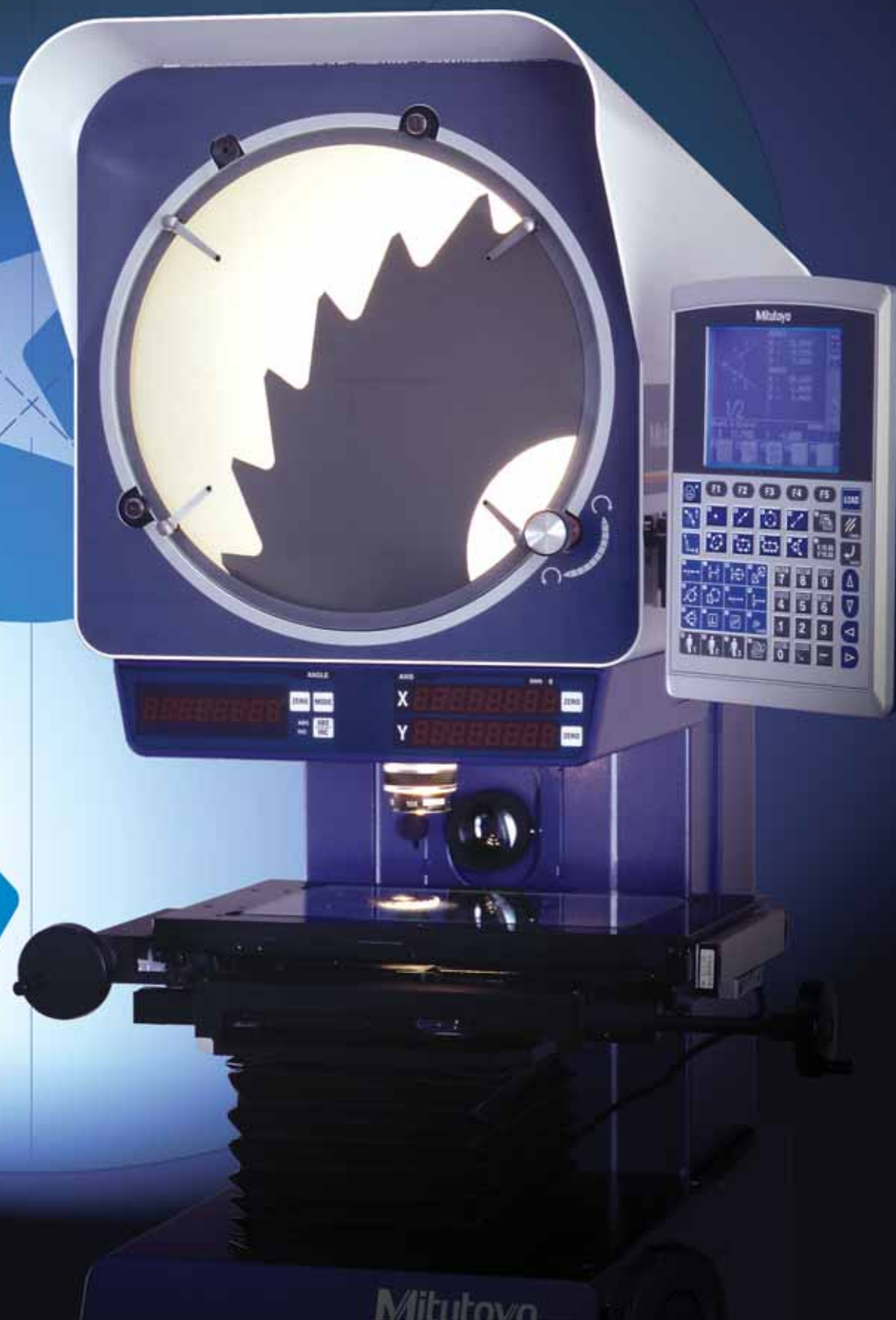


Mitutoyo

# PJ-A3000

Profile Projector



# PJ-A3000 Profile Projectors

- A series of midsize profile projectors featuring bright, 315mm (12.40") diameter screens and easy-to-operate XY measurement tables.
- Easy-to-read digital counters\* (XY stage travel) are located near the projection screen, thereby minimizing strain associated with excessive movement. A digital angle display eliminates the need to perform complex calculations. \*PJ-A3005D-50, PJ-A3005F-150, PJ-A3010F-100 and PJ-A3010F-200
- A floating table makes measuring quicker and easier.
- The PJ-A3000\* can output XY coordinate data. Highly efficient two-dimensional data processing is available by connecting to the optional QM-Data200.

