



Tools, Equipment & Innovative Technologies
for the Oil & Gas Sector

www.deeplynxsolutions.com.br



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ABOUT DEEPLYNX SOLUTIONS

WHO WE ARE

Deeplynx Solutions is a Brazilian company specializing in tools, equipment, and innovative technologies for the oil and gas sector. We develop tailored solutions for subsea installation and decommissioning operations, combining engineering expertise with cutting-edge technology to deliver results that reduce costs while increasing efficiency and safety in offshore operations.

Based in Brazil and operating across South America, Deeplynx Solutions serves as the exclusive representative of world-class technology brands — VideoRay and IMPAQ Technologies — bringing globally proven subsea solutions to the Brazilian and South American markets.

MISSION

Develop reliable and innovative tools and equipment for the oil and gas sector, contributing to safe, efficient and sustainable operations.

VISION

To be a benchmark in developing high-performance solutions for the sector, recognized for excellence, innovation and environmental commitment.

VALUES

Innovation, quality, sustainability, integrity and partnership are at the heart of everything we do.



OUR CAPABILITIES

TOOLS, EQUIPMENT & STRUCTURE

We develop tailored tool and equipment solutions for subsea installation and decommissioning operations. The equipment and tools we provide help reduce costs while increasing efficiency and safety in offshore operations.

- Structural Design and Analysis for ROV Structures
- Development of ROV Tools and Decommissioning
- Development of ROV Equipment and Decommissioning

SERVICES

Our experienced team provides comprehensive support throughout the full lifecycle of ROV operations — from mobilization and supervision to maintenance and technical advisory.

- Consulting in the Structuring of ROV Departments
- Client Rep for ROV Operations
- Technical & Commercial Proposal Support
- ROV, Equipment and Tool Mobilization / Demobilization
- Supervision and Support in ROV Operations
- ROV Maintenance
- ROV Tool Maintenance

TRAINING

We offer specialized training programs designed to build and enhance the competence of ROV professionals in both piloting and maintenance disciplines.

- ROV Pilot Training
- ROV Maintenance Training



VideoRay

World Leader in Portable Underwater ROVs

Mission Specialist ROV Systems

Depth ratings up to 1,000 m

Defense, oil & gas and rescue — worldwide

OFFICIAL REPRESENTATIVE

Brazil & South America

www.videoray.com



ABOUT VIDEORAY

WORLD LEADER IN UNDERWATER ROVs

Founded in 1999 and headquartered in Pottstown, Pennsylvania, VideoRay has established itself as the world's largest volume producer of underwater ROVs and the global leader in portable inspection-class and Mission Specialist ROV technology. Now an AeroVironment company, VideoRay continues to set the standard for underwater robotics performance and reliability.

With over 3,000 systems delivered to clients on every continent, VideoRay's underwater robots serve a broad spectrum of industries and missions — from national security and EOD to offshore oil & gas inspection, search & rescue, infrastructure examination, and scientific research.

VideoRay Mission Specialist systems redefine the inspection-class ROV category, delivering industry-leading power, maneuverability, and modularity on a platform built to handle heavy payloads, operate at significant depths, and run extended durations. Deeplynx Solutions is the exclusive representative for Brazil and South America.

1999

Founded

3,000+

Units Delivered

33

Countries

1,000 m

Depth Rating

MODULAR DESIGN UNLIMITED POSSIBILITIES

The modular configuration of Mission Specialist systems enables easy maintenance and seamless integration with a variety of modules and accessories. In fact, we work with the leading underwater accessory manufacturers to develop their products around the size and payload capacity of our systems. So when you purchase a Mission Specialist system, you have your choice of the best underwater tools and sensors to create a custom solution that is purpose-built for your underwater mission.



MISSION SPECIALIST Defender



The Mission Specialist Series is designed and built with power, reliability, and flexibility in mind. The Defender is our most capable and compatible ROV configuration, optimized for precise control, larger payloads, lifting capability, and specialized operations.

The Defender ROV utilizes interchangeable, modular components that comprise a single, intelligent network, providing an extremely flexible and customizable platform that can be easily adapted to target-specific missions. It is this flexibility that sets the Mission Specialist ROV series apart from current technology in the Remotely Operated Vehicle industry.

A Mission Specialist Defender ROV system is the operator's choice for rugged capability and reliable performance.

Compatibility for Any Industry

DEFENDER

_Specifications

[ELECTRICAL]

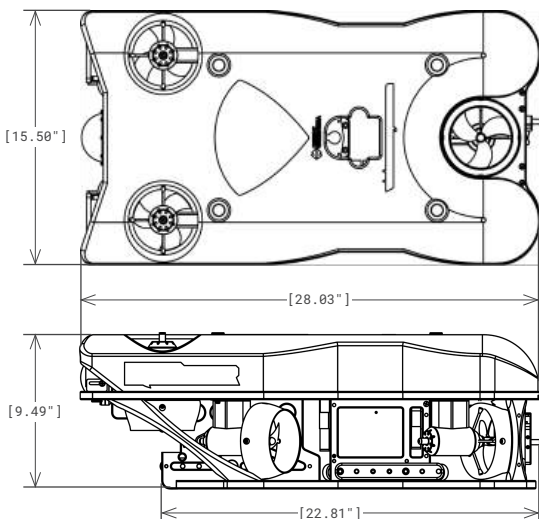
POWER REQUIREMENTS	110/220VAC (1-2.4 kW)
POWER MODULE	400 VDC
POWER OUTPUT	12 V/120 W, 24 V/300 W, 48 V/1,500 W
FEATURES	Power Control/Monitoring

[CONNECTIONS]

5-PIN	48 VDC - Thruster/LED RS-485
9-PIN	12/24 VDC - Accessories 100Mbps Ethernet RS-485
8-PIN	Tether - Power/Comms
TYPE ST	Fiber Optic (Optional)

[ENVIRONMENTAL]

DRY WEIGHT	17.2 kg (38 lbs)
DIMENSIONS LxWxH	71.1 × 39.4 × 23.8 cm (28.0 × 15.5 × 9.5 in)
DEPTH RATING	300m Standard, 1km+ optional
TRANSPORT	Hard-sided, watertight case



_Modules

[ULTRA 4K SMART CAMERA]

PROCESSOR/STORAGE	NVIDIA Jetson Orin NX/1 TB SSD
OPTICAL SENSOR	1/2.3"
RESOLUTION/FOV	12.3 MP/200°, Digital Pan/Tilt/Zoom

[THRUSTERS]

HORIZONTAL (4) VERTICAL (3)	Oil-filled brushless with quick-change propeller, programmable
THRUST	Forward 23.6 kg Reverse 15.0 kg Lateral 8.6 kg
VELOCITY	Forward: 3.8 kts Vertical: 0.8 m/s Sway: 0.9 kt
LIFTING	9.5 kg

[LIGHTING]

LED LIGHT ARRAYS (2)	Individually controlled spot and flood arrays, 38 W max each. 3,000 K CCT, 80 CRI White 7,600 total lumens/module
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[IMU]

ATTITUDE & HEADING REFERENCE SYSTEM (AHRS)	9 DOF & Magnetic Compass Pressure-based depth sensor, 100 Bar, 400 bar opt., 0.2° Static Roll/Pitch, 0.5° Dynamic Roll/Pitch, 18°/h Gyro Bias Stability, 1.0° Yaw
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_Integrated Options

- > Subsea Batteries—Li-ion, NiMH
- > Camera—Auxiliary, 3d Modeling
- > Navigation — DVL/GPS, USBL
- > SONAR—Forward, Side, Scanning
- > Manipulator—Single, Dual, Multi-Axis
- > NDT/Sampling/Cavitation Cleaner
- > MCM/UXO Neutralizers

MISSION SPECIALIST Ally



Mission Specialist ROV systems deliver purpose-built submersibles with cutting-edge underwater robotics technologies, making them the preferred ROV choice for those seeking to take their subsea capabilities to the next level.

The Mission Specialist Ally Base Package includes the Ally submersible, the Workhorse Control Console user interface, and 100m Performance Tether. The Premium Package adds a comprehensive suite of advanced underwater components, including a manipulator with a 90-degree vertical swing for enhanced lifting capabilities, DVL for precise station keeping, navigation and mission planning, and multibeam sonar for searching, inspection, and navigation in conditions where camera visibility is limited.

The Mission Specialist Ally ROV is also designed to provide components toward an upgrade to the Mission Specialist Defender if future operations demand additional payload/capability.

_Specifications

[ELECTRICAL]

POWER REQUIREMENTS	110/220VAC (1-2.4 kW)
POWER MODULE	400 VDC
POWER OUTPUT	12 V/120 W, 24 V/300 W, 48 V/1,500 W
FEATURES	Power Control/Monitoring

[CONNECTIONS]

5-PIN	48 VDC - Thruster/LED RS-485
9-PIN	12/24 VDC - Accessories 100Mbps Ethernet RS-485
8-PIN	Tether - Power/Comms

[ENVIRONMENTAL]

DRY WEIGHT	13.6 kg (30 lbs)
DIMENSIONS LxWxH	64.1 × 30.5 × 30.5 cm (25.3 × 12.0 × 12.0 in)
DEPTH RATING	300m Standard
TRANSPORT	Hard-sided, watertight case

_Modules

[ULTRA 4K SMART CAMERA]

PROCESSOR/STORAGE	NVIDIA Jetson Orin NX/1 TB SSD
OPTICAL SENSOR	1/2.3"
RESOLUTION/FOV	12.3 MP/180°, Digital Pan/Tilt/Zoom

[THRUSTERS]

HORIZONTAL (2)	Oil-filled brushless with quick-change propeller, programmable
VERTICAL (2)	
THRUST	Forward 16.8 kg Reverse 15.0 kg Lateral 6.1 kg
VELOCITY	Forward: 4.0 kts Vertical: 0.8 m/s Sway: 0.9 kt
LIFTING	10.0 kg

[LIGHTING]

LED LIGHT ARRAYS (2)	Individually controlled spot and flood arrays, 38 W max each. 3,000 K CCT, 80 CRI White 7,600 total lumens/module
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[IMU]

ATTITUDE & HEADING REFERENCE SYSTEM (AHRS)	9 DOF & Magnetic Compass Pressure-based depth sensor, 100 Bar, 400 bar opt., 0.2° Static Roll/Pitch, 0.5° Dynamic Roll/Pitch, 18°/h Gyro Bias Stability, 1.0° Yaw
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_Ally Base Package - Part # 74771

- > Mission Specialist Ally ROV
- > Workhorse Control Console
- > 100 m Performance Tether

_Ally Premium Package - Part # 74953

- > Mission Specialist Ally ROV
- > Workhorse Control Console
- > 100 m Performance Tether
- > Doppler Velocity Log (DVL) - Navigation/Station Keeping
- > SONAR - Forward Looking Dual Frequency
- > Manipulator - Dual Function, Spring-loaded 90-180 Vertical

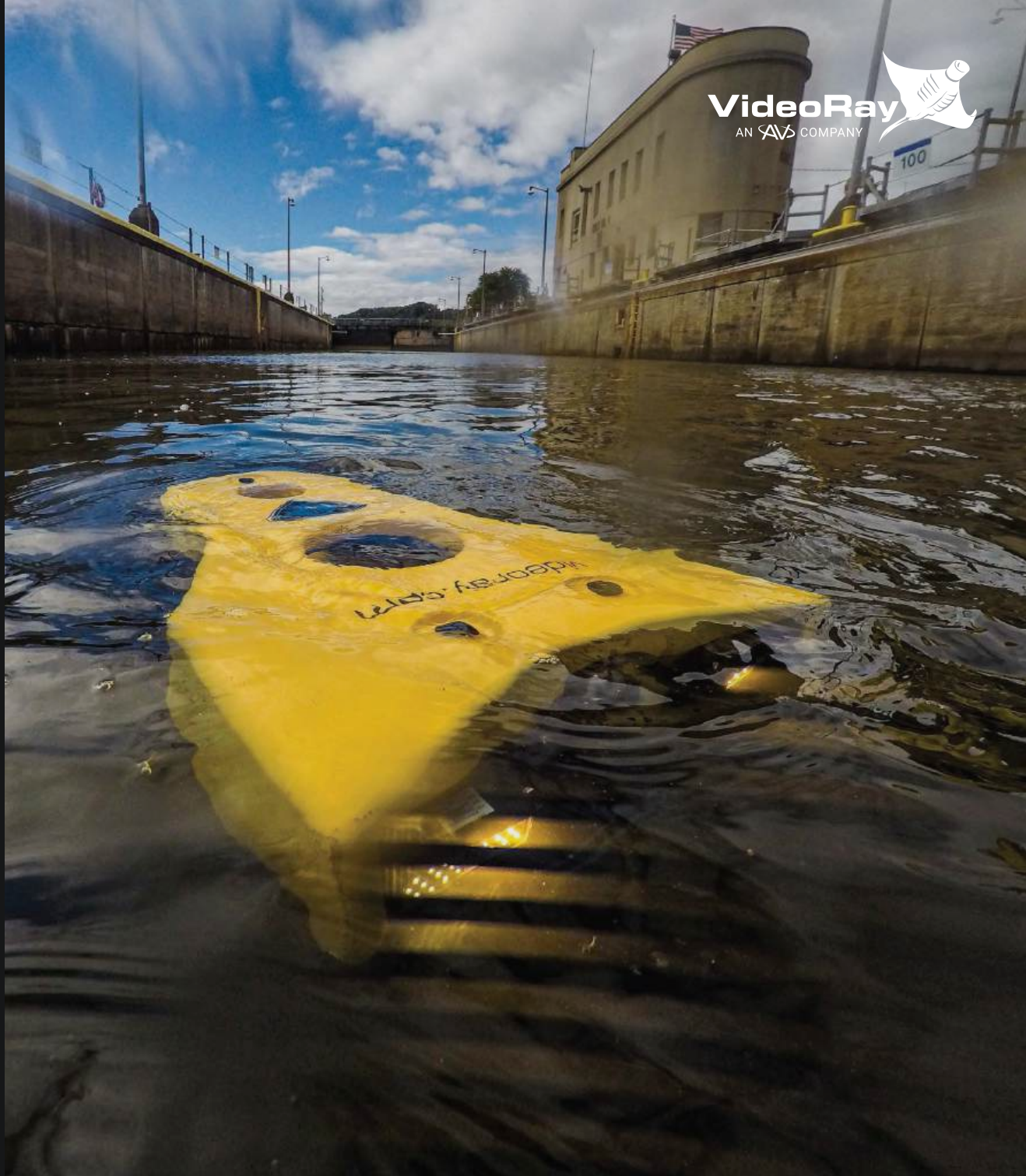
_Optional Integrated Components

- > Workhorse Splashproof Controller
- > Expeditionary Tether Reel⁽²⁾
- > Mission Specialist Subsea Batteries⁽¹⁾
- > Square Float Block⁽¹⁾

1. Check availability; not currently integrated
2. Not currently available with fiber optic tether



MISSION SPECIALIST Pro 5



VideoRay
AN AV COMPANY

Mission Specialist ROV systems are rugged enough to work anywhere, delivering the portable, reliable systems you need to handle tough jobs in challenging environments. The Mission Specialist Pro 5 system is designed for optimal performance when size, speed, and efficiency matter most. Weighing in at 11.8 kg (26 lb), the three-thruster system has a forward speed of over 4.4 knots and a 300 meter depth rating.

The Pro 5 ROV is designed to handle missions with size, space, weight, and deployment speed constraints, such as infrastructure inspections beyond the reach of divers, search & recovery missions, and exploring the ocean floor. Like all Mission Specialist ROVs, the Pro 5 utilizes interchangeable, modular components that comprise a single, intelligent network, providing an extremely flexible and customizable platform that can be easily adapted to target-specific missions.

