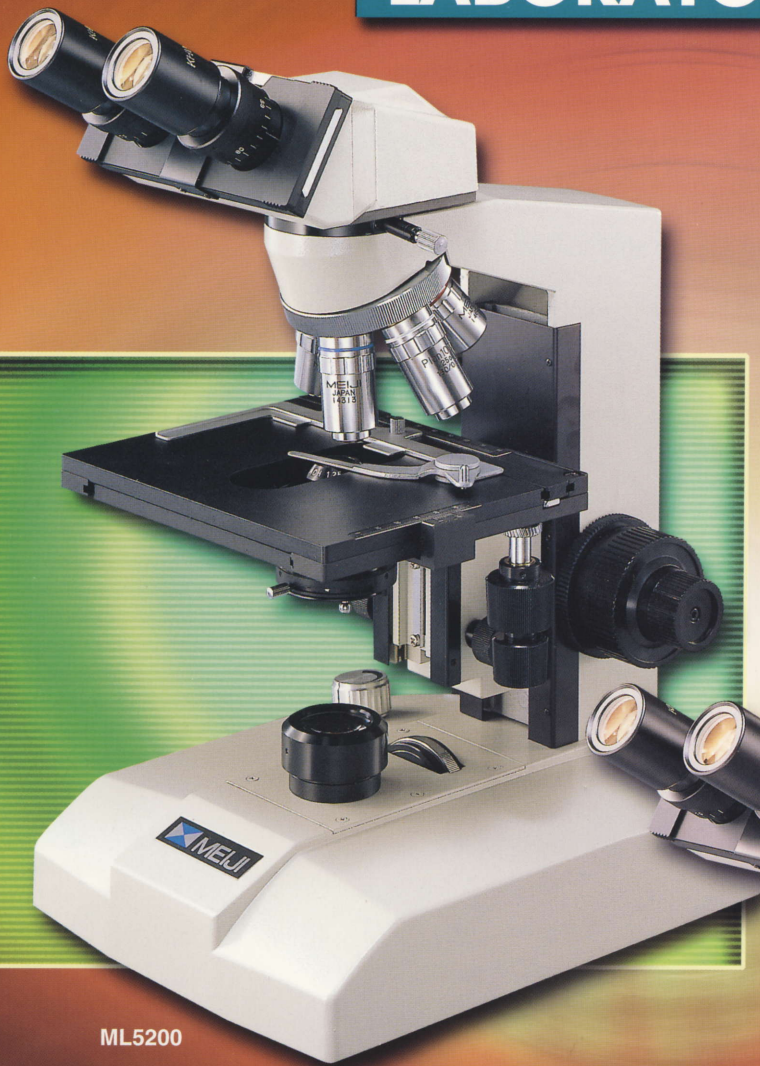




ML5000 Series

LABORATORY MICROSCOPES

*BRIGHTFIELD
PHASE CONTRAST
DARKFIELD*



ML5200



ML5500

FEATURES OF ML5000 SERIES

The high quality and dependability of the ML5000 Series with the added advantage of an ergonomic reversed quintuple nosepiece for mounting extra objectives and an optional 50W illuminator. The ML5000 Series encompasses 12 standard configurations.

① VIEWING HEADS

Available with standard binocular heads or trinocular heads:

Binocular head: Inclined at 30°, rotatable through 360°.

Dual graduated diopter eyetubes with interpupillary adjustments of 52mm to 72mm.

Trinocular head: Inclined at 30°, rotatable through 360°.

A sliding beam splitter directs 100% of the light to the eyepieces or 80% to the camera and 20% to the eyepieces.

② EYEPIECES

Paired DIN KHW10X with 20mm field of view, 22mm eye relief.

③ OBJECTIVE CHANGER

Smooth operating, ball bearing mounted ergonomic, reverse-angle, quintuple nosepiece.

④ OBJECTIVES

SM Semi Planachromats, BF Semi Planachromats, Planachromats or Phase Contrast.

