



The first name in materials testing

# FH 11-52

## Rockwell Hardness Testing Machine



The model FH 11-52 is a digital twin scale, load cell, closed loop, force feedback, test force application system with Rockwell, Superficial Rockwell & Brinell(optional) scales as part of Hardness testing capabilities.

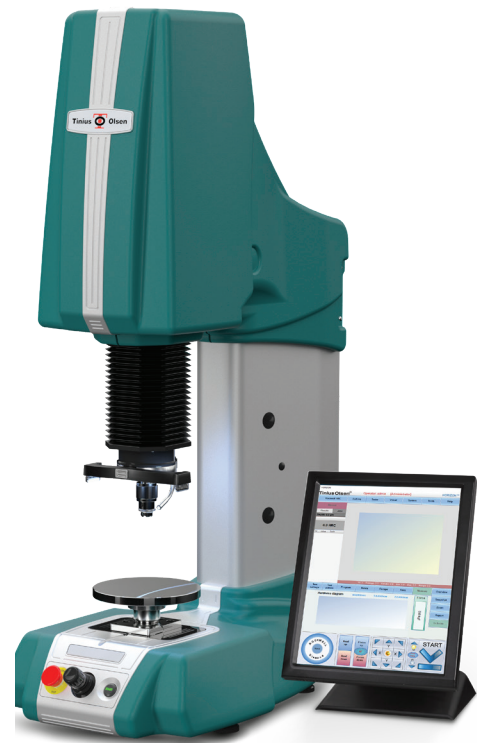


# Model FH 11-52

The model FH 11-52 features Load cell, force feedback, closed loop system, fully automatic, servo motor driven. The test forces can range from 3kgf to 150kgf and can perform Rockwell, Superficial Rockwell and Brinell Hardness tests. This fully integrated windows controller, SSD hard disk, windows 10 operated system also includes automatic measurement, 15" full color touch screen and a motorized descending test head with collision detection. It can accommodate workpiece of 345x220mm.

## Features and benefits

- Digital, twin scale, load cell, closed loop, force feedback system
- Load range 3-150kgf (29.4-1471N)
- Meets or exceeds ISO, ASTM and JIS standards
- Built-in laser positioning system (optional)
- Full color industrial 15" touch screen interface
- Adjustable workpiece illumination
- Manual, motorized stages
- Large workpiece accommodation: 345x220mm (HxD)



## MODEL DETAILS

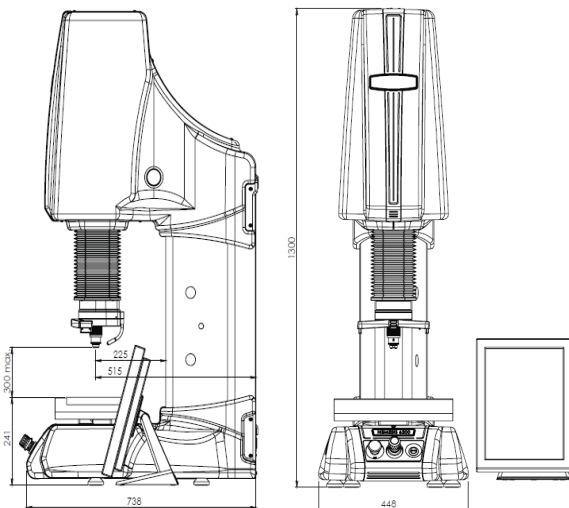
FH-011-0052    3-150kgf    Rockwell, Superficial Rockwell  
Brinell (optional)

## STANDARD ACCESSORIES

- Power cable
- Four adjustable feet
- Certificate
- Installation and user manual
- Keyboard & Mouse

# Specifications

Solid tester tables with storage cabinets available



### FH 11-52 specifications

Item #	FH-011-0052
Hardness scales	Rockwell, Superficial Rockwell and Brinell
Load application	Load cell, force feedback, closed loop system
Rockwell pre and main load	10kgf and 60, 100, 150kgf
Superficial Rockwell pre and main load	3kgf and 15, 30, 45kgf
Rockwell test scales available	A, B, C, D, E, F, G, H, K, L, M, P, R, S, V
Superficial Rockwell scales available	15N, 30N, 45N, 15T, 30T, 45T, 15W, 30W, 45W, 15X, 30X, 45X, 15Y, 30Y, 45Y
Brinell test load	1-250kgf
Brinell test scales (optional) (EN-ISO 6506, ASTM E10, JIS Z 2243)	HBW1/1, 1/1.25, 1/2.5, 1/5, 1/10, 1/30 HBW2.5/6.25, 2.5/7.8125, 2.5/15.625, 2.5/31.25, 2.5/62.5, 2.5/187.5 HBW5/25, 5/31.25, 5/62.5, 5/125, 5/250 HBW10/100, 10/125, 10/250
HVD (HVT)	HV5, 10, 20, 30, 50, 100, 120



