



Proton 3.0 Camera

SOLUTIONS:
General Operation, Visual Inspection

- 4.5x10⁵ Rad radiation tolerance
- Full HD (1080p)
- 10x Optical zoom
- Laser measuring system
- Robust pan & tilt drive
- Portable configuration

Inspection & Monitoring Applications

The Diakont Proton 3.0 camera system is the next evolution in refueling and decommissioning support camera systems. Simply deploy and instantly have high-resolution video to support your operations.

With its powerful 10x zoom, state-of-the-art CMOS full HD color sensor, laser measuring device, pan & tilt unit, and powerful LEDs: it is an extremely useful tool for use in the refueling cavity, reactor vessel, or elsewhere in high radiation fields.

The Proton 3.0 is fabricated from rugged, easily-decontaminated anodized aluminum and the straightforward refurbishment process makes for a minimal cost of ownership. The system's control unit is portable to reduce the deployment time, facilitate transportation, and increase convenience of use, while the load-carrying cable eliminates the need for poles or robotics to deploy the camera.



Portable Control Unit with PTZ Functions

The portable control unit provides the following operator functions: video imaging, recording of video and audio, layout of operator comments, actual readings of feedback sensors, and remote control of all PTZ functions. The integrated pan & tilt unit provides full panoramic view due to continuous rotation ($\pm 360^\circ$) and tilt (from -45° to $+225^\circ$). The 10x optical zoom lens provides high resolution imagery, even from long distances.

Inspection & Monitoring Applications

- Monitor reactor assembly/disassembly
- Monitor tool deployment and operation
- Fuel serial number verification (high-speed "core mapping")
- Inspection of reactor internals
- Monitor cask loading activities

Proton 3.0 Camera Specifications

Resolution	1080p
Sensitivity	<1 lux
Image	Color
Optical Zoom	10x
Digital Zoom	4x
Angle of view (horizontal)	
- in air	5.6° - 55°
- in water	4.1° - 41.5°
Range of operating distance:	
- minimum distance in-air in wide angle of view	3.9"
- minimum distance in-air in tele angle of view	9.8"
- far border	∞
Laser sizing system operating distance	
- in air	Up to 118"
-in water	Up to 78"
Pan range	± 360° (continuous)
Tilt range	315° (with transport position)
Lights	LED 4x10W
Operating temperature range	
- in air	from 41 to 131°F
- in water	from 41 to 149°F
Housing material	Aluminum with protective coating
Radiation tolerance (dose rate)	5×10 ⁴ Rad/h
Radiation tolerance (total dose)	4.5×10 ⁵ Rad
Waterproof	IP 68 (submersible 164 ft)
Dimensions (DxH)	Ø5.7" × 15.2"
Weight	~27 lbs