

# AMT/AVT

AUTO HARDNESS TEST SYSTEM

# PMT/PVT

AUTO-READING DEVICE SYSTEM



- The system can be improved to various stage to match with user-needs.
- Utilizing an existing hardness tester effectively.

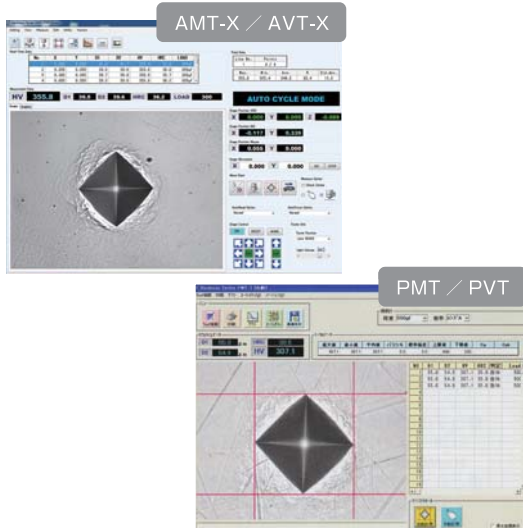


**MATSUZAWA**

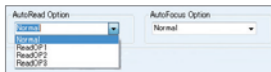
<http://www.matsuzawa-ht.com>

Function

Flexible Auto-focus and Auto-reading function.



Auto-focus  
(For AMT/AVT-FS)



Auto-reading option  
(For PMT/PVT,AMT/AVT-PS,FS)

This function sets four kinds of detailed set values of an automatic focus and reading beforehand; those calls those set values easily on software.

(For AMT/AVT and PMT/PVT)

An automatic focus and reading can be done more smoothly and accurately. In the measurement of the sample with rough surfaces like etching, a very high effect is demonstrated. Even if some of the samples with a rough surface are mixed, they can be measured smoothly and accurately by only selecting set values.

Please prepare several kinds of samples with a significantly different state on the surface.

Function

Customize



We have a In-house production of software for corresponding to various user-needs.

We will respond fast and flexible customization.

And, a special treatment device and a special stage also do the design production from one goods.

First of all, please contact us.

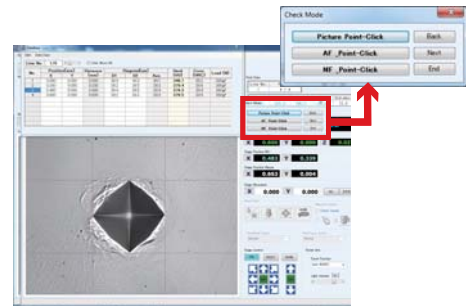
Function

Flexible measurement function.

After completing the measurements, this function can promptly follow up the work and once again measure images (if needed) on the data edit screen.

(For AMT/AVT-PS,FS)

Since all the indentation measurement images have been temporarily preserved by the internal PC, it can be reconfirmed promptly. The positive proof of hardness can therefore be more effective.

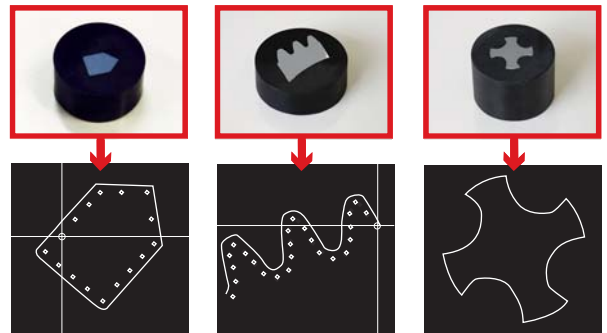


Function

Auto trace function.

The shape of the specimen is traced by the automatic operation.

(For AMT/AVT-PS,FS)

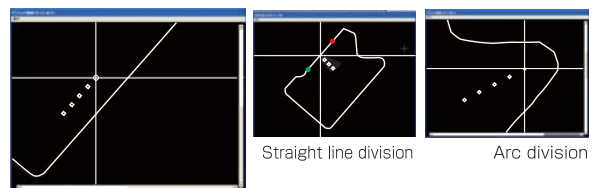


Function

The line origin function.

