

An aerial photograph of a sailboat with a white hull and dark sails, sailing on a deep blue ocean. The boat is moving from the top left towards the bottom right, leaving a white wake. The text '20 Years of Oceanvolt' is overlaid on the right side of the image.

# 20 Years of Oceanvolt

Pioneering Electric Propulsion  
for Sailboats

OCEANVOLT





## PIONEERING SUSTAINABLE SAILING

For over 20 years, Oceanvolt has been at the forefront of electric propulsion technology, revolutionizing the sailing industry with our commitment to sustainability, innovation, and performance. Founded in 2004, Oceanvolt designs and manufactures cutting-edge electric and hybrid propulsion systems for sailboats, delivering clean, silent, and efficient power solutions.

The passion for sailing was the driving force behind the story of Oceanvolt. The founders saw sailing as a green way to travel but identified one hurdle: the motor. In practice, it is almost impossible to sail without an engine as one needs aid in docking and undocking a sailboat. Usually, this aid is a combustion engine which, besides being noisy, uses fossil fuels that pollute our environment.

The people behind Oceanvolt imagined always sailing in silence, hearing nothing but the sounds of the sea. In 2004, Oceanvolt decided to make this a reality and the company was born. The vision was to turn the tide in favor of green boating, and it was a success. The company's electric motors have now powered sailors and boaters around the world for 20 years. Oceanvolt is the leading manufacturer of clean electric power and propulsion systems for boats.

Oceanvolt has created several innovations to make boating even more ecological. In addition to being green, Oceanvolt's technology also makes sailing safer, quieter, and more pleasant. Oceanvolt's propulsion systems can charge the boat's batteries while sailing and this energy can then be used onboard to power the electronics and appliances or charge devices. Alternatively, the motor can save the energy gathered on a windy day to be used later. This was earlier only possible with a separate diesel generator.



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For Oceanvolt, safety is a priority, which is why all Oceanvolt systems are limited to 48 volts. Furthermore, our experienced team offers complete system integration to ensure the installation is not only safe but compatible with other components of the yacht's energy network.

Today, Oceanvolt's award-winning motor systems have been installed worldwide on hundreds of boats ranging from daysailers to 80 ft catamarans. The systems are not only suitable for everyday cruising and sailing, but also for circumnavigating the globe in tough conditions, and even racing.

Our mission is to provide sailors with eco-friendly alternatives that reduce environmental impact without compromising on performance. Our systems offer zero emissions, low maintenance, and unparalleled reliability, allowing sailors to experience the true tranquility of the sea.

Oceanvolt's dedication to excellence is reflected in our partnerships with leading yacht builders and our growing community of satisfied customers worldwide. As we celebrate our 20th anniversary in 2024, we remain committed to pushing the boundaries of sustainable technology and leading the way in the future of sailing.

If you are interested in riding the electric wave and future-proofing your yacht by installing an electric propulsion system, you've come to the right place. Discover the Oceanvolt difference and join us in navigating towards a greener tomorrow.



## **BENEFITS OF ELECTRIC PROPULSION**

## **HYDROGENERATION**

## **PURE ELECTRIC VS HYBRID PROPULSION**

## **SHAFT DRIVE MOTORS**

- AXC

## **SAILDRIVE MOTORS**

- SD
- ServoProp
- HighPower ServoProp

## **REMOTE SERVICE**

## **SUPPORTED BATTERIES & BATTERY CHEMISTRIES**

## **TECHNICAL SPECIFICATIONS**







## THE BENEFITS OF ELECTRIC PROPULSION

Electric propulsion has several benefits for sailors and boaters compared to traditional diesel engines. Electric motors do not produce emissions like diesel engines do. This means that they are a more environmentally friendly option and reduce your carbon footprint. The motors run quietly, making them ideal for sailing, fishing, or other activities where a loud engine would disturb marine life or your own peace and quiet.

They have fewer moving parts than diesel engines, which means they require less maintenance and are far more reliable over the long term. While electric motors are typically more expensive upfront, they are cheaper to run over time because they don't require fuel, oil, filters, or the extensive service and maintenance that are required by diesels. This makes them a cost-effective option in the long run. Electric motors are easy to use and require less skill to own and operate than diesel engines, making them a good option for novice boaters. They are also highly efficient, meaning that they use less energy than diesel engines. This translates into longer run times and lower energy costs.

Overall, electric propulsion is a great option for sailors and boaters who want a more environmentally friendly, low maintenance, and cost-effective way to power their boats.

### CLEAN

#### Zero Emission

No greasy, smelly engine compartments or exhaust fumes.

### SAFE

#### 48V System

All Oceanvolt systems are engineered to operate at 48 volts for passenger safety and ease of repair.

### POWERFUL

#### Instant Power

Zero to full torque in an instant makes for superior maneuverability.

### STATE OF THE ART

#### Patented Technology

Range, beyond battery capacity, is extended through hydro generation while sailing above 6kn.





## HYDROGENERATION

The hydrogeneration or “creating energy while sailing” function is a standard, built-in feature in all Oceanvolt motors, and Oceanvolt motors boast the most superior hydrogeneration capability on the market.

Oceanvolt electric motors are designed not only to provide propulsion to a boat but also to generate electricity while sailing. This is achieved through a process called hydrogeneration, where, once activated, the water flowing past the propeller causes it to rotate, driving the electric motor in reverse, generating electricity that can be used to power the boat’s electrical systems or recharge its batteries.

This feature is activated from the Oceanvolt display. The system will switch to regeneration mode, displaying the generated power, RPM and time remaining until the batteries are fully charged.

The original series of Oceanvolt ServoProp saildrives can generate up to 5 kW of power, which is enough to power most of the electrical systems on board a boat up to 100 ft in length. This includes the lights, navigation equipment, radios, and other electronics. It can also be used to recharge the boat’s batteries, ensuring that there is always a supply of power available.

The hydrogeneration feature of the Oceanvolt electric saildrives is particularly useful for long-distance cruising, where it can help to reduce the need for a separate generator or additional battery banks.





