

[ STANDARD ACCESSORIES ]

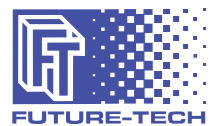
MODEL	FULLY-AUTOMATIC MICROHARDNESS TESTING SYSTEM <b>FM-ARS 9000</b>			FULLY-AUTOMATIC VICKERS HARDNESS TESTING SYSTEM <b>FV-ARS 9000</b>		
	ITEM	CODE NO.	SPECIFICATIONS	NO.	CODE NO.	SPECIFICATIONS
HARDNESS STANDARD BLOCK	M-037	700HMV	1	V-039	800HV	1
PRECISION VISE	M-027	Max. Opening: 50mm	1	V-027	Max. Opening: 50mm	1
DIAMOND INDENTER (BUILT-IN)	M-013	For Vickers (HV)	1	V-013	For Vickers (HV)	1
OBJECT LENS (BUILT-IN)	M-061	X 50	1	V-017	X 20	1
	M-018	X 10	1	V-018	X 10	1
LEVEL ADJUSTING LEG	M-052	For Hardness Tester	4	V-053	For Hardness Tester	4
LEVEL	M-066		1			—
INDENTER COVER (BUILT-IN)	M-053		1	V-054		1
INDENTER SHAFT FIXTURE (BUILT-IN)			—		For Transportation	1
SPARE LIGHT SOURCE BULB	M-044	6V18W	2	V-045	6V18W	2
CAMERA MOUNTING TUBE	M-054	For adapting CCD Camera	1	V-055	For adapting CCD Camera	1
MACHINE COVER	M-055	For Hardness Tester	1	V-056	For Hardness Tester	1
POWER CORD	M-051	For Hardness Tester	1	V-052	For Hardness Tester	1
SYSTEM CONNECTING CABLE			1			1
AUXILIARY TOOLS		Screw Drive, Wrench, etc.	1		Screw Drive, Wrench, etc.	1
ACCESSORY BOX	M-056	For Hardness Tester	1	V-057	For Hardness Tester	1
INSTRUCTION MANUAL			1			1
LOAD WEIGHTS SET		(Built-in)	1			1

FULLY-AUTOMATIC VICKERS HARDNESS TESTING SYSTEM **FV-ARS 9000**



**RELATED AUTOMATIC SYSTEM** AR 90 : Automatic Reading System (CCD Camera / PC / AR 90 Software) ※ Capable to adapt to the existing FT Micro/Macro Vickers Hardness Testers  
 ARS 900 : Automatic Reading System with Motorized X-Y Stage. (Auto-Reading / Auto-Stage / PC / Motor Driver / ARS 900 Software)

※ Appearance and specifications are subject to change without prior notice.



**FUTURE-TECH CORP.**

**HEAD OFFICE:** TALKPIER KAWASAKI BLDG., NO. 5-1, 3-CHOME, FUJISAKI, KAWASAKI-KU, KAWASAKI, KANAGAWA, 210-0804 JAPAN  
 TEL +81-44-270-5789 FAX +81-44-266-6779  
 E-mail: info@ft-hardness.com  
 URL: http://www.ft-hardness.com

**EUROPEAN REPRESENTATIVE OFFICE:** VIA LOMELLINA 33 20090 BUCCINASCO, MILAN, ITALY  
 TEL: +39 335 1803592  
 E-mail: cantoni.fte@gmail.com

**USA OFFICE:** 2340 ALGER DRIVE, TROY, MICHIGAN 48083, USA  
 TEL: +1 248 743 0958 FAX: +1 248 743 0966  
 E-mail: ymt@ymtintl.com

**ASIA PRODUCTS SUPPORT CENTRE:** 63 HILL VIEW AVE., LAM SOON IND. BLDG. #09-01 SINGAPORE 669569  
 TEL: +65 6762 7211 FAX: +65 6762 7798  
 E-mail: tkong@singnet.com.sg



Agent :  
 Kmk Instrument AB  
 Fältvägarvägen 16  
 SE-721 35 Västerås  
 Telefon: +46 (0)21-150160  
 Fax: +46 (0)21-150165

Printed in Japan 09. 04. T ⑥

FULLY-AUTOMATIC MICROHARDNESS TESTING SYSTEM  
**FM-ARS 9000**

**AUTO-STAGE**

**AUTO-FOCUS**

**AUTO-READING**



**FUTURE-TECH CORP.**

FULLY-AUTOMATIC  
MICROHARDNESS TESTING SYSTEM

**FM-ARS 9000**

FULLY-AUTOMATIC  
VICKERS HARDNESS TESTING SYSTEM

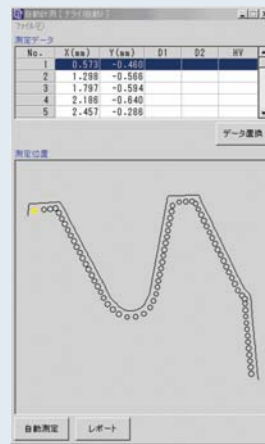
**FV-ARS 9000**

# More Innovated Micro/ Macro Vickers Hardness Testing System

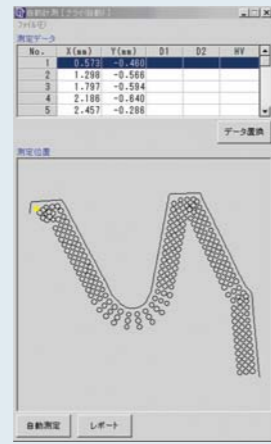
Most Advanced System with High-speed Sample Profile Memory Function.  
High-speed, High-accuracy, High-repeatability, Easy-operation, Improved Read Power.  
More Reliable for Large quantities of testing without human error.

