DATA SHEET

EN 12390-4, EN 772-1 Compression frames

EN 12390-4

GENERAL DESCRIPTION

EN 12390-4 Testing frames for cubes and cylinders

50-C46Z00, 50-C56Z00 and 50-C78Z00 frames, 2000 to 5000 kN cap., feature a four column rigid welded steel construction, with heavy duty spherical seat in oil bath, tested for stability conforming to EN 12390-4. Complete with pedestal, front door and rear transparent fragment guard (except for the 4000 and 5000 kN models).

EN 12390-4, EN 772-1 Testing frames for cubes , cylinders and blocks

50-C47Z00, 50-C57Z00 and 50-C77Z00 frames, 2000 to 5000 kN cap., feature a four column rigid welded steel construction, with heavyt duty spherical seat in oil bath and compression platens 310x510x50 mm suitable for testing blocks and all other standard specimens. Tested for stability conforming to EN 12390-4. Complete with pedestal, front door and rear transparent fragment guard (except for the 4000 and 5000 kN models).

EN 772-1 Heavy duty compression frames 4000 | 5000 kN for blocks

50-C69Z00 and 50-C79Z00, 4000 and 5000 kN cap., These models featuring four column rigid welded steel construction, are fitted EN Premium heavy duty spherical seat and block platens 310x510x90 mm. They include a specifically designed explosion-proof test kit comprehending: safety cables securing the upper platen to the frame, metallic perforated fragment guard and bottom platen anti-fall safety system thickness and Heavy duty premium spherical seat.

EN Four prestressed column Testing frames

High stiffness frames particularly suitable for research purposes. 50-C86Z00 and 50-C86Z10 models are identical except for the load cell incorporated in the piston of tle 50-C68Z10 version, providing very high accuracy starting from the very beginning of load scale. Heavy duty spherical seat in oil bath, tested for stability to EN 12390-4. Complete with pedestal, front door and rear transparent fragment guard.

For compression platens details, see TECHNICAL SPECIFICATIONS table

TECHNICAL SPECIFICATIONS

EN 12390-4 Testing frames for cylinders, cubes

Models	50-C46Z00	50-C56Z00	50-C68Z00**	50-C78Z00**
Capacity kN	2000	3000	4000	5000
Platens dia. mm	300	300	305x305 (sq.)	305x305 (sq.)
Surface hardness (1)	53 HRC	53 HRC	53 HRC	53 HRC
Flatness tolerance, mm	0.03	0.03	0.03	0.03

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Ram travel mm	50	50	50	50
Max. vertical daylight mm*	350	350	520	520
Horizontal daylight mm	350	370	425	425
For specimen size cm Cubes: Cylinders:	 10, 15, 20 10x20, 15x30, 16x32	 10, 15, 20 10x20, 15x30, 16x32	 15, 20, 30 15x30, 16x32, 25x50	 15, 20, 30 15x30, 16x32, 25x50
Overall dim. (lxdxh) mm	530x310x1500 (incl. pedestal)	600x370x1500 (incl. pedestal)	705x445x1500	705x445x1500
Weight approx. kg	740	970	1950	1950

* To be adjusted using the suitable distance pieces. See accessories.
** If this frame and a second frame (cement or flexural) are both connected to AUTOMAX or PILOT Smart-Line control console, the pressure regulator model 65-L1400/X5 has to be used. See Upgrading options.
(1) Hardness certificate available on request, see **Upgrading options**

EN 12390-4, EN 772-1 Testing frames for cylinders, cubes, and blocks

Models	50-C47Z00	50-C57Z00	50-C67Z00**	50-C77Z00**	50-C69Z00**	50-C79Z00*
Capacity kN	2000	3000	4000	5000	4000	5000
Platens dim.	310x510x50 mm	310x510x50 mm	310x510x50mm	310x510x50 mm	310x510x90mm	310x510x90mm
Surface hardness (1)	55.5 HRC	55.5 HRC	55.5 HRC	55.5 HRC	55.5 HRC	55.5 HRC
Flatness tolerance, mm	0.05	0.05	0.05	0.05	0.05	0.05
Ram travel mm	50	50	50	50	50	50
Max. vertical daylight mm*	360	350	520	520	310	310
Horizontal daylight mm	350	370	425	425	425	425
For specimen size cm Cubes: Cylinders: Blocks	 10, 15, 20 10x20, 15x30, 16x32 up to 500x300	 10, 15, 20 10x20, 15x30, 16x32 up to 500x300	 15, 20, 30 15x30, 16x32, 25x50 up to 500x300	 15, 20, 30 15x30, 16x32, 25x50 up to 500x300	 15, 20, 30 15x30 up to 500x300	 15, 20, 30 15x30 up to 500x300
Overall dim. (lxdxh) mm	650x610x1530 (incl. pedestal)	740x640x1550 (incl. pedestal)	845x570x1550	845x570x1550	845x570x1550	845x570x1550
Weight approx. kg	725	1100	1960	1960	2000	2000

