

Infinity Corrected Optical System

# MT4000

**BIOLOGICAL MICROSCOPES** **SERIES**

**BRIGHTFIELD / PHASE CONTRAST**



MP 4200L / MT 4200H



# MT4000

## SERIES

The Meiji Techno MT4000 Series of biological microscopes have been designed as versatile, modular, ergonomic microscope system which are ideally suited for use in education, research, or advanced laboratory applications.

Ergonomic placement of controls allows for stress free operation, increased efficiency and maximum productivity.

Operating comfort and ease of use are top design priorities.

The MT4000 Series microscopes feature a new computer engineered rigid frame that incorporates low positioned coaxial coarse/fine focus controls and ergonomic stage design for maximum efficiency and comfort while also providing an extremely stable operating platform.

The MT4000 Series offers an outstanding range of features and optical performance with an emphasis on all newly engineered high performance optics based on Meiji Techno's ICOS™ Optical System (Infinity Corrected Optical System).

The new optics, provide exceptionally bright, crisp images, with good color rendition and superior flat fields of view.

A modular design facilitates attachment of a variety of accessories such as CMOS/CCD video cameras, digital still cameras, and 35mm cameras.

The MT4000 Series Microscopes offer crisp, distortion free, high resolution images in multiple modes of operation. Contrast methods available include: Bright-field and Phase Contrast.



MP 4300L / MT 4300H

## FEATURES

- Compact Space Saving Footprint
- Infinity Corrected Optical System (ICOSTM) with all newly designed Optics
- Comfortable Siedentopf-type Binocular and Trinocular Viewing Heads
- Optional Ergonomic tilting binocular head — Adjustable vertically from 10° to 50°
- Ceramic Coated Stage with Ergonomically Placed Low Position Drop Down Control
- Low Positioned Ergonomic Coaxial Focus Control
- Smooth Operating Ergonomic Quintuple Nosepiece
- Brightfield and Phase Contrast Observation modes available.
- Super Bright LED Koehler Illumination
- Integrated 30-watt Halogen Koehler Transmitted Illumination System on selected Brightfield and Phase Contrast Models
- Abbe and Zernike Phase Contrast Condensers available
- Integrated Automatic Voltage Sensing Power Supply with localized power cordset (Transmitted Light Models)
- Wide Range of Filters and Accessories


**MT4210H**

**MT4310H**

## MT4000 SERIES ORDERING INFORMATION

MT4200L	Binocular	Plan 4X 10X S40X S100X oil	KHW10X, F.N.20 (O.D.23.2mm)	Ceramic Coated Flat-top	Abbe type N.A.1.25 with Blue filter	LED Illuminator Koehler	
MT4300L	Trinocular					6V 30W Halogen Koehler	
MT4200H	Binocular				Zernike type Phase N.A.1.25 with Green filter		
MT4300H	Trinocular						
MT4210H	Binocular	Plan 4X S Plan Phase 10X, S40X with centering telescope					
MT4310H	Trinocular						

- Supplied in styrofoam case with dust cover and instruction manual.
- Left hand control mechanical stage is optional. Please indicate "MA917L Left hand control mechanical stage" in the description when ordering.

## COMPONENTS & ACCESSORIES FOR MT4000 SERIES



### VIEWING HEAD (without eyepieces)

- MA815/05** Binocular head (Siedentopf type, I.P. adjustment 53mm to 75mm graduated diopter on left eyetube (23.2mm I.D. eyetubes). Inclined at 30°. (Included in Model MT4200L, MT4200H & MT4210H)
- MA816/05** Trinocular head (Siedentopf type, I.P. adjustment 53mm to 75mm graduated diopter on left eyetube (23.2mm I.D. eyetubes). Inclined at 30°. (Included in Model MT4300L, MT4300H & MT4310H)
- MA957/05** Ergonomic head, inclination adjustable vertically from 10° to 50° (23.2mm I.D. eyetubes).
- MA958** PhotoNideo attachment with sliding 80/20 beam-splitter for attaching video or digital camera to MT Series when MA957/05 Ergonomic head is used.

