

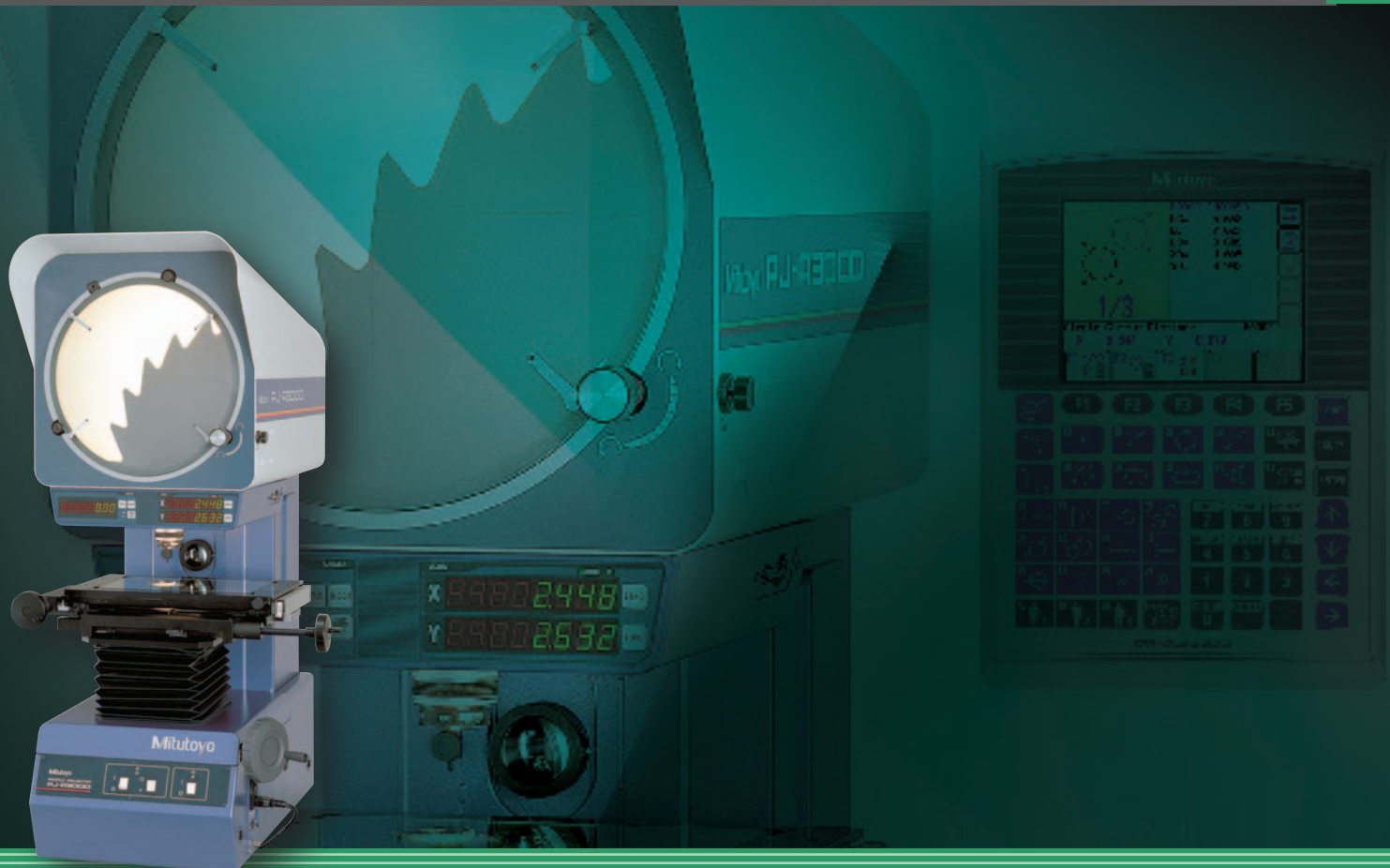
Mitutoyo

Mitutoyo Quality

PJ-A3000 PROFILE PROJECTOR

A series of midsize vertical profile projectors

OPTICAL MEASURING



1.800.561.8187

www.itm.com

information@itm.com

PJ-A3000 Vertical Profile Projector



FEATURES

- The PJ-A3000 Series vertical profile projectors are medium-size 11.8" (300mm) models that feature high versatility and easy operation.
- Easy-to-read digital counters are located near the projection screen, thereby minimizing strain associated with excessive movement. A digital angle display eliminates the need to perform complex calculations.
- Digital readout protractor screen facilitates angle measurement.
- A floating table makes measuring quicker and easier.

