

E-Propulsion

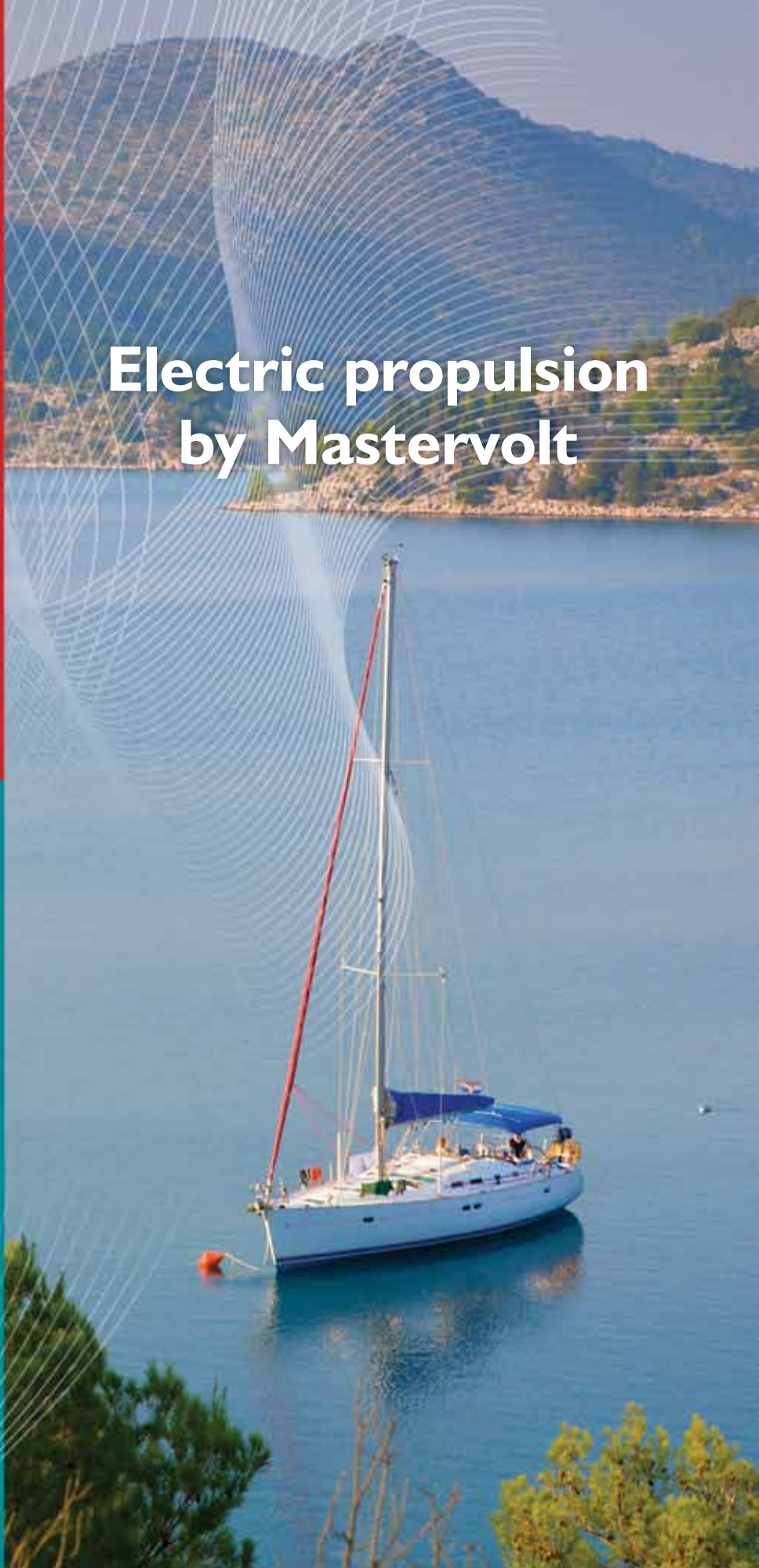


Complete systems,
whatever your power
needs

One supplier

Global service

Electric propulsion by Mastervolt



MASTERVOLT

THE POWER TO BE INDEPENDENT





Electric propulsion by Mastervolt

Electric sailing is becoming ever more popular. Perhaps it is the peace and comfort that comes from saying goodbye to engine vibrations and noise. Our desire to be eco-friendly is certainly playing a key role. And then there is also the fact that many of the world's 'green zones' can only be accessed with silent and emission-free e-propulsion.

