



ROV PRODUCT GUIDE



INDUSTRY LEADING ROV WARRANTIES & COVERAGES

ADVANCE
REPLACEMENT
WARRANTY
PROTECTION⁺

MarineNav will replace any ROV system or MarineNav manufactured accessory that may fail within the first year as a result of manufacturer defect or malfunction. Guaranteed.⁺

MarineNav customers will receive a 1-year Advance Replacement of any eligible manufactured ROV system or accessory purchased from MarineNav or one of MarineNav’s authorized distributors. There is no need to wait for a repair. We will replace any eligible item that fails within the first year of sale due to a manufacturer defect or malfunction, thus minimizing your ROV downtime. Advance Replacement items may be new or refurbished and are subject to availability.

All ROV systems are protected by MarineNav’s Peace of Mind Guarantee, providing customers the following coverage;

- Free comprehensive system maintenance⁺

Return your ROV system to an authorized service centre within the first 25 ROV operational hours to qualify

- 12 month system enhancement coverage⁺

MarineNav will replace any hardware components on your ROV which have been upgraded or enhanced within your 12-month period of ownership

- Lifetime system software updates⁺

Lifetime software updates are completed remotely by our in-house computer technicians

Additionally, customers who purchase an ROV system and maintain regularly scheduled annual servicing during the first two years of the ROV purchase receive a complimentary 1-year warranty extension on eligible ROV systems. All ROV system service to be performed by MarineNav or an authorized service center to qualify for the warranty extension offer. Warranty coverage includes parts and labour for eligible products.*

⁺Restrictions apply. Contact a MarineNav sales representative for full terms & conditions.



**Built North Atlantic Tough
Trusted Everywhere**



Founded in 2005, MarineNav has become a world leader in bespoke marine products. We design and build custom marine-grade computers, displays, and ROVs at our manufacturing and R&D facility in Atlantic Canada. Industries we serve include commercial shipping and fisheries, oil and gas, coast guard and law enforcement, as well as tier 1 military suppliers such as Lockheed Martin, RTX (Raytheon), and Rafael. Our products are built North Atlantic tough, but we are trusted everywhere. We have clients on five continents and our products are used in every ocean, with climates ranging from the polar region to the equator.

We pride ourselves on making the most reliable products in the industry. We are ISO 9001:2015 certified, Controlled Goods Program registered, we offer products with IEC 60945 and DNV certifications, and our average failure rate across all product lines is 0.41 % over the last three years. More than 85% of products we make are still in active use after five years, with some in use fifteen years or more.

We are so confident in what we build that we provide an industry leading three year limited warranty on our remotely operated vehicles, including first year advance replacement. If you are not convinced that a MarineNav ROV will meet your needs, we offer our unique 5 or 5 program to first time customers – if you buy an Oceanus Pro ROV from us or from one of our authorized distributors and you are not satisfied within 5 days or 5 operational hours, return it for a full refund.[▲]

I look forward to hearing how we can work with you to provide the marine solution that you need.

Sincerely,



Kevan Merson

Managing Director

[▲] 5 or 5 offer available to first-time customers when purchasing an Oceanus Pro ROV system. Terms and conditions outlined on page 17. Controlled Goods Program (CGP) is a registration and compliance program that regulates access to controlled goods in Canada. Controlled goods are primary goods that have military or national security significance.

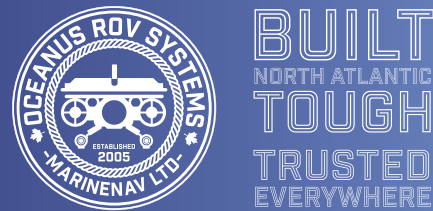
MarineNav Ltd. is an ISO 9001:2015 certified company. Our certified Quality Management System ensures that each unit we produce adheres to the strictest standards and complies with customer requirements.

While we strive to ensure the accuracy of all items and descriptions in this document, this is not always possible. Specifications, options, and availability are subject to change without notice. Errors and omissions excepted. We reserve the right to limit quantities. Please refer to last page of this document for brochure disclaimers.



ROV Comparison Chart

Oceanus system features



P8 ROV System

3000 series 8-thruster Pro



ROV FEATURE	OCEANUS MINI-LITE	OCEANUS MINI	OCEANUS PRO	P8 PRO ROV (8 thruster Pro)	OCEANUS ULTIMATE
ROV Power - 220v (W)	1500W	2000W	2500W	3192W	3192W
ROV Maximum Depth Rating	305m	400m	400m	400m	400m (500m optional)
ROV Hand-Held Controller	Optional upgrade	v3.0 standard	v3.0 standard	v4.0 standard	v4.0 standard
ROV Dry Weight	10.8 kg	10.8 kg	17.9 kg	18.9 kg	30.3 kg
ROV Length (mm)	520mm	520mm	605mm	605mm	826mm
ROV Width (mm)	293mm	293mm	418mm	418mm	565mm
ROV Height (mm)	273mm	273mm	279mm	279mm	330mm
ROV Accessory Ports	1	1	3 standard (Optional upgrade of 5)	3 standard (Optional upgrade of 5)	4
ROV Front Camera	1080P HD	1080P HD	1080P HD	1080P HD (4K optional upgrade)‡	1080P HD (4K optional upgrade)‡
ROV Rear Camera	N/A	N/A	N/A	N/A	1080P HD (4K optional upgrade)‡
ROV External Camera	N/A	N/A	1080P HD (Optional upgrade)	1080P HD (Optional upgrade)	1080P HD (Optional upgrade)
ROV Payload Skid	N/A	N/A	Optional upgrade	Optional upgrade	Optional upgrade
AC Voltage Required	110-240V AC	110-240V AC	110-240V AC	110-240V AC	110-240V AC
Topside Primary Screen Size	10.5" Tablet	18.5" TFT active matrix panel	18.5" TFT active matrix panel	18.5" TFT active matrix panel	18.5" TFT active matrix panel
Topside Secondary Screen Size	N/A	10.1" TFT touch-active matrix panel	10.1" TFT touch-active matrix panel	10.1" TFT touch-active matrix panel	10.1" TFT touch-active matrix panel
Topside Storage (primary computer)	32GB	1TB	1TB	2TB	2TB
Topside OS	Custom Linux OS	Custom Linux OS	Custom Linux OS	Custom Linux OS	Custom Linux OS
Secondary Windows PC	N/A	Optional upgrade	Optional upgrade	Standard	Standard
HDMI Out	N/A	Standard	Standard	Standard	Standard
WiFi Video Broadcast	N/A	Standard	Standard	Standard	Standard
ROV Ethernet Port(s)	N/A	N/A	1 Standard (Optional upgrade to 2)	1 Standard (Optional upgrade to 2)	3 Standard
Topside USB Ports	2	2	2	3	3
Multi-Port Connection	Standard	Standard	Standard	Standard	Standard

‡ A 4K camera is available as an optional upgrade for the Oceanus Pro, P8 Pro (eight thruster Pro) and Oceanus Ultimate ROVs during the initial ROV assembly. Speak to a MarineNav sales representative for more information. After market 4K camera installations are not possible.

