

# LM248/810 Series Microindentation Hardness Testers

## Specification Sheet



Model	<b>LM248AT</b> <b>863-783-160 (K &amp; V)</b> <b>Dual Indenter (4 Obj.)*</b> <b>LM248ATL</b> <b>863-783-165 (K &amp; V)</b> <b>Dual Indenter (4 Obj.)*</b>	<b>LM810</b> <b>863-790-237 (K)</b> <b>863-790-236 (V)</b> <b>LM810L</b> <b>863-790-241 (K)</b> <b>863-790-240 (V)</b>	<b>LM810AT</b> <b>863-790-239 (K)</b> <b>863-790-238 (V)</b> <b>LM810ATL</b> <b>863-790-243 (K)</b> <b>863-790-242 (V)</b>
Turret Mechanism	Automatic	Manual	Automatic
Loading Mechanism	Automatic loading and unloading		
Load Application Speed	50 $\mu\text{m/sec.}$		
Dwell Time	5 to 99 sec.		
Objectives*	Four lens positions total: 10X and 50X are included; two positions are available for optional objectives		
Indenter	Knoop <b>and</b> Vickers are included		Knoop <b>or</b> Vickers is included
Total Magnification	For measurement: 500X (Objective 50X; Eyepiece 10X) For observation: 100X (Objective 10X; Eyepiece 10X) All objectives are calibrated for measuring		
Measuring Microscope	Digital		
Max. Measuring Length	200 $\mu\text{m}$ (at 500X)		
Min. Resolution	0.01 $\mu\text{m}$		
Color LCD Type Display and Touch Control Panel	Pictured on back		
Max. Height of Specimen	(3.6 in.) 91 mm		
Max. Depth of Specimen	(4.3 in.) 110 mm		
Available Tests	HV, HK, HBW**, and Kc (Fracture Toughness Value)		
Case Depth Measurement Mode	Manually assign distances to calculate case depth		
Brinell Hardness (optional)**	Light load Brinell (HBW); Requires optional carbide ball indenter		
Fracture Toughness Value (Kc)	Conform to JIS R1607/IF method		
Manual X-Y Stage	Dimensions: 3.9 in. x 3.9 in. (100 x 100 mm) • Max. Movement: 1.0 in. x 1.0 in. (25 x 25 mm) Minimum micrometer handle graduation: 0.001 in.		
Hardness Conversion	In compliance with ASTM (E-140) & SEA (J-417b)		
OK/NG Criteria	Upper and lower limits setting and HI/OK/LO display		
Self Diagnosis	Displays motor and switch areas requiring attention		
Data Output	USB and RS232C		
Light Source	LED: Automatic brightness reduction during loading sequence		
Conforms To	ASTM E-384, JIS B-7734, ISO 4545 (Knoop), and ISO 6507 (Vickers)		
Video Port	Standard		
Dimensions	19.8 in. H x 17.7 in. D x 7.3 in. W (504 mm x 450 mm x 186 mm)		
Weight	Approximately 88 lb. (40 kg)—including standard accessories		
Power Supply	100 to 220V switchable 50/60 Hz		

Test Loads	Std. Models:	mN	49.03	98.07	245.2	490.3	980.7	1961	2942	4903	9807	19,613
		gf	5	10	25	50	100	200	300	500	1000	2000
	"L" Models:	mN	9.807	49.03	98.07	245.2	490.3	980.7	2942	4903	9807	19,613
		gf	1	5	10	25	50	100	300	500	1000	2000

## LM810 Series

- Hardness conversions
- LED illumination
- Automatic light dimming during test
- OK/NG criteria
- Advanced touch-screen display
- Case depth measurement mode
- Data editing capabilities
- Optional auto turret



**LM248/810 Color LCD Touch Panel**

## LM248AT

- Hardness conversions
- LED illumination
- Automatic light dimming during test
- OK/NG criteria
- Case depth measurement mode
- Data editing capabilities
- Auto turret standard
- Both Knoop and Vickers Indenters are standard
- Up to 4 objective lenses (50X and 10X standard, plus optional 5X, 20X, and 100X)
- Advanced touch-screen display



**LM248AT Turret**

*Specifications and part numbers may change.  
Consult LECO for latest information.*

3000 Lakeview Avenue • St. Joseph, MI 49085 • Phone: 800-292-6141 • Fax: 269-982-8977  
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