SEACRAFT
MADE TO EXPLORE

Original scooter GO!
user manual

MODELS:

- GO!

The manufacturer reserves the right to change the technical specifications of the devices described here. The current version of the manual is available for download at www.seacraft.eu

The manufacturer is not responsible for accidents and damage caused by improper use of the product, as well as by its use in a manner contrary to or deviating from the rules set forth in this manual.

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INTRODUCTION

Before operation, read the user manual and the other instructions listed below.

An integral part of the documentation equipment of the underwater scooter, are:

1. Original scooter GO! user manual
2. Charger manual
3. Battery manual
`4. EC Declaration of Conformity

First read the safety rules, then read the information on how to operate the scooter. Read the control panel manual next to the DPV scooter for better understanding of the screen content.

Three types of designations are used in this manual, the meaning of which is as follows:

WARNING
It indicates a procedure or situation that, if disregarded, can lead to equipment damage or a serious accident. It can also indicate improper and unsafe practices.

DANGER
It indicates a dangerous situation that, if not controlled, inevitably leads to a serious accident, also with the possible result of death or disability.

CAUTION
Indicates a procedure or information that is important to the user

- **Before operating, read the instructions for the scooter, control panel, charger and battery.**
- **Follow all safety guidelines.**
- **In case any doubts about the product or the information provided with it, contact the manufacturer for additional answers.**
- **All contact details available on the front page.**
- **Updated user manual available to download from the manufacturer's website.**
- **Operation of the battery must be in accordance with the information provided in the instructions supplied with the battery.**
- **Keep the proof of purchase of the device.**
- **Keep the device's instruction manual with all additional documents.**

COMPLIANCE WITH LEGAL REQUIREMENTS

The manufacturer declares that the product meets the safety requirements, in terms of European Union directives:

- **MD Directive 2006/42/EC on machinery.**
- **EMC Directive 2014/30/EU on electromagnetic compatibility.**
- **RoHS Directive 2011/65/EU on restrictions on the use of hazardous substances in electrical and electronic equipment.**
- **regulations arising from harmonized standards and other technical standards. The signed and dated declaration of conformity is a separate appendix, attachedto each unit of the SEACRAFT series. The declaration contains a list of the standards applied.**

01 SAFETY

The information contained in this section is relevant to the process of safe operation of the device.

The manufacturer of the Seacraft underwater scooter shall not be liable for any damage caused by improper use of the Seacraft underwater scooter as well as by its use in a manner contrary to or deviating from the rules set forth in this manual.

The manufacturer is not responsible for damages resulting from exceeding the service life of batteries.

1.1 GENERAL SAFETY INFORMATION

1. The safety guidelines described in the manual apply to all SEACRAFT underwater scooter models.
2. Follow the safety guidelines described in the manual.
3. Follow the safety guidelines that apply to divers.
4. Make sure you are qualified, as evidenced by a certificate issued by a registered diving organization.
5. Remember the meaning of warning marks.
6. If the device malfunctions, stop further operation until the defect is corrected.
7. Replacement parts must meet the manufacturer's technical requirements.
8. Follow the rules and schedule for inspection and maintenance.

1.2 MARKINGS

Migns and pictograms are placed on SEACRAFT to remind you of potential hazards. Care should be taken to ensure the legibility of the markings. In case of loss of markings or deterioration of their legibility, such markings should be replaced with new ones. For this purpose, contact the manufacturer.

CE	The CE marking – Conformité Européenne – signifies the manufacturer's declaration that the product is compliant with the essential requirements of the applicable directives and regulation	Identification plate
	This symbol indicates that the product is subject to the WEEE 2012/19/EU regulations. t the end of its service life, the product must not be disposed of together with other household waste. When disposing of waste from the device, it must be handled in a manner that complies with the regulations, in order to avoid negative effects on the environment and human health that could occur due to improper handling of this waste. For more information on recycling waste from this product, contact the municipal authorities in your area, the appropriate waste disposal service, or the supplier of the product.	Identification plate
	Li-ion batteries must be disposed of taking into account all regulations (nationwide and local) that apply in your country. If batteries are not disposed of properly, they may cause danger to human health or the environment	Battery housing
	Use by children and teenagers under 18 years of age is prohibited! Keep and use the device out of the reach of children!	Engraved on scooter body
	Read the instructions	Engraved on scooter body
	A sign warning of a fast-spinning element. Risk of injury in the water: The rotating element threatens to injure the hand. It is forbidden to bring your hands close to the working area of the marine propeller. Always use protective gloves! Risk of injury on land: It is forbidden to start the scooter drive out of the water if there is a risk that bystanders are within the operating range of the marine propeller. In particular, it is forbidden to start the drive in the presence of minors.	Engraved on the scooter body near the propeller

1.3 POTENTIAL HAZARDS WHEN USING A COMPLIANT

Hazard during normal use	Possible cause	Prevention
Damage during the transport	Fall, hit	The device must be secured against the possibility of shifting. Care must be taken to prevent other objects from falling on the scooter.
Damage during storage	Fall from a height	Shelves must have adequate load-bearing capacity and have an adequate, flat and undamaged surface. Be careful when removing other items stored next to it to avoid dropping the unit. When storing the scooter, it should be properly protected from the possibility of falling from a height. It is recommended to use the manufacturer's dedicated scooter stand and store in a horizontal position.
	Rollover	The scooter can be positioned vertically, but its deviation from the vertical must be less than 30 degrees.
Usage errors	Failure to read the instruction manual	Avoid routine. Reading the instructions is mandatory, regardless of your experience.
Loss device underwater	Incorrect trimming, lack of use of harness or excessive wear of the harness	Allocate an appropriate amount of time for preparatory activities before diving.
Battery runout during operation	Incorrect charge	Check the battery charge level before use.
	Battery life exceeded	Do not exceed the designated battery life.
Loss of structural integrity of the scooter	No maintenance inspection	The prerequisite for maintaining the safety of the scooter, its technical performance and the guarantee of reliability, is to take care of regular maintenance, in accordance with the guidelines of the manual, and to comply with the operating conditions.
Fast wear and tear of the scooter's mechanisms	Interaction of sand grains and crystallized salt from seawater	Maintaining cleanliness affects the mechanics of the controls. Before each use of the scooter, it is recommended to check the correct operation of the control elements. Regularly, after each dive, clean the machine components from sand and crystallized salt.
	Neglecting to properly lubricate the drive train	Be aware to regularly and properly lubricate the scooter's drivetrain with dedicated grease.
Palpable vibrations	Marine propeller wear	Replacing the propeller with a new one.
	Foreign objects entangle the propeller	Turn off the scooter and clean the drive system.
	Wear and tear of drive train plain bearings	Replacement of plain bearings. Proper lubrication of the drive train.

Locking the controls in the handle	Impact of pollution, excessive wear and tear	Pre-use inspection. Preferred use of two hand control.
Difficulty reading the screen display	Diver's vision defect	Use special masks with built-in vision correction.
	A momentary glare	It is necessary to change the position of the scooter.
	Display failure	Taking care of regular annual maintenance inspection.
Pulling the diver down	Negative buoyancy	Ensure precise trimming of the scooter.
Entanglement of foreign elements in the propeller mechanism	Limited visibility. Rich vegetation. Obstacles: nets, ropes, lines	Recommended to turn off the scooter and leave such an area, and then clean the drive system.

Exceeding the permissible rate of immersion and ascent.
When using a scooter during a dive, always keep in mind that changes in depth can occur very rapidly, with the risk of exceeding the allowable rate of descent and ascent and serious injuryto the diver's body.

1.4 POTENTIAL HAZARDS RESULTING FROM INCORRECT USE

Risks associated with improper use	Possible cause	Prevention
Use by unauthorized persons	Lack of supervision by scooter owner	Exercise direct supervision over the device with the battery installed.
Failure to comply with maintenance rules	Disregarding instructional guidelines	Periodically check the requirements of the scooter's operating instructions and comply with them.
Exceeding the diving depth	No indication control	Knowledge of the maximum operating depth of the scooter and its observance.
Exceeding the distance to return	No control of the scooter's operating time	Supervising scooter time and distance. Estimating the possibility of return with reserve left.
Appearance of vibrations	Using a scooter with a worn marine propeller, damaged drive train, or lack of lubrication	Comply to the guidelines of the manual.

