

BALI

CATAMARANS

OWNER'S MANUAL



IN ACCORDANCE WITH EUROPEAN DIRECTIVE
2013-53-EU

BALI 4.8

OPEN SPACE

DESIGN CATEGORY A

This document comprises **142** pages, numbered from **1** to **60**, plus **82** pages of plans and diagrams.

ENGLISH – October 2020 - IND B

Page **1** of **142**

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Your dealer

Name _____
Address _____

is the representative of **CHANTIER CATANA SAS** and will assist you with everything you need to resolve any issues which might arise during the launch and the stepping of your mast, as well as technical checks for the commissioning and upkeep of your boat. He will assist you as necessary with the administrative process for registering your boat.

As soon as you have taken ownership of your boat, please familiarise yourself with this Owner’s Manual, then sign and date notice of receipt below, and give (or send) this to your dealer.

Cut along the dotted line



Receipt of Owner’s Manual

I, the undersigned:

Name _____
Address _____

Owner of **BALI 4.8** n° _____

declare that I have received the Owner’s Manual for the **BALI 4.8** sailboat, comprising:

- the written declaration of conformity

Date: _____ (today’s date)

Signature

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INTRODUCTION

Dear Sir/Madam,

Welcome aboard, and welcome to the happy family of **BALI 4.8** owners.

This manual has been designed to help you get the most enjoyment out of your boat in safety. It contains details of the boat, the equipment supplied or installed, and its systems, as well as information on their use. Please read it carefully and familiarise yourself with the boat before use.

This Owner's Manual is not an instruction course in safe navigation or seamanship. If this is your first boat or if you have changed to a type of boat with which you are not familiar, for your comfort and safety, make sure you acquire sufficient experience of the boat's handling and use before taking command.

Ensure that the wind and sea state which is forecast corresponds to the design category of your boat, and that both yourself and your crew are capable of handling the boat in these conditions.

Even though your boat is designed for it, the sea states and wind conditions which correspond to design Categories A, B and C vary from storm conditions for Category A to strong conditions for the top of Category C, subject to the dangers of abnormal waves or gusts, and as a result, dangerous conditions, in which only a fit, well-trained, experienced crew, sailing a well-maintained boat, can navigate safely.

This Owner's Manual does not form a detailed guide to maintenance or repair. In case of difficulty, please contact the manufacturers or their representative. If a service manual is supplied, please make use of it. Always use the services of an experienced professional for maintenance, fitting accessories or making modifications. Modifications which might affect the safety characteristics of the boat must be evaluated, effected and documented by a competent person. The boat's manufacturers cannot be held responsible for any unapproved modifications.

In certain countries an operator's licence or authorisation are required, or there may be specific regulations in force.

Always properly maintain your boat, bearing in mind wear and tear which can result over time, or, as the case may be, excessive or inappropriate use.

Any type of boat, no matter how solidly built, may be severely damaged if used incorrectly. Such use is not compatible with safe navigation. Always adapt your course and boatspeed to the prevailing sea conditions.

If your boat is equipped with a liferaft, carefully read its user manual. The crew should have on board all the necessary safety equipment (lifejackets, harnesses, etc.) corresponding to the type of boat, to the weather conditions, etc. In certain countries such equipment is mandatory. The crew should be trained in the use of all the safety equipment and emergency manoeuvres (recovery of a man overboard, towing, etc.) Sailing schools and yacht clubs regularly organise training sessions.

It is recommended that all persons wear appropriate flotation aids (lifejackets, buoyancy aids, etc.) whenever they are on deck. Note that in some countries, it is obligatory to wear flotation aids which conform to the laws of that country.

KEEP THIS MANUAL IN A SAFE PLACE AND IN THE EVENT OF YOUR SELLING THE BOAT, PLEASE PASS IT ON TO THE NEW OWNERS.

WARNING

Our boats are regularly upgraded as result of customer experience and research carried out by the shipyard. As a result, the specifications given in this Owner's Manual are not contractual and are subject to modification without notice and without obligation to update.

The aim of this manual is to cover a maximum of information. Therefore, it is possible that certain paragraphs or equipment described is not applicable to your boat. If in doubt, refer to the inventory supplied by your dealer when you ordered your boat.

1. DESIGN CATEGORY OF THE BOAT

Your **BALI 4.8** comes under the design category CAT A.

In normal usage conditions, your boat is designed to sail in waves with a significant wave height of less than 7m and winds lower than Beaufort Force 10, and to withstand more severe conditions.

This capacity is equally dependent on the competence of the crew, their physical ability, the upkeep of the boat and its equipment.

Take all necessary precautions before putting to sea.

CATANA SAS cannot guarantee perfect functioning of the vessel in exceptional sea conditions (violent storms, hurricanes, cyclones, waterspouts, etc.)

DESIGN CATEGORIES

Category A: Boats which are designed to sail in winds which are lower than Beaufort Force 10 and in seas with a significant wave height lower than 7m and above (see Note 1 below), and to a greater extent be self-sufficient. Abnormal conditions such as hurricanes are excluded. Such conditions can be encountered on long passages, for example ocean crossings, or near coastlines where there is no protection from wind and waves for several hundred nautical miles.

Category B: Boats which are designed to sail in winds which do not exceed Beaufort Force 8 and in corresponding sea states: a significant wave height of less than or equal to 4m (see Note 1 below). Such conditions as may be encountered when sufficiently far offshore, or near coastlines where there is no protection from wind and waves for several dozen nautical miles. These conditions can also be encountered on inland seas of sufficient size to be capable of seeing such wave heights.

Category C: Boats which are designed to sail in winds which do not exceed Beaufort Force 6 and in corresponding sea states: a significant wave height of less than or equal to 2m (see Note 1 below). Such conditions as may be encountered on exposed inland waters, in estuaries and in coastal waters with moderate weather conditions.

Category D: Boats which are designed to sail in winds which do not exceed Beaufort Force 4 and in corresponding sea states (occasional waves with a maximum height of 0.3m). Such conditions as may be encountered sheltered inland waters, and in coastal waters in fine weather conditions.

NOTE 1: Significant wave height means the mean height of the highest third of the waves, which correspond approximately to the height of the wave as estimated by an experienced observer. Certain waves may have a height of double this value.

CATANA SAS has chosen the Institut pour la Certification et la Normalisation dans le Nautisme as the notified body to verify that your boat conforms to European Directive 2013/53/EU, within the framework of the European directive certification module B + C.

Identification

The Hull Identification Number is located on the starboard side of the transom. It is comprised of a series of letters and numbers beginning with **FR-CAT....**

1.1. Degrees of danger

CAUTION	Indicates a reminder of safety practices or a CONCERN applied directly to dangerous practices which could result in personal injury or damage to the boat and fittings.
WARNING	Indicates that a risk exists which could result in injury or death if appropriate precautions are not taken.
DANGER	Indicates the presence of an extreme intrinsic risk which would result in a high probability of death or serious injury if appropriate precautions are not taken.



WARNING



RISK OF ELECTRIC SHOCK



READ OWNER'S MANUAL

2. TECHNICAL CHARACTERISTICS OF THE BOAT

2.1. General specifications

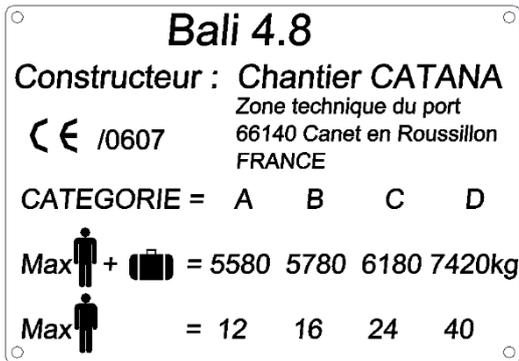
Model:	BALI 4.8
Naval Architect:	Xavier Fay
Design Category:	A
N° of the notified body:	CE/0607
CIN N°:	See starboard sugarscoop
Hull length Lh:	14.2 m
Waterline length:	14.1 m
Maximum length Lmax:	14.82 m
Hull beam Bh:	3.49 m
Maximum beam Bmax:	7.89 m
Draft (at maximum load):	1.35 m
Air draft (in lightship condition):	23.17 m
Principal means of propulsion:	Sail
Mast length:	19.520 m
Light displacement Mlc:	16,211 kg
Maximum laden displacement:	22,600 kg

Mainsail area (standard roach)	79 m ²
Self-tacking solent area	47 m ²
Code zero area	96 m ²

Fresh water excluding water heater (approx.)	600 L + 400 L (pack)
Diesel capacity (approx.)	600 L + 400 L (pack)
Holding tank (depending on options see plans)	55 L
Engine battery	130Ah x 1
Service batteries	130Ah x 4 +2 (pack)
Principal means of propulsion	Sail
Maximum permitted engine power	2 x 45 hp up to 2 x 57 hp
Weight of permanent tanks	2,260 kg

Nb: the capacity of the various freshwater and diesel tanks is not generally completely usable as a result of the trim or loading of the vessel. For diesel, it is recommended to maintain a reserve of 20%.

2.2 Builder's Plate



Part of the information is given on the builder's plate which is located near the chart table. A full explanation of the information appears in the following section.

Design Category: A

Maximum number of persons = 12



: Recommended by the builder when the boat is sailing in sea conditions corresponding to its design category.

WARNING

Do not exceed the maximum recommended number of persons. Whatever the number of persons on board, the total weight of persons and equipment must never exceed the maximum recommended load.

Max recommended load = 3,325 kg



The maximum load as indicated on the builder's plate (3,325 kg) does not include the weight of the contents of the tanks (fuel 800 kg and fresh water 1,000 kg) When they are full (1,800kg total)

WARNING

On loading the boat, never exceed the maximum recommended load. Always load the boat with care and distribute the load in an appropriate manner so as to maintain the theoretical trim (approximately horizontal). Avoid stowing heavy loads up high.

CE 0607

: CE marking indicating that the boat conforms to all the requirements of the Directive. This sequence of numbers is the code of the Certification body. In this case, the ICNN (Institut pour la Certification de la Normalisation dans le Nautisme), see Declaration of Conformity

3. ELECTRICAL SYSTEMS

(Plans on pages 82 to 93)

3.1. Safety advice and use of the electrical system

WARNING

Incorrect use of the direct current or alternating current systems can result in a risk of fire or explosion.

Incorrect use of the alternating current system can result in the risk of electrocution.

Always:

- **Check the battery state and the charging system before putting to sea.**
- **Disconnect and remove the batteries when winterizing the boat.**
- **Maintain the voltage of the batteries at over 12V during the winter.**
- **Check the functioning of the navigation instruments.**
- **Always keep spare fuses on board for the power circuits.**
- **Check the functioning of the navigation lights before sailing at night.**
- **Have the electrical system checked at least every two years.**
- **Disconnect the vessel's electrical supply if the system is not in use.**
- **Connect any metallic covers of electrical equipment to the vessel's earthing system (green cable, or green with a yellow stripe).**
- **Use electrical equipment which is either double-insulated or has an earthing connection.**

Never:

- **Work on a live electrical installation.**
- **Modify an installation and the relevant wiring diagrams, unless this has been carried out by a qualified marine electrician.**
- **Change or modify the breaking capacity of the protective circuit breakers.**
- **Replace electrical apparatus or equipment with components which exceed the rated capacity without resizing the cabling and circuit breakers.**
- **Leave the vessel unattended when the electrical system is live, with the exception of an automatic bilge pump and fire or theft protection systems.**

If a fuse or a circuit breaker continues to trip, call a specialist to determine the cause of the short-circuit. The electrical distribution system on board works using a remote installation: the equipment controlled by this system (from the electrical panel) is protected by thermal-magnetic circuit breakers. In this case, all that is required is to eliminate the short circuit.

Other equipment (interior lighting, comfort equipment, etc.) is protected by fuses either under the chart table or in the remote distribution boxes (see pages 14-15).

The lights are powered by RADIO control units with automatic reset.



3.2. Installing new equipment

Since 1st January 1996, electrical equipment has been subject to the European Directive on “electromagnetic compatibility” (Ref 2014/30/EU). If any new equipment is to be installed, it must therefore conform to these standards and must be CE marked. The equipment must also be accompanied by a certificate of conformity and a user manual.

Only use electrical equipment which is double insulated or has an earth connection in the case of a 220V installation. When fitting such equipment, ensure you follow the installation instructions with respect to cable sizing and fuse protection.

To avoid any maintenance problems, make appropriate changes to the wiring diagram to show the modifications.

Replaceable fuses: beneath the chart table.



Fuse box and lighting configuration control box:

Access beneath the removable panel under the beds in forward and aft port and starboard cabins. The bed-base under the mattress will need to be removed.

Fuse box (Feed for lighting, fans, reading lights, USB sockets)

Lighting configuration control box



3.3 Batteries

All the batteries installed for engine starting or the domestic system are gel type batteries and as such do not require any specific maintenance; the only precaution to observe is to maintain a sufficient level of charge.

Their capacity has been calculated to respond to the power requirements of the on-board accessories. To avoid any problems, the level of charge must be monitored and the batteries maintained.

The starboard battery bank is comprised of several 130 Ah batteries which form the service battery bank and the starboard engine starter battery. (Figure 1).

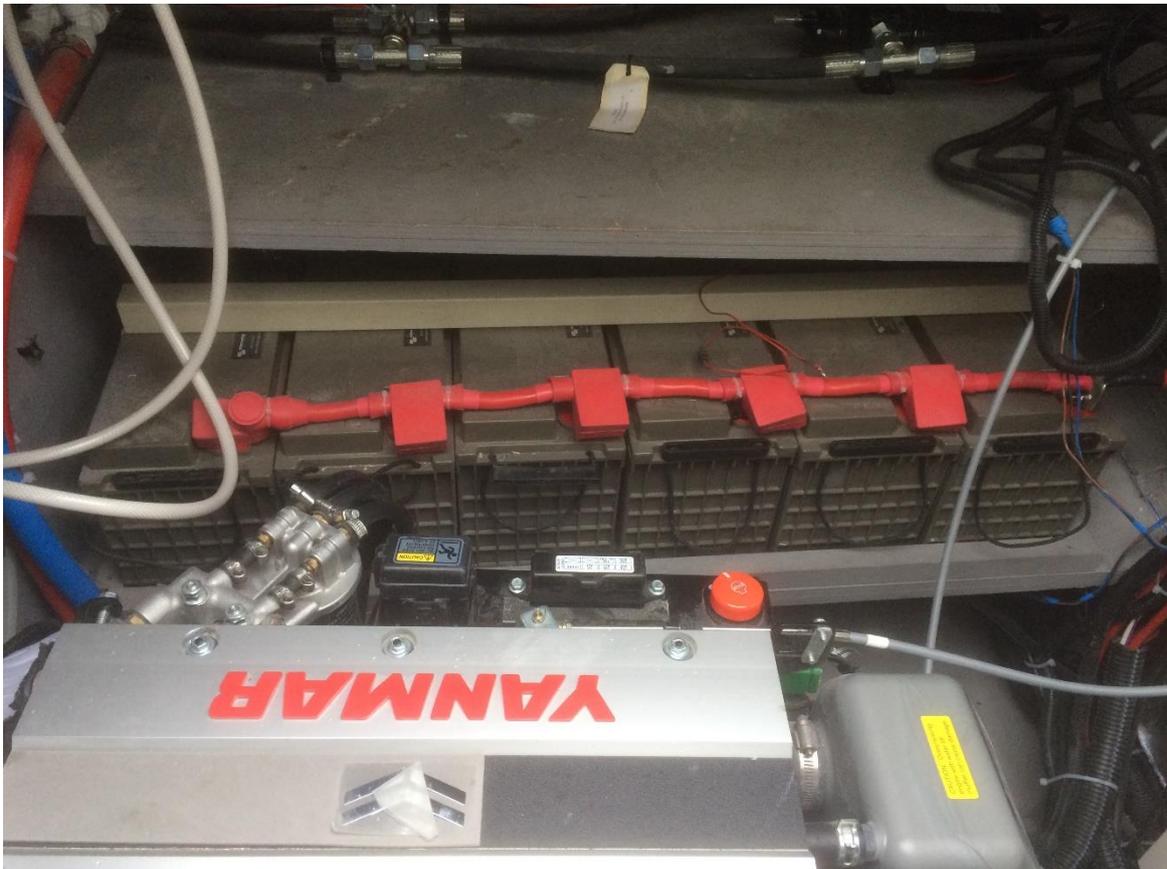


Figure 1

The port engine has its own 130 Ah starter battery. In the event of failure of this battery, use the COUPLER switch located in the port engine compartment

CAUTION

- **If you install any new electrical equipment, ensure that the overall electrical consumption of this equipment is compatible with your battery capacity.**
- **Never allow the two terminals of a battery to be bridged by any conductive object (tools, etc.)**
- **Before replacing a fuse, always switch off the power to the circuit. Defective fuses must be replaced with fuses of the same size**

3.4 Windlass and electric winch

CAUTION

- **When using the windlass or electric winch it is essential that the engine is running and is at a slightly increased speed.**
- **Always switch off the feed at the electrical panel when these are not in use.**

Switching on the power to the windlass or electric winches is done at the electrical panel.
The windlass is operated via the corded remote control located beneath the chain locker lid.

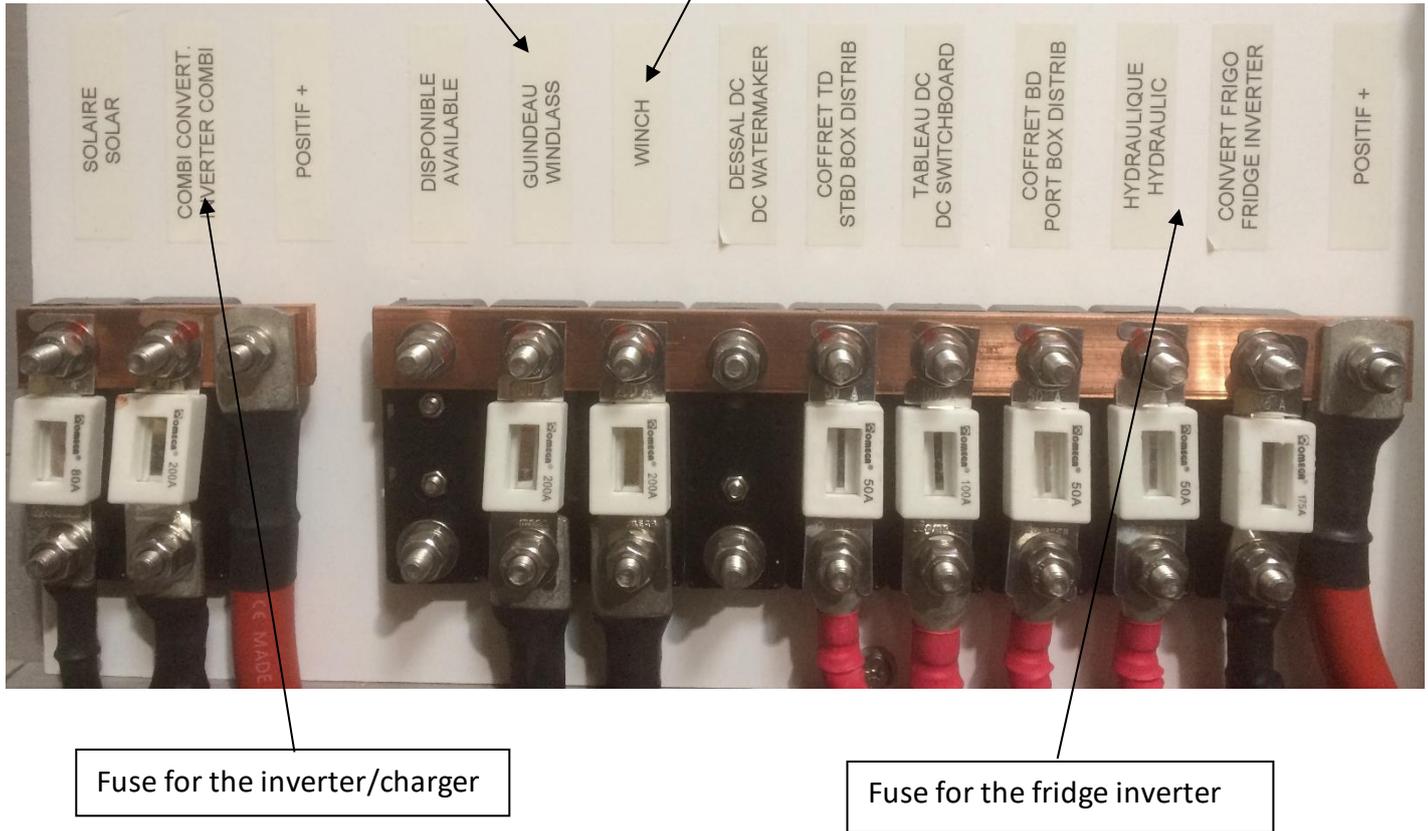


Windlass remote control

The electric winches have dedicated controls positioned next to them.



The circuit breakers for the Windlass and for the Electric winch are located on the electrical panel beneath the starboard aft cabin companionway access.



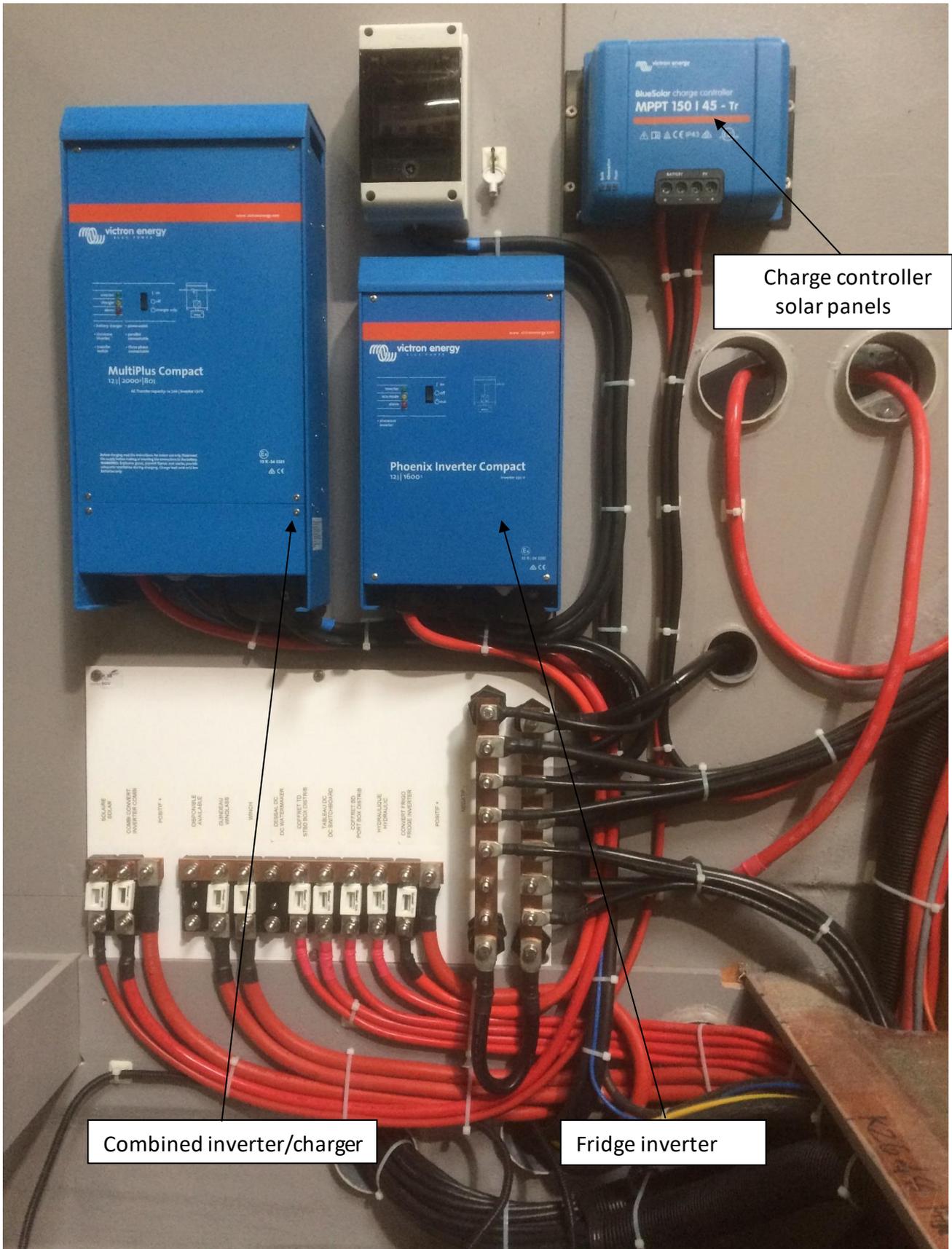
3.5 Charging Systems

Your boat is fitted with several charging systems. When alongside a dock with a shore-power electricity supply, the service batteries are charged by a charger or a combined inverter/charger (depending on options). At sea, the same system is used if your boat is equipped with a generator. If your engines are fitted with optional power alternators, they are connected to the domestic system. If your boat is fitted with solar panels, these produce energy which is stored by the service batteries.

CAUTION

- Regularly check the alternator belt tension and the condition of the belts.
- To maintain solar panel efficiency (if fitted), it is essential they are kept clean and are not in any shade.
- You must not stand or walk on the solar panels.

Electric panel located beneath the aft cabin companionway, starboard side



Charge controller solar panels

Combined inverter/charger

Fridge inverter

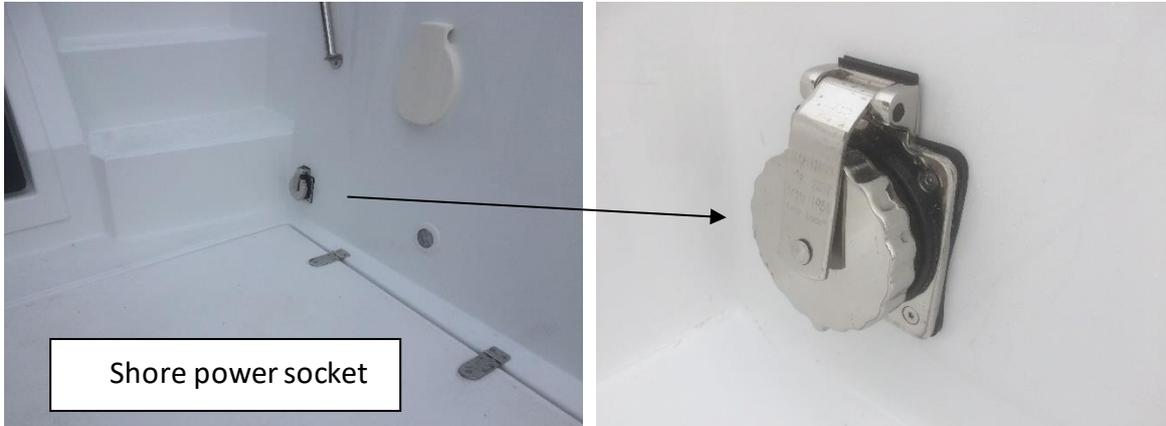
3.6 AC Installation (220/110 Volts ISO 13297)

DANGER

The on-board AC installation is protected by a circuit breaker and is equipped with an RCD (residual current device). Their correct functioning should be tested monthly.

The wiring for any additional on-board AC accessories must be done by a professional, with new, appropriately sized circuit breakers.

If maintenance is being carried out with the boat out of the water, switch it to the "ON" position to ensure **earthing protection** via the shore power.



Location of the AC shore power circuit breaker: Starboard engine compartment.

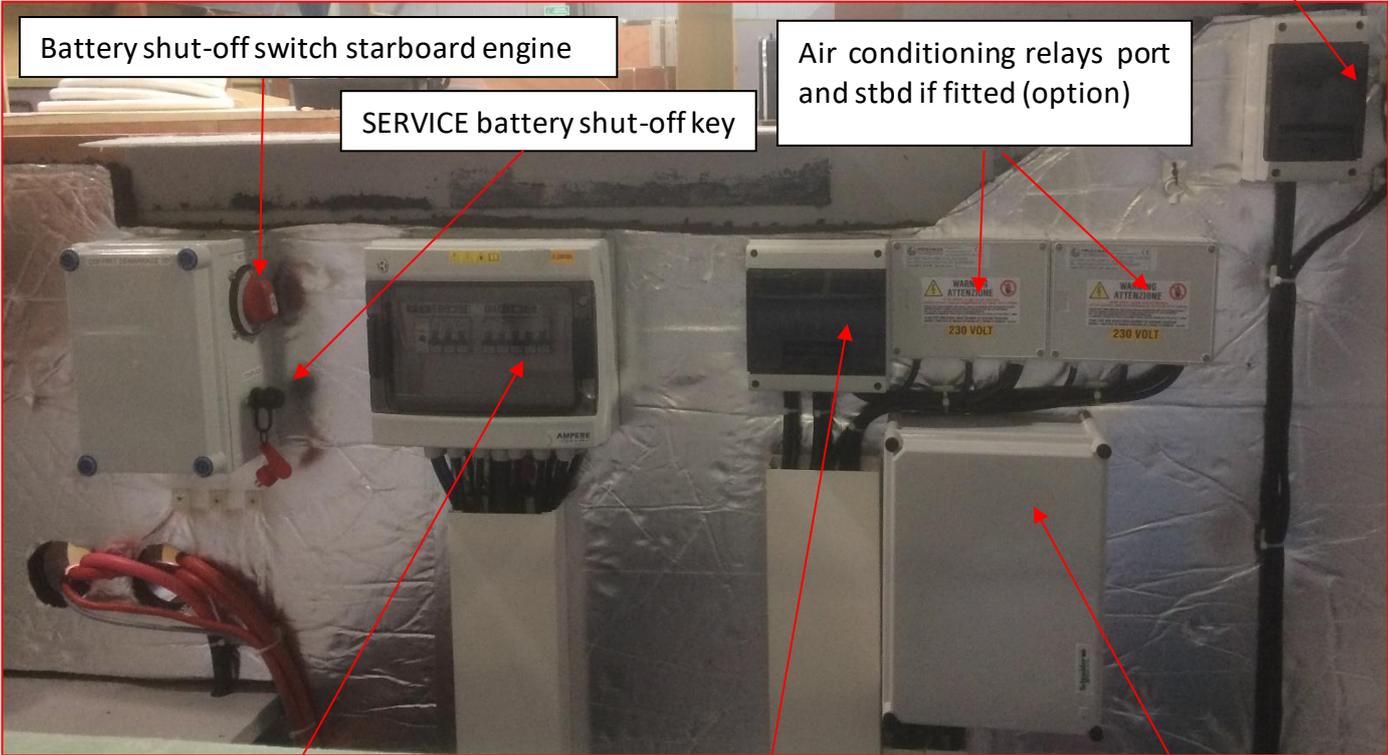


If the vessel is equipped with a generator, an RCD will be installed near to it. The same applies if the vessel is fitted with a DC/AC converter.

The circuit breakers for the various AC circuits are housed in an electrical box in the starboard engine compartment.

Electrical panel located in starboard engine compartment

Shore power circuit breaker



Battery shut-off switch starboard engine

SERVICE battery shut-off key

Air conditioning relays port and stbd if fitted (option)

Box for AC specialised line and cabin socket circuit-breaker

AC 230v air-conditioning electrical box (if option)

Electrical box supply inverter (generator option)

CAUTION

- When the vessel is alongside a quay, put the circuit breaker in the open position.

DANGER

If your boat is delivered without shore power lead and without a male shore power socket, the cable you use must be suitable for outdoor use. It must be of a suitable section for its length and for the rating of the main circuit breaker (See wiring diagram). The plug must be matched to the female socket on the quay (Check with a professional if necessary). It must correspond as closely as possible to type IP 67 / IEC529.

To minimize the risk of electric shock and fire:

- Switch off the shore power on board before plugging in or unplugging the shore power cable.
- Plug in the shore power lead on the boat before plugging it in to the shore power socket on the quay.
- Unplug the shore power lead from the socket on the quay before unplugging it on board the boat.
- Ensure that you have closed the cover on the shore power socket on the quay.

Never:

- Swim near a boat connected to shore power: there is a risk of an electric field which may injure or kill swimmers in the vicinity!
- Do not let the end of the shore power cable fall in the water.
- Do not modify the connections of the shore power cable: only use compatible plugs.

