R93 Mk3
General Purpose Nuclear Camera

OVERVIEW

Combining versatility, high radiation tolerance and wide-range viewing capabilities, the R93 Camera from Mirion is designed to meet your inspection needs.

KEY FEATURES

- Very high radiation tolerance (exceeding 2 M Gy)
- Easy decontamination
- Wide range of non-browning lens
- High resolution pictures for inspections
- Remote control of functions
- Wide range of attachments, lens bodies and viewing heads

KEY APPLICATIONS

- Underwater surveillance
- Fuel monitoring
- Reactor inspection
- Tube inspection
- Robotics and manipulator surveillance
- Serial number verification

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SPECIFICATIONS AND PERFORMANCE

Maximum application flexibility is achieved using interchangeable Viewing Heads or Lens Bodies enabling the R93 to provide:

- Underwater applications to a depth of 200 m (656')
- Lighting power from 0.7 W to 100 W
- Non-browning 12-72 mm f/1.8 zoom capability
- Radial viewing with full 360° scan facility
- Complete hemispherical viewing ability
- Wide angle viewing

All the interchangeable Viewing Heads and Lens Bodies can be matched to the radiation tolerance of the R93 and are very easily fitted to the camera. For additional specifications refer to the following data sheets:

- R93 Interchangeable Viewing Heads
- R93 Interchangeable Lens Bodies
- R90 Mk 3 Camera Control Units
- R90 Series Cables and Connectors

### Camera

<table>
<thead>
<tr>
<th>Specification</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diameter</td>
<td>40.5 mm (1.6&quot;)</td>
</tr>
<tr>
<td>Length (excluding connector)</td>
<td>217 mm (8.5&quot;)</td>
</tr>
<tr>
<td>Length (including connector)</td>
<td>250 mm (9.8&quot;)</td>
</tr>
<tr>
<td>Weight</td>
<td>1.25 kg (2.8 pounds) without head or lens body</td>
</tr>
</tbody>
</table>

**Dimensions:** mm (inches)

33 (1.3) 21/7 (0.85) 40.5 (1.6)

### Electrical (excluding viewing heads or lens bodies)

<table>
<thead>
<tr>
<th>Specification</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Max power</td>
<td>3 watts</td>
</tr>
<tr>
<td>Mechanical</td>
<td>Stainless Steel, non-browning optics</td>
</tr>
<tr>
<td>Cable Length: Minikevlar TV36</td>
<td>200 m max (656 feet)</td>
</tr>
</tbody>
</table>

### Environmental

<table>
<thead>
<tr>
<th>Specification</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operating Temperature</td>
<td>0 to 55 °C (32 to 130 °F)</td>
</tr>
<tr>
<td>Storage Temperature</td>
<td>0 to 60 °C (32 to 140 °F)</td>
</tr>
</tbody>
</table>

(The R93 Camera is fully waterproof when fitted with an appropriate viewing head or lens body)

### Radiation Tolerance

- 2 MGy (H<sub>2</sub>0) [60Co] (2 x 10<sup>8</sup> rads)
- total dose >30k Gy/hour
- >3 x 10<sup>6</sup> rads per hour Vidicon
- 1k Gy/hour (1x10<sup>5</sup> rads per hour) Newvicon/Chalnicon

### SPECIFICATIONS AND PERFORMANCE OPTICS

Non-browning 9mm D mount auto iris lens fitted as standard. Optional non-browning 6mm and 25mm D mount lenses and C mount lenses available.

<table>
<thead>
<tr>
<th>Viewing Angles in Air (typical)</th>
<th>Horizontal</th>
<th>Vertical</th>
<th>Diagonal</th>
<th>Focus Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Standard 9mm lens</td>
<td>50°</td>
<td>39°</td>
<td>61°</td>
<td>30 mm to infinity</td>
</tr>
<tr>
<td>Optional 6mm lens</td>
<td>73°</td>
<td>58°</td>
<td>85°</td>
<td>5 mm to infinity</td>
</tr>
<tr>
<td>Optional 25mm lens</td>
<td>20°</td>
<td>15°</td>
<td>25°</td>
<td>170 mm to infinity</td>
</tr>
</tbody>
</table>

For additional information, please contact your Mirion Technologies representative; for any country not listed, email rees.sales@mirion.com.

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