

PJ-A3000 Profile Projector

Bulletin No. 1734

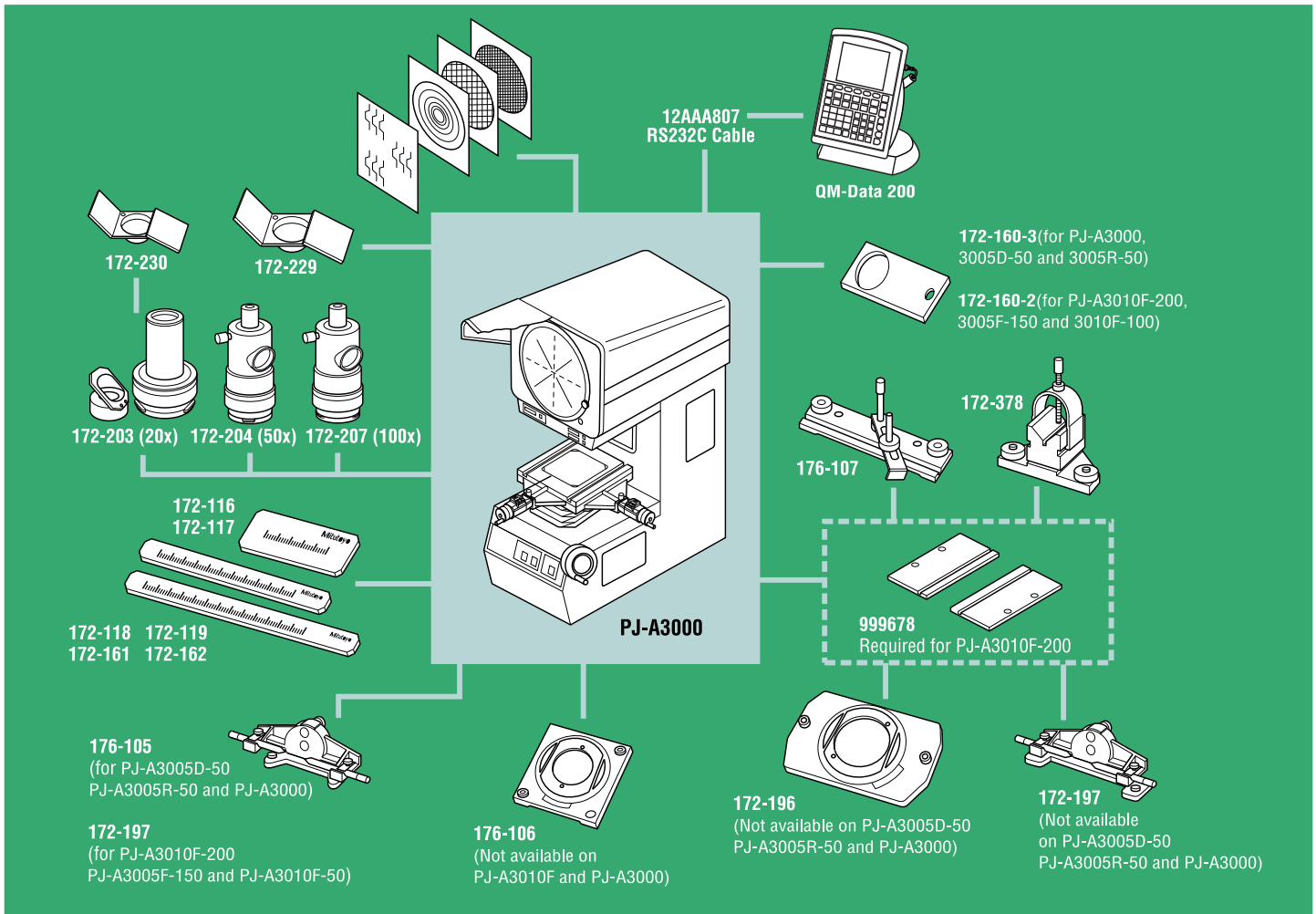


Shown with optional
QM-Data 200
2D Data Processing Unit

**A series of midsize
profile projectors**

Mitutoyo

Optional Accessories



Order No. and XY Stage Specifications

Model	PJ-A3005F-150	PJ-A3005D-50
Order No.	302-712A	302-714A
XY range	5.90" x 2" (150 x 50mm)	2" x 2" (50 x 50mm)
Resolution	.00005"/0.001mm	.00005"/0.001mm
Measuring unit	Built-in linear scales	Digimatic micrometer heads
Table size	11.02" x 5.98" (280 x 152mm)	5.98" x 5.98" (152 x 152mm)
Effective table area	7.24" x 3.23" (184 x 82mm)	3.23" x 3.23" (82 x 82mm)
Maximum workpiece height	4.07" (103.5mm)	4.86" (123.5mm)
Functions	Zero-Setting, +/- direction switching, SPC output	+/- direction switching, SPC output

