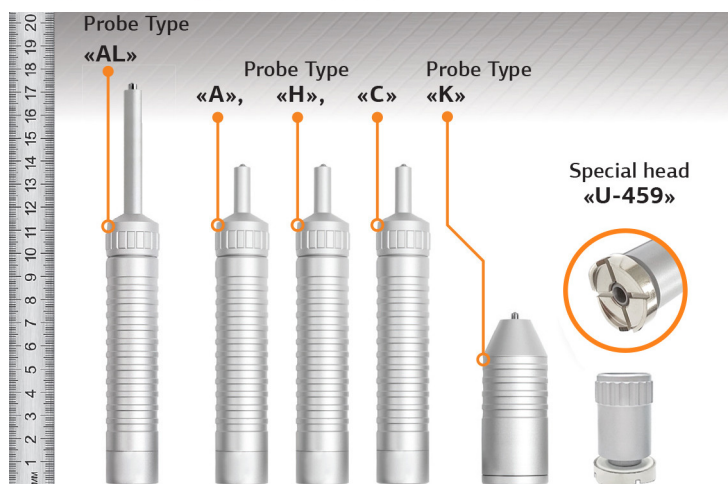


UCI Hardness tester TQ TKM-459CE



Portable high precision hardness tester TQ TKM-459CE intended for quick measuring of metal items hardness in laboratorial, manufacturing and field conditions.

The device performs non-destructive quality control of products in metallurgy, mechanical engineering, aircraft construction, shipbuilding, nuclear industry, oil and gas industry.

The hardness tester is intended to be used for hardness measurement of carbon construction steels in basic hardness scales – Brinell (HB), Rockwell (HRC), Vickers (HV).

Hardness tester functions by UCI method (Ultrasonic Contact Impedance).

TQ TKM-459CE controls hardness of following:

- Carbonaceous and structural steels
- Items with surface-hardened layers such as cementation, nitride hardening, high frequency current hardening
- Heat-proof, corrosion-proof, non-corrosive steels
- Plated coating (chrome), overlaying
- Items of complicated configuration

Exploitation advantages




- Stable readings independent from force and time of pressing.
- Easy measuring in hard-to-reach areas.
- Ultra-small control area (from 1 mm).
- Control in slots and blind holes from 5 mm (not provided by rival devices).
- Invisible print on mirror-surface.
- Low sensitivity to the curvative of surface, thickness and weight of product.

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Features of TQ TKM-459CE

- Impact-, dust- and water- proof housing.
- Bright color display allows working at below zero temperature and stays bright at any lighting.
- Signalization of exceeding of prescribed readings threshold.
- Unique system of statistic data processing and averaging of readings.
- Fast adjustment of readings and programming of additional calibrations to basic scales by 2 or less standard blocks.
- Flexible device memory for recording of readings and their analysis.
- Programming of additional scales calibrations of hardness tester by 2 or less standard test blocks.
- Fast programming of additional scales by 2 to 10 standard test blocks.

Probes characteristics

Photo	Probe Type/Load	Weight/thickness/ surface roughness of the article under check	Length/ Diameter	Application
	«A» 50H/5 kg	1 kg/3 mm/Ra 1,6	145/26 mm	Solving of main hardness testing tasks
	«H» 10H/1 kg	1 kg/2 mm/Ra 0,8	145/26 mm	Hardness testing of electroplated coating (chrome, copper, nickel, zinc, tin), thinwalled and small-sized items
	«C» 100H/10 kg	1 kg/4 mm/Ra 3,2	145/26 mm	Hardness testing of items with unprepared surface, large items and heavy-duty equipment
	«K» 50H/5 kg	1 kg/3 mm/Ra 1,6	76/33 mm	Hardness testing of inner surface of tubes, tanks and other hard-to-reach areas
	«AL» 50H/5 kg	1 kg/3 mm/Ra 1,6	190/26 mm	Hardness testing in hard-to-reach areas as pinholes, grooves, in-between gear teeth zones (length of tip 65 mm)

Exploitation

Requirements to controlled item:

- Items heavier than 1 kg and thicker than 2 mm need no additional preparation;
- Items lighter than 1 kg should be fixed in a vice clamp or on a support plate by fixing paste;
- Items thinner than 2 mm should be fixed in a vice clamp or on a support plate by fixing paste;
- Roughness of controlled surface providing best measurement accuracy is 1.6 RA.

Hardness testers modes

Measurement mode	Readings	Using
By basic scales	Basic hardness units (HRC, HB, HV)	Hardness testing of the bulk of products
By additional calibrations to basic scales	By HRA, HRB, HSD scales and ultimate tensile strength	Hardness testing of high-alloy steels, special cast iron and nonferrous metals
By additional scales	Scales are programmed by the user	Special problems solving

Technical specifications

Characteristic	Values
Relative average error at regular calibration	3-5 %
Hardness testing ranges:	
Rockwell C	20-70 HRC
Brinell	90-450 HB
Vickers	240-940 HV
Spot diameter on the item surface for probe positioning	From 1 mm on flat surface From 5 mm in a slot
Quantity of possible additional scales calibrations	5 for each scale
Quantity of additional scales	3
Duration of the measurement	2 seconds
Quantity of measurements for average reading calculation	1-99
Memory capacity	12 400 readings
Maximum quantity of named blocks of readings generated in memory	100
Signalization about threshold exceeding	Provided
PC connection	USB
Power supply	Li-ion accumulation battery
Dimensions of hardness tester electronic unit	121x69x41 mm
Weight of electronic unit	0.3 kg
Weight of A-probe	0.3 kg
Operating temperature range	-15...+35 °C
Warranty	1 year

UCI Hardness tester TQ TKM-459CE

Delivery set

Elements	UCI Hardness tester TKM-459CE	UCI Hardness tester TKM-459CE special
Electronic unit with accumulation battery	+	+
A-type probe	+	+
Connecting cable for A-type probe	1 pcs	2 pcs
Special head "U-459"		+
Standard test block HRC		+
Charger	+	+
Operating manual	+	+
PC cable	+	+
Soft case	+	+
Cuff to fix device on arm	+	+
Bag for carrying and storing	+	+

ACCESSORIES

The parameters of the statistical processing of measurements

- Replaceable probes of different construction and load
- Special head "U-459" for easier probe positioning on complex surfaces
- Connection cables

