

## **Compression-flexure cement testing frames, multipurpose models**

ASTM C109 | ASTM C349 | ASTM C348 | EN 196-1

### MAIN FEATURES

- **High rigidity: solid one piece steel frame**
- **Universal compression testers**, in practice, suitable to house various accessories for testing cement, mortar, resins and other materials
- **Special calibration starting from few kilonewtons available on request** (see upgrading options) when connected to suitable control unit
- **large testing space**
- **Best quality/price ratio**

### GENERAL DESCRIPTION

These Multipurpose compression / flexural testers have been designed for various applications in which a limited maximum load is requested, together with a large testing space such as, for instance, compressive strength on lightweight concrete and soil-cement specimens using, if necessary, the suitable accessories. It is also ideal for testing high strength cement and refractory specimens. The large testing space is ideal for performing, with the suitable accessory, splitting tests and flexural tests on concrete specimens.

Two versions are available:

#### **single compression station, 500 kN or 600 kN cap.:**

for compression tests on low strength specimens.

#### **double station model, 600/15 kN or 500/15 kN cap.:**

extends the possible applications to flexural tests on cement and compression tests on low strength specimens.

#### **Frames and compression platens**

High rigidity: solid one piece steel frame. Spherical seat allows free alignment at the initial contact with the specimen. For compression platens see Technical Specifications. Pedestal not included. See accessories.

#### **Machine/Frames precision Class. EN 12390-4, ASTM E74**

All frames, when connected to a suitable control console, are supplied calibrated to Class 1 starting from 10% of load scale as specified in the Technical Specifications table. By special calibration procedures, it is possible to extend Class 1 load measurement accuracy (see Upgrading Option and Technical Specifications).

#### **Safety features**

All models includes: max. pressure valve to avoid machine overloading; piston travel limit switch; front door and rear transparent fragment guard on the compression station. Fragment guard for flexure station is available as optional (see Accessories).

#### **Connection to control consoles**

The 15 kN load piston of the double station models, when connected to PILOT and AUTOMAX automatic Control Systems, requires a

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pressure regulator which, however, is not necessary for connection to Automax E Modulus, MCC and Advantest 9 consoles. See Upgrading options.

### TECHNICAL SPECIFICATIONS

	Single Chamber	Single Chamber	Single Chamber
Models 50-	C92Z00	C92Z10	C93Z00
Capacity [kN]	600	500	600
Load measurement sensor	Pressure transducer	Load cell	Pressure transducer
Class 1 range	60 kN ÷ 600 kN	50 kN ÷ 500 kN	60 kN ÷ 600 kN
With 50-C0050/CAL	6 kN ÷ 600 kN	5 kN ÷ 500 kN	6 kN ÷ 600 kN
With 50-C0050/CAL5	-	-	-
With 50-C0050/1CAL	-	0.5 kN ÷ 500 kN	-
Platens, dia. [ mm]	165 x 30	165 x 30	216 x 50
Hardness [HRC]	55	55	55
Flatness [mm]	0.02	0.02	0.03
Ram travel mm	50	50	50
Max vertical daylight [mm]*	345	240	315
Horizontal daylight [mm]	265	265	265
Overall dimensions (lxdxh) [mm]	450x400x1100	450x400x1100	450x400x1100
Weight approx. [kg]	225	235	255

\*To be adjusted using the suitable distance pieces. See accessories

	Double Chamber	Double Chamber	Double Chamber
Models 50-	C92Z20 <sup>1</sup>	C92Z40 <sup>1</sup>	C93Z20 <sup>1</sup>
Capacity [kN]	600/15	500/15	600/15
Load measurement sensor	P.transducer / Load cell	Load cells	P.transducer / Load cell
Class 1 range	60 kN ÷ 600 kN 1.5 kN ÷ 15 kN	50 kN ÷ 500 kN 1.5 kN ÷ 15 kN	60 kN ÷ 600 kN 1.5 kN ÷ 15 kN

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With 50-C0050/CAL	6 kN ÷ 600 kN	5 kN ÷ 500 kN	6 kN ÷ 600 kN
With 50-C0050/CAL5	0.75 kN ÷ 15 kN	0.75 kN ÷ 15 kN	0.75 kN ÷ 15 kN
Platens, dia. [ mm]	165 x 30/165 x 30	165 x 30/165 x 30	216 x 50/165 x 30
Hardness [HRC]	55/55	55/55	55/55
Flatness [mm]	0.02/0.02	0.02/0.02	0.03/0.02
Ram travel mm	50/30	50/30	50/30
Max vertical daylight [mm]*	345/205	240/205	315/205
Horizontal daylight [mm]	265	265	265
Overall dimensions (lxdxh) [mm]	700x400x1100	700x400x1100	700x400x1100
Weight approx. [kg]	290	300	320

\*To be adjusted using the suitable distance pieces. See accessories

†When connected to AUTOMAX or PILOT Smart-Line control console, the pressure regulator model 65-L1400/X5 has to be used. See Upgrading options.

## ORDERING INFO

### Single chamber models

#### 50-C92Z00

Compression frame, 600 kN cap., load measurement by pressure transducer. Compression platens dia.165mm. Complete with connection kit to control console.

#### 50-C92Z10

Compression frame, 500 kN cap., load measurement by load cell. Compression platens dia.165mm. Complete with connection kit to control console.

#### 50-C93Z00

Compression frame, 600 kN cap., load measurement by pressure transducer. Compression platens dia.216mm. Complete with connection kit to control console.

