

Infinity Corrected Optical System

# MT9000 Series

## POLARIZING MICROSCOPES

Incident and Transmitted Light models  
Transmitted Light models



MT9200







# MT9000 Series

## MT9000 Series Polarizing Microscopes MT9200 & MT9300 Infinity corrected optical systems for transmitted light use.

Meiji Techno's MT9000 Series of Polarizing Microscopes are versatile, modular, ergonomic microscope systems designed for student, advanced educational or routine laboratory use. The MT9000 Series features all new Strain Free Infinity Corrected Optics, large ceramic coated rotatable stages with greater wear resistance, and a newly engineered ergonomically designed frame that is rugged, stable, yet flexible with a slim compact footprint that fits nicely in your workspace. A perfect instrument for geology, petrology, mineralogy, forensics, material science, manufacturing, crystallography, medical research, environmental science, and industrial quality control and quality assurance applications.

### Features

#### Eyepieces:

One KHW10X Focusing eyepiece with cross-line and guide pin, FN20 and one [KHW10X eyepiece, FN 20.

#### Viewing head:

The MT9000 Series Polarizing Microscope is equipped with either Siedentopf type binocular or Siedentopf type Trinocular viewing head, inclined at 30°, with reticle angle adjustment system. Optional tilting ergonomic binocular head – adjustable vertically from 10° to 50° available.

#### Nosepiece:

Reverse Facing, quadruple, ball bearing nosepiece with one fixed and three centerable objective positions. Two objective centering tools are included.

#### Objectives:

Infinity corrected Strain Free Plan 4X/N.A.0.10, W.D.15.3mm, Plan 10X/N.A.0.25, W.D.7.3mm and Plan 40XS/N.A.0.65, W.D.0.72mm.

#### Intermediate Tube:

Orthoscopic / Conoscopic intermediate tube with a sliding analyzer, rotatable Bertrand lens and a compensator slot designed to accept DIN standard compensator plates.

#### Compensators:

DIN Standard, 20mm x 6mm, full wavelength retardation plate. (Gypsum, first order red, sensitive tint, 530nm) DIN Standard, 20mm x 6mm, 1/4 wavelength retardation plate. (Mica, 147.3nm)

#### Polarizer:

Rotatable polarizer in swing-out mount with detent at 0° and 90°.

#### Stage:

Ceramic coated, 175mm diameter, ball bearing, circular rotating stage. Graduated 360°, with 1° increments and Vernier reading to 0.1°. Includes 2 stage clips. (Optional attachable mechanical and point counting stages are available.)

#### Condenser:

Centerable strain-free Abbe condenser, N.A.1.25 with iris diaphragm in dovetail mount. Mounted in a centerable condenser holder with a rack and pinion adjustment.

