



# BAVARIA Owner's Manual

cruiser 46

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## 1. Introduction

For your own comfort and safety, please make sure, that you have received all the necessary information and documentation about the ships systems from the previous owner of the craft. Please keep this manual in a secure place and hand it over to the new owner when you sell the craft. On board ship, it is strongly recommended to only keep a high quality copy of this manual in a waterproof cover and leave the original in a secure place.

This manual shall help you to enjoy your BAVARIA Yacht in a safe and responsible manner. Besides the information on the boat itself this manual contains information on handling and maintenance of the boat. Special attention has been given to systems on board that require sea water circulation for cooling, such as the air conditioning units. Those systems rely upon measures to be taken before they are even switched on. Please read this document carefully and familiarize yourself with the craft before using it. Please ensure that you have adequate experience before assuming command of the craft.

Should this be your first recreational sailing yacht, or if you are not yet familiar with the special characteristics of such a sailing yacht, please make sure that you receive proper training before you start any voyage; this is for your own safety and comfort. Do not hesitate to contact your dealer for information on further training. The yard itself or your local dealer will certainly help you to find an appropriate partner, in case you wish to freshen up your knowledge regarding boating.

Regardless of the craft's seaworthiness and its certified design category, protection from freak sea and wind conditions cannot be guaranteed. Beware of offshore winds and currents. The ability, experience and fitness of the

crew should be taken into consideration before you embark on any journey.

As the scope of delivery may vary depending on the individual order, the equipment of your sailing yacht may deviate from some of the descriptions and illustrations contained in this manual. To be able to constantly upgrade our yachts to state-of-the-art standard we reserve the right to alterations in form, equipment and technological standard. It is for that reason that no claims can be derived from data, illustrations and descriptions contained in this manual.

BAVARIA Yachtbau GmbH would like to welcome you as a new owner of a BAVARIA and would also like to thank you for placing your confidence in our products by acquiring this yacht.

Your contracting party and the management, together with the staff of BAVARIA YACHTBAU GmbH do sincerely wish you lots of enjoyment with your Cruiser 46.

**We do wish you a safe journey at all times and may there always be enough water beneath your keel.**

BAVARIA YACHTBAU GmbH  
The Management



Lutz Henkel



## 2. Responsibility of the coxswain/skipper/owner/captain

**The owner or boat captain is fully responsible and shall adhere to the following principal rules:**

1. Know and get to know about the limitations of your boat.
2. Always follow the rules of the road - make sure you know about the local rules and regulations.
3. Keep a good and sharp lookout for people and objects in the water.
4. Ensure, that the anticipated wind and sea conditions do always correspond to the design category of the boat and that you and your crew are able to handle the boat in these conditions;
5. Make sure your Crew and passengers are always safe, always keep an eye on them.
6. Never sail or drive the boat when the operator is under the influence of drugs or alcohol.
7. Ensure that all crew receive suitable training, particularly with regards to the location and operation of safety equipment such as life vests, life-rafts and distress signals.
8. Reduce your speed when there is restricted visibility, rough water, people in the water - boats, or structures nearby.
9. Do never overestimate your own abilities and fitness. It is wise and sensible to consult other skippers, local authorities or government departments about specific information.
10. Train with your crew and all people on board regarding the important maneuvers at sea: Above all the MOB - Man over board. Each and every person on board should be able to execute this maneuver autonomously - even the most experienced boat-captain may be the one in the water to be rescued.
11. Have the craft inspected by qualified personnel at regular intervals and whenever a cause for concern is raised have it repaired by qualified personnel.
12. Ensure compliance with all legislation in place in the area of operation. These may include requirements for the carriage of life saving equipment, licensing of the helmsman and respect for the environment.
13. Check the bilge water level, liquids such as water, sloshing in the boat do reduce the stability of the boat.
14. Regardless of the craft's seaworthiness and its certified design category, protection from freak sea and wind conditions cannot be guaranteed. Beware of offshore winds and currents. The ability, experience and fitness of the crew should therefore be taken into consideration before you head off.
15. This craft may only be used by individuals fulfilling the regulations for the operator and/or license requirements in the country of use. In many countries it is compulsory to carry a license or comply with other legislation in place in the area of operation. Keep yourself therefore informed and up to date on the local requirements before you head off.

### Preparation

Prepare any trip carefully, howsoever short, harmless or insignificant it may seem, be aware that:

Weather conditions may change abruptly and accidents onboard ship may also occur without any adverse influences of a seaway or meteorological effects.



**If you are prepared and equipped for an emergency then usually bad luck does not hit you. In order to be prepared your boat should be equipped with appropriate gear and resources.**

### Information - reefing the sail plan



- » The working sail plan should be reduced if the average wind force exceeds force 4 on the Beaufort scale. Particular care should be taken in gusty conditions and rough weather.

### 3. About this manual

This Owner's Manual has been compiled for your safety and to help you to operate your craft with pleasure. It contains details of the craft; the equipment supplied or fitted, its systems and information on their operation. Please read this manual carefully and completely and familiarize yourself with the craft before using it. Ensure that everyone who will operate the vessel reads this manual before setting out. This manual complies with the EU Recreational Craft Directive (RCD) and should not be perceived as an exhaustive guide to the vessel. This owner's manual is not a detailed maintenance or trouble shooting guide. Prerequisite for a successful trip is sufficient seamanship and experience that empowers you to manage all possible situations. A manual is **not** a replacement for experience, common sense and good seamanship!

#### 3.1. Original Equipment Manufacturer (OEM) Manuals

This manual complies with the EU Recreational Craft Directive (RCD) and does only contain a few manufacturers information of any installed equipment. More detailed information regarding such equipment may be found in manuals provided by the OEM. These may be found as part of the package you have been handed over. This applies only if this particular option has been ordered and installed on your BAVARIA Yacht.

### 3.2. Safety Labels

The craft and this manual show symbols which advise the owner/operator and crew of imperative safety precautions to follow when operating and/or servicing equipment. The following symbols may be found on your craft. They should be respected at all times.



**Danger**, with descriptive text, the symbol may be colored or b/w



Read the manual, equipment or systems will be covered there.



Electrical hazard  
Electrical danger Current



Fuel filler  
Letter „D“ denotes Diesel fuel



Fire hazard



Sling position  
for the safe hoisting of the boat



Fire extinguisher, may also identify a locker, where extinguishers are stowed.



Opening for discharge of a extinguisher from the outside



Risk of falling overboard



Stowage space for life saving equipment  
Life vests or life rafts



Escape route



Life raft - Stowage



Radar/Equipment that radiates electromagnetic waves



Danger of crushing or jamming



Access to escape via additional step



Danger - Slippery



Chemical products (irritating and corrosive)



Hot parts - danger of scalding

### 3.3. Explanations of those Warning signs and symbols

In some chapters of this manual you will find advice concerning the trouble free operation, the maintenance but also some warning about dangers and hazards. For better contrast and visibility those signs are displayed in warning triangles or other panels, they may also be rasterized.



Stick to and apply good seamanship at all times! You as the **boat captain** bear the sole responsibility for the boat and the well-being of your crew.  
Never remove or cover a sign or label. Replace every damaged or lost sign immanently.

#### **Danger**

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denotes an extreme intrinsic hazard exists which would result in high probability of death or irreparable injury if proper precautions are not taken.

#### **Warning**

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Denotes that a hazard exists which can result in injury or death if proper precautions are not taken.

#### **Caution**

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Denotes a reminder of safety practices or directs attention to unsafe practices which could result in personal injury or damage to the craft or components.

#### **Information**

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Denotes useful or important facts or suggestions that can greatly enhance safety and efficiency of operations.

## 4. Design category and CE-certification

This vessel carries the CE marking (shown here to the right): This is to indicate that it complies with the EU Recreational Craft Directive. The assigned design category will be described in the following paragraph. :



**Your BAVARIA Cruiser 46 has been assigned the Design Categories A and B, depending on maximum crew and loading.**

A boat given design category A is considered to be designed for extended voyages where conditions may exceed wind force 8 (Beaufort scale) and significant wave heights of 4 m and above but excluding abnormal conditions, and vessels largely self-sufficient.

A boat given design category B is considered to be designed to operate in winds up to force 8 (Beaufort scale) and the associated wave heights (significant wave heights up to and including 4m).

Such conditions may be encountered on offshore voyages of sufficient length or on coastal waters when unsheltered from the wind and waves for several dozens of nautical miles. These conditions may also be experienced on inland seas of sufficient size for the wave height to be generated.

### 4.1. Certification

For this yacht module B+C was chosen (see also the Declaration of conformity). **Germanischer Lloyd**, with its headquarters based in Hamburg, was mandated with the issuance of the necessary certificates and to perform the necessary compliance procedures.

### 4.2. Boat Identification & CE Certificate of design category

#### a. Identification

The manufacturers craft identification number (CIN) has been affixed to the starboard stern of the boat. The CIN is a unique code consisting of numbers and letters. Please find in the following paragraph the explanation of its nature

#### b. Builder's plate

The builder's plate affixed in the cockpit is a requirement of the Directive where certain information are required to be displayed, those are below.

Bavaria Yachtbau GmbH Bavariastrasse 1 - D-97232 Giebelstadt Sailing Yacht „Cruiser 46“		
Category	A	B
Max.	10	16
Max.  +	1.737kg	2.349kg

### 4.3. Explanations on the CIN and the builders plate

The **CIN (Craft Identification Number)** Consists of a two-digit country code (DE for Germany), followed by the three letter yard identifier BAV for BAVARIA. The following combination of 5 letters or numbers is assigned by the yard and usually identifies the model. The 4th from last place letter denotes the month when the build of the craft began (A for January, etc.) the third from last number identifies the year the building of the craft started. The last two digits denote the model year, the numbers 14 would denote the model year 2014.

The builder's plate is affixed in the cockpit or near the helm, station and displays the following information.

<b>RCD Design Category A or B</b>	<p><b>Category A:</b> A boat given design category A is considered to be designed for extended voyages where conditions may exceed wind force 8 (Beaufort scale) and significant wave heights of 4 m and above but excluding abnormal conditions, and vessels largely self-sufficient</p> <p><b>Category B:</b> A boat given design category B is considered to be designed to operate in winds up to force 8 (Beaufort scale) and the associated wave heights (significant wave heights up to and including 4m). Such conditions may be encountered on offshore voyages of sufficient length or on coastal waters when unsheltered from the wind and waves for several dozens of nautical miles. These conditions may also be experienced on inland seas of sufficient size for the wave height to be generated</p>
<p>Max.  = 10</p>	<p>Maximum recommended number of people, if the boat operates in the sea state (wave height and wind force) that corresponds to its design category A.</p>
<p>Max.  = 16</p>	<p>Maximum recommended number of people, if the boat operates in the sea state (wave height and wind force) that corresponds to its design category B.</p>
<p>Max.  +  = 1.737 kg</p>	<p>Maximum recommended load, consisting of 10 people for category A (75kg each), stores, provisions and personal equipment. This does not include the content of the tanks such as fuel and water supplies.</p>
<p>Max.  +  = 2.349kg</p>	<p>Maximum recommended load, consisting of 16 people for category B (75kg each), stores, provisions and personal equipment. This does not include the content of the tanks such as fuel and water supplies.</p>
<p></p>	<p>CE marking which indicates the conformity of the yacht with all requirements of the Directive.</p>

## 5. Examination report of the notified Body GL

### 5.1. EC-Type Examination Certificate category A

		
<b><i>EC Type Examination Certificate</i></b>		
on examination subject to the Directive for Recreational Craft (94/25/EC), amended by 2003/44/EC, as per June 2003		
Record-No.:	92086-1/1	
Manufacturer:	Bavaria Yachtbau GmbH Bavariastraße 1 97232 Giebelstadt	
Manufacturer's marking:	Bavaria Cruiser 46	
CIN-No.	DE-BAV L46A1 H 314	
Description:	Sailing Yacht, L <sub>H</sub> = 13,60 m, B <sub>H</sub> = 4,35 m, T <sub>deep keel</sub> = 2.17m, T <sub>shallow keel</sub> = 1,80 m	
Boat design category:	A - "Ocean"	
Module:	B - „EC type-examination“, Annex VII of the Directive	
Basis of examination:	EN ISO 10087, EN ISO 14945, EN ISO 15085, EN ISO 10240, EN ISO 12215-5/6/8/9, EN ISO 12217-2, EN ISO 12216, EN ISO 9093, EN ISO 11812, EN ISO 15083, EN ISO 14946, EN ISO 9094-1, EN ISO 15084, EN ISO 21487, EN ISO 10088, EN ISO 10133, EN ISO 13297, EN ISO 13929, EN ISO 10239, EN ISO 8099	
Number of persons recommended:	10	
Loaded displacement mass (mLDC), kg:	15091 (deep keel), 15379 (shallow keel)	
Maximum load (mMTL), kg:	2981	
Maximum rated engine power, kW:	55	
Results of examination:	The product described above meets the essential safety requirements of Directive 94/25/EC, amended by 2003/44/EC, Annex I	
	<b>A.2.1 Craft Identification (CIN) - A.5.8 Discharge Prevention.</b>	
Other documentation:	Examination reports Nos. 1/29 to 29/29 including pertinent design documents according to the annex of this certificate.	
	Hamburg, 12.09.2013	
	<b>Germanischer Lloyd</b>	
	<b>EU-Certification for Recreational Craft</b>	
	<b>Code-No. 0098</b>	
	<b>Head of Certification Body</b>	
	 (Dirk Brügge)	
	The present Certificate remains the property of Germanischer Lloyd AG and may be used without any modifications only. Any texts and advertising material published must not be contrary to contents of this Certificate. Quoting of extracts, copying and circulation of the Certificate are not admissible.	
	Germanischer Lloyd AG, P.O.B. 11 16 06, 20416 Hamburg, Germany	

## 5.2. EC-Type Examination Certificate category B



### EC Type Examination Certificate

on examination subject to the Directive for Recreational Craft (94/25/EC), amended by 2003/44/EC, as per June 2003

Record-No.:	92086-1/2
Manufacturer:	Bavaria Yachtbau GmbH Bavariastraße 1 97232 Giebelstadt
Manufacturer's marking:	Bavaria Cruiser 46
CIN-No.	DE-BAV L46A1 H 314
Description:	Sailing Yacht, L <sub>H</sub> = 13,60 m, B <sub>H</sub> = 4,35 m, T <sub>deep keel</sub> = 2,18m, T <sub>shallow keel</sub> = 1,82 m
Boat design category:	B - "Offshore"
Module:	B - „EC type-examination“, Annex VII of the Directive
Basis of examination:	EN ISO 10087, EN ISO 14945, EN ISO 15085, EN ISO 10240, EN ISO 12215-5/6/8/9, EN ISO 12217-2, EN ISO 12216, EN ISO 9093, EN ISO 11812, EN ISO 15083, EN ISO 14946, EN ISO 9094-1, EN ISO 15084, EN ISO 21487, EN ISO 10088, EN ISO 10133, EN ISO 13297, EN ISO 13929, EN ISO 10239, EN ISO 8099
Number of persons recommended:	16
Loaded displacement mass (mLDC), kg:	15703 (deep keel), 15991 (shallow keel)
Maximum load (mMTL), kg:	3593
Maximum rated engine power, kW:	55

Results of examination:

The product described above meets the essential safety requirements of Directive 94/25/EC, amended by 2003/44/EC, Annex I

**A.2.1 Craft Identification (CIN) - A.5.8 Discharge Prevention.**

Other documentation:

Examination reports Nos. 1/29 to 29/29 including pertinent design documents according to the annex of this certificate.

Hamburg, 12.09.2013

**Germanischer Lloyd**  
EU-Certification for Recreational Craft  
Code-No. 0098  
Head of Certification Body

(Dirk Brügge)

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Germanischer Lloyd AG, P.O.B. 11 16 06, 20416 Hamburg, Germany

### 5.3. Main dimensions

#### Main dimensions of category A versions with either standard deep or shallow draft keel.

Description of the dimension	Denom.	Standard deep keel (Cat A)	Shallow keel (Cat A)
Length of the hull	$L_H$	13,60 m	13,60 m
Maximum beam	$B_{max}$	4,35 m	4,35 m
Length of the design waterline	$L_{WL}$	12,90 m	12,92 m
Air draft *	$H_a$	ca. 21,20 m	ca. 21,20 m
Maximum draught	$T_{MAX}$	2,17 m	1,80 m
Depth, midship	$T_{DWL/2}$	3,53 m	3,16 m
Draught of canoe body	$T_C$	0,64 m	0,65 m

#### Main dimensions of category B versions with either standard deep or shallow draft keel.

Description of the dimension	Denom.	Standard deep keel (Cat B)	Shallow keel (Cat B)
Length of the hull	$L_H$	13,60 m	13,60 m
Maximum beam	$B_{max}$	4,35 m	4,35 m
Length of the design waterline	$L_{WL}$	12,96 m	12,98 m
Air draft *	$H_a$	ca. 21,20 m	ca. 21,20 m
Maximum draught	$T_{MAX}$	2,18 m	1,82 m
Depth, midship	$T_{DWL/2}$	3,53 m	3,16 m
Draught of canoe body	$T_C$	0,66 m	0,67 m

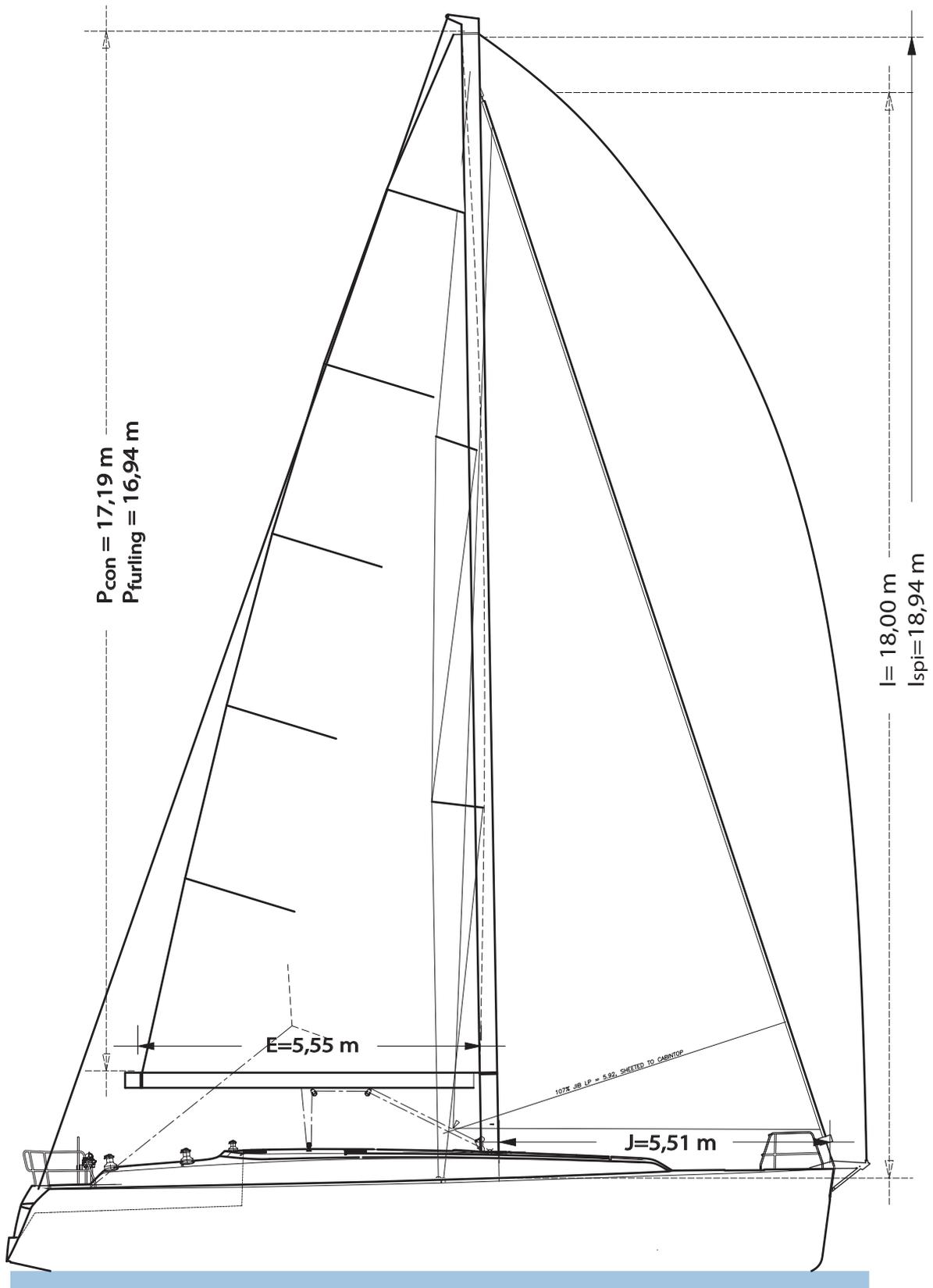
\* The air draft may well be the critical dimension if we look at passing under bridges or high voltage electrical lines or other items. This dimension denotes the distance between the water surface and the top of the boat and its superstructures or mast. Please note that this is given without optional equipment such as radar antennas or navigation lights or wind indicators. Please do correct the dimension given in this manual if you change anything that reflects on that dimension. Please note this change also in this owner's manual and make sure this note is also transferred into any other copy of this manual together with the date of change.

