CONTROLS Your Partners
Masters of Technology

PILOT

Automatic compression testers for cubes and cylinders

COMPACTline EN SERIES

- Four column high stiffness welded frame tested for stability
- Heavy duty spherical seat in lubricating oil bath
- Automatic control of test execution conforming to Standards
- Dual user interface display and PC
- Accuracy Class 1 (EN) and Class A (ASTM) starting from 10% of full scale (from 1% on request)
- Compatible with the new intuitive easy to use DATA MANAGER Software
- Reduced power consumption and silent operation by ES Energy Saving Technologies
- Double stage hydraulic pump with rapid approach: high throughput of tests (up to 40/hour)
- Soft platen-to-specimen contact and smooth load rate from the ramp start
- Optional control of a second and third frame
- Optional internal graphic printer including Load-Time plot
- Remote verification of settings and performances for malfunctions debugging
- Storage of up to 10 test profiles for each channel for quick start

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.

Pilot, Automatic power and control system

Dual stage pump, centrifugal for fast approach and multi-piston for loading, DC motor, ES Energy Saving technology, manual valves for loading/unloading and frame selection.

Hardware

132,000 points effective resolution, three channels, touch screen graphic display 240x128 pixel, sampling rate 50/sec, large storing capacity on USB pen drive, test data downloadable to PC, Ethernet port, real time management software (optional, see accessories 82-SW/DM DATAMANAGER)

Firmware

Simultaneous display of load-specific load, actual load rate and load/time graph; LAN connection to PC; advanced memory management; multi coefficient calibration.
Recording facility of up to 10 test profiles for each channel including type of test (e.g. compression, flexural, indirect tensile), specimen size and shape, load rate, standard in use and other general information. Each one of the recorded test profile can be recalled automatically to save time

Safety features

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

Standards EN 12390-4

kN 2000	kN 3000	kN 4000	kN 5000

Cubes
up to 300* mm

Cylinders up to dia.
160 x 320 mm,
250 x 500* mm

*With the 4000 and 5000 kN versions only.

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Technical Specifications

Model 50-	C46C02 C46C04	C56C02 C56C04	C68C02 C68C04	C78C02 C78C04
Capacity kN	2000	3000	4000	5000
Max vertical daylight, mm*	350	350	525	525
Horizontal daylight, mm	350	370 mm	425	425
Max. piston travel*, mm	50	50	50	50
Platen dimensions	300 mm dia.	300 mm dia.	305x305 mm	305x305mm
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	895x450x1115	985x505x1190	1090x570x1555	1200x570x1555
Weight approx., kg	680	1045	2000	2140

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

Ordering information

50-C46C02

PILOT Automatic Compact-Line EN compression tester, 2000 kN cap. for cubes up to 200 mm and cylinders up to dia. 160x320 mm.
230 V, 50-60 Hz, 1 ph

50-C46C04
Same as above but 110 V, 60 Hz, 1 ph

50-C56C02

PILOT Automatic Compact-Line EN compression tester, 3000 kN cap. for cubes up to 200 mm and cylinders up to dia. 160x320 mm.
230 V, 50-60 Hz, 1 ph

50-C56C04
Same as above but 110 V, 60 Hz, 1 ph

50-C68C02

PILOT Automatic Compact-Line EN compression tester, 4000 kN cap. for cubes up to 300 mm and cylinders up to dia. 250x500 mm.
230 V, 50-60 Hz, 1 ph

50-C68C04
Same as above but 110 V, 60 Hz, 1 ph

50-C78C02

PILOT Automatic Smart-Line control console connected to 5000 kN cap. compression frame for cubes up to 300 mm and cylinders up to dia. 250 x 500 mm.
230 V, 50-60 Hz, 1 ph

50-C78C04
Same as above but 110 V, 60 Hz, 1 ph

Machine Accessories

Distance pieces to adjust the vertical daylight

50-C9080
Distance piece dia. 200x30 mm

50-C9082
Distance piece dia. 200x50 mm

50-C9083
Distance piece dia. 200x68 mm

50-C9086
Distance piece dia. 200x100 mm

Note: *The above distance pieces are also available with threaded centering pin which are recommended for testing high strength/ explosive failures specimens. They are identified adding the suffix /P after the code number.*

Software

82-SW/DM
Datamanager PC Software suitable for remote control of the machine, data acquisition, processing and filing. Allows printout of customized test certificates.

Fragment guard lock switch

50-C50/P
Fragment guard lock switch .
To prevent test execution with the front door open.

50-C49/B, 50-C59/B

Verification of force transfer

The conformity of the compression tester to the EN 12390-4 requirements in terms of stability (force transfer) is performed by the verification of the self-alignment of machine components and the restraint on movement of the upper platen.
The compliance of all our EN testers to these stringent requirements is precisely verified using specific apparatus (82-E0105/1 and 82-P0804/E). An incorrect load application may cause premature sample failure and, consequently the resultant strength could be significantly lower than the true resistance.

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

Frame pedestals

50-C49/B
Frame pedestal for 2000 kN cap. testers

50-C59/B
Frame pedestal for 3000 kN cap. testers

Test Accessories

50-C9000/B

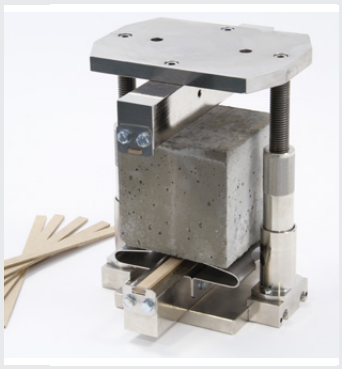
Splitting tensile test device for cylinders up to dia. 160x320 mm (6.3"x12.6").Conforming to EN 12390-6 and ASTM C496

50-C9002

Hardboard strips 4 x 14 x 345 mm for 50-C9000/B conf. to EN Standards. Pack of 50.

50-C9002/A

Hardboard strips 4 x 14 x 345 mm for 50-C9000/B conf. to ASTM Standards. Pack of 50.



50-C9070/B

Splitting tensile test device for concrete block pavers and concrete cubes. Conforms to EN 1338 and EN 12390-6.

50-C9002

Hardboard packing strips 4 x 15 x 345 mm, to EN 1338 and 12390-6.
Pack of 50.

50-C9030/H

Compression device to test portions of 40x40x160 prisms broken in flexure to EN 196-1. High stiffness model.

Total height 225mm.

50-C9032/H

Compression device to test 50mm (2") cubes to ASTM C109. High stiffness model.

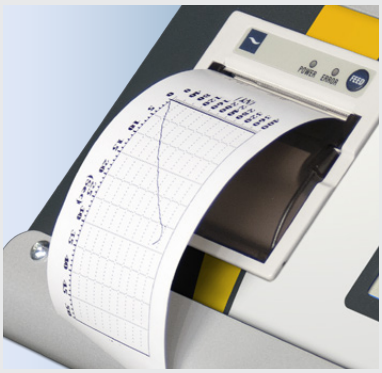
Total height 225mm.

50-C9010/B

Flexural test device for concrete beams 100x100x400/500 and 150x150x600/750 mm, to EN 12390-5, ASTM C78, ASTM C293 and AASHTO T97

Upgrading Options

(To be specified at time of order: these items has to be factory installed.)



50-C10B/PR

Upgrade of a PILOT or AUTOMAX system to incorporate a serial graphic printer in the front panel, allowing results (including a load/time plot) to be printed at the end of test

Second and third frame connection

The PILOT System can be upgraded with a hydraulic valve for controlling (not simultaneously) a second and third frame.

Note: *when connecting a low capacity frame (i.e. flexural or cement) pressure regulator 65-L1400/X5 may be necessary. Please ask our technical department.*

50-C10C/2F

Two-way valve for PILOT System to control a second frame. This item must be factory installed.

50-C10C/3F

Three-way valve for PILOT System to control a second and third frame. This item must be factory installed.

Special calibration procedure

50-C0050/CAL

Special calibration of compression testers assuring Class 1 (EN) and Class A (ASTM), from 1% to full load range.

Traceable certificate of surface hardness

50-C0050/HRD4

Supply of the compression machine/frame complete with traceable certificate of hardness of 300 mm dia. platens surfaces

50-C0050/HRD6

Same as above but for 305x305 mm square platens

Explosion proof test kit

Upgrading kit comprehending: safety cables securing the upper platen to the frame, metallic perforated fragment guard and bottom platen anti-fall safety system.

50-C59/EK

Explosion proof test kit for 50-C56XXX series

50-C69/EK

Explosion proof test kit for 50-C68XXX and 50-C78XXX series

50-C46C02 with 50-C10C/2F two way valve, flexural frame 50-C1201/BFR and accessories

50-C46C02 with 50-C10C/3F three way valve, 50-C1201/BFR flexural frame, 50-C92Z10, 500 kN compression frame and accessories

The complete range of Compact-Line compression testers

This data sheet concern just one of the compression tester series produced by Controls.
The range also comprehends:

Automatic tester
EN 12390-4

kN 2000 | kN 3000 | kN 4000 | kN 5000

Super-Automatic tester
EN 12390-4

kN 2000 | kN 3000 | kN 4000 | kN 5000

Super- Automatic tester
EN 12390-4, 772-1

kN 2000 | kN 3000 | kN 4000

Automatic tester
EN 12390-4, 772-1

kN 2000 | kN 3000 | kN 4000

Automatic tester
ASTM C39, 335, 450

K lbf 335 | K lbf 450 | K lbf 660

Semi-Automatic tester
ASTM C39, 335, 450

K lbf 335 | K lbf 450 | K lbf 660

Automatic tester
ASTM C39, 140, 1314

K lbs 660

Automatic tester

kN 1500 | kN 2000 | kN 3000

Automatic tester

kN 2000 | kN 3000

Semi-Automatic tester

kN 2000 | kN 3000

Semi-Automatic tester

kN 1500 | kN 2000 | kN 3000

GENERAL UTILITY models mainly relate to European National Standards (e.g. NF, UNI, etc.)

Our range includes many other special compression and flexural frames, automatic control consoles to combine advanced and sophisticated Testing systems.
Ask for more information at controls@controls.it.

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AUTOMAX

Super-Automatic compression testers for cubes and cylinders

COMPACTline **EN** SERIES

- Four column high stiffness welded frame tested for stability
- Heavy duty spherical seat in lubricating oil bath • Automatic control of test execution conforming to Standards
- Automatic performance of the complete test cycle with closed-loop digital feedback
- Fully computerized system
- Dual user interface display and PC
- Accuracy Class 1 (EN) and Class A (ASTM) starting from 10% of full scale (from 1% on request)
- Compatible with the new intuitive easy to use DATA MANAGER Software
- Reduced power consumption and silent operation by ES Energy Saving Technologies
- Double stage hydraulic pump with rapid approach: high throughput of tests (up to 40/hour)
- Soft platen-to-specimen contact and smooth load rate from the ramp start
- Double frame control as standard with optional control of additional third frame: active frame selection via console display or software
- Optional internal graphic printer including Load-Time plot
- Remote verification of settings and performances for malfunctions debugging
- Storage of up to 10 test profiles for each channel for quick start

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, fully computerized Super-Automatic power and control system

Dual stage pump, centrifugal for fast approach and multi-piston for loading, DC motor, ES Energy Saving technology electronic valves for automatic loading/unloading and frame selection via display/software.

Hardware

132,000 points effective resolution, three channels, touch screen graphic display 240x128 pixel, sampling rate 50/sec, large storing capacity on USB pen drive, test data downloadable to PC, Ethernet port, real time management software (optional, see accessories 82-SW/DM DATAMANAGER)

Firmware

Simultaneous display of load-specific load, actual load rate and load/time graph; LAN connection to PC; advanced memory management; multi coefficient calibration. Recording facility of up to 10 test profiles for each channel including type of test (e.g. compression, flexural, indirect tensile), specimen size and shape, load rate, standard in use and other general information. Each one of the recorded test profile can be recalled automatically to save time

Safety features

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

Standards EN 12390-4

kN 2000 | kN 3000 | kN 4000 | kN 5000

Cubes
up to 300* mm

Cylinders up to dia.
160 x 320 mm,
250 x 500* mm

*With the 4000 and 5000 kN versions only.

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Technical Specifications

Model 50-	C46D02 C46D04	C56D02 C56D04	C68D02 C68D04	C78D02 C78D04
Capacity kN	2000	3000	4000	5000
Max vertical daylight, mm*	350	350	525	525
Horizontal daylight, mm	350	370 mm	425	425
Max. piston travel*, mm	50	50	50	50
Platen dimensions	300 mm dia.	300 mm dia.	305x305 mm	305x305mm
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.

Ordering information

50-C46D02

AUTOMAX, Super- Automatic Compact-Line compression tester, 2000 kN cap. for cubes up to 200 mm and cylinders up to dia. 160x320 mm. 230 V, 50-60 Hz, 1 ph

50-C46D04
Same as above but 110 V, 60 Hz, 1 ph

50-C56D02

AUTOMAX, Super-Automatic Compact-Line compression tester, 3000 kN cap. for cubes up to 200 mm and cylinders up to dia. 160x320 mm. 230 V, 50-60 Hz, 1 ph

50-C56D04
Same as above but 110 V, 60 Hz, 1 ph

50-C68D02

AUTOMAX Super-Automatic Compact-Line compression tester, 4000 kN cap. for cubes up to 300 mm and cylinders up to dia. 250x500 mm. 230 V, 50-60 Hz, 1 ph

50-C68D04
Same as above but 110 V, 60 Hz, 1 ph

50-C78D02

AUTOMAX, Super-Automatic Smart-Line control consol connected to 5000 kN cap. compression frame for cubes up to 300 mm and cylinders up to dia. 250 x 500 mm. 230 V, 50-60 Hz, 1 ph

50-C78D04
Same as above but 110 V, 60 Hz, 1 ph

Machine Accessories

Distance pieces to adjust the vertical daylight

50-C9080
Distance piece dia. 200x30 mm

50-C9082
Distance piece dia. 200x50 mm

50-C9083
Distance piece dia. 200x68 mm

50-C9086
Distance piece dia. 200x100 mm

Note: *The above distance pieces are also available with threaded centering pin which are recommended for testing high strength/ explosive failures specimens. They are identified adding the suffix /P after the code number.*

Software

82-SW/DM
Datamanager PC Software suitable for remote control of the machine, data acquisition, processing and filing. Allows printout of customized test certificates.

