

FULL-AUTOMATIC LOAD-CELL SYSTEM ROCKWELL TYPE HARDNESS TESTER LC-200^R Series



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**Versatile Function, Peerless Advanced Technology —
Mainstream of Rockwell Method in the New Century**

OUTSTANDING FEATURES

- ★ **Direct Loading Method with Load-Cell Feedback instead of Weights System & Direct Linear Displacement Measurement.**

High Speed Test Cycle and Extremely Accurate Loading Control based on Intelligent Software come true!

- ★ **Ultimate in Flexibility conforming to Various Requirements by ISO, JIS, ASTM. etc.**

- ★ **User-friendly One-touch Operation on vivid 8-Color Touch-Panel for Display and Input all Test Conditions.**

- ★ **One Tester, All Rockwell Scales, Regular & Superficial, and Light Load Brinell Test instantly available with the touch of a finger.**

In addition to all Standard Rockwell Test Loads, the LC-200R Series allow User Selection of Minor/ Major Load Combination (anywhere between 3 and 200 kgf) allowing Creation of Customized Rockwell Type Test — Ideal for Research Application!

- ★ **Entire Test Cycle will be performed Full-Automatically.**

Descent of Load Shaft ~ Minor Load Application ~ Test Load Application/ Hold/ Release ~ Hardness Display ~ Ascent of Load Shaft

- ★ **8 Languages available.**

Japanese/ English/ German/ French/ Italian/ Spanish/ Chinese/ Korean

- ★ **One Touch Selection for [Plastics Test Mode] conforming to JIS and ASTM Standard available.**

- ★ **Detection and Output of [Max. Indentation Depth] possible.**

This Function is very Effective to provide Precious Data for Evaluation of [Fracture Toughness] of Fine Ceramics and Compound Materials.

- ★ **Various Data Correction available.**

Max. Five Points on HR/ Offset on each HR/ HR on Convex Cylindrical Surface (ASTM)/ HRC on Convex Round Surface(JIS)

- ★ **Max. 2000 Data Memory Capacity.**

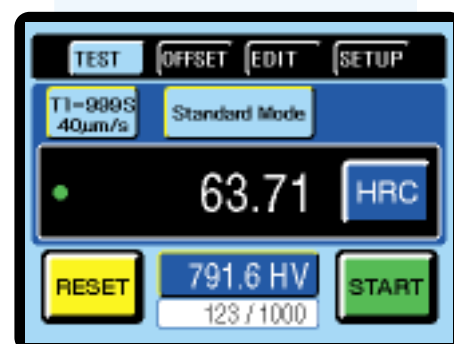
- ★ **Various Data Editing & Statistical Function available.**

Data Editing/ Statistic Data (Test Times/ Max./ Min./ Mean/ Range/ Standard Deviation/ Dispersion/ Coefficient of Variation)/ Graph Chart Display/ Histogram Display

- ★ **One Touch Selection of Test Load in Kgf or SI Unit available.**

- ★ **Self Diagnosis Function available.**

Display Troubles with Motors and Switches automatically.



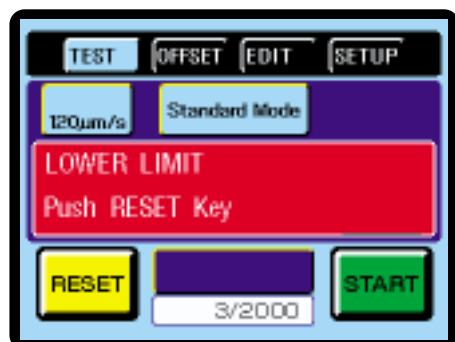
MEASUREMENT



SCALE SELECTION



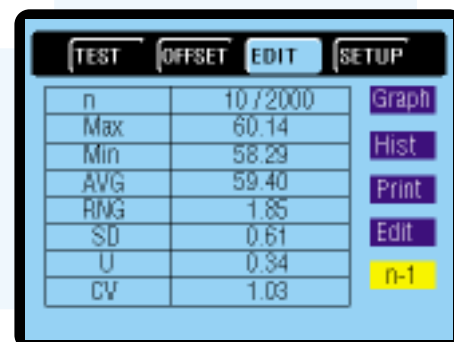
FUNCTION SETTING



ERROR DISPLAY



LANGUAGE SELECTION



STATISTICAL DATA

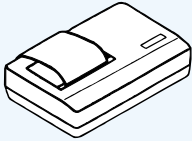
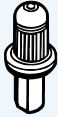
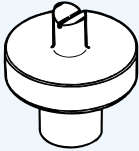
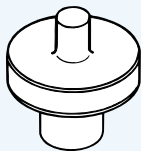
SPECIFICATIONS

