

FULL-AUTOMATIC LOAD-CELL SYSTEM ROCKWELL HARDNESS TESTER

# LC Series

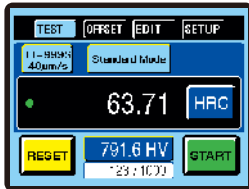
LC-200R



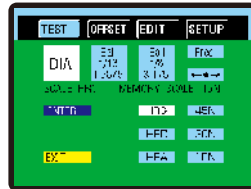
# LC Series

## LC-200R

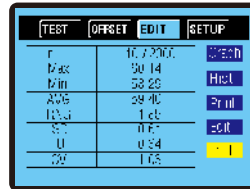
Versatile Function, Peerless Advanced Technology  
Mainstream of Rockwell Method in the New Century



MEASUREMENT



SCALE SELECTION



STATISTICAL DATA



## OUTSTANDING FEATURES

■ Direct Loading Method with Load-Cell Feedback instead of Weight 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-Automatic.

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

■ 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. (LC-200RB)

■ 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.



# SPECIFICATIONS

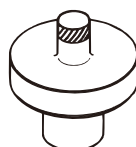
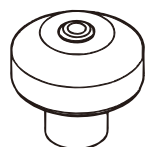
ITEM / MODEL	LC-200R	LC-200RB	
MEASUREMENT PRINCIPLE & METHOD	Direct Loading Method with Load-Cell Feedback/ Direct Linear Displacement Measurement		
STANDARDS CONFORMED	ISO 6506-2/ ISO 6508-2/ ASTM E 18/ ASTM E 10/ ASTM E 140/ ASTM D 785 JIS B 7726/ JIS K 7202/ JIS Z 2245/		
DISPLAY & OPERATION PANEL	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 ~ 8mm 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 / 306.5 / 392.3 / 612.9 / 1177 / 1226 / 1839
		—	kgf : 6.25 / 7.8125 / 10 / 15.625 / 20 / 25 / 31.25 / 40 / 62.5 / 120 / 125 / 187.5
	FLEXIBLE SPECIAL ROCKWELL LOAD SETTING	Available Special Customized Rockwell Type Test by Setting Minor Load/ Test Load Combination between 29.42N (3kgf) and 1961N (200kgf)	
INDENTER DESCENT DISTANCE	Max. 8mm		
TEST LOAD DWELL TIME	0~999s (Key Entry in unit of 1s/ Factory Setting : 3s)		
MEASUREMENT SPEED	For Normal Measurement: Approx. 13s/ 1cycle		
RESOLUTION	Display: 0.01HR		
PLASTIC MEASUREMENT MODE	Available Load Control Method Conforming to JIS K7202-2 and ASTM D 785		
HARDNESS CONVERSION	Conversion & Display in compliance with ASTM E 140		
OK/ NG CRITERIA & LIMIT SETTING	Upper and Lower Limit Setting between 0.01~130HR and OK/ NG Display		
SELF DIAGNOSIS	Display Troubles with Motors and Switches		
HR SCALE DISPLAY	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		
BRINELL TEST MODE	—	Display HB Hardness based on Depth of Indentation ※ Reference only to ASTM E 10	
TEST LOAD DISPLAY	Display Test Load in kgf and SI simultaneously on SCALE SELECTION Screen		
HR DATA CORRECTION	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)		
HR DATA EDITING	Data Editing/ Statistic Data(Test Times/ Max./ Min./ Mean/ Range/ Standard Deviation/ Dispersion/ Coefficient of Variation)/ Graph Chart Display/ Histogram Display		
MAX. INDENTATION DEPTH	Detection and Output of Max. Indentation Depth		
SPECIAL TEST MODE FOR DETECTION ON PROCESS OF DISPLACEMENT OF LOAD & INDENTATION DEPTH	—	Detection of Displacement of Test Load & Indentation Depth on Process of Loading and output to outer PC by RS232C in real-time	
DATA OUTPUT & COMMUNICATION SIGNAL	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		
ILLUMINATION LIGHT	White LED Spot Illumination		
SPECIMEN FIXING ADAPTER	Available as Option : 2 Types / Large & Small		
MAX. HEIGHT OF SPECIMEN	255mm (10")		
MAX. DEPTH OF SPECIMEN	170mm (6.7")		
DIMENSIONS	W220×D465×H810mm		
WEIGHT	Approx. 100kg (Including Standard Accessories)		
POWER SUPPLY	AC100~240V 50/60Hz/ Single Phase (Switchable outside)		