Fragment guard lock switch

50-C50/P1
Fragment guard lock switch .
To prevent test execution with the front door open

Verification of force transfer

The conformity of the compression tester to the EN 12390-4 requirements in terms of stability (force transfer) is performed by the verification of the self-alignment of machine components and the restraint on movement of the upper platen.
The compliance of all our EN testers to these stringent requirements is precisely verified using specific apparatus (82-E0105/1 and 82-P0804/E). An incorrect load application may cause premature sample failure and, consequently the resultant strength could be significantly lower than the true resistance.

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

Test Accessories

50-C9000/B

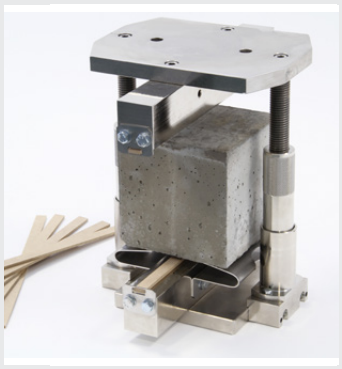
Splitting tensile test device for cylinders up to dia. 160x320 mm (6.3"x12.6").Conforming to EN 12390-6 and ASTM C496

50-C9002

Hardboard strips 4 x 14 x 345 mm for 50-C9000/B conf. to EN Standards. Pack of 50.

50-C9002/A

Hardboard strips 4 x 14 x 345 mm for 50-C9000/B conf. to ASTM Standards. Pack of 50.



50-C9070/B

Splitting tensile test device for concrete block pavers and concrete cubes. Conforms to EN 1338 and EN 12390-6.

50-C9002

Hardboard packing strips 4 x 15 x 345 mm, to EN 1338 and 12390-6.
Pack of 50.

50-C9030/H

Compression device to test portions of 40x40x160 prisms broken in flexure to EN 196-1. High stiffness model.

Total height 225mm.

50-C9032/H

Compression device to test 50mm (2") cubes to ASTM C109. High stiffness model.

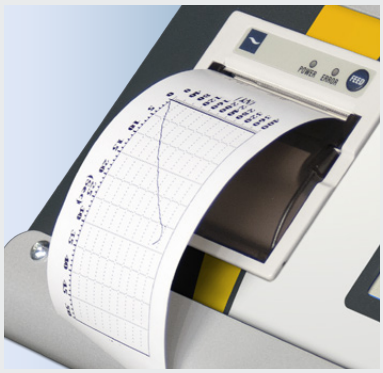
Total height 225mm.

50-C9010/B

Flexural test device for concrete beams 100x100x400/500 and 150x150x600/750 mm, to EN 12390-5, ASTM C78, ASTM C293 and AASHTO T97

Upgrading Options

(To be specified at time of order: these items has to be factory installed.)



Serial printer for Automax testers

50-C10B/PR

Upgrade of a PILOT or AUTOMAX system to incorporate a serial graphic printer in the front panel, allowing results (including a load/time plot) to be printed at the end of test

Third frame connection

The AUTOMAX System, which can control two frames as standard, can be upgraded with a hydraulic valve for controlling (not simultaneously) a third frame.

Note: *when connecting a low capacity frame (i.e. flexural or cement) pressure regulator 65-L1400/X5 may be necessary. Please ask our technical department.*

50-C10D/3F

Three-way valve for AUTOMAX System to control a third frame. This item must be factory installed.

Special calibration procedure

50-C0050/CAL

Special calibration of compression testers assuring Class 1 (EN) and Class A (ASTM), from 1% to full load range.

Traceable certificate of surface hardness

50-C0050/HRD4

Supply of the compression machine/frame complete with traceable certificate of hardness of 300 mm dia. platens surfaces

50-C0050/HRD6

Same as above but for 305x305 mm square platens

Explosion proof test kit

Upgrading kit comprehending: safety cables securing the upper platen to the frame, metallic perforated fragment guard and bottom platen anti-fall safety system.

50-C59/EKD

Explosion proof test kit for C56D02 series

50-C69/EK

Explosion proof test kit for C68xxx and C78xxx series

AUTOMAX Super-Automatic compression tester 50-C56D02 controlling a second cement compression frame 65-L18Z10 and, by the hydraulic valve 50-C10D/3F, a third flexural frame 50-C1201/BFR and accessories

AUTOMAX Super-Automatic compression tester 50-C56D02 controlling a second flexural frame 50-C1400/FR with accessory. Active frame selection via console display or software

The complete range of Compact-Line compression testers

This data sheet concern just one of the compression tester series produced by Controls.
The range also comprehends:

Automatic tester — EN 12390-4

kN 2000 | kN 3000 | kN 4000 | kN 5000

Super-Automatic tester — EN 12390-4

kN 2000 | kN 3000 | kN 4000 | kN 5000

Super- Automatic tester — EN 12390-4, 772-1

kN 2000 | kN 3000 | kN 4000

Automatic tester — EN 12390-4, 772-1

kN 2000 | kN 3000 | kN 4000

Automatic tester — ASTM C39, 335, 450

K lbf 335 | K lbf 450 | K lbf 660

Semi-Automatic tester — ASTM C39, 335, 450

K lbf 335 | K lbf 450 | K lbf 660

Automatic tester — ASTM C39, 140, 1314

K lbs 660

Automatic tester — *GENERAL UTILITY

kN 1500 | kN 2000 | kN 3000

Automatic tester — *GENERAL UTILITY

kN 2000 | kN 3000

Semi-Automatic tester — *GENERAL UTILITY

kN 2000 | kN 3000

Semi-Automatic tester — *GENERAL UTILITY

kN 1500 | kN 2000 | kN 3000

*GENERAL UTILITY models mainly relate to European National Standards (e.g. NF, UNI, etc.)

Our range includes many other special compression and flexural frames, automatic control consoles to combine advanced and sophisticated Testing systems.
Ask for more information at controls@controls.it.

controls-group.com
controls.fr
contralsitalia.it
controls.com.mx
controls.es
controlstesting.co.uk
controlsmiddleeast.com
controls-usa.com

CONTROLS S.R.L.
is certified **ISO 9001:2008**

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WIZARD 2

Semi-Automatic compression testers for cubes and cylinders

COMPACTline GENERAL UTILITY

- Rigid welded steel construction
- Accuracy Class 1 (EN) starting from 10% of full scale (from 1% on request)
- 2 channels for load sensors with 65000 div. resolution (better than 0.01% of full scale)
- Unlimited store capacity on USB pen drive of test data downloadable to PC via LAN port
- Digital readout unit with wide high-contrast display 4 x 20 characters and 6 keys membrane keyboard
- Real time display of load/stress and applied load rate by symbols for easy adjustment
- Dual stage pump: low pressure/high delivery for fast piston approach and high pressure/low volume for loading
- Special hand operated pressure-compensated proportional valve for the manual preset of load rate requiring just occasional operator's intervention
- Optional control of a second frame
- Optional internal graphic printer

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.

Wizard, Semi-Automatic power and control system

Dual stage pump: low pressure/high delivery for fast piston approach and high pressure/low volume for loading. Special hand operated pressure-compensated proportional valve for the manual preset of load rate requiring just occasional operator's intervention.

Hardware

2 analogue channels, 4 x 20 characters alphanumeric display, 65˙000 points high resolution/stability analogue channels, sampling rate 50/sec, large storage capacity for test data on USB memory stick, ethernet port to download data to PC using the SW/TRM software.

Firmware

Simultaneous display of load, specific load and actual load rate, LAN connection to PC for data transmission in real time, easy firmware update through Ethernet port, memory management with options to display tests stored on USB memory stick, download data to internal printer or PC, delete single tests or reset the entire memory, Multi-coefficient calibration procedure with automatic storage of data without manual editing (using a suitable load cell and readout unit), language and units selection (kN, ton, lbf).

Safety features

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

Standards

These series generally relate to previous European national Standards

kN	kN	kN
1500	2000	3000
K lbf	**K lbf**	**K lbf**
335	450	660

Cubes up to 200* mm

Cylinders up to dia. 160 x 320 mm

*With the 3000 kN only.

CVi TECH

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Technical Specifications

Model 50-	C13A02 C13A04	C23A02 C23A04	C34A02 C34A04
Capacity kN (lbf)	1500 (335,000)	2000 (450,000)	3000 (660,000)
Max vertical daylight, mm* (inches)	340 (13.4")	350 (13.8")	350 (13.8")
Horizontal daylight, mm (inches)	265 (10.4")	340 (13.4")	370 (16.6")
Max. piston travel*, mm (inches)	50 (2")	50 (2")	50 (2")
Platen dimensions, mm (inches)	dia. 216 (8.5")	dia. 216 (8.5")	dia. 300 (11.8")
Platen surface hardness	55.5 HRC (600 HV)	55.5 HRC (600 HV)	55.5 HRC (600 HV)
Platens flatness toll, mm (inches)	0.03 (0.002")	0.03 (0.002")	0.03 (0.002")
Overall dimensions, mm (inches)	810 x 425 x 1085 (31.9" x 16.7" x 42.7")	835 x 440 x 1090 (32.9" x 17.3" x 42.9")	805 x 450 x 1160 (31.7" x 17.7" x 45.7")
Weight approx., kg	305	525	755

**With accessory 50-C50CYL vertical clearance is increased by 20 mm. See test accessories.*

Ordering information

50-C13A02

WIZARD 2, Semi- Automatic Compact-Line Gen. Util. compression tester, 1500 kN cap., for cubes up to 150 mm and cylinders up to dia. 160 x 320 mm. 230 V, 50-60 Hz, 1 ph.

50-C13A04
Same as above but 110 V, 60 Hz, 1 ph.

50-C23A02

WIZARD 2, Semi- Automatic Compact-Line Gen. Util. compression tester, 2000 kN cap., for cubes up to 150 mm and cylinders up to dia. 160 x 320 mm. 230 V, 50-60 Hz, 1 ph.

50-C23A04
Same as above but 110 V, 60 Hz, 1 ph.

50-C34A02

WIZARD 2, Semi-Automatic Compact-Line Gen. Util. compression tester, 3000 kN cap., for cubes up to 200 mm and cylinders up to dia. 160 x 320 mm. 230 V, 50-60 Hz, 1 ph.

50-C34A04
Same as above but 110 V, 60 Hz, 1 ph.

Machine Accessories

Fragment guard lock switch

50-C50/P3

Fragment guard lock switch. To prevent test execution with the front door (optional) open

Distance pieces to adjust the vertical daylight

50-C9080

Distance piece dia. 200x30 mm

50-C9082

Distance piece dia. 200x50 mm

50-C9083

Distance piece dia. 200x68 mm

50-C9086

Distance piece dia. 200x100 mm

Note: *the above distance pieces are also available with threaded centering pin which are recommended for testing high strength/ explosive failures specimens. They are identified adding the suffix /P after the code number.*

Steel platen for capped cylinders

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.

Force verification

The conformity of the compression tester to the strigent requirements of the ASTM C39 Standards is precisely verified using specific traceable apparatus (load cells 82-E0100 series and 82-P0801/E digital tester).

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

50-C99/B, 50-C29/B, 50-C39/B

Accessories suitable for 50-	C13A02 C13A04	C23A02 C23A04	C34A02 C34A04
Frame pedestal (optional)	50-C99/B	50-C29/B	50-C39/B
Front door (optional)	50-C19/FG	50-C29/FG	50-C39/FG

Test Accessories

50-C9000/B

Splitting tensile test device for cylinders up to dia. 160x320 mm (6.3"x12.6").
Conforming to EN 12390-6 and ASTM C496

50-C9070/B

Splitting tensile test device for concrete block pavers and concrete cubes. Conforms to EN 1338 and EN 12390-6.

50-C9002

Hardboard strips 4 x 14 x 345 mm for 50-C9000/B conf. to EN Standards. Pack of 50.

50-C9002/A

Hardboard strips 4 x 14 x 345 mm for 50-C9000/B conf. to ASTM Standards. Pack of 50.

50-C9030/H

Compression device to test portions of 40x40x160 prisms broken in flexure to EN 196-1. High stiffness model.

Total height 225mm.

50-C9032/H

Compression device to test 50mm (2") cubes to ASTM C109. High stiffness model.

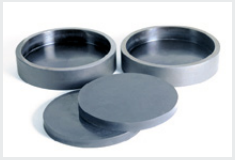
Total height 225mm.

50-C9010/B

Flexural test device for concrete beams 100x100x400/500 and 150x150x600/750 mm, to EN 12390-5, ASTM C78, ASTM C293 and AASHTO T97

Unbonded caps

This method is used as an alternative to the sulphur capping. The system consists of two alloy steel cap retainers and two neoprene pads which are in contact with the upper and lower concrete surfaces. Pads can be re-used for many tests. Different versions available conforming to the size of the specimen.



Capping retainers

55-C0122/A4

Capping retainers (couple) for 4" dia. concrete cylinders

55-C0122

Capping retainers (couple) for 150 mm (6") dia. cylinders

55-C0122/B

Capping retainers (couple) for 160 mm dia. cylinders

Neoprene pads

55-C0122/A44

Neoprene pads for 4" dia. cylinders. Set of two.

55-C0122/2

Neoprene pads for 6" dia. cylinders. Set of two.

55-C0122/4

Neoprene pads for 160 mm dia. cylinders. Set of two.

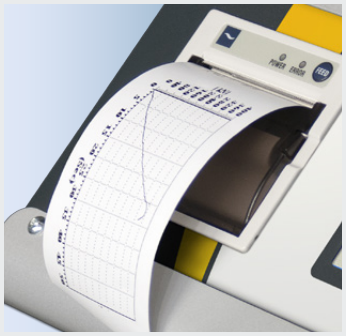
Upgrading Options

(To be specified at time of order: these items has to be factory installed.)

Serial printer for Automax testers

50-C10B/PR

Upgrade of a PILOT or AUTOMAX system to incorporate a serial graphic printer in the front panel, allowing results (including a load/time plot) to be printed at the end of test



Second frame connection

The WIZARD System can be upgraded with a hydraulic valve for controlling (not simultaneously) a second frame.

50-C10B/2F

Two-way valve for WIZARD 2 and DIGIMAX SystemS to control a second frame. This item must be factory installed.

