# Infinity Corrected Optical System

# METALLURGICAL MICROSCOPES

For Reflected Light Observation

MT

Newly designed Plan EPI Optics provide bright, crisp images with color rendition and superior flat field of view.



XMEIJI

MT7000



# MT7000 Series METALLURGICAL MICROSCOPES For Reflected Light Observation

A versatile, modular, ergonomic metallurgical microscope system. Newly designed Epi-Plan Optics provides exceptionally bright, crisp images with good color rendition and superior flat field of view.

**X**MEIJI

# Features

# Eyepieces:

Super Widefield 10X, High Eyepoint Eyepieces, F.N. 22 are standard.

# Viewing head:

The MT7000 Series Metallurgical microscopes is equipped with either Siedentopf type binocular or Siedentopf type trinocular viewing head

Inclined at 30° and rotatable through 360° for comfortable viewing.Optional tilting ergonomic binocular head–Adjustable vertically from  $10^{\circ} \sim 50^{\circ}$  is available.

# Nosepiece:

Smooth Operating Ergonomic Quintuple Nosepiece. **Objectives:** 

Infinity corrected, Planachromat EPI Objectives, Plan EPI 5X/0.10, W.D. 20.0mm, Plan EPI 10X/0.25, W.D. 7.48mm, Plan EPI 20X/0.40, W.D. 5.20mm, Plan EPI 50X/0.75, W.D. 0.38mm.

# Stage:

Ceramic coated, flat-top stage, 191mm x 126mm with 100mm x 100mm travel. Equipped with precision ball bearing guides and low positioned drop down coaxial controls for X-Y movement.

# Illuminator:

Vertical illuminator with full Koehler design equipped with 6V 30W Halogen light source, field iris, aperture iris and filter slots. Capable of brightfield or simple reflected polarization technique. Includes blue clear, Green clear, Neutral density (ND 50) filters in mounts. Automatic voltage (100V ~ 240V) sensing power supply and variable rheostat control are built in the microscope base.

# **Focusing Controls:**

Ergonomically low positioned focusing controls allow the operator to work their forearms relaxed on the working surface. Range of travel is 23mm.

Rotation of fine focus is 0.2mm per revolution.

# Size and weight:

Footprint : 263 mm(D) x 176mm(W) Weight & Overall Dimension : Binocular head type 424.5 mm(D) x 471 mm(H) x 210 mm(W), 8.5kg Trinocular head type 424.5 mm(D) x 526 mm(H) x 210 mm(W), 9.2kg MT

# **COMPONENTS AND ACCESSORIES FOR MT7000 Series**

# The items marked with an asterisk (\*) are included in the Model MT7000 & MT7100.

### **VIEWING HEAD MA815** Binocular head (Siedentopf type), I.P. adjustment 53mm to 75mm graduated diopter on left eyetube (30.0mm I.D. eyetubes). Inclined at 30° (\*Included in Model MT7000) Trinocular head (Siedentopf type), I.P. adjustment 53mm to 75mm graduated diopter **MA816** on left eyetube (30.0mm I.D.eyetubes). Inclined at 30° (\*Included in Model MT7100). **MA957** Ergonomic tilting binocular head (Siedentopf type), adjustable from 10° to 50°, I.P. adjustment 53mm to 75mm, graduated diopter on left eyetube (30.mm I.D. eyetubes) EYEPIECES (30.0mm O.D.Eyetube)

- MA817\* SWH10X, Widefield high eyepoint eyepiece, Field No. 22, Tube O.D. 30.0mm (MA817 accepts optional 25mm diameter reticle)
- SWH15X, Widefield high eyepoint eyepiece, Field No. 16.0, Tube O.D. 30.0mm **MA818** (MA818 accepts optional 19mm diameter reticle)
- **MA819** SWH20X, Widefield high eyepoint eyepiece, Field No. 12.0, Tube O.D. 30.0mm (MA819 accepts optional 19mm diameter reticle)
- **MA859** SWH10X-F Focusing eyepiece with reticle mount (without reticle), Tube O.D. 30.0mm (MA859 accepts optional 25mm diameter reticle)

# PLAN EPI OBJECTIVES

- MA870\* Plan Epi Objective 5X, NA 0.10, W.D. 20.0mm, F.N.24 MA871\* Plan Epi Objective 10X, NA 0.25, W.D. 7.48mm, F.N.24 MA872\* Plan Epi Objective 20X, NA 0.40, W.D. 5.20mm, F.N.24
- MA873\* Plan Epi Objective 50X, N.A.0.75, W.D. 0.38mm, F.N.24

### **MA874** Plan Epi Objective 100X, N.A.0.90, W.D. 0.37mm, F.N.24

- LWD PLAN EPI OBJECTIVES (LONG WORKING DISTANCE)
- **MA920** LWD Plan Epi Objective 20X , N.A. 0.40, W.D. 11.0mm, F.N.24 **MA921** LWD Plan Epi Objective 50X , N.A. 0.55, W.D. 7.5mm, F.N.24

### ILLUMINATOR

Vertical Koehler illuminator, 6V 30W Halogen lamp, with clear blue, clear green, MA927\* ND50 Neutral density filter and polarizing filters in metal mount. (transformer is built in microscope stand.)

