

# UTM

## Hydraulic Universal Testing Machine



Designed for the Steel industry, the UTM600-2000 kN offers a unique solution for generating, filing and displaying quality data. It is built around a specially designed testing machine, and it offers the user a fast and effective way of generating and presenting a quality report for steel and other materials. Additionally it offers a data filing and retrieving system giving the user instant access to reports on any previously tested samples. Much more than just the test results can be included in the quality report. The TRAM QA software offers the user a simple way to incorporate all relevant quality parameters in a system of tables that can be set up for almost any application. It is ideally suited to quality assurance and process control as well as research and development. It is capable of performing a wide range of complex testing procedures and can be set up for relevant international or national standards e.g. EN 10002-1 or ISO 6892.

The special machine design provides optimum stiffness resulting in accurate deformation measurements. An optional extensometer is often used. Testing is controlled from the computer after keying in sample identification. During the testing the load-deformation curve is simultaneously generated on the monitor. The machine is floor mounted.

The loading frame consists of a central cross head and a lower table. The central cross head is adjustable for clearance by means of a geared motor. Compression test is carried out between the central cross head and the lower table whereas tension test is carried out between the centre and upper cross heads. The unit has 6 pillars for better stability. A loadcell senses the force and the movement of the lower table (piston stroke) is measured by an encoder. Hydraulic grips for tension testing of round or flat samples are incorporated in the construction.



Bent Tram A/S

Halkjaervej 20B, DK-9200 Aalborg SV

+45 98120499

mail@tram.dk

www.benttram.com

# UTM

## Hydraulic Universal Testing Machine

### Specification

Model	UTM 400kN	UTM 600kN	UTM 1000kN	UTM 2000kN
Loadcell Capacity	400000 N	600000 N	1000000 N	2000000 N
Weight	1000 kg	1200 kg	3000 kg	10000 kg
Max stroke length	200 mm	250 mm	250 mm	250 mm
Daylight between columns	500 mm	600 mm	700 mm	700 mm
Vertical daylight	750 mm	800 mm	850 mm	900 mm
Resolution	4.00 N	6.00 N	10.00 N	20.00 N
Supply Voltage	230V 50 Hz, max. 2.1 kW	230V 50 Hz, max. 2.1 kW	3*400 V 50 Hz, max. 4,5 kW.	3*400 V 50/60 Hz, max. 8 kW
Speed Range	0.1mm/min - 150mm/min	0.1mm/min - 50mm/min	0.1mm/min - 80mm/min	0.1mm/min - 60mm/min
Height				4700 mm
Force measuring error	Error on force is less than 1% in the range from 0.45kN to 400kN	Error on force is less than 1% in the range from 1kN to 600kN	Error on force is less than 1% in the range from 1kN to 1000kN	Error on force is less than 1% in the range from 2kN to 2000kN
Loading speed control	Selectable load-speed (kN/min) or deformation speed (mm/min). Programmable testing sequence for semiautomatic testing as well as automatic fast return.			
Deformation resolution	0.0100 mm			
Control system	USB-connection to PC. The TRAM QA software makes the testing, filing and analysing of data extremely versatile - refer to the separate brochure for the software.			

### Standards

ISO 6892	Metallic materials - Tensile testing - Part 1: Method of test at room temperature
EN 6892	Metallic materials - Tensile testing - Part 1: Method of test at room temperature
EN 10002	Tensile testing of metallic materials - Method of test at ambient temperature

A PC with Tram-QA software makes the machine a powerful "automatic" system for generating, filing and displaying quality data for various productions. Simple to use software will enable the operator to grow familiar with the test machine after a very short time, even if he has no experience at all in operating a computer. The software is supplied in national languages as required.

Comprehensive electronic protection prevents the machine from overloading damage or driving out of limits. A simple calibration procedure is included in the software.



Bent Tram A/S

Halkjaervej 20B, DK-9200 Aalborg SV

+45 98120499

mail@tram.dk

www.benttram.com