Special calibration procedure

50-C0050/CAL

Special calibration of compression testers assuring Class 1 (EN) and Class A (ASTM), from 1% to full load range.

50-C13A02 with 50-C10B/2F two way valve, flexural frame 50-C910/FR and accessories

Traceable certificate of surface hardness

50-C0050/HRD3

Supply of the compression machine/frame complete with traceable certificate of hardness of 216 mm dia. platen surfaces

50-C0050/HRD4

Supply of the compression machine/frame complete with traceable certificate of hardness of 300 mm dia. platen

The complete range of Compact-Line compression testers

This data sheet concern just one of the compression tester series produced by Controls.
The range also comprehends:

Automatic tester — EN 12390-4

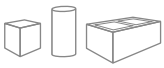
kN 2000 | kN 3000 | kN 4000 | kN 5000

Super-Automatic tester — EN 12390-4

kN 2000 | kN 3000 | kN 4000 | kN 5000

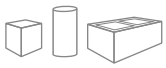
Super- Automatic tester — EN 12390-4, 772-1

kN 2000 | kN 3000 | kN 4000



Automatic tester — EN 12390-4, 772-1

kN 2000 | kN 3000



Automatic tester — ASTM C39, 335, 450

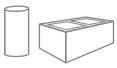
K lbs 335 | K lbs 450 | K lbs 660

Semi-Automatic tester — ASTM C39, 335, 450

K lbs 335 | K lbs 450 | K lbs 660

Automatic tester — ASTM C39, 140, 1314

K lbs 660

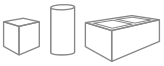


Automatic tester

kN 1500 | kN 2000 | kN 3000

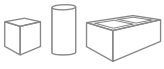
Automatic tester

kN 2000 | kN 3000



Semi-Automatic tester

kN 2000 | kN 3000



Semi-Automatic tester

kN 1500 | kN 2000 | kN 3000

GENERAL UTILITY models mainly relate to European National Standards (e.g. NF, UNI, etc.)

Our range includes many other special compression and flexural frames, automatic control consoles to combine advanced and sophisticated Testing systems.
Ask for more information at controls@controls.it.

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CONTROLS Your Partners
Masters of Technology

WIZARD 2

Semi-Automatic compression testers for cubes, cylinders and blocks

COMPACTline GENERAL UTILITY

- Rigid welded steel construction
- Accuracy Class 1 (EN) starting from 10% of full scale (from 1% on request)
- 2 channels for load sensors with 65000 div. resolution (better than 0.01% of full scale)
- Unlimited store capacity on USB pen drive of test data downloadable to PC via LAN port
- Digital readout unit with wide high-contrast display 4 x 20 characters and 6 keys membrane keyboard
- Real time display of load/stress and applied load rate by symbols for easy adjustment
- Dual stage pump: low pressure/high delivery for fast piston approach and high pressure/low volume for loading
- Special hand operated pressure-compensated proportional valve for the manual preset of load rate requiring just occasional operator's intervention
- Optional control of a second frame
- Optional internal graphic printer

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.

Wizard, Semi-Automatic power and control system

Dual stage pump: low pressure/high delivery for fast piston approach and high pressure/low volume for loading. Special hand operated pressure-compensated proportional valve for the manual preset of load rate requiring just occasional operator's intervention.

Hardware

2 analogue channels, 4 x 20 characters alphanumeric display, 65˙000 points high resolution/stability analogue channels, sampling rate 50/sec, large storage capacity for test data on USB memory stick, ethernet port to download data to PC using the SW/TRM software.

Firmware

Simultaneous display of load, specific load and actual load rate, LAN connection to PC for data transmission in real time, easy firmware update through Ethernet port, memory management with options to display tests stored on USB memory stick, download data to internal printer or PC, delete single tests or reset the entire memory, Multi-coefficient calibration procedure with automatic storage of data without manual editing (using a suitable load cell and readout unit), language and units selection (kN, ton, lbf).

Safety features

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

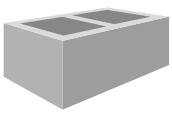
Standards

These series generally relate to previous European national Standards

kN	kN
2000	3000
K lbf	K lbf
450	660

Cubes up to 200 mm

Cylinders up to dia. 160 x 320 mm



Blocks

CVi TECH

CUSTOMER VALUE DRIVES THE INNOVATIONS

Technical Specifications

Model 50-	C25A02 C25A04	C35A02 C35A04
Capacity kN (lbf)	2000 (450,000)	3000 (660,000)
Max vertical daylight, mm* (inches)	350 (13.8")	350 (13.8")
Horizontal daylight, mm (inches)	340 (13.4")	370 (14.6")
Max. piston travel*, mm (inches)	50 (2")	50 (2")
Platen dimensions, mm (inches)	310 x 510 x 50 (12.2" x 20.1" x 2")	310 x 510 x 50 (12.2" x 20.1" x 2")
Platen surface hardness	55.5 HRC (600 HV)	55.5 HRC (600 HV)
Platens flatness toll, mm (inches)	0.05 (0.002")	0.05 (0.002")
Overall dimensions, mm (inches)	835 x 555 x 1090 (32.9" x 21.9" x 42.9")	805 x 600 x 1160 (31.7" x 23.6" x 45.7")
Weight approx., kg	610	815

**With accessory 50-C50CYL vertical clearance is increased by 20 mm. See test accessories.*

Ordering information

50-C25A02

WIZARD 2, Semi-Automatic Compact-Line Gen. Util. compression tester, 2000 kN cap., for blocks, cubes up to 200 mm and cylinders up to dia. 160 x 320 mm. 230 V, 50-60 Hz, 1 ph.

50-C23A04
Same as above but 110 V, 60 Hz, 1 ph.

50-C35A02

WIZARD 2 Semi-Automatic Compact-Line Gen. Util. compression tester, 3000 kN cap., for blocks, cubes up to 200 mm and cylinders up to dia. 160 x 320 mm. 230 V, 50-60 Hz, 1 ph.

50-C35A04
Same as above but 110 V, 60 Hz, 1 ph.

Machine Accessories

Fragment guard lock switch

50-C50/P2

Fragment guard lock switch. To prevent test execution with the front door (optional) open

Distance pieces to adjust the vertical daylight

50-C9080

Distance piece dia. 200x30 mm

50-C9082

Distance piece dia. 200x50 mm

50-C9083

Distance piece dia. 200x68 mm

50-C9086

Distance piece dia. 200x100 mm

Note: *the above distance pieces are also available with threaded centering pin which are recommended for testing high strength/ explosive failures specimens. They are identified adding the suffix /P after the code number.*

Steel platen for capped cylinders

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.

Force verification

The conformity of the compression tester to the strigent requirements of the ASTM C39 Standards is precisely verified using specific traceable apparatus (load cells 82-E0100 series and 82-P0801/E digital tester).

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

Accessories suitable for 50-	C25A02 C25A04	C35A02 C35A04
Frame pedestal (optional)	50-C29/B	50-C39/B
Front door (optional)	50-C25/FG	50-C35/FG

50-C99/B, 50-C29/B, 50-C39/B

Test Accessories

50-C9000/B

Splitting tensile test device for cylinders up to dia. 160x320 mm (6.3"x12.6").
Conforming to EN 12390-6 and ASTM C496

50-C9070/B

Splitting tensile test device for concrete block pavers and concrete cubes. Conforms to EN 1338 and EN 12390-6.

50-C9002

Hardboard strips 4 x 14 x 345 mm for 50-C9000/B conf. to EN Standards. Pack of 50.

50-C9002/A

Hardboard strips 4 x 14 x 345 mm for 50-C9000/B conf. to ASTM Standards. Pack of 50.

50-C9030/H

Compression device to test portions of 40x40x160 prisms broken in flexure to EN 196-1. High stiffness model.

Total height 225mm.

50-C9032/H

Compression device to test 50mm (2") cubes to ASTM C109. High stiffness model.

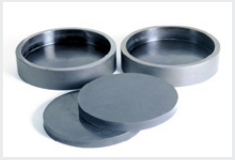
Total height 225mm.

50-C9010/B

Flexural test device for concrete beams 100x100x400/500 and 150x150x600/750 mm, to EN 12390-5, ASTM C78, ASTM C293 and AASHTO T97

Unbonded caps

This method is used as an alternative to the sulphur capping. The system consists of two alloy steel cap retainers and two neoprene pads which are in contact with the upper and lower concrete surfaces. Pads can be re-used for many tests. Different versions available conforming to the size of the specimen.



Capping retainers

55-C0122/A4

Capping retainers (couple) for 4" dia. concrete cylinders

55-C0122

Capping retainers (couple) for 150 mm (6") dia. cylinders

55-C0122/B

Capping retainers (couple) for 160 mm dia. cylinders

Neoprene pads

55-C0122/A44

Neoprene pads for 4" dia. cylinders. Set of two.

55-C0122/2

Neoprene pads for 6" dia. cylinders. Set of two.

55-C0122/4

Neoprene pads for 160 mm dia. cylinders. Set of two.

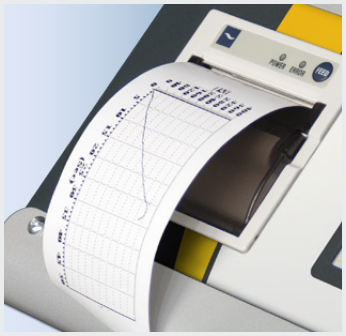
Upgrading Options

(To be specified at time of order: these items has to be factory installed.)

Serial printer for Automax testers

50-C10B/PR

Upgrade of a PILOT or AUTOMAX system to incorporate a serial graphic printer in the front panel, allowing results (including a load/time plot) to be printed at the end of test



Second frame connection

The WIZARD System can be upgraded with a hydraulic valve for controlling (not simultaneously) a second frame.

50-C10B/2F

Two-way valve for WIZARD 2 and DIGIMAX SystemS to control a second frame. This item must be factory installed.

Special calibration procedure

50-C0050/CAL

Special calibration of compression testers assuring Class 1 (EN) and Class A (ASTM), from 1% to full load range.

50-C25A02 with 50-C10B/2F two way valve, flexural frame 50-C910/FR and accessories

Traceable certificate of surface hardness

50-C0050/HRD7

Supply of the compression machine/frame complete with traceable certificate of hardness

of 310 x 510 x 50 mm platen surfaces

The complete range of Compact-Line compression testers

This data sheet concern just one of the compression tester series produced by Controls.
The range also comprehends:

Automatic tester — EN 12390-4

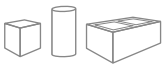
kN 2000 | kN 3000 | kN 4000 | kN 5000

Super-Automatic tester — EN 12390-4

kN 2000 | kN 3000 | kN 4000 | kN 5000

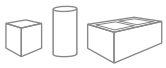
Super- Automatic tester — EN 12390-4, 772-1

kN 2000 | kN 3000 | kN 4000



Automatic tester — EN 12390-4, 772-1

kN 2000 | kN 3000



Automatic tester — ASTM C39, 335, 450

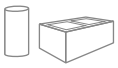
K lbf 335 | K lbf 450 | K lbf 660

Semi-Automatic tester — ASTM C39, 335, 450

K lbf 335 | K lbf 450 | K lbf 660

Automatic tester — ASTM C39, 140, 1314

K lbs 660

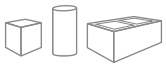


Automatic tester — *GENERAL UTILITY

kN 1500 | kN 2000 | kN 3000

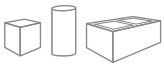
Automatic tester — *GENERAL UTILITY

kN 2000 | kN 3000



Semi-Automatic tester — *GENERAL UTILITY

kN 2000 | kN 3000



Semi-Automatic tester — *GENERAL UTILITY

kN 1500 | kN 2000 | kN 3000

GENERAL UTILITY models mainly relate to European National Standards (e.g. NF, UNI, etc.)

Our range includes many other special compression and flexural frames, automatic control consoles to combine advanced and sophisticated Testing systems.
Ask for more information at controls@controls.it.

CONTROLS Your Partners
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PILOT

Automatic compression testers for cubes, cylinders and blocks

COMPACTline GENERAL UTILITY

- Rigid welded steel construction
- Spherical seat allows free alignment at the initial contact with the specimen
- Automatic control of test execution conforming to Standards
- Dual user interface display and PC
- Accuracy Class 1 (EN) and Class A (ASTM) starting from 10% of full scale (from 1% on request)
- Compatible with the new intuitive easy to use DATA MANAGER Software
- Reduced power consumption and silent operation by ES Energy Saving Technologies
- Double stage hydraulic pump with rapid approach: high throughput of tests (up to 40/hour)
- Soft platen-to-specimen contact and smooth load rate from the ramp start
- Optional control of a second and third frame
- Optional internal graphic printer including Load-Time plot
- Remote verification of settings and performances for malfunctions debugging
- Storage of up to 10 test profiles for each channel for quick start

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.

Pilot, Automatic power and control system

Dual stage pump, centrifugal for fast approach and multi-piston for loading, DC motor, ES Energy Saving technology, manual valves for loading/unloading and frame selection.

Hardware

132,000 points effective resolution, three channels, touch screen graphic display 240x128 pixel, sampling rate 50/sec, large storing capacity on USB pen drive, test data downloadable to PC, Ethernet port, real time management software (optional, see accessories 82-SW/DM DATAMANAGER)

Firmware

Simultaneous display of load-specific load, actual load rate and load/time graph; LAN connection to PC; advanced memory management; multi coefficient calibration.
Recording facility of up to 10 test profiles for each channel including type of test (e.g. compression, flexural, indirect tensile), specimen size and shape, load rate, standard in use and other general information. Each one of the recorded test profile can be recalled automatically to save time

Safety features

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

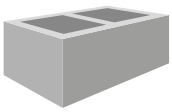
Standards

These series generally relate to previous European national Standards

kN	kN
2000	3000
K lbf	K lbf
450	660


Cubes
up to 300 mm


Cylinders up to dia.
160 x 320 mm


Blocks

CVi TECH
CUSTOMER VALUE DRIVES
THE INNOVATIONS

Technical Specifications

Model 50-	C25C02 C25C04	C35C02 C35C04
Capacity kN (lbf)	2000 (450,000)	3000 (660,000)
Max vertical daylight, mm* (inches)	350 (13.8")	350 (13.8")
Horizontal daylight, mm (inches)	340 (13.4")	370 (14.6")
Max. piston travel*, mm (inches)	50 (2")	50 (2")
Platen dimensions, mm (inches)	310 x 510 x 50 (12.2" x 20.1" x 2")	310 x 510 x 50 (12.2" x 20.1" x 2")
Platen surface hardness	55.5 HRC (600 HV)	55.5 HRC (600 HV)
Platens flatness toll, mm (inches)	0.05 (0.002")	0.05 (0.002")
Overall dimensions, mm (inches)	785 x 555 x 1090 (31" x 21.9" x 42.9")	765 x 600 x 1160 (30.1" x 23.6" x 45.7")
Weight approx., kg	620	820

**With accessory 50-C50CYL vertical clearance is increased by 20 mm. See test accessories.*

Ordering information

50-C25C02

PILOT Automatic Compact-Line Gen. Util. compression tester, 2000 kN cap., for blocks, cubes up to 200 mm and cylinders up to dia. 160 x 320 mm. 230 V, 50-60 Hz, 1 ph.

