

3R-Type Hardness Tester

with Automatic Dial Weight Selection



Order No. 639-2030

- Designed for measuring hardness of metals and alloys of all kinds, hard or soft whether flat, round or irregular in shape.
- Simple in design and easy to operate, yet sensitive and accurate testing results can be obtained with these testers.
- They are ideally suitable for schools, laboratories, tool rooms, inspection and heat treatment departments and factories.
- Conforms to ISO 33804-1966 and BS: 891-1962 Part I and Part II for Rockwell test.

Loads and Indicators

Description	
Maximum Load (kgf)	150
Load Range (kgf)	60,100,150
Initial Range Load (kgf)	10
Maximum Test Height	4-1/4"
Depth of Throat	5-1/4"
Max. Depth of Spindle Below Base	2"
Size of Base	7x18"
Machine Height	24-1/2"
Approximate Net Weight (lbs)	150

Standard Accessories Included:

Description	Order No.
5-3/4" Testing Table	HARD-100
2-3/16" Testing Table	HARD-101
2-3/16" Testing Table with "V" groove	HARD-102
120° Diamond Penetrator	HARD-103
1/16" Steel Ball Penetrator	HARD-104
Rockwell Test Block HRA80-88	HARD-106
Rockwell Standard Block HRB 85-95	HARD-107
Rockwell Test Block HRC60-70	HARD-108
Rockwell Standard Block HRC35-55	HARD-109
Rockwell Standard Block HRC20-30	HARD-110
Large Screw Driver	HARD-111
Small Screw Driver	HARD-112
Accessory case	HARD-113

Different Rockwell Hardness Scales

Scale	Penetrator	Loading (kgf)	Applications	Brinell value	Working Range
A	Diamond 120°	60	Carbide, Thin steel, Shallow Case-Hardened steel, Case-Carbonized surfaces	Over HB400	40-91 for hardness greater than C65
B	1/16" Ball	100	Aluminum alloys, Copper alloys, Unhardened steel etc. In rolled, Draw, Extruded or Cast metal	HRB 100-240	30-100 for hardness lower than C20
C	Diamond 120°	150	Hard cast irons, Pearlitic malleable iron, Steel, Deep case hardened steel, Titanium	Over HRB230	20-70 for hardness lower than HRB100
D	Diamond 120°	100	Pearlitic malleable iron, Thin steel & Medium case-hardened steel	Over HRB400	40-77 for intermediate load between A & C scale
E	1/8" Ball	100	Cast iron, Aluminum and magnesium alloys, Bearing metal	Below HRB125	50-100 for hardness lower than HRB0
F	1/16" Ball	60	Thin soft sheet metals, Annealed copper alloys	HRB 50-120	30-100 for hardness lower than HRB0
G	1/16" Ball	150	Copper-Nickel-Zinc and Cupro-Nickel alloys, Malleable irons	HRB 120-280	30-90 for hardness slightly > than HRB 100 upper limit G92
H	1/8" Ball	60	Lead, Zinc, Aluminum, Magnesium alloys	HRB 30-50	70-100
K	1/8" Ball	150	Bearing metals, very soft or thin material	HRB 100-200	40-100

Bench Centers



- Used for accurate concentricity inspection.
- Accuracy: less than 0.00015" runout.
- MT2 Centers are hardened and ground.
- Indicator holder included, Indicator not included.
- Hand scraped ways, adjustable gibs.
- Head stock can be adjusted lengthwise and locked securely in any position by special lever type handle.

Distance Between Center	Swing	Overall Length	Order No.
16"	12	30	640-2001
32"	19	48	640-2002