Flooding of the scooter	Using equipment with damaged o-rings	Checking the condition of the seals. All O-rings must be in impeccable condition. If there is any doubt, replace them with new ones.
	Dirty o-rings	Keep the seals perfectly clean and lubricated.
	Mechanical damage to the display glass or other component of the scooter	Checking the condition of the scooter before diving.
Mechanical damage to the scooter during the dive	Going underwater with a scooter damaged during transport (bending, cracking)	Visual inspection of the condition of the housing before each use.
Damage to the housing or structural components of the scooter due to thermal shock	Overheating the housing before using the scooter in water	The scooter should not be exposed to direct sunlight and other sources of heat emission, in particular, it is forbidden to allow a sudden change in temperature, for example, by throwing a heated scooter into the water. If the increased temperature of the scooter housing has occurred, it must be reduced to ambient temperature, for example, by placing it in a cooler room or covering it with a protective film , reflecting sunlight.
Electrocution	Outdoor charging	The charger is designed for indoor use only. It is prohibi-tedto use it outdoors.
Shock during lightning discharges	Using a scooter during a storm	Do not use the scooter during thunderstorms and lightning, as there is a risk of electrocution and damage to the scooter's electrical circuits.
Fire during storage	Excessively worn battery	Keep an eye on your battery replacement intervals.
	Using, charging and storing the scooter that got flooded with water	Do not use a scooter that has been flooded. Read and follow the information on handling a flooded scooter.
Fire during transport or operation	Overheating due to prolonged exposure to sunlight	Take care that the scooter is not exposed to sunlight in a way that causes it to heat up excessively

1.5 RYZYKA RESZTKOWE

Despite the application of the best possible solutions, some risks remain as so-called residual risks, i.e. risks that still remain after the application of safety measures. In order to minimize the possibility of their occurrence and, if they do occur, to minimize the negative effects of such events, it is necessary for the user to take special care in the points described in the table below.

Type of residual risk	Cause	Ways to minimize risks
Injury to the fingers of the hand caused by rotating propeller	No cover for the moving working part	Always wear protective gloves when diving and keep your hands away from the working marine propeller. If the drive will be started on land, make sure that no unauthorized person comes near the rotor in operation. No minors are allowed in the vicinity.
Implosion	Mechanical damage to the housing. Exceeding the depth of acceptable descent.	Do not operate the scooter with a damaged housing. In any doubtful case, consult an authorized service of the manufacturer. Follow the rules of inspection and maintenance and the permissible parameters of the machine.
Inability to return safely due to loss of device	Damage or depletion of the battery	Do not exceed the life of the battery or the number of charge cycles allowed. Always check that the battery is fully charged before diving. Conduct a dive risk analysis.
	Excessive departure distance	Use a spare backup scooter. Control running time and distance. Secure another option to return, such as a boat. Provide a spare scooter. Control running time and distance. Secure another option to return, such as a boat.
	Damage to or loss of the scooter	Take care of good technical condition and regular maintenance. Take care of equipment maintenance.
Uncontrolled submergence or ascent	Incorrect trimming, neglecting buoyancy control, or using the thrust of the scooter to dip or surface.	When using the scooter while diving, always remember that the use of this device can greatly offset errors in establishing the correct buoyancy, which, if the scooter is stopped, risks a rapid, uncontrolled ascent or submergence of the diver. Therefore, each time, before using the scooter, check the neutral buoyancy of the scooter and use the scooter to move underwater only in a horizontal plane at a constant depth.

Use of the scooter for purposes other than those specified in this manual or not in accordance with the rules specified in this manual may result in serious injury or even death.

1.6 PERSONS AT POTENTIAL RISK

- The user during the use, transport and storage of the scooter.
- Those responsible for the inspection of the scooter and also when performing other maintenance activities.
- Bystanders if the device is left unattended, especially children

1.7 SUBSTANCES AND EMISSIONS THAT MAY PRESENT A HAZARD

Leakage from a leaking battery poses a serious threat to the environment. Place the leaking battery in a container capable of holding its contents. If this situation occurs, contact the nearest battery disposal service.

1.8 PERSONAL PROTECTIVE EQUIPMENT

Always wear protective gloves when diving. They provide protection if your hand comes into contact with the working propeller. Use gloves designed for divers.

1.9 RESPONDING TO EMERGENCY SITUATIONS

Situation	How to respond
Battery fire	Extinguish the fire with a powder extinguisher, according to the extinguisher's instructions.
Battery leakage	Follow section 1.7 of this manual.
Burns during a fire	Pour cool, fresh water over the burn site for at least 15-20 minutes. After this time, protect the burn site with a sterile dressing. Do not apply ointments or medications without consulting your doctor. Do not tear off pieces of clothing that have stuck to the skin. In this situation, contact your doctor as soon as possible.
Inhalation of exhaust gases from a fire	Get out into the fresh air as soon as possible. Contact your doctor.
Self-shutdown of the scooter during diving and inability to restart it	Immediately abort the dive and, following the proper procedures, ascend to the surface of the water.
Inability to turn off the scooter with the main switch - locking the scooter with the propeller running	In this situation, depending on the dive in question, you can: ■ Perform the necessary decompression stops while swimming with the scooter, or ■ Unhook/decouple from the harness and abandon the scooter, taking special-care to ensure that the free-floating scooter does not cause any damage ■ As long as the diver has a sufficient supply of air, rest the front of the scooter in a controlled manner against the bottom, wall of the body of water, or other permanent feature, and wait for the device's battery to discharge, or ■ Abandon the scooter underwater if towing it becomes impossible or too cumbersome.

If an unforeseen situation arises, posing a threat to the diver's health and life, do not attempt to save the scooter at any cost. Be prepared to abandon it if saving your own life or the lives of others is at stake.

02
THE CONSTRUCTION AND PURPOSE OF THE MACHINE

2.1 DESCRIPTION OF THE MACHINE

The SEACRAFT GO! underwater scooter is an electric device designed to support diving in both freshwater and saltwater environments. These scooters are intended for both professional and recreational diving by adults. They are not toys. They allow for rapid movement over long distances and at high speeds. The device is powered by an electric motor powered by modular batteries. Control is via control handles, and basic operating parameters are displayed on a built-in display panel.

Fig. 1 Model GO!

STANDARD EQUIPMENT

- Li-ion 97Wh segment of modular air-travel friendly battery – 6 pcs
- Battery voltage meter (voltmeter)
- Charger 130W
- Multipurpose transport bracket 160mm
- Universal mount on the control module or transport bracket
- DPV tow cord 1,8 m with boltsnap and two tensioners
- Soft transport case
- Accessories and spare parts set
- Rigid thermal insulated EPP transport container
- USB flash drive with user manual

2.2 PURPOSE

Underwater scooters are intended for users with specialized diving certifications. These devices are intended for individuals 18 years of age or older.

The device is not intended to accelerate descent or ascent.

The device is not intended to tow surface vessels: scooters, pontoons, boats, etc.

2.3 TECHNICAL PARAMETERS

Parameter	Value
Working time at optimal speed (45m/min)	>220 min*
Maximum range	>10 km*
Dimensions in millimeters	280 mm (width) x 520 mm (length) x 330 mm (height)
Housing diameter	Conical, undercut for the 160mm transport handle
Weight with battery and ballast for fresh water	9,7kg
Battery Capacity (Li-Ion)	582 Wh in total (6 x 97 Wh segment)
Nominal battery voltage	32,4V
Max battery voltage (after charging)	37,8V
Min battery voltage (after discharge)	26V
Charger operating voltage	100-230 V / 50 Hz / 120 W
Static thrust	>260N
Maximum speed	>1,35m/s
Maximum operating depth	100m
Displacement (with proper ballast)	Neutral
Trimming (with adjusted ballast)	Neutral
Scooter operating temperature**	-5/+45 °C
Scooter storage temperature	-25/+50 °C
Temperature while charging	+10/+40 °C
Noise level approx.	below 40 dB (A)
Vibrations	none
Electromagnetic radiation	no negative impact

* For a diver in a two-cylinder configuration – a 2x12l twinset, wearing a drysuit, in freshwater. Range tested at a speed of 45m/min.
**At temperatures below 0°C, due to the properties of lithium cells, battery capacity, and therefore scooter performance, may be significantly reduced. This is a reversible process – once the battery temperature is raised above 0°C, the battery capacity returns to its nominal value.

The manufacturer reserves the right to limit laboratory data relating to the technical specifications of the Seacraft underwater scooter to actual field operating conditions.

Potential discrepancies in selected performance parameters may result from differences in the equipment and training level of the underwater scooter user, the state of charge and wear of the scooter's batteries, the speed profile, local conditions (e.g., water temperature and current speed), charging temperature, charger type, technical condition of the device, regularity of device maintenance, scooter wear, and many other factors.