50-C23C04
Same as above but 110 V, 60 Hz, 1 ph.

50-C35C02

PILOT Automatic Compact-Line Gen. Util. compression tester, 3000 kN cap., for blocks, cubes up to 200 mm and cylinders up to dia. 160 x 320 mm. 230 V, 50-60 Hz, 1 ph.

50-C35C04
Same as above but 110 V, 60 Hz, 1 ph.

Machine Accessories

Fragment guard lock switch

50-C50/P

Fragment guard lock switch. To prevent test execution with the front door (optional) open

Distance pieces to adjust the vertical daylight

50-C9080

Distance piece dia. 200x30 mm

50-C9082

Distance piece dia. 200x50 mm

50-C9083

Distance piece dia. 200x68 mm

50-C9086

Distance piece dia. 200x100 mm

Note: *the above distance pieces are also available with threaded centering pin which are recommended for testing high strength/ explosive failures specimens. They are identified adding the suffix /P after the code number.*

Steel platen for capped cylinders

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-C99/B, 50-C29/B, 50-C39/B

Force verification

The conformity of the compression tester to the strigent requirements of the ASTM C39 Standards is precisely verified using specific traceable apparatus (load cells 82-E0100 series and 82-P0801/E digital tester).

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

Accessories suitable for 50-	C25C02 C25C04	C35C02 C35C04
Frame pedestal	50-C29/B	50-C25/FG
Rigid Front door	50-C25/FG	50-C35/FG

Test Accessories

50-C9000/B

Splitting tensile test device for cylinders up to dia. 160x320 mm (6.3"x12.6").
Conforming to EN 12390-6 and ASTM C496

50-C9070/B

Splitting tensile test device for concrete block pavers and concrete cubes. Conforms to EN 1338 and EN 12390-6.

50-C9002

Hardboard strips 4 x 14 x 345 mm for 50-C9000/B conf. to EN Standards. Pack of 50.

50-C9002/A

Hardboard strips 4 x 14 x 345 mm for 50-C9000/B conf. to ASTM Standards. Pack of 50.

50-C9030/H

Compression device to test portions of 40x40x160 prisms broken in flexure to EN 196-1. High stiffness model.

Total height 225mm.

50-C9032/H

Compression device to test 50mm (2") cubes to ASTM C109. High stiffness model.

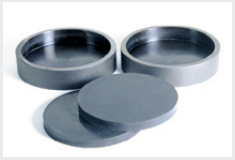
Total height 225mm.

50-C9010/B

Flexural test device for concrete beams 100x100x400/500 and 150x150x600/750 mm, to EN 12390-5, ASTM C78, ASTM C293 and AASHTO T97

Unbonded caps

This method is used as an alternative to the sulphur capping. The system consists of two alloy steel cap retainers and two neoprene pads which are in contact with the upper and lower concrete surfaces. Pads can be re-used for many tests. Different versions available conforming to the size of the specimen.



Capping retainers

55-C0122/A4

Capping retainers (couple) for 4" dia. concrete cylinders

55-C0122

Capping retainers (couple) for 150 mm (6") dia. cylinders

55-C0122/B

Capping retainers (couple) for 160 mm dia. cylinders

Neoprene pads

55-C0122/A44

Neoprene pads for 4" dia. cylinders. Set of two.

55-C0122/2

Neoprene pads for 6" dia. cylinders. Set of two.

55-C0122/4

Neoprene pads for 160 mm dia. cylinders. Set of two.

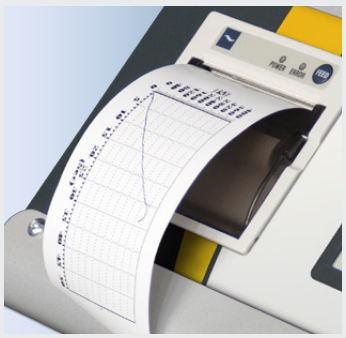
Upgrading Options

(To be specified at time of order: these items has to be factory installed.)

Serial printer for Automax testers

50-C10B/PR

Upgrade of a PILOT or AUTOMAX system to incorporate a serial graphic printer in the front panel, allowing results (including a load/time plot) to be printed at the end of test



50-C25C02 with 50-C10C/3F three way valve, flexural frame 50-C1201/BFR, cement compression frame 65-L18Z10 and accessories

Second and third frame connection

The PILOT System can be upgraded with a hydraulic valve for controlling (not simultaneously) a second frame.

Note: *when connecting a low capacity frame (i.e. flexural or cement) pressure regulator 65-L1400/X5 may be necessary. Please ask our technical department.*

50-C10C/2F

Two-way valve for PILOT System to control a second frame. This item must be factory installed.

50-C10C/3F

Three-way valve for PILOT System to control a second and third frame. This item must be factory installed.

Special calibration procedure

50-C0050/CAL

Special calibration of compression testers assuring Class 1 (EN) and Class A (ASTM), from 1% to full load range.

Traceable certificate of surface hardness

50-C0050/HRD7

Supply of the compression machine/frame complete with traceable certificate of hardness of 310 x 510 x 50 mm platen surfaces

The complete range of Compact-Line compression testers

This data sheet concern just one of the compression tester series produced by Controls.
The range also comprehends:

Automatic tester
EN 12390-4

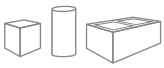
kN 2000 | kN 3000 | kN 4000 | kN 5000

Super-Automatic tester

kN 2000 | kN 3000 | kN 4000 | kN 5000

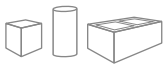
Super- Automatic tester
EN 12390-4, 772-1

kN 2000 | kN 3000 | kN 4000



Automatic tester

kN 2000 | kN 3000



Automatic tester
ASTM C39, 335, 450

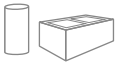
K lbf 335 | K lbf 450 | K lbf 660

Semi-Automatic tester

K lbf 335 | K lbf 450 | K lbf 660

Automatic tester
ASTM C39, 140, 1314

K lbs 660

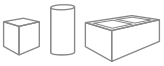


Automatic tester

kN 1500 | kN 2000 | kN 3000

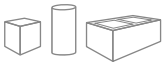
Automatic tester

kN 2000 | kN 3000



Semi-Automatic tester

kN 2000 | kN 3000



Semi-Automatic tester

kN 1500 | kN 2000 | kN 3000

GENERAL UTILITY models mainly relate to European National Standards (e.g. NF, UNI, etc.)

Our range includes many other special compression and flexural frames, automatic control consoles to combine advanced and sophisticated Testing systems.
Ask for more information at controls@controls.it.

CONTROLS Your Partners
Masters of Technology

PILOT

Automatic compression testers for cubes and cylinders

COMPACTline GENERAL UTILITY

- Rigid welded steel construction
- Spherical seat allows free alignment at the initial contact with the specimen
- Automatic control of test execution conforming to Standards
- Dual user interface display and PC
- Accuracy Class 1 (EN) and Class A (ASTM) starting from 10% of full scale (from 1% on request)
- Compatible with the new intuitive easy to use DATA MANAGER Software
- Reduced power consumption and silent operation by ES Energy Saving Technologies
- Double stage hydraulic pump with rapid approach: high throughput of tests (up to 40/hour)
- Soft platen-to-specimen contact and smooth load rate from the ramp start
- Optional control of a second and third frame
- Optional internal graphic printer including Load-Time plot
- Remote verification of settings and performances for malfunctions debugging
- Storage of up to 10 test profiles for each channel for quick start

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.

Pilot, Automatic power and control system

Dual stage pump, centrifugal for fast approach and multi-piston for loading, DC motor, ES Energy Saving technology, manual valves for loading/unloading and frame selection.

Hardware

132,000 points effective resolution, three channels, touch screen graphic display 240x128 pixel, sampling rate 50/sec, large storing capacity on USB pen drive, test data downloadable to PC, Ethernet port, real time management software (optional, see accessories 82-SW/DM DATAMANAGER)

Firmware

Simultaneous display of load-specific load, actual load rate and load/time graph; LAN connection to PC; advanced memory management; multi coefficient calibration.
Recording facility of up to 10 test profiles for each channel including type of test (e.g. compression, flexural, indirect tensile), specimen size and shape, load rate, standard in use and other general information. Each one of the recorded test profile can be recalled automatically to save time

Safety features

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

Standards

These series generally relate to previous European national Standards

kN	kN	kN
1500	2000	3000
K lbf	**K lbf**	**K lbf**
335	450	660

Cubes
up to 200* mm

Cylinders up to dia.
160 x 320 mm

*with the 3000 kN cap. only

CVi TECH

CUSTOMER VALUE DRIVES
THE INNOVATIONS

Technical Specifications

Model 50-	C13C02 C13C04	C23C02 C23C04	C34C02 C34C04
Capacity kN (lbf)	1500 (335,000)	2000 (450,000)	3000 (660,000)
Max vertical daylight, mm* (inches)	340 (13.4")	350 (13.8")	350 (13.8")
Horizontal daylight, mm (inches)	265 (10.4")	340 (13.4")	370 (14.6")
Max. piston travel*, mm (inches)	50 (2")	50 (2")	50 (2")
Platen dimensions, mm (inches)	dia. 216 (8.5")	dia. 216 (8.5")	dia. 300 (11.8")
Platen surface hardness	55.5 HRC (600 HV)	55.5 HRC (600 HV)	55.5 HRC (600 HV)
Platens flatness toll, mm (inches)	0.03 (0.0012")	0.03 (0.0012")	0.03 (0.0012")
Overall dimensions, mm (inches)	760 x 370 x 1085 (30" x 14.6" x 42.7")	835 x 440 x 1090 (32.9" x 17.3" x 42.9")	765 x 450 x 1160 (30.1" x 17.7" x 45.7")
Weight approx., kg	315	530	760

With accessory 50-C50CYL vertical clearance is increased by 20 mm. See test accessories.

Ordering information

50-C13C02

PILOT Automatic Compact-Line Gen. Util. compression tester, 1500 kN cap., for cubes up to 150 mm and cylinders up to dia. 160 x 320 mm. 230 V, 50-60 Hz, 1 ph.

50-C13C04
Same as above but 110 V, 60 Hz, 1 ph.

50-C23C02

PILOT Automatic Compact-Line Gen. Util. compression tester, 2000 kN cap., for cubes up to 150 mm and cylinders up to dia. 160 x 320 mm. 230 V, 50-60 Hz, 1 ph.

50-C23C04
Same as above but 110 V, 60 Hz, 1 ph.

50-C34C02

PILOT Automatic Compact-Line Gen. Util. compression tester, 3000 kN cap., for cubes up to 200 mm and cylinders up to dia. 160 x 320 mm. 230 V, 50-60 Hz, 1 ph.

50-C34C04
Same as above but 110 V, 60 Hz, 1 ph.

Machine Accessories

Fragment guard lock switch

50-C50/P1

Fragment guard lock switch .
To prevent test execution with the front door (optional) open

Distance pieces to adjust the vertical daylight

50-C9080
Distance piece dia. 200x30 mm

50-C9082
Distance piece dia. 200x50 mm

50-C9083
Distance piece dia. 200x68 mm

50-C9086
Distance piece dia. 200x100 mm

Note: *the above distance pieces are also available with threaded centering pin which are recommended for testing high strength/ explosive failures specimens. They are identified adding the suffix /P after the code number.*

Steel platen for capped cylinders

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.

Force verification

The conformity of the compression tester to the strigent requirements of the ASTM C39 Standards is precisely verified using specific traceable apparatus (load cells 82-E0100 series and 82-P0801/E digital tester).

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

50-C99/B, 50-C29/B, 50-C39/B

Accessories suitable for 50-	C13C02 C13C04	C23C02 C23C04	C34C02 C34C04
Frame pedestal (optional)	50-C99/B	50-C29/B	50-C39/B
Front door (optional)	50-C19/FG	50-C29/FG	50-C39/FG

Test Accessories

50-C9000/B

Splitting tensile test device for cylinders up to dia. 160x320 mm (6.3"x12.6").
Conforming to EN 12390-6 and ASTM C496

50-C9070/B

Splitting tensile test device for concrete block pavers and concrete cubes. Conforms to EN 1338 and EN 12390-6.

50-C9002

Hardboard strips 4 x 14 x 345 mm for 50-C9000/B conf. to EN Standards. Pack of 50.

50-C9002/A

Hardboard strips 4 x 14 x 345 mm for 50-C9000/B conf. to ASTM Standards. Pack of 50.

50-C9030/H

Compression device to test portions of 40x40x160 prisms broken in flexure to EN 196-1. High stiffness model.

Total height 225mm.

50-C9032/H

Compression device to test 50mm (2") cubes to ASTM C109. High stiffness model.

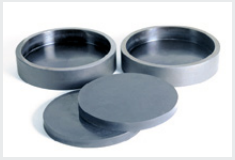
Total height 225mm.

50-C9010/B

Flexural test device for concrete beams 100x100x400/500 and 150x150x600/750 mm, to EN 12390-5, ASTM C78, ASTM C293 and AASHTO T97

Unbonded caps

This method is used as an alternative to the sulphur capping. The system consists of two alloy steel cap retainers and two neoprene pads which are in contact with the upper and lower concrete surfaces. Pads can be re-used for many tests. Different versions available conforming to the size of the specimen.



