

# AUTOMATIC HARDNESS CHECK-DRIVE

## AUTOMATIC INSTRUMENTS FOR SHORE, IRHD & VLRH HARDNESS MEASUREMENTS WITH INTERCHANGEABLE MEASURING HEADS

STANDARDS: ASTM D1414; ASTM D1415; ASTM D2240; EN 681-1; FIAT 50408; FIAT 504II; ISO 868; ISO 48-2; ISO 48-3; ISO 48-4; ISO 12046; VDA 675-202;

NOTE: COMPLIANCE WITH SOME STANDARDS MAY REQUIRE OPTIONAL ACCESORIES OR SETUPS.



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Automatic hardness tester with interchangeable measuring heads consisting of a motorised support equipped with a digital display for stand-alone use. The instrument can be configured as required by applying measuring heads for different hardness scales, control software and different specimen holders for tests on specific products.

### Applicable Hardness Units

The measuring heads applicable to the automatic hardness tester are Shore (A, D, 00, A0, Micro) and IRHD (Micro, N, L, H, VLRH) and are fully compliant with international standards.

The measuring heads are quickly interchangeable, allowing the user to configure the instrument in a matter of seconds for the required scale.

The support for applying the heads is motorised and allows multiple tests to be carried out automatically at different points on the test piece.

The **Digital Display** and soft-touch control panel integrated into the instrument allow it to be used in stand-alone mode, displaying the results on the display.

### Hardness Check Software

For more sophisticated control of the instrument

and to ensure the traceability of all results produced, the Gibitre Hardness Check software is available, which allows results and curves to be identified and archived, reports and labels to be produced, results to be checked for compliance with tolerance limits and statistical analyses to be carried out.

### ISO 17025-Accredited calibration

ACCREDIA Calibration carried out by Accredited Gibitre laboratory.

### Accessories

- Centring devices for O-rings
- Centring device for rubber tubes.

**Available hardness types:** Shore: (A, D, 00, M) ; IRHD: (Micro, Normal, Hard, Low, VLRH)

**Resolution:** 0.01 Hardness point

**Maximum Sample Thickness:** 100 mm

**Integrated Digital Display:** Allows complete control of the instrument and display of results

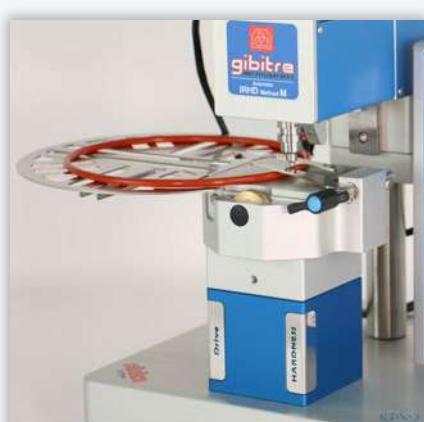
**Optional Software:** Software for the complete control of the instrument compa-

tible with Windows 10 and 11.

**Test modality:** Fully automatic test in different points of the same sample

**Test results calculated for each test:** Shore units: Initial hardness, hardness values after set test times; IRHD/micro IRHD: Hardness at 30 sec (and at set test times), Angle Coeff. of Hardness Vs Time curve, Hysteresis after load removal.

**Personal Computer (optional):** Minimum Setup: Windows 10 or 11, Intel Core i5, 5GB RAM



# SWITCHABLE HARDNESS MEASURING HEADS

SHORE AND IRHD MEASURING HEADS FOR HARDNESS TESTER AUTOMATIC HARDNESS CHECK - DRIVE



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The new generation of Automatic Hardness Tester in Drive version allows you to define the configuration of your hardness tester according to your needs.

#### Interchangeable Measuring Heads

Measuring heads (Shore and IRHD) can be replaced

in seconds on the motorized stand by means of a solid quick coupling system that ensures their perfect perpendicularity.

Replacing the measuring heads is an ideal solution for laboratories with the need to measure against

numerous measurement scales.