4. GAS INSTALLATION

(Plan page 96)

4.1 Instructions for use

Your Bali 4.8 is fitted with a gas installation. Depending on the type of gas used on board (butane or propane), the pressure in the circuit will be between 28mbar and 37mbar. Consequently, before any work is carried out on the gas circuit or cooking appliances (hob, barbecue grill, etc.) the compatibility of the components: gas bottle, jets, regulator). The operating pressure will always be shown on the regulator.

- Ensure that the gas bottle conforms to the regulations in force in the country where you are using it.
- Do not obstruct access to gas installation (gas bottle locker, shut-off valve).
- The gas bottle must always be placed in the waterproof and ventilated housing designed for this purpose (Figure 4). The same goes for spare or empty bottles. No other equipment should be stored in this area.
- The valves attached to empty bottles must be closed and disconnected. Protective tops, covers, or plugs must be kept in place. Spare cylinders must be stored in housings or lockers designed for LPG cylinders which vent overboard, or stored outside on the vessel, protected from weather and mechanical damage and such that any escaping gases can only evacuate overboard.

The gas locker is located in the aft beam, to starboard.

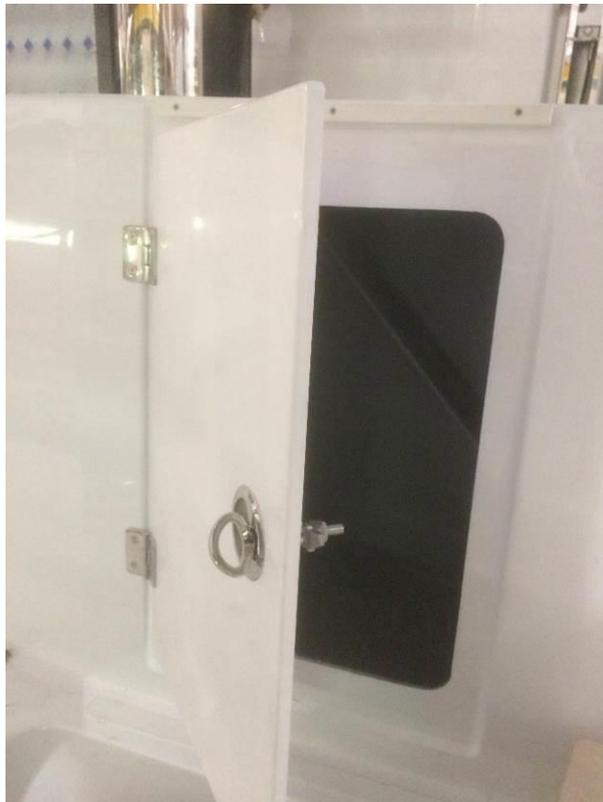


Figure 2

- Close all the shut-off valves when there is no-one on board (shut-off valve, regulator tap), even when the bottle is believed to be empty.
- Never smoke when going inside the boat if it has been closed up. Make sure there is no smell of gas.
- If you can smell gas, close all the gas valves and taps including the cooker. Ventilate the boat and establish the cause of the leak before putting the gas system back into service.
- Do not use the cooker if there is likely to be heavy rolling or a continuous list.
- Turn off all the taps of the LPG system and the tap on the bottle when the gas system is not in use. Turn off the taps every time before changing the bottle, and immediately in case of emergency.
- Ensure that the taps on the appliances are turned off before opening the tap on the bottle.
- Never use the gas bottle locker for storing any other equipment.

WARNING

The gas system valves must be switched off immediately in case of emergency.

Never leave the vessel unattended when gas appliances are running.

If a leak is detected, close the main gas valve and do not use any LPG appliances.

Equipment which has a naked flame consumes oxygen from within the cabin and produces waste products and gases which are emitted into the boat. Good ventilation is essential: open the dedicated vents or hatches when using gas appliances.

Never obstruct the ventilation openings and check that any smoke ducting functions correctly.

SAFETY PRECAUTIONS

Care must be taken to avoid any contact with naked flames or other heat sources.

4.2 Checking the gas system

- The gas system must be the subject of periodic checks:
- Close all the taps on the cooker.
- Open the regulator tap.
- Check all the connections are sealed by using a leak detector or by applying soapy water.

WARNING

Do not modify the LPG system of the boat. Installation, modifications and maintenance must be carried out by a competent person. Have the system checked at regular intervals or at the intervals required by national regulations.

Never use the gas system in the event of a leak.

Any repairs or modifications to the gas system must be carried out by a qualified person.

Flexible hoses must be:

- Regularly checked, at least once a year,
- Replaced if the expiry date printed on the hose has passed,
- Replaced five years after the date of manufacture of the hose which may be marked on it,
- Replaced in the event of signs of wear or cracks.
- Check the evacuation ducting at least once a year.
- Replace in the event of wear or cracks.

CAUTION

Do not use any solutions containing ammonia.

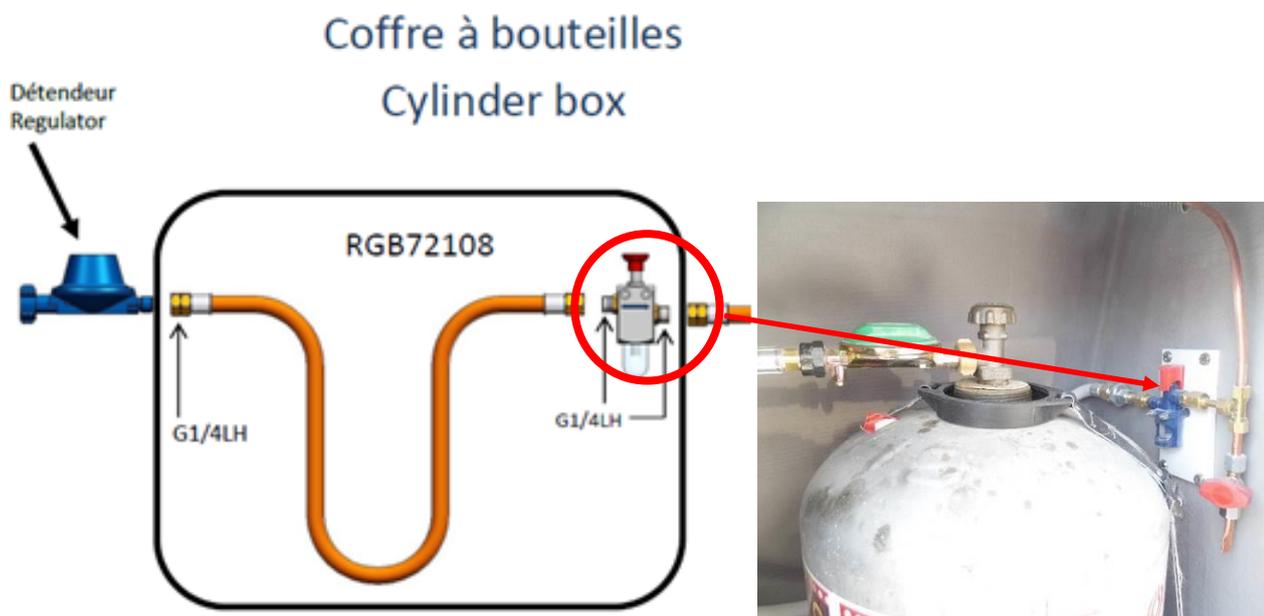
Do not smoke or use a naked flame when changing LPG gas bottles.

DANGER

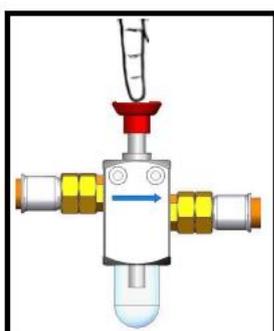
Never use a naked flame to attempt to detect leaks.

4.3. Use of the leak detector:

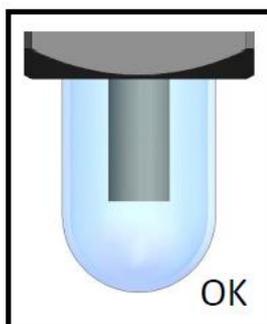
This is located in the starboard gas locker:



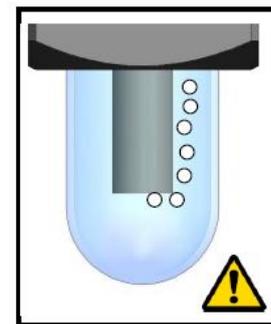
Principles of operation/procedure:



Press and hold the button for 10 seconds.



If no bubbles appear in the bowl, there is no leak.



If bubbles appear, the system has a leak.

WARNING

In the event of a leak, immediately shut the main gas supply tap(s) off and contact a suitably qualified person to detect and repair the leak.

The bubble-type leak detector must be used in accordance with the manufacturer's instructions. If an LPG gas leak is detected or suspected, immediately take the following measures:

- Shut off the LPG gas supply at the main supply tap(s).
- Extinguish any naked flames and any other possible ignition sources (heating appliances, cooking appliances, pilot lights, etc.)
- Do not operate the electrical cut-off switch.
- Evacuate the area if possible.

WARNING

Do not use a gas system known to have had a leak before it has been inspected and repaired by a qualified competent person.

4.4. Changing the gas bottle

- Check that the taps on any bottles are shut off and disconnected. Keep any protective covers, caps or bungs in place. Stow spare bottles in ventilated areas on the deck or in lockers designed for this purpose, which are gas-tight and ventilated overboard.

DANGER

- **Shut off the taps on the cooker and the regulator.**
- **Do not smoke or use a naked flame while the gas bottle is being changed.**
- **Ensure that the taps on the appliance are switched off before opening the tap on the bottle.**

WARNING

With an LPG installation:

- **Shut off the tap on the empty bottle before disconnecting it for replacement.**

5. INTERIOR LAYOUT

The BALI 4.8 is available in a 3, 4, 5 or 6-cabin version. The layout plans are shown in Chapter 2 in the PLANS section of this manual

6. BILGE PUMP AND PLUMBING SYSTEM

(Plans on pages N°120 to 129)

6.1. Characteristics of the bilge pump float system

Type of pump	Theoretical Flow
Manual bilge pump	30 L / min
Electric bilge pump 12V	73 L / min
Engineroom bilge pump 12V	73 L / min

Carefully read the instruction and maintenance manual of the bilge pumps supplied with your boat.

The bilge pumps are activated automatically in the event of the water level being too high.

The pumps can be activated manually from the electrical panel.

CAUTION

The bilge pump system is designed to keep the water level in the bilge to a minimum; it is up to the crew to get the bilge completely dry manually.



Electric bilge pump and float switch below passageway floor

Manual bilge pump intake

Figure 3

WARNING

The bilge pump system is not intended to control ingress of water in the event of a hull breach. It is designed to eject water originating from spray, leaking seacocks or any other moderate leak.

SAFETY PRECAUTIONS

- Ensure that the bilge pumps are in working order before putting to sea.
- Regularly clean the sump and bilge pump strainers from any debris which could obstruct the pumps.
- If the watertight bulkheads separating the forward and aft spaces are equipped with scupper valves, these must be kept shut under normal circumstances, and only opened to empty water in the main bilge.
- Make sure you know where to find the manual bilge pump and its handle.
- Make sure you know where to find the switch for the electric bilge pump on the electrical panel.

6.2. Fresh water pressure pumps

The galley sink and the basins in the heads are supplied with fresh water by electric pumps installed beneath the passageways to port and starboard (Figure 4).

A filter is fitted before the pump. This must be cleaned regularly.

Fresh water pumps below the passageways



Connecting valve for the water system located in the port engine compartment, aft



Figure 4

In the event of a pump failure or one of the tanks running out of water, it is possible to supply the entire fresh water circuit from a single tank/pump by opening the 2 interconnecting valves (see diagrams page 108 to 119).

It is possible to sterilise the tanks using clonazone tablets (on sale in pharmacies).

Remove the inspection hatches annually for cleaning and refilling with water mixed with a bacterial detergent, leaving it for a few hours, and then rinse it out two or three times. When winterizing the boat, fill the tanks completely so as to avoid the growth of algae or bacteria. If there is a risk of freezing, empty the tanks completely. Never use antifreeze.

Hot water is produced by a water heater connected to the engine cooling system and also the shore power system.

After emptying the water heater, ensure that the immersion element is immersed again prior to switching the power back on.

WARNING

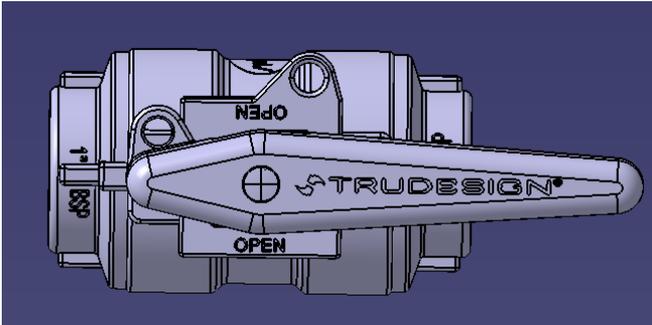
Never activate the pump or switch on the water heater if the tanks are empty. Refill the tanks. If you fail to comply with this, the hot water immersion element and the pressure pump will be irreparably damaged.

It is imperative to keep the tanks empty in the event of the temperature going below freezing.

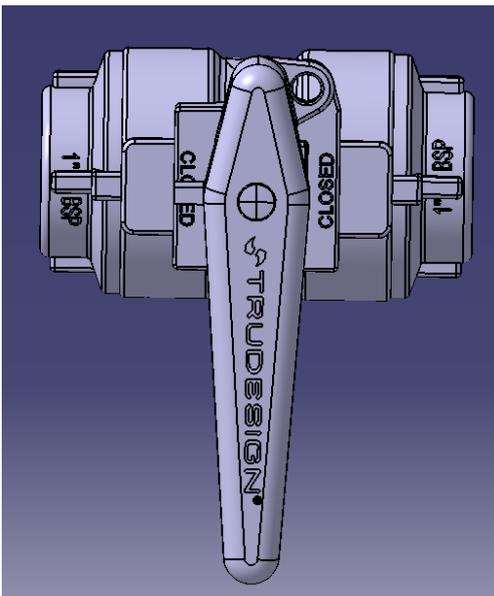
6.3. Seacocks

The valves are of the ¼ turn type:

- OPEN position: Lever in the same direction as the body of the valve
- CLOSED position: Lever perpendicular to the body of the valve.



OPEN POSITION



CLOSED/LOCKABLE POSITION

CAUTION

- Never try to tighten the seacock valve threads. In the event of a leak, consult a professional.
- In the event of bad weather conditions or when the boat is left unattended, close all the valves of the waste plumbing systems.
- Keep the valves closed when they are not in use.
- When winterizing the boat, clean and rinse the seacock through-hulls and valves. Check their watertightness, and re-tighten the hose clamps.
- In the event of finding serious corrosion, consult your dealer.

6.4. Operating the sea toilets

- Check the level in the holding tank before using the toilets
- Open the seawater inlet valve.
- Move the lever to the “flush” position.
- Pump the handle.
- To empty the bowl and avoid any ingress of water when heeled, move the lever to the "dry bowl" position.
- Pump the handle until the bowl is dry.
- Repeat this operation of flushing / emptying the bowl as many times as necessary to ensure that the hoses are completely empty.
- When the toilets are not in use, put the lever in the “LOCK” position.
- **Close the valves after use, as the toilet is located just above the waterline.**

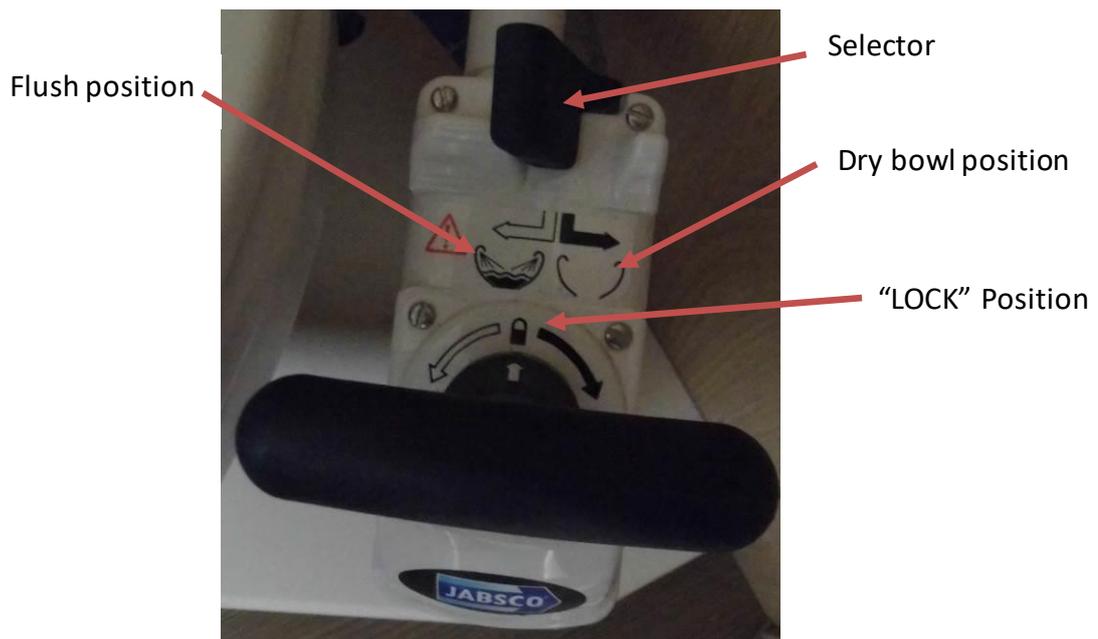


Figure 5

Regularly change the seals and filter of the seatoilet.

6.5. Operation of the electric seatoilets (depending on option)

The panel controls flushing and emptying (discharge) using two buttons.

- Check the level in the holding tank before using the seatoilets
- Before using, ensure there is sufficient water in the bowl to avoid toilet paper becoming compacted in the bottom of the bowl.
- Use soft, good quality, domestic toilet paper but do not use more than is necessary.
- Next, empty the toilet until the bowl is dry. Always leave the bowl empty to minimize odours and spillage of water.



Figure 6

OR



6.6. Holding tank

WARNING

- To prevent black water discharge, the valve must be kept closed.
- Emptying the tank may be effected either by discharge overboard (subject to local regulations) or by suction pump via the deck discharge outlet provided for this.
- Holding tanks must be rinsed out after each emptying to avoid any deposits building up in any areas or in the level gauge.
- Always check the level on the control screen on the electrical panel.
- Only use cleaning products, deodorisers or winterizing products designed specifically for use with holding tanks.
- In the event of freezing temperatures, the holding tanks must be kept empty.
- Respect the environment. Please do not discharge toilets or holding tanks close to the coast or in prohibited areas and make use of pumpout facilities in ports or marinas to empty your holding tanks before putting to sea.
- All the toilets are connected to a holding tank: ensure that the emptying valve is locked shut to avoid any inadvertent discharge during winterization.

CAUTION

- **Always ensure the holding tank discharge valve is closed, so as to avoid the possibility of inadvertent discharge.**
- **If local regulations require, it is possible to lock the discharge valves using a seal or a padlock.**

6.7. Sugar-scoop shower

The shower on the aft steps comprises both a hot and a cold water circuit. It is located on the aft beam on the starboard side. Shut-off valves are located in the starboard engine compartment.

6.8. Skeg keels with grey-water tank option

WARNING

The skeg keels serve as grey-water holding tanks beneath the hulls. Damage to these appendages could alter the vessel's buoyancy. In this event, shut the tank off by closing the seacock located directly on top of the tank.

7. FLOODING

Risk of the vessel flooding:

- Keep the hatches, windows, removable panels, doors, ventilation panels or openings closed when it is appropriate, for example in severe weather conditions or sailing at high speeds.
- Ensure that hatches, deck hatch covers or any other openings which could lead to flooding are closed before each time you put to sea.
- When under sail, close all the valves with the exception of the engine seawater cooling intake.

Periodically check:

- The watertightness of the through-hulls, seacock valves and pipework.
- That the cockpit drains are clear.
- The saildrive gasket joint must be replaced according to the engine manufacturer's schedule.

WARNING

The hatch covers in the sugar scoops must be locked shut before every time you put to sea. This is particularly important, as the engine compartments present a significant risk for flooding.

8. FIRE PROTECTION

(Plans on pages N°101 to 107)

8.1. Installation

- Fire extinguishers are subject to national regulations in different countries, and for this reason, your boat is supplied without any portable extinguishers.
- We advise that you equip your boat with fire extinguishers conforming to the ISO 9094 (2015).
 - a) Minimum capacity per extinguisher: 5A/34B
 - b) Combined minimum capacity of extinguishers: 10A/68B
- When the boat is in service, it must be equipped as described. See plans.

WARNING

- **Never obstruct access to portable extinguishers or extinguisher orifices.**
- **Carbon dioxide fire extinguishers must only be placed in living areas where flammable liquids are present (eg. in the galley) or which contain live electrical equipment.**
- **There should be only one CO₂ extinguisher per risk zone, and its maximum capacity must not exceed 2 kg.**
- **Only compatible replacement parts must be used for the fire-fighting systems. They must conform to the same standards and be technically equivalent**
- **If a CO₂ extinguisher is installed, the following information should be placed close by: "This fire extinguisher contains CO₂ - It is to be used only to fight fires of electrical origin or galley fires. To avoid danger of asphyxiation after discharging the extinguisher, immediately leave the area, returning only after it has been ventilated."**
- **After a fire has been extinguished, do not open the engine compartment immediately, so as to avoid release of any toxic fumes or anything which may still be alight (oil, for example).**

WARNING

- **Your Bali 4.8 is fitted with fire detectors. Refer to the user manual supplied with the detectors for information concerning their operation and maintenance.**

8.2. Safety advice

CAUTION

It is the responsibility of the owner/skipper:

- To ensure that all fire-fighting equipment conforms to the requirements of the boat builder and to the national regulations in your country.
- To replace any portable fire extinguishers which have been discharged or which are damaged in any way, with extinguishing apparatus which has a capacity equal to or superior to the previous ones, and to refill or replace fire extinguishing systems if they are damaged or have been discharged.
- To provide at least one fire bucket fitted with a lanyard and located in an immediately accessible area.
- To ensure that all fire-fighting equipment is immediately accessible when the boat is occupied.
- To advise members of the crew:
 - The location and operation of fire-fighting equipment
 - The location of evacuation and escape routes.

Never:

- Obstruct routes to emergency exits (deck hatches).
- Obstruct safety system controls (gas valves, fuel taps, electrical breakers).
- Obstruct lockers containing fire extinguishers.
- Leave the vessel unattended with the cooker or heater left on.
- Use a gas lamp inside the vessel.
- Refill a fuel tank or change a gas bottle when the engine, cooker or heating system are in use.
- Smoke when handling fuel or gas.
- Hang curtains near to the cooker or other appliance with an open flame.
- Modify any of the vessel's installations (especially electrical, fuel or gas installations) or allow any non-qualified person to modify such installations.
- Store any combustible items in the engine compartment.

8.3. **WARNING** Notices for the attention of boat users

- Regularly check that the bilges are clean, that there are no fuel or gas vapours or fuel leaks.
- In the event of needing to replace any elements of the fire-fighting equipment, only use appropriate products, which meet the same specifications, and have equivalent technical capacities and fire-resistant qualities.
- Do not hang curtains or other materials above or close to cooking appliances or other apparatus with a naked flame.
- Do not store any flammable materials in the engine compartment. If any non-flammable materials are stored in the engine compartment, ensure that there is no risk of them falling onto the machinery, nor must they obstruct the engine compartment access or exit.

Exits other than doors or main hatches fitted with permanently fixed ladders must be identified using the following symbol:



Location of the automatic extinguisher in the in the centre of each engine compartment
CAPACITY = 10A/68B

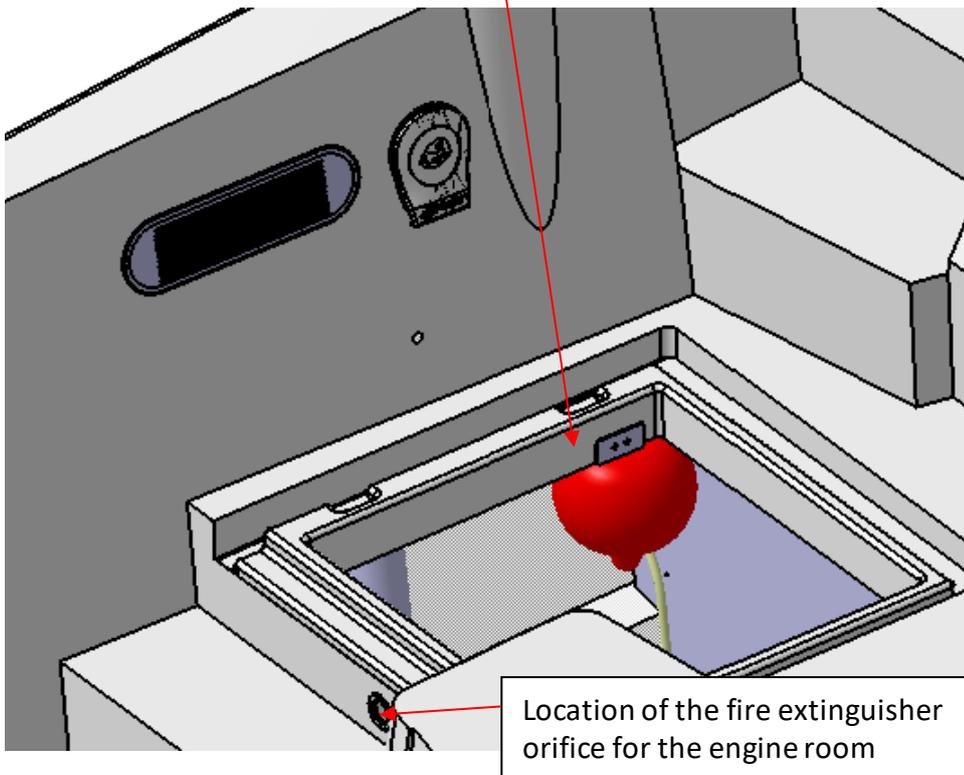


Figure 7

CHECK LIST

ENGINE STARTING (may be different with non-standard motors):

- Check the engine oil level.
- Check the coolant level.
- Check the main engine cut-off switch.
- Check that the ECU supply breaker is ON.
- Check that the back-up panel is OFF.
- Open the engine cooling water intake valve.
- Open the fuel tap on the tank.
- Check that all ventilation openings are clear.
- Check that the throttles are in neutral.
- Check that there are no alarms on the screen at the helm station.
- Switch on the ignition and preheat for 10 s.
- Start the engine.
- Check the flow of cooling water overboard at the exhaust.
- Check that that there is no abnormal vibration or noise.
- Allow the motor to warm up at tickover for 5 or 6 minutes.
- Check for leaks in the cooling system, fuel lines, lubricants and exhaust.

In case of doubt or a problem, switch off the motor and consult the Owner's Manual, technical documents, plans or your dealer.

WARNING

Refer to the engine user manual concerning navigating when under sail!

STOPPING THE ENGINE:

- * Slow the engine to tickover for 5 minutes.
- * Activate the Stop control.
- * Switch off the ignition.
- * Close the various valves.
- * Switch off the engine circuit breakers.

In case of doubt or a problem, consult the Owner's Manual, technical documents, plans or your dealer.

WARNING

When the engine is not run for prolonged periods, it is important to shut off the ECU to avoid discharging the batteries.



REFILLING THE TANK:

- * Have a fire extinguisher handy.
- * Engine switched off.
- * Electrical equipment switched off.
- * Deck panels and hatches closed.
- * Never fill the tank completely full, to allow for expansion of the fuel.

In case of doubt or a problem, consult the Owner's Manual, technical documents, plans or your dealer.

BEFORE PUTTING TO SEA:

- Weather forecast.
- Victualling.
- Sailing clothing.
- Mandatory documents and equipment on board and in working order.
- Safety equipment (lifejackets, harnesses, fire extinguishers, distress flares, emergency tiller).
- Safety briefing for the crew including location of equipment.
- Bilge pumps in working order.
- Navigation lights in working order.
- Fuel tanks full.
- Fresh water tanks full.
- Check all the systems for leaks.
- Check the coolant fluid level.
- Check the rudders are working correctly.
- Check the diesel filters are clean and in good condition.
- Check engine oil level.
- Check battery levels.
- Check the rigging is in good order (shroud tension).
- Deck fittings in good order (blocks, winches, lines, furler, winch handles, jammers or clutches).
- Sails in good order (stitching, boltropes, batten cars).
- Close hatches and deck panels.

In case of doubt or a problem, consult the Owner's Manual, technical documents, plans or your dealer.

ON YOUR RETURN:

- Boat correctly tied up with fenders positioned.
- Sails dry and stowed.
- Safety equipment dry and stowed.
- Boat rinsed with fresh water.
- Spread the halyards so they do not flog.
- Coil the various lines.
- Check for leaks in the fuel or gas systems.
- Check for leaks in the plumbing systems and bilge pump circuits.
- Close seacocks.
- Open the fridge.
- Switch off the electrical system.

In case of doubt or a problem, consult the Owner's Manual, technical documents, plans or your dealer.

9. ENGINE

Regular maintenance must be carried out in accordance with the engine manufacturer's service schedule. Read carefully the engine user manual which was supplied with your boat. Do not hesitate to contact your dealer or qualified professional for advice.

Pay particular attention to instructions concerning winterizing.

In the absence of other information, proceed as follows:

- Close the raw-water cooling intake valve (Figure 9),
- Switch off the engine battery cut-offs
- Disconnect the raw water intake hose from the seacock.
- Empty the seawater cooling system.
- Immerse the tube into a container of coolant fluid of -25° .
- Run the engine until coolant flows from the exhaust.
- Reconnect the tube to the valve after you have finished.
- Stick a note to the electrical panel and to the battery shut-off switch saying that the raw water intake valve is closed.

Do not start the engine unless the throttle is in neutral.

Do not store diesel in compartments not designed for this purpose.

It is the owner's responsibility to check the condition of the fuel lines.

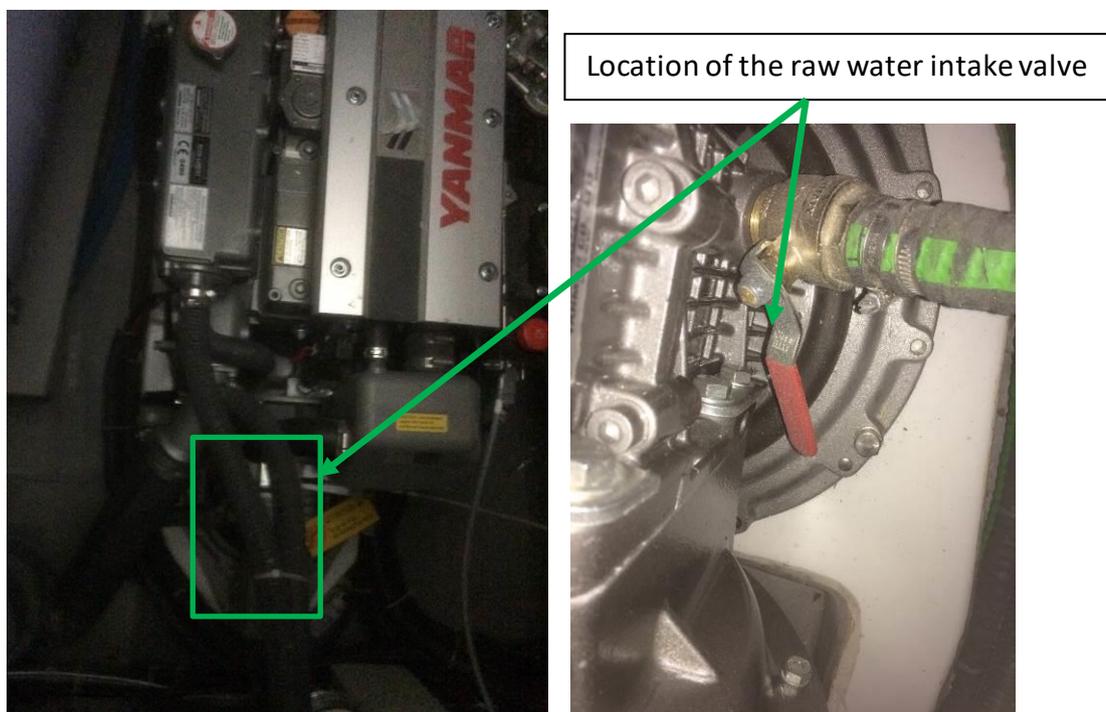


Figure 8: Location of the raw water intake valve

CAUTION

If new engines are installed, they must comply with the capacities of the boat, and must be installed by a specialist marine engineer.

