

CONTROLLER OPTIONS

The DG Series now comes with two controller options:

- EDI – a straightforward design using a membrane keypad and an LCD display to let operators select the test parameters simply and efficiently.

- A more advanced system with 10in TFT resistive touchscreen display. Easy to read and operate, the controller features simple and logical input screens and displays a real-time graph of test load vs time.

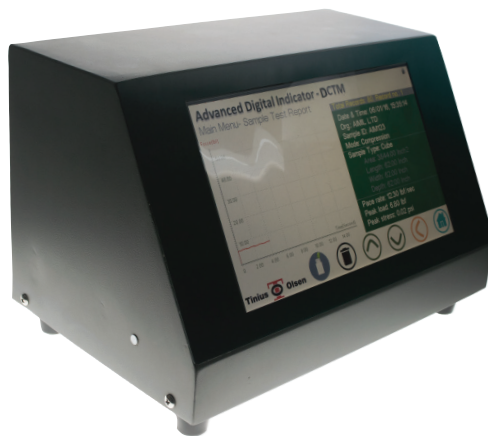
Touchscreen-based Enhanced Digital Indicator

Tinius Olsen's new touchscreen-based EDI display is an enhancement of our existing EDI offering. It is an advanced digital control and display system with a 10in (diagonal) resistive touchscreen display, and is supplied complete with a stylus for easier operation for users wearing gloves.

This new touchscreen display is compatible with all test frames that use the existing EDI controller. Easy to read and operate, the controller features simple and logical input screens and displays a real-time graph of test load vs time.

ORDERING INFORMATION

- **TO-30235-DG-T**
Touchscreen-based enhanced digital indicator for DG models
- **TO-30235-FA-T**
Touchscreen-based enhanced digital indicator for FA models



Key features

- Touchscreen TFT with 800 x 480 pixels.
- Icon-driven software showing figures and diagrams for ease of use.
- Unique data storage options with both internal storage (of 200 tests) and direct to USB thumb drive storage.
- Optional integrated thermal printer.
- Simultaneous display of load vs time graph, stress and actual load rate.

Enhanced Digital Indicator

EDI is a straightforward design using a membrane keypad and an LCD to let operators select the test parameters simply and efficiently. The TO EDI head is supplied with all TO concrete Compression Testing Machines DG, FA models and the Flex Testing Machine DG model.

Key features

- White backlit LCD display, four lines, 40 characters per line.
- Multi unit Force and Stress, Imperial, Metric, SI.
- Force calibration range 1% to 100% accuracy +\ - 1% of applied force.
- Pace rate control indication.
- Peak Force and Stress results.
- Specimen area input from specimen menu.
- Parallel printer O\P dot matrix format any size paper.
- RS232 output – ASCII comma delimited results data.
- Two channel I/P to accommodate CTM and flex unit or CTM and Block test unit.
- Approximately 2000 stored results.
- Young's modulus and strain measurement can be calculated when accompanied by compressometer.

ORDERING INFORMATION

- **TO-30235-DG** Enhanced Digital Indicator with pressure sensor for digital compression testing machine
- **TO-30235-FA** Enhanced Digital Indicator with Pressure Sensor for fully automatic compression testing machine



ACCESSORIES

Ball Seating and Platen Handling options enhance the system in support of test compliance and efficient specimen handling.

Ball Seating Platen



BS EN 12390 requires certified stability and alignment, which is achieved using an oil-filled ball seating and upper platen.

APPLICABLE STANDARD

- BS EN 12390

ORDERING INFORMATION

- **TO-320-5523** BSEN 12390 stability compliant oil-filled ball seat, platens
- **TO-320-5527** BSEN 12390 stability compliant oil-filled retrofit ball seating

Platen Handling Assembly

Block Platens 460 x 280 x 75mm with sliding rail assembly can be installed for testing concrete blocks and other structural materials. Sliding rail assembly allows the platens to be easily installed without removing existing circular compression platens. They can be installed on all semi-auto and automatic compression machines. They must be factory installed.