_Specifications

[ELECTRICAL]		
POWER REQUIREMENTS	110/220VAC (1-2.4 kW)	
POWER MODULE	400 VDC	
POWER OUTPUT	12 V/120 W, 24 V/300 W, 48 V/1,500 W	
FEATURES	Power Control/Monitoring	

[CONNECTIONS]		
5-PIN	48 VDC - Thruster/LED RS-485	
9-PIN	12/24 VDC - Accessories 100Mbps Ethernet RS-485	
8-PIN	Tether - Power/Comms	

[ENVIRONMENTAL]		
DRY WEIGHT	11.8 kg (26 lbs)	
DIMENSIONS LxWxH	51.5 × 33.0 x 25.7 cm (20.3 × 13.0 x 10.1 in)	
DEPTH RATING	300m standard	
TRANSPORT	Hard-sided, watertight case	

_Modules

[ULTRA 4K SMART CAMERA]		
PROCESSOR/STORAGE	NVIDIA Jetson Orin NX/1 TB SSD	
OPTICAL SENSOR	1/2.3"	
RESOLUTION/FOV	12.3 MP/200°, Digital Pan/Tilt/Zoom	

[THRUSTERS]		
HORIZONTAL (2)	Oil-filled brushless with quick-change propeller, programmable	
VERTICAL (1)		
THRUST	Forward 20.3 kg Reverse 13.0 kg	
VELOCITY	Forward: 4.4 kts Vertical: 0.8 m/s	
LIFTING	1.4 kg	

[LIGHTING]		
LED LIGHT ARRAYS (2)	Individually controlled spot and flood arrays, 38 W max each. 3,000 K CCT, 80 CRI White 7,600 total lumens/module	

[IMU]		
ATTITUDE & HEADING REFERENCE SYSTEM (AHRS)	9 DOF & Magnetic Compass Pressure-based depth sensor, 100 Bar, 400 bar opt., 0.2° Static Roll/Pitch, 0.5° Dynamic Roll/Pitch, 18°/h Gyro Bias Stability, 1.0° Yaw	

_Pro 5 Basic Package - Part # 71600

- › Mission Specialist Pro 5 Submersible
- › Workhorse Control Console

_Pro 5 SAR Package - Part # 72366

- › Mission Specialist Pro 5 Submersible
- › Workhorse Control Console
- › 40 m Performance Tether & Backpack
- › SONAR - Forward Looking Dual Frequency
- › Manipulator - Single Axis

_Optional Integrated Components

- › Workhorse Splashproof Controller
- › Auxiliary Camera
- › Ultrasonic Thickness Gauge
- › USBL Positioning
- › Cathodic Protection Probe
- › Laser Scaler



MISSION SPECIALIST Wraith



VideoRay
AN AVS COMPANY

Mission Specialist ROV systems are rugged enough to work anywhere, delivering the portable, reliable systems you need to handle tough jobs in challenging environments.

The Wraith is the new flagship of the Mission Specialist line of submersibles, with capabilities far above and beyond any ROV in its class. With its 10 powerful thrusters, it can navigate and hold at any attitude during operations - including unlimited degrees of pitch and roll, upside-down, straight up/down, and sideways - giving the pilot the unique ability to perform difficult tasks without limitations.

Wraith's true six Degrees-of-Freedom (DOF) control also allows for direct-to-target transit to expedite prosecution with a mighty 80 pounds of forward thrust in any attitude. This advanced thrust technology eliminates the need for drop weights or extended dive/surface time when deploying in extreme depths.

And like all Mission Specialist submersibles, the Wraith utilizes interchangeable, modular, and reliable components that comprise a single, intelligent network, providing an extremely flexible and customizable platform that can be easily adapted to target-specific missions. It is this flexibility that sets the Mission Specialist ROV series apart from current technology in the industry.

_Specifications

[ELECTRICAL]

POWER REQUIREMENTS	Universal input 47-440Hz, 85-264VAC, 500W
POWER MODULE	400 VDC
POWER OUTPUT	12 VDC/120 W, 24 VDC/200 W, 48 VDC/6 kW
SUBSEA POWER	Mission Specialist Subsea Batteries (6) 6kW instantaneous power 2kW Hours total power
FEATURES	Power Control/Monitoring

[CONNECTIONS]

5-PIN	48 VDC - Thruster/LED RS-485
9-PIN	12/24 VDC - Accessories 100Mbps Ethernet RS-485
TYPE ST	Fiber Optic

[ENVIRONMENTAL]

DRY WEIGHT	99.8 kg (220 lbs)
DIMENSIONS LxWxH	131.2 × 77.6 × 34.3 cm (51.7 × 30.6 × 13.5 in)
DEPTH RATING	1,000 m Standard
TRANSPORT	Hard-sided, watertight case

_Modules

[ULTRA 4K SMART CAMERA]

PROCESSOR/STORAGE	NVIDIA Jetson Orin NX/1 TB SSD
OPTICAL SENSOR	1/2.3"
RESOLUTION/FOV	12.3 MP/180°v, 150°h, Digital Pan/Tilt/Zoom

[THRUSTERS]

HORIZONTAL (4) VERT/LATERAL (6)	Oil-filled brushless with quick-change propeller, programmable
THRUST	Forward 36.3+ kg (80+ lbs) Reverse 18 kg (39.6 lbs)
VELOCITY	Forward: 4.2 kts, Lat: 0.9 kts, Vert: 1.5 m/s
LIFTING	36.3 kg (80lbs)

[LIGHTING]

LED LIGHT ARRAYS (2)	Individually controlled spot and flood arrays, 38 W max each, 3,000 K CCT, 80 CRI White 7,600 total lumens/module
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[IMU]

ATTITUDE & HEADING REFERENCE SYSTEM (AHRS)	9 DOF & magnetic compass, pressure-based depth sensor, 100 Bar/400 bar optional, 0.2° Static Roll/Pitch, 0.5° Dynamic Roll/Pitch, 18°/h gyro bias stability, 1.0° Yaw
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_Workhorse Splashproof Controller

[FEATURES]

COMPUTER/PROCESSOR	Dell Latitude 7230 Rugged Extreme/ 12th Gen Intel® Core™ i5-1240U, vPro®
MEMORY/STORAGE	16 GB: 2 × 8 Gb/500 GB SSD
DISPLAY	12" Touchscreen WVA FHD (1920×1200), 100% sRGB AntiGlare, Outdoor Viewable
PROTECTION	IP65 Controller & Console
TRANSPORT	Hard-sided, watertight rolling case

_1.5 km Fiber Optic Tether Reel

[FEATURES]

CAPACITY	1,500m Fiber Optic Tether
MECHANICAL	Manual reel with removable handle
TRANSPORT	Hard-sided, watertight case w/ removable wheels



2026 Product Comparison Guide

MISSION
SPECIALIST
SYSTEMS

_ WRAITH
EXPEDITIONARY

_ DEFENDER

_ ALLY

_ PRO 5



RELEASE YEAR	2025	2017	2024	2019
DESCRIPTION	Modular, configurable 10 thruster / 6 true DOF ROV with expeditionary platform and powerful navigation capabilities	Modular, configurable 7 thruster / 6 DOF ROV with many expansion options and strong current-handling capability	Modular 4 thruster / 4 DOF ROV designed for power and lift with an upgrade path to Defender ROV	Modular 3 thruster / 3 DOF ROV successor to VideoRay's original Pro Series ROVs
TOPSIDE POWER	No	Yes	Yes	Yes
SUBSEA BATTERY	Yes	Yes	Not currently available	No
LIGHTS	Selectable spot/flood LED 2 x 7600 lumens	Selectable spot/flood LED 2 x 7600 lumens	Selectable spot/flood LED 2 x 7600 lumens	Selectable spot/flood LED 2 x 7600 lumens
CAMERA	Ultra 4k Smart Camera NVIDIA Jetson Orin NX Processor, 1 TB SSD	Ultra 4k Smart Camera NVIDIA Jetson Orin NX Processor, 1 TB SSD Opt. rear-facing camera Perception accessories: Voyis & Vaarst Cameras	Ultra 4k Smart Camera NVIDIA Jetson Orin NX Processor, 1 TB SSD	Ultra 4k Smart Camera NVIDIA Jetson Orin NX Processor, 1 TB SSD Opt. rear-facing camera
BASE WEIGHT	99.8 kg (220 lbs)	17.2 kg (38 lbs)	13.6 kg (30 lbs)	11.8 kg (26 lbs)
DIMENSIONS	131.2 x 77.6 x 34.3 cm (51.7 x 30.6 x 13.5 in)	71.1 x 39.4 x 23.8 cm (28.0 x 15.5 x 9.5 in)	64.1 x 30.5 x 30.5 cm (25.3 x 12.0 x 12.0 in)	51.5 x 33.0 x 25.7 cm (20.3 x 13.0 x 10.1 in)
DEGREES OF FREEDOM [DOF]	6 DOF: Surge, Heave, Yaw, Sway, Pitch, & Roll	6 DOF: Surge, Heave, Yaw, Sway, Pitch, & Roll	4 DOF: Surge, Heave, Yaw, & Sway	3 DOF: Surge, Heave, & Yaw
DEPTH RATING	1,000 meters	300 m std configuration 1,000 m+ deep configs	300 meters	300 meters
THRUST	Forward: 36.3+ kg Reverse: 18.0 kg Lateral: 9.4 kg Surface: 36.4 kg	Forward: 23.6 kg Reverse: 15.0 kg Lateral: 8.6 kg Surface: 23.1 kg	Forward: 16.8 kg Reverse: 15.0 kg Lateral: 6.1 kg Surface: 9.5 kg	Forward: 20.3 kg Reverse: 13.0 kg
SPEED	Forward: 4.3 kts Vertical Heave: 1.0 m/s Vertical Transit: 2.0 m/s Sway: 0.9 kts	Forward: 3.8 kts Vertical: 0.8 m/s Sway: 0.9 kts	Forward: 4.0 kts Vertical: 0.8 m/s Sway: 0.9 kts	Forward: 4.4 kts Vertical: 0.8 m/s

	_ W R A I T H E X P E D I T I O N A R Y	_ D E F E N D E R	_ A L L Y	_ P R O 5
B O L L A R D P U L L	36.4 kg	52lbs	50lbs	50lbs
M A X R A N G E	Up to 450 m with Performance Tether (PPT) Up to 1.5 km with Fiber Optic Tether and Subsea Battery Power	Up to 450 m with Performance Tether (PPT) Up to 1.5 km with Fiber Optic Tether and Subsea Battery Power	Up to 450 m with Performance Tether (PPT)	Up to 450 m with Performance Tether (PPT)
C O N T R O L S O F T W A R E	VideoRay MissionLink	Greensea IQ	Greensea IQ	Greensea IQ
M A N I P U L A T O R	2-Function	2-Function	2-Function	2-Function
I N T E G R A T E D U S B L	OceanComm M3	Blueprint Subsea Seatrac	Not yet available	Blueprint Subsea Seatrac
I N T E G R A T E D D V L	WaterLinked A125	Nortek DVL500 Compact	WaterLinked A50	No
I N T E G R A T E D F L S O N A R	Blueprint Oculus Multibeam	Blueprint Oculus Multibeam Tritech Gemini Multibeam	Blueprint Oculus Multibeam	Blueprint Oculus Multibeam
I N T E G R A T E D S I D E S C A N S O N A R	Not currently available	Marine Sonic ARC Scout MKII <i>Available 2026</i>	No	No
R O V G P S / G N S S	No	Yes	No	No
M A X L I F T P I L O T I N G	36.3 kg (80.0 lbs) manipulator payload	9.5 kg (20.9 lbs) manipulator payload	10.0 kg (22.1 lbs) manipulator payload	1.4 kg (3.1 lbs) manip payload
M A X R E T R E I V A L	>100 lbs	>100 lbs	>100 lbs	>100 lbs
S U P P O R T E D A C C E S S O R I E S *	Factory-integrated accessories and sensors not yet available	Cathodic Protection Gauge Ultrasonic Thickness Gauge Flooded Member Gauge Water Quality Sonde NDT Cleaners Industrial Cutter 3 to 7-Function Manip MCM/UXO	Factory-integrated accessories and sensors not yet available	Cathodic Protection Gauge Ultrasonic Thickness Gauge Flooded Member Gauge Water Quality Sonde
W E B S I T E VideoRay.com	/Products/Mission-SpecialistWraith	/Products/Mission-SpecialistDefender	/Products/Mission-SpecialistAlly	/Products/Mission-SpecialistPro5

* Some sensor data does not display or record in Greensea IQ interface and requires an external PC; contact VideoRay for more information.

Accessory Compatibility Guide



Key

You can customize your VideoRay Mission Specialist vehicle with a variety of options, and we've provided an Accessory Compatibility chart to assist you. This chart compares the Defender, Ally, and Pro 5 models with various third-party products to help you choose compatible accessories and components for your needs.

-  Compatible with Factory or Component Integration
-  External PC and Accessory Software Required
-  DIY Compatibility
-  Not Recommended or Supported
-  UDEV Rules Software Configuration Required
-  Displayed in separate window on PC, cannot be viewed or recorded through GreenSea

ACCESSORY/MODULE	DEFENDER	ALLY	PRO 5	NOTES
CONFIGURATION OPTIONS	Mission Specialist controller, power, tether, and reel configurations			
WORKHORSE CONTROL CONSOLE				Our original topside configuration
WORKHORSE SPLASHPROOF CONTROLLER				IP65 rated and several configurations
PERFORMANCE TETHER (PPT)				Neutral Buoyancy - 635kg Breaking Strength 60 Mbps, O.D.: 9-10mm, TEMP: -40 - +80C Range: 400m ETDS Reel, 450m Loose
NEUTRAL TETHER				Neutral Buoyancy - 454kg Breaking Strength 60 Mbps, O.D.: 11.7mm, Temp: -40 - +80C Range: 300m ETDS Reel, 400m Loose
NEGATIVE TETHER				Neutral Buoyancy - 170kg Breaking Strength 60 Mbps, O.D.: 4.4mm, Temp: -40/+80C Range: 500m Expeditionary Reel
EXPEDITIONARY TETHER				Neutral Buoyancy - 170kg Breaking Strength 60 Mbps, O.D.: 4.4mm, Temp: -40/+80C Range: 500m Expeditionary Reel
FIBER OPTIC TETHER				Neutral Buoyancy - 300kg Breaking Strength 1 Gbps, 100 Mbps, O.D.: 4.5mm, Temp: -40/+80C Range: 500m Expeditionary Reel, 1.5km Fiber Reel or 2km+ Loose/Bag
HYBRID FIBER OPTIC TETHER				Negative Buoyancy - 726kg Breaking Strength 1 Gbps, 100 Mbps, O.D.: 12-17mm, Temp: -40/+80C Range: 500m VR Hybrid Reel or 1.25km Loose/Custom Reel
EXTENDED TDS REEL				Manual wind, retractable handle, custom slip ring, and hard-sided case
EXPEDITIONARY REEL				500 m of 4.4 mm Copper or 4.5 mm Fiber Optic tether, IP65, Removable handle, Level wind, Battery SOC meter
SUBSEA BATTERIES				Subsea ROV power in Li-Ion or NiMH and 300 or 1,000 meter ratings

ACCESSORY/MODULE	DEFENDER	ALLY	PRO 5	NOTES
MULTIBEAM SONAR	Transmits/receives multiple acoustic beams for detailed real-time seafloor and target imaging			
BLUEPRINT OCULUS M750D SONAR	✓	✓	✓	Forward-looking SONAR with 750kHz/ 1.2MHz frequencies at 120/40m range
BLUEPRINT OCULUS M1200D SONAR	✓ ⚠	✓	✓ ⚠	Forward-looking SONAR with 1.2MHz/ 2.1 MHz frequencies at 40/10m range
BLUEPRINT OCULUS M3000D SONAR	✓ ⚠	✓	✓ ⚠	Forward-looking SONAR with 1.2MHz/ 3.0 MHz frequencies at 30/5m range
TELEDYNE BLUEVIEW M900 SONAR	✓ ⚠	⚠	✓ ⚠	Forward-looking SONAR with 900kHz frequency at 100m range
TRITECH GEMINI 720/1200 SONAR	✓	⚠	✓	Forward-looking SONAR with 720kHz frequency at 120m range
SCANNING SONAR	Active sonar for real-time navigation and target imaging up to 360° around the ROV			
TRITECH MICRON DST SONAR	✓ ✕ ⚠	⚠	✓ ✕ ⚠	Scanning SONAR centered on 700kHz frequency up to 360° at 75m
MANIPULATORS	Performs tasks like cutting, sampling, rigging, and retrieving in multiple configurations			
REACH ALPHA DUAL FUNCTION MANIPULATOR	✓ ⚠	✓	✓	Rotating manipulator with several effector options
EDDYFI INUKTUN DUAL FUNCTION MANIPULATOR	✓	✓	✓ ⚠	Robust rotating manipulator with several quick-change effector options
STANDARD SINGLE FUNCTION MANIPULATOR	✓ ⚠	✓	✓	Our original manipulator with a standard effector
REACH ALPHA 3, 4, 5	✓	⚠	⚠	3, 4, and 5-function manipulator arms with several effector options and control software
REACH X 7-FUNCTION MANIPULATOR	✓	⚠	⚠	Seven-function single or dual AIS manipulator arms with several effector options and control software
POSITIONING & NAVIGATION	Sensors using various positioning technologies to track and maintain GNSS positioning			
BLUEPRINT SEATRAC LIGHTWEIGHT USBL	✓ ⚙	⚠ ⚙	✓ ⚙	High accuracy USBL acoustic positioning systems for real-time ROV and diver tracking, 300m depth rating
BLUEPRINT SEATRAC STANDARD USBL	✓ ⚙	⚠ ⚙	✓ ⚙	High accuracy USBL acoustic positioning systems for real-time ROV and diver tracking, 2,000m depth rating
TRITECH MICRONNAV USBL	✓	⚠	✓	Small ROV and diver support USBL acoustic positioning system, 750m depth rating
NORTEK DVL500	✓	⚠	⚠	Superior bottom tracking in a compact design, 175m range, 300m depth rating
WATER LINKED A50 DVL	⚠	✓	⚠	Compact DVL with outstanding performance, 50m range, 300m depth rating
TRITECH MICRON ECHOSOUNDER	✓ ⚠	⚠	⚠	Robust altimeter providing height off the seabed, 75m range, 750m depth rating