Capping retainers

55-C0122/A4

Capping retainers (couple) for 4" dia. concrete cylinders

55-C0122

Capping retainers (couple) for 150 mm (6") dia. cylinders

55-C0122/B

Capping retainers (couple) for 160 mm dia. cylinders

Neoprene pads

55-C0122/A44

Neoprene pads for 4" dia. cylinders. Set of two.

55-C0122/2

Neoprene pads for 6" dia. cylinders. Set of two.

55-C0122/4

Neoprene pads for 160 mm dia. cylinders. Set of two.

Upgrading Options

(To be specified at time of order: these items has to be factory installed.)

Serial printer for Automax testers

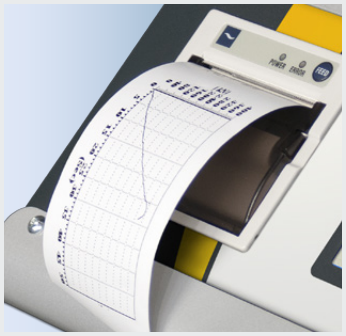
50-C10B/PR

Upgrade of a PILOT or AUTOMAX system to incorporate a serial graphic printer in the front panel, allowing results (including a load/time plot) to be printed at the end of test

Second and third frame connection

The PILOT System can be upgraded with a hydraulic valve for controlling (not simultaneously) a second and third frame.

Note: *when connecting a low capacity frame (i.e. flexural or cement) pressure regulator 65-L1400/X5 may be necessary. Please ask our technical department.*



50-C10C/2F

Two-way valve for PILOT System to control a second frame. This item must be factory installed.

50-C10C/3F

Three-way valve for PILOT System to control a second and third frame. This item must be factory installed.

50-C13C02 with 50-C10C/3F three way valve, flexural frame 50-C1201/BFR, cement compression frame 65-L18Z10 and accessories

Special calibration procedure

50-C0050/CAL

Special calibration of compression testers assuring Class 1 (EN) and Class A (ASTM), from 1% to full load range.

Traceable certificate of surface hardness

50-C0050/HRD3

Supply of the compression machine/frame complete with traceable certificate of hardness of 310 x 510 x 90 mm platen surfaces.

50-C0050/HRD4

Supply of the compression machine/frame complete with traceable certificate of hardness of 300 mm dia. platen surfaces

The complete range of Compact-Line compression testers

This data sheet concern just one of the compression tester series produced by Controls.
The range also comprehends:

Automatic tester

EN 12390-4

kN 2000 | kN 3000 | kN 4000 | kN 5000

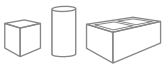
Super-Automatic tester

kN 2000 | kN 3000 | kN 4000 | kN 5000

Super- Automatic tester

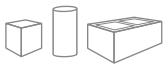
EN 12390-4, 772-1

kN 2000 | kN 3000 | kN 4000



Automatic tester

kN 2000 | kN 3000



Automatic tester

ASTM C39, 335, 450

K lbf 335 | K lbf 450 | K lbf 660

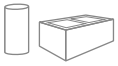
Semi-Automatic tester

K lbf 335 | K lbf 450 | K lbf 660

Automatic tester

ASTM C39, 140, 1314

K lbs 660

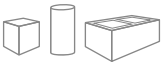


Automatic tester

kN 1500 | kN 2000 | kN 3000

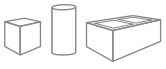
Automatic tester

kN 2000 | kN 3000



Semi-Automatic tester

kN 2000 | kN 3000



Semi-Automatic tester

kN 1500 | kN 2000 | kN 3000

GENERAL UTILITY models mainly relate to European National Standards (e.g. NF, UNI, etc.)

Our range includes many other special compression and flexural frames, automatic control consoles to combine advanced and sophisticated Testing systems.
Ask for more information at controls@controls.it.

CONTROLS Your Partners
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PILOT

Automatic compression testers for cylinders and blocks, 3000 kN (660 klbf) cap.

COMPACTline **ASTM** SERIES

- Four column, rigid welded steel construction
- Premium Heavy Duty spherical seat and rectangular platens 310x410x90 mm (12.2"x16.1"x3.5") for testing blocks according to ASTM C140 and ASTM C1314
- Upper platen and spherical seat are mounted on an axial screw assembly allowing easy adjustment of vertical clearance using slotted distance pieces.
- Innovative upgrading kit for easily switch of the spherical seat assembly for testing cylinders to ASTM C39, resulting a multi-testing unit!
- Class A accuracy to ASTM E74 starting from 10% of full scale. Special calibration procedure to obtain Class A from 1% available as option.
- Automatic control of test execution conforming to Standards
- Dual user interface display and PC
- Compatible with the new intuitive easy to use DATA MANAGER Software
- Reduced power consumption and silent operation by ES Energy Saving Technologies
- Double stage hydraulic pump with rapid approach: high throughput of tests (up to 40/hour)
- Soft platen-to-specimen contact and smooth load rate from the ramp start
- Optional control of a second and third frame
- Optional internal graphic printer including Load-Time plot
- Remote verification of settings and performances for malfunctions debugging
- Storage of up to 10 test profiles for each channel for quick start

Frame

Rigid welded steel construction. Premium Heavy Duty spherical seat and rectangular platens 310x410x90 mm (12.2"x16.1"x3.5") for testing blocks according to ASTM C140 and ASTM C1314.

Compression platens

Rectangular platens 310x410x90 mm (12.2"x16.1"x3.5") for testing blocks according to ASTM C140 and ASTM C1314. Traceable certificate of surface hardness available on request.

Pilot, Automatic power and control system

Dual stage pump, centrifugal for fast approach and multi-piston for loading, DC motor, ES Energy Saving technology, manual valves for loading/unloading and frame selection.

Hardware

132,000 points effective resolution, three channels, touch screen graphic display 240x128 pixel, sampling rate 50/sec, large storing capacity on USB pen drive, test data downloadable to PC, Ethernet port, real time management software (optional, see accessories 82-SW/DM DATAMANAGER)

Firmware

Simultaneous display of load-specific load, actual load rate and load/time graph; LAN connection to PC; advanced memory management; multi coefficient calibration.
Recording facility of up to 10 test profiles for each channel including type of test (e.g. compression, flexural, indirect tensile), specimen size and shape, load rate, standard in use and other general information. Each one of the recorded test profile can be recalled automatically to save time

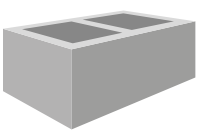
Safety features

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

Standards

ASTM C39 | ASTM C140 | ASTM C1314 | AASHTO T22

kN	K lbf
3000	660



Blocks

Cylinders up to dia.
160 x 320 mm,
250 x 500 mm

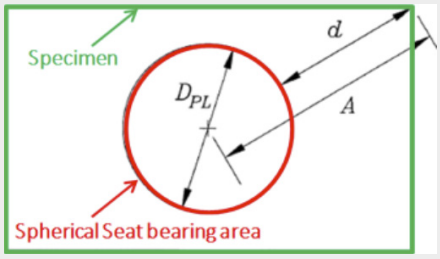
CVi TECH

CUSTOMER VALUE DRIVES
THE INNOVATIONS

Technical Specifications

Model 50-	A39C02 (A39C12**) A39C04 (A39C14**)
Capacity kN (lbf)	3000 (660,000)
Max vertical daylight, mm* (inches)	260 (10.2")
Max. vertical daylight with 50-A39/CYL set, mm (inches)	370 (14.6")
Horizontal daylight mm (inches)	370 (14.6")
Max. piston travel*,mm (inches)	50 (2")
Platen dimensions, mm (inches)	310 x 410 x 90 (12.2"x 16.1"x 3.5")
Platen surface hardness	55.5 HRC (600 HV)
Platens flatness toll, mm (inches)	0.02 (0.0008")
Overall dimensions, mm (inches)	925 x 510 x 1670 (36.4"x 20.1"x 65.7")
Weight approx., kg	980

*Use distance pieces conforming to the specimen size to avoid piston overtravel.
** These machines are calibrated in lbf unit.



This model fully complies with the ASTM C140 Standard which specifies the minimum platens thickness related to the spherical seat bearing area and the specimen dimensions as shown in the sketch.

Min. platens thickness = d = A – D_{PL}/2
- A: distance from spherical seat centre to specimen corner
- D_{PL}: diameter of spherical seat bearing surface (see Annex A8)

Ordering information

50-A39C02

PILOT Compact-line 3000 kN cap. automatic ASTM compression tester for blocks. 230 V, 50-60Hz, 1 ph

50-A39C04
as above but 110 V, 60 Hz, 1 ph

Machine Accessories

Slotted distance pieces to adjust the vertical daylight, to suit the size of the specimen

65-L1000/100B
Slotted distance piece dia. 195 x 100 mm

65-L1000/68B
Slotted distance piece dia. 195 x 68 mm

65-L1000/50B
Slotted distance piece dia. 195 x 50 mm

65-L1000/40B
Slotted distance piece dia. 195 x 40 mm

Software

82-SW/DM

Datamanager PC Software suitable for remote control of the machine, data acquisition, processing and filing. Allows printout of customized test certificates.

Fragment guard lock switch

50-C50/P

Fragment guard lock switch .
To prevent test execution with the front door open (optional)

Conversion set to test cylinders

This innovative upgrade is achieved by fitting the conversion apparatus, which consists of a rail sliding system and a 165 mm (6.5") diameter compression platen with a spherical seat, to the rear part of the frame.Once installed, the testing configuration can be changed with minimum effort: all that's required is to loosen the central screw using the upper hand wheel, slide off the upper block platen with spherical seat and fit the cylinder spherical seat assembly.

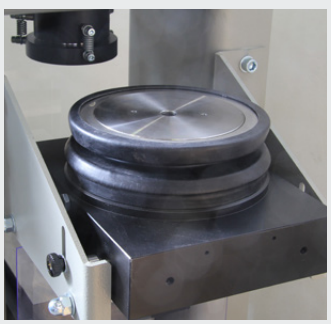
50-A39/CYL

Conversion set to test cylinders up to 6"x 12" to ASTM C39, comprehending spherical seat and upper compression platen dia.165 mm (6.5") system for easy removal and repositioning of the upper block spherical assembly

Detail of axial screw assembly allowing easy adjustment of vertical clearance

Detail of upper platen and spherical seat strictly conforming to ASTM C39 and AASHTO T22

Detail of the sliding off operation of the upper block platen and spherical seat, to be replaced by the platen assembly for testing cylinders.



Detail of the upper block platen and spherical seat sliden off on the solid rail system, to fit the platen assembly for testing cylinders

Test Accessories

50-C9000/B

Splitting tensile test device for cylinders up to dia. 160x320 mm (6.3"x12.6").
Conforming to EN 12390-6 and ASTM C496

50-C9002

Hardboard strips 4 x 14 x 345 mm for 50-C9000/B conf. to EN Standards. Pack of 50.

50-C9002/A

Hardboard strips 4 x 14 x 345 mm for 50-C9000/B conf. to ASTM Standards. Pack of 50.

50-C9030/A

Compression device to test portions of 40x40x160 prisms broken in flexure to ASTM C349. High stiffness model.

Total height 225mm.

50-C9032/H

Compression device to test 50mm (2") cubes to ASTM C109. High stiffness model.

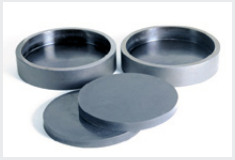
Total height 225mm.

50-C9010/B

Flexural test device for concrete beams 100x100x400/500 and 150x150x600/750 mm, to EN 12390-5, ASTM C78, ASTM C293 and AASHTO T97

Unbonded caps

This method is used as an alternative to the sulphur capping. The system consists of two alloy steel cap retainers and two neoprene pads which are in contact with the upper and lower concrete surfaces. Pads can be re-used for many tests. Different versions available conforming to the size of the specimen.



Capping retainers

55-C0122/A4

Capping retainers (couple) for 4" dia. concrete cylinders

55-C0122

Capping retainers (couple) for 150 mm (6") dia. cylinders

55-C0122/B

Capping retainers (couple) for 160 mm dia. cylinders

Neoprene pads

55-C0122/A44

Neoprene pads for 4" dia. cylinders. Set of two.

55-C0122/2

Neoprene pads for 6" dia. cylinders. Set of two.

55-C0122/4

Neoprene pads for 160 mm dia. cylinders. Set of two.

Upgrading Options

(To be specified at time of order: these items has to be factory installed.)

Serial printer for Automax testers

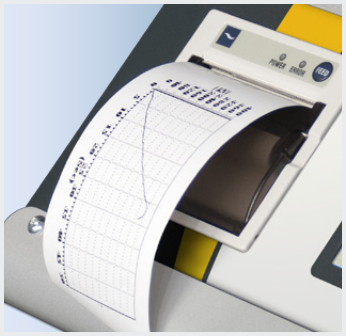
50-C10B/PR

Upgrade of a PILOT or AUTOMAX system to incorporate a serial graphic printer in the front panel, allowing results (including a load/time plot) to be printed at the end of test

Second and third frame connection

The PILOT System can be upgraded with a hydraulic valve for controlling (not simultaneously) a second and third frame.

Note: *when connecting a low capacity frame (i.e. flexural or cement) pressure regulator 65-L1400/X5 may be necessary. Please ask our technical department.*



50-C10C/2F

Two-way valve for PILOT System to control a second frame. This item must be factory installed.

50-C10C/3F

Three-way valve for PILOT System to control a second and third frame. This item must be factory installed.

50-A39C02 with 50-C10C/3F three way valve, 50-C1201/BFR flexural frame, 50-C92Z10 500 kN compression frame and accessories

Special calibration procedure

50-C0050/CAL

Special calibration of compression testers assuring Class 1 (EN) and Class A (ASTM), from 1% to full load range.