## 5.3.1. Sail dimensions

Description of the dimension	Denom.	Value
<b>Main sail</b>		
Luff length of mainsail from tack to head (Furling)	P	17,19 (16,94) m
Foot length of mainsail along boom from tack to clew	E	5,55 m
Area of the main sail furling version (Elvström-EMS)	$A_{MS}$	ca. 47/54 m <sup>2</sup>
Area of the main sail standard	$A_{MS}$	ca. 56 m <sup>2</sup>
<b>Jib (Standard furling)</b>		
The Foretriangle height measured along the foreside of the mast	I	17,91 m
From the foreside of the mast to the point where forestay attaches to deck	J	5,53 m
Area jib (Standard furling 106%)	$A_{FT}$	51,7 (52,30)m <sup>2</sup>
Area Gennaker (Cruising)	$A_{Sp}$	148,4 m <sup>2</sup>
<b>Sail areas</b>		
Actual sail areas (beating) (ISO 12217-2) Standard furl. Jib exclusive with Standard main	$A'_S$	108,3 m <sup>2</sup>

**The boat was designed with the specified sail areas, they account for the heeling and driving forces. If you replace sails, please make sure they are of the same size and weight per sqm.**

### 5.4. Sail plan (Options furling main, including Gennaker)



## 5.4.1. Displacement, weights

**Warning**

The boat should never carry more than the manufacturer's recommended load. Load the boat carefully, and evenly distributed. The load should be suitably distributed, with their centers as low as possible, to ensure that the boat floats on its design trim. Bear in mind that stability is most significantly reduced by any weight added high up in the boat.

The following weights have been identified as the basis of the stability calculations performed according to the relevant EN-ISO standards.

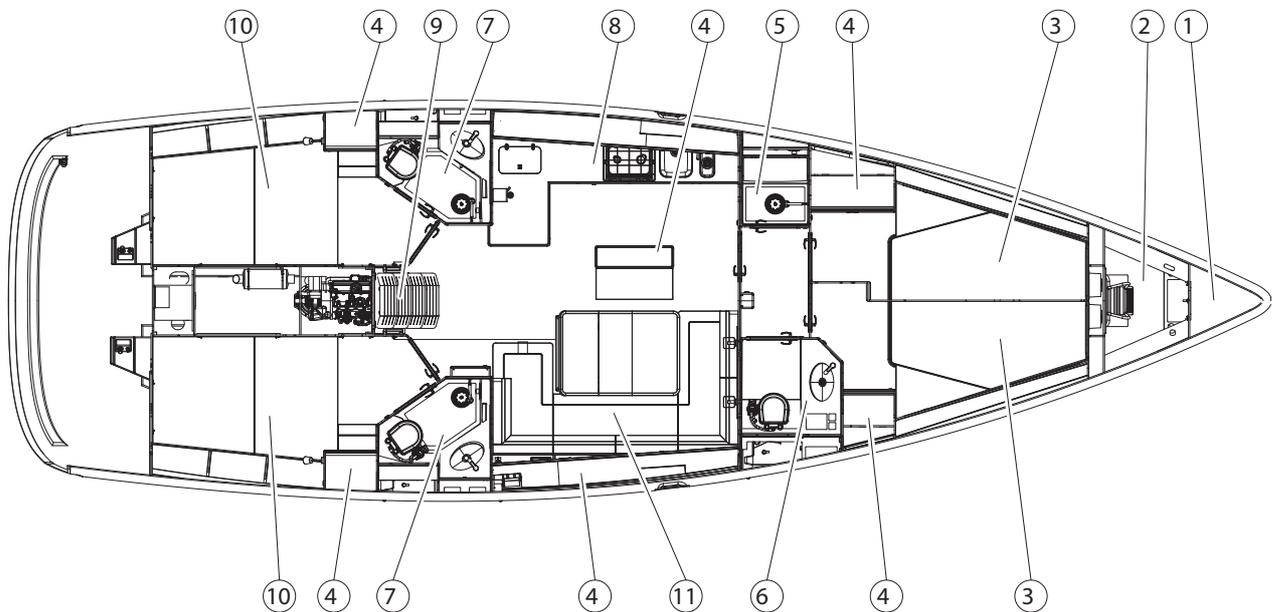
Description of the dimension	Abbrev.	Value
Light craft mass (deep standard keel) Cat A & B	$m_{LCC}$	12.110 kg
Light craft mass (shallow keel) Cat A & B	$m_{LCC}$	12.398 kg
Maximum weight of the people on board (10 persons), weighing each 75kg on an average		750 kg
Maximum weight of the people on board (16 persons), weighing each 75kg on an average		1200 kg
Personal baggage & other carry on weights Cat B		240 kg
Personal baggage & other carry on weights Cat A		150 kg
Max load as on builder's plate for category A, 10 persons		1.737 kg
Max load as on builder's plate for category B, 16 persons		2.349 kg
Filling of the permanently installed diesel tanks at maximum content (kg)		179 kg
Filling of the permanently installed fresh water tanks at maximum content (kg)		360 kg
Filling of any other liquids (kg)		120 kg
SOLAS equipment and life raft		50 kg
Spares, stores and Payload		397 kg
Optional equipment (additional to standard equipment)		585 kg
Maximum recommended load (additional to the light craft displacement) Cat B both keels	$m_{MTL}$	3.593 kg
Maximum recommended load (additional to the light craft displacement) Cat A both keels	$m_{MTL}$	2.981 kg
Other recreational craft carried on board		77 kg
Margin for possible growth		313 kg
Mass of the boat in the loaded displacement condition (deep standard keel) Cat A	$m_{LDC}$	15.091 kg
Mass of the boat in the loaded displacement condition (shallow draught keel) Cat A	$m_{LDC}$	15.379 kg
Mass of the boat in the loaded displacement condition (deep standard keel) Cat B	$m_{LDC}$	15.703 kg
Mass of the boat in the loaded displacement condition (shallow draught keel) Cat B	$m_{LDC}$	15.991 kg

#### 5.4.2. Maximum recommended load (additional to the light displacement)

- The weight of all crew (where each person is calculated with a weight of 75 kg each)
- the weight of the personal equipment of all crew
- the weight of permanent stores
- the equipment, that is not included in the light displacement
- Payload and weight of Fluids such as diesel and fresh water

#### 5.5. Interiour layout

Pos	Description
1	Anchor locker
2	Sail locker
3	Fwd berth/cabin (with optional flex-bulkhead)
4	Locker/cabinet
5	Shower
6	Toilet with wash basin
7	Toilet (with optional shower), wash basin
8	Galley with stove, sink, cooler, microwave
9	Companionway/ Engine room
10	Aft cabin with double berth
11	Settee with table (table with optional chart drawer)



## 5.6. Permanently fitted tanks

(apart from black water tanks - see separate chapter)

### Warning



Be advised that nominal tankage may not be fully used due to loading conditions and associated trim and heel. Make sure you take into account a reserve of approximately 20% for safety.

### 5.6.1. Fuel tank

Designation	Position	Max. Filling charge (L)	Position of the filler	Drain
Diesel fuel, feeding engine, optional generator and heater	Under the the Stb aft berth	210	At the starboard helm, under a lid in the cockpit floor, marked with the <b>DIESEL</b> sign	Only via the inspection lid

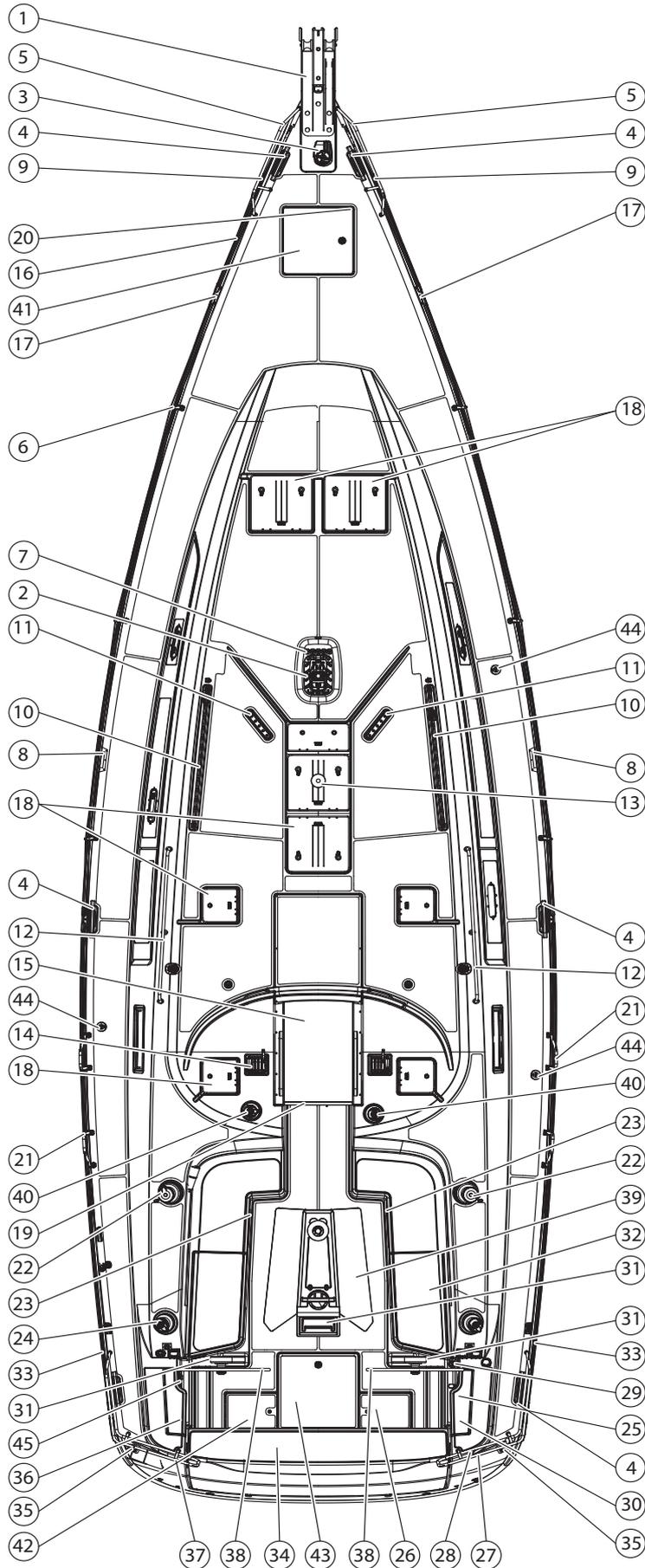
### 5.6.2. Waste water tanks

Designation	Position	Content (l)	Position of suction point	Drain
Black water tank	Head/Shower stb front cabin, behind lid front, above toilette	70	On deck, Stb, directly situated above the tank	Via seacocks over board, seacock under associated sink
Black water tank	Head/Shower port aft cabin, behind lid front, above toilette	70	On deck, port, directly situated above the tank	Via seacocks over board, seacock under associated sink
Black water tank	Head/Shower stb aft cabin, behind lid front, above toilette	70	On deck, Stb, directly situated above the tank	Via seacocks over board, seacock under associated sink

### 5.6.3. Additional tanks (partly optional)

Designation	Position	Content (l)	Position of the filler	Drain
Fresh water tank	under the fwd sail locker	150	Integrated into the frame of the forward deck hatch, leading to the sail locker, see deck plan	none
Fresh water tank	under the aft berth port	210	At the port helm, under a lid in the cockpit floor, marked with the water sign	none

### 5.7. Deck plan view



## 5.8. Denotations for the deck plan (with optional equipment)

Pos.	Part/item
1	Bow fitting with anchor (Option)
2	Mast heel/foot Rig/ mast base
3	el. Anchor windlass
4	Strong point/ Cleats
5	Pulpit
6	Railing
7	Cable conduit
8	Chain plates
9	Bow nav lights
10	Jib track
11	Deck organizer
12	Handhold
13	Deck vent
14	Stopper/jammers
15	Sliding lid companion way
16	Railing intermediates
17	Fairlead
18	Deck hatch
19	Companionway door
20	Filling deck fitting fresh water, fwd. water tank, under sail lockers hatch
21	Railing door port/stb
22	Genoa winch

Pos.	Part/item
23	Cockpit windows
24	Gennaker winsch
25	Engine controls and instruments
26	Diesel tank filler (under lid on cockpit floor, stb. steering position)
27	Pushpit stb
28	Stern nav light
29	Shore power connection
30	Manual bilge pump
31	Chart plotter (Option)
32	Cockpit locker
33	Vent tank (hull)
34	Aft platform
35	Backstay chain plate
36	Cockpit shower
37	Pushpit port
38	Steering wheel
39	Cockpit table (optional)
40	Halyard winch
41	Sail locker (fender, lines etc.)
42	Filling deck fitting fresh water (aft fresh water tank, Filler under lid on port side cockpit floor)
43	Locker with fire extinguisher
44	Deck fitting black water discharge
45	Gas locker

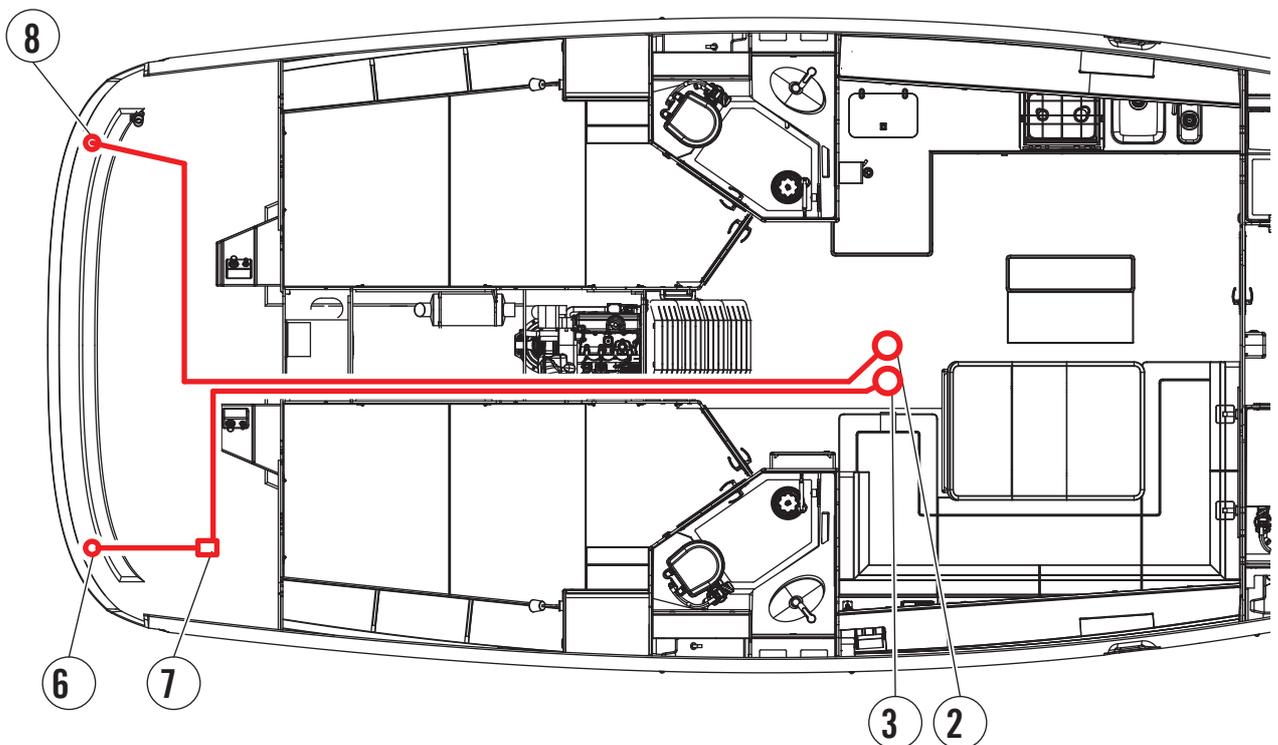
## 6. Systems (some are optional only)

### 6.1. Bilge pumps

Bilge pumps are fitted as follows:

Position of Pump body	Power source	Designation	Capacity (l/min)	Bilge compartments
Cockpit side structure stb, suction from bilge compartment, floor board saloon (between galley and saloon settee)	manual	Whale Smart-bail 5021B	38,5 at 45 strokes per minute	All bilge compartments connected through limber holes
Bilge saloon, pump in same bilge compartment as the above manual pump suction point	electric	Whale Super-sub 1100	69	see above

#### 7.1.1 Bilge Pumps and their installation on board



This drawing is an extract of the discharge systems drawing, only representing the bilge pump components.

Pos.	Part/Item	Pos.	Part/Item
8	Discharge el. bilge pump	2	El. bilge pump
6	Discharge manual bilge pump	7	Manual bilge pump stb, aft of steering position
3	Grid manual bilge pump		

**Information regarding bilge pumps**



- » The electrical bilge pumps may only be operated via a manual switch from the electrical panel.
- » The bilge should always be checked after launch. A small amount of water in the bilge is normal. Large amounts of water or any signs of fuel or oil require immediate investigation. Never pump fuel or oil overboard when your boat is in the water.
- » Check function of pumps regularly & clear debris from their inlets.
- » It is recommended that a bailer/bucket is carried aboard for emergency bailing purposes. Ensure the bucket is protected against accidental loss.

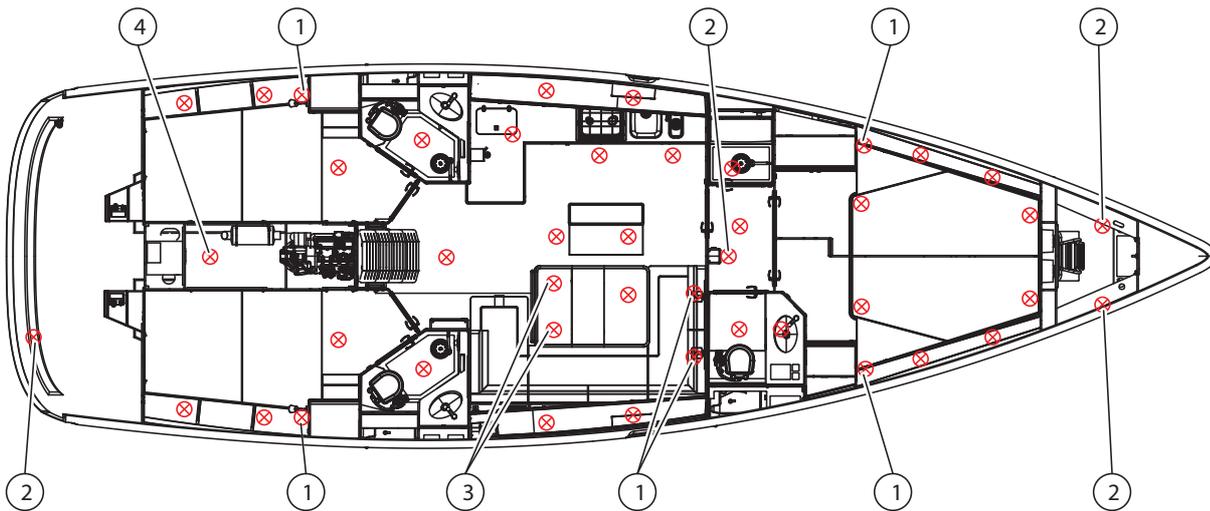
**Explosion hazard**



Never use flammable solvents (i.e. kerosene) for bilge cleaning, however oily it becomes. There is the risk of explosion hazard.

**6.2. Lights under deck**

The drawing below describes the installed lights below and on deck:



Item	Description
1	Halogen lights (Reading or wall mounted light, Navlights or Table ligths)
2	Navigation lights stb/port deck
3	Ceiling LED White/red
4	Lighting for the cockpit table (Option)
no number	Ceiling LED or built in LED

## 6.3. Electrical system on board



**Caution** - Adhere to the below, these are the fundamental rules to follow

- » Always check the batteries and the charging system condition before going to sea
- » Always disconnect and remove the battery when the craft is in winter storage (cold weather areas) or long term storage.
- » Remove the negative cable first, only then the positive cable. To replace the cables, first replace the positive cable, then the negative one.
- » Never work on the electrical installation while the system is energized.
- » Never disconnect shore-power connections when the system is in use.
- » Never modify the craft's electrical system or relevant drawings: installation, alterations and maintenance should only be carried out by competent marine electrical technicians;
- » Never alter or modify the rated current Amperage of overcurrent protective devices;
- » Never install or replace electrical appliances or devices with components exceeding the rated current of the circuit;
- » Never leave the craft unattended with the electrical system energized, except automatic bilge-pump, fire protection and alarm circuits.