SPECIFICATIONS

Model	PJ-A3010F-200	PJ-A3005F-150	PJ-A3010F-100	PJ-A3005D-50
Order No.	302-701A	302-702A	302-703A	302-704A
Projected image	Inverted image			
Protractor screen	Effective diameter	12.4" / 315mm		
	Screen material	Fine ground glass		
	Reference line	Cross hair line		
	Angle display (LED)	Resolution: 1° or 0.01° (switchable), Range: ±360° Functions: Absolute/incremental mode switching, Zero Set		
Projection lens	Standard Accessory 10X (172-202)			
Magnification accuracy	Contour illumination	±0.1% or less		
	Surface illumination	±0.15% or less		
Contour illumination	Light source	Halogen bulb (24V, 150W)		
	Optical system	Telecentric system		
	Functions	2-stage brightness switch, Heat-absorbing filter		
Surface illumination	Light source	Halogen bulb (24V, 150W)		
	Optical system	Vertical illumination with a half-reflection mirror		
XY range	8" x 4" (200 x 100mm)	6" x 2" (150 x 50mm)	4" x 4" (100x100mm)	2" x 2" (50 x 50mm)
Resolution	.0001" / 0.001mm	.0001" / 0.001mm	.0001" / 0.001mm	.0001"/0.001mm
Measuring Unit	Built-in linear scales	Built-in linear scales	Built-in linear scales	Digimatic mic heads
Table size	14.96x9.84" (380x250mm)	11.02x5.98" (280x152mm)	9.84x9.84" (250x250mm)	5.98x5.98" (152x152mm)
Effective table area	10.47x6.69" (266x170mm)	7.24x3.23" (184x82mm)	5.6x5.6" (142x142mm)	3.23x3.23" (82x82mm)
Max. workpiece height	3.64" (92.5mm)	4.07" (103.5mm)	3.58" (91mm)	4.86" (123.5mm)
Functions	± direction switching, SPC output zero-setting	Zero-setting, ± direction switching, SPC output	Zero-setting, ± direction switching, SPC output	± direction switching, SPC output zero-setting
Power supply	120V AC, 50/60Hz			
Mass	308 lbs. (140kg)	255 lbs. (116kg)	246 lbs. (112kg)	235 lbs. (107kg)
Standard accessories	10X projection lens set, masking shield, power cord, halogen bulb, fuse, grounding wire, allen wrench, vinyl cover			

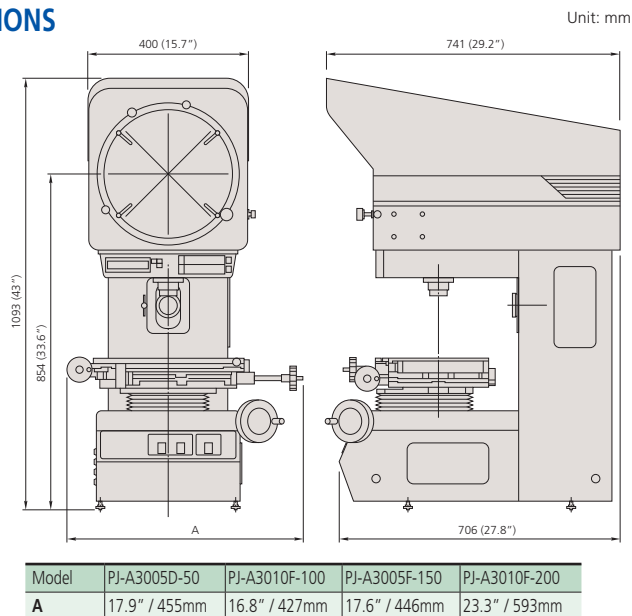
Projection Capacity

D1: Max. workpiece diameter whose edge line can be focused on the screen center
 D2: Max. workpiece diameter whose edge line can be focused on the screen line

	Magnification			
	10X	20X	50X	100X
View field	ø31.5	ø15.7	ø6.3	ø3.1
W	66 (20)	32.5 (2)	12.6	5
H	-50 models*	123.5	123.5	123.5
	-100 models	91	91	91
	-150 models	103.5	103.5	103.5
	200 models	92.5	92.5	92.5
D1	-50 models*	224 (198)	87 (61)	27
	-100 models	182	87 (61)	27
	-150 models	207 (198)	87 (61)	27
	200 models	185	87 (61)	27
D2		154 (120)	69 (23)	25

