

ASTM Compression Machines for cylinders and blocks

PILOT AUTOMATIC Compression Machine 335'000/450'000/660'000 lbs cap.

STANDARDS **ASTM** | **AASHTO** series for cylinders and blocks

- > AUTOMATIC test execution with closed-loop digital feedback (No loading control valve needed)
- > Accuracy +/-0.5% from 1% to full capacity
- > Adopts the latest ES Energy Saving technology for reduction of power consumption and silent operations
- > Dual user-interface via hardened touch screen display or using PC software 82-SW/DM
- > Optional control of a second frame
- > Optional integrated graphic printer including load/time plot



All models feature high stiffness welded steel construction exceeding ACI 363R specifications.

Spherical seat, strictly conforming to ASTM C39, allows the initial free alignment platen-specimen and the automatic stop at failure.

Compression Platens

6.5" (165 mm) diameter, surface hardness 55.5 HRC, flatness tolerance 0.02 mm. Traceable certificate of surface hardness available on request.

Rectangular platens 12.2" x 16.1" x 3.5" (310 x 410 x 90 mm) only for model 50-A39xxx.

Machine Accessories

- Rigid front door, see table pag 4
- Pedestal, see table pag. 4

Innovative Hydraulic Unit

1 hp dual stage pump: centrifugal low pressure for fast approach automatically switches to radial multi-piston high pressure for loading. ES Energy Saving technology allows adjusting oil flow rate and pressure up to 10,000 psi so as providing low consumption and silent operation.

Automatic Controller

Touch screen display, 3 channels, data storage using USB flash drive or PC software 82-SW/DM. Simultaneous display of load, resistance, specimen area, actual load rate and live load/time graphing. Multi-coefficient calibration procedure assures high accuracy: +/- 0.5% from 1% to full capacity. Recording facility of up to 10 test profiles for each channel allowing quick and easy test start. Selectable units: lbs, kN, Ton.

Safety Standard features

High pressure safety valve; piston travel limit switch; emergency stop button; front and rear Lexan fragment guard for enhanced visibility/safety.

Upgrading options

Second frame connection

50-C10C/2F

Two-way valve for PILOT System to control a second frame.

Graphic printer

50-C10/PR

Internal alphanumeric and graphic printer

Power supply 110 V/60 Hz/1 ph.

Other voltage 230 V/50-60 Hz/1 Ph available on request.

These machines are calibrated in lbf units. For calibration in kN units, change second last code number from 1 to 0

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Models for testing cylinders

50-A12C14

50-A22C14

50-A32C14

STANDARDS:

ASTM C39, E4

AASHTO T22

50-A12C14
with pedestal 50-C99/B
and rigid front door 50-C19/FG



ES | Energy Saving Technology®

The hydraulic unit is driven by a DC motor with variable speed controlled by a high resolution closed circuit micro-processor. This solution allows the limitation of "costly" waiting times between tests and control the oil flow drop by drop so as to use precisely at the correct pressure only the necessary amount. The use of cold oil and a pump that does not heat up eliminates the need for a cooling fan whilst perfect mechanical coupling ensures silent operations.

Accessories: additional testing devices

Splitting testing devices
ASTM C496

50-C9000/B

Splitting testing device for cylinders dia. 4"x8" (100x200 mm) and 6"x12" (150x300 mm). Two-column steel frame with self-centering specimen holder.

- Max vertical daylight: 8.2" / 210 mm (total height: 14.6" / 370 mm).

- Min vertical daylight: 3.5" / 90 mm (total height: 9.8" / 250 mm).

- Horizontal daylight: 6.3" / 160 mm (total width: 10" / 255 mm).

- Max travel: 1.7" (45 mm).

- Weight: 61.7 lbs (28 kg).

50-C9002/A

Hardboard packing strips 1"x1/8"x13.6" (3x25x345 mm).

To be inserted between the specimen and the loading beams. Pack of 50.

