

DATA SHEET

EN - Top-of-the-Range Automatic Compression Testers for Cubes and Cylinders AUTOMAX PRO



3000 kN EN compression machine model 50-C56F02

General description

AUTOMAX PRO is CONTROLS' new top-of-the-range Compact-Line compression machines and is the first choice for automatic standard failure tests.

AUTOMAX PRO introduces 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 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.

The machines consist of:

Frame

Four column high stiffness welded frame tested for stability to EN 12390-4.

Heavy duty spherical seat in lubricating oil bath, allowing initial free alignment at the initial contact with the specimen and automatic jamming up to the end of test.

Compression platens

See table. Traceable certificate of surface hardness available on request.

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.

Main features

Smart automatic and connected concrete Power and Control System for standard failure testing.

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AUTOMAX PRO is CONTROLS' new top-of-the-range Compact-Line compression machine and is the first choice for automatic standard failure tests.

- **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 concrete testing standards including ASTM C39 and EN 12390-3.
- **Multilingual functionality:** The system is available in multiple languages and is fully compatible with non-Latin characters for Chinese, Cyrillic (and more).

Standards

- EN 12390-4

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 16 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

Firmware

Execution of compression, flexure, indirect tensile, ACV 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

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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

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

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 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, low strength specimens) and test methods (e.g. ACV, 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 of the machine to the factory settings is easy avoiding the need of any technical support.

PHYSICAL SPECIFICATION TABLE

Model 50-	C46F02 C46F04	C56F02 C56F04	C68F02 C68F04	C78F02 C78F04
Capacity kN	2000	3000	4000	5000
Max vertical daylight , mm*	350	350	520	520
Horizontal daylight mm	350	370	425	425
Max. piston travel*, mm	50	50	50	50
Platen dimensions	300 mm dia.	300 mm dia.	305x305 mm	305x305 mm
Platen surface hardness	55.5 HRC (600 HV)	55.5 HRC (600 HV)	55.5 HRC (600 HV)	55.5 HRC (600 HV)
Platens flatness toll.	0.03 mm	0.03 mm	0.03 mm	0.03 mm
Overall dimensions mm	930x420x1530	1020x475x1550	1125x570x1555	1250x570x1555
Weight approx., kg	740	1105	2010	2010

*Use distance pieces conforming to the specimen size to avoid piston overtravel

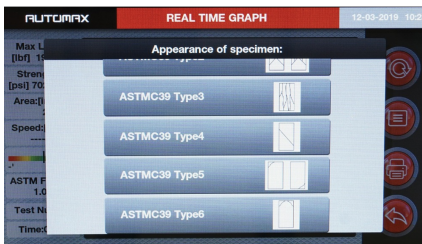


4 frames configuration - 3000 kN for concrete compression, 350 kN for concrete flexure and double 300-15 kN for cement testing

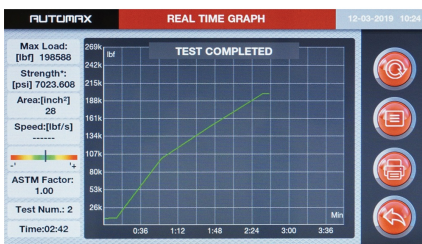
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AUTOMAX PRO-M 3000kN EN compression machine for Elastic Modulus determination and control of a second flexure frame for FRC slab testing.



Selection of failure type (cylinder)

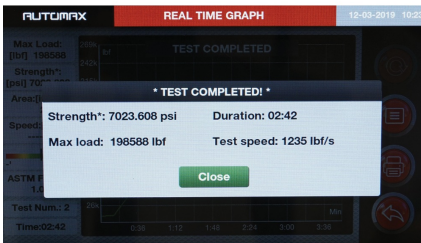


Test performed by applying double load rate

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Selection of failure type (cube)



Final test results with calculation of test speed

Products

50-C46F02

AUTOMAX PRO COMPACT-Line automatic compression machine, 2000 kN cap. for cylinders up to 160 x 320 mm and cubes up to 200mm. Conforming to EN 12390-4. 230 V, 50-60 Hz, 1 Ph.

50-C46F04

AUTOMAX PRO COMPACT-Line automatic compression machine, 2000 kN cap. for cylinders up to 160 x 320 mm and cubes up to 200mm. Conforming to EN 12390-4. 110 V, 60 Hz, 1 Ph.

