

uVK-1

Micro Vickers and Knoop Hardness Tester



Product Feature & Application

Product Features

Closed loop design with high accuracy load cell instead of dead weights. Automatic loading - dwell - unloading.

With automatic load correct function. Greatly improved test accuracy.

Hardness value automatically corrected according to different hardness blocks.

8" touch screen interface with menu structure. Easy to operate.

Lenses are installed to ensure the indentation of different sizes can meet the standard size in the field of view. A wide range of sample profile scanning can be carried out with low magnification.

All three objective lenses can carry out the measurement function.

Indenter and objective lens automatically switch to each other and accurately position the test point.

The machine can be calibrated according to the standard hardness block or length scale and the hardness can be modified automatically according to the high, middle and low hardness values.

Test setting parameters are password protected.

Led illumination.

Built in camera.

English language as standard.

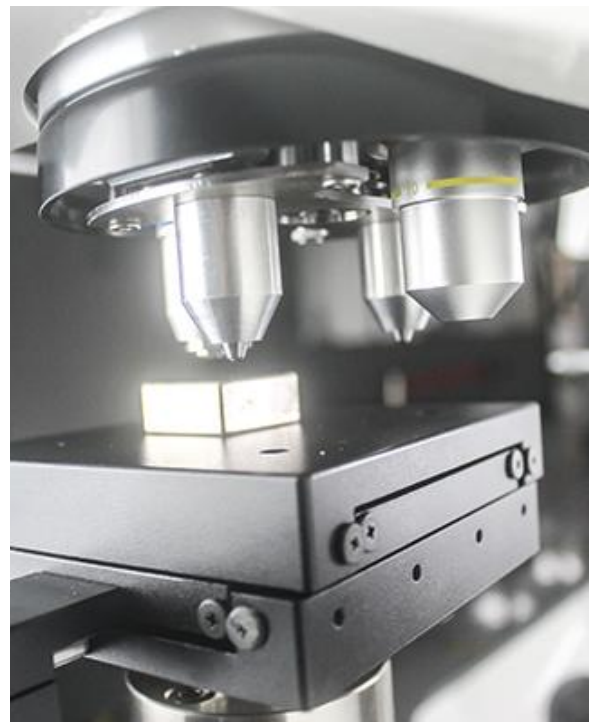
Test data can be saved to USB flash disk in EXCEL format which is easy to process and edit.

Equipped with dual optical path, one for eyepice system and the other for the CCD camera. Both can work in conjunction with each other.

Modular design ensuring simple maintenance.

Hardness conversion function - HV hardness converts to HR, HB etc.

HV/HK test function.



Product Application

Suitable for ferrous metal, non-ferrous metals, thin sections, coatings, glass, ceramics, precious stones, thin plastic sections etc.

Touch Screen Interface

8" Touch screen, menu structure. The diagonal length of indentation D1, D2 and hardness value automatically calculated. Test setting parameters are protected by password. Brightness adjustment and calibration operation system, Data saving and printing function. Data Statistical function for Max, Min, Average and Variance values of testing results on data sheet.

Operator

Sample

Range To

Load(kg) Dwell Time(S)

Turret

HV40X20X

HK10X5X

Brightness

↑

↓

Start

D1 D2

Conversion

Reset

Data

Setting

Main Interface

DATA

No.	Hardness-S	Hardness-V	Conversion-S	Conversion-V

Last

Next

Clean

Statistical

MAX	MIN	AVE	VAR

Empty

Print

Return

Data Interface

Calibration

Magnification:

Loda(kg) :

Pulses : X Y

Scale

Scale Calibration

Hardness

Save

Calibration

Language

Return

Hardness Calibration

Testing calibration should only be operated under help of professional personnel.

Password:

Enter

Return

Password Protection

User Friendly

uVh-2A-4 auto turret micro vickers hardness tester has 5x/10x/20x/40x objective lenses for measuring plus micro vickers indenter. Total of 5 positions. Advanced design hardness testing machine.



User Friendly

High precision gear rod with high transmission ratio ensures more precise force transmission to achieve stable continuous lifting.



