

DG SERIES – 500kN

Semi-Automatic Concrete Compression Testers



Model TO-317ET-DG

The Model TO-311E-DG Semi-Automatic Concrete Compression Tester has a maximum testing capacity of 110,000lb or 500kN. This machine is primarily designed for testing 2in (50mm) and 70.6mm concrete cubes.

The Tinius Olsen DG Series of digital compression testers features highly robust frames for exceptional stability when testing concrete cylinders or cubes. These compact testers are made up of three core pieces: the heavy duty load frame, hydraulic pump, and control and display systems.

The large lower bearing block includes a bellows to prevent leaks caused by dust and debris getting into the loading piston. The other advantage of this large bearing block is that it allows for a 10in horizontal entrance opening and plenty of ready access for loading and removing specimens.

Additionally these machines offer an optional chute for quick removal of completed specimens and rapid cleaning of the test area.

This series also includes a rapid change platen system that operators can use to quickly and easily change accessories, switching between cylinder, block, cube and beam specimen testing.

While these machines are ideally positioned to test 2in cubes, testing can be taken to another level by adding a flexure testing attachment (Model TO-33101) that will work with the pumping unit in the TO-311E-DG frame. Once a simple manual valve system has been installed, it is possible to test the flexural strength of concrete beams, up to 100kN (22,000lb) maximum load.

Alternatively, a different attachment for testing the compression of hollow prisms can be attached to the main test frame. This attachment, Model TO-314-LU-SPL, can test up to three stacks of hollow prisms.

Features and benefits

- Pace deviation bar graph display.
- Automatic stress determination and display.
- Interlocked safety doors with mesh window as standard.
- Overload and over-travel safety protection.
- Self-aligning platen with fast accessory change capability.
- Multi unit force and stress in English, Metric or SI.
- Peak force and stress results.
- Parallel printer output.
- EDI – stored results of approximately 2000 tests. Four-line LCD display with 40 characters per line.
- Touchscreen-based EDI – internal storage of 200 tests and direct to USB thumb drive storage.

CONTROLLER OPTIONS

The Enhanced Digital Indicator (EDI) has a straightforward design that uses a membrane keypad and LCD to enable simple and effective selection of test parameters. The display stores up to 2000 tests.



The touchscreen-based Enhanced Digital Indicator (EDI) display enhances Tinius



Olsen's existing EDI offering. It is an advanced digital control and display system with a 10in (diagonal) resistive touchscreen display, and is compatible with test frames that use the existing EDI controller. It is supplied with a stylus for easier operation for users wearing gloves. Easy to read and operate, it features simple and logical input screens and displays a real-time graph of test load vs time.

Specifications



OPTIONS AND ACCESSORIES

- **TO-320-5500** Platen set for 6 x 12in concrete cylinders
- **TO-320-5502** Platen set for 4 x 8in concrete cylinders
- **TO-320-5504** Platen set for 3 x 6in concrete cylinders
- **TO-320-5510** Platen set for 2in cubes
- **TO-320-5512** Platen set for 6in cubes
- **TO-320-5518** Platen set for blocks up to 12in
- **TO-320-5519** Cylindrical specimen caps – two caps per set
- **TO-320-5520** Rubber insert for 6in cap with 60 shore A hardness (bag of 10)
- **TO-320-5521** Compression frame jig assembly (without platens)
- **TO-320-5521/01** 50mm square platen set for TO-320-5521
- **TO-320-5521/02** 2in square platen for TO-320-5521
- **TO-320-5521/03** 40mm square platens
- **TO-320-5522** Flex jig/attachment
- **TO-320-5524** Cylindrical specimen cap, 4in diameter – two per set
- **TO-320-5525** Rubber insert for 4in cap with 60 shore A hardness (bag of 10)
- **TO-320-5523** BS EN 12390 stability compliant oil filled ball seat, platens
- **TO-320-5527** BS EN 12390 stability compliant oil filled retrofit ball seating
- **TO-320-5528** Tensile split strength test attachment
- **TO-320-5532** Rectangular platen set for prisms, 475 x 250mm
- **TO-320-5534** Platen set, 165mm dia, with concentric rings in upper platen
- **TO-31727-1** Strain measurement attachment
- **TO-33101-BS** Flexural test frame, 100kN, no pump, using CTM two-way valve
- **TO-33101-ASTM** Flexural test frame, 100kN, no pump, using CTM two-way valve
- **TO-343** Mold in cast iron for 100mm cube
- **TO-344** Mold in cast iron for 150mm cube
- **TO-344-20** Mold in cast iron for 200mm cube
- **TO-414** Mold in steel for 70.6mm cube
- **TO-417** Mold in cast iron for 50mm cube
- **TO-417-CI** Three-gang mold in cast iron for 50mm cube
- **TO-417-3-NB** Three-gang mold in Navy Brass for 50mm cubes-per ASTM

MODEL TO-311E-DG SPECIFICATIONS

Capacity	110,000lbf/500kN/50,000kg
Horizontal clearance	10in/260mm
Maximum clearance between platens	15in/390mm
Piston stroke	2in/50mm
Platen size	5.5in/140mm
Display resolution	0.01 (kN or lbf)
Specimen size	50mm and 70.6mm cubes

Notes:

1. Conforms to all relevant European CE Health and Safety Directives EN 50081-1, 580081-1, 73/23/EEC, EN 61010-1.
2. Specifications are subject to change without notice.
3. Appropriate brick platens can be supplied as an option.
4. A set of spacers to suit stated specimen sizes are supplied with the machine.

SUPPLIED AS STANDARD

- USB cable
- Five spacers
- Lower platen
- Spherical seat with upper platen

APPLICABLE STANDARDS

- ASTM C39, AASHTO T22, EN 12390-3, -4, -5, and other ASTM, BS and EN specifications depending on platens and accessories chosen.

ORDERING INFORMATION

- **TO-311E-DG-01** 500kN compression tester configured for 110VAC, 60Hz
- **TO-311ET-DG-01** 500kN compression tester configured for 110VAC, 60Hz with touchscreen EDI
- **TO-311E-DG-02** 500kN compression tester configured for 220VAC, 60Hz
- **TO-311ET-DG-02** 500kN compression tester configured for 220VAC, 60Hz with touchscreen EDI
- **TO-311E-DG-03** 500kN compression tester configured for 220VAC, 50Hz
- **TO-311ET-DG-03** 500kN compression tester configured for 220VAC, 50Hz with touchscreen EDI