2.4 PROHIBITED USES

- It is forbidden to use scooters by persons who do not have diving qualifications.
- It is forbidden to use scooters by children and teenagers under the age of 18.
- It is forbidden to use the scooter by persons who are under the influence of alcohol, drugs, or other intoxicating
- or psychotropic substances.
- It is forbidden to use the scooter by people with health conditions.
- It is forbidden to use the device when there are no suitable conditions for diving.
- It is forbidden to use the Seacraft underwater scooter for the purpose of rapid ascent to the surface and rapid submersion underwater.
- It is forbidden to approach or put hands in the area of the Marine propeller of the device.
- It is forbidden to dive with an underwater scooter without protective gloves on.
- It is forbidden to use the device during thunderstorms and lightning.
- It is forbidden to insert any object into the scooter nozzle and into the rotating blades of the marine propeller.
- It is forbidden to exceed the maximum operating depth specified in the technical parameters of the model.
- It is forbidden to start a dive until it is ensured that the scooter has zero buoyancy.
- It is forbidden to lift the underwater by the nozzle (propeller cover) or the control handle on the nozzle.
- It is forbidden to touch the charger with wet hands.
- It is forbidden to use the charger with a damaged power cord.
- It is forbidden to use other types of chargers than those approved by the scooter manufacturer.
- It is forbidden to start a dive without properly planning the maximum return point, taking into account the current state of charge of the battery.
- It is forbidden to repair the scooter yourself.
- It is forbidden for unauthorized persons to repair the scooter.
- It is forbidden to modify the scooter.
- It is forbidden to use additional equipment attached to the scooter that is not intended for the scooter model.
- It is forbidden to use accessory equipment that has not been properly attached.
- It is forbidden to remove markings, signs, pictorials.
- It is forbidden to throw the scooter.
- It is prohibited to hit the scooter.
- It is forbidden to use non-original spare parts.
- It is forbidden to leave a scooter that is ready for underwater operation unattended.
- It is forbidden to leave the scooter unattended within the reach of children or persons not authorized to operate it.

2.5 PRINCIPLES OF SAFE USE

Each time before using the scooter, check the battery charge level. Each time before using the scooter, remove from the area of the nozzle and propeller all items that could be drawn into the scooter drive unit.

Before using the scooter, it is necessary to:

- remember to organize and secure all accessories and equipment, especially any straps, instruments hoses, lines, etc, attached to the diver's jacket, harness, or other piece of equipment;
- ensure that none of the aforementioned components have the potential to become entangled with the scooter's propeller;

When using the scooter, it is necessary to:

- regularly check that loose pieces of equipment are at a safe distance from the scooter's propeller and that there is no danger of these items becoming entangled in the scooter's propeller mechanism;
- exercise extreme caution when maneuvering the scooter in areas with limited visibility, dense vegetation, or in bodies of water with obstacles such as nets, ropes, or wrecks. It is recommended to turn off the scooter until you have left the area with these characteristics to avoid the possibility of entanglement with the propeller mechanism of the underwater scooter;

If a rope or other unwanted elements become entangled in the propeller mechanism of the scooter, the user should first attempt to resolve the problem underwater by taking the following actions:

- turn off the scooter;
- untangle or, if feasible, cut off unwanted items entangled in the scooter's marine propeller;
- the underwater propeller removal system greatly assists in removing unwanted items, but note that cutting tools must not be used if the marine propeller is removed, as this risks damaging the motor;
- start the scooter again and, choosing the shortest way back, take the return course;

If the removal of unwanted elements in the mechanism of the marine propeller is not possible, the following measures should be taken:

- turn off the scooter;
- tow the blocked scooter independently, choosing the shortest way back;
- surface with safety precautions;

When using a scooter during a dive, you should always:

- be careful in caring for the natural underwater environment;
- pay attention to the proper position of the scooter and fins when swimming past delicate underwater formations, ensuring that the device and diving equipment do not damage elements of aquatic flora or fauna;
- avoid direct contact of the device with the bottom of the water body. Contact of the scooter with the bottom may result in impaired underwater visibility, damage to aquatic flora or fauna, as well as blocking of the scooter's propeller (e.g., due to silt or sand stirred up by the underwater scooter entering the mechanism)

2.6 CONSTRUCTION OF THE SCOOTER AND DESCRIPTION OF THE CONTROLS

On attached belowe Figure 2 shows most of the main structural components of the GO! scooter and explains their nomenclature.

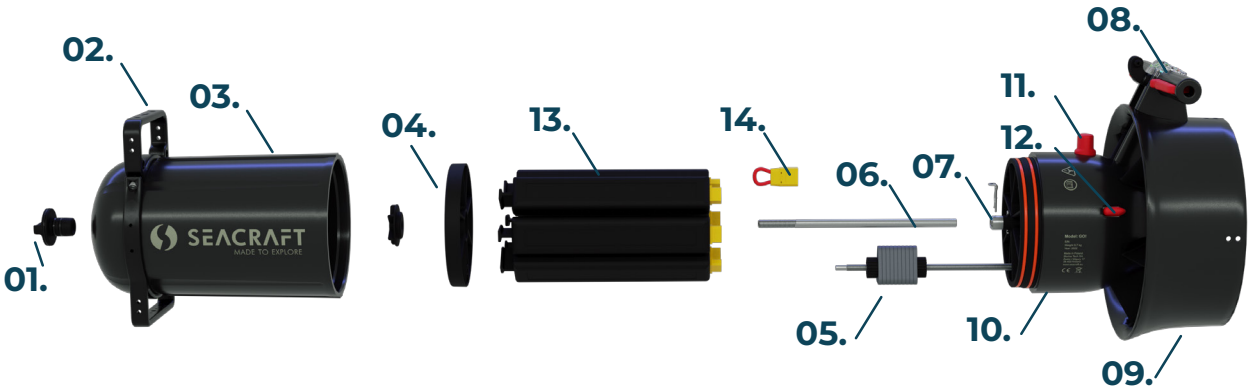


Fig. 2 Main components of the scooter

1. **Cap nut**
   The cap nut presses the scooter's protective tube against the body via an axial rod. This makes the scooter waterproof. The cover knob is sealed with a butt O-ring and two centric O-rings. An additional O-ring around its outline prevents sand and dirt from entering these seals.
2. **Multipurpose transport bracket 160 mm**
   This special type of handle allows for easy carrying of the scooter, ensures a stable position of the lying scooter and provides a platform for mounting a wide range of scooter accessories.
3. **Housing lid**
   The housing lid covers the internal scooter part. It is fi ed to the center rod of the drive unit by means of the cap nut. The housing lid is sealed against the drive unit by 3 o-rings.
4. **Battery cover with battery retaining nut**
   Prevents batteries from sliding out.
5. **Rod for mounting ballast plates**
   Used for attaching ballast plates – it has special nuts that lock the ballast plates.
6. **Center rod**
   It provides a mechanical connection between the scooter's body and tube. The axle rod can be removed for travel.
7. **Guiding opening for center rod**
   It serves as a retaining device for the axle rod. It also works with the overpressure valve. When pressure inside the scooter suddenly increases, a spring located on the axle rod allows the protective tube to expand and release excess gas. This prevents destructive damage to the scooter's protective tube from the inside.
8. **Steering handle**
9. **Nozzle**
10. **Drive unit**
    The drive unit holds all propulsion-related components of the scooter, meaning the control system and the engine.
11. **Main switch**
12. **Charging contacts**
13. **Battery segments**
    The batteries used in the GO! scooter provide a unique feature: the ability to be transported by air.
14. **Battery disconector**

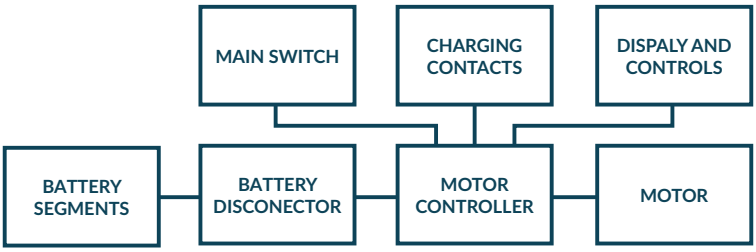


Figure 3. Block diagram of the scooter

MOTOR CONTROLLER
Responsible for proper engine operation and propeller speed, and monitors battery condition, voltage, and current draw. It communicates with the display module.

DISPLAY AND CONTROL
It displays information about the currently selected gear, error codes, and battery charge status. The display module contains built-in buttons that control the scooter's operation and records the position of the control buttons (handles).