⑤ STAGES

Flat-top stage : 171mm x 140mm surface with 80mm (X) by 52mm (Y) movement, graduated with vernier readings to 0.1mm, detachable specimen guide, drop-down right or left-handed controls. An attachable clinical specimen holder is available at option.

⑥ CONDENSER

An Achromatic, N.A. 1.25 substage condenser with iris diaphragm and filter tray. Or, Zernike type Phase condenser N.A.1.25.

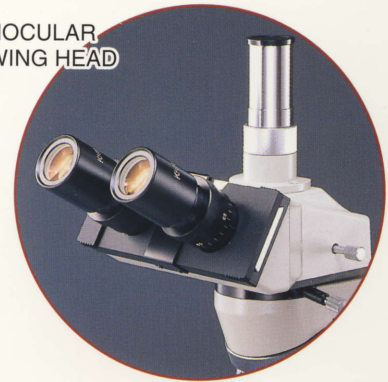
⑦ ILLUMINATOR

Variable-intensity Koehler illumination for apertures up to 1.25. Available in 6V 30W (built-in) or 12V 50W (attached lamp house) models.

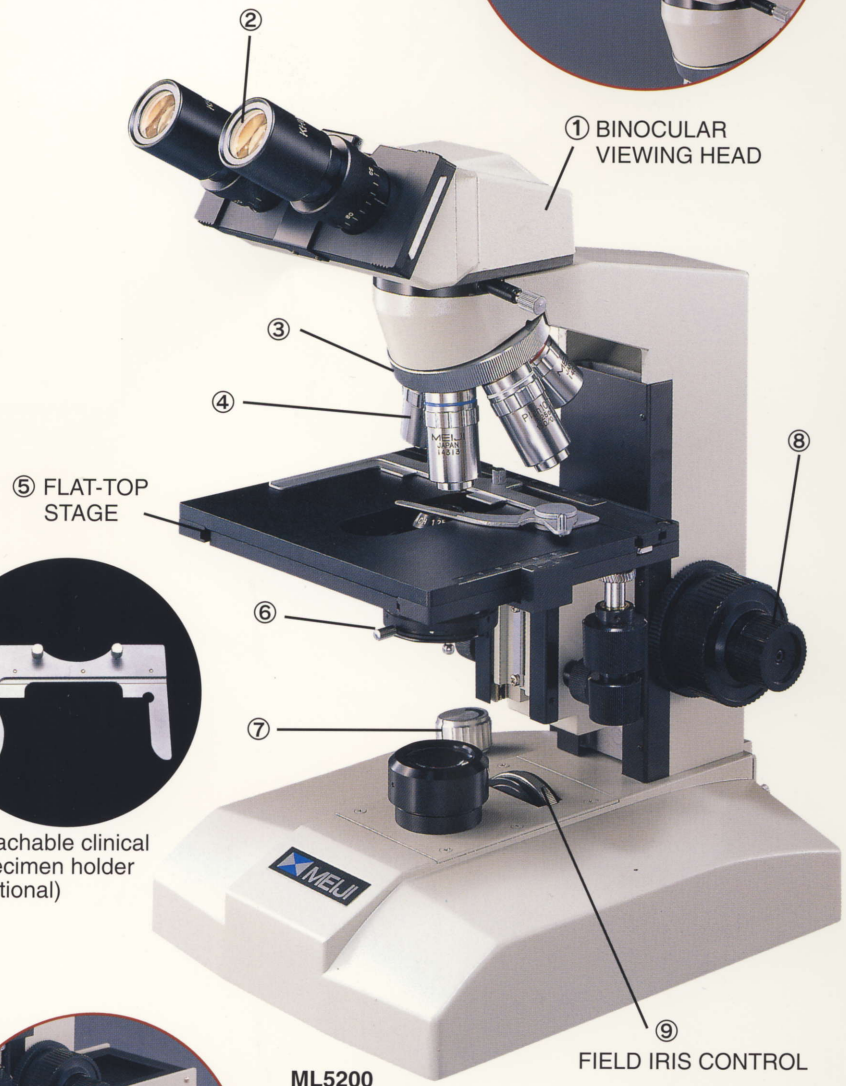
⑧ FOCUSING MOVEMENT

Coaxial coarse and fine focusing controls with graduation reading 2 microns per division. Incorporates tension adjustment and safety Auto-focus stop unit.