### Double chambers models

#### 50-C92Z20

Compression frame, 600/15 kN cap., load measurement by pressure transducer (600 kN chamber) and load cell (15 kN chamber). Compression platens dia.165mm. Complete with connection kit to control console.

#### 50-C92Z40

Compression frame, 500/15 kN cap., load measurement by load cells. Compression platens dia.165mm. Complete with connection kit to control console.

#### 50-C93Z20

Compression frame, 600/15 kN cap., load measurement by pressure transducer (600 kN chamber) and load cell (15 kN chamber). Compression platens dia.216mm on compression station and 165mm on flexure station. Complete with connection kit to control console.

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### ACCESSORIES

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#### TEST ACCESSORIES

Compression devices for cement and mortars

##### **50-C9030**

Compression device to test portions of 40x40x160 prisms broken in flexure to EN 196-1.  
Total height 195mm.

##### **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**

Compression device to test 50 mm and 2" mortar cubes to ASTM C109  
Total height 195mm.

##### **50-C9032/H**

Compression device to test 50mm (2") cubes to ASTM C109. High stiffness model.  
Total height 225mm.

Flexural test devices for mortar beams

##### **65-L0019/B**

Flexure testing device for mortar prisms 40x40x160 mm, conforming to EN 196-1

##### **65-L0019/C**

Flexure testing device for mortar prisms 40x40x160 mm, conforming to ASTM C348

Flexural test device for concrete beams

*NOTE: suitable for frames having 345mm min vertical daylight*

##### **50-C9010/C**

Flexural test device for concrete beams 100x100x400/500 and 150x150x600/750 mm

Splitting tensile test devices

*NOTE: suitable for frames having 345mm min vertical daylight*

##### **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. Conforming to EN 1338 and EN 12390-6

#### MACHINE ACCESSORIES

Distance pieces to adjust the vertical daylight

##### **65-L1000/20**

Distance piece dia. 165x20 mm. Weight 3,2 kg

##### **65-L1000/30**

Distance piece dia. 165x30 mm. Weight 4,7 kg

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### **65-L1000/40**

Distance piece dia. 165x40 mm. Weight 6,4 kg

### **65-L1000/68**

Distance piece dia. 165x68 mm. Weight 10,5 kg

### Frame pedestals

#### **50-C99/B**

Machine/Frame pedestal

## UPGRADING

### Platens surface hardness certificate

#### **50-C0050/HRD2 (for compression chamber with platens dia.165mm)**

Supply of the machine complete with traceable certificate of hardness of testing platens surfaces (upper and bottom platen certification included).

#### **50-C0050/HRD3 (for compression chamber with platens dia.216mm)**

Supply of the machine complete with traceable certificate of hardness of testing platens surfaces (upper and bottom platen certification included).

#### **50-L0050/HRD (for flexure chamber)**

Supply of the machine complete with traceable certificate of hardness of testing platens surfaces (upper and bottom platen certification included).

### Special calibration procedures

*Note: available when connected to suitable control unit*

#### **50-C0050/CAL**

Special calibration procedure to obtain class 1 from 1% of full scale of the compression station (600kN or 500kN)

#### **50-C0050/CAL5**

Special calibration procedure to obtain class 1 from 0.75kN on the flexure station (15kN)

#### **50-C0050/1CAL**

Special calibration procedure to obtain class 1 from 0.5kN on the compression station fitted with load cell (500kN)

### **Hydraulic pressure regulator**

**65-L1400/X5** Hydraulic pressure regulator for the connection of 15kN piston to Pilot and Automax Automatic Control System

### **Fragment guard for flexure station**

**50-C99/P** Rigid safety guard for 15kN chamber

### **Door locking switch**

**50-C50/P1** To prevent the test execution with the door open. It has to be factory installed and connected to an Automatic control unit

**50-C50/P3** To prevent the test execution with the door open. It has to be factory installed and connected to a Semi-Automatic control unit

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Double chamber 600/15 kN cement compression/flexure frame 50-C92Z20 with base 50-C99/B

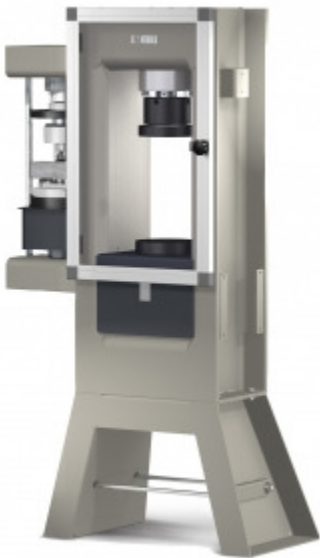


600 kN cement compression frame 50-C92Z00 with base 50-C99/B

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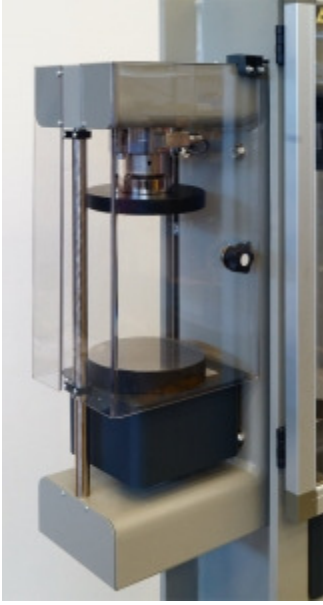
500 kN cement compression frame 50-C92Z10 with base 50-C99/B



Double chamber 600/15 kN cement compression/flexure frame 50-C92Z40 with base 50-C99/B.

Model fitted with load cell

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Fragment guard for flexure station (50-C99/P) fitted with door switch (50-C50/P1)