



NATIONAL

National Optical & Scientific Instruments, Inc.
A Member of the Motic Group

MODEL 131-SPMS, 132-SPMS, Educational Microscopes 134-CLED

The microscope model that sets the standard for high school instruction. Includes all the most commonly specified features. Rugged metal construction, locked-on parts. Superior DIN optical system and precision mechanical components assure parfocalled and parcentered optical alignment for sharp, unsurpassed viewing. Recommended for instruction through grade 12.

OPTICAL SYSTEM

- Monocular 45° inclined viewing head rotates 360° for easy sharing between students. (Models 131-SPMS, 134-CLED)
- Vertical and 30° inclined tubes mounted on 360° rotating head for ease of use. (Model 132-SPMS)
- DIN standard, achromatic, parfocalled, parcentered, and color-coded: 4x (0.10 N.A.), 10x (0.25 N.A.), 40xR (0.65 N.A.) and 100xR (1.25 N.A.) objectives.
- 4-hole objective turret, ball-bearing mounted for smooth, precise changes in magnification.



(Model 134-CLED)

FOCUSING

- Separate low position coarse and fine focusing controls.
- Stage moves up or down, eyepiece and body remain fixed.
- Slip clutch prevents damage from over focusing.
- Tension adjustment eliminates stage drift.
- Safety rack stop prevents damage to slides and objective lenses.

ILLUMINATION

- 115v, 20w tungsten illumination (131-SPMS, 132-SPMS)
- Cool running LED light rated up to 50,000 hours of use (134-CLED)
- Base mounted on/off switch, heavy-duty 3-wire cord.

WARRANTY

- Limited lifetime warranty, excluding bulb, cord, and accessory mechanical stage.



(Model 132-SPMS)

National Model 131-SPMS,132-SPMS,134-CLED

Specifications	
Eyepiece	10x, 18mm, with pointer
Head	45° inclined monocular viewing head (131-SPMS, 134-CLED) Verticle and 30° inclined eyetubes (132-SPMS)
Nosepiece	4-hole, click stop, ball-bearing mounted
Objectives	DIN, achromat, 4x, 10x, 40xR and 100xR
Stage	Large 120mm x 120mm (4-3/4 in. x 4-3/4 in.) stage, with professional quality, low profile mechanical specimen holder with low-position coaxial x-y controls.
Condenser	Built-in 1.25 N.A. Abbe condenser with iris diaphragm
Focusing	Separate coarse and fine controls with tension adjustment and slip clutch
Illumination	20W tungsten (131-SPMS, 132-SPMS), LED (134-CLED)
Electrical	Input 110 Volts
Height/ Weight	14 1/8 in. (360mm)/ 7.8 lbs (3.5 kgs) (Models 131-SPMS, 143-CLED) 15 1/4 in. (400mm)/ 7.8 lbs. (3.5 kgs) (Model 132-SPMS)

PACKING:

- Individual: Ship wt. 11 lbs (5 kgs), Dimensions 22x13x13 in. (550x325x325mm)
- Master carton pack 5 each: Ship wt. 49 lbs (22.2 kgs), Dimensions 35x12x18 in. (875x300x450mm)

Parts and Accessories	
800-102	Replacement bulb, 115v 20 watt tungsten, D.C. medium bayonet base.
801--001	Replacement LED bulb
965-160	Eyepiece reticle, 10mm/100 div.



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Authorized Distributor

Products subject to changes in material and design, equal to or exceeding those described above.

ISO 9001:2000 Certified
ISO 14001:2001 Certified