

# C-RESEARCHER SERIES

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THE ELITE IN EXPLORATION  
2 - 3 persons | 480 - 2,000 meters



# CHALLENGING LIMITS

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Join the elite explorers, challenge the deep and roam parts of the world only a lucky few have been before. Manned submersibles have always been the key to successful and engaging deep ocean exploration. Dive deeper, longer and safer than with any other underwater vehicle. And unlike a remotely-operated vehicle, these submarines put you right at the heart of your subject.

The C-Researcher series offers scientists, researchers, documentary makers and explorers the most outstanding submersibles ever built. Apart from the fact that these versatile submarines are ideally suited for research, their view, efficiency and speed make them also perfect for those who simply wish take in the views of the subsea world.

The five different submarines in the C-Researcher series let private explorers and research organisations pick the most suitable submersible for their mission objectives.



# MODEL OVERVIEW



## PRESSURE-TOLERANT LITHIUM-ION BATTERIES

Our Pressure-Tolerant Lithium-ion battery technology provides more efficient charging and discharging, longer endurance, improved life cycles, lower weight and is a much cleaner and safer technology for the environment than conventional lead-Acid batteries.



## MANTA CONTROLLER

The MANTA Controller allows for pinpoint precision manoeuvring and supervised passenger steering. It also incorporates Auto-depth and Auto-heading functionalities.



## MARLIN CONTROLLER

Our MARLIN Controller makes surface navigation effortless without the need for a pilot in the submersible. It also greatly enhances safety and ease of launch & recovery, since you do not need a person to be on or in the submarine during lifting.



## SINGLE LIFTING POINT

Our single lifting point arrangement allows for easier and safer launch & recovery.



## 6 THRUSTERS

With a combined output of 36.4 kW, the C-Researcher's six thrusters guarantee unparalleled speed, manoeuvrability, precision control and the highest ascent/descent speed.



