GE
Inspection Technologies

DynaPOCKET

Pocket-Size Hardness Tester standardized to ASTM A 956

GE imagination at work

Mobile hardness testing - faster, easier.

With no trouble at all.

Are you facing the task of having to determine the hardness of large, non-transportable components? Do you still work with a Poldi Hammer? Do you need an economic and easy method for on-site hardness testing?

In this case, we would recommend to you our small, compact, rebound hardness tester DynaPOCKET which has no trouble at all in solving such test tasks. This is possible because the instrument's size is yet smaller, it's yet faster in operation, and yet easier to use.

With compact setup.

The DynaPOCKET integrates the impact device and display or evaluation unit into one instrument. This means: small dimensions, low weight, no cables. As a result, you'll have an extremely compact hardness tester at your disposal which really fits into any pocket, and goes with you everywhere without any problem.

No matter which test location, which test position, and which test direction you wish to work in, the DynaPOCKET is the right instrument.

With easy operation.

Needless to say, we have ensured easy and straightforward operation: All functions can be activated in the DynaPOCKET with just two keys.

The DynaPOCKET makes hardness testing fast and easy as never before: switching on, measuring, and reading - in a matter of seconds! The hardness value is immediately digitally displayed on the large and easy-to-read LCD display.

Naturally including innovative technology.

The "dynamic" method.

The DynaPOCKET operates according to the rebound method in which an impact body is impelled against the test surface by spring force. Impact and rebound velocities are each measured in non-contact mode; the hardness value is calculated on the basis of these two readings. The harder the material, the higher the rebound velocity and the displayed hardness value. The rebound method offers measurement with high precision and reproducibility, and consequently an especially high test reliability.

The patented technology.

Now, that's what we call easy testing: when using the DynaPOCKET, you'll measure immediately, everywhere, in any direction – and all this with constant accuracy. This is ensured by our patented signal processing which spares you the trouble of having to input additional correction factors for the impact direction, no matter if you're measuring in horizontal or overhead positions.

You can directly read the measured hardness value on the large LCD display. At the same time, the selected hardness scale (in this case HL) and the option Average $\overline{x}$ is displayed. The battery icon informs you about the current battery charge condition.

In the setup or configuration mode, you can select different settings, in this case e.g. the required hardness scale (SCAL), or a material group (MAt). Other setting options: Single/Average, conversion according to DIN 50150, ASTM E 140, or instrument-specific conversion.

The ease of use.

We even make the calibration of the DynaPOCKET easy for you: Standard conversion tables for nine material groups are stored in the instrument from which you can choose the one that suits your application. You'll easily recognize the material groups by the alphanumerical abbreviations displayed by the instrument (e.g. **St** for low-alloy/unalloyed steel and cast steel, **GCI** for gray cast iron, **Cu** for wrought copper alloys, etc.).

The measurement itself is child's play, and the measured hardness value is directly displayed. Of course you can decide for yourself whether you wish to see the single reading or the arithmetical mean or average value of a complete measurement set.

It goes without saying that the DynaPOCKET makes various hardness scales available for you to choose from. A conversion is possible to the following scales:

- HL Leeb
- HS Shore
- HB Brinell
- HRB Rockwell B
- HRC Rockwell C
- HV Vickers
- N/mm² Tensile strength

The DynaPOCKET is also able to make conversions according to the standard specifications DIN 50150 and ASTM E 140, provided the material group in question is low-alloy/unalloyed steel and cast steel. The instrument-specific conversion tables apply to the other materials.

This is where the small DynaPOCKET comes out real big.

Mobile on site.

The DynaPOCKET is an instrument for on-site hardness testing. Thanks to its compact size, it enables tests in almost any position, especially in places where the access is difficult due to the test object's geometry. Heavy, non-transportable components are also a case for the DynaPOCKET, the same as permanently installed system parts or machines.

Application examples.

Rebound hardness testing using the DynaPOCKET is mainly suitable for solid workpieces made of steel or cast materials. The following are typical applications:

- large, coarse-grain components with surfaces as rolled
- forgings with inhomogeneous surface structures
- workpieces made of cast materials of all types
- material sorting in material stores
- hardness testing of large series products during the production.

Specifications and Accessories

Test method

Rebound hardness testing according to ASTM standard specification A 956; dynamic measuring method; ratio of rebound (Rp) and impact (Ip) velocities with output of hardness in Leeb's hardness value HL = 1000 Rp/Ip

Setup

Miniaturized processor-controlled rebound hardness tester; impact device and integrated electronics

Integrated impact device

Dyna D (tungsten carbide spherical test tip); impact energy approx. 12 N/mm², diameter of spherical test tip 3 mm / 0.1"

Materials tested

Forged, rolled and cast materials

Stored material groups

Low-alloy/unalloyed steel and cast steel; tool steel; corrosion-resistant steel; gray cast iron; nodular graphite iron; aluminum cast alloys; brass; bronze; wrought copper alloys

Measuring range

Depending on the material group, e.g for low-alloy steel: 150-1000 HL; 75-1000 HV; 75-700 HB; 35-100 HRB; 20-70 HRC; 30-100 HS; 250-2200 N/mm²; 9 fixed material groups stored in the instrument

Display

LCD, 4-digit display of the hardness value and status symbols

Conversion scales and resolution

HL (1.0); HV (1.0); HB (1.0); HS (0.1); HRC (0.1); HRB (0.1); N/mm² (5.0)

Conversion

According to DIN 50150, ASTM E 140, instrument-specific conversion (Dyna)

Statistics

Display of average value

Automatic instrument switchoff

After 3 min. of non-use in the average mode

Keypad

Membrane keypad with 2 keys

Power supply

Battery operation (2 x AAA cells, NiCd, NiMH or AlMn)

Operating time

>4000 measurements depending on battery type

Battery charge indication

LowBatt indicator, instrument switchoff with low voltage

Permissible temperatures

Operation: -10°C to +50°C (14°F to 122°F)
Storage: -20°C to +70°C (-4°F to +158°F)
Lower temperatures according to individual tests

Weight

approx. 200 g / 0.4 lb.

Dimensions

38 x 170 mm / 1.5" x 6.7"
(diameter x length)

Test attachments

For better positioning with curved surfaces; for spherical, hollow spherical, cylindrical and hollow cylindrical surfaces (Dyna 41 and Dyna 42)

Other accessories

Transport case, cleaning brush, hardness reference block MIC D62, hardness reference block MPA-certified, grinding set for surface treatment, exchange impact bodies.