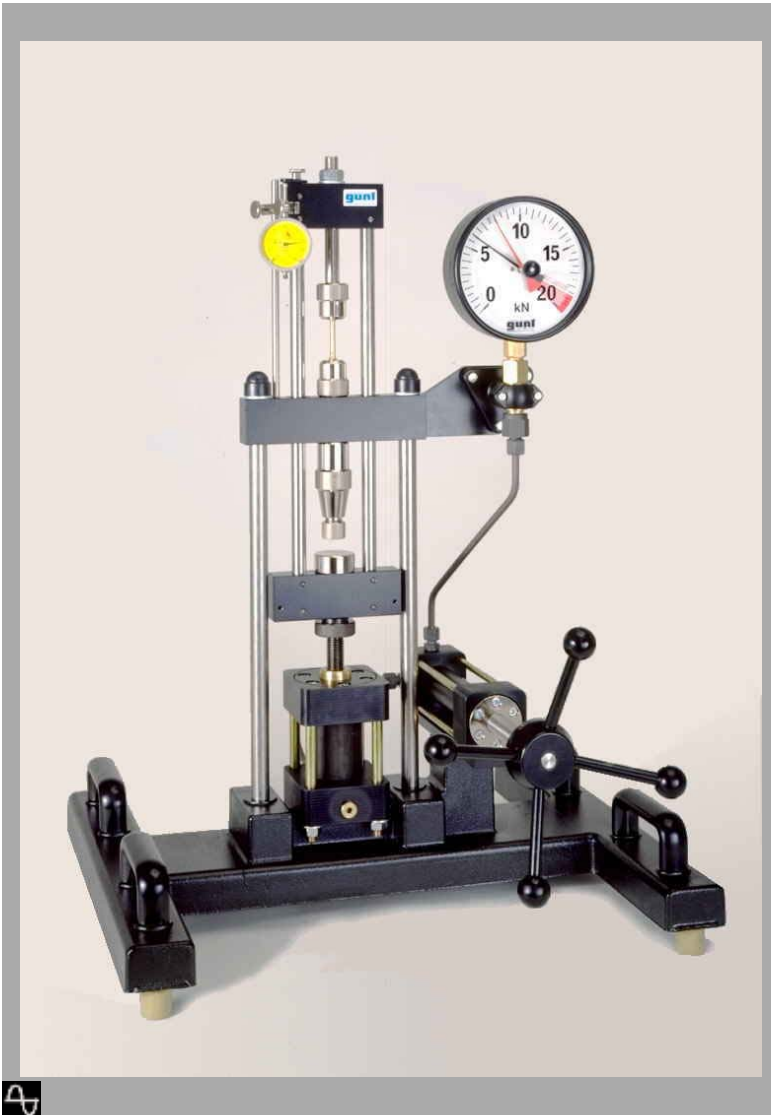


WP 300

Universal Material Tester, 20 kN



Technical Description

This material tester is a benchtop unit for training purposes. Simple operation and robust construction make the unit suitable for student experiments. The test spectrum for the basis unit covers tensile tests, and also Brinell hardness testing. Using the accessories that are also available, additional bending, shear, cupping and compressive tests can be performed. PC data acquisition and evaluation is also possible.

The basic version of the unit does not require any additional sources of power. The test load is generated using a hand operated hydraulic system. The test load is displayed using a large gauge and a trailing pointer. The elongation of the test specimen is recorded via a mechanical gauge. The unit features a clear layout and the rapid changing of accessories.