* To be adjusted using the suitable distance pieces. See accessories.
** If this frame and a second frame (cement or flexural) are both connected to AUTOMAX or PILOT Smart-Line control console, the pressure regulator model 65-L1400/X5 has to be used. See Upgrading options.
(1) Hardness certificate available on request, see **Upgrading options**

EN 12390-4, 4-prestressed-columns testing frames

Models	50-C86Z00	50-C86Z10*
Capacity kN	3000	3000
Platens dia. mm	300	300
Surface hardness (1)	53 HRC	53 HRC
Flatness tolerance, mm	0.03	0.03
Ram travel mm	50	50
Max. vertical daylight mm*	350	350
Horizontal daylight mm	330	330
For specimen size cm Cubes: Cylinders:	 10, 15, 20 10x20, 15x30, 16x32	 10, 15, 20 10x20, 15x30, 16x32
Overall dim. (lxdxh) mm	560x380x1400 (incl. pedestal)	560*380x1400 (incl. pedestal)
Weight approx. kg	1040	1150

*Strain gauge load cell incorporated in the piston
(1) Hardness certificate available on request, see **Upgrading options**

ORDERING INFO

EN 12390-4 Testing frames for cylinders, cubes

2000 kN cap.
50-C46Z00
2000 kN cap. compression frame, for cubes up to 200 mm and cylinders up to dia., 160x320mm, tested for stability to EN 12390-4. Supplied complete with connection kit to separate control console (including pressure transducer) and base.

3000 kN cap.
50-C56Z00
3000 kN cap. compression frame, for cubes up to 200 mm and cylinders up to dia., 160x320mm, tested for stability to EN 12390-4. Supplied complete with connection kit to separate control console (including pressure transducer) and base.

4000 kN cap.

50-C68Z00
4000 kN cap. compression frame, for cubes up to 300 mm and cylinders up to dia., 250x500mm, tested for stability to EN 12390-4. Supplied complete with connection kit to separate control console (including pressure transducer).

5000 kN cap.
50-C78Z00 5000 kN cap. compression frame, for cubes up to 300 mm and cylinders up to dia., 250x500mm, tested for stability to EN 12390-4. Supplied complete with connection kit to separate control console (including pressure transducer).

EN 12390-4, EN 772-1 Testing frames for cylinders, cubes, and blocks
2000 kN cap.
50-C47Z00
2000 kN cap. compression frame for blocks, cubes up to 200 mm and cylinders up to dia. 160x320 mm, tested for stability to EN 12390-4. Supplied complete with connection kit to separate control console (including pressure transducer) and base.

3000 kN cap.
50-C57Z00
3000 kN cap. compression frame for blocks, cubes up to 200 mm and cylinders up to dia. 160x320 mm, tested for stability to EN 12390-4. Supplied complete with connection kit to separate control console (including pressure transducer) and base.

4000 kN cap.
50-C67Z00
4000 kN cap. compression frame for blocks, cubes up to 300 mm and cylinders up to dia. 250x500 mm, tested for stability to EN 12390-4. Supplied complete with connection kit to separate control console (including pressure transducer).

5000 kN cap.
50-C77Z00
5000 kN cap. compression frame for blocks, cubes up to 300 mm and cylinders up to dia. 250x500 mm, tested for stability to EN 12390-4. Supplied complete with connection kit to separate control console (including pressure transducer).

4000 kN cap. (Heavy duty model)
50-C69Z00
4000 kN cap. compression frame for blocks, cubes up to 300 mm and cylinders up to dia. 150x300 mm.
Featuring Premium heavy duty spherical seat and compression platens with 90mm thickness.
Supplied complete with connection kit to separate control console (including pressure transducer).

5000 kN cap. (Heavy duty model)
50-C79Z00
5000 kN cap. compression frame for blocks, cubes up to 300 mm and cylinders up to dia. 150x300 mm.
Featuring Premium heavy duty spherical seat and compression platens with 90mm thickness.
Supplied complete with connection kit to separate control console (including pressure transducer).