Key features

- Improves laboratory efficiency.
- Reduces manual handling.
- Compatible with Semi-Automatic and Fully Automatic Compression Machines.

ORDERING INFORMATION

- **TO-320-5541** Platen Handling Assembly w/250 x 445mm platen set for 2000kN or 3000kN CTM
- **TO-320-5542** Platen Handling Assembly w/250 x 450mm platen set for 3000kN CTM



COMPRESSOMETER & EXTENSOMETER

An extensometer is a device that is used to measure changes in the length of an object. It is useful for stress-strain measurements and tensile tests. Its name

comes from 'extension-meter'. Compressometers are used for determining strain and deformation characteristics of concrete cylinders.



Longitudinal Compressometer

This apparatus is used for determining strain and deformation characteristics of standard concrete cylinders of 150mm diameter x 300mm length. The compressometer consists of two frames for clamping to the specimen using five tightening screws with hardened and tapered ends. Two spacers hold the frames in position. An adjustable pivot rod rests on pivot screws.

A spring enables the pivot rod to remain in contact with pivot screws. The ball chain is for adjusting the tension of the spring. A dial gage, fixed to a bracket on the top frame, is used for making deformation measurements.

ORDERING INFORMATION

- **TO-372** Longitudinal Compressometer with TO-072 analog dial gage

OPTIONAL ACCESSORIES

- **TO-072** Analog dial gage, 5mm x 0.002mm
- **TO-072-DG** Digital gage, 5mm x 0.001mm

Lateral Extensometer

This is used to determine the lateral extension of 150mm diameter x 300mm high cement concrete cylinders while running a compression test. The extensometer consists of two movable frames pivoted at one end. A dial gage measures the lateral extension, and a removable

spacer strip is for the initial setting of the dial gage. The extensometer is attached to the specimen by screws. Supplied complete with TO-072 dial gage or TO-072DG digital gage.

APPLICABLE STANDARDS

- **ASTM C469**

ORDERING INFORMATION

- **TO-373** Lateral extensometer to fit 150 x 300mm cylinders with dial gage
- **TO-373-DG** Lateral extensometer to fit 150 x 300mm cylinders with digital gage

OPTIONAL ACCESSORIES

- **TO-072** Analog dial gage, 5 x 0.002mm
- **TO-072-DG** Digital gage, 5 x 0.001mm



ACCESSORIES

Flexural Testing Machine

These machines are designed to test the flexural strength of concrete beams. Their design provides maximum rigidity throughout their working range as the downward movement of the piston applies load. A spacer is provided for testing different size of beams and load is indicated on a digital indicator. For the 150 x 150 x 700mm beams, the support span is 600mm and the loading span is 200mm, whereas for the 100 x 100 x 500mm beams, the support span is 400mm and the loading span is 133mm.

One of the key considerations when using concrete in construction projects is how well the concrete is going to stand up to bending pressures and how often it needs to be supported. With concrete, the most effective way to study the destructive testing is the Flexural Test. On a specimen beam ideally of 150 x 150 x 750mm and/or 100 x 100 x 500mm, the maximum tensile stress reach at the bottom of the test beam is considered as the Flexural Strength/Modulus of Rupture of the material.



Key features

- Lightweight, rugged high strength frame.
- Self-aligning four-point loading roller assembly.
- Maximum capacity of either frame is 100kN (22,000lbf).
- For testing beams of 100 x 100 x 500mm and 150 x 150 x 700mm.