### EYEPIECES

- MA407** KHW10X Compensating eyepiece, Field No. 20, Tube O.D. 23.2mm (21mm reticle mount) (Paired MA407 Eyepieces included in all MT4000 Series models)
- MA408** HWF15X, Widefield eyepiece, Field No. 12.2, Tube O.D. 23.2mm (No reticle mount)
- MA409** HWF20X, Widefield eyepiece, Field No. 9, Tube O.D. 23.2mm (No reticle mount)
- MA406** HWF10X Widefield High-eyepoint eyepiece, Field No. 18, Tube O.D. 23.2mm (19mm reticle mount)
- MA413** HWF-10X Focusing eyepiece with reticle mount, Field No. 18, Tube O.D. 23.2mm (19mm reticle mount)

### PLANACHROMAT OBJECTIVES (Included in Models MT4200L, MT4300L, MT4200H & MT4300H)

- MA965** Plan Objective 4X, N.A.0.10, W.D.15.3mm
- MA966** Plan Objective 10X, N.A.0.25, W.D.7.3mm
- MA968** Plan Objective 40X, spring loaded, N.A.0.65, W.D.0.72mm
- MA970** Plan Objective 100X, spring loaded, N.A.1.25, oil, W.D.0.14mm

### SEMI PLANACHROMAT PHASE OBJECTIVES AND CENTERING TELESCOPE

#### (Included in Models MT4210H & MT4310H)

- MA930** S Plan Phase 10X Objective, N.A.0.25, W.D.7.3mm
- MA931** S Plan Phase 20X Objective, spring loaded, N.A.0.40, W.D.9.1mm
- MA932** S Plan Phase 40X Objective, spring loaded, N.A.0.65, W.D.0.72mm
- MA933** S Plan Phase 100X Objective, spring loaded, N.A.1.25 oil, W.D.0.14mm
- MA458** Centering Telescope, 23.2mm O.D.

### CONDENSER

- MA910** Abbe condenser, N.A.1.25 with iris diaphragm in dovetail mount (Included in Models MT4200L, MT4300L, MT4200H & MT4300H)
- MA911** Achromatic condenser, N.A.1.25 with iris diaphragm in dovetail mount
- MA913** Zernike Phase condenser with centerable phase annuli for 10X, 20X, 40X, 100X with brightfield position, darkfield stop for 40X objective, (black-out position for epi-fluorescence on MT6000 Series only) with iris in dovetail mount (Included in Models MT4210H & MT4310H)

### POLARIZER

- MA915** Polarizer set for MT4000 Series

### FILTERS

- MA858/05** ND25 Neutral density filter, 44.0mm diameter, unmounted
- MA856/05** LB100 Blue Clear filter 44.0mm diameter, unmounted (Included in Models MT4200H, MT4300H, MT4210H & MT4310H)
- MA857/05** Green filter, clear, 44.0mm diameter, unmounted (Included in Models MT4210H & MT4310H)
- MA861/05** Green interference filter, 44.0mm diameter, unmounted

### STAGES

- MA917R** Ceramic coated flat-top stage, 78mm x 52mm, X-Y movement, with right hand drop-down coaxial controls. (Included in all Models)
- MA917L** Ceramic coated flat-top stage, 78mm x 52mm, X-Y movement, with left hand drop-down coaxial controls. (Optional)

- MA598** Attachable finger assembly for MA917R and MA917L

### MISCELLANEOUS

- MA200** Eyeshield for MA407 KHW10X Eyepiece (ea)
- MA326** Spare bulb 6V 30W Halogen lamp
- MA327** Spare 3A Fuse for Halogen illuminator
- MA929** Spare Fuse 0.5A for LED Illuminator
- MA809/10** Removable AC Electric cord with UL plug for 115V models
- MA809/20** Removable AC Electric cord with European plug for 220V models
- MA809/30** Removable AC Electric cord with UK plug for 240V models
- MA701** Dust Cover for MT4000 Series



**MA957/05 ERGONOMIC HEAD**



**ZERNIKE PHASE SET**

PHASE CONTRAST SET, comprising:

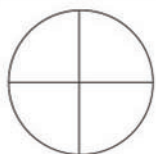
Zernike Phase condenser, S Plan Phase Objectives 10X, 20X, 40X, 100X, Centering Telescope (MA458) and Green filter (MA857/05)



## COMPONENTS & ACCESSORIES FOR MT4000 SERIES

### EYEPIECE MICROMETERS (FOR USE WITH MA407 EYEPIECE)

- MA284** Cross-line reticle, 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 reticle 21mm diameter