Flexure testing device for concrete beams
ASTM C78, ASTM C293, AASHTO T97

50-C9010/B

Flexure device for concrete beams having cross section 4"x4" (100x100 mm) and 6"x6" (150x150 mm). Two-column steel frame with upper spherically seated bearing assembly.

- Max vertical daylight: 6.3" / 160 mm (total height: 14.6" / 370 mm).

- Min vertical daylight: 4.3" / 110 mm (total height: 12.6" / 320 mm).

- Total width: 10" (255 mm).

Max travel: 1.7" (45 mm).

- Upper rollers span: 4" (100 mm) or 6" (150 mm).
- Lower rollers span: 6" (300 mm) or 17.7" (450 mm).
- Weight: 72.8 lbs (33 kg).

Compression test device for mortar specimens
ASTM C109

50-C9032/H

Compression device for 2" cubes (50 mm) with high stiffness 3-columns frame. Weight: 28 lbs (12.7 kg).

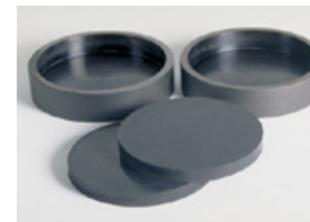
Both models are fitted with a spherically seated upper platen. Round platens dia. 2.95" (75 mm). Vertical daylight 2.08" (53 mm).



Accessories

Capping pads and retainers

Sulphur capping equipment to ASTM C617, capping retainers and neoprene pads (60 and 70 Shore) to ASTM C1231 are available as accessories for testing 4"x8" and 6"x12" cylinders.



Code 50-	
C0122/A4	Capping retainers for 4" dia cylinders. Set of two
C0122	Capping retainers for 6" dia cylinders. Set of two
C0122/A44	Neoprene pads for 4" dia cylinders 70 Shore A. Set of two
C0122/2	Neoprene pads for 6" dia cylinders 60 Shore A. Set of two
C0122/3	Neoprene pads for 6" dia cylinders 70 Shore A. Set of two

Distance pieces

Used to reduce the vertical daylight of the compression machine depending on the size of the specimen (maximum piston travel is 2" / 50 mm).

Code 65-	Dimensions dia. x h	Weight approx.
L1000/68	6.5"x2.7" (165x68 mm)	23.5 lbs (10.5 kg)
L1000/40	6.5"x1.6" (165x40 mm)	15.4 lbs (7 kg)
L1000/30	6.5"x1.2" (165x30 mm)	12.1 lbs (5.5 kg)
L1000/20	6.5"x0.8" (165x20 mm)	7.7 lbs (3.5 kg)

Accessories for 50-A39Cxx models

Slotted distance pieces

Specifically designed for the reversible machine model 50-A39Cxx. Made of steel. Used for reduction of the vertical clearance matching the size of specimens (maximum piston travel is 2" / 50 mm).



Code 65-	Dimensions dia. x h	Weight approx.
L1000/100B	7.7"x4" (195x100 mm)	44,1 lbs (20 kg)
L1000/68B	7.7"x2.7" (195x68 mm)	29,8 lbs (13.5 kg)
L1000/50B	7.7"x2" (195x50 mm)	21,6 lbs (9.8 kg)
L1000/40B	7.7"x1,6" (195x40 mm)	17,2 lbs (7.8 kg)

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Model for testing blocks and cylinders

50-A39C14

STANDARDS:

ASTM C39, C140, C1314, E4
AASHTO T22

The **first** compression machine completely **reversible**, fitted with **Premium Heavy Duty spherical seat** and rectangular platens 12.2"x16.1"x3.5" (310x410x90 mm). Upper platen and spherical seat are mounted on a axial screw assembly allowing easy adjustment of vertical clearance using slotted distance pieces.