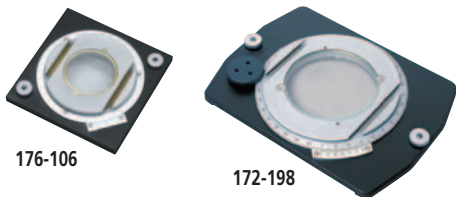
(): When using surface illumination

DIMENSIONS



Optional Accessories

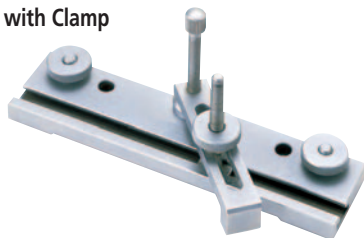
Rotary Tables



Order No.	176-106	172-198
Effective glass dia.	66mm	100mm
Angle reading	6'	2' (w/ fine adjustment)
Mass	1.7kg	2.5kg

Note: Holder with clamp (176-107) can be mounted.

Holder with Clamp



Order No.	176-107
Max. workpiece height	35mm
Mass	0.42kg

V-Block with Clamp



Order No.	172-378
Max. workpiece dia.	25mm
Width of block	41mm
Mass	0.8kg

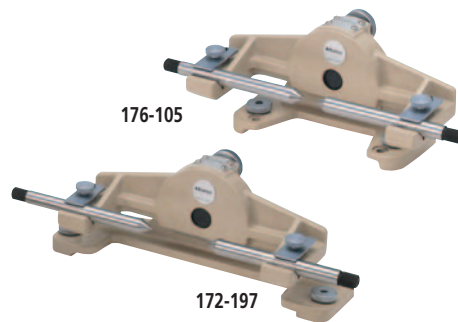
Reading Scales



- Designed for checking the magnified image of a standard scale.

Graduation	Range	Order No.	Accuracy
0.5mm	200mm	172-118	18 μ m (15+15L/1000) μ m
.02"	8"	172-119	.00071"
0.5mm	300mm	172-161	19.5 μ m (15+15L/1000) μ m
.02"	12"	172-162	.00077"

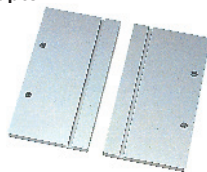
Swivel Center Supports



Order No.	176-105	172-197
Max. workpiece dia.	70mm (45mm)*	80mm (65mm)*
Max. workpiece length	140mm	140mm
Swivel range	$\pm 10^\circ$	$\pm 10^\circ$
Mass	2.4kg	2.5kg

*When swiveled 10°

Fixture Mount Adapter



- Used for the mounting of fixtures such as a rotary table and swivel center supports on PJ-A3010F-200
- Mass: 2kg

Oblique Reflection Mirrors



- Suitable for inspecting the surfaces of low-reflection-ratio materials such as plastics.

Order No.	172-229	172-230
Application	10X lens	20X lens

Standard Scales



- Used for checking magnifying accuracy.

Graduation	Range	Order No.	Accuracy (20°C)
0.1mm	50mm	172-116	(3+5L/1000) μ m
.01"	2"	172-117	.00013"

Green Filter



- Increases the sharpness of a contour image on the screen

- 172-202: 10X projection lens set (Standard accessory)
- 172-203: 20X projection lens set
- 172-223: 10X projection lens
- 172-224: 20X projection lens
- 172-204: 50X projection lens
- 172-207: 100X projection lens
- 172-229: Oblique illumination mirror for 10X lens
- 172-230: Oblique illumination mirror for 20X lens
- 172-116: Standard scale (50mm)
- 172-117: Standard scale (2")
- 172-118: Reading scale (200mm)
- 172-161: Reading scale (300mm)
- 172-119: Reading scale (8")
- 172-162: Reading scale (12")
- 172-160-2: Green filter (for PJ-A3000, -50 models)
- 172-160-3: Green filter (for -100, -150, -200 models)
- 512305: Halogen bulb (24V, 150W)
- 383876: Vinyl cover (standard accessory)
- 12AAM027: Overlay chart set – see back page for details