Model	PJ-A3010F-200	PJ-A3010F-100
Order No.	302-711A	302-713A
XY range	8" x 4" (200 x 100mm)	3.94" x 3.94" (100 x 100mm)
Resolution	.0001"/0.001mm	.0001"/0.001mm
Measuring unit	Built-in linear scales	Built-in linear scales
Table size	14.96" x 9.84" (380 x 250mm)	9.84" x 9.84" (250 x 250mm)
Effective table area	10.47" x 6.69" (266 x 170mm)	5.6" x 5.6" (142 x 142mm)
Maximum workpiece height	3.64" (92.5mm)	3.58" (91mm)
Functions	+/- direction switching, SPC output	Zero-Setting, +/- direction switching, SPC output



Optional Accessories

Swivel Center SJSAQ-052 Supports

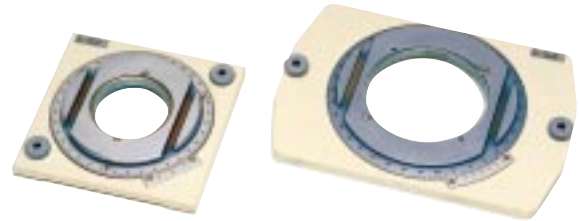


- Suitable for clamping cylinders and ball screws, etc.

Order No.	176-105	172-197
Maximum workpiece diameter	70mm (45mm)	80mm (65mm)
Maximum workpiece length	140mm	140mm
Swivel	±10°	±10°
Mass	2.4kg	2.5kg

(): When swiveled 10°

Rotary Tables



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

Order No.	176-106	172-196
Effective diameter	66mm	100mm
Angle reading	6'	2'
Height	22mm	20.5mm
Mass	1.7kg	2.5kg

Overlay Chart

Overlay	Inch	Metric
	12" Screen	300mm Screen
Combination	511344	-
Grid/15° Protractor	511345	201386
Radius/10° Protractor	511349	201387
Radius	511348	201388
Protractor	511346	201389
Screw Thread	511347	201390

- Makes inspection of projected images an easy process.
- Twelve different patterns are available in set.

Fixture Mount Adapter



999678

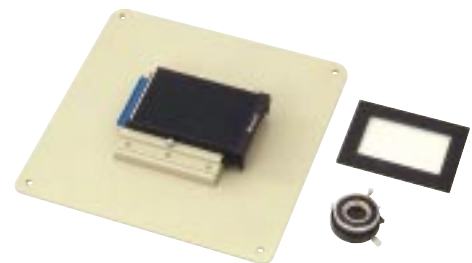
- Used for the mounting of fixtures such as a rotary table and swivel center supports on PJ-A3010F-200.
- Mass: 2kg

V-block with Clamp



- Max. workpiece diameter: 25mm
- Mass: 2kg

Polaroid Photographic Attachment



- The projected surface image on the screen can be easily recorded.
- Film: Polaroid #669 (color) or Polaroid #665 (black and white).

Machine Stands

- 172-259
- 172-267 (Auxiliary stand)

Optional Accessories

Standard Scales



- Used for checking magnifying accuracy.

Order No.	172-116	172-117
Range	50mm	2"
Graduation	0.1mm	.01"
Accuracy	3.25 μ m	.00013"
Mass	15g	15g

Reading Scales



- Specially designed for checking the magnified image of a standard scale on the projection screen.

Order No.	172-118	172-119	172-161	172-162
Range	200mm	8"	300mm	12"
Graduation	0.5mm	.02"	0.5mm	.02"
Accuracy	18 μ m	.00071"	19.5 μ m	.00077"
Mass	65g	65g	100g	100g

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

Holder with Clamp



- Max. workpiece height: 35mm
- Mass: 0.42kg

Green Filter

172-160-2 (3005D-50)

172-160-3 (PJ-A3010F-200, A3005F150, 3010F-100)

- Increases the sharpness of a contour image on the screen.

QM-Data 200



- 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



264-141A (ARM-Mount Model)

PJ-A3000

Profile Projectors

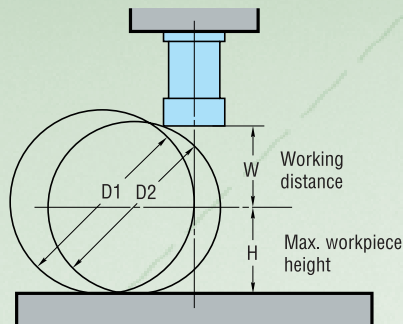
- A series of midsize profile projectors featuring bright, 12.40" (315mm) diameter screens and easy-to-operate XY measurement tables.
- Easy-to-read digital counters are located near the projection screen, thereby minimizing strain associated with excessive movement. A digital angle display eliminates the need to perform complex calculations.
- A floating table makes measuring quicker and easier.