Additional measuring heads can also be added later than the purchase of the instrument, allowing you to increase your laboratory's measuring capabilities as new needs arise.

#### Type of Hardness units:

**Shore A:** Standards: ISO 48-4, ASTM D2240, ISO 868; Application: Soft Rubber, Plastics, Elastomers; Sample standard thickness: 6 mm

**Shore D:** Standards: ISO 48-4, ASTM D2240, ISO 868; Application: Hard Rubber, Thermoplastics; Sample standard thickness: 6 mm

**Shore A0:** Standards: ISO 48-4; Application: Light Foams, Sponge Rubber, Gels, Human Tissue; Sample thickness: 6 mm

**Shore 00:** Standards: ASTM D2240; Application: Light Foams, Sponge Rubber, Gels, Human Tissue; Sample thickness: 6 mm

**Shore AM:** Standards: ISO 48-4, ASTM D2240; Application: Small Technical Articles, O-rings; Sample thickness: 1.5-6 mm

#### IRHD UNITS:

**IRHD-M (MICRO):** Standards: ISO 48-2, ASTM D1415; Application: Small Technical Articles, O-rings; Sample thickness: 1-5 mm

**IRHD-N (NORMAL):** Standards: ISO 48-2, ASTM D1415; Application: Rubber Parts with Hardness >30 irhd; Sample thickness: 8-10 mm

**IRHD-H (HIGH HARDNESS):** Standards: ISO 48-2, ASTM D1415; Application: Hard Rubber Parts with Hardness >85 irhd; Sample thickness: 8-10 mm

**IRHD-L (LOW HARDNESS):** Standards: ISO 48-2, ASTM D1415; Application: Soft Rubber Parts with Hardness <35 irhd; Sample thickness: 8-10 mm

**VLRH (VERY LOW RUBBER HARDNESS):** Norme: ISO 48-3; Application: Soft Rubber Parts with Hardness <35 irhd; Sample thickness: 2 mm



# MANUAL DIGITAL HARDNESS CHECK-DRIVE

PORTABLE DIGITAL SHORE HARDNESS TESTER.

AVAILABLE SCALES: SHORE A, D, AO, OO

STANDARDS: ASTM D2240; FIAT 504II; ISO 868; ISO 48-4; ISO 12046; ISO 7267-2; VDA 675-202;

NOTE: COMPLIANCE WITH SOME STANDARDS MAY REQUIRE OPTIONAL ACCESORIES OR SETUPS.



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Digital Shore Hardness tester for the performance of hardness tests that can be used manually or in combination with support.

The instrument can be used as stand-alone device or can be connected to HardnessCheck software for automatic storage of test results.

#### Key features

- High-resolution sensor and frictionless mechanical construction to ensure extreme accuracy and repeatability of measurements.
- Calculation of **initial hardness** and **hardness after set test time**.

• **Measurement of ambient temperature**, specimen surface temperature and relative humidity.

- Storage of 60 measurements in device memory for later transmission to software.
- 25x50 mm digital display.
- Long-lasting rechargeable lithium battery.
- Control of the approach force applied to the instrument during manual operation.
- **Quick application of the hardness tester to the stand** without the need for perpendicularity adjustment.

#### Hardness-Check Software

Allows you to automatically acquire data and curves during test execution, enter test identification, verify compliance with tolerance limits, save numerical results and curves in the SQL database to ensure the traceability of your tests.

#### ISO 17025-Accredited calibration

ACCREDIA Calibration carried out by Accredited Gibitre laboratory.

