

### Rockwell hardness testing machines

## HR-530 Series

Unique electronic control makes the **HR-530 Series** of hardness testers extremely versatile by enabling Brinell (light force) hardness testing as well as load-sequence hardness testing of plastics, plus Rockwell and Rockwell Superficial hardness testing.



**HR-530**

- Maximum specimen dimension/  
Height: 250 mm, Depth: 150 mm



**HR-530L**

- Maximum specimen dimension/  
Height: 395 mm, Depth: 150 mm



## Inside ring hardness testing



Hardness testing of internal surfaces, which previously was impossible without sectioning, is now possible. (All models.)  
 The minimum diameter that can be tested is 34 mm as standard.  
 Measurement can be performed down to an inside diameter of 22 mm by using the diamond indenter (19BAA292-optional).

## Display unit with a function-rich color touch-screen



5.7-inch color LCD

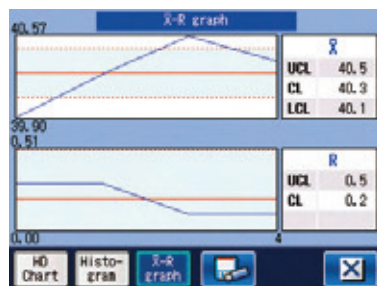
This unit adopts the user interface common to the **HM** and **HV Series**, adapted to include Rockwell hardness testing capabilities. It is equipped with a versatile color touch-screen for displaying the results of statistical calculations and graphics functions, etc.



The touch-screen display unit can be mounted on top of the tester, providing significant convenience if the machine installation space is restricted. (All models.)  
 Use the optional display mounting bracket to mount the unit in this position.

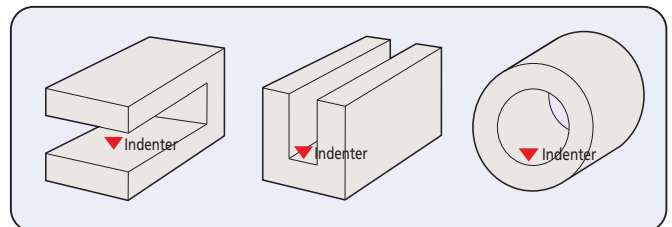
## Graphic display of $\bar{X}$ -R control chart and statistical calculation results

Statistical calculation values such as the maximum, minimum, and mean,  $\bar{X}$ -R control charts, and histograms, which are required for hardness evaluation, can be displayed.



## Various shapes of specimen can be measured. (Nose-type indenter has been adopted)

The nose-type indenter allows internal measurement of pipe samples as well as the top surface of a flat sample.



## Equipped with the continuous measurement function

When multiple workpieces with the same height are to be tested, no adjustment of the platen height control wheel is required for the second or later workpieces. Continuous, speedy testing is possible just by pressing the foot switch or the START button on the main unit.

## Interface ports on the rear panel



## Touch-panel display

The HR-530/530L models offer the combination of rich functionality and excellent operability through the adoption of a display-mode-changeable touch screen.



HR-530

- Standard operating display



The display unit features USB2.0 Type A socket. Test results, statistical calculation results and test conditions can be saved as text data, and graphs can be saved as image data to a USB memory device.

- Direct hardness scale selection

The hardness scale, determined according to the test force and indenter combination, can be directly selected on the touch screen. Preliminary test force and test force are set automatically to match the chosen scale, offering great convenience.



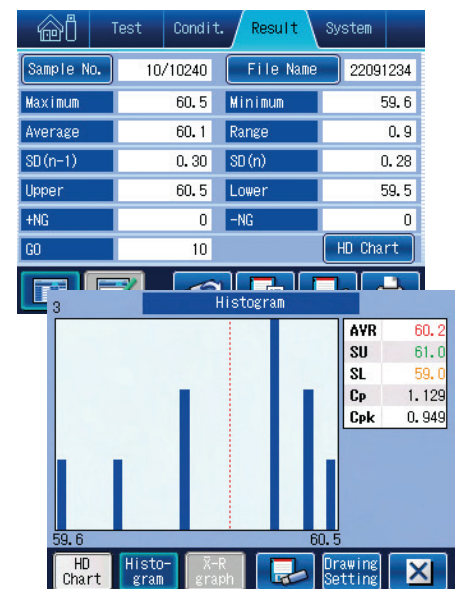
- Curved surface compensation and measurement

The curve compensation function supporting specimens with curved surfaces such as round bars and spheres allows hardness testing of specimens of a wide range of shapes, not only flat specimens.