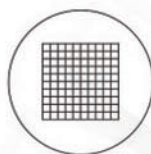
**MA 284**  
Cross-line



**MA255**  
10mm in 100 parts



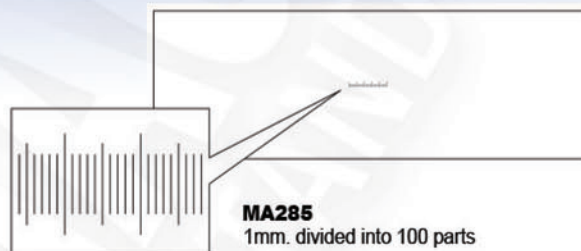
**MA256**  
5mm in 100 parts



**MA283/05**  
10mm square in  
100 square

### STAGE MICROMETERS

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



**MA285**  
1mm. divided into 100 parts

## DIGITAL 35MM SLR CAMERAS

Following three 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

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



**PHOTO EYEPIECE**



**T2 ADAPTER RING**



**MA150/50**

## CCD VIDEO & USB 2.0 DIGITAL CAMERAS

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



**CK3900**

- DK3000** 3.0 megapixel, color digital video microscopy camera with high speed USB 2.0 interface, 1/2 format 6.5mm x 4.9mm image sensor with 2048 x 1536 resolution



**DK3000**

# MT4000

## SERIES

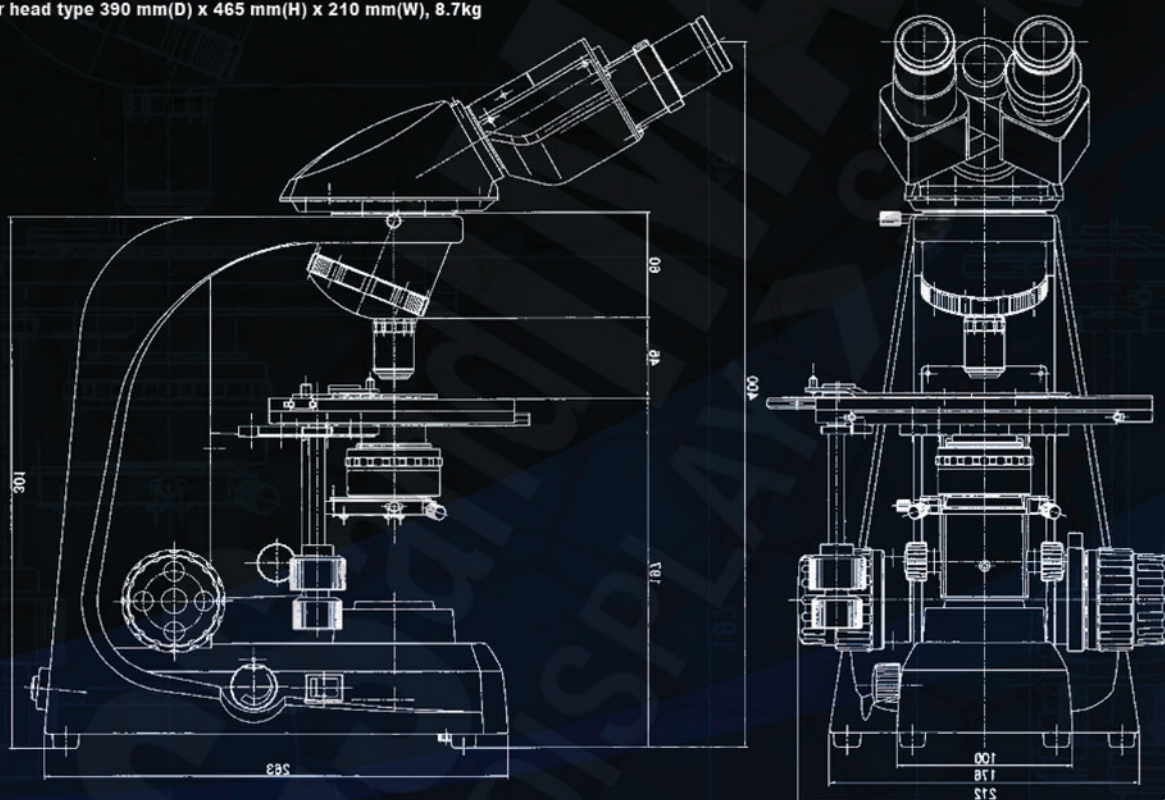
### SIZE AND WEIGHT OF MT4000 MODELS

Footprint : 263 mm(D) x 176mm(W)

Weight & Overall Dimension :

Binocular head type 390 mm(D) x 410 mm(H) x 210 mm(W), 8.0kg

Trinocular head type 390 mm(D) x 465 mm(H) x 210 mm(W), 8.7kg



AGENT:



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