## PURE ELECTRIC PROPULSION

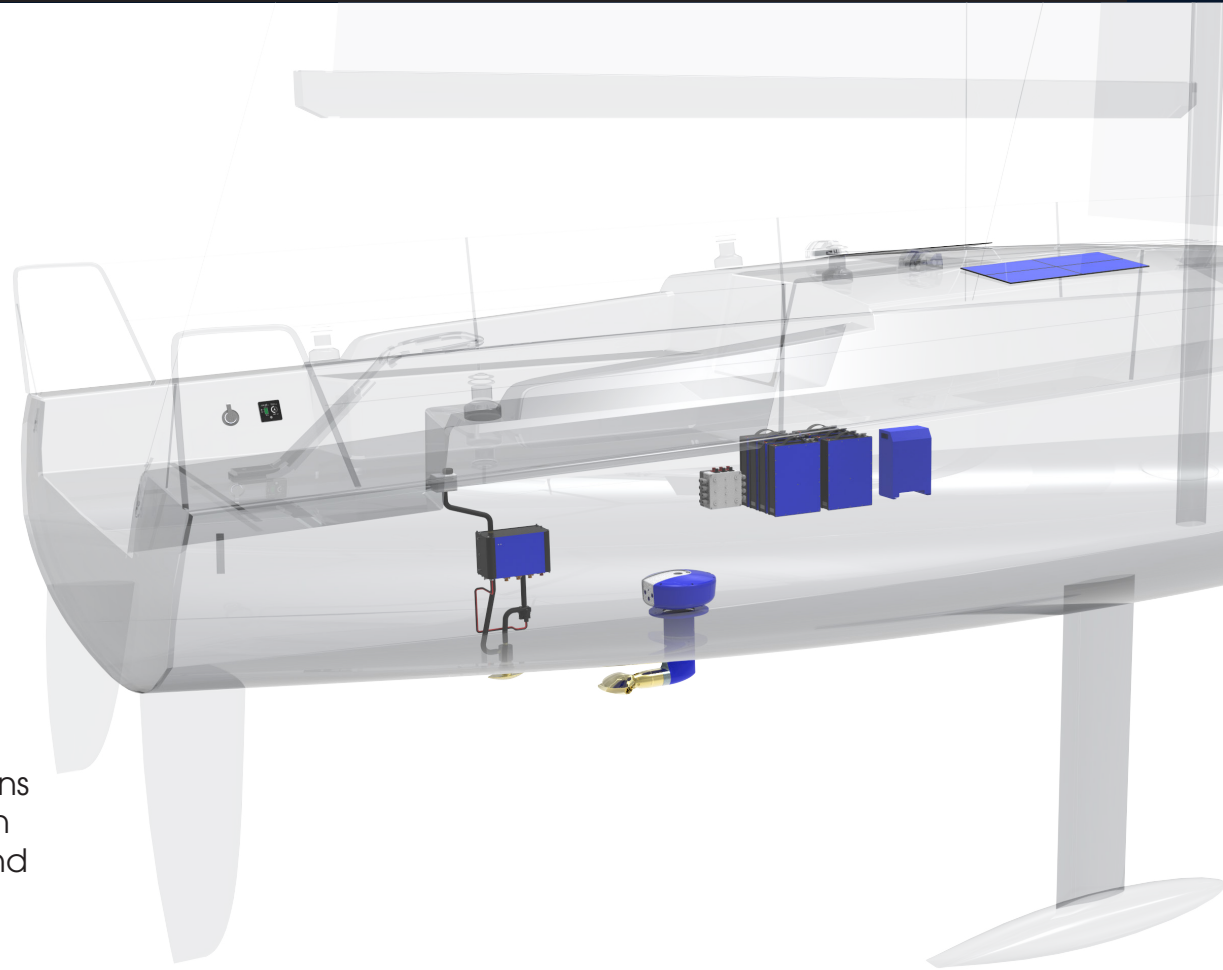
Pure electric propulsion and hybrid electric propulsion both have their own benefits for boats. Pure electric propulsion uses electricity from batteries to power an electric motor, providing a clean and quiet means of propulsion. This means there are no emissions from burning fossil fuels, making it a clean and environmentally friendly option.

Pure electric propulsion also tends to be quieter than traditional fossil fuel engines, making for a more peaceful and enjoyable boating experience. Additionally, pure electric propulsion systems are typically simpler and require less maintenance compared to traditional engines.

### The benefits of pure electric propulsion for boats include:

- **Environmentally friendly:** The system produces no emissions and is a clean form of energy. It is an eco-friendly solution for boaters who want to reduce their carbon footprint and preserve the environment.
- **Quiet operation:** Since there is no combustion engine involved, pure electric propulsion is much quieter than traditional propulsion methods. This makes it ideal for boaters who want to enjoy the peace and quiet of nature without the noise pollution.
- **Low maintenance:** Pure electric propulsion systems have fewer moving parts and require less maintenance than traditional combustion engines. This will save boaters time and money in the long run.

However, pure electric propulsion does have some limitations, including limited range and longer charging times.







## HYBRID PROPULSION

Hybrid electric propulsion, on the other hand, uses both an electric motor and a DC generator to power the boat.

**The benefits of hybrid electric propulsion for boats include:**

- **Increased range:** Hybrid electric propulsion systems have a longer range than pure electric propulsion systems since they can rely on the generator to recharge the batteries as needed.
- **Less cost:** The generator in a hybrid electric propulsion system can be designed to run steadily at its most efficient RPM, which can result in better fuel economy compared to a traditional combustion engine. This also greatly increases reliability and reduces wear on engine components.
- **More power:** The generator in a hybrid system can provide additional power when needed, such as when the boat is traveling at high speeds or when there is a high demand for electricity on board.
- **Greater fuel economy:** Operating a hybrid electric system like this is up to 30% more fuel efficient than using a standard diesel propulsion engine.

Overall, the choice between pure electric propulsion and hybrid electric propulsion will depend on the specific needs and preferences of the boat owner. Pure electric propulsion may be a better choice for those who prioritize environmental sustainability and quiet operation, while hybrid electric propulsion may be a better fit for those who need greater range and flexibility.

The Oceanvolt sales team are experts in configuring the right solution for each customers needs, so if you don't know which system is right for you, don't worry! Our team is here to help!





## THE NEXT GENERATION OF ELECTRIC SHAFT DRIVE MOTORS – THE OCEANVOLT AXC

Oceanvolt's shaft drive option is the modular AXC motor system, where each motor unit produces 12 kW continuous power with a peak power of 15 kW. Stacking two of these motors together creates the AXC24, which can produce a peak of 30 kW for 15 mins, and 24 kW continuously.

Finally, the AXC36 comprises of three motor units stacked together to continuously supply 36 kW to a single shaft. But as with all electric motors, the torque figure is what is more impressive, with the AXC36 capable of producing such impressive torque that to achieve similar torque figures from a diesel engine would require a unit producing over 120 hp, and weighing more than four times as much as the 132 kg of the AXC36 motor.



**AXC12**



**AXC24**



**AXC36**





## THE AXC SERIES

The latest generation of Oceanvolt AXC motor series is specifically designed for larger, heavier displacement boats including charter catamarans, non-planing motorboats and cruising sailboats:

### MAIN FEATURES:

- Modular 12kW 48V motors with integrated motor controller
- Fewer modules needed to achieve same power, so less weight and space required
- Direct drive for silent and efficient propulsion
- Liquid cooled
- Versatile motor with a wide speed range (920-1400rpm) for nominal and peak power
- Available in 12kW, 24kW and 36kW power configuration
- Developed in conjunction with state-of-the-art racing yachts



