

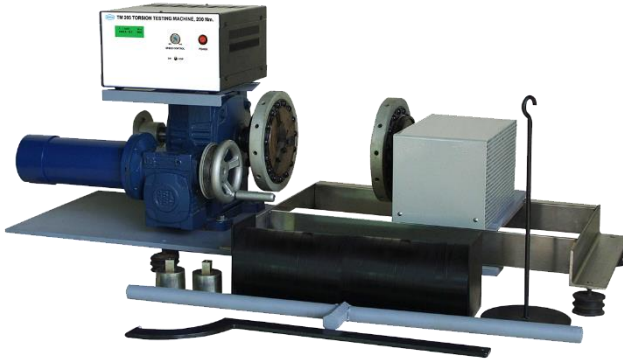
## TM 203E TORSION TESTING MACHINE, 200 N-m.

### GENERAL DESCRIPTION

This is an educational machine for an extensive range of torsion tests.

The machine consists of a torque applying unit, and a torque measuring unit sliding on two parallel stainless steel tubes. The torque applying unit is a two stage reduction gear with a motor, and angular displacement measuring instruments. The torque measuring unit has a torque arm with a two direction load cell. The specimen is held at each end by hexagonal drive sockets which fit on the input shaft from the gear box and the torsion shaft. The motor is automatically stopped when the specimen is broken. Different sizes of drive sockets are provided. The torsion shaft column can be slid on two parallel shafts to accommodate specimen length. The equipment is a table top type with adjustable footings.

Instruction manual is also included.



Photograph includes optional equipment

### EXPERIMENT CAPABILITIES

- Relation of torque and twist angle under elastic deformation.
- Determination of modulus of rigidity and yield shear stress.
- Determination of modulus of rupture.
- Characteristic of materials under plastic deformation.
- Comparison of twist angle for forward-reverse directions.
- Relationship between twist angle, length and size of specimens.

### TECHNICAL DATA

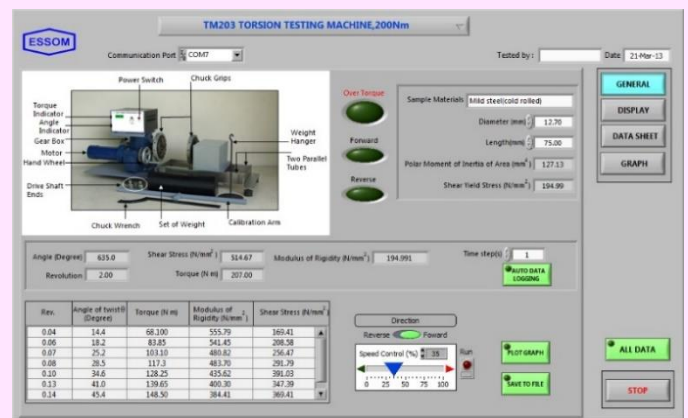
- Maximum torque : 200 Nm
- Gear box
  - Reduction ratio : 600:1
  - Drive motor : 0.18 kW DC
  - Rated torque : 370 Nm
  - Maximum strain rate : 2.2 rpm
- Drive shaft ends : 2x 3/4 in. square
- Drive sockets : 19 mm for hexagonal specimen
- Maximum specimen length : 350 mm
- Angular displacement measurement
  - Revolution counter : 5 digits resettable
  - Angular scale : 0-360° × 1 degree graduation
  - Rotary encoder and an indicator : 0.1 degree resolution.
- Torque digital display : 0.1 N-m resolution
- Software for data display and analysis by computer (separately supplied).

The ESSOM software is a multimedia on CD or Flash drive with hypertext user interface for Microsoft Windows operating system to provide information on equipment description, relevant theory, experiment procedures, typical data, to give required calculations upon entering inputs and to give hard copy printout.

- Power supply : 220V, 1 Ph, 50Hz. Other power supply is available on request.

### OPTIONAL ACCESSORIES AND SPECIMENS

- TM 203-002 Torque arm with 15N weight hanger and 30x 15N, 5x 10N standard weights (1 set) for torque calibration.
- TM 203-005 Hexagonal head specimen, 200 mm length. Test section diameter approximately 12 mm diameter.
  - Materials: Steel or brass (pack of 5)
- TM 203-020 2 Chuck grips with a wrench for round specimen.
- TM 203-060 Computer Control (computer not included) This includes computer interface, with the Additional accessories for control function Comprises
  - Additional software function for equipment Controls by computer.
- Nylon cover.



**Net (unpacked) shipping dimensions WxLxH** : 65 x 170 x 50 cm  
**Net weight** : Approx. 390 kg