



Toolmakers' Microscopes TM Series

Optical Measuring



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Bright and Clear Field of View. Best Performance in Small-model Class.

FEATURES

- Newly designed LED illuminators provide enhanced observation for higher accuracy and resolution.



Conventional illumination



Newly designed LED illumination

Optional Accessories

Eyepieces and Objectives see page 4

Digital Imaging with Software

Order No.	Description
64AAB429	MOTICAM 2, 2.0 MEGAPIXEL-1/3" CMOS, USB
64AAB430	MOTICAM 3, 3.0 MEGAPIXEL-1/2" CMOS, USB
64AAB431	MOTICAM 5, 5.0 MEGAPIXEL-1/2.5" CMOS, USB
64AAB432	MOTICAM 580, 5.0 MEGAPIXEL-1/2.3" CMOS, USB/HDMI
64PMI237	MOTICAM EYETUBE ADAPTOR



SPECIFICATIONS

Model No.	TM-505B	TM-A505B	TM-1005B	TM-A1005B
Order No.	176-818A	176-820A	176-819A	176-821A
Optical tube	Monocular type (Vertical tilt angle: 60°)			
Observation image	Erect			
Eyepiece protractor	Resolution (graduation) : 1°, Rotation angle: 360°, Resolution (angle): 6', Adjustable zero point			
Eyepiece	Standard accessory: 15X (field number: 13), Options: 10X, 20X			
Objective lens	Standard accessory: 2X, Options: 5X, 10X			
Microscope head	Maximum height of workpiece	4.53" / 115mm	4.21" / 107mm	
	Focusing method	Manual (Coarse feed)		
Illumination unit	Transmitted illumination	Stepless brightness adjustment, White LED light source, With green filter		
	Surface illumination	Oblique single-source type, Stepless brightness adjustment, White LED light source		
Cross-travel stage	Measuring range	2" x 2" / 50x50mm	4" x 2" / 100x50mm (An optional 2"/50mm gauge block is required to cover full range. A CERA block is recommended.)	
	Table size	16" x 6" / 52x152mm	9.44" x 6" / 240x152mm	
	Usable area of the stage glass	3.8" x 3.8" / 96x96mm	6" x 3.8" / 154x96mm	
	Maximum stage glass loading	11 lbs. / 5kg		
Linear measurement method	Micrometer heads optional	Micrometer heads included	Micrometer heads optional	Micrometer heads included
Resolution	N/A	.00005"/1μm	N/A	.00005"/1μm
Micrometer head travel range	N/A	2"/50mm	N/A	2"/50mm
Power supply	120VAC Maximum power consumption: 4.2W			
Main unit mass	31 lbs. / 14kg		33 lbs. / 15kg	



Optional LED circular illuminator available for applications requiring all-round lighting.

176-208A



A vernier scale mounted outside the eyepiece enables simple angle measurement.

LED ring light
64AAB214



Digimatic Micrometer Heads
(LCD readout)



164-164
(Two units are required for an XY table.)



TM-A505B
176-820A

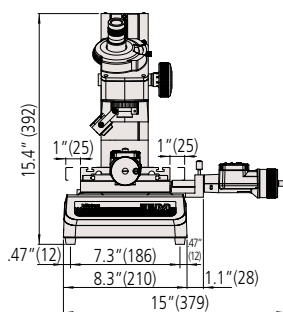


TM-A1005B
176-821A

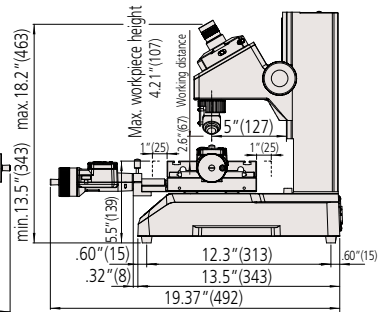
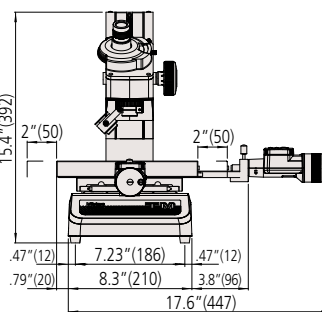
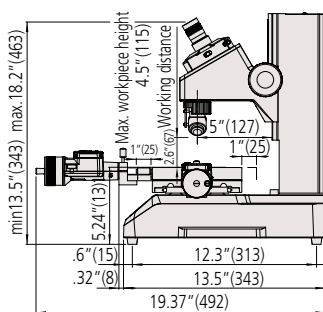
(Micrometer heads shown are optional on other models)