Having developed our e-propulsion products in partnership with the experts in this field, Mastervolt offers complete electric systems up to 65 kW or customised solutions with higher capacities. In addition to propulsion, some systems can also supply power to the batteries, battery chargers and battery monitoring devices. And we have a range of intelligent, integrated solutions for hybrid sailing.

Mastervolt can also be of service if you need a higher capacity. In addition to the systems in this brochure (up to 65 kW), Mastervolt can provide solutions for higher power demands.

Total package

Mastervolt delivers all its electric motors with a controller, cables, display, contact key, main switch and main fuse. Due to the wide variety in designs, materials and shapes, throttle handles are not included as standard. Make your selection on page 4.

Sailing hours

The number of sailing hours depends on your battery kit combined with the generated capacity. For six to eight hours sailing, you require 4.6 x kW capacity in kWh. Example: $4.6 \times 3.5 \text{ kW} = 16.1 \text{ kWh}$; this is the capacity required for six to eight hours sailing.

A battery monitor that always provides the latest information is very beneficial when electric sailing.

Two-year warranty and global service

All Mastervolt systems for electric sailing come with a two-year warranty as well as global service.

More information

From shore power cables to propellers, your Mastervolt dealer is at your service. Or go to www.mastervolt.com/e-propulsion for more information.

Practical information:

Permanent Magnet (PM) motors are very compact and silent; Asynchronous motors are exceptionally quiet and have a very high torque.

To find out which batteries are most suitable for you, visit www.mastervolt.com/batteries

A proper battery charger is essential for the maintenance and lifespan of your batteries. See www.mastervolt.com/chargers for assistance with your selection.

A reliable battery monitor is a must. See www.mastervolt.com/batterymonitor



Choose your propulsion kit

DRIVEMASTER

This compact, lightweight and powerful propeller drive can be easily built-in and comes as standard with all the essential components, with exception of the propeller and propeller shaft. With minimum maintenance and noise, plus the benefits of brushless technology, the DriveMaster Ultra is top of the DriveMaster line.

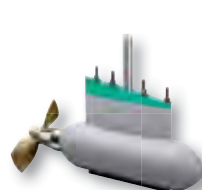


Type	Capacity*	Motor technology	Voltage regulator	Max. RPM	Required battery capacity for 3-4 hours sailing	Required battery capacity for 6-8 hours sailing	Product code
DriveMaster 2.5	2.5 kW	PM	24 V	1100	7 kWh	11.5 kWh	140100250
DriveMaster 3.6	3.6 kW	PM	36 V	1600	10 kWh	16.5 kWh	140100360
DriveMaster 5	5.0 kW	PM	48 V	1050	14 kWh	23 kWh	140100500
DriveMaster 3.5 Ultra**	3.5 kW	asynchronous	48 V	1450	9.8 kWh	16 kWh	140300350
DriveMaster 5 Ultra**	5.0 kW	asynchronous	48 V	1450	14 kWh	23 kWh	140300500
DriveMaster 7.5 Ultra**	7.5 kW	asynchronous	48 V	1450	21 kWh	34.5 kWh	140300750
DriveMaster 10 Ultra**	10.0 kW	asynchronous	48 V	1450	28 kWh	46 kWh	140301000
DriveMaster 16 Ultra**	16.0 kW	asynchronous	96 V	2500	45 kWh	74 kWh	140301600
DriveMaster 20 Ultra**	20.0 kW	asynchronous	96 V	1450	56 kWh	92 kWh	140302000
DriveMaster 25 Performance	25.0 kW	synchronous	180 V	1450	70 kWh	115 kWh	customer-specific product please contact Mastervolt
DriveMaster 40 Performance	40.0 kW	synchronous	230 V	2500	112 kWh	184 kWh	
DriveMaster 65 Performance	65.0 kW	synchronous	300 V	3000	182 kWh	299 kWh	

* Supplied capacity. ** As an option, the DriveMaster Ultra can also be supplied with an adjustable motor support.

PODMASTER

Mastervolt's ideal solution for motor or sailyachts is installed under the hull to save space and minimise sound and vibration. Sailing with the PodMaster is the quietest possible solution for electric sailing.