Fixture and Stage Accessories

- 176-106: Rotary table (Effective diameter: 66mm)
- 172-196: Rotary table (Effective diameter: 100mm)
- 172-198: Rotary table with fine feed wheel (Effective diameter: 4" / 100mm)
- 176-105: Swivel center support (Max. workpiece dia.: 2.7" / 70mm)
- 172-197: Swivel center support (Max. workpiece dia.: 3.1" / 80mm)
- 176-107: Holder with clamp
- 172-378: V-block with clamp (Max. workpiece dia.: 1" / 25mm)
- 999678: Fixture mount adapter
- 64PM167: Stand 22.4 x 20 x 32" (WxDxH)

Availability	PJ-A3005D-50	PJ-A3005F-150	PJ-A3010F-100 PJ-A3010F-200
176-106	✓	✓	
172-196		✓	✓*
172-198		✓	✓*
176-105	✓		
172-197		✓	✓*
176-107	✓	✓	✓*
172-378	✓	✓	✓*

*Fixture mount adapter (999678) is required for PJ-3010F-200

QM-Data200



- 264-155A: Stand-mount type
- 264-156A: Arm-mount type 2-D data processing unit.

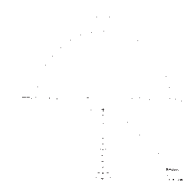
- The QM-Data 200 supports direct X/Y-axis scale signal input for instrument interfaces that support PJ.
- One RS232C connecting cable (12AAA807) is required.
- For edge sensing capabilities, order the Optoeye-200, part number 332-151 and mounting plate number 12AAE671

Optoeye

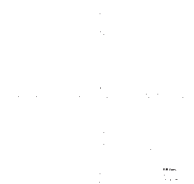


- 332-151: Optoeye* Edge detection system for QM-Data200
- 12AAE671: Detector Attachment
- * not compatible with PJ-A3005D-50

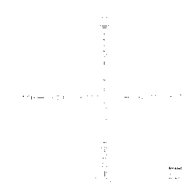
Overlay Chart Set



12AAM587
Protractor (1°-grad. radial index) and radius (1mm-radius increment concentric semicircles)



12AAM588
Radius (0.1cm-reading scales and 5mm-radius increment concentric circles)



12AAM589
Radius (1X, 10X, 20X, 50X)



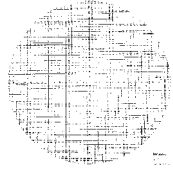
12AAM590
1mm-reading scales (20X, 50X)



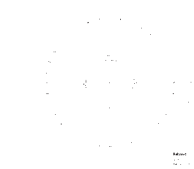
12AAM591
10x10mm sections



12AAM592
0.5mm-reading scales



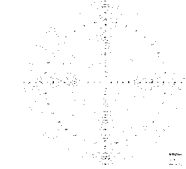
12AAM593
1x1mm sections



12AAM594
Protractor (1°-grad. diametral index)



12AAM595
1mm-reading vertical scale



12AAM596
Protractor (1°-grad. diametral index) and radius (1mm-radius increment concentric circles)



12AAM597
Metric, Unified, and Whitworth screw threads (20X)



12AAM598
Metric screw thread (100X) and 20° and 14.5° gear teeth (20X)

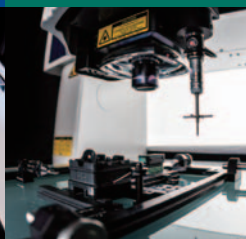
Overlay chart set (12 sheets) Order No.: 12AAM027

Coordinate Measuring Machines

Vision Measuring Systems

Form Measurement

Optical Measuring

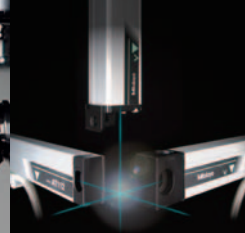


Sensor Systems

Test Equipment and Seismometers

Digital Scale and DRO Systems

Small Tool Instruments and Data Management



Whatever your challenges are, Mitutoyo supports you from start to finish.

Mitutoyo is not only a manufacturer of top-quality measuring products but one that also offers qualified support for the lifetime of the equipment, backed by comprehensive services that ensure your staff can make the very best use of the investment.

Apart from the basics of calibration and repair, Mitutoyo offers product and metrology training, as well as IT support for the sophisticated software used in modern measuring technology. We can also design, build, test and deliver measuring solutions and even, if deemed cost-effective, take your critical measurement challenges in-house on a sub-contract basis.