

## Metal Hardness Tester TIME5300 (TH110)



This hardness tester unit has a user-friendly membrane and a built-in mini printer. Hardness scale, material, average time can be set with one touch.

This model tests the hardness of steel, cast steel, alloyed steel, stainless steel, gray cast iron, nodular cast iron, cast aluminum alloy, copper zinc alloy (brass), copper tin alloy (bronze), pure copper, forging steel, etc. Long stand-by time due to the powerful NiMH rechargeable battery. Readouts with dates can be printed out on the built-in printer. User-friendly software calibration. Automatic turnoff.

### Features:

Measuring accuracy	$\pm 6$ HLD of reading at HLD=760
Repeatability	6 HLD of reading at HLD=760
Impact direction	360°
Hardness measurement value	HRC, HRB, HB, HV, HS, tensile strength
Measuring range	HLD170-960 (17.9-69.5HRC)
Tensile strength value display ( $\sigma$ )	With D or DC probes only

Optional impact device	D, DC, DL, D+15, C, G
Charging time	2-3.5 hours
Printer paper width	44.5 ± 0.5mm
Power supply	12V/600mA
Operating temperature	0°C-40°C
Dimensions	235×90×47mm
Weight	0.615kg (22oz)
Built-in micro printer	

### Features of Impact Devices:

D probe is for standard use.

DC probe is short and is convenient in small space.

DL type is used in confined surfaces such as gear wheels.

D+15 type is for measuring in grooves or recessed surfaces.

C type is used on surface-hardened, coated, thin-walled or impact sensitive components.

G type is used on heavy and rough cast and forged work pieces.

### Specifications of impact devices:

Model:	D/DC/DL	D+15	C	G
Impact energy:	11Nmm	11Nmm	2.7Nmm	90Nmm
Mass of the impact body:	5.5 / 5.5 / 7.3g	7.8g	3.0g	20g
Probe diameter:	20/20/5mm	20mm	20mm	30mm
Probe length:	147 / 86 / 202mm	162mm	141mm	254mm
Probe weight	75/50/87g	80g	75g	250g
Max. hardness of sample:	940/940/950HV	940HV	1000HV	650HB
Preparation of surface:				
Average roughness Ra	1.6µm	1.6µm	0.4µm	6.3µm
Min. weight of sample:				
Of compact shape	5kg	5kg	1.5kg	15kg
On solid support	2kg	2kg	0.5kg	5kg
Coupled on plate	50g	50g	20g	500g
Min. thickness of sample:				
Coupled	5mm	5mm	1mm	10mm
Min. thickness of layers	0.8mm	0.8mm	0.2mm	1.2mm
Test tip:				
Hardness	1600HV	1600HV	1600HV	1600HV
Diameter	3mm	3mm	3mm	5mm

Material

Tungsten carbide

Indentation:

Diameter	-with 300 HV	0.54mm	0.54mm	0.38mm	1.03mm
Depth	-with 300HV	24µm	24µm	12µm	53µm
Diameter	-with 600 HV	0.54mm	0.54mm	0.32mm	0.90mm
Depth	-with 600HV	17µm	17µm	8µm	41µm
Diameter	-with 800 HV	0.35mm	0.35mm	0.35mm	
Depth	-with 800HV	10µm	10µm	7µm	

Measuring range of impact devices:

Sample material	Scale	Impact Devices				
		D/DC	D+15	C	G	DL
		LD:170-960	LD+15:300-900	LC:350-950	LG300-750	LDL:560-950
Steel and cast steel	HRC	20.0-68.4	19.3-67.9	20.0-69.5		20.6-68.2
	HRB	38.4-99.8			47.7-99.9	37.0-99.9
	HB	81-654	80-638	80-683	90-646	81-646
	HV	81-955	80-937	80-996		80-950
	HSD	32.2-99.5	33.3-99.3	31.8-102.1		30.6-96.8
CWT, ST tool steel	HRC	20.4-67.1	19.8-68.2	20.7-68.2		
	HV	80-898	80-935	100-941		
Stainless steel	HRB	46.5-101.7				
	HB	85-655				
	HV	85-802				
Gray cast iron	HB	93-334			92-326	
Nodular cast iron	HB	131-387			127-364	
Cast aluminum alloys	HB	19-164		23-210	32-168	
	HRB	23.8-84.6		22.7-85.0	23.8-85.5	
Brass	HB	40-173				
	HRB	13.5-95.3				
Bronze	HB	60-290				
Copper	HB	45-315				

## Standard Delivery

Main unit  
Printing paper  
Impact Device type D  
Leeb hardness test block  
Small support ring  
Nylon brush  
Charger  
Calibration certificate  
Instruction manual  
Carrying case

## Optional accessories:

Probe DC  
Probe DL  
Probe D+15  
Probe C  
Probe G  
Printing paper  
12 support rings for concave, convex, and cylinders.



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