- ◆ A series of measurement operations : Continuous Indentation~Focusing~Reading~Data Record :Just by selecting a measurement pattern, all testing will be fully-automatic with high speed.
- ◆ Various Measurement Patterns...

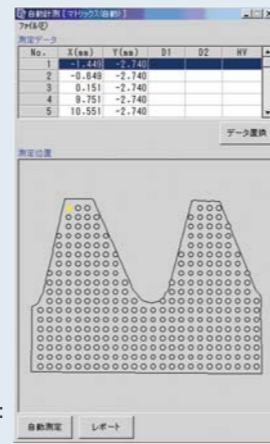
\*Intelligent Sample Profile Memory Function allows complicated Random measurements or Teaching Measurement along with the edge of specimen – Standard Function  
\*Various Patterns can meet customers' requirements : Straight Line / Zigzag / Circle / Arc / Line Set / Random / Matrix / Teaching / etc.



Teaching Pattern : 1 Line

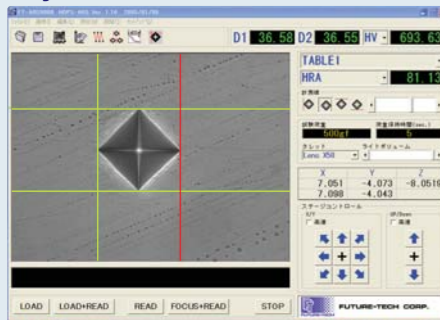


Teaching Pattern : 3 Lines

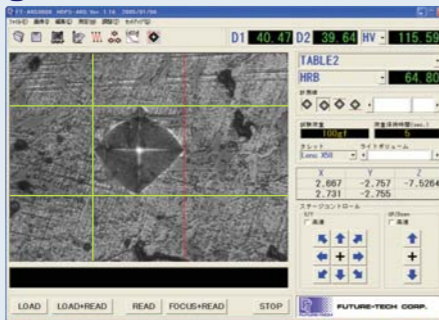


MatrixPattern

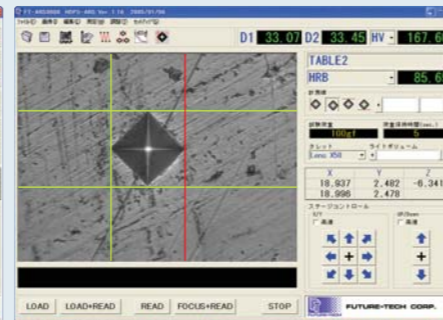
- ◆ Capability of Reading unclear Indents on un-mirror surface has been improved by more advanced Data Processing Software



Mirror Surface

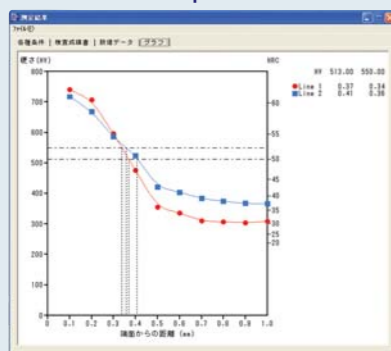


Etched Surface



Scratched Surface

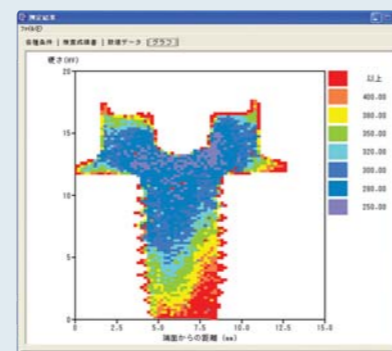
- ◆ Various Data Output Format and Statistical Processing...



Display for Case Depth



Display for Measurement Data



Display for Color Profile Picture linked with Hardness Values on Matrix Test Pattern

- \* Case Depth of indicated HV Hardness can be displayed instantaneously on the Chart after continuous Measurements on Carbonized Layer.
- \* Various Data Output available – Measurement Data, Hardness Distribution Chart, Case Depth, Max. Value, Min. Value, Mean Value, Dispersion, Standard Deviation, Coefficient of Variation, OK-NG Criteria, Conversion Data, etc.
- \* Display and Output Color Profile Picture linked with Hardness Values – Standard Function

