

## IRHD DUROMETERS

### HILDEBRAND

Durometers are designed for measuring the hardness of rubber, plastics and other non-metallic materials. All the products are easy to use combined with high accuracy and durability.

The available software offers all unique advantages of modern data handling under WINDOWS.

Durometer and IRHD (International Rubber Hardness Degree) are based on international standards for the hardness measurement of rubber, plastics and other non-metallic materials (ISO, ASTM, DIN, BS, NFT etc.). Hardness is the resistance against the indentation of a known geometrical indenter with determined force into a sample. The indentation depth is measured and displayed analogically or digitally.

The indenter is 2.5 mm away from the contact surface at zero durometer reading. Therefore you can only measure samples with a thickness of 6 mm or more (durometer A) or you can stack 3 samples with 2 mm thickness each to 6 mm total. If the samples are thinner than the recommended thickness you are measuring the hardness of the underlying surface (support table or workbench). This will give a false reading due to the "anvil effect".

The MICRO IRHD HARDNESS is for samples with a thickness ranging from 1 to 5 mm. It complies with ISO 48 standard. Very small forces are used for a max. indentation depth of 0.3 mm of the indenter. O-Rings and seals can be tested by using our automatic O-Ring Center Device.

### MACRO IRHD N, H, L / DUROMETER HARDNESS SYSTEM

The patented IRHD N, H, L / Durometer Hardness System provides hardness readings on elastomers and plastics with a specimen thicker than 6 mm according to IRHD and Durometer hardness. It complies to international standards DIN ISO 48, ISO 48, ASTM D 1415 and DIN 53505.

Available inserts for IRHD: ball dia. 2.5 mm, 5.0 mm, 1.0 mm and for Durometer A. You can fit the inserts without tools into the measuring head. An electronic identification of each insert is housed in the measuring head. The corresponding software for each insert is set up automatically. You cannot mix up the inserts. Therefore this system eliminates operator errors.

The patented IRHD N, H, L / Durometer Hardness System is working fully automatically with a PC and the Hildebrand Software. The Software controls the operation of the system. It is working under MS-Windows and offers unique features. Hardness value, graph, statistics, test report are only a few features of this software. An ASCII-output file is provided. The modular construction makes it possible to change the measuring head. An additional measuring head "MICRO IRHD" is available.

### MICRO IRHD SYSTEM

The MICRO IRHD SYSTEM provides hardness readings on elastomers according to MICRO IRHD. Recommended specimen thickness is 1 to 5 mm. It complies to international standards such as DIN ISO 48, ISO 48 and ASTM D 1415. The MICRO IRHD SYSTEM is a hardness testing machine controlled by a Hildebrand MS-Windows software.

2 weights are automatically lowered and raised. Thus this system eliminates operator errors while testing. Specimen are positioned on the support table. The table automatically drives to the measuring head. The minor load is automatically lowered to the indenter. This position of the indenter represents 100 MICRO IRHD. The major load is lowered now. The penetration of the indenter is digitally measured after 30 seconds and converted into MICRO IRHD UNITS.



The MICRO IRHD software checks and controls the operation of the system. The software is working under MS-Windows and offers unique features. The hardness value, graph, hysteresis, statistics, test report are only a few features of this software. An ASCII-output file is provided. All data are transmitted to the IRHD Controller, which is connected to the RS 232 interface of the computer.



### Optional O-Ring Center Device for Micro IRHD System

The optional patented O-Ring Center Device fully automatically cooperates with the MICRO IRHD SYSTEM. O-Rings with a cord dia. of 0.8 mm to 8 mm will just be placed on the measuring table and pushed to the positioning pin. The cord dia. is keyed into the MICRO IRHD software. Integrated electric motors are exactly driving the measuring table to the measuring axis. This results in measuring the highest position of the O-ring.



### Features

- System enables exact measuring at the measuring axis i.e. the highest point of the O-Ring
- O-Ring cord dia. 0.8 mm to 8 mm, adjustable steps of 0.01 mm
- Measuring table dimensions 84 mm x 128 mm
- Fully automatic measuring cycle
- While measuring the pin is in rest position (in), the O-Ring is lying freely on the measuring table, no lateral influences
- Easy to operate
- Reference position of the measuring table



### IRHD Pocket Meter

IRHD Pocket Meter is applied for determining the indentation hardness of vulcanized or thermoplastic rubber all around the world.

The use of the IRHD Pocket Meter is primarily intended for control - not specification - purposes.

The IRHD Pocket Meter is manufactured according to ISO 7619-2.

The ergonomic design assists the easy handling especially as handheld device.

The operation is very easy. Place your sample - thickness at least 6 mm or 3 layers of 2 mm each - on a flat horizontal surface and put your IRHD Pocket Meter on the surface of the sample. The IRHD Pocket Meter will stand by itself. After 3 s you will obtain the hardness value for vulcanized rubber and after 15 s for thermoplastic rubber.

The IRHD Pocket Meter guarantees for excellent accuracy at a high price-performance ratio.

Together with the IRHD Pocket Meter you will get a plastic storage box, the manual and a Proprietary Calibration Certificate listing the force characteristics, the geometry of the indenter and the indentation way.

### Technical data

Dial dia.	57 mm
Total length	155 mm
Range	30.....100 IRHD
Accuracy	±1,0
Resolution	2
Drag pointer	Optional
Net weight	0,840 Kg

Code	Model
40220120	IRHD Macro System
40220122	IRHD Micro System
40220121	IRHD Pocket Meter