Gear Rod



Handwheel for Gear Rod

User Friendly

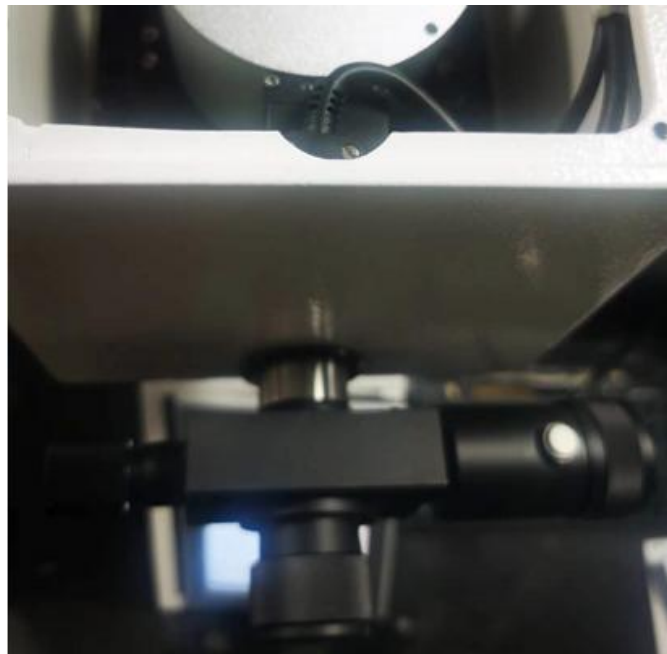
Digital eyepiece with built-in encoder. Automatic loading selection is optional instead of manual type. Equipped with dual optical path, one optical path for eyepiece system, another path for CCD camera, both paths can work in the same time.



Digital Eyepiece



Manual Loading Selection (Auto Type Optional)



Dual Optical Path

Data Output

The machine can be equipped with a built-in camera (optional) to make the image clearer or for capturing micro vickers indentation to software. RS-232 interface connected to computer for data output. Testing results can be saved in USB (optional) in EXCEL format or built-in mini-printer to print testing data.



Built-in Camera (Optional)



RS-232 Interface



RS-232 Interface & USB (Optional)



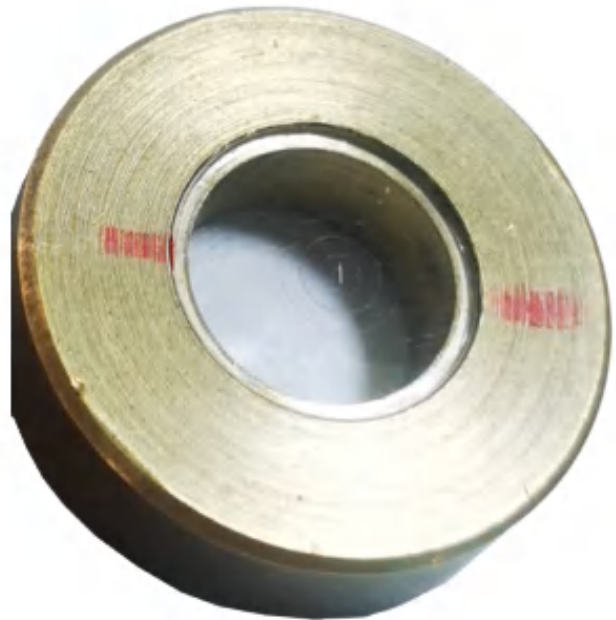
RS-232 Interface & Mini-Printer

Calibration Method

This machine can be calibrated according to standard hardness block or length scale to make hardness value more accurate. RS-232 interface connected to computer for data output. Testing result can be saved in USB (optional) in EXCEL format. built-in mini-printer to print testing data.

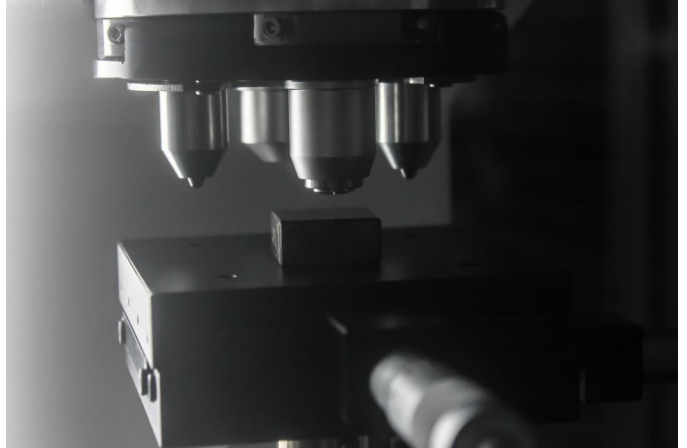
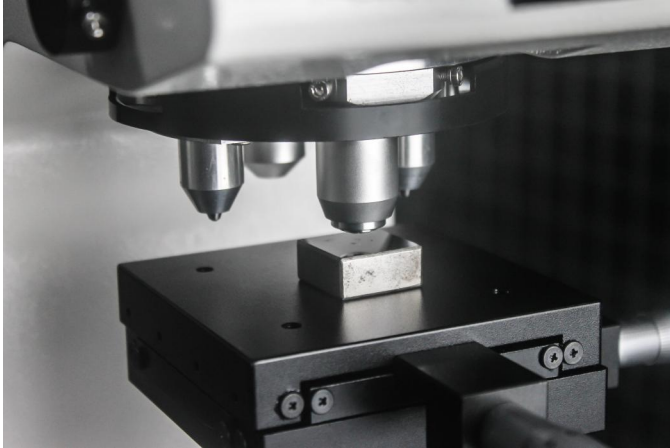