### 6.3.1. DC system

The direct current (DC) electrical system derives its power from the series of batteries listed below. The batteries supply the components listed in the tables below which also show the settings of the overload protection breakers/fuses. The yachts may also be supplied via the shore power connection. On top of that the Cruiser 46 is optionally equipped with a genset.

### 6.3.2. Installed batteries (including optional equipment)

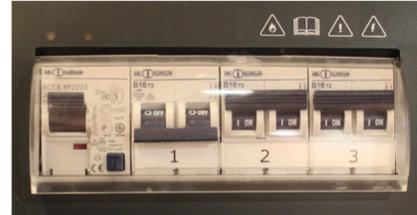
Pos	Number	Description	Position of the battery
1	1	Starter battery 92 Ah (AGM)	Forward of the engine, on the centerline, accessible through the engine hatch (companionway stairs)
2	3	Consumer battery 92 Ah (AGM), this is only optional, as a standard the position 3 is installed (2 Batteries)	Below the stb saloon settee (aft part), towards the toilet on the stb side.
3	2	Consumer battery 70 Ah (AGM)	see above (position 2)
4	1	AGM Battery 92 Ah (only optional with the bow thruster)	Below the fwd berth in fwd cabin, aside the bow thruster

6.3.3. Image of the two installed electric panels

The panel pictured on the left hand side below is installed on the starboard side, behind the stb settee. The panel is mounted horizontally and may only be seen if one leans over. The panel on the left (Panel 301) serves the 12 Volt System, the panel on the right the 230/110 Volt System. The right hand panel is installed in one of the above stb lockers toward the hull shell.



230 Volt



110 Volt



The 12 Volt Systems circuits are mainly fused on a separate panel that is installed behind the backrest of the berth just beside the nav station. Please read the supplied manuals carefully.

**Danger**



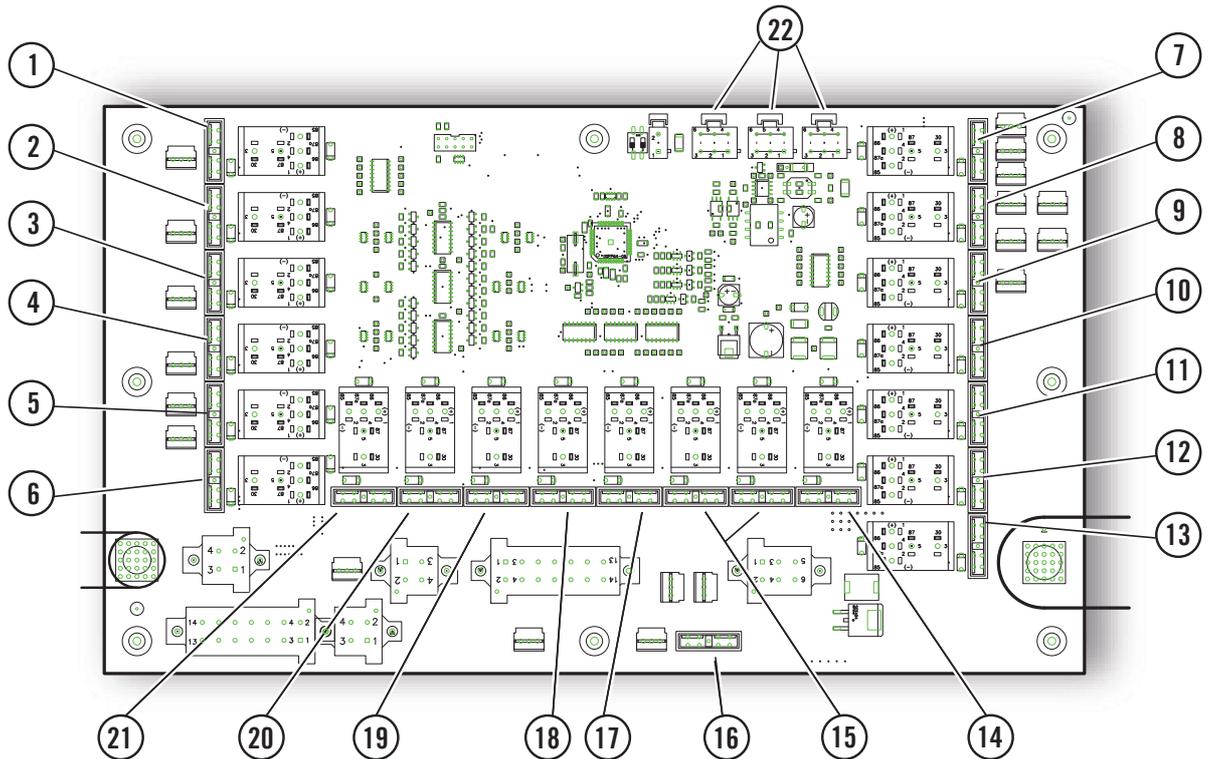
- » The Panel 230/110V is supplied with 230/110 V~ ± 5 %, 50/60 Hz line voltage.
- » Potentially lethal voltages are therefore still present at some parts on the rear of this panel (input B16/FI) - even when the panel has been switched off at the residual current circuit breaker.
- » Measurement and service work to panels 301/Panel 230/110V may only be performed by specially qualified personnel.
- » Incorrect usage of panels 301/Panel 230/110V may cause serious or even lethal injuries and considerable damage to property.
- » The safety instructions and hazard warnings in the boatbuilder's operating manual take precedence when using panels 301/Panel 230/110V.
- » Observe the applicable accident prevention and DIN regulations (particularly DIN EN 60 204, Part 1) or the respective regulations in your country.
- » Before performing any service or maintenance work, always switch off panel the Panel 230/110V at the residual current circuit breaker and disconnect it from the power supply.
- » Secure the panel to prevent unauthorized reconnection of the power supply. Touching live parts can lead to serious or lethal injuries.

**Danger - fuse ratings**



- » Please install fuses with the correct values, installing fuses with higher values may cause damage to the panel due to over heating.

## 6.4. Drawing of 12 volt fuse panel front side with the fuses locations



The following fuses are installed on the fuse panel. You must respect the nominal values of the fuses when replacing them. Please install fuses with the correct values, installing fuses with higher values may cause damage to the panel or the circuits cabling due to over heating.

Make sure you carry enough spares in case you need them.

## 6.5. Caption for the above 12 Volt fuse panel

Item	Description
1	Reserve 1 (15 A)
2	Reserve 2 (15 A)
3	Reserve 3 (15 A)
4	Reserve 4 (15 A)
5	Reserve 5 (20 A)
6	Steaming light (5A)
7	Shower sump pump (25A)
8	Fridge (30A)
9	Bilge (10A)
10	Stern light (5A)
11	Compass (5A)

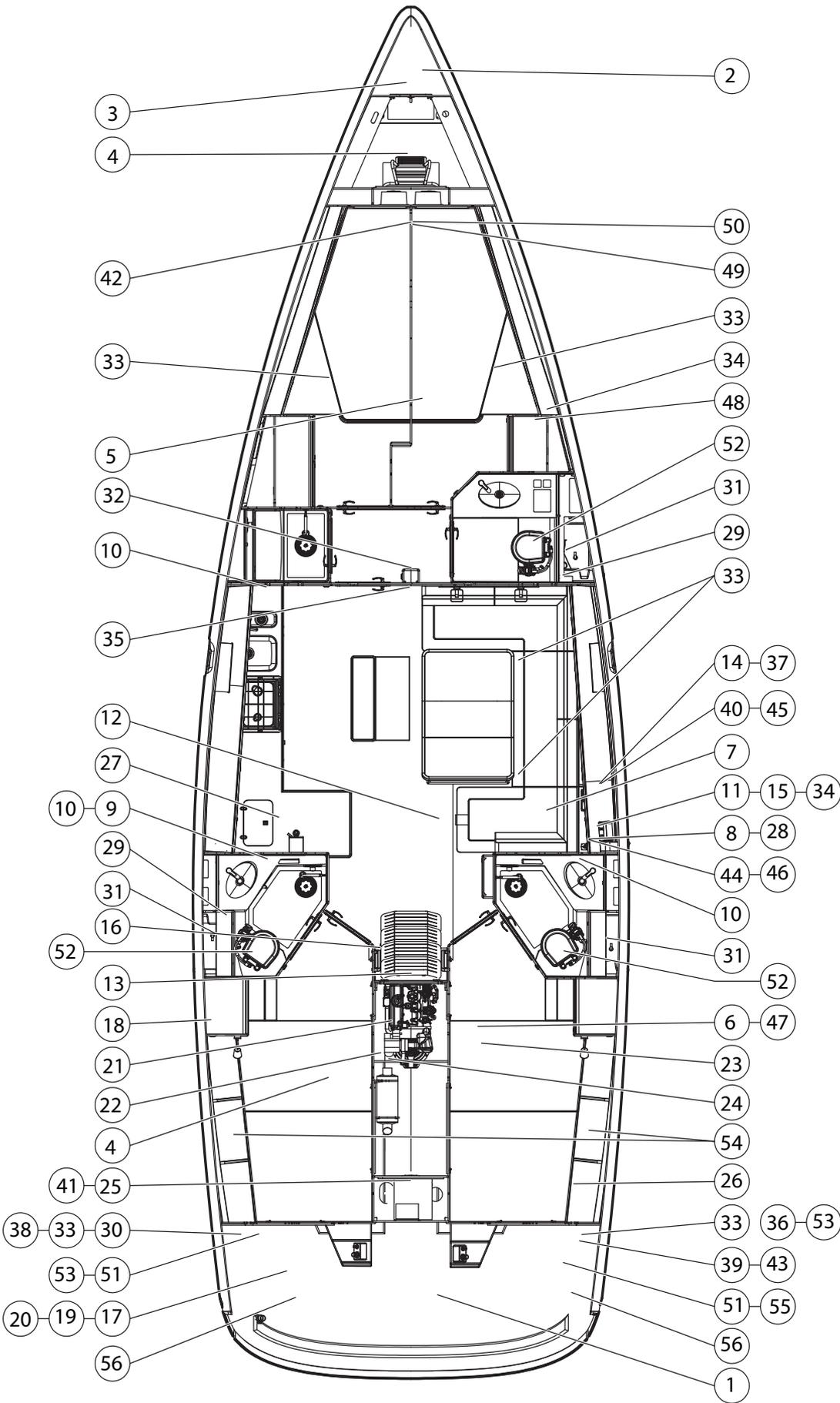
Item	Description
12	Heating controls (5A)
13	Radio (10A)
14	Navigation (20A)
15	Interior lighting (20A)
16	Socket (15A)
17	Bow light (5A)
18	Sailing (5A)
19	Top light (5A)
20	Fresh water (10A)
21	Anchor (5A)

## 6.5.1. The DC system consists of the following circuits/consumers

Pos.	Description	Pos.	Description
1	Heater	31	Sensor black water tank
2	el. anchor windlass	32	Cable conduit (deck)
3	Controls anchor windlass/socket	33	Loudspeaker (partly on deck)
4	Sensor fresh water	34	Radio (option)
5	Multisensor (Log- Echosounder)	35	Antenna cable Radio & TV
6	Heater diesel pump	36	Engine panel, fuel gauge
7	Consumer batteries	37	Fuses anchor windlass
8	Main switch consumers/bow thruster	38	Garmin GMI 20
9	Fresh water pump	39	Garmin GHC 20 (Autopilot panel)
10	Shower sump pump	40	Fuses consumer Heating
11	Thermostat heater	41	Compass (deck/cockpit table)
12	El. bilge pump	42	Motor of bow thruster (option)
13	Starter battery engine	43	Operating panel bow thruster (option)
14	Battery charger	44	Relay Autopilot (option)
15	Electrical panel 12V	45	Fuse battery charger
16	Main switch engine	46	Relay anchor windlass (option)
17	Autopilot (GHP 12) (Option)	47	Earthing anode
18	Compass Autopilot (Option)	48	Main switch bow thruster (option)
19	Sensor Autopilot	49	Fuse bow thruster (option)
20	Motor Autopilot (Option)	50	Battery bow thruster (option)
21	Engine starter	51	Chart plotter Garmin 721 on steering pedestal (option)
22	Rectifier	52	Toilet electric fwd (option)
23	Sensor diesel tank	53	Control panel genoa winch/trim control (option)
24	Vent engine room	54	electric genoa winch (option)
25	Chart plotter	55	Switch aft platform
26	GPS- Antenna	56	Drive aft platform
27	Refridgeration plant	57	Antenna radio
28	Sensor Heater		
29	Amplifier Radio and TV		
30	Remote control Radio		

\*1: the value of the tripping current of each main knife fuse is marked on the fuse itself, replace the fuses only with fuses of equivalent rating and quality. Switch off the main switch, the unit must be properly disconnected from the power supply before any work is performed on it.

6.5.2. Plan 12 Volt



## 6.6. Work on the batteries

The batteries should not be easily accessed without the use of tools, poles should be covered with covers to avoid the danger to get into contact with the poles. Make sure all people on board are aware of the danger.

### Caution - Battery replacement

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To disconnect the battery cables from the poles:

1. Disconnect all consumers drawing current from the battery
2. Switch the main switch on the „off“ position.

**Disconnect the negative pole (blue/black) always first, only then disconnect the positive red pole. Apply the opposite order when connecting the cables to the poles, the red positive first, then the negative pole.**

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### Caution

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- » Ensure that the battery space is well ventilated at all times.
  - » When charging and (dis)connecting a battery ensure that no water or metal objects may contact the terminals.
- 

### Caution

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- » Never disconnect all batteries while the engine is running; alternator and wiring damage could occur.

### Information

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- » Batteries should be disconnected when not in use and especially while the boat is unattended.
- » Essential services are wired directly to the batteries and will run even if the battery disconnect switch is open.

## 6.7. Maintenance of batteries

BAVARIA Cruiser 46 Yachts leave the yard in Giebelstadt with AGM batteries fitted, they are maintenance-free. Replace those batteries with equivalent AGM batteries only.

Be sure you take special precautions, when handling batteries. Be sure you follow the instruction given on this page.

- » Coat battery terminals with silicone grease.
- » Keep the batteries clean and dry.
- » The life of some battery types is shortened if drained to zero charge. It is recommended that a battery not be discharged more than 50 percent. If the battery does become run down, recharge it as soon as possible.
- » Running the engine to recharge the battery may not be effective. The alternator only creates charging power at higher engine speeds. Idling for long periods will not generate enough power to recharge the battery.
- » If you need to charge a battery, use only a battery charger designed to charge automotive/marine batteries. Use charger only when batteries are disconnected from the boat's electrical circuit. Follow the manufacturer's instructions when using the charger.
- » If your boat will not be used for several weeks remove the batteries from the boat and connect them to a charger.

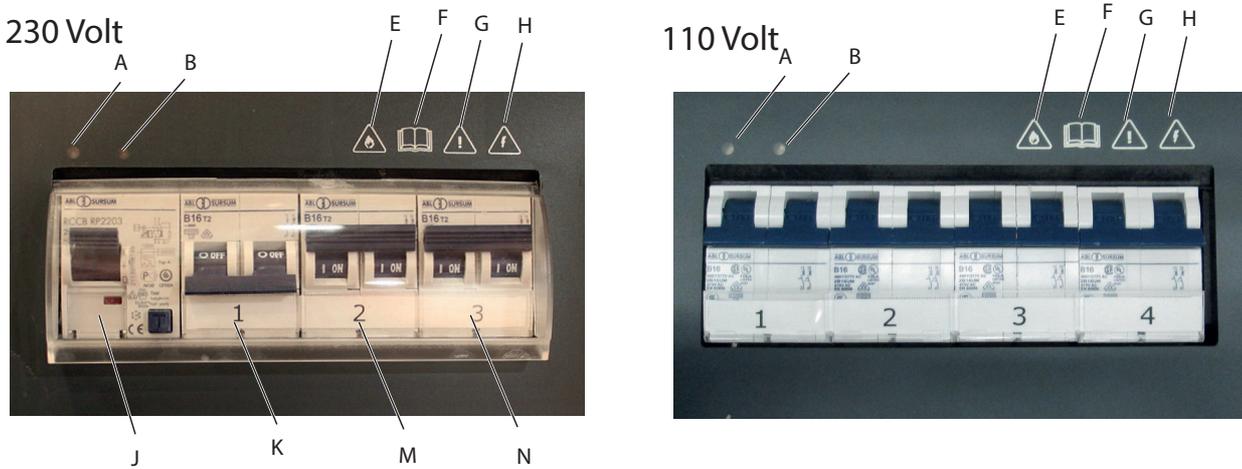
### **Please observe the instructions of the manufacturer:**

The batteries are AGM batteries, an absorbed glass mat battery has the electrolyte absorbed in a fiber-glass mat separator. While these batteries are often colloquially called sealed lead–acid batteries, they always include a safety pressure relief valve. As opposed to vented (also called flooded) batteries, a VRLA cannot spill its electrolyte if it is inverted. Because AGM VRLA batteries use much less electrolyte (battery acid) than traditional lead–acid batteries, they are sometimes called an „acid-starved“ design. These batteries are well suited to marine applications.

### 6.8. AC System (alternating current 230/110 Volt)

There are two electrical panels installed that control the electrical system. The 230/110 Volt serves as the control unit with connected shore power or the generator running. The system is polarized.

The below image designates the single control lamps, switches and breakers on the 230/110 Volt panels:



Legend of the picture overleaf

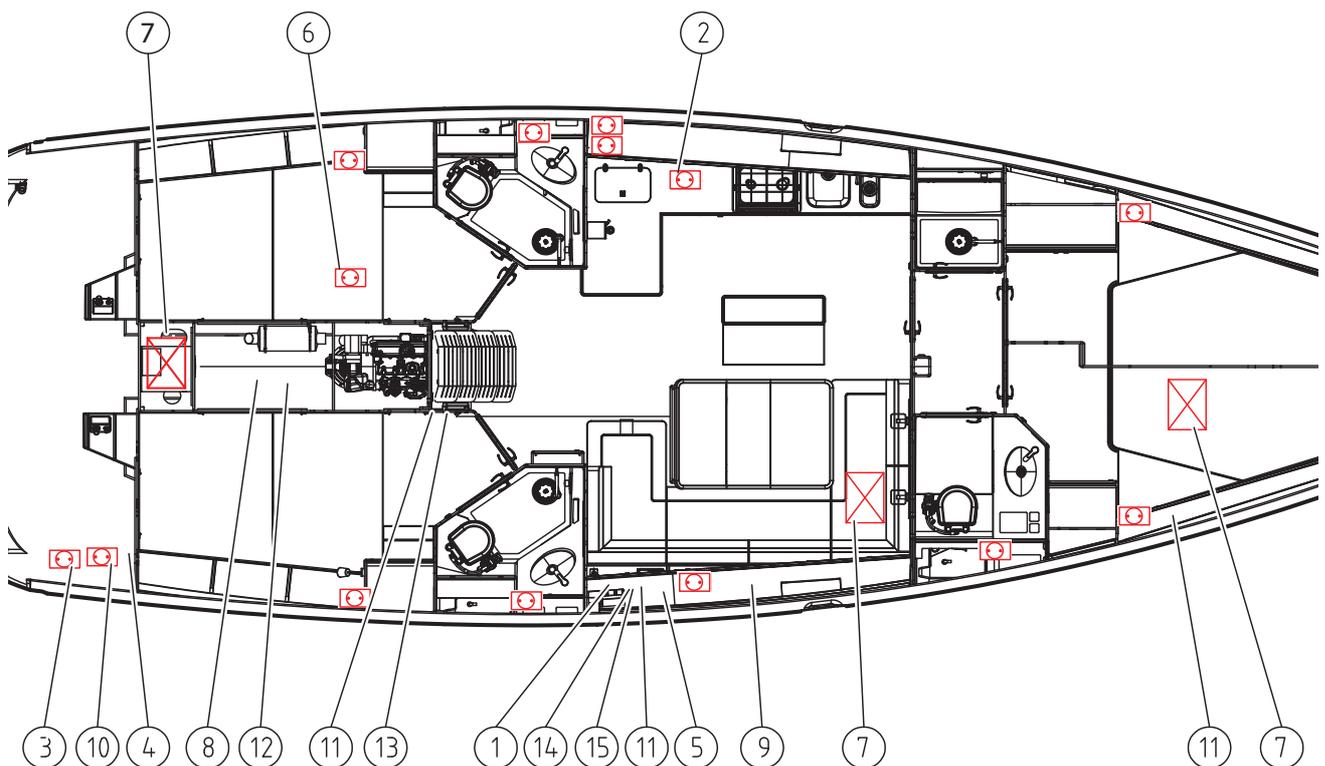
Pos	Denotation	Description
A	LED (green) for residual current circuit breaker (J)	If the residual current circuit breaker is switched on, a green LED indicates the existing land connection : Voltage is connected to the system
B	Boiler	If indicator lamp is illuminated : Boiler is switched on
E	Warning regarding heat and fire	The panels 301 and 230/110V are to be protected against heat and fire
F	Read the associated manuals	Read and observe the informations given in the separate manual. Observe the primary safety instruction concerning electricity in this manual. The safety instructions and hazard warnings in the boatbuilder's operating manual take precedence when using panels 301 and 230/110V
G	Do NOT open the panels 301 and 230/110V	Only qualified personel must open and work on the electrics of the panels 301 and 230/110V, measuring and service work to panels 301 and 230/110V may only be performed by specially qualified personnel
H	Warning of dangerous electrical voltages	Potentially lethal voltages are still present at some parts on the rear of panels 301 and 230/110V - even when the panels have been switched off at the main switch.
J	FI	Residual current circuit breaker (Note: With the 110 Volt Panel the RCD is mounted behind the the panel)
K	Boiler on	Overcurrent protection of Boiler - also switches the boiler
M	Circuit breaker socket	Sockets shower
N	Circuit breaker socket	Sockets in compartments aft, salon and fwd. (+charger)

### 6.8.1. 230/110 Volt consumers (incl. options)

The locations on the drawing overleaf marked by a symbols denote the components of the 230/110 Volt system. The AC (alternating current) system consists of the following components, these are denoted by the numbers 1-15 in the drawing below

Pos.	Description
1	Electric panel
2	Microwave (Option)
3	Shore connection general supply
4	RCD Circuit breaker
5	Carger
6	Boiler/ Socket on boiler
7	Air c
8	Pump Air condition
9	Panel A/C controller
10	Shore connection supply A/C
11	Control Unit A/C
12	Generator
13	Control Unit generator
14	Switch general supply shore con./generator
15	Switch A/C shore con./generator
ohne	Domestic socket for general supply

### 6.8.2. 230/110 Volt components on board



### 6.8.3. Power sources of the 230/110 Volt System

The alternating current (AC) system is supplied with power by the sources listed below

Power source	Number	Position
Shore connection	1	Next to the stb steering pedestal, just above the engine controls
Generator	1	Aft of the propulsion engine, between the aft cabins

#### Caution



- » Replace fuses with one of the same rating as the original. A higher rating will render the circuit unprotected against overcurrent.
- » Connect metallic housings or enclosures of installed electrical appliances to the protective conductor system in the craft (green or green with yellow stripe conductor).
- » Use double insulated or grounded (earthed) electrical appliances

#### Danger



- » Do not allow the shore-power cable end to hang in the water. An electrical field can be caused which can cause injury or death to nearby people in the water.
- » Potentially lethal voltages are therefore still present at some parts on the rear of this panel (input B16/FI) - even when the panel has been switched off at the residual current circuit breaker
- » Incorrect usage of panels 301 and 230/110V may cause serious or even lethal injuries and considerable damage to property
- » Observe the applicable accident prevention and DIN regulations (particularly DIN EN 60 204, Part 1) or the respective regulations in your country
- » Secure the panel to prevent unauthorized reconnection of the power supply. Touching live parts can lead to serious or lethal injuries.

