



Proton 3.0 Camera

SOLUTIONS:
General Operation, Visual Inspection

- 4.5×10^5 Rad radiation tolerance
- Full HD color image (1080p)
- 10x Optical zoom
- Laser measuring system
- Ultra-reliable pan & tilt device
- Developed according to FME prevention principles
- Portable waterproof design (IP68)

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 combines all necessities for operator functions: video imaging, recording of video and audio, layout of operator comments, pan/tilt and zoom, 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	5.4° - 50°
- in water	4° - 37.5°
Range of operating distance:	
- close border in wide angle of view	3.9"
- close border in tele angle of view	31.5"
-farther border	∞
Laser lights operating distance	
- in air	13.8" - 118.1"
-in water	19.7" - 78.7"
Pan range	± 360° (continuous)
Tilt range	from - 45° to +225°
Lights	LED 4x10W
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)	Ø5.9" × 15.7"
Weight	26 lbs