### C-RESEARCHER 3 - 1700

3 occupants  
1,700 meters · 5,570 feet  
10,500 kg  
400 · 346 · 230 cm

### C-RESEARCHER 3 - 1100

3 occupants  
1,100 meters · 3,600 feet  
8,200 kg  
390 · 346 · 255 cm

### C-RESEARCHER 3 - 480

3 occupants  
480 meters · 1,575 feet  
6,300 kg  
352 · 312 · 234 cm

### C-RESEARCHER 2 - 2000

2 occupants  
2,000 meters · 6,600 feet  
8,200 kg  
351 · 312 · 236 cm

### C-RESEARCHER 2 - 500

2 occupants  
500 meters · 1,640 feet  
5,750 kg  
319 · 280 · 214 cm

# THE BEST VIEW AT DEPTH

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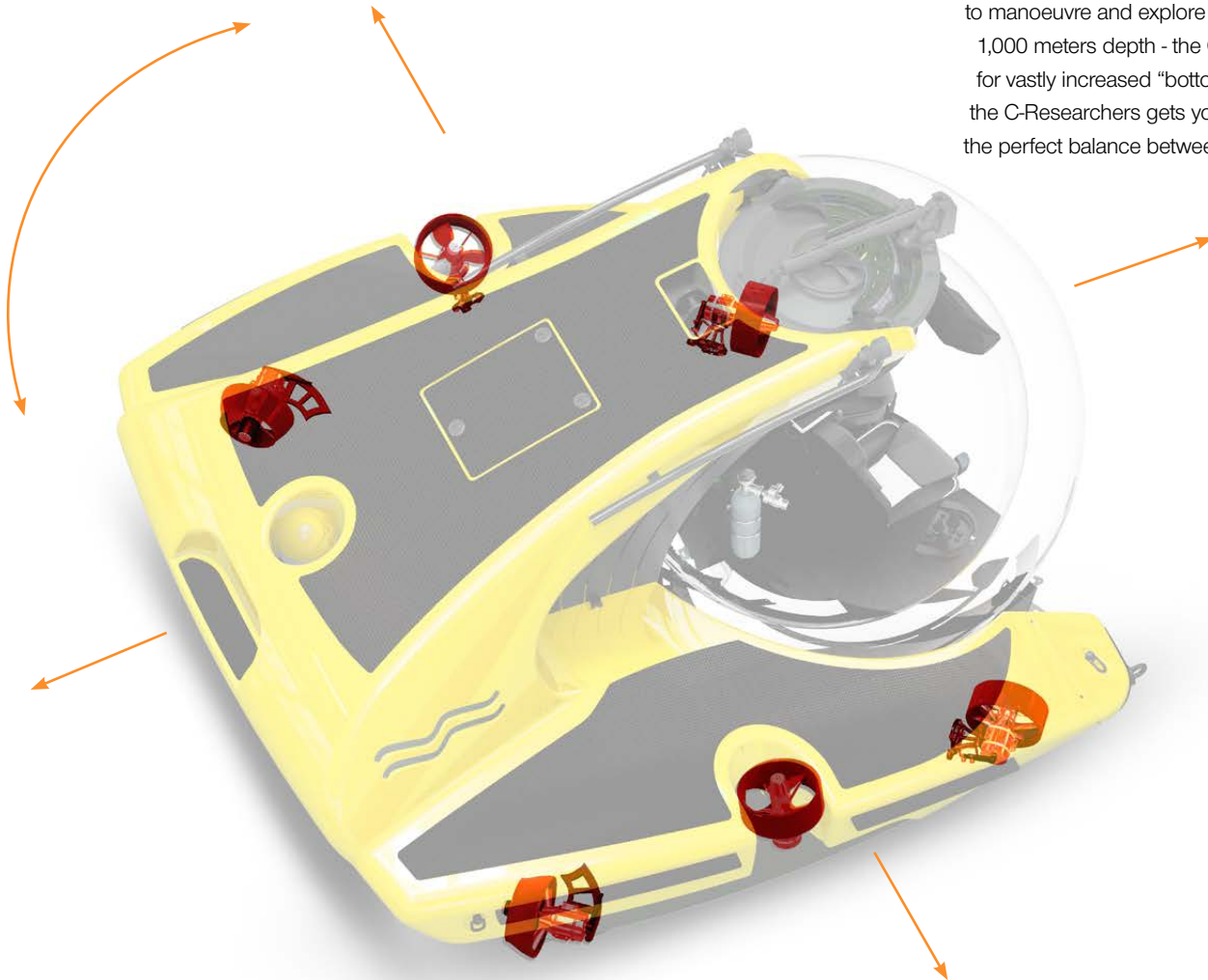
To achieve a crystal-clear view, the latest techniques and finest materials are used to create the most optically-perfect acrylic sphere possible. Hundreds of hours are spent polishing the viewport, guaranteeing the best view. By putting most of the submarine's systems at the back, behind the spherical window, the widest field-of-vision is created – including downward view. This means you will enjoy the most immersive experience and will not miss a thing. Moreover, all external tools like robotic manipulator arms can also be easily observed for efficient and accurate control.



# HIGHEST MANOEUVRABILITY AND SPEED

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Each C-Researcher is equipped with six powerful thrusters, cleverly positioned to provide the freedom you need to manoeuvre and explore with precision and speed. Traditional deep-diving submarines can take hours to reach 1,000 meters depth - the C-Researchers will get you there in 30 minutes. This outstanding performance allows for vastly increased "bottom time" to explore and operate at greater depth. The unparalleled manoeuvrability of the C-Researchers gets you closer to the subjects you wish to study. Each thruster is carefully placed to achieve the perfect balance between efficiency and directional control, even allowing effortless sideways traversing with a single input on the MANTA Controller.



# ENDLESS DIVING

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The Pressure-Tolerant Battery System does not just make the C-Researchers lighter and more compact than any other submersible in its class, it also doubles the battery capacity. The 62 kWh battery system allows you to dive deeper and longer than any private submarine. Running the submersible's incredible array of high-intensity LED lights, demanding science instrument suite and climate control systems can be done unreservedly thanks the subsea industry's most powerful battery system.



The image shows the interior of a submersible, viewed from the front. Two black leather seats with white stitching are prominent. The dashboard is filled with various instruments, including gauges, switches, and a central console. The hull is made of a clear, curved material, likely acrylic, which reflects light and creates a sense of depth. The overall atmosphere is one of high-tech luxury and precision engineering.

# UNPARALLELED COMFORT

Great attention to detail is paid to the interior comfort and finish of each C-Researcher submersible. The spacious hull offers ample head and leg room with luxurious leather seating that has been designed for comfort during long research missions. Each interior can also be customised to meet your personal requirements and could even be matched to mimic your company's or yacht's design themes.