MAIN SWITCH
A non-contact sensor responsible for turning the device on and off. When in the „ON" state, all scooter functions can be operated. In the „OFF" state, the motor is disabled and the display is inactive.

BATTERY WITH CONTROL SYSTEM
The scooter is powered by six lithium-ion batteries, each with a capacity of 97Wh. This provides a total capacity of nearly 600Wh and allows for separate air transport of the batteries. The voltage of each battery always remains within a safe range for the user. The battery is equipped with an integrated BMS (Battery Management System) and PCM (Protection Circuit Module) to protect the battery against overload, overcharging, deep discharge, and short circuits. See >>> Battery User Manual.

CHARGING CONTACTS
The scooter has external charging contacts so there is no need to disassemble the scooter to charge it after diving.

MOTOR
The three-phase BLAC brushless motor, manufactured using patented Seacraft technology, operates fully submerged. This solution completely eliminates leaks through the drive shaft. The need for expensive and fail-safe seals is eliminated. Internal heating is eliminated. The motor can operate at great depths and with high power without the risk of overheating.

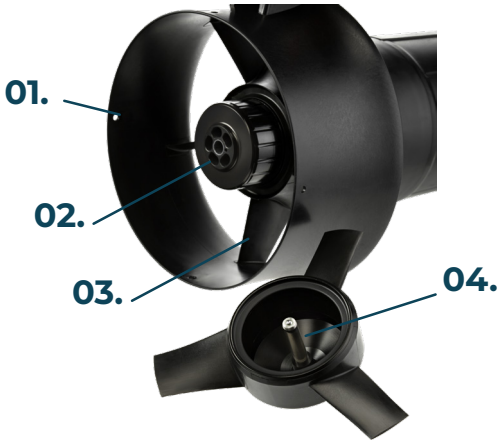


Figure 4. Scooter drive system

1. **Harness attachment points on the nozzle**
   Na dyszy znajdują się 4 punkty mocowania uprzęży (lewy/prawy, góra/dół). Służą do mocowania uprzęży.

2. **Stator - fixed engine part with bushings**
   Stator is the stationary part of the engine where the magnetic field that rotates the rotor is generated [4]. Inside, there are sliding bushings (bearings), and at the back, a thrust bearing, which stabilizes the rotor axis and transfers the force generated by the propeller to the scooter.

3. **Pre-swirl stator**
   Specially shaped vanes create a swirling motion in the water ahead of the propeller, resulting in straight, swirl-free water streams behind the nozzle. This completely eliminates the twisting effect and increases the efficiency of the propulsion system.

4. **Propeller with rotor**
   The rotor, a ring with embedded magnets, is the moving element of the scooter's engine. The propeller is mounted on the rotor and generates thrust for the scooter as it rotates. The rotor shaft, along with a ball mounted at the end, stabilizes the rotor and propeller, transmitting thrust to a thrust bearing located deep within the stator [2].

2.7 OPERATOR POSITION DESCRIPTION

Figure 5. Diver position

The position shown in Fig. 5 is optimal. It allows for maximum use of driving power, slightly bent arms allow for easy maneuvering of the scooter, and provides good visibility of the control panel, which is at an optimal angle for this position (Fig. 6). Two-handed control is recommended.

When diving with a scooter, it is crucial to ensure that all of the scooter's thrust is transmitted through the scooter's harness.

If you need to use force to follow the direction of dive or if you experience arm fatigue, this indicates a poor fit of the scooter's harness or the scooter's attachment point to the diver's body.

The scooter's operating parameters, such as range and speed, depend greatly on the streamlinedness of the towed diver and their underwater position. The more streamlined the position and the better the equipment configuration, the better the scooter's performance.

Diving technique on a scooter is the subject of specialized diving courses and can only be mastered during appropriate practical sessions.

The GO! scooter's display (Fig. 6) serves to provide basic information to the user.

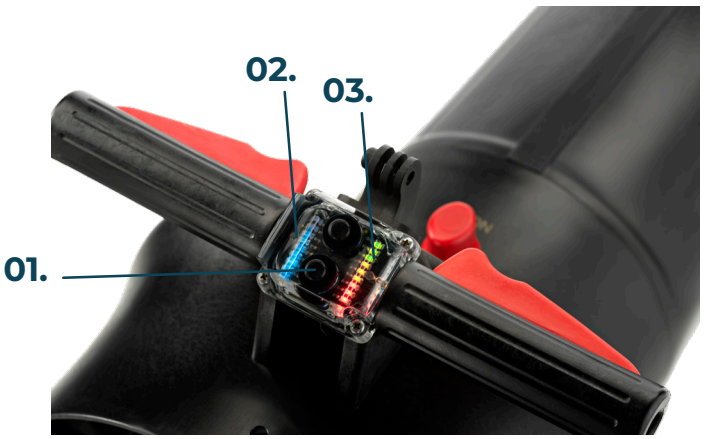


Figure 6. Position of screens and controls

Meaning of the markings visible in Fig. 6:

1. **Gear buttons**
   Two piezoelectric buttons are used to change gears. The upper button shifts up a gear, the lower button shifts down a gear. Gear changes can be performed with the engine running or off.

2. **Currently used gear**
   The LED bar indicates the current gear selection. No LED illuminated indicates no gear selected. Blue LEDs indicate forward gears, 1-8. A single red LED at the bottom indicates reverse gear is selected.

3. **Battery charge status**
   LEDs indicate battery charge status. Each lit LED indicates approximately 11% of the installed battery capacity. They are grouped by color into three groups – when all red LEDs are lit, approximately 33% of the battery capacity is available, yellow LEDs indicate 66% capacity, and green LEDs indicate 99%. Additionally, in the settings mode, the LEDs indicate the scooter's currently selected operating mode.

4. **Control Buttons**
   The position of the control buttons (handle) is registered by the display module. When pressed, the scooter's motor is activated.

03
TRANSPORT, HANDLINGAND STORAGE

3.1 TRANSPORT

When planning to ship your underwater scooter, please protect the device to prevent damage during transport. The battery should be charged to 30%, or less than 20% for air freight. Shipments must be made in the original packaging.

Shipping instructions:

1. Use the transport stands, cases, bags and/or boxes offered by the manufacturer.
2. Secure the scooter so it cannot move freely.
3. Make sure that the nozzle or other components are not deformed, e.g. by being crushed.
4. Place the following mark on the package sent by courier:

5. The temperature during transport must comply with section 2.3.
6. Please check your carrier's restrictions regarding lithium-ion batteries. Country-specific regulations apply.

During transport, the battery must be protected against mechanical damage, especially crushing. This type of damage poses a fire hazard.

Never use or transport a battery that shows signs of mechanical damage.

Dispose of packaging materials in accordance with waste segregation rules.

3.2 HANDLING

Due to its weight of less than 10 kg, there is no restriction on carrying the scooter for both men and women.

3.3 STORAGE

1. Ensure storage conditions are in accordance with the chapter 2.3.
2. Make sure the storage area is dry and shaded. Protect the scooter from falling or tipping over.
3. Keep the room out of reach of children.
4. Before long-term storage, perform maintenance work.

It is recommended to store the GO! scooter in its dedicated foam box.

Figure 7. Packaging box dedicated to storing the scooter

04. OPERATING

4.1 PROCEDURE TO FOLLOW BEFORE DIVING WITH AN UNDERWATER SCOOTER

PREPARATION FOR USE

OPENING THE SCOOTER

The GO! scooter should be opened primarily for: trimming the scooter, removing the batteries for travel, reinstalling them, and for periodic inspections. It can remain closed during normal use.

To open the scooter, follow these steps:

- place the scooter on a flat, stable and clean surface;
- loosen and unscrew the caseback knob using a Seacraft service wrench (Fig. 9). Over time, drying deposits and mineral salts dissolved in water can cause the caseback knob to become tighter than usual;
- **Hold the drive unit by pressing the nozzle against the ground with one hand or foot. With the other hand, pull the carrying handle to slide the tube off the body. This may require slight side-to-side movement.**

Figure 8. Service key

Figure 9. GO! scooter with cap nut

Figure 10. GO! Scooter after opening with visible ballast system

WARNING

Do not use excessive force. If the tube cannot be removed, ensure the cover knob is loose. Regularly lubricating the O-rings with a dedicated lubricant will make tube removal easier. Removing the tube for the first time on a new scooter, after transport, may require a bit more force.