#### Accessories

- Support with manual sample displacement
- Additional holder for the testing on round surfaces

**Hardness sensors available:** Shore (A, D, 00, A0)

**Calculated Results:** Initial hardness; Hardness values after customer defined test times; Ambient Temperature; Temperature of the surface of the sample; Relative Humidity

**Resolution of Hardness Measure:** 0.01 Shore points

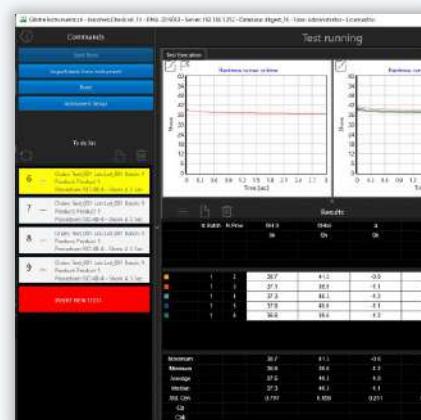
**Digital Display Dimensions:** 25x50 mm (128x64 Pixels)

**Battery:** Lithium battery for up to 8 hours continuous usage

**Battery Charge:** Usb cable and plug for 110/220 V 50/60Hz included

**Support features:** Adjustable distance between hardness sensor and sample (Max 160 mm)

**Personal Computer (optional):** Minimum Setup: Windows 10 or 11, Intel Core i5, 5GB RAM



# LASER REVOLUTION HARDNESS CHECK-DRIVE

**HARDNESS TESTER WITH INTERCHANGEABLE UNITS, LASER CENTRING DEVICE, ROTATING SAMPLE HOLDER AND SOFTWARE FOR THE AUTOMATIC SERIAL MEASURE OF O-RING, TECHNICAL ARTICLES AND STANDARD SAMPLES**

**STANDARDS: ASTM D1414; ASTM D1415; ASTM D2240; FIAT 50408; ISO 48-2; ISO 48-3; ISO 48-4;**

**NOTE: COMPLIANCE WITH SOME STANDARDS MAY REQUIRE OPTIONAL ACCESORIES OR SETUPS.**



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The instrument permits to increase productivity and accuracy in performing automatic multiple hardness measurements and eliminating the human influence in the sample positioning.

#### Applications

The instrument can be used for Serial Hardness Testing of O-Ring and Technical Articles (with Micro-IRHD or Micro-Shore unit) or for the multi-point testing of standard Samples (with any Shore or IRHD unit).

#### Usage

You only need to place the items to be tested on the test line of sample positioning disk. The instrument will use the laser beam to detect the ideal test point for each sample and perform automatically the hardness test. The instrument allows to identify and position different types of pieces on the measuring plane and automatically manages the execution and the correct saving of the entire sequence of measurements.

#### Key Features

- Interchangeable testing units for Shore (A,D,M) and

IRHD (M,N,L,H) hardness

- Official ISO-17025 accredited calibration certificate
- Fully automatic positioning in the target test point with 0.005 mm accuracy
- Testing of samples or parts with thickness between 1 and 15 mm
- Laser scanning technical parts to set and store the desired test position
- Check of tolerance limits for each product tested
- Storage of results and curves in the standard Gibtire SQL database.

**Applicable Units:** Shore (A,D,00,M) & IRHD (M,N,L,H)

**Resolution:** 0.01 points

**Accredited Calibration (optional):** ACCREDIA calibration Certificate issued by Gibtire Instruments ISO 17025-Accredited Laboratory

**Test modality:** Serial automatic testing of the parts placed across the test line of the sample holding disk

**Test results calculated for each test:** Shore units: Initial hardness, hardness values after set test times; IRHD/micro IRHD: Hardness at 30 sec (and at set test

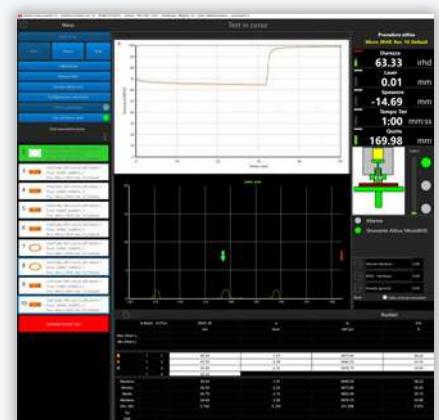
times), Angle Coeff. of Hardness Vs Time curve, Hysteresis after load removal.

