



MIRION
TECHNOLOGIES

NUCLEAR CAMERA

RC720™ HD-RAD

High Definition Camera System for Wide Ranging Applications

Combines high definition video performance with a robust pan/tilt/zoom platform that includes a unique clutch assembly for fail-safe retrieval. The integral HD camera provides users with the highest quality color images during inspection/surveillance process.

Two models of this camera are available. One model has four integrated high-intensity white LED lights and a small operating envelope, ideal for underwater inspection applications where space is at a premium. The other has two high powered LED lights to provide a greater viewing distance underwater or in air for inspection/surveillance applications.

Both outstation models are rated to a total absorbed dose of 1 MGy and designed to allow easy and cost effective field replacement of the more radiation sensitive HD module and LED lighting. All external surfaces are finished in stainless steel for easy decontamination.



FEATURES

- ✓ Radiation tolerant to 1 MGy (1×10^8 rad)*
- ✓ Radiation dose rate at 100 Gy per/h (1×10^4 rad/h)
- ✓ Resolution >750 TVL (HD mode)
- ✓ Unique slip clutch for fail-safe retrieval
- ✓ Compact housing
- ✓ Easy replacement of HD module
- ✓ 10:1 optical zoom with 4x digital
- ✓ Variable speed pan and tilt
- ✓ High-intensity white LED lighting
- ✓ Stainless steel construction
- ✓ Standard rack-mount controller with remote control input
- ✓ Rugged, radiation tolerant cable
- ✓ In-air or underwater
- ✓ HD-SDI output for recordings

* Excludes replaceable HD/LED modules

RC720 HD-RAD HIGH DEFINITION CAMERA SYSTEM FOR WIDE RANGING APPLICATIONS

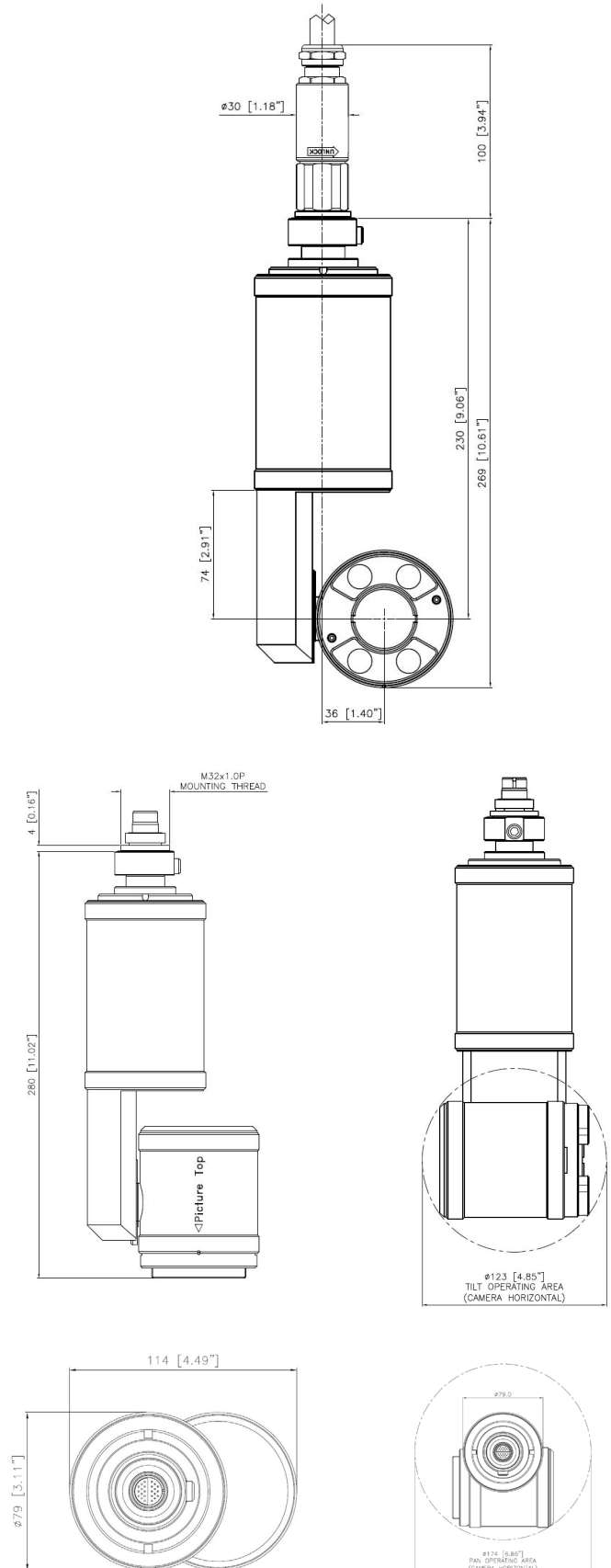
The addition of the HD-RAD product range to the long-established IST-REES products secures Mirion's position as a leader in the supply of imaging systems to the Nuclear Industry and emphasizes our commitment to the continuous development of our products and services.