APPLICABLE STANDARDS

- BS 1881, ASTM C 78-02, BS EN 12390-5:2000

ORDERING INFORMATION

- **TO-33101-ASTM** Flexure Testing Frame 100kN machine no pump for use with CTMs using 2-way valve
- **TO-33101-BS** Flexure Testing Frame 100kN machine no pump for use with CTMs using 2-way valve
- **TO-331-ASTM** Flexure Testing Manual Machine ECO, for 10 x 10 x 50cm & 15 x 15 x 70cm beams
- **TO-331-BS** Flexure Testing Manual Machine ECO, for 10 x 10 x 50cm & 15 x 15 x 70cm beams
- **TO-332-ASTM-01** Flexure Testing Machine, 100kN, for 10 x 10 x 50cm & 15 x 15 x 70cm beams DG EDI, 110V, 60Hz
- **TO-332-ASTM-02** Flexure Testing Machine, 100kN, for 10 x 10 x 50cm & 15 x 15 x 70cm beams DG EDI, 220V, 60Hz
- **TO-332-ASTM-03** Flexure Testing Machine, 100kN, for 10 x 10 x 50cm & 15 x 15 x 70cm beams DG EDI, 220V, 50Hz
- **TO-332-BS-01** Flexure Testing Machine, 100kN, for 10 x 10 x 50cm & 15 x 15 x 70cm beams DG EDI, 110V, 60Hz
- **TO-332-BS-02** Flexure Testing Machine, 100kN, for 10 x 10 x 50cm & 15 x 15 x 70cm beams DG EDI, 220V, 60Hz
- **TO-332-BS-03** Flexure Testing Machine, 100kN, for 10 x 10 x 50cm & 15 x 15 x 70cm beams DG EDI, 220V, 50Hz

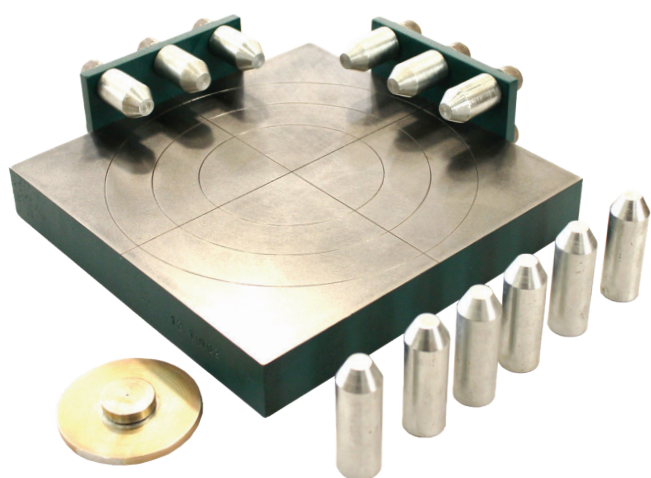
ACCESSORIES

Other accessories that can be used with DG Series machines to assist with most of the processes of the Compression Tester.

Self-Centering Platen

The self-centering platen is a cubical platen with pins mounted on two sides that help the sample to center itself in position. These adjustable pins on two axes are of

different sizes and are used based on the type and size of sample. The platens are specially designed and can only be used with 2000kN and 3000kN compression testers.



Key features

- 150mm and 200mm cubes.
- Adjustable spacer pins on two axes
- Specimen self-centers against the pins.
- Shorter middle pins for cylindrical specimens.
- Only for 2000kN and 3000kN machines.

ORDERING INFORMATION

- **TO-320-5535** Self-centering 220mm square lower platen, suitable for use with 2000kN and 3000kN frames

Compression Frame Stand

All models in the series can be mounted on a machine stand to bring the testing area to a convenient and safe working height.

ORDERING INFORMATION

- **TO-STAN01** Compression Testing machine stand for 1000kN frame and below
- **TO-STAN02** Compression Testing machine stand for 2000kN frame
- **TO-STAN03** Compression Testing machine stand for 3000kN frame



PACKAGING INFORMATION

1000kN & 2000kN CTM

- **Net weight:** 62kg; **gross weight:** 87kg
- **Packaging dimensions:** 76 x 73 x 68cm

3000kN CTM

- **Net weight:** 90kg; **gross weight:** 110kg
- **Packaging dimensions:** 89 x 73 x 74cm