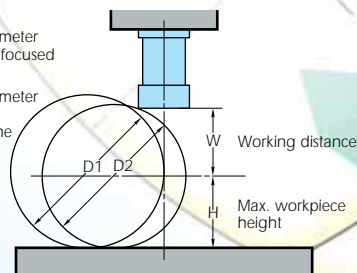
\*Except for 302-700, 302-709 and 302-719



## PROJECTION CAPACITY

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

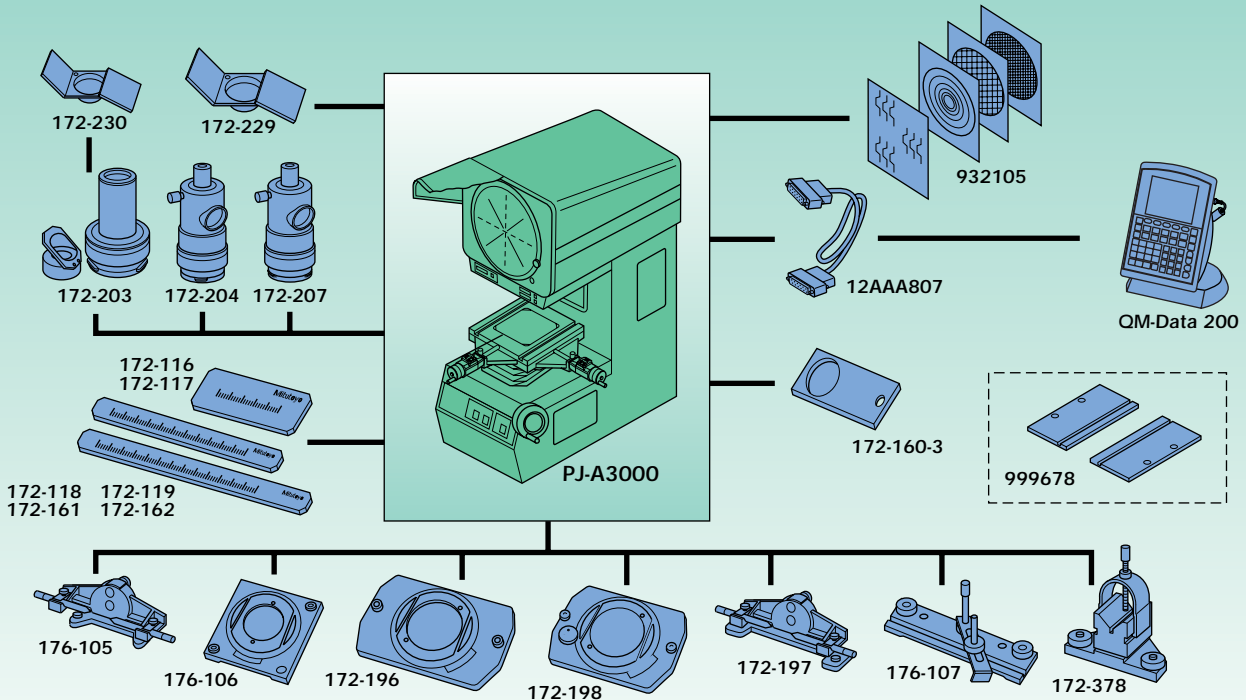
D2: Max. workpiece diameter whose edge line can be focused on the screen line