## ...specifications continued

HBD (HBT)	HBT1/5, 1/10, 1/30kgf HBT2.5/6.25, 2.5/15.625, 2.5/31.25, 2.5/62.5, 2.5/187.5kgf HBT5/25, 5/31.25, 5/62.5, 5/125, 5/250kgf HBT10/100, 10/125, 10/250kgf
Carbon	HR2.5/7, 5/7, 5/15, 5/20, 5/40, 5/60, 5/100, 5/150 HR10/20, 10/40, 10/60, 10/100, 10/150
Display	15in full color industrial touchscreen, testing results, statistics
Display resolution	0.01HR, 0.1HBW
Standards	Meets or exceeds ISO, ASTM, JIS standards
Test cycles	Motorized, fully automatic, pre-load, load, dwell, unload process
Indenters (optional)	Rockwell diamond cone: 120° Rockwell balls: 1/16in, 1/8in, 1/4in, 1/2in Brinell balls: 1mm, 2.5mm, 5mm, 10mm
Dwell time (user defined)	Pre-load 1-250 seconds, Main load 1-250 seconds, Recovery 1-250 seconds
Connectivity	LAN, W-LAN, USB-3, Bluetooth (optional)
Workpiece accommodation	Vertical capacity 345mm Horizontal capacity 220mm (from indenter center-line)
Machine dimensions	450 x 650 x 1440 mm (WxDxH)
Weight	242kg (534lb)
Test force tolerance	<0.5%
Operating temperature range	10-35°C (50-95°F) non-condensing
Power supply	100-240V AC, 50Hz/60Hz, single phase
Humidity	10-90%, non-condensing
<b>*Calibration of scales is required prior to use. Please specify desired scales at the time of ordering</b>	

## OPTIONAL ACCESSORIES

Factory options	
FH-053-0002	Brinell opt: inc: scanner, 5/10mm Brinell scales Ø1.6-6mm
FH-053-0003	Brinell opt: inc: scanner, 1/2.5mm Brinell scales Ø0.5-1.5mm
FH-053-0012	Overview camera & software FoV 35x50mm up to 200x180mm lights & laser pointer
Software modules	
FH-500-0014	Pattern testing software module
FH-500-0021	Adv coordinate manual pattern configurator, CHD, SHD, NHD W/ edge detection
FH-500-0022	Image stitching full stage overview & sample overview-high resolution
FH-500-0024	Drawing and measuring (distance & angles) application
FH-500-0015	CHD, Nht, Rht Configurator and graphic interface
FH-500-0030	Q-DAS certified connectivity protocol
FH-500-0031	Artificial intelligence deep learning Brinell module
Stage/Acc	
FH-050-0290	Vibration isolation table
FH-050-0036	Manual XY stage w/ analogue micrometers, 100x160mm/ cap 250kg

FH-049-0012	Motorized 237x188mm XY CNC stage, max 100kg, displacement 100x100mm
FH-049-0013	Motorized 257x188mm XY stage, max 400kg, displacement 120x120mm
FH-049-0001	Motorized 307x208mm XY stage, max 400kg, displacement 170x120mm
FH-049-0002	Motorized 357x208mm XY stage, max 400kg, displacement 220x120mm
FH-049-0014	Motorized 337x238mm XY stage max 400kg displacement 200x150mm
FH-049-0015	Motorized 437x238mm XY stage max 450kg displacement 300x150mm
FH-049-0016	Motorized 630x238mm XY stage max 450kg displacement 400x150mm
FH-049-0017	Motorized 410x280mm XY stage max 4000kg displacement 200x150mm
FH-049-0018	Motorized 510x280mm XY stage max 4000kg displacement 300x150mm
FH-049-0019	Motorized 630x238mm XY stage max 4000kg displacement 400x150mm

### Items required for fitment of anvil or XY stage

FH-050-0335	Quick release mounting plate
FH-050-0285	Quick change anvil base mount, CNC stage
FH-050-0279	Fixing plate for XY stage
FH-049-0028	Cable set for connecting CNC stage to embedded driver
FH-050-0138	Locking ring

### Anvil/Acc

FH-050-0336	Anvil; rounds Ø6-25.4mm
FH-002-0034	Testing table flat 235mm, screwfix only
FH-050-0266	60mm flat anvil
FH-050-0117	Testing table, flat 80mm
FH-050-0041	Pedestal spot anvil 5mm
FH-050-0037	10mm spot anvil
FH-050-0040	V-Anvil Ø40mm for 6-60mm
FH-050-0326	V-Anvil ø63mm for 10-100mm
FH-050-0025	80mm V-Anvil for 3.3-20mm
FH-050-0026	80mm V-Anvil for 12-80mm
FH-050-0027	80mm V-Anvil for 20-140mm
FH-050-0324	Cylindrical V-Anvil 6-80mm
FH-050-0325	Cylindrical V-Anvil 50-200mm
FH-050-0029	Test table 100x100mm, V-Grove 20mm wide, 10mm deep
FH-006-1008	Small V-Anvil 3-20mm requires base plate (requires manual/automated XY stage)
FH-006-1009	Large V-Anvil 20-75mm requires base plate (requires manual/automated XY stage)
FH-050-0028	Flat test table Ø200mm screwfix
FH-050-0079	Large flat surface testing table 350x250mm, with 2 T-Slots
FH-050-0030	450x350mm flat test table w/ 2 T-Slots for large components
FH-050-0034	Flat test table 600x300mm w/ 2 T-Slots for large components