Learning Objectives / Experiments

- Tensile tests
- Recording of stress-strain diagrams
- Brinell hardness testing

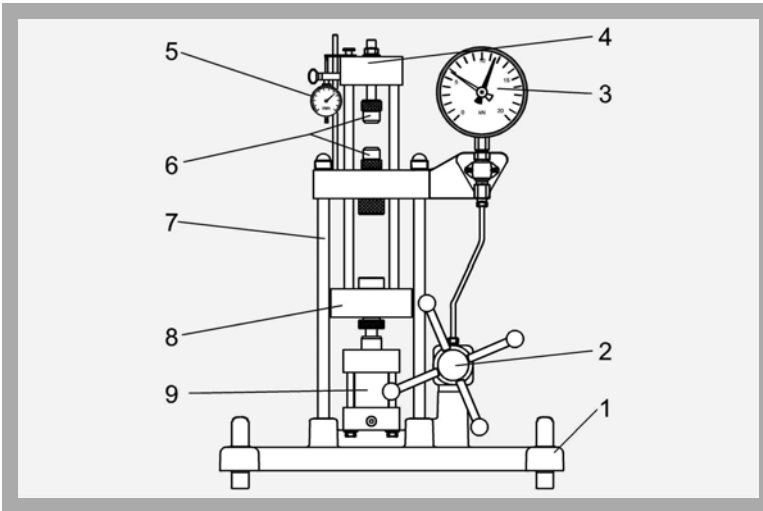
With accessories available separately:

- Compressive strength tests
- Bending tests
- Cupping tests
- Shear tests
- Testing of disc and helical springs

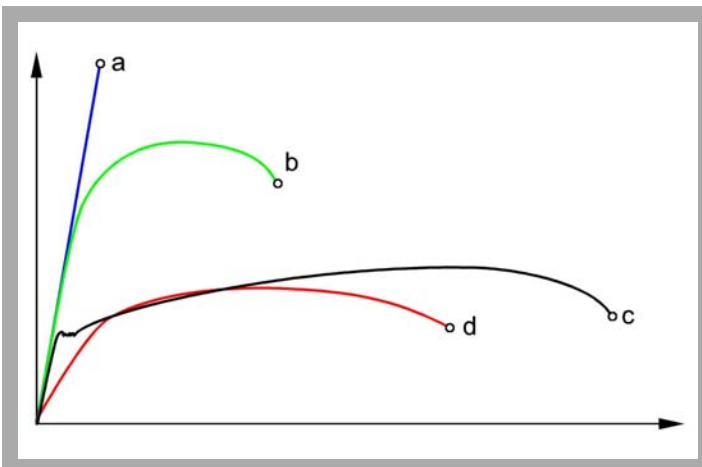
- * Compact, clear universal unit for basic experiments on materials testing
- * Tensile strength, compressive strength, bending, shear and cupping tests
- * Brinell hardness testing
- * Recording of characteristic curves
- * Can be extended with electronic data acquisition

WP 300

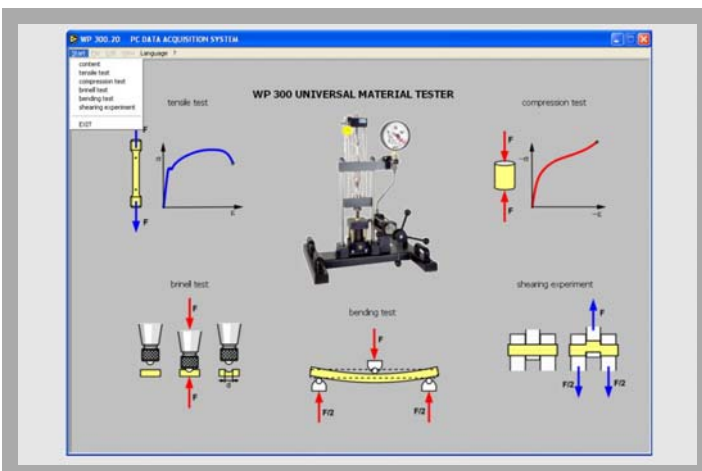
Universal Material Tester, 20 kN



1 machine base with rubber feet, 2 hand wheel, 3 load gauge, 4 upper cross-member, 5 gauge for deformation displacement, 6 gripping heads, 7 frame pillars, 8 lower cross-member, 9 main hydraulic cylinder



