

# ernst



*No deflection  
or vibration*

*Large and irregular  
components  
can be clamped*

*Fast and precise -  
one lever operation,  
pre-load and load  
are applied together*

*Clear, direct read-out  
of Rockwell hardness  
and Brinell hardness*

*RS 232 output  
for printer  
or computer*

Hardness tester  
Rockwell principle

# AT 130 D

# AT 130 D • Hardness tester Rockwell principle



## AT 130 D

### Mechanics

Even operating following the Rockwell principle according to DIN and ASTM in **AT 130 D** series, measuring is not influenced by deflections.

The reference point is the surface of the component itself. Surface preparation is needed only where measuring takes place.

With an easy movement of the lever pre-load and load are applied. With the return movement, load is taken away, and reading is made.

Measuring takes no more than 3 seconds (a few seconds more for very soft materials).

### This system has several advantages:

- 1) It clamps difficult shaped and overhanging pieces firmly to the clamping cap.
- 2) Fast batch testing, components can be loaded on the anvil without moving the handwheel.

Two types of test heads **AT 130 D** (Rockwell and Superficial Rockwell) and four types of stand complete the range.

- 3) Possibility to carry out testing according to standards on components of large dimension (see picture).



### AT 130 DR/T (1)

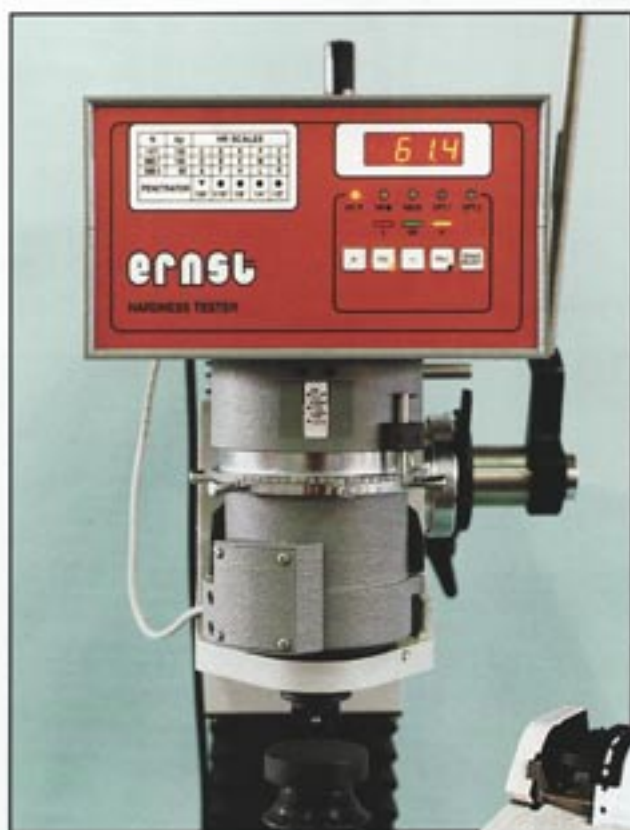
Measuring on components of large dimensions is possible. In this case the indenter has an extension of 50 mm. The base assembly has been removed. The base is of 240 x 330 mm.

### AT 130 DR/T (2)

Measuring on bottles. In AT 130 D series measuring is not influenced by deflections.







## Measurement procedure

- Scale selection by means of the key on the front board.
- Location of the component on the anvil.
- Clamping of the component (if it is of large dimensions).
- Load application and release by means of the lever located on the side of the test head.
- Readout of the hardness value on the display.



## Example: Clamping of overhanging components

The use of the clamping cap and the insensibility to deflection and vibration, allows measuring even on large components. Removing the base assembly, in the **AT 130 DR/T** version (picture 1 and 2), the component can be located directly on the base. On request the vertical capacity can be increased by 100 - 300 - 500 mm, hence it is possible to carry out, according to standards, testing of components with a weight of 200 or 300 Kg.

## Electronics

The electronic part of the hardness tester **AT 130 D** is based on a PIC microprocessor. Serial RS 232 output ports for printer or computer. In batch testing tolerances can be setted with light signals on the control board. Calibration of every single scale can be carried out independently.



## Technical data

### Test head AT 130 DR

Pre-load: 10 kp (98 N)  
 Rockwell loads: 60 kp (588 N)  
 - 100 kp (980 N) - 150 kp (1471 N)  
 Brinell loads: 62.5 kp (612 N)  
 - 125 kp (1226 N) - 187.5 kp (1839 N)  
 Scales to select: HRA - HRB - HRC - HRD - HRF  
 - HRG - HRH - HRE - HRK - Brinell HB 30  
 Other scales on request: HB 5 - HB 10  
 - kp/mm<sup>2</sup> - N/mm<sup>2</sup> - Vickers

### Test head AT 130 DSR

Pre-load: 3 kp (29.4 N)  
 Rockwell loads: 15 kp (147 N)  
 - 30 kp (294 N) - 45 kp (441 N)  
 Brinell loads: 10 kp (98 N)  
 - 15.6 kp (153 N) - 31.2 kp (306 N)  
 Scales to select: HR15N - HR30N  
 - HR45N - HR15T - HR30T - HR45T  
 - HR15W - HR30W - HR45W  
 Other scales on request: HB 5 - HB 10 - Vickers

### Accessories standard



*In polished wooden box*

Rockwell conical diamond indenter \*  
 Rockwell ball indenter 1/16" \*  
 Brinell ball indenter 2.5 mm  
 Rockwell test block \*  
 Brinell test block  
 Flat anvil ø 60 mm \*  
 Flat anvil ø 10 mm \*  
 Large V-anvil \*  
 Small V-anvil \*  
 Plastic cover \*  
 Spare balls

\* AT 130 DSR Rockwell Superficial

### Accessories on request

Flat anvil ø 200 mm  
 V-anvil for rounds ø 200 mm  
 Rockwell ball indentors 1/8" - 1/4" - 1/2"  
 Brinell ball indentors 5 mm  
 C-form extension for measuring internal parts  
 (See accessories catalogue code n° 801 - 120EN01)

### Four stands available



**STAND T**  
*the most versatile*

- Depth: 220 mm
- Height: 270 mm

- Weight 87 kg
- Dimensions: base 240 x 560 mm - height 875 mm
- Longer columns can be supplied on request
- Standard equipment: 4 anvils, 1 clamping cap, 1 cover



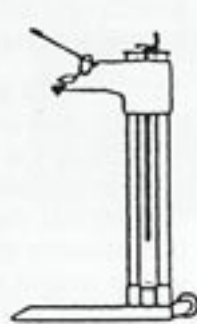
**STAND N**  
*conventional*

- Depth: 220 mm
- Height: 215 mm
- Weight: 53 kg
- Dimensions: base 200 x 520 mm height 620 mm
- Standard equipment: 4 anvils, 1 clamping cap, 1 cover



**STAND CAR**  
*mobile*

- Depth: 300 mm
- Height: 750 mm
- Weight: 140 kg
- Dimensions: base 400 x 970 mm height 1350 mm
- Standard equipment: 1 clamping cap, 1 cover



**STAND MUR**  
*wall mounting*

- Depth: 300 mm
- Vertical adjustment: 550 mm
- Weight: 140 kg
- Dimensions: 200 x 700 x 1050 mm
- Standard equipment: 1 clamping cap, 1 cover