



Automatic Micro IRHD with laser centring device



Instrument Characteristics

Automatic Micro-IRHD tester with solid steel and aluminium structure.

The Laser Centring device has been developed for the easy performance of hardness tests on o-rings or small finished parts.

The execution of the hardness test in the top position of the part requires normally an accurate manual regulation.

The laser centring device eliminates the manual regulation activity.

For the performance of the test the user must simply place the sample on the sample holder in the test area and press start.

The automatic centring device ensures a considerable increase in the repeatability of the results obtained.

Control using Gibitre hardness software

Hardness value measurement after customer defined test times.

Display and printout of the hardness relaxation curve both on linear and logarithmic scale

Calculation of regression line on logarithmic scale: angle and correlation coefficient

Checking of whether results comply with tolerance limits and relative statistical elaboration (Mean, St.dev., Max, Min, Cp, Cpk)

Automatic generation of tolerance limits for data produced from statistical elaboration (mean and standard deviation) of stored results.

The hardness unit is installed in a USB or serial port of the pc.

Control using electronic console and thermal printer

The user can set hardness test time and perform up to 5 automatic tests in different points of the sample.

The 5 test results, the mean, the median and standard deviation are displayed and printed on the thermal printer.

Console Usage languages: English, Italian, French, German and Spanish

Laser centring device

The device includes:

- Class 1 laser Sensor that detects the maximum thickness point of the part being tested
- Motor-controlled slide that moves the sample to perform the test in the optimum test position.

For the performance of the test the

Automatic Micro IRHD hardness tester with motor controlled laser centring device for the performance of hardness tests on o-rings or small articles



The main page of HardnessCheck software: the test curves, test results, tolerance limits. Several hardness units can be used at the same time.

user must simply place the sample on the sample holder in the test area and press start.

The instrument:

- finds automatically the optimum test point of the sample
- measures the thickness of the sample in the test point.
- moves the sample in the test position
- performs the hardness test in the optimum test point
- moves back to the start point to prepare for the next test.

Optional parts

SIT calibration Certificate issued by Gibitre Instruments' ISO 17025 accredited laboratory



SIT calibration certificates may be issued by Gibitre Instrument SIT calibration laboratory on request

Standards the instrument complies with	ISO 48; ASTM D 1415; DIN 53 519
Measure type	Micro-IRHD hardness
Laser Centring Device	Permits to identify the optimum test point for a symmetric sample and to perform the test automatically. Class 1 laser Sensor (riskless for the user). Measurable samples: maximum thickness 20 mm, maximum O-Ring cross-section 20 mm
Test results calculated for each test	Hardness after 30 sec., hardness values after customer defined test times, Thickness of the sample, Hardness relaxation regression curve
Data analysis (PC Control)	Mean, standard deviation, minimum, maximum, Cp, Cpk of test results
Data analysis (Console Version)	Mean, median and standard deviation of test results
Tolerance verification (PC Control)	Comparison of test results with the tolerance limits set for the product
Graphs (PC Control)	Rubber Relaxation curve (hardness variation versus test time: linear and logarithmic)
Measure units and Resolution	IRHD point, 0,1 p.t resolution
Calibration	Electronic calibration Report with traceability to primary references SIT calibration Certificate (optional)
Power supply	220 VAC \pm 10%, 50 Hz \pm 3,4 A, single phase, 40 W - Other on request
Dimensions	(Width x Depth x Height) 350 x 350 x 700 mm
Weight	61 Kg
Personal computer (PC Control)	Minimum Configuration: Pentium IV 512 MB RAM Compatible operating Systems: Windows 2000, NT, XP, Vista Connection to the instrument with one serial or USB port
Software usage Languages (PC Control)	Italian, English, French, Spanish, German, Portuguese, Russian