

Micro-Vickers Hardness Testing Machines

HM-101/102/103/112/113

Specifications

Test force range	98.07 / 245.2 / 490.3 / 980.7 / 1961 / 2942 / 4903 / 9807 mN
Loading accuracy	1% (forces less than 9.807 mN are ignored)
Load control	Automatic (load, dwell, unload)
XY stage	Stage size : 100 x 100 mm Travel range : 25 x 25 mm, with micrometer heads Resolution : HM-101 / 102 / 103 = 0,01 mm HM-112 / 113 = 0,001 mm
Graduation	0,01 mm
Max. specimen height	95 mm
Max. specimen depth	150 mm (from the centre of the indenter shaft)
Observation by Indenter / Objective turret	Micrometer eyepiece
Lens system	Manual type
Magnification	10X, 50X
Optical path	100X, 500X
Data output	2-way (measurement / exposure)
Power supply	RS-232C, Digimatic code (SPC) and Centronics
Dimensions (W x D x H)	100/120/220/240V AC, 50/60Hz
Mass (main unit)	410 x 600 x 590 m 42 kg

Standard accessories

No.	Description
810-617	Objective 10X
810-619	Objective 50X
810-011	Rotary table
810-074	XY Stage (digital type)
810-016	Vice, max. 45mm groove width
19BAA058	Diamond indenter low force
19BAA109	Dust protection cover

Hardness test block 700 HV0.3 is standard accessory.

Optional accessories

No.	Description
810-017	Vice, max. 100mm groove width
810-018	Rotary table
810-019	Special vice, swivelling groove width 37 mm
810-013	Thin plate holder
810-014	Wire holder horizontal
810-015	Wire/ball holder vertical
810-020	Universal specimen holder up to 30 mm
810-084	Rotary universal specimen holder
810-085	Adjustable thin plate holder, sheet metal length 56 mm
810-012	50 x 50 mm travel XY stage
810-641	Vibration damping stand

Objectives

810-616	Objective 5X
810-618	Objective 20X
810-620	Objective 100X

For a list of available hardness testing blocks and computing tools, refer to the HM-211/221 page.

Series 810

- The load time can be set in 1 second increments between 5 and 99 seconds (HM-112 / 113).
- A measuring resolution of 0,01 µm is provided that allows small indentations to be measured with high precision.
- Hardness tester according to DIN EN ISO 6507 and JIS B7725.
- Micro-Vickers hardness tester with Vickers test from HV 0.01 - HV 1.
- Up to 3 objectives can be connected that can all be used for indent measurement (except HM-101).
- A Knoop indenter can also be connected.
- Manual lens system switch.



HM-101
Economical manual type



HM-112
Digital display of measurement results and a statistical calculation function

Model	HM-101	HM-102	HM-103	HM-112	HM-113
No.	810-124D	810-125D*	810-959D*	810-126D	810-969D*
No. UK only	810-124E	810-125E	810-859E	810-126E	810-969E
Load dwell time	5-30 sec	5-60 sec	5-60 sec	5-99 sec	5-99 sec
Control unit	-	Membrane switch type	Membrane switch type	Touch-screen type	Touch-screen type
Video monitor	-	-	9" B&W	-	9" B&W
Indenter mounts	1	1	1	1	1
Objective mounts	1 (observation, 1 (measurement)	2 (measurement)	2 (measurement)	2 (measurement)	2 (measurement)
Resolution	0,2 µm	0,1 µm	0,1 µm	0,1 µm	0,1 µm
Reading of hardness values	at Vickers table	at Vickers table	at Vickers table	via "Touch Screen"	via "Touch Screen"