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High Stiffness Flexural Frame, 200 kN Cap., DUPLEX



Testing FRC beams - Parallel testing mode

General description

This high stiffness flexural frame has been designed to have a double testing mode: **parallel and orthogonal**.

Parallel mode is meant to be used 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.

Orthogonal mode is meant to be used to test long specimens having more than 650mm length.

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.

Frames includes two rulers, two additional rulers are available on request. Rulers with graduations in inches are available on request.

Main features

- **High rigidity (200 kN/mm), especially suitable for testing FRC and sprayed concrete**
- **Double testing mode: parallel and orthogonal**
- **For testing different kind of specimens (beams, flagstones, slab)**
- **Max span between lower rollers: 1m**
- **Load measurement by load cell or pressure transducer**
- **Piston return by counterweights**
- **Piston travel limit switch included**

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Standards

- EN 14488-5
- EN 14651
- EN 12390-5
- ASTM C293
- ASTM C78
- EN 1339
- EN 1340
- ASTM C1609

Specifications

Models 50-	Simplex C1510/FR C1511/FR ⁽¹⁾	Duplex C1500/FR C1501/FR ⁽¹⁾
Max capacity kN	200	200
Horizontal clearance, mm	720	720
Max. vertical clearance, mm*, with		
- 50-C1500/1 (4 points)	210	210
- 50-C1500/1 (3 points)	304	304
- 50-C1500/2	225	225
- 50-C1500/2+C1500/3	290	290
- 50-C1500/2+C1500/4	165	165
- 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- Parallel testing mode, adjustable mm,	From 150 to 600	From 150 to 600
Distance between lower rollers- Orthogonal testing mode, adjustable mm,	-	550 to 1000
Piston travel, mm	130	130
Overall dimensions (l x w x h) mm	1000 x 500 x 1250	1000 x 1100 x 1250
Weight approx., kg	260	280

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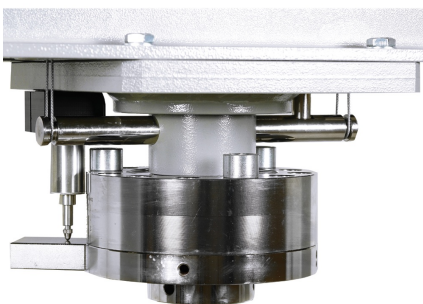
* The vertical daylight can be reduced by using the distance pieces already included useful to reduce the daylight by: 50mm and 100mm. Additional distance pieces are available as Accessories.



Testing long specimens - Orthogonal testing mode



Compression test



Detail of piston travel displacement transducer

Products

50-C1500/FR

DUPLEX - Parallel and orthogonal testing mode - High stiffness 200 kN cap. flexure frame with pressure transducer and connection kit for

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separate control console. Upper and lower rollers not included.

50-C1501/FR

DUPLEX - Parallel and orthogonal testing mode - High stiffness 200 kN cap. flexure frame with loadcell and connection kit for separate control console. Upper and lower rollers not included.

Accessories and consumables

50-C1500/6

Accessory for 50-C15xx/FR and 50-C17xx/FR flexure frames for testing concrete slab to EN 14488-5. Including supporting square frame and spherically seated loading element. To be completed with displacement transducers 50-C1500/9 and 50-C1500/8.

50-C1500/8

LDT displacement transducer for 50-C15xx/FR and 50-C17xx/FR flexure frames, 50mm travel, for underneath displacement measurement of sprayed concrete slab.

50-C1500/9

100mm LDT displacement transducer for 50-C15xx/FR and 50-C17xx/FR flexure frames for measuring piston travel. Complete with mounting adaptors

50-C1500/1

Upper and lower roller assembly (including ball seating upper beam for rollers' support) for center and third point flexure test. Bearers dimensions: 30 mm dia. x 210 mm long

50-C1500/11

Upper and lower loading rollers for 50-C15xx/FR and 50-C1711/FR flexure frames for third and centre point testing of concrete beams to EN 12390-5, ASTM C78, C293, C1018, EN 14651 Including two loading rollers and two lower bearers dia. 30 x 310 mm.

50-C1500/12

Upper roller assembly (including ball seating upper beam for rollers' support) for third point and center point flexure test, including two rollers 310 mm x 40 mm diameter. To be used with support bearers of 50-C1500/2.

50-C1500/2

Set including 2 bearers and 1 loading roller 50-C15xx/FR and 50-C17xx/FR flexure frames for flagstones (paving slab) testing to EN 1339. Roller dimensions: 40 mm dia x 620 mm.

50-C1500/3

Upper loading swivel joint 40 mm dia for 50-C15xx/FR and 50-C17xx/FR flexure frames for kerbs stones testing to EN 1340. Lower bearers not included. It shall be used in combination with accessory 50-C1500/2.

50-C1500/4

Upper roller assembly (including ball seating upper beam for rollers' support) for third point and center point flexure test, including two rollers 210 mm x 40 mm diameter. To be used with support bearers of 50-C1500/2.

50-C1500/50

Distance piece 50mm thickness for flexure frame

50-C1500/7

Set of spherically seated 165 mm dia. lower and upper platens for 50-C15xx/FR and 50-C17xx/FR flexure frames for compression test.

50-C1500/80

Distance piece 80mm thickness for flexure frame

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50-C1500/R

Replacement of the standard rulers with rulers with graduation in inches for 50-C15xx/FR

50-C1500/R1

Two additional rulers with graduation in mm for 50-C1501/FR