PROFILE PROJECTOR
PH-3515F

Heavy-Duty, Bench-Top Model with Horizontal Optical System
Mitutoyo introduces the PH-3515F Profile Projectors that will meet any optical measuring or inspection challenge your shop can offer!

**PH-3515F PROFILE PROJECTOR**

**FEATURES**
- Erect image on high brightness screen.
- 14" (353mm) dia. protractor screen with crosshairs and staggered lines for easy alignment.
- Digital angle measurement of 1’ or 0.01° with built in angle counter.
- Floating-type workstage incorporates linear scales for fast, accurate measurement.
- Halogen contour illumination.
- Fiber-optic illumination cables and halogen included.
- Suitable for thread pitch measurements — free from blurred or distorted images when the workpiece is angled.
- Wide range of accessories for varied applications.

Also available: Optional side mount surface illumination unit (172-423)
(see page 4 for details)
Mitutoyo launches a new 2D data processing unit for optical instruments. The QM-Data 200 can add new features of 2D coordinate measurement, image processing, etc. into your ordinary optical instruments to improve the QC control system.

**OPTOEYE-200**

**QM-Data 200 (OPTIONAL)**

**PH-351SF Unit: Inch**

<table>
<thead>
<tr>
<th>Illumination</th>
<th>Contour</th>
<th>Surface</th>
</tr>
</thead>
<tbody>
<tr>
<td>Magnification</td>
<td>5X 10X</td>
<td>20X 50X 100X</td>
</tr>
<tr>
<td>View field dia.</td>
<td>2.80 1.40 .70 .28 .13</td>
<td>2.80 1.40 .70 .28 .13</td>
</tr>
<tr>
<td>W</td>
<td>6.30 3.66 1.57 .57</td>
<td>6.30 3.66 1.57 .57</td>
</tr>
<tr>
<td>D</td>
<td>6 6 4.57 1.20 .75</td>
<td>6 6 4.56 1.19 .75</td>
</tr>
</tbody>
</table>

**Q-M-Data 200**

2-D data processing unit.

264-155A: Stand mount type

264-156A: Arm mount type

**XY range**

| X-axis (horizontal travel) | 10" (254mm) |
| Y-axis (vertical travel) | 6" (152mm) |

**Measuring unit**

Linear Scale for each axis (AT100 Series)

**Display unit**

(Optional)

**Stage size (WxD)**

17.72"x5.75" (450x146mm)

**Swivel range**

±10° (30° readout)

**Max. workpiece load**

99 lbs. (45kg)

**Dovetail groove**

Two (Pitch= 1.69" (43mm)

**Focusing travel**

2" (50mm)

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**WORKSTAGE**

(Standard accessory)

High performance, low cost 2-axis counter with traditional and advanced linear functions.

**Order**

174-173A

**Scale input ports**

2

**Resolution**

0.00005"/0.0001"/0.0005"/0.01mm/0.005mm (changeable)

**Display**

7-digit LED and a negative [-] sign

**Functions**

Zero-setting, preset, counting direction setting, mm/inch conversion, 1/2 calculation, ABS INC coordinate selection, diameter display, addition of 2-scale data, zero approach machining, bolt-hole circle machining, pitch machining, touch signal input

**Power supply**

120VAC, 60Hz

**Operating temperature**

32°F to 104°F (0˚C to 40˚C)

**Mass**

2.43 lbs. (1.1kg)

---

**KA COUNTER (OPTIONAL)**

High performance, low cost 2-axis counter with traditional and advanced linear functions.

**ORDER**

174-173A

**Scale input ports**

2

**Resolution**

0.00005"/0.0001"/0.0005"/0.01mm/0.005mm (changeable)

**Display**

7-digit LED and a negative [-] sign

**Functions**

Zero-setting, preset, counting direction setting, mm/inch conversion, 1/2 calculation, ABS INC coordinate selection, diameter display, addition of 2-scale data, zero approach machining, bolt-hole circle machining, pitch machining, touch signal input

**Power supply**

120VAC, 60Hz

**Operating temperature**

32°F to 104°F (0˚C to 40˚C)

**Mass**

2.43 lbs. (1.1kg)
### Specifications

<table>
<thead>
<tr>
<th>Order No.</th>
<th>172-868A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Resolution</td>
<td>.0001&quot;/.0005&quot;/.001mm/.005mm</td>
</tr>
<tr>
<td>Projection lens</td>
<td>10X (172-184)</td>
</tr>
<tr>
<td>Magnification accuracy (Nominal magnification)</td>
<td>±0.1% under contour illumination, ±0.15% under surface illumination</td>
</tr>
<tr>
<td>Screen</td>
<td>Effective DIA 13.9&quot; (353mm)</td>
</tr>
<tr>
<td>Screen material</td>
<td>Fine-grain ground glass</td>
</tr>
<tr>
<td>Reference line</td>
<td>Staggered crosses and crosshairs</td>
</tr>
<tr>
<td>Protractor</td>
<td>Display range ±360° displays up to ±370°</td>
</tr>
<tr>
<td>Functions</td>
<td>1°/0.01° switchable</td>
</tr>
<tr>
<td>Contour illumination</td>
<td>Light source Halogen bulb (24V, 150W)</td>
</tr>
<tr>
<td>Optical system</td>
<td>Telescopic</td>
</tr>
<tr>
<td>Functions</td>
<td>2-step brightness switching, cooling fan, heat-absorbing filter, green filter (optional)</td>
</tr>
<tr>
<td>Surface illumination</td>
<td>Light source Halogen bulb (24V, 150W)</td>
</tr>
<tr>
<td>Functions</td>
<td>Adjustable condenser lens (for all magnifications), cooling fan, heat-absorbing filter, green filter (optional)</td>
</tr>
<tr>
<td>Power supply</td>
<td>120VAC, 60Hz</td>
</tr>
<tr>
<td>Mass</td>
<td>331 lbs. (150kg)</td>
</tr>
<tr>
<td>Standard accessories</td>
<td>10X projection lens set, workstage, power cord, halogen bulb 24V 150W, 2pcs. (515530), machine cover (383228), user’s manual</td>
</tr>
<tr>
<td>Optional accessories</td>
<td>Counter Stand (12AAF182)</td>
</tr>
</tbody>
</table>
DIMENSIONS

OPTIONAL ACCESSORIES

**Vertical Holder**
- 172-132
- Sets up a thin workpiece easily.

**Rotary Vise**
- 172-144
- Workpiece dia.: 60mm max.

**Center Support Riser**
- 172-143
- Widens the clamping capacity of the center support to a maximum diameter of 240mm.

**Center Support**
- 172-142
- Clamps a cylindrical workpiece such as a screw.
- Workpiece dia.: 120mm max.

**Center Support**
- 172-286
- Increases the screen sharpness of the contour image.

**Reading Scales**
- 172-118 (200mm)
- 172-161 (300mm)
- 172-119 (8")
- 172-162 (12")

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

**Green Filter**
- 172-116 (50mm)
- 172-117 (2")

**Standard Scales**
- 172-118 (200mm)
- 172-161 (300mm)
- 172-119 (8")
- 172-162 (12")

**Stand**
- 64AAB176
- Locking door
- 22"W x 25"H x 29"D
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