ACCESSORY/MODULE	DEFENDER	ALLY	PRO 5	NOTES
AUXILIARY CAMERAS	Add alternative views and perspectives of the ROV's surroundings			
ATLANTAS STORM IP CAMERA	✓	✗	✓	Plug-n-play fixed-focus HD camera with 720 or 1080p video stream and PIP display
SEAMOR SD EXTERNAL CAMERA	✓	⚠	✓	Standard definition positionable camera, 600m depth rating
GOPRO EXTERNAL CAMERA	✓	✓	✓	Integrated mount for housing GoPro HERO
INSPECTION AND NDT	Safely evaluate materials and infrastructure without damage or exposing divers to hazardous environments			
IMPACT SUBSEA FMD	✓	⚠	⚠	Flooded Member Detector for ROV/Diver use, 500 kHz standard, 400-600 kHz selectable, 100/200m cable options
CYCLONE CP SYSTEM	✓	⚠	✓	Contact, proximity, and cell-to-cell cathodic protection readings, 500m depth rating
CYGNUS UT GAUGE	✓	⚠	✓	Multiple echo mode for accurate thickness readings, 500m depth rating
EX02 WATER QUALITY SONDE	✓	⚠	✓	Multiparameter water quality sonde with 7 sensor ports, optional depth sensor, and battery compartment. 250m depth rating
LASER SCALER	✓	⚠	✓	Laser beams for accurate FOV measurements and reference
CAVITATION CLEANER	✓	⚠	⚠	Underwater cleaning for inspection and maintenance with minimum impact on coatings and surfaces
3D MODELING				
VOYIS DISCOVERY MONO	✓	⚠	⚠	4k smart camera integrated with Nova Mini LEDs that provides an ultra-wide FOV. 300m depth rating
VOYIS DISCOVERY STEREO	✓	⚠	⚠	4k stereo camera for real-time 3D reconstruction with EIVA VSLAM software. Up to 4,000m depth rating
VOYIS PERCEPTION SKID	✓	⚠	⚠	Pre-integrated skid that incorporates required sensors for accessible dynamic laser scanning and image mapping
VAARST SUBSLAM	✓	⚠	⚠	4k stereo imagery with live and post-processed photogrammetry with live stream capability for remote teams
CODA OCTOPUS	✓	⚠	⚠	Real-time 3d sonar solution specializing in underwater construction/inspection industries
MINE NEUTRALIZATION	Upon identification/classification, safely neutralize/destroy underwater mines or other UXO.			
ECS VIPER MDS	✓	⚠	⚠	Cost-effective unit for neutralization and disposal of mine/IED/UXO ordnance.
ZERO POINT TITAN	✓	⚠	⚠	12 gauge firing system for mine/IED/UXO disruption
SONARDYNE IT 6	✓	⚠	⚠	Wireless acoustic initiation transponder for use with other mine/IED/UXO neutralization devices
ATLANTAS TORNADO	✓	⚠	⚠	Through-tether firing device that enables safe, remote activation of electrical detonators and disruptors

MISSION SPECIALIST Controllers



VideoRay
AN AVS COMPANY

The Mission Specialist Workhorse Splashproof Controller (WSC) and Workhorse Control Console (WCC) are the topside power and communications controllers for all Mission Specialist ROV systems.

The Workhorse Splashproof Controller will protect your system from rough seas and poor weather conditions and uses the portable and intuitive Expeditionary controller with integrated detachable pods. When used in conjunction with Mission Specialist ROV Subsea Batteries and Expeditionary Reel, you achieve the smallest operational footprint combined with the most portable configuration and no need for a topside power source.

The Workhorse Control Console is our original topside command center with an integrated computer, a larger touchscreen display, and either our exclusive IP65 Industrial or Xbox Elite hand controller.

Both systems are protected with rugged hard-sided portable cases and have built-in safety features. Each control system can be used with either topside or subsea power.

Controller Options with Rugged Durability

CONTROLLERS



_Workhorse Splashproof Controller Specifications

[ELECTRICAL]

POWER REQUIREMENTS	Max 2.4 kW
POWER INPUT	Universal 90-260 VAC, 47-440Hz
POWER OUTPUT	2.4 kW max power (chassis) 2.3 kW max 400V (90% efficiency) 48 VDC (to HMI interface)

[PERFORMANCE]

COMPUTER	Dell Latitude 7230 Rugged Extreme
PROCESSOR	12th Gen Intel® Core™ i5-1240U, vPro®
MEMORY	16 GB: 2 × 8 GB, LPDDR5, 5200 MT/s onboard
STORAGE	500 GB SSD

[FEATURES]

PROTECTION	IP65 Controller & Console
DISPLAY	12" Touchscreen WVA FHD (1920×1200), 100% sRGB AntiGlare, Outdoor Viewable
VERSATILITY	Stand-alone via subsea power or combined with splashproof console via topside power
CONTROLLER	Removable pods, optional Industrial IP65, Xbox
CONTROLLER LxWxH	48.3 × 27.9 × 8.9 cm (19.0 x 11.0 x 3.5 in)
CONSOLE LxWxH	52.5 × 43.7 × 21.3 cm (20.7 × 17.2 × 8.4 in)
CONTROLLER WEIGHT	3.4 kg (7.5 lbs)
CONSOLE WEIGHT	12.2 kg (26.9 lbs)
CONSOLE CONNECTIONS	ROV 8-pin tether, Ethernet, USB, Fischer HMI, USB-A (2)



_Workhorse Control Console Specifications

[ELECTRICAL]

POWER REQUIREMENTS	Max 2.4 kW
POWER INPUT	Universal 90-260 VAC, 47-440Hz
POWER OUTPUT	2.4 kW max power (chassis) 2.3 kW max 400V (90% efficiency)

[PERFORMANCE]

COMPUTER	Onlogic ML100G-52 Industrial
PROCESSOR	8th generation Intel® Core™ i7-8665U, vPro® (4 Cores, up to 4.80 GHz)
MEMORY	16 GB SO-DIMM DDR4 3200
STORAGE	500 GB SSD

[FEATURES]

DISPLAY	19" Touchscreen, HD High Bright, dimmable
VERSATILITY	Compatible with either subsea or topside power source
CONTROLLER	Industrial IP65, optional Xbox Elite Pro
DIMENSIONS LxWxH	52.5 × 43.7 × 21.3 cm (20.7 × 17.2 × 8.4 in)
WEIGHT	15.2 kg (33.6 lbs)
CONSOLE CONNECTIONS	(1) ROV 8-pin tether (2) HDMI output (1) Ethernet port (2) 24 VDC port (1) Keyboard port (1) Controller port (5) USB-A hub port

Mission Specialist Tether Comparison Sheet

REQUIRES SUBSEA VEHICLE BATTERIES

FIBER OPTIC

Diameter: 4.5 mm (0.18 in)

Buoyancy: ~ Neutral (-2/-3kg/km seawater weight)

Breaking Strength: 300 kg (660 lb)

Recommended Maximum Length: 2 km (~6,500 ft)

Bandwidth: 1 Gbps, 100 Mbps (depending on vehicle module)

EXPEDITIONARY COPPER

Diameter: 4.5 mm (0.18 in)

Buoyancy: Neutral (-2/-3 kg/km seawater weight)

Breaking Strength: 170 kg (375 lb)

Recommended Maximum Length: 600 m (1,969 ft)

Bandwidth: 60 Mbps



HYBRID – FIBER / COPPER

Diameter: 12.0 – 17.0 mm (0.47 – 0.67 in)

Buoyancy: Negative (-8/-10 kg/km seawater weight)

Breaking Strength: 730 kg (1,600 lb)

Recommended Maximum Length: 600 m (1,969 ft) *

Bandwidth: 1 Gbps, 100 Mbps (depending on vehicle module)

**600 m (1,969 ft) maximum recommended length is a reel capacity restriction. For greater lengths up to 1.2 km (3937 ft), contact VideoRay*



PERFORMANCE / PPT - COPPER

Diameter: 9-10 mm (0.35-0.39 in)

Buoyancy: Neutral

Breaking Strength: 635 kg (1,400lb)

Recommended Maximum Length: 450 m (1,476 ft)

Bandwidth: 60 Mbps (Up to 300m)



NEUTRAL - COPPER

Diameter: 11.7 mm (0.46 in)

Buoyancy: Neutral

Breaking Strength: 457 kg (1,007 lb)

Recommended Maximum Length: 400 m (1,312 ft)

Bandwidth: 60 Mbps (Up to 300 m)



NEGATIVE - COPPER

Diameter: 7.62 mm (0.3 in)

Buoyancy: Negative

Breaking Strength: 457 kg (1,007 lb)

Recommended Maximum Length: 400 m (1,312 ft)

Bandwidth: 60 Mbps (Up to 300 m)



Standard minimum for bend radius at 20 times diameter per tether.

REQUIRES TOPSIDE POWER SUPPLY

Expeditionary TETHER REEL



The Expeditionary Tether Reel, used in conjunction with Mission Specialist Subsea Vehicle Batteries, provides unmatched mobility and a small operational footprint without sacrificing performance or mission range. No topside power source is necessary when operating in this configuration, allowing for unlimited ROV deployment options.

For use with Mission Specialist Thin Copper tether.

_Specifications

POWER	24VDC Output
OPERATING TEMP	-20°C – 60°C (-4°F – 140°F)
RATING	IP65
CASE	26.5 × 26.5 × 25.3 in (67.3 x 67.3 × 64.1 cm)
REEL	18.0 × 18.3 × 18.4 in (45.7 × 46.5 x 46.7 cm)
TOTAL WEIGHT	62.4 lbs (28.3 kg)
BATTERIES	2590 (2) Li-ion or NiMH



_Key Features

- > 500m of 4.4 mm Thin Copper tether with protective sheath
- > Removable manual crank handle
- > Level wind carriage
- > Battery state of charge display
- > Auxiliary shore power cable
- > Watertight/crushproof hard-sided case

_Connections

RJ45 ETHERNET	Socket
USB-A	Socket
TOPSIDE USBL	Impulse MCBH-5-MP
HMI	Fischer UltiMate 12-pin
COPPER TETHER	Socket 8-pin to ROV



Mission Specialist Defender Spares Kit

The **Mission Specialist Defender Spares Kit** includes a complete set of all Mission Specialist Defender modules. This spares kit is an excellent backup to have for offshore missions, missions where shipping parts might be difficult, or simply for easy on-the-go changes that need to be made. Each part is labeled with part name and number, and VideoRay's support contact information, address, and website is included at the bottom. All modules are preprogrammed to shorten installation. The kit is delivered in a water tight case.



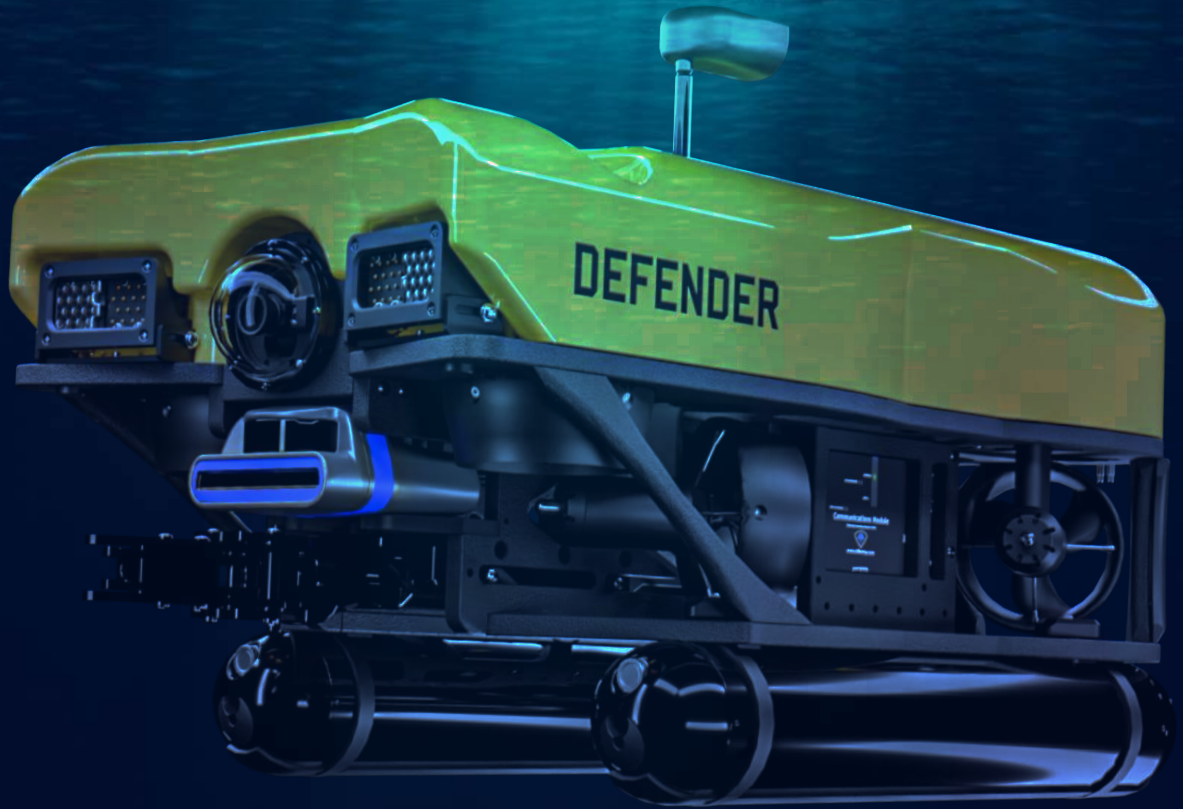
Part # 71532

What's inside?

- | | | |
|-----------|--|--------------|
| A. | (7) Preprogrammed Thruster Modules | Part # 70503 |
| B. | (2) LED Modules | Part # 70023 |
| C. | (1) Attitude & Heading Reference System Module | Part # 70273 |
| D. | (1) HD Camera Module | Part # 70044 |
| E. | (1) Communications Module | Part # 70191 |
| F. | (1) Hardware and Fastener Kit | Part # 71016 |
| G. | (1) Power Module | Part # 70160 |



MISSION SPECIALIST Subsea Batteries



Mission Specialist Subsea Batteries deliver power to Mission Specialist Wraith, Defender, and Ally ROVs without the need for a topside power source. Available with either Nickel Metal Hydride or Lithium-Ion chemistries, the Mission Specialist Subsea Vehicle Battery kit is the perfect accessory for missions where topside power is not available or for mission depths that exceed tether power transmission abilities.

When combined with the lightweight Expeditionary Splashproof Controller and Expeditionary Tether Reel, the system occupies the smallest operational footprint.

