

## DATA SHEET

# GENERAL UTILITY - Standard Automatic Compression Testers for Cubes and Cylinders WIZARD AUTO



1500 kN compression machine model 50-C13W02 with pedestal 50-A19/B and frontal door 50-A19/FG

## General description

### Main features include:

- Rigid welded steel construction
- Accuracy Class 1/A (EN/ASTM) starting from 10% of full scale (from 1% on request)
- Two channels for load sensors
- Wide graphic display 128 x 80 pixel
- Graphic printer available as option
- AC motor fitted with VFD INVERTER device: high efficiency, low consumption, silent operation
- Dual stage pump for fast approach and automatic switch to high pressure for loading
- Second frame optional facility

### Frame

Rigid welded steel construction. Spherical seat allows free alignment at the initial contact with the specimen.

### Compression platens

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

### Safety features

Includes: Max. pressure valve to avoid machine overloading; piston travel limit switch; emergency stop button; front and rear flexible transparent fragment guard.

## Main features

**WIZARD AUTO is CONTROLS new standard automatic Quality Control machine for compression and flexural testing and includes many new features and enhancements to improve the user-friendliness, efficiency, operator comfort and energy savings.**

QC testing performance has just taken a step change improvement with CONTROLS abandoning manual test control and now feature automatic closed-loop PID control of loading-rate using VFD inverter-technology control of the high specification AC motor.

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Wizard Auto automatically and accurately performs tests at the correct test speed, ensuring compliance to Standards and with no effect due to operator variables.

Mainly dedicated to routine failure tests (compression, flexure and indirect tensile), WIZARD AUTO is the perfect solution to ensure total certainty of testing accuracy and strict conformity to international Standards. In fact being an automatic system it allows:

- **Reduced opportunities for operator errors**, improving accuracy of results and repeatability
- **Easy-to-use**: even for operators with limited expertise.
- **Conforming to Standards**: the machine automatically performs the test at correct test speed. Conformance to Standards can be easily proven.
- **High performance**: high speed pump closes the daylight above the specimen at the fasted speed allowing a very high throughput of tests.
- **Operator comfort** due to the significant noise reduction.
- **Energy saving**, with 50% reduction in energy consumption.

## Specifications

### WIZARD AUTO AUTOMATIC POWER AND CONTROL SYSTEM

#### Hydraulic

Max pressure 700 bar

Power 750 W

Dual stage pump: low pressure/high delivery for fast piston approach and high pressure/low delivery for loading.

AC motor fitted with VFD inverter device featuring high efficiency, reduction of power consumption and silent operation.

Second frame optional facility using valve selector.

#### Hardware

Two 16 bit analog channels for load sensors

Wide graphic display 128 x 80 pixel

Sampling rate 50 Hz

Internal memory

RS 232 port for data download (including load/time graph points) to PC in ASCII format

Integrated printer as optional. See accessories

#### Firmware

Real time display of load and stress

Automatic application of the selected load rate

Execution of loading ramps with the possibility to manually increase or decrease the test speed during the test

Peak detection and saving

Language selection

Multi-coefficient linearization of the calibration curve for better accuracy at low loads

Multiple units: Lbf / Ton / kN.

#### PHYSICAL SPECIFICATION TABLE

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Model 50-	C13W02 C13W04	C43W02 C43W04	C34W02 C34W04
Capacity kN	1500	2000	3000
Max vertical daylight, mm	350*	370	350*
Horizontal daylight, mm	265	350	370
Max. piston travel*, mm	50	50	50
Platen dimensions, mm	dia. 220	dia. 220	dia. 300
Platen surface hardness	55.5 HRC (600 HV)	55.5 HRC	55.5 HRC (600 HV)
Platens flatness toll, mm	0.03	0.03	0.03
Overall dimensions, mm	810 x 425 x 1085	835 x 440 x 1090	805 x 450 x 1160
Weight approx., kg	305	525	755

\*With accessory 50-C50/CYL vertical clearance is increased by 20 mm. See test accessories.



Compression device to test portions of 40x40x160 prism (50-C9030/H)



Compression device to test 50mm (2") cubes (50-C9032/H)

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All testers are verified and delivered with traceable certificate of the verification of force transfer



Unbonded caps: steel cap retainers and neoprene pads

## Products

### 50-C13W02

WIZARD AUTO COMPACT-Line automatic compression machine, 1500 kN cap. for cylinders up to 160 x 320 mm and cubes up to 150mm. Conforming to ASTM C39, AASHTO T22 for 150x300 mm (6"x12") cylinders - 230 V, 50-60 Hz, 1 Ph.

### 50-C13W04

WIZARD AUTO COMPACT-Line automatic compression machine, 1500 kN cap. for cylinders up to 160 x 320 mm and cubes up to 150mm. Conforming to ASTM C39, AASHTO T22 for 150x300 mm (6"x12") cylinders - 110 V, 60 Hz, 1 Ph.

### 50-C43W02

WIZARD AUTO COMPACT-Line automatic compression machine, 2000 kN cap. for cylinders up to 160 x 320 mm and cubes up to 150mm. Conforming to ASTM C39, AASHTO T22 for 150x300 mm (6"x12") cylinders - 230 V, 50-60 Hz, 1 Ph.

### 50-C43W04

WIZARD AUTO COMPACT-Line automatic compression machine, 2000 kN cap. for cylinders up to 160 x 320 mm and cubes up to 150mm. Conforming to ASTM C39, AASHTO T22 for 150x300 mm (6"x12") cylinders - 110 V, 60 Hz, 1 Ph.

### 50-C34W02

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WIZARD AUTO COMPACT-Line automatic compression machine, 3000 kN cap. for cylinders up to 160 x 320 mm and cubes up to 200mm. - 230 V, 50-60 Hz, 1 Ph.

### 50-C34W04

WIZARD AUTO COMPACT-Line automatic compression machine, 3000 kN cap. for cylinders up to 160 x 320 mm and cubes up to 200mm. - 110 V, 60 Hz, 1 Ph.

## Accessories and consumables

### 50-C0050/HRD3

Supply of the compression machine with dia.220 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/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/CAL

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

### 50-A19/B

Base for frames and testing machines model 50-A12xxx, 50-C13xxx and 50-C92xxx

### 50-C39/B

Base for frames and testing machines model 50-C34xxx, 50-C35xxx and 50-A32xxx

### 50-C49/B

Base for 2000 kN 50-C46xxx, 50-C47xxx, 50-C43xxx, 50-A42xxx and 50-C45xxx frames/machines

### 50-C50/CYL

Lower compression platen dia. 165 x 30 mm for testing capped cylinders dia. 150 x 300 mm (6"x12"). Resulting compression machine vertical clearance is increased by 20 mm

### 50-C10W/2F

Second frame facility for WIZARD AUTO series. Frame selection via manual lever

### 50-Q60W/PR

Upgrading the WIZARD AUTO series to incorporate a serial graphic printer in the rear panel

### 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-C9082

Distance piece dia 200 x 50 mm

### 50-C9083

Distance piece dia 200 x 68 mm

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### 50-C9086

Distance piece dia 200 x 100 mm.

### 50-A19/FG

Upgrading of the 50-A12xxx, 50-C13xxx machines and compression frames with front rigid door

### 50-C49/FG

Upgrading of the 50-C43xxx series 2000 kN compression frames with front rigid door

### 50-C39/FG

Upgrading of the 50-A32xxx and 50-C34xxx series 3000 kN compression frames with front rigid door