Standard Block



Length Scale

Detailed Photos



Ordering Information



**uVK-1A-4 Micro Vickers & Knoop Hardness Tester
(10x/40x Objective Lens For Measuring)**

**uVK-1A-5 Micro Vickers & Knoop Hardness Tester
(10x/20x/40x Objective Lens For Measuring)**

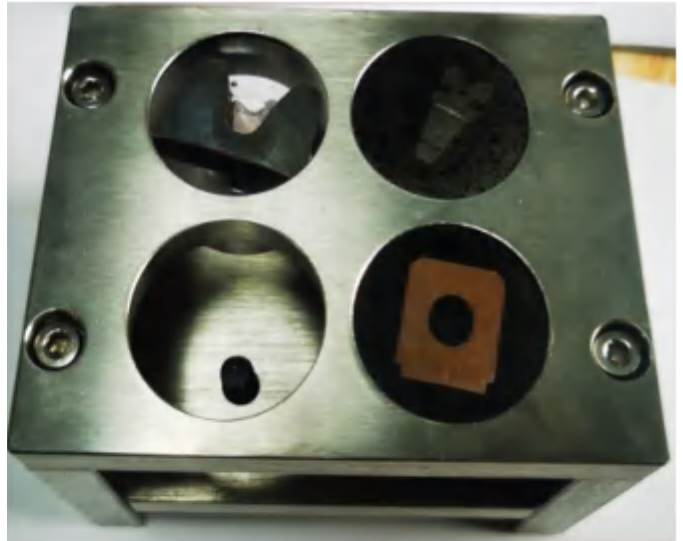
**uVK-1A-6 Micro Vickers & Knoop Hardness Tester
(5x/10x/20x/40x Objective Lens For Measuring)**

**Optional : 2kg Micro Vickers & Knoop Hardness Tester
(uVK-2A-4、 uVK-2A-5、 uVK-2A-6)**

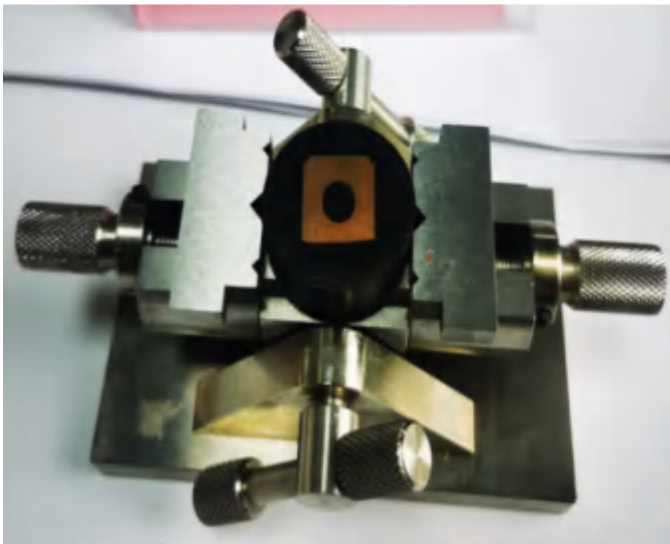
Variable Test Sample Clamping Vice Optional



Single Inlay Sample Clamping



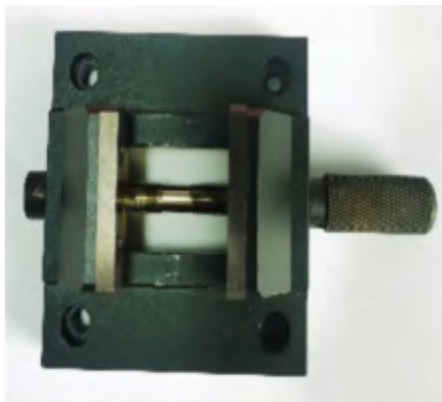
4 Pcs Inlay Samples Clamping



Universal Tilt Clamping



Pencil Clamping (For Pencil Hardness Tester)