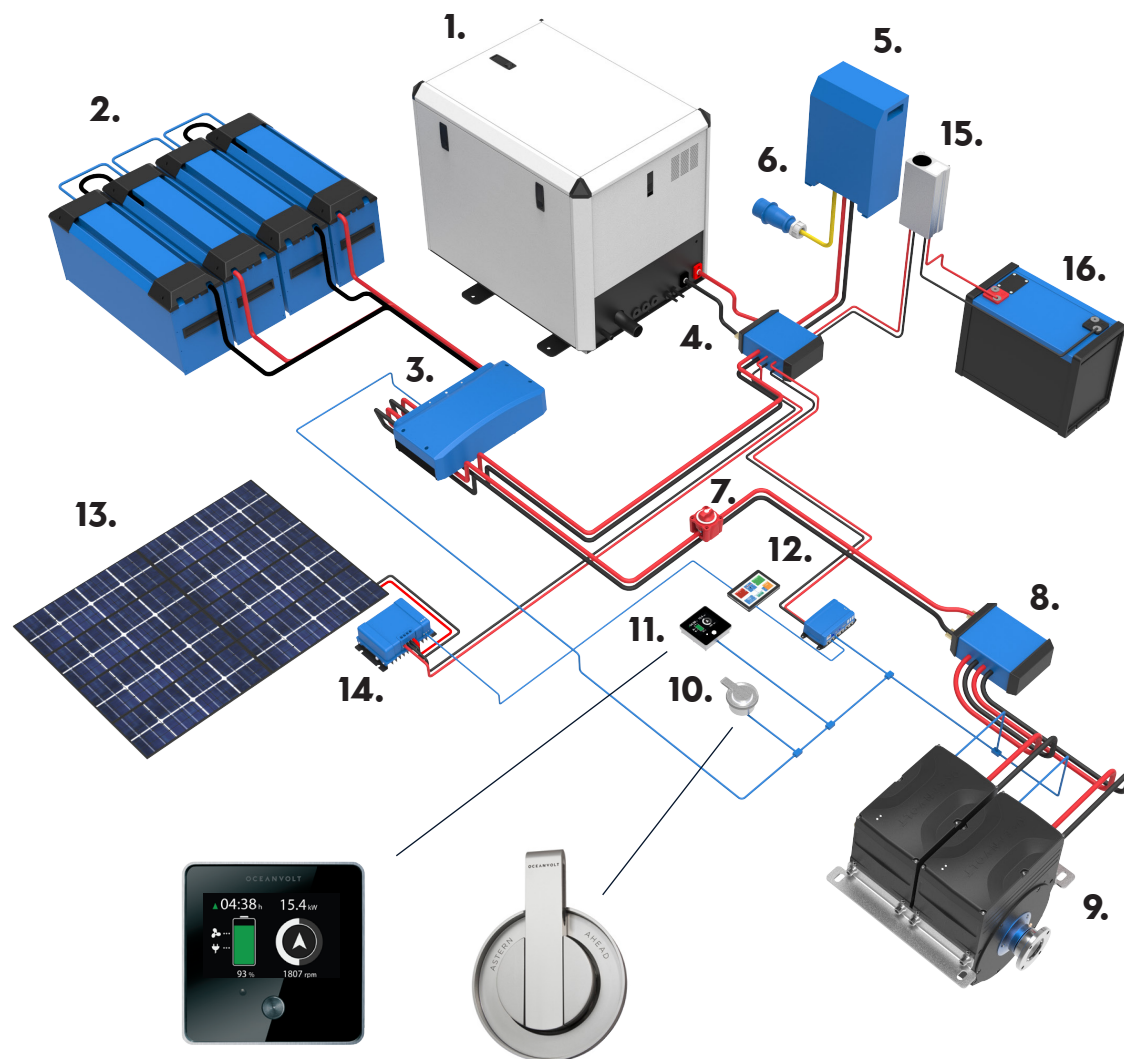
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## INDICATIVE SYSTEM DRAWING - AXC