Do not obstruct or modify the ventilation system of the engine compartments.

9.1. Launching the boat / making adjustments

CAUTION

- Ensure that the raw-water cooling intake valve is open and that water is coming out of the exhaust.

A quick check that the propeller is securely fixed should be carried out before each launch.

A poorly working propeller can be a source of vibration.

Regularly check the condition of the zinc anodes and ensure that they are the correct anodes for the environment (fresh water or sea water). Change the anodes every year.

The purpose of an anode is to equalize the electrical potential between the aluminium and other metals (stainless steel, bronze, etc.) The average life expectancy of an anode is 1 to 2 years.

These anodes are made of zinc. Anodes made from magnesium must absolutely not be used. Systems using impressed current for cathodic protection are to be avoided.

If the anodes have not been changed, you must check:

- That they have not been painted,
- That they are securely fixed and are in contact with metallic parts,
- That they are made from zinc.

CAUTION

Under sail and with the engines switched off, the raw water intake seacock must be closed at speeds in excess of 8 kts, and this brought to the attention of the helmsman.

9.2. Exhaust gas emissions

DANGER

Combustion engines produce carbon monoxide. Prolonged exposure to exhaust gases may cause serious illness or even death.

9.3. Safety

DANGER

The engine must not be used if swimmers are close to the boat to avoid any risk of serious injury caused by the propeller.

If possible, the engine must be stopped for any maintenance procedures or engine checks. If not, particular care must be taken with any moving parts (drivebelts, etc) to avoid risk of injury.

10. FUEL SYSTEM

(Plans on page N°132)

Flexible fuel hoses must be:

- Replaced by hoses of the same type (with the same markings).
- Replaced at the first sign of deterioration.

The fuel tanks correspond to CE (ISO 10088) standard.

CAUTION

The nominal fuel capacity is not necessarily totally usable, as a result of the loading and trim of your boat. For safety, allow a margin of 20% in reserve.

Avoid contact between any flammable materials and hot parts of the engine.

Never:

- **Store diesel in areas not designed for this purpose.**
- **Store any flammable materials in unventilated areas which are not designed for this purpose.**
- **Smoke when refilling fuel tanks.**
- **Obstruct ventilation systems (vents or grills for ventilating the engine compartment).**
- **Modify the engine installation unless this is carried out by a qualified marine engineer.**

11. STEERING SYSTEM

(Plan page N° 94)

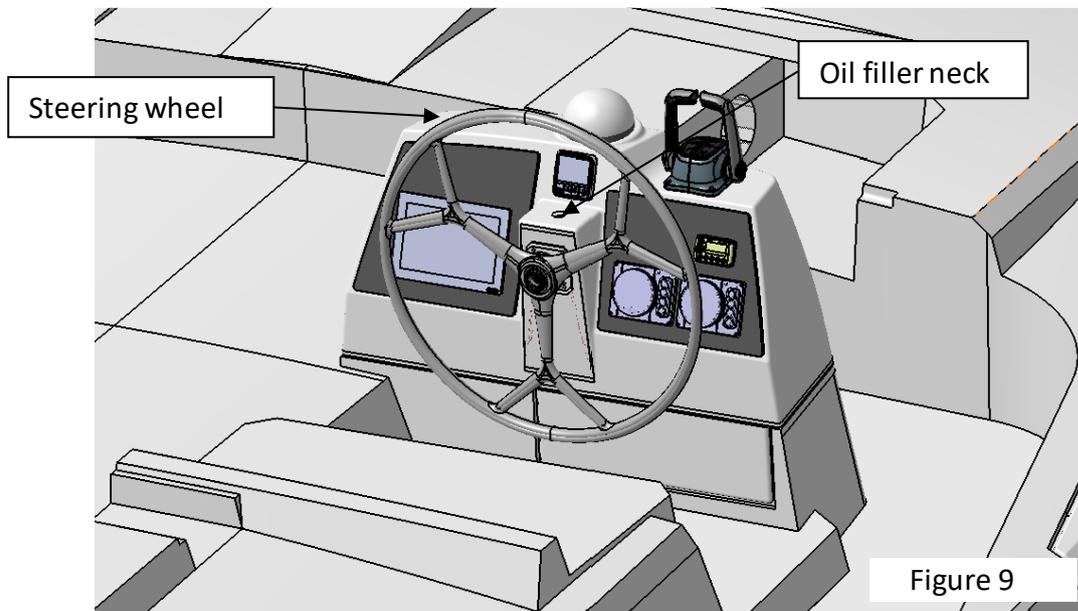
The steering system is an essential element in the safety and comfort of your vessel.

11.1 Steering wheel

The steering wheel (Figure 9) controls the rudders via a hydraulic system; the two rudders are linked together with a bar which crosses the aft beam.

CAUTION

- The hydraulic circuit requires periodic checks.
- Maintain the oil level in the pump at the helm station.
- Bleed the system if necessary.
- Use DEXRON II hydraulic oil



- Periodically check the amount of play in the different parts of the system (rudder post / bearings)
- Periodically grease the system.
- Inspect the hydraulic ram (stbd engine compartment) and the pump (located at the helm station), as well as the hydraulic unions to check there are no leaks and there is no evidence of any wear.

The steering stops are bolted to a shelf secured to the main structure of the boat.

In case of doubt or problems, consult your dealer.

In case of damage to either of the two rudders:

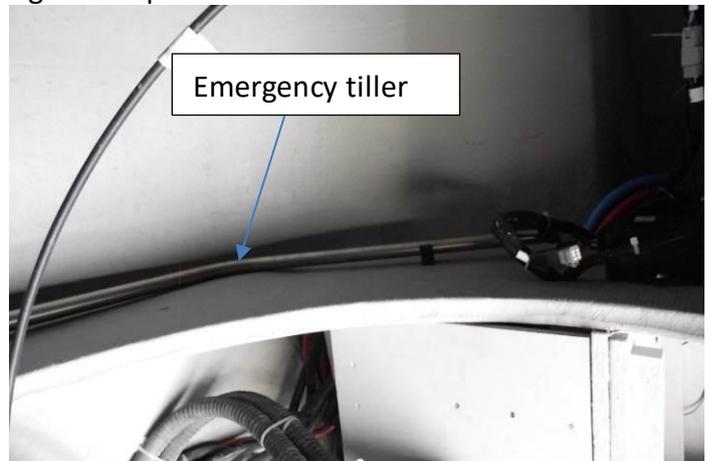
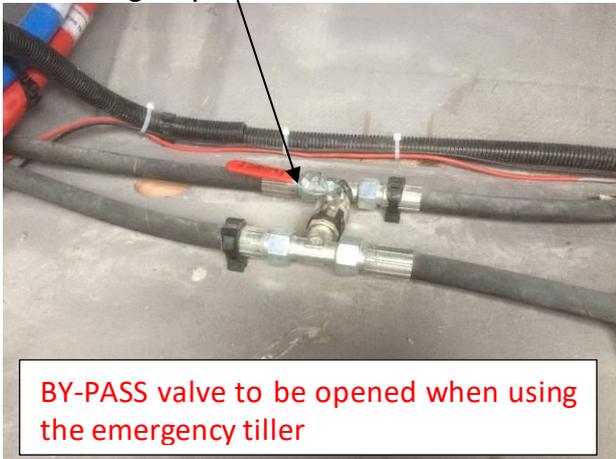
- Open the bypass valve located close to the hydraulic ram in the starboard engine compartment.
- Install the emergency tiller. See Chapter 11.2

11.2. Emergency tiller

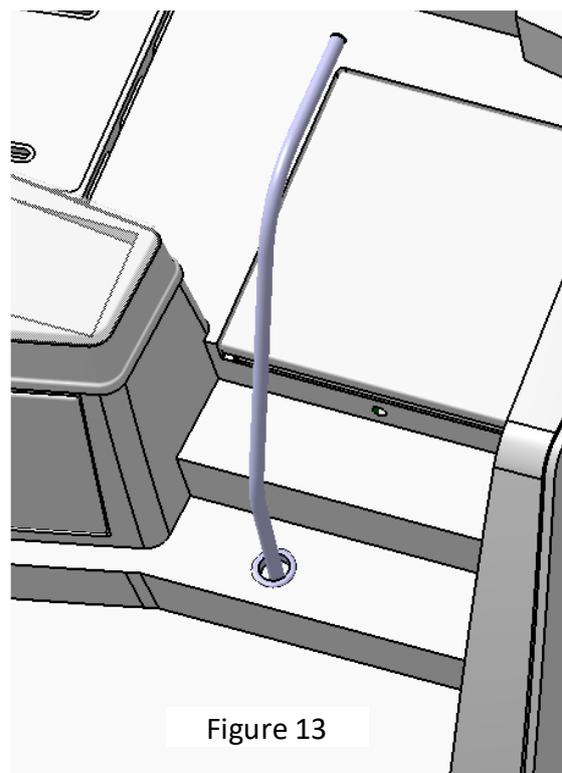
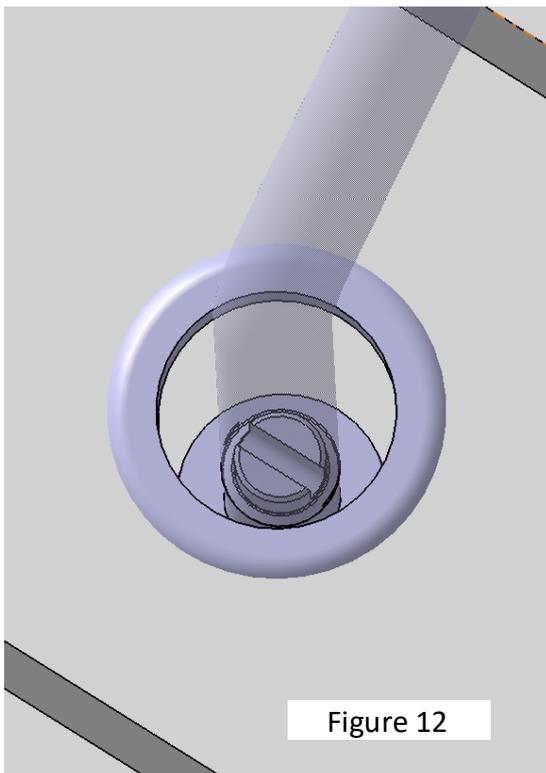
CAUTION

- The BALI 4.8 is equipped with an emergency tiller, which must be kept easily accessible.
- It is only designed for sailing boat at reduced speed in case of damage to the steering system.

- The BYPASS valve is located in the starboard engine compartment below the hydraulic ram fixings
- The emergency tiller is located in the starboard engine compartment on the aft bulkhead.



Unscrew the deck plug (12) and insert the tiller (13).
Open the BY-PASS valve and ensure that the rudders can be moved effortlessly.



12. SAILING

(Plans on pages N°73 to 81)

WARNING

In every situation, adapt your boatspeed to suit the conditions and maintain a margin of safety. Pay particular attention:

- **To other marine traffic.**
- **To manoeuvres in port.**
- **To passages through anchorages.**
- **To the sea state, currents, wind strength. Breaking waves in particular can present significant dangers to stability.**

Ensure that any equipment not fixed down is secure in the boat when it is under way.

Observe the rules of the road concerning priority, as defined by the International Regulations for the Prevention of Collisions at Sea (COLREGS).

Ensure you have sufficient space to stop or manoeuvre if necessary, so as to avoid a collision.

Respect any speed limits in force.

Out of courtesy and for the safety of other vessels, do not produce a large wake when in the proximity of other craft.

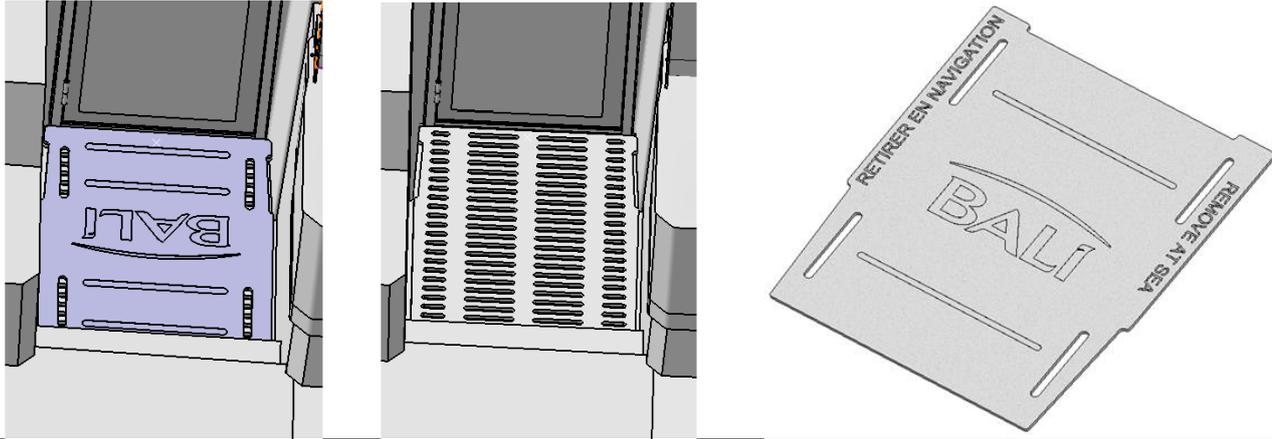
Always make sure you are aware of any local rules as well as international regulations (eg. MARPOL).

WARNING

- **Your boat must be fitted with lifelines. Padeyes are located on the deck for this purpose. Refer to the deck fittings plan for your boat.**
- **If your boat is fitted with lifelines made from synthetic fibre, an annual inspection and five-yearly replacement must be carried out.**
- **If the boat is going to be used single-handed, a means of getting back on board should be deployed while the boat is at anchor, moored, tied up in port or under way.**
- **The stability of your boat has been designed taking into account options available from the yard. Any modification affecting weight distribution on board (for example the addition of a radar, an in-mast furling system, changing the engines, etc) can have a significant effect on stability, trim and performance of the boat.**
- **Towing a boat can impose significant loads, reducing the stability of your boat.**
- **The means of getting back on board must be permanently deployed if the boat is to be used single-handed, whether it is anchored, moored, alongside or under way.**

WARNING

Under way, remove the covering board from the forward sump grating.



The stability has been calculated for a vessel in minimal sailing condition MMOC and in return sailing condition M_{LA} .

This boat is not likely to capsize but may be swamped if carrying an excessive amount of sail. It is designed to not sink in such circumstances. Sail area must be reduced. Particular vigilance must be used in the case of conditions with gusty wind or squalls.

Sail area should be reduced in accordance with boatspeed and wind strength. The following precautions should be observed:

- In the event of strong gusts RELEASE THE SHEETS
- Hard on the wind LUFF UP
- With the wind on the beam RELEASE THE SHEETS
- Downwind BEAR AWAY

DANGER

Always ensure you follow the instructions on the plan for reducing sail **Refer to the sail reefing plan on page N°76**

The BALI 4.8 has buoyancy compartments: under no circumstances should holes be made in these.

12.1: Visibility from the helm station

Plan on page N°77

The operator's view from the helm station may be obscured by one or more of the following variable situations:

- Loading of the vessel and distribution of the load.
- Speed.
- Sea state.
- Reduced visibility (by rain, darkness or fog).
- Visibility reduced by sail changes and hoisting of foresails (Solent, genoa, gennaker, Code 0, etc.)
- Lights from the interior of the boat.
- Position of covers or curtains.
- People or moveable equipment located in the helmsman's field of vision.

13. RIGGING

CAUTION

The wind instrument must be regularly checked

To limit the risk of capsizing, the sail area should be reduced in accordance with the wind strength but also factors such as:

- **Sea state**
- **Comfort and crew ability**
- **Entering and leaving port**
- **Gusty conditions or fog**

13.1 Standing rigging

Daily:

- After every sail, all the lower parts of the standing rigging should be rinsed with fresh water (shrouds, forestay and diamond stay).

Monthly:

- All the swages should be inspected so as to determine the condition of the wires. It is essential to check that there are no broken strands and that the wire is aligned with the body of the swage or terminal. The strands (the individual stainless-steel lines which make up the wire) must be in perfect condition.
- Check the split pins and locking screws on the bottlescrews and clevis pins.
- Check the fixing point of the forestay and all the elements securing it: clevis pin, nut, split pin, struts.

Annually:

- A full inspection of the standing rigging must be carried out by a rigger. This inspection must include a visual check along the length of each wire so as to detect any wear or marks which could lead to a deterioration of the condition of the wire or its components.
- An inspection of each of the anchoring points of the standing rigging must be carried out to check their integrity and that there is no deformation, bends or dents.
- The bottlescrews must be greased every year. Unscrew each bottlescrew in symmetrical fashion on the rigging (starboard/port) several turns, grease the threads with a Teflon-based grease and retighten the bottlescrew to the original setting. Check the split pins and locking screws of the bottlescrews

In the event of a broken strand, the wire must be immediately replaced.

Lifespan: The whole of the standing rigging is guaranteed for 12 months from the date the mast is stepped. After this period, the standing rigging should be the subject of regular inspection.

Aside from these periodic checks, it is imperative that the following elements are changed every 10 years or every 20,000 miles (whichever comes first).

Please refer to the terms and conditions of your insurance policy.

- Capshrouds
- Lower shrouds
- Forestay

13.2 Running rigging

The ropes which make up the running rigging are made of textile fibres which need to be continually checked due to their sensitivity to ultra-violet light. Rinsing them in fresh water after every trip at sea will extend their life expectancy as well as improve their handling by reducing the amount of salt which can dry within the fibres.

13.3 Mast

Before first use:

- Check the fixings of the masthead antennas.
- It is essential to check the insulation of any antenna, particularly the VHF and radar when transmitting to avoid any risk of rapid deterioration of the spars.
- Inspect the rigging, split pins, and locking systems of bottlescrews and clevis pins.

Daily:

- The mast foot and the lower part of the mast itself are subject to spray, so must be rinsed daily to avoid a build-up of salt on any of the parts. All moving parts or parts where there is friction, such as sheaves or gooseneck fitting must also be rinsed daily.

Monthly:

- Any parts which are subject to friction (gooseneck fitting, sheaves, cars etc.) must be lubricated with a suitable product (Teflon-based).
- Check that sheaves are free to turn and check for any wear.

Annually, before the start of the season:

- Check the fixings for the masthead antennas.
- Check the insulation of the antennas, particularly the VHF and radar when transmitting.
- Inspect the mast and fixings around any welds and where any deck hardware is attached.
- Inspect the mainsail mast track and the batten cars.
- Inspect the mast foot to check for any wear on the base.

13.4 Boom

Daily:

- The boom end fittings are subject to spray and must be rinsed every day to avoid a build-up of salt on any of the parts. All moving parts or parts subject to friction, such as sheaves or the gooseneck must also be rinsed daily.

Monthly:

- All parts subject to friction (gooseneck, sheaves) must be lubricated with a suitable product (Teflon-based grease, for example).
- Check the sheaves are free to turn, and check for any wear.

Annually, before the start of the season:

Inspect welds and deck hardware fixings.

14. LIGHTNING PROTECTION

For your safety, certain precautions must be observed.

14.1. Maintenance

If the vessel has suffered a lightning strike:

- The protection system must be examined to detect for any damage and to check the integrity of the system's circuit.
- Compasses, electric and electronic equipment must be examined to determine if there has been any damage or if any changes to calibrations or settings has occurred.

14.2. Personal protection during a thunderstorm

WARNING

During a thunderstorm the following advice should be followed:

- **The crew must try to stay inside the boat as much as possible.**
- **You must not go in the water, nor should anyone have their arms or legs in the water.**
- **While ensuring proper and safe control of sailing the vessel, no-one must touch any part of the lightning protection system, and especially not to try to link any of the parts of the system.**
- **Crew should avoid any contact with metal parts of the rigging, the spars, deck hardware and any rigging connection.**

15. ENVIRONMENTAL PROTECTION AND SAFETY

We advise you to make sure you are informed of local environmental regulations, and international regulations concerning maritime pollution (MARPOL Convention) as well as the codes of best practice.

CAUTION

- **Most cleaning products, engine oils and hydrocarbons are not neutral to the environment, so they must be discharged where there are proper facilities (enquire at the local port office).**
- **Certain products also present risks your safety to yourself and others, which is why it is important to read and adhere to the user instructions.**
- **Such products must be properly labelled and stored in an appropriate and ventilated location on board.**

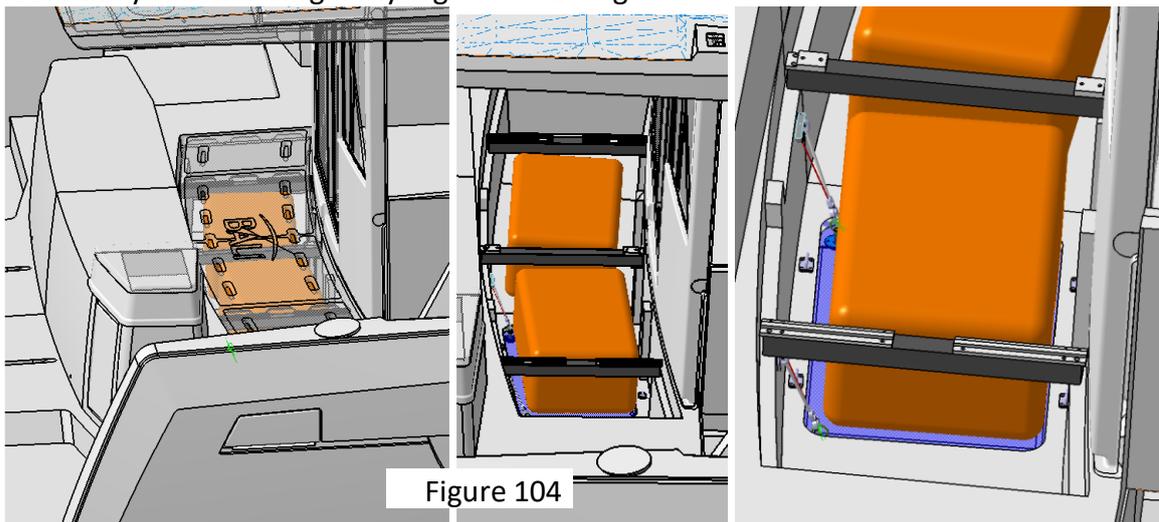
16. SAFETY EQUIPMENT

16.1. Liferaft

There is currently no common mandatory requirement for safety equipment across the European Union, so it is up to the boat's owner to make sure they are informed as to what national regulations exist in their particular country, with regard to CE marked vessels.

In France, pleasure vessels which are CE marked must be equipped with safety equipment designed for the relevant category of navigation under the responsibility of the yachtsman.

Your boat is equipped with two locations for stowing 2 x 12-person liferafts (Figure 104). These are accessible beneath the cockpit sump (hatch). This location must not be used as a storage area, so as not to obstruct access to the liferafts. Carefully read the user manual for the rafts. The crew must be familiarised with the use of all of the vessel's safety equipment (harnesses, distress flares, liferaft, etc.) Sailing schools and yacht clubs regularly organise training sessions.



CAUTION

- In the event of serious damage to the boat, use the designated escape routes
REFER TO THE PLANS ON PAGE 101 – ABANDONING SHIP -

16.2. Getting back on board

A bathing ladder is accessible from the starboard sugar scoop. Before going swimming, the ladder must be put in the water. It is fitted with a strap allowing it to be deployed in the event of falling overboard



CAUTION

- When single-handed, you should have a system for boarding the boat permanently rigged while the boat is anchored, moored, tied up or under way.

17. HOISTING, TRANSPORT, STORAGE ASHORE

(Plans on page N°98 and 99)

During haulout, ensure that the slings are correctly positioned and they are not bearing on the propellers, or any delicate parts, such as transducers, etc.

The slings must be positioned in line with the mast bulkhead and the coachroof bulkhead, as indicated by grey triangles above the antifouling.

Under no circumstances must the slings put any weight on the guardwires.

When placing the boat ashore, the hull must rest uniformly on the points marked by the grey triangles above the antifouling.

Travel hoists must be sufficiently wide or be equipped with spreader bars so as not to apply too much transverse force at the gunwales.

The pads of a cradle or props must be positioned level with structural elements, and only exert the pressure necessary to provide the correct balance to the boat. Their curve must perfectly fit that of the hull in a way that each should apply pressure over an area no smaller than 400 mm wide by 200 mm long (100 mm either side of the structural area).

Take advantage of the boat being out of the water to inspect the propellers, anodes, rudders, through hull skin fittings and transducers.

DANGER

Never use the electric winches for hoisting a person up the rig: a breakdown in the system could lead to irreparable damage.

18. Anchoring, mooring and towing

The mooring cleats are designed for a maximum load of 8,500 kg.

If towing or being towed, always do so at a slow speed.

A tow line must always be tied in a way that it can always be released under load.

CAUTION

- **Any anchorage points which show any visible signs of deterioration must be replaced.**
- **It is the responsibility of the owner / user to ensure that mooring warps, towlines, chain and anchor rode, as well as anchors are adequate for the envisaged use of the boat, which is to say that lines or chains should not exceed 80% of the breaking strain of the corresponding anchorage point.**
- **The owner should also take into consideration the actions which would need to be taken to rig a towline on board.**
- **The yard recommends using an anchor rode comprising 70 metres of 12mm chain and a 40Kg Delta anchor (breaking strain 7,100 kg).**

19. HULL – MAINTENANCE

19.1. Preventative maintenance

UNDERWATER HULL

Wherever you sail, it is essential to regularly apply antifouling paint to the underwater hull. This will protect the hull from any marine growth such as algae or barnacles. Check that your propellers are always clean. These factors can affect the performance of your boat. A dirty boat can lose 25% of its normal speed.

WARNING

Scrupulously respect the usage instructions of the products you are using.

The hull treatment for the BALI 4.8 offered as an option by the yard comprises the following:

- Degreasing and matting the surfaces
- 1 coat of primer
- 2 coats of antifouling

19.2. The hull

Two haulouts per year are preferable to one.

Haulout allows you to check the state:

- Of cleanliness of the raw water inlet strainers;
- Of through-hull skin fittings;
- Of seacock valves;
- Of the rudders (check for any play or wear);
- Of the anodes;
- Of the propellers.

Maintenance:

Clean with a brush or a pressure washer:

- Cold water;
- Maximum pressure: 60 bars;
- Never bring the nozzle closer than 60 cm from the hull;
- Dry the hull;
- Apply the antifouling with a brush or a roller.

TOPSIDES

The gelcoat is shiny and fade-resistant to atmospheric factors, in particular those found in the marine environment. As such it requires little maintenance. However, it is a good idea to follow a regular maintenance programme for the hull, in order to maintain its good appearance.

We recommend a wax or anti-UV wax treatment once a year on the smooth areas to keep them shiny.

WARNING

Scrupulously respect the usage instructions of the products you are using..

WARNING

In the event of an impact with a sharp object, the hull is liable to have been breached. Should this be the case, repairs must be effected as soon as possible.

19.3. Cleaning the deck

- Use products specifically designed for washing or cleaning decks.
- Rinse thoroughly.
- Do not use any abrasive detergent.
- Any glazed areas must be cleaned with products and materials suitable for PMMA.
- To maintain the shine of painted or varnished areas, it is important to rinse the boat frequently with fresh water.
- Use non-aggressive products which are specific for the particular maintenance.

19.4. Marks on the hull or deck

19.4.1. Scratches

- Sand with 1000 grade abrasive paper. You can add a little washing-up liquid to prevent the paper clogging.
- Rinse thoroughly.
- Finish off with a polishing product for paint.

19.4.2. Chips in the gelcoat in smooth areas

- Clean and thoroughly dry the affected area.
- Prepare a small amount of filler in the colour of the deck or the hull (see your dealer).
- Apply with a spatula.
- Cover the repair with polyamide film or sticky paper.
- Remove the film when the repair has dried.
- Sand with water using 400-grade wet and dry paper, then 600-grade, then 1000. Add a little washing-up liquid to prevent the paper from clogging.
- Rinse thoroughly.
- Finish off by polishing with a product designed for paint.

19.4.3. Chips in the non-slip paint

Note: Scratches and chips are not serious to the solidity of the boat, as the outer covering does not form part of the structure. It is however important that water cannot penetrate through to the fibreglass. In the event of any significant damage, it is essential you contact your dealer.

19.5. Scratches on the hatch covers

- Rub with a soft cloth or cotton soaked in a polishing product specifically for PMMA. In the case of deep scratches, contact your dealer.

WARNING

Never use a solvent for cleaning deck panels and hatches.

19.6. Sails

Sails such a gennaker or a code 0, which have an integral boltrope in the luff and which are rigged on a furler, must not be left hoisted for long periods or when there is no-one on board.

Other than the question of safety linked to the fact that they could unfurl involuntarily, their UV protection is lower than that of other furling sails, as they were not designed to be left permanently hoisted.

Catana does not guarantee any sails which are not used in accordance with the recommendations above.

20. DAVITS AND AFT DOOR (depending on options)

20.1. Davits (without electric hoisting option)

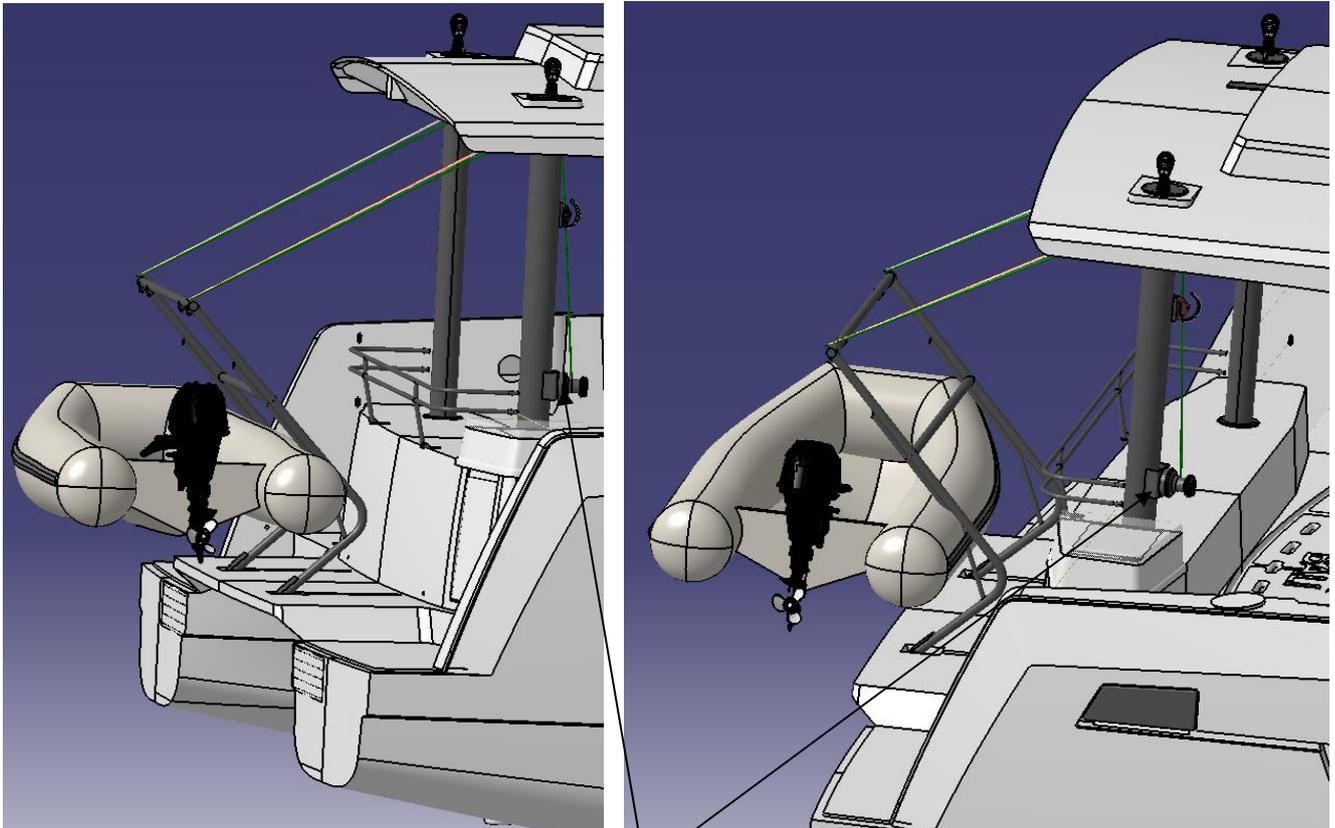
Operating procedure for raising/lowering the tender.