- Statistical analysis

Quality control processes involving hardness testing of industrial materials employ judgments based on test results for multiple points. This function performing calculation of statistics such as maximum, minimum and mean values and standard deviations is useful for analysis of multi-point test results.



## Specifications

Model		HR-530			HR-530L				
Display unit		metric		inch/mm		metric		inch/mm	
Applicable standards		JIS B7726/ISO 6508-2, ASTM E18-20							
Testable hardness		Rockwell hardness/Rockwell Superficial hardness/Brinell hardness/Indentation Brinell hardness/Plastics hardness							
Initial test force N (kgf)		29.42 (3)		98.07 (10)					
Test force N (kgf)	Rockwell	588.4 (60)		980.7 (100)		1471 (150)			
	Rockwell Superficial	147.1 (15)		294.2 (30)		441.3 (45)			
	Brinell	61.29 (6.25) 306.5 (31.25)		98.07 (10) 612.9 (62.5)		153.2 (15.625) 980.7 (100)		245.2 (25) 1226 (125) 294.2 (30) 1839 (187.5)	
Test force control		Auto (load, duration, unload)							
Table up/down mechanism		Manual (automatic brake for the preliminary test force)							
Operation unit		Color Touch-panel							
Test force switching		Via display unit							
Test force duration time		1 to 120 s (Can be set to any value in units of 1 s.)							
Maximum specimen dimensions		Height: 250 mm Depth: 150 mm			Height: 395 mm Depth: 150 mm				
Allowable inner diameter of pipe specimen		Minimum hole diameter: 35 mm (When the special specification indenter is used: 22 mm)							
Max. loading capacity		20 kg							
Display		Hardness value, Test condition, OK/NG judgment result, Statistical calculation result, X-R control chart, Hardness conversion value Conversion function [HV, HK, HR (Rockwell hardness A, B, C, D, F, G/Rockwell Superficial 15T, 30T, 45T, 15N, 30N, 45N), HS, HB, Tensile strength] Minimum hardness value: 0.1, Hardness value indicator: max. 6 digits (including decimal point and minus sign) OK/NG judgment function, Continuous measurement function (for specimens of the same thickness) Cylindrical correction, Spherical correction, Offset correction, Multi-point correction functions Statistical calculation function (Maximum value, minimum value, mean value, standard deviation, upper and lower limit values, OK count, range, NG count) Graph generation function (X-R control charts)							
Languages		15 languages are supported: Japanese, English, German, French, Italian, Spanish, Korean, Chinese (simplified/traditional), Turkish, Portuguese, Hungarian, Polish, Dutch and Czech							
External connection interface		RS-232C, Digimatic, USB Type A (for external USB memory), USB Type B (for PC communication)							
Power supply		AC100 to 240 V 50/60 kHz							
External dimensions	Body	250 (W) × 667 (D) × 621 (H) mm			300 (W) × 667 (D) × 766 (H) mm				
	Touch-panel display unit				191 (W) × 147 (D) × 71 (H) mm				
Mass		61 kg			70 kg				

Note 1: Plastic tests may not be supported depending on the plastic material.

Note 2: For Brinell hardness testing, an indenter (optional) and a measurement microscope are required. A measurement microscope should be prepared by customer.

Note 3: No indenter and hardness standard block is supplied with the unit. These items (conform to the applicable standard) must be purchased separately.