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	<b>PJ-A3000</b>							
	123.5	123.5	123.5	123.5	123.5	123.5	123.5	123.5
	<b>PJ-A3005R-50</b>							
	123.5	123.5	123.5	123.5	123.5	123.5	123.5	123.5
	<b>PJ-A3005D-50</b>							
	123.5	123.5	123.5	123.5	123.5	123.5	123.5	123.5
	<b>PJ-A3010F-100</b>							
	91	91	91	91	91	91	91	91
	<b>PJ-13005F-150</b>							
	103.5	103.5	103.5	103.5	103.5	103.5	103.5	103.5
	<b>PJ-13010F-200</b>							
	92.5	92.5	92.5	92.5	92.5	92.5	92.5	92.5
D1	<b>PJ-A3000</b>							
	224	87	27	10	198	61	27	10
	<b>PJ-A3005R-50</b>							
	224	87	27	10	198	61	27	10
	<b>PJ-A3005D-50</b>							
	224	87	27	10	198	61	27	10
	<b>PJ-A3010F-100</b>							
	182	87	27	10	182	61	27	10
	<b>PJ-13005F-150</b>							
	207	87	27	10	198	61	27	10
	<b>PJ-13010F-200</b>							
	185	87	27	10	185	61	27	10
D2	<b>PJ-A3000</b>							
	154	69	25	10	120	23	25	10
	<b>PJ-A3005R-50</b>							
	154	69	25	10	120	23	25	10
	<b>PJ-A3005D-50</b>							
	154	69	25	10	120	23	25	10
	<b>PJ-A3010F-100</b>							
	154	69	25	10	120	23	25	10
	<b>PJ-13005F-150</b>							
	154	69	25	10	120	23	25	10
	<b>PJ-13010F-200</b>							
	154	69	25	10	120	23	25	10

## SYSTEM DIAGRAM



	176-106	172-196	176-105	172-197	176-107	176-378
PJ-A3005, PJ-A3005R-50, PJ-A3005D-50/E	✓	—	✓	—	✓	✓
PJ-A3005F-150/E, PJ-3010F-100/E, PJ-A3010F-200/E	—	✓*	—	✓*	✓*	✓*

\* Fixture mount adapter (999678) is required for PJ-A3010F-200/E.

Note: Some optional accessories may not be available in U.S.

## ORDER NO. & SPECIFICATIONS

Model	PJ-A3005F-150		PJ-A3005F-150E	PJ-A3005D-50		PJ-A3005D-50E		PJ-A3005R-50	
Order No.	302-702■	302-712■	302-706■	302-704■	302-714■	302-708■	302-718■	302-709■	302-719■
XY range	150x50mm	6"x2"	150x50mm	50x50mm	2"x2"	50x50mm	2"x2"	50x50mm	2"x2"
Effective table area	184x82mm	7.24"x3.23"	184x82mm	82x82mm	3.23"x3.23"	82x82mm	3.23"x3.23"	82x82mm	3.23"x3.23"
Measuring unit	Built-in linear scales		Built-in linear scales	Digimatic micrometer heads		Digimatic micrometer heads		Micrometer heads	
Resolution	0.001mm	.0001"/0.001mm	0.001mm	0.001mm	.00005"/0.001mm	0.001mm	.00005"/0.001mm	0.001mm	.0001"
XY counter	✓	✓	—	✓	✓	—	—	—	—
Angle counter	✓	✓	✓	✓	✓	✓	✓	✓	✓
Table size	280x152mm (11.02"x5.98")		280x152mm (11.02"x5.98")	152x152mm (5.98"x5.98")		152x152mm (5.98"x5.98")		152x152mm (5.98"x5.98")	
Max. workpiece height	103.5mm (4.07")		103.5mm (4.07")	123.5mm (4.86")		123.5mm (4.86")		123.5mm (4.86")	

Model	PJ-A3010F-200		PJ-A3010F-200E	PJ-A3010F-100		PJ-A3010F-100E		PJ-A3000	
Order No.	302-701■	302-711■	302-705■	302-703■	302-713■	302-707■	302-717■	302-700■	
XY range	200x100mm		200x100mm	100x100mm	4"x4"	100x100mm		—	
Effective table area	266x170mm		266x170mm	142x142mm	5.6"x5.6"	142x142mm		ø70	
Measuring unit	Built-in linear scales		Built-in linear scales	Built-in linear scales		Built-in linear scales		Built-in linear scales	
Resolution	0.001mm	.0001"/0.001mm	0.001mm	0.001mm	.0001"/0.001mm	0.001mm		0.001mm	
XY counter	✓	✓	—	✓	✓	—		—	
Angle counter	✓	✓	✓	✓	✓	✓		✓	
Table size	380x250mm (14.96"x9.84")		380x250mm (14.96"x9.84")	250x250mm (9.84"x9.84")		250x250mm (9.84"x9.84")		160x145mm (6.30"x5.70")	
Max. workpiece height	92.5mm (3.64")		92.5mm (3.64")	91mm (3.58")		91mm (3.58")		123.5mm (4.86")	