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proudly
 **MADE IN CANADA**

The Oceanus P8 Pro is a high-power 8-thruster ROV system featuring significant design enhancements to the Oceanus Pro while maintaining a similar footprint.

Achieve 6 degrees-of-freedom ROV control generated by the new configuration of 4 vertical thrusters, providing pilots full pitch and roll control which greatly enhances visual inspections and sonar use in all situations. An added design upgrade to 3192 watts of power delivers more than double the power to the thrusters, and is ideal for use of heavier power draw ROV accessories.

The P8 Pro ROV system includes MarineNav’s industry renowned topside control unit with an 18.5" daylight visible hi-bright screen and 10" touch-screen that displays MarineNav’s Flight Control System software. A major enhancement to the P8 Pro topside is a secondary built-in Windows based PC. The secondary PC is linked to the ROV’s Ethernet backbone and allows seamless use of many third party accessories with the

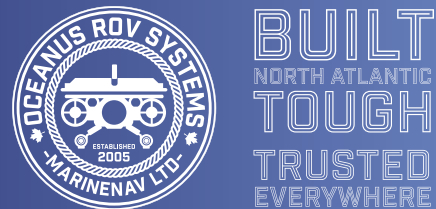
ability to run windows based software in conjunction with our ROV control software. With the additional Windows PC, users can utilize picture-in-picture views of accessories overlaid on screen alongside the ROV video (e.g sonar or USBL). Users have the option of selecting a 50/50 split with active software running next to the ROV live feed.

Both the ROV topside and secondary Windows PC have extra HDMI output ports allowing connection of external monitors to increase your workspace to carry out demanding tasks.



Optional ROV Upgrades

Oceanus system enhancements



A Surround view external cameras

Optional upgrade for the Oceanus Pro, P8 Pro, and Ultimate ROVs

This optional ROV enhancement allows users to add up to eight additional cameras fitted to the ROV body. Attach positionable cameras to the sides and rear of your ROV, to provide a greater situational awareness (a 360° view around your ROV) and the ability to view wider areas simultaneously.

A live video feed captured by the cameras is displayed in a grid or matrix format, providing views around the ROV to aid in avoiding obstacles to the sides of the ROV or enhance your visual inspection of assets.



B Fibre optic upgrade

Optional upgrade for the Oceanus Pro, P8 Pro, and Ultimate ROVs

Upgrade by adding fibre optic communications to your Oceanus Pro, P8 Pro or Ultimate ROV system to utilize our fibre optic tether for gigabyte Ethernet transfer speeds.

Fibre optic tether is ideal when using ROV accessories that generate large amounts of data. You can use over 400m of fibre optic tether without an optional battery supply to the ROV.

Battery packs are a requirement when operating on tether lengths of 500m to 4km. Standard fibre optic tether measures 11mm diameter and carries data over fibre optic and power over copper. Slim fibre optic tether measures less than 6mm diameter and transfers data only. An optional ROV battery pack is required when using slim tether.



C Voyis Camera integration

Optional upgrade for the Oceanus Pro, P8 Pro, and Ultimate ROVs

Voyis is rapidly becoming the leading name for photogrammetry. MarineNav can integrate the Discovery and Discover Stereo 4k camera systems as part of your ROV build.

High definition full shutter cameras coupled with Nova LED lights allow you to capture crisp, detailed imagery. Adding the Discovery Stereo camera enables you to create 3D photogrammetric models of your assets with the option of recording data at full resolution with a live lower quality feed. Operate the Voyis Stereo with a secondary tether, or upgrade to a fibre optic system for true gigabit transfer speeds and the ability to create 3D models and mapping of your assets/targets on the fly.



From aquaculture to border security, environmental assessment to scientific research, our ROVs are the choice of professionals world-wide, who demand ROV systems that are adaptable to the requirements of their industry.

MarineNav offers a range of ROV platforms, optional system upgrades, and ROV accessories to ensure there is a ROV solution suited to your needs and budget. Speak to a MarineNav representative to see how our ROVs can work for you.



The MarineNav Advantage

All MarineNav ROV systems are constructed on-site using rugged marine-grade materials and are independently certified.

Utilizing the latest 3D print technology and a fully furnished metal shop, MarineNav fabricates and manufactures its ROVs on-site using marine-grade anodized aluminum and rugged plastics. We adhere to ISO 9001: 2015 standards with each ROV built, and every ROV undergoes rigorous testing before delivery. MarineNav ROV systems have received pressure test certification from an independent research facility.

Submersible control through a rugged, self-contained topside unit and easy-to-use joystick/hand-held controller.

The Oceanus Mini, Pro, P8 Pro and Ultimate ROV systems include a topside ROV control case that is housed in a self-contained IP65 rated hardshell case. The case features dual built in monitors, a 10.1" touchscreen dedicated display runs MarineNav's proprietary FCS (Flight Control System) software, with streaming video displayed on a larger 18.5" built-in screen. A rugged hand-held Hall-effect joystick controller is fully integrated to perform with the FCS software and provides users intuitive ROV piloting.

Power to spare. Virtually unlimited ROV dive times.

With a minimum of six vectorized thruster engines, Oceanus ROV systems provide top-of-class speed and lift capabilities, ensuring our systems function even in the harshest marine environments. Unlike battery-powered systems, Oceanus ROV systems receive power through an ROV tether connected to the topside control case providing virtually unlimited dive times.

Mission ready ROV systems that are easy to transport and operate.

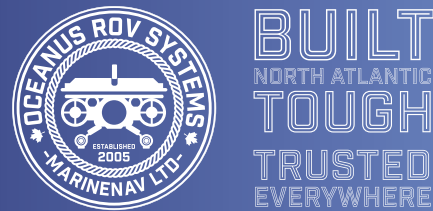
All ROV components are delivered in easily transportable IP-rated hard-shell weather-resistant cases and require minimum set-up time, ensuring quick ROV deployment and operation, even by one person.