50-C56F02

AUTOMAX PRO COMPACT-Line automatic compression machine, 3000 kN cap. for cylinders up to 160 x 320 mm and cubes up to 200mm. Conforming to EN 12390-4. 230 V, 50-60 Hz, 1 Ph.

50-C56F04

AUTOMAX PRO COMPACT-Line automatic compression machine, 3000 kN cap. for cylinders up to 160 x 320 mm and cubes up to 200mm. Conforming to EN 12390-4. 110 V, 60 Hz, 1 Ph.

50-C68F02

AUTOMAX PRO COMPACT-Line automatic compression machine, 4000 kN cap. for cylinders up to 250 x 500 mm and cubes up to 300mm. Conforming to EN 12390-4. 230 V, 50-60 Hz, 1 Ph

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50-C68F04

AUTOMAX PRO COMPACT-Line automatic compression machine, 4000 kN cap. for cylinders up to 250 x 500 mm and cubes up to 300mm. Conforming to EN 12390-4. 110 V, 60 Hz, 1 Ph

50-C78F02

AUTOMAX PRO COMPACT-Line automatic compression machine, 5000 kN cap. for cylinders up to 250 x 500 mm and cubes up to 300mm. Conforming to EN 12390-4. 230 V, 50-60 Hz, 1 Ph.

50-C78F04

AUTOMAX PRO COMPACT-Line automatic compression machine, 5000 kN cap. for cylinders up to 250 x 500 mm and cubes up to 300mm. Conforming to EN 12390-4. 110 V, 60 Hz, 1 Ph.

Accessories and consumables

50-C0050/HRD4

Supply of the compression machine with dia.300mm platens complete with traceable certificate of hardness of testing platens surfaces (upper and bottom platen certification included). Available only for ordering with compression machine.

50-C0050/HRD6

Supply of the compression machine with 305x305 mm platens complete with traceable certificate of hardness of testing platens surfaces (upper and bottom platen certification included). Available only for ordering with compression machine.

50-C0050/CAL

Special calibration of load digital readout unit assuring class 1 from 1% of testing machine full scale (maximum load)

50-SW/DM

DATAMANAGER PC software compatible with DIGIMAX, PILOT, AUTOMAX, PILOT PRO, AUTOMAX PRO and PRO-M. Suitable for remote control of the system (except DIGIMAX), data acquisition, processing and filing. LAN cable included.

50-C9080/68

Distance piece dia.200x68mm complete with both central centering pin for simple stacking up and two screws for solid fixing.

50-Q60P/PRINT

Upgrading the AUTOMAX PRO and PILOT PRO series to incorporate a serial graphic printer in the rear panel allowing load/time plot (printing available for languages with latin charcters only)

50-C69/FGH

Upgrading of the 50-C78xxx and 50-C68xxx series compression frames with metallic perforated front door instead of standard trasparent one

50-C50/P1

Application of a magnetic switch to the safety guard (for automatic testers only). Suitable for automatic compression machines.

50-C9080

Distance piece dia 200 x 30 mm

50-C9080/30

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Distance piece dia.200x30mm complete with both central centering pin for simple stacking up and two screws for solid fixing.

50-C9082

Distance piece dia 200 x 50 mm

50-C9080/50

Distance piece dia.200x50mm complete with both central centering pin for simple stacking up and two screws for solid fixing.

50-C9083

Distance piece dia 200 x 68 mm

50-C9086

Distance piece dia 200 x 100 mm.

50-C9080/100

Distance piece dia.200x100mm complete with both central centering pin for simple stacking up and two screws for solid fixing.

50-C10D/3F

Third frame facility for AUTOMAX series. Frame selection via display/PC.

50-C20E/4F

Fourth frame facility for AUTOMAX Multitest e and AUOTMAX PRO series. Frame selection via PC.

50-C50/EK

Cables securing the upper platen to the frame

50-KLAB/E

LinK-LAB Enterprise laboratory connectivity package for machines controlled by PC via DATAMANAGER Software.

50-KLAB/L

LinK-LAB Local laboratory connectivity package for PILOT and AUTOMAX PRO, PRO-M machines. Note: caliper and barcode cannot be both connected on the compression machine.