

Impact Type Hardness Testing Unit HARDMATIC HH-411

Specifications

Impactor	Impact hammer with integrated carbide-ball tip, D type (ASTM A 956)
Data output	RS-232C, SPC
Power supply	Battery LR6 (2 pcs.) or AC adapter (optional)
Functions	Auto angle compensation, Offset, OK/NG judgement, Hardness scale conversion, Data storage (1800 data entries), Statistical analysis (Average value, Max. value, Min. value, Dispersion), Auto sleep function, Impact counter display function

Standard accessories

No.	Description
19BAA258	Cleaning brush
19BAA450-01	Display unit
19BAA451	Support ring ø22 mm
19BAA452	Support ring ø14 mm for HH-411
19BAA457	Carbide ball indenter
19BAA460	Cable detector for HH-411
810-287	UD-411 impactor

Optional accessories

No.	Description
19BAA458	Impact device for type DL
526688D	AC adapter
526688UK	AC adapter 220 V (UK only)

Computer accessories

11AAA003	EXPAK data processing program
937387	Signal cable 1 m
19BAA263	RS-232C cable
264-504-5D	Digimatic Mini-Processor
264-504-5E	Digimatic Mini-Processor

Hardness test blocks (all blocks are 115 mm diameter, 33 mm thick, 3.7 kg mass)

19BAA243	Hardness test block 880 HLD
19BAA244	Hardness test block 830 HLD
19BAA245	Hardness test block 730 HLD
19BAA246	Hardness test block 620 HLD
19BAA247	Hardness test block 520 HLD

Indenters

810-288	UD-412 impactor
810-289	UD-413 impactor
810-290	UD-414 impactor

Support rings

19BAA248	Cylinder support ring R10-20 mm (Types D/DC)
19BAA249	Hollow cylinder support ring R14-20 mm (Types D/DC)
19BAA250	Spherical support ring R10-27.5 mm (Types D/DC)
19BAA251	Support ring for hollow sphere R13.5-20 mm (Types D/DC)



Hardness Testing Machines brochure on request

Series 810

- Hardmatic HH-411 is a lightweight, digital-reading portable hardness testing instrument for metal workpieces.
- Operates on the rebound hardness principle (standardised according to ASTM A 956).
- Measurement is conducted with hardness value L (Leeb-value), however, conversion to any desired hardness scale can be performed.
- Display automatically shows GO/±NO GO with the tolerance function set and selected.
- Memory function for 1800 measured values, automatic measuring direction angle-compensation.



810-298



Sample application

Model	HH-411
No.	810-298
Accuracy	±12 HL (800 HL +/- 1.5%)
Display unit	7-segment LCD
Resolution	1-999 HL
	Conversion range / Increment
Vickers	43-650 HV / 1 HV
Brinell	20-894 HB / 1 HB
Rockwell C	19.3-68.2 HRC / 0.1 HRC
Rockwell B	13.5-101.7 HRB / 0.1 HRB
Shore	13.2-99.3 HS / 0.1 HS
Tensile strength	499-1996 MPa / 1 MPa
Specimen Thickness	Min. 5 mm
Specimen Mass	5 kg or more
Dimensions	
Measuring/Display unit	ø28 x 175 mm / 70 x 110 x 35 mm
Mass	320 g



UD-412 Detector
Use for inner walls of cylinders. The grip is short to allow positioning within a cylinder.



UD-414 Detector
Use for gear teeth, welded corners, etc.



UD-413 Detector
Use for concave workpieces such as gear teeth, ball bearings, etc.