Lowering

- Put the control line on the dedicated winch
- Open the clutch located at the top of starboard bimini leg
- Gently ease out the handling line.

Raising

- Shut the clutch
- Place the handling line on the dedicated winch.
- Secure the dinghy beneath the davits using the dedicated pendants
- Using the dedicated winch, complete the hoisting procedure (davits hoisted as far as the stops)
- Check the clutch is closed and remove the line from the winch.



Dedicated winch

DANGER

Do not exceed a maximum dinghy weight of 300kg.

Catana recommends raising the tender with the motor positioned on the starboard side.

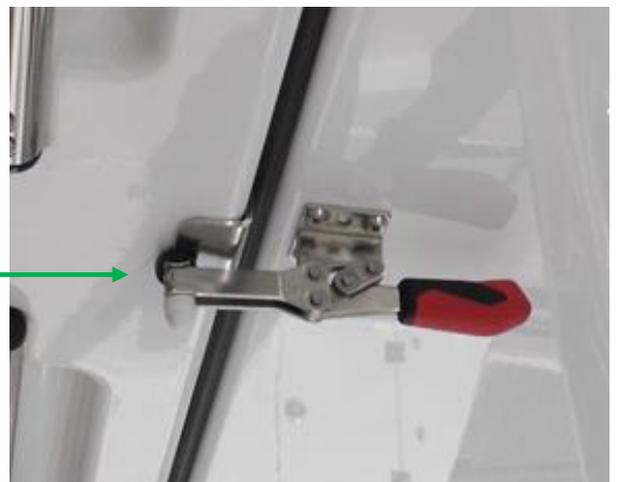
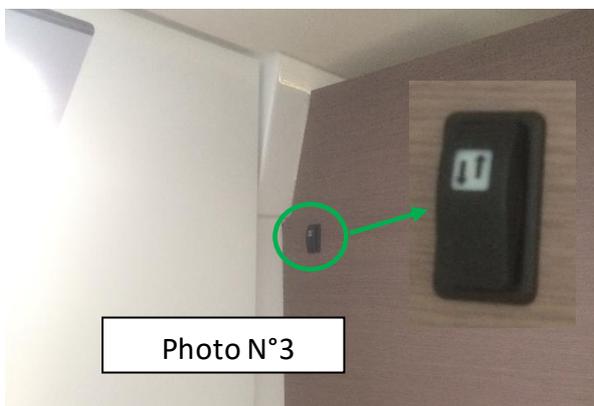
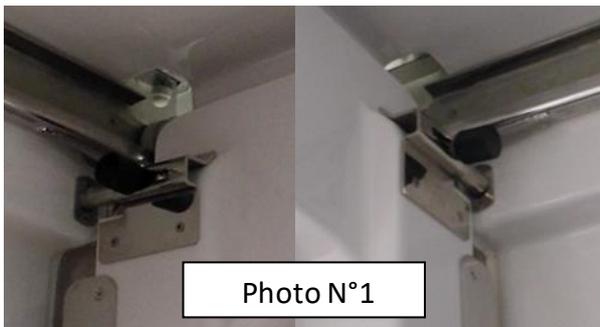
An optional outboard bracket is available for a motor weighing up to a maximum of 20kg.

20.2. Pivoting aft door

Operating procedure for opening/closing

Opening

- Unlatch the bolts in the upper left-hand and right-hand corners (photo N°1)
- Unlatch the lower fixings
- Switch on the hydraulic system at the chart table (photo N°2)
- Push the button upwards to open the door as far as the stops (photo N°3)
- Close the safety toggle-latch which keeps the door in the open position (Photo N°4)
- Switch off the system at the chart table.



Closing

- Switch on the hydraulic system at the chart table
- Unlock the safety toggle-latch
- Push the button downwards to close the door as far as the stops
- Shut the latch bolts, upper and lower, and left and right.
- Switch off the system at the chart table.



21. TRANSFER OF OWNERSHIP



CERTIFICAT DE TRANSFERT DE PROPRIETE **TRANSFER OF OWNERSHIP**

Le bateau modèle / Modèle boat:.....

N° de coque / Hull N°:.....

De / From M / Mr:..... Adresse / Address:.....

.....

C-P / ZIP CODE:..... Ville / City:..... Tel:.....

Date d'achat / Date of Purchase:.....

A ETE VENDU A / BEING SOLD TO:

M / Mr:Adresse / Address:.....

.....

C-P / ZIP CODE:..... Ville / City:..... Tel:.....

Date d'achat / Date of Purchase:

Fait à / completed at.....le / date

Le vendeur / Seller

L'acheteur / Buyer

Lieu / place: le / date:.....

Exemplaire à retourner dans les 15 jours suivant la transaction à :

Return the copy within 15 days of the transaction to:

NOTES

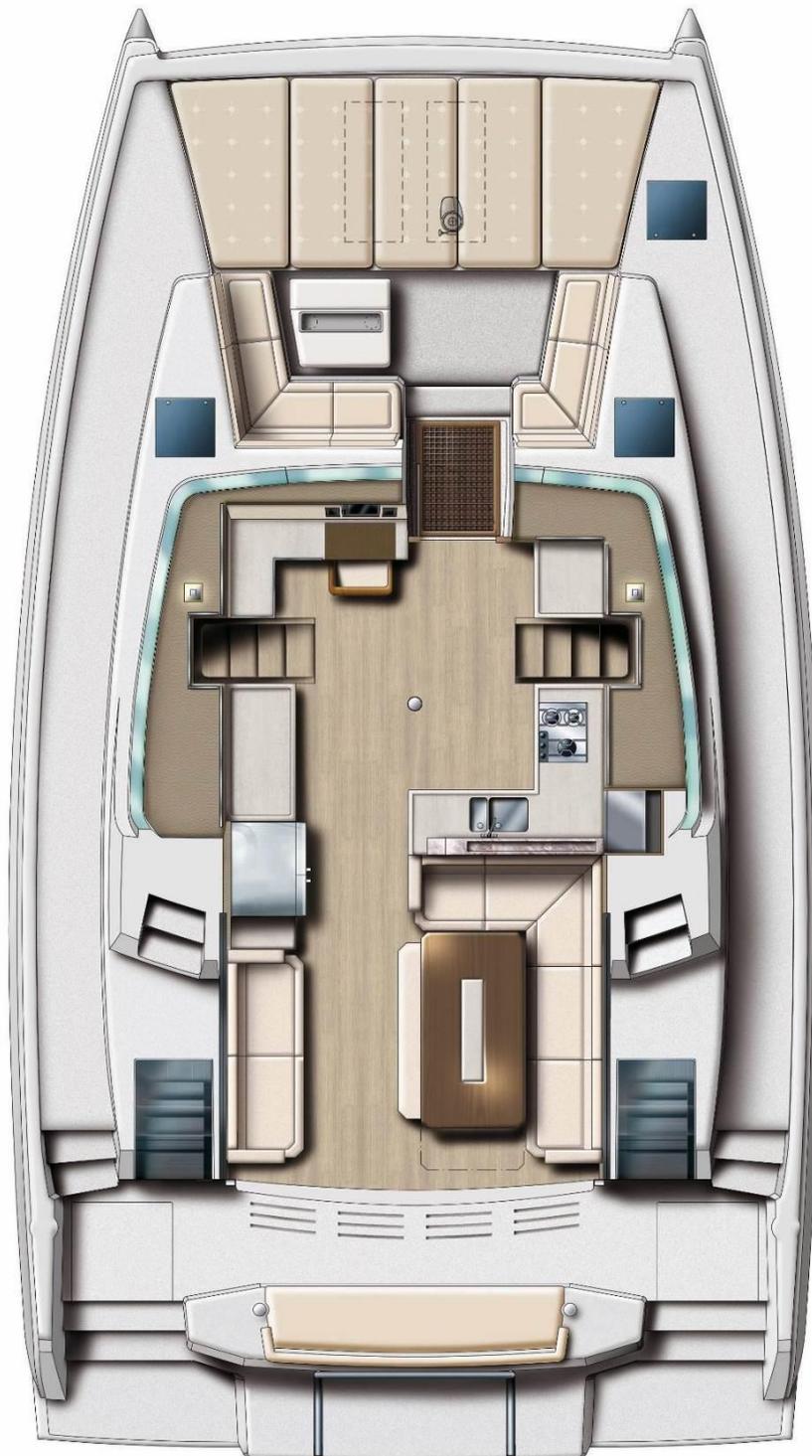
22. LIST OF PLANS

PLANS

- 1 Presentation**
- 2 Interior Layout**
- 3 Harness attachment points and escape hatches**
- 4 Reefing plan**
- 5 Working areas**
- 6 220 V electrical system**
- 7 Charging and power circuit wiring diagram**
- 8 12 V hull electrics**
- 9 Lighting system**
- 10 Steering system**
- 11 Gas system**
- 12 Haulout / Hoisting**
- 13 Fire safety and escape routes for abandoning ship**
- 14 Fresh water system**
- 15 Bilge pump system**
- 16 Grey water system**
- 17 Black water system and holding tanks**
- 18 Diesel system**
- 19 Watermaker**
- 20 Seawater system**
- 21 Location of deck fillers**
- 22 Location of through-hulls / skin fittings**



 PRESENTATION		 PRESENTATION	
<i>Ref.</i>	<i>Désignation</i>	<i>Ref.</i>	<i>Description</i>
	<i>Plan de présentation</i>		<i>Profile plan</i>
	Lg de coque 14.86 m		Hull length 14.86 m
	Lg flottaison 14.07 m		Waterline length 14.07 m
	Bau maximum 7.89 m		Maximum beam 7.89 m
	Tirant d'eau, 1.35 m		Draft 1.35 m
	Tirant d'air 23,17 m		Air draft 23.17 m
	Déplacement lège 16211 kg		Light displacement 16,211 kg



3 cabin, 3 bathroom version



3 cabin + stbd forepeak, 4 bathroom version



4 cabin, Owner to port, 4 bathroom version



Symmetrical 4 cabin, 4 bathroom version







 AMENAGEMENT		 ACCOMMODATION	
<i>Ref.</i>	<i>Désignation</i>	<i>Ref.</i>	<i>Description</i>
	<p>Version 3 cabines, 3 salles d'eau :</p> <ul style="list-style-type: none"> - Coursive bâbord avec aménagement propriétaire lit double - 1 salle d'eau propriétaire - 1 wc séparé propriétaire - 3 cabines lit double - 2 salles d'eau invité <p>Version 3 cabines, 3 salles d'eau + pointe avant :</p> <ul style="list-style-type: none"> - Coursive bâbord avec aménagement propriétaire lit double - 1 salle d'eau propriétaire - 1 wc séparé propriétaire - 3 cabines lit double - 3 salles d'eau invité - 1 cabine lit simple <p>Version 4 cabines symétrique, 4 salles d'eau :</p> <ul style="list-style-type: none"> - Coursive bâbord avec aménagement propriétaire lit double - 4 salle d'eau propriétaire - 4 wc séparé propriétaire - 4 cabines lit double - 1 cabine lit simple - 1 salles d'eau invité 		<p>3 cabin, 3 bathroom version:</p> <ul style="list-style-type: none"> - Port passageway with owner's double berth layout - 1 owner's bathroom - 1 separate owner's wc - 3 double cabins - 2 guest bathrooms <p>3 cabin, 3 bathroom + fitted-out forepeak version:</p> <ul style="list-style-type: none"> - Port passageway with owner's double berth layout - 1 owner's bathroom - 1 separate owner's wc - 3 double cabins - 3 guest bathrooms - 1 single cabin <p>Symmetrical 4 cabin, 4 bathroom version:</p> <ul style="list-style-type: none"> - Port passageway with owner's double berth layout - 4 owner's bathroom - 4 separate owner's wc - 4 double cabins - 1 single cabin - 1 guest bathroom

**Version 4 cabines Propriétaire BD,
4 salles d'eau:**

- Coursive bâbord avec aménagement propriétaire lit double
- 1 wc séparé propriétaire
- 3 cabines lit double
- 1 cabine lit simple
- 3 salles d'eau invité
- 1 salle d'eau propriétaire

Version 5 cabines, 5 salles d'eau:

- 4 cabines avec lits double
- 1 cabine lit simple
- 2 salle d'eau propriétaire
- 3 salle d'eau invité
- 2 wc séparés propriétaire

**Version 6 cabines symétriques, 6
salles d'eau:**

- 4 cabines lit double
- 2 cabines lit simple
- 6 salle d'eau invité

**4 cabin, Owner's to port, 4 bathroom
version**

- Port passageway with owner's double berth layout
- 1 separate owner's wc
- 3 double cabins
- 1 single cabin
- 3 guest bathrooms
- 1 owner's bathroom

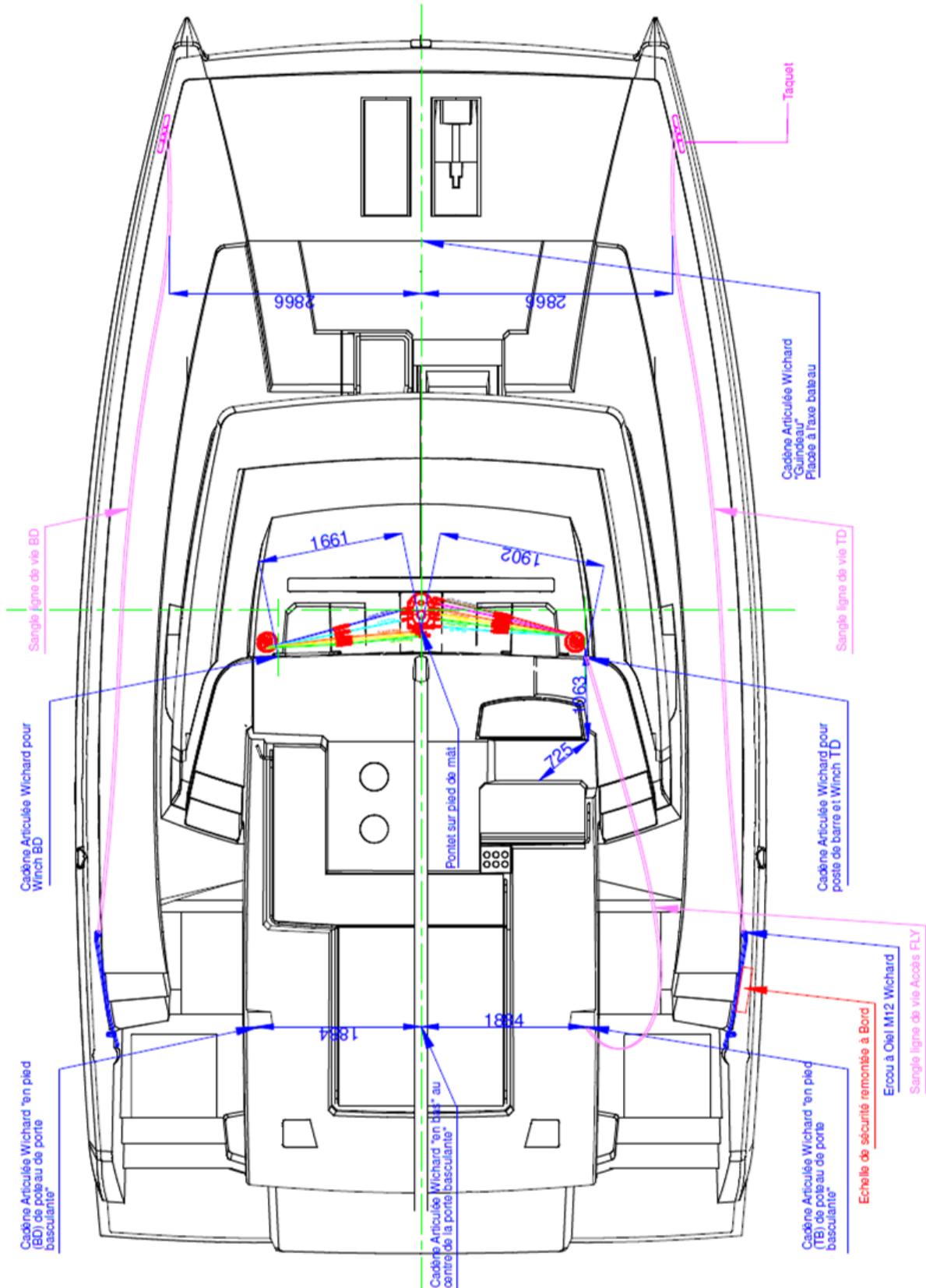
5 cabin, 5 bathroom version:

- 4 double cabins
- 1 single cabin
- 2 owner's bathrooms
- 3 guest bathrooms
- 2 separate owner's wc

**Symmetrical, 6 cabin, 6 bathroom
version**

- 4 double cabins
- 2 single cabins
- 6 guest bathrooms

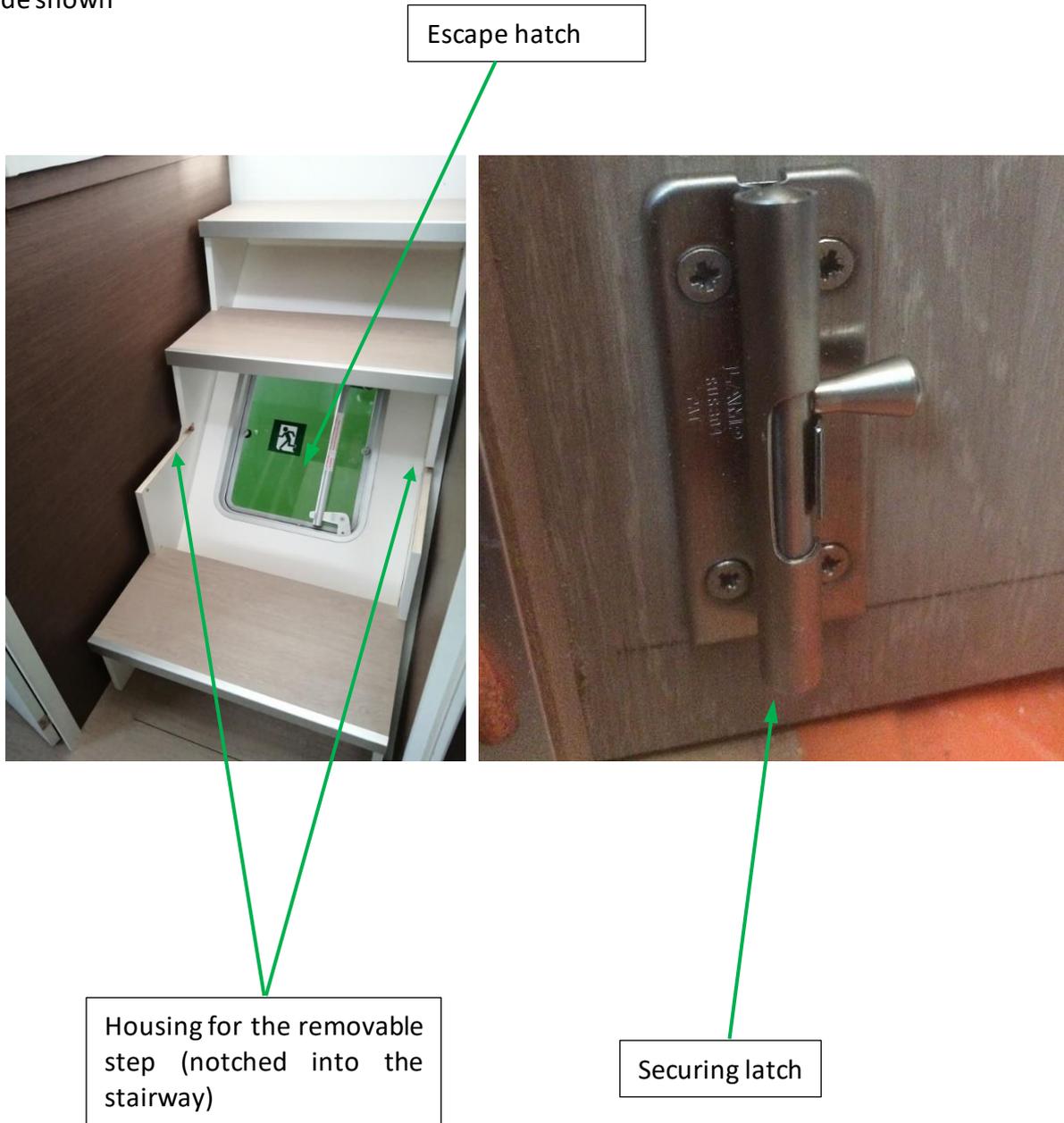
Harness attachment points and lifelines



Note: The escape hatches are located beneath the companionway steps on the inboard topsides. Port side and starboard side.

The locking pin latches for the two removable steps must be undone to gain clear access.

Port side shown



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4.8	Apparent wind speed		%	Mainsail (m ²)	%	Solent (m ²)	Total (m ²)
			100	83	100	44	127
20 kts	1 st reef	75	64	75	33	97	
25 kts	2 nd reef	53	47	52	23	70	
35 kts	3 rd reef	30	28	28	12	40	

Your Bali is equipped with a self-tacking headsail track with lateral adjustment. We draw your ATTENTION to the absence of any longitudinal adjustment. It is therefore impossible to move the sheeting angle forward. When the self-tacking solent is partially furled, you are advised to not sheet-in hard, as this could result in irreversible deformation of the foot of the sail.

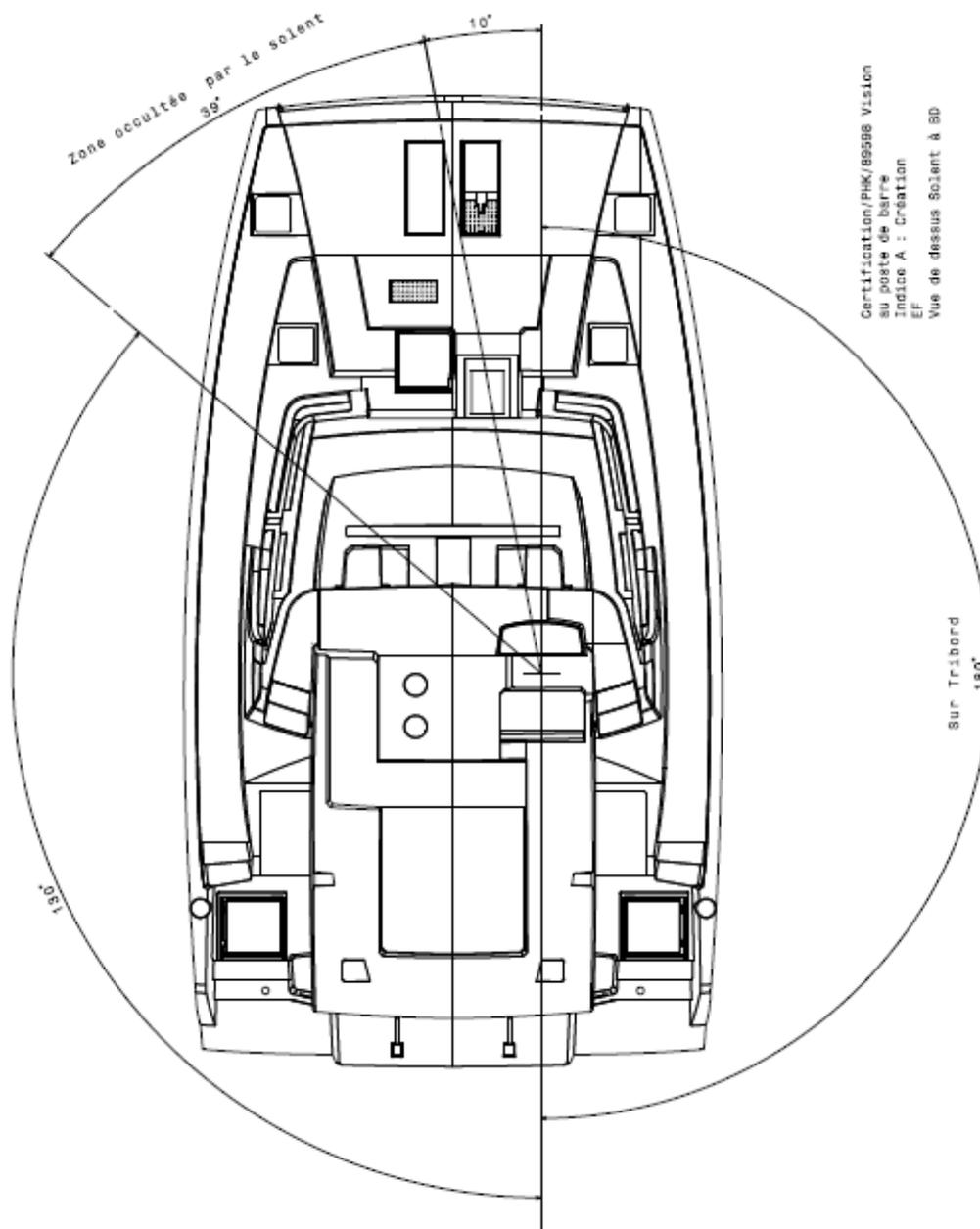
The stability has been calculated for a vessel in minimal sailing condition M_{MOC} and in return sailing condition M_{LA} .

Sail area must be reduced if necessary. Particular vigilance must be used in the case of conditions with gusty wind or squalls.

In the event of serious damage, use the emergency exits provided.
REFER TO PLANS ON PAGE 101, **ABANDONING SHIP**

Sail area should be reduced in accordance with boatspeed and wind strength. The following precautions should be observed:

- In the event of strong gusts **RELEASE THE SHEETS**
- Hard on the wind **LUFF UP**
- With the wind on the beam **RELEASE THE SHEETS**
- Downwind **BEAR AWAY**

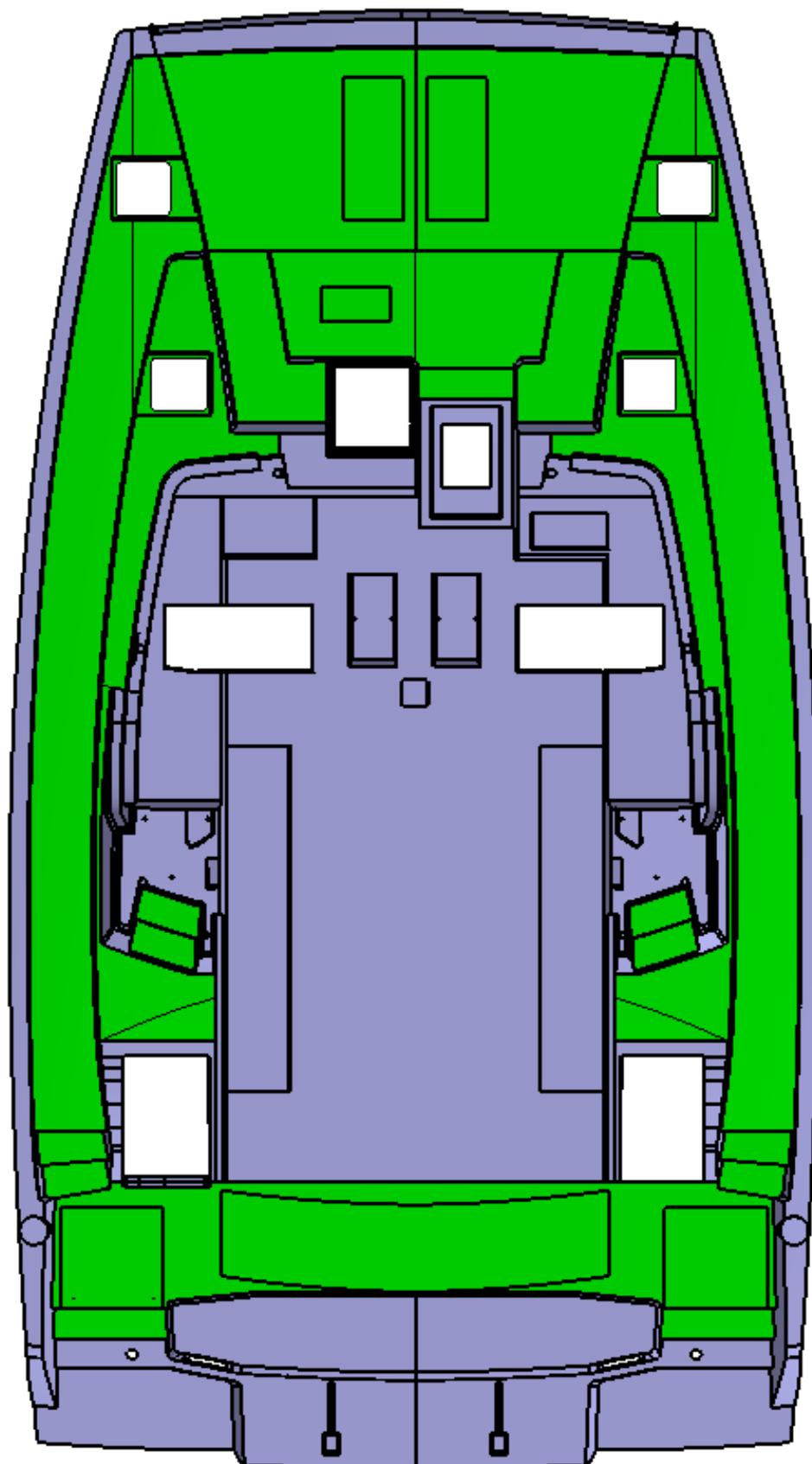


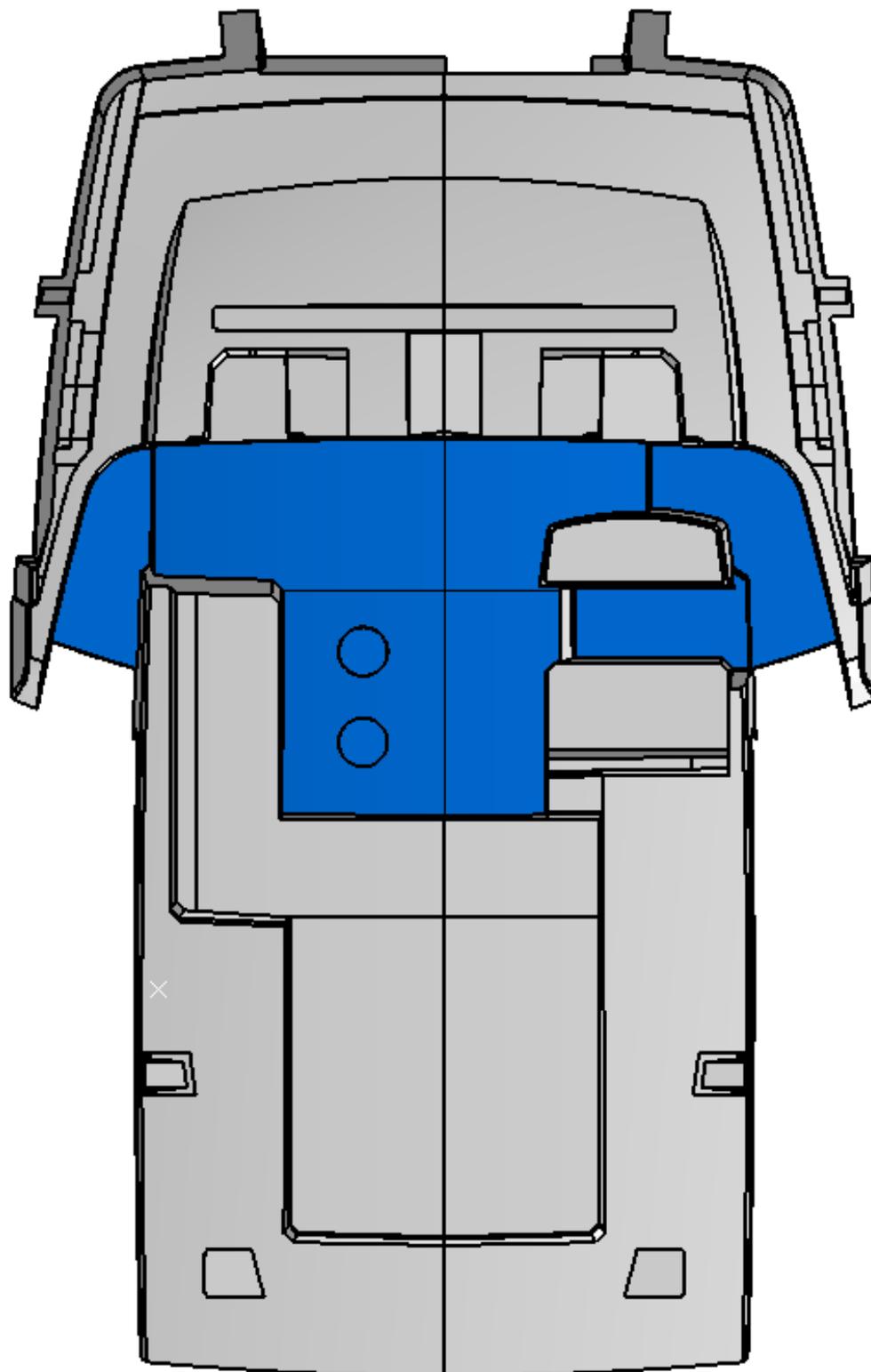
The operator's view from the helm-station may be obscured by one or more of the following variable conditions:

- Vessel load and distribution of the load
- Speed
- Sea conditions
- Reduced visibility (eg. by rain, darkness or fog)
- Reduced visibility (by sail changes and hoisting of sails)
- Interior lighting inside the boat
- Position of covers or curtains
- Persons or movable equipment located within the helmsman's field of vision

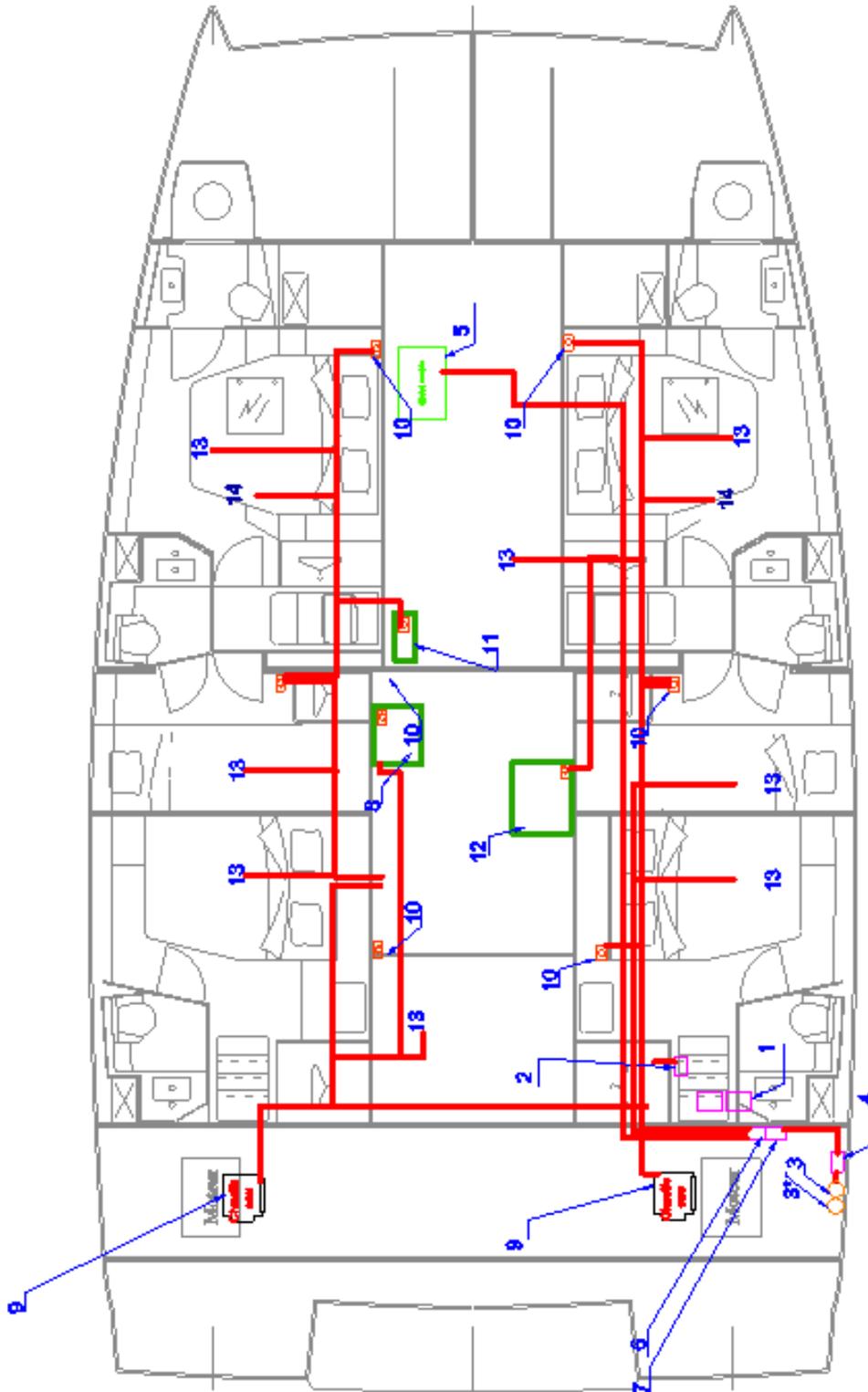
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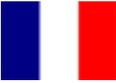
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 ZONE DE TRAVAIL			
<i>Ref.</i>	<i>Désignation</i>	<i>Ref.</i>	<i>Description</i>
	<p>ZONE DE TRAVAIL</p> <p>En vert la surface du pont (Env.41.6m²) En bleu la surface du flying bridge (Env. 7.5m²)</p> <p style="text-align: center;">  Attention DANGER </p> <p><u>EN NAVIGATION :</u></p> <p>L'ACCES ET L'UTILISATION EST INTERDIT A TOUTES PERSONNES SUR LE BIMINI.</p>		<p>WORKING AREAS</p> <p>In green, the deck area (App. 41.6m²) In blue, the flybridge (App. 7.5m²)</p> <p style="text-align: center;">  Attention DANGER </p> <p><u>UNDER WAY:</u></p> <p>ACCES TO AND USE OF THE BIMINI IS PROHIBITED FOR ALL PERSONS</p>

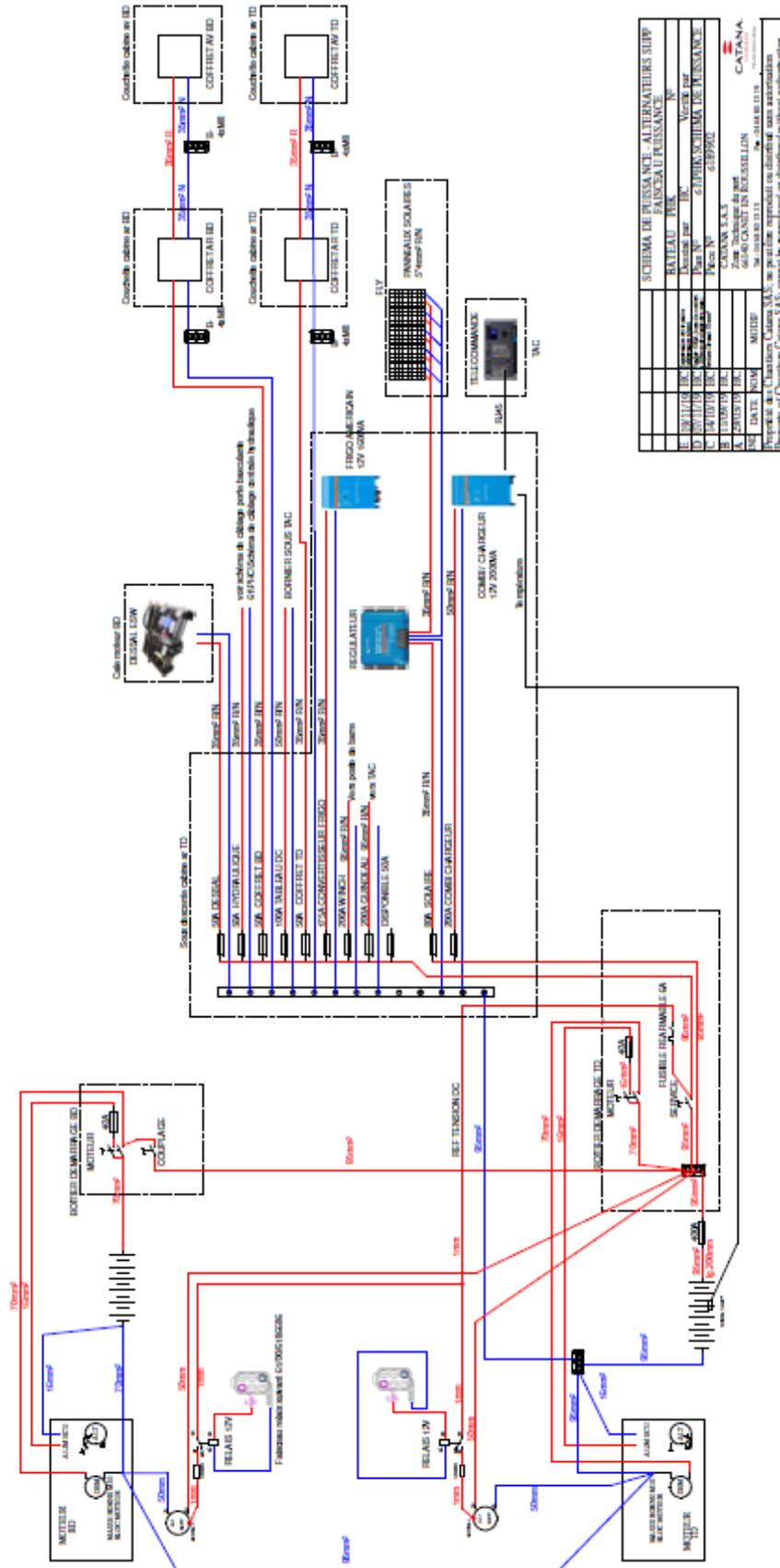


 IMPLANTATION ELECTRIQUE 220 V		 220 V ELECTRICAL INSTALLATION	
<i>Ref.</i>	<i>Désignation</i>	<i>Ref.</i>	<i>Description</i>
1	Convertisseur 12V/2000VA/70A	1	12V/2000VA/70A Inverter
2	Tableau convertisseur / chargeur	2	Inverter / charger panel
3	Prise de quai 220v (*Option clim)	3	220V shore power (*Aircon option)
4	Tableau Quai	4	Shore power panel
5	Groupe électrogène (Option)	5	Generator (option)
6	Tableau AC	6	AC panel
7	Tableau AC clim	7	AC Aircon panel
8	Lave-vaisselle 10 couverts	8	10-place dishwasher
9	Chauffe-eau	9	Water heater
10	Prise de courant AC	10	AC socket
11	Micro-ondes	11	Microwave
12	Réfrigérateur	12	Refrigerator
13	Clim monobloc	13	Aircon unit
14	Pompe de clim	14	Aircon pump
15	Lave-linge	15	Washing machine

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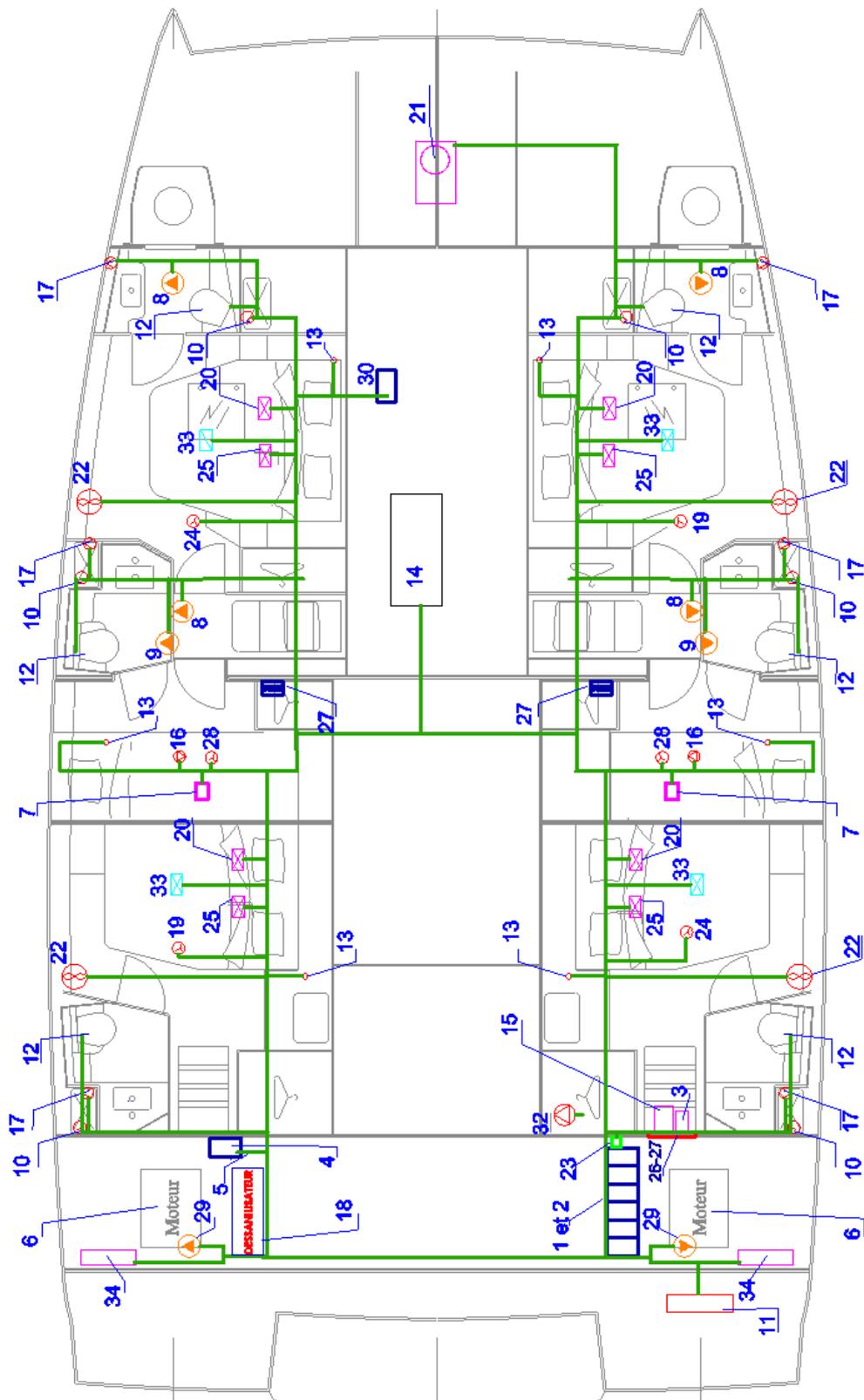
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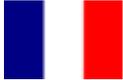
DC power cluster – With alternator

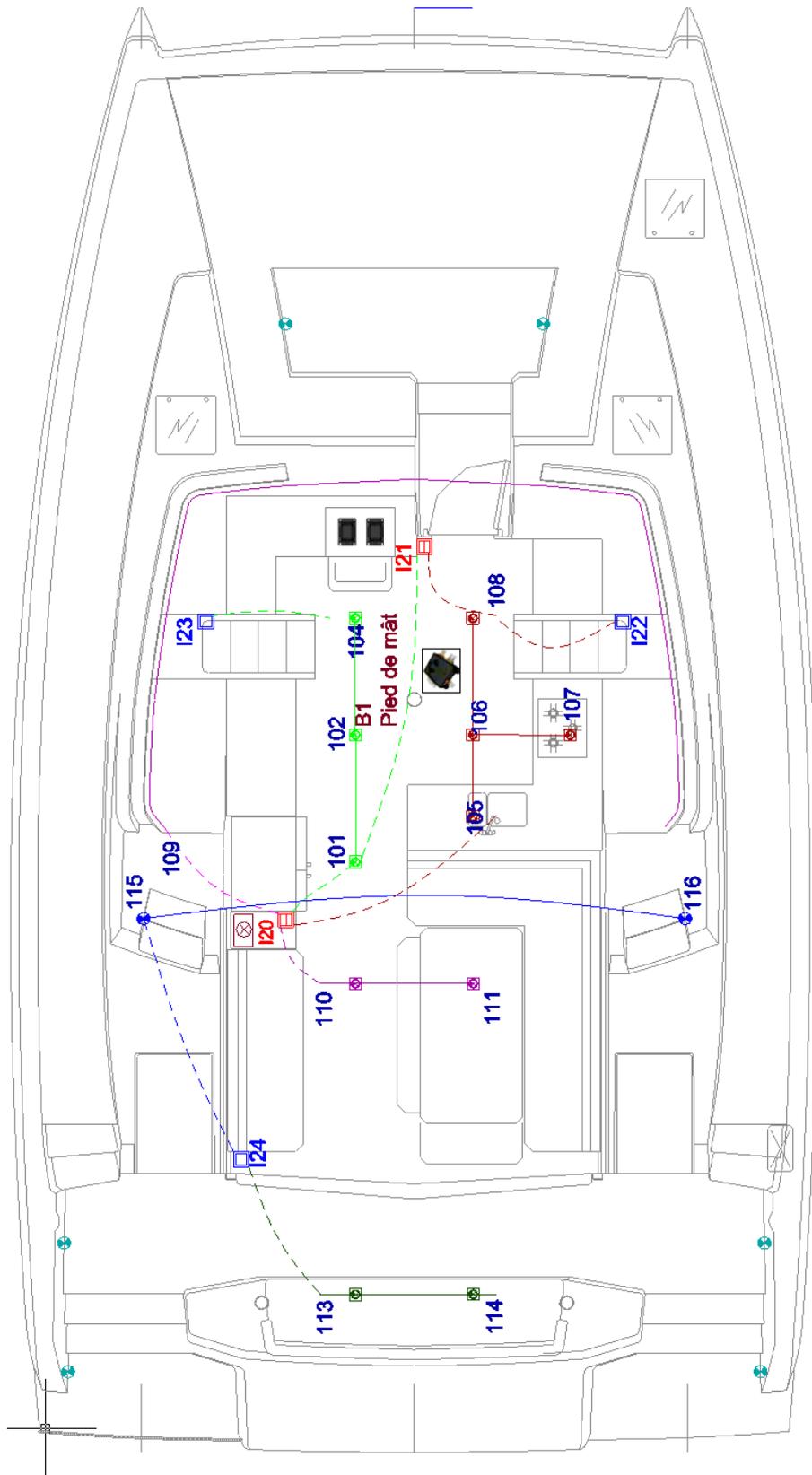


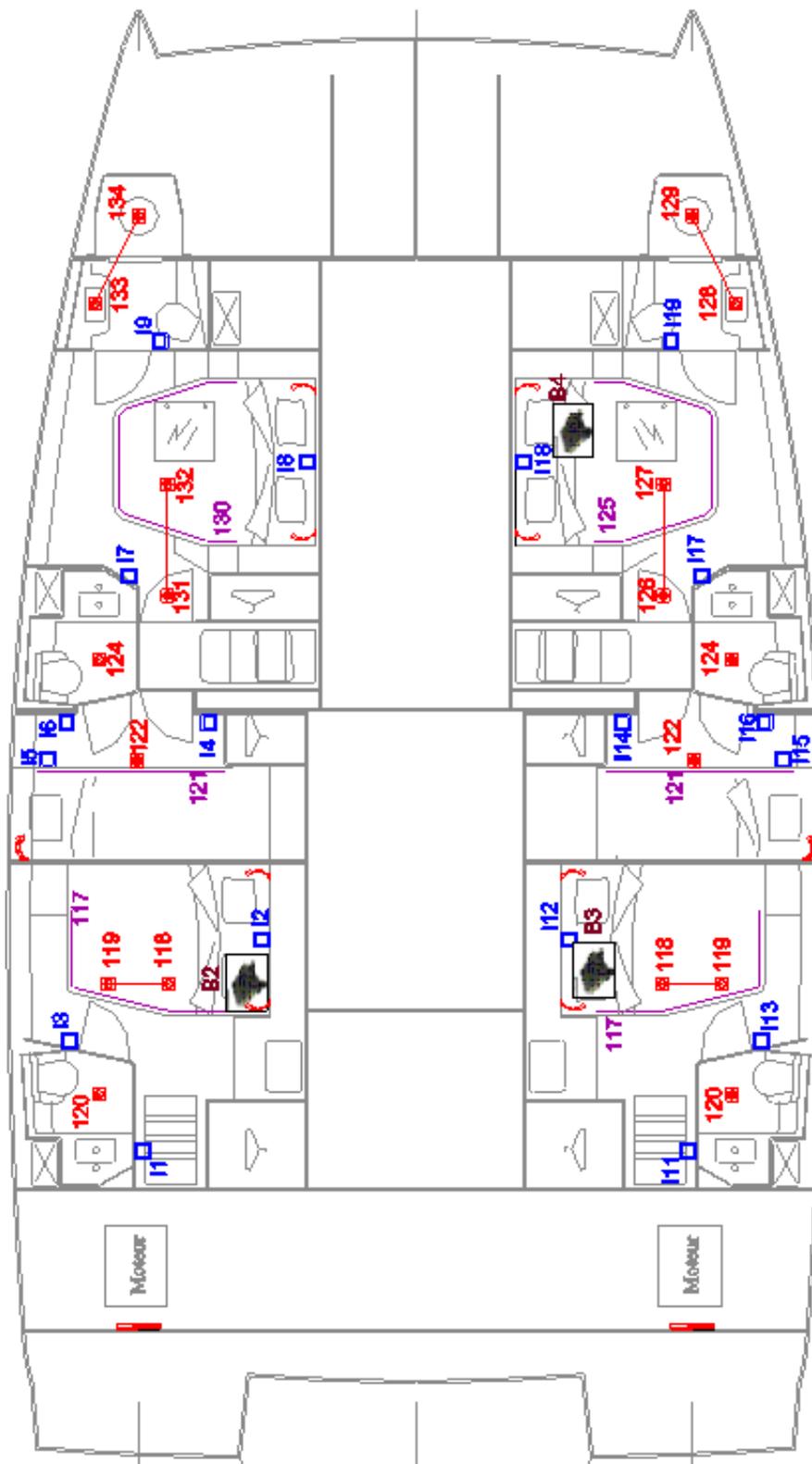
SCHEMA DE PUISSANCE - ALTERNATEUR SUR FAISCEAU			
1	BAVILAU	PHK	N°
2	BOULEVARD	PHK	N°
3	BOULEVARD	PHK	N°
4	BOULEVARD	PHK	N°
5	BOULEVARD	PHK	N°
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99	BOULEVARD	PHK	N°
100	BOULEVARD	PHK	N°

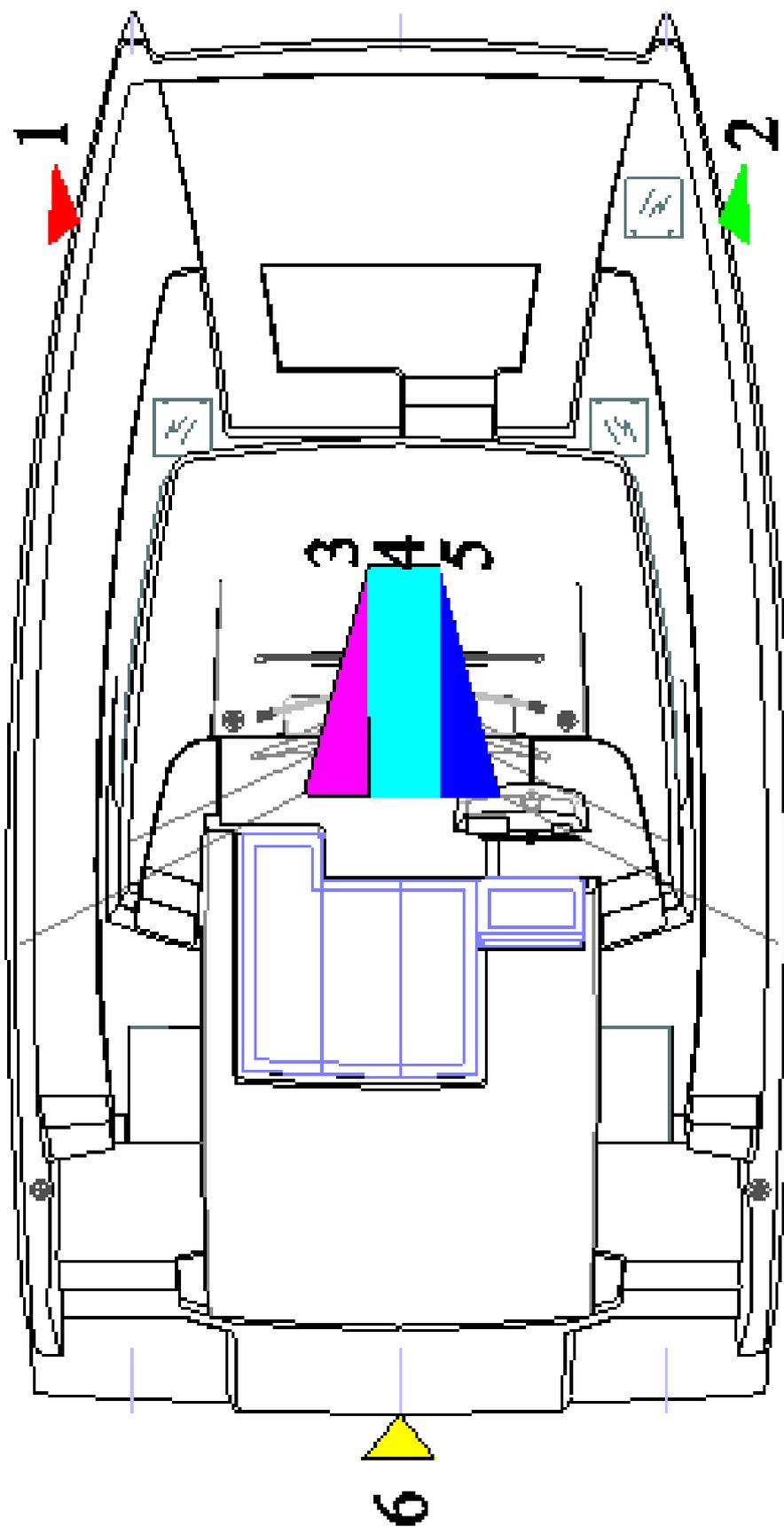
12 V ELECTRICAL INSTALLATION

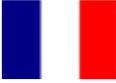


 IMPLANTATION 12 V DE COQUE		 12 V ELECTRICAL INSTALLATION	
Rep.	Désignation	Ref	Description
1	Batterie de service (6 x 130 Ah)	1	Service batteries (6 x 130 Ah)
2	Coupe batterie servitude	2	Service battery cut-off switch
3	Convertisseur / chargeur 12V/3000VA/120A	3	12V / 3000VA / 120A Inverter- Charger
4	Batterie moteur 130Ah	4	130 Ah engine starter battery
5	Coupe batterie moteur	5	Engine battery cut-off switch
6	alternateur moteur	6	Engine alternator
7	Groupe d'eau douce	7	Fresh water pump
8	Pompe d'eau de mer (Option clim et EDM)	8	Seawater pump (seawater option)
9	Pompe de cale	9	Bilge pump
10	Jauges eaux noires	10	Holding tank gauge (black water)
11	Pilote automatique	11	Auto-pilot
12	WC électrique (option)	12	Electric WC (option)
13	Prise 12V	13	12V socket
14	Tableau électrique TAC + bornier	14	AC electric panel + connection
15	Convertisseur 12V/220V/1000W dédié au frigo	15	12V/220V/1000W Fridge inverter
16	Pompe réservoir eaux grises (Option)	16	Grey water tank pump (option)
17	Pompe eaux grises	17	Grey water pump
18	Dessalinisateur (Option)	18	Watermaker (option)
19	Jauges réservoirs gasoil	19	Fuel tank gauges
20	Module éclairage Scheiber	20	Scheiber lighting unit
21	Guindeau	21	Windlass
22	Ventilateur Cabine (Option)	22	Cabin fan (option)
23	Régulateur panneaux solaires (Option)	23	Solar panel regulator (option)
24	Jauges réservoirs d'eau	24	Fresh water tank gauges
25	Coffret protection DC	25	DC protection panel
26	Platine distribution DC	26	DC distribution panel
27	Borne-flotteur	27	Float switch
28	Jauges réservoir eaux grises (Option)	28	Grey water holding tank gauge (option)
29	Pompe groupe dessalinisateur (Option)	29	Watermaker pump (option)
30	Batterie de groupe électrogène (Option)	30	Generator battery (option)
31	Pack propulseur d'étrave (Option)	31	Bow thruster pack (option)
32	Pompe hydraulique porte basculante (Option)	32	Hydraulic pump for pivoting door (option)
33	Spot sous – marin (Option)	33	Underwater spotlights (option)
34	Shift actuator	34	Shift actuator