CONNECTING BATTERY DISCONNECTOR

The battery power disconnect switch is always removed for transport. This is element [10] shown in assembly drawing no. 2. Removing the power disconnectOR switch disconnects the engine, thus increasing transport safety.

To connect the batterypower switch:

- make sure all batteries are connected in their slots;
- make sure the scooter main switch is in the OFF position;
- press the disconnector all the way into the slot;

Figure 11. Battery disconnector

CLOSING THE SCOOTER

WARNING

Properly sealing the scooter ensures its watertightness. Mistakes, inaccurate seal inspection, or carelessness can result in flooding and irreversible damage to the scooter, or even a fire.

To close the scooter follow those steps:

- Check the condition of the three O-rings on the scooter's body. They should be free of dirt and damage. Lightly lubricate them with the manufacturer's recommended silicone grease.
- Inspect the inside of the tube where it will contact the housing's O-rings. There should be no dirt or scratches. Lightly lubricate this area with the manufacturer's recommended silicone grease.
- Place the scooter on its nozzle on a flat and level surface.
- Slide the tube onto the scooter with the SEACRAFT logos on both the left and right sides of the scooter. Make sure the tube slides correctly over the O-rings without curling them, and that the edge of the tube is in contact with the scooter body.
- Check the three O-rings sealing the cover knob. They should be free of dirt and damage. Lightly lubricate them with the manufacturer's recommended silicone grease;
- Insert the cap nut and gently press it in until you feel resistance – its tip touches the end of the axle rod inside the scooter. While pressing the cap knob down slightly (to avoid damaging the first thread), tighten it by hand until it stops.

WARNING

The cap nut should be tightened by hand only, without the use of any tools. Using excessive force when tightening can damage scooter components and cause flooding.

INSTALLING THE MULTIPURPOSE TRANSPORT BRACKET

The bracket must be mounted in a dedicated place on the tube. It should be tightened with a maximum torque of 3 Nm, otherwise it may be damaged. If the holder is too loose due to material wear or a slippery surface, add a thin rubber or silicone band under the holder.

BALANCING AND TRIM OF THE SCOOTER

DEFINITION

Trimming – giving the scooter neutral buoyancy and balance. This means that when left in the water, it has no tendency to sink or rise, and maintains a balanced position – the scooter's axis is parallel to the water surface.

The choice of ballast and scooter trim is a personal matter, depending on the preferences and needs of the individual user. It's important to remember that the buoyancy of the scooter and the associated ballast weight depend on the chemical composition (salinity) and temperature of the water in which the dive will take place.

The manufacturer ships the scooter with internal ballast, pre-balanced and trimmed for freshwater. The standard equipment includes additional ballast, which allows you to balance and trim the scooter in any water. Each plate weighs 52.5g. Under standard conditions, five plates are required to pre-balance the GO! scooter in saltwater.

Check out the online trim calculator: **https://support.seacraft.eu/trim-calculator/** to estimate how much ballast you need to add/subtract to your configuration

Figure 12. Additional ballast plates for the GO! scooter

To balance and trim your GO! scooter, proceed as follows:

- Place the enclosed scooter in the water. Check for proper buoyancy.
- If you need to add or tak away ballast:
  - Open the scooter and remove the battery cover.
  - Unscrew one of the nuts on the ballast plate mounting rod;
  - Place the appropriate number of ballast plates on the ballast plate mounting rod and secure them again with the nut (the nut should be tightened so that the O-ring touches the ballast plates)
  - Close the scooter and check how it behaves when placed in water.
- Repeat the process if necessary.

HARNESS INSTALLATION

The harness, which is a lanyard with a piston-type carabiner, should be threaded through the holes located on the edges of the nozzle. Before diving, the harness should be adjusted to your preference using the manufacturer-supplied harness tensioners. The manufacturer's proprietary shape allows for easy adjustment of the harness length, even by divers wearing thick gloves.

Harness fit depends on the type of diving and the diver's personal preferences. Check out the online guide for more information: **https://support.seacraft.eu/knowledge-base/scooter-to-w-front-harness-assembly/**

Figure 13. Scooter harness mounted on the scooter nozzle

To attach the harness to your scooter:

- Thread the line through the carabiner. Some divers prefer a loose carabiner, while others prefer a permanently locked one. A loose, free-sliding carabiner on the line is recommended for beginners.
- Pass the cable through hole 3, 2, then through the selected hole on the scooter nozzle, and return to the tensioner by passing the cable through hole 1. Then tie a knot to lock the end of the cable in the tensioner.

WARNING

The line should only be fed through one of the holes on the nozzle. Feeding it through two adjacent holes can damage the nozzle. The length of the harness between the diver and the scooter should be at least 80 cm. Otherwise, the nozzle may become deformed and the propeller may rub.

- Repeat this operation on the other side of the nozzle so that the harness is placed symmetrically – Right--Left, or Up-Down.

Figure 14. Correctly inserting the harness line through the hole on the nozzle.

- To adjust the harness length to suit a given diver, use the tensioners.

Properly, the diver's hand holding the scooter's control handle should be bent to approximately 120° horizontal underwater. A harness that is too short causes instability in course control, while one that is too long makes maneuvering difficult and may require the diver to hold the scooter with hand strength.

The optional front harness is used to temporarily lash/hook the unused scooter to the side, or tow it behind the diver when used as a spare scooter.

Figure 15. Front harness mounted on the nose of the GO!

BTo install the front harness:

- Locate the mounting holes on the front of the scooter's tube. Thread one end of the harness through the top hole and the other through the bottom hole, securing with knots.
- The rope should be closer to the lid knob, and the knot should be further away. Make sure the harness length allows the lid knob to be loosened freely.

WARNING

The scooter's harness and optional front harness should be regularly inspected for wear and tear. Abrasion or failure during diving could result in the scooter being lost or rendered inoperable. Carabiners should operate smoothly and allow for immediate release of the scooter if necessary (e.g., in the event of flooding or implosion).

4.2 BATTERY OPERATION AND CHARGING

DANGER

Before proceeding with the rest of the manual, please read the following documents: Battery User Manual and Charger User Manual.

WARNING

Using a battery other than the dedicated one may result in damage to the battery, the scooter, or even a fire.

BATTERIES REMOVAL

To remove the batteries:

- Open the scooter by removing cover tube.
- Pull out the battery power disconnector.
- Unscrew the battery mounting nut and remove the battery mounting cover.
- One by one, pull the batteries upwards. After removing them, immediately protect their connectors with dedicated caps.

Figure 16. GO! Scooter with partially disassembled battery segments

- If you are going to transport the scooter, secure the batteries in a bag designed for this purpose.

Figure 17. Batteries in a dedicated bag for air transport

- Protect the power battery disconnect switch from being lost, e.g. by sliding it onto the axle rod.
- Insert the battery cover plate and secure it with the battery retaining nut.
- Close the scooter.

BATTERIES INSTALLATION

WARNING

Do not mix batteries from different scooters. Before installing the batteries, make sure their voltages are within 0.5V, according to the battery operating instructions.

To install the batteries:

- **Open the scooter by removing cover tube.**
- Make sure the scooter's battery disconnect switch is disconnected and ready to reconnect. Installing batteries with the disconnect switch connected can cause the batteries to lock up. Connecting the charger will reset them.
- Remove the battery mounting nut and remove the battery mounting cover.
- Remove the battery blind plug.
- Plug the batteries into the slots on the body one by one. Make sure all 6 batteries are connected.
- Insert the battery cover plate onto the battery and tighten it with the battery retaining nut. Make sure the ballast is in place and the batteries are firmly pressed against the body and cannot move.
- Plug in the battery disconnect switch and make sure it's fully engaged. Otherwise, the scooter won't operate.

CHARGING THE BATTERY

DANGER

Before using the charger, read the charger's instruction manual. It is forbidden to charge a scooter if there is a suspicion of flooding or any other defect in the battery.

DANGER

Charging a scooter with dirty charging contacts or a dirty charger connector can cause them to overheat, resulting in damage to the scooter's body. This can result in flooding. During charging, monitor the cleanliness of the charging contacts and the temperature of the charger connector.

To start charging your scooter:

■ Connect the charger to a working electrical outlet, paying attention to the permitted input voltage of the charger.	
■ Remove the cover from the GO! scooter's charging contacts and make sure they are dry and clean.	 Figure 18. Charging concats
■ Connect the charger connector to the contacts. It doesn't matter which orientation the charger is connected in; the scooter will automatically adjust the polarity. We have a new, attractive charging connector. Once the charger is turned on, the cooling fan will turn on and the display will show the charging status (indicated by an LED bar) ■ Once the scooter has charged to a satisfactory level, disconnect the charging connector and replace the cap over the charging contacts.	 Figure 19. Charger connected to the GO! scooter

BATTERY DISCHARGE

The recommended method for discharging the battery is to use the scooter in water according to the user manual until it is discharged – e.g. 20-30% capacity is recommended for transport.