PodMaster



PodMaster Steerable



PodMaster Professional

Type	Capacity	Motor technology	Voltage regulator	Max. RPM	Required battery capacity for 3-4 hours sailing	Required battery capacity for 6-8 hours sailing	Product code
PodMaster 2*	2.0 kW	PM	24 V	1800	5.6 kWh	9.2 kWh	140600200
PodMaster 2.5*	2.5 kW	PM	36 V	1800	7 kWh	11.5 kWh	140600250
PodMaster 4.2	4.2 kW	synchronous	48 V	1500	11.8 kWh	19.3 kWh	140600420
PodMaster 6.5	6.5 kW	synchronous	48 V	1500	18.2 kWh	30 kWh	140600650
PodMaster 10	10.0 kW	synchronous	48 V	1800	28 kWh	46 kWh	140601000
PodMaster 2 Steerable**	2.0 kW	PM	24 V	1800	5.6 kWh	9.2 kWh	140700200
PodMaster 2.5 Steerable**	2.5 kW	PM	36 V	1800	7 kWh	11.5 kWh	140700250
PodMaster 4.2 Steerable**	4.2 kW	synchronous	48 V	1500	11.8 kWh	19.3 kWh	140700420
PodMaster 6.5 Steerable**	6.5 kW	synchronous	48 V	1500	18.2 kWh	30 kWh	140700650
PodMaster 10 Steerable**	10.0 kW	synchronous	48 V	1800	28 kWh	46 kWh	140701000
PodMaster 6.5 Professional***	6.5 kW	synchronous	48 V	950	18.2 kWh	30 kWh	141300650
PodMaster 10 Professional***	10.0 kW	synchronous	48 V	1050	28 kWh	46 kWh	141301000

* Delivered with fixed propeller; also available with folding propeller.

** This PodMaster model is also as Sterndrive available.

*** Supplied without propeller.

SAILMASTER

As the name indicates, this propulsion solution is specifically for sailyachts. The SailMaster asynchronous propulsion systems were developed for application with the standard saildrive propulsions from, for instance, Selva.



Type	Capacity	Voltage regulator	Max. RPM	Required battery capacity for 3-4 hours sailing	Required battery capacity for 6-8 hours sailing	Product code*
SailMaster 5	5 kW	48 V	1000	7.0 kWh	14.0 kWh	140500500
SailMaster 7.5	7.5 kW	48 V	1000	9.8 kWh	19.6 kWh	140500750

* Supplied without propeller.

Hybrid sailing: Best of both worlds

The HybridMaster is Mastervolt's solution for hybrid propulsion: combining the advantages of electric propulsion with the sailing radius of a diesel engine. The HybridMaster series has an electric power rating ranging from 3.5 to 10 kW, allowing them to be combined with diesel engines of up to 150 hp. When sailing electrically, the HybridMaster gets its energy from the batteries. When sailing on the motor, the batteries are recharged up to a maximum of 150 A. With the Mastervolt HybridMaster you can enjoy the best of both worlds.

The HybridMaster is universally applicable and can be installed parallel to the propeller shaft. The gear ratio between the rpm of the electric motor and the propeller shaft can be adapted, which is crucial as it ensures that the electric propulsion is optimally adjusted to the existing propeller and motor. The HybridMaster Ultra is the top end of the line, using completely silent and maintenance-free brushless asynchronous motor technology.



HYBRIDMASTER

Type	Capacity	Motor technology	Voltage regulator	Product code
HybridMaster 4.8	4.8 kW	PM	48 V	I40103000
HybridMaster 9.6	9.6 kW	PM	48 V	I40104000
HybridMaster 3.5 Ultra	3.5 kW	asynchronous	48 V	I40320350
HybridMaster 5 Ultra	5 kW	asynchronous	48 V	I40320500
HybridMaster 7.5 Ultra	7.5 kW	asynchronous	48 V	I40320750
HybridMaster 10 Ultra	10 kW	asynchronous	48 V	I40321000

Choose your throttle control

The Mastervolt ControlMaster throttle controls were specifically designed for electric sailing and ensure that the speed of your vessel can be subtly and carefully controlled. Another important issue is an easily selectable neutral gear. Your choice of throttle control will depend on your preference in design, shape and materials. All our throttle controls were developed using corrosion-proof materials and are easily installed. The kits can be equipped with all available throttle handles.