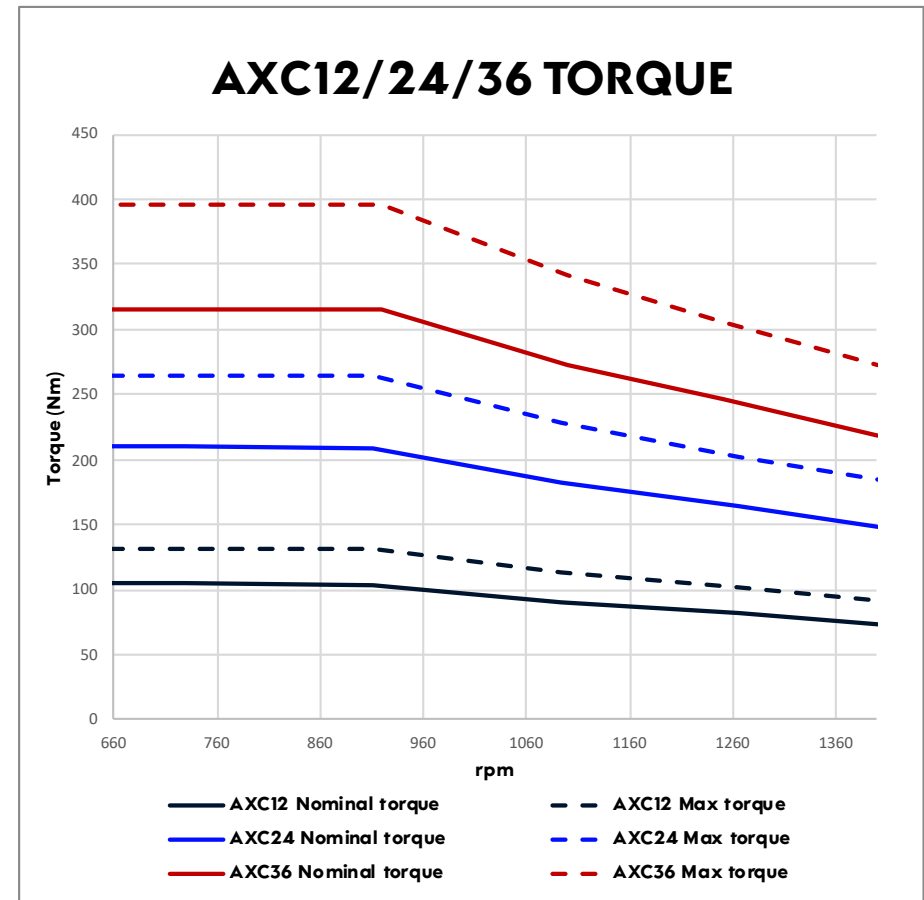


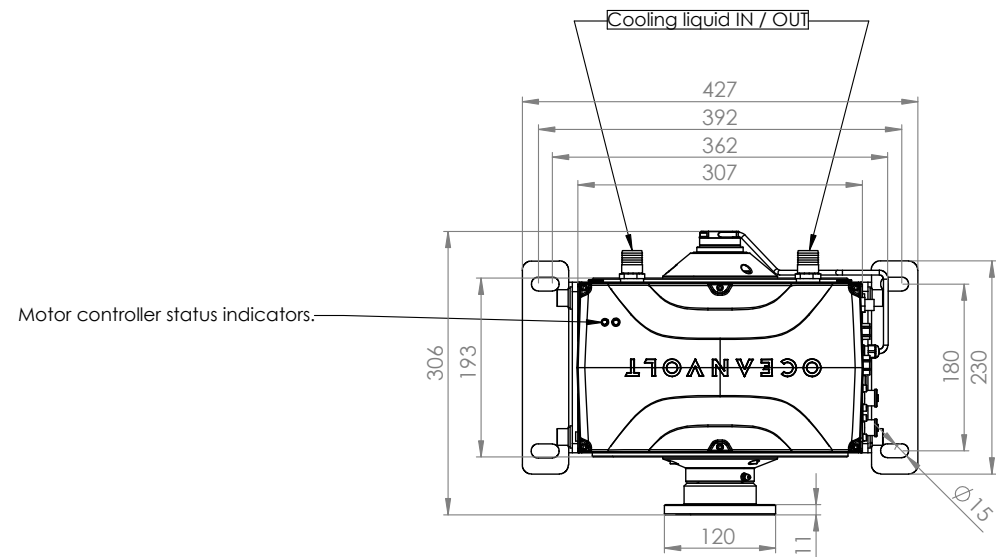
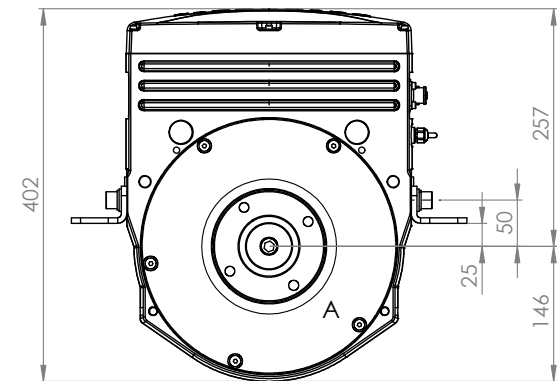
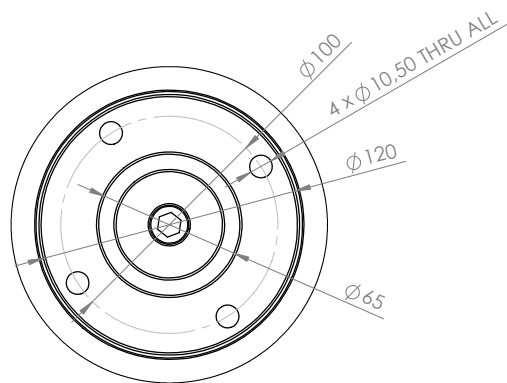
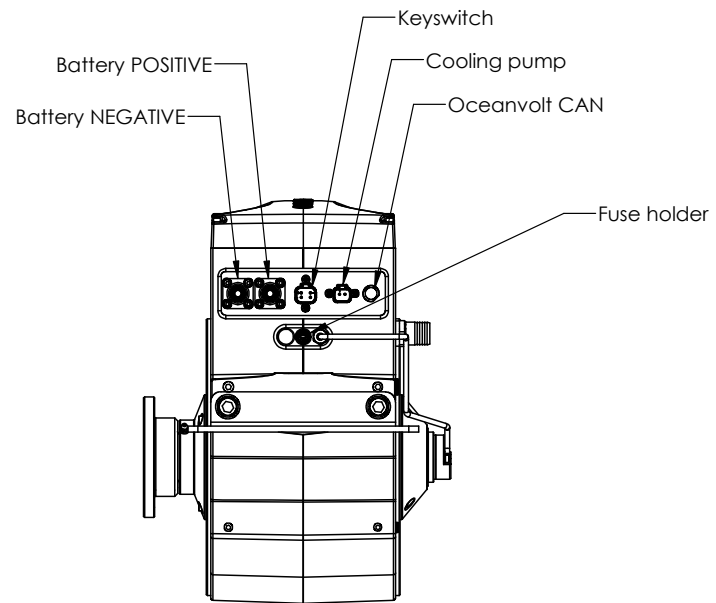
- 1. DC Generator
- 2. Propulsion battery pack
- 3. Battery connection box
- 4. BUS bar
- 5. Charger/Inverter
- 6. Shore power input
- 7. Main switch
- 8. BUS bar
- 9. Electric shaftdrive motor (AXC24)
- 10. Control lever
- 11. Oceanvolt display
- 12. System control and monitoring
- 13. Solar panels
- 14. Solar charger
- 15. DC/DC Converter
- 16. Housebattery





## PERFORMANCE









## OCEANVOLT SD ELECTRIC SAILDRIVE

In the saildrive range, Oceanvolt currently offers systems producing 6, 8, 10 and 15 kW of power. The SD saildrive range is designed for use with folding propellers from manufacturers such as Gori or Flex-o-fold.

They feature a patented mounting method which reduces vibrations and can be installed directly onto existing Volvo Penta and Yanmar mounting beds. This makes retrofitting the motors as simple as possible.



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**“We are impressed by the power that the Oceanvolt systems offer and the regeneration when sailing.**

**The Oceanvolt system is a professional setup with excellent backup. It’s a real joy and fun to maneuver the boat with Oceanvolt.”**





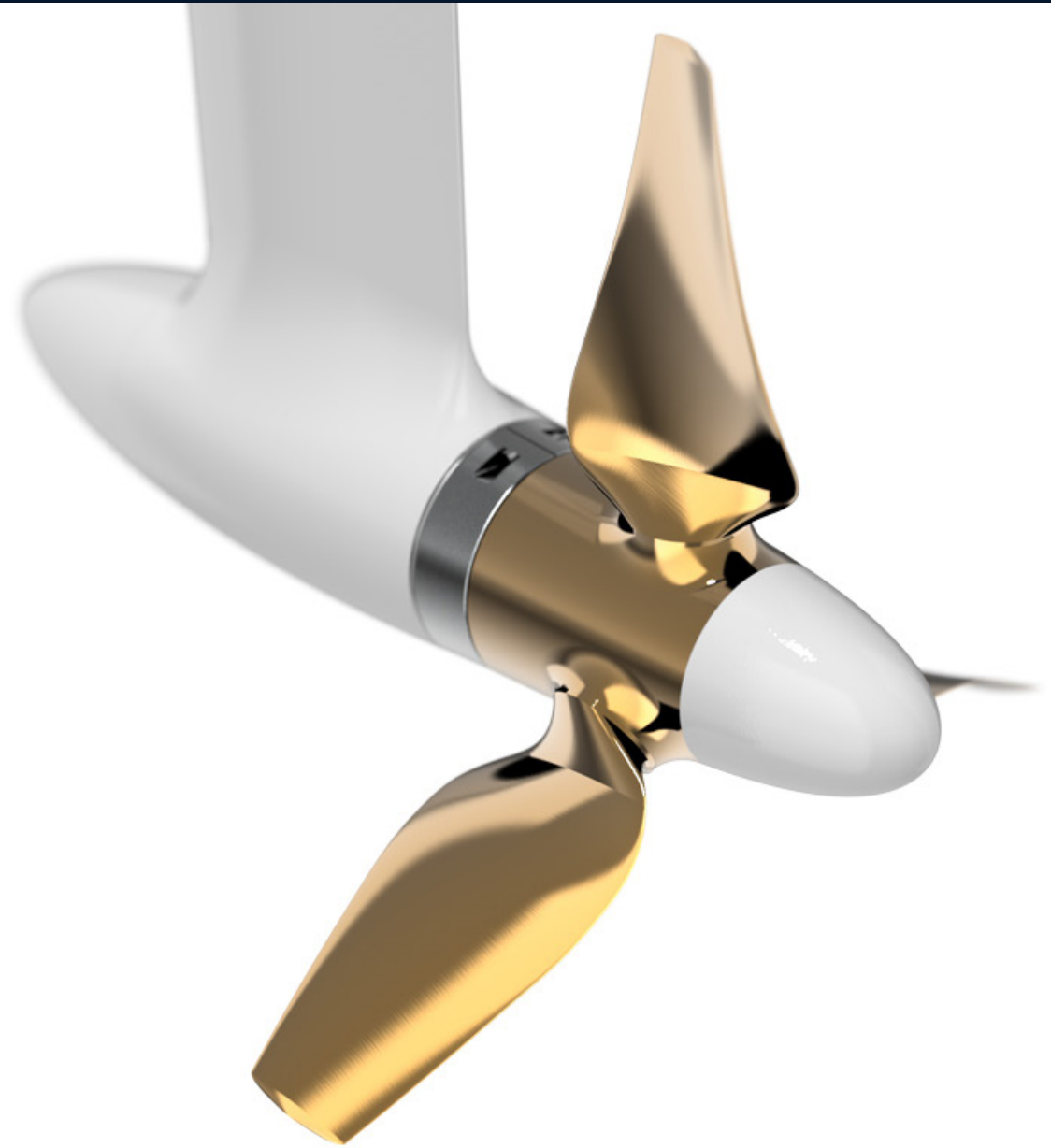
## OCEANVOLT SERVOPROP

The groundbreaking technology of the Oceanvolt ServoProp pushes the boundaries on sustainable yachting, and has been adopted by many high profile yachts around the world.

With its variable pitch propeller, bespoke blade design and high-efficiency gearbox, the ServoProp eliminates the common compromises in traditional folding prop setups.

Being more than 30% more efficient in forward thrust, 100% more efficient in reverse thrust and 300% more efficient in regeneration compared to folding props, the ServoProp is the market leader in saildrive electric propulsion for a reason.