_Specifications

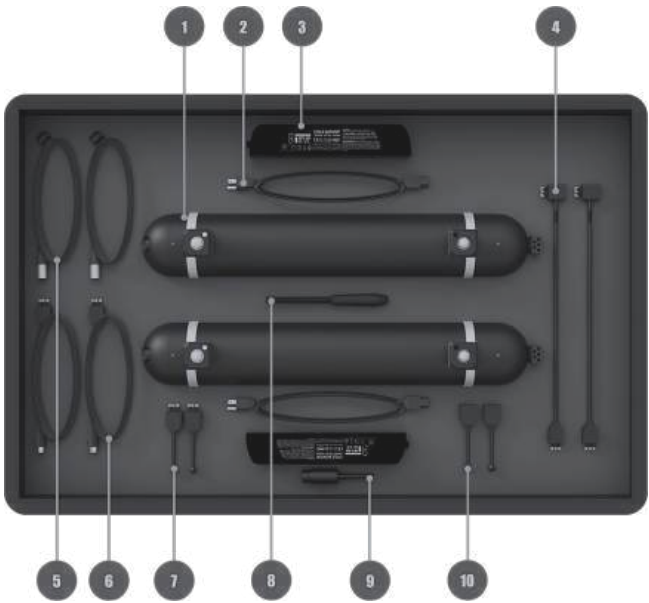
[LI-ION]

CHEMISTRY	Lithium-ion
OUTPUT VOLTAGE	Nominal Regulated: 48VDC
MAX CURRENT	21 A sustained per battery
NOMINAL CAPACITY	404 Whr per battery
DEPTH RATING	300 m or 1000 m (984 ft or 3,280 ft)
DIMENSIONS	561 mm (22.08 in) L x 89 mm (3.50 in) OD
WEIGHT DRY	300 m: 4.0 kg (8.8 lb), 1,000 m: 4.8 kg (10.6 lb)
WEIGHT IN WATER	300 m: 0.6 kg (1.3 lb), 1,000 m: 1.2 kg (2.7 lb)
CYCLE LIFE	500 cycles (to 80% capacity)

[NIMH]

CHEMISTRY	Nickel-Metal Hydride
OUTPUT VOLTAGE	Nominal Regulated: 48VDC
MAX CURRENT	21 A peak/11 A sustained per battery
NOMINAL CAPACITY	235 Whr per battery
DEPTH RATING	300 m or 1000 m (984 ft or 3,280 ft)
DIMENSIONS	561 mm (22.08 in) L x 89 mm (3.50 in) OD
WEIGHT DRY	300 m: 4.5 kg (9.9 lb), 1,000 m: 5.3 kg (11.7 lb)
WEIGHT IN WATER	300 m: 1.2 kg (2.6 lb), 1,000 m: 1.8 kg (4.0 lb)
CYCLE LIFE	2,100 cycles (to 85% capacity)

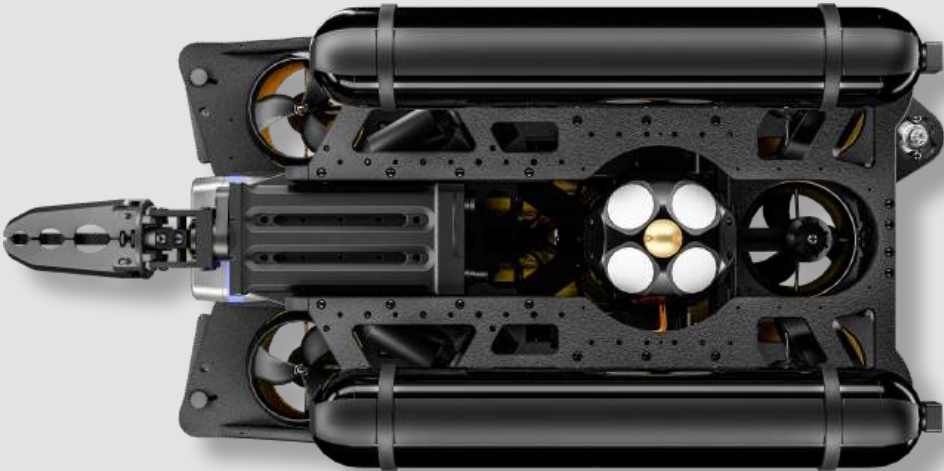
[SUBSEA BATTERY KIT CONTENTS]



1. Subsea Battery, Li-ion or NiMH (2)
2. Charger A/C Power Cord (2)
3. Battery Charger (2)
4. 5-Pin F/M to 5-Pin Male Power Cable (2)
5. Charger Port to XLR Charging Cable (2)
6. XLR to 5-Pin Male Charging Cable (2)
7. 5-Pin Male Dummy Plug (2)
8. Power Wand
9. 8-Pin Tether Dummy Plug w/ Cap
10. 5-Pin Female Dummy Plug (2)

_Key Features

- > Safety Pressure Relief Valve @8-12 psi
- > Safety Secondary Pressure Relief Shear Pins @20-50 psi (varies with temp/depth)
- > Internal end cap connecting safety leash
- > Toolless mounting
- > Smart diagnostics and monitoring
- > Watertight rolling transit/storage case
- > External smart charger included



Ultra 4k

SMART
CAMERA



VideoRay
AN AVS COMPANY

Mission Specialist's latest release in camera technology combines best-in-class image sensing with NVIDIA's intelligent Orin NX processor. With 12 Megapixel resolution and a 180 vertical/150 horizontal-degree field of view, customers can see more of their surroundings at a higher resolution than ever before.

By providing operators with access to both vehicle telemetry and imaging data through our on-board API, we are enabling the next generation of autonomy in a form factor that works across all Mission Specialist ROV systems.

Ultra 4k Smart Camera

ULTRA 4K SMART CAMERA

_Specifications

[PROCESSOR]

PLATFORM	NVIDIA Jetson Orin NX
STORAGE	1 TB SSD

[ELECTRICAL]

INPUT VOLTAGE	35V-12V
POWER	15 Watts
VIDEO OUTPUT	RTSP over Ethernet
CONNECTOR	9-Pin Subconn
CONTROL METHOD	Web Interface

[OPTICAL]

SENSOR	1/2.3"
RESOLUTION	4056 (V) x 3040 (H) pixels (max)
PIXEL SIZE	1.55µm x 1.55µm
ACTIVE PIXELS	12.33mp
LENS	Fisheye
VIEW IN WATER	Vertical: 180, Horizontal: 150
PAN/TILT/ZOOM	Digital

[MECHANICAL]

HOUSING/WINDOW	Anodized Aluminum / BK7 Glass
DIMENSIONS	L: 154 mm D: 76 mm (L: 6.062" D: 3.003")
WEIGHT: IN AIR	885 g (1.951 lbs)
IN SALT/FRESH WATER	523 g / 532 g (1.152 lbs / 1.172 lbs)

[ENVIRONMENTAL]

DEPTH RATING	2,000 m (6,562 ft)
STORAGE TEMP	-20° to 60° C (-4° to 140° F)
WATER TEMP	-5° to 50° C (23° to 122° F)



_Key Features

- > Digital Pan, Tilt, and Zoom
- > Auto Exposure mapped to PTZ
- > Real-Time color correction
- > Internal pressure/temperature readouts
- > 4056 (V) x 3040 (H) recording on camera
- > Manual video balance adjustments
- > 4056 x 3040 snapshot support through Greensea UI
- > 4056 x 3040 video stream topside
- > Gray Level Grouping image enhancement
- > Displays in Greensea UI at 1620 x 1080 @ 25fps



CYGNUS UT GAUGE

The Cygnus ROV Mountable thickness gauge has been specially designed to be mounted onto small observation ROVs with or without a manipulator facility. Built in conjunction with VideoRay, this subsea thickness gauge will allow the operator to carry out an ultrasonic thickness measurement in areas that have previously been unfeasible using larger ROVs or divers.

KEY FEATURES

- Multiple-Echo mode for accurate, through-coat measurements as specified by Classification Societies.
- Supplied with CygLink software to display and process measurements on a computer at the surface.
- Easy calibration at the surface via CygLink software or topside Repeater (TSR) unit.
- Optional Topside Repeater (TSR) unit allowing readings to be displayed remotely.
- Optional purpose-built ROV probe handlers for optimal alignment.

SPECIFICATIONS

MATERIALS	Velocities between 0.0400 and 0.3998 in/microsec (1,000 and 9,995 m/s)
MEASUREMENT RANGE IN STEEL	0.040 – 10 inch (1 – 250 mm) depending on selected probe and configuration, material and temperature
ACCURACY	±0.004 inch (±0.1 mm) or 0.1% of thickness measurement, whichever is greatest, when calibrated in accordance with Cygnus Instruments calibration procedure
RESOLUTION	0.005 or 0.002 inch (selectable) (0.1 or 0.05 mm)
PROBE OPTIONS	Single crystal transducers
POWER	7.5 – 30 V DC @ 150 mA (max)
DISPLAY	PC or laptop
SIZE	6.3 x 2.4 inch (160 x 62 mm)
WEIGHT IN AIR	19.4 oz (550 g)
OPERATING TEMP	14°F to 122°F (-10°C to +50°C)
COMMUNICATIONS	Serial converted to ethernet



MISSION SPECIALIST Navigation



The Mission Specialist Navigation Package integrates a Doppler Velocity Log (DVL), which allows for autonomous control and maintaining the ROV's position underwater with superior bottom tracking and range. Defender systems include a GNSS receiver, which corrects any position drift caused by environmental/operational factors whenever the ROV is on the surface.

The Greensea IQ software upgrade seamlessly integrates these sensors, offering station keeping/dynamic positioning, mission planning, waypoints, markers, and data export. An Ultra Short Baseline (USBL) system can be added for deployments beyond the DVL's range.

_DVL Specifications - Defender

LONG-TERM ACCURACY	$\pm 0.1\%$ / ± 0.1 cm/s
OPERATING FREQUENCY	500 kHz
BEAM ANGLE	25°
CONFIGURATION	4-beam Janus array convex transducer
BOTTOM TRACK MIN/MAX ⁽¹⁾	~0.3 - 100 m (1 - 328 ft) ⁽²⁾
DEPTH RATING	300 m (984 ft), 6 km optional
DRY WEIGHT	1.7 kg (3.8 lbs)
WEIGHT IN WATER	0.3 kg (2.2 lbs)

1. Working altitude varies with conditions. 2. 0.1 - 175m manufacturer rating when not mounted.



_DVL Specifications - Ally

LONG-TERM ACCURACY	$\pm 1.01\%$
OPERATING FREQUENCY	1 MHz
BEAM ANGLE	22.5°
CONFIGURATION	4-beam Janus array convex transducer
ALTITUDE MIN/MAX	0.05 - 50 m (2 in - 164 ft)
DEPTH RATING	300 m (984 ft), 600 m optional
DRY WEIGHT	0.17 kg (0.4 lbs)
WEIGHT IN WATER	0.105 kg (0.2 lbs)



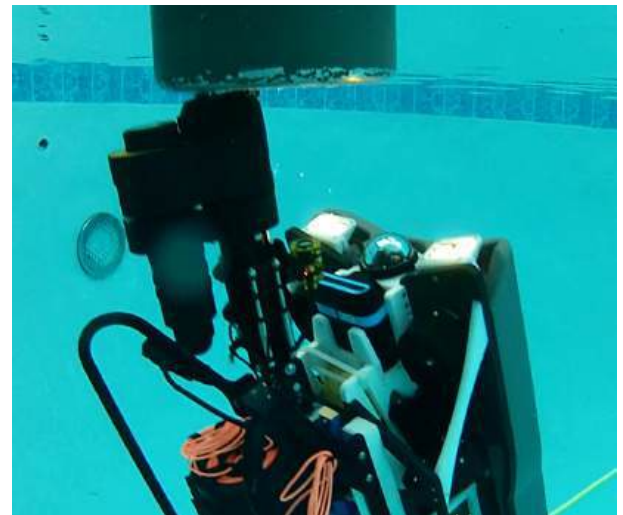
Accessory Data Sheet

MSS Viper

The VideoRay Mission Specialist Series Viper is a modular system that fits to the Defender. It is effective against mines, bombs, and historic ordnance and attaches to the target using fully patented NAU. The MSS Viper is a safe and cost-effective method to render ordnance safe or unsafe. Neutralism or high order detonation is achieved by one 50mm Dia self-fill shaped charge disruptor. This accessory is hydrodynamic, buoyancy compensated, and non-magnetic.

Specifications

Dimensions (LxWxH)	55x25x40cm
Weight in air	approx. 10kg
Materials	Rigid plastic, Aluminum
Operational Depth	0-100m
Detonation	Nonel
Initiation Method	Shocktube, RF-Coded, or Manual Initiation
Viper Components	Disruptor and NAU





iMPAQ Technologies

ePowering Subsea Equipment Globally

Subsea Motors, HPUs & Electric Tooling

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25+ years of subsea engineering expertise

OFFICIAL REPRESENTATIVE

Brazil & South America

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ABOUT IMPAQ TECHNOLOGIES

ePOWERING SUBSEA EQUIPMENT

For over 25 years, IMPAQ Technologies has been a trusted name in subsea solutions, building a legacy as specialists in custom-engineered subsea motors and hydraulic power units (HPUs). Based in Aberdeen, Scotland — next to Europe's energy capital — IMPAQ is ISO 9001 certified and serves the oil & gas, renewable energy, nuclear, defence, and oceanographic industries.

While their expertise in subsea motors and HPUs remains unmatched, IMPAQ is now pioneering the electrification of ROV and diver tooling — offering eco-friendly, zero-pollution alternatives to traditional hydraulic systems.

IMPAQ's PowerPAQ AC motors deliver up to 500 kW with voltages reaching 4,160 Vac, custom-designed to operate reliably in the harshest subsea conditions, down to full ocean depths. All products are built and tested in the UK. Deeplynx Solutions is the exclusive representative for Brazil and South America.

PowerPAQ

Motors & HPUs

DivePAQ

Electric Diver Tools

RovPAQ

Electric ROV Tools

BatteryPAQ

Subsea Battery Packs

Compensators

Pressure Systems

Subsea Switch

Magnetic Control



IT-002 – RovPAQ Mini Cleaner



Key Features

The **RovPAQ Mini Cleaner** is a compact DC electric underwater cleaning tool designed for integration with compact observation-class ROVs. The mini cleaner provides controlled torque and speed for marine growth removal on submerged structures.

- **Flexible Power Supply Options** — Operates via onboard ROV power or independent battery pack for versatile deployment. No hydraulics required.
- **Universal Fit** — Easily integrates with any ROV using iMPAQ custom mounting brackets.
- **Integrated Control & Monitoring** — Includes a user-friendly controller with an OLED screen displaying live current, temperature, RPM, voltage, and fault status.