## Standard accessories

Order No.	Item	Specification / Remarks	Order No.	Item	Specification / Remarks
810-039	Flat anvil	ø64 mm	—	Display unit	
810-040	V-anvil	ø40 mm Groove width: 30 mm	—	Level	
11AAD185	Display unit installation board		—	Tool kit	
383876	Vinyl cover	For HR-530	—	User's manual	
383228	Vinyl cover	For HR-530L	—	Inspection certificate	In both Japanese and English for the tester
12BAL402	Protective sheet	For main unit	—	Warranty card	In both Japanese and English
			—	Accessory box	

## Additional information

The relation between the test force and indenter for Brinell hardness test is as follows.

For the Brinell hardness test, the following indenter (optional accessory) is required.

Test force (N)	Brinell hardness testing									
	61.29	98.07	153.2	245.2	294.2	306.5	612.9	980.7	1226	1839
11AAD469 ø1 Indenter for Brinell test		HBW1/10			HBW1/30					
11AAD470 ø2.5 Indenter for Brinell test	HBW2.5/6.25		HBW2.5/15.625			HBW2.5/31.25	HBW2.5/62.5			HBW2.5/187.5
11AAD471 ø5 Indenter for Brinell test				HBW5/25			HBW5/62.5		HBW5/125	
11AAD472 ø10 Indenter for Brinell test								HBW10/100		

## Smart model

# Rockwell hardness testing machines HR-200/300/400 Series

The line-up features four types of machines with both digital and analogue display types.

### Analog Rockwell hardness testing machine HR-210MR



#### HR-210MR Rockwell hardness testing machine

Manual weight changing (with total test force selected) and handling of preliminary test force. Motor drive controls loading sequence.

### Digital Rockwell hardness testing machines HR-320MS/430MR/430MS



#### HR-320MS Dual type (Rockwell/ Rockwell superficial) hardness testing machine

Manually handles test force and preliminary test force selection. Motor drive controls loading sequence.



#### HR-430MR Rockwell hardness testing machine

Smart type, but supports dial switching power steering and support of all test standards and equipped with automatic brake handle auto start feature. Motor drive controls loading sequence.



#### HR-430MS Dual type (Rockwell/ Rockwell superficial combined use) hardness testing machine

Smart type, but supports dial switching power steering and support of all test standards and equipped with automatic brake handle auto start feature. Motor drive controls loading sequence.

### Features

- The newly designed frame provides maximum clearance for positioning the workpiece. A flat table is all that is needed for mounting these testing machines.
- Analog type (**HR-210MR**) incorporates a dial indicator which needs no zero-setting, allowing easy setting of the preliminary test force.
- Digital types (**HR-430MR/430MS**), use an automatic steering wheel brake and automatic loading sequencing, making for easy operation.
- Digital types (**HR-320MS/430MR/430MS**) have Digimatic output and our Digimatic Mini-Processor (**DP-1VA LOGGER**) for hardcopy output, as well as input tools (**USB-ITN-E**) to connect to a PC for data transfer.



- Brinell hardness testing is also supported. An optional Brinell weight set, Brinell indenter, and measurement microscope are required. A measurement microscope should be prepared by customer.