# TOTAL SAFETY

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There are numerous tiers of safety built into all U-Boat Worx submersibles making them the safest in the world. For example, the submersible is positively buoyant and will float automatically to the surface in the highly unlikely event of a power failure.

Each submersible is built to stringent standards and an extensive program of tests guarantees that each submarine meets these standards. This process is continuously inspected and on completion, the vessel will be certified by DNV GL. Besides the mandatory safety features, U-Boat Worx has invested a lot of time in the development of industry-defining features like the unique safety buoy.





# EFFORTLESS CONTROL

The intuitive controls of the C-Researcher were designed to reduce the pilot's mental workload and allow focus on the undersea environment.

## MANTA CONTROLLER

The MANTA Controller was designed to give the pilot a greater degree of precision while manoeuvring the C-Researcher. This portable and intuitive controller has many additional functions such as 'Auto-depth' and 'Auto-heading' which greatly reduce the pilot's workload. In fact, the MANTA Controller makes controlling the submersible so easy that passengers are able to take full control of the sub – of course under the supervision of the pilot.

## U-BOAT WORX INFORMATION SYSTEM (UIS)

Our specially-designed integrated monitoring system brings all the info the pilot needs to a single easy-to-read touch screen. The user-friendly interface was developed by our most experienced pilots to ensure that all vital data is available at a glance and that secondary information can be displayed at the tap of a finger.