#### Illuminator:

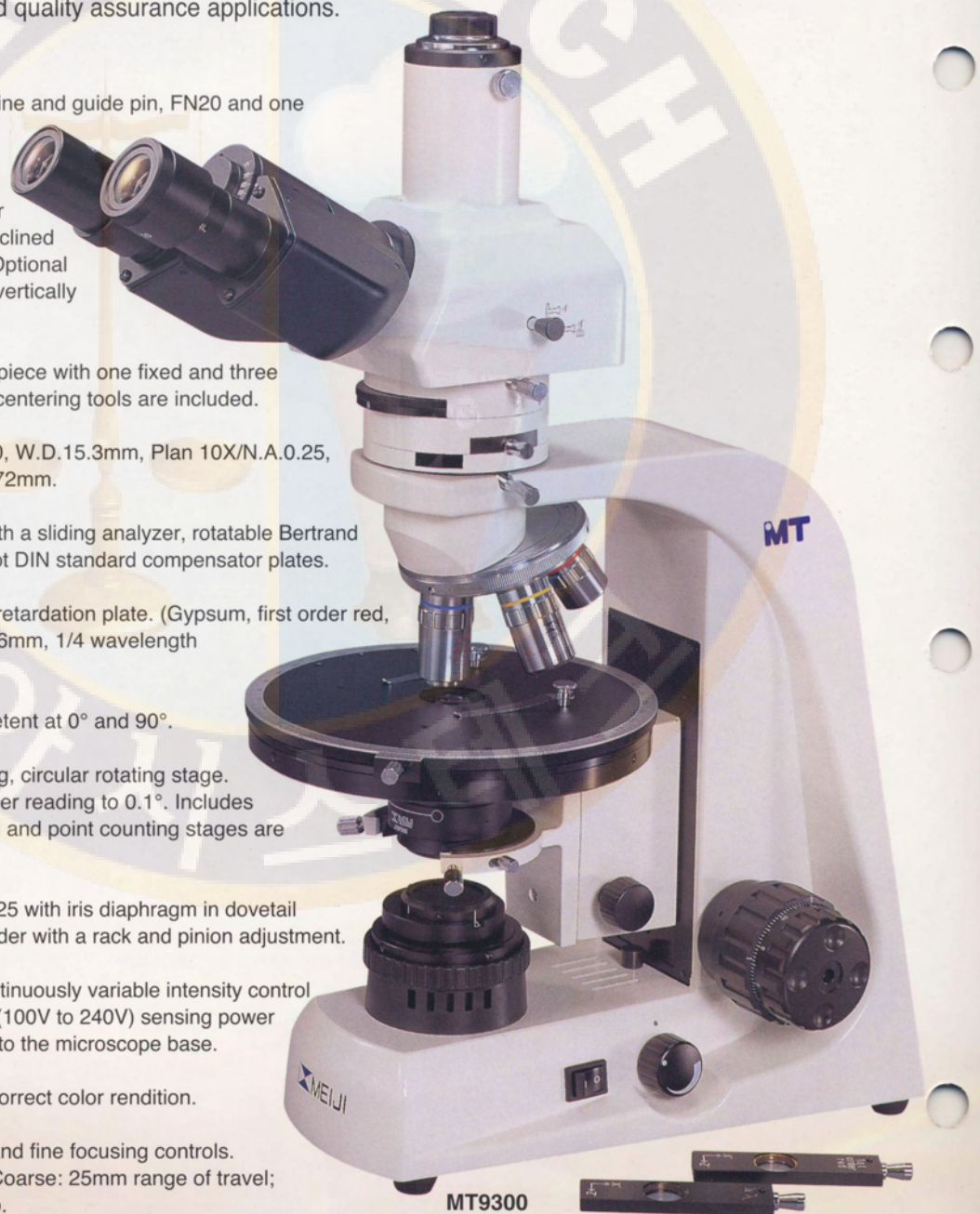
Built-in transmitted Koehler illuminator with continuously variable intensity control and 6V 30W halogen lamp. Automatic voltage (100V to 240V) sensing power supply and variable rheostat control are built into the microscope base.

#### Filter:

29.8mm diameter daylight-type blue filter for correct color rendition.

#### Focusing Controls:

Ergonomically low positioned coaxial coarse and fine focusing controls. Coaxial fine focus knob: 0.2mm per rotation; Coarse: 25mm range of travel; Minimum reading 2 microns on right side knob.



MT9300



## MT9400 Series Polarizing Microscopes MT9420 & MT9430

### Infinity corrected optical systems for incident and transmitted light use.

Meiji Techno's MT9420 and MT9430 Series of Polarizing Microscopes are equipped with both transmitted and incident (reflected) light illumination systems. Reflected light models are ideally suited for Mineralogy and Practical Ore Microscopy. The MT9400 Series is the perfect instrument to assist you in the study, identification and classification of various materials such as ores, sulphides, mineral oxides, and a wide variety of opaque minerals and materials.



Eclogite

Basically the features and specifications of the MT9420 and MT9430 are the same as MT9200 and MT9300 Polarizing microscopes but the MT9420 and MT9430 are equipped with incident illuminator between the intermediate tube and viewing head. Since infinity corrected optical system is adopted, the magnifications remain unchanged even the incident illuminator is added.