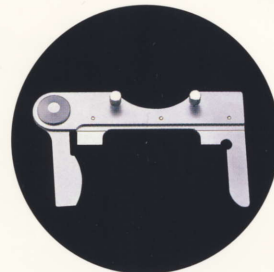
① TRINOCULAR VIEWING HEAD



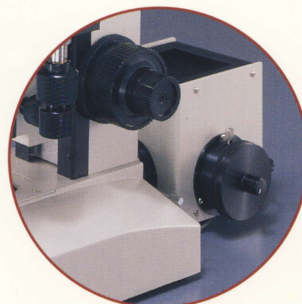
① BINOCULAR VIEWING HEAD



⑤ FLAT-TOP STAGE



Attachable clinical specimen holder (optional)



Lamp house assembly of the Models with 12V 50W halogen illuminator

ML5200

⑨ FIELD IRIS CONTROL

SIZE AND WEIGHT

30W Models;

Binocular Models: 195mm(W) × 255mm(D) × 395mm(H), Net weight: 6.4Kg

Trinocular Models: 195mm(W) × 255mm(D) × 440mm(H), Net weight: 6.5Kg

50W Models;

Binocular Models: 195mm(W) × 360mm(D) × 395mm(H), Net weight: 7.5Kg

Trinocular Models: 195mm(W) × 360mm(D) × 440mm(H), Net weight: 7.6Kg

PHASE CONTRAST MICROSCOPES



ML5870



ML5970

ORDERING INFORMATION FOR ML5000 SERIES

MODEL	BODY	EYEPIECES (DIN)	OBJECTIVES (DIN)	MECHANICAL STAGE	CONDENSER	ILLUMINATOR
ML5000	Binocular	KHW10X, 20mm f.o.v.	SM Semi Plan 4X, 10X, S40X, S100X oil	Flat-top, 80mm x 52mm movement, with (right hand control)	Achromatic N.A. 1.25 with blue filter	Koehler 6V 30W Halogen
ML5100	Trinocular		BF Semi Plan 4X, 10X, S40X, S100X oil			
ML5050	Binocular		Planachromat 4X, 10X, S40X, S100X oil			
ML5150	Trinocular					
ML5200	Binocular	with centering telescope	Achromat Phase 10X, S20X, S40X, S100X oil		Zernike type Phase condenser N.A.1.25 with green filter	Koehler 6V 30W Halogen
ML5300	Trinocular		BF Semi Plan Phase 10X, S20X, S40X, S100X oil		Zernike type Phase condenser N.A.1.25 with green interference filter	Koehler 12V 50W Halogen
ML5400	Binocular					
ML5500	Trinocular					
ML5855	Binocular					
ML5955	Trinocular					
ML5870	Binocular					
ML5970	Trinocular					

- Supplied in styrofoam case with dust cover and instruction manual.
- Left hand control mechanical stage is optional. Please indicate the letter "L" after the model number when ordering the ML5000 series microscope with left hand control mechanical stage (For instance: Model ML5000L).

PHASE CONTRAST SET, PH-A comprising:

- MA715** Zernike type N.A. 1.25 Phase condenser in turret mount, individual centerable phase annuli for 10X, 20X, 40X and 100X with brightfield position with iris and filter tray for 29.8mm diameter filter
- MA695** BF Semi Planachromat Phase objective 10X, N.A. 0.25
- MA697** BF Semi Planachromat Phase objectives S20X, N.A. 0.40
- MA698** BF Semi Planachromat Phase objectives S40X, N.A. 0.65
- MA699** BF Semi Planachromat Phase objectives S100X, N.A. 1.25 oil
- MA458** Centering telescope to check phase annulus
- MA759** Green interference filter, 29.8mm diameter.