## Specifications

Model		HR-210MR	HR-320MS	HR-430MR	HR-430MS
Applicable standards		JIS B7726:2017, ISO 6508-2:2015	JIS B7726:2017, ISO 6508-2:2015, ASTM E18-20		
Testable hardness		Rockwell hardness			
Preliminary test force N (kgf)		98.07 (10)	Rockwell Superficial hardness 29.42 (3) 98.07 (10)	98.07 (10)	Rockwell Superficial hardness 29.42 (3) 98.07 (10)
Test force N (kgf)	Rockwell Superficial	—	147.1 (15) 294.2 (30) 441.3 (45)	—	147.1 (15) 294.2 (30) 441.3 (45)
	Rockwell	588.4 (60) 980.7 (100) 1471 (150)			
Hardness display		Analog		Digital	
Resolution		0.5 HR graduation		0.1 HR indication	
Preliminary test force (handling support)		Automatic pre-setting dial gauge		Loading navigator indication	
Preliminary test force switching		—		Automatic steering wheel brake	
Total test force switching		Dial switching		—	
Total test force load operation		Weight change		Dial switching	
Test force duration		Motor drive, Button start		Motor drive, Automatic start	
Maximum specimen dimension		Fixed 3-5.5 s or manual		3-60 s setting or manual operation	
Function		180 mm (100 mm if cover is attached)		165 mm (from indenter axis to the frame)	
Data output interface		—		OK/NG judgment function	
Power supply		—		Offset correction function	
External dimensions		—		Hardness conversion function	
Mass		—		Digimatic RS-232C	
Power supply		AC100 to 240 V 50/60 Hz 1.8 A			
External dimensions		DC12 V-4.17 A			
Mass		214 (W) ×512 (D) ×780 (H) mm			
Mass		46 kg	47 kg	50 kg	

Note 1: Plastic tests may not be supported depending on the plastic material.

Note 2: Brinell hardness tests can be performed by using the weight set for Brinell test, Brinell indenter and measuring microscope. A measurement microscope should be prepared by customer.

Note 3: No indenter and hardness standard block is supplied with the unit. These items (conform to the applicable standard) must be purchased separately.

## Standard accessories

Order No.	Item	Specification/Remarks
810-039	Flat anvil	Outside diameter $\phi$ 64 mm
810-040	V-anvil (large)	$\phi$ 40 mm, Groove Angle 120°, V-groove 30 mm wide
357651	AC adapter	IN: AC100 to 240 V 1.2 A OUT: DC12 V 3.5 A


Order No.	Item	Specification/Remarks
—	User's manual	
—	Vinyl cover	
—	Accessory box	
—	Level	

## Optional accessories: A weight set for Brinell test, an indenter, and a spare ball

Hardness testing machine	Weight set Item	Indenters for Brinell test			
		11AAD469 $\phi$ 1 mm	11AAD470 $\phi$ 2.5 mm	11AAD471 $\phi$ 5 mm	11AAD472 $\phi$ 10 mm
HR-210MR	Brinell weight set 62.5 125 187.5	—	HBW2.5/62.5 HBW2.5/187.5	HBW5/62.5 HBW5/125	(HBW10/100*)
HR-320MS	Brinell weight set 31.25 62.5 125 187.5	(HBW1/30*)	HBW2.5/31.25 HBW2.5/62.5 HBW2.5/187.5	HBW5/62.5 HBW5/125	(HBW10/100*)
HR-430MR	Brinell weight set 62.5 125 187.5	—	HBW2.5/62.5 HBW2.5/187.5	HBW5/62.5 HBW5/125	(HBW10/100*)
HR-430MS	Brinell weight set 31.25 62.5 125 187.5	(HBW1/30*)	HBW2.5/31.25 HBW2.5/62.5 HBW2.5/187.5	HBW5/62.5 HBW5/125	(HBW10/100*)
Spare carbide ball					
	Order No.	19BAA281	19BAA283	19BAA162	19BAA163
	Item	1 mm	2.5 mm	5 mm	10 mm
	Size (Quantity)	$\phi$ 1 mm (1 pc.)	$\phi$ 2.5 mm (1 pc.)	$\phi$ 5 mm (1 pc.)	$\phi$ 10 mm (1 pc.)

\* The built-in weights are used for this range. Only an indenter needs to be selected.  
Please use a microscope that can measure length.

