

Complete comfort on the water

Your ship:	30-40 ft motoryacht
Use:	Longer weekend trips, at night in a harbour
Details:	Comfortable onboard facilities

Your sailing profile

Generally sailing for a weekend or midweek, sometimes anchored without access to shore power so you need enough power to cruise for two days. You also desire a range of comforts onboard, including a large refrigerator, microwave/oven combination and high-end coffee/espresso machine. Internet and email facilities are on your wish list as is (partial) navigation using your laptop, a good sound system and occasionally watching your favourite TV show.

Your onboard consumers include:

DC consumers:

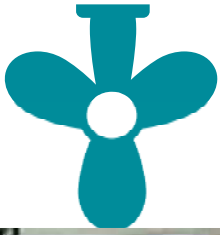
<u>description</u>	<u>total x capacity x hour</u>	<u>daily consumption</u>
Navigation and deck lighting	6 x 20 Watt x 8 hour	= 0.96 kWh
Navigation and communication equipment	3 x 40 Watt x 12 hour	= 1,44 kWh
Interior lighting	15 x 15 Watt x 4 hour	= 0.90 kWh
Water, shower, toilet and bilge pumps	5 x 100 Watt x 0.2 hour	= 0.10 kWh
Refrigerator	1 x 50 Watt x 8 hour	= 0.40 kWh
Several small consumers	2 x 20 Watt x 4 hour	= 0.16 kWh

AC consumers:

Audio system	1 x 110 Watt x 4 hour	= 0.44 kWh
Microwave/oven combination	1 x 2000 Watt x 0.2 hour	= 0.40 kWh
Coffee/espresso machine	1 x 1500 Watt x 0.2 hour	= 0.30 kWh
TV	1 x 50 Watt x 3 hour	= 0.15 kWh
Laptop	1 x 30 Watt x 2 hour	= 0.06 kWh

Total DC and AC consumers: = 5.4 kWh





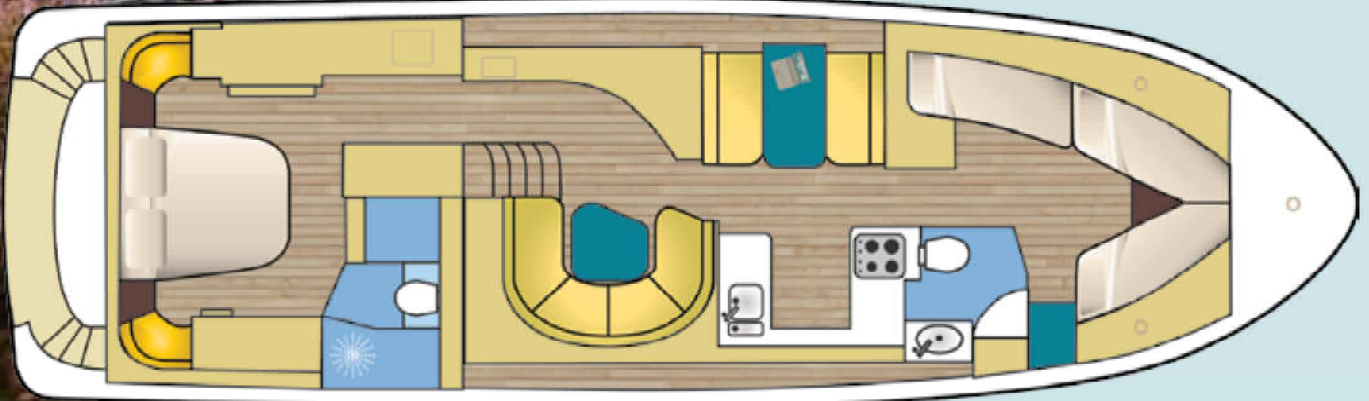
WEEKENDS AWAY

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The Basics

- You do not want to have to think about what to use or when. Simultaneous power is best.
- Your navigation station includes a GPS, plotter, speedometer and depth gauge.
- Your yacht has several pumps for water, shower, toilet and bilges.
- You require optimum ease of operation; not only centrally located but also next to your bed or in the engine room.



The best system choice

Batteries: 4 x Mastervolt MVG 12/200 Ah

- The total of DC and AC consumers requires around 5.4 kWh. Totally discharging the batteries is not advisable so opt for a maximum of 50% discharge, i.e. 10.9 kWh.
- Taking into account the various appliances and required peak loads we suggest a 24 V system.
- The required battery capacity is therefore $10.900 \text{ Wh} / 24 \text{ V} = \pm 450 \text{ Ah}$.
- Four 12 V MVG batteries of 200 Ah ensure you have 400 Ah onboard.

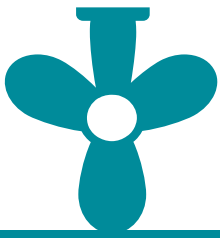
Battery charger and converter: 1 x Mastervolt Mass Combi 24/4000-120

- 450 Ah needs at least 25% of the battery capacity for charging power, so in this case we chose for a 120 A charging power via the Mass Combi (the high frequency charger/inverter combination).
- With the Mastervolt Mass Combi 24/4000-120 you have a battery charger that allows you to safely, quickly and completely charge two battery banks; starter and service batteries can be separately charged.
- Use the Mass Combi 24/4000-120 to convert the power for your laptop, microwave and espresso machine. Using everything simultaneously is also possible.

Other system components

- 1 x Mastervolt shore connection set 2+PE, 16 A/230 V.
- 1 x Mastervolt Shore Fix, 16 A/30 mA earth leakage shore power.
- Mastervolt Mass GI 7 kVA/32 A. This lightweight isolation transformer for safely using shore power is vital for steel or aluminium vessels to avoid electrolysis and corrosion.
- 1 x MasterView System touch screen control panel for operating and monitoring your entire system from one central station. Instead of separate panels spread around the boat you have a clear overview with intuitive operation. Also offers features such as an integrated tank level meter.
- 2 x MasterView Easy control panels for decentralised monitoring and control with, for instance, one screen next to your bed and another in the engine room.
- 4 x Mastervolt Digital DC 10x10A, each with 10 outputs for all possible DC consumers.
- 1 x Mastervolt MasterShunt 500 battery monitor.
- 1 x Mastervolt DC Distribution with 4 fuses.
- Mastervolt MasterBus cables.
- Several different input devices are used for local operation of your system, such as the Switch Input 4 PCB and the Digital Input.





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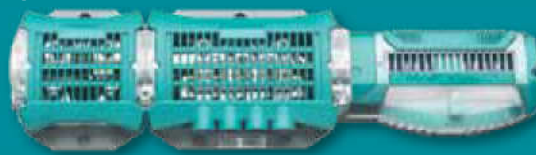


- Boiler
- Phone charger
- Laptop charger
- Hair drier
- Tools

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- Saloon lights
- Marine telephone
- Radio
- Refrigerator
- Phone charger
- Laptop charger

- 1 MasterView System
- 2 MasterView Easy
- 3 Switch Input 4 PCB
- 4 Shore power connection
- 5 Earth leakage shore power
- 6 Mass GI isolation transformer
- 7 Mass Combi
- 8 Service battery 24 V
- 9 MasterShunt, DC Distribution, Digital DC
- 10 Digital DC