#### Warning : To minimise shock and fire hazards



- » Turn off craft's shore-power connection switch before connecting or disconnecting shore-power cable
- » Connect shore-power cable to craft's inlet before connecting to shore power source
- » Disconnect shore-power cable at shore-power source first
- » Close shore-power inlet cover tightly
- » Do not alter shore-power cable connectors & use only compatible connectors

#### Information



- » The nominal activation current is marked on each fuse
- » To avoid a power spike, turn OFF all main breakers before plugging IN the shore power cord.
- » Securely connect the power inlet of the boat and the shore power receptacle with an integrated safety switch.
- » If the connection is broken and later re-secured, the main breaker will trip. Connections must be secure for uninterrupted dock-side service.

## 6.9. Fuel system

The craft is equipped with a permanently installed diesel fuel system. The following components are supplied by the fuel system:

Part	Number	Place of installation
Engine propulsion	1	Engine room
Heater (Option)	1	In the aft locker where the steering is located, accessible via the aft cockpit floor hatches
Generator	1	As an option in the engine room

Please refer to the manufacturer's information for the systems listed above. For detailed information about the tanks refer to the chapter „Permanently fitted tanks“.

### Key fuel system controls and fittings are located as follows:

Part	Place of installation/Function
Solenoid valve, to close the fuel supply	Will be switched together with engine ignition from helm positions
Filling level display	At the helm stand Stb, next to engine control panel
Start button	On the engine control panel on Stb side, ignition switched „ON“ opens the fuel supply via the solenoid valve
Manual shut off valve	Aft stb cabin, on the fwd edge of the berth
Stop button	Stops the engine and closes the fuel supply via the solenoid valve

#### Warning



- » Never smoke when filling up fuel - no open flame in the engine room!
- » Inspect fuel lines at least annually. Replace those if deterioration or openings are found.
- » If leakage is detected, close the fuel shut-off valve, and have the system repaired before further use.
- » System repairs should be made by a **competent** person.

#### Danger



- » Never use a flame to check for leaks - please use a explosion-proof lamp!

#### Caution



- » Fuel-burning open-flame appliances consume cabin oxygen and release products of combustion into the craft. Ventilation is required when appliances are in use.
- » A failure free operation of engines is only possible with unpolluted fuel. Please check the water separator and filters regularly and clean those, if appropriate.
- » Once a year the tank should therefore be emptied and cleaned.

## 6.10. Gas system

The gas system (LPG) with its gas containers feeds the cooker/stove in the galley. The main components of this system and their respective positions are detailed under chapter „Gas System Pantry“. The gas bottles dedicated stowage is in the locker next to the port helm.

The gas system complies with the standard EN ISO 10239. Please make sure that the regulations of your flag state are also complied with.

Have repairs and work on the gas system executed by adequate personnel only. Any changes to the system must be documented in this manual. The gas stowage compartments drain towards the outside, make sure these drains are not obstructed. Also water may drain through the same opening.

**The locations of the key components and controls are listed below.**

Control device	Installation position
Valve	On the bottles neck
Pressure gauge	On the fitting that connects to the bottle
GOK- Low pressure regulator at the bottle	Gas cylinder (bottle) with GOK-Low pressure regulator (Deck, Gas box in wet bar)
Check valve	In the locker in front of the respective consumer appliance (see pictogram or label on the outside)
Manual check valve	On the respective consumers/ovens/grills/stoves etc.

### 6.10.1. On the safe operation of the gas system

#### Caution



- » Read the supplied appliance manufacturers instructions before using any part of the gas system.
- » Close fuel supply-line valves and cylinder valves when appliances are not in use. Close valves before refueling and immediately in an emergency. Be sure that appliance valves are closed before opening the cylinder.
- » Do not use cleaning solutions containing ammonia.
- » Keep valves on empty cylinders closed and disconnected. Keep protective covers, caps or plugs in place. Store reserve cylinders in ventilated housings on open decks or in gas-tight lockers which are vented overboard and intended for that purpose
- » Never allow gas cylinders to fall. Keep caps in position on the bottle neck while moving cylinders. Use a gas cylinder cart while transporting long distances. Keep stored gas cylinders secure at all times.



### Caution

- » Never use the gas locker to store other parts or hardware.
- » Never leave craft unattended when LPG consuming appliances are in use.
- » When having the gas system on board the camper cover may not be altered in any way, especially not sealed more than it was when it delivered.
- » Do not change/alter the gas box/locker; Never puncture the gas box and lead pipes through into the interior of the boat.
- » Never install electrical appliances or wiring in the gas box/locker.

### Warning



- » Do not obstruct access to LPG system components in any way – always keep the access clear.

### Danger



- » Do not smoke or use open flame when replacing LPG cylinders.
- » Fuel-burning open-flame appliances consume cabin oxygen and release products of combustion into the craft. Ventilation is required when appliances are in use.
- » Open designated vent openings while appliances are in use. Do not use the stove or oven for space heating. Ensure that there is adequate ventilation, never obstruct ventilation openings.

#### 6.10.2. Ventilation/aeration

The following venting openings must be kept clear and open when operation the gas system and its components.

Pos	Type of fitting	Position
1	Portlights	Integrated into the window area in the vicinity of the Galley, also on the opposite side of the boat
2	Companionway	Leading from deck to saloon and galley
3	Deck hatches	All possible hatches in the area of galley and salon

### 6.10.3. Procedure to be followed when replacing a gas bottle

#### Caution

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- » Never drop a gas cylinder. During transport, the valves of the gas bottles must be protected by caps.
- » Use a special vehicle for transportation of these bottles. Always fasten and lock gas bottles in place.
- » Close the aft saloon sliding door tight when exchanging bottles, ensure good ventilation.

#### Danger

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- » Be sure that all gas in the system has been burnt off before opening the valve at the cylinder's head.
- » Always wait until the flame has gone out completely, only then will the line be without pressure.
- » If gas does leak whilst the valve at the cylinder is closed and the pressure reducer is not fitted, then the valve is probably damaged.
- » If this is the case, replace the regulator immediately to stop leakage, then call a local gas supplier. Never disconnect regulator if flame stays lit.

#### The procedure of changing a gas bottle in single steps:

- » Turn off the gas consumers and the engine.
- » Turn the valve or switch located on the bottle/ cylinder itself.
- » Disconnect (turn) the pressure regulator from the bottle. Do only use appropriate tools in order not to damage the fittings.
- » Fit the protective cap promptly on the empty bottle.
- » Remove the protective cap from the fitting of the new gas bottle.
- » Loosen the empty bottle and take it out of the tray/box.
- » Place the new bottle in the tray/box and fasten it securely.
- » Check the connection thread for defects.
- » Place the cap nut carefully and fasten hand-tight. Please observe that threads of gas installations often use different thread types – directions!!
- » Fasten the cap nut with an appropriate tool and check for leaks.
- » Check all components again, only then open the valve at the regulator.
- » Check the tightness of the system by reading the manometer. The manometer shall not display any pressure drop with consumers closed.

## 6.10.4. Inspection of the gas system

Test the LPG system for leakage regularly. Check all connections for leakage by:

1. Routine checks with a leak detector (if fitted)
2. Manual leak testing
3. Testing with soapy water or detergent solution (with appliance-burner valves closed and cylinder and system valves open)

### Caution



- » LPG lines must be inspected regularly, at least annually, and replaced if any deterioration is found.
- » If leakage is present, close the cylinder valve and have the system repaired before further use. Gas system repairs should only be executed by a competent person.
- » To be able to check the gas connections at the stove the front covers must be removed.

### Danger



- » Do not smoke or use open flame while controlling for leakages.
- » Do not smoke or use open flame when replacing LPG cylinders.
- » Do not use gas cylinders with damaged threads. Danger of gas leakage.
- » Do not use grease or sealants at the valves.

### Note: Gas system tightness test



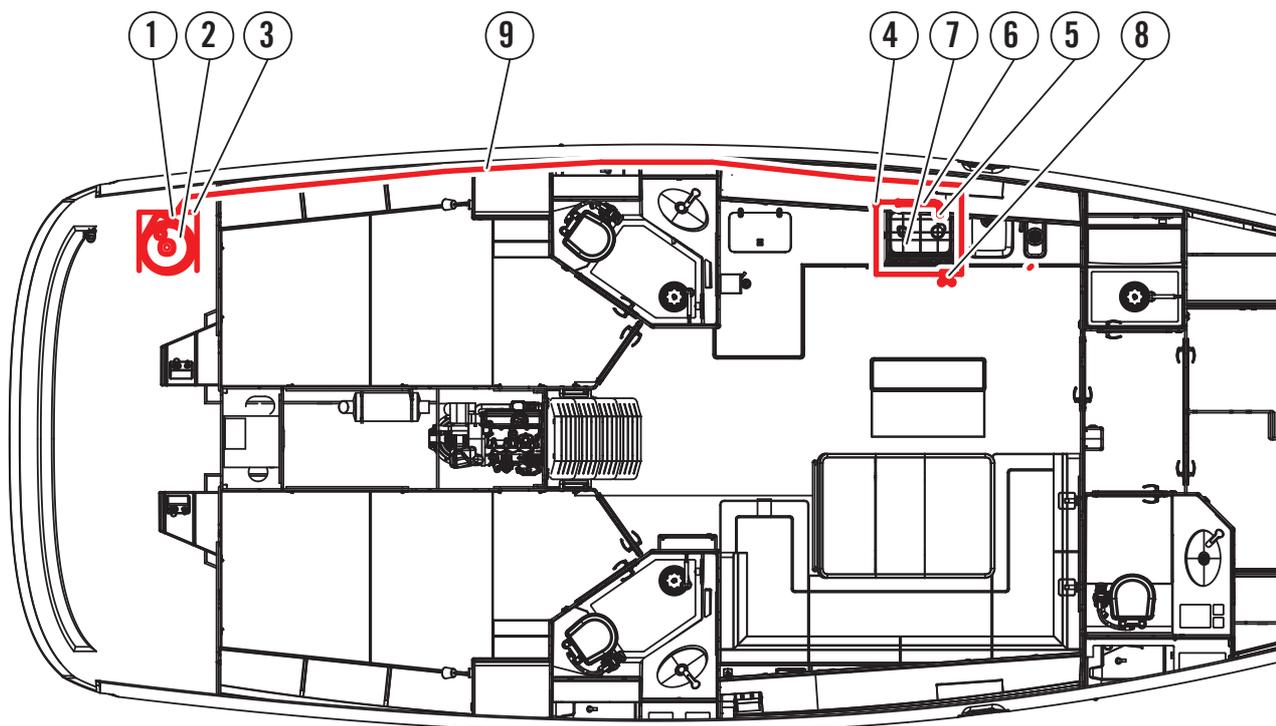
With appliance valves closed!

- » Open cylinder valve, then close the cylinder valve again
- » Wait until the manometer (in the pressurised line) has settled on a constant reading
- » Observe the manometer for 3 minutes
- » There is no leak if the pressure reading is constant - should the pressure drop, there is a leak

**Close the valve at the bottle, have the leak repaired - do not use the gas system, before it has been repaired.**

## 6.10.5. Gas system galley

(Notations see „Notation of the main decks gas system components“ below)



## 6.10.6. Notation of the main decks gas system components

Pos.	Description
1	Rubber hose (Gas box) 6 bar
2	GOK-Low pressure regulator with pressure gauge
3	Gas box, drained
4	Angled fixture at bulkhead /Adapter straight galvanised
5	Fixture at bulkhead/ Adapter
6	Rubber hose
7	Gas cook top / Gas oven
8	Ball Valve TRUMA (in locker)
9	Copper pipe 8 mm

## 6.11. Side thrusters (Options)

Pos	Thruster	Power source
1	Bow thruster (Optional equipment)	Battery forward 92 Ah AGM is installed under the fwd berth

The bow thruster may be controlled from the starboard steering position via the control panel, see the panel and the separate instructions that are incorporated within the documentation of the boat.

### Caution



- » With people on the fore deck it is extremely important and advisable to inform them before using the bow thruster.
- » The accelerations and subsequent movements of the boat when using the thruster may be radical and may cause injury, or let people fall over board

## 6.12. Black water system (Heads)

In many parts of the world the discharge of black and even grey water is restricted. This vessel has fittings, described below, to meet these restrictions. The following list and the attached drawing describe the system and shows the positions of its components – make sure you receive the information you need at the handing over of the yacht.



**Discharge/emptying the tanks:** Open the deck fitting first, then attach the land-based extraction nozzle.

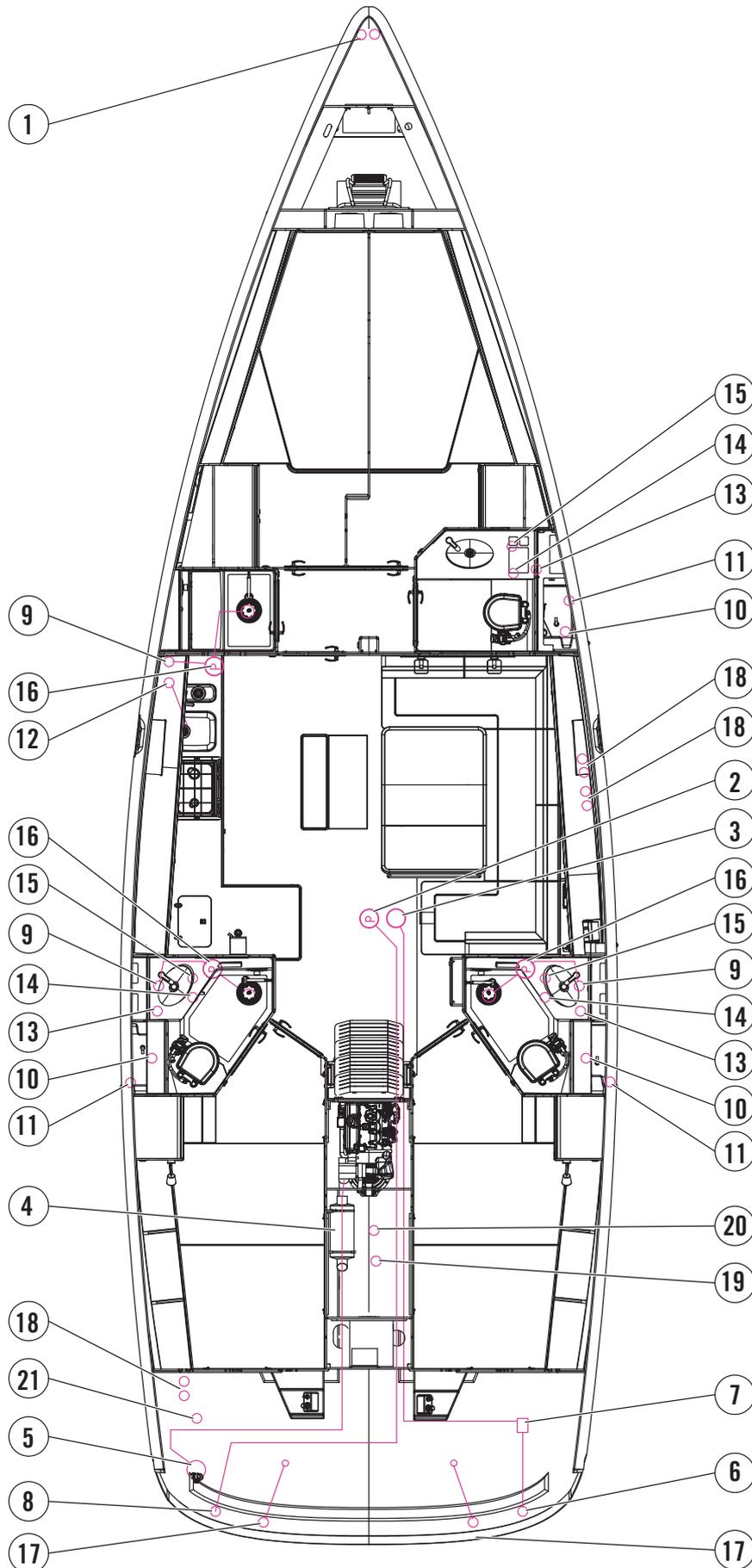
**Suction of the tanks content:** Open the deck fitting first, then attach the land-based extraction nozzle.

Caution: Check the vent line of the black water tank before suction begins – it is located on the side deck, port side, in front of the galley.

### 6.12.1. Caption of the waste water systems drawing (and drains)

Pos.	Description	Pos	Description
1	Drain anchor locker	12	Discharge waste water sump galley sink
2	El. bilge pump	13	Discharge sink
3	Intake manual bilge pump with mesh	14	Discharge waste water
4	Waterlock engine	15	Intake toilet flushing water
5	Discharge engine	16	Shower sump pump (some optional)
6	Discharge manual bilge pump	17	Drain steering system port/stb (below pivoting standing pedestals)
7	Manual bilge pump	18	Discharge A/C unit
8	Discharge electric bilge pump	19	Intake cooling water A/C
9	Drain head/shower (some optional)	20	Intake cooling generator
10	Discharge suction point waste water deck	21	Discharge Generator
11	Vent waste water tank		

6.12.2. Drawing of the waste water systems layout and components



## 6.13. Heads and waste water

Head	Possibility of discharge	Valve positions
Head port, to be accessed via the saloon/next to the companionway	Waster water via discharge outboard or suction through tank & deck fitting	The valve is accessible via the hatch under the wash basin in the T-Room itself
Head stb, to be accessed via the saloon/next to the companionway	Waster water via discharge outboard or suction through tank & deck fitting	The valve is accessible via the hatch under the wash basin
Head stb, accessible via the fwd cabin	Waster water via discharge outboard or suction through tank & deck fitting	The valve is accessible via the hatch under the wash basin

### Caution



- » If navigating waters where discharge is restricted, the last discharge valves may need to be sealed by an authority so that no discharge is possible.
- » Never allow holding tanks to be over-filled as this will risk back-flooding to the craft interior.
- » Do not allow holding tanks to freeze in cold weather as expansion may risk rupture of fittings. Apply some anti-freeze to the tank in times of cold weather.
- » Empty holding tanks when the craft is to be left unattended for longer periods.
- » Do rinse and clean the black water tank in regular intervals - do not leave the tank and the associated system filled/charged for longer periods. Displeasing odors may be the result

## 6.14. Steering system

The BAVARIA Cruiser 46 is equipped with two pedestals (with a steering wheel each) and two inclined spade rudder blades. With the optional Docking System installed the boat may also be steered via the Joy-Stick. The two pedestals are linked via cables and drive two rudder stocks.