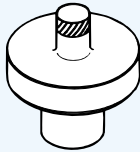
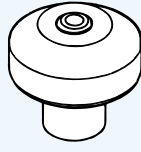
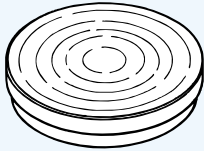
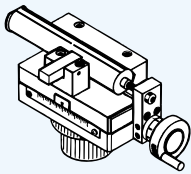
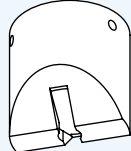
ITEM/ MODEL		LC-200R	LC-200RB
MEASUREMENT PRINCIPLE & METHOD		Direct Loading Method with Load-Cell Feedback/ Direct Linear Displacement Measurement	
STANDARDS CONFORMED		ISO 6506-2/ ISO 6508-2/ ASTM E 18/ ASTM E 10/ ASTM E 140/ ASTM D 785 JIS B 7726/ JIS K 7202/ JIS Z 2245/	
DISPLAY & OPERATION PANEL		8- Color LCD Touch Panel Display	
AVAILABLE LANGUAGES		Japanese/ English/ German/ French/ Italian/ Spanish/ Chinese/ Korean	
LOADING PRINCIPLE & MEASUREMENT OPERATION		Fully-Automatic Load Control Method: Fully-Automatic Measurement Operation; Descent of Load Shaft ~ Minor Load Application ~ Test Load Application- Hold- Release ~ Hardness Display ~ Ascent of Load Shaft ※ Only Manual Operation: Elevation of Specimen Surface within 0.5 ~ 8 mm to Indenter	
LOAD	MINOR LOAD	N : 29.42 98.07	
		kgf : 3 10	
	TEST LOAD	N : 147.1 294.2 441.3 588.4 980.7 1471	
		kgf : 15 30 45 60 100 150	
	SPECIAL LOAD FOR BRINELL TEST CONFORMING TO ISO 6506-2	N: 61.29, 76.61, 98.07, 153.2, 196.1, 245.2, 294.2 306.5, 392.3, 612.9, 980.7, 1177, 1226, 1839	
	FLEXIBLE SPECIAL ROCKWELL LOAD SETTING	kgf: 6.25, 7.8125, 10, 15.625, 20, 25, 30, 31.25, 40, 62.5, 100, 120, 125, 187.5	
MAXIMUM TRAVEL OF LOAD SHAFT		Available Special Customized Rockwell Type Test by Setting Minor Load/ Test Load Combination between 29.42 N (3 kgf) and 1961 N (200 kgf)	
TEST LOAD DWELL TIME		Max. 8 mm	
MEASUREMENT SPEED		0 ~ 999 s (Key Entry in unit of 1 s/ Factory Setting : 3 s)	
RESOLUTION		For Normal Measurement: Approx. 13 s/ 1 cycle	
PLASTIC MEASUREMENT MODE		Display: 0.01 HR	
HARDNESS CONVERSION		Available Load Control Method Conforming to JIS Z 7202 and ASTM D 785	
OK/ NG CRITERIA & LIMIT SETTING		Conversion & Display in compliance with ASTM E 140	
SELF DIAGNOSIS		Upper and Lower Limit Setting between 0.01 ~ 130 HR and OK/ NG Display	
HR SCALE DISPLAY		Display Troubles with Motors and Switches	
BRINELL TEST MODE		C, D, A, G, GW, B, BW, F, FW, K, KW, E, EW, H, HW, P, PW, M, MW, L, LW, V, VW, S, SW, R, RW, 15N, 30N, 45N, 15T, 15TW, 30T, 30TW, 45T, 45TW, 15W, 15WW, 30W, 30WW, 45W, 45WW, 15X, 15XW, 30X, 45XW, 15Y, 15YW, 30Y, 30YW, 45Y, 45YW	
TEST LOAD DISPLAY		—	Display HB Hardness based on Depth of Indentation ※ Reference only to ASTM E 10
HR DATA CORRECTION		Display Test Load in kgf and SI simultaneously on SCALE SELECTION Screen	
HR DATA EDITING		Max. Five Points each on 3 HR Scales/ Offset on each HR/ HR on Convex Cylindrical Surfaces (In compliance with ASTM E 18 and JIS Z 2245)/ HRC on Convex Round Surfaces (In compliance with JIS Z 2245)	
MAX. INDENTATION DEPTH		Data Editing/ Statistic Data(Test Times/ Max./ Min./ Mean/ Range/ Standard Deviation/ Dispersion/ Coefficient of Variation)/ Graph Chart Display/ Histogram Display	
SPECIAL TEST MODE FOR DETECTION ON PROCESS OF DISPLACEMENT OF LOAD & INDENTATION DEPTH		Detection and Output of Max. Indentation Depth	
DATA OUTPUT & COMMUNICATION SIGNAL		—	Detection of Displacement of Test Load & Indentation Depth on Process of Loading and output to outer PC by RS232C in real-time
DATA PRINTOUT MODE		RS232C : 2 Channels (For Printer & PC) / OPTION : P.I.O. (For External Control)	
ILLUMINATION LIGHT		a. HR Value/ b. HR Value & Conversion Data/ c. HR Value & Max.Depth of Indentation/ d. HR Value & OK-NG Criteria/ e. HR Value & Statistic Data/ f. HR Value, Mean Value & OK-NG Criteria/ g. Conversion Data/ h. Conversion Data & OK-NG Criteria/ i. Conversion Data & Statistic Data/ j. Conversion Data, Mean Value & OK-NG Criteria/ k. Max.Depth of Indentation	
SPECIMEN FIXING ADAPTER		White LED Spot Illumination	
MAX. HEIGHT OF SPECIMEN		Available as Option : 2 Types / Large & Small	
MAX. DEPTH OF SPECIMEN		255 mm (10")	
DEMENSION		170 mm (6.7")	
WEIGHT		(W) 220 × (D) 465 × (H) 810 mm	
POWER SUPPLY		Approx. 100 kg (Including Standard Accessories)	
		AC100 ~ 240 V 50/60 Hz/ Single Phase (Switchable in outside)	