Until now...



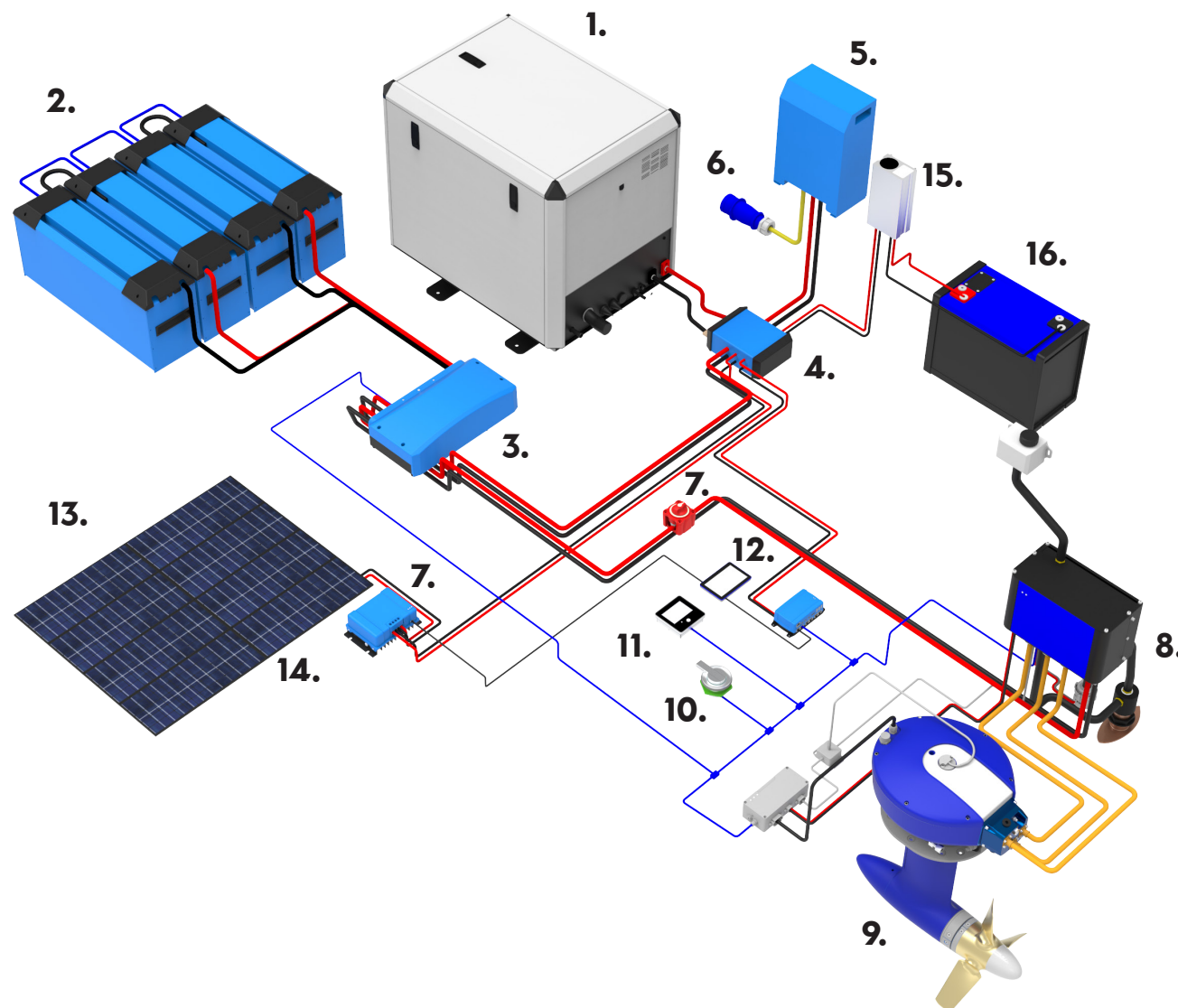
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## INDICATIVE SYSTEM DRAWING – SERVOPROP



- 1. DC Generator
- 2. Propulsion battery pack
- 3. Battery management system
- 4. Bus bar
- 5. Charger/Inverter
- 6. Shore power input
- 7. Main switch
- 8. Motor controller
- 9. Electric saildrive motor
- 10. Control lever
- 11. Oceanvolt display
- 12. System control and monitoring
- 13. Solar panels
- 14. Solar charger
- 15. DC/DC Converter
- 16. Housebattery





## THE MOST POWERFUL HYDROGENERATION ON THE MARKET – THE OCEANVOLT HIGHPOWER SERVOPROP 25

The patented 48 V Oceanvolt HighPower ServoProp 25 (HPSP 25) featuring a controllable pitch propeller combines a high-efficiency saildrive with the most powerful hydrogenerator on the market. One of the unique features of the HighPower ServoProp is the capability of the propeller blades to rotate 360 degrees, allowing for ultimate efficiency in both propulsion and electricity generation.

Entirely designed and manufactured by Oceanvolt in Finland, this groundbreaking technology redefines the possibilities of sustainable yachting as the powerful hydrogeneration feature is capable of making the yacht energy self-sufficient.

With the instant power and impressive thrust in both forward and reverse, it makes for excellent control of the boat even in harsh conditions.

The HPSP can also be installed with the propeller facing forwards or backwards. Mounting a saildrive leg with the propeller facing forwards increases the efficiency of both hydrogeneration, and also propulsion. Traditionally, saildrives are mounted with the propeller facing backwards, to allow for folding propellers and interior space management with large diesel engines. This however reduces the efficiency of the system.





The design of the propulsion unit is compact and highly integrated as the motor controller, propeller blade control, and complete liquid cooling system are built into the unit. In addition to being smaller and lighter than a comparable combustion system, there is no need for additional seawater inlets or outlets, reducing overall risk, drag and failure points. Another advantage comes from not needing any exhaust system or fuel system, so with only a few cables to connect, planning and installing the system is straightforward and simple.

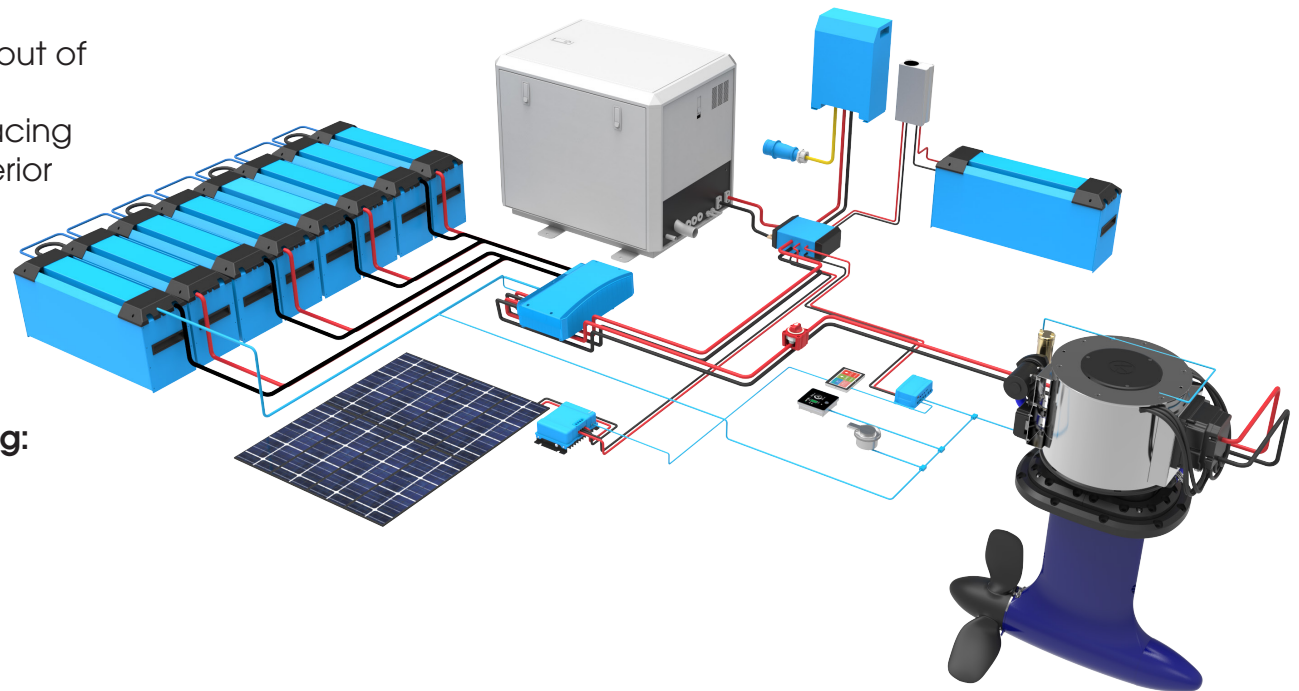
The HPSP is suitable as a propulsion motor for boats up to 70 ft in length and weighing up to 25 tons. It can also be used as a hydrogenerator in substantially larger vessels.