The unit is equipped in Models: ML5870 and ML5970.



PH-A

PHASE CONTRAST SET, PH-B comprising:

- MA715** Zernike type N.A. 1.25 Phase condenser in turret mount, individual centerable phase annuli for 10X, 20X, 40X and 100X with brightfield position with iris and filter tray for 29.8mm diameter filter
- MA448** DIN Achromat Phase objective 10X, N.A. 0.25
- MA449** DIN Achromat Phase objectives S20X, N.A. 0.40
- MA450** DIN Achromat Phase objectives S40X, N.A. 0.65
- MA451** DIN Achromat Phase objectives S100X, N.A. 1.25 oil
- MA458** Centering telescope to check phase annulus
- MA290/05** Green clear filter, 29.8mm diameter.

The unit is equipped in Models: ML5855 and ML5955.



PH-B

PHASE AND DARKFIELD SET, PD-A comprising:

- MA716** Zernike type N.A. 1.25 Phase condenser in turret mount, individual centerable phase annuli for 10X, 20X and 40X, darkfield stop for 40X and iris and filter tray for 29.8mm diameter filter
- MA448** DIN Achromat Phase objective 10X, N.A. 0.25
- MA449** DIN Achromat Phase objectives S20X, N.A. 0.40
- MA450** DIN Achromat Phase objectives S40X, N.A. 0.65
- MA458** Centering telescope to check phase annulus
- MA290/05** Green clear filter, 29.8mm diameter



PD-A

ACCESSORIES FOR HIGH POWER DARKFIELD MICROSCOPY

- MA274** Darkfield condenser, Cardiod type, for high power use (N.A. 1.25) in a centering mount (to be used with 100X objective with iris only).
- MA811** BF Semi planachromat S50X, N.A. 0.95 oil, with iris diaphragm
- MA813** BF Semi planachromat S100X, N.A. 1.25 oil, with iris diaphragm
- MA430** S. Plan objectives S100X oil, with iris diaphragm



Darkfield condenser and objectives with iris diaphragm

COMPONENTS AND ACCESSORIES

VIEWING HEADS (without eyepieces)

- MA403** Inclined Monocular head
- MA602** Inclined Binocular head
- MA603** Inclined Trinocular head

EYEPIECES

- MA406** DIN HWF10X, Field No.18, Eye Relief 24mm (ea)
- MA407** DIN KHW10X, Field No.20, Eye Relief 22mm (ea)
- MA408** DIN HWF15X, Field No.12.2, Eye Relief 15mm (ea)
- MA409** DIN HWF20X, Field No.9, Eye Relief 9mm (ea)

COMPONENTS AND ACCESSORIES

ACHROMAT OBJECTIVES

- MA482** S.Flat achromat 4X, N.A. 0.10, W.D.20.0mm
- MA483** S.Flat achromat 10X, N.A. 0.25, W.D.6.6mm
- MA484** S.Flat achromat S20X, N.A. 0.40, W.D.3.1mm
- MA485** S.Flat achromat S40X, N.A. 0.65, W.D.0.4mm
- MA486** S.Flat achromat S60X, N.A. 0.85, W.D.0.2mm
- MA487** S.Flat achromat S100X, N.A. 1.25, W.D.0.13mm

SM SEMI PLANACHROMAT OBJEITIVES

- MA611** SM Semi Plan 4X, N.A. 0.10, W.D.19.83mm
- MA612** SM Semi Plan 5X, N.A. 0.10, W.D.19.83mm
- MA613** SM Semi Plan 10X, N.A. 0.25, W.D.6.23mm
- MA614** SM Semi Plan S20X, N.A. 0.40, W.D.3.13mm
- MA615** SM Semi Plan S40X, N.A. 0.65, W.D.0.43mm
- MA616** SM Semi Plan S60X, N.A. 0.85, W.D.0.23mm
- MA617** SM Semi Plan S100X, N.A. 1.25., oil, W.D.0.12mm