# Optional accessories for Rockwell hardness testing machines

Item	Order No.	Description	HR-210MR	HR-320MS	HR-430MR	HR-430MS	HR-530	HR-530L	HR-610A	HR-620A	HR-620B (for display unit)	HR-620B (for PC)
Display unit	11AAD599	mm 										
	11AEE450	mm/inch									●	HR-620B PC spec can be selected as a factory option
FORMEio	12AAU423										●	
Diamond indenter	19BAA292	(Stem high 5 mm type)					●	●				
	19BAA072	(R models)	●	●								
	19BAA073	(R/S models)		●	●	●	●	●	●	●	●	●
Rockwell diamond indenter ASTM	11AAE318			●	●	●	●	●	●	●	●	●
Steel ball indenter	11AAD461	ø1.5875 mm (1/16 in)	●	●	●	●	●	●	●	●	●	●
	11AAD462	ø3.175 mm (1/8 in)	●	●	●	●	●	●	●	●	●	●
	11AAD463	ø6.35 mm (1/4 in)	●	●	●	●	●					
	11AAD464	ø12.7 mm (1/2 in)	●	●	●	●	●					
	11AAD733	ø6.35 mm (1/4 in) Stem 16 mm						●	●	●	●	●
	11AAD734	ø12.7 mm (1/2 in) Stem 16 mm						●	●	●	●	●
Spare steel ball	19BAA082	ø1.5875 mm (1/16 in)	●	●	●	●	●	●	●	●	●	●
	19BAA083	ø3.175 mm (1/8 in)	●	●	●	●	●	●	●	●	●	●
	19BAA084	ø6.35 mm (1/4 in)	●	●	●	●	●	●	●	●	●	●
	19BAA085	ø12.7 mm (1/2 in)	●	●	●	●	●	●	●	●	●	●
Carbide ball indenter	11AAD465	ø1.5875 mm (1/16 in)	●	●	●	●	●	●	●	●	●	●
	11AAD466	ø3.175 mm (1/8 in)	●	●	●	●	●	●	●	●	●	●
	11AAD467	ø6.35 mm (1/4 in)	●	●	●	●	●	●	●	●	●	●
	11AAD468	ø12.7 mm (1/2 in)	●	●	●	●	●					
	11AAD735	ø6.35 mm (1/4 in) Stem 16 mm						●	●	●	●	●
	11AAD742	ø12.7 mm (1/2 in) Stem 16 mm						●	●	●	●	●
Carbide ball indenter ASTM	11AAE319	ø1.5875 mm (1/16 in)		●	●	●	●	●	●	●	●	●
	11AAE320	ø3.175 mm (1/8 in)		●	●	●	●	●	●	●	●	●
	11AAE321	ø6.35 mm (1/4 in)		●	●	●	●	●	●	●	●	●
	11AAE322	ø12.7 mm (1/2 in)		●	●	●	●					
Spare carbide ball	19BAA507	ø1.5875 mm (1/16 in)	●	●	●	●	●	●	●	●	●	●
	19BAA508	ø3.175 mm (1/8 in)	●	●	●	●	●	●	●	●	●	●
	19BAA509	ø6.35 mm (1/4 in)	●	●	●	●	●	●	●	●	●	●
	19BAA510	ø12.7 mm (1/2 in)	●	●	●	●	●	●	●	●	●	●
Spare carbide ball ASTM	11AAE323	ø1.5875 mm (1/16 in)		●	●	●	●	●	●	●	●	●
	11AAE324	ø3.175 mm (1/8 in)		●	●	●	●	●	●	●	●	●
	11AAE325	ø6.35 mm (1/4 in)		●	●	●	●	●	●	●	●	●
	11AAE326	ø12.7 mm (1/2 in)		●	●	●	●					