The complete range of Compact-Line compression testers

This data sheet concern just one of the compression tester series produced by Controls.
The range also comprehends:

Automatic tester — EN 12390-4

kN 2000 | kN 3000 | kN 4000 | kN 5000

Super-Automatic tester — EN 12390-4

kN 2000 | kN 3000 | kN 4000 | kN 5000

Super- Automatic tester — EN 12390-4, 772-1

kN 2000 | kN 3000 | kN 4000

Automatic tester — EN 12390-4, 772-1

kN 2000 | kN 3000 | kN 4000

Automatic tester — ASTM C39, 335, 450

K lbs 335 | K lbs 450 | K lbs 660

Semi-Automatic tester — ASTM C39, 335, 450

K lbs 335 | K lbs 450 | K lbs 660

Automatic tester — ASTM C39, 140, 1314

K lbs 660

Automatic tester — *GEN. UTIL.

kN 1500 | kN 2000 | kN 3000

Automatic tester — *GEN. UTIL.

kN 2000 | kN 3000

Semi-Automatic tester — *GEN. UTIL.

kN 2000 | kN 3000

Semi-Automatic tester — *GEN. UTIL.

kN 1500 | kN 2000 | kN 3000

*GENERAL UTILITY models mainly relate to European National Standards (e.g. NF, UNI, etc.)

Our range includes many other special compression and flexural frames, automatic control consoles to combine advanced and sophisticated Testing systems.
Ask for more information at controls@controls.it.

CONTROLS Your Partners
Masters of Technology

WIZARD 2

Semi-Automatic compression testers for cylinders

COMPACTline **ASTM** SERIES

- Rigid welded steel construction
- ASTM spherical seat fully complaint to ASTM C39 for testing 4" x 8" and 6" x 12 " cylinders
- Accuracy Class A (ASTM) starting from 10% of full scale (from 1% on request)
- 2 channels for load sensors with 65000 div. resolution (better than 0.01% of full scale)
- Unlimited store capacity on USB pen drive of test data downloadable to PC via LAN port
- Digital readout unit with wide high-contrast display 4 x 20 characters and 6 keys membrane keyboard
- Real time display of load/stress and applied load rate by symbols for easy adjustment
- Dual stage pump: low pressure/high delivery for fast piston approach and high pressure/low volume for loading
- Special hand operated pressure-compensated proportional valve for the manual preset of load rate requiring just occasional operator's intervention
- Optional control of a second frame
- Optional internal graphic printer

Frame

Rigid welded steel construction. ASTM spherical seat allows free alignment at the initial contact with the specimen. It is designed strictly conforming to the Standards, to test 4" and 6" diameter specimens.

Compression platens

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

Wizard, Semi-Automatic power and control system

Dual stage pump: low pressure/high delivery for fast piston approach and high pressure/low volume for loading. Special hand operated pressure-compensated proportional valve for the manual preset of load rate requiring just occasional operator's intervention.

Hardware

2 analogue channels, 4 x 20 characters alphanumeric display, 65˙000 points high resolution/stability analogue channels, sampling rate 50/sec, large storage capacity for test data on USB memory stick, ethernet port to download data to PC using the SW/TRM software.

Firmware

Simultaneous display of load, specific load and actual load rate, LAN connection to PC for data transmission in real time, easy firmware update through Ethernet port, memory management with options to display tests stored on USB memory stick, download data to internal printer or PC, delete single tests or reset the entire memory, Multi-coefficient calibration procedure with automatic storage of data without manual editing (using a suitable load cell and readout unit), language and units selection (kN, ton, lbf).

Safety features

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

Standards ASTM C39 | AASHTO T22

kN	kN	kN
1500	2000	3000
K lbf	K lbf	K lbf
335	450	660

Cylinders up to dia.
160 x 320 mm,
250 x 500 mm

CVi TECH

CUSTOMER VALUE DRIVES
THE INNOVATIONS

Technical Specifications

Model 50-	A12A02 (A12A12**) A12A04 (A12A14**)	A22A02 (A22A12**) A22A04 (A22A14**)	A32A02 (A32A12**) A32A04 (A32A14**)
Capacity kN (lbf)	1500 (335,000)	2000 (450,000)	3000 (660,000)
Max vertical daylight, mm (inches)	370 (14.6")	380 (15")	380 (15")
Horizontal daylight, mm (inches)	265 (10.4")	340 (13.4")	370 (14.6")
Max. piston travel*, mm	50 (2")	50 (2")	50 (2")
Platen dimensions, mm (inches)	dia. 165 (6.5")	dia. 165 (6.5")	dia. 165 (6.5")
Platen surface hardness	55.5 HRC (600 HV)	55.5 HRC (600 HV)	55.5 HRC (600 HV)
Platens flatness toll, mm (inches)	0.02 (0.0008")	0.02 (0.0008")	0.02 (0.0008")
Overall dimensions, mm (inches)	810 x 425 x 1085 (31.9" x 16.7" x 42.7")	835 x 440 x 1090 (32.9" x 17.3" x 42.9")	805 x 450 x 1160 (31.7" x 17.7" x 45.7")
Weight approx., kg	285	500	710

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

** These machines are calibrated in lbf unit.

Ordering information

50-A12A02

WIZARD, Semi- Automatic Compact-Line ASTM compression tester, 1500 kN (335,000 lbf) cap., for cylinders up to dia. 160 x 320 mm. 230 V, 50-60 Hz, 1 ph.

50-A12A04
Same as above but 110 V, 60 Hz, 1 ph.

50-A22A02

WIZARD, Semi-Automatic Compact-Line ASTM compression tester, 2000 kN (450,0000 lbf) cap., for cylinders up to dia. 160 x 320 mm. 230 V, 50-60 Hz, 1 ph.

50-A22A04
Same as above but 110 V, 60 Hz, 1 ph.

50-A32A02

WIZARD, Semi-Automatic Compact-Line ASTM compression tester, 3000 kN (660,000 lbf) cap., for cylinders up to dia. 160 x 320 mm. 230 V, 50-60 Hz, 1 ph.

50-A32A04
Same as above but 110 V, 60 Hz, 1 ph.

Note: *front door is not included but available as accessory.*

Machine Accessories

Distance pieces to adjust the vertical daylight

65-L1000/20
Distance piece dia. 165 x 20 mm

65-L1000/30
Distance piece dia. 165 x 30 mm

65-L1000/40
Distance piece dia. 165 x 40 mm

50-C9084
Distance piece dia. 96 x 158 mm

Fragment guard lock switch

50-C50/P3
Fragment guard lock switch .
To prevent test execution with the front door open

50-C99/B, 50-C29/B, 50-C39/B

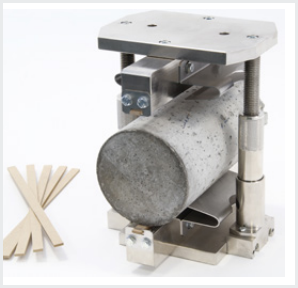
Force verification

The conformity of the compression tester to the strigent requirements of the ASTM C39 Standards is precisely verified using specific traceable apparatus (load cells 82-E0100 series and 82-P0801/E digital tester).

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

Accessories suitable for 50-	A12A02 (A12A12) A12A04 (A12A14)	A22A02 (A22A12) A22A04 (A22A14)	A32A02 (A32A12) A32A04 (A32A14)
Frame pedestal (optional)	50-C99/B	50-C29/B	50-C39/B
Front door (optional)	50-C19/FG	50-C29/FG	50-C39/FG

Test Accessories



50-C9000/B

Splitting tensile test device for cylinders up to dia. 160x320 mm (6.3"x12.6").
Conforming to EN 12390-6 and ASTM C496

50-C9002

Hardboard strips 4 x 14 x 345 mm for 50-C9000/B conf. to EN Standards. Pack of 50.

50-C9002/A

Hardboard strips 4 x 14 x 345 mm for 50-C9000/B conf. to ASTM Standards. Pack of 50.

50-C9030/A

Compression device to test portions of 40x40x160 prisms broken in flexure to ASTM C349. High stiffness model.

Total height 225mm.

50-C9032/H

Compression device to test 50mm (2") cubes to ASTM C109. High stiffness model.

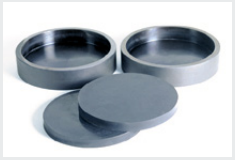
Total height 225mm.

50-C9010/B

Flexural test device for concrete beams 100x100x400/500 and 150x150x600/750 mm, to EN 12390-5, ASTM C78, ASTM C293 and AASHTO T97

Unbonded caps

This method is used as an alternative to the sulphur capping. The system consists of two alloy steel cap retainers and two neoprene pads which are in contact with the upper and lower concrete surfaces. Pads can be re-used for many tests. Different versions available conforming to the size of the specimen.



Capping retainers

55-C0122/A4

Capping retainers (couple) for 4" dia. concrete cylinders

55-C0122

Capping retainers (couple) for 150 mm (6") dia. cylinders

55-C0122/B

Capping retainers (couple) for 160 mm dia. cylinders

Neoprene pads

55-C0122/A44

Neoprene pads for 4" dia. cylinders. Set of two.

55-C0122/2

Neoprene pads for 6" dia. cylinders. Set of two.

55-C0122/4

Neoprene pads for 160 mm dia. cylinders. Set of two.

Upgrading Options

(To be specified at time of order: these items has to be factory installed.)

Serial printer for Automax testers

50-C10B/PR

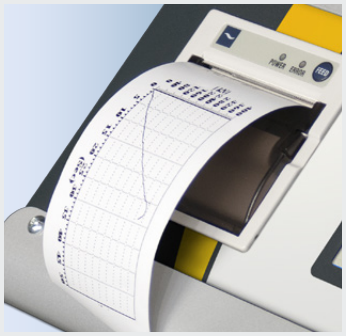
Upgrade of a PILOT or AUTOMAX system to incorporate a serial graphic printer in the front panel, allowing results (including a load/time plot) to be printed at the end of test

Second frame connection

The WIZARD System can be upgraded with a hydraulic valve for controlling (not simultaneously) a second frame.

50-C10B/2F

Two-way valve for PILOT System to control a second frame. This item must be factory installed.



Special calibration procedure

50-C0050/CAL

Special calibration of compression testers assuring Class 1 (EN) and Class A (ASTM), from 1% to full load range.

50-A12A02 with 50-C10B/2F two way valve, flexural frame 50-C910/FR and accessories

Traceable certificate of surface hardness

50-C0050/HRD2

Supply of the compression machine/frame complete with traceable certificate of hardness of 165 mm dia. platen surfaces

The complete range of Compact-Line compression testers

This data sheet concern just one of the compression tester series produced by Controls.
The range also comprehends:

Automatic tester
EN 12390-4

kN 2000 | kN 3000 | kN 4000 | kN 5000

Super-Automatic tester
EN 12390-4

kN 2000 | kN 3000 | kN 4000 | kN 5000

Super- Automatic tester
EN 12390-4, 772-1

kN 2000 | kN 3000 | kN 4000

Automatic tester
EN 12390-4, 772-1

kN 2000 | kN 3000 | kN 4000

Automatic tester
ASTM C39, 335, 450

K lbs 335 | K lbs 450 | K lbs 660

Semi-Automatic tester
ASTM C39, 335, 450

K lbs 335 | K lbs 450 | K lbs 660

Automatic tester
ASTM C39, 140, 1314

K lbs 660

Automatic tester

kN 1500 | kN 2000 | kN 3000

Automatic tester

kN 2000 | kN 3000

Semi-Automatic tester

kN 2000 | kN 3000

Semi-Automatic tester

kN 1500 | kN 2000 | kN 3000

GENERAL UTILITY models mainly relate to European National Standards (e.g. NF, UNI, etc.)

Our range includes many other special compression and flexural frames, automatic control consoles to combine advanced and sophisticated Testing systems.
Ask for more information at controls@controls.it.

CONTROLS Your Partners
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PILOT

Automatic compression testers for cylinders

COMPACTline **ASTM** SERIES

- Rigid welded steel construction
- ASTM spherical seat allows free alignment at the initial contact with the specimen
- Automatic control of test execution conforming to Standards
- Dual user interface display and PC
- Accuracy Class A (ASTM) starting from 10% of full scale (from 1% on request)
- Compatible with the new intuitive easy to use DATA MANAGER Software
- Reduced power consumption and silent operation by ES Energy Saving Technologies
- Double stage hydraulic pump with rapid approach: high throughput of tests (up to 40/hour)
- Soft platen-to-specimen contact and smooth load rate from the ramp start
- Optional control of a second and third frame
- Optional internal graphic printer including Load-Time plot
- Remote verification of settings and performances for malfunctions debugging
- Storage of up to 10 test profiles for each channel for quick start

Frame

Rigid welded steel construction. ASTM spherical seat allows free alignment at the initial contact with the specimen. It is designed strictly conforming to the Standards, to test 4" and 6" diameter specimens.

Compression platens

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

Pilot, Automatic power and control system

Dual stage pump, centrifugal for fast approach and multi-piston for loading, DC motor, ES Energy Saving technology, manual valves for loading/unloading and frame selection.

Hardware

132,000 points effective resolution, three channels, touch screen graphic display 240x128 pixel, sampling rate 50/sec, large storing capacity on USB pen drive, test data downloadable to PC, Ethernet port, real time management software (optional, see accessories 82-SW/DM DATAMANAGER)

Firmware

Simultaneous display of load-specific load, actual load rate and load/time graph; LAN connection to PC; advanced memory management; multi coefficient calibration.
Recording facility of up to 10 test profiles for each channel including type of test (e.g. compression, flexural, indirect tensile), specimen size and shape, load rate, standard in use and other general information. Each one of the recorded test profile can be recalled automatically to save time

Safety features

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

Standards ASTM C39 | AASHTO T22

kN	kN	kN
1500	2000	3000
K lbf	**K lbf**	**K lbf**
335	450	660

Cylinders up to dia.
160 x 320 mm,
250 x 500 mm

CVI TECH

CUSTOMER VALUE DRIVES
THE INNOVATIONS

Technical Specifications

Model 50-	A12C02 (A12C12**) A12C04 (A12C14**)	A22C02 (A22C12**) A22C04 (A22C14**)	A32C02 (A32C12**) A32C04 (A32C14**)
Capacity kN (lbf)	1500 (335,000)	2000 (450,000)	3000 (660,000)
Max vertical daylight, mm (inches)	370 (14.6")	380 (15")	380 (15")
Horizontal daylight, mm (inches)	265 (10.4")	340 (13.4")	370 (14.6")
Max. piston travel*, mm (inches)	50 (2")	50 (2")	50 (2")
Platen dimensions, mm (inches)	dia. 165 (6.5")	dia. 165 (6.5")	dia. 165 (6.5")
Platen surface hardness	55.5 HRC (600 HV)	55.5 HRC (600 HV)	55.5 HRC (600 HV)
Platens flatness toll, mm (inches)	0.02 (0.0008")	0.02 (0.0008")	0.02 (0.0008")
Overall dimensions, mm (inches)	760 x 370 x 1085 (30" x 14.6" x 42.7")	835 x 440 x 1090 (32.9" x 17.3" x 42.9")	765 x 450 x 1160 (30.1" x 17.7" x 45.7")
Weight approx., kg	290	500	710

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

** *These machines are calibrated in lbf unit.*

Ordering information

50-A12C02

PILOT Automatic Compact-Line ASTM compression tester, 1500 kN (335,000 lbf) cap., for cylinders up to dia. 160 x 320 mm. 230 V, 50-60 Hz, 1 ph.

