Automatic and Smart Testing Systems Range

Automatic concrete strength testing is now standard.
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.

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

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

**Streamlined printing process** with optional integrated graphic printer.

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

**RS232** for quick and simple data download in ASCII format.

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

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**BENEFITS**

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

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

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

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

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

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

**Versatile automatic compression machines for standard failure tests**

Pilot Pro is the best choice for Quality 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.
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.

<table>
<thead>
<tr>
<th>Feature</th>
<th>AUTOMAX PRO</th>
<th>AUTOMAX PRO-M</th>
</tr>
</thead>
<tbody>
<tr>
<td>Automatic basic failure tests</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Elastic Modulus determination</td>
<td>✗</td>
<td>✓</td>
</tr>
</tbody>
</table>

**Two models available**

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

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

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.

INTUITIVE GRAPHICAL DISPLAY

Elastic Modulus test results
Elastic Modulus and Poisson ratio determinations
Elastic Modulus test settings
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 for standard failure tests and automatic reporting
• E-MODULE for Modulus of Elasticity and Poisson Ratio determinations
• UTS for tensile tests on steel rebars
• D-CONTROL for displacement-controlled tests.
MOE and Poisson’s Ratio measurement
Automax Multitest allows 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**
For automatic determination of Modulus of Elasticity and Poisson’s ratio

Complete FRC testing solution
For Displacement-controlled tests

By adding accessories from the wide range available, with Automax Multitest console 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**
For Displacement Controlled tests on FRC

Easy steel rebar testing
For Tensile tests on steel rebar

Automatic performance and tests results elaboration in conformity to EN ISO 6892-1 (method B) and EN 15630-1 (for steel rebars).

**UTS software**
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.

LinkLAB is CONTROLS’ new proprietary Laboratory Connectivity Package. It allows your compression machine 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
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.

<table>
<thead>
<tr>
<th>Feature</th>
<th>Wizard</th>
<th>Pilot Pro</th>
<th>Automax Pro</th>
<th>Automax Max Pro</th>
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<td>Automatic basic failure tests</td>
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<tr>
<td>Elastic Modulus determination</td>
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<td>5.1&quot; color touchscreen display</td>
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<td>7&quot; color touchscreen display</td>
<td>All-in-one PC</td>
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<td>Channels</td>
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<td>2 for load + 2 for displacement or load + 2 for displacement</td>
<td>4 for load + 10 for displacement</td>
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<td>By PC / display</td>
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<td>✓ ** OPTIONAL</td>
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* For automatic basic failure tests only.  ** With suitable software package, dedicated frame and accessories.
<table>
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<tr>
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<th>Compression on Cement</th>
<th>Flexure on Beams</th>
<th>MOE and PR</th>
<th>Flexure on FRC Beams</th>
<th>Flexure on FRC Panels</th>
<th>Energy Absorption on Slabs</th>
<th>Tensile on Rebars</th>
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</table>

**WIZARD AUTO**

**PILOT PRO**

**AUTOMAX PRO**

**AUTOMAX PRO-M**

**AUTOMAX Multitest**
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.

Contact Us

<table>
<thead>
<tr>
<th>Country</th>
<th>Website</th>
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<tr>
<td>Italy</td>
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