Projection Capacity

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

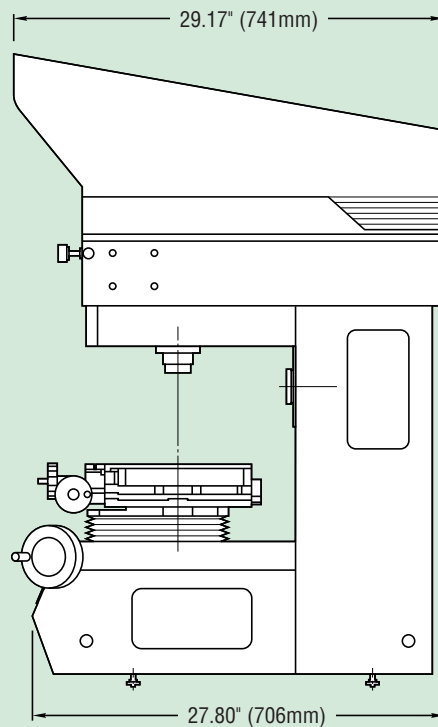
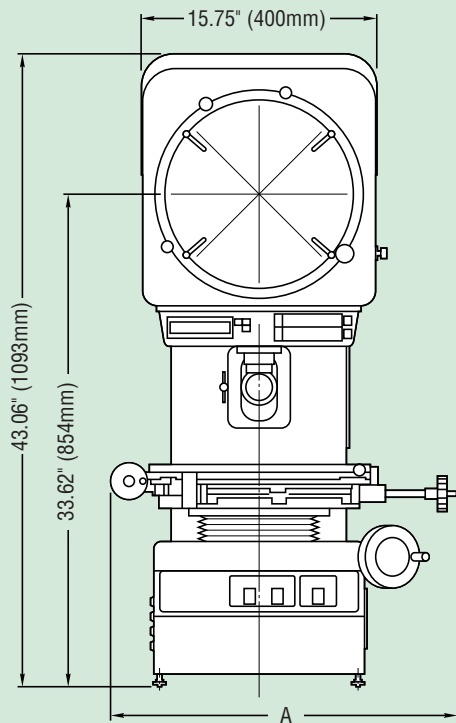
D2: Max. workpiece diameter whose edge line can be focused on the screen line



Unit: mm

Magnification	Contour illumination				Surface illumination			
	10X	20X	50X	100X	10X	20X	50X	100X
View field diameter	31.5	15.7	6.3	3.1	31.5	15.7	6.3	3.1
W	66	32.5	12.6	5	20	2	12.6	5
H								
PJ-A3005D-50	123.5	123.5	123.5	123.5	123.5	123.5	123.5	123.5
PJ-A3010F-100	91	91	91	91	91	91	91	91
PJ-13005F-150	103.5	103.5	103.5	103.5	103.5	103.5	103.5	103.5
PJ-13010F-200	92.5	92.5	92.5	92.5	92.5	92.5	92.5	92.5
D1								
PJ-A3005D-50	224	87	27	10	198	61	27	10
PJ-A3010F-100	182	87	27	10	182	61	27	10
PJ-13005F-150	207	87	27	10	198	61	27	10
PJ-13010F-200	185	87	27	10	185	61	27	10
D2								
PJ-A3005D-50	154	69	25	10	120	23	25	10
PJ-A3010F-100	154	69	25	10	120	23	25	10
PJ-13005F-150	154	69	25	10	120	23	25	10
PJ-13010F-200	154	69	25	10	120	23	25	10

Dimensions



A: 23.35" (593mm)
 17.57" (446mm)
 16.81" (427mm)
 17.91" (455mm)

Common Specifications

Projected image		Inverted image
Protractor screen	Effective diameter	315mm (12.4")
	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
Functions		Adjustable condenser lens, Oblique reflection mirrors (options for 10X and 20X lenses)
Power supply		100/110/120/220/230/240V AC (switchable), 50/60Hz
Mass		PJ-A3010F-200 : 308 lbs. (140kg) PJ-A 3005F-150 : 255 lbs. (116kg) PJ-A3010F-100 : 246 lbs. (112kg) PJ-A3005D-50 : 235 lbs. (107kg)
Standard accessories		10X projection lens set, masking shield, battery code, halogen bulb, tube fuse, grounding wire, Allen key, cap

- Coordinate Measuring Machines
- Vision Measuring Systems
- Surface Roughness, Form and Contour Measurement
- Digital Scale and DRO Systems
- Optical Measuring Machines
- Sensor Systems
- Hardness Measuring Machines
- Small Tool Instruments and Data Management

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