

Universal Testing Machine 200 Tonne

a measurable difference...

IDM[®]
instruments

Model: T0015

The 200 Tonne Tensile machine has been specially developed for tensile testing of long materials. It is designed to ascertain the tensile strength of such materials to a load capable of 200 Tonne.

A hydraulic cylinder and a servo system work together to apply a precise motion and force.

The test fixtures are easily changed to allow fixing of different test samples. Safety screens are moveable to allow protection in relevant areas and a safety cage is supplied to protect the operator during testing.



Features:

- **Tensile:** The tensile load is produced by a hydraulic cylinder with a stroke of 2000mm horizontally and a variable speed of 0-150mm/min.
- **Construction:** The construction of the tensile machine frame is broken down into 6 easily connectable steel sections, one of which contains the 400mm round hydraulic cylinder. The power pack, hydraulic controls and computer hardware are in stand alone cabinets, connected to the main frame by hoses and cables. The assembled unit guarantees to withstand many years of use.
- **Crosshead Assembly:** The crosshead rolling assembly is a solid rolling construction, which is connected to the cylinder rod via a screw on coupling. Positioned at the opposite end of the frame to the crosshead is the anchor box, which can be positioned at any point along the machine to accommodate the test sample.
- **Control Unit:** The tensile machine is controlled by a computer which is running the IDM Tensile Testing Program. A simple selection of the available functions and control values by the operator allows the 200 Tonne Chain Testing Program to run and display a test on screen to the operators' requirement within the limits of the program.

Applications:

- Cable
- Chain
- Electrical Wire
- Links
- Nylon Rope
- Rope
- Slings
- Spring
- Steel Chain
- Steel Rope
- Steel Wire
- Webbing
- Winches

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Display Test Traces and Values:

Test Traces: An ongoing test can be displayed as either:

- Load/Displacement
- Load/Position
- Load/Time
- Position/Time
- Displacement/Time

Digital Indicating Windows: The following are displayed:

- Maximum Load (peak hold)
- Current Load (during a test)
- Crosshead Position
- Displacement (from the start of a test)

Computer Software: The software is based on the Worldwide recognised National Instruments "LabVIEW" Program and the Tensile Tester Program developed by IDM Instruments Pty Ltd.

Computer Hardware: The latest computer hardware including an Ink Jet Printer and a 17" X VGA Colour Monitor.

- Data sampling is adjustable from 1-200000 Hz
- Test parameters displayed with graph simultaneously
- Overlay display of data curve possible during test
- ISO and ASTM Test Method programmable
- Other test methods can be programmed by the operator
- Cyclic testing with data recording during cycle
- Position, load or Strain rate control
- Real time graphic display presentation
- Data can be sent to Excel
- Out of range alarm and stop
- Auto return after a test is selected
- Statistical analysis requirement
- Plus many more features.



Test Categories:

Following are a list of test categories that can be performed on the 200 Tonne Chain Testing Machine:

- Tensile Tests
- Adhesion Tests
- Cycle tests with momentary stops
- Pull-Out Tests
- Creep Tests
- Hysteresis Tests

If there is something you require that is not listed, please contact us to discuss your needs.

We can tailor make machines and programs to your requirements.

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Specifications:

- **Max Capacity:** 200 Tonne (2000kN)
- **Chain Insertion Length:** 25 meters
- **Total Machine Length:** 30 meters
- **Variable Testing Speed:** 0-115 mm/min
- **Positioning Speed:** 0-1000 mm/min
- **Power Supply:**
 - Hydraulic Servo Unit:** 415V@50Hz 3 Phase
220V@60Hz 3 Phase
 - Computer Control Unit:** 220/240V@50Hz 110V@60Hz
- **Cylinder Stroke:** 2100 mm
- **Load Cells:** 200 Tonne (2000kN x 0.1kN)
 - Accuracy: $\pm 0.2\%$ FS or better
 - Repeatability: $\pm 0.15\%$ FS or better
- **20 Tonne (200kN x 0.1kN)**
 - Accuracy: $\pm 0.2\%$ FS or better
 - Repeatability: $\pm 0.15\%$ FS or better
- **2.5 Tonne (200kN x 0.1kN)**
 - Accuracy: $\pm 0.2\%$ FS or better
 - Repeatability: $\pm 0.15\%$ FS or better
- **20 Tonne (200kN x 0.1kN)**
 - Accuracy: $\pm 0.2\%$ FS or better
 - Repeatability: $\pm 0.15\%$ FS or better
- **Position:** 0-2100 mm x 0.1mm
- **Accuracy:** 0.25% FS
- **Displacement:** **Range:** 2100 x 0.01mm **Accuracy:** $\pm 0.1\%$ FS
- **Operating Temperature:** 20-40 °C is provided for
- **Control:** Computer and Chain Testing Program
- **Control Dimensions:**
 - Control System:** 600mm x 600mm x 1600mm
 - Hydraulic P/S:** 1200mm x 1500mm x 1600mm