‡ A 4K camera is available as an optional upgrade for the Oceanus Pro, P8 Pro (eight thruster Pro) and Oceanus Ultimate ROVs during the initial ROV assembly. Speak to a MarineNav sales representative for more information. After market 4K camera installations are not possible.



Oceanus Mini-Lite ROV

Affordable, feature-rich ROV system



FULL
HD
1080P
video

Our most affordable ROV system features a compact topside case with a removable touch-sensitive PC tablet.

The Oceanus Mini-Lite ROV system is independently certified to operate to a maximum standard depth of 305 m (1000 ft). This feature-rich inspection class ROV is ideal for vessel and infrastructure inspection, locating and assisting ghost gear retrieval or visually documenting evidence. A reduced footprint and ease of setting up, deployment and flying make this user-friendly ROV system the choice of novice and experienced pilots alike.



The Oceanus Mini-Lite ROV topside (with built-in tablet) is protected by a one-year limited warranty.

Upgrade your ROV system with a MarineNav ROV joystick/hand-held controller (v3.0) and tablet mounting bracket. Contact MarineNav for current pricing, specifications and availability. ROV tether sold separately.



With a redesigned topside weighing 7.39kg, the Oceanus Mini-Lite is an affordable and capable introductory level ROV system.

Includes the Oceanus Mini-Lite ROV, the Oceanus Mini-Lite Topside Control Case with removable touch-sensitive PC tablet pre-loaded with a lite version of MarineNav's proprietary Flight Control System software. Upgrade your ROV system with the Oceanus joystick/hand-held ROV controller (v3.0) with a removable PC tablet mounting bracket.

Designed for the budget minded and adapted from the popular Oceanus Mini ROV system, the Oceanus Mini-Lite ROV platform includes our versatile Oceanus Mini ROV submersible. Featuring many of the same high-end features, the ROV is manufactured to the same standards and undergoes the same strenuous testing as our Oceanus Mini ROV.

What distinguishes the Oceanus Mini-Lite ROV system is a redesigned topside ROV control case that provides power to a rechargeable touch-sensitive tablet operating a lite version of our proprietary FCS software. The tablet is an all-in-one system that acts as the ROV's camera view screen and ROV hand controller. The Oceanus Mini-Lite version of our FCS software displays mission critical ROV readings and utilizes touch-sensitive sliders that allow users to change ROV settings on the fly.

ROV users will appreciate the optional upgrade of MarineNav's ROV joystick/hand controller (v3.0) with removable PC tablet mount. 16 function buttons, a hall-effect joystick controller and conveniently placed depth thumbwheel controller provide precision control of your ROV and with the tablet mount bracket users can remotely view the ROV flight in an all-in-one, hand-held controller via wireless communication to the topside case to a maximum distance of 20m.

With an exterior measurement of 15.8" (L) x 12.1" (W) x 6.8" (H), the IP-rated topside case functions as the operational hub of the Oceanus Mini-Lite ROV system. Outfitted with AC power in connection, topside to ROV tether connection, Isometer, 2 USB ports, PC tablet power cable, two built-in WiFi antennae and the MarineNav proprietary Multi-Port connection port, the topside is feature-rich, making the Oceanus Mini-Lite ROV system compatible with many Oceanus ROV accessories.

ROV Tether is sold separately. Contact MarineNav for current pricing, specifications and availability.



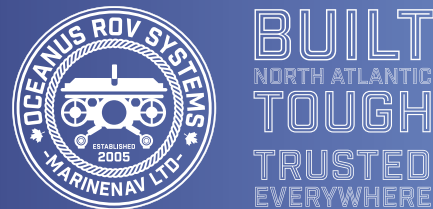
Standard system features include:

- ROV weight of 10.8 kg (23.8 Lb).
- Depth rating of 305m (1000ft).
- Up to 4 knot top speed (with performance float block).*
- Lateral axis ROV movement. Unparalleled control system and superior thruster performance delivers fully vectorized ROV maneuverability.
- 2 x 1500 lumen lights.
- 1080p high definition video, high definition camera with +/- 160° tilt functionality provides stunning image captures.
- Topside weight of 7.39kg (16.3 Lb).
- Topside features built-in removable touch-sensitive tablet with a 10.5" view screen and interactive sensors to control ROV movement.
- Topside features a built-in docking station to recharge the tablet's internal battery.
- Wireless communication between PC tablet and topside case to a range of a maximum of 20m.
- Oceanus Multi-Port communication system allows rapid integration of third-party accessories, software and external processors.
- Power over tether design.
- One-year Advance Replacement warranty, Peace of Mind guarantee and one-year limited warranty extended to MarineNav topside components (3rd-party tablet not protected by MarineNav warranties)*.



Oceanus Mini ROV

A compact, powerful ROV system



Compact, easy to use and powerful. Ideal for inspecting confined areas such as pipelines and holding tanks.



Weighing only 10.8 kg, this ROV is small enough to travel where other systems can't and powerful enough to accomplish demanding tasks.

Includes the Oceanus Mini ROV, the Oceanus Mini/Pro Topside Control Case system and the Oceanus Hand Controller (v3.0)

Ideal for conducting inspections in confined areas like pipelines and holding tanks. The Oceanus Mini's use of lightweight materials and a reduced footprint makes this ROV incredibly easy to transport, deploy and operate. Six vectorized thrusters generate a maximum speed of up to 4 knots, providing a wide range of ROV movement such as; full depth, horizontal and lateral movement (with auto depth, heading hold, and ROV stabilize control modes).

Its smaller size does not mean this ROV lacks power or versatility. The Oceanus Mini ROV system dives to a maximum depth of 400m (1312 ft) and receives power over a connecting tether from the topside to the ROV. The core construction of anodized marine-grade aluminum and the same robust engineering standards found in our larger ROV systems means this system will perform in harsh environments.

Designed to be fully compatible with the MarineNav Oceanus Pro ROV system, the Oceanus Mini ROV shares the same topside unit used by the Oceanus Pro ROV. Use the same MarineNav ROV connecting tether and many ROV attachments developed for the Oceanus Pro ROV system.