EN 12390-4, 4-prestressed-columns testing frames

3000 kN cap.
50-C86Z00
3000 kN cap., four pre-stressed column high stiffness compression frame, for cubes up to 200 mm and cylinders up to dia. 160x320 mm, tested for stability to EN 12390-4.Supplied complete with connection kit to separate control console (including pressure transducer) and base.

3000 kN cap. (with load cell)
50-C86Z10
3000 kN cap., four prestressed column high stiffness compression frame, for cubes up to 200 mm and cylinders up to dia. 160x320 mm, tested for stability to EN 12390-4. Load cell incorporated in the piston. Supplied complete with connection kit to separate control console and base.

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ACCESSORIES

TEST ACCESSORIES

Splitting tensile test devices

50-C9000/C
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/C conf. to EN Standards. Pack of 50.

50-C9002/A
Hardboard strips 4 x 14 x 345 mm for 50-C9000/C conf. to ASTM Standards. Pack of 50.

50-C9070/C
Splitting tensile test device for concrete block pavers and concrete cubes. Conforms to EN 1338 and EN 12390-6.

Compression devices for cement and mortars

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-C9030
Compression device to test portions of 40x40x160 prisms broken in flexure to EN 196-1. Total height 192mm.

50-C9032/H
Compression device to test 50mm (2") cubes to ASTM C109. High stiffness model.
Total height 225mm.

50-C9032
Compression device to test 50mm (2") cubes to ASTM C109. Total height 192mm.

Flexural test device for concrete beams

50-C9010/C
Flexural test device for concrete beams 100x100x400/500 and 150x150x600/750 mm, to EN 12390-5, ASTM C78, ASTM C293 and AASHTO T97

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.

MACHINE ACCESSORIES

Lifting assembly for block testing platens

This accessory is used for easier placement of distance pieces which can be used, when necessary, to reduce the vertical clearance of the machines/
frames.

50-C9060/A

Lifting device for bottom block platen for easier placement 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.)

ADDITIONAL INFORMATION

Balanced pre-tensioning system of 50-C86Z00 and 50-C86Z10 frames

The four columns of the frames consist of two elements, one contained within the other. The internal part is the column and works in tension, whilst the external part is a tube and works in compression. This configuration guarantees tensional uniformity at all load levels.

UPGRADING

PLATENS HARDNESS CERTIFICATE

50-C0050/HRD4

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

50-C0050/HRD6

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

50-C0050/HRD7

Supply of the compression machine complete with traceable certificate of hardness of testing platens surfaces (upper and bottom platen certification included). Available only for ordering with compression machine. Valid for EN concrete compression machine with **rectangular platens 310x510 mm**

See also Platens surface hardness certificate

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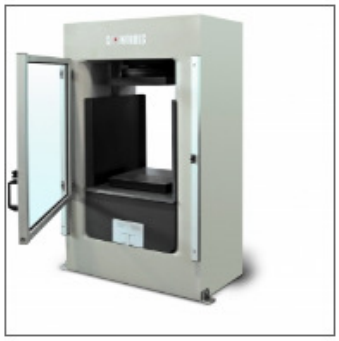
SPECIAL CALIBRATION PROCEDURE
50-C0050/CAL

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

See also Special calibration procedures

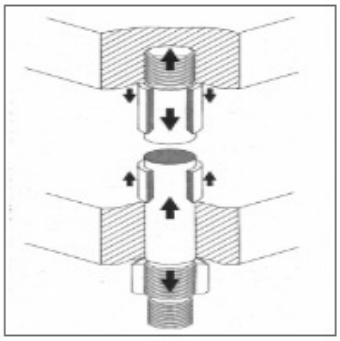
Hydraulic pressure regulator.
65-L1400/X5 To be used when both a 4000kN or 5000kN frame and a cement or flexural frame are connected to an AUTOMAX or PILOT Smart-Line control console.

EN 3000kN compression frame model 50-C56Z00 with distance pieces and cube specimen



EN 4000kN compression frame model 50-C68Z00

EN high stiffness pre-stressed 3000kN compression frame model 50-C86Z00



Schematic balanced pre-tensioning system

EN 2000kN compression frame model 50-C47Z00 connected to AUTOMAX Smart Line control console for block testing

EN high stiffness 5000kN frame model 50-C79Z00 for block testing

Lifting device for bottom block compression platen model 50-C9060/b