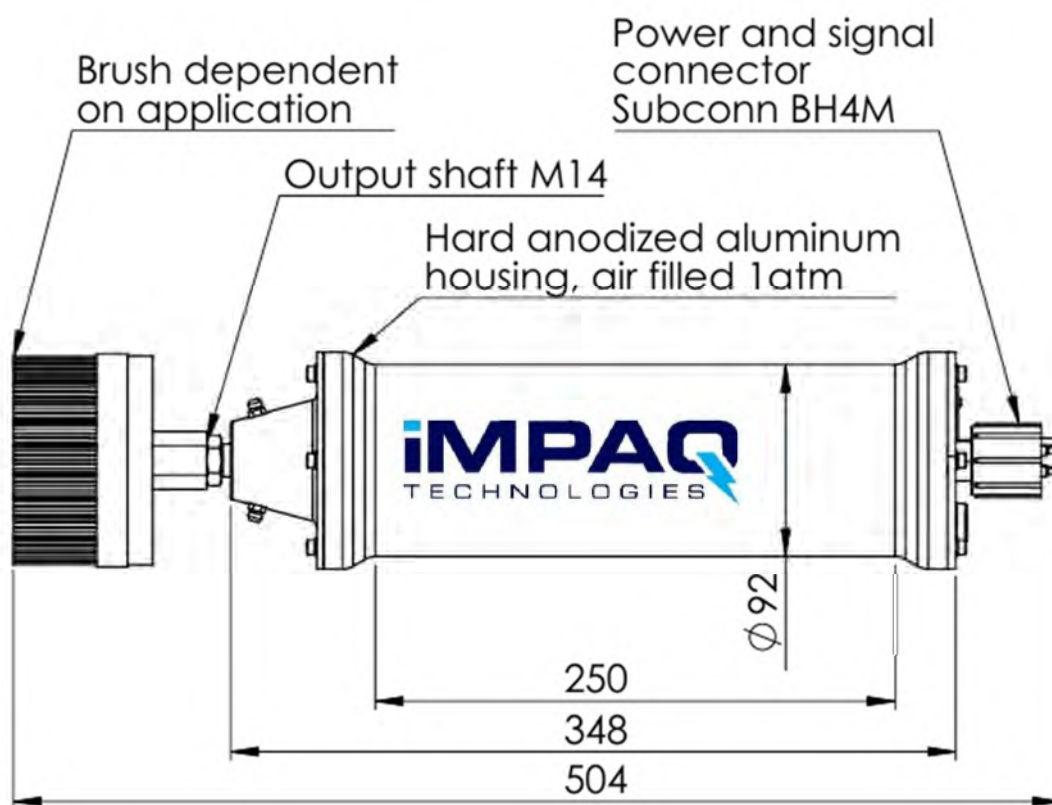
ePowering subsea equipment

 sales@impaq-technologies.com

 +44 (0)1330 860045

IT-002 – RovPAQ Mini Cleaner Technical Specifications

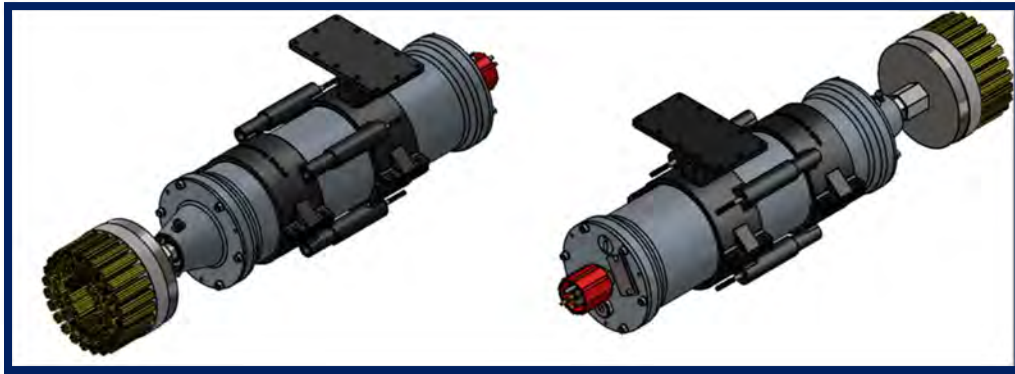
Parameter	Specification
Supply Voltage	24VDC
Power Consumption	220W
Depth rating	300m
Output Speed	0–700 RPM
Communication	RS485 (115200 Baud Default)
Spindle Size	M14
Dimensions	Ø104 mm × 490 mm long
Weight in Air	6 kg
Weight in Water	4 kg
Display	OLED – real-time system monitoring
Brush Compatibility	Nylon or twist-knot (up to 100 mm)





IT-002 – RovPAQ Mini Cleaner Mounting Options

Reactive Mounting Bracket



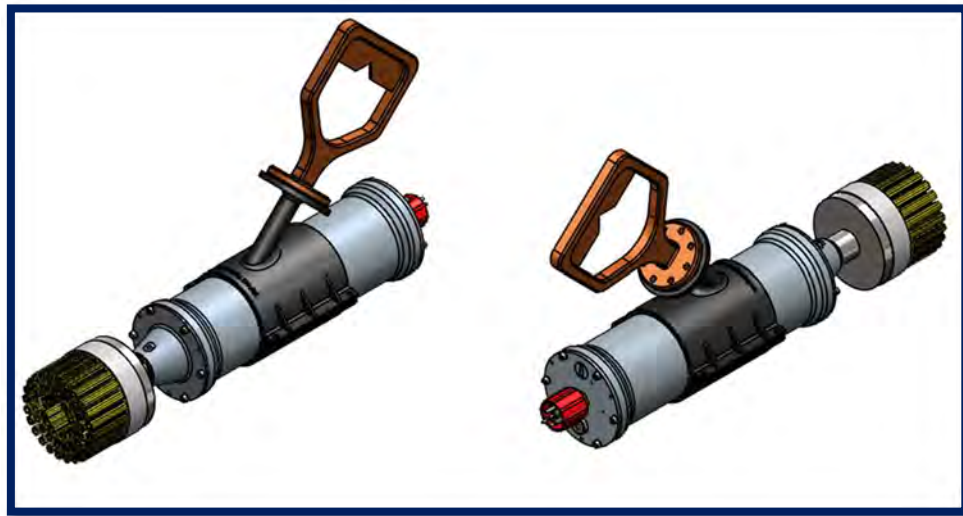
A reactive, spring-loaded mounting bracket securely holds the RovPAQ Mini Cleaner while absorbing impacts to reduce stress on the tool and its mounting points.

Standard Mounting Bracket



The standard mounting bracket provides a secure mounting point to safely attach and hold a tool in place on a vehicle during transport and operation.

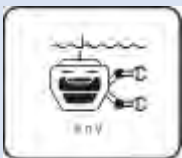
Manipulator Mounting Bracket



The manipulator mounting bracket has been designed to allow the RovPAQ Mini Cleaner to be used with a manipulator. The bracket includes an adaptor plate that allows a fishtail handle to be securely attached to the body of the tool.

FEATURES & BENEFITS

- Fully electric, no high-pressure hydraulic fluid
- Skid mountable to multiple ROV models
- Fully configurable power supply options
- Eliminates hydraulic consumables – no hydraulic fluid
- Safer for the environment
- Available in 1.5kW and 3kW configurations
- Expands range of work operations
- Cost saving = reduced operating cost



RovPAQ



RovPAQ 1.5kW Skid Mounted on a Valor ROV

RovPAQ is a configurable skid mounted electric tooling solution for multiple models of ROV's to enhance their capabilities.

RovPAQ can be adapted to work with any ROV's currently operating.

It is compact, electric, powerful, fully controllable by the user and comes in two different configurations – 1.5kW and 3kW with others available on request. Comes complete with a topside controller offering full proportional control for the electric drive.

TOOLING OPTIONS

- Cleaning brush (various sizes available)



- Flexi clean mini attachment



- Twist-knot brush (various sizes available)





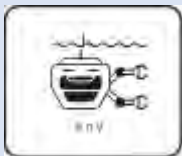
TOOL	POWER	OUTPUT	WEIGHT
Cleaner V1	1.5kW	370 rpm 40Nm	Air 12.5Kg Water 8.4Kg
Cleaner V2	3kW	490 rpm 60Nm	Air 13Kg Water 9Kg

POWER OPTIONS

- ⚡ Surface power supply from vessel
- ⚡ ROV power supply (assuming sufficient onboard power is available)
- ⚡ BatteryPAQ Li-ion battery pod power supply (20Ah or 60Ah available)

All power options have a subsea pod currently rated at 300m water depth. All pods are designed to meet current IMCA regulations. Pods to operate at lower depths are available on request. We can supply the pods if the customer does not have this as part of their current configuration on their vehicle.

To find out more about these innovative solutions please contact us at sales@impaq-technologies.com or alternatively call us on +44(0)1330 860045.

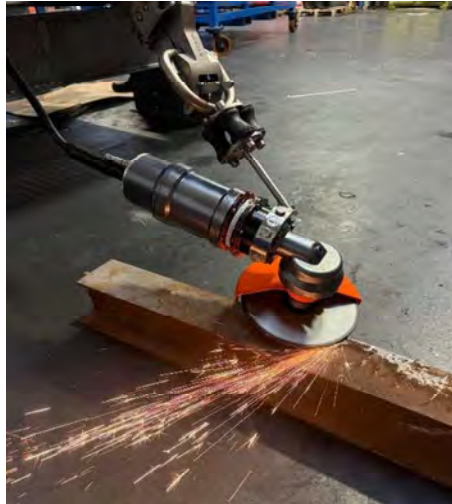


SPECIFICATIONS

- ⚡ Standard Supply Voltage: 72 VDC
- ⚡ Output Speed: 0 – 2500 RPM
- ⚡ Spindle Size: M14
- ⚡ Weight In Air: 10 kg
- ⚡ Weight In Water: 6 kg
- ⚡ Offers multiple electric tooling options to users.
- ⚡ Expands range of work operations.
- ⚡ Can be adapted to be used with any ROV currently in service that has manipulator payload capacity.



RovPAQ



RovPAQ Grinder/Cutter/Cleaner – Electric Underwater Tool

The **RovPAQ Grinder/Cutter/Cleaner** is a fully electric, next generation, high-performance tool designed for efficient underwater grinding, cutting and cleaning operations.

Engineered for durability, it ensures efficient operations for multiple subsea applications. Configured to operate with up to 9"/230mm cutting and grinding disks along with 6"/150mm cleaning brushes, the tool has been designed to offer users a powerful alternative to the hydraulic tools currently available in the market.

Key Features:

- ⚡ **Flexible Power Options:** Operates via onboard ROV power or via our BatteryPAQ battery pods for versatile deployment capabilities.
- ⚡ **IMPAQ Power Switch** – seamlessly steps down available DC bus voltage to power the electric RovPAQ Grinder/Cutter/Cleaner.
- ⚡ **User-Friendly Control:** Enables precise and powerful operation for professional maintenance teams.
- ⚡ **Efficient & Durable:** Designed for long-term reliability, ensuring effective grinding, cutting and cleaning operations.
- ⚡ **RovPAQ Topside Controller:** OLED display offers real time information on current, temperature, RPM, voltage and fault indication.
- ⚡ **Fully Electric Tooling System:** No requirement for hydraulic lines to operate this tool so no chance of contaminating the ocean.

Enhance Your Underwater Operations

Optimize your underwater grinding, cutting and cleaning operations with the fully electric **RovPAQ Grinder/Cutter/Cleaner**—your go-to solution for professional maintenance.

✉ **Get in Touch:** For more details, contact us at sales@impaq-technologies.com or call +44(0)1330 860045.

4KW ELECTRIC TOOLING MOTOR

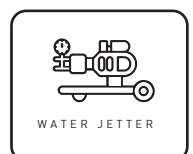
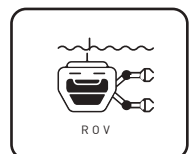
The AS02070 Motor is generally supplied with a water jetting pump which is used to assist cleaning tasks needed on many subsea structures before intervention.

The motor can also be fitted with a variety of hydraulic pumps to suit client requirements.



FEATURES AND BENEFITS

- ⚡ 4kw – 200kw
- ⚡ 4-pole 1800rpm nominal speed
- ⚡ Full ocean depth & harsh environmental operation
- ⚡ Anodised aluminium and stainless-steel options
- ⚡ Option for customer bespoke designs



UNDERWATER PRESSURE JETTER

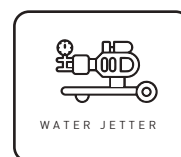
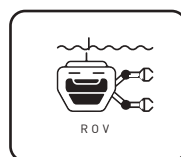


FEATURES AND BENEFITS

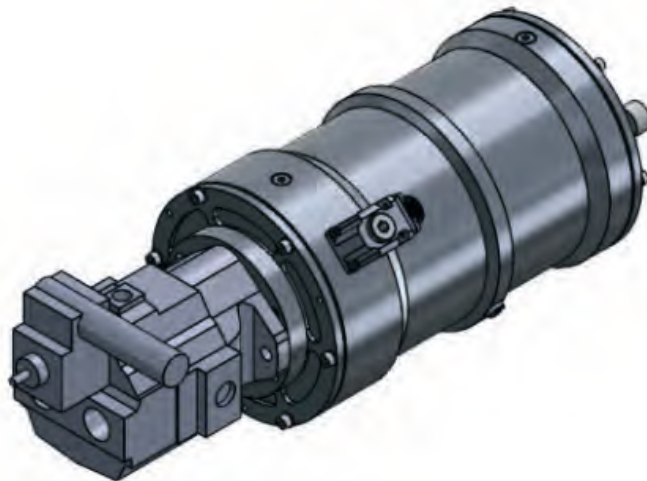
- ⚡ 150 bar at 12 lpm capability
- ⚡ 440 & 660 Vac options
- ⚡ Full ocean depth & harsh environmental operation
- ⚡ Anodised aluminium body

SPECIFICATION

APPROXIMATE PRODUCT SPECIFICATIONS			
Pressure	150 Bar	Flow	12 LPM
Voltage	440 or 660 Vac 3ph	Frequency	60 Hz
Weight in air	37.5 kg	Weight in water	30 kg
Water pump output port	3/8" BSPP Female	Water pump inlet port	1/2" BSPP female
Pump crank case port	3/8" BSPP Female	Motor compensation ports	2 x 1/4" BSPP 4 x 1/8" BSPP
Motor finish	Aluminum 6082-T6 hard anodized	Length	500mm
Width	240mm	Height	200mm



VARIABLE DISPLACEMENT PUMP HPU



HPU APPROXIMATE PRODUCT SPECIFICATIONS

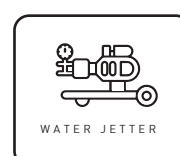
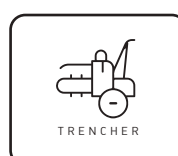
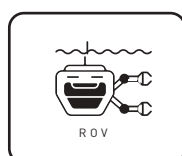
Weight in air	39Kg
Weight in water	31Kg

MOTOR APPROXIMATE PRODUCT SPECIFICATIONS

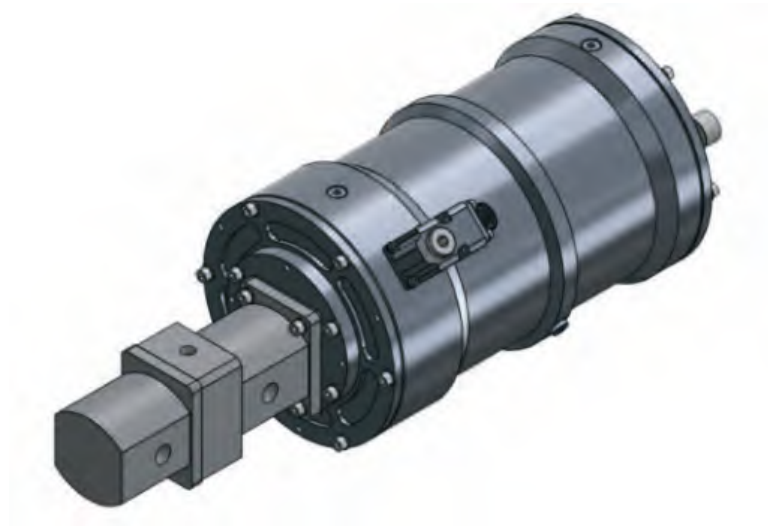
660Vac 3ph 60Hz	Current 5.5A approx.	Comp port 1/4" BSP
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PUMPS APPROXIMATE PRODUCT SPECIFICATIONS

Pressure 140 bar @ flow 16lpm approx.	Pressure 210 bar @ flow 10 lpm approx.	Rear inlet outlet SAE straight thread 1 1/16-12Un-2B
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TANDEM GEAR PUMP HPU



HPU APPROXIMATE PRODUCT SPECIFICATIONS

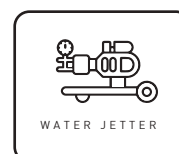
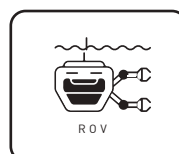
Weight in air	33Kg
Weight in water	25Kg

MOTOR APPROXIMATE PRODUCT SPECIFICATIONS

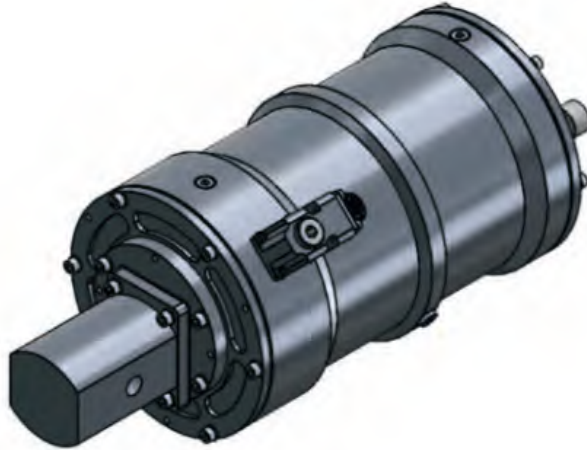
660Vac 3ph 60Hz	Comp port 1/4" BSP
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PUMPS APPROXIMATE PRODUCT SPECIFICATIONS

Pressure 140 bar	Main flow 12 lpm approx.	Aux flow 3 lpm approx.
Suction port 3/8" BSP	Delivery port 3/8"	BSP Comp port 1/4" BSP



GEAR PUMP HPU



HPU APPROXIMATE PRODUCT SPECIFICATIONS

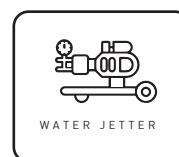
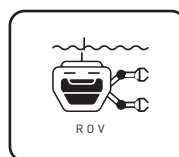
Weight in air	33Kg
Weight in water	25Kg

MOTOR APPROXIMATE PRODUCT SPECIFICATIONS

660Vac 3ph 60Hz	Comp port 1/4" BSP
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PUMPS APPROXIMATE PRODUCT SPECIFICATIONS

Pressure 140 bar	Flow 16 lpm approx.
Suction port 3/8" BSP	Delivery port 3/8"



IT-004 – 0.5L Aluminium Compensator

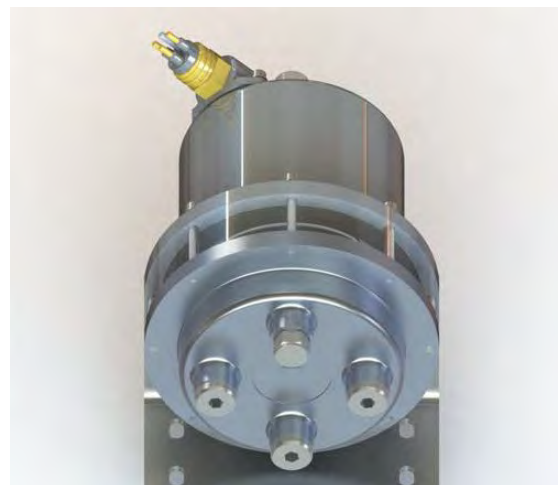


The **iMPAQ 0.5L Aluminium Pressure Compensator** is manufactured from hard anodized aluminium engineered to ensure the fluid system remains at a pressure higher than ambient, regardless of water depth.