WARNING

In justified cases, to discharge the batteries, the scooter can be securely tied to a stable structural element – e.g., a pier – and locked in low gear (2-3). Discharging the scooter must be performed under the supervision of a diver! It is forbidden to discharge the scooter by running it dry – in the air. Overheating the scooter's bearing components can lead to irreversible damage.

4.3 SCOOTER OPERATION

Before diving with your scooter for the first time, carefully read the manual and familiarize yourself with its operation – turning it on and off, operating modes, shifting gears, and error codes. Before entering the water with your scooter, make sure it's working properly and the battery is charged.

PREPARING THE SCOOTER FOR DIVING

Before using the scooter, make sure that:

- the scooter's harness was set up and installed correctly;
- the scooter has been properly trimmed and balanced;
- the scooter is charged;
- the scooter housing has been locked properly;

Controls

The GO! scooter uses just three mechanisms to operate: the main switch, the gear buttons, and the triggers on the control handles. All of them feature a contactless design.

Main switch

The main switch is located at the top of the body, directly in front of the control handle – making it easily accessible to both the right and left hand.

To turn on the scooter, turn the main switch in either direction until it locks in a position parallel to the direction of travel and the axis of the scooter:

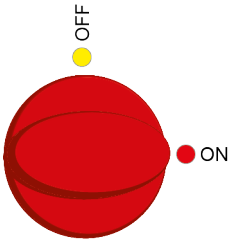


Figure 20. Main switch in the ON position

After a few seconds, the current battery status and the selected gear LED will appear on the screen, indicating that the scooter is ready for operation.

To turn off the scooter, turn the main switch in any direction until it locks in a position perpendicular to the direction of travel and the axis of the scooter:

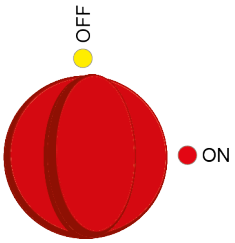


Figure 21. Main switch in the ON position

Access to the main switch should be guaranteed at all times during the dive. Placing it in the OFF position clearly blocks the scooter's operation or interrupts it while it is in operation. Any time the user releases the scooter, deposits it, or loses direct control of it, the main switch must be set to the OFF position.

Display with gear buttons

The scooter's display is built into the control handle and looks like on Figure 22.
Note: the colors in the images below are for illustration purposes only and do not reflect the actual screen appearance.

Figure 22. GO! scooter display – gear 4 selected, battery approximately 88%

- The LEDs on the right side of the display indicate the current battery charge level. When setting the scooter's operating mode, they also indicate the currently selected option.
- The LEDs on the left side of the display indicate the currently selected gear. Reverse gear is indicated by a glowing red LED in the lower left corner. Gears 0-8 are indicated by the corresponding number of glowing blue LEDs. Any error code will also be displayed here – a flashing red LED in the lower left corner. By pressing the lower or upper gear button, the user can select the desired gear, or when setting the scooter's operating mode, switch between the available options.

The scooter's gear can be selected both while the scooter's engine is running and before it is activated.

Triggers on the control handle

Triggers are built into the handlebar and are used to activate the scooter's motor and other functions, such as Double Tap, which are described later in the manual. Depending on the operating mode, the motor will run with one or both buttons on the handlebar pressed.

Figure 23. Triggers on the control handle

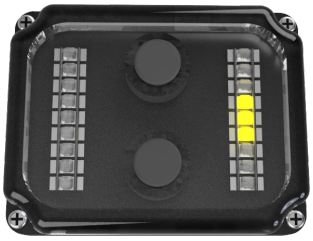
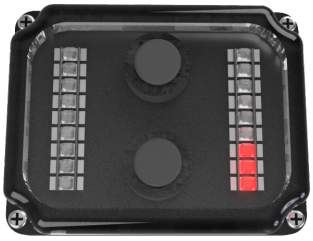
The buttons on the control handle should operate smoothly and without any sticking. Do not use a scooter if the buttons do not return to their default position after the engine is turned off.

GO! Scooter Control Mode

The GO! is a scooter designed for recreational, technical, and freedivers. The GO! scooter offers three different control modes adapted to different types of diving.

Freediving is an extremely challenging and dangerous activity. Using a scooter for freediving can result in injury or even death. Users must complete appropriate training and be aware of their abilities before using a scooter for this activity.

The table below explains the 3 different control modes:

 Figure 24. Recreational mode	In recreational mode (Fig. 24), the yellow LEDs light up. ■ he scooter's engine is activated by pressing both buttons on the control handle simultaneously (two-handed mode) ■ There are 8 forward gears + reverse gear. ■ When you turn on the scooter, the default setting is gear 0. This is the standard, factory-set control mode.
 Figure 25. Expert Mode	In expert mode (Fig. 25), the red LEDs light up. ■ The scooter's engine is activated by pressing any button on the control handle – it can be operated with either the right or left hand. ■ There are 8 forward gears + reverse gear. ■ When you turn on the scooter, the default gear selected is 4th gear. ■ After 10 seconds without pressing any buttons on the control handle, the scooter is automatically reset to gear 0 (‚time lock' function). Using the ‚double tap' function, the user can accelerate to maximum speed and then slow down again to the previously used gear ■ If the scooter resets to gear 0, „double tap" restores the previously used gear. ■ In the event of a failure of the control module electronics, the scooter engine can be emergency started ('Bypass' function)
 Figure 26. Freedriving mode	In freediving mode (Fig. 26) the green LEDs light up. ■ The scooter's engine is activated by pressing any button on the control handle – it can be operated with either the right or left hand. ■ Forward gear changes occur in 3 steps – 3, 6, 8, which reduces the number of clicks of the gear shift buttons required for operation. ■ When you turn on the scooter, the default gear selection is 8. ■ Using the ‚double tap' function, the user can accelerate to maximum speed and then slow down again to the previously used gear. ■ In the event of a failure of the control module electronics, the scooter engine can be emergency started ('Bypass' function).

To select the appropriate scooter operating mode:

- Make sure the main switch is in the OFF position - the display LEDs will be off.
- While holding down both buttons on the control handle, turn the main switch to the ON position. The display LEDs will flash briefly and the red, yellow, or green LEDs on the display will illuminate. You can then release the buttons.
- Use the gear shift buttons to select the desired control mode. Please refer to the detailed description of the special features available in the selected control mode.

Special features
Seacraft GO! scooters are equipped with a number of special features that make diving easier and safer. Depending on the selected control mode, these features will be active or inactive.

„Time lock" - automatic reset of the scooter to gear 0
To prevent a potential emergency situation, after 10 seconds of inactivity (no button on the control handle or gear shift button held), the scooter will automatically shift to gear 0.
Time lock is only available in Expert control mode.

„Double tap" – double click
„Double tap" is a function that allows for quick gear selection by double-clicking the handlebar button. In each case, the double tap must be performed quickly, so that both clicks are completed within a window of approximately 1 second.

- The first option is to return to the previously used gear after resetting the scooter to gear 0 using the ‚Time Lock' function. To do this, double-click on one of the handlebars – right or left.

Fig. 27 Returning to the previously used gear after the time lock function has been activated

This option is only available in Expert control mode.

- The second scenario is the need to momentarily accelerate to the maximum available speed in a quick manner.

To do this, hold one of the handle buttons (the scooter's engine is running) and use your other hand – or a finger of the hand you use to operate the scooter – to double-click on the currently unused handle button.

Fig. 28 „Double click" acceleration to the maximum available speed in a quick manner.

This increases the gear to the maximum currently available.
Double-clicking again restores the previously used gear.

This option is available in Expert and Freediving control modes.

Reverse gear
Reverse gear can only be selected when both buttons on the control handle are released and the scooter is in gear 0. Pressing the down button once will engage reverse gear.

WARNING

Before shifting into reverse, ensure the scooter's harness and other equipment are clear of the propeller. The scooter will begin to exert force towards the diver – prepare for this and resist with your hands to allow for reverse movement.

Reverse gear is available in Recreational and Expert modes.

Bypass – emergency mode
The GO! scooter can operate in emergency mode (bypass) in Expert and Freeving modes.