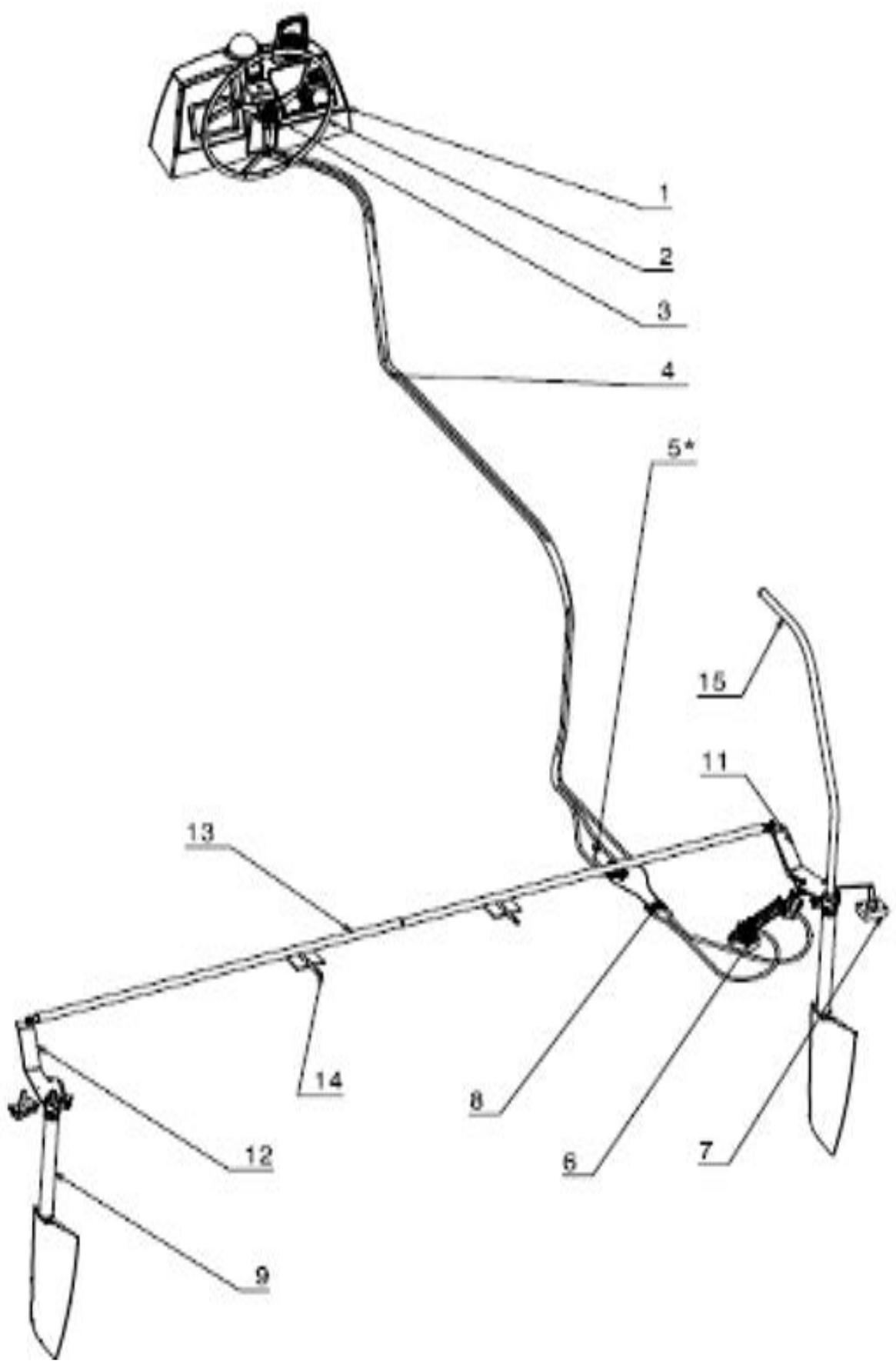




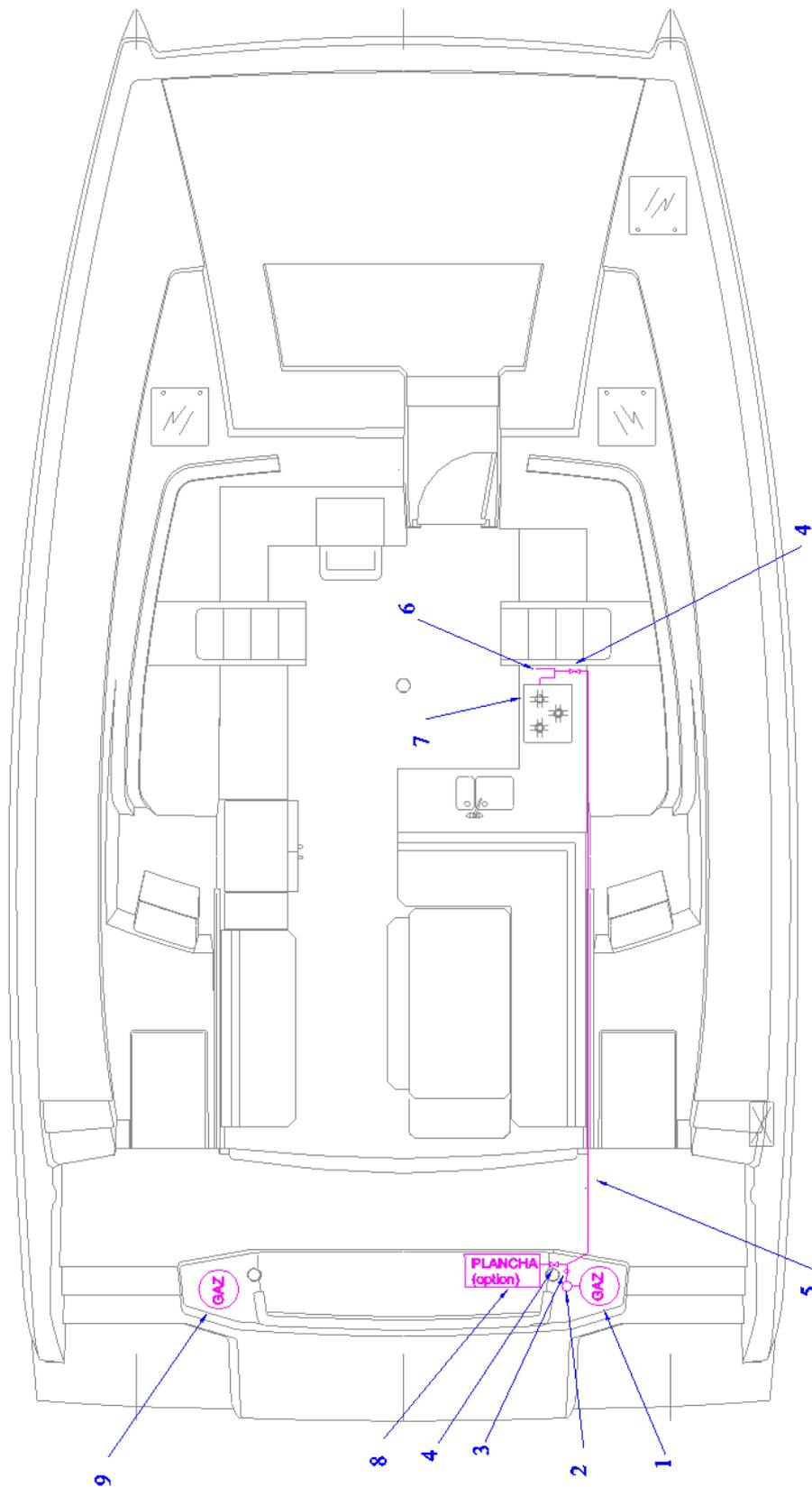


 IMPLANTATION 12 V PONT		 12 V ELECTRICAL INSTALLATION	
<i>Ref.</i>	<i>Désignation</i>	<i>Ref.</i>	<i>Description</i>
1	Feu de Navigation. Bd	1	Port navigation light
2	Feu de Navigation. Td	2	Starboard navigation light
3	Projecteur de pont	3	Decklight
4	Feu de hune	4	Steaming light
5	Feu de mouillage	5	Anchor light
6	Feu de poupe	6	Sternlight
 Attention		 Warning	
 Risque de choc électrique		 Electrical shock hazard	
 Risque d'incendie		 Fire hazard	
 Consulter le manuel du propriétaire		 Read owner's manuel	

Steering system



 SYSTEME DE GOUVERNAIL		 STEERING SYSTEM	
<i>Ref.</i>	<i>Désignation</i>	<i>Ref.</i>	<i>Description</i>
1	Console de barre	1	Helm console
2	Barre à Roue	2	Steering wheel
3	Pompe hydraulique	3	Hydraulic pump
4	Flexibles hydrauliques	4	Flexible hoses
5*	Groupe pilote auto	5	Autopilot pump
6	Vérin hydraulique	6	Hydraulic ram
7*	Capteur angle de barre	7	Rudder position sensor
8	Vanne by-pass	8	By-pass valve
9	Tube jaumière "JP3 Ø39"	9	Rudder tube "JP3 Ø39"
10	Safran	10	Rudder blade
11	Bras de mèche TD	11	Starboard steering quadrant
12	Bras de mèche BD	12	Port steering quadrant
13	Barre de liaison BD/TD	13	Linking bar port/starboard
14	Cale anti-frottement	14	Anti-friction blocks
15	Barre franche de secours	15	Emergency tiller
*	Option pack électronique	*	Electronics pack option



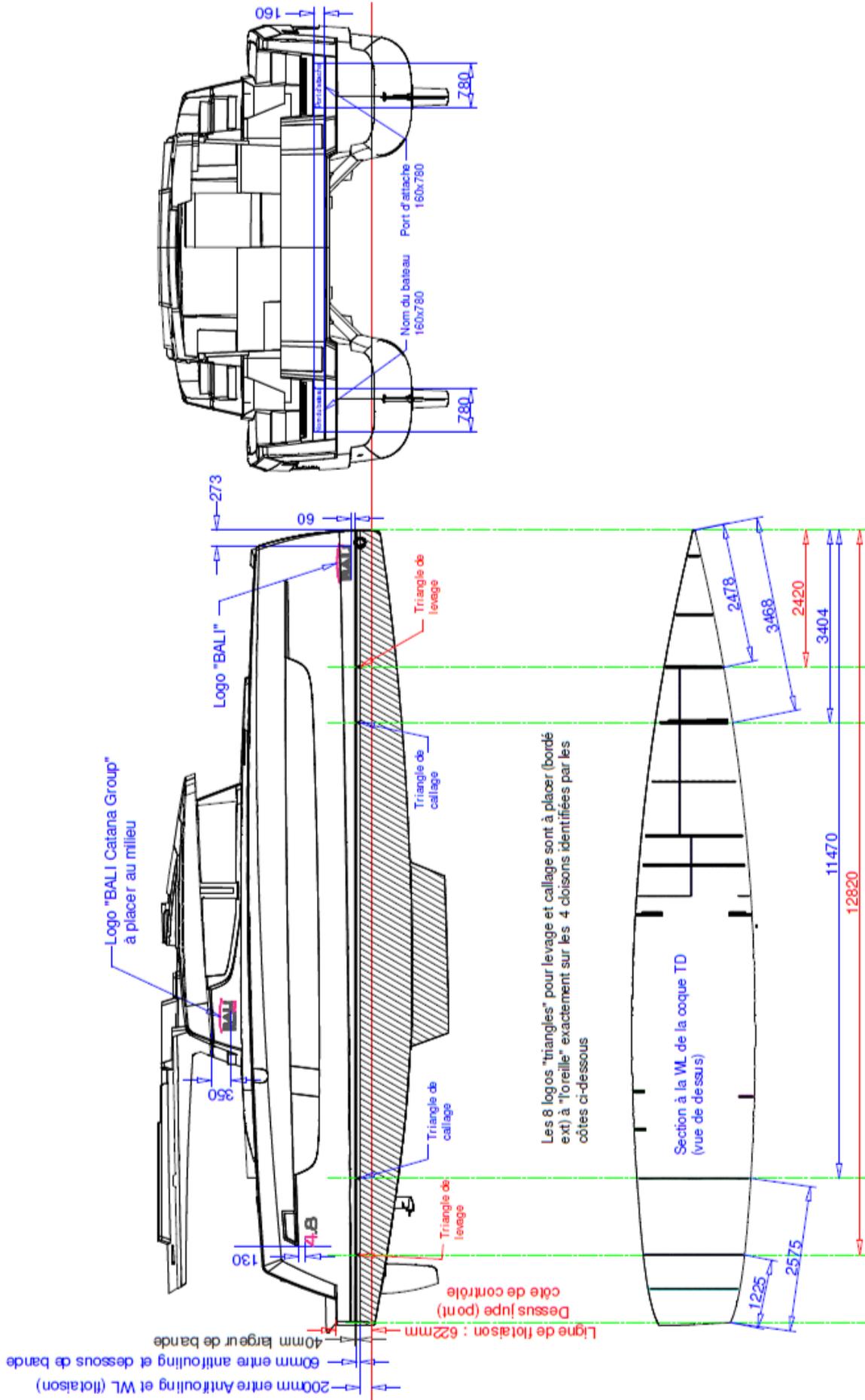
 CIRCUIT GAZ		 GAS SYSTEM	
Ref.	Désignation	Ref.	Description
1	Bouteille de gaz 13kg	1	13kg Gas bottle
2	Détendeur	2	Regulator
3	Détecteur de fuite	3	Leak detector
4	Robinets circuits	4	Gas system taps
5	Gaine PVC et tuyau cuivre Ø8	5	PVC conduit & Ø8 copper pipe
6	Four	6	Oven
7	Plaque de cuisson	7	Hob
8	Option PLANCHA	8	BBQ grill option
9	Option bouteille gaz N°2	9	Optional 2nd gas bottle

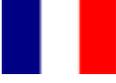
CAUTION

For information on the operating pressures, refer to the regulator manufacturer's manual

Ventilation of the saloon is provided by:

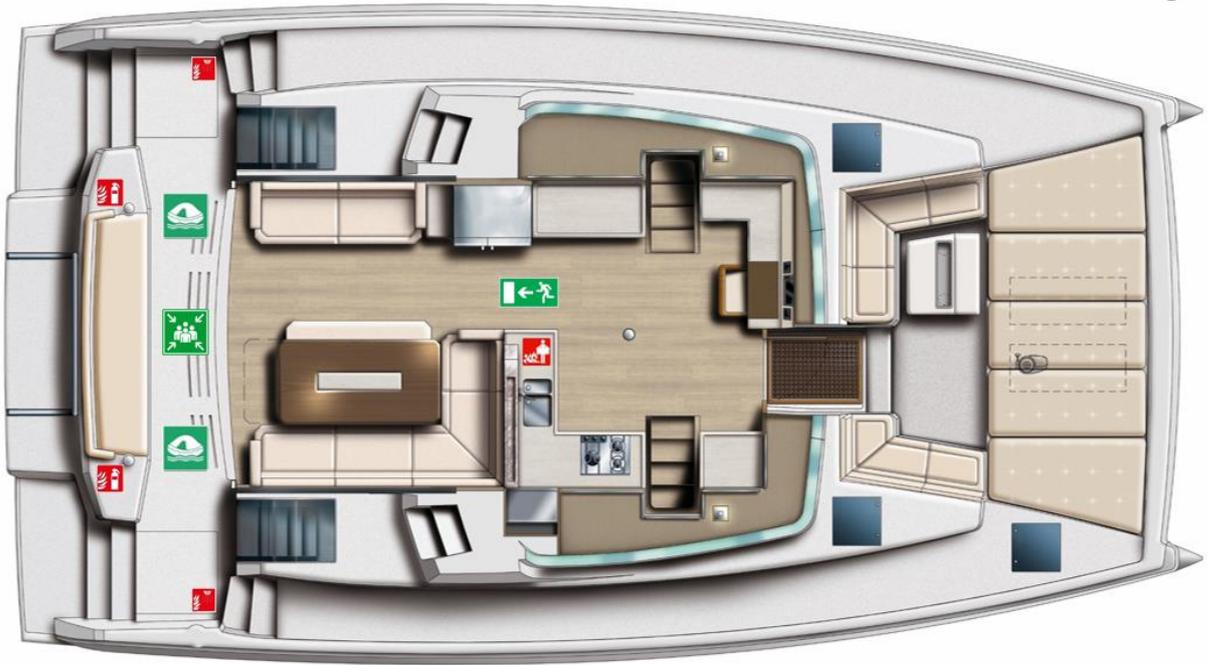
- The forward cockpit window
- The forward cockpit door
- Lateral sliding windows
- Aft pivoting door



 PLAN DE GRUTAGE		 LIFTING DIAGRAM	
<i>Ref.</i>	<i>Désignation</i>	<i>Ref.</i>	<i>Description</i>
▼	<p>Point de levage ou de calage</p> <p>Voir repère en forme de triangle au-dessus de la bande déco de flottaison</p>	▼	<p>Lifting or chocking points</p> <p>See triangle-shaped markers above the decorative stripe at the waterline</p>
	<p>Déplacement condition légère</p> <p>Mlc 16211 kg</p> <p>Maître bau 7.88 m</p> <p>Tirant d'eau 1,35 m</p>		<p>Displacement in lightship condition</p> <p>Mlc 16,211kg</p> <p>Maximum beam 7.88 m</p> <p>Draft 1.35 m</p>

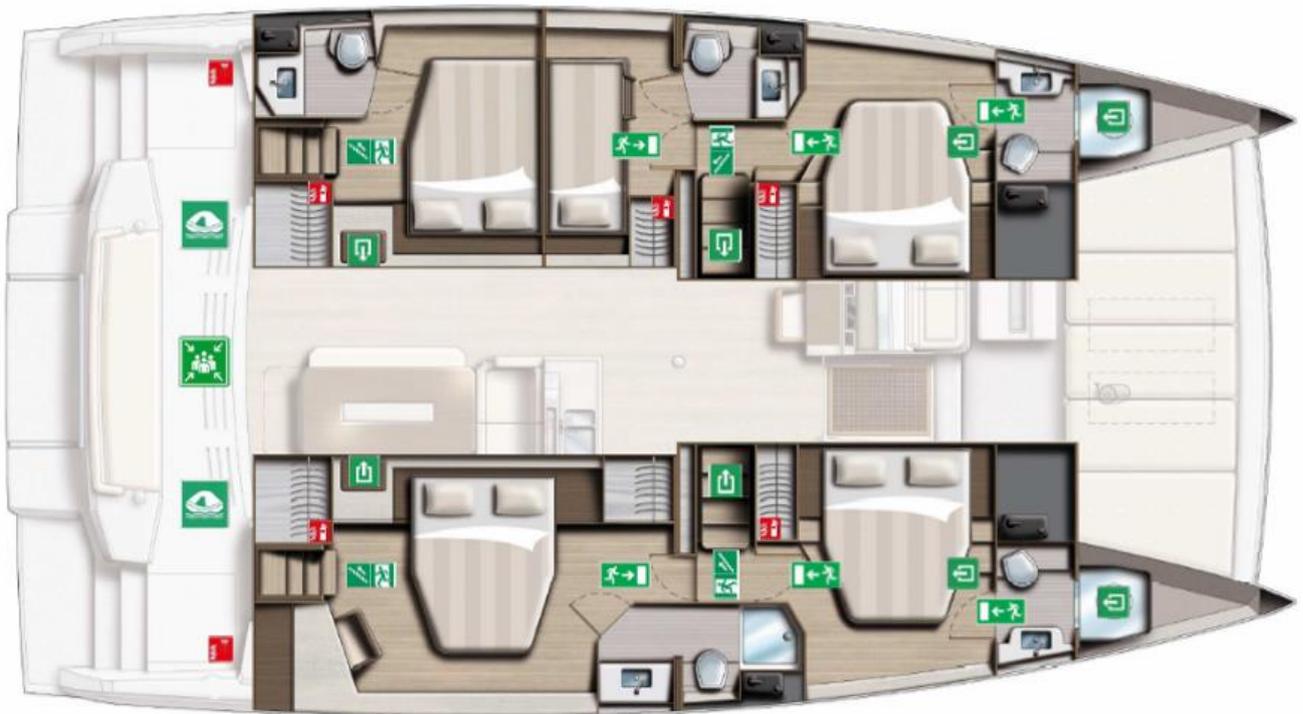
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Evacuation plan 6 cabin version

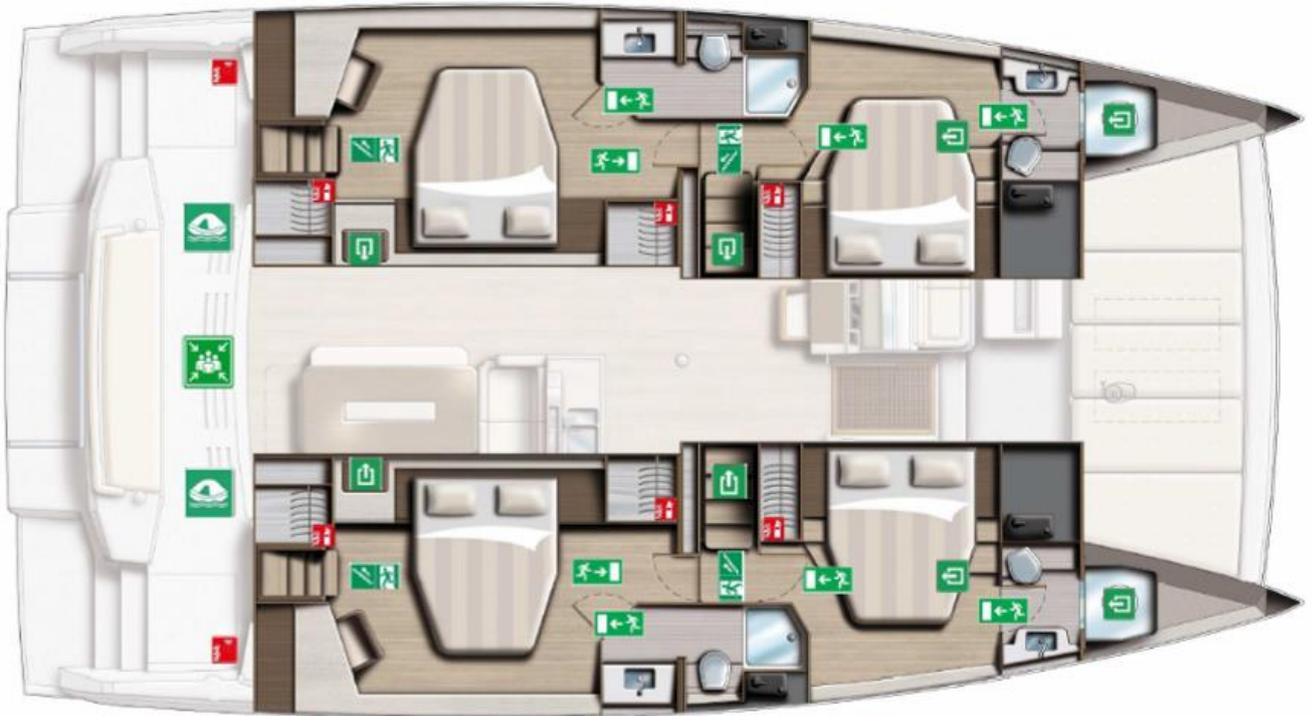




Evacuation plan asymmetric 4 cabin version



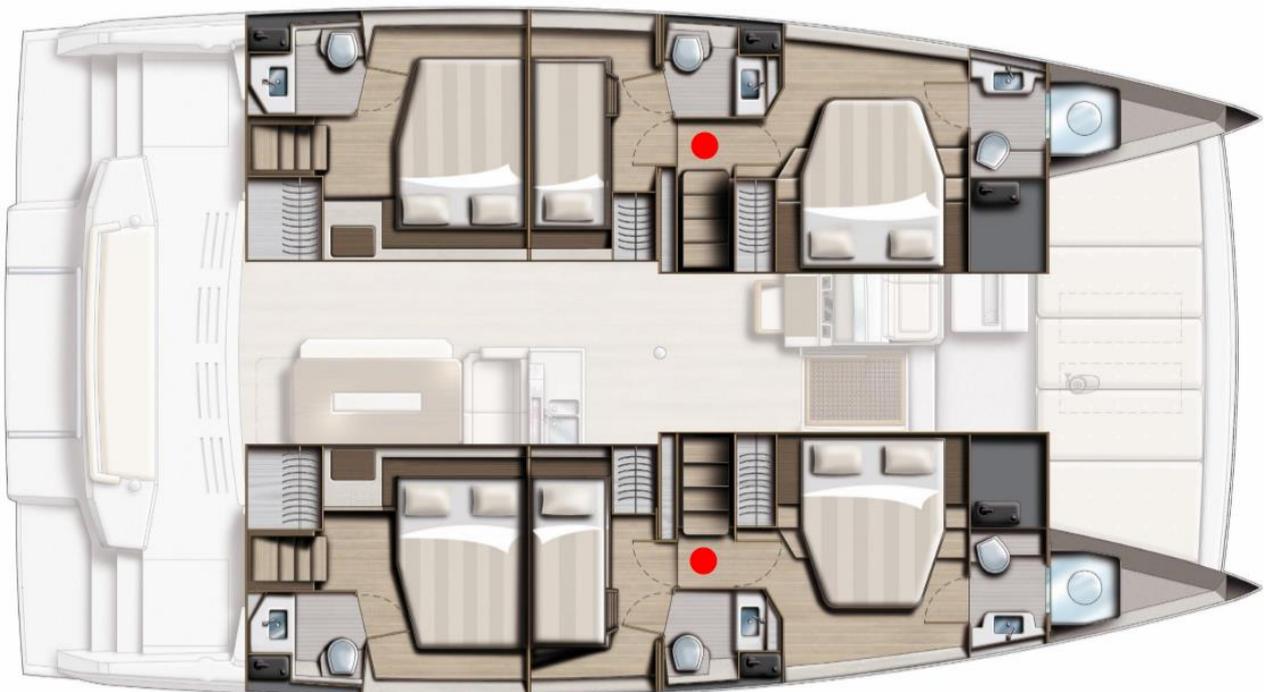
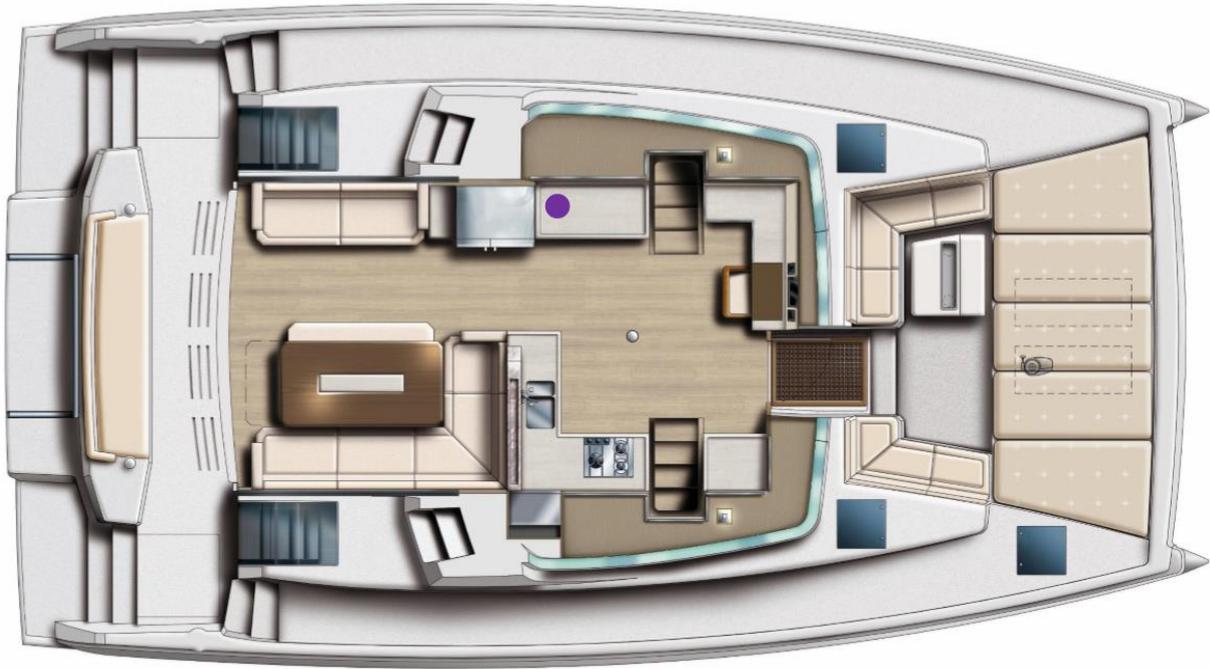
Evacuation plan symmetrical 4 cabin version

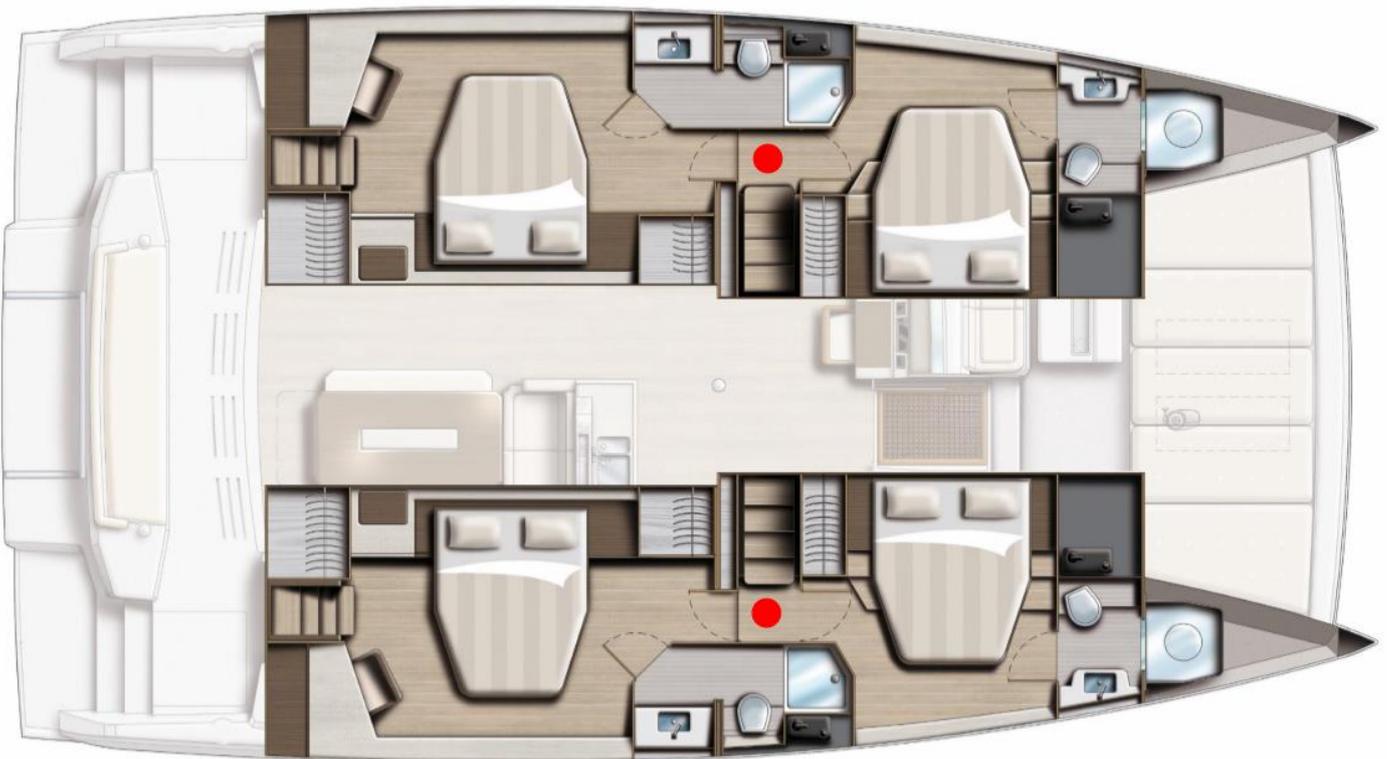
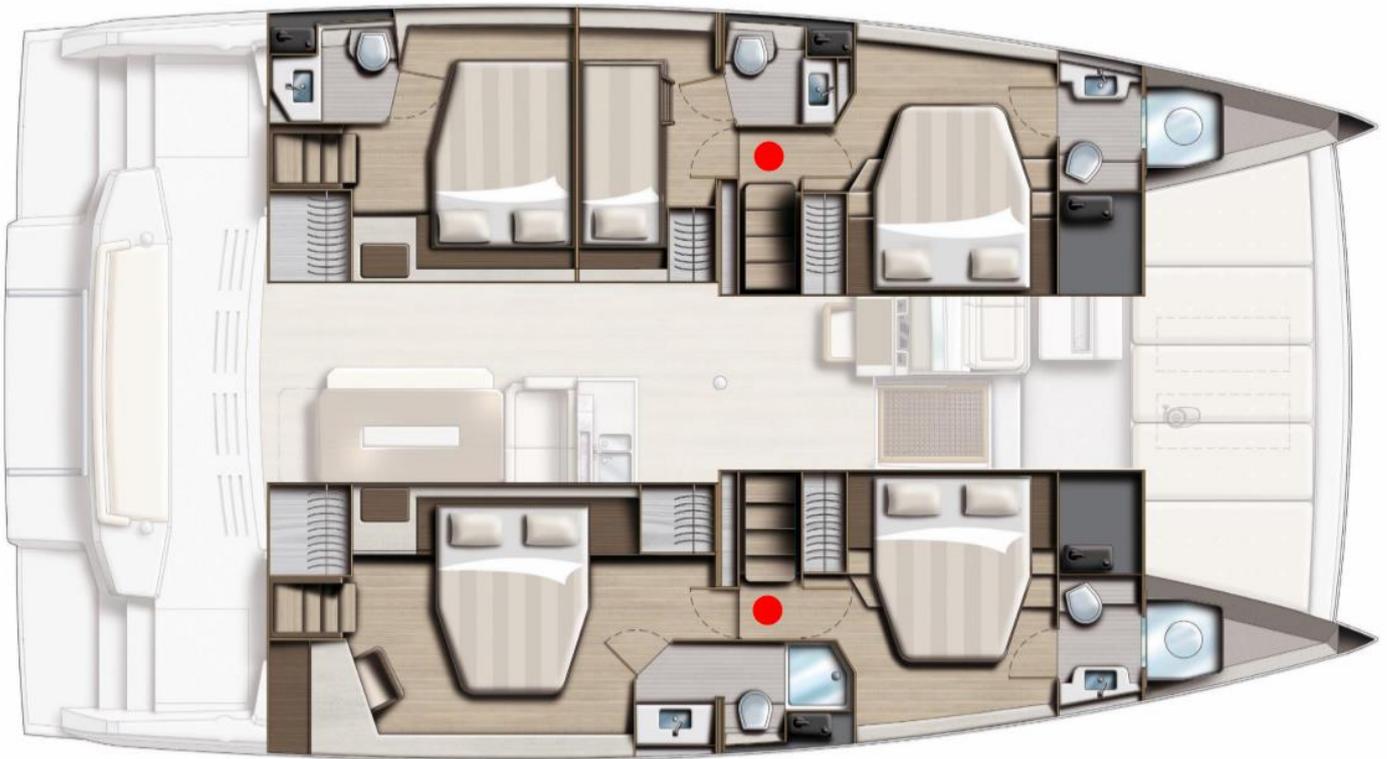