## COMPONENTS AND ACCESSORIES AVAILABLE FOR THE MT9000 Series



### VIEWING HEAD

- MA952** Binocular head - Siedentopf type, inclined at 30 degrees with reticle angle compensation, I.P. adjustment 53mm to 75mm, graduated diopter on left eyetube. (23.2.0 mm I.D. eyetube). (Included in models MT9200 and MT9420)
- MA953** Trinocular head - Siedentopf type, inclined at 30 degrees with reticle angle compensation, I.P. adjustment 53mm to 75mm, graduated diopter on left eyetube. (23.2.0 mm I.D. eyetube). (Included in models MT9300 and MT9430)

### EYEPIECES

- MA407CP** KHW-10X focusing eyepiece with cross-line and guide pin (each) (21mm reticle mount) (Tube O.D.23.2mm)
- MA407** KHW-10X Compensating eyepiece, F.N.20 (each) (Tube O.D.23.2mm)
- MA407/05** KHW-10X Compensating Focusing eyepiece, F.N.20 (each) (Tube O.D.23.2mm)

### PLANACHROMAT POL OBJECTIVES FOR TRANSMITTED LIGHT WORK

- MA935** Strain free Plan objective 4X/N.A.0.10, W.D.17.8mm
- MA936** Strain free Plan objective 10X/N.A.0.25, W.D.7.3mm
- MA937** Strain free Plan objective 20X/N.A.0.40, W.D.5.0mm
- MA938** Strain free Plan objective 40XS/N.A.0.65, W.D.0.72mm
- MA939** Strain free Plan objective 60XS/N.A.0.85, W.D.0.2mm
- MA940** Strain free Plan objective 100XS/N.A.1.25 oil, W.D.0.14mm

### PLANACHROMAT POL OBJECTIVES FOR USE WITHOUT COVER SLIP

- MA947** Strain free Plan objective 20X/N.A.0.40, W.D.5.2mm
- MA948** Strain free Plan objective 40XS/N.A.0.65, W.D.0.56mm

### CONDENSER

- MA954** MA954 Strain free Abbe condenser, N.A.1.25 with iris diaphragm in dove tail mount

### STAGE AND STAGE ACCESSORIES

- MA299** Attachable mechanical stage for MT9000 Series, 25mm X 25mm movement.
- MA945** Attachable mechanical stage for MT9000 Series with Point Counter. Interchangeable point counting knobs with intervals of 0.1mm, 0.2mm, 0.5mm. 30mm X 40mm movement.
- MA946** Stage Clips (2 pcs)

### WAVE PLATES AND COMPENSATORS

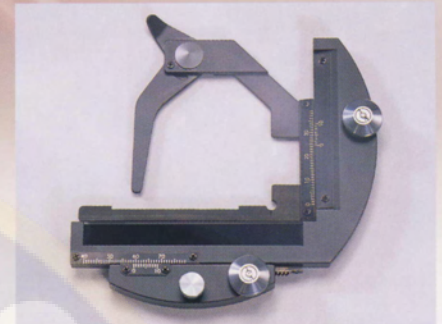
- MA469/05** 1/4 Wave-length test plate for MT9000 Series
- MA654/05** Quartz Wedge, 6 order, ungraduated for MT9000 Series
- MA654N/05** Quartz Wedge, 6 order, graduated for MT9000 Series
- MA470/05** First order red compensating plate for MT9000 Series
- MA471/05** Analyzer in sliding mount for MT9000 Series
- MA904/05** Senarmont compensator (A highly accurate 1/4 wave plate used to measure retardation) (For use with MA956 rotating analyzer.)
- MA956** Rotatable analyzer with 360 degree graduations

### COMPONENTS FOR REFLECTED LIGHT MICROSCOPY

- MA955** Vertical illuminator attachment, 6V 30W Halogen Koehler
- MA927/05** Vertical illuminator table-top transformer in case (Input voltage 100V-240V)
- MA679** Polarizer in mount
- MA475/05** Blue clear filter in mount
- MA198** ND8 Neutral density filter in mount

### MISCELLANEOUS

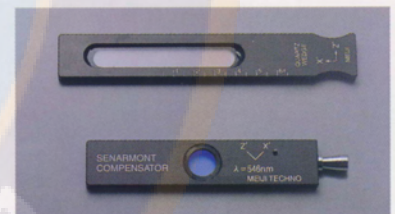
- MA289/05** Clear blue filter  $\phi$ 29.8mm
- MA196** ND50 Neutral density filter 29.8mm
- MA197** ND13 Neutral density filter 29.8mm
- MA200** Eyeshield for MA407 KHW10X Eyepiece
- MA326** Spare halogen bulb 6V 30W
- MA327** Spare fuse 3A
- MA711** Dust cover
- MA809/10** Removable AC Electric cord 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
- MA905** Interference Color Chart