# Specifications

## OPTIONAL ACCESSORIES

Tables/Cabinets			
FH-095-1006	Cabinet/table for bench machines 710 x 750 x 700 mm (grey/black top)	FH-200-1027	1.0mm carbide ball Spare acc. to ISO 6506/2 & ASTM-E10 A3
FH-095-1009	Cabinet/table for bench machines 1500 x 750 x 800 mm (grey/black top)	FH-200-1028	2.5mm carbide ball Spare acc. to ISO 6506/2 & ASTM-E10 A3
Connectivity		FH-200-1029	5.0mm carbide ball Spare acc. to ISO 6506/2 & ASTM-E10 A3
FH-500-0011	FH-series connection w/ external Horizon (add. requirements per FH-model)	FH-200-1030	10.0mm carbide ball Spare acc. to ISO 6506/2 & ASTM-E10 A3
Fixtures/Vice		Calibration options	
FH-050-0340	Polished precision vice with lock, opening width 25mm, opens 20mm	FH-051-0000	Direct calibration; ISO 17025-A2LA compliant/per scale (factory)
FH-050-0341	Polished precision vice with lock, opening width 36mm, opens 42mm	FH-051-0002	Additional scales calibration
FH-050-0342	Polished precision vice with lock, opening width 48mm, opens 75mm	FH-051-0006	BRINELL direct and indirect verification/calibration & certification in compliance with ISO & ASTM, NADCAP. Includes direct force and indirect verification report (block readings), GR & R report
FH-050-0343	Polished precision vice with lock, opening width 75mm, opens 100mm	FH-051-0008	ROCKWELL direct and indirect verification/calibration & certification in compliance with ISO & ASTM, NADCAP. Includes direct force and indirect verification report (block readings), GR & R report
FH-050-0067	Axle chuck (cap 62.5kgf)		
FH-050-0073	Universal clamp & leveling device (cap 62.5kgf)		
FH-050-0076	Thin metal clamp - micro testing		
FH-050-0345	V-Grove small clamp ø0.8-5mm		
FH-050-0075	Wire testing fixture		
FH-050-0112	Fixture for Jominy testing. 1 quench end test sample with quick release		
FH-050-0113	Fixture for Jominy testing. 3 quench end test sample with quick release		
FH-050-0068	Small parts vice (cap 62.5kgf) W 55mm open 50mm max		
Cover			
FH-052-0005	Machine cover 35x55x77cm		
Indenters			
FH-200-1014	Rockwell C Diamond Indenter acc. to ISO 6508/2 & ASTM-E18 A3 (17mm)		
FH-200-1015	Rockwell Indenter 1/16". Incl: 1 carbide ball ISO 6508/2 & ASTM-E18 A3 (17mm)		
FH-200-1016	Rockwell Indenter 1/8". Incl: 1 carbide ball ISO 6508/2 & ASTM-E18 A3 (17mm)		
FH-200-1017	Rockwell Indenter 1/4". Incl: 1 carbide ball ASTM-E18 A3 (17mm)		
FH-200-1018	Rockwell Indenter 1/2". Incl: 1 carbide ball ASTM-E18 A3 (17mm)		
FH-200-1019	Brinell Indenter 1mm. Incl: 1 carbide ball ISO 6506/2 & ASTM-E10 A3 (17mm)		
FH-200-1020	Brinell Indenter 2.5mm. Incl: 1 carbide ball. ISO 6506/2 & ASTM-E10 A3 (17mm)		
FH-200-1021	Brinell Indenter 5mm. Incl: 1 carbide ball ISO 6506/2 & ASTM-E10 A3 (17mm)		
FH-200-1022	Brinell Indenter 10mm. Incl: 1 carbide ball ISO 6506/2 & ASTM-E10 A3 (17mm)		
FH-200-1023	1/16" carbide ball acc. to ISO 6508/2 & ASTM-E18 A3		
FH-200-1024	1/8" carbide ball acc. to ISO 6508/2 & ASTM-E18 A3		
FH-200-1025	1/4" carbide ball acc. to ISO 6508/2 & ASTM-E18 A3		
FH-200-1026	1/2" carbide ball acc. to ISO 6508/2 & ASTM-E18 A3		

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