Evacuation plan 3 cabin version



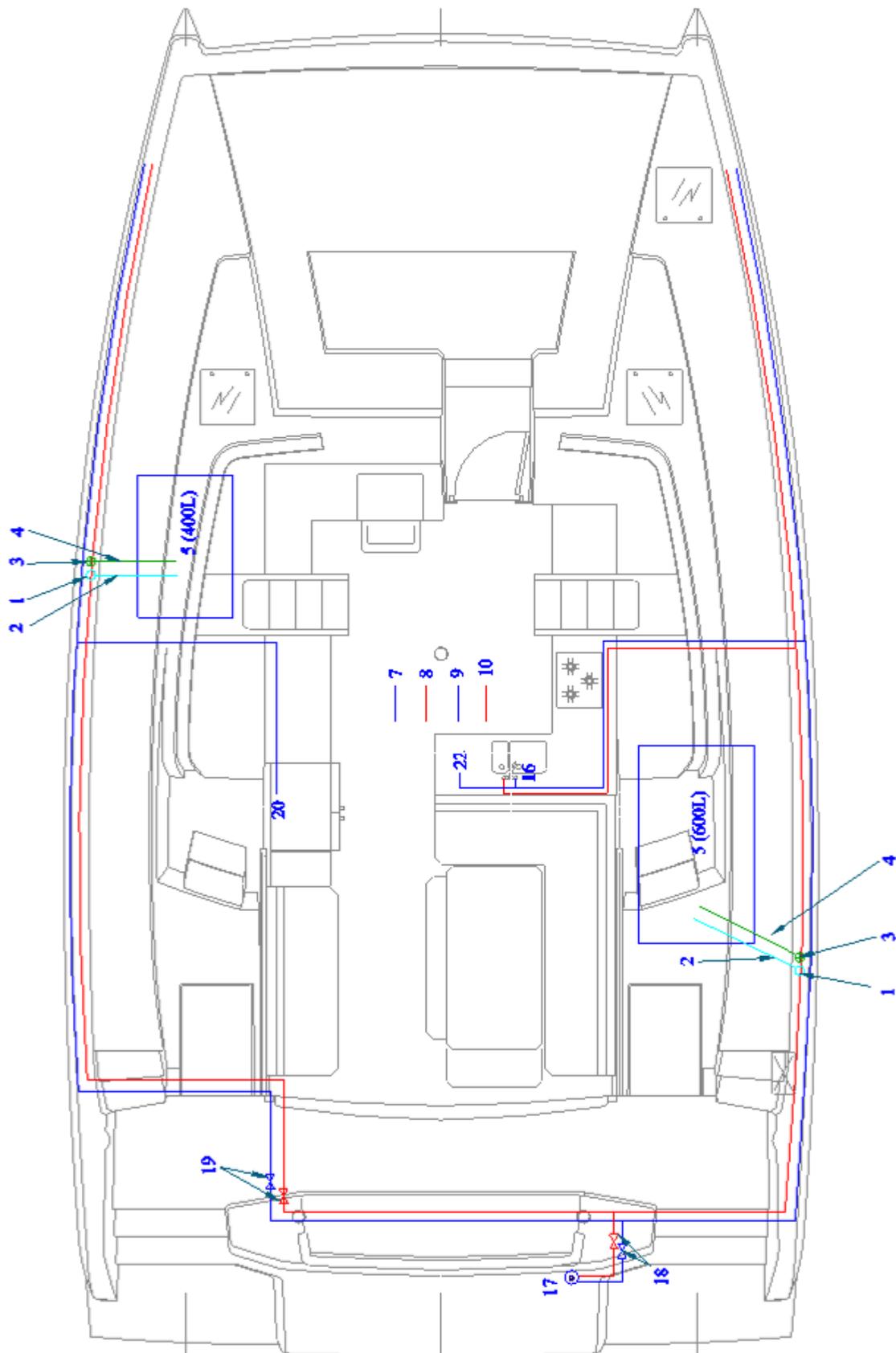
Fire detection system installation in the nacelle  and the hulls 





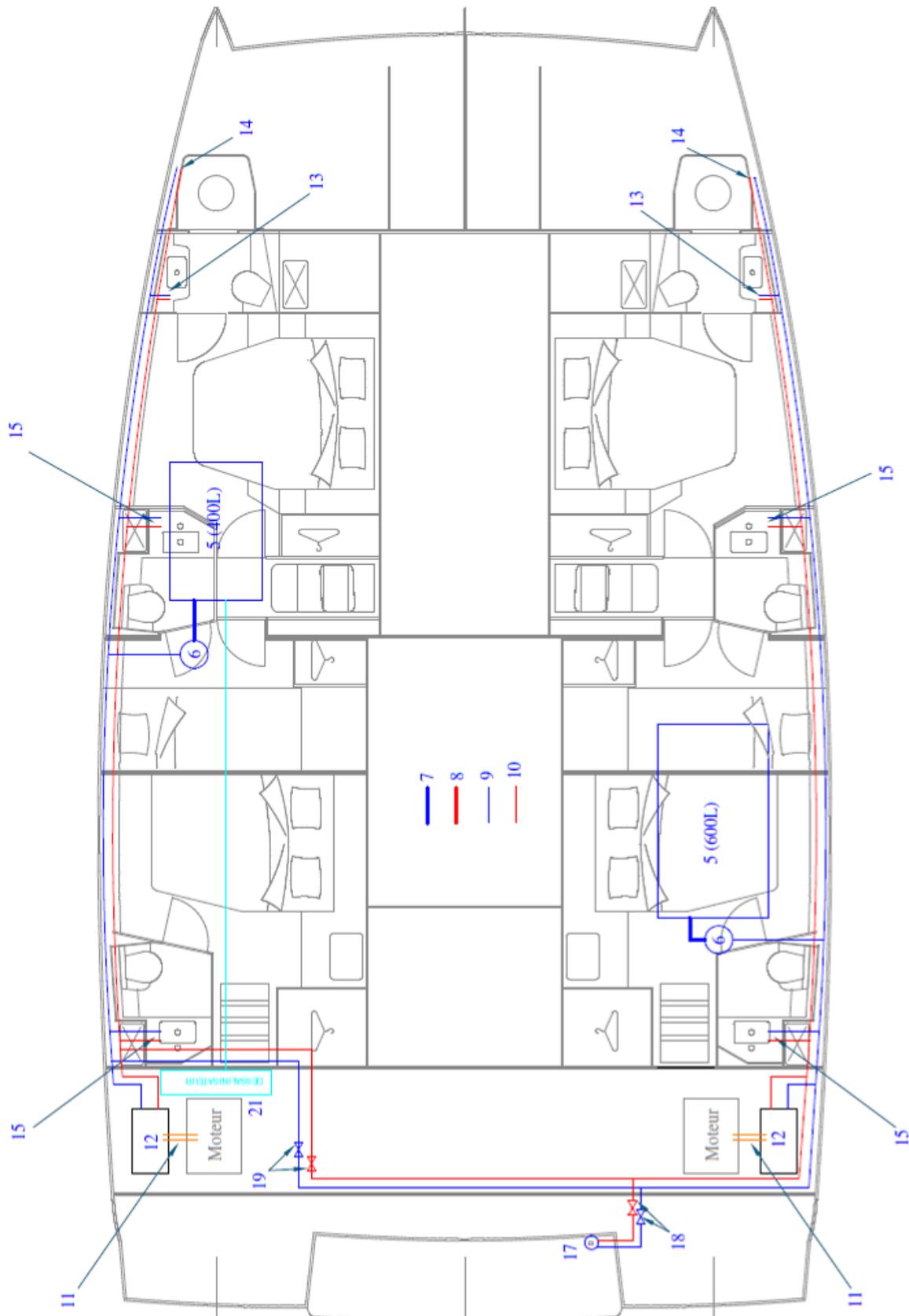


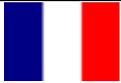
 EVACUATION DU NAVIRE		 ABANDONING SHIP	
<i>Ref.</i>	<i>Désignation</i>	<i>Ref.</i>	<i>Description</i>
	Extincteur auto fixe comp. moteur BD 10A/68B Extincteur auto fixe comp. moteur TD 10A/68B Emplacements préconisés pour les extincteurs Cabine AR TD : Capacité 5A/34B Cabine AR BD : Capacité 5A/34B Cabine Cent. TD : Capacité 5A/34B Cabine Cent BD : Capacité 5A/34B Cabine AV TD : Capacité 5A/34B Cabine AV BD : Capacité 5A/34B Cuisine : Capacité 5A/34B Prés des accès cale moteur : Capacité 5A/34B utilisable en toute position Détecteurs incendie	1 Auto extinguisher port engine 10A/68B 2 Auto extinguisher stbd engine 10A/68B Recommended places for extinguishers Stbd aft cabin: Capacity 5A/34B Port aft cabin: Capacity 5A/34B Central stbd cabin: Capacity 5A/34B Central port cabin: Capacity 5A/34B Stbd forecabin: Capacity 5A/34B Port forecabin: Capacity 5A/34B Galley: Capacity 5A/34B Close to the engine compartments: Capacity 5A/34B usable in any position Fire detectors	
	 Extincteur  Radeau de survie  Point de rassemblement	 Couverture anti feu  Trappe de survie/évacuation cabine skipper  Direction d'évacuation  Extinguisher  Liferaft  Assembly station	 Fire blanket  Escape hatch/crew cabin evacuation  Direction of evacuation

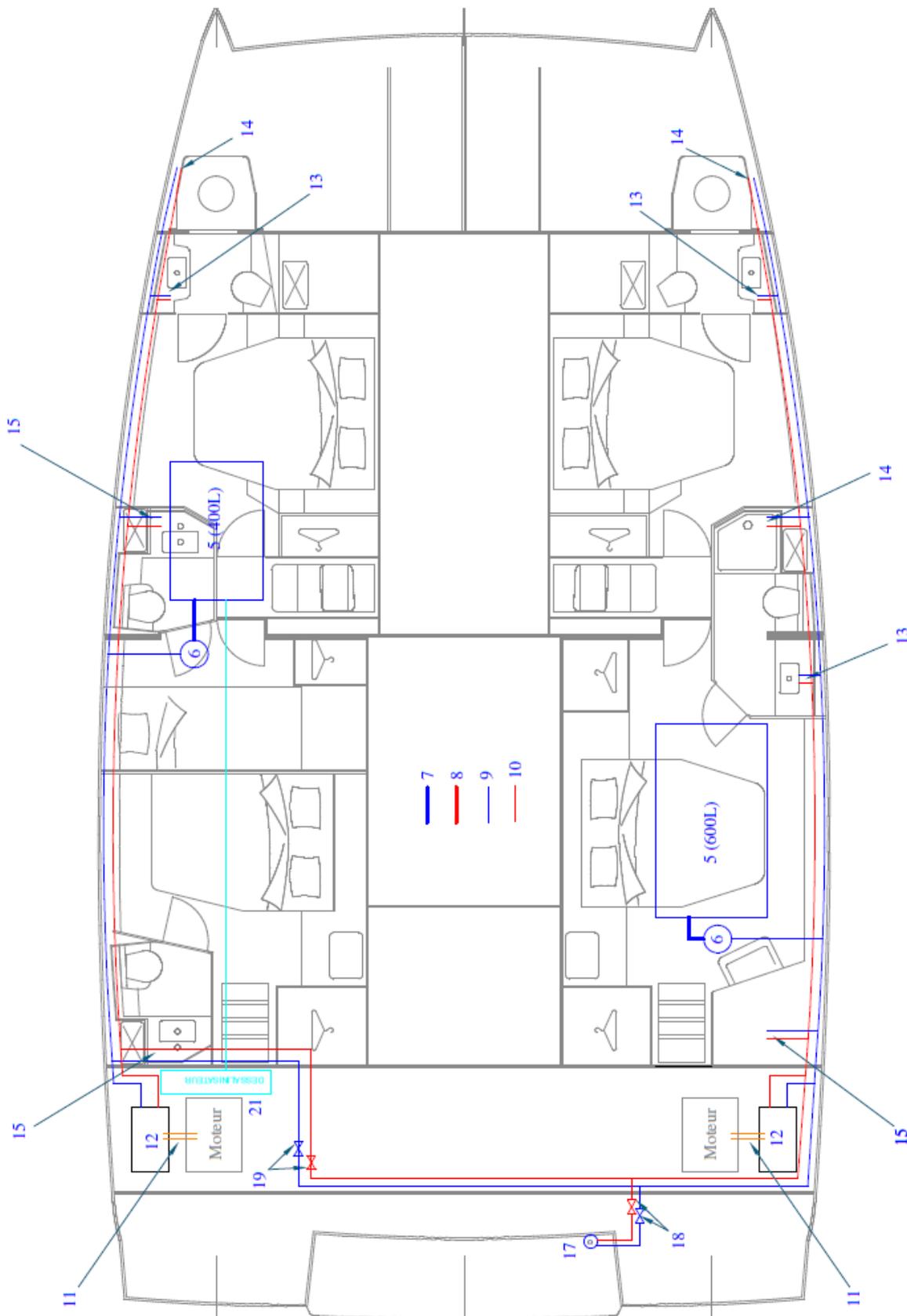


 CIRCUIT EAU DOUCE		 FRESHWATER SYSTEM	
Ref.	Désignation	Ref.	Description
1	Nable de remplissage	1	Filler neck
2	Tuyau de remplissage Ø38mm	2	Filler tube Ø 38mm
3	Event	3	Vent
4	Tuyau d'évent Ø16 mm	4	Vent pipe Ø 16mm
5	Réservoir d'eau 400L et 600L	5	Water tank 400 L and 600 L
7	Tuyau eau froide Ø20	7	Cold water circulation pipe Ø20
8	Tuyau chaude Ø20	8	Hot water circulation pipe Ø20
9	Tuyau eau chaude Ø12	9	Hot water circulation pipe Ø12
10	Tuyau eau froide Ø12	10	Cold water circulation pipe Ø12
16	Mitigeur Cuisine	16	Galley mixer tap
17	Douchette de pont	17	Shower mixer tap
18	Vanne coupure douchette de pont	18	Shut-off valve deck shower
19	Vanne de connexion BD / TD	19	Connection valve port/stbd
20	Frigo américain	20	American refrigerator
22	Lave-vaisselle	22	Dishwasher

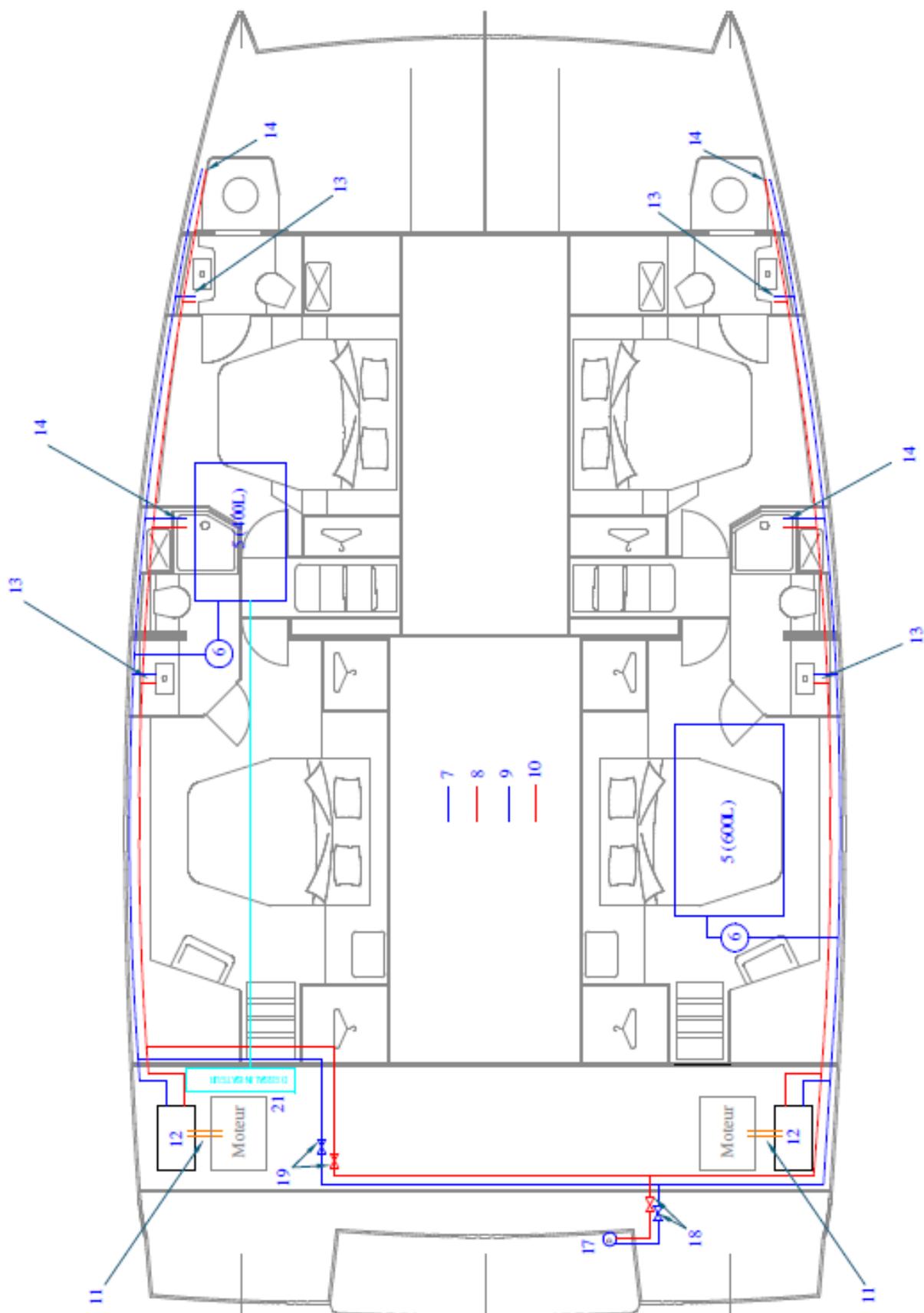
Fresh water system symmetrical 6 cabin version



 CIRCUIT EAU DOUCE		 FRESHWATER SYSTEM	
<i>Ref.</i>	<i>Désignation</i>	<i>Ref.</i>	<i>Description</i>
5	Réservoir d'eau	5	Water tank
6	Groupe d'eau sous pression	6	Fresh water pressure pump
7	Tuyau eau froide Ø20	7	Cold water circulation pipe Ø20
8	Tuyau eau chaude Ø20	8	Hot water circulation pipe Ø20
9	Tuyau eau chaude Ø12	9	Hot water circulation pipe Ø12
7		7	
8		8	
9	Tuyau eau chaude Ø12	9	Hot water circulation pipe Ø12
10	Tuyau eau froide Ø12	10	Cold water circulation pipe Ø12
16	Mitigeur Cuisine	16	Galley mixer tap
17	Douchette de pont	17	Shower mixer tap
18	Vanne coupure douchette de pont	18	Shut-off valve deck shower
19	Vanne de connexion BD / TD	19	Connection valve port/stbd
20	Frigo américain	20	American refrigerator
22	Lave-vaisselle	22	Dishwasher

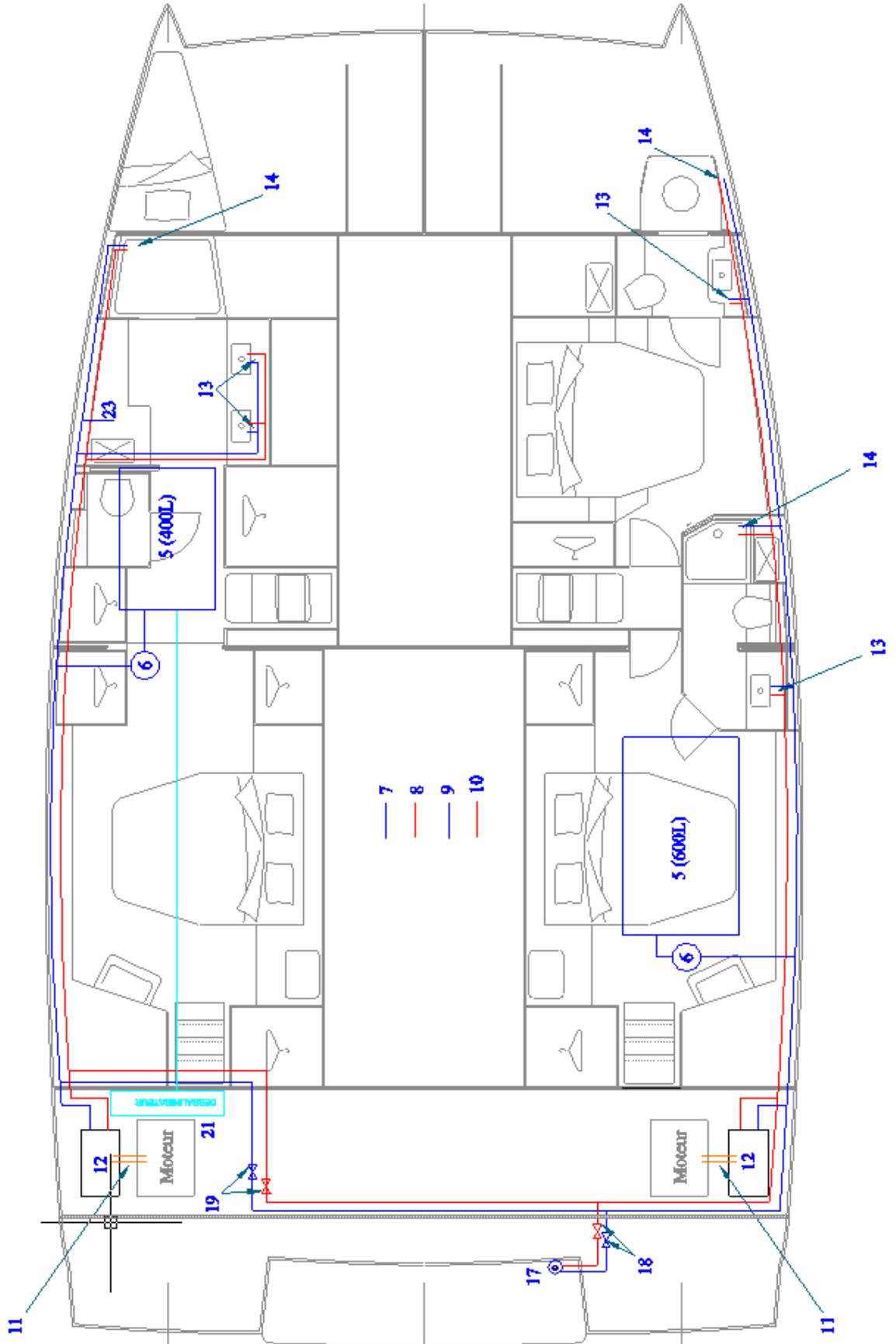


 CIRCUIT EAU DOUCE		 FRESHWATER SYSTEM	
Ref.	Désignation	Ref.	Description
5	Réservoir d'eau	5	Water tank
6	Groupe d'eau sous pression	6	Fresh water pressure pump
7	Tuyau eau froide Ø20	7	Cold water circulation pipe Ø20
8	Tuyau eau chaude Ø20	8	Hot water circulation pipe Ø20
9	Tuyau eau chaude Ø12	9	Hot water circulation pipe Ø12
7		7	
8		8	
9	Tuyau eau chaude Ø12	9	Hot water circulation pipe Ø12
10	Tuyau eau froide Ø12	10	Cold water circulation pipe Ø12
16	Mitigeur Cuisine	16	Galley mixer tap
17	Douchette de pont	17	Shower mixer tap
18	Vanne coupure douchette de pont	18	Shut-off valve deck shower
19	Vanne de connexion BD / TD	19	Connection valve port/stbd
20	Frigo américain	20	American refrigerator
22	Lave-vaisselle	22	Dishwasher

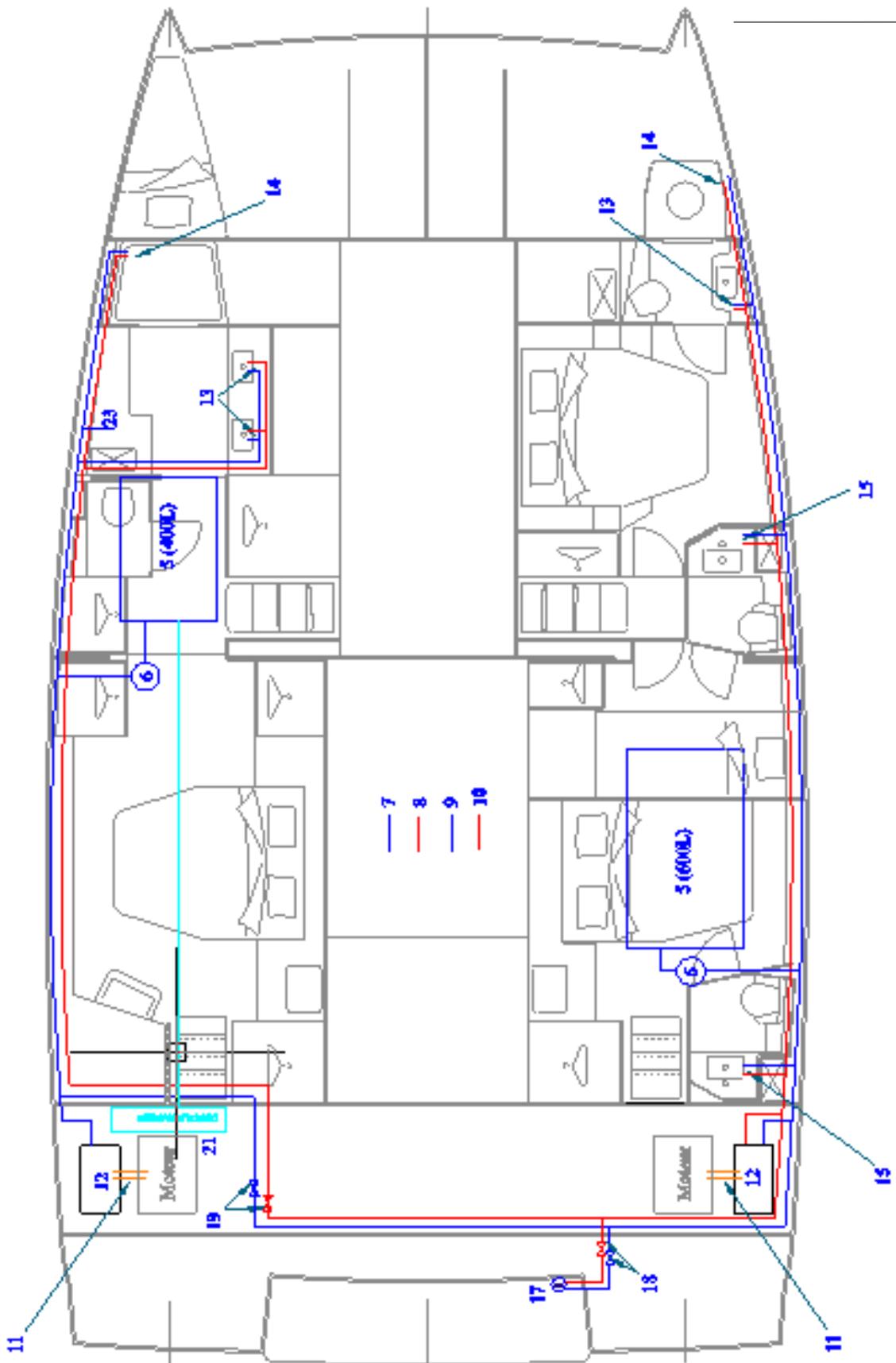


 CIRCUIT EAU DOUCE		 FRESHWATER SYSTEM	
Ref.	Désignation	Ref.	Description
5	Réservoir d'eau 400L et 600L	5	Water tank 400 L and 600 L
6	Groupe d'eau sous pression	6	Fresh water pressure pump
7	Tuyau eau froide Ø20	7	Cold water circulation pipe Ø20
8	Tuyau eau chaude Ø20	8	Hot water circulation pipe Ø20
9	Tuyau eau froide Ø12	9	Cold water circulation pipe Ø12
10	Tuyau eau chaude Ø12	10	Hot water circulation pipe Ø12
11	Tuyau échangeur moteur Ø16	11	Engine heat exchanger hose Ø16
12	Chauffe-eau 60L	12	Water heater 60L
13	Mitigeur lavabo SdB	13	Bathroom basin mixer tap
14	Mitigeur douche	14	Shower mixer tap
17	Douchette de pont	17	Deck shower
18	Vanne coupure douchette de pont	18	Shut-off valve deck shower
19	Vanne de connexion BD / TD	19	Interconnecting valve port/stbd
21	Dessalinisateur (option)	21	Watermaker (option)

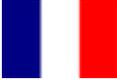
Fresh water system 3 cabin port suite version

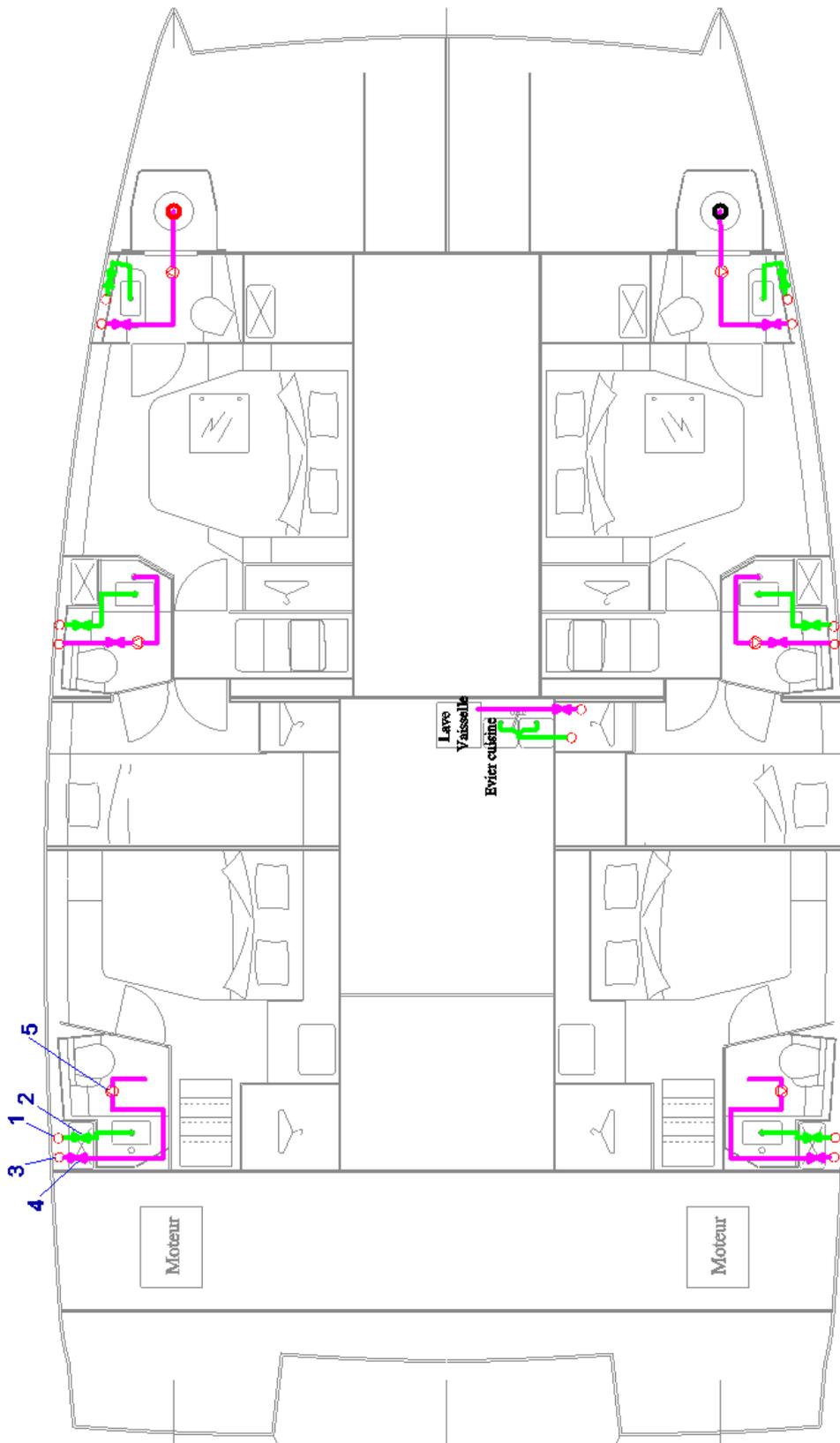


 CIRCUIT EAU DOUCE		 FRESHWATER SYSTEM	
<i>Ref</i>	<i>Désignation</i>	<i>Ref</i>	<i>Description</i>
5	Réservoir d'eau 400L et 600L	5	Water tank 400 L and 600 L
6	Groupe d'eau sous pression	6	Fresh water pressure pump
7	Tuyau eau froide Ø20	7	Cold water circulation pipe Ø20
8	Tuyau eau chaude Ø20	8	Hot water circulation pipe Ø20
9	Tuyau eau froide Ø12	9	Cold water circulation pipe Ø12
10	Tuyau eau chaude Ø12	10	Hot water circulation pipe Ø12
11	Tuyau échangeur moteur Ø16	11	Engine heat exchanger hose Ø16
12	Chauffe-eau 60L	12	Water heater 60L
13	Mitigeur lavabo SdB	13	Bathroom basin mixer tap
14	Mitigeur douche	14	Shower mixer tap
17	Douchette de pont	17	Deck shower
18	Vanne coupure douchette de pont	18	Shut-off valve deck shower
19	Vanne de connexion Bd / Td	19	Interconnecting valve port/stbd
21	Dessalinisateur (option)	21	Watermaker (option)
23	Lave-linge	23	Washing machine

