

DATA SHEET

Direct and Residual Shear Testing Machine DIGISHEAR



Digital direct/residual shear machine DIGISHEAR (27-WF20D60) with analogue measurement

General description

Digishear is the entry level machine for direct/residual shear testing. It incorporates one high-resolution stepper motor with high precision transmissions.

The user interface is based digital display LCD 4-row by 20 characters permitting to start, pause and stop the test.

The axial transmission of the horizontal force adopts a straight connection through shear box, shaft and load cell. This design avoids the load measurement inaccuracies occurring with the widely used "swan neck" basic design.

A high quality techno-polymeric material has been adopted for the carriage of the shear box, offering excellent resistance to corrosion, wear and tear and to the chemicals often mixed with the soil specimens. Furthermore, this polymeric carriage is lightweight and easy to clean.

Vertical load is applied directly to the specimen via a loading yoke and a weights holding arm which amplifies 10 times the applied value.

The machine can be supplied in two different configurations:

- Analog with load ring and dial gauges
- Digital with load cell and displacement transducers that have to be connected to an external data acquisition system

Standard complete analog configuration is composed by:

- Digishear
- Shear box (see related products)
- Vertical dial gauge (see accessories and related products)
- Horizontal dial gauge (see accessories and related products)
- Load ring (see accessories and related products)
- Set of weights (see accessories and related products)

Standard complete electronic configuration is composed by:

- Digishear
- Shear box (see related products)
- Vertical displacement transducer (see accessories and related products)
- Horizontal displacement transducer (see accessories and related products)
- Load cell (see accessories and related products)
- Data acquisition (see accessories and related products)
- Template for data processing (see accessories)
- Set of weights (see accessories and related products)

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Main features

- Maximum **horizontal** force: **5 kN**
- Maximum **vertical** force: **5 kN**
- Infinitely variable speed from **0.00001** to **15.00000 mm/min**
- Digital display LCD 4-row by 20 characters
- **High stiffness load chain** shear box - driving head - load cell
- Compatible with shear boxes **up to 100 mm** diameter or square
- Sturdy shear box **techno-polymeric carriage untouchable by corrosion**
- Test velocity and travel (forward and reverse) adjustable (residual shear test)
- Suitable for **analogue or electronic measurement** with **dedicated external data acquisition**

Standards

- ASTM D3080
- AASHTO T236
- BS 1377:7
- EN 17892-10

Specifications

Maximum shear force: 5000 N

Maximum vertical force: 500 N or 5000 N using 10:1 cantilever loading device supplied with the machine

Maximum horizontal travel: 23 mm

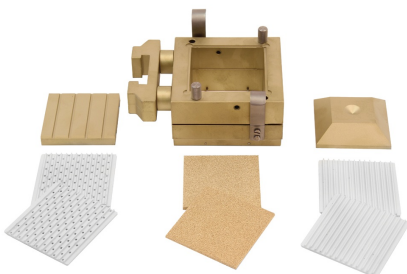
Test speed: from 0.00001 to 15.00000 mm/min

Digital display: LCD 4 row by 20 characters

Sample type and size: up to 100 mm square or round

Overall dimensions: 1040 x 350 x 1200 mm (l x d x h)

Multivoltage: Multifrequency power supply 230 V, 50 Hz or 110 V, 60 Hz

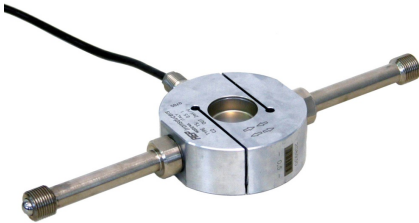


Shear box assembly

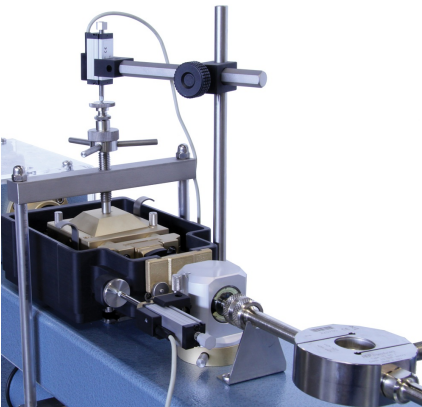
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27-WF1002/ST Load ring with adapter



27-WF0377/ST, 5 kN load cell



Digital direct/residual shear machine DIGISHEAR (27-20D60) fitted with digital measuring system

Products

27-WF20D60

DIGISHEAR - Direct and residual shear testing machine with digital LCD display. 220-100 V / 50-60 Hz / 1 PH.

Accessories and consumables

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30-WF6207

Linear potentiometric transducer, 10mm travel, with 6 pin Lumberg connector complete with mounting block

30-WF6208

Linear potentiometric transducer, 25mm travel, with 6 pin Lumberg connector complete with mounting block

30-WF6401

Dial gauge 12 mm x 0.002 mm

30-WF6402

Dial gauge 30 mm x 0.01 mm

30-WF6008

GEODATALOG 8, 8 channels multipurpose data logger with dedicated software DATACOMM 2.

30-WF6016/T2

Direct and residual Shear Geo-Analysis for MS EXCEL Template according to BS 1377:7

30-WF6016/T9

Direct and residual shear Geo-Analysis template conforming to ASTM D3080

27-WF0377/ST

5 kN load cell, complete with adaptors for shear machine 27-WF20D60 and WF21A60.

27-WF0230/C3

Set of slotted steelweights tot.37.5kg: 2x0.250kg;2x0.500kg; 2x1kg; 3x2kg; 3x4kg; 2x8kg.

27-WF0230/C4

Additional set of slotted steel weights: 2x1kg; 1x2kg; 3x10kg.

27-WF1002/ST

2000N load ring complete with adapters for shear machine

27-WF1003/ST

5000N load ring complete with adapters for shear machine