STANDARD ACCESSORIES

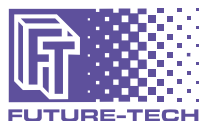
CODE No.	ITEM		LC-200R	LC-200RB
R-012	HARDNESS STANDARD BLOCK	HRC	1	
R-014		HRB	1	
R-015		HR30N	1	
R-016		HR30T	1	
R-003	DIAMOND INDENTER	For TWIN Type	1	
R-004	STEEL BALL INDENTER (For HR TEST: $\phi 1/16"$ / $\phi 1.588$ mm)		1	
R-008	SPARE STEEL BALL (For HR TEST: $\phi 1/16"$ / $\phi 1.588$ mm)		10	
L-006	TUNGSTEN CARBIDE BALL INDENTER (For HB TEST: $\phi 2.5$ mm)		—	1
L-010	SPARE TUNGSTEN CARBIDE BALL (For HB TEST: $\phi 2.5$ mm)		—	2
R-021	ANVIL	FLAT ($\phi 60$ mm)	1	
R-022		V-SHAPE (LARGE)	1	
R-042	POWER CABLE (3 P-2.5 m)		1	
R-043	LEVEL ADJUSTING LEG		4	
	AUXILIARY TOOLS (WRENCH: 1 pc, SCREW DRIVER: 1 pc)		1	
R-044	MACHINE COVER		1	
	INSTRUCTION AND MAINTENANCE MANUAL		1	
R-045	ACCESSORY BOX		1	

OPTIONAL ACCESSORIES

CODE No.	ITEM	CODE No.	ITEM
R-001	DIGITAL PRINTER		
			
For HR TEST R-005 $\phi 1/8"$ R-006 $\phi 1/4"$ R-007 $\phi 1/2"$ For HB TEST L-004 $\phi 1$ mm L-007 $\phi 5$ mm		STEEL BALL INDENTER (For HR TEST) TUNGSTEN CARBIDE BALL INDENTER (For HB TEST)	
			
R-023	ANVIL V-SHAPE (SMALL)	R-025	ANVIL: SPOT
			

CODE No.	ITEM	CODE No.	ITEM
R-026	ANVIL : CARBIDE SPOT	R-027	ANVIL : DIAMOND SPOT
			
R-028	ROUND TABLE : $\phi 200$ mm	R-029	MICRO TEST TABLE FOR JOMINY TEST
			
L-030	SPECIMEN FIXING ADAPTER (LARGE)	L-031	SPECIMEN FIXING ADAPTER (SMALL)
			

※ Appearance and specifications are subject to change without prior notice.



FUTURE-TECH CORP.

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