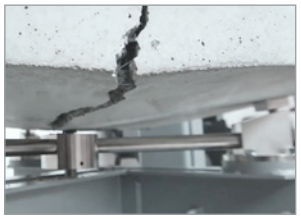
Complete FRC testing solution

For Displacement-controlled tests

By adding accessories from the wide range available to the Automax Multitest and Pro-M systems, you'll be equipped to perform many tests complying with the main international Standards such as:

- Deflection test on Steel Fiber Reinforced Concrete beams to EN 14651 [CMOD Method]
- Flexural behaviour of FRC beams to ASTM C1609
- Energy absorption test on square slabs to EN 14488-5
- Flexural toughness of round panels to ASTM C1550






D-CONTROL software (82-SW/DC)
For Displacement Controlled tests on FRC

AUTOMAX MULTITEST
AUTOMAX PRO M

Easy steel rebar testing

For Tensile tests on steel rebar

Automatic performance and tests results elaboration in conformity to EN ISO 6892-1 (methods A1, A2, B) and EN 15630-1.


UTS software (82-SW/UTS)
For Tensile tests on steel rebars

Smart Connectivity

All Controls' machines (except Wizard auto) introduce 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



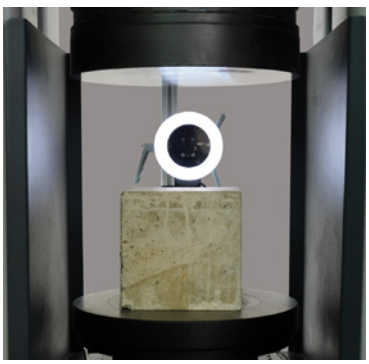
Test Video Recording *

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

Take Control of your Data

CONTROLS automatic compression machines are now communicating directly with your data management system.

- Automate and standardize your complete cylinder testing and reporting process
- Automatically send test results to your LIMS system
- Less potential for data transfer error
- Generate PDF report from each break and store it in the folder of your choice
- Whatever your location, your test results are available straight away

MOST AUTOMATED MACHINES AVAILABLE
Thanks to our experience and leading technology we have the ultimate automated test execution – just press the START button!

AUTOMATIC COMMUNICATION to LIMS
Our machines will automatically send test results to your own LIMS system, so your testing database is always up-to-date.

WIDEST RANGE OF CONTROLLERS
We have four types of automatic controllers to choose from.

BEST VALUE
Our high manufacturing volumes (we sell over 500 machines every year) allow us to reduce the price of our automatic compression machines to levels unmatched by other manufacturers.

AUTOMATIC REPORTING
PDF reports are automatically generated and saved after each break without any additional interventions from the operator's side minimizing the risk of errors.

WIDEST RANGE OF FRAME CAPACITIES
Compression frames from 1,500 kN to 5,000 kN.

Flex frames from 150 kN to 350 kN.

Our Automatic Range at a Glance

Building on 50 years leadership of testing equipment for the construction industry, CONTROLS have renewed their full compression machine range, revolutionizing construction materials testing with the development of totally new types of compression machines, controllers, support systems and testing ecosystems. The new cutting-edge connective technologies allow your testing system to be a connected part of your laboratory infrastructure increasing efficiency and eliminating the risk of transposing error.

You will find below a quick guide to help you decide which model is best for your needs.

	 WIZARD AUTO	 PILOT PRO	 AUTOMAX PRO	 AUTOMAX PRO M	 AUTOMAX MULTITEST
Automatic basic failure tests	✓	✓	✓	✓	✓
Elastic Modulus determination	✗	✗	✗	✓*	✓*
Displacement-controlled tests	✗	✗	✗	✓*	✓*
Steel tensile tests	✗	✗	✗	✓*	✓*
Smart device connectivity	✗	✓	✓	✓	✓
HMI	Monochrome graphic display	5.1" color touchscreen display	7" color touchscreen display	7" color touchscreen display	All-in-one PC
Channels	2 for load	3 for load	4 for load	2 for load + 2 for displacement or load + 2 for displacement	4 for load + 10 for displacement
Frame selection	Manual	Manual	By PC / display	By PC / display	By PC
PC Control	✗	✓ OPTIONAL	✓ OPTIONAL	✓ OPTIONAL	✓ INCLUDED

* With suitable software/firmware package, dedicated frame and accessories.

	COMPRESSION ON CONCRETE	SPLITTING ON CYLINDERS	COMPRESSION ON CEMENT	FLEXURE ON BEAMS	MOE AND PR	FLEXURE ON FRC BEAMS	FLEXURE ON FRC PANELS	TENSILE ON REBARS
	ASTM C39	ASTM C496	ASTM C109	ASTM C78 / C293	ASTM C469	ASTM C1609	ASTM C1550	ASTM A370
WIZARD AUTO	✓	✓	✓	✓	✗	✗	✗	✗
PILOT PRO	✓	✓	✓	✓	✗	✗	✗	✗
AUTOMAX PRO	✓	✓	✓	✓	✗	✗	✗	✗
AUTOMAX PRO-M	✓	✓	✓	✓	✓	✓	✓	✓
AUTOMAX Multitest	✓	✓	✓	✓	✓	✓	✓	✓

	COMPRESSION ON CONCRETE	SPLITTING ON CYLINDERS	COMPRESSION ON CEMENT	FLEXURE ON BEAMS	MOE AND PR	CMOD TEST ON FRC BEAMS	ENERGY ABSORPTION ON SLABS	TENSILE ON REBARS
	EN 12390-3	EN 12390-6	EN 196-1	EN 12390-5	EN 12390-13	EN 14651	EN 14488-5	EN 15630-1
WIZARD AUTO	✓	✓	✓	✓	✗	✗	✗	✗
PILOT PRO	✓	✓	✓	✓	✗	✗	✗	✗
AUTOMAX PRO	✓	✓	✓	✓	✗	✗	✗	✗
AUTOMAX PRO-M	✓	✓	✓	✓	✓	✓	✓	✓
AUTOMAX Multitest	✓	✓	✓	✓	✓	✓	✓	✓

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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