### Warning



- » Failure of the steering system will cause loss of control of your boat. Any change in steering such as looseness, tightness, binding, etc., must be checked and repaired immediately by a qualified person.

### Caution



- » Refer to the system manufacturer's documentation for information pertaining to the steering system – read the Lewmar manual carefully.
- » All components of the steering system must undergo periodic inspection & maintenance to ensure safe operating conditions. Refer to the maintenance section of the manufacturer's manual for further details regarding intervals etc.

### Information

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The boat's steering system has the following components:

- » The boat is being steered via one of the two steering wheels in the cockpit
- » The steering impulses are transmitted via cable links to the rudder shafts.
- » Please make sure the mechanical components may work unobstructed and that items stored in the aft compartment are securely fixed in order not to fall into the steering systems components.
- » The craft may also be fitted with an optional autopilot system that operates the steering system directly, this system is installed under the cockpit floor and is accessible via the large deck hatch.
- » Refer to the system manufacturer's documentation for information pertaining to the steering gear and autopilot.

## 6.15. Emergency steering

### Information

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- » Should the rudder system fail, the boat may be steered via an emergency tiller. It is advised to reduce the sail area for this operation such that the helm (torque on the shaft - subsequent force on the tiller) is reduced.
- » The emergency tiller is stored in the aft locker in the cockpit, accessible via the cockpit floor hatch, see extinguisher label.
- » The emergency tiller is racked onto the upper end of one of the rudder shafts and operated with the tiller pointing aft. This is unusual and needs special attention.
- » The rudder shaft top are hidden underneath a small black lid just between the steering wheels, use a winch handle to undo this lid and access the top of the shaft.

### When steering via the emergency tiller - respect the following:

- » reduce the sail area - or take sails down
- » remove the lids from the rudder shaft tops
- » remove emergency tiller from its stowage place and rack it onto the upper end of the rudder shaft

### Caution

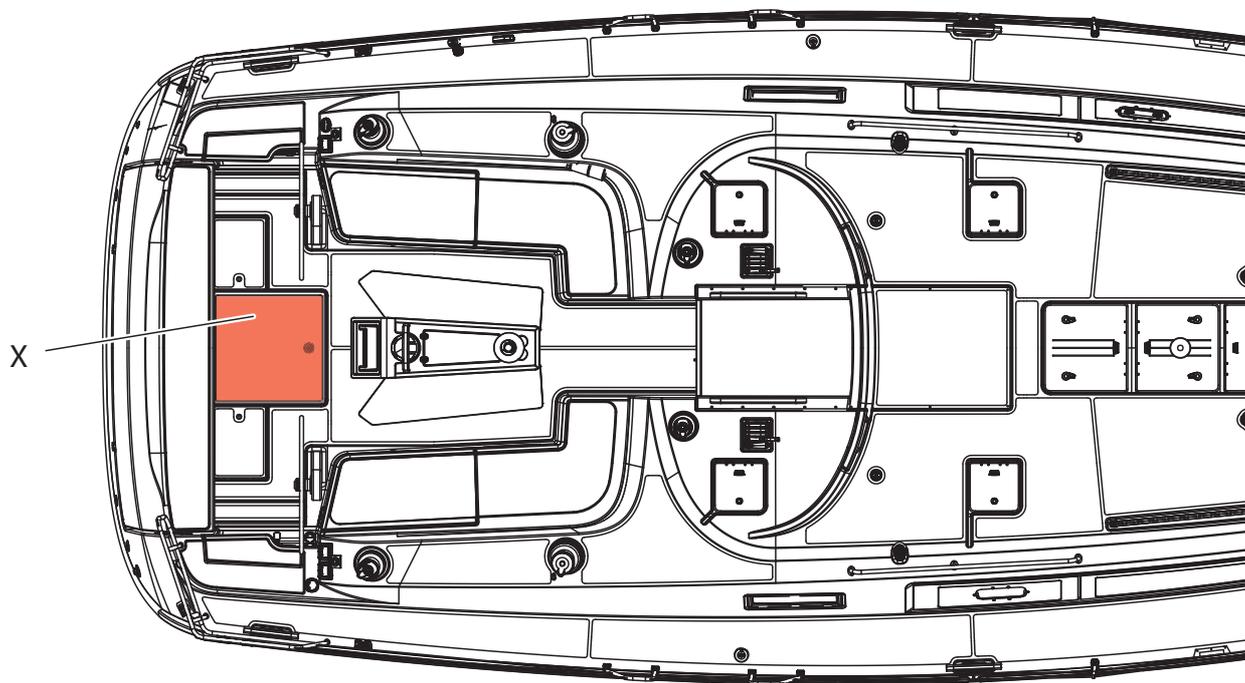
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- » When operating the emergency tiller, you might suffer from poor visibility forward. Make sure that you have a second person situated in a place with good sight. Make sure this person is able to communicate sufficiently with the helmsman.
  - » The emergency tiller must be operated with the tiller pointing aft, this is unusual and need special attention, the best position to steer is probably to be seated aft.
-

## 6.16. Storage of the emergency tiller

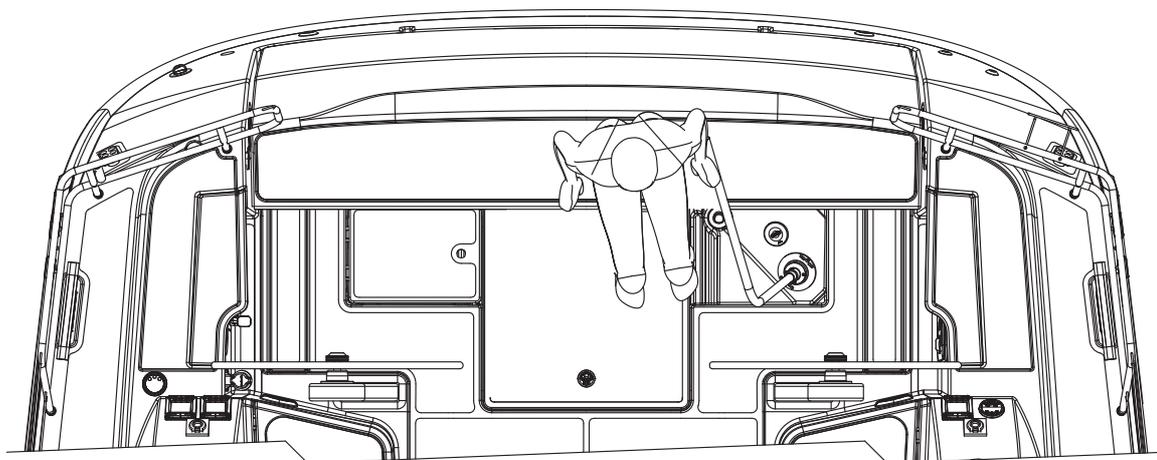
The letter „X“ denotes the place where the emergency tiller is stored. In this deep locker you will also find the ladder and an extinguisher. Make sure the tiller is in place when you leave safe anchorage or harbour and also do practise the use and the handling of the tiller with every crew member.



The optimum steering position is probably being seated on the aft cockpit lockers, legs braced sideways to give good stability.

Make sure that you have a second person situated in a place with good sight. Make sure this person is able to communicate sufficiently with the helmsman.

## 6.17. Steering position while steering with the emergency tiller



## 6.18. Anchor windlass (Optional)

The craft is fitted with a powered anchor windlass on the foredeck, the attached chain is lead under deck in the chain locker situated fwd. The windlass control is connected via a spiralling cable with the windlass, the deck mounted socket for this cable must be protected by a lid when not in use.

Pos	Windlass	Power source
1	Windlass forward (Option)	Battery below the salon settee

### Caution



Winches and windlasses generate large forces. Bear in mind the following:

- » Keep hands and feet away from the windlass and the lines or chain.
- » Have only experienced crew operate the windlass.
- » Prevent accidental pressing of switches.

### Information

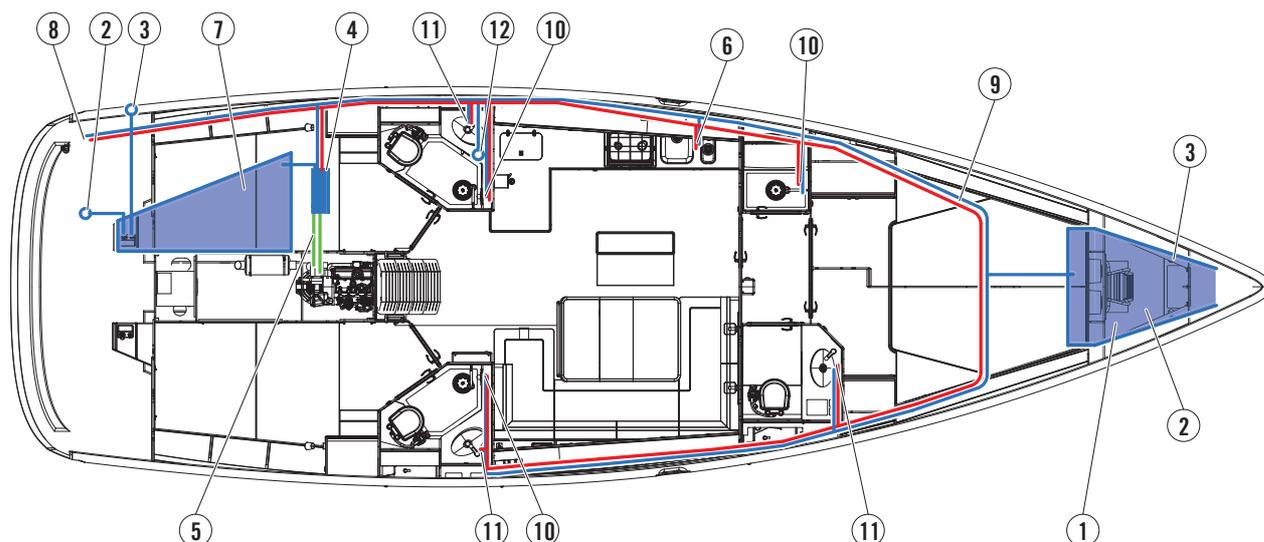


- » The craft is fitted with a powered anchor windlass on the foredeck.
- » The windlass may only be operated by the control device that is suspended under deck in the chain locker. The windlass must be switched on the nav stations electric panel before it may be operated on deck.
- » You should always use a claw or anchor chain hook to relieve the pull on the anchor winch; the bolt is integrated onto the bow fitting rail.
- » Please have your dealer give you a short introduction on how to manage this task.

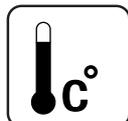
## 6.19. Fresh water system

The yacht is equipped with two fresh water tank, with a combined capacity of ca. 360 Liter. The filler for the forward tank (1) containing 150 liter is incorporated into the framework of the deck hatch that is leading to the sail locker. The cap display the marking (WATER). The aft tank (7) with 210 liters of volume is filled via the filler (2) situated on port aft cockpit floor under a lid. Water extraction from the tanks via plastic tubing leading to a fresh water pressure pump. The system is always set under pressure. Should the pump keep on pumping even after you close all appliances, then you should check the tubes and fittings for leakage. The pump itself is protected by a filter, check this filter regularly, if necessary clean the filter.

## 6.19.1. Fresh water system component plan



Pos.	Description
1	Fresh water tank, ca. 150 liter
2	Fresh water filler (Deck), 150 Liter tank
3	Vent fresh water tank
4	Boiler 40 L, mixing valve Boiler (option)
5	Engine connection
6	Galley sink
7	Fresh water tanks ca. 210l
8	Cockpit shower
9	Fresh water supply
10	Shower (partly optional)
11	Wash basin/sink
12	Fresh water pump

**Caution Danger of scalding – hot water!**

- » The warm water from the tap may be quite hot - be sure you have put the water temperature a bit colder in the beginning, and from there on you may add little by little, more hot water.
- » Switch the fresh water pressure pump off when the fresh water tanks are empty.

## 7. Navigation and Handling

### 7.1. Operation of the engines

The installed engine on board is a Volvo Typ diesel engine with a saildrive gear and drive.

These systems are highly efficient and complex – please observe the manufacturers guide and recommendations. Have your dealer explain these systems, if in doubt, please ask.

Your local Volvo-Expert is happy to assist, even via telephone. The Volvo manual is provided in English, it is part of your documentation, if it is not, you may find it here:

<http://www.volvopenta.com>



Or call the local Volvo Penta representative to assist. Check fuel lines for damage & leaks. Do not damage fuel lines, check their condition periodically. Never place flammable material on top or in the vicinity of hot parts.



#### Warning

- » In order to avoid touching and being hurt by high-speed moving parts, never run a motor with the cover removed.
- » So as to avoid moving parts, never access the engine space when engines are running.
- » Never remove the guards from moving parts of engines unless the engine is not running.



#### Information - before starting the engine

- » Check engine compartment for fumes and the fuel lines for damage & leaks.
- » Check the bilge water level and check if there are any signs of oil or fuel.
- » Ensure that ventilation openings are clear to prevent overheating.
- » Ensure there is sufficient fuel for the anticipated journey - including a margin for contingencies
- » 1. open seacocks needed for cooling etc. (if any)
- » 2. open the fuel valve
- » 3. Set the throttle lever on the neutral position

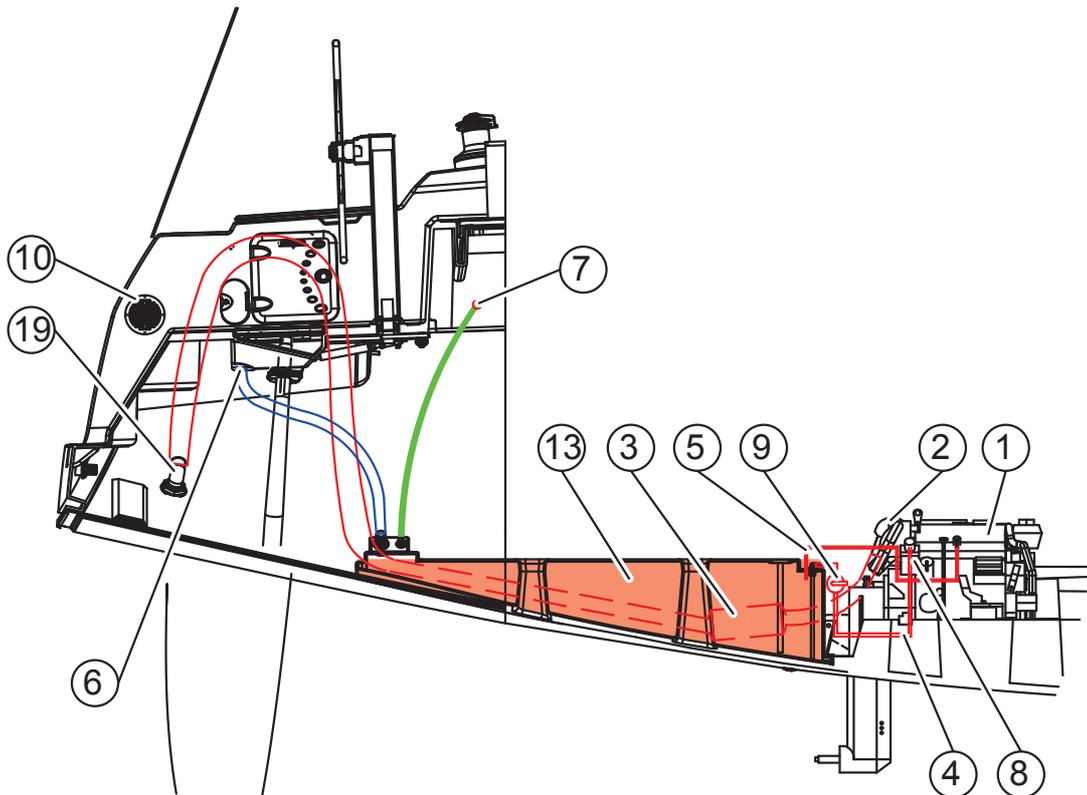
For your information: The start-in-gear protection will not allow you to start the engine with the throttle lever in any other position.

## 7.2. The peripheral equipment - a list

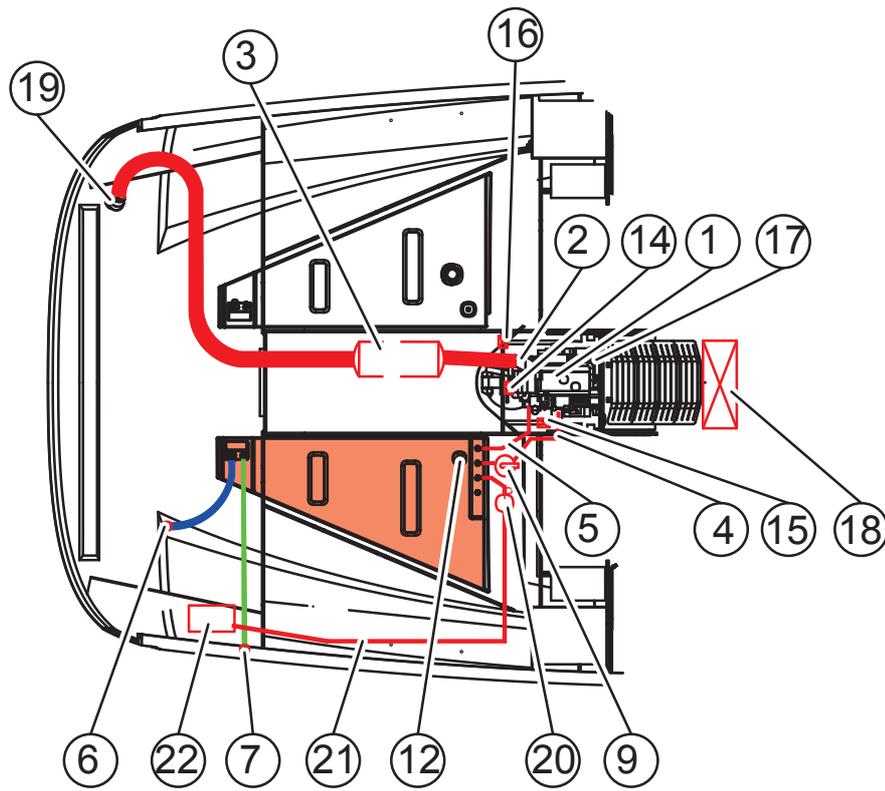
Pos.	Description
1	Engine Volvo Penta D2-55 od D2-75
2	Exhaust system propulsion engine
3	Waterlock exhaust system
4	Diesel feeder line
5	Diesel return line
6	Diesel- filler
7	Tank vent
8	Diesel filter
9	Fuel line solenoid valve
10	Ventilation engine room, intake and discharge aft
11	Engine controls (Deck)

Pos.	Description
12	Fuel tank gauge
13	Fuel tank
14	Water filter/ seacock engine
15	Vakuüm valve engine
16	Ventilation engine room
17	Engine coolant - compensating reservoir of
18	Starter batterie
19	Discharge engine
20	Fuel pump heating (option)
21	Feeder heating (option)
22	Heating (option)

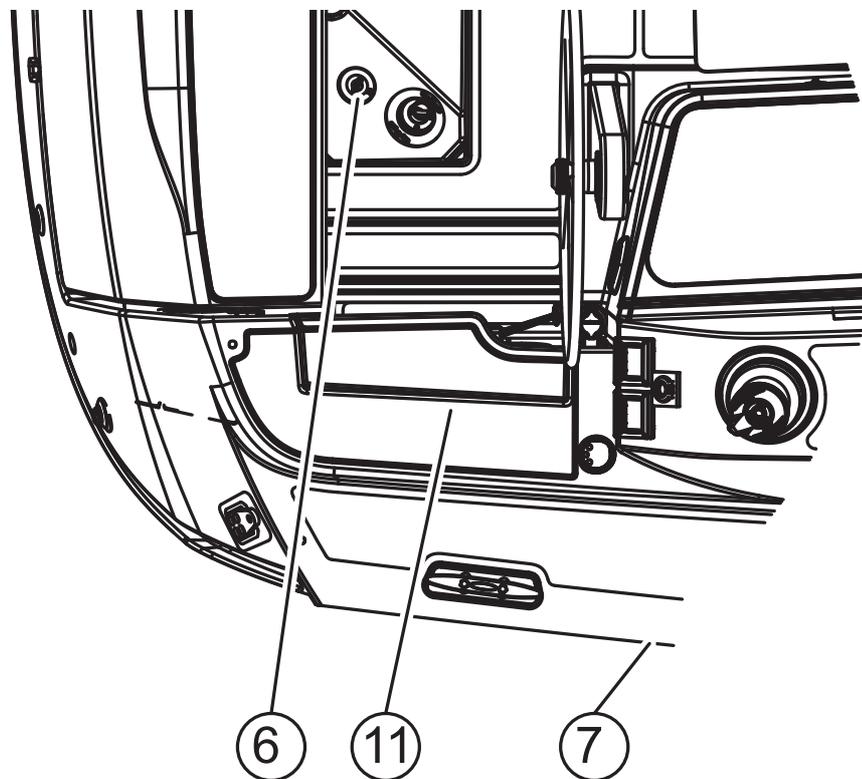
### 7.2.1. The engine an its peripheral equipment - profile view



7.2.2. The engine an its peripheral equipment - plan view



7.2.3. The engine's control panel in the cockpit



### 7.2.4. Exhaust system

This yacht has been equipped with a wet exhaust system, sea water is being injected in the exhaust manifold. It cools down and binds the exhaust gases. This mixture is then lead into the water trap/silencer, is then lead aft and exits the boat aft above the water surface.

