

Equotip® 550 UCI

Standards

ASTM A1038

DIN 50159

Conversion Standards

ASTM E140

ISO 18265

Guidelines

DGZfp Guideline MC 1

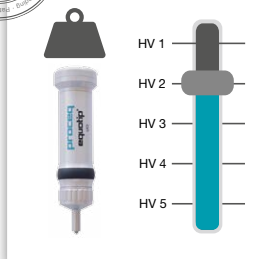
VDI / VDE Guideline 2616 Paper 1

ASME CRTD-91



*Most Flexible
and Convenient
Ultrasonic Hardness Tester*

 **One-Step Calibration**



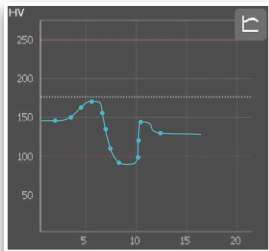
Adjustable test load

With this unique and patented feature a wide range of applications can be covered offering test loads ranging from HV1 to HV5, eliminating the need to purchase more than one UCI probe.



Quick & Reliable Measurements

User guidance enables reliable and accurate hardness readings to be obtained quickly and easily.



Unique Software Features

Additional features such as the profile view and industry specific settings allow for a very smooth workflow.

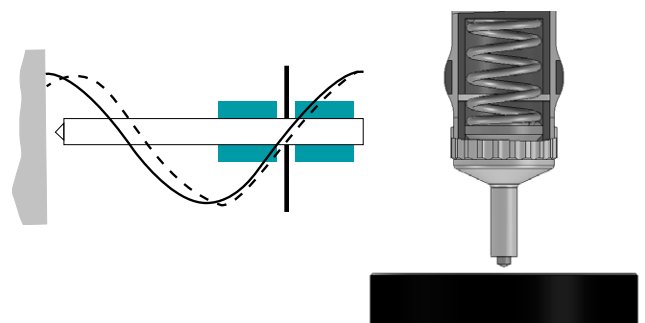


Broad Hardness Scales Coverage

Measurements in HV with automatic integrated conversions to HB, HRA, HRB, HRC and many more common scales in compliance to ASTM E140 and ISO 18265.

The UCI Measuring Principle

The UCI (Ultrasonic Contact Impedance) method uses the same pyramid-shaped diamond as a conventional Vickers hardness tester. Unlike Vickers testing, no optical evaluation of the indentation is required, enabling fast and portable measurements. The UCI method excites a rod into an ultrasonic oscillation. The test load is applied by a spring and typically ranges from 1 to 5 kg of force (HV1 – HV5). As the diamond is forced into the material, the frequency of the rod oscillation changes in response to the contact area between the diamond and the material under test. The instrument detects the shift in frequency, converts it to a hardness value which is immediately displayed on the screen.



Equotip® UCI Probe and Accessory



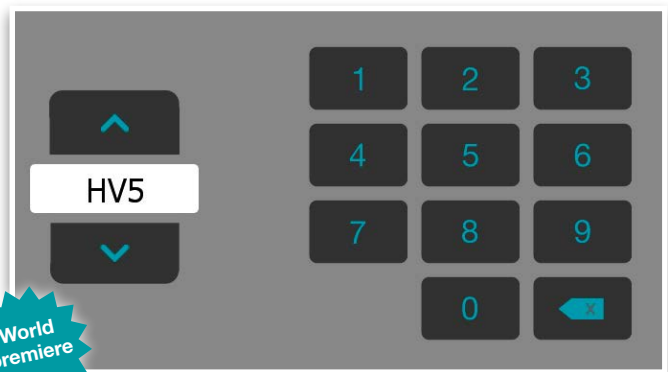
Measuring range	20 – 2000 HV
Resolution	1 HV (UCI), 0.1 HRC
Measuring accuracy	± 2 % (150 – 950 HV)
Test loads (in 10 N steps)	Selectable: HV1, HV2, HV3, HV4, HV5
Diamond indenter	Vickers diamond according to ISO 6507-2
Dimensions	155 x ø 40 mm (6.1 x ø 1.57 inches) without foot

Adjustable test load

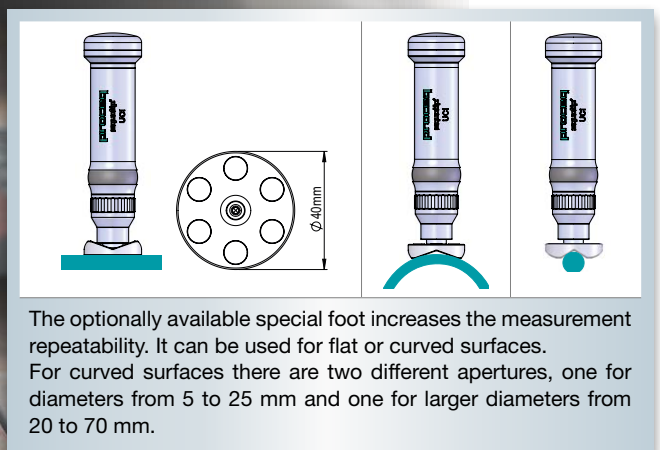
The required test load can be selected by the user in the settings menu. For each measurement series, the force can be chosen from five levels between HV1 and HV5 (~10 N and ~50 N), to fit a wide range of applications. The minimum required mass for reliable UCI measurements is 0.3 kg (0.66 lbs), and a thickness of at least 5 mm (0.2 inch).

Examples:

HV1	Precision parts, thin coatings, hardened layers
HV5	Large components, HAZ, forging parts



Special Foot



The optionally available special foot increases the measurement repeatability. It can be used for flat or curved surfaces. For curved surfaces there are two different apertures, one for diameters from 5 to 25 mm and one for larger diameters from 20 to 70 mm.