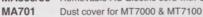
### FILTERS

MA475/05\* Blue clear filter, 20mm diameter in metal mount MA476\* Green clear filter, 20mm diameter in metal mount MA774\* ND50 Neutral density filter, 20mm diameter in metal mount MA497\* Polarizing filter 20mm diameter in metal mount STAGE MA941\* Ceramic coated flat-top stage, 191mm X 126mm, 100mm X100mm, X-Y movement with right hand drop-down controls.

### EYEPIECE MICROMETERS

# (25mm diameter for use with MA817 or MA859 evepieces)

1						
MA523	Eyepiece micrometer, Cross-line reticle, 25mm diameter					
MA506	Eyepiece micrometer, 10mm divided into 100 units, 25mm diameter					
MA509	Eyepiece micrometer, 5mm divided into 100 units, 25mm diameter					
MA510	Eyepiece micrometer, 10mm square into 100 parts, 1.0mm square, 25mm diameter					
MA542	Eyepiece micrometer, Cross-line reticle with 0.1mm graduations, 25mm diameter					
MA738	Eyepiece micrometer for grain sizing in steel, 25mm diameter					
EYEPIECE	MICROMETERS					
(19mm diameter for use with MA818 or MA819 eyepieces)						
MA279	Eyepiece micrometer, Cross-line reticle, 19mm diameter					
MA280	Eyepiece micrometer, 10mm divided into 100 units, 19mm diameter					
MA281	Eyepiece micrometer, 5mm divided into 100 units, 19mm diameter					
MA283	Eyepiece micrometer, 10mm square into 100 parts, 1.0mm square, 19mm diameter					
MA539	Eyepiece micrometer, Cross-line reticle with 0.1mm graduations, 19mm diameter					
STAGE MICROMETER						
MA292	Metal stage micrometer, 0.01mm, for reflected light					
MISCELLANEOUS						
MA906*	Eyeshield for MA817 SWH10X Eyepiece (each)					
MA326	Spare bulb 6V 30W halogen					
MA327	Spare Fuse 3A					
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					







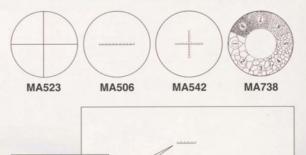
MA957 ERGONOMIC TILTING BINOCULAR HEAD (SIEDENTOPF TYPE)



### PLAN EPI OBJECTIVES



## LWD (LONG WORKING DISTANCE) PLAN EPI OBJECTIVES



**MA292** 1mm divided into 100 parts

# CCD VIDEO & USB 2.0 DIGITAL CAMERAS

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



CK3900

**MA958** Photo/Video attachment with sliding 80/20 beam-splitter for attaching video or digital camera to MT Series when MA957 Ergonomic tilting head is used.

# 35mm PHOTOMICROSCOPY

Following three accessories are required for mounting a 35mm SLR camera body

### 1. The appropriate T-2 adapter ring for your SLR camera body:

T2-1	Canon	T2-6	Olympus
T2-2	Minolta	T2-7	Contax, Yashika
T2-3	Pentax K	T2-8	Konica
T2-4	Pentax S	T2-9	Canon Eos
T2-5	Nikon	T2-10	Minolta Alpha / Maxim 2000

These adapter rings attach directly to your camera body's lens mount.

### 2. A photo eyepiece, available in the following magnifications:

MA512 2.5X magnification

MA500 3.3X magnification (with reticle mount)

### MA508 5X magnification

The photo eyepiece performs the same function as a standard 35mm camera lens (i.e. focusing the image at the plane of the film).

### 3. One of two MA150 series camera attachments:

MA150/50 Straight-tube camera attachment

MA150/60 Camera attachment with built-in focusing eyepiece

These attachments are used to mount the camera with T2 adapter ring to the photo tube.





MA150/60 Camera attachment MA150/50 Camera attachment

# MT7000 Series ORDERING INFORMATION

system with DC12V adapter

MODEL	BODY	OBJECTIVES	EYEPIECES	POWER SUPPLY	ILLUMINATOR
MT7000	Binocular (Siedentopf)	Plan Epi 5X Plan Epi 10X	SWH10X F.N. 22	Automatic Voltage Sensing	Vertical Koehler 6V 30W Halogen
MT7100	Trinocular (Siedentopf)	Plan Epi 20X Plan Epi 50X	(O.D. 30mm)	Power Supply	Power Supply



Specifications and design subject to change without notice for improvements.

'08. 03. 323. 10,000 V1 Printed in Japan