The exhaust pipe is made from synthetic rubber and reinforced with a metal spirale. This hose is heat resistant to a certain degree. The sea water supply must be compromised. Ensure unrestricted flow in this sea water system. The connections are all clamped with two hose clamps.

Should the water flow be interrupted and the temperature rises, the systems alarm will activate an optical and acoustical alarm. Stop the engines immediately until these problems have be resolved.

**Read the genuine Volvo manual carefully, you will find much more specific data and maintenance guidance than in this manual.**

#### Caution



- » In order to avoid touching and being hurt by high-speed moving parts, never run a motor with a cover removed.
- » So as to avoid moving parts, never access the engine space when engines are running.
- » Never remove the guards from moving parts of engines unless the engine is not running.
- » Reduce your speed when navigating at high traffic, with limited visibility, rough water, people or structures in the water nearby.
- » Take care about other boaters and adhere to rules and regulations.
- » Do not stay on the platform aft or on the fore deck when the craft is under way
- » Check regularly that the the exhaust does contain cooling water.
- » Stop if you have any doubts about the exhaust system.

#### Danger



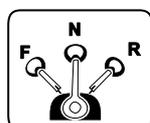
If a fuel leak or fumes are detected, do not start the engine. Ensure all crew leave the boat and have a qualified person repair the fault as soon as possible.

### 7.2.5. Engine cooling circuit

This yacht features a dual circuit cooling internally with fresh water, recooling in the engine through sea water. The connections are all clamped with double stainless-steel hose clamps. Make sure the cooling circuit is protected in cold winter periods to avoid damage.

### 7.2.6. Propeller

#### Information



In case a folding propeller is used, the gear transmission has to be in reverse gear when sailing. With a fixed propeller used it has to be in reverse or neutral gear. A fixed propeller on reverse produced an extra bit of drag, but causes less noise

### 7.3. Visibility from the main steering position

The international regulations for preventing collisions at sea (COLREG's) and the rules of the road require that a proper lookout be maintained at all times and observance of right of way. Make certain no other vessels are in the path before proceeding.



Operator vision from the helm can be obstructed by high trim or heel angles of the craft and other factors caused by one or more of the following conditions:

- » Hull trim angles
- » Loading and load distribution
- » Speed, rapid acceleration
- » Transition from displacement to planing mode
- » Sea conditions
- » Rain and spray
- » Darkness and fog
- » Interior lights
- » Position of tops and curtains
- » Persons or movable gear in operator's field of vision

### 7.4. Handling characteristics

#### Caution

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- » Seaways are infinitely variable and all craft can meet conditions that will challenge the boats handling characteristics and/or the helmsman's ability. Proceed with a margin for error at all times. Avoid making sharp turns at speed, particularly in a short seaway, particularly in narrow waterways.
- » It is strongly recommended that helmsmen receive adequate training in boat handling before setting to sea for the first time.
- » Be aware that factors such as altitude, temperature, load, and bottom growth may affect the performance and the behaviour of the boat.

#### Information - Handling characteristics

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- » This craft is primarily intended to be supported by a combination of buoyancy and also planing forces
  - » Periodic inspection of the propeller for excessive wear or damage is recommended in order to maintain peak performance and to maximise the longevity of the engine.
  - » Ensure all crew are informed about the craft's behavior, its dynamics before you leave the mooring.
  - » Before conducting any rapid acceleration or high-speed manoeuvres, passengers must be warned to sit and hold-on.
  - » The helmsman may have to take sharp avoiding action at any time. Passengers should, therefore, be seated and holding-on when underway.
  - » When using the tender lift or the saloon table, make sure you do not jam anybody.
-

## 7.5. Navigation lights

The boat is equipped with navigation lights required by the international regulations for preventing collisions at sea (COLREG's) and the rules of the road. Observe local regulations.



### Information

Night boating requires running lights. The craft is fitted with the following navigation lights. The navigation lights are switched from the helm command.

- » STB side navigation light
- » Port side navigation light
- » Mast head nav light
- » Stern lamp



### Caution

- » Check for proper operation of navigation lights before heading out and carry replacement bulbs or LEDs for all navigation lights.
- » Always replace bulbs with one of the same wattage (type and watt).

## 7.6. Anchoring, Mooring & Towing – security advice



### Caution - To anchor - being towed - on a mooring

Should your yacht be towed by another yacht, make sure the load is evenly distributed on the two forward cleats. Use the same system on a mooring.

The optional bower anchor is located in the bow fitting ready to fall. The chain runs over rollers into an electric anchor windlass, then drops into the anchor locker which is accessible via the sail locker fwd. The chain is securely fastened here. To adequately moor the vessel the boat has been equipped with cleats at the bow, the stern and on the side decks, the cleats are sufficiently backed by laminate to fulfil the requirements of the directive and to take the loads while moored in a safe haven. Should you leave the boat unattended for longer periods, secure the mooring lines against chafe or unintentional loosening. As an option you may have stern windlasses at your disposal – read the respective manuals for safe operation.

### Information



- » It is the owners / operators responsibility to ensure that the mooring lines, towing lines, anchor chains, and anchors are adequate for the vessel's intended use. Owners should also consider what action will be necessary when securing a tow line on board.
- » The maximum breaking load according to the EN ISO 15084 of the forward cleats for towing and on an anchorage or mooring at the dock has been established to be 51,2 kN. This corresponds to a horizontal tow of ca. 5219 kg.
- » The breaking load of the aft cleats for mooring has been established to be 35,7 kN, this corresponds to a horizontal tow of ca. 3640 kg.
- » When at anchor, it is damaging to leave the full load of the boat resting on the windlass. It is recommended that the chain be tied onto a local strong point.

### Caution



- » Please bear in mind, that with a bad anchorage ground and/or bad weather, strong winds and waves your anchor may slip. You must then take specific counter measures to raise the holding ability of the anchor or change your anchorage.
- » You may use an anchor line for towing. A special towing line of the same working load, and attached as a bridle on two fix points is more suitable for this operation.
- » For a long duration tow it is advised to lead the tow line as a loop around the hull in order to spread the load.
- » The rails and stanchions are inappropriate to attach the tow line to it.
- » A tow line shall always be made fast in a way that it can be released when under load.
- » Avoid chafe at any line!
- » Should you leave the boat unattended for longer periods, secure the mooring lines against chafe or unintentional loosening.
- » The breaking strength of lines / chains should not exceed 80% of the breaking strength of the strong point to which it is attached.
- » Always tow or be towed at slow speed.
- » Never exceed the hull speed of a displacement craft when towing or being towed.

## 7.7. Preventing collisions at sea



The international regulations for preventing collisions at sea (COLREG's) and the rules of the road require that a proper lookout be maintained at all times and observance of right of way. Make sure no other vessels or other obstacles are in the path before proceeding.

## 7.8. Refuelling



### Information - respect the following when filling the fuel tank

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- » The filler is situated on deck on the stb side of the stb helm
  - » Open the filler and start the filling procedure.
  - » Check the contents of the tank by monitoring the tank level indicator.
  - » Don't fill the tank to its maximum: allow for expansion.
  - » Close deck fittings tightly, but don't over-tighten since this will damage the rubber o-rings.
  - » File an entry in ship's log.
- 



### Caution

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- » Fuel is considered chemical waste. Keep an absorbing cloth close by when filling tanks.

## 7.9. Ventilation/Aeration of cabins

We recommend good ventilation of all compartments and cabins to avoid accumulation of evaporative odors and fumes with new boats as well as growth of mildew. This does also apply to the boat being at rest during winter storage.

## 8. General considerations

### 8.1. Recommended safety equipment



BAVARIA Yachts are generally delivered without any safety equipment. It is the duty of the boat's captain to ensure that adequate and sufficient equipment is stored on board. The security equipment must be surveyed and checked in regular intervals and before you embark on a trip. Control its completeness, their proper function and that the equipment is ready to be used instantly. Local authorities, national and international watersport organisations and federations will happily assist you in gaining information about the security equipment needed for the type and size of your craft in the area you intend to navigate in.

The sea is unpredictable. Therefore you should close all hatches, portlights and the companionway covers when underway.

**Carry the following equipment, as a minimum, at all times, to be well prepared for the unexpected.**

- » Life jacket or buoyancy aid for each person, in an appropriate size and sufficient buoyancy.
- » Suitable weatherproof, insulation and protective clothing.
- » Compass
- » Sea charts for the navigational area you sail.
- » Anchor and lines with suitable holding capacity and working load
- » Tow ropes with adequate length and working load
- » At least two warps
- » First aid kit including compresses and thermal or insulation blanket
- » Bailer/bucket
- » Distress signal, flares
- » VHF communication
- » Binoculars
- » Knife with sheath
- » Sufficient potable water and provisions
- » Fire extinguishers



## 8.2. Rough weather conditions – Measures to be taken

- » In bad weather conditions nobody should stay on open deck spaces that are not appropriately secured.
- » In rough weather, hatches, lockers and companionway/doorways through which water could be enter should be closed to minimise the risk of water ingress. All appliances and parts needed for those openings to be closed should therefore be on board, in good working condition, ready to be used.
- » All openings that are watertight, slash tight or weather tight should be closed when under way – except the openings needed for the safe operation of the craft. It should be possible to close those openings easily at any time.
- » Do not rely on autopilot or assisted steering in rough weather conditions – quick and direct steering and changes to your course may be needed instantly in response to the bad conditions.
- » Seaworthiness and freeboards should not be compromised when loading the craft. Please refer to chapter „Risk of loss of stability“.
- » Breaking waves are a serious stability hazard. Be aware that in some areas you may encounter steep and breaking waves, also locally particular conditions of wind, current and wave systems, especially in estuaries, shallow water and narrow water ways and bays. Small craft in particular are threatened by such waves and conditions.
- » Reduce your speed in bad weather, in particular if you experience increased rolling or pitching, or if you take on water on decks.

## 8.3. Securing loose equipment.

Loose equipment can cause damage to the craft and affect stability. Ensure all loose equipment is properly stowed before setting out. People, animals and structures may be damaged by heavy and sharp edged items falling or moving

## 8.4. Risk of loss of stability

The stability and buoyancy characteristics of this boat have been assessed on the basis of the weights specified in the section weights:

### Caution

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- » The boat should never carry more than the manufacturer's recommended load.
- » Bear in mind that stability is most significantly reduced by any weight added high up in the boat. Distribute the load as to make sure the boat floats on level trim.
- » Stability and your security may be adversely affected by sloshing fluid such as water, check bilge water levels at a regular basis.
- » The boat may experience extreme motions and accelerations when performing wrong or mistaken maneuvers.

### Warning

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- » Loose equipment can cause damage to the craft and affect stability adversely. Ensure all loose equipment is properly stowed before setting out.
- » The stability of this boat is significantly reduced at speeds above displacement speed. This is especially true with waves and when you change course.
- » Stability may be reduced when towing or lifting heavy weights using a davit or boom.
- » Breaking waves are a serious stability hazard; drive your boat cautiously and with care.
- » Every change or shift of weights may affect trim and the handling/behavior of the boat a lot.

**Information - reefing the sail plan**



» The working sail plan should be reduced if the average wind force exceeds force 4 on the Beaufort scale. Particular care should be taken in gusty conditions and rough weather.

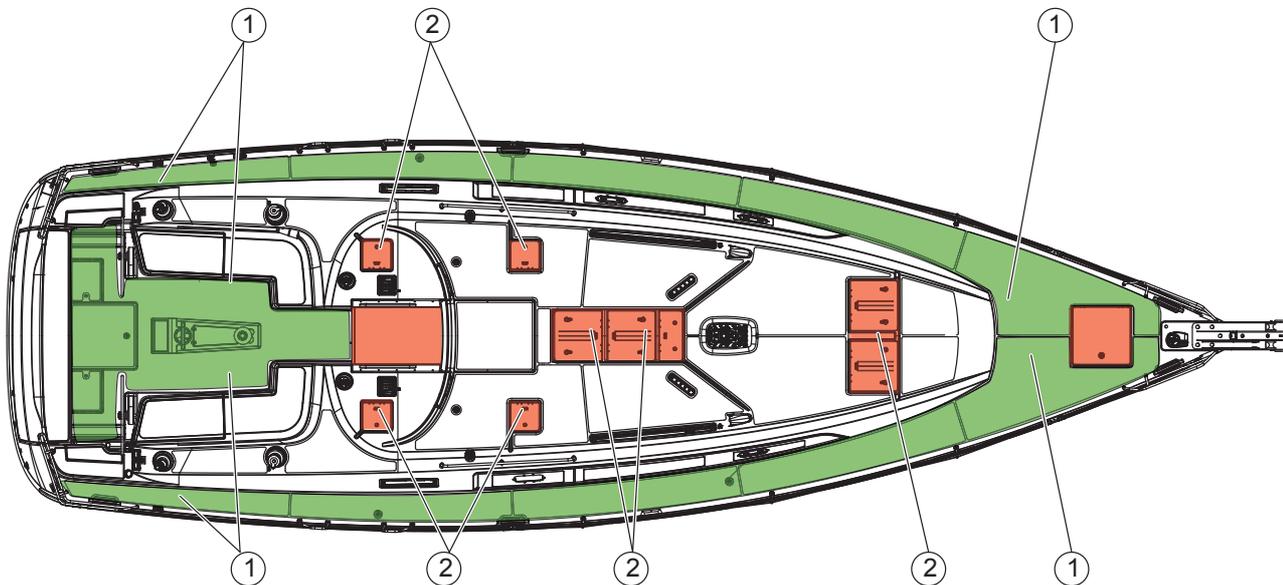
The STIX - values, according to the applicable standard EN ISO 12217 have been calculated as follows:

Version Kategorie A	m <sub>MOC</sub> Standard/shallow keel	m <sub>LDC</sub> Standard/shallow keel
STIX-Value	41,43/41,64	42,07/42,20
Angle of vanishing stability	117,7/117,7	115,5/115,5

Version Kategorie B	m <sub>MOC</sub> Standard/shallow keel	m <sub>LDC</sub> Standard/shallow keel
STIX-Value	41,43/41,64	40,68/40,85
Angle of vanishing stability	117,7/ 117,7	113,7/ 113,77

**8.5. Man-over board (MOB) – Risk of falling overboard - Reboarding**

The working deck area is always a safe place to operate from. Areas outside the specified working deck should only be used whilst leaving or arriving at a mooring or whilst the boat is not underway. On this boat, the working deck area is marked in green in the below plan view of the deck. The area in red is slippery due to the installed glazing in this area.

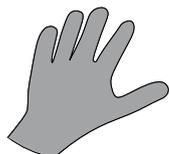


Pos.	Description
1	Working deck ( Definition according to ISO 15085)
2	Slippery surfaces

The working deck is defined as the cockpit and the side decks on main deck level **without** the aft platform. The top of the coach roof (cabintop) and the aft platform are **not** part of the working deck.

Most man-over-board incidents are due to slippery surfaces and happen while boarding or leaving the craft. Wet decks may be very slippery. Wear anti-slip shoes and appropriate clothing at any time.

Due to the restricted space and the dynamics all crew on board should pay attention at all times; Those conditions require special care and careful behavior. It is imperative and fundamental, that the boats captain orders are consistently adhered to. Everybody on board the craft shall follow the instructions given here:



**„Provide sufficient safety for yourself: One hand should always be free to hold onto something.“**

Carry always enough dry and warm clothing on the boat, this should prevent you from chilling. Wear slip resistant shoes at all times.

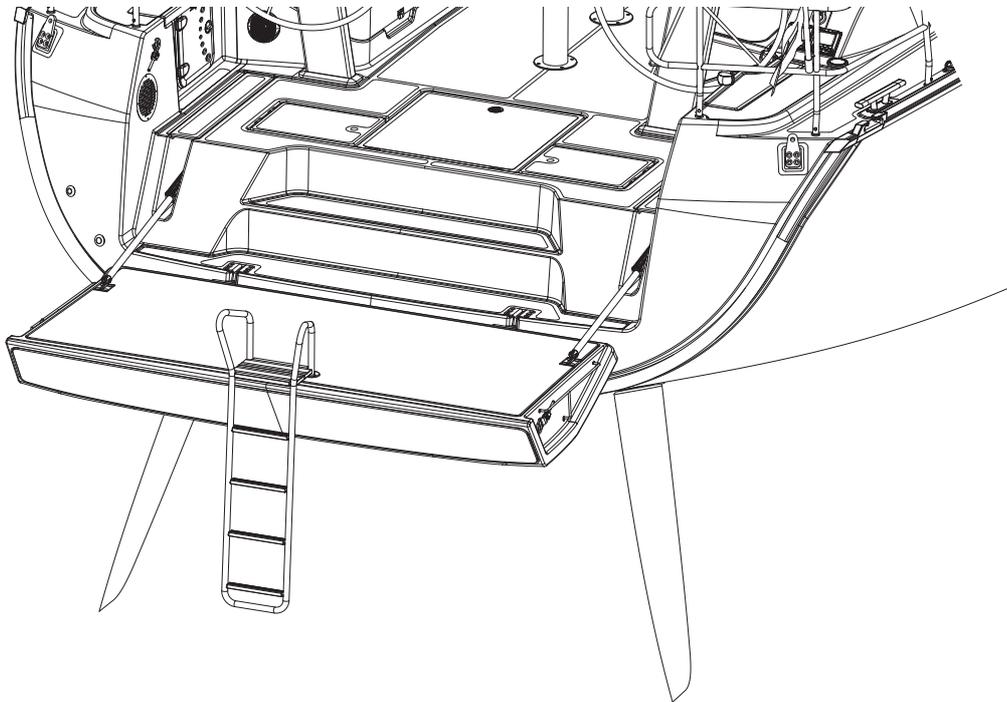
### **Man over board - Measures to be taken**

Should you find yourself in a distress situation, act calmly and with deliberation. Reassure and calm down your crew, give precise and clear instructions on actions to be taken and assign a particular person to do it. Call for appropriate assistance on time, even if you and your crew mates try to solve the problem with the boats resources. Always use the internationally agreed procedures and practices for distress and emergency calls Hand out personal life saving equipment have your crew put on the equipment in due time, have it readily available at all time. Leave the craft only in case of extreme emergency.

## 8.6. Reboarding devices

Man over board (or MOB) manoeuvre includes all possible measure to rescue the person fallen over board from a vessel. The manoeuvre has to be executed instantly and has the first priority. This manoeuvre is a fundamental part of good seamanship and has to be trained with every new boat and crew.

The most important reboarding device on the BAVARIA Cruiser 46 is the bathing ladder, see its mounted position on the below drawing, it must be installed on the aft edge of the platform and is pictured here in the final position. Make sure the ladder is securely fastened so to not fall off the boat.



The emergency ladder is only operable with the platform released in the lower position. You must lower the aft platform by activation the appropriate button.

The ladder itself is stored in the sail locker fwd, aft of the anchor which, learn to use the ladder and know where it is stowed before you take off on your journey..



**Warning** : A reboarding device should always be deployed in case you operate the boat without assistance.

In case the boat is used by one person only or without ample assistance the aft platform should always be deployed to allow reboarding of the person fallen over board. The incorporated ladder on the starboard side of the platform then allows a person unassisted to reboard. The above is true if there is no other means of reboarding installed.

You may install additional reboarding devices such as the safety ladder shown below, a rope or jacobs ladder that may be fixed to the pushpit. The lower step must then reach 30cm below water level (measured in calm water conditions).



This device shall be operable from water level, a swimming person shall reach the line with ease or any other part to release the ladder. The upper steps must be located to allow easy boarding from the ladder onto the boat. Make sure you have established a save and workable procedure and instructed your crew accordingly.

Another additional way of retrieving a person fallen over board is to lift the person with a custom made sling (or a purpose made product) via a halyard and with the aid of a winch. Make sure a helping person makes sure the person to be rescued is not subjected to violent movements. Pay attention while using the aft platform, there is a high risk to get piched, the maximum load of the aft platform is 3 people or 300kg.

### Caution



- » Stop the engines before using the ladder. Due to the suction the person at the platform may be sucked under the platform and into the props.
- » Also the pitching motion may be dangerous for a person under the platform. Be advised, that it might be good practice to use a dinghy for a rescue activity.
- » After turning the stern and disengaging the gearbox, the boat should approach the person in the water as soon as possible. The boat best controllable if the person is approached against the wind and current. Use the Single Turn, Williamson-Turn oder Scharnow-Turn, these are well respected manouvres that bring the boat back to the person.

