

Studio Grade Performance for Subsea Exploration and Film Making



FEATURES

- Best-in-class 4K video acquisition
- Familiar broadcast controls functions through remote telemetry system
- Ruggedized and reliable subsea camera designed for 4,000 m operation with options up to 7,000 m depth

PRODUCT DESCRIPTION

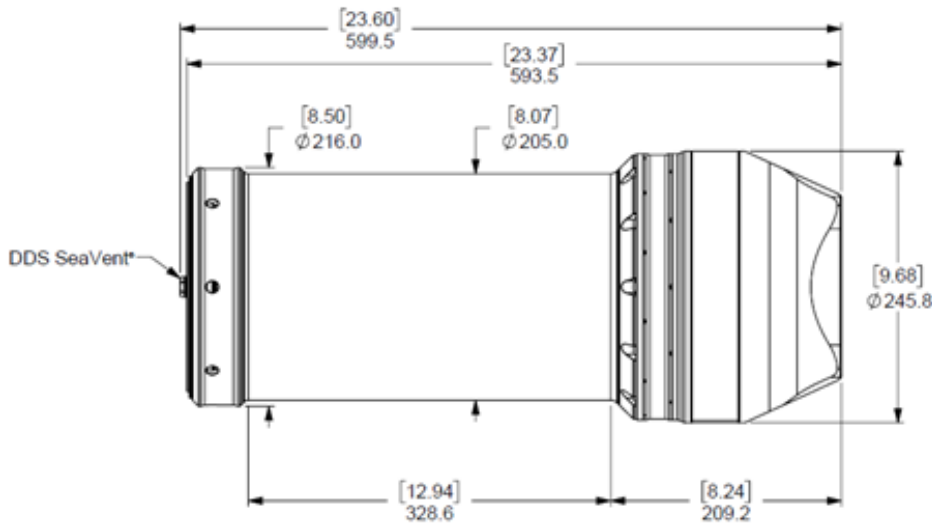
The OPTIM MxD camera system is a ruggedized, high performance 4K imaging system for subsea exploration, research, and storytelling.

At the heart of the OPTIM MxD is the subsea imaging unit, which contains a Sony HDC-50 compact broadcast camera that has the performance and advanced features of full-sized studio systems. The 4K-UHD resolution 2/3" class 3-CMOS global shutter optical block provides unparalleled sensitivity and image quality with a full range of controls expected from a no-compromise studio grade platform.

The imaging potential is matched with a best-in-class Canon CJ15ex4.3 wide-angle zoom lens with 15x magnification, providing a 96° horizontal field of view at full wide and just 8.4° at full telephoto. This lens is coupled with a 4-element dome port corrector cell for near zero distortion viewing and diffraction limited performance from 0.3 meters to typical working distances and beyond.

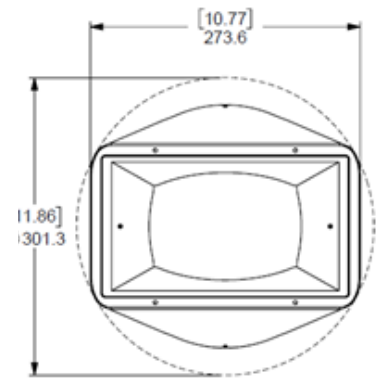
The purpose-built Titanium housing and borosilicate dome of the OPTIM MxD provides reliable operation to 4000m with options for up to 7000m depths using a patent pending design, proven across thousands of actual pressure cycles.

Video uplinks and camera controls are integrated into an embedded telemetry system connected through a single fiber optic interface to a top-side hub that provides industry standard 12G-SDI video and familiar remote camera and lens controls.



EXCEPTIONAL 4K BROADCAST IMAGING

- 3-CMOS 2/3" Class Image Sensor
- 3840x2160 Resolution at 60 FPS
- Global Shutter
- Fully Corrected Dome Port Optics
- Diffraction Limited Imaging
- Servo Controlled 15x Optical Zoom
- Wide 96° Horizontal Field of View
- 4km Rated Ti Housing (7km Option)



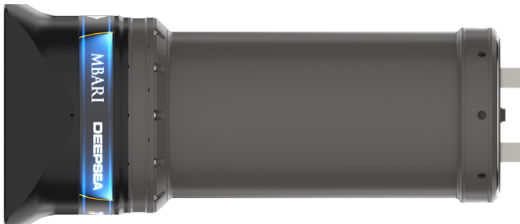
TELEMETRY SYSTEM

Upstream video signals and downlink controls are all provided over a single fiber optic data link between a rack-mount telemetry hub and the camera. Integrated CWDM multiplexers handle combining the 12G-SDI video single with multiple uplink and downlink communication and control options. Only power is needed from the local vehicle or platform system, simplifying integration.

The top-side telemetry system operates from a rack-mount telemetry hub with a separate compact operator control panel.

TELEMETRY INTERFACE

CAMERA AND LENS CONTROL	VIDEO	SYSTEM MONITORING
• Ethernet remote control panel • EIA-422 remote control panel • EIA-422 LANC lens control	• 12G-SDI coax & fiber outputs • HD-SDI coax monitor output • Optional 2nd 12G-SDI channel	• Camera temperature, RH, internal pressure, & water intrusion sensors. • Fiber optic link diagnostics



The Optim MxD is a collaboration between the scientists and engineers at the Monterey Bay Aquarium Research Institute (MBARI) and DeepSea Power & Light, leveraging the world-class design and manufacturing expertise and first-hand field experience of both organizations. The result is a camera system that will be the next standard bearer in subsea imaging technology to serve the needs of the international subsea science, exploration, and film making communities for the next decade.

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