The starting point of the measurement line can be set by the shape trace based on the image.

(straight line division/arc division/straight line trace)



Straight line trace  
(For AMT/AVT-PS,FS)

# AMT/AVT PMT/PVT SERIES LINE UP



## PMT/PVT

PMT/PVT SERIES

### Automatic reading system

In addition to automatic reading, data processing and operation of hardness testers\* can be operated in the PC side.

※Hardness tester models that can control is the only digital models.

## S

S SERIES

### Automatic stage system

Excellent measurement by the stage control box in the operation can be done.

### System configuration

Type	Name	Data handing	Automatic stage	Automatic reading	Automatic focus
PMT/PVT SERIES	Automatic reading system	○	—	○	—
AMT/AVT - S SERIES	Automatic stage system	○	○	—	—
AMT/AVT - PS SERIES	Automatic stage-reading system	○	○	○	—
AMT/AVT - FS SERIES	Automatic stage-reading-focus system	○	○	○	○

### List for each function

#### HARDNESS TESTERS

- MMT-X Series
- Old type vickers (Micro vickers)
- VMT-X Series
- Other company hardness tester ※Please consult.



#### Automatic reading system

PMT/PVT System up

- CCD camera
- Software for PMT/PVT
- PC (With 19 inch display)



Sseries

#### Automatic X-Y stage system

- Auto X-Y stage
- Software for AMT/AVT
- PC (With 19 inch display)
- Stage control box



#### Auto focus

PMT/  
PVT  
Series

AMT/AVT  
PS  
Series

AMT/AVT  
FS  
Series



**PS** PS SERIES

Automatic stage-reading system

Various measuring patterns can be set.



With auto focus function

**FS** FS SERIES

Automatic stage-reading-focus system

Serial operation of position move - Loading - auto focus -auto reading are done in all automatic.

**EX-TYPE**



**Wafer measurement system**



**Automatic vickers large stage system**

In response to a demand of a customer, we meet needs for the specimen shape recognizer, the device of polishing specimen, the specimen supply device and completely full automatic system. Please inquire to our company any time.



**Full automatic vickers hardness test system**

This system perform specimen import, polishing, a hardness testing, specimen ejection on full automatic. And also it perform results judgement, and you can choose a point to eject specimen.

Go into detail in Web site.

[http://www.matsuzawa-ht.com/item/h\\_system.htm](http://www.matsuzawa-ht.com/item/h_system.htm)