\*To denote your AC line receptacle / cable add the following suffixes (e.g. 302-711A). A for UL/CSA type, C for JAPAN type, D for CEE type, E for BS type



# Optional Accessories

## Projection Lenses

10X: 172-202 (Standard accessory)  
 20X: 172-203  
 50X: 172-204  
 100X: 172-207

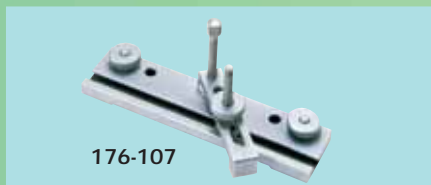
- All the lenses are available with a half-reflection mirror (built-in half-reflection mirror for 50X and 100X lenses).

## Green Filter

172-160-3

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

## Holder with Clamp



176-107

- Maximum height of workpiece: 35mm
- Mass: 0.42kg

## V-block with Clamp



172-378

- Max. workpiece diameter: 25mm
- Mass: 0.8kg

## Fixture Mount Adapter



999678

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

## Oblique Reflection Mirrors



172-229

172-230

- Suitable for inspecting the surfaces of plastics and other low-reflection-ratio materials.

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

## Overlay Chart Set



932105

- Makes the inspection of projected images quicker and easier than ever.
- Twelve different patterns are available in each set.

## Rotary Tables



176-106

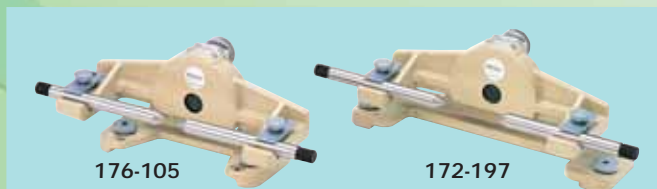
172-196

172-198

- A holder with clamp (176-107) can be mounted to the system.

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

## Swivel Center Supports



176-105

172-197

- 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°

## Standard Scales



- Used to check the accuracy of magnification.

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

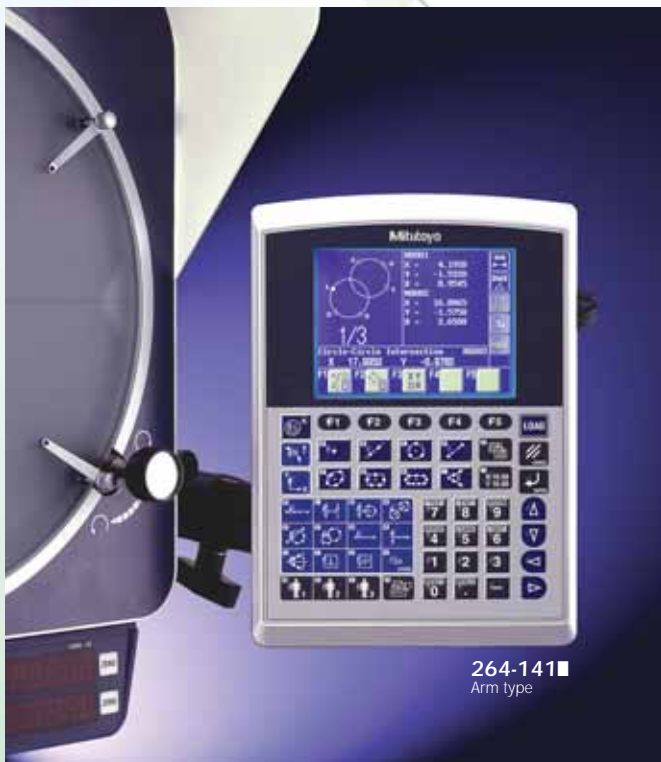
## Reading Scales



- 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 $\mu$ m	.00071"	19.5 $\mu$ m	.00077"
Mass	65g		100g	

## QM-Data 200



■ Suffix for AC line receptacle/cable: **A** for UL/CSA type, **C** for JAPAN type, **D** for CEE type, **E** for BS type

- The QM-Data 200 is a 2-D data processing unit for optical instruments\*. This features powerful 2-D coordinate measurement capabilities with unmatched simple key operation.