SPECIFICATIONS AND PERFORMANCE

CAMERA OUTSTATION RC720CPC03A (UNDERWATER ONLY)

- Outstation Radiation Tolerance: 1 MGy (1×10^8 rad)* [^{60}Co]*
- HD/LED Module Radiation Tolerance: 500 Gy (5×10^4 rads) [^{60}Co]
- Radiation Dose Rate: 100 Gy/hour (1×10^4 rad/h)
- Housing: Stainless Steel
- Seal: IP68
- Depth Rating: 60 m (197')
- Horizontal Resolution (HD mode): >750 TVL
- Horizontal Resolution (SD mode): 550 TVL NTSC/PAL
- Operating Temperature: 0° to 40 °C (32° to 104 °F)
- Pan and Tilt Range: +/- 180 degrees
- Iris: Auto and manual
- Focus: Auto and manual
- Minimum Object Distance (in water):
13 mm wide angle (0.5")
1060 mm narrow angle (42")
- Zoom range (in water): 10x optical, 4x digital
- Angle of View (H) (HD/SD squeeze mode):
50° (Wide) to 5.4° (Narrow)
- Minimum Scene Illumination: 12 lux (f/1.8) with 50 IRE
- AGC Range: Auto: -3db to +18db
- Electronic Shutter - Auto Exposure Mode:
1/60 sec (59.94/NTSC),
1/10000 sec (50/PAL)
- Weight (in air): 3.4 kg (7.5 lb)
- Supports HD (analog component):
1080i/59.94, 1080i/50
720p/59.94, 720p/50
- Supports SD (composite): NTSC (CROP), NTSC (SQUEEZE) PAL (CROP), PAL (SQUEEZE)
- Video Outputs - HD: Y Pb Pr
- Video Outputs - SD: Composite and Y/C
- Light Output: 680 lux @ 0.5m
- Beam Angle (in water): 26° approximately