## MAIN FEATURES:

- Market leading hydrogeneration: 100-200% more compared to a ServoProp 15
- Easy to service, without having to lift the boat out of the water
- The drive can be installed with the propeller facing backwards or forwards, with no penalty to interior space
- Significant weight and space saving
- Integrated rope cutter
- Integrated liquid cooling system
- Included flexible mounting

**The HighPower ServoProp is capable of generating:**

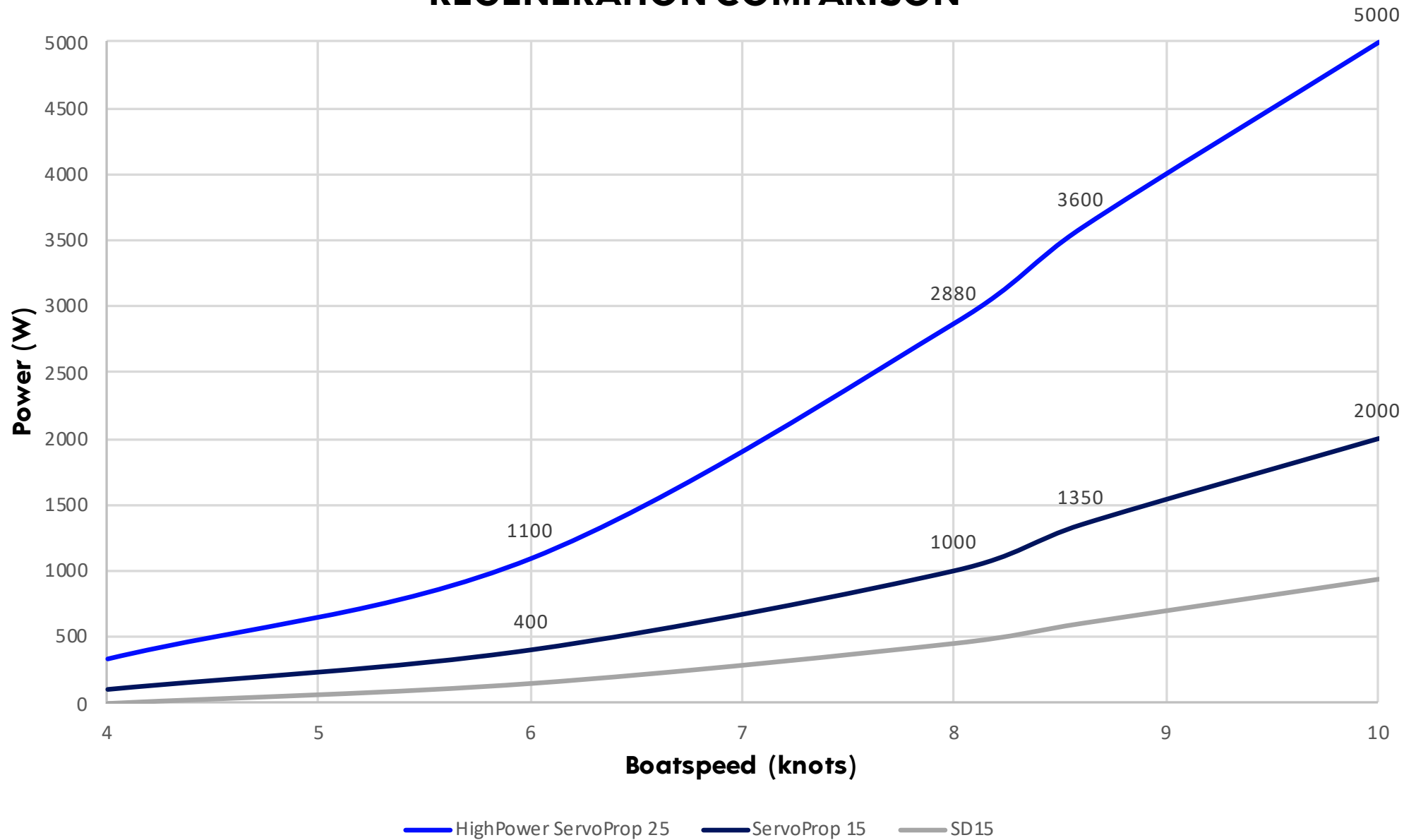
- 1 kW at 6 knots
- 3 kW at 8 knots
- 5 kW at 10 knots