DANGER

The primary method of dealing with a scooter malfunction is to abort the dive and ascend, with the use of Bypass mode being a last resort. Control of the scooter is more difficult in Bypass mode. Bypass mode is only permitted for returning to and completing the dive. After returning, discontinue use of the scooter and contact an authorized service center.

During normal use of the scooter, if communication between the display electronics and the motor controller is lost, the scooter will stop. If the motor controller is still functional, and another component is damaged, it is possible to continue using the scooter.

After turning the main switch from OFF to ON, if the engine controller does not establish communication with the display electronics, it will start the engine in 4th gear, allowing you to return from the place of failure.

WARNING

After stopping the scooter and restarting it, the user must be prepared for the engine to start and the scooter to operate. Once the Bypass function is activated, the user can only stop the scooter by turning the main switch to the OFF position.

Maximum available power decreases as the battery discharges
As the battery voltage (and charge level) decreases, operating the scooter in high gears requires increasingly higher current. Consequently, the rate of battery wear increases significantly when using high gears with a low charge.

If the charge level drops below 33%, the scooter will automatically reduce speed to gear 5. Higher gears will not be available.

Figure 29. GO! Scooter with 33% battery charge

05
INSPECTIONS AND MAINTENANCE

If you notice any faults or problems with the operation of your Seacraft underwater scooter, immediately consult an authorized Seacraft service center. The manufacturer warns that even minor damage or neglect, such as those caused by impact during transport, storage, or use, as well as control blockage caused by mud, sand, or careless washing after diving, can cause serious problems or cause a breakdown when using the device in water.

5.1 EXPECTED LIFE OF THE SCOOTER AND ITS COMPONENTS

The declared lifespan of a water scooter is the period of its safe operation. After this period, factors that weaken the design and the effectiveness of components may occur due to their degradation. After this lifespan, the scooter may require a general overhaul by the manufacturer. Components should be replaced even if a visual inspection does not indicate excessive wear. The intervals and procedures in the table below must be followed.

Component	Life time	How to proceed further
Underwater scooter	10 years	General overhaul of the manufacturer
Battery	max. 300 full charging cycles	Replacement with a new one
O-rings for the cap nut charging socket and body housing	12 months	Replacement with a new one
Scooter thrust bearing	until the consumption limits are exceeded/approx. 120 hours of operation at full power	Replacement with a new one
Scooter sliding bushings	the appearance of signs of wear	Replacement with a new one

5.2 TYPES AND DATES OF INSPECTIONS AND MAINTENANCE

The durability and reliability of the scooter depend not only on skillful operation, but also on proper, regular maintenance of the device in accordance with the principles described in this manual.

Definitions:

User – the person using the underwater scooter

Individual - scooter owner

Professional - scooter owner: rentals, clubs, diving bases, group use, underwater work

Inspection recommendations:

	Inspection and maintenance		
	Ongoing	Periodic	Annual
Użytkownik		**Normal conditions** (fresh water, no major contamination or stress): every 40 dives and at least once every 3 months; **Average conditions** (salt water, polluted water, heavy loads): every 20 dives and at least once every 2 months; **Difficult conditions** (extreme temperatures, highly saline or polluted water, very heavy loads): every 20 dives and at least once a month.	once every 12 months, after the first use of the scooter
Individual	User	User	Seacraft Service center authorized to perform inspections and repairs of Seacraft scooters
Professional	User	Staff trained in periodic technical inspections	

Information and advice on activities that can be performed by the user, as well as instructional videos, can be found on the support portal - **https://support.seacraft.eu/**

5.2.1 INSPECTION AND ONGOING MAINTENANCE

Activity name	Description
Cleanliness of the scooter	Check the exterior of the scooter for dirt, especially mud, sand, vegetation, and salt. If necessary, clean the scooter to a level appropriate to its level of dirt. Do not use detergents or solvents to clean the scooter. Remove the charging contacts cover and check their cleanliness. There should be no visible deposits, carbon deposits, sand, or crystallized salt. If necessary, thoroughly clean the charging contacts.
General condition of the scooter	Inspect the protective tube, polycarbonate screen, and other scooter components for any deformation or damage. If any scooter components are dented or damaged, contact the nearest authorized service center or the manufacturer.
Condition of the o-rings	If you disassemble the scooter, check the condition of the O-rings sealing the cover knob and the body O-rings. If necessary, clean and lubricate the O-rings, or replace them.
Battery status	Check that the battery charge is sufficient for the planned dive. If no use is planned, charge the battery to approximately 50% to ensure maximum durability. Remove the batteries and inspect the battery contacts and the batteries for any signs of damage.
Motor and controls condition	According to the rules described in the instruction manual, carry out a test of proper operation of the scooter out of the water. If you notice uneven operation of the motor, the device makes loud sounds such as screeching, rasping, carry out the procedure for cleaning the scooter and lubricating the motor. Test the control handles, gear shift buttons, main switch and correct operation of the scooter display. Ensure that the unit's settings are correct and in accordance with the user's preferences.
Equipment condition	Check the condition of the scooter's harness and the attachment and condition of other equipment mounted on the scooter (lights, navigation console).
Final inspection	Check that the lid knob and charging socket cap are tightened and the scooter is turned off.

5.2.2 INSPECTION AND PERIODIC MAINTENANCE

During periodic inspection and maintenance, all activities included in the current inspection table and the following should be performed:

Activity name	Description
Cleanliness of the scooter	Regardless of the state of cleanliness of the device, it is recommended to carry out the procedure of flushing the scooter.
General condition of the scooter	Check that the propeller does not rub against the scooter nozzle and the gap between the propeller and the nozzle is similar at each propeller blade. Check the blades of the propeller and post swirl stator for dings and defects. If necessary, replace the components.
Condition of the o-rings	Perform the procedure for cleaning and lubricating the o-rings.
Battery status	Check the charger connector and the scooter's charging port for signs of corrosion, burnout, or other damage. Connect the scooter to the charger and charge the battery, observing the information on the display. Verify that the charging is correct and that it is charged to at least 95%. If you notice any irregularities, such as excessively long or short charging times, or the battery not charging at least 95%, contact the nearest authorized service center or the manufacturer.
Motor and controls condition	Remove the cover tube of the scooter and inspect the interior of the scooter. If there is any damage to the insulation of the wires or the plug-socket connector connectingthe battery to the scooter's electronics, disconnect the connector, carefully protect the damage with insulating tape, and return the scooter to an authorized service center or manufacturer. If moisture, traces of corrosion and water are found, it should be verified whether, for example, they are from careless trimming of the scooter and dampness of its interior, or whether a leak is suspected.
Equipment condition	Perform a full lubrication procedure on the Motor - remove the old grease and apply new grease.

5.2.3 DESCRIPTION OF STANDARD MAINTENANCE OR REPAIR PROCEDURES

Activity name	Description
Cleaning the scooter	Rinse the scooter with a stream of clean fresh water. Dismantle the post swirl stator and marine propeller with rotor and rinse them as well. If it is heavily soiled or used in salt water, it is recommended to soak the whole thing for about 6-12 hours in clean fresh water and then rinse it again with a jet of clean fresh water. If the screens on the rotor are significantly contaminated, they should be washed with a jet of water. Check the presence and amount of grease on the rotor axle and carry out lubrication of the motor if necessary. Rinse the handle buttons with a jet of water through the holes in the handles (from the outside). Check the interior of the scooter for dirt, especially mud and sand. If the elements of the internal structure of the scooter contain traces of dirt, such as salt, wipe them with a damp, soft cloth, and then wipe them dry. If the surface of the scooter is discolored, a small amount of liquid silicone grease can be rubbed into the surface, using a soft cotton cloth. This protects and preserves the surface of the anode.
Motor lubrication	Motor lubrication is an important activity necessary for the proper operation of the scooter. If you notice that the tip of the scooter axle begins to be dry - the grease is missing, apply a small amount of grease (3 match heads) to the tip of the axle, and a similar amount into the sliding bushings. Then slide the rotor axle into the bushings and, turning the propeller, distribute the grease. It is forbidden to apply an excess amount of lubricant - it should not spontaneously flow out of the motor and remain on the surface of the rotor. This risks sticking sand and dirt and damaging the drive train. If the observed grease residue is dirty - black, brown, or at the periodic inspection, the old grease should be completely removed and then the drivetrain should be lubricated from scratch. Removal of old grease is best done with a dust-free paper towel moistened with isopropyl alcohol.