	Model	Applicable for	Assembly	Product code	
1	ControlMaster Casual	single version	all propulsions	side assembly	141500010
2	ControlMaster Sport	single version	all propulsions	side assembly	141500030
3	ControlMaster Sport TD	double version	all propulsions	top assembly	141500220



Choose your battery bank

Batteries are at the heart of every onboard energy system. Because your choice partly depends on the equipment you need to power, the overview below lists various types of batteries and not all models. For a complete list see www.mastervolt.com/batteries. Your Mastervolt dealer will also be pleased to offer you advice.

AGM batteries are ideal for situations in which you need a high discharge voltage, such as for electric sailing or powering your bowthruster. An AGM battery is fully closed and maintenance free. The 6 V cells are ideal as building blocks for 36 V and 48 V banks.

2 V gel cells are fully closed, maintenance free and ideal for professional use with a large number of charging and discharging cycles. They are therefore the perfect service battery for medium and large systems. Their design means that gel batteries can be very quickly recharged and have a limited self-discharge. This makes them ideal for electric sailing.

Lithium Ion batteries are top-of-the-range batteries with highly advanced technology. They have a high energy density and are perfect for cyclic applications. Compared to traditional lead-acid batteries, Lithium Ion batteries offer savings of up to 70% in volume and weight, while the number of charging cycles is three times as large. Another major benefit of the Mastervolt Li-ion battery is that it is equipped with a Battery Management System, which automatically compensates for any imbalance between the cells to guarantee a longer battery lifespan.



Composition	Voltage	Capacity for 4 hours sailing	Capacity for 8 hours sailing	Total weight	Technology	Base battery (l x w x h)
1 4x AGM 6/260 Ah	24 V	2.8 kWh	3.0 kWh	144 kg	AGM	295x180x298 mm
2 4x AGM 12/130	48 V	2.8 kWh	3.0 kWh	150 kg	AGM	410x177x228 mm
1 8x AGM 6/340 Ah	48 V	7.3 kWh	7.7 kWh	392 kg	AGM	295x180x366 mm
4 2x MLI 24/160	24 V	8.6 kWh	8.6 kWh	96 kg	Lithium Ion	623x199x345 mm
4 4x MLI 24/160	48 V	17.2 kWh	17.2 kWh	192 kg	Lithium Ion	623x199x345 mm
4 8x MLI 24/160	48 V	34.4 kWh	34.4 kWh	384 kg	Lithium Ion	623x199x345 mm
3 24x MVSV 1000	48 V	34.5 kWh	36.5 kWh	1632 kg	2 V gel	211x192x693 mm



Choose your system

The overview below provides several system recommendations based on weight and application. These recommendations are intended as guidelines only; always consult your Mastervolt specialist for the best configuration.

Heavier vessels from around 55 ft for motor and sailyachts and from around 60 ft for catamarans always require a bespoke solution. Contact your Mastervolt dealer, yard or the specialists at Mastervolt.

REQUIRED CAPACITY (GUIDELINE)

Weight	Motoryacht length	power	Sailyacht length	power	Catamaran length	power
1000 kg	≤ 5 mtr	2.5 kW	≤ 6 mtr	2.0 kW	≤ 6 mtr	2x 1.0 kW
2000 kg	≤ 7 mtr	5.0 kW	≤ 9 mtr	4.0 kW	≤ 9 mtr	2x 2.0 kW
3000 kg	≤ 9 mtr	7.5 kW	≤ 11 mtr	6.0 kW	≤ 11 mtr	2x 3.0 kW
4000 kg	≤ 11 mtr	10.0 kW	≤ 12 mtr	8.0 kW	≤ 12 mtr	2x 4.0 kW
5000 kg	≤ 12 mtr	12.5 kW	≤ 13 mtr	10.0 kW	≤ 13 mtr	2x 5.0 kW
6000 kg	≤ 13 mtr	15.0 kW	≤ 14 mtr	12.0 kW	≤ 14 mtr	2x 6.0 kW
8000 kg	≤ 14 mtr	20.0 kW	≤ 15 mtr	15.0 kW	≤ 15 mtr	2x 7.5 kW



For more information, go to www.mastervolt.com/e-propulsion or go to your nearest Mastervolt dealer for advice.

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