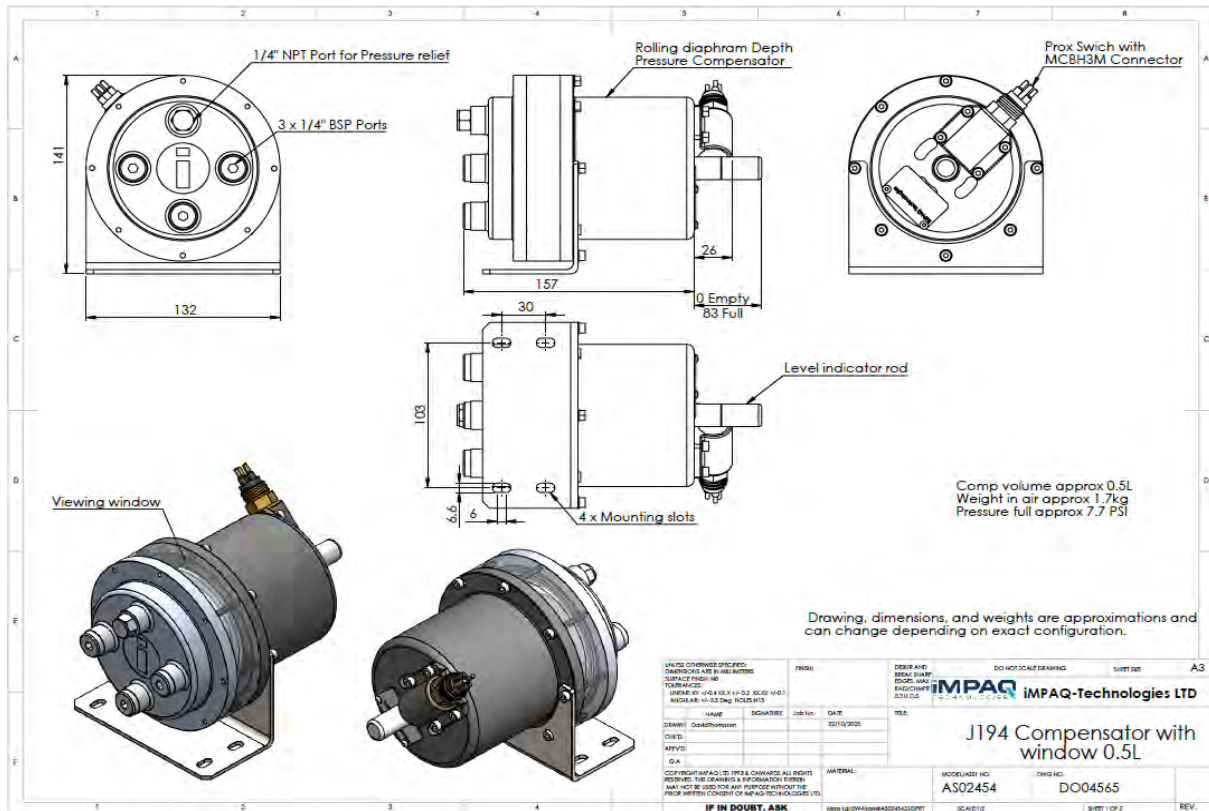
The compensator has been designed to fit onto heavy duty equipment and withstand harsh conditions up to 6,000m water depth and is suitable for use with Panolin upon request.

Key Features

- **Viewing window** — A transparent window allows inspection of the stored liquid.
- **Weight in air** – 1.2kg
- **Monitoring** — Linear Variable Differential Transformer (LVDT) or low-level sensors available. 4 – 20mA.
- **Pressure range** — Tested up to 20 psi.
- **Safety** — Supplied with SS pressure relief valves as standard.



Standard General Arrangement:



Additional Information:

Ports:

Ports can be customized to meet customer requirements for size and type.

Position Sensing:

Compensators can be supplied with a proximity switch or position transducer as required by client.

Diaphragms:

Our compensators are supplied with nitrile diaphragms as standard; other material types can be supplied on request.



Get in Touch: For more details, or to discuss how we can support your project contact us at sales@impaq-technologies.com or call +44(0)1330 860045.



IT-007 – RovPAQ Grinder



The RovPAQ grinder is an underwater grinding tool designed for cutting and grinding operations. With greater performance than the GR29, the RovPAQ grinder provides ROV equipment with the capabilities of existing hydraulic equipment — without the need for downlines to supply the tool.

Key Features

- **Fully electric** – No additional downlines required
- **diamond cutting discs** - Ø230 – 180 mm
- **abrasive discs** - Ø230 – 180 mm
- **User friendly** – Simple on/off control
- **Various Power supply options** - Can be powered using a battery pack or ROV power
- **Manipulator friendly** – fishtail addon available on request



IT-003 – Stainless Steel Compensator



The **iMPAQ St/St Compensator** is a stainless steel compensator engineered to ensure the fluid system remains at a pressure higher than ambient, regardless of water depth.

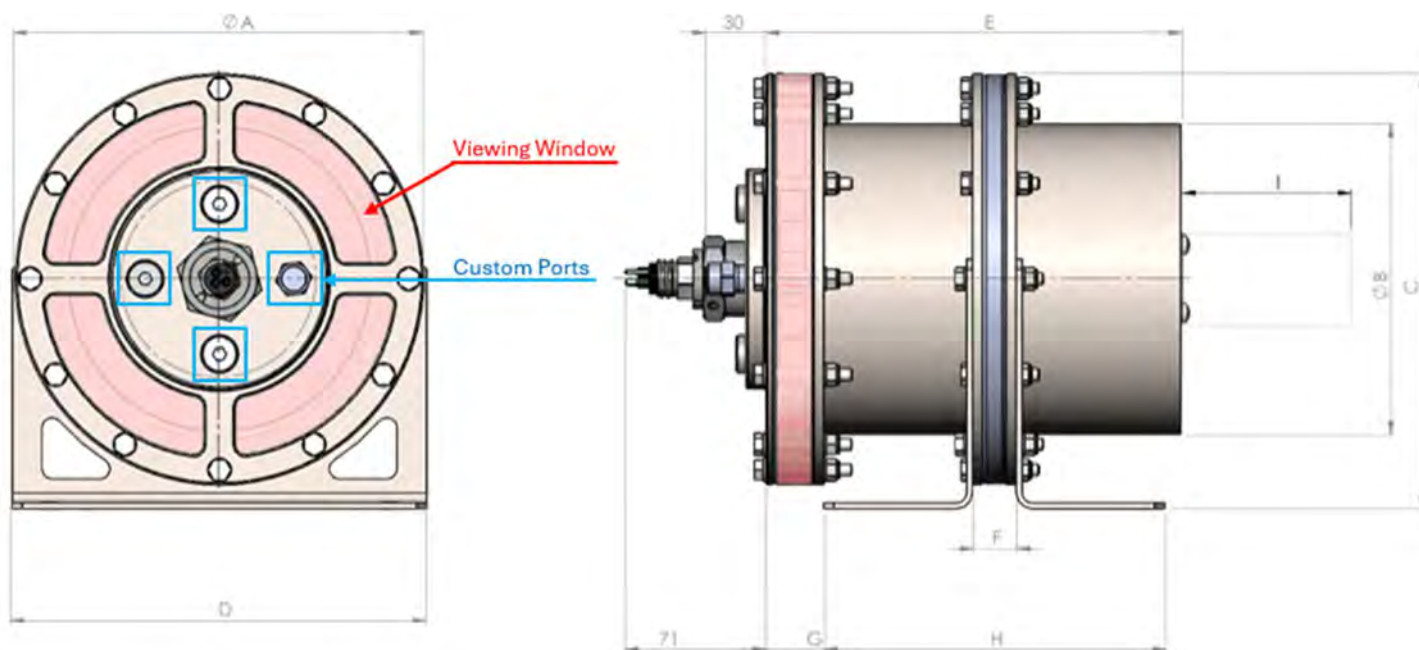
The compensator has been designed to fit onto heavy duty equipment and withstand harsh conditions up to 6,000m depth and is suitable for use with Panolin upon request.

Key Features

- **Viewing window** — A transparent window allows inspection of the stored liquid.
- **Capacity** — Models ranging from 1.2 L to 10L.
- **Monitoring** — Linear Variable Differential Transformer (LVDT) or low-level sensors available. 4 – 20mA / 0 – 5V sensing.
- **Pressure range** — Tested up to 20 psi.
- **Safety** — Supplied with pressure relief valves as standard.
- **Ports** — Custom ports available



IT-003 – Stainless Steel Compensator Technical information



Capacity	ø A	ø B	C	D	E	F	G	H	I	Wt (kg) Air/water	Ports
1.2L	206	156	218	209	210	22	29	172	85	9/6	2x 3/8"BSPP + 1x 1/4"BSPP + 1x 1/4"NPT
2.4L	206	156	218	209	271	83	29	233	144	10.5/6.6	2x 3/8"BSPP + 1x 1/4"BSPP + 1x 1/4"NPT
3.0L	257	203	269	257	233	49	30	173	106	10	3x 1/4"BSPP + 1x 1/4"NPT
5.0L	257	203	269	257	297	109	30	237	168	11.4	3x 1/4"BSPP + 1x 1/4"NPT
10L	300	245	310	250	428	83	110	235	224	30/18	2x 1/2"BSPP + 1x 1/4"BSPP + 1x 1/4"NPT

*All Dimensions are in mm. Weights represent the weight of the units in air and in water.

Order code example: 2.4/SS/LVDT/A/20.

2.4l stainless steel compensator with feet, LVDT and a 20PSI relief valve.

Capacity/ Material / Sensor / Mounting / Relief Valve

Capacity: 1.2, 2.4, 3, 5,10

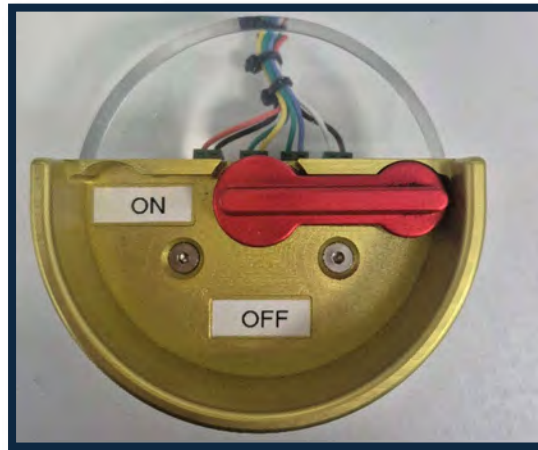
Material: SS / AL

Sensor: LVDT / LS (low sensor) / B (Blanked)

Mounting: A (Feet) / B (No feet)

Relief Valve: 20 PSI.

IT-006 – Underwater Switch



The **iMPAQ Technologies Under water Switch** is a robust, non-contact magnetic lever switch designed for extreme underwater, subsea, and harsh industrial environments, allowing reliable three-position control without penetrating or drilling through thick non-ferrous barriers.

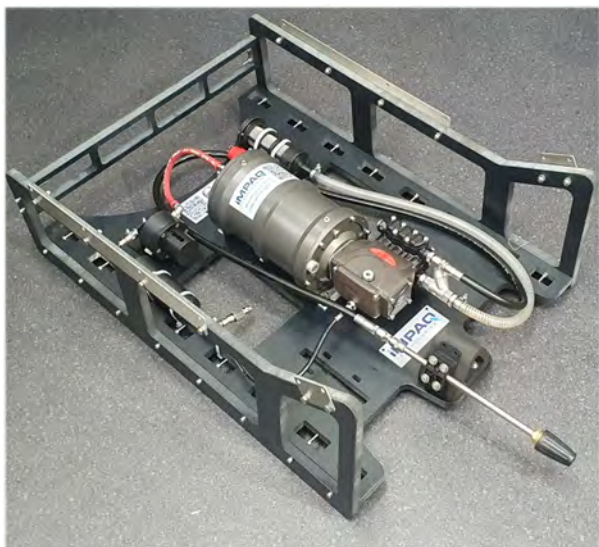
Key Features

- Powered using 7–28V_{DC}.
- Switches designed for use up to 280V_{AC} and 125V_{DC}
- Operates through up to 25mm of non-ferrous materials (e.g., stainless steel, aluminium, glass, Perspex, wood) using magnetic triggering—no drilling required, preserving enclosure integrity
- Built with 6061 hard anodized aluminium housing; electronics conformal coated (potting optional) for moisture/dust protection
- Switch outputs via three 2-pin sockets. The three-position lever allows controls over three outputs.



PowerPAQ

4kW Electric Water Jetter Skid



Features and Benefits

- 14 lpm at 160 bar capability.
- 440 & 660 Vac supply options
- Full ocean depth & harsh environmental operation
- Anodised aluminium body
- Available to rent or buy
- Supplied with baseplate, hoses, nozzle, compensators and filter unit

Approximate Product Specifications

Pressure	160 Bar	Flow	14 LPM
Voltage	440 or 660 Vac 3ph	Frequency	60 Hz
Weight in air	37.5 kg	Weight in water	30 kg
Water pump output	3/8" BSPP Female	Water pump inlet	1/2" BSPP female
Pump crank case port	3/8" BSPP Female	Motor compensation	(2) 1/4" & (4) 1/8" BSPP
Motor finish	Aluminium 6082-T6 hard anodized	Length	500mm
Width	240mm	Height	200mm

Drawings, dimensions, and weights are approximations and can change depending on exact configuration. Even after 25 years of manufacturing we can still make improvements to our products so data sheets can become out of date. Always confirm specifications at the time of ordering

FEATURES & BENEFITS

- ⚡ **Robust design.**
- ⚡ **Various battery capacities available.**
- ⚡ **Various electric motor sizes available.**
- ⚡ **Various pump sizes available.**
- ⚡ **Can be customized to offer multiple layouts depending on available footprint.**
- ⚡ **Completely standalone solution.**
- ⚡ **Can be actuated remotely if required.**



ePowering subsea equipment

CASE STUDY

MicroPAQ Battery Powered HPU



Overview:

iMPAQ Technologies partnered with Allspeeds to demonstrate that our MicroPAQ 3kW battery powered HPU package could effectively operate their HCV220 (220mm max cut size) cable cutter for offshore and subsea cutting operations. The package includes our topside surface controller connected to communicate with the BLDC HPU, which provides hydraulic power to a valve pack activating the cutter. This HCV220 cutter is one of the largest cutters Allspeeds produces, and it shows that the unit could effectively operate Allspeed's smaller units as well.