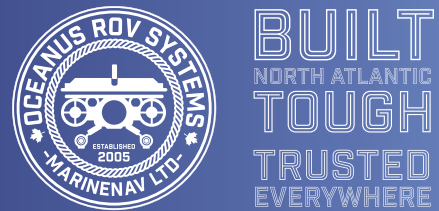
Standard system features include:

- ROV designed to fit through a 12" diameter entry point.
- ROV weight of 10.8 kg (23.8 Lb).
- Depth rating of 400m (1312ft).
- Up to 4 knot top speed (with performance float block).
- Lateral axis ROV movement. Unparalleled control system and superior thruster performance delivers fully vectorized ROV maneuverability.
- 2 x 1500 lumen lights.
- Self contained topside with an 18.5" TFT active matrix panel, (2000 nits brightness, full daylight readable/red nighttime) with 1 Terabyte solid state drive storage (with an 64 GB SSD in the ROV).
- 1080p high definition video, high definition camera with +/- 160° tilt functionality provides stunning image captures.
- Oceanus joystick/hand-held controller designed with 16 integrated function keys and a hall-effect joystick that controls important ROV functions.
- Oceanus Multi-Port communication system allows rapid integration of third-party accessories, software and external processors.
- Power over tether design.
- One-year Advance Replacement warranty, Peace of Mind Guarantee and Three-Year Limited Warranty. Terms and conditions apply.*



Oceanus Pro ROV

Our best selling ROV system



Our most popular ROV. An abundance of features and the flexibility to accessorize for a variety of dive tasks.

Capable of deep-dive missions, the Oceanus Pro is our most popular ROV system. Favoured by commercial industries and government agencies for its rugged durability, customization options and value for the cost, the Oceanus Pro ROV system is used to perform demanding vessel and structural inspections. The Pro ROV has been independently certified to operate to a standard maximum depths of 400m (1312 ft) when fitted with an optional deep-dive ROV buoyancy float block.

‡ A 4K camera system is available as an optional upgrade for the Oceanus Pro, P8 Pro (eight thruster Pro) and Oceanus Ultimate ROV at the time of the initial ROV assembly. Speak to a MarineNav sales representative for more information. After market internal 4K camera installations are not possible.



Three built-in auxiliary ports work with a wide range of MarineNav and third-party ROV accessories. (Ethernet, RS485 / Manipulator / 12V / 24 DC / aux camera).

Includes the Oceanus Pro ROV, the Oceanus Mini/Pro Topside Control Case pre-loaded with MarineNav's proprietary FCS software and the Oceanus Hand Controller (v3.0).

Designed, engineered and manufactured on-site, MarineNav's Oceanus Pro ROV weighs only 17.91 kg (39.5 Lb) and measures 605 mm (23.82") in length. It features rugged core construction of marine-grade anodized aluminum and other marine-grade components. The Oceanus Pro ROV is easily deployed and operated by one person and piloted in fresh or salt water, 0-50°C (32-122° F). The ROV has been independently certified to operate to a maximum standard depth of 400m (1312 ft) when outfitted with an optional ROV deep dive buoyancy float block upgrade.

Six vectorized thrusters provide powerful thrust performance delivering top speeds of up to 5 knots with the ROV capable of vertical depth and horizontal lateral movement (Auto depth, heading hold, and ROV stabilize modes are standard features). A full HD 1080p internal front camera with camera tilt of +/- 180° pitch (vertical rotation), a one-touch video record function with overlay feature, and four front-facing 1500 lumen lights ensure the ability to capture brilliant video without interruption of piloting the ROV system. ♦▼



The Oceanus Pro ROV system includes the redesigned Oceanus joystick/hand-held controller (v3.0). A reconfigured layout provides a greater number of ROV command buttons at your fingertips with a conveniently placed depth control thumbwheel and a 3-axis hall-effect joystick providing users superior flight control of the ROV.

Standard system features include:

- Built-in lateral axis ROV movement. Unparalleled control system and superior thruster performance delivers fully vectorized ROV maneuverability.
- High output submersible with speeds of 5 knots.*
- Depth rating of 400m (1312 ft).
- ROV weight of 17.91 kg (39.5 Lb), easily deployed by a single person.
- 4 x 1500 lumen front lights.
- 1080P full HD video from a ROV on-board high definition camera with +/- 180° tilt functionality.
- HDMI video output provides convenience of connecting an external monitor to topside case to share streaming data captured by on-board camera to an external HD monitor.
- Auxiliary port(s) for ROV accessory connection.
- Power over tether means virtually unlimited dive times.
- 1 Terabyte SSD topside stores hours of data content.
- Touch-sensitive user interface and our FCS software (flight control system software) controls all essential ROV functions.
- MarineNav's Oceanus Multi-Port communication system allows rapid integration of third-party accessories, software and external processors.
- Wireless broadcast feature allows operator screen sharing to multiple parties.
- Optional MarineNav Fleet Management Suite upgrade reports status and health of ROV remotely for full tracking of one or multiple units.
- Ships with the marine-grade aluminum constructed Oceanus joystick/hand controller (v3.0), configured for superior ROV control.
- One-year Advance Replacement warranty, Peace of Mind Guarantee and Three-Year Limited Warranty. Terms and conditions apply.*



INDUSTRY LEADING ROV WARRANTIES & COVERAGES

OCEANUS PRO
5 OR 5 TRIAL
OFFER

A special offer for first-time customers purchasing an Oceanus Pro ROV system ^

MarineNav extends to first time customers a trial offer of use of an Oceanus Pro ROV system for five (5) days, or a maximum of five (5) ROV operational hours.^

With an overwhelming selection of inspection-class ROV systems available, your decision to choose an ROV system that actually delivers to its advertised expectations becomes less clear. MarineNav ROV systems have been designed, manufactured and assembled on-site with every system undergoing rigorous testing prior to delivery. Built with a reputation for rugged durability, ease of use and competitive pricing it’s no wonder that our MarineNav ROVs have quickly become the best selling inspection-class ROV in the market.

Not satisfied with your purchase? Return your Pro system within the trial period and you’ll receive a full refund.

Your Oceanus Pro ROV system purchase includes three-year limited warranty protection.*

From the arctic to high temperature climates, our ROV systems are built to last. Purchase one of our ROV systems with confidence knowing you are protected by extensive ROV warranties and guarantees.

To keep your ROV system in optimum condition after-sales service is available through a growing global network of authorized MarineNav ROV dealers.

* Conditions and restrictions apply. Speak to a MarineNav sales representative regarding any of the warranty coverages offered with our ROV systems.