## [ SPECIFICATIONS ]

ITEM	FULLY-AUTOMATIC MICROHARDNESS TESTING SYSTEM <b>FM-ARS 9000</b>	FULLY-AUTOMATIC VICKERS HARDNESS TESTING SYSTEM <b>FV-ARS 9000</b>		
	STANDARD SYSTEM COMPONENT	Analog Microhardness Tester Model: FM-100S ( OPTION: FM-300S,FM-700S available )	Analog Vickers Hardness Tester Model: FV-100S ( OPTION: FV-300S, FV-700S available )	
MICRO HARDNESS TESTER	MODEL	Model FM-100S: Stage Elevation Motor Built-in	Model FV-100S: Stage Elevation Motor Built-in	
	TYPE	Analog Type: Controllable Loading Operation by External PC		
	TEST LOAD	A: mN: 98.07, 245.2, 490.3, 980.7, 1961, 2942, 4903, 9807	A: N: 9.807, 19.61, 29.42, 49.03, 98.07, 196.1, 294.2, 490.3	
		gf: 10, 25, 50, 100, 200, 300, 500, 1000	kgf: 1, 2, 3, 5, 10, 20, 30, 50	
		B: mN: 49.03, 98.07, 245.2, 490.3, 980.7, 1961, 2942, 4903	B: N: 2.942, 4.903, 9.807, 29.42, 49.03, 98.07, 196.1, 294.2	
		gf: 5, 10, 25, 50, 100, 200, 300, 500	kgf: 0.3, 0.5, 1, 3, 5, 10, 20, 30	
	C: mN: 245.2, 490.3, 980.7, 1961, 2942, 4903, 9807, 19614			
	gf: 25, 50, 100, 200, 300, 500, 1000, 2000			
	D: mN: 9.807, 49.03, 98.07, 490.3, 980.7, 2942, 4903, 9807			
	gf: 1, 5, 10, 50, 100, 300, 500, 1000			
LOADING MECHANISM	Automatic Load/Hold/Release Method			
FOCUS OPERATION	Automatic / Manual Operation available * Focusing Steps adjustable			
AUTO-STAGE ELEVATION	Automatic: by Built-in Stepping Motor Manual: FM: by Standard Handle & Joy-Stick Operation / FV: by Joy-Stick Operation * Safety Devices equipped to Overrun of Elevation.			
PRECISION VISE	Standard: Max. Opening: 50mm			
TURRET ROTATION	Automatic / Manual changeable			
LOAD				
APPLYING SPEED	Initial Speed: 120μm/sec / Actual Loading Speed: 60μm/sec			
DWELL TIME	5 – 40sec			
MANUAL OCCULAR	( OPTION: Analog Type )			
MANUAL MEASUREMENT	By Video Line on CRT available			
OBJECT LENS	X10 / X50 (Optical Parts for 3rd Lens Built-in)	X10 / X20 (Optical Parts for 3rd Lens Built-in)		
AUTOMATIC MEASUREMENT SCALE	Vickers Hardness (HV) / Knoop Hardness (HK)			
DRIVING MOTOR	Stepping Motor			
DRIVE CONTROL	By Aicon: 2 Steps Speed available in X·Y·Z axis			
METHOD	By Joy-Stick: Flexible Speed Changing in X·Y·Z axis			
DIMENSIONS	110 x 110mm			
MAX. MOVEMENT	50 x 50mm in X·Y axis			
MIN. MOVEMENT	1μm			
MOVING SPEED	1 – 25mm/sec adjustable			
MOVEMENT PROGRAM PATTERN	Straight Line (Horizontal & Vertical) / Zigzag / Circle / Arc / Line Set for any Angle (8 Lines and Max. 3000 Indents on 1 Line) / Random / Teaching / Matrix / Specificity of 2 Points / Specificity of Angle Sample Profile Memory Function & Measurement along with Profile Line			
PATTERN SETTING	Start Position Setting for Straight Line and Position Setting for Random/Teaching Mode shall be performed by Mouse-Click			
SOFTWARE AVAILABLE	OS: Microsoft Windows XP			
HARDNESS SCALE	Vickers (HV) / Knoop (HK)			
MEASUREMENT REPEATABILITY	±0.8% on Test Block 700HV/500gf	±0.8% on Test Block 800HV/10kgf		
AUTO-FOCUS TIME	Shortest 3 sec			
AUTO READING TIME	Approx. 0.2 sec/1 Indent			
MEASURABLE MIN. INDENT	5μm			
MIN. MEASUREMENT UNIT	0.1μm			
MANUAL MEASUREMENT AVAILABLE LANGUAGES SUPPORT	By OPTIONAL Occular or Video Line on CRT Japanese / English			
DATA OUTPUT FORMAT & EDITING FUNCTION	Hardness Value, Hardness Chart, Case Depth, Insertion of Picture, etc. and Flexible Data Editing on "EXCEL"			
PRINTER	Standard: Color Ink-Jet Type			
JOY-STICK	For X·Y·Z axis Movement / Standard: Digital Type			
MANUAL OCCULAR	OPTION: Analog Type			
SAFETY DEVICE	Safety Devices equipped for Unmanned Operation * Turret Rotation stop instantaneously in case of Object Lens or Indenter hit a Specimen. * Upper & Lower Limit Stopper are equipped against Uncontrollable Stage Elevation			