\*Connecting cable (12AAA807) is required for PJ-A3000.

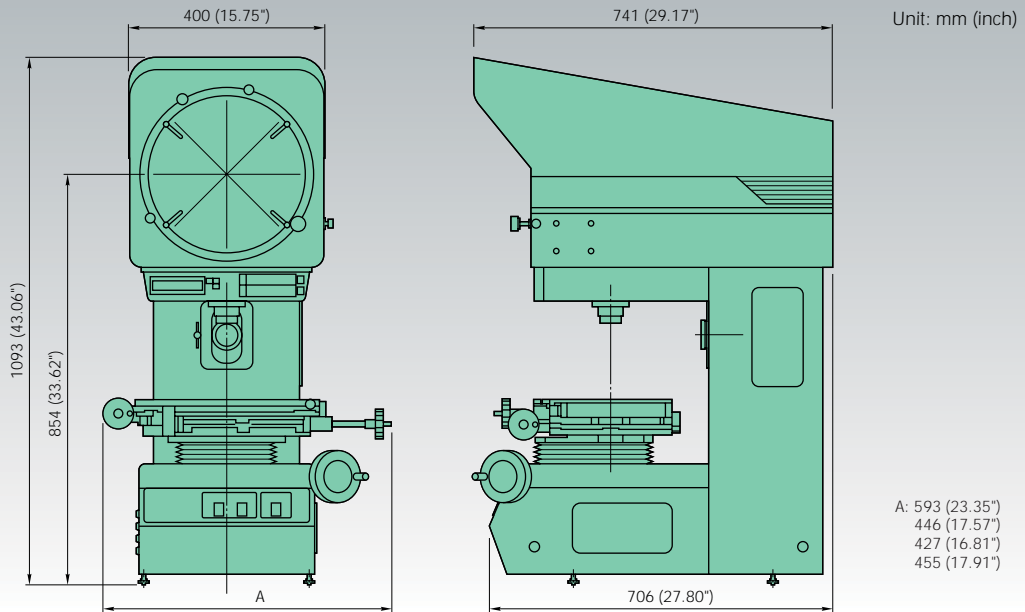
## Optoeye



## Machine Stands

- 172-269
- 172-267 (Auxiliary stand)

## Dimensions



## COMMON SPECIFICATIONS

<b>Projected image</b>		Inverted image
<b>Protractor screen</b>	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
<b>Projection lens</b>		10X
<b>Magnification accuracy</b>	Contour illumination	±0.1% or less
	Surface illumination	±0.15% or less
<b>Contour illumination</b>	Light source	Halogen bulb (24V, 150W)
	Optical system	Telecentric system
	Functions	2-stage brightness switch, Heat-absorbing filter
<b>Surface illumination</b>	Light source	Halogen bulb (24V, 150W)
	Optical system	Vertical illumination with a half-reflection mirror
<b>Functions</b>		Adjustable condenser lens, Oblique reflection mirrors (options for 10X and 20X lenses)
<b>Power supply</b>		100/110/120/220/230/240V AC (switchable), 50/60Hz
<b>Mass</b>		<b>PJ-A3010F-200:</b> 140kg (308 lbs.) <b>PJ-A 3005F-150, 150E/3010F-200E:</b> 116kg (255 lbs.) <b>PJ-A3010F-100, 100E:</b> 112kg (246 lbs.) <b>PJ-A3005D-50, 50E:</b> 107kg (235 lbs.) <b>PJ-A3005R-50:</b> 106kg (233 lbs.) <b>PJ-A3000:</b> 109kg (240 lbs.)
<b>Standard accessories</b>		10X projection lens set, masking shield, battery code, halogen bulb), tube fus, grounding wire, Allen key, cap



**Mitutoyo**  
PRECISION IS OUR PROFESSION

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Specifications are subject to change without notice.