Item	Order No.	Description	Model																	
			HR-210MR	HR-320MS	HR-430MR	HR-430MS	HR-530	HR-530L	HR-610A	HR-620A	HR-620B (for display unit)	HR-620B (for PC)								
Brinell weight set	—	62.5/125/187.5 kgf	●																	
	—	31.25/62.5/125/187.5 kgf		●																
	—	62.5/125/187.5 kgf			●															
	—	31.25/62.5/125/187.5 kgf				●														
Carbide ball indenter for Brinell hardness test	11AAD469	ø1 mm		●		●	●	●												
	11AAD470	ø2.5 mm	●	●	●	●	●	●												
	11AAD471	ø5 mm	●	●	●	●	●	●												
	11AAD472	ø10 mm	●	●	●	●	●	●												
Indenter for Brinell hardness test	11AAD721	ø1 mm Stem 16 mm								●	●	●	●							
	11AAD722	ø2.5 mm Stem 16 mm								●	●	●	●							
	11AAD723	ø5 mm Stem 16 mm								●	●	●	●							Contactor (large) 11AAD385 is required.
	11AAD724	ø10 mm Stem 16 mm								●	●	●	●							Contactor (large) 11AAD385 is required.
Spare carbide ball for Brinell hardness test	19BAA281	ø1 mm		●		●	●	●	●	●	●	●	●	●	●	●	●	●	●	
	19BAA283	ø2.5 mm	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	1 pc./set
	19BAA162	ø5 mm	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
	19BAA163	ø10 mm	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
Indentation Vickers hardness (HVT) indenter	11AAE254												●	●	●					
Hardness standard block	19BAA035	10HRC	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
	19BAA036	20HRC	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
	19BAA037	30HRC	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
	19BAA038	40HRC	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
	19BAA039	50HRC	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
	19BAA040	60HRC	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
	19BAA041	70HRC	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
	19BAA042	41HR 30N		●		●	●	●	●	●	●	●	●	●	●	●	●	●	●	Compliant with ISO/JIS standards With an inspection certificate from the standard block manufacturer.
	19BAA043	50HR 30N		●		●	●	●	●	●	●	●	●	●	●	●	●	●	●	
	19BAA044	60HR 30N		●		●	●	●	●	●	●	●	●	●	●	●	●	●	●	
	19BAA045	73HR 30N		●		●	●	●	●	●	●	●	●	●	●	●	●	●	●	
	19BAA046	83HR 30N		●		●	●	●	●	●	●	●	●	●	●	●	●	●	●	
	19BAA047	75HR 15N		●		●	●	●	●	●	●	●	●	●	●	●	●	●	●	
	19BAA048	85HR 15N		●		●	●	●	●	●	●	●	●	●	●	●	●	●	●	
	19BAA049	90HR 15N		●		●	●	●	●	●	●	●	●	●	●	●	●	●	●	
	19BAA028	32HRBS	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
	19BAA029	42HRBS	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
	19BAA030	52HRBS	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	Compliant with JIS standards With an inspection certificate from the standard block manufacturer.
	19BAA031	62HRBS	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
	19BAA032	72HRBS	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
19BAA033	82HRBS	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●		
19BAA034	90HRBS	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●		
11AAD474	32HRBW	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●		
11AAD475	42HRBW	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●		
11AAD476	52HRBW	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	Compliant with ISO/JIS standards With an inspection certificate from the standard block manufacturer.	
11AAD477	62HRBW	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●		
11AAD478	72HRBW	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●		
11AAD479	82HRBW	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●		
11AAD480	90HRBW	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●		
11AAD194	90HRES	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	To confirm operation with plastic tests.	
11AAD195	90HREW	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	With an inspection certificate from the standard block manufacturer.	