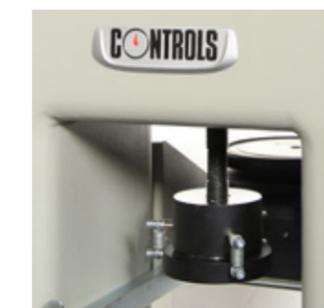
Using the INNOVATIVE upgrade 50-A39/CYL the seat-upper platen assembly for blocks can be easily switched with the other one for cylinders so that we really have a multi-testing unit!



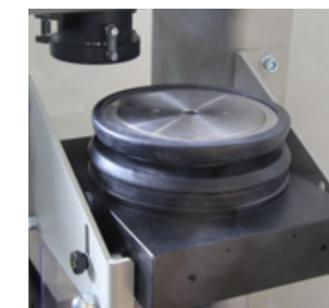
50-A39C64



Upper platen and spherical seat strictly conforming to ASTM C39, AASHTO T22



Axial screw assembly allowing easy adjustment of vertical clearance



Spherical seat-platen assembly for blocks is replaced by the other one smaller for testing 6" cylinders



Sliding of the block upper platen on the solid rail system

Main specifications

	Models for testing cylinders			Model for testing blocks and cylinders	
Models 50-	A12C14 A12C04	A22C14 A22C04	A32C14 A32C04	A39C14 A39C04	A39C14 + A39/CYL A39C04 + A39/CYL
Capacity, lbs	335'000 (1500 kN)	450'000 (2000 kN)	660'000 (3000 kN)	660'000 (3000 kN)	660'000 (3000 kN)
Platen dimensions	dia. 6,5" (165 mm)			Rectangular platens 12.2"x16.1"x3.5" (310x410x90)	12.2"x16.1"x3.5" (310x410x90) + dia. 6,5" (165 mm)
Surface Hardness	55 HRC			60 HRC	55/60 HRC
Ram travel	Approx. 2" (50 mm)				
Max vertical daylight*	14,6" (370 mm)	15" (380 mm)	15" (380 mm)	10,7" (271 mm)	14,6" (370 mm)
Horizontal daylight	10,4" (265 mm)	13,4" (340 mm)	14,6" (370 mm)	14,6" (370 mm)	14,6" (370 mm)
Overall dim. (lxdxh)	31.5"x15.7"x42.8" (800 x 400 x 1087 mm)	30,9"x16,5"x39,3" (785x418x997 mm)	33,7"x18"x42,1" (855x458x1070)	36.8"x19.8"x51.7" (935x503x1312 mm)	36.8"x31,7"x51.7" (935x806x1312 mm)
Overall dim. (lxdxh), with base	35.7"x15.7"x58.8" (907x400x1487mm)	35,5"x16,5"x55" (902x418x1397 mm)	38,3"x18"x57,9" (972x458x1470mm)	37.9"x19.8"x59.5" (963x503x1512 mm)	37.9"x31,7"x59.5" (963x806x1512 mm)
Weight approx.	640 lbs (290 kg)	1180 lbs (508 kg)	1561 lbs (708 kg)	2127 lbs (965 kg)	2238 lbs (1015 kg)
Front rigid door 50-	C19/FG	C29/FG	C39/FG	INCLUDED	INCLUDED
Pedestal 50-	C99/B	C29/B	C39/B	C39/B1	

*To be adjusted using the suitable distance pieces. See distance pieces tables

DATAMANAGER Universal Testing Software

82-SW/DM

PC software suitable for data acquisition, processing, filing and printout of customized test certificates. LAN cable included.

The DATAMANAGER software is especially designed for data acquisition and report of compression, flexure and indirect tensile tests performed on different type of specimens and materials.

It allows live readings of load, strength and elapsed time, real time display of load/time graph and data storage using a database system, thus previous tests can be quickly and easily recalled for reviewing or creating customized MS Excel® reports.



Stand alone PILOT unit for retrofitting existing anymake frames

The INNOVATIVE control unit PILOT is also available as a stand-alone control console (model 50-C10C04) connectable to any-make existing frame. The unique performances and reliability are therefore accessible to any laboratory.