## Approach towards the person in the water

Approach the person so that she/he swims on the leeward side of the boat. Stop the boat in such a way that the person may reach the platform aft. At any manouvre you throw a life sling with ring towards the person in the water, the person holds on to that ring, to establish a connection between the boat and the person.

### Establish a line connection

It is of utmost importance that the line connection is established so that the person fallen over board may be kept aside, even if the boat drifts away.

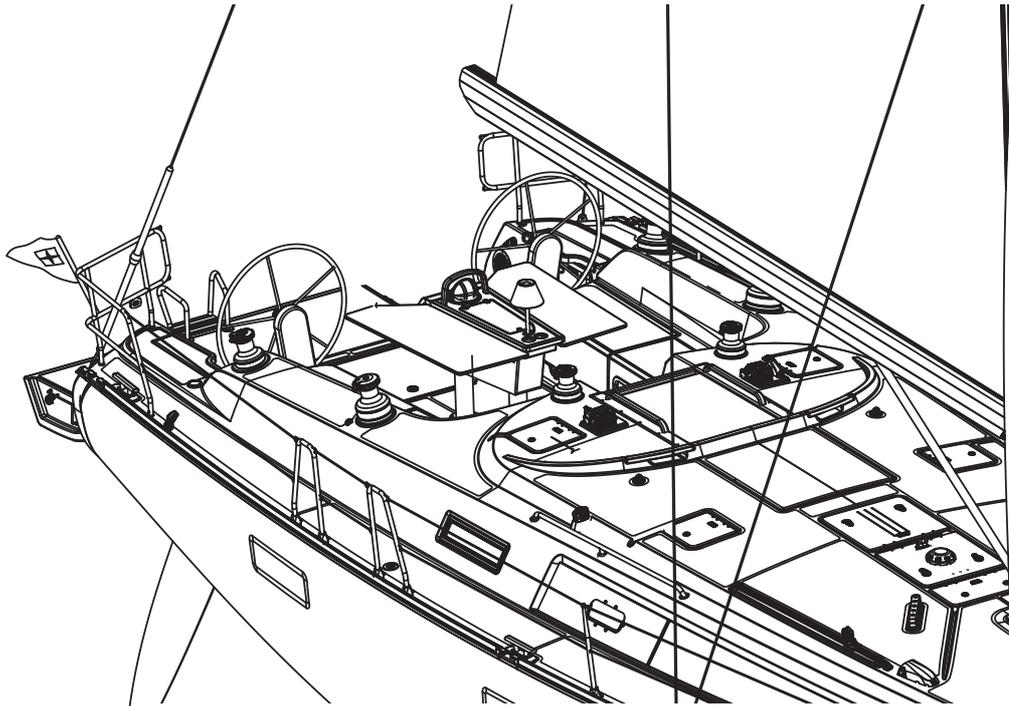
## 8.7. Emergency plugs



In the event of a broken sea cock or through hull fitting we do recommend to carry wooden or plastic emergency plugs. Their diameters should correspond to the different sea cocks on board in order to be able to seal all possible opening sizes quickly.

## 8.8. Overview aft deck with swim/rescue ladder

The platform may be lowered by a winch.



## 8.9. In general

A **BAVARIA Cruiser 46** is a powerful vessel. Therefore it should only be handled by trained and experienced helmsmen. Do not leave unreliable people or children without supervision on board. The cabin rooftop with its glazed areas and the aft platform are not part of the working deck. Always switch off the engine controls on the main switch board below deck when the boat is on a mooring or at anchor and people might go to swim or dive - this prevents the engine to be started with people in the water!

Make sure all crew learn about the special features and the handling of the engine controls.



- » Do not step on the aft platform or the forward deck area when the craft is under way.
- » Be careful when handling the hatches, there should be no objects or parts of the body in the vicinity and in the swiveling range of the aft platform - there is a jamming danger
- » There are moving parts on the engine or the propulsion units - avoid contact - Danger!

## 8.10. Risk of Flooding/Sinking



### Caution

- » If you leave the craft for a longer period - close the seacocks!
- » The bilge pumps are not capable to pump large quantities of water, with a large hull opening the boat will sink.
- » Keep the level of bilge water to a minimum.
- » In rough weather, hatches, lockers and companionway/doorways should be closed to minimise the risk of water ingress.
- » Care should be taken to ensure that the cockpit drains are not blocked and that the cockpit can drain freely.
- » Ensure all limber holes are clear
- » Check function of bilge pumps regularly & clear debris from their inlets.



### Caution

- » The following openings shall be closed when under way, and care should be taken to observe this warning. Do only open these temporarily if necessary for the operation of the craft.

Pos.	Description
1	Forward deck hatch, Anchor locker
2	Portlights cabins
3	Portlights heads
4	Portlights towards Cockpit
5	All hatches and portlights on deck

Pos.	Description
6	Portlights aft cabin
7	Saloon windows and hatches
8	Deck hatches heads and salon
9	Companionway
10	All cockpit floor hatches

The boat has a quickdraining cockpit as per EN/ISO 11812:2002. Nevertheless water ingress should be avoided and the drainage of water must not be impaired. Care should be taken to ensure that the cockpit drains are not blocked and that the cockpit may drain freely.

## 8.11. Protective baskets or nets



- » Bilge pump intakes inside the boat, and intakes of water from outside the boat are fitted with protective baskets to avoid blockage by weed, leaves or other debris. Ensure these are kept clear at all times.

## 8.12. Risk of fire

Our commitments regarding fire prevention has started during the conception and the design of the boat. We choose materials and equipment with a strong focus on preventing and restraining fire risks, this comprises the insulation of the engine room with fire-retardant material, the design of the galley etc. As a responsible and sensible skipper you should adopt the following rules:



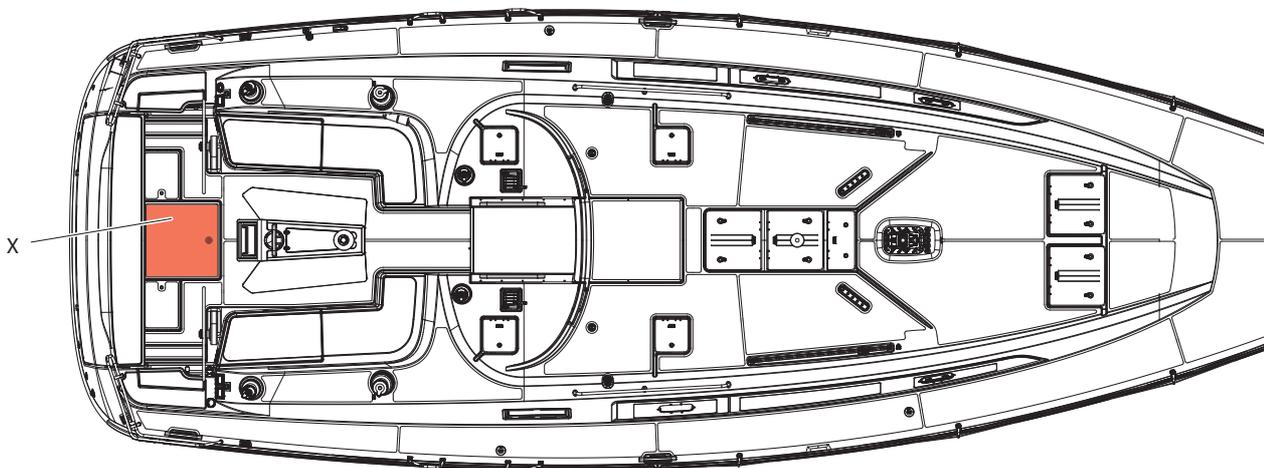
- » Always keep the bilges clean and check for fuel fumes and smell regularly.

### Caution - Never.....



- » obstruct portable extinguishers in lockers or doorways and lockers that contain equipment which is relevant to the boats security (such as gas appliances etc.), controls (shut off valves, switches).
- » leave the craft unattended whilst cooking/heating appliances are in use.
- » stow combustible material in engine space. If other items are stowed in engine space, secure against movement.
- » modify craft's systems, especially fuel & gas.
- » fill any fuel tank whilst machinery is running
- » replace gas bottles whilst gas is in use
- » smoke while handling fuel & gas
- » fit curtains above cookers and use gas lights inside the craft

### 8.12.1. Position of the extinguishers on deck (X)



### 8.13. Fire fighting equipment

Locations and capacity of extinguishers are given below. It is advisable to produce copies of these drawings and display them in the respective cabins. Please pay attention to the specific manuals of the different extinguishers and fire fighting systems installed.

**Caution - It is the boat owner/operator's responsibility to:**



- » check equipment at intervals as stated on equipment.
- » replace any extinguisher, if used, with one of same rating and the same make
- » make sure all extinguishers are freely accessible
- » inform members of the crew about location and operation of all fire fighting devices



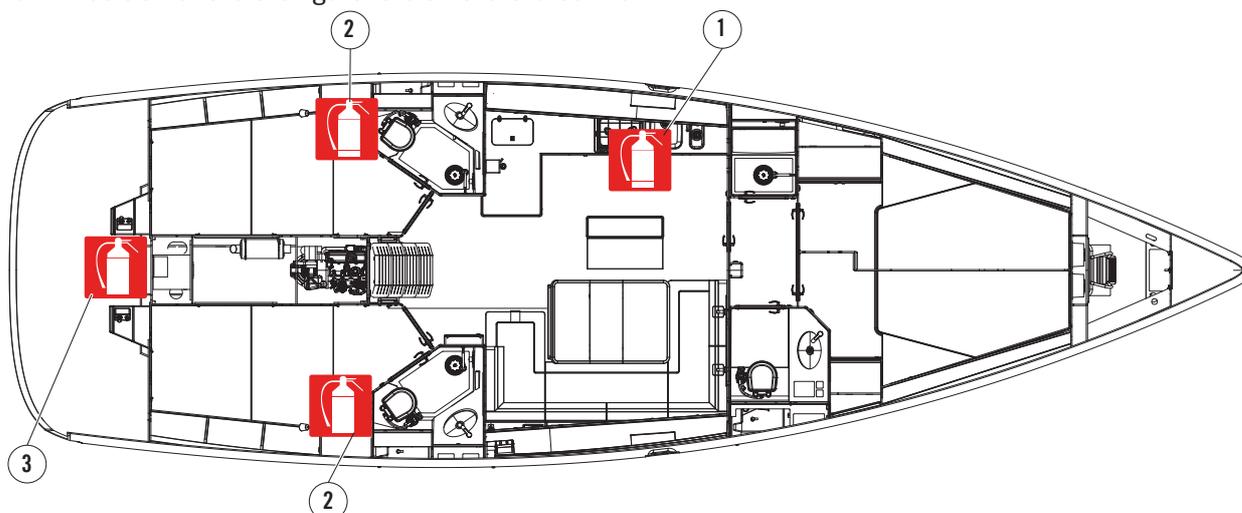
The most common sources of danger on board are the stove in the galley and the engine room. If, despite all precautionary measures, a fire should break out abo, you have six fire extinguishers on board which are fixed at the following places:

#### 8.13.1. List of extinguishers

Locations and capacity of extinguishers are given below. It is advisable to produce copies of these drawings (extinguishers and escape routes) and display them in all cabins. Please pay attention to the specific manuals of the different extinguishers installed.

Pos.	#	Position of the extinguisher	Type of extinguisher
1	1	Extinguisher below deck: In galley under the sink	Gloria 2 kg ABC Powder 89B - extinguishing media SP 152/07 - 15 Bar nitrogen
2	2	in each aft cabin, watch for the sign, locker in front of the hanging lockers	Gloria 2 kg ABC Powder 89B - extinguishing media SP 152/07 - 15 Bar nitrogen
3	1	In the central cockpit locker, watch for the sign, large hatch between the steering wheels	Gloria 2 kg ABC Powder 89B - extinguishing media SP 152/07 - 15 Bar nitrogen

#### 8.13.2. Position of the extinguishers on the Cruiser 46



### 8.14. Escape routes

**Information**



- » Exits other than the main companion way & hatches with ladders are labeled.
- » It is advisable to have those plans also as a copy in each cabin, for the crew to be able to read and know about the escape possibilities.

**Caution - It is the boat owner/operator's responsibility to**



- » inform crew of the location of routes and exits.
- » check the labeling of the escapes and special equipment such as ladders or steps regularly.

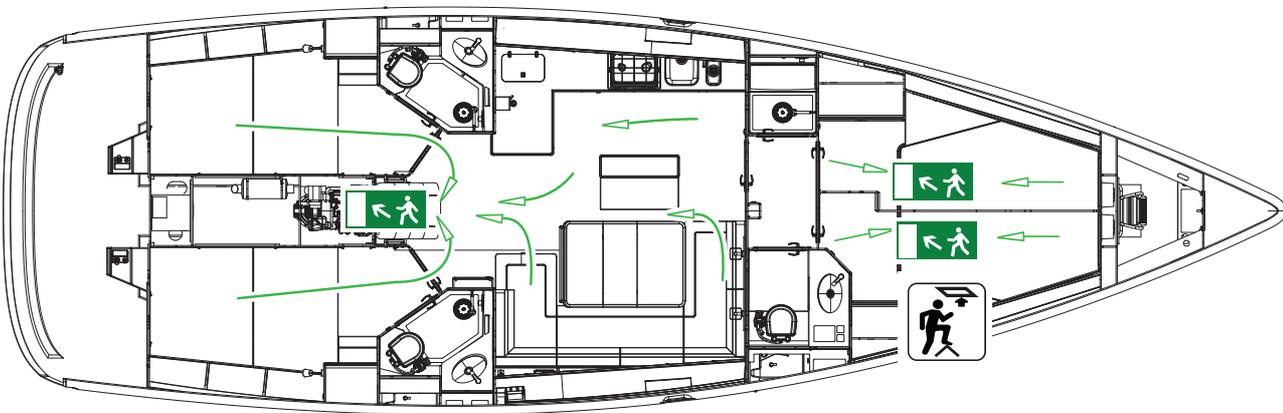
**Warning**

- » **NEVER EVER** obstruct exits or escape routes!!



### 8.15. Escape routes in plan view

The following escapes are provided onboard the boat, they may be hatches, openings or passageways:



**Warning - Ease of access to the escape hatch**



In order to better reach the forward escape hatch when stepping on the forward berth BAVARIA Yachtbau has integrated a folding step into the forward berths plywood base. Flip the mattress away, then unfold the step, it is hinged on one edge, there is only one way to unfold and then jam the free edge.

**Now you may use this additional step to reach the escape hatch. Make sure all crew and guests have been instructed in the operation of the step.**

## 8.16. Life raft

BAVARIA-Yachts do generally leave the yard without any safety equipment. It is the duty of the boats captain to ensure that adequate and sufficient safety equipment is stowed in a condition ready to be used. A life raft may be stowed in different locations. Please make sure to label these compartments adequately and that your all crew are informed about where to find the raft and how to use it. The two cockpit lockers just in front of the steering pedestals are the locations that are designated to take the life rafts.

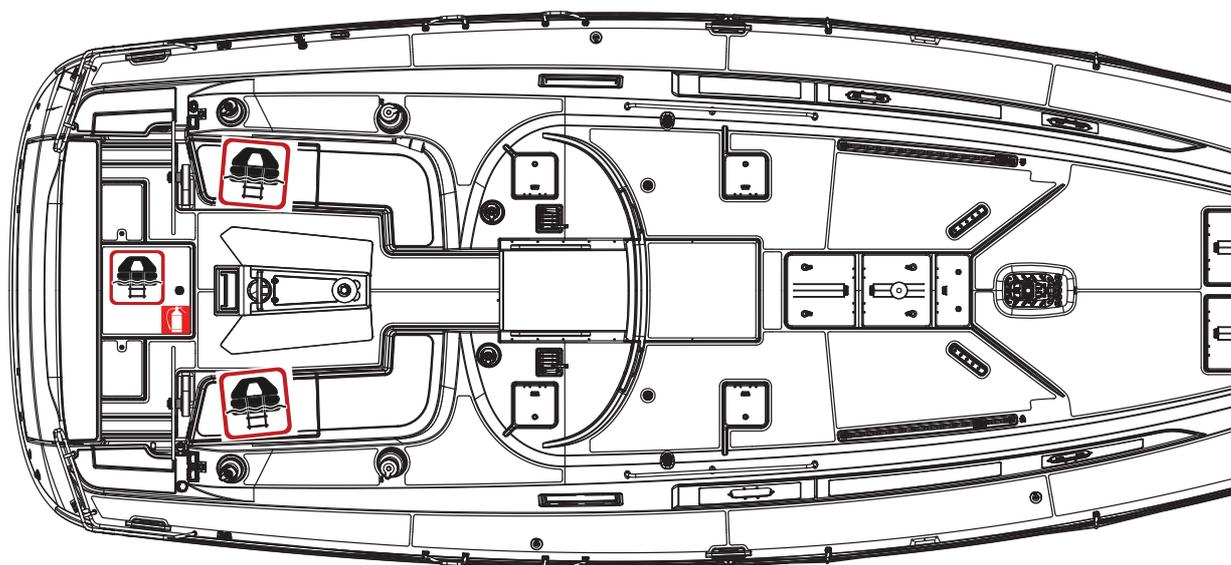
### Liferafts may be stowed:



- » One life raft in the starboard cockpit locker
- » One life raft in the port cockpit locker
- » One life raft in the central cockpit locker, via floor hatch

## 8.17. Cockpit layout with designated life raft locker spaces

The possible stowing spaces for liferafts are indicated below, please make sure these are not locked and all crew have been instructed to deploy and use the liferafts.



## 8.18. Grounding

### Caution - in case of grounding



- » Never obstruct exits and escape routes!
- » Check for leaks on the entire hull, first at bilge level, the keel and the rudder shafts and in particular at those places where hull fittings and openings have been fitted (Propulsion, sea cocks etc.).
- » Return to port immediately and drive at reduced speed, reduce sail area, avoid vivid dynamic movements and accelerations
- » Check the appendages and openings and structure again when returning to port
- » Have the boat inspected on the dry thoroughly

## 8.19. Transport, hoisting, slip and storage

The Cruiser 46 is designed to perform on the water but may be transported on a trailer on the road. She will need special transport, it is advised to employ a special company employing a suitable vehicle.

Many marinas and servicing companies hoist the boats using a crane and hoisting gear or a travel lift. Please make sure that a transverse cross beam is used to hold the slings apart so that transverse forces are reduced.

### Caution



- » Secure the boat while hoisting with long lines attached to the bow and the stern.
- » Do not step under lifted load
- » Always engage an experienced service team to hoist or slip your yacht

### 8.19.1. Hoisting

Many marinas and servicing companies hoist the boats using a crane and hoisting gear or a travel lift. Ensure that the slings are placed according to the boat's structure and the weight balance of the boat. The boat should hang level keel in the crane, at the same trim as it would float in the water. Should you be using the same crane with slings regularly, then it is advised that you mark the sling positions on the craft at the deck edge.

**Be aware, that these dimensions may shift if the weight and its distribution is altered. The marks for the sling positions must be changed accordingly. BAVARIA YACHTS does not assume any responsibility for the hoisting or slipping process - weight distributions must be checked and slings positioned accordingly.**

Check for the rudders and the keel, as well as the propeller shaft.

### Caution -be aware of the following:



- » The center of gravity position (CG) does only correspond to the light displacement loading, for the ship without the optional equipment, stores, payload, tankage etc.
- » Any shift or difference of the load such as fluids in tanks, people on board etc. will result in a shift of the center of gravity.
- » Do not step under lifted load!
- » The breadth of the sling supports must be bigger than the largest width of the boat
- » Weight distributions must be checked and slings positioned accordingly.

### 8.19.2. Slip

If the yacht is slipped conventionally it may sit on its keel. The yacht is unstable in this position and must be securely fastened not to fall on its side or forward. Best would be to have a custom made and fitting cradle, that is designed to take the loads at the designated places.

For longer storage periods it is advised to utilise a dedicated cradle/trailer for transport or storage. Call your service partner, he will be happy to take care.

**Caution:**

- » During the slipping process it is forbidden to stay on board
- » the boat must be securely fastened in its position not to fall on its side, fwd or aft
- » Always engage an experienced service team to hoist or slip your yacht

For longer storage periods it is advised to utilise a dedicated cradle/trailer for transport or storage. Call your service partner, he will be happy to take care.

**8.19.3. Storage.**

The craft should be stored on a designated and tailored storage system or cradle. A three-point storage is ok for short periods. Handle the hull shell with care. Supports should be spreading the load over a bigger surface. The supports should be as big as possible and the padding not be too soft. All supports should approximately take even loads. Regarding other measures during longer storage, especially during cold times, you should consider reading the paragraph about winter storage.

Check that the rudders and propeller is free, and that hull fittings are not damaged or loaded while slipping or storing the boat. The best places to support a hull are at bulkhead stations.

**8.20. List of through Hull Fittings (see drawing)**

The following skin fittings are fitted in the hull of the craft. They provide the frontline defense against flooding and should be regularly inspected for their condition. Valves should be frequently operated to ensure free movement. It is recommended that all valves but drains & bilge discharges are closed when the craft is left unattended.