MA299 Mechanical stage



MA945 Point counter



MA654N/05 Quartz wedge  
MA904/05 Senarmont compensator



MA956 Rotatable analyzer



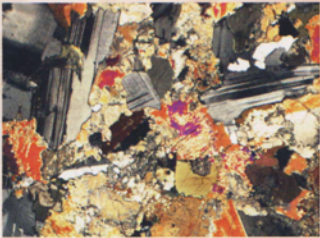
MA955 Vertical illuminator

MA927/05 Transformer

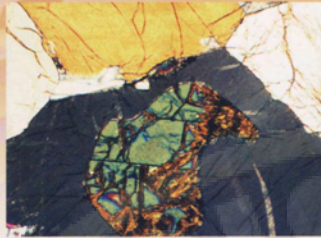




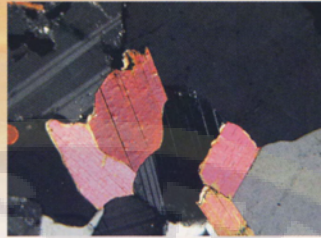
MEIJI TECHNO



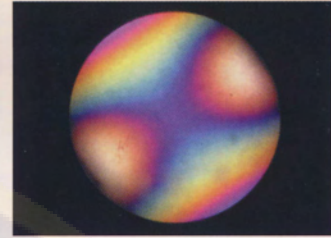
Gabbro



Harzburgite



Biotite geiniss



Biaxial Interferene figures

### 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

**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  $\alpha$ , 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

### MT9000 Series ORDERING INFORMATION

MODEL	BODY	OBJECTIVES	EYEPIECES	STAGE	CONDENSER	ILLUMINATOR
MT9200	Binocular (Siedentopf)	Strain Free Plan 4X Plan 10X Plan 40X	(1) KHW10XCP Focusing with guide pin and crossline reticle (1) KHW10X F.N.20 (O.D. 23.2mm)	Rotatable with 360° graduation with vernier	Strain Free Abbe N.A.1.25	Transmitted light Koehler 6V 30W Halogen
MT9300	Trinocular (Siedentopf)					
MT9420	Binocular (Siedentopf)					
MT9430	Trinocular (Siedentopf)					Transmitted light Koehler 6V 30W Halogen and Incident light Koehler 6V 30W Halogen

MT9  
Infin

Meiji T  
studen  
Optics  
frame  
geolog  
scienc

Feat

Eyepie

One KH

[KHW1

Viewin

The MT

equippe

or Sied

at 30°

tilting e

from 10

Nosepi

Revers

centera

Object

Infinity

W.D.7.

Interm

Orthosc

lens an

Compe

DIN Sta

sensitiv

retarda

Polariz

Rotatab

Stage:

Cerami

Gradua

2 stage

availab

Conde

Centra

mount.

Illumin

Built-in

and 6V

supply

Filter:

29.8mm

Focus

Ergonc

Coaxia

Minimu

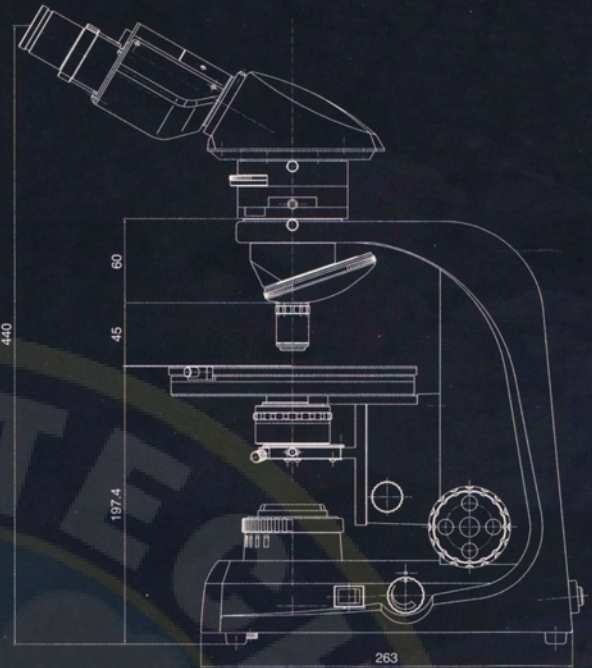
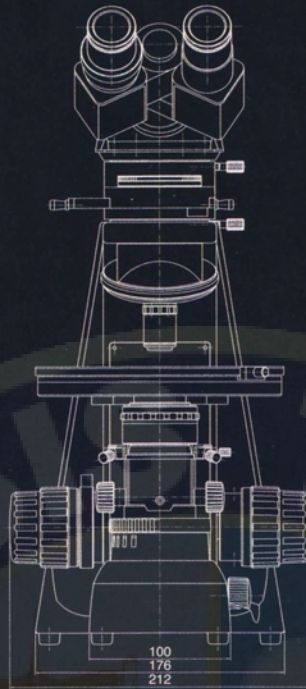


**Size and Weight of MT9000 Models**

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

MT9200 :  
212mm (W) x 263mm (D) x 456mm (H), 9.06Kg

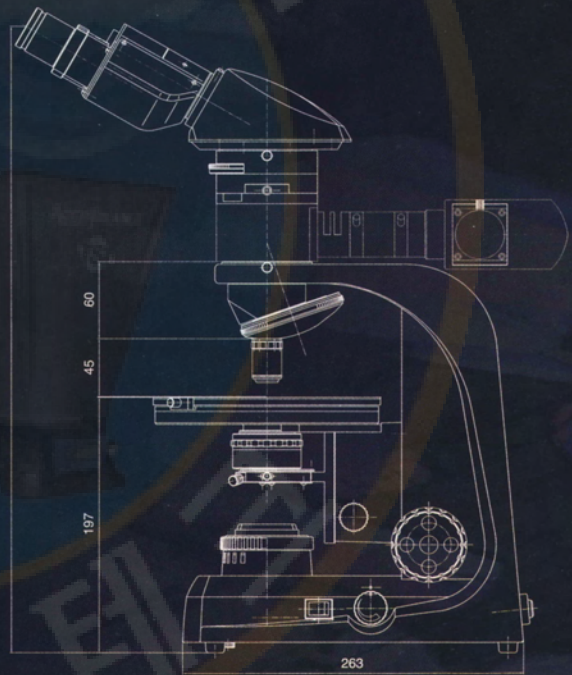
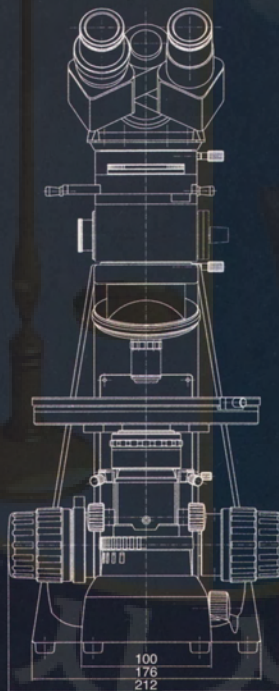
MT9300 :  
212mm (W) x 263mm (D) x 510mm (H), 9.75Kg



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

MT9420 :  
212mm (W) x 297mm (D) x 501mm (H), 11.19Kg

MT9430 :  
212mm (W) x 297mm (D) x 555mm (H), 11.88Kg



Agent :



**MEIJI TECHNO CO.,LTD.**

322-1, Chikumazawa Miyoshi-machi,  
Iruma-gun Saitama 354-0043, Japan  
Tel : (0)49-259-0111 Fax : (0)49-259-0113  
E-mail : meiji@meijitechno.co.jp  
<http://www.meijitechno.co.jp>

**MEIJI TECHNO AMERICA**

3010 Olcott Street, Santa Clara, CA 95054, USA  
Tel : 408-970-4799 Fax : 408-970-5054  
Toll free : 800-832-0060  
E-mail : sales@meijitechno.com  
<http://www.meijitechno.com>



Specifications and design subject to change without notice for improvements.

'08. 03. 327. 10,000 V1 Printed in Japan