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Microscopy (Principles)

Manipulate the lever or handle of the microscope to move the observation position or change the magnification and observe or capture an image of a sample on a slide, or in a vessel such as a Petri dish or microplate.

- **Intended application of the product (for medical care)**

This microscope is intended mainly for use in microscopic observation and in the micromanipulation of living cells and tissue using diascopic (transmitted) and episcopic (reflected) illumination.

It is designed for the main purposes of experimentation and observation, in hospitals or other laboratories, of such cells and tissue within the fields of genetics, immunology, physiology, pharmacology, neurology, cellular biology, and molecular biology.

- **Intended user**

It is intended for the medical professional and those who work on experimentations in the field of genetics, immunology, physiology, pharmacology, neurology, cellular biology and molecular biology.

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Performance Properties

(1) Model name	ECLIPSE TS100 ECLIPSE TS100-F ECLIPSE TS100LED MV ECLIPSE TS100LED-F MV
(2) Optical system	CFI60 (Infinity-corrected CF optical system)
(3) Eyepieces	10x field number: 22 15x field number: 16
(4) Microscope magnification	1×
(5) Diascopic illuminators	ELWD condenser: N.A. = 0.3, Physical distance = 75 mm NAMC condenser: N.A. = 0.4, Physical distance = 44 mm Without condenser: Physical distance = 190 mm
(6) Phase contrast microscopy equipment	PhL, Ph1, Ph2 exclusive for ELWD condenser lenses
(7) Adjustable range for interpupillary distance	50 mm to 75 mm
(8) Revolving nosepiece	5 holes

2 Performance Properties

- (9) Focusing mechanism**
- Fine focus knob graduation: 2 μm per graduation
 Fine focus knob travel: 0.2 mm up or down per turn
 Coarse focus knob travel: About 37.7 mm up or down per turn
 Vertical travel range for revolving nosepiece:
 7 mm up and 2 mm down
 from the reference position (stage surface)
- (10) Photomicrographic equipment (for TS100-F/TS100LED-F MV only)**
- Vertical tube: Accepts C-mount direct vertical tube attachments and photomicrographic vertical tube
- Optical path changeover knob: PHOTO position
 (observation 0% : vertical tube 100%)
 BINO position
 (observation 100% : vertical tube 0%)
- (11) Accepts episcopic-fluorescent attachment**
- (12) Illumination light source**
- TS100/TS100-F**
- Lamp Rating: 6 V-30 W halogen lamp (PHILIPS 5761)
 Average lamp lifetime: 100hrs
 Output Rating: 6 V 5 A max.
- TS100LED MV/TS100LED-F MV**
- White LED
- (13) Input ratings**
- TS100/TS100-F (Model for 100, 110 and 120V AC areas)**
- Input voltage: Select from 100 V, 110 V or 120 V AC by relocating the fuse holder in the AC inlet.
 - Frequency: 50/60 Hz
 - Rated current: 0.8 A or less
 - Voltage fluctuation: $\pm 10\%$
 - Fuse rating: 250 V, 1 A time-lag, low-breaking type 5x20 miniature fuse x2
- TS100/TS100-F (Model for 220, 230 and 240 V AC areas)**
- Input voltage: Select from 220 V, 230 V or 240 V AC by relocating the fuse holder in the AC inlet.
 - Frequency: 50/60 Hz
 - Rated current: 0.4 A or less
 - Voltage fluctuation: $\pm 10\%$
 - Fuse rating: 250 V, 1 A time-lag, low-breaking type 5x20 miniature fuse x2
- TS100LED MV/TS100LED-F MV**
- 100 to 240 VAC, 50/60 Hz, 0.1 A or less

(14) Power Cord**■TS100/TS100-F (Model for 100, 110 and 120V AC areas)**

- UL listed detachable power cord set.
3-conductor grounding Type SVT, No.18 AWG,
3 m long maximum, rated at 125 V AC minimum.

Use the above power supply cord only. Using the wrong power cord may result in danger or fire.

The protection class I equipment should be connected to PE (protective earth) terminal.

■TS100/TS100-F (Model for 220, 230 and 240 V AC areas)

- Approved according to EU/EN standards,
3 conductor grounding Type H05VV-F,
3 m long maximum, rated at 250 V AC minimum.

Use the above power supply cord only. Using the wrong power cord may result in danger or fire.

The protection class I equipment should be connected to PE (protective earth) terminal.

■TS100LED MV/TS100LED-F MV**• When used in 100-120 V region, outside Japan**

UL listed detachable power cord set, 3 conductor grounding
(3 conductor grounding Type SVT, No.18 AWG,
3 m long maximum, rated at 125 V AC minimum.)

• When used in 220-240 V region

Detachable power cord set approved according to EU/EN standard,
3 conductor grounding
(3 conductor grounding Type H05VV-F,
3 m long maximum, rated at 250 V AC minimum.)

• When used inside Japan

PSE approved detachable power cord set, 3 conductor grounding
(3 conductor grounding Type VCTF 3 x 0.75 mm²,
3 m long maximum, rated at 125V AC minimum.)

3**Physical Properties****(1) Model name**

ECLIPSE TS100
 ECLIPSE TS100-F
 ECLIPSE TS100LED MV
 ECLIPSE TS100LED-F MV

(2) Dimension and Weight

ECLIPSE TS100:	228(W) x 517(D) x 480(H) mm,	7.5 kg
ECLIPSE TS100-F:	228(W) x 517(D) x 480(H) mm,	8.1 kg
ECLIPSE TS100LED MV:	228(W) x 507(D) x 480(H) mm,	8.5 kg
ECLIPSE TS100LED-F MV:	228(W) x 507(D) x 480(H) mm,	9.0 kg

(3) Operating Environmental Conditions

Temperature:	0 to +40°C
Humidity:	60% RH max. (no condensation)
Altitude:	2,000 m max.
Pollution:	Degree 2
Installation category: (Overvoltage category)	Category II
Electrical shock protection class:	Class I
Indoor use only	

(4) Storage and Transport Environmental Conditions

Temperature:	-20 to +60°C
Humidity:	90% RH max. (no condensation)

(5) Safety Standards Compliance

- UL listed product. (C-UL US Listing Mark approved)
- This product meets FCC Part 15 Subpart B Class A requirements:
This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules.
These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment.
This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications.
Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.
- This product complies with Canadian EMI. (ICES-003 Class A)
This Class A digital apparatus complies with Canadian ICES-003.
Cet appareil numérique de classe A est conforme à la norme NMB-003 du Canada.
- CE marking
 - This product meets EU IVD Directive requirements.
(GM-approved: in vitro diagnostic medical device)
 - This product meets EU Low Voltage Directive requirements.
 - This product meets EU EMC Directive requirements. (EN61326-1, EN61326-2-6)
- This product complies with Australian EMI. (AS/NZS CISPR11 Class B)