DIMENSIONS (including digital micrometer heads)

TM-505B

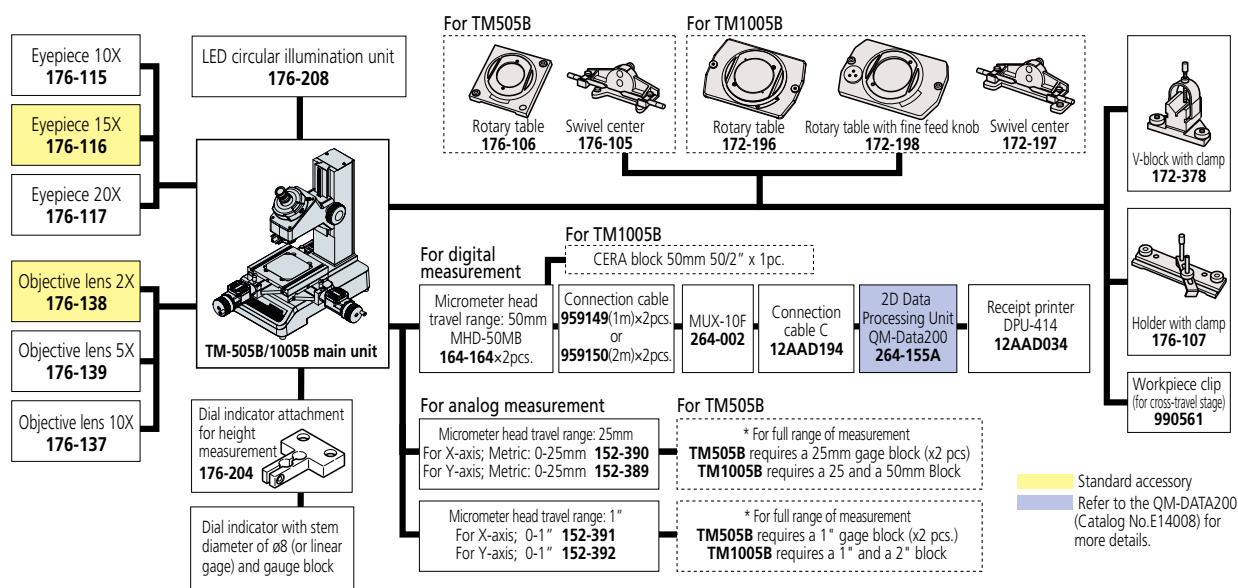


TM-1005B



Unit: Inch(mm)

System configuration (accessories are optional)



Notes: 1) One or two micrometer heads are required for linear dimension measurement.

- 2) If a measuring range longer than the micrometer head travel range is to be used, a gauge block accessory is required.

- 2) If a measuring range longer than the micrometer head travel.
- 3) Some order numbers differ depending on the connector form.

Eyepiece-Objective Performance Table

	Eyepiece 10X (176-115)			Eyepiece 15X (Standard accessory)			Eyepiece 20X (176-117)		
	Total magnification	Viewing field	Depth of focus	Total magnification	Viewing field	Depth of focus	Total magnification	Viewing field	Depth of focus
Objective 2X (Standard accessory)	20X	ø.256" (ø6.5mm)	158μm	30X	ø.256" (ø6.5mm)	124μm	40X	ø.197" (ø5mm)	107μm
Objective 5X (176-139)	50X	ø.102" (ø2.6mm)	56μm	75X	ø.102" (ø2.6mm)	47μm	100X	ø.079" (ø2mm)	42μm
Objective 10X (176-137)	100X	ø.051" (ø1.3mm)	24μm	150X	ø.051" (ø1.3mm)	21μm	200X	ø.039" (ø1mm)	19μm



*Standard accessory



Magnification	2X	5X	10X
Order No.	176-138*	176-139	176-137
Numerical aperture	0.07	0.10	0.14
Working distance	2.638" (67mm)	1.299" (33mm)	.551" (14mm)

*Standard accessory

Coordinate Measuring Machines



Sensor Systems



Vision Measuring Systems



Test Equipment
and Seismometers



Form Measurement



Digital Scale and DRO Systems



Optical Measuring



Small Tool Instruments
and Data Management



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Mitutoyo supports you from start to finish.**

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