Product Information

Rockwell hardness tester ZHR4045/4150/8150

Hardness tester ZHR4150AK

Hardness tester ZHR8150SK

Range of application

The hardness testers of the ZHR product family cover the following methods:

- **Rockwell methods (ZHR4150)**
  according to ISO 6508 and ASTM E 18
  Pre-load: 10 kg. Test load: 60, 100,150 kg
  Scales: A B C D E F G H K L M P R S V

- **Superficial Rockwell (ZHR4045)**
  according to ISO 6508 and ASTM E 18
  Pre-load: 3 kg. Test load: 15, 30, 45 kg
  Scales: N T W X Y

- **Combined Rockwell (ZHR8150)**
  according to ISO 6508 and ASTM E 18
  Pre-load: 3, 10 kg.
  Test load: 15, 30, 45, 60, 100, 150 kg
  Scales: A B C D E F G H K L M N P R S T V W X Y

- **Rockwell Plastics (LKP)**
  according to ISO 2039-2 and ASTM D785 (A & B)

Special characteristics

- Friction-free dead-weights
- Nose mounted indenter allows access to awkward to reach test points
- Extended range of applications by means of nose mounted indenter
- Fully automatic testing cycle and automatic conversion to alternative scales eliminates operator influence on the test results
- High level of test result reproducibility
- Robust construction with a play free screw spindle running on ball-bearings
- Workspace up to 250 mm high enables large workpieces to be tested
- Visual and audible signals when specified tolerance exceeded and during pre-load setting
- Full range of standard accessories
- RS232 interface as standard
- Special purpose component fixtures to suit individual customer requirements

Product Information
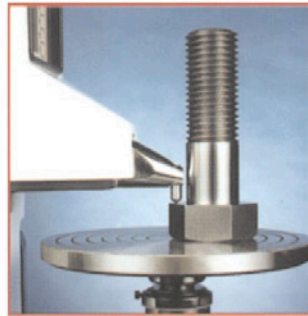
Rockwell hardness tester ZHR4045/4150/8150

Indentor fixturing enables hardness tests on measuring locations that are difficult to access to:

Measuring of the inner contact surface of a cardan shaft driver

Measuring of the inner contact surface of a bearing's outer ring with 23 mm diameter

Measuring of the contact surface of a high-strength screw

Preparation to measure inside of a gear box part

Further features and technical data	
Loading control (application, holding, and removal)	automatic
Resolution	at least 0.1 digits (e. g. 62.1 HRC)
Pre-load setting	with optical and acoustic support
Starting test action	automatically or manually
Test area (height x depth)	250 x 150 mm (standard)
	379 x 150 mm (extended) (note: without tooling)
Dimensions (height x width x depth)	800 x 260 x 670 mm (extended h = 929 mm)
Weight	approx. 90 kg
Power supply	120 or 240 V (50 - 60 Hz)

Accessories for all Zwick ZHR hardness testers

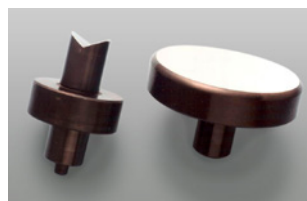| Standard accessories |
|---|
| 1 Diamond indenter |
| 1 Ball indenter 1/16" |
| 1 70 mm diameter flat anvil |
| 1 User manual |
| 1 UKAS test certificate |

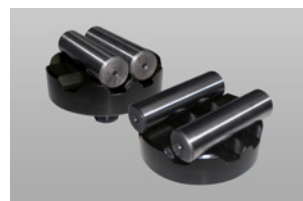| Optional accessories	Item Number
Spare balls 1/16"	**2111183**
6 mm spot and vee anvil	**2111156**
Hardness test blocks	
Extended length	**2111169**

A full range of optional accessories is available, please see our brochure.

Indenter

Support tables

Support tables for round specimens

Hardness comparison plate with certificate

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Operating concepts

AK + BK
One button operation
Equipment for standardised Rockwell measuring

LK
Membrane key pad
• Tolerance limits
• Average value
• Conversion
• Correction of curves

SK
Touchscreen, standard
Additional:
• Automatic load change
• Extended statistics
• Monitoring minimum material thickness

TK
Touchscreen, advanced
Additional:
• Automatic load change
• Graphical possibilities of evaluation
• Measurement series memory

Features		AK	BK	LK	SK	TK
Data calculation	Average value (display)	•	•	•	•	•
	Average value and variance (diagram)					•
	Test series save to a file					•
	Histogram (display + output)				•	•
	SPC characteristic numbers (display + output)				•	•
	Standard deviation (display + output)				•	•
	Go / No go evaluation (display + output)			•	•	•
Automatic display of the selected hardness method				•	•	•
Automatic conversion (Vickers, Brinell, Rockwell, Knoop, tensile strength)				•	•	•
Automatic correction of curves (diameter = 3 – 20 mm)				•	•	•
Check minimum material thickness					•	•
Automatic load change					•	•
Adjustable dwell time (1 ... 50 sec)				•	•	•
Single RS232 C connection		•	•	•		
Twin RS232 C connection					•	•
Internal clock					•	•
Specimen clamp (optional, factory-fitted)		•	•	•	•	•
Motorised leadscrew (optional, factory-fitted)					•	•

Test software testXpert® III
Measurement value logging

Description	Item number
testXpert III - Standard Test Program	**1035143**
- Data Communication for Hardness tester	
- Via RS232 interface	
testXpert III - Master Test Program	**1035512**
- Data Communication for Hardness tester	
- Via RS232 interface	

Measured values determined on the hardness tester are transferred to testXpert II via the serial port for logging, data archiving and processing.

testXpert® III

Zwick / Roell

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Rockwell hardness testers Zwick/ZHR AK + BK

Type	Item number
ZHR4045AK / BK	**2111112 / 2111114**
ZHR4150AK / BK	**2111113 / 2111115**
ZHR8150BK	**2111116**

Additional features

- Test load selection via side-mounted switch
- With 4-digit display, toggle switch for indentor selection (diamond or ball) and mean value display
- AK equipped with springs, BK with dead-weights

Rockwell hardness testers Zwick/ZHR LK

Type	Item number
ZHR4045LK	**2111117**
ZHR4150LK / LKP	**2111118 / 2111119**
ZHR8150LK	**2111120**

Additional features

- Load application via friction-free dead-weights for long-term stability
- Line display with test configuration
- Adjustable functions: tolerances, mean value, conversion, curvature correction

Rockwell hardness testers Zwick/ZHR SK + TK

Type	Item number
ZHR4045SK / TK	**2111121 / 2111124**
ZHR4150SK / TK	**2111122 / 2111125**
ZHR8150SK / TK	**2111123 / 2111126**

Additional features

- Load application via friction-free dead-weights for long-term stability
- Touch-screen display for test configuration and selection of test load
- Automatic test-load change
- Expanded functions: tolerances, mean value, conversion, curvature correction, minimum thickness monitoring, standard deviation, histogram plus many others

All data at ambient temperature.