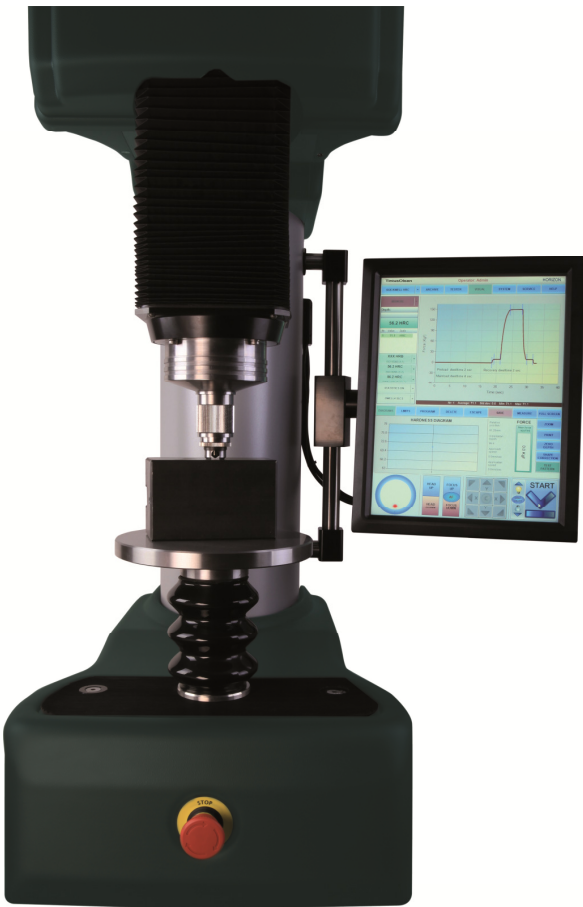


# Tinius Olsen

## Rockwell for high speed work in QC/QA FH-011 Series



FH-011-0032 is a high speed Rockwell hardness tester designed to meet the needs of QC/QA engineers and technicians in a manufacturing environment. The FH-011 combines closed loop control and measurement technology with a colour touch screen user interface to achieve accuracy, repeatability and portability of test results whether used by single or multiple operators. Unbeatable GR & R results.

The FH-011-0032 is ideally suited for Rockwell hardness testing at the highest possible standard be it Aircraft engine parts, automobile parts, medical components, large and small.

### DEPTH MEASURING HARDNESS TESTING METHODS:

Rockwell (HR) ISO 6508, ASTM E 18  
Vickers depth measurement  
HVT VDI/VDE 2616-1  
Brinell depth measurement HBT VDI/VDE 2616-1  
Ball indentation hardness (H) (ISO 2039-1) (plastics)

The FH-11-032 has a rigid linear force actuator to move the test head rapidly to the required position. This can be done in 2 different ways; (1) Manual high speed mode or (2) Slow movement mode as selected by user.

### KEY FEATURES

- Rockwell standard Hardness Tester exceeds, ISO, ASTM, JIS (Nadcap) standards
- Rockwell, Superficial Rockwell, HVT, HBT & Ball indentation for plastic ISO 2039/1
- Superior range of test loads/force application ranging from 1kgf/9.8N to 250kgf/2.45kN
- Fixed workpiece position (no spindle)
- Descending test head with automatic workpiece detection
- Extended indenter base with high force clamping attachment and indenter protection
- PC based Horizon hardness testing firmware and database file system, standard
- Large, adjustable 15" industrial touch screen
- Built-in industrial SSD hard drives offer nearly endless file storing
- LAN, WLAN, USB-2, RS-232, Printer and DVI connectivity

- Optional: On board built-in driver for motorized Y-stage (Jominy testing) or X-Y stage (Pattern testing)
- Free definable test patterns case depth, traverse, free style, etc. (optional)
- Machine covers made of shock, damage and fire proof recyclable ABS
- Large range of optional accessories
- Large test piece accommodation H=380mm, D=220mm

## Technical Specifications

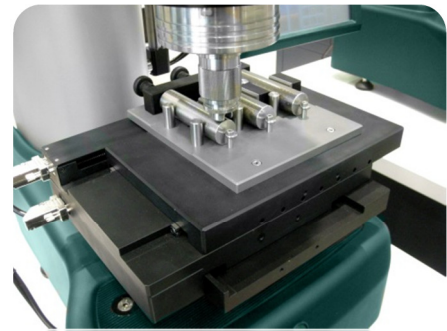
Hardness scales	Rockwell, Superficial Rockwell, HVT, HBT and Ball indentation for plastic ISO 2039/1
Hardness resolution	0.01 Rockwell (hardness round-up figures according to ISO, ASTM E18 or E29)
Load application	Load cell, force feedback, closed loop system
Load range	1kgf/9.8N to 250kgf/2.45kN
Test loads	1kgf/9.8N, 2kgf/19N, 2.5kgf/24N, 3kgf/29N, 4kgf/39.2N, 5kgf/49N, 6.25kgf/62N, 10kgf/98N, 15.625kgf/153N, 20kgf/196N, 25kgf/245N, 30kgf/294.2N, 31.25kgf/306N, 50kgf/490N, 62.5kgf/612N, 100kgf/980.7N, 120kgf/1176N, 125kgf/1225N, 187.5kgf/1838N, 250kgf/2.45kN
Rockwell test scales	A, B, C, D, E, F, G, H, K, L, M, P, R, S, V, 15N, 30N, 45N, 15T, 30T, 45T, 15W, 30W, 45W, 15X, 30X, 45X, 15Y, 30Y, 45Y
Indentors (optional)	Brinell Balls:1mm, 2.5mm, 5mm, 10mm Vickers Diamond:136° Rockwell Diamond Cone: 120° Rockwell balls: 1/16", 1/8", 1/4", 1/2"
Display	Large high definition industrial touch screen can also be operated by mouse and keyboard
Standards	Meets or exceeds, ISO, ASTM, JIS (Nadcap) standards
Test cycles	Fully automatic, Approach, Pre-Load, Dwelling, Main Load, Dwelling, Recovery, Unload
Force tolerance	Max. < 0.3%
Depth reading accuracy	0.05µm (reference class)
Force control	1 - 99 seconds
Connectivity	USB-2 (6) RJ-45 LAN, W-LAN, (RS-232)
Tester color (standard)	Black/Metallic silver
Workpiece accommodation	Vertical capacity: 380mm, Horizontal capacity: 220mm (from center-line)
Operating temperature	10°C to 35°C, non-condensing
Machine dimensions	400mm x 650mm x 1440mm (WxDxH)
Machine weight	190kg
Power consumption	1 Amp
Power supply	100V AC to 240V AC, 50Hz/60Hz, single phase

## Standard accessories supplied

- Flat anvil, hardened,  $\varnothing 80\text{mm}$
- V-anvil, hardened  $\varnothing 80\text{mm}$
- Fuse 3A slow (2 pcs)
- High force clamping attachment and indenter protection
- Power cable
- Four adjustable feet
- Tinius Olsen Testing Machine Company certificate
- Installation and user manual

## Required and available from Tinius Olsen

- Certified verification blocks
- Certified indenters



The First Name In Materials Testing

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