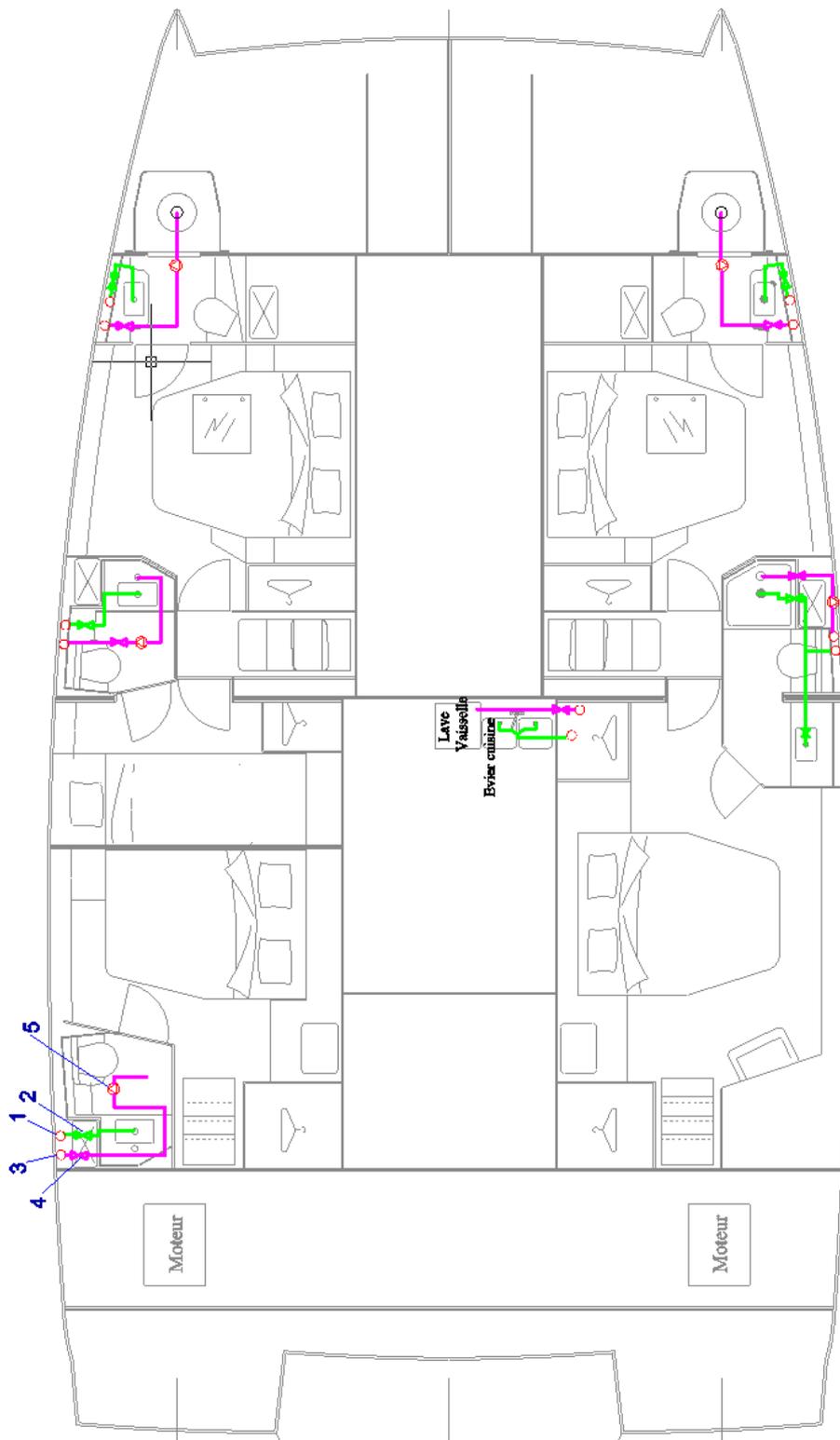


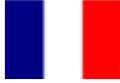
 CIRCUIT EAU DOUCE		 FRESHWATER SYSTEM	
<i>Ref.</i>	<i>Désignation</i>	<i>Ref.</i>	<i>Description</i>
5	Réservoir d'eau 400L et 600L	5	Water tank 400 L and 600 L
6	Groupe d'eau sous pression	6	Fresh water pressure pump
7	Tuyau eau froide Ø20	7	Cold water circulation pipe Ø20
8	Tuyau eau chaude Ø20	8	Hot water circulation pipe Ø20
9	Tuyau eau froide Ø12	9	Cold water circulation pipe Ø12
10	Tuyau eau chaude Ø12	10	Hot water circulation pipe Ø12
11	Tuyau échangeur moteur Ø16	11	Engine heat exchanger hose Ø16
12	Chauffe-eau 60L	12	Water heater 60L
13	Mitigeur lavabo SdB	13	Bathroom basin mixer tap
14	Mitigeur douche	14	Shower mixer tap
15	Mitigeur coiffeur	15	Mixer tap
17	Douchette de pont	17	Deck shower
18	Vanne coupure douchette de pont	18	Shut-off valve deck shower
19	Vanne de connexion Bd / Td	19	Interconnecting valve port/stbd
21	Dessalinisateur	21	Watermaker
23	Lave-linge (option)	23	Washing machine (option)

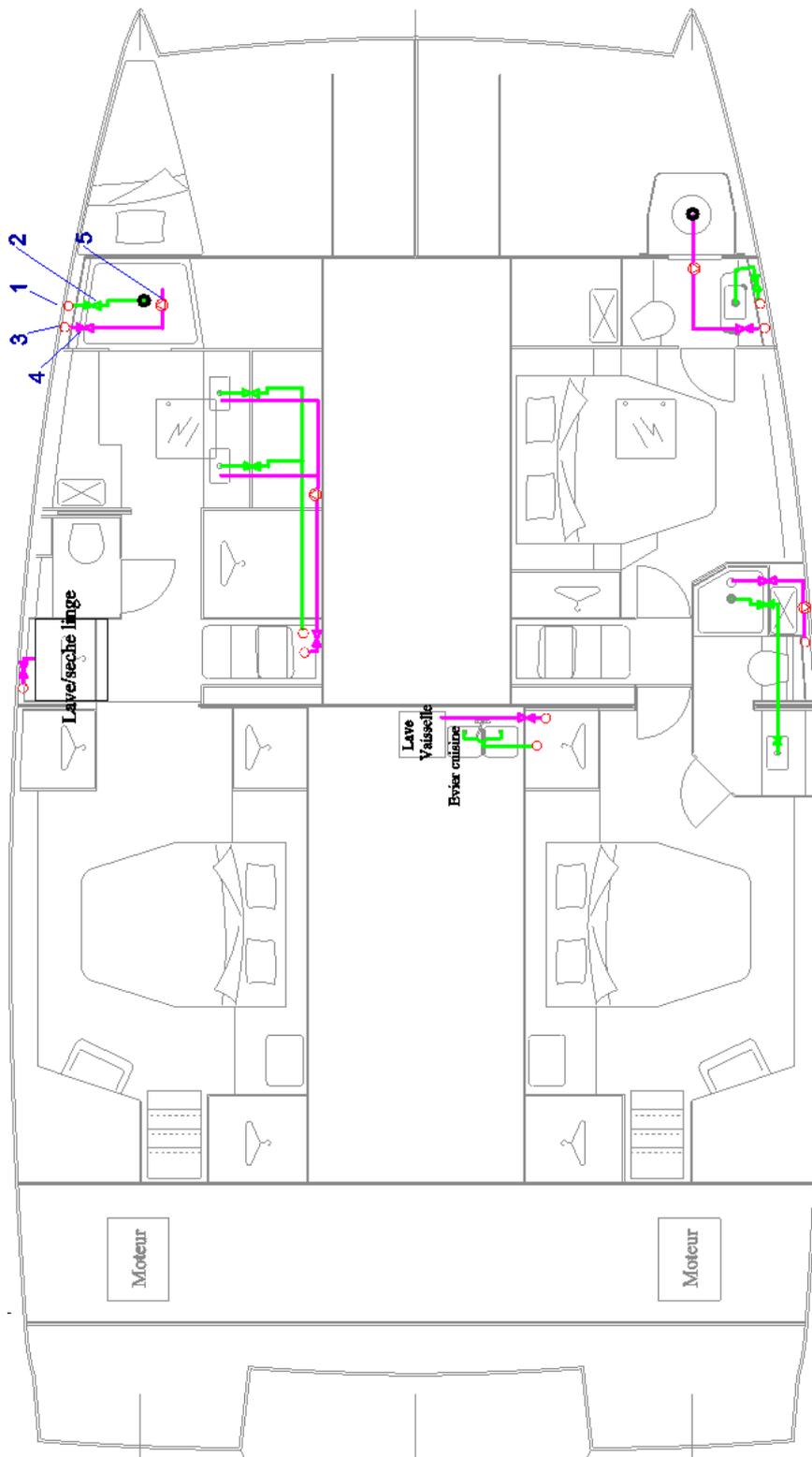
 CIRCUIT D'ASSECHEMENT		 BAILING SYSTEM	
<i>Ref.</i>	<i>Désignation</i>	<i>Ref.</i>	<i>Description</i>
1	Pompe de cale électrique	1	Electric bilge pump
2	Tuyaux de pompes électriques	2	Electric pump hoses
3	Passe coque refoulement pompe elec	3	Electric pump through-hull outlet
4	Crépines de pompes manuelles	4	Manual bilge pump strainers
5	Tuyaux de pompes manuelles	5	Manual bilge pump hoses
6	Pompes manuelles	6	Manual bilge pumps
7	Passe coque de pompes manuelles	7	Manual pump through-hull outlet
8	Raccord Y	8	Y-connector
Bleu	Zone cales moteurs	Blue	Engine compartment zones
Rouge	Zone flotteurs	Red	Float switch zones

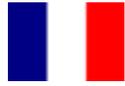


 CIRCUIT EAU GRISE		 GREY WATER SYSTEM	
<i>Ref.</i>	<i>Désignation</i>	<i>Ref.</i>	<i>Description</i>
1	Passe coque 1' ¼"	1	Through-hull 1¼"
2	Vanne cadenassable ¼ de tour 1"1/4'	2	1¼" ¼-turn padlockable seacock
3	Passe coque ¾"	3	¾" through-hull
4	Vanne cadenassable ¼ de tour ¾"	4	¾" padlockable ¼-turn seacock
5	Pompe circuit douche	5	Shower drain pump
6	Passe coque 1"1/2'	6	1½" Through-hull
-----			Grey water gravity-fed circuit bathroom and galley sink
-	Réseau EG gravité: évier SdB et cuisine	-----	
-----	Réseau EG pression : Pompe douches et lave linge		Grey water pumped circuit: showers and dishwasher
-		-----	

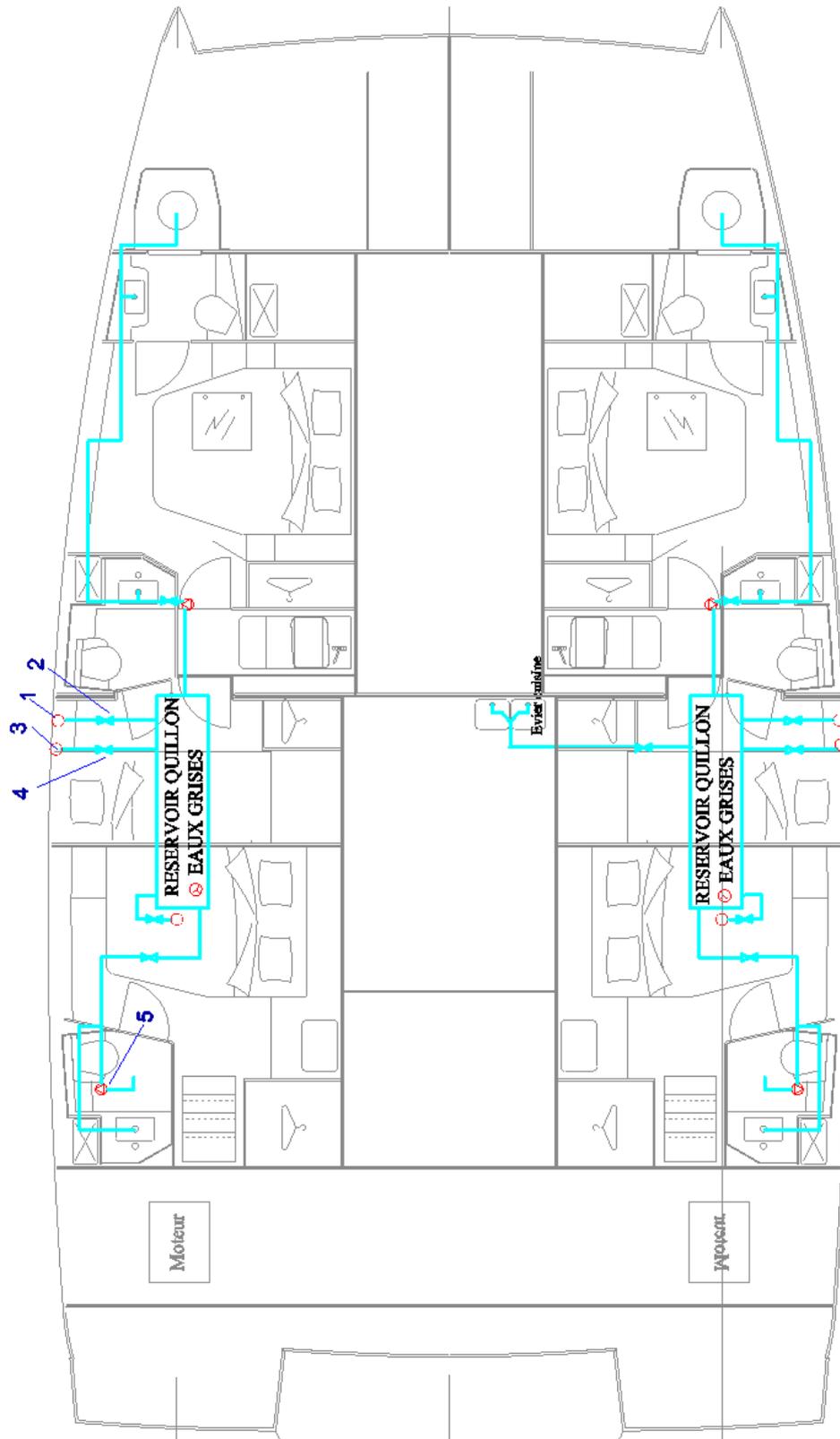


 CIRCUIT D'EAUX GRISES		 GREY WATER SYSTEM	
<i>Ref.</i>	<i>Désignation</i>	<i>Ref.</i>	<i>Description</i>
1	Passerelle 1"1/4	1	Through-hull 1 1/4"
2	Vanne 1/4 de tour cadenassable 1"1/4	2	1 1/4" 1/4-turn padlockable seacock
3	Passerelle 3/4"	3	3/4" through-hull
4	Vanne 1/4 de tour cadenassable 3/4"	4	3/4" padlockable 1/4-turn seacock
5	Pompe 12V évacuation douche	5	12V Shower drain pump
6	Passerelle 1"1/2	6	1 1/2" Through-hull



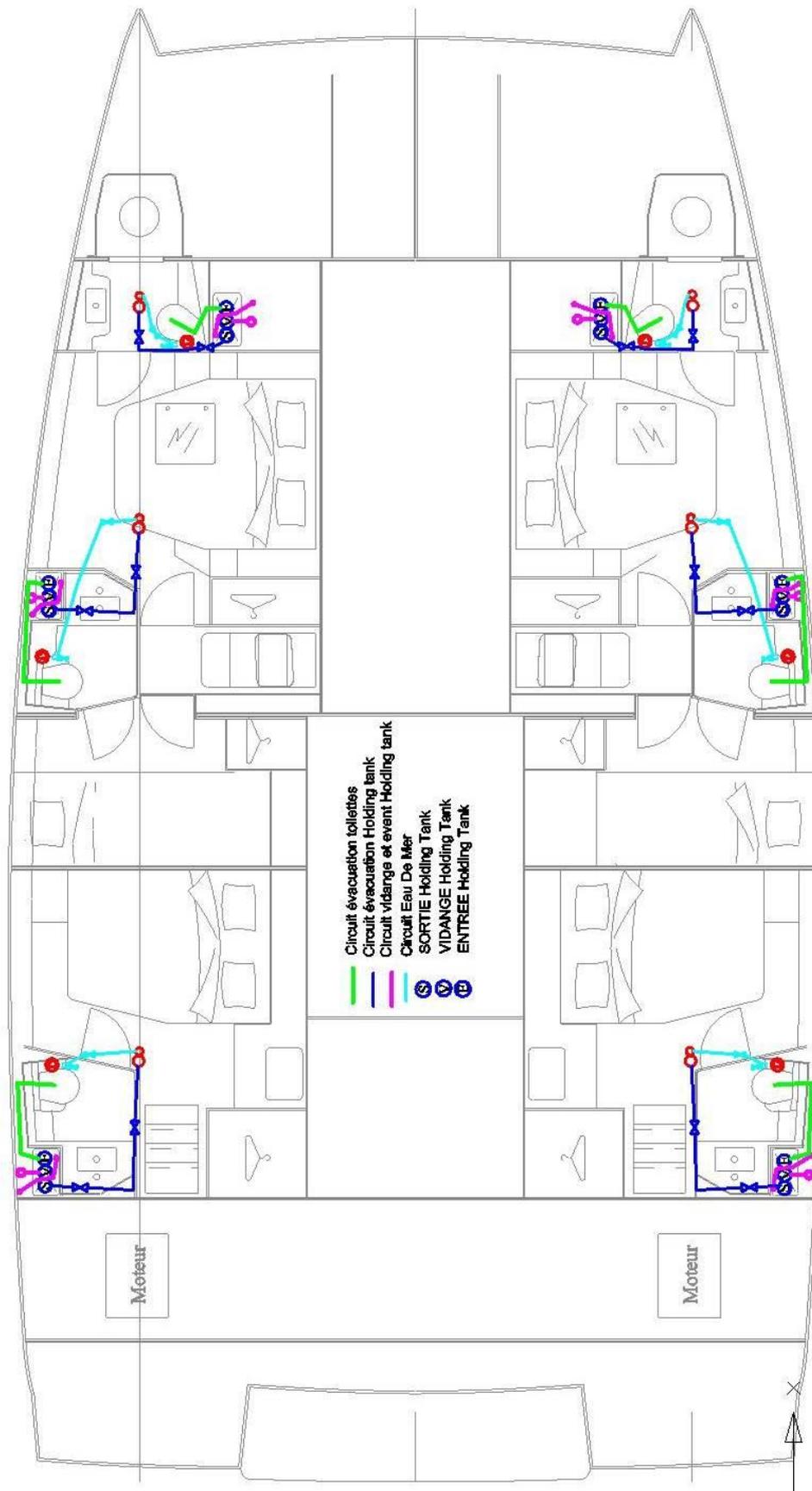
 CIRCUIT D'EAUX GRISES		 GREY WATER SYSTEM	
<i>Ref.</i>	<i>Désignation</i>	<i>Ref.</i>	<i>Description</i>
1	Passe coque 1"1/4	1	Through-hull 1½"
2	Vanne ¼ de tour cadenassable 1"1/4	2	1¼" ¼-turn padlockable seacock
3	Passe coque 3/4"	3	¾" through-hull
4	Vanne ¼ de tour cadenassable 3/4"	4	¾" padlockable ¼-turn seacock
5	Pompe circuit douche	5	Shower drain pump
6	Passe coque 1"1/2	6	1½" Through-hull

Grey water tank in keels option

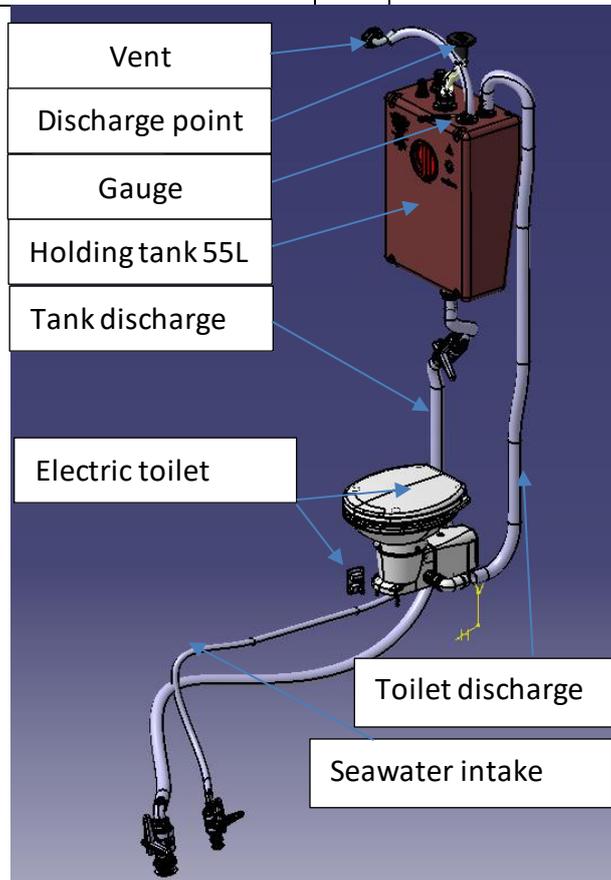


 CIRCUIT D'EAUX GRISES		 GREY WATER SYSTEM	
<i>Ref.</i>	<i>Désignation</i>	<i>Ref.</i>	<i>Description</i>
1	Passerelle 1"1/4	1	Through-hull 1"1/4"
2	Vanne 1/4 de tour cadenassable 1"1/4	2	1"1/4" 1/4-turn padlockable seacock
3	Passerelle 3/4"	3	3/4" through-hull
4	Vanne 1/4 de tour cadenassable 3/4"	4	3/4" padlockable 1/4-turn seacock
5	Pompe circuit douche	5	Shower drain pump
6	Passerelle 1"1/2	6	1"1/2" Through-hull

Black water tanks installation



 HOLDING TANK		 HOLDING TANK	
<i>Ref.</i>	<i>Désignation</i>	<i>Ref.</i>	<i>Description</i>
1	Passerelle 3/4"	1	3/4" Through-hull skin fitting
2	Vanne cadenassable 1/4 de tour 3/4"	2	3/4" padlockable 1/4-turn seacock
3	Pompe à main toilette	3	Toilet hand pump
4	Moteur toilette électrique (OPTION)	4	Electric toilet pump (option)
5	Vanne cadenassable 1/4 de tour 1"1/2	5	1 1/2" padlockable 1/4-turn seacock
6	Passerelle 1"1/2	6	1 1/2" Through-hull skin fitting
7	Event holding tank	7	Holding tank vent
8	Nable de pont, vidange holding tank	8	Deck filler, holding tank discharge
9	Holding tank 55L	9	55 L holding tank
10	Jauge	10	Gauge
*			

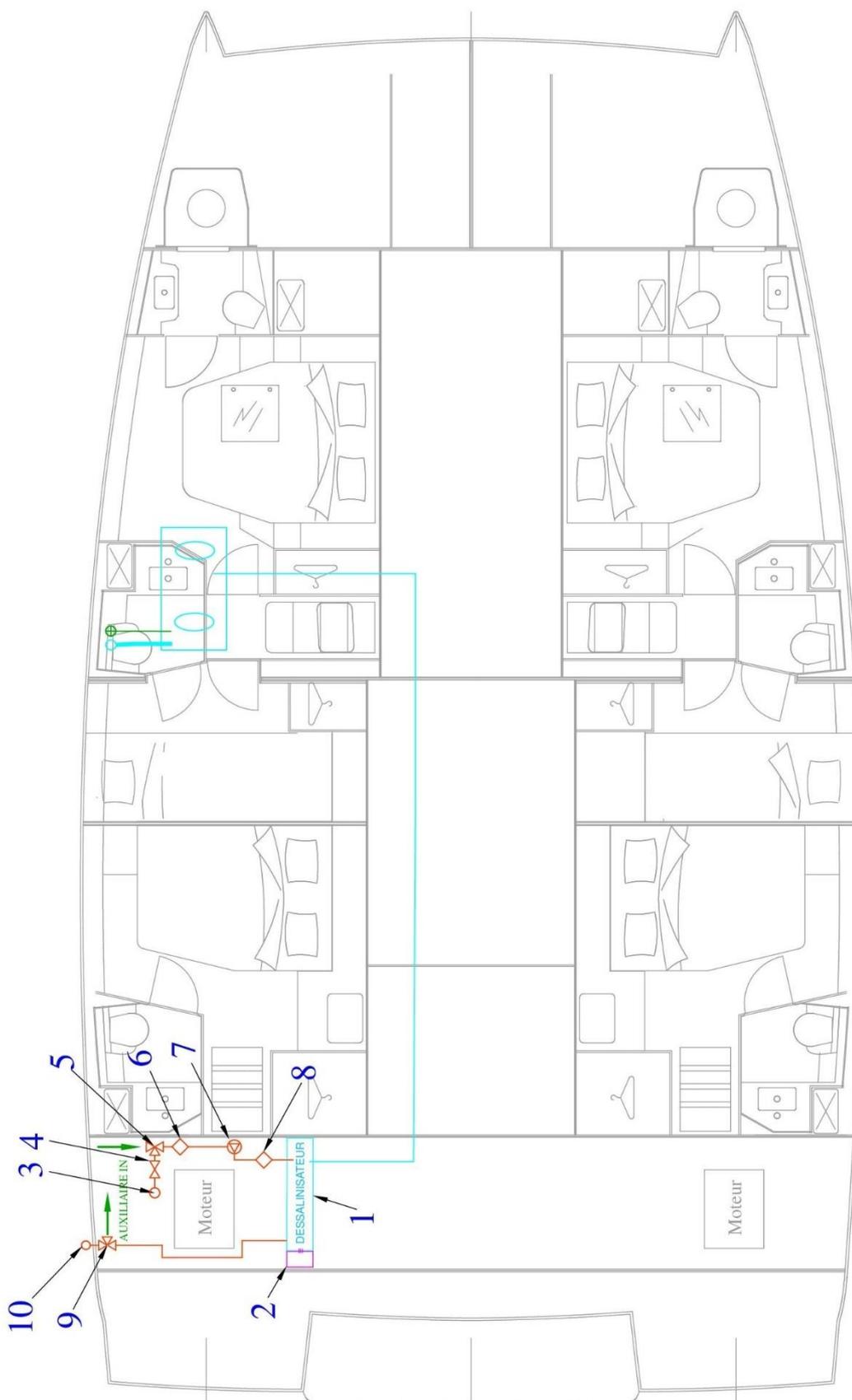


- 1: NABLE DE PONT REPLESSAGE GASOIL Ø 38
- 2: EVENT RESERVOIR GASOIL Ø 16
- 3: RESERVOIR GASOIL 600L
- 4: GROUPE ELECTROGENE ONAN 17KVA - 220V
- 5: VANNE 1/4 DE TOUR DE COUPURE GASOIL
- 6: FILTRE A GASOIL
- 7: POMPE D'AMORCAGE MANUEL + FILTRE DECANTEUR
- 8: RESERVOIR GASOIL 400L

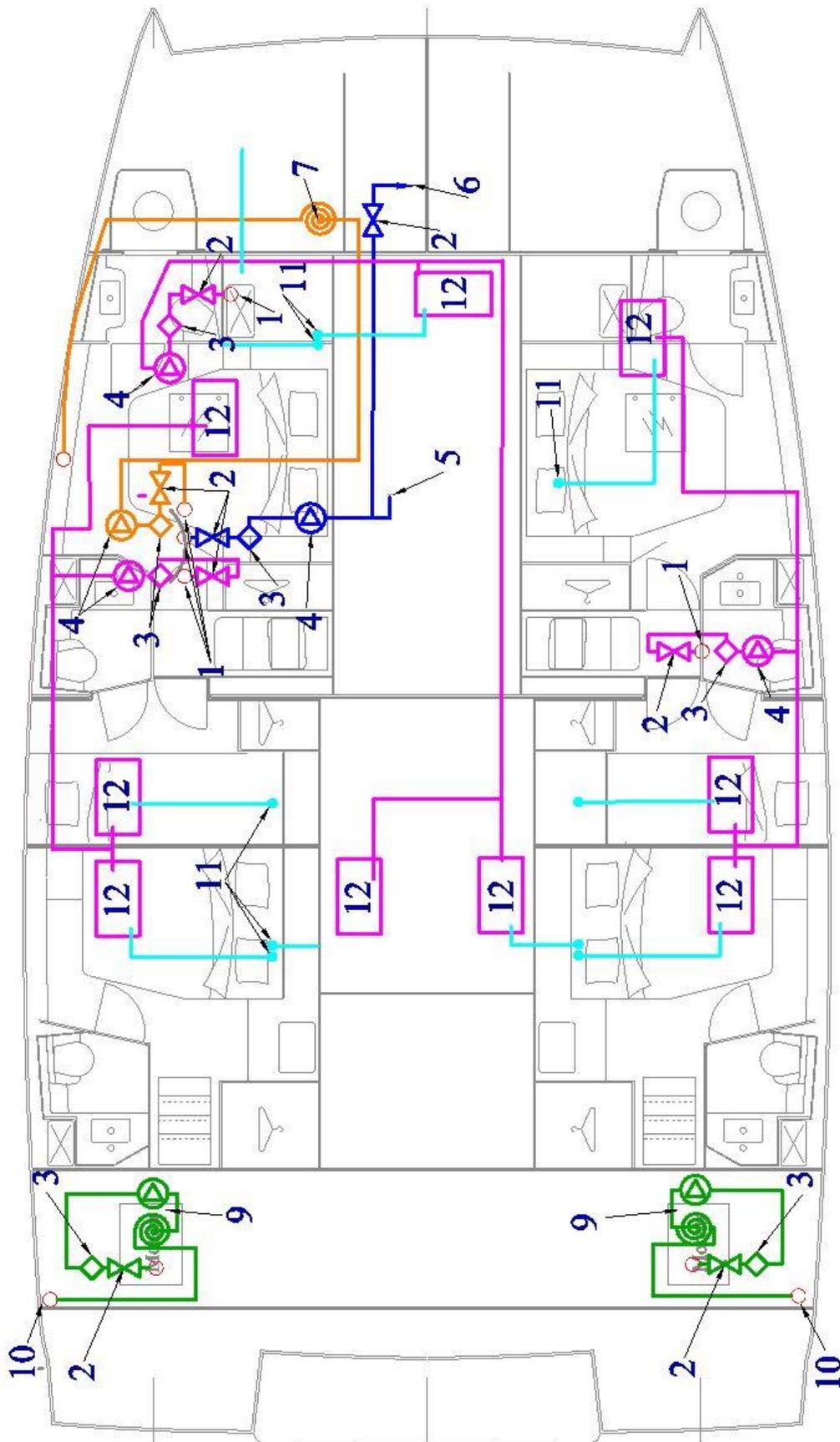


Remplissage Gasoil

 CIRCUIT GASOIL		 FUEL SYSTEM	
Ref.	Désignation	Ref.	Description
1	Nable de pont Ø 38 remplissage gasoil	1	Diesel filler neck Ø38mm
2	Event réservoir gasoil Ø 16	2	Diesel tank vent Ø16mm
3	Réservoir gasoil 600L	3	600 L diesel tank
4	Groupe électrogène	4	Generator
5	Vanne de coupure gasoil	5	Diesel shut-off valve
6	Filtre à gasoil	6	Diesel filter
7	Pompe d'amorçage + filtre décanteur	7	Priming pump + separator
8	Réservoir GO 400L	8	400 L diesel tank
9	Clapet anti débordement	9	Anti-overflow flap