# AMT/AVT PMT/PVT SPECIFICATION

FS series	PS series	PMT/PVT	Automatic reading function	Test Mode	Automatic mode(AMT/AVT Series only · Two or more dents are stricken by setting the pattern of an automatic stage · Dents continuous reading) Single-action mode. (The dent is stricken to one point · Dent reading)
				OS Support	For Windows7
				Test scale	Vickers hardness (HV) · Knoop hardness (HK) · Fracture toughness (KC) (Manual measurements only) · Cylinder correction (Option)
				CCD camera	Inter line method 1/3inch 0.8Megapixel Monochrome (Correspondence to the your preferred pixel count:Option)
				Reading speed	Shortest 0,5 sec/1point(Depending on the sample surface)
				Reading reproducibility	±0.5%(Test force:9807mN,700HV,For 40x object lens)
				Unit of minimum measurement	0.1 μm
				Minimum indentation reading	10 μm ( For 40x object lens )
				Manual measuring	Manual measurement in PC monitor by mouse operation · Measuring with measurement microscope(Optional) · PC transfer function of measurement data with measurement microscope(Optional)
				Display magnification	About 1600 x ( For 40 x object lens ) · About 800 x ( For 20 x object lens ) · About 400 x ( For 10 x object lens ) · About 200 x ( For 5 x object lens )
				Measurement view	About70 μm( For 40 x object lens ) · About140 μm( For 20x object lens ) · About280 μm( For 10x object lens ) · About560 μm( For 5x object lens )
				Languages	Japanese · English(Choice when ordering)
				Test data preservation form	Special format · XLS format
				Graph Display	Hardened layer depth · Maximum value · Minimum value · X and Y axis single distance display · Parameter setting
				Print output	Three standard format selection(Graph only,Data only,Graph and Data), corresponding to special format ( Option )
Other function	Judgment function by diagonal length ratio · Flexible reading function(Four automatic reading setting values arbitrarily set are easily selected.) · Confirmation mode function(AMT-X/AVT-X only)				
S series			Automatic operation X-Y axis stage	Drive system	Stepping motor
				Stage operation	Stage control box operation(An arbitrary speed can change.) or Icon operation in software(The speed can change by two stages.)
				Stage size	X · Y 110×110mm for each ( Will correspond to your desired size:Option )
				Movement	X · Y 50×50mm for each ( Will correspond to your desired size:Option )
				Least command increment	1 μm
				Movement speed	0.05 ~ 5mm/sec Possible to change voluntarily within the range.
				Movement program pattern	Straight line (Specify starting and ending points · Pitch specification, Pitch changeability specification ※All plovers can be set.) Circular arc Circle Teaching Trace Coordinates rotation Auto trace(Following of shape · Line starting point setting)
				Test points	Max 12,000 points ( Max 2,000 points in one line · Up to 6 lines can be set )
				Other function	Real-time graphical display of test position,Click movement function,Dry run function, Offset function of indentation position when replacing the indenter ※Corresponding to exclusive pattern setting program (option), please consult.
Autofocus speed	Shortest 3sec/1point(Depending on the sample surface) ※Auto/manual switchable				
Movement speed	0.05 ~ 5mm/sec Possible to change voluntarily within the range.				
Least command increment	AMT-X Series:0.05 μm, AVT-X Series:0.5 μm				
Other function	Stage evasion function when turret lathe rotates, Automatic focus optional function (Four automatic reading setting values arbitrarily set are easily selected.)				
PMT/PVT, AMT/AVT Series			Other	Measurement microscope (Option)	For measuring with measurement microscope
				Safeguard against malfunction	XY automatic stage immediate end with emergency stop button(Standard Specifications) Operation immediate end by auto turret lathe rotation, collision in auto focus, and overrunning.(Option)

※Microsoft and Windows are registered trademark by Microsoft USA in USA and other details.

※Contents of this brochure is July 2012 . Specifications and appearance may change without notice.

## LINEUP OF OTHER PRODUCT

### MMT-X

DIGITAL MICRO HARDNESS TESTERS

#### Features of MMT-X

- The new function deploy. color LCD touch panel.
- The turret which mounted two indenter, four objective lenses.
- Testing area of industry maximum class.
- Wide test force range.
- Line up in LCD model.
- 0.01 $\mu$ m measuring. (Magnification X200~X1000)
- LED light source.

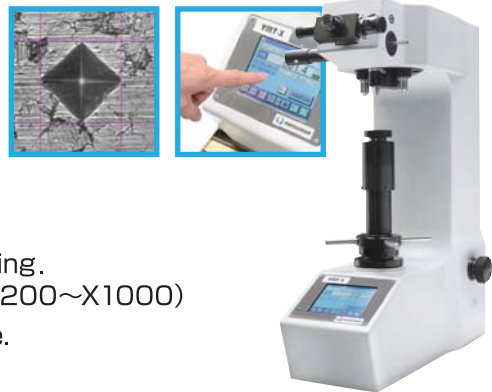


### VMT-X

DIGITAL VICKERS HARDNESS TESTERS

#### Features of VMT-X

- The turret which mounted four objective lenses.
- Color LCD touch panel.
- The new function deploy.
- 0.01 $\mu$ m measuring. (Magnification X200~X1000)
- LED light source.



### RMT

DIGITAL ROCKWELL HARDNESS TESTERS

#### Features of RMT

- Color LCD touch panel.
- Auto start.
- Easy setting.
- Testing method for plastic
- Various data processing functions.
- Traditional dial. change-over system.
- Applicable to ce and safety.



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