

AUTOMATIC MICRO-VICKERS HARDNESS TEST SYSTEM CODE RBT-AMV01

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	720mm
	max. working speed	4000mm/s
	max. weight of workpiece	8kg
	repeat positioning accuracy	±0.02mm
	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	0.03μm
	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	80mm
	max. testing width	110mm (from the center of indenter to the wall of main body)
	pixel	5M
	communication interface	RS232
	dimension (L×W×H)	540×290×680mm
Power supply		220V, 50Hz, 3000W
Net weight		300kg

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	110×110mm
Max. travel distance	50×50mm
Min. travel distance	1μm
Movement speed	1~10mm/sec, speed can be adjusted
Displacement repetition accuracy	within 1μm

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