BUILT
NORTH ATLANTIC
TOUGH
TRUSTED
EVERYWHERE

▲ 5 Or 5 Oceanus Pro Trial Offer - Terms and Conditions

- Offer extended to first-time customers who qualify for approved credit when purchasing a MarineNav Pro ROV system. The five-day trial period begins when shipment is received by customer (as recorded by the shipment tracking number). The five ROV operational hour trial period is recorded and tracked by the Oceanus ROV operating system software.
- At five days, or five ROV operational hours (whichever comes first) customer must either return the ROV system in original shipping packaging to MarineNav, or contact MarineNav’s finance department to arrange financing (or to arrange payment of invoice).
- The 5 or 5 Oceanus Pro trial offer is extended to first time customers purchasing a standard Oceanus Pro ROV system. (A standard Pro ROV system includes one (1) Oceanus Pro ROV, one (1) Oceanus Mini/Pro topside ROV control case, one (1) standard Oceanus Hand Controller (v3.0), and one (1) standard length of ROV neutral buoyancy tether). The Oceanus Mini-Lite, Oceanus Mini, Oceanus P8 Pro and Oceanus Ultimate ROV systems are not eligible for the 5 or 5 trail offer.
- The 5 or 5 Oceanus Pro trial offer does not apply to additional lengths of ROV tether, or any ROV accessories (either manufactured by MarineNav, or third-party manufacturer). If customer purchases two or more lengths of tether, the shorter length of tether is covered by the 5 or 5 Oceanus Pro trial offer.
- A full refund is provided to customers who meet the terms of this agreement, and upon MarineNav receiving the original shipped ROV system returned undamaged, in the ROV systems original packaging.
- The customer is responsible for all shipping costs associated in delivering the Pro ROV system to and from MarineNav. Shipping costs are not included as part of the refund offer.

* Three Year Limited Warranty - Terms and Conditions

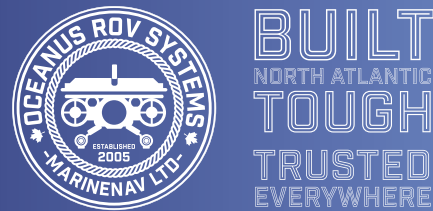
The three year limited warranty applies to customers who have purchased one of the following ROV systems; an Oceanus Mini, an Oceanus Pro, an Oceanus P8 Pro, or an Oceanus Ultimate ROV system. An initial two-year limited warranty is made available when your eligible MarineNav Oceanus ROV is registered within the first year of purchase. For the warranty to remain valid all regimented ROV scheduled maintenance must be completed according to manufacturers guidelines. At the completion of the initial two-year limited warranty period a third year extension is provided to those customers who have adhered to all regimented ROV maintenance as outlined by manufacturer. Warranty restrictions apply;

- a) MarineNav Ltd warrants that tether supplied with ROV systems or supplied separately will be free from defects in materials and workmanship under normal use and service for a period of ninety (90) days from date of shipment.
- b) MarineNav Ltd warrants that tether whips that were provided as part of an ROV system at time of original shipment will be free from defects in materials and workmanship under normal use and service for a period of six (6) months from date of shipment.
- c) MarineNav Ltd warrants that thruster motors that were provided as part of an ROV system at time of original shipment will be free from defects in materials and workmanship under normal use and service for a period of one (1) year from date of shipment. This does not include wearable parts such as propellers, which are considered a consumable item. Tampering, misuse and regular wear are not covered by warranties.
- d) MarineNav Ltd warrants that the ROV float block that was provided as part of an ROV system at the time of original shipment, or purchased separately will be free from defects in materials and workmanship under normal use and service for a period of three (3) months. The three-month warranty does not cover normal wear such as scuffs, scrapes indentations, or other damage to the float block caused by external environmental factors.
- e) MarineNav Ltd warranties exclude corrosion that may occur on ROV metallic parts caused in part by improper cleaning and storage of ROV after each mission. Refer to your owner’s manual for proper cleaning and maintenance of your ROV system.

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Oceanus Ultimate ROV

A high-power, high-payload ROV



A 3KW professional system featuring our most powerful topside and a dual camera ROV capable of full pitch and roll maneuvers.



Rear and front facing 1080P HD camera systems. Toggle control from front to rear view cameras with simple touch commands via the topside Flight Control System software. FCS software automatically adapts ROV joystick flight commands to the selected camera view. No need to relearn joystick commands when flying in reverse.

Distinctive eight vectorized thruster design, full pitch-and-roll control providing ultimate maneuverability when it's needed most. Dual full HD1080P video cameras provide extensive front and rear views.

Includes the Oceanus Ultimate ROV, the 3000 series topside ROV control system with dual built-in computers and the Oceanus Hand Controller (v4.0)

MarineNav's Oceanus Ultimate ROV system features a distinctive eight vectorized thruster configuration enabling a range of motion rarely seen in ROV systems (including sustained submersible pitch and roll maneuverability). Pitching the nose of the ROV forward or back greatly enhances the ROVs ability to effectively use on-board camera systems, manipulator arms, sonar systems, and other attachments, and roll maneuverability allows for effective navigating of restrictive areas. Auto Stabilize functionality locks the ROVs current position when optimum ROV positioning is critical during dive missions.

Optional navigation accessories are available that can be integrated with the ROV system. The Oceanus Ultimate is compatible with industry standard DVL's or USBL systems used to capture precise location data required by the ROV's semi-autonomous flight function.



Standard features include:

- Maximum speed of 4 knots.
- ROV weight of 30.25 kg (66.7 Lb).
- Depth rating of 400m (1312 ft) with optional upgrade to a maximum of 500m (1640 ft).
- Eight powerful vectorized thruster design in a compact form provides six degrees of movement.
- Eight 1500 lumen lights (six front facing, two rear facing).
- Front and rear-facing 1080P HD camera systems. Toggle control with touch commands via Flight Control Software.
- 3000 series topside featuring dual built-in PCs. A primary i7 industrial computer with 2 TB SSD and secondary Windows 11 PC with 256 GB SSD. Secondary video feed can be displayed in full-screen, PIP or 50/50 split viewing modes on a self-contained 18.5" TFT active matrix panel.
- Four auxiliary ports as standard for a variety of accessories.
- Oceanus Multi-Port communication system allows for rapid integration of third-party accessories, software and external processors.
- Power over tether design.
- 27-button industrial joystick/hand-held controller provides six-degrees-of-freedom (lateral, depth pitch and roll) and access to the ROV's most utilized functions.
- One-year Advance Replacement warranty, Peace of Mind guarantee and three-year limited warranty. Terms and conditions apply.*



ROV System - Core Components

ROV system topside & FCS software



A self-contained, IP rated portable work station that contains all system connection ports, view screen and touch-sensitive software.