Flat Clamp



Filament Clamp



Thin Specimen Clamp



Balance Support (For Test Sample)

Technical Specification

Product Name	uVK-1 Micro Vickers and Knoop Hardness Tester		
	uVK-1A-4	uVK-1A-5	uVK-1A-6
Model	Auto	Auto	Auto
Turret	Yes	Yes	Yes
Built-in Mini Printer	Yes	Yes	Yes
Data Statistic Function	Yes	Yes	Yes
Objective	10X(Observe&Measure) 40X(Observe&Measure)	10X(Observe&Measure) 20X(Observe&Measure) 40X(Observe&Measure)	5X(Observe&Measure) 10X(Observe&Measure) 20X(Observe&Measure) 40X(Observe&Measure)
Eyepiece	10X digital eyepiece with built-in encoder		
Total Magnification	100X(Observe&Measure) 400X(Observe&Measure)	100X(Observe&Measure) 200X(Observe&Measure) 400X(Observe&Measure)	50X(Observe&Measure) 100X(Observe&Measure) 200X(Observe&Measure) 400X(Observe&Measure)
Test Force	10gf (0.098N), 25gf (0.245N), 50gf (0.49N), 100gf (0.98N), 200gf (1.96N), 300gf (2.94N), 500gf(4.9N), 1000gf (9.8N)		
Hardness Scale	HV0.01, HV0.025, HV0.05, HV0.1, HV0.2, HV0.3, HV0.5, HV1		
Conversion Scale	HRA, HRB, HRC, HRD, HRF, HR15N, HR30N, HR45N, HR15T, HR30T, HR45T,HV, HK, HBW		
Loading Speed	≤50μm/sec		
Indentor	HV: Rectangular Pyramid Diamond Indentor(136°±0.5°) HK: Rectangular Pyramid Diamond Indentor(172°30'/130°)		
Objective lens center and indenter center	Coincidence accuracy error< 1um (objective lens center position can be adjusted)		
Measurement Resolution	0.01μm		
Data Display /Output	8 "Touch Screen Display, Can Store 20 Test Results, Built-in Printer and RS-232 Interface, Optional USB Flash Drive		
Hardness Test Range	8~2900 HV/HK		
Loading Method	Automatic (loading, dwell, unloading)		
Dwell Time	1-99s(each step is 1 second)		
Test Space	Test height: 100mm (Vertical), Test Throat: 130mm(Horizontal)		
X-Y Test Anvil	Dimension: 100*100mm, Movement:25*25mm,Moving Resolution Ratio:0.01mm		
Illumination	LED Cold light source (can be continuous use for 24 hours, no heat generate ensure stable working, servicing life can reach 100,000 hours)		
Machine Size&N/W	540*260*650mm,50kg		
Package Size&G/W	710*420*627mm ,68kg		
Power supply	AC220V+5%, 50-60Hz(110V is available)		
Executive Standards	GB/T4340.2, GB/T 18449.2, ASTM E92		

Packing List

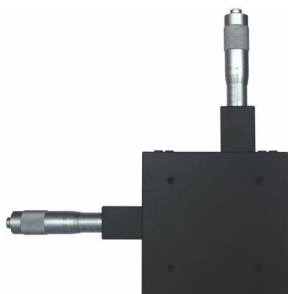
Item	Quantity
Weight Shaft	1pc
Eyepiece	1 pc
X-Y Test Anvil	1 pc
Gradienter	1 pc
Power Cord	1 pc
Product Certificate, Warranty Card	Each 1 Copy
Printing Paper	1 pc
Screwdriver	2 pc
Item	Quantity
Weight	6 pcs
Micro Hardness block (high & medium)	Each 1 pc
Spare Fuse (2A)	2 pcs
Dust Cover	1 pc
Instruction Manual	1 pc
Touch Pen	1 pc
Level adjustment screw	4 pcs



HV0.2 Hardness Block



HV1 Hardness Block



X-Y Test Anvil



Digital Eyepiece

Optional Accessories



Flattening Device (Used With Universal Tilt Clamping Fixture)



Built-in Camera



Micro Vickers Measuring
Software



USB Interface