**Sample thickness:** Between 1 and 15 mm

**Laser Device:** Class 2 laser sensor; Resolution: 0.005 mm;

**Software:** Software for the complete control of the instrument compatible with Windows 10 and 11.

**Personal Computer (optional):** Minimum Setup: Windows 10 or 11, Intel Core i5, 5GB RAM



# CERTIFIED SAMPLES

GIBITRE INSTRUMENTS PROVIDES CERTIFIED SAMPLES FOR SHORE AND IRHD HARDNESS VERIFICATION



Certified samples for the periodic verification of the conformity of the measurements made by your durometers.

## Overview

Specimens are available for Shore A, Shore D, Shore M, IRHD-N and IRHD-Micro hardness scales.

Certified Specimens are a quick and effective tool for systematic verification of compliance of measurements in the period between two calibrations.

## Characteristics of the product

The hardness of elastomeric products is strongly influenced by the temperature. For this reason, the samples produced by Gibitre have a shape that permits easy handling without transmitting the heat of the hand to the testing area.

The samples are provided with calibration Certificate with traceability to the certified hardness tester used for the measurements.

The samples are provided with an insulated protection case that permits the protection of the samples from temperature variations and from the light.

## Available Configurations

- Complete box including 5 samples with different hardness within the selected hardness scale (approximately 40 - 50 - 60 - 80 - 90)
- Box containing one single sample with one of the available hardness

**Available Scales:** Shore: A, D, M; IRHD: M, N

**Shape of the samples:** The shape of the samples has been developed to permit easy handling without heat transmission to the test area

**Protection Box:** The wooden box ensures protection against light and temperature variations

**Sample identification:** The samples have unique identification code to permit

the traceability of the calibration

**Calibration Report:** The calibration report is issued by Gibitre Instruments and includes the traceability to the officially-calibrated hardness tester used for the measures

**Calibration uncertainty:**  $\pm 2$  Hardness Points

**Suggested re-calibration:** 12 months



# ISO 17025 ACCREDITED CALIBRATION

GIBITRE INSTRUMENTS IS ACCREDITED ACCREDIA  
CALIBRATION LABORATORY ACCORDING TO  
ISO 17025:2018 STANDARD AND PROVIDES  
CALIBRATION SERVICE FOR HARDNESS (SHORE &  
IRHD) AND TENSILE (FORCE, ELONGATION, SPEED)  
TESTERS



00455



The Gibitre Instruments' metrology laboratory is an accredited Calibration Laboratory ([LAT 00455](#)) since 2005.

The calibration Laboratory complies with the **ISO 17025:2018** standard.

The laboratory is currently accredited for the

calibration of:

#### Hardness Testers

- IRHD (Micro, Normal, Hard, Low) according to ISO 48-9
- Shore hardness testers A and D according to ISO 48-9 and ISO 868

#### Tensile Testers

- Force according to ISO 7500-1
- Elongation & Displacement according to ISO 9513 and ISO 5893
- Speed according to ISO 5893 and ASTM E2658

**Place of performance of the Calibrations:** Gibitre Instruments is accredited for calibrations: - At the Gibitre metrology laboratory; - At the customer's laboratory.

#### Calibration of Hardness Testers:

**IRHD (Micro, Normal, Hard, Low) hardness testers :** According to ISO 48-9 & ISO 48-2 Standards

**Shore hardness testers A and D:** According to ISO 48-9, ISO 48-4 and ISO 868 Standards

#### Calibration of Tensile Testers (UTM):

**Calibration of Force:** According to ISO 7500-1;

**Calibration of Elongation:** According to ISO 9513 and ISO 5893

**Calibration of Speed:** According to ISO 5893 and ASTM E2658

**Note about Calibration at customer site:** Calibration of Shore & IRHD Hardness Testers performed at the customer's site does not include dimensional calibration of the indenter and can only be performed for Gibitre brand instruments