Cleaning and lubricating o-rings	Remove the o-rings, without using metal tools. The fields of the o-rings are made of aluminum, so be careful not to scratch them. Clean the o-rings, their sockets and the fields of the component with which the o-ring contacts. After checking the condition of the o-rings, lubricate them and put them on. Lubricate the fields of the elements with which the oring contacts. Use a soft damp cloth for cleaning. Do not stretch the o-rings while cleaning them. Use the manufacturer's recommended grease and, in case of emergency, if there is no grease, use clean, additive-free silicone grease. If any damage is noticed, the o-ring should be replaced without fail.
O-ring replacement	If you find a damaged o-ring, locate an identical one in the service kit provided with the scooter, lubricate it and replace it. Make a note of the replacement, order a new suitable spare o-ring. Use only seals approved by the manufacturer.
Marine propeller replacement	Replacement parts should be purchased from an authorized dealer and follow point 5.3 of this manual.
Replacement of the thrust bearing	Operation performed only when necessary by Seacraft specialized service during annual inspection.
Replacement of sliding sleeves	Operation performed only when necessary by Seacraft specialized service during annual inspection.

If you discover any faults mentioned in this manual or other problems, remove them using the recommendations contained in this manual or consult the problem with a service center.

5.3 ASSEMBLY AND DISASSEMBLY OF DRIVE UNIT COMPONENTS

The Seacraft underwater scooter's drive unit is easily removable. Disassembly should be performed if:

- marine propeller replacement is necessary;
- maintenance of the underwater scooter is performed;
- in case of entanglement of unwanted elements in parts of the drive unit, such as fishing lines, cables or algaes.

In order to disassemble the scooter, it is necessary:

1. Remove the rotor and screw by sliding it backward. Use some force as the rotor is attracted to the magnets.
2. Place the rotor in a clean place to prevent it from attracting magnetic filings or small objects.
3. Clean all parts of the drive unit of any unwanted elements or dirt using a stream of clean, fresh water and then dry.

To reassemble the drive unit:

1. Lubricate the rotor axis and stator seat with slide bearings after cleaning them with grease recommended by the manufacturer (see the Accessories section);
2. Insert the rotor into the housing with a rotating motion;
3. Manually rotate the impeller several times to remove air from the bearing areas. No tools are required for assembly or disassembly of the propeller.

5.4 SPECIFICATION OF SPARE PARTS AND AUXILIARY SUBSTANCES

Spare and consumable parts set:

O1002 O-ring set for the GO! scooter
- O-ring NBR 16x3 70 ShA - 2 pcs
- O-ring NBR 146X4 70 ShA
- O-ring NBR 150x4 70 ShA
- O-ring NBR 36x2 70 ShA

O1009 Trimming weight 52,5 g – 6 pieces
O1013 Silicone blind plug for charging port GO!
O1016 Service key fo GO!
U1007 Grease for seals 2 ml
U1008 Drive system grease 2ml
U1060 DPV tow cord 1,8 m with boltsnap and two tensioners
U1112 Battery voltage meter
U1130 Silicone blind plug for a 97Wh module connector - 8 pcs
U1120 Soft transport case M size

Batteries:

Type	Model
Single segment	97Wh

5.5 RISKS WHEN PERFORMING MAINTENANCE WORK

Danger	A way to minimize risk
Battery short circuit, fire.	Exercise caution when using tools.
Failure to check or lubricate O-rings.	Perform the activities according to the sequence described in the instructions.
Cutting the O-ring.	Avoiding the use of sharp objects and tools during maintenance work.

5.6 DECOMMISSIONING

Dispose of the product in accordance with the regulations currently in force in the given country.

06.
ADDITIONAL INFORMATION

6.1 INDEPENDENT PROBLEM SOLVING

IT.	Symptoms	Causes of the problem	Repair method
1.	Scooter won't start	1.1 Discharged battery.	Charge the battery.
		1.2 The unravelled connector between the battery and the drive unit.	Check the connection of the battery to the drive unit.
		1.3. No battery segments connected/corrosion of connectors.	Check that all batteries are properly connected and their connectors are not corroded.
2.	The battery is not charging	2.1 No connection.	Sprawdzić przewody, czystość styków wtyku i gniazda oraz ładowarkę.
		2.2 Battery voltage too low.	Dokonać pomiaru napięcia na stykach akumulatora. Jeśli jest niższe niż określone jako minimalne dla danego typu akumulatora skontaktować się z serwi-sem.
		2.3 Defective battery. 2.4 Defective charger.	Replace the battery(s). Replace the charger.
		2.5 Unplugged power switch connecting batteries to scooter battery segments to scooter	Check if the power switch is properly connected
		2.6 Temperature too low	The battery will not charge at temperatures below 5*C, move the scooter to a warmer place.
3.	Motor does not run or runs unevenly	3.1 Motor is dirty or blocked.	Turn off the scooter, remove the post swirl stator, remove the rotor, complete the debris or cause of blockage according to the instructions contained herein.
4.	In the hull of the scooter is water	If the user is unable to diagnose the cause of this phenomenon on his own.	Pour out the water and dry the interior of the scooter. Return the scooter to the service center with a note that there was water inside and the cause of this fault should be checked and corrected.
		4.1 Damaged o-rings.	If you suspect flooding of electronics or batteries, contact the authorized service center.
		4.2 Deformation of the housing element.	Contact the authorized service center to replace the defective component and perform a pressure test.
		4.3 Condensation due to temperatu-re and humidity differences.	Move the scooter to a dry room. Take the scooter apart and dry the individual components. Do not use the scooter at low temperatures if it was previously assembled in warm and humid conditions. If this is not possible, disassemble the scooter beforehand so that the moisture can evaporate.

5.	Problems with the control triggers	5.1 Dirty or blocked controls.	Thoroughly rinse, wash and wipe the controls (buttons on the control handles) with a dry cloth.
6.	The scooter sinks or swims toward the water surface	6.1 Incorrect weight and/or poor ballast placement.	Correct the weight selection and ballast weight. In case of balance and trim problems, it is recommended to use external ballast.
7.	System error via display	7.1 Refer to the system error codes table	Perform the action described in the table of system error messages reported by the display – pt 6.1.1
8	The batteries discharge very quickly	8.1 The batteries are worn out	Należy wymienić akumulatory na nowe
		8.2 Some of the batteries segments are blocked	See >>> battery user manual.
		8.3 Batteries segments from different scooters were mixed together	See >>> battery user manual.
9	Scooter shuts off in high gear	9.1 Some of the battery segments are blocked	See >>> battery user manual.
10	Even though the scooter is fully charged, the battery status is significantly lower.	10.1 Temperature too low	In freezing temperatures, the displayed battery capacity may be lower than actual capacity. After submerging the scooter in water and warming it up to water temperature, the displayed capacity should return to normal. If this does not happen, contact the manufacturer.

6.1.1 SCOOTER ERROR CODES

f a problem occurs, the scooter will signal it by displaying an appropriate error code. The codes are displayed in Morse code style using long „-” (approx. 1200 ms) and short „.” (approx. 200 ms) beeps.

30. Error code indicator:

Code	Meaning and short description	Possible cause
. . -	Voltage too high	Non-original batteries installed
.-.	Voltage too low	Non-original batteries installed
.--	Maximum temperature exceeded	Scooter overheating
-..	Boot error	Propeller stuck when trying to start. Clean propeller.
-.-	Speed reading error	Controller failure
--.	Current too high	Line/line tangled in the propeller. Clean the propeller.
---	Unknown error	Contact authorized Seacraft service.

Some errors can be cleared underwater, such as the overcurrent error and the starting error. After eliminating the possible source of the error and resetting the scooter (turning the main switch OFF and then ON), there's a high probability the scooter will continue to operate properly. Otherwise, contact your distributor or the manufacturer.

6.2 WARRANTY AND POST-WARRANTY SERVICE

WARRANTY
Each scooter is covered by the manufacturer's warranty. Detailed provisions are contained in the Warranty Terms and Conditions attached to this manual. They specify the obligations of the manufacturer of the Seacraft underwater scooter under the quality warranty, the temporal and territorial scope of the warranty, and the owner's rights under the warranty.

The manufacturer assumes no responsibility for damage caused by use not in accordance with the intended use and these instructions, and the resulting damage cannot be the basis for warranty claims or repairs.

POST-WARRANTY SERVICE
Any repairs to the scooter during the post-warranty period are carried out for a fee. In case of problems that users are able to fix on their own, the manufacturer provides additional information. Users can use the services of authorized service centers or service carried out directly at the scooter manufacturer - contact: **service@seacraft.eu.**

07.
APPENDICES

- Appendix 1 - Original Battery Operating Manual
- Appendix 2 - Original user manual for the charger

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