



Touch Screen Digital Micro Vickers Hardness Tester

DV-1MT-8 / DV-1MT-8P / DV-1AT-8P



Introduction & Features::

The traditional Micro hardness tester has poor precision and can barely meet the needs of visual observation & measurement. If connect with camera and software, the indentation image of traditional Micro hardness tester always out of central position. It is very big problem of measuring and analysis process.

Fortunately, our this machine perfectly solved above problems.

- 1) Guided by **optical cross rails** to ensure high guiding accuracy;
- 2) **Fast and smooth** force transmission can be achieved by using the secondary transmission force of the **rack and pinion**.
- 3) This machine equipped with most advanced High transmission ratio high precision **worm gear rod**, can achieve stable continuous lifting, and greatly improved the accuracy and repeatedly of the testing process. This update is very important to improve working performance and working efficiency.

YouTube demo video: https://youtu.be/b2PNCMvn_Y

4) Equipped with **dual optical path**, one optical path for eyepiece system, another path for CCD camera, both path can working in same time, no need switch optical path rod. Greatly extend the service life of the optical system, and make test more easy.

5) Adopted **8" touch screen**, menu structure, and digital eyepiece with built-in encoder, just click button on encoder, the diagonal length of indentation D1, D2 and hardness value will display on touch screen directly, very easy operate.

6) With **hardness conversion** function, from HV can convert to HRA, HRB, HRC, HBW, etc scales.

7) With **(HV & HK)** Vickers and Knoop hardness testing capabilities.

8) **OK/NG judgement** function. **HV-HK function YouTube demo video:** <https://youtu.be/Y8eoGgutD4Q>

9) **Both lens (10X & 40X) can used for measurement**, suitable to test widely hardness range of materials from most soft to very hard.

Main purpose and application:

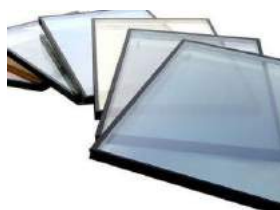
1. Steel, nonferrous metals, tinsel, cemented carbide, sheet metal, metallographic structure.
2. Carburization, nitriding and decarburization layer, surface hardening layer, galvanized coating, coating.
3. Glass, chip and ceramic material.



Metal material



Surface coating



Glass material



ceramic material



Plastic/ rubber

Specification:

Model	DV-1MT-8	DV-1MT-8P	DV-1AT-8P
Turret	Manual Turret	Manual Turret	Automatic Turret
Objective	10X (Observe)	10X (measure)	10X (measure)
	40X (measure)	40X (measure)	40X (measure)
Eyepiece	10X with built-in encoder		
Total Magnification	100X (Observe)	100X (measure)	100X (measure)
	400X (measure)	400X (measure)	400X (measure)
Testing force	10g (0.098N), 25g (0.245N), 50g (0.49N), 100g (0.98N), 200g (1.96N), 300g (2.94N), 500g (4.9N), 1000g (9.8N) Test force error: $\pm 1.0\%$		
Hardness scale	HV0.01, HV0.025, HV0.05, HV0.1, HV0.2, HV0.3, HV0.5, HV1		
Loading speed	$\leq 50\mu\text{m/sec}$		
Indenter	Standard Rectangular pyramid diamond indenter ($136^\circ \pm 0.5^\circ$)		
Min. measuring unit	0.01 μm		
Hardness value rang	8HV-2900HV		
Hardness Value of Reading	8 inch LCD touch screen		
Loading method	Automatically (Load, dwell and unload the testing force)		



Duration time	1-99s (each step is 1 second)
Objective lens center and indenter center	Coincidence accuracy error < 1um (objective lens center position can be adjusted)
X-Y Testing Table	Dim.:100×100 mm, Max. Travel Range: 25×25mm, Moving Resolution Ratio: 0.01mm
Test space	Maximum height: 100mm (vertical); Throat depth: 130mm (horizontal)
Light Source	LED Cold light source (can be continuous use for 24 hours, no heat generate ensure stable working, servicing life can reach 100,000 hours)
Instrument size and Net weight	540*260*650mm 50kg
Packing size and Gross weight	710*420*627mm 68kg
Power Supply	220V \pm 5%, 50/60 Hz (110V is available)
Executed Standard	GB/T4340, ASTM E384 & E92, EN-ISO 6507, JIS B-7734

The difference chart between model DV-1MT-8 / DV-1MT-8P / DV-1AT-8P

Model	Turret	Touch screen	Printer	RS232	Data Storage	OK/NG	Dual optical Path
DV-1MT-8	Manual	8"	NO	NO	YES	YES	YES
DV-1MT-8P	Manual	8"	YES	YES	YES	YES	YES
DV-1AT-8P	Automatic	8"	YES	YES	YES	YES	YES
Model	Hardness Conversion	HV/HK scale	10X Objective	40X Objective	Extend HV2	Eyepiece with encoder	Data statistics function
DV-1MT-8	YES	YES	Observe	Measure	OK	YES	NO
DV-1MT-8P	YES	YES	Measure	Measure	OK	YES	YES
DV-1AT-8P	YES	YES	Measure	Measure	OK	YES	YES

Data statistics function demo video on Youtube: <https://youtu.be/zNOtMBhVz5k>



8 Inch touch screen in menu structure, easy operate:



Main interface



Data storage



Calibration

The most advanced High transmission ratio high precision **worm gear rod**, can achieve stable continuous lifting, and greatly improved the accuracy and repeatedly of the testing process.



Flexible & foldable design of hand wheel, during shipping more safe;
Traditional handwheel is Unfoldable type, it will be big problem once during shipping damage this position.
This machine perfectly solved this potential problems.

YouTube demo video: <https://youtu.be/KSv93reELeo>



10X digital eyepiece with built-in encoder, just click button on encoder, the diagonal length of indentation D1, D2 will display on touch screen directly, and make hardness test very easy; Avoid errors in human readings, greatly improved test accuracy.



Equipped with **dual optical path**, one optical path for eyepiece system, another path for CCD camera, both path can working in same time, no need switch optical path rod. Greatly extend the service life of optical system, and make test more easy.



LED Cold light source (can be continuous use for 24 hours, no heat generate ensure stable working, servicing life can reach 100,000 hours); Lighness can be adjusted, avoid visual fatigue of operator.



Standard Packing List:

Item	Q'ty	Item	Q'ty
Weights shaft	1	Weights	6
X-Y Cross clamping testing table	1	Level adjustment screw	4
Gradienter	1	Objective 10X, 40X	1+1
Micro Vickers hardness block	2	Eyepiece 10X	1
Dust-proof cover	1	Screw driver	2
Power cable	1	Fuse (2A)	2
Manual	1	Product Certificate	1



Note: Flat clamping testing table, Thin Specimen Testing Table, Filament clamping testing table for additional purchase if need.



Standard export packing: Plywood box with foam protection.



Optional Purchase:

HV/HK Hardness Measure & Analysis Software	CCD Camera	Camera Adapter	Optical Tube for Camera
			
X-Y cross stage with digital head	2kg weights	HK diamond indenter	HK hardness blocks
			
HV Diamond indenter	Filament clamping testing table	Flat clamping testing table	Thin Specimen Testing Table
			
Microscope	Sample Cutting machine	Mounting Press Machine	Grinding & Polishing machine
			
Portable hardness tester	Ultrasonic thickness gauge	Coating thickness gauge	UTM
			