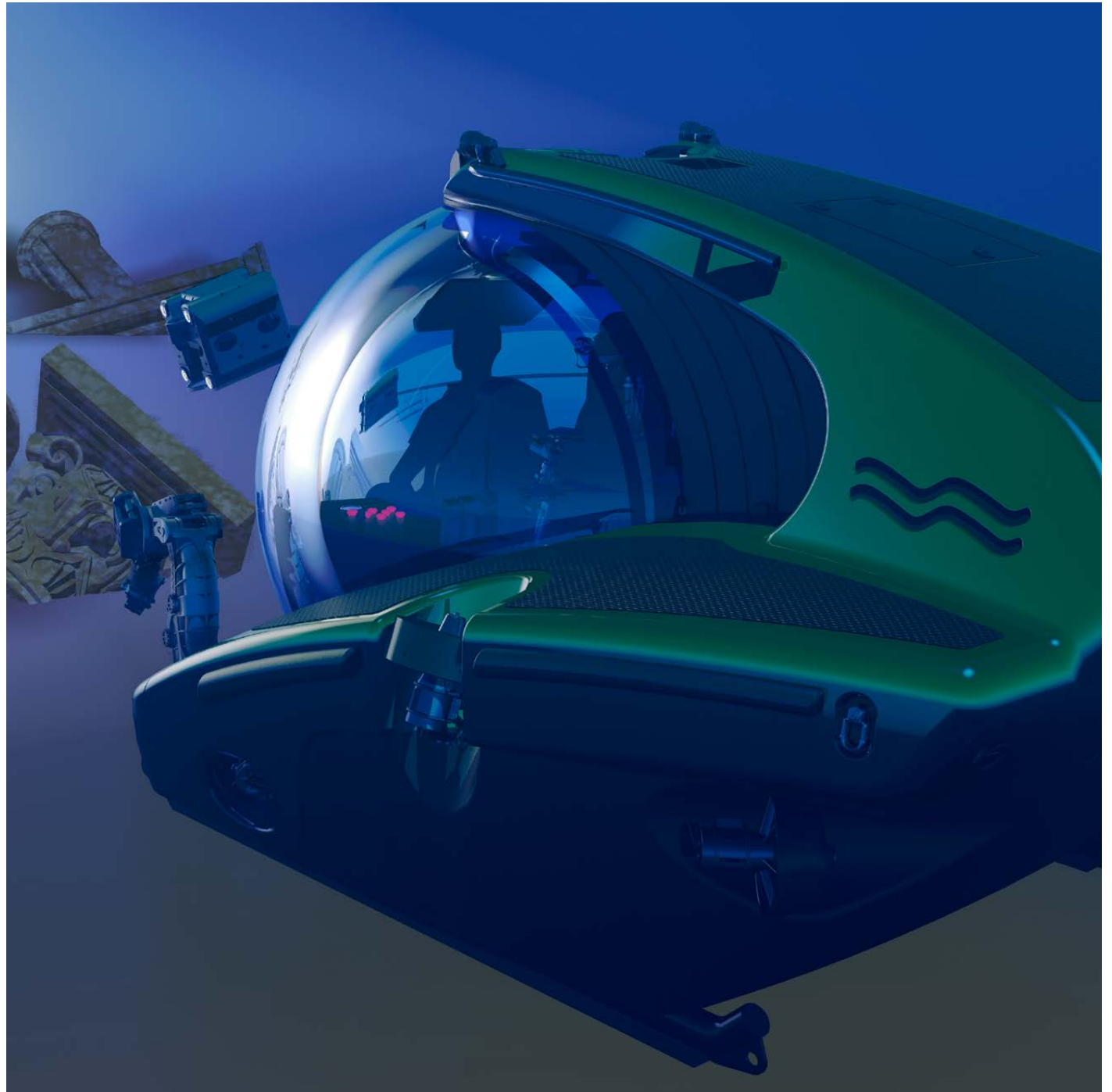
# OPTIONS & TOOLS

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The C-Researchers are characterised by their abundant payload. This payload can be used for carrying many optional extras or collecting underwater objects. The automatic trim weight system also maintains the horizontal trim of the submersible when gathering heavy samples.

An extensive list of proven optional extras is available that expand the operational capabilities of the submersible to navigate, measure, record, collect, capture and manipulate.

Custom tools can be designed upon request and per client specification. Whatever your needs may be, our in-house engineering team can develop the right tools for the job.





# EVER READY

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Post and pre-dive procedures could not be simpler. Simply connect the service tablet and see the status of all systems while recharging the batteries, air and life support as required. Pre-dive checks are comprehensive but quickly completed. After the day's operations, a quick rinse with fresh water and connection to the battery chargers is all that's required.

The use of highest quality materials assures excellent reliability and very low maintenance. Smart engineering means that only minimal crew are required to operate the submersible.

# CAREFREE LAUNCH & RECOVERY

U-Boat Worx has perfected the technique for effortless launch and recovery. The C-Researcher submersibles all feature a single lifting point for quick and safe launch and recovery.

As soon as the submersible hits the water you can use the MARLIN Controller to steer your C-Researcher to a suitable spot for embarkation.

The C-Researcher comes standard with a man-rated lifting certification that permits manned launch and recovery if the circumstances so desire.



# UNCOMPROMISED SURFACE CAPABILITIES

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The C-Researcher is designed with boat-like handling characteristics, allowing to manoeuvre freely at the surface and even move laterally.

Ample freeboard, an ultra-stable design and a spacious top deck allow crew and passengers to change over without the need to recover the submersible onto the support ship.

Lastly, the high-speed towing capabilities will ensure efficient mobilisation of the C-Researcher at the surface.



# SPECIFICATIONS



## GENERAL CHARACTERISTICS

	<b>C-RESEARCHER 2 - 500</b>	<b>C-RESEARCHER 2 - 2000</b>	<b>C-RESEARCHER 3 - 480</b>	<b>C-RESEARCHER 3 - 1100</b>	<b>C-RESEARCHER 3 - 1700</b>
Occupants	1 pilot and 1 passenger	1 pilot and 1 passenger	1 pilot and 2 passengers	1 pilot and 2 passengers	1 pilot and 2 passengers
Maximum Operating Depth	500 meters 1,640 feet	2,000 meters 6,600	480 meters 1,575 feet	1,100 meters 3,600 feet	1,700 meters 5,570 feet
Operational Autonomy	Up to 18 hours	Up to 18 hours	Up to 18 hours	Up to 18 hours	Up to 18 hours
Type	Dry, 1 Atmosphere	Dry, 1 Atmosphere	Dry, 1 Atmosphere	Dry, 1 Atmosphere	Dry, 1 Atmosphere
Classification	DNV GL	DNV GL	DNV GL	DNV GL	DNV GL

## DIMENSIONS & WEIGHT

Submersible Length	319 cm	351 cm	352 cm	390 cm	400 cm
Submersible Width	280 cm	312 cm	312 cm	346 cm	346 cm
Submersible Height	214 cm	236 cm	234 cm	255 cm	230 cm
Weight	5,700 kg	8,200 kg	6,300 kg	8,200 kg	10,500 kg

## PRESSURE HULL

Pressure Hull Material	Acrylic	Acrylic	Acrylic	Acrylic	Acrylic + Titanium
Hatch Type	Top-Hatch	Top-Hatch	Top-Hatch	Top-Hatch	Top-Hatch

