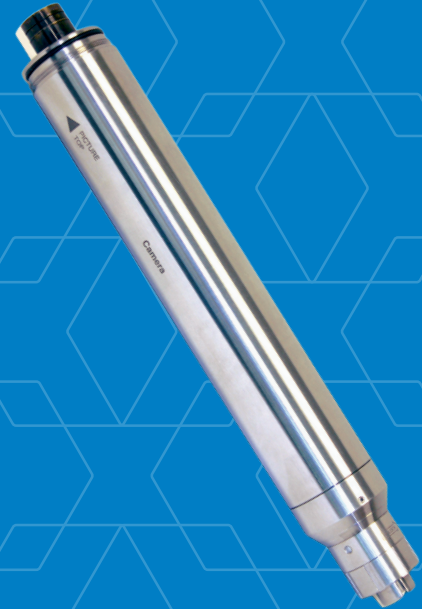




RADIATION TOLERANT CAMERA

R93™

High Radiation Camera



A high radiation camera, the R93 that can achieve maximum application flexibility using interchangeable Viewing Heads or Lens Bodies.

SPECIFICATIONS AND PERFORMANCE

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

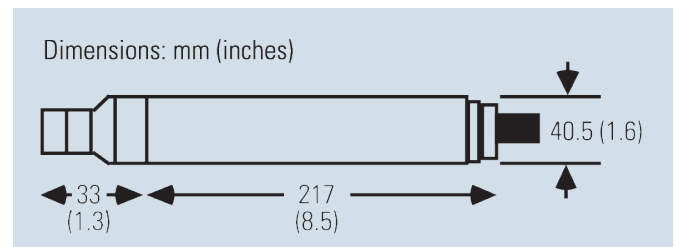
- Underwater applications to a depth of 200 m (656 ft)
- Lighting power from 0.7 W to 100 W
- Non-browning 12-72 mm f/1.8 zoom capability
- Radial viewing with full 360° scan facility
- Complete hemispherical viewing ability
- Wide angle viewing

All the interchangeable Viewing Heads and Lens Bodies can be matched to the radiation tolerance of the R93 unit 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

- Diameter: 40.5 mm (1.6 in)
- Length (excluding connector): 217 mm (8.5 in)
- Length (including connector): 250 mm (9.8 in)
- Weight: 1.25 kg (2.8 lb) without head or lens body



ELECTRICAL (EXCLUDING VIEWING HEADS OR LENS BODIES)

- Max power: 3 watts
- Mechanical: Stainless Steel, non-browning optics
- Cable Length Minikevlar TV36: 200 m max (656 ft)

R93 HIGH RADIATION CAMERA

SPECIFICATIONS AND PERFORMANCE

ENVIRONMENTAL

- Operating Temperature: 0 to 55 °C (32 to 130 °F)
- Storage Temperature: 0 to 60 °C (32 to 140 °F)

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

- Radiation Tolerance:
2 MGy (H₂O)[⁶⁰Co] (2 x 10⁸ rads) total dose >30k Gy/hour (>3 x 10⁶ rads per hour) Vidicon
1k Gy/hour (1x10⁵ rads per hour) Newvicon/Chalnicon

PERFORMANCE USING R90 MK 3 SERIES CCU RESOLUTION (IN AIR) DEPENDENT ON VIEWING HEAD AS FOLLOWS:

- R93 Camera Head/Lens Body:
Horizontal Resolution
Center - Zone 1 (TV Lines per Picture Height)
- R93/00, 01, 02, 05, 65, 65L: 650
- R93/03: 500
- R93/04: 650
- R93/09 (Dome or Cylinder): 500

SIGNAL TO NOISE RATIO

- CCIR Weighted:
>43dB (CCU standard gain)
>36dB (CCU high gain)
- Typical Sensitivity:
1 lux scene illumination (usable picture)
7 lux scene illumination (good picture)

Sensitivity using extended red Newvicon tube and F2.0 non-browning lens.

SPECIFICATIONS AND PERFORMANCE OPTICS

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

Viewing Angles in Air (typical)	Horizontal	Vertical	Diagonal	Focus Range
Standard 9 mm lens	50°	39°	61°	30 mm to infinity
Optional 6 mm lens	73°	58°	85°	5 mm to infinity
Optional 25 mm lens	20°	15°	25°	170 mm to infinity

SPECIFICATION NOTES

1. A "good" picture is defined as one where the illumination available is sufficient for the camera to produce a 1 volt composite video signal with a fully open iris.
2. A "usable" picture can usually be obtained dependent on the scene viewed and environmental factors, etc., when the illumination available is only 1/3 that required to achieve a 1 volt composite video signal with a fully open iris.
3. Mirion should be consulted with regard to very critical viewing requirements, or in cases where there are important lighting, resolution, environmental or viewing angle considerations.
4. In applications where there are severe space constraints care should be taken to allow for the size of the camera cable mating connector and if necessary, the bend radius of the connecting, camera cable. Please, refer to the Mirion R90 series cables and connectors data sheet.



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Specifications may vary according to system configuration. We reserve the right to modify or amend the information herein without prior warning. Please contact your Mirion representative for further information.

Mirion Technologies (IST) Ltd and Mirion Technologies (Imaging), LLC are ISO 9001:2015 certified companies (certificates available on request or at www.mirion.com).

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