The system was tested with various materials during the initial test phase, including a 150mm armoured umbilical, 150mm armoured export cable and a 50mm wire rope.

All cuts completed during the trial were performed on a single battery charge (battery size used was 20Ah) with our BatteryPAQ, highlighting the efficiency and reliability of this innovative portable solution. As the unit is locally battery powered, it shows that this type of work can be conducted without requiring power from the surface.

Test Setup:

- ⚡ A 20Ah BatteryPAQ pod was connected to the HPU to provide the power for the system.
- ⚡ The BLDC HPU was connected to the HCV220 and was configured to output 4 lpm @ 180 bar.
- ⚡ The hydraulics were then fed through the mini booster which is integrated into the HVC220 assembly – this offered 690 bar operating pressure once boosted.
- ⚡ A suitable valve pack was used to control the hammer and anvil of the HVC 220.
- ⚡ Test pieces of the different materials listed above were cut to evaluate system performance.

During the initial testing phase, the following were monitored:

- ⚡ **Electrical characteristics** – voltage, speed and power to document the load on the HPU for each cut completed.
- ⚡ **Hydraulic characteristics** – to ensure the HCV220 was operated under the correct conditions.
- ⚡ **Cutting capabilities** – to assess the performance of the BLDC HPU when paired with the HCV220.



Results:

The system demonstrated consistent performance throughout the trial. The BLDC HPU proved fully capable of driving the HCV220 under all tested conditions. The following test pieces were successfully cut as part of the testing criteria.

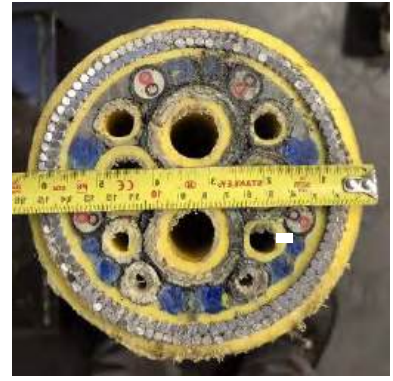
- ⚡ 150mm armoured umbilical – Cut time 250 seconds.
- ⚡ 150mm armoured export cable – Cut time 300 seconds.
- ⚡ 50mm wire rope – Cut time 150 seconds.



50mm wire rope cut by MicroPAQ.



150mm armoured export cable cut by MicroPAQ.



150mm armoured umbilical cable cut by MicroPAQ.

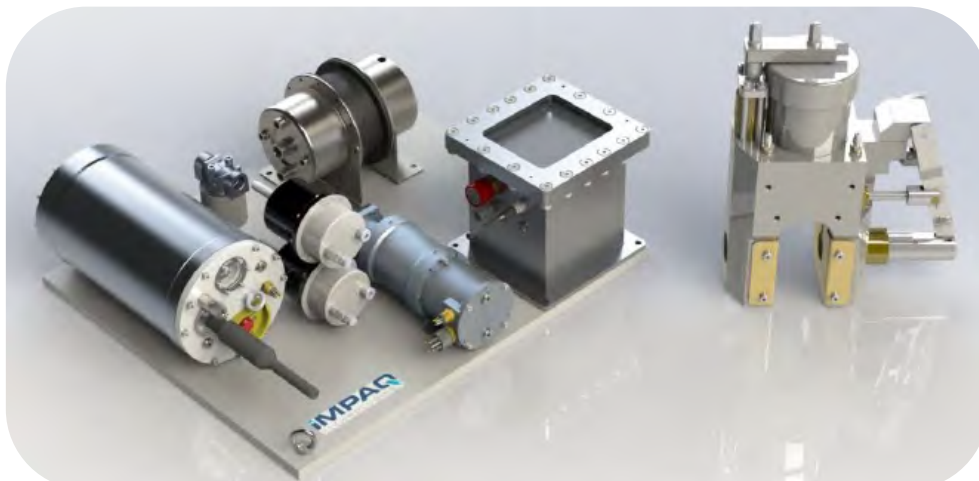
Conclusion:

The trial confirmed that the MicroPAQ BLDC HPU and HCV220 can be paired to provide a highly effective portable cutting solution for offshore applications. The system reliably cut all tested subsea materials and operated highly efficiently on a single battery charge, demonstrating its suitability for offshore use.

- ⚡ Portable and battery powered – no external power supply required.
- ⚡ Large cutting capability – able to cut large umbilicals, export cables and wire ropes.
- ⚡ Efficient – all cuts completed on a single battery charge using a 20Ah battery pack.
- ⚡ Offshore ready solution – compact, easy to deploy and reliable in subsea conditions.

Although we proved the versatility of MicroPAQ during this testing with the Allspeeds cutter this solution lends itself to any application where portable standalone hydraulic power is required – contact us to discuss how MicroPAQ can power your next project.

✉ **Get in Touch:** Contact us at sales@impaq-technologies.com or call **+44(0)1330 860045**



MicroPAQ 3kW HPU battery powered package & Allspeed's 75mm cutter

FEATURES & BENEFITS

- Fully electric, no high-pressure hydraulic fluid
- Fast mobilization compared to existing technology
- More efficient than hydraulic equivalents
- Green design, no requirement for hydraulic downlines
- No requirement for surface power if used with rechargeable battery pod
- Wet mateable connector allowing for subsea battery changeout
- Full proportional control
- Hi-Speed/Lo-Speed switch for different attachments
- Deep water capable



DivePAQ



Cleaning tool, 20Ah battery pod, grinding/cutting tool, 70Ah battery pod and peanut grinder tool

Revolutionizing Subsea Operations with DivePAQ

Discover the next generation of underwater tooling with **DivePAQ**, the fully electric, high-performance solution redefining subsea efficiency. Designed and built in Scotland by **IMPAQ Technologies**, **DivePAQ** offers unmatched power, precision, and adaptability – eliminating the limitations of traditional hydraulic tools.

- Multifunction Capabilities** – Effortlessly switch between grinding, peanut grinding, cutting, and cleaning tools.
- Compact and Portable** – Easy deployment and maneuverability.
- 100% Electric Efficiency** – Reduces maintenance, enhances safety, and delivers consistent performance in all subsea conditions.
- Eco-Friendly Innovation** – Say goodbye to hydraulic fluid risks and embrace a cleaner, more sustainable future.
- Upgrade to the next generation of subsea tooling with DivePAQ.**



iMPAQ
TECHNOLOGIES

ePowering subsea equipment

Current Tool Range



20Ah battery pod, cleaning tool, 70Ah battery pod, grinding/cutting tool, and peanut grinder tool

The **DivePAQ** electric divers tool range currently offers a cleaning tool (left hand image above), grinding/cutting tools (centre image above) and a peanut grinder (right hand image above) attachment to offer users a range of options.

Attachment options are listed below, custom tools can be supplied upon request –

- ⚡ Standard grinding disc (up to 9"/230mm).
- ⚡ Standard & diamond cutting discs (up to 9"/230mm).
- ⚡ Cleaning brushes (up to 6"/150mm).
- ⚡ Twist knot brushes (up to 5"/125mm).
- ⚡ Peanut grinding (various attachments).

DIVEPAQ POWER OPTIONS

- ⚡ Battery pod rated to 300m water depth.
- ⚡ Supplied with power cable offering up to 20m excursion.
- ⚡ 20Ah battery pod offers up to 45 minutes runtime at full load.
- ⚡ 70Ah battery pod offers up to 150 minutes runtime at full load.
- ⚡ Other sizes available on request.



FEATURES & BENEFITS

- Fully electric, no high-pressure hydraulic fluid
- Deep Water Capable up to 300m
- More efficient than hydraulic equivalents
- Wet mateable connector allowing for subsea battery changeout
- Green design, zero risk of pollution – no requirement for hydraulic downlines
- No requirement for surface power if used with rechargeable battery pod
- Fast mobilization compared to existing technology
- Minimal maintenance
- Switch allowing for clockwise and counterclockwise control



DivePAQ Drill



Master Underwater Drilling with the DivePAQ Drill – Precision, Power and Reliability

At **iMPAQ Technologies**, we deliver cutting-edge, electrically powered tools engineered for efficiency, precision, and operator ease. Our **DivePAQ Drill** offers a fresh option for underwater drilling, providing high performance operation whatever the conditions.

Versatile & Powerful for Multiple Applications

The **DivePAQ Drill** is the ultimate solution for **underwater drilling operations** across multiple industries.

Key Features That Set DivePAQ Drill Apart

- High-Performance Variable Speed** – Up to **1800 RPM** for precise control
- Depth-Rated to 300m** – Built for extreme underwater conditions
- Extended Reach** – Operates up to **20m from the battery pod**
- Broad Drill Bit Compatibility** – Supports drill bits up to 16mm

Advanced Power Solutions

The **DivePAQ Drill** is powered by a rechargeable subsea battery pod — rated to 300m water depth and equipped with:

- Ground fault monitoring for safety
- Battery charging port
- Water ingress detection to prevent failures
- Wet-mate connector for quick, hassle-free change-outs
- 3 position subsea switch (ON/OFF/CHARGE)
- Power monitoring LEDs for real-time performance tracking

Customizable Battery Performance

Choose from multiple battery capacities to suit your operational needs:

- 20Ah** – ~45 minutes runtime at full load
- 70Ah** – ~150 minutes runtime at full load
- Custom sizes available on request**

To find out more about this innovative solution please contact us at sales@impaq-technologies.com or alternatively call us on +44(0)1330 860045.

FEATURES & BENEFITS

- Fully electric, no high-pressure hydraulic fluid
- Deep Water Capable up to 300m
- More efficient than hydraulic equivalents
- Wet mateable connector allowing for subsea battery changeout
- Green design, zero risk of pollution – no requirement for hydraulic downlines
- No requirement for surface power if used with rechargeable battery pod
- Fast mobilization compared to existing technology
- Minimal maintenance



DivePAQ Peanut Grinder



Unlock Unparalleled Precision with the DivePAQ Peanut Grinder

At **iMPAQ Technologies**, we deliver cutting-edge, electrically powered tools designed for efficiency, precision, and operator ease. Our **DivePAQ Peanut Grinder** sets a new benchmark in underwater grinding, providing high performance with a compact and portable design.

Versatile & Powerful for Multiple Applications

The **DivePAQ Peanut Grinder** is the ultimate solution for **underwater weld seam grinding, hole deburring, and weld inspections** across multiple industries. Available in two adaptable configurations:

- Peanut Grinder Head** – Precision grinding for welds and surfaces
- Mini Cutting Disk** – Fast, efficient cutting in tight spaces

Key Features That Set DivePAQ Apart

- High-Performance Variable Speed** – Up to **20,000 RPM** for precise control
- Lightweight & Manoeuvrable** – Just **10.5kg in air, 6kg in water**
- Depth-Rated to 300m** – Built for extreme underwater conditions
- Extended Reach** – Operates up to **20m from the battery pod**
- Hi-Speed / Lo-Speed Switch** – Adapt to different tasks instantly

Power Options for Every Mission

The **DivePAQ Peanut Grinder** runs on either a surface power supply or a rechargeable subsea battery pod—both rated to 300m water depth and equipped with:

- Ground fault monitoring for safety
- Water ingress detection to prevent failures
- Underwater switch & wet-mate connector for quick, hassle-free change-outs
- Power monitoring LEDs for real-time performance tracking

Customizable Battery Performance

Choose from multiple battery capacities to suit your operational needs:

- 20Ah** – ~45 minutes runtime at full load
- 70Ah** – ~150 minutes runtime at full load
- Custom sizes available on request**

To find out more about this innovative solution please contact us at sales@impaq-technologies.com or alternatively call us on +44(0)1330 860045.



IVM Technologies

High-Accuracy Underwater Photogrammetry

3D Reconstruction & Photogrammetry Systems

Depth ratings from 100 m to 6,000 m

Mini ROV to Work Class integration — worldwide

OFFICIAL REPRESENTATIVE

Brazil & South America

www.ivm-technologies.com



ABOUT IVM TECHNOLOGIES

HIGH ACCURACY UNDERWATER PHOTOGRAMMETRY

At IVM Technologies we develop, design and build 3D reconstruction solutions using high accuracy underwater photogrammetry technology. Our offering goes beyond cameras, we provide components needed to assemble a customized kit tailored to your operations and equipment.

To better serve our clients, we have also developed a comprehensive service offering around our products, helping them save time, reduce costs, and gain unmatched insights into their subsea assets.

The Hydro Series covers observation-class to ultra-deep water ROVs, delivering millimetric-accuracy 3D models from 100 m to 6,000 m depth ratings, with a dedicated Diver Kit extending photogrammetry to shallow-water dive operations without a ROV. All units are compatible with IVM SLAM for real-time reconstruction feedback. Deeplynx Solutions is the exclusive representative for Brazil.

HYDRO 100

Mini ROV Photogrammetry — 100 msw

HYDRO 300

Stereo Photogrammetry Camera — 300 msw

HYDRO 1000

Deep Water Photogrammetry — 1,000 msw

HYDRO 6000

Ultra-Deep Photogrammetry — 6,000 msw

IVM DIVER KIT

Diver-Held Photogrammetry — 100 msw

HYDRO 100

LIGHT, COMPACT AND HIGHLY INTEGRABLE





APPLICATIONS FOR HYDRO 100

- Lake quay inspection
- Jacket inspection in the Persian Gulf
- Indoor factory tank inspection
- CPS inspection

Compact and lightweight, it is designed to be easily integrated onto observation and inspection ROVs, filling a gap in the subsea market for accessible and high-quality 3D modeling tools. Its affordability makes it the most appealing option for research institutions, universities and newcomers to the subsea survey field. More than an answer to a specific audience, it also addresses specific geographic and industrial needs, being a solution for surveys in inland waters and industrial tanks. Its key advantage lies in the availability of a diver-held kit, offering greater flexibility in the field.



3D model - Quay wall inspected with Hydro 100



SPECIFICATIONS

Mechanical & Environment

Dimensions (with cables)	284 x 290 x 140 mm
Operating depth	100 msw
Operating ambient temperature	0 to 30°
Weight (air / water)	4.1 / 0.1 kg
Material	Hard Anodized Aluminium
Connectors	BlueTrail Cobalt
ROV Integration	Mini ROVs & Observation Class

Electrical

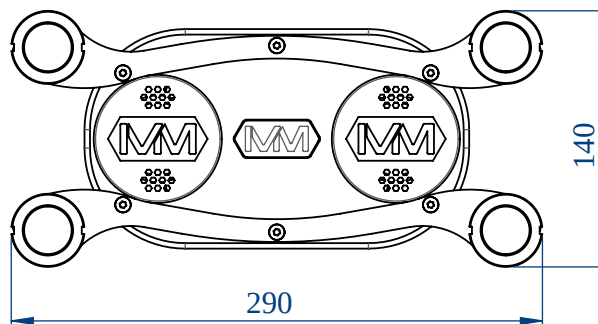
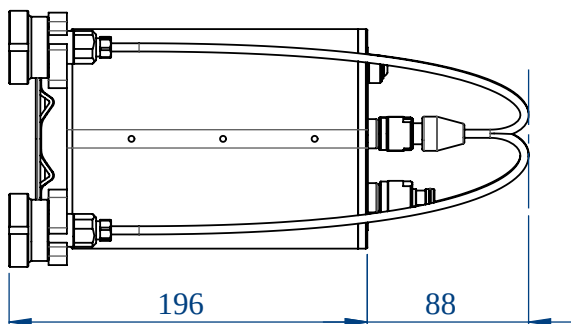
Voltage requirement	9-36 VDC
Power requirement	120 W
Data output	1 Gbps Ethernet 10/100 Mbps
Data storage	2 Tb

Vision

Field of view (V / H)	61° / 82°
Resolution	2 x 5 Mpx
Frame rate	Visualization: 20 FPS Recording: 4 FPS
Lighting	35 000 lumens

IVM Equipment compatibility

Add-on products	Skid, diver kit
IVM SLAM	Yes





At IVM Technologies we develop, design and build 3D reconstruction solutions using high accuracy underwater photogrammetry technology. Our offering goes beyond cameras, we provide components needed to assemble a customized kit tailored to your operations and equipment. To better serve our clients, we have also developed a comprehensive service offering around our products, helping them save time, reduce costs, and gain unmatched insights into their subsea assets.



