

AUTOMATIC MICRO-VICKERS HARDNESS TEST SYSTEM PART No. RBT-AMV01-U

CUSTOMIZED ACCORDING TO THE
CUSTOMER'S WORKPIECE



- 6-axis industrial robot for high speed and precision, IP67, triple protection
- Micro-Vickers hardness test system automatically tests the hardness of the workpiece and provides real-time feedback to the control system
- Control system Modbus Tcp via bus communication, high speed, high efficiency and easy to extend

OPERATION PROCESS

- Step 1: Place the workpiece manually on the positioning block in the loading area and position it on the right side against the edge
- Step 2: Press the reset button to return the robot and cylinder to the initial position
- Step 3: Press the start button, the system prompts whether the workpiece is correctly placed and click OK
- Step 4: The robot grabs the workpiece and places it in the transplanting station
- Step 5: The transplanting station moves to the AMV position
- Step 6: The AMV starts the test and outputs the results
- Step 7: The transplanting station moves to the outer handling station and the robot removes the workpiece
- Step 8: The robot places the workpiece in the OK or NG station according to the test results

SPECIFICATION

Robot	robot arm spreading	28.35"
	max. working speed	157.48"/s
	max. weight of workpiece	17.64lb
	repeat positioning accuracy	±.0008"
	number of control axis	6
	communication protocols	Ethernet Modbus Tcp
Micro-Vickers Hardness Tester	Vickers scales	HV0.01, HV0.025, HV0.05, HV0.1, HV0.2, HV0.3, HV0.5, HV1
	converted scales	HRA, HRB, HRC, HRD, HRF, HV, HK, HBW, HR15N, HR30N, HR45N, HR15T, HR30T, HR45T
	range	5~3000HV
	measurement resolution	1.181μin
	objective/indenter switch	motor driven turret
	stage lifting	manual/electric
	focus mode	Z-axis autofocus
	load control	automatic (load/dwell/unload)
	load dwell time	1~60 seconds
	eyepiece/objective	eyepiece 10X /objective 10X, 40X
	total magnification	100X (for measurement or observation), 400X (for measurement)
	max. workpiece height	3.15"
	max. testing width	4.33" (from the center of indenter to the wall of main body)
	pixel	5M
	communication interface	RS232
	dimension (L×W×H)	21.26×11.42×26.77"
Power supply		110V, 50Hz, 3000W
Net weight		661.39lb

STANDARD DELIVERY

Robotic system	robot body	1 pc
	robot control cabinet	1 pc
	programming guide	1 pc
Micro-Vickers Hardness Tester	main unit	1 pc
	10X, 40X objective	1 pc
	micro-Vickers indenter	1 pc
	hardness test block 400~500HV0.2	1 pc
	hardness test block 700~750HV1	1 pc
	automatic X-Y stage drive box	1 pc
	Vickers measurement software	1 pc
	computer	1 pc
	vice	1 pc
	slice holder	1 pc
	cylinder holder	1 pc
	anti-dust cover	1 pc
Control touch screen		1 pc
Control box		1 pc

AUTOMATIC X-Y STAGE

Drive motor	step motor
Drive control	movement control by software, speed is adjustable
Dimension	4.33×4.33"
Max. travel distance	1.97×1.97"
Min. travel distance	39.4μin
Movement speed	.04~.39in/sec, speed can be adjusted
Displacement repetition accuracy	within 39.4μin

AUTOMATIC TEST CONTROL SYSTEM

Hardness tester control	1. automatic turret, automatic loading, automatic measurement 2. automatic display of test force, load dwell time, illumination brightness
Automatic control of X-Y stage	software system automatic control of X-Y stage movement
Measurement mode	1. automatic mode: automatic loading, automatic measurement, automatic display of measurement results 2. manual measurement mode can be selected
Automatic measurement	about 0.3sec of one indentation
Measurement repeatability	±1% (700HV/500gf)
Data output format/edit functions	1. inspection reports can be customized according to customer requirements 2. the depth of hardened layer is shown in table form 3. output various measurement data, hardness table, hardening layer depth, maximum value, average value, minimum value, image with hardness value