



## HARDNESS TESTER

**Accurate, rapid, and reproduceable results from measurement of penetration depth under defined forces and therefore**

- independence of material (no choice of material curves necessary)
- independence of body dimensions and geometry
- measures from one side - no backing necessary

**Excellent sensitivity through small penetration of a few  $\mu\text{m}$  and therefore particularly suitable for**

- scratch-sensitive and polished surfaces
- thin parts, profiles and pipes with a wall thickness  $\leq 2 \text{ mm}$
- hardness profile in heat-affected zone of welding seams



**Static Measurement**  
with test clamp



**Freehand measurements on large parts**  
Large flat surfaces

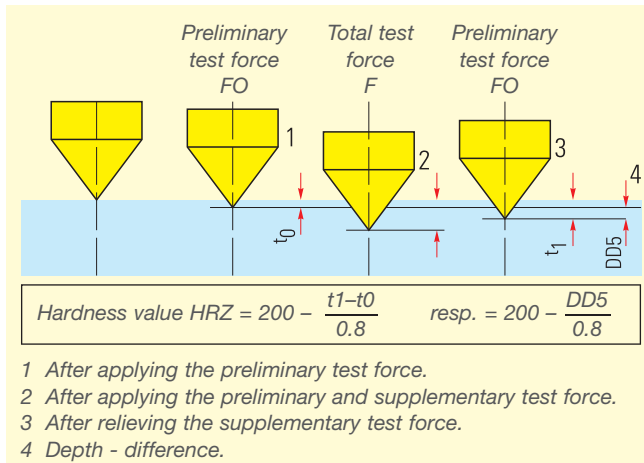


Cylindrical parts, pipes  
and rods



**Special solutions**  
e.g. measurement on blades  
with chamfer

## The EQUOSTAT measuring principle



## Integrated conversions

EQUOSTAT: HRZ - HV - HB - HRC - HRB - HR15N - Rm  
 EQUOTIP: or all EQUOTIP impact devices (see EQUOTIP prospectus or operating instructions). You can also enter user-specific conversions.

## Technical Information

### Probe EQUOSTAT R5

| MEASURING RANGE: | Rockwell HRZ | equivalent hardness/<br>tensile strength |
|------------------|--------------|--|
|                  | 20 - 195     | 21 - 1003 HV                             |
|                  | 20 - 185     | 20 - 691 HB                              |
|                  | 100 - 160    | 14 - 108 HRB                             |
|                  | 151 - 195    | 19 - 70 HRC                              |
|                  | 140 - 195    | 58 - 94 HR15N                            |
|                  | 115 - 180    | 280 - 2150 N/mm <sup>2</sup>             |

MEASURING ACCURACY:  $\pm 1.5$  HRZ ( $\pm 2.0$  HRC) throughout the entire measuring range

TOTAL TESTING FORCE: 50N

PENETRATION DEPTH: soft materials approx. 80  $\mu$ m (0.003 in.) hard materials approx. 15  $\mu$ m (0.0006 in.)

TEST TIP: diamond cone: point  $\angle 80^\circ$

TEST OBJECT: thickness: min. 0.2mm (0.008 in.)  
 external dia.: min. 3mm (0.12 in.)  
 internal dia.: min. 116mm (4.5 in.)  
 surface finish: N6; RA=0.8  $\mu$ m (32 min.)  
 coating thickness: min. 0.1mm (0.004 in.)

### Indicating Device EQUOTIP 2

CONNECTIONS: probe EQUOSTAT R5 / all EQUOTIP impact devices / RS232 C interface / AC adapter (9V DC, 0.2A)

SUPPLY: standard size "AA" cells (LR6), good for about 60 hrs. operation

TEMPERATURE RANGE: 0 - 50 °C (32° F - 122° F)

DATA MEMORY: non-volatile memory for approx. 6000 measurements, data output to a printer and PC (on line). Transfer of the total data memory to a PC (e.g. into an EXCEL-table).

DATE / TIME: saved with the measurement series

Subject to change without notice

### For Sales and Service Contact:

#### Europe/Africa

##### Proceq SA

Ringstrasse 2  
 CH-8603 Schwerzenbach  
 Switzerland  
 Tel: +41 (0)43 355 38 00  
 Fax: +41 (0)43 355 38 12  
 info-europe@proceq.com

#### Americas

##### Proceq USA, Inc.

117 Corporation Drive  
 Aliquippa, PA 15001  
 USA  
 Phone +1-724-512-0330  
 Fax +1-724-512-0331  
 info-usa@proceq.com

#### Asia/Pacific

##### Proceq Asia Pte Ltd

12 New Industrial Road #02-02A  
 Singapore 536202  
 Republic of Singapore  
 Phone: +65-6382-3966  
 Fax: +65-6382-3307  
 info-asia@proceq.com

## Simple, convenient operating

The EQUOTIP2 indicating device detects which sensor or impact device is used. The appropriate measuring function is activated automatically. The user can set the indicating device to his requirements with just a few keys. The selected settings are saved until changed - also after switching off.



In the measuring mode the large LCD display informs of the current situation. At a glance:

- converted measurement value (HRC)
- hardness value HRZ (measured value)
- lowest value (min.)
- highest value (max.)
- range (R)
- standard deviation (s)
- mean value  $\bar{x}$  (HRZ)
- converted mean value (HRC)
- measurement No.
- consecutive measuring series no

Shown in the information line:

- probe EQUOSTAT R5
- diameter correction
- mean value  $\bar{x}$  automatically after 3 measurements
- conversion to HRC

## Ordering Information

### UNIT KITS

350 00 105 EQUOSTAT Hardness Tester (see picture below)

Includes Indicating device EQUOTIP2, probe EQUOSTAT R5 with measuring clamp (support Z0 fixed) and 1.5m (59in.) cable, 1 set of supports Z1/Z2/Z3/Z4, 1 test block R3, 1 set servicing tools, Carrying case 450/385/110mm (18/15/4.3in.), Total weight 4.3kg (10lbs)

350 00 106 EQUOSTAT R-H for free-hand measurements on large flat surfaces.

Includes Indicating device EQUOTIP2, probe EQUOSTAT R5 with conical flat foot R-H and 1.5m (59in.) cable, 1 test block R3, 1 set servicing tools, Carrying case 450/385/110mm (18/15/4.3in.), Total weight 3.3kg (7.5lbs)

### OPTIONAL ACCESSORIES

EQUOLINK2 software, download from [www.proceq.com](http://www.proceq.com)

330 00 456 Transfer cable to PC

350 74 994 Printer cable



# proceq