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HYDRO 300

VERSATILE STEREO PHOTOGRAMMETRY
CAMERA FOR SUBSEA INSPECTIONS





APPLICATIONS FOR HYDRO 300

- High-turbidity dam inspection
- Shallow water spool metrology
- Riser base inspection
- Mooring line dimensional control

The Hydro 300 is a robust photogrammetry unit designed for shallow water and with a maximum depth rating of 300 msw, this unit gives you access to a larger range of subsea assets. Its cameras capture high-resolution still images enabling the generation of 3D models with millimetric precision. Equipped with integrated 80 000-lumens flashes, the Hydro 300 performs perfectly in low-visibility conditions. Engineered for versatility, this unit is compatible with Observation and Work Class ROVs, making it a powerful ally for your subsea inspections.



3D model - Hawker Siddeley HS-748 wreck inspected with Hydro 300



SPECIFICATIONS

Mechanical & Environment

Dimensions (with cables)	288 x 338 x 324 mm
Operating depth	300 msw
Operating ambient temperature	0 to 30°
Weight (air / water)	11.2 / 2.2 kg
Material	Hard Anodized Aluminium
Connectors	BlueTrail Cobalt
ROV Integration	Observation to Work Class

Electrical

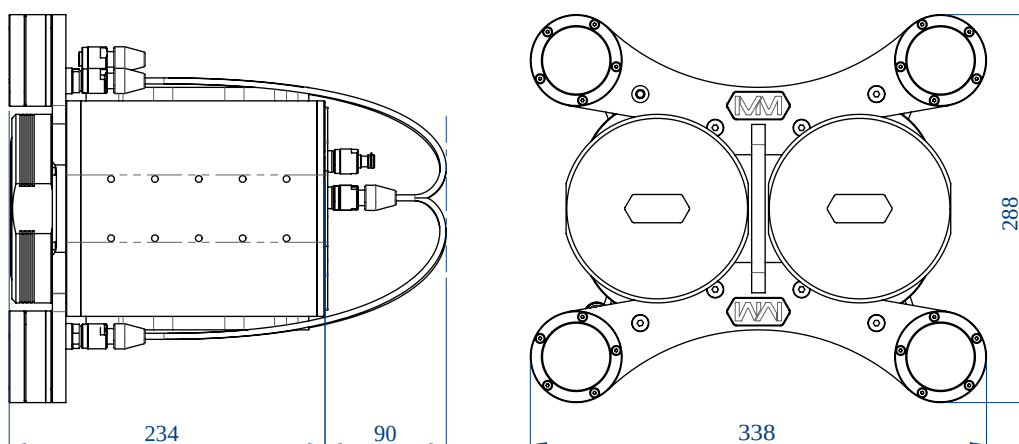
Voltage requirement	48 VDC
Power requirement	150 W
Data output	1 Gbps Ethernet 10/100 Mbps
Data storage	2 Tb

Vision

Field of view (V / H)	63° / 79°
Resolution	2 x 12 Mpx
Frame rate	Visualization: 20 FPS Recording: 4 FPS
Lighting	80 000 lumens

IVM Equipment compatibility

Add-on products	Skid, power converter, tilt
IVM SLAM	Yes





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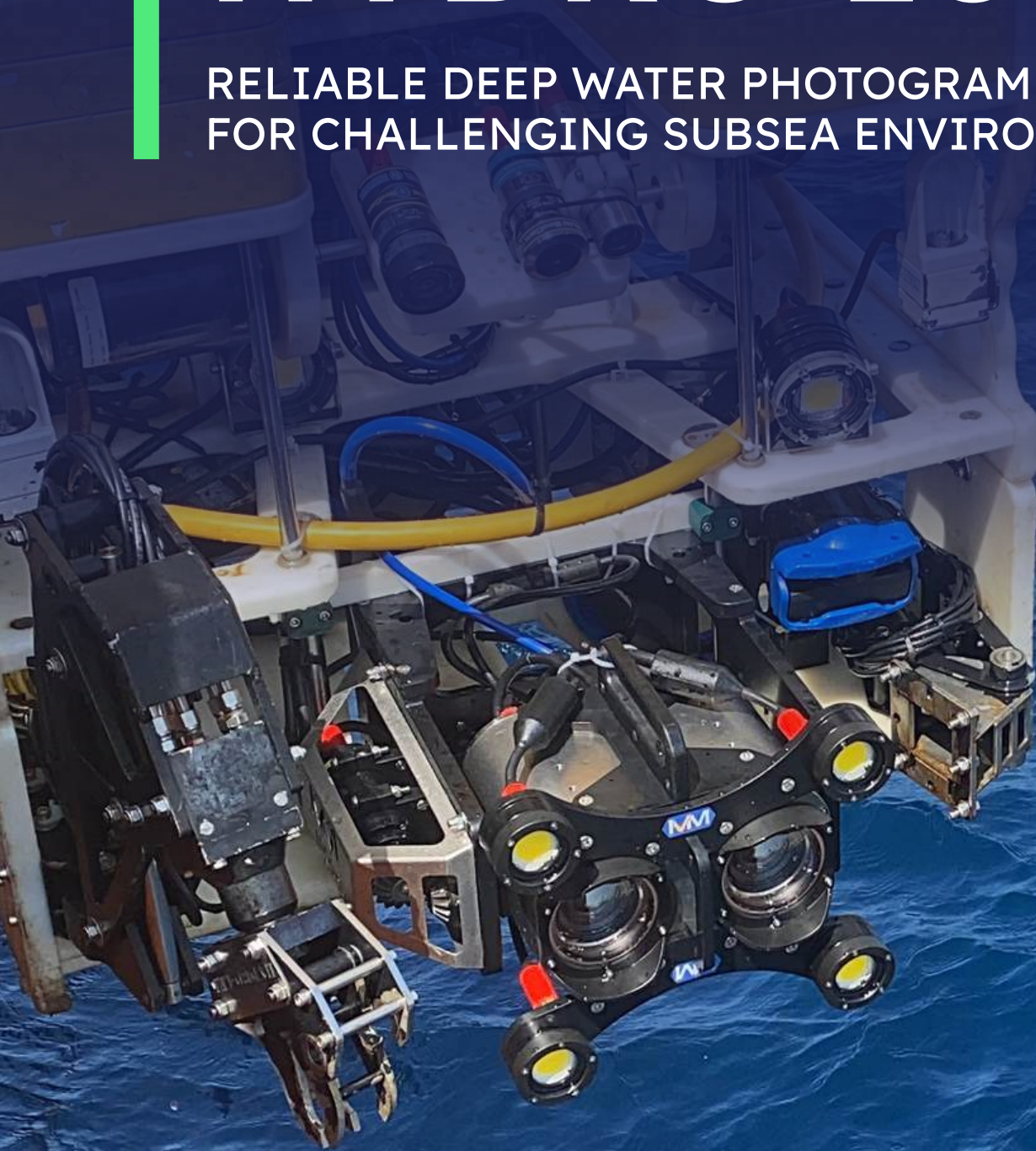


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HYDRO 1000

RELIABLE DEEP WATER PHOTOGRAMMETRY
FOR CHALLENGING SUBSEA ENVIRONMENTS





APPLICATIONS FOR HYDRO 1000

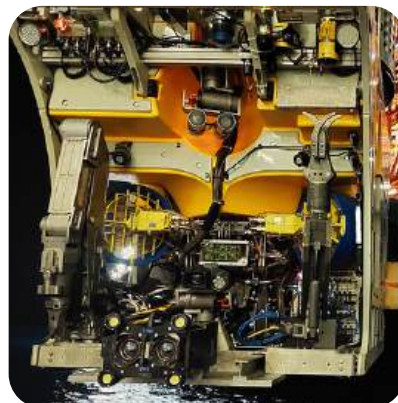
- Wellhead and X-mas tree inspection
- Deep water spool metrology
- Wrecks inspections

The Hydro 1000 is a deep-water photogrammetry unit engineered for ease of use and seamless deployment while ensuring data reliability. This unit leverages our technology and its benefits, including millimetric accuracy and performance in low-visibility conditions. Optimized for deep-water environments, the Hydro 1000 is built with pressure-resistant materials such as titanium to control payload weight.

The Hydro 1000 helps you reduce inspection time and operational costs and stay on track even under tight and changing timelines. It is compatible with a wide range of ROVs, from Light Work Class to Work Class.



3D model - Mooring line inspected with Hydro 1000



SPECIFICATIONS

Mechanical & Environment

Dimensions (with cables)	288 x 338 x 410 mm
Operating depth	1000 msw
Operating ambient temperature	0 to 30°
Weight (air / water)	17 / 7.5 kg
Material	Titanium
Connectors	SubConn Micro Circular
ROV Integration	Light Work Class & Work Class

Electrical

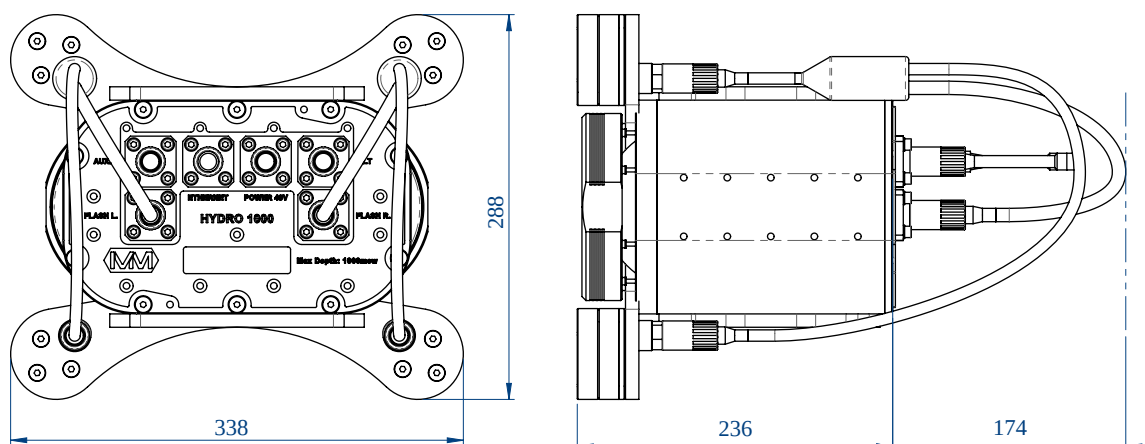
Voltage requirement	48 VDC
Power requirement	150 W
Data output	1 Gbps Ethernet 10/100 Mbps
Data storage	2 Tb

Vision

Field of view (V / H)	63° / 79°
Resolution	2 x 12 Mpx
Frame rate	Visualization: 20 FPS Recording: 4 FPS
Lighting	80 000 lumens

IVM Equipment compatibility

Add-on products	Skid, power converter, tilt
IVM SLAM	Yes





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HYDRO 6000

DIVE DEEPER WITHOUT MISSING A SINGLE
DETAIL





APPLICATIONS FOR HYDRO 6000

- Wrecks inspections
- Deep water oil & gas platform inspections
- Pipeline inspections

The Hydro 6000 is an ultra-deep water photogrammetry unit created to push the boundaries of standard operational depths. Reaching into the deepest waters, with a depth rating of 6000 msw, it enables data capture in the most demanding subsea environments.

Built on proven technology and supported by our extensive expertise, this unit offers the same ease of use, seamless integration and millimetric accuracy that define the entire Hydro Series range. It is compatible with Light Work Class and Work Class ROVs.



Camera



POD

SPECIFICATIONS

GENERAL

Mechanical & Environment

Operating depth	6000 msw
Operating ambient temperature	0 to 30°
Material	Titanium
Connectors	SubConn Micro Circular
ROV Integration	Light Work Class & Work Class

IVM Equipment compatibility

Add-on products	Skid, power converter, tilt
IVM SLAM	Yes

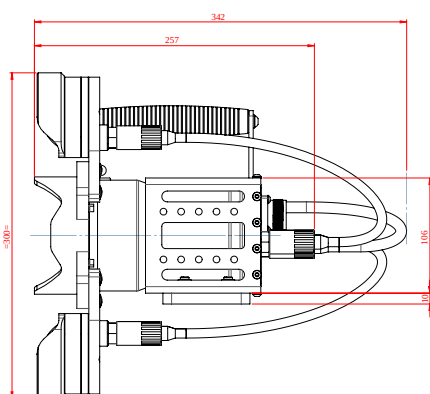
CAMERA

Mechanical & Environment

Dimensions (w cables)	355 x 300 x 342 mm
Weight (air / water)	10.4 / 6.3 kg

Vision

Field of view (V / H)	63° / 79°
Resolution	2 x 12 Mpx
Frame rate	Visualization: 20 FPS Recording: 4 FPS
Lighting	80 000 lumens



Camera

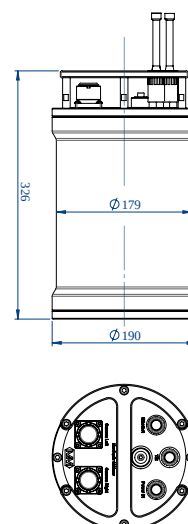
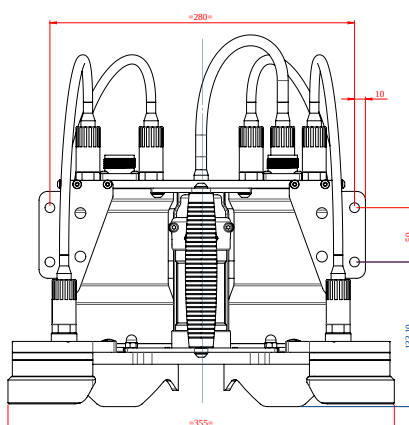
POD

Mechanical & Environment

Dimensions (w cables)	Ø190 x 326 mm
Weight (air / water)	14.3 / 7.2 kg

Electrical

Voltage requirement	48 VDC
Power requirement	150 W
Data output	1 Gbps Ethernet 10/100 Mbps
Data storage	2 Tb



POD



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IVM DIVER KIT

PHOTOGRAMMETRY DIVER KIT FOR
SHALLOW WATER



The IVM Diver kit allows you to add photogrammetry to your shallow water inspections, **down to 100 m**, without the use of a ROV. This photogrammetry diver kit increases efficiency in complex environments and enhances flexibility on site, thanks to fast deployment and minimal logistical requirements. An **adjustable built-in monitor** provides the diver with **instant feedback via IVM SLAM, IVM Supervisor**, and a messaging feature to stay connected with the topside team. Its cost-efficiency, driven by easy mobilization, allows you to integrate photogrammetry into existing diving operations without changing your plans. Additionally, we adapted it for divers by keeping a **continuous lighting**, and increasing its power to ensure smooth and powerful illumination throughout the inspection.

Based on the Hydro 100, the IVM Diver Kit features a dedicated frame that can be easily mounted or removed depending of your use case. **A single Hydro can now be deployed on a ROV or used by divers**, adapting to your operational needs with the same equipment.



SPECIFICATIONS

Mechanical & Environment

Dimensions	348 x 292 x 355 mm
Operating depth	100 msw
Operating ambient temperature	0 to 30°C
Weight (air / water)	8.8 / 1 kg (with camera & lights)
Material (frame)	Nylon

Diver console

Material	Hard Anodized Aluminium
Connectors	BlueTrail Cobalt
Voltage requirement	100-230VAC
Power requirement	250W
Monitor	7" color display 1024x600 IPS Adjustable orientation 0-150°
Tether	100 m included – custom lengths available

Lighting

Continuous output	50 000 lumens
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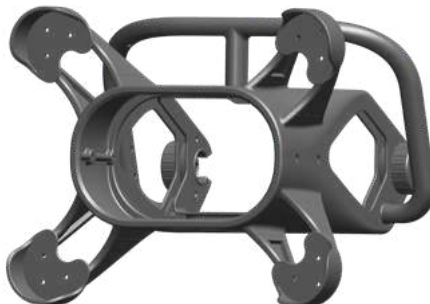
IVM Equipment compatibility

Products	Hydro 100
IVM SLAM	Yes

 [For camera specifications, see the Hydro 100 spec sheet.](#)



Diver console



Frame



Kit assembled with
Hydro 100 camera



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