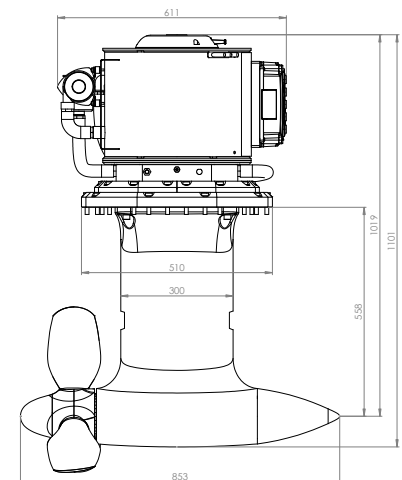
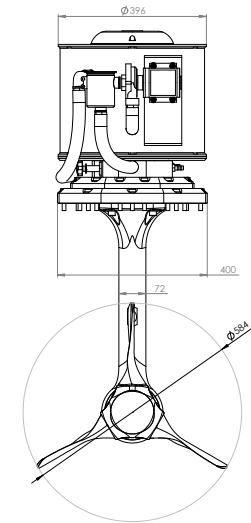
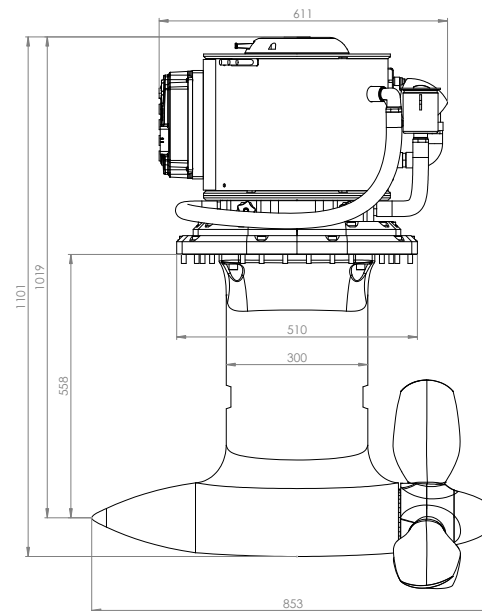
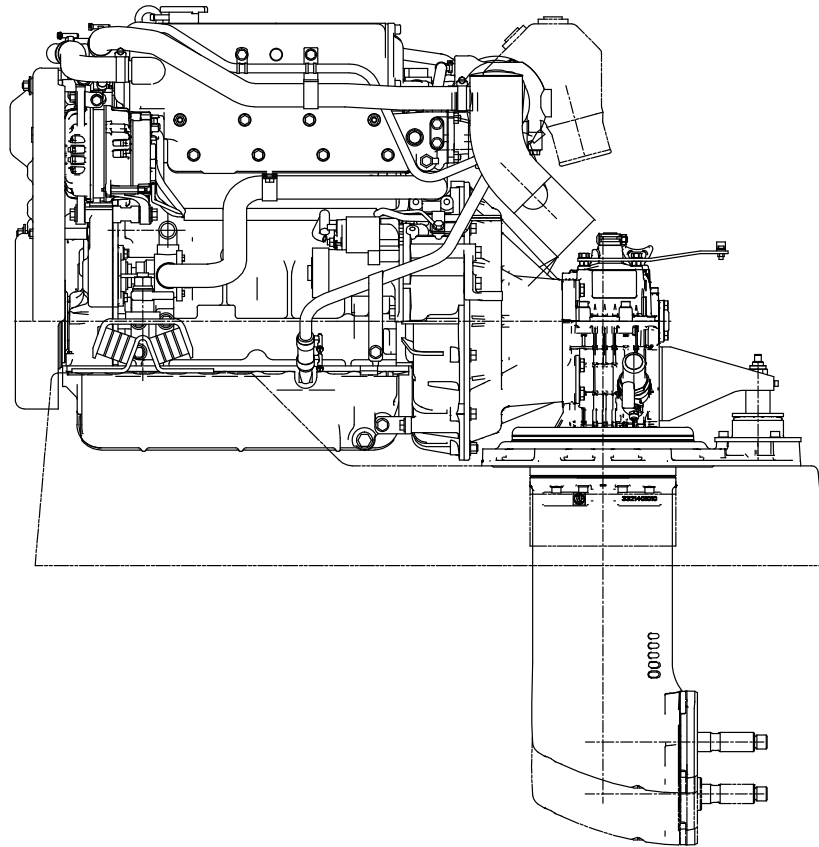


## REGENERATION COMPARISON





## MAIN DIMENSIONS COMPARED TO AN EQUIVALENT DIESEL ENGINE







## REMOTE SERVICE

A key part of Oceanvolt is the remote system monitoring and management known as RSI. Each Oceanvolt system can be connected to the internet and monitored in real-time. The technology is not limited to monitoring; Oceanvolt engineers are able to solve at least 90% of potential faults remotely. This is because all components are connected via an industry standard Controller Area Network (CAN) bus, enabling devices to talk to each other and to Oceanvolt HQ securely via the internet.

Many of Oceanvolt's current customers who run charter businesses view RSI technology as a key competitive advantage; interruptions to business due to propulsion related issues with the Oceanvolt system are significantly lower and most can be resolved much faster than in a traditional diesel scenario where a technology such as RSI is not possible.

### CHECK YOUR BOAT'S SYSTEM STATUS FROM ANYWHERE

Oceanvolt RSI is a state-of-the-art remote diagnostic and service interface that lets you see your boat's status from anywhere via a mobile phone or browser. Track all of the data related to your motor, batteries, solar panels and chargers online in real-time.

### LIVE DIAGNOSTICS & SERVICE

With the customers permission, Oceanvolt can remotely solve issues in your system, regardless of your location, so you can minimize 'down time' in the case of a fault. It also enables us to update software remotely, ensuring customers have the latest versions, maximizing their experience.

### MANAGE POWER CONSUMPTION & POWER REGENERATION

Via the remote interface, you can see overall power consumption or the regeneration of the battery banks from shore power, generator or solar panels.

### GPS TRACKING

With the GPS module, the location of the boat can be seen in real-time, plotted on an online map; this make it possible to use geo-fencing to protect your boat.



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## SUPPORTED BATTERIES & BATTERY CHEMISTRIES

Oceanvolt supports a variety of batteries and battery chemistries, including:

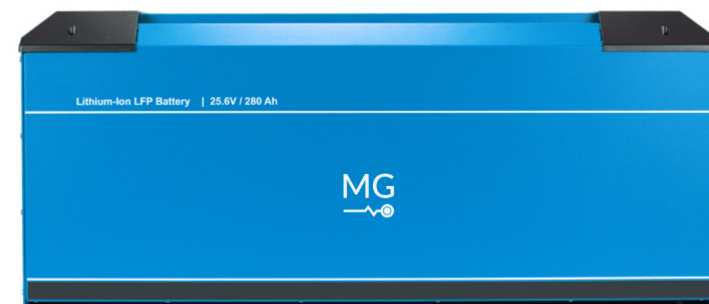
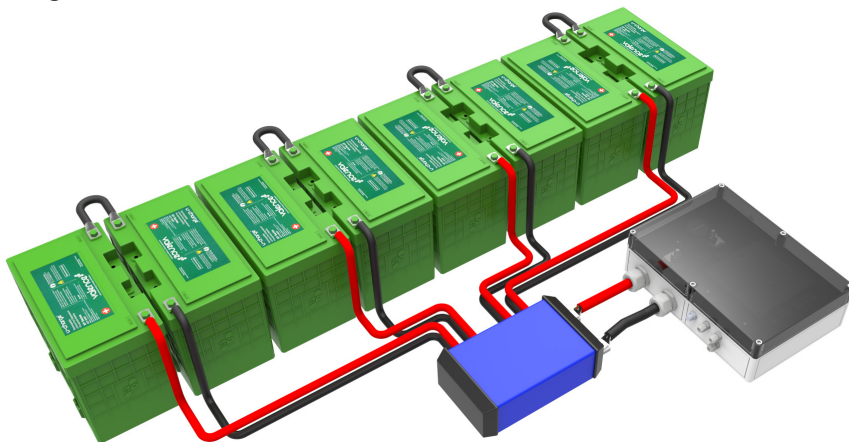
**Lithium-ion Batteries:** Oceanvolt has carried out extensive tests of many different batteries to find the best, safest and most compatible products available. As a result, Oceanvolt offers various lithium-ion batteries that are specifically designed for marine applications, including batteries from brands like MG and Valence. MG batteries are designed specifically for use in electric vehicles and have a high energy density, long cycle life, and fast charging capability. Valence batteries, on the other hand, are designed for use in heavy-duty industrial applications and are known for their safety, reliability, and long cycle life.

**AGM Batteries:** Absorbed Glass Mat (AGM) batteries, which are maintenance-free and have a low self-discharge rate.

**Lead-acid Batteries:** Which are affordable and widely available.

It's worth noting that different Oceanvolt propulsion systems may have different battery requirements and compatibility, so it's always best to check with your local Oceanvolt representative directly or consult with a certified marine electrician to ensure the compatibility of your chosen battery with your Oceanvolt system.

Oceanvolt is committed to providing comprehensive support for MG and Valence batteries in marine applications, helping customers get the most out of their electric propulsion systems and ensuring that their batteries perform reliably and efficiently over the long term.







