



PCE Americas Inc.  
711 Commerce Way  
Suite 8  
Jupiter  
FL-33458  
USA  
From outside US: +1  
Tel: (561) 320-9162  
Fax: (561) 320-9176  
info@pce-americas.com

PCE Instruments UK Ltd.  
Units 12/13  
Southpoint Business Park  
Ensign way  
Hampshire / Southampton  
United Kingdom, SO31 4RF  
From outside UK: +44  
Tel: (0) 2380 98703 0  
Fax: (0) 2380 98703 9  
info@pce-instruments.com

[www.pce-instruments.com/english](http://www.pce-instruments.com/english)  
[www.pce-instruments.com](http://www.pce-instruments.com)

## Technical Hardness Tester PCE-3500

**UCI hardness tester PCE-3500 for non-destructive hardness measurement / large colour LC display / including software / HV, HRC, HRB, HB and MPa scale /with memory function / probes interchangeable / 136 ° Vickers diamond / 50-N probe**

The UCI hardness tester PCE-3500 has been designed for the non-destructive hardness measurement of metallic components. The UCI hardness tester works on the basis of the Ultrasonic Contact Impedance test procedure. This UCI procedure works as follows: a Vickers diamond at the probe is stimulated with its self-resonance. By pushing the probe, the vibration frequency is reduced depending on the hardness of the surface and on the  $e$  module of the material and of the contact surface. The hardness of the surface can be determined on the basis of the frequency shift, taking the characteristic curve of the material into consideration.

The UCI hardness tester works non-destructively. There is a microscopically slight pressure against the surface, however, this is normally not visible. Due to the low penetration depth of the Vickers diamond, this UCI hardness tester is especially suitable for edge layer hardened components such as, for example, those that emerge when nitriding or induction hardening. It is typically used for punching tools, presses, thin-walled components, cog wheels, turbine blades, camshafts or weld seams. The UCI hardness tester is also suitable for many other hardness testing applications. It has exchangeable probes with different pressure forces and can therefore cover diverse applications.

After measuring the hardness of a component, the UCI hardness tester PCE-3500 shows different statistical values such as the MAX / MIN values and average values. Moreover, the standard deviation and further coefficients can be determined. A bar chart can be indicated. Since the UCI hardness tester is equipped with an internal memory, the measured data can be evaluated by means of a software.

- measurement in line with UCI procedure
- tests HRC, HRB, HV, HB, MPa
- measurement direction 360 °
- large colour LC display
- memory function via SD card
- different probes can be attached

- characteristic curve of material pre-calibrated
- evaluation via software possible

### Technical specifications on the UCI hardness tester PCE-3500

Measurement range	230 ... 940 HV 20 ... 70 HRC 90 ... 650 HB 370 ... 1740 MPa
Accuracy	+/- 3 % HV +/- 1,5 HRC +/- 3 % HB
Probes	50 N UCI probe (10 or 98 N UCI probe optional)
Hardness scales	HRC, HB, HV, HRB, HL, MPA
Materials	UCI: steel (ferromagnetic)
Reference block	136 ° Vickers diamond
Measurement direction	360 °
Minimum material thickness	1 mm (with UCI probe only)
Display	graphical colour LCD with backlight
Functions	Single measurement, MIN / MAX / average value, number of measurements, mean value, standard deviation, variation coefficient, bar chart, Smart Mode (filters outliers)
Memory	SD card
Interface	USB
Operating conditions	-20 ... +40 °C; 30 ... 80 % RH
Power supply	6 V (3 x AA batteries)
Battery life	approx. 10 hours
Dimensions	160 x 75 x 30 mm
Protection class	IP 54
Weight	300 g (without probe)

### Delivery content of the UCI hardness tester PCE-3500

1 x UCI hardness tester PCE-3500, 1 x 50 N UCI probe, 1 x 2 GB SD card, 1 x USB cable, 1 x PC software, 1 x instruction manual