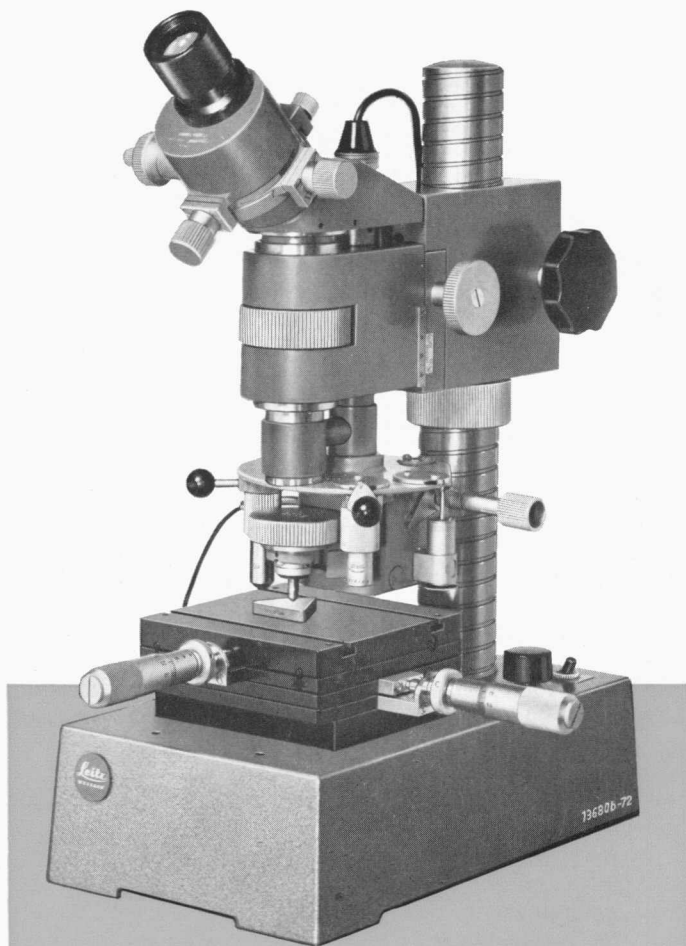


MINILOAD hardness tester

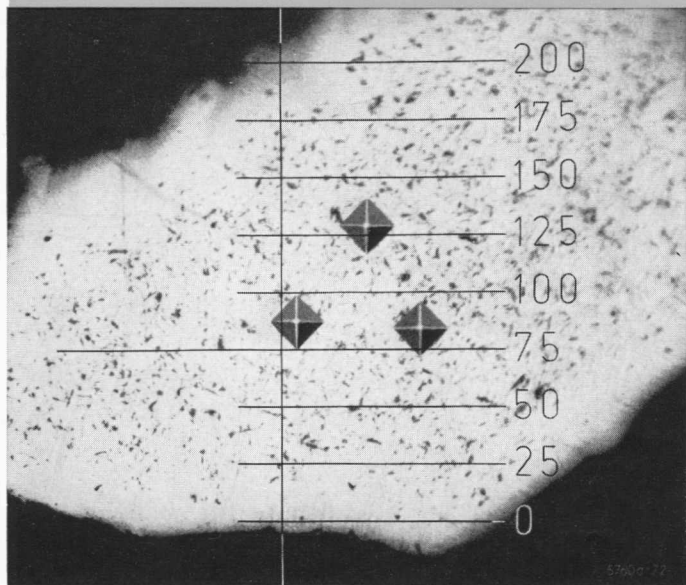
Examples of uses

Vickers-, Knoop-, and scratch hardness tests of tools, wires, wearing parts of engines, thin surface layers, printed circuits, foils, gramophone records, matrices, plastic materials, dental prostheses, crystal inclusions in polished sections.

With special versions hardness determinations of thread flanks and anisotropic substances after optical orientation.



Leitz
WETZLAR



Vickers indentations on the tooth of a zip fastener. The indentations are smaller than $25\mu\text{m}$ (exact evaluation with the micrometer eyepiece).

Examples of uses

Hardness tests with the Miniload produce such small indentations that the material tests are almost invariably non-destructive.

The microscope for sighting and evaluation and the turret – with indenter, survey objective (total magnification 100 x) and evaluating objective (total magnification 400 x) – constitute a unit. This ensures sighting and aiming accuracy to the extent of allowing hardness tests on the tips of needles. The indenter (Vickers- or Knoop diamond) produces an indentation which has a fixed relationship to the load applied and to the hardness of the material under test. By the direct application of the load on the indenter errors due to transfer or transmission mechanisms which are difficult to control are avoided.

The movement of the indenter is initiated by means of a cable release, the rate of descent is determined by an adjustable oil brake. The holder of the indenter has a shear compensation which avoids lateral deformations of the indentations. A micrometer eyepiece permits accurate evaluation of the hardness indentations; at a scale unit of $0.5\mu\text{m}$, $0.1\mu\text{m}$ can still be estimated.

The stand of the Miniload incorporates the electrical equipment for the illumination; this makes separate transformers unnecessary, and restricts the space occupied by the instrument to a minimum. A baseplate on which the Miniload is placed with its top rotated through 180° is provided for hardness tests of large tools; it also accommodates mounting devices for objects of different shapes.

A magnet stand is available for directly mounting the Miniload on large castings, steel components, machine beds, rollers, etc.

For recording purposes our 35mm LEICA camera can be used in all conditions.

Detailed description: – List 72-1.

Technical data

Indenting load *	15 ... 2000 p
Magnification	100 x 400 x
Free working distance	12.7mm 0.5"
	0.2mm 0.008"
Scale unit of the micrometer eyepiece	0.5 μm
Height x width x depth	500 x 400 x 300mm
	20 x 16 x 12"
Weight	approx. 20 kp 44 lbs.

* Special version also for indenting loads (measuring force) of 5 and 10 p.