* Excludes replaceable HD/LED modules

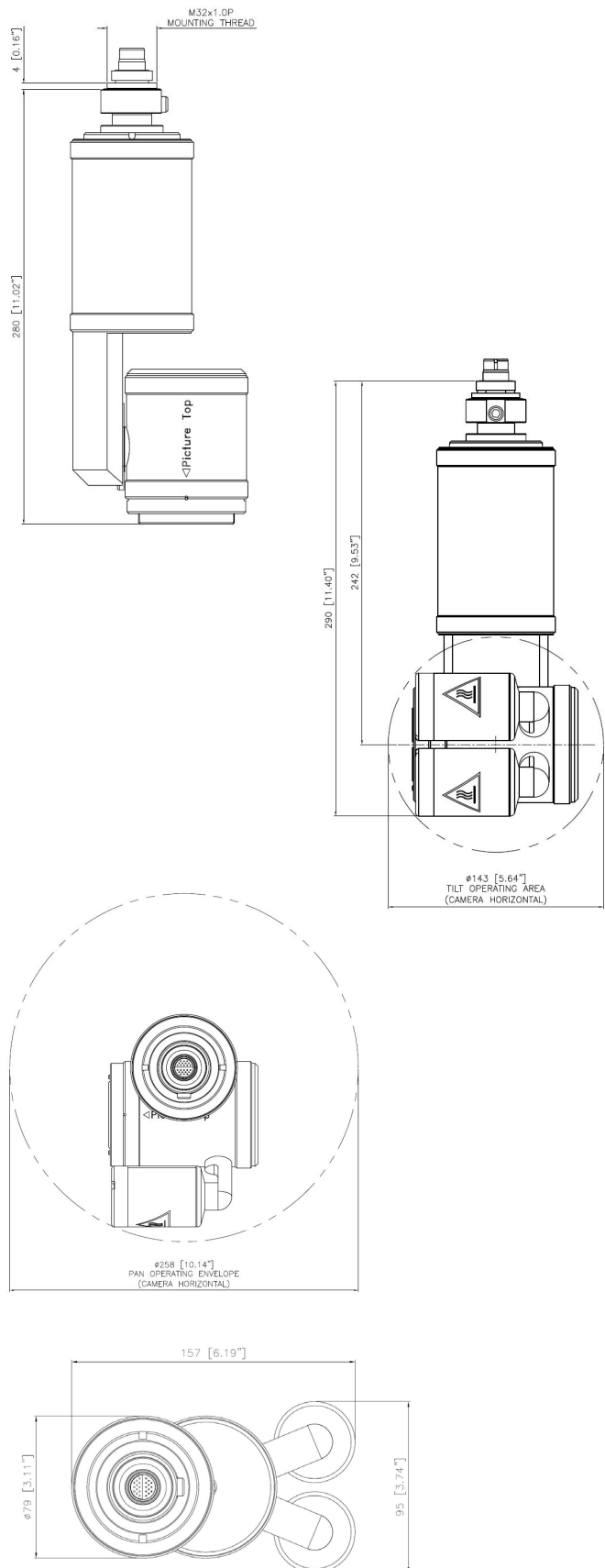


RC720 HD-RAD HIGH DEFINITION CAMERA SYSTEM FOR WIDE RANGING APPLICATIONS

CAMERA OUTSTATION RC720CPD03A (UNDERWATER & IN-AIR)

- Outstation Radiation Tolerance: 1 MGy (1×10^8 rad)* [^{60}Co] *
- HD/LED Module Radiation Tolerance: 500 Gy (5×10^4 rads) [^{60}Co]
- Radiation Dose Rate: 100 Gy/hour (1×10^4 rad/h)
- Housing: Stainless Steel
- Seal: IP68
- Depth Rating: 60 m (197')
- Horizontal Resolution (HD mode): >750 TVL
- Horizontal Resolution (SD mode): 550 TVL NTSC/PAL
- Operating Temperature:
0° to 45 °C (32° to 113 °F) (in air)
0° to 50 °C (32° to 122 °F) (underwater)
- Pan and Tilt Range: +/- 180 degrees
- Iris: Auto and manual
- Focus: Auto and manual
- Minimum Object Distance in water:
13 mm wide angle (0.5")
1060 mm narrow angle (42")
- Minimum Object Distance in air:
10 mm wide angle (0.4")
800 mm narrow angle (31.5")
- Zoom range: 10x optical, 4x digital
- Horizontal Angle of View in Water: 37° (Wide) to 4.1° (Narrow)
- Horizontal Angle of View in Air: 50° (Wide) to 5.4° (Narrow)
- Minimum Scene Illumination: 12 lux (f/1.8) with 50 IRE
- AGC Range: Auto: -3db to +18db
- Electronic Shutter - Auto Exposure Mode: 1/60 sec (59.94/NTSC), 1/10000 sec (50/PAL)
- Weight (In Air): 4.75 kg (10.47 lb)
- Supports HD (Analog Component):
1080i/59.94, 1080i/50
720p/59.94, 720p/50
- Supports SD (Composite): NTSC (CROP), NTSC (SQUEEZE) PAL (CROP), PAL (SQUEEZE)
- Video Outputs - HD: Y Pb Pr
- Video Outputs - SD: Composite and Y/C
- Light Output: 2500 lux @ 1 m
- Beam Angle in Water: 26° approximately
- Beam Angle in Air: 35° approximately