Item	Order No.	Description												
			HR-210MR	HR-320MS	HR-430MR	HR-430MS	HR-530	HR-530L	HR-610A	HR-620A	HR-620B (for display unit)	HR-620B (for PC)		
	19BAA050	32HR 30TS	●	●	●	●	●	●	●	●	●	●	●	Compliant with JIS standards With an inspection certificate from the standard block manufacturer.
	19BAA051	42HR 30TS	●	●	●	●	●	●	●	●	●	●	●	
	19BAA052	52HR 30TS	●	●	●	●	●	●	●	●	●	●	●	
	19BAA053	62HR 30TS	●	●	●	●	●	●	●	●	●	●	●	
	19BAA054	72HR 30TS	●	●	●	●	●	●	●	●	●	●	●	
	19BAA055	78HR 15TS	●	●	●	●	●	●	●	●	●	●	●	
	19BAA056	80HR 15TS	●	●	●	●	●	●	●	●	●	●	●	
	19BAA057	87HR 15TS	●	●	●	●	●	●	●	●	●	●	●	
	11AAD481	32HR 30TW	●	●	●	●	●	●	●	●	●	●	Compliant with ISO/JIS standards With an inspection certificate from the standard block manufacturer.	
	11AAD482	42HR 30TW	●	●	●	●	●	●	●	●	●	●		●
	11AAD483	52HR 30TW	●	●	●	●	●	●	●	●	●	●		●
	11AAD484	62HR 30TW	●	●	●	●	●	●	●	●	●	●		●
	11AAD485	72HR 30TW	●	●	●	●	●	●	●	●	●	●		●
	11AAD486	78HR 15TW	●	●	●	●	●	●	●	●	●	●		●
	11AAD487	80HR 15TW	●	●	●	●	●	●	●	●	●	●		●
	11AAD488	87HR 15TW	●	●	●	●	●	●	●	●	●	●	●	
	11AAE327	30HRC ASTM	●	●	●	●	●	●	●	●	●	●	Compliant with ASTM/ISO standards With class B calibration certificate and inspection certificate	
	11AAE328	45HRC ASTM	●	●	●	●	●	●	●	●	●	●		●
	11AAE329	63HRC ASTM	●	●	●	●	●	●	●	●	●	●		●
	11AAE330	30HRBW ASTM	●	●	●	●	●	●	●	●	●	●		●
	11AAE331	70HRBW ASTM	●	●	●	●	●	●	●	●	●	●		●
	11AAE332	90HRBW ASTM	●	●	●	●	●	●	●	●	●	●		●
	11AAE333	65HRA ASTM	●	●	●	●	●	●	●	●	●	●		●
	11AAE334	76HRA ASTM	●	●	●	●	●	●	●	●	●	●		●
	11AAE335	85HRA ASTM	●	●	●	●	●	●	●	●	●	●		●
	11AAE336	75HR15N ASTM	●	●	●	●	●	●	●	●	●	●		●
	11AAE337	85HR15N ASTM	●	●	●	●	●	●	●	●	●	●		●
	11AAE338	92HR15N ASTM	●	●	●	●	●	●	●	●	●	●		●
	11AAE339	50HR30N ASTM	●	●	●	●	●	●	●	●	●	●		●
	11AAE340	68HR30N ASTM	●	●	●	●	●	●	●	●	●	●		●
	11AAE341	83HR30N ASTM	●	●	●	●	●	●	●	●	●	●		●
	11AAE342	25HR45N ASTM	●	●	●	●	●	●	●	●	●	●		●
	11AAE343	43HR45N ASTM	●	●	●	●	●	●	●	●	●	●		●
	11AAE344	72HR45N ASTM	●	●	●	●	●	●	●	●	●	●		●
	11AAE345	67HR15TW ASTM	●	●	●	●	●	●	●	●	●	●		●
	11AAE346	83HR15TW ASTM	●	●	●	●	●	●	●	●	●	●		●
	11AAE347	91HR15TW ASTM	●	●	●	●	●	●	●	●	●	●	●	
	11AAE348	36HR30TW ASTM	●	●	●	●	●	●	●	●	●	●	●	
	11AAE349	63HR30TW ASTM	●	●	●	●	●	●	●	●	●	●	●	
	11AAE350	76HR30TW ASTM	●	●	●	●	●	●	●	●	●	●	●	
	11AAE360	75HREW ASTM	●	●	●	●	●	●	●	●	●	●	●	
	11AAE361	87HREW ASTM	●	●	●	●	●	●	●	●	●	●	●	
	11AAE362	100HREW ASTM	●	●	●	●	●	●	●	●	●	●	●	