Load-extension diagram for different specimen materials:
a) hardened steel, b) tempered steel, c) soft annealed steel, d) aluminium alloy



Screenshot of the software WP 300.20

Specification

- [1] Universal benchtop unit for materials testing
- [2] Cross-member frame with ground steel pillars, compressive and tensile force can be generated
- [3] Force generation using hand operated hydraulic system, no power supply necessary
- [4] Dynamometer to measure the force, gauge with trailing pointer
- [5] Dial gauge to measure the elongation
- [6] Test sphere for Brinell hardness test, diameter 10mm
- [7] Brinell hardness test specimens made of Al, Cu, St, CuZn
- [8] Tensile test specimens according to DIN 50125, made of Al, Cu, St, CuZn

Technical Data

- Max. test force: 20kN
- Max. stroke: 45 mm
- Space available for specimens: 165x65mm
- Tensile specimens: B6x30mm, DIN 50125
- Hardness specimens: l x w x h 30x30x10mm

Dynamometer

- measuring range: 0...20kN
- graduations: 0.5kN

Dial gauge

- measuring range: 0...10mm
- graduations: 0.01mm

Dimensions and Weight

- l x w x h : 610 x 520 x 850 mm
- Weight : approx. 51 kg

Scope of Delivery

- 1 base unit
- 1 hardness test jig
- 1 dial gauge
- 4 sets of tensile specimens
- 4 sets of hardness specimens
- 1 set of experiment instructions

Order Details

020.30000 WP 300 Universal Material Tester, 20 kN

WP 300 **Universal Material Tester, 20 kN**

Available Accessories:

Product no. Order text

020.30004	WP 300.04	Bending Device
020.30005	WP 300.05	Compression Plates, Set of 2, with fastening elements
020.30006	WP 300.06	Coil Spring Test, 2 Sets
020.30007	WP 300.07	Disk Spring Test
020.30010	WP 300.10	Device for Shearing Experiments
020.30011	WP 300.11	Device for Cupping Experiments
020.30012	WP 300.12	Measuring Magnifier for Brinell Impression
020.30013	WP 300.13	Device for Shear Test Unsymmetrical
020.30014	WP 300.14	Chucks for Flat Tensile Specimen
020.30020	WP 300.20	PC Data Acquisition System
SPECIMEN SETS:		
020.30002	WP 300.02	Set of 4 Tension Test Rods: Aluminium, Copper, Steel, Brass
020.30021	WP 300.21	Set of 4 Tension Rods, Aluminium
020.30022	WP 300.22	Set of 4 Tension Rods, Copper
020.30023	WP 300.23	Set of 4 Tension Rods, Steel
020.30024	WP 300.24	Set of 4 Tension Rods, Brass
020.30025	WP 300.25	Set of 4 Tension Specimens, flat: Aluminium, Copper, Steel, Brass
020.30003	WP 300.03	Set of 4 Brinell Specimens: Aluminium, Copper, Steel, Brass
020.30031	WP 300.31	Set of 4 Brinell Specimens, Aluminium
020.30032	WP 300.32	Set of 4 Brinell Specimens, Copper
020.30033	WP 300.33	Set of 4 Brinell Specimens, Steel
020.30034	WP 300.34	Set of 4 Brinell Specimens, Brass
020.30041	WP 300.41	Set of 5 Cupping Specimens, Aluminium
020.30042	WP 300.42	Set of 5 Cupping Specimens, Copper
020.30043	WP 300.43	Set of 5 Cupping Specimens, Steel
020.30044	WP 300.44	Set of 5 Cupping Specimens, Brass
020.30052	WP 300.52	Set of 5 Shear Specimens, Copper
020.30061	WP 300.61	Set of 3 Bending Specimens: Aluminium, Steel, Copper
020.31015	WP 310.15	Set of 6 Compressive Test Specimens: POM, PP, PTFE, PP, 2x pine wood