

MODEL FH-5

Vickers/Micro Vickers/Knoop Hardness Tester



FH-5 load cell-based closed loop system with analogue microscope.

Features and benefits

- For low and high force ranging from HV0.02 to HV50.
- Closed loop, load cell, force feedback technology for a reliable, fast measurement procedure.
- Fully automatic four-position turret can be customized by using different indenters, objectives, stages, or systems.
- Automated measuring systems (Horizon).
- Meets all applicable EN, ISO and ASTM standards.
- Nearly unlimited selection of test loads and test rates for nearly any test condition.
- Vickers, Knoop or Brinell indenters.
- Optional analogue or electronic digital microscope with precision encoder providing 15x magnification.



FH-5 with level 5 automation and digital microscope.

FIVE LEVELS OF INCREASING AUTOMATION

First level

- Horizon on-screen measurement
- CCD camera
- Touchscreen display

Second level

- Horizon on-screen measurement
- CCD camera
- Automatic measure
- Touchscreen display
- Manual XY stage with one digital micrometer for either X or Y axis

Third level

- Horizon on-screen measurement
- CCD camera
- Automatic measure
- Touchscreen display
- Manual XY stage with two digital micrometers

Fourth level

- Horizon on-screen measurement
- CCD camera
- Automatic measure
- Touchscreen display
- Precision motorized XY stage 257x205mm with travel of 120x100mm, resolution 0.001mm, repeatability 0.002mm
- Virtual Mouse

Fifth level

- Horizon on-screen measurement
- CCD camera
- Automatic measure
- Touchscreen display
- Precision motorized XY and Z stage 257x205mm, with travel of 120x100mm, resolution 0.001mm, repeatability 0.002mm
- Virtual mouse
- Pattern test module

Specifications

FH-5 SPECIFICATIONS

Test force selection	Test force selectable over menu operation
Test procedure	Automatic, loading/dwell/unloading
Hardness scales	Micro-Vickers, Macro-Vickers, Knoop, Brinell
Hardness value	Five digits
Loading speed	Variable, depending on selected force
Turret	Four positions over 360°, fully automatic, memorized start position, one indenter and three objectives
Test force accuracy	<1% for test force from 100g-30kg (0.22-66.13lb) <1.5% for test force below 100g (0.22lb)
User display	Length of diagonals, hardness value, converted value, test force, online statistics
Display resolution	0.1 HV, HK and HB
Hardness conversion	Rockwell, Rockwell Superficial, Brinell, Leeb and Tensile
Standardization	EN, ISO 6507, EN ISO 6506, EN ISO 4545, ASTM E-384, ASTM E-10-08, ASTM E-92
Statistics	Total test, max, min, average, range, standard deviation, all in real time after each test
Control panel	Start test, stop test, light intensity, dwell time, print, clear, menu operation for date, time, scale and load settings, language
Memory	Memory for batch testing results (20 test results)
Data output	USB connectivity
Loading mechanism	Fully automatic, closed loop, force feedback, loading, dwell, unloading
Dwell time setting	Default 10 seconds, user defined 1-60 seconds (1 second increments)
Printer	Built-in, silent high speed thermal printer
Eyepiece	Optional analogue or digital microscope with bright filar lines, 15x base magnification
Light source	Halogen 12V, 30W, green filter, dimmable
Optical path	Dual channel optical system
Vertical capacity	165mm/6.49in (maximum specimen height)
Horizontal capacity	135mm/5.31in (from center-line)
Stage dimensions	100 x 100mm (3.93 x 3.93in), travel 20 x 20mm (.78 x .78in), reading 0.01mm (.00039in)
Operating temperature	10-35°C (50-95°F) – (+/-20° for force 25g and 50g/0.055lb and 0.11 lb)
Humidity	10-90% non-condensing
Weight	51kg (112lb)
Power requirements	100VAC to 240VAC, 50/60Hz, single phase
Power consumption	390W

MODEL DETAILS

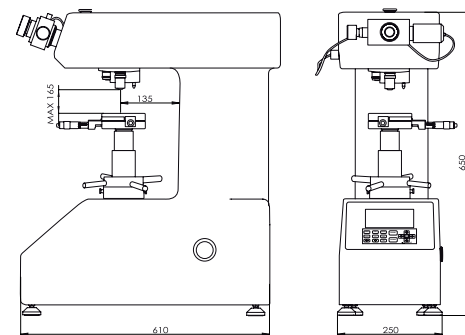
- **FH005-0011** 0.02-31.25kg Micro/Macro-Vickers, Knoop, Brinell
- **FH005-0012** 0.1-62.5kg Micro/Macro-Vickers, Knoop, Brinell

STANDARD ACCESSORIES

- Manual X-Y stage
- Flat anvil 60mm
- Objectives 5x, 10x, 20x or 10x, 20x, 40x
- Set of workpiece fixtures, vice, chuck, clamp
- Built-in thermal printer
- RS232 data output
- Four adjustable feet
- Spare halogen lamp
- Fuse
- Installation and user manual
- Certificate

OPTIONAL ACCESSORIES

- Objectives 5x, 40x, 60x
- Horizon video measuring and filing systems
- Motorized X-Y stage
- Motorized X-Y-Z stage (auto focus)
- Certified indenters and hardness test blocks
- Solid tester table and storage cabinet



FH-5 dimensions – all measurements are in mm

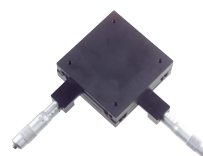


Table option 1
Analog stage micrometers, supplied as standard with base machine

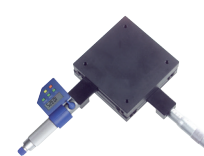


Table option 2/3
Digital stage micrometers, single axis or double axis



Table option 4/5
Motorized stage