Hardness standard block





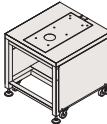
Common applications

Item	Order No.	Description	Model												
			HR-210MR	HR-320MS	HR-430MR	HR-430MS	HR-530	HR-530L	HR-610A	HR-620A	HR-620B (for display unit)	HR-620B (for PC)			
External output	264-505	Digimatic Mini-Processor DP-1VA LOGGER 	●	●	●	●	●	●	●	●	●	●	●	●	Connection cable is required.
	936937	Connection cable (1 m) Type D											●	●	10-pin plain connector (Type D) for IT-020U
	937387	Connection cable (1 m) Type E	●	●	●										6-pin round connector (Type E) for IT-020U and DP-1VA
	12AAJ112	Connection cable (1 m) Type D (EMC test type)					●	●	●	●	●	●			For DP-1VA 10-pin plain connector (Type D)
	09EAA082	Printing paper	●	●	●	●	●	●	●	●	●	●			For DP-1VA (10 rolls)
	02AZD810D	U-WAVE-R 	●	●	●	●	●	●	●	●	●	●			Requires a separate PC for connection
	02AZD730G	U-WAVE-T (IP67 type) 	●	●	●	●	●	●	●	●	●	●			U-WAVE-T dedicated connection cable is required.
	02AZD880G	U-WAVE-T (buzzer type) 	●	●	●	●	●	●	●	●	●	●			U-WAVE-T dedicated connection cable is required.
	02AZD790E	U-WAVE-T dedicated connection cable	●	●	●										6-pin round connector (Type E)
	02AZD790D						●	●	●	●	●	●			
	264-020	Input tool IT-020U	●	●	●	●	●	●	●	●	●	●			Connection cable is required.
	06AFM380E	Input tool direct USB-ITN-E 	●	●	●										6-pin round connector
	06AFM380D	Input tool direct USB-ITN-D 					●	●	●	●	●	●			10-pin plain connector
	11AAC236	Data processing software for Hardness testing machines EXPAK-06					●	●	●	●	●	●			PC and Office are not included.
	02NDB101D	MeasurLink® Real-Time Professional												●	Supports only PC specifications (AVPAK specifications)
02NDB102D	MeasurLink® Real-Time Professional 3D												●	Supports only PC specifications (AVPAK specifications)	

## Specimen fixtures

Item	Order No.	Description	HR-210MR	HR-320MS	HR-430MR	HR-430MS	HR-530	HR-530L	HR-610A	HR-620A	HR-620B (for display unit)	HR-620B (for PC)
VARI-REST	810-027		●	●	●	●	●	●				
Jack rest	810-028		●	●	●	●	●	●				
Special V-anvil (max. ø100 mm)	810-029		●	●	●	●	●	●				
Diamond-spot anvil	810-030			●		●	●	●				
Round table	810-037		●	●	●	●	●	●				
	810-038											
V-anvil	810-040		●	●	●	●	●	●				
	810-041		●	●	●	●	●	●				
	810-042		●	●	●	●	●	●				
	810-043 ø12 mm 810-044 ø5.5 mm		●	●	●	●	●	●				
	11AAD630									●	●	●
Contactor (large)	11AAD385								●	●	●	
Fine adjustment table for Jominy test	810-700						●	●				
	810-701											
X-axis stage	810-530 160 mm 810-531 300 mm								●	●		
	810-535 160 mm 810-536 300 mm									●	●	

Other optional accessories

Item	Order No.	Description	HR-210MR	HR-320MS	HR-430MR	HR-430MS	HR-530	HR-530L	HR-610A	HR-620A	HR-620B (for display unit)	HR-620B (for PC)
Calibration certificate			●	●	●	●	●	●	●	●	●	●
Console tables	810-048		●	●	●	●						560 (W)×700 (D)×554 (H) mm
	11AAD186 (Reinforced base providing stability)						●	●				560 (W)×720 (D)×559 (H) mm
	11AAD668 For HR-610A/620A (A)								●	●		560 (W)×760 (D)×642 (H) mm
	11AAD671 For HR-620B (B)									●	●	820 (W)×910 (D)×642 (H) mm
Vibration isolator	810-643						●	●				720 (W)×770 (D)×700 (H) mm
System rack	998923										●	For PC