50-A12C04
Same as above but 110 V, 60 Hz, 1 ph.

50-A22C02

PILOT Automatic Compact-Line ASTM compression tester, 2000 kN (450,0000 lbf) cap., for cylinders up to dia. 160 x 320 mm. 230 V, 50-60 Hz, 1 ph.

50-A22C04
Same as above but 110 V, 60 Hz, 1 ph.

50-A32C02

PILOT Automatic Compact-Line ASTM compression tester, 3000 kN (660,000 lbf) cap., for cylinders up to dia. 160 x 320 mm. 230 V, 50-60 Hz, 1 ph.

50-A32C04
Same as above but 110 V, 60 Hz, 1 ph.

Note: *front door is not included but available as accessory.*

Machine Accessories

Distance pieces to adjust the vertical daylight

65-L1000/20
Distance piece dia. 165 x 20 mm

65-L1000/30
Distance piece dia. 165 x 30 mm

65-L1000/40
Distance piece dia. 165 x 40 mm

50-C9084
Distance piece dia. 96 x 158 mm

Software

82-SW/DM
Datamanager PC Software suitable for remote control of the machine, data acquisition, processing and filing. Allows printout of customized test certificates.

Fragment guard lock switch

50-C50/P1
Fragment guard lock switch.
To prevent test execution with the front door open.

Force verification

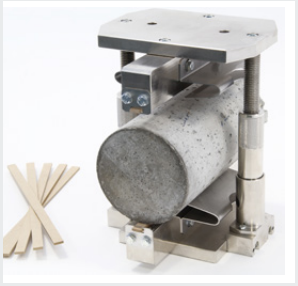
The conformity of the compression tester to the strigent requirements of the ASTM C39 Standards is precisely verified using specific traceable apparatus (load cells 82-E0100 series and 82-P0801/E digital tester).

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

50-C99/B, 50-C29/B, 50-C39/B

Accessories suitable for 50-	A12C02 (A12C12) A12C04 (A12C14)	A22C02 (A22C12) A22C04 (A22C14)	A32C02 (A32C12) A32C04 (A32C14)
Frame pedestal (optional)	50-C99/B	50-C29/B	50-C39/B
Front door (optional)	50-C19/FG	50-C29/FG	50-C39/FG

Test Accessories



50-C9000/B

Splitting tensile test device for cylinders up to dia. 160x320 mm (6.3"x12.6").
Conforming to EN 12390-6 and ASTM C496

50-C9002

Hardboard strips 4 x 14 x 345 mm for 50-C9000/B conf. to EN Standards. Pack of 50.

50-C9002/A

Hardboard strips 4 x 14 x 345 mm for 50-C9000/B conf. to ASTM Standards. Pack of 50.

50-C9030/A

Compression device to test portions of 40x40x160 prisms broken in flexure to ASTM C349. High stiffness model.

Total height 225mm.

50-C9032/H

Compression device to test 50mm (2") cubes to ASTM C109. High stiffness model.

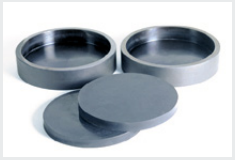
Total height 225mm.

50-C9010/B

Flexural test device for concrete beams 100x100x400/500 and 150x150x600/750 mm, to EN 12390-5, ASTM C78, ASTM C293 and AASHTO T97

Unbonded caps

This method is used as an alternative to the sulphur capping. The system consists of two alloy steel cap retainers and two neoprene pads which are in contact with the upper and lower concrete surfaces. Pads can be re-used for many tests. Different versions available conforming to the size of the specimen.



Capping retainers

55-C0122/A4

Capping retainers (couple) for 4" dia. concrete cylinders

55-C0122

Capping retainers (couple) for 150 mm (6") dia. cylinders

55-C0122/B

Capping retainers (couple) for 160 mm dia. cylinders

Neoprene pads

55-C0122/A44

Neoprene pads for 4" dia. cylinders. Set of two.

55-C0122/2

Neoprene pads for 6" dia. cylinders. Set of two.

55-C0122/4

Neoprene pads for 160 mm dia. cylinders. Set of two.

Upgrading Options

(To be specified at time of order: these items has to be factory installed.)

Serial printer for Automax testers

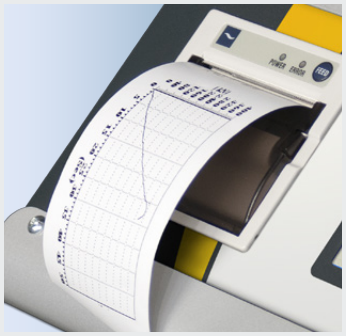
50-C10B/PR

Upgrade of a PILOT or AUTOMAX system to incorporate a serial graphic printer in the front panel, allowing results (including a load/time plot) to be printed at the end of test

Second and third frame connection

The PILOT System can be upgraded with a hydraulic valve for controlling (not simultaneously) a second and third frame.

Note: *when connecting a low capacity frame (i.e. flexural or cement) pressure regulator 65-L1400/X5 may be necessary. Please ask our technical department.*



50-C10C/2F

Two-way valve for PILOT System to control a second frame. This item must be factory installed.

50-C10C/3F

Three-way valve for PILOT System to control a second and third frame. This item must be factory installed.

50-A12C02 with 50-C10C/3F three way valve, flexural frame 50-C1201/BFR, 50-C92Z10 500 kN frame and accessories

Special calibration procedure

50-C0050/CAL

Special calibration of compression testers assuring Class 1 (EN) and Class A (ASTM), from 1% to full load range.

Traceable certificate of surface hardness

50-C0050/HRD2

Supply of the compression machine/frame complete with traceable certificate of hardness of 165 mm dia. platen surfaces

The complete range of Compact-Line compression testers

This data sheet concern just one of the compression tester series produced by Controls.
The range also comprehends:

Automatic tester
EN 12390-4

kN 2000 | kN 3000 | kN 4000 | kN 5000

Super-Automatic tester
EN 12390-4

kN 2000 | kN 3000 | kN 4000 | kN 5000

Super- Automatic tester
EN 12390-4, 772-1

kN 2000 | kN 3000 | kN 4000

Automatic tester
EN 12390-4, 772-1

kN 2000 | kN 3000 | kN 4000

Automatic tester
ASTM C39, 335, 450

K lbf 335 | K lbf 450 | K lbf 660

Semi-Automatic tester
ASTM C39, 335, 450

K lbf 335 | K lbf 450 | K lbf 660

Automatic tester
ASTM C39, 140, 1314

K lbs 660

Automatic tester

kN 1500 | kN 2000 | kN 3000

Automatic tester

kN 2000 | kN 3000

Semi-Automatic tester

kN 2000 | kN 3000

Semi-Automatic tester

kN 1500 | kN 2000 | kN 3000

GENERAL UTILITY models mainly relate to European National Standards (e.g. NF, UNI, etc.)

Our range includes many other special compression and flexural frames, automatic control consoles to combine advanced and sophisticated Testing systems.
Ask for more information at controls@controls.it.

CONTROLS Your Partners
Masters of Technology

PILOT

Automatic compression testers for cubes and cylinders and blocks

COMPACTline EN SERIES

- Four column high stiffness welded frame tested for stability
- Heavy duty spherical seat in lubricating oil bath
- Automatic control of test execution conforming to Standards
- Dual user interface display and PC
- Accuracy Class 1 (EN) and Class A (ASTM) starting from 10% of full scale (from 1% on request)
- Compatible with the new intuitive easy to use DATA MANAGER Software
- Reduced power consumption and silent operation by ES Energy Saving Technologies
- Double stage hydraulic pump with rapid approach: high throughput of tests (up to 40/hour)
- Soft platen-to-specimen contact and smooth load rate from the ramp start
- Optional control of a second and third frame
- Optional internal graphic printer including Load-Time plot
- Remote verification of settings and performances for malfunctions debugging
- Storage of up to 10 test profiles for each channel for quick start

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.

Pilot, Automatic power and control system

Dual stage pump, centrifugal for fast approach and multi-piston for loading, DC motor, ES Energy Saving technology, manual valves for loading/unloading and frame selection.

Hardware

132,000 points effective resolution, three channels, touch screen graphic display 240x128 pixel, sampling rate 50/sec, large storing capacity on USB pen drive, test data downloadable to PC, Ethernet port, real time management software (optional, see accessories 82-SW/DM DATAMANAGER)

Firmware

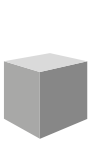
Simultaneous display of load-specific load, actual load rate and load/time graph; LAN connection to PC; advanced memory management; multi coefficient calibration.
Recording facility of up to 10 test profiles for each channel including type of test (e.g. compression, flexural, indirect tensile), specimen size and shape, load rate, standard in use and other general information. Each one of the recorded test profile can be recalled automatically to save time

Safety features

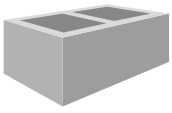
Includes: Max. pressure valve to avoid machine overloading; piston travel limit switch; emergency stop button; front door and rear transparent fragment guard.

Standards EN 12390-4 | EN 772-1

kN 2000 | kN 3000 | kN 4000


Cubes up to 300 mm


Cylinders up to dia. 160 x 320 mm


Blocks

CVi TECH
CUSTOMER VALUE DRIVES THE INNOVATIONS

Technical Specifications

Model 50-	C47C02 C47C04	C57C02 C57C04	C69C02 C69C04
Capacity kN	2000	3000	4000
Max vertical daylight, mm*	350	350	310
Horizontal daylight, mm	350	370 mm	425 mm
Max. piston travel*, mm	50	50	50
Platen dimensions	310 x 510 x 50 mm.	310 x 510 x 50 mm	310 x 510 x 90 mm
Platen surface hardness	55.5 HRC (600 HV)	55.5 HRC (600 HV)	55.5 HRC (600 HV)
Platens flatness toll.	0.05 mm	0.05 mm	0.05 mm
Overall dimensions, mm	895 X 605 X 1115	985 X 640 X 1190	1090 X 570 X 1555
Weight approx., kg	740	1105	2020

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

Ordering information

50-C47C02

PILOT, Automatic Compact-Line compression tester, 2000 kN cap. for blocks, cubes up to 200 mm and cylinders up to dia. 160x320 mm. 230 V, 50-60 Hz, 1 ph

50-C47C04
Same as above but 110 V, 60 Hz, 1 ph

50-C57C02

PILOT, Automatic Compact-Line compression tester, 3000 kN cap. for blocks, cubes up to 200 mm and cylinders up to dia. 160x320 mm. 230 V, 50-60 Hz, 1 ph

50-C57C04
Same as above but 110 V, 60 Hz, 1 ph

50-C69C02

PILOT, Automatic Compact-Line compression tester, 4000 kN cap. for blocks, cubes up to 300 mm and cylinders up to dia. 150x320 mm. 230 V, 50-60 Hz, 1 ph

50-C69C04
Same as above but 110 V, 60 Hz, 1 ph

***Note:** 5000 kN capacity model available on request*

50-C49/B, 50-C59/B

Machine Accessories

Distance pieces to adjust the vertical daylight

50-C9080
Distance piece dia. 200x30 mm

50-C9082
Distance piece dia. 200x50 mm

50-C9083
Distance piece dia. 200x68 mm

50-C9086
Distance piece dia. 200x100 mm

***Note:** The above distance pieces are also available with threaded centering pin which are recommended for testing high strength/ explosive failures specimens. They are identified adding the suffix /P after the code number.*

Software

82-SW/DM
Datamanager PC Software suitable for remote control of the machine, data acquisition, processing and filing. Allows printout of customized test certificates.

Fragment guard lock switch

50-C50/P
Fragment guard lock switch .
To prevent test execution with the front door open

Frame pedestals

50-C49/B
Frame pedestal for 2000 kN cap. testers

50-C59/B
Frame pedestal for 3000 kN cap. testers

Verification of force transfer

The conformity of the compression tester to the EN 12390-4 requirements in terms of stability (force transfer) is performed by the verification of the self-alignment of machine components and the restraint on movement of the upper platen.
The compliance of all our EN testers to these stringent requirements is precisely verified using specific apparatus (82-E0105/1 and 82-P0804/E). An incorrect load application may cause premature sample failure and, consequently the resultant strength could be significantly lower than the true resistance.

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

Lifting assembly for block testing platens

50-C9060/A
Lifting device for bottom block platen for easier placement of distance pieces compatible platen size 310 x 510 x 50 mm thickness. Weight: 19 kg (approx.)

50-C9060/B
Lifting device for bottom block platen for easier placement of distance pieces compatible platen size 310 x 510 x 90 mm thickness. Weight: 18 kg (approx.)

Test Accessories

50-C9000/B

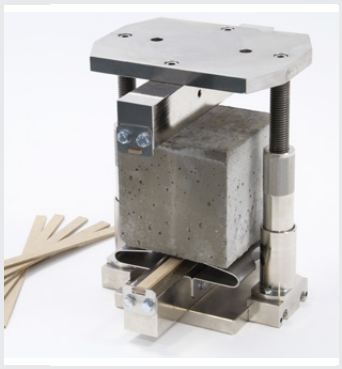
Splitting tensile test device for cylinders up to dia. 160x320 mm (6.3"x12.6").Conforming to EN 12390-6 and ASTM C496

50-C9002

Hardboard strips 4 x 14 x 345 mm for 50-C9000/B conf. to EN Standards. Pack of 50.

50-C9002/A

Hardboard strips 4 x 14 x 345 mm for 50-C9000/B conf. to ASTM Standards. Pack of 50.



50-C9070/B

Splitting tensile test device for concrete block pavers and concrete cubes. Conforms to EN 1338 and EN 12390-6.