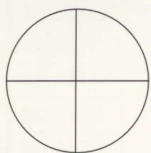
SM SEMI PLAN OBJECTIVES

FILTERS

- MA196** ND2 Neutral density filter, 29.8mm diameter
- MA197** ND8 Neutral density filter, 29.8mm diameter
- MA289/05** Blue clear filter, 29.8mm diameter
- MA290/05** Green clear filter, 29.8mm diameter
- MA759** Green interference filter, 29.8mm diameter
- MA291** Polarizing filter, 29.8mm diameter

EYEPIECE MICROMETERS (FOR USE WITH MA407 EYEPIECE)

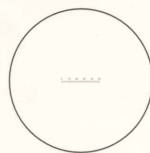
- MA284** Cross-line reticule, 21mm diameter
- MA255** Eyepiece micrometer, 10mm divided into 100 units, 21mm diameter
- MA256** Eyepiece micrometer 5mm divided into 100 units, 21mm diameter
- MA283/05** 10mm square divided into 100 parts, 1.0mm square, 21mm diameter
- MA540** Cross-line with 0.1mm graduations, 21mm diameter
- MA254/05** Walton and Beckett reticule 21mm diameter



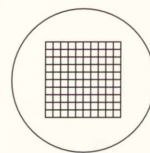
MA284
Cross-line



MA255
10mm in 100 parts



MA256
5mm in 100 parts



MA283/05
10mm square in
100 square

BF SEMI PLANACHROMAT OBJEITIVES

- MA690** BF Semi Plan 4X, N.A. 0.10, W.D.19.83mm
- MA691** BF Semi Plan 10X, N.A. 0.25, W.D.6.23mm
- MA692** BF Semi Plan S20X, N.A. 0.40, W.D.3.1mm
- MA693** BF Semi Plan S40X, N.A. 0.65, W.D.0.43mm
- MA694** BF Semi Plan S50X, oil, N.A. 0.95, W.D.0.25mm
- MA696** BF Semi Plan S100X, N.A. 1.25., oil, W.D.0.15mm
- MA811** BF Semi Plan S50X, N.A. 0.95, oil, with iris, W.D.0.24mm
- MA813** BF Semi Plan S100X, N.A. 1.25., oil, with iris, W.D.0.15mm



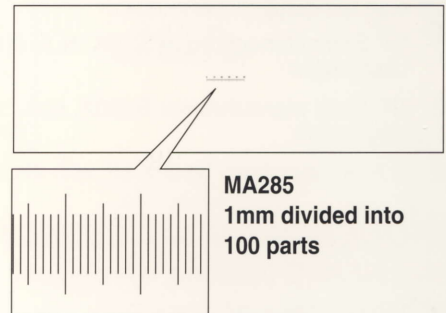
BF SEMI PLAN OBJECTIVES

MISCELLANEOUS COMPONENTS

- MA326** Spare bulb 6V 30W halogen
- MA275/05** Spare bulb 12V 50W halogen
- MA327** Fuse 3A
- MA609/05** Wooden carrying case
- MA676** Attachable clinical specimen holder for MA596R Mechanical stage
- MA680** Polarizer set for 30W version (Polarizer to fit filter tray/analyser to fit viewing head)
- MA681** Polarizer set for 50W version (Polarizer to fit filter tray/analyser to fit viewing head)
- MA700** Immersion oil
- MA701** Dust cover

STAGE MICROMETERS

- MA285** Objective micrometer, 0.01mm ruling
- MA286** 0.04" divided into 40 units, 0.001"