# STANDARD ACCESSORIES

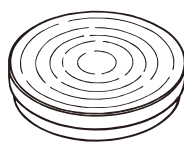
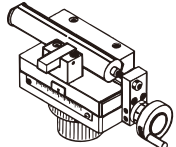
CODE No.	I T E M		LC-200R	LC-200RB
R - 0 1 2	HARDNESS STANDARD BLOCK	HRC		1
R - 0 1 4		HRB		1
R - 0 1 5		HR30N		1
R - 0 1 6		HR30T		1
R - 0 0 3	DIAMOND INDENTER	For TWIN Type		1
R - 0 0 4	STEEL BALL INDENTER (For HR TEST: $\phi$ 1/16" / $\phi$ 1.588 mm)			1
R - 0 0 8	SPARE STEEL BALL (For HR TEST: $\phi$ 1/16" / $\phi$ 1.588 mm)			10
L - 0 0 6	TUNGSTEN CARBIDE BALL INDENTER (For HB TEST: $\phi$ 2.5 mm)		—	1
L - 0 1 0	SPARE TUNGSTEN CARBIDE BALL (For HB TEST: $\phi$ 2.5 mm)		—	2
R - 0 2 1	ANVIL	FLAT ( $\phi$ 60 mm)		1
R - 0 2 2		V-SHAPE (LARGE)		1
R - 0 4 2	POWER CABLE (3 P-2.5 m)			1
R - 0 4 3	LEVEL ADJUSTING LEG			4
	AUXILIARY TOOLS (WRENCH: 1 pc, SCREW DRIVER: 1 pc)			1
R - 0 4 4	MACHINE COVER			1
	INSTRUCTION AND MAINTENANCE MANUAL			1
R - 0 4 5	ACCESSORY BOX			1

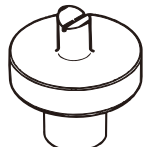
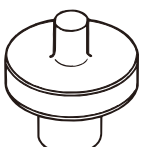
# OPTIONAL ACCESSORIES

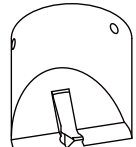
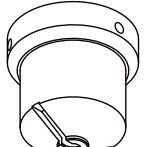
R-001	DIGITAL PRINTER 	R-051	EXCEL DATA TRANSFER SOFTWARE FOR LC 
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R-026	ANVIL : CARBIDE SPOT 	R-027	ANVIL : DIAMOND SPOT 
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For HR TEST	STEEL BALL INDENTER (For HR TEST) TUNGSTEN CARBIDE BALL INDENTER (For HB TEST) 
R-005 $\phi$ 1/8"	
R-006 $\phi$ 1/4"	
R-007 $\phi$ 1/2"	
For HB TEST	
L-004 $\phi$ 1mm	
L-007 $\phi$ 5mm	

R-028	ROUND TABLE : $\phi$ 200 mm 	R-029	MICRO TEST TABLE FOR JOMINY TEST 
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R-023	ANVIL V-SHAPE (SMALL) 	R-025	ANVIL: SPOT 
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L-030	SPECIMEN FIXING ADAPTER (LARGE) 	L-031	SPECIMEN FIXING ADAPTER (SMALL) 
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※ Appearance and specifications are subject to change without prior notice for the product improvement.



## FUTURE-TECH CORP.

<http://www.ft-hardness.com>

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