## BALLAST & BUOYANCY SYSTEMS

Number of Ballast Tanks	2
Compressed Air Capacity	4 x 50 liter @ 300 bar
Hydraulically Released Weight	Yes
Buoyancy Tank	Yes

## POWER CAPACITY

Total Power Capacity	62 kWh
Battery Type	Pressure-Tolerant High Capacity Lithium-ion
Propulsion System Capacity	2 x 260 VDC Battery Packs
House System Capacity	2 x 24 VDC Battery Packs
Charging (Optimal Cycle)	6 hours
Emergency Battery	96 hours for Critical Systems

## PROPULSION

Propulsion Type	Electrical
Propulsion	4 x 6.4 kW + 2 x 5.4 kW thrusters
Surface Speed	3 knots
Underwater Speed	3 knots

## LIFE SUPPORT SYSTEMS

Oxygen System	Continuous Flow
Mission Oxygen Capacity	3 liter (Quick Exchange)
Carbon Dioxide Removal	8 hours with Calcium-Hydroxide
Survival Period	96 hours
Emergency CO <sub>2</sub> Removal	Lithium-Hydroxide Blankets
Autonomous Breathing Devices	2 or 3 (depending on occupants)
Life Support Monitoring	2 independent life support monitors (O <sub>2</sub> - CO <sub>2</sub> )

## NAVIGATION, COMMUNICATION, AUXILIARY

Air Conditioner System	7,000 BTU
Underwater Communication	Single sideband acoustic telephone, 7/25 kHz
Surface Communication	VHF Handheld Unit
Navigation	Echosounder, Electronic Compass
Control System	"MANTA" Controller, "MARLIN" Controller
U-Boat Worx Information System	Alarm System, Battery Status, Thruster Status, Sensor Status, Internal Pressure, Depth, Electrical Insulation Monitoring, Water Ingress Sensors, Freon Sensor, Buoyancy Tank Level Indicator, Internal and External Temperature
Safety Equipment	Pinger Locator Beacon System, Emergency Releasable Buoy, Maximum Depth Protection, Deadman's switch, Fire Extinguisher, External Air Connection for diver-assisted ascent, Xenon Flasher
Other	Protective Cover for Acrylic Viewport, Checklists and Manuals, Topside Communication Unit, Battery charger



# ABOUT U-BOAT WORX

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At U-Boat Worx we do everything possible to give you the best and safest diving experience possible. Since our start in 2005 we have grown to become the largest private submersible builder in the world. Our large fleet consists of 15 different models, and has changed the standards for private submersibles.

Each U-Boat Worx submersible is engineered and built to the highest standards. Leading Classification Society DNV GL individually classes each submersible by extensively testing each component. It is our innovation and in-house engineering that have led to many “world-firsts” and achievements that illustrate how our owners explore with the best submersibles.

We are the only submersible manufacturer who builds in series. The benefits of this approach are straightforward. Our customers enjoy the best quality, highest reliability and design at industry-defining prices.

The engineers and technicians in our Netherlands-based factory take individual care of each submersible assuring the highest level of precision and craftsmanship, to provide customized solutions for a particular mission or a bespoke design.

It is the quality of our submersibles and the dedication of the team that makes a U-Boat Worx submersible the best choice for everyone involved, from the owner and his guests, to the crew and operator.





# GLOBAL SERVICE & SUPPORT

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U-Boat Worx provides a comprehensive support programme that covers full operational management, the provision of crew or simply suggesting dive locations.

## SUBSUPPORT

We take great care of our clients. Owning a private submarine is a seamless process. Your personal concierge is available worldwide, 24/7.

Selecting dive sites along your planned itinerary, providing our expert pilots or arranging the annual survey – these are just a few examples of the services we provide.

We endeavour to ensure you always have the best possible dive experience;

- 24/7 technical support
- Maintenance and service
- Annual survey management
- Dive permit applications
- Pilot/crew provision and/or training
- Advanced spare part inventory
- ROV or diver contingency planning
- Registration and insurance

## SUBCHARTER

U-Boat Worx has a wide network of charter brokers whereby owners can participate in our SubCharter facility to maximise income from their submersible and/or support vessel.

## SUBEXPEDITION

Our SubExpedition programme is a bespoke function that networks with recognised experts and research groups around the world. This provides a wealth of information and choice when considering embarking on a research mission.