*Excludes replaceable HD/LED modules



RC720 HD-RAD HIGH DEFINITION CAMERA SYSTEM FOR WIDE RANGING APPLICATIONS

CAMERA CONTROL UNIT - RC720MCE03A & RC720MCF03A

- Case: 19" Aluminum 2U (rack mount)
- Weight: 3.8 kg (8.4 lb)
- Dimensions: 88 mm H x 483 mm W x 356 mm D (3.5" x 19" x 14") Depth does not include handles or connections
- Power Requirements: 100 to 240 V AC, 50/60 Hz - 40 VA maximum
- Outstation Cable Length: 38 m (125') maximum length to controller. Consult Mirion for longer cables
- Operating Temperature: 0 °C to 40 °C (32 °F to 104 °F)
- Storage Temperature: -20 °C to 60 °C (-4 °F to 140 °F)
- Relative Humidity: 80% for temperatures up to 31 °C (88 °F), decreasing linearly to 50% at 40 °C (104 °F)
- Video Output: HD-SDi, Y/C, Composite. component

HD-RAD PART NUMBERS

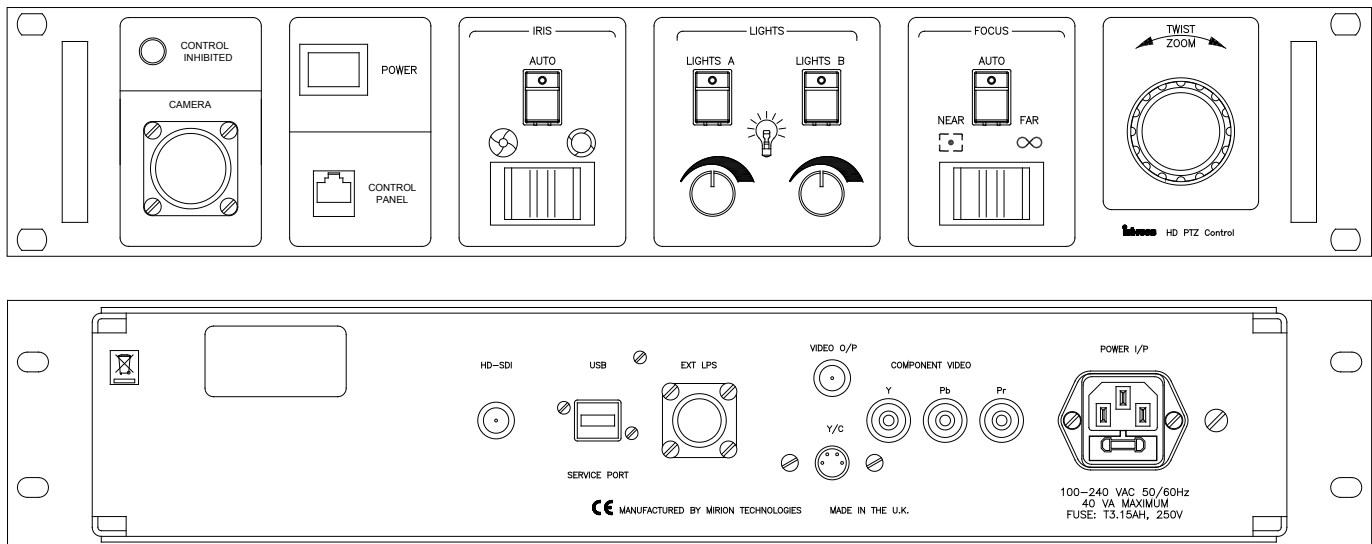
- RC720CPA: Outstation assembly
- RC720CPB03A: Outstation assembly
- RC720MCE03A: 50 Hz Camera Controller
- RC720MCF03A: 60 Hz Camera Controller
- RC720CAB04A/10M: Standard cable 10.0 m (33 ft)
- RC720CAB04A/38M: Standard cable 38.0 m (125 ft)
- 040-90051: Pole Mount Adapter

CAMERA CONTROL: FEATURES AND BENEFITS

- Dedicated Controls:
 - Pan (Joystick)
 - Tilt (Joystick)
 - Zoom (By Joystick Twist)
 - Iris
 - Focus
 - Lights

Optional remote keyboard - plugs into front control panel.

CAMERA CONTROL UNIT - FRONT & REAR PANELS



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