FUTURE-TECH

FULL-AUTOMATIC LOAD-CELL SYSTEM ROCKWELL HARDNESS TESTER

LC Series

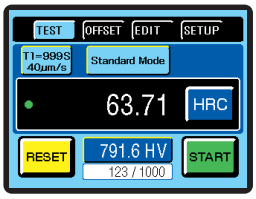
LC-200R



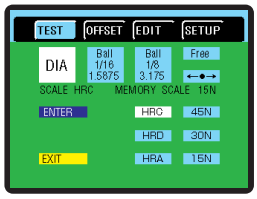
LC Series

LC-200R

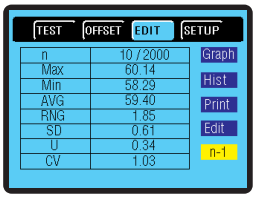
Versatile Function, Peerless Advanced Technology
Mainstream of Rockwell Method in the New Century



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 allowUser 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, 294.2, 306.5, 392.3, 612.9, 980.7, 1226, 1839
		—	kgf : 6.25, 7.8125, 10, 15.625, 20, 25, 31.25, 40, 62.5, 100, 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 Procese of Loading and output to outer PC by RS232C in reai-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.	ITEM		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: ϕ 1/16" / ϕ 1.588 mm）		1	
R - 0 0 8	SPARE STEEL BALL（For HR TEST: ϕ 1/16" / ϕ 1.588 mm）		10	
L - 0 0 6	TUNGSTEN CARBIDE BALL INDENTER（For HB TEST: ϕ 2.5 mm）		—	1
L - 0 1 0	SPARE TUNGSTEN CARBIDE BALL（For HB TEST: ϕ 2.5 mm）		—	2
R - 0 2 1	ANVIL	FLAT（ϕ 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

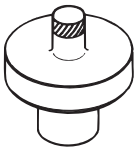
R-001 DIGITAL PRINTER



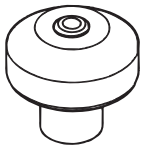
R-051 EXCEL DATA TRANSFER SOFTWARE FOR LC



R-026 ANVIL : CARBIDE SPOT



R-027 ANVIL : DIAMOND SPOT



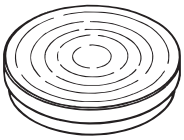
For HR TEST
R-005 ϕ 1/8"
R-006 ϕ 1/4"
R-007 ϕ 1/2"

For HB TEST
L-004 ϕ 1mm
L-007 ϕ 5mm

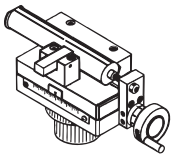
STEEL BALL INDENTER (For HR TEST)
TUNGSTEN CARBIDE BALL INDENTER (For HB TEST)



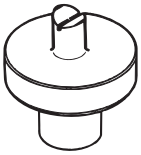
R-028 ROUND TABLE : ϕ 200 mm



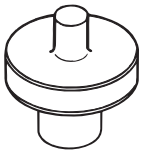
R-029 MICRO TEST TABLE FOR JOMINY TEST



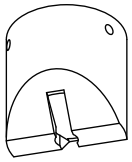
R-023 ANVIL V-SHAPE（SMALL）



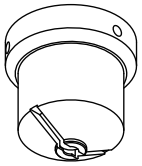
R-025 ANVIL: SPOT



L-030 SPECIMEN FIXING ADAPTER (LARGE)



L-031 SPECIMEN FIXING ADAPTER (SMALL)



※Appearance and specifications are subject to change without prior notice for the product improvement.

FUTURE-TECH

We are based on JIS Q 17025 (ISO/IEC 17025) as accredited standards, and accredited by JCSS who manages the recognition scheme according to ISO/IEC 17011. IA Japan (accreditation organization who has managed JCSS) who is signatory to the Mutual Recognition Arrangement (MRA) of International Laboratory Accreditation Cooperation (ILAC) and Asia Pacific Accreditation Cooperation (APAC).
We are accredited as MRA Calibration Laboratory of JCSS. Our accreditation number is JCSS 0228.

ISO 9001 No.1172-ISO 9001

JAB CM002

FUTURE-TECH CORP.
http://www.ft-hardness.com

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