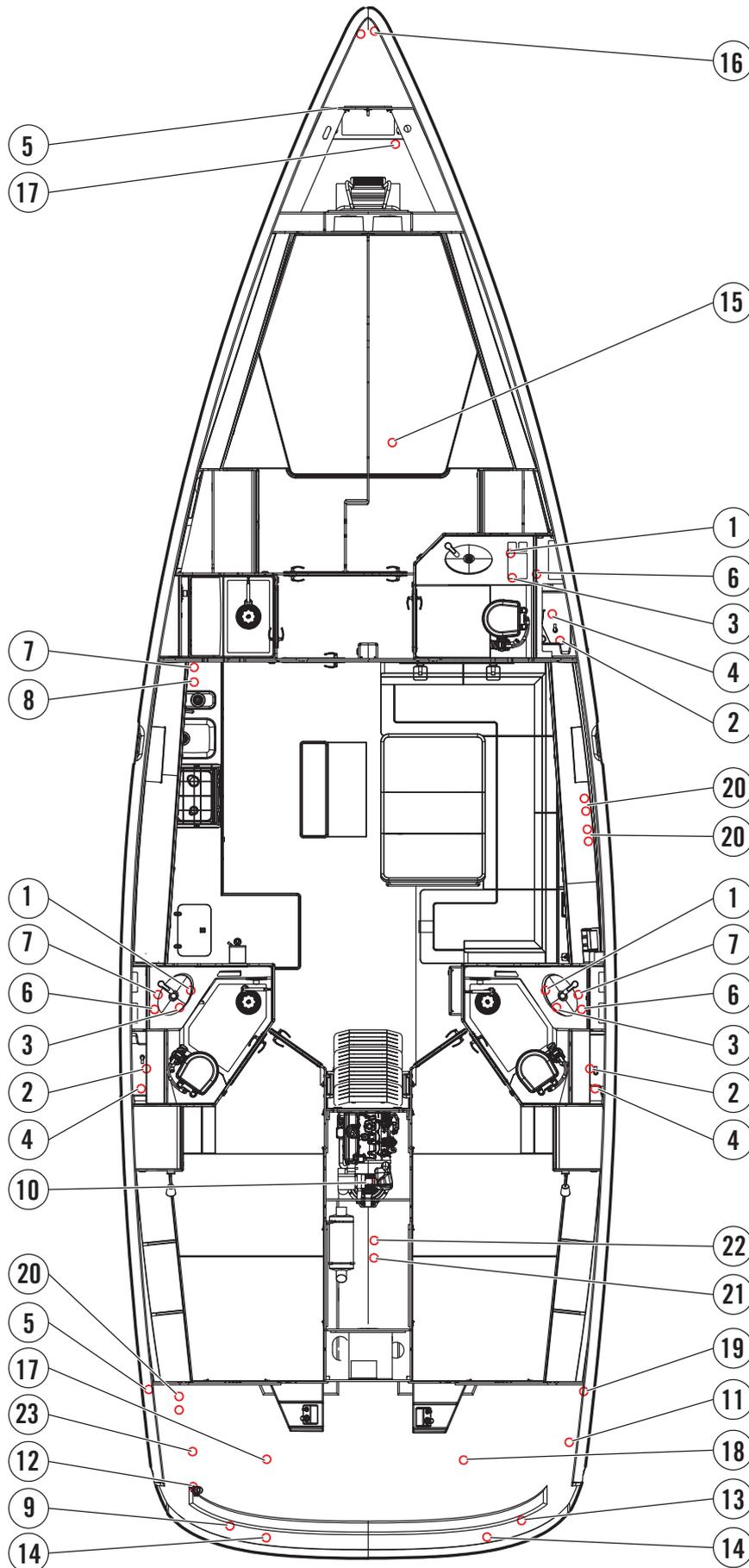
Pos.	Description	Pos.	Description
1	Intake fushing water toilet	13	Discharge manual bilge pump
2	Deck suction black water	14	Drain steering shafts stb/port
3	Discharge black water tank	15	Log/echosounder
4	Vent black water tank	16	Drain anchor locker
5	Vent fresh water tank (through bulkhead of anchor chain locker)	17	Filler fitting fresh water
6	Discharge sink	18	Filler fitting diesel (under lid at steering position)
7	Discharge head/shower	19	Vent diesel tank
8	Discharge sump of galley sink	20	Discharge A/C Unit
9	Discharge el. bilge pump	21	Intake pump A/C Unit
10	Saildrive	22	Intake generator
11	Discharge Heater	23	Discharge generator
12	Discharge engine		

**Information - Maintenance**

With ball valves it is relatively easy to know if they are open or closed:

1. **CLOSED:** The handle points at a right angle to the pipe or hose
  2. **OPEN:** The handle points in the direction of the pipe or hose
- » Check through hull fittings regularly, retighten the gland nuts of the valves, check the hose clamps for corrosion, leaks and tight fitting.

8.20.1. Positions of through hull fittings (this drawing includes the options)



## 9. Maintenance



### Caution

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- » Modifications that may affect the safety characteristics of the craft should be assessed, executed and documented by competent people.
- » Any change in the disposition of the masses aboard may significantly affect the stability, trim and performance of the boat

### 9.1. Maintenance of the electrical system



### Caution - electrical maintenance

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- » Check all terminals for corrosion - corroded terminals and connectors should be replaced or thoroughly cleaned.
  - » Tighten all terminals securely and spray them with light marine preservative oil.
  - » Check if all cables are securely fastened and that there are no signs of chafe or defects.
  - » Have corroded terminals replaced by a competent person.
- 



### Caution

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- » To prevent arcing or damage to the alternator, always disconnect battery cables before doing any work on the engine's electrical system.
- » Power feeds for accessory equipment must not be taken from the voltmeter terminals.



### Warning

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- » Work on electrical wiring can create shock hazards or sparks.
- » Always disconnect power sources **and** shut off battery switch, breakers and/or pull fuses before checking electrical wiring or connectors.

## 9.2. Maintenance intervals

Regular inspection and maintenance is an essential activity to ensure the boat's longevity and the crew's safety. This section includes a generic table which details typical inspection and maintenance intervals. This is not specific to your craft and some sections will not apply. The necessary frequency of service or maintenance depends upon the environment in which the boat operates. The intervals listed in this section should be viewed as maximums.

### Caution: Consider this! Important Warning



- » Modifications that may affect the safety characteristics of the craft should be assessed, executed and documented by competent people.
- » Any change in the disposition of the masses aboard may significantly affect the stability, trim and performance of the boat

System	Activity required	Intervall								
		Before every use	after first 20 hrs	every 25 hrs or every 50 hrs	every 50 hrs or every 100 hrs	every 6 month	annually once			
Batteries	Check poles for corrosion and tight fit	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>						
Navigation lights	Control function	<input checked="" type="checkbox"/>								
Bilge areas	Clean & limber holes free						<input checked="" type="checkbox"/>			
Zinc anodes	Check and replace if necessary	<input checked="" type="checkbox"/> As needed, as often as possible								
Hull	heck for loose, damaged or missing parts	<input checked="" type="checkbox"/>								
Rudder system	Check for movements and looseness	<input checked="" type="checkbox"/>	and at every docking							
Security and safety equipment	Check for damage and completeness, and if services have been carried out in the prescribed intervals, check service seals	<input checked="" type="checkbox"/> see <b>manufacturers recommendations!</b>								
Electrics	Check for looseness of contacts and connections								<input checked="" type="checkbox"/>	
	Check function of 230/110 volt sockets			<input checked="" type="checkbox"/>				<input checked="" type="checkbox"/>		
Engine	Check water separator/replace		<input checked="" type="checkbox"/>							
	Engine in general	<input checked="" type="checkbox"/> <b>read Volvo Penta manual!</b>								
Drive belt	Check for wear	<input checked="" type="checkbox"/>								
Oil and Filter	Replace						<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		
Oil level	Check	<input checked="" type="checkbox"/>								
Tanks	Check for leaks & tightness of connections	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>						

### 9.2.1. Cleaning

Clean and rinse the boat possibly just after you take out of the water. You may remove marine growth from your boats bottom very effectively with a high pressure cleaner. Different cleaning and caring agents are available for the maintenance of the boats surfaces. For boats navigating in sea water: Salt attracts water from the environment, this speeds up corrosion. Whenever possible the boat should be rinsed with fresh water.

Do only utilise biodegradable detergents. Do not use abrasive cleaning agents they scratch and bleach the surfaces. Clean heavy soilings with fresh water and care products. To clean off stains of lime (dried out water), use vinegar.

Upholstery is best cleaned using conventional carpet and upholstery cleaner. Check at a hidden place if that cleaner is suitable for your piece of equipment.

The antifouling should be refreshed periodically. This prevents marine growth to settle on your boat. The immersed part of your boat should be washed down using a high pressure equipment.

### 9.2.2. Care and maintenance of decks

Untreated wood weathers to a natural silver-grey colour, with no loss of the timber's strength or other mechanical/physical properties. Because of its inherent durability and weather-resistant properties, the use of protective paints or coatings is sometimes necessary.

Care products:

**Protective wood oils** penetrate deep into the timber, and under the influence of heat and moisture can adversely affect the adhesion of the caulking material to the sides of the wooden joint.

**Paints** are decorative coatings which, when applied to a wooden deck, dry to form a continuous film over the caulking material as well. Some paints may not harden properly on caulking material, leaving the surface tacky. In time most paints will flake away along the line of the joint. This spoils the appearance of the wooden deck and causes cracks to open up along the joints.

**Teak cleaners** should be used only if they contain no other active ingredients than normal soap. Additives such as phosphoric or oxalic acid, which are often incorporated as brighteners, are corrosive substances which attack both the caulking material and the timber, causing them to age rapidly. We therefore recommend that wooden decks be washed down with a mop and clean fresh water, to which a small quantity of normal soap may be added if desired.

The high-pressure water jet will remove areas of sapwood and break the seal between the caulking material and the sides of the joint. In extended periods of hot, dry weather wooden decks should be watered at regular intervals to prevent the timber from drying out completely. Excessive loss of moisture will cause the timber to shrink, placing the joints under stress. Under unfavourable conditions this can lead to premature ageing or failure of the joint seal.

Stick to these simple rules and you will lengthen the life of your deck considerably.

### 9.2.3. Maintenance of stainless steel parts

The corrosion resistance of stainless steel fittings is based on their ability to constitute a thin skin together with the air, which constitutes a positive electrical potential. Specialists call it CR-passivated (CR stands for chrome). But chrome is negative and a bit less noble than iron in the electrochemical series. If this thin protection skin is damaged the stainless CR gets reactive and less noble than pure chrome. The corrosion then starts.

Were you ever annoyed by these little brown spots on the fittings? They are caused by flying rust or particles of iron scale, which are contained in the air and near big towns. As soon as the flying rust settles onto the protective layer of the stainless steel, it destroys the CR-passivity very aggressively and fast.

Stainless steel only stays shiny, if you care about it. Rinse the rail stanchions, pulpits and push pits and all stainless fittings thoroughly too, if you are rinsing and cleaning your boat with fresh water. Fresh water will rinse away the salt, rust and flying rust, the protective coat will be „ventilated“ and may play its role in protecting the material.

If your fittings already display the brown spots, you may use most of all the metal cleaners available on the market, to take care of the stainless steel fittings. You may also use the same polish you use for the hull.

## Sails

The sails are made of Dacron. This material is very robust and resistant. Thus the sails keep their shape for a very long time. Inspect all your running and standing rigging carefully for sharp edges, splints, protruding ends of wire and the like since laminated cloth is especially sensitive against chafe. Those parts of the cloth that can chafe at spreaders or shrouds should be protected on both sides by applying self-adhesive tape locally. The same is true for the foot of the sail if chafing at the rails.

### Notes and for your information



- » Please remember: Damage to the cloth is mainly due to incorrect treatment or handling. Especially if you let it flap, expose it to UV radiation constantly or store it improperly.
- » If you have any queries on handling sails do not hesitate to contact the manufacturer or your sailmaker
- » Never remove track sliding cars with ball bearings from the tracks carelessly. Always use sheet tracks with end stops.

### 9.2.4. Paints

Concerning advice regarding paints, ask your service partner or the yard. Best results are given if you stay within one paint system.

## Parts subject to wear and tear

Please buy and install only genuine spare parts. For any advice call your dealer.

Whenever you need spare parts and genuine parts are not available then the working load are a safe indication to ascertain the right replacement.

## Repairs

Repairs of the hull and deck structures (polyester solid laminate and polyester sandwich laminate) may be carried out by a proficient boat builder adopting the general rules for the processing of polyester resin. The interior construction has been designed in order to be disassembled to reach almost every location of the boat. With regard to the technical equipment do not hesitate to contact a certified specialist. Your dealer will be happy to assist here as well.

### 9.2.5. Winter storage

The boat and its systems may be harmed if you do not cater for the winters cold period. We have already covered issues on winter storage in different paragraphs of this manual. Generally speaking:

Companies offering winter storage services should apply latest technological standards. This includes environmental conditions, storage cradles, fire protection and accessibility of your yacht. The work carried out by the owners themselves should be covered and ruled in order to prevent any interference between the parties.

If possible the following objects should be taken off the boat and stored in a dry and frost-free place:

- » The ship's papers and other relevant documents
- » Sea charts, books and instruments
- » Optional mattresses, upholstery, blankets and sleeping bags
- » Food
- » Safety equipment
- » Rafts and dinghy
- » Sails and Bimini Tops
- » Gas bottles
- » Lines and sheets

#### **Pay special attention to the engine manufacturer's advice**

- » Remove, charge and store the batteries in a warm & dry ventilated place
- » Lubricate cable end guide pivot point with engine oil
- » Disconnect any gas bottles and place them in safe storage
- » Replace any items that may be damaged of whose function is not guaranteed.
- »

#### **Hints:**

Before overwintering you should pay special attention to the following parts and protect them accordingly:

- » Clean the log transducers
- » The electrical system should be cleaned and maintained with adequate cleaning material
- » Water piping may be cleaned using a thinned acid solution such as white vinegar
- » The valves should be disassembled and lubricated moderately with grease
- » Drain non-fuel tanks
- » Drain toilet bowls
- » Remove all water from the craft and protect it from rain



- » Do not allow holding tanks to freeze in cold weather as expansion may risk rupture of fittings. Apply some anti-freeze to the tank in times of cold weather.
- » Ensure the sea water engine cooling circuit has the correct proportion of anti-freeze.

The winter storage and the associated works on the engine should generally be covered by a specialist, but the following should be done as an absolute minimum.

- » Fill the diesel tanks to reduce the effects of condensation
- » Check the sacrificial anodes and replace as necessary
- » Empty all cooling-water of the engine and follow the instructions of the manufacturer, add the recommended amount of antifreeze.
- » Slacken all V-belts (alternator and other engine driven devices).

### **Mast and rigging:**

It may not always be possible, but it is recommendable:

- » Lay the mast
- » Refit all standing and running rigging,
- » Inspect the cables and other wires,
- » Inspect bolts, spanners and other tie points for possible fatigue of material or cracks
- » Rinse all aluminium parts with fresh water
- » Rinse all lines/ropes with fresh water and store them in a dry place
- » Rinse and grease all guide rollers of the mast and the boom

## 10. Protection of the environment

We did our best in building the boat with the least environmental footprint. There are a number of regulations and hints regarding the protection of our environment, may we kindly ask you to respect those while enjoying your boat. In the following paragraphs we do list some special helpful hints for the use of your boat which is compatible with the environment.

Please make your contribution, drive your boat responsibly and do not harm the environment more than avoidable.

Please do note the following and act correspondingly!

### Fuels and oil

Dispose overboard of any oil, paint or other chemical that is potentially harmful to the environment. Sanctions are in place in most parts of the world for those who disregard this rule!

Handle these substances with care, so that you do not spill anything over board. Special care is needed for bunkering diesel. Place a rag around the filler to take on any spill immediately. For any other subjects regarding bunkering see the chapter „Filling with fuel“. You may find a diagram in the engine manufacturer's manual about the specific fuel consumption. This indicates what the most favorable engine rev might be.

Keep bilges clean to avoid the bilge pumps discharging illegal effluent. Use special rags to take the contaminated water or pump and collect this water in containers and dispose of it in the harbour.

### Waste

Do not throw your waste overboard. This is common sense for all of us. This is also true for biodegradable waste, glass and metal parts. You should care for locker space containing the regular waste. Waste should be separated and disposed of on land.

### Noise

Noise is one of the heaviest pollutions we know. Have the engine & exhaust system inspected & cleaned by a qualified professional at regular intervals. Rubber supports, flexible coupling do reduce noise transmission drastically –keep those items in a good condition. Do not rev too high, and reduce the revolutions when navigating in populated areas.

### Wash / Waves

Natural banks areas are sensitive against swell. Please drive your boat with sufficient distance to the shores of such banks. Formation of waves, caused by your yacht, are a good indicator of where and when you should reduce your speed to avoid unnecessary swell. Pay attention to relevant signs along the banks of narrow waterways.

### Exhausts

Inspect the exhaust gases regularly. The exhaust fumes shall not be black nor blue. In case this happens the air intake filter is spoiled or the settings of the engine must be checked. Do always connect to shore for electrical power rather than having the generator or engine running.

## Antifouling coatings

The surfaces of a boat immersed in water have to be protected with an antifouling coating since marine growth slows the boat down. Today we have access to a wide range of protective coatings with various effects for different sailing areas and water qualities. Trust the recommendations of a local specialist to back up your decision. Coatings that are effective for years without any grinding or freshening up are especially recommended.

If the coating has to be renewed in some places you should arrange these activities with the port authorities and/or the yard. Generally the bottom below the yacht has to be covered with some plastic sheet in order to collect the grinding dust to be able to dispose of the waste properly.

We recommend non-toxic antifouling to be used.

## Varnish solvents

Most varnish removers contain aggressive substances and should not be used at all. Removing the paint with mechanical tools, grinding or scraping is therefore recommended.

## Black water

The craft is fitted with a holding tank, the content may only be discharged at special collection points in harbours. If navigating waters where discharge is restricted, the last discharge valves may need to be sealed by an authority. Make sure that this is the case if you navigate in such areas.

The capacity of the holding tank is limited. Preferably use land based toilets in marinas instead.

Please note that there may be special agreements such as the MARPOL convention, that prohibits discharge of faeces into the water. Some countries have issued special rules to adhere to, such as sealing the discharge valve by an authority.

## Protection of our Nature

- » Please make your contribution, drive your boat responsibly and do not harm the environment more than avoidable. Do please respect the indications regarding natural reserves, national parks and other protected areas.
- » Pay attention to the written and unwritten rules of a practical protection of the environment.
- » Adhere to the rules and regulations when sailing in natural reserves.
- » Keep a good distance while observing wild animals, take photographs from a safe distance.
- » Do not approach banks with resting seal colonies, do not disturb or dislodge those animals. Respect a distance of at least 300m, better more, from areas occupied by seals or birds. Keep your boat in the marked navigation channel. Drive your boat at reduced speed in those areas.
- » Adhere to the international conventions and agreements regarding the pollution of the seas.

## 11. Final remarks and notes

This manual fulfills the requirements of the harmonised European Standard EN 10240. Much of it shall be self evident. Nevertheless we do hope that dealing with the different chapters of this manual will help you to understand the technical systems and the ideas of the boats concept. As already mentioned in the introduction, the purpose of this manual is to display the information set out by the requirements of the recreational craft directive.

Among the things that are not dealt with is the personal safety equipment. This belongs to the domain and the responsibilities of the skipper alone. It should be self-evident that a sufficient number of personal life saving equipment are carried on board. This also includes the procurement and maintenance of a life raft, of distress signals and flares, a first-aid- as well as a tool-kit etc.

The risk of fire and fire fighting equipment attracts special attention in the scope of the RCD. The equipment of the boat with relevant gear and to maintain those lies under the sole responsibility of the owner/driver/skipper/captain. It is also his duty to have the crew trained to find and use the equipment.

**Be prepared for the emergency. In order to be prepared your boat should be equipped with appropriate gear and resources.**



**If you are prepared and equipped for an emergency then usually bad luck does not hit you. In order to be prepared your boat should be equipped with appropriate gear and resources.**

### Note:

We are constantly working on further developments of our power yachts. Please appreciate that we have to reserve the right to changes in form, equipment and technology. It is for that reason that no claims can be derived from data, illustrations and descriptions contained in this manual.

If your yacht should be equipped with any details not being covered by this manual or in the owner's file, your contracting party will inform you about the correct operation and maintenance.

Since the BAVARIA yachts, manufactured by BAVARIA Yachtbau GmbH, are exclusively sold through appointed BAVARIA dealers, no contractual relationship exists between the yard and the customer/owner.

Thus BAVARIA Yachtbau GmbH are not familiar with the details of the contract between the dealer and the customer. In any case of warranty claim you should therefore contact your contractual partner.

### List of delivered manuals and manufacturer's recommendations

- » BAVARIA Cruiser 46 manual with declaration of conformity
- » Brochures and specifications
- » Volvo Penta service manual
- » Possibly other equipment documentation