50-C9002

Hardboard packing strips 4 x 15 x 345 mm, to EN 1338 and 12390-6.
Pack of 50.

50-C9030/H

Compression device to test portions of 40x40x160 prisms broken in flexure to EN 196-1. High stiffness model.

Total height 225mm.

50-C9032/H

Compression device to test 50mm (2") cubes to ASTM C109. High stiffness model.

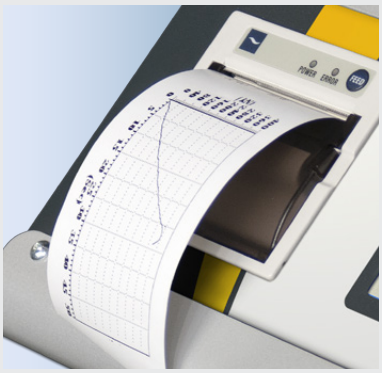
Total height 225mm.

50-C9010/B

Flexural test device for concrete beams 100x100x400/500 and 150x150x600/750 mm, to EN 12390-5, ASTM C78, ASTM C293 and AASHTO T97

Upgrading Options

(To be specified at time of order: these items has to be factory installed.)



50-C10B/PR

Upgrade of a PILOT or AUTOMAX system to incorporate a serial graphic printer in the front panel, allowing results (including a load/time plot) to be printed at the end of test

Second and third frame connection

The PILOT System can be upgraded with a hydraulic valve for controlling (not simultaneously) a second and third frame.

Note: *when connecting a low capacity frame (i.e. flexural or cement) pressure regulator 65-L1400/X5 may be necessary. Please ask our technical department.*

50-C10C/2F

Two-way valve for PILOT System to control a second frame. This item must be factory installed.

50-C10C/3F

Three-way valve for PILOT System to control a second and third frame. This item must be factory installed.

Special calibration procedure

50-C0050/CAL

Special calibration of compression testers assuring Class 1 (EN) and Class A (ASTM), from 1% to full load range.

Traceable certificate of surface hardness

50-C0050/HRD7

Supply of the compression machine/frame complete with traceable certificate of hardness of 310x510x50 mm platens surfaces

50-C0050/HRD10

Same as above but for 310x510x90 mm square platens

50-C47C02 with 50-C10C/2F two way valve, flexural frame 50-C1201/BFR and accessories

50-C47C02 with 50-C10C/3F three way valve, 50-C92Z10 500 kN compression frame and accessories.

The complete range of Compact-Line compression testers

This data sheet concern just one of the compression tester series produced by Controls.
The range also comprehends:

Automatic tester
EN 12390-4

kN 2000 | kN 3000 | kN 4000 | kN 5000

Super-Automatic tester
EN 12390-4

kN 2000 | kN 3000 | kN 4000 | kN 5000

Super- Automatic tester
EN 12390-4, 772-1

kN 2000 | kN 3000 | kN 4000

Automatic tester
EN 12390-4, 772-1

kN 2000 | kN 3000 | kN 4000

Automatic tester
ASTM C39, 335, 450

K lbf 335 | K lbf 450 | K lbf 660

Semi-Automatic tester
ASTM C39, 335, 450

K lbf 335 | K lbf 450 | K lbf 660

Automatic tester
ASTM C39, 140, 1314

K lbs 660

Automatic tester

kN 1500 | kN 2000 | kN 3000

Automatic tester

kN 2000 | kN 3000

Semi-Automatic tester

kN 2000 | kN 3000

Semi-Automatic tester

kN 1500 | kN 2000 | kN 3000

GENERAL UTILITY models mainly relate to European National Standards (e.g. NF, UNI, etc.)

Our range includes many other special compression and flexural frames, automatic control consoles to combine advanced and sophisticated Testing systems.
Ask for more information at controls@controls.it.

CONTROLS Your Partners
Masters of Technology

AUTOMAX

Super-Automatic compression testers for cubes, cylinders and blocks

COMPACTline EN SERIES

- Four column high stiffness welded frame tested for stability
- Heavy duty spherical seat in lubricating oil bath
- Automatic control of test execution conforming to Standards
- Automatic performance of the complete test cycle with closed-loop digital feedback
- Automatic loading and loading by electronic valves
- Fully computerized system
- Dual user interface display and PC
- Accuracy Class 1 (EN) and Class A (ASTM) starting from 10% of full scale (from 1% on request)
- Compatible with the new intuitive easy to use DATA MANAGER Software
- Reduced power consumption and silent operation by ES Energy Saving Technologies
- Double stage hydraulic pump with rapid approach: high throughput of tests (up to 40/hour)
- Soft platen-to-specimen contact and smooth load rate from the ramp start
- Double frame control as standard with optional control of additional third frame: active frame selection via console display or software
- Optional internal graphic printer including Load-Time plot
- Remote verification of settings and performances for malfunctions debugging
- Storage of up to 10 test profiles for each channel for quick start

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 fully computerized Super-Automatic power and control system

Dual stage pump, centrifugal for fast approach and multi-piston for loading, DC motor, ES Energy Saving technology electronic valves for autimatic loading/unloading and frame selection via display /software

Hardware

132,000 points effective resolution, three channels, touch screen graphic display 240x128 pixel, sampling rate 50/sec, large storing capacity on USB pen drive, test data downloadable to PC, Ethernet port, real time management software (optional, see accessories 82-SW/DM DATAMANAGER)

Firmware

Simultaneous display of load-specific load, actual load rate and load/time graph; LAN connection to PC; advanced memory management; multi coefficient calibration. Recording facility of up to 10 test profiles for each channel including type of test (e.g. compression, flexural, indirect tensile), specimen size and shape, load rate, standard in use and other general information. Each one of the recorded test profile can be recalled automatically to save time

Safety features

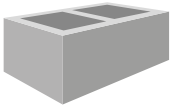
Includes: Max. pressure valve to avoid machine overloading; piston travel limit switch; emergency stop button; front door and rear transparent fragment guard.

Standards EN 12390-4 | EN 772-1

kN 2000 | kN 3000 | kN 4000


Cubes
up to 300 mm


Cylinders up to dia.
160 x 320 mm


Blocks

CVi TECH
CUSTOMER VALUE DRIVES
THE INNOVATIONS

Technical Specifications

Model 50-	C47D02 C47D04	C57D02 C57D04	C69D02 C69D04
Capacity kN	2000	3000	4000
Max vertical daylight, mm*	350	350	310
Horizontal daylight, mm	350	370 mm	425 mm
Max. piston travel*, mm	50	50	50
Platen dimensions	310 x 510 x 50 mm.	310 x 510 x 50 mm	310 x 510 x 90 mm
Platen surface hardness	55.5 HRC (600 HV)	55.5 HRC (600 HV)	55.5 HRC (600 HV)
Platens flatness toll.	0.05 mm	0.05 mm	0.05 mm
Overall dimensions, mm	930x605x1530	1020x640x1550	1125x570x1555
Weight approx., kg	790	1160	2030

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

Ordering information

50-C47D02

AUTOMAX, Super- Automatic Compact-Line compression tester, 2000 kN cap. for blocks, cubes up to 200 mm and cylinders up to dia. 160x320 mm. 230 V, 50-60 Hz, 1 ph

50-C47D04

Same as above but 110 V, 60 Hz, 1 ph

50-C57D02

AUTOMAX, Super-Automatic Compact-Line compression tester, 3000 kN cap. for blocks, cubes up to 200 mm and cylinders up to dia. 160x320 mm. 230 V, 50-60 Hz, 1 ph

50-C57D04

Same as above but 110 V, 60 Hz, 1 ph

50-C69D02

AUTOMAX, Super-Automatic Compact-Line compression tester, 4000 kN cap. for blocks, cubes up to 300 mm and cylinders up to dia. 150x300 mm. 230 V, 50-60 Hz, 1 ph

50-C69D04

Same as above but 110 V, 60 Hz, 1 ph

Note: *5000 kN capacity model available on request*

Machine Accessories

Distance pieces to adjust the vertical daylight

50-C9080

Distance piece dia. 200x30 mm

50-C9082

Distance piece dia. 200x50 mm

50-C9083

Distance piece dia. 200x68 mm

50-C9086

Distance piece dia. 200x100 mm

Note: *The above distance pieces are also available with threaded centering pin which are recommended for testing high strength/ explosive failures specimens. They are identified adding the suffix /P after the code number*

Software

82-SW/DM

Datamanager PC Software suitable for remote control of the machine, data acquisition, processing and filing. Allows printout of customized test certificates.

Fragment guard lock switch

50-C50/P

Fragment guard lock switch .
To prevent test execution with the front door open

Lifting assembly for block testing platens

50-C9060/A

Lifting device for bottom block platen for easier placement of distance pieces compatible platen size 310 x 510 x 50 mm thickness. Weight: 19 kg (approx.)

Verification of force transfer

The conformity of the compression tester to the EN 12390-4 requirements in terms of stability (force transfer) is performed by the verification of the self-alignment of machine components and the restraint on movement of the upper platen.
The compliance of all our EN testers to these stringent requirements is precisely verified using specific apparatus (82-E0105/1 and 82-P0804/E). An incorrect load application may cause premature sample failure and, consequently the resultant strength could be significantly lower than the true resistance.

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

50-C9060/B

Lifting device for bottom block platen for easier placement of distance pieces compatible platen size 310 x 510 x 90 mm thickness. Weight: 18 kg (approx.)

Test Accessories

50-C9000/B

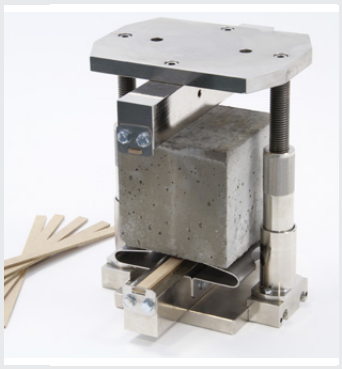
Splitting tensile test device for cylinders up to dia. 160x320 mm (6.3"x12.6").Conforming to EN 12390-6 and ASTM C496

50-C9002

Hardboard strips 4 x 14 x 345 mm for 50-C9000/B conf. to EN Standards. Pack of 50.

50-C9002/A

Hardboard strips 4 x 14 x 345 mm for 50-C9000/B conf. to ASTM Standards. Pack of 50.



50-C9070/B

Splitting tensile test device for concrete block pavers and concrete cubes. Conforms to EN 1338 and EN 12390-6.

50-C9002

Hardboard packing strips 4 x 15 x 345 mm, to EN 1338 and 12390-6.
Pack of 50.

50-C9030/H

Compression device to test portions of 40x40x160 prisms broken in flexure to EN 196-1. High stiffness model.

Total height 225mm.

50-C9032/H

Compression device to test 50mm (2") cubes to ASTM C109. High stiffness model.

Total height 225mm.

50-C9010/B

Flexural test device for concrete beams 100x100x400/500 and 150x150x600/750 mm, to EN 12390-5, ASTM C78, ASTM C293 and AASHTO T97

Upgrading Options

(To be specified at time of order: these items has to be factory installed.)

Serial printer for Automax testers

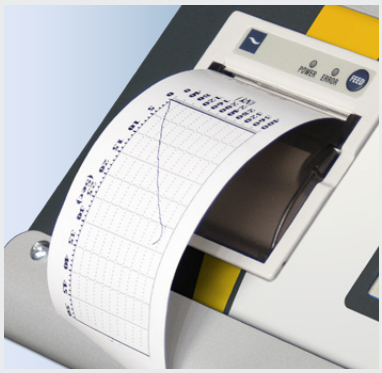
50-C10B/PR

Upgrade of a PILOT or AUTOMAX system to incorporate a serial graphic printer in the front panel, allowing results (including a load/time plot) to be printed at the end of test

Special calibration procedure

50-C0050/CAL

Special calibration of compression testers assuring Class 1 (EN) and Class A (ASTM), from 1% to full load range.



Third frame connection

The AUTOMAX System, which can control two frames as standard, can be upgraded with a hydraulic valve for controlling (not simultaneously) a third frame.

Note: *when connecting a low capacity frame (i.e. flexural or cement) pressure regulator 65-L1400/X5 may be necessary. Please ask our technical department.*

50-C10D/3F

Three-way valve for AUTOMAX System to control a third frame. This item must be factory installed.

Traceable certificate of surface hardness

50-C0050/HRD7

Supply of the compression machine/frame complete with traceable certificate of hardness of 310x 510 x 50 mm platens surfaces.

50-C0050/HRD10

Same as above but for 310x510x90 mm square platens.

AUTOMAX Super-Automatic compression tester 50-C57D02 controlling a second flexural frame 50-C1400/FR with accessory. Active frame selection via console display or software

AUTOMAX Super-Automatic compression tester 50-C57D02 controlling a second cement compression frame 65-L18Z10 and, by the hydraulic valve 50-C10D/3F, a third flexural frame 50-C1201/BFR and accessories

The complete range of Compact-Line compression testers

This data sheet concern just one of the compression tester series produced by Controls.
The range also comprehends:

Automatic tester — EN 12390-4

kN 2000 | kN 3000 | kN 4000 | kN 5000

Super-Automatic tester — EN 12390-4

kN 2000 | kN 3000 | kN 4000 | kN 5000

Super- Automatic tester — EN 12390-4, 772-1

kN 2000 | kN 3000 | kN 4000

Automatic tester — EN 12390-4, 772-1

kN 2000 | kN 3000 | kN 4000

Automatic tester — ASTM C39, 335, 450

K lbf 335 | K lbf 450 | K lbf 660

Semi-Automatic tester — ASTM C39, 335, 450

K lbf 335 | K lbf 450 | K lbf 660

Automatic tester — ASTM C39, 140, 1314

K lbs 660

Automatic tester — *GENERAL UTILITY

kN 1500 | kN 2000 | kN 3000

Automatic tester — *GENERAL UTILITY

kN 2000 | kN 3000

Semi-Automatic tester — *GENERAL UTILITY

kN 2000 | kN 3000

Semi-Automatic tester — *GENERAL UTILITY

kN 1500 | kN 2000 | kN 3000

*GENERAL UTILITY models mainly relate to European National Standards (e.g. NF, UNI, etc.)

Our range includes many other special compression and flexural frames, automatic control consoles to combine advanced and sophisticated Testing systems.
Ask for more information at controls@controls.it.