## LIFEPO4 BATTERIES

Oceanvolt has performed extensive testing of many different LiFePO4 batteries and is able to supply premium batteries that are not only extremely safe and robust, but reliable, long-lasting and fully compatible with our system. Lithium Iron Phosphate (LiFePO4) batteries are an excellent choice for marine use, especially in electric propulsion systems and other high-performance marine applications.

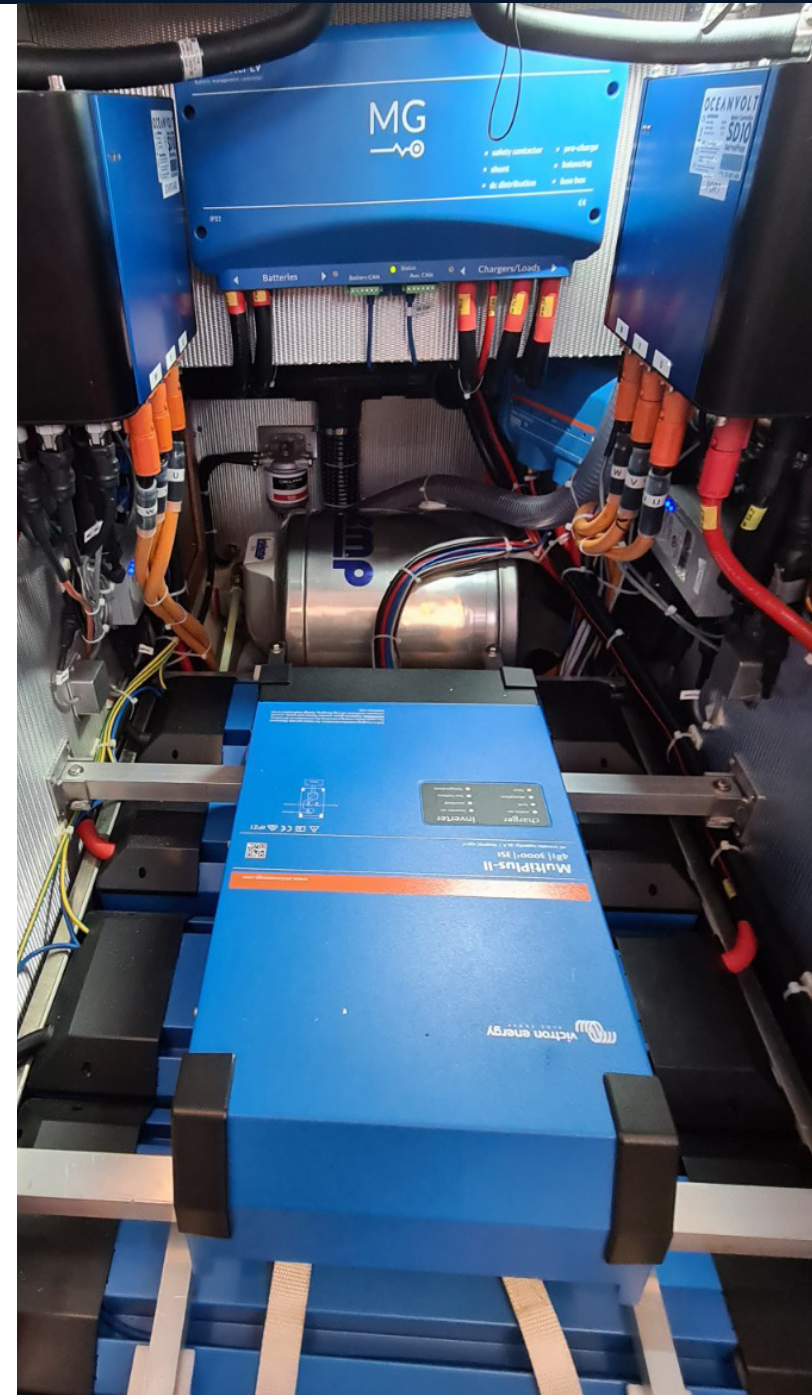
LiFePO4 batteries are also considered very safe for marine use, as they are less prone to thermal runaway and do not produce hazardous gases during charging or discharging. This makes them a safer alternative to other types of lithium-ion batteries, which can be prone to overheating and combustion.

One of the main advantages of LiFePO4 batteries is their high energy density, which allows them to store more energy in a smaller space. This is particularly useful for boats and yachts, where space is often at a premium. LiFePO4 batteries are also lightweight, which can help reduce the overall weight of the vessel and increase its efficiency.

In addition, LiFePO4 batteries have a long cycle life, typically lasting 10 years or more. They can also be charged and discharged quickly, which is useful for boats that need to recharge their batteries frequently.

However, like all lithium-ion batteries, LiFePO4 batteries require careful handling and storage to prevent damage or overheating. It's essential to follow the manufacturer's instructions for charging and discharging the batteries, and to ensure that when in storage they are stored in a cool, dry location away from direct sunlight and other sources of heat.

Overall, LiFePO4 batteries are an excellent choice for marine use due to their high energy density, long cycle life, fast charging capability, and safety, making them ideal for use in electric propulsion system.



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## TECHNICAL SPECIFICATIONS – AXC MOTORS

Motor	AXC12	AXC24	AXC36
Continuous power	12kW	24kW	36kW
Peak power	15kW	30kW	45kW
Rated propeller shaft speed (rpm)	950	950	950
Suitable propeller speed range (rpm)	950-1400	950-1400	950-1400
Equivalent installation HP	45	80	120
Motor weight (kg)	44	88	132
Dimensions (LWH / mm)	306 x 427 x 402	499 x 427 x 402	692 x 427 x 402
Boat length (m)	up to 11	up to 14	up to 16
Boat weight (kg)	up to 10 000	up to 19 000	up to 30 000
Cooling	Liquid	Liquid	Liquid





## TECHNICAL SPECIFICATIONS – SD MOTORS

Motor	SD6	SD8	SD10	SD15
Continuous power	6kW	8kW	10kW	12kW
Peak power	6kW	8kW	10kW	15kW
Rated propeller shaft speed (rpm)	1140	1140	1140	1140
Equivalent installation HP	12	15	20	30
Motor weight (including saildrive leg) (kg)	42.5	42.5	46.5	46.5
Dimensions (LWH / mm)	392 x 340 x 634.5	392 x 340 x 634.5	443 x 340 x 634.5	443 x 340 x 634.5
Boat length (m)	up to 10	up to 12	up to 13	up to 15
Boat weight (kg)	up to 4000	up to 7000	up to 9000	up to 12 000
Cooling	Air	Air	Air or Liquid	Liquid



## TECHNICAL SPECIFICATIONS – SERVOPROP MOTORS

Motor	ServoProp 10	ServoProp 15	HighPower ServoProp 25
Continuous power	10kW	12kW	25kW
Peak power	10kW	15kW	30kW
Rated propeller shaft speed (rpm)	1140	1140	TBA
Propeller diameter (inches)	15"	15"	23"
Equivalent installation HP	20	30	75
Motor weight (including saildrive leg and prop) (kg)	65	65	190
Dimensions (LWH / mm)	447 x 340 x 664	447 x 340 x 664	853 x 400 x 1101
Boat length (m)	up to 11	up to 14	up to 21
Boat weight (kg)	up to 10 000	up to 19 000	up to 25 000
Cooling	Liquid	Liquid	Liquid





# OCEANVOLT

Clean Electric Power & Propulsion

For more information  
contact [sales@oceanvolt.com](mailto:sales@oceanvolt.com)  
or visit [www.oceanvolt.com](http://www.oceanvolt.com)