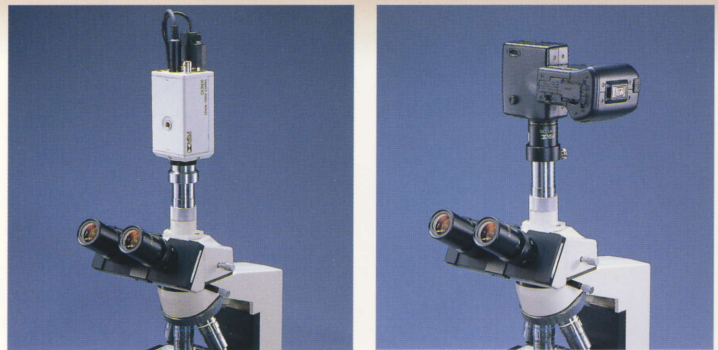


MA285
1mm divided into
100 parts

ACCESSORIES

VIDEO EQUIPMENT

- CK3100N** CCD Color TV camera. 1/3"CCD, 450 lines of resolution, NTSC system with DC12V adapter
- CK3100P** CCD Color TV camera. 1/3"CCD, 450 lines of resolution, PAL system with DC12V adapter
- CK3900N** CCD Color TV camera. 1/2"CCD, 450 lines of resolution, NTSC system with DC12V adapter
- CK3900P** CCD Color TV camera. 1/2"CCD, 450 lines of resolution, PAL system with DC12V adapter



VIDEO "C" MOUNTS

- MA151/10** "C"mount adapter
(Replaces existing phototube)
- MA151/35/04** "C"mount adapter with 0.45X lens
(Slips over top of existing phototube)
- MA151/35/15** "C"mount adapter with 1.0X lens
(Slips over top of existing phototube)
- MA151/35/20** "C"mount adapter with 0.7X lens
(Slips over top of existing phototube)
- MA151/35/25** "C"mount adapter with 2.5X lens
(Slips over top of existing phototube)

DIGITAL CAMERA ADAPTERS

- MA151/30/50** Digital Camera adapter for use with Nikon Coolpix950, 990, 995 and 4500 digital cameras. (Slips over top of existing phototube)
- MA151/30/60** Digital Camera adapter for use with Olympus Camedia C-3040 ZOOM, C-4040 ZOOM and C-3100 ZOOM. (Slips over top of existing phototube)
- MA151/30/70** Digital Camera adapter for use with Nikon Coolpix5000 (Slips over top of Existing phototube)
- MA151/30/80** Digital Camera adapter for use with Fuji Finepix S602 4900Z. 6900Z (Slips over top of Existing phototube)

35mm SLR CAMERA PHOTOMICROGRAPHY

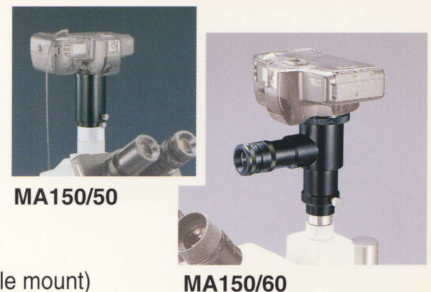
The following accessories are required for 35mm SLR camera photomicrography

1. Camera Attachment

- MA150/50** Camera attachment to fit to photo tube of trinocular models
- MA150/60** Camera attachment as above, but with eyepiece finder

2. Photo Eyepiece

- MA512** Photo eyepiece 2.5X (Magnifies objective power by 2.5X at the film plane)
- MA508** Photo eyepiece 5X (Magnifies objective power by 5X at the film plane)
- MA500** Photo eyepiece 3.3X (Magnifies objective power by 3.3X at the film plane, with reticle mount)



3. T-2 Adapter Ring

- T2-1** Adapter ring for CANON camera
- T2-2** Adapter ring for MINOLTA camera
- T2-3** Adapter ring for PENTAX K, RICOH-XR camera
- T2-4** Adapter ring for PENTAX S camera
- T2-5** Adapter ring for NIKON camera
- T2-6** Adapter ring for OLYMPUS camera
- T2-7** Adapter ring for CONTAX, YASHIKA camera
- T2-8** Adapter ring for KONICA camera
- T2-9** Adapter ring for CANON EOS camera
- T2-10** Adapter ring for MINOLTA α , MAXIM 2000 camera

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