



FEATURES

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- Wide angle option
- Zoom option
- Prismatic option
- Lighting facilities
- C-Mount lens option
- Interchangeable on R93 capsule
- Underwater use via water corrected windows

IST-REES R93 Interchangeable Lens Bodies

The IST-Rees R93 cameras can also be fitted with a range of interchangeable lens bodies which include zoom, prismatic and wide angle types.

The interchangeable lens bodies provide different lens facilities for the standard R93 Camera. This allows the standard R93 Capsule to be used in many varied applications. All the control and power supplies are fed to the camera through the single camera cable.

Fitting an interchangeable lens body is very simple. Unscrew the camera rear locking ring, remove the existing body and the new body can be fitted over the camera capsule and dual 'O' rings. Once the locking ring is tightened the camera is waterproof and ready to use.

Plain or water corrected windows are supplied depending upon the application. Plain windows used underwater narrow the viewing angle. When a water corrected window is used, the angle of view is the same as a plain window used in air.

The R93/09 and the R93/75L bodies are provided with standard lighting systems. High power lighting requires the heat generated by the lights to be dissipated quickly. Underwater environments do this, but in air, lower power should be used; some lighting systems are not rated for continuous operation in air.



imaging systems

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Featuring:



R93/03 C MOUNT BODY

Length with Camera	257mm (10.8")
Diameter	40.5mm (1.6")

The Rees range of radiation resistant non-browning lenses use 'D' mounts, due to the small size of the camera. Fitting a 'C' mount body enables the R93 camera to be used with any 'C' mount lens. As standard the R93/03 is provided without environmental protection, but protective or underwater heads can be provided to special order.

Note: Length dimension will be increased when a C mount lens is mounted on the camera.



R93/04 Zoom Lens Body

Length with camera	395mm (15.5")
Diameter	104mm (4.1")
Depth rating	50m (164')
Weight with camera	3.04kg (6.7 lb)

The R93/04 can be fitted with either standard glass 12.5–75mm or non-browning glass 12–72mm, f1.8, 6:1 zoom lenses. Lighting systems are not fitted as standard, but Brightstream or STIQ lights can be fitted externally. Remotely controlled auto/manual iris, focus, macro focus, and zoom functions are provided, with a focus range of 50mm to infinity, and a zoom tracking capability from approx 1m (3.3') to infinity in air and from 1.3m (4.3') to infinity in water.

Viewing Angles	Air		Water	
	Wide	Tele	Wide	Tele
Horizontal	39°	6.7°	29°	5.0°
Diagonal	48°	8.4°	35°	6.3°
Vertical	31°	5.2°	23°	3.9°



R93/65MM WIDE ANGLE LENS BODY

Length with camera	290mm (11.4")
Diameter	40.5mm (1.6")
Depth rating	100m (328')
Weight with camera	1.41kg (3.1 lb)

The R93 wide angle head is fitted with a Rees 6mm f2.0 non-browning glass lens and is designed for use in air or underwater. Plain and water corrected windows are available.

Viewing Angles	Air	Water (Plain Window)
Horizontal	72°	53°
Diagonal	85°	61°
Vertical	58°	43°



R93/75L

Length with camera	290mm (11.4")
Diameter	75mm (2.9")
Depth rating	30m (66')
Weight with camera	1.75kg (3.9 lb)

The R93/75L is fitted with the same lens as the R93/65 and is designed for use underwater, but can be used in air for short periods (approximately 1.5 hours at 20°C <68°F> ambient). Lighting is provided from 16 x 1.2 watt lamps with a total output of about 20 watts. The lighting design has paid particular attention to the need for wide angle lighting to match the performance of the lens. Plain and water corrected windows are available.

Typical Lighting Range	Air	Water
For Good Picture	1.2m	0.9m
For Usable Picture	3.5m	1.8m



R93/09 PRISMATIC VIEWING LENS BODY

Length with camera	383mm (15.1")
Diameter	63mm (2.5")
Weight with camera	2.1kg (4.6 lb)

The R93/09 prismatic viewing lens body is extremely versatile, enabling the user to view any point within a complete hemisphere. This is achieved by using a 25mm f2.5 non-browning lens to view through a tilting and rotating prism, allowing it to look straight ahead, or, by tilting the prism, to view at any angle up to 90° from the camera axis. In addition the viewing head can rotate continuously in either direction, the combination of the functions providing a complete hemisphere of view.

The R93/09 is provided with a 20 watt lamp which is fitted underneath the prism and tracks with the prism tilt movement. The lighting system has been designed for use in air only.

View	Forward	Side
For Good Picture	1.3m	1.3m
For Usable Picture	3.3m	3.3m

Viewing Angles	Air Only
Horizontal	20°
Vertical	15°
Diagonal	25°



SPECIFICATION NOTES

1. The information provided on lighting ranges is approximate only and is based on tests made in a dark-room; viewing scenes with reflectivity of 60% using an R93 camera fitted with a Newvicon tube.
2. Lighting ranges in water have been calculated from the figures obtained in air.
3. 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 aperture.
4. 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.
5. The “length with camera” dimensions are defined as the length from the tip of the lens body to the end of the camera connector.
6. 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 Rees R90 series cables and connector data sheet.

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