The Oceanus topside control case powers up and is fully operational in less than 60 seconds. It features a built-in control console with an AC power connection, tether connection port, USB ports (1 port dedicated to the Oceanus joystick/hand-held controller), MarineNav's Multi-Port, HDMI out, and an Ethernet port. Built-in safety features include a GFCI (Ground Fault Circuit Interrupter) / Circuit Breaker and Isometer.

The topside control case features a generous built-in 1 Terabyte Solid State Drive, enabling storage of hours of captured video and two displays. A primary sunlight-readable, splash-resistant video monitor displays streaming video that is viewable in any light condition and a secondary 10.1" TFT touch-active matrix display dedicated to displaying MarineNav's proprietary touch-activated Flight Control System software. All critical ROV readings are displayed in real-time. Make adjustments on the fly simply by selecting the desired module, make button selections or use on-screen sliders to change ROV settings.

The Mini/Pro/ and Series 3000 topside control case units include a wireless feature allowing for the broadcast of video to multiple devices simultaneously via integrated antenna. Broadcast to a remote web enabled device via a simple to use interface.

The 3000 series topside ROV control case is a core component of the Oceanus P8 Pro and the Oceanus Ultimate ROV systems.

The 3000 series topside features dual built-in PCs. A primary i7 industrial computer with 2 Terabyte SSD and a secondary Windows 11 based PC computer with 256 GB SSD (used to run the majority of third party software). The secondary computer and ROV video feed can be displayed in full-screen, PIP or 50/50 split viewing modes on a self-contained 18.5" display panel. The ROV topside and secondary Windows PC have extra built-in HDMI video output ports offering the convenience of sharing streaming data to an external monitor.

3192 watts of power delivers more than double the power to the ROV thrusters, and is ideal for use of heavier power draw ROV accessories.



The 3000 series topside is a standard component of the Oceanus P8 Pro and Oceanus Ultimate ROV systems and available as a system upgrade for the Oceanus Mini and Pro ROV systems.



Intuitive proprietary FCS software makes piloting the ROV effortless and fun.

Our team of software developers worked closely with our ROV customers to create the Oceanus FCS software (Flight Control System software). the FCS software creates an instinctive software environment which provides effortless piloting of the ROV.

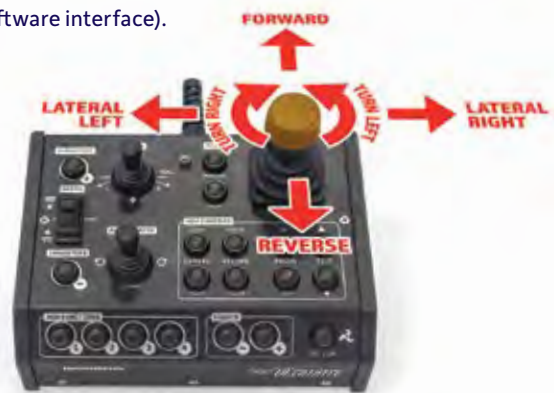
Novice users to experienced pilots will appreciate the intuitive user interface that provides information on all functions of the submersible. MarineNav's touch-sensitive screen function allows the user to adjust ROV settings without interrupting the operation of the submersible.

- Controlled from a dedicated 10.1" resistive touch screen allowing video stream to be uninterrupted.
- Real-time stream of data within the software interface and video monitor's HUD (Heads-Up Display).
- Lock ROV position by touch-command.
- Expand software modules and use sliders.
- Export dive history data to .CSV format file.
- Drag and drop file transfer interface.

Visit our website, www.marinenav.ca or contact a sales representative for specifications of each ROV topside control case unit available.

Responsive 3-axis hand-held ROV controller.

The Oceanus joystick/hand-held controller is a 3-axis hand controller featuring Hall-effect technologies providing trouble-free control of ROV motion. Directional movements correspond to input in to the Hall-Effect joystick, providing forward or rear thruster thrust, lateral left, or lateral right movements. The joystick head controls ROV left and right turn commands. A conveniently positioned thumb wheel controls the rate of ROV ascent and descent. The P8 Pro and Ultimate (v4.0) joystick/hand-held controller features a micro joystick that controls ROV pitch and roll and movement and a second micro joystick that controls rotating manipulator attachment functions. ROV function control buttons on all Oceanus joystick/hand-held controllers provide easy access to frequently used ROV functions (ROV functions are also accessed through the FCS software interface).



Oceanus joystick/hand-held controller (v4.0)

ROV accessories and parts

Rotary cutting tool jaw heads and rotating manipulator arm (with ROV mount base plate).



Our ROV systems support a wide range of third-party accessories, and we can design and manufacture bespoke ROV accessories for your industries need.

MarineNav produces a variety of ROV accessories to enhance the functionality of your selected ROV system. Working with our clients we have created custom built accessories suited to their industries specific need. MarineNav Ltd. Specializes in concept design, prototyping, and manufacturing, employing a staff of dedicated professionals with decades of cumulative experience. Contact MarineNav to discuss bespoke ROV accessories.

Single-axis and 360° rotating ROV manipulators with interchangeable jaw heads.

Designed, engineered and manufactured on-site, MarineNav has developed a line of ROV manipulators and head attachments to perform essential tasks. From economical single-axis manipulators, to our complex rotating manipulators with interchangeable jaw-heads and cutting tools, there is a MarineNav manipulator guaranteed to work with your ROV system. All manipulators are manufactured to exacting

standards using long-lasting marine-grade materials and are easily mounted to the ROV mount platform. Our proprietary software recognizes MarineNav 'smart' accessories when they are properly mounted, and all accessory control functions are accessible through the FCS software or by the hand controller button selection.



MarineNav's rotating manipulator with storage case, four interchangeable jaw heads and connecting cable.

ROV accessories manufactured on-site

- **ROV tether.** Available in neutral buoyancy and manufactured to measured lengths. (Custom lengths upon request).
- **Tether deployment reels.** A selection of different tether deployment reels are available for easy storage and management of tether lengths. Integrated slip rings allow you to pay out only the length of tether needed, standard reel max 180m tether, other reels available that store up to 500m of tether.
- **Manipulator arms.** Single axis or rotating manipulators made to order with interchangeable jaw heads.
- **ROV fish scoop.** Provides simple retrieval of fish morts and other items using a dozer and clamp style.
- **Gaff hooks / retrieval hooks.** A selection of different hooks / gaffs provide the means to attach to objects sub-sea.
- **Oceanus thruster guards.** Protect thruster blades by minimizing thruster intake of foreign matter when thruster engines are engaged.
- **Custom built external camera mounts.** Designed to work with your existing camera system.
- **Tube feet skids / wheel mounts.** Protect your ROVs tubular legs and skids by rolling across surfaces you come in contact with.

Compatible third-party ROV accessories.

Contact MarineNav regarding popular third-party ROV accessory options that are available for each class of ROV system we manufacture. Third-party accessories include;

- Sonar systems
- Metal thickness gauge
- Tracking and positioning systems
- Cavitation hull-cleaning systems



ROV replacement parts made to order

With all of our ROV systems designed and manufactured on-site MarineNav is positioned to provide an extensive range of ROV replacement parts that replace ROV modular components over normal wear. Many of MarineNav's replacement parts are easily replaced with a minimum requirement of time and tools. Our service department of knowledgeable technicians is available to offer technical support for specialized ROV parts replacement.

Visit our website at www.marinenav.ca to download a current list of available ROV replacement parts, or contact a MarineNav representative if you require a unique part.



Superior ROV parts built on-site. Unmatched customer support.

- **Quality Control is #1.** We have full control of our manufacturing and assembly.
- **Parts are always available.** We manufacture in-house and maintain an inventory of supplies of parts at all times.
- **Bespoke solutions.** We can modify, adapt and build almost anything our customers require.
- **Premium quality connectors.** We use sub-sea industry standard connectors, creating tethers and whips in house.
- **Knowledgeable service.** Speak directly with the people who designed, engineered and manufactured your parts firsthand.

MARINE NAV Side-scan Towfish SONAR SYSTEM



3 KNOT MAXIMUM SPEED RECOMMENDED RANGE TO SEABED 0 - 75 METERS.

Capable of wide-beam scans, the Side-scan Towfish sonar system replaces the need for destructive bottom dredging or expensive dive teams. MarineNav wide-beam scan sonar systems are ideal for preliminary assessment of potential target areas capturing anomalies that can be reviewed and marked with geo-markers for future ROV exploration.

MarineNav manufactured Side-scan Towfish components protected by a one-year limited warranty. Third-party component warranties available upon request.

Contact MarineNav for current pricing, specifications and availability.



Includes a Towfish torpedo outfitted with sonar, one topside control system with 13" Humminbird sonar, 45 feet connecting tether with strain relief cable, connecting carabiner and software license key to Sonar Viewer software.

Manufactured on-site from marine-grade materials, MarineNav's Standard 13" Side-scan Towfish is a portable sonar that is easily transported and deployed to scan large areas of the seabed to spot anomalies, wrecks, ghost gear and other objects. The Side-scan Towfish is towed beside, or behind your vessel while it is in motion to carry out a smooth survey of a target area simply by lowering or raising the sonar to a fixed depth, thus eliminating potential pitch and roll to provide smoother data. With GPS integrated into the screen, the Side-scan sonar can also be used as a chart plotter and is compatible with most detailed marine maps including Navionics providing full navigational charts.

Standard features include:

- Choose from a DC power source (9-36V DC), an AC power source (120/240V AC), or access to a built-in battery source (built-in connectors for two plug-in Dewalt brand batteries).
- Adjust sonar to three adjustable frequencies of 455Khz, 800Khz or 1.2Mhz. Higher frequencies provide more detailed seabed scans, while lower frequencies increase the sonar scan range. At 455Khz, the Side-scan Towfish scans up to 243m (800 ft) on either side of your vessel.
- Identify found objects and anomalies in real-time, and mark targets by creating touch-activated waypoints that record GPS coordinates. Review sonar sweep data frame-by-frame, fast forward, reverse and pause command functions allow users to focus on key frames to assess possible anomaly targets. All recorded data is saved to the topside control system solid-state drive for future dive missions.
- 45 ft length of connecting cable, strain relief rope and carabiner.
- View streaming data in real-time on a 13-inch multi-function display. Built-in software allows users to review data on the fly, pause, reverse or jump forward to view key frames for potential anomalies.
- 32 GB data storage topside.
- The Side-scan Towfish includes a one-year limited warranty extended to all MarineNav-manufactured components within the system.

Towfish Specifications:

Recommended Range to Seabed	0m-75m (0-246 ft)
Maximum Speed	3 knots
Length	1265.0 mm (49.80")
Height	252.0 mm (9.92")
Width	314.0 mm (12.36")
Towfish Tube Diameter	51.0 mm (2.00")
Weight (does not include Towfish cable)	3.72 kg (8.2 Lb)
Towfish Cable Length	9.1m (30.0 ft)
External GPS puck	Optional upgrade

Topside Specifications:

Length	508.0 mm (20.0")
Width	355.6 mm (14.0")
Depth	203.2 mm (8.0")
Weight (with standard 13" screen)	10.61 kg (23.39Lb)
Data Storage (removable SD card)	32 GB
Supply Voltage (V _{in})	9 - 36V DC, built-in AC power source (120/240V AC, built-in connectors for two plug-in Dewalt brand batteries)
Topside Display Size	330 mm (13.0")
Topside Software	Sonar viewer - basic software

Sonar Specifications:

Side-Scan Imaging Range	76.2m (250 ft) - 800 Khz 152.4m(500 ft) - 1.2Mhz 243.8m (800 ft) - 455 Khz
Down Imaging Range (dependent on height from seabed)	76.2m (250 ft) - 800 Khz, 152.4m (500 ft) - 1.2 Mhz 243.8m (800 ft) - 455 Khz
Standard CHIRP Sonar Imaging Range	28-250 Khz, 365.7m depth (1200 ft)



MN Side-scan Towfish-16 PREMIUM EDITION



4.8 KNOT MAXIMUM SPEED. RECOMMENDED RANGE TO SEABED 0 - 150 METERS.

Capable of wide-beam scans, the Side-scan Towfish sonar system replaces the need for destructive bottom dredging or expensive dive teams. MarineNav wide-beam scan sonar systems are ideal for preliminary assessment of potential target areas capturing anomalies that can be reviewed and marked with geo-markers for future ROV exploration.

MarineNav manufactured Side-scan Towfish components protected by a one-year limited warranty. Third-party component warranties available upon request.

Contact MarineNav for current pricing, specifications and availability.



Includes a Towfish torpedo outfitted with sonar, one topside control system with 16" Humminbird sonar, 90 feet connecting tether with strain relief cable, connecting carabiner and software license key to an advanced version of sonar software.

Manufactured on-site from marine-grade materials, MarineNav's Premium 16" Side-scan Towfish is a portable sonar that is easily transported and deployed to scan large areas of the seabed to spot anomalies, wrecks, ghost gear and other objects. The Side-scan Towfish is towed beside, or behind your vessel while it is in motion to carry out a smooth survey of a target area simply by lowering or raising the sonar to a fixed depth, thus eliminating potential pitch and roll to provide smoother data. With GPS integrated into the screen, the Side-scan sonar can also be used as a chart plotter and is compatible with most detailed marine maps including Navionics providing full navigational charts.

Standard features include:

- Quick deployment and surveying capabilities. Connect, power-up and deploy the tow-fish over the side of a boat or from a Davit and start surveying an area in under five minutes.
- Choose from a DC power source (9-36V DC), an AC power source (120/240V AC), or access to a built-in battery source (built-in connectors for two plug-in Dewalt brand batteries).
- Adjust sonar to three adjustable frequencies of 455Khz, 800Khz or 1.2Mhz. Higher frequencies provide more detailed seabed scans, while lower frequencies increase the sonar scan range. At 455Khz, the Side-scan Towfish scans up to 243m (800 ft) on either side of your vessel.
- Identify found objects and anomalies in real-time, and mark targets by creating touch-activated waypoints that record GPS coordinates. Review sonar sweep data frame-by-frame, fast forward, reverse and pause command functions allow users to focus on key frames to assess possible anomaly targets. All recorded data is saved to the topside control system solid-state drive for future dive missions.
- 90 ft length of connecting cable, strain relief rope and carabiner.
- View streaming data in real-time on a 16-inch multi-function display. Built-in software allows users to review data on the fly, pause, reverse or jump forward to view key frames for potential anomalies.
- 32 GB data storage topside.
- The Side-scan Towfish includes a one-year limited warranty extended to all MarineNav-manufactured components within the system.

Towfish Specifications:

Recommended Range to Seabed	0m-150m
Maximum Speed	4.8 knots
Length	1332.0 mm (52.44")
Height	285.0 mm (11.22")
Width	331.0 mm (13.03")
Towfish Tube Diameter	73.0 mm (2.87")
Weight (does not include Towfish cable)	5.95 kg (13.12 Lb)
Towfish Cable Length	18.2 m (60.0 ft)
External GPS puck	Optional upgrade

Topside Specifications:

Length	638.0 mm (25.12")
Width	505.0 mm (19.88")
Depth	224.0 mm (8.82")
Weight (with standard 13" screen)	14.00 kg (30.86 Lb)
Data Storage (removable SD card)	32 GB
Supply Voltage (V _{in})	9 - 36V DC, built-in AC power source (120/240V AC, built-in connectors for two plug-in Dewalt brand batteries)
Topside Display Size	406mm (16.0")
Topside Software	Sonar viewer - advanced software

Sonar Specifications:

Side-Scan Imaging Range	76.2m (250 ft) - 800 Khz 152.4m(500 ft) - 1.2Mhz 243.8m (800 ft) - 455 Khz
Down Imaging Range (dependent on height from seabed)	76.2m (250 ft) - 800 Khz 152.4m (500 ft) - 1.2 Mhz 243.8m (800 ft) - 455 Khz
Standard CHIRP Sonar Imaging Range	28-250 Khz, 365.7m depth (1200 ft)



MARINENAV

Established in 2005, MarineNav Ltd specializes in the design and on-site manufacturing of marine-grade computers, displays and underwater ROV systems.

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website: <https://marinenav.ca/>



Terms and Conditions

While we strive to ensure the accuracy of all items and descriptions in this document, this is not always possible. Specifications, options, and availability are subject to change without notice. Errors and omissions excepted. We reserve the right to limit quantities.

THREE-YEAR LIMITED WARRANTY

*MarineNav's Three-Year Limited Warranty applies to customers who have purchased one of the following ROV systems; an Oceanus Mini, an Oceanus Pro Classic, an Oceanus P8 Pro, or an Oceanus Ultimate ROV system. An initial two-year limited warranty is made available when your eligible MarineNav Oceanus ROV is registered within the first year of purchase. For the warranty to remain valid all regimented ROV scheduled maintenance must be completed according to manufacturers guidelines. At the completion of the initial two-year limited warranty period a third year extension is provided to those customers who have adhered to all regimented ROV maintenance as outlined by manufacturer. Warranty restrictions apply;

- a) MarineNav Ltd warrants that tether supplied with ROV systems or supplied separately will be free from defects in materials and workmanship under normal use and service for a period of ninety (90) days from date of shipment.
- b) MarineNav Ltd warrants that tether whips that were provided as part of an ROV system at time of original shipment will be free from defects in materials and workmanship under normal use and service for a period of six (6) months from date of shipment.
- c) MarineNav Ltd warrants that thruster motors that were provided as part of an ROV system at time of original shipment will be free from defects in materials and workmanship under normal use and service for a period of one (1) year from date of shipment. This does not include wearable parts such as propellers, which are considered a consumable item. Tampering, misuse and regular wear are not covered by warranties.
- d) MarineNav Ltd warrants that the ROV float block that was provided as part of an ROV system at the time of original shipment, or purchased separately will be free from defects in materials and workmanship under normal use and service for a period of three (3) months. The three-month warranty does not cover normal wear such as scuffs, scrapes indentations, or other damage to the float block caused by external environmental factors.
- e) MarineNav Ltd warranties exclude corrosion that may occur on ROV metallic parts caused in part by improper cleaning and storage of ROV after each mission. Refer to your owner's manual for proper cleaning and maintenance of your ROV system.

• Maximum speed tests conducted with ROVs fitted with performance float blocks and absence of all ballast weights. Contact MarineNav for cost and availability of performance float blocks.

▼ Some accessories require use of the MarineNav Multi-Port communication system. Oceanus ROVs may exceed recommended depth ratings of some third-party accessories. Consult third-party manufacturer specifications for all accessories prior to use.

The Controlled Goods Program (CGP) is a registration and compliance program that regulates access to controlled goods in Canada. Controlled goods are primary goods that have military or national security significance.

MarineNav Ltd. is an ISO 9001:2015 certified company. Our certified Quality Management System ensures that each unit we produce adheres to the strictest standards and complies with customer requirements.

