

DATA SHEET

High stiffness flexural frame, 200 kN cap., SIMPLEX

EN 1339 | EN 1340 | EN 12390-5 | ASTM C78 | ASTM C293 | EN 14488-5 | ASTM C1609 | ASTM C1018

MAIN FEATURES

- High rigidity (200 kN/mm), especially suitable for testing FRC and sprayed concrete
- For testing different kind of specimens (beams, flagstones, slab) having max length 650mm.
- Load measurement by load cell or pressure transducer
- Piston return by counterweights
- Piston travel limit switch included

GENERAL DESCRIPTION

This high stiffness flexural frame has been especially designed for displacement controlled testing on advanced construction materials, e.g. fiber reinforced concrete (FRC) and sprayed concrete.

These tests are significantly affected by the actual frame stiffness therefore the relevant international Standards state stiffness limits which are exceeded by this new model (better than 200 kN/mm).

This remarkable result comes from the frame sections but it is also derived from the particular layout which keeps the specimen aligned with the frame crossbeams maximizing structural rigidity.

The new layout also allows easier frontal specimen loading and positioning.

The horizontal daylight accommodates large specimens (slab, flagstones), concrete beams and kerbs long up to 650 mm.

Two models are available, either with pressure transducer or with load cell, both fitted with piston travel limit switch and connection kit to separate control console.

Frames are available with either pressure transducer or load cell (recommended for FRC testing) and are fitted with piston travel limit switch and connection kit to the control console. Bearers not included. See accessories.

TECHNICAL SPECIFICATIONS

Models		50-C1510/FR	50-C1511/FR
		SIMPLEX	
Max cap. kN		200	200
Load sensor		Pressure Transducer	Load cell
Horizontal clearance [mm]		720	720
Max. vertical clearance [mm]*	with 50-C1500/1 (4 points)	210	210
	with 50-C1500/1 (3 points)	304	304
	with 50-C1500/2	225	225

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	with 50-C1500/2 + 50-C1500/3	290	290
	with 50-C1500/2 + 50-C1500/4	165	165
	with 50-C1500/7	445	445
Distance between upper rollers (adjustable) mm		From 100 to 200, or single roller	From 100 to 200, or single roller
Distance between lower rollers (adjustable) mm		From 150 to 600	From 150 to 600
Piston travel mm		130	130
Overall dimensions (lxwxh) mm		956 x 496 x 1188	956 x 496 x 1188
Weight approx. kg		235	240

* The vertical daylight can be reduced by using the distance pieces already included useful to reduce the daylight by: 50mm and 100mm. Additional distance pieces are available as Accessories.

ORDERING INFO

50-C1510/FR

SIMPLEX - 200 kN cap. high rigidity flexural frame, complete with pressure transducer and connection kit for separate control console. Rollers not included.

50-C1511/FR

SIMPLEX - 200 kN cap. high rigidity flexural frame, complete with load cell and connection kit for separate control console. Rollers not included.

ACCESSORIES

50-C1500/1

Upper and lower roller assembly for centre and third point test of concrete beams up to 200mm height, conforming to EN 12390-5 and ASTM C78, C1609, C1018, EN 14488-3, EN 14651.

Bearers dimensions: 30 mm dia. x 210 mm long

Weight approx: 40 kg

50-C1500/11

Same as above but 30 mm dia x 310 mm length.

50-C1500/2

Set of one upper and two lower roller assembly for testing paving flags, conforming to EN 1339

Bearers dimensions: 40 mm dia. x 620 mm long

Weight approx: 45 kg

50-C1500/3

Swivel jointed loading pad for testing kerbs, conforming to EN 1340. To be used with support bearers of 50-C1500/2.

Weight approx: 5 kg

50-C1500/4

Upper loading bearers to perform the third point and centre point flexure test to EN 12390-5, including two rollers 210 mm long, 40 mm

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diameter. To be used with support bearers of 50-C1500/2
Weight approx.: 23 kg

50-C1500/12

Same as above but 40 mm dia. x 310 mm bearers

50-C1500/5

Auxiliary testing frame for the measurement of deflection of FRC beams to EN 14488-3, 14651, ASTM C1609.

50-C1500/6

Accessory for testing sprayed concrete slab to EN 14488-5. Including supporting square base and spherically seated loading element. To be completed with displacement transducers 50-C1500/9 and 50-C1500/8.

Weight approx: 100 kg

50-C1500/7

Set of lower platen and upper platen spherically seated, 165 mm dia., for compression tests on small and low strength specimens.

Weight approx: 19 kg

50-C1500/8

Displacement transducer with 50mm travel for reading displacement of sprayed concrete slab centre under concentrated load.

50-C1500/9

100mm displacement transducer for measuring the piston travel. Complete with attachments.

Weight approx: 1 kg

50-C1500/50

Distance piece 50mm thickness for flexure frame

50-C1500/80

Distance piece 80mm thickness for flexure frame

50-C1500/R

Rulers with graduation in inches

ADDITIONAL INFORMATION

TEST SETS

Energy absorption test on slabs

50-C1511/FR Frame 200 kN cap.

50-C1500/6 Accessory for testing sprayed concrete slab 600 x 600 x 100 mm to EN 14488-5. Including supporting square base and spherically seated loading element.

50-C1500/9 100mm piston travel displacement transducer

50-C1500/8 50 mm central slab deflection displacement transducer

Measurement of beam deflection and toughness

50-C1511/FR Frame 200 kN cap.

50-C1500/1 Set of 2 supports and 2 loading rollers

50-C1500/5 Auxiliary testing frame for the measurement of deflection of beams

82-P0331/C High accuracy displacement transducer 10mm travel (2 PCS needed)

82-P0331/2 Electric mean device for displacement transducer 82-P0331/C

Note: not required for Automax Multitest control console

Displacement transducer for measurement of crack opening

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50-C1511/FR Frame 200 kN cap.

50-C1500/1 Set of 2 supports and 2 loading rollers

82-P0331/E High precision displacement transducer to measure Crack Tip Opening Displacement (CTOD) and Crack Mouth Opening Displacement (CMOD)

UPGRADING

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

Special calibration procedure

The above upgrading is suitable if the frame is connected to automatic testing machines or control consoles.

50-C0050/CAL

Special calibration of compression testers assuring Class 1 (EN) and Class A (ASTM), from 1% to full load range. Suitable for models fitted with load cell.

50-C0050/CAL5

Special calibration of compression testers assuring Class 1 (EN) and Class A (ASTM), from 5% to full load range. Suitable for models fitted with pressure transducer.

Traceable certificate of surface hardness

50-L0050/HRD

Supply of the compression deice model 50-C1500/7 complete with traceable certificate of hardness of 165 mm dia. platen surfaces



Testing FRC beams to ASTM C1609, EN 14488-3 with 200kN high stiffness frame 50-C1511/FR. See Additional Information



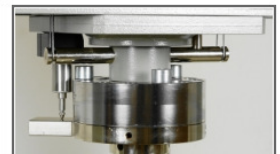
CMOD testing to EN 14651 with 200kN high stiffness frame 50-C1511/FR. See Additional Information



Flexure testing on concrete beams with 200kN high stiffness frame 50-C1511/FR.



Flexure testing on concrete flagstones with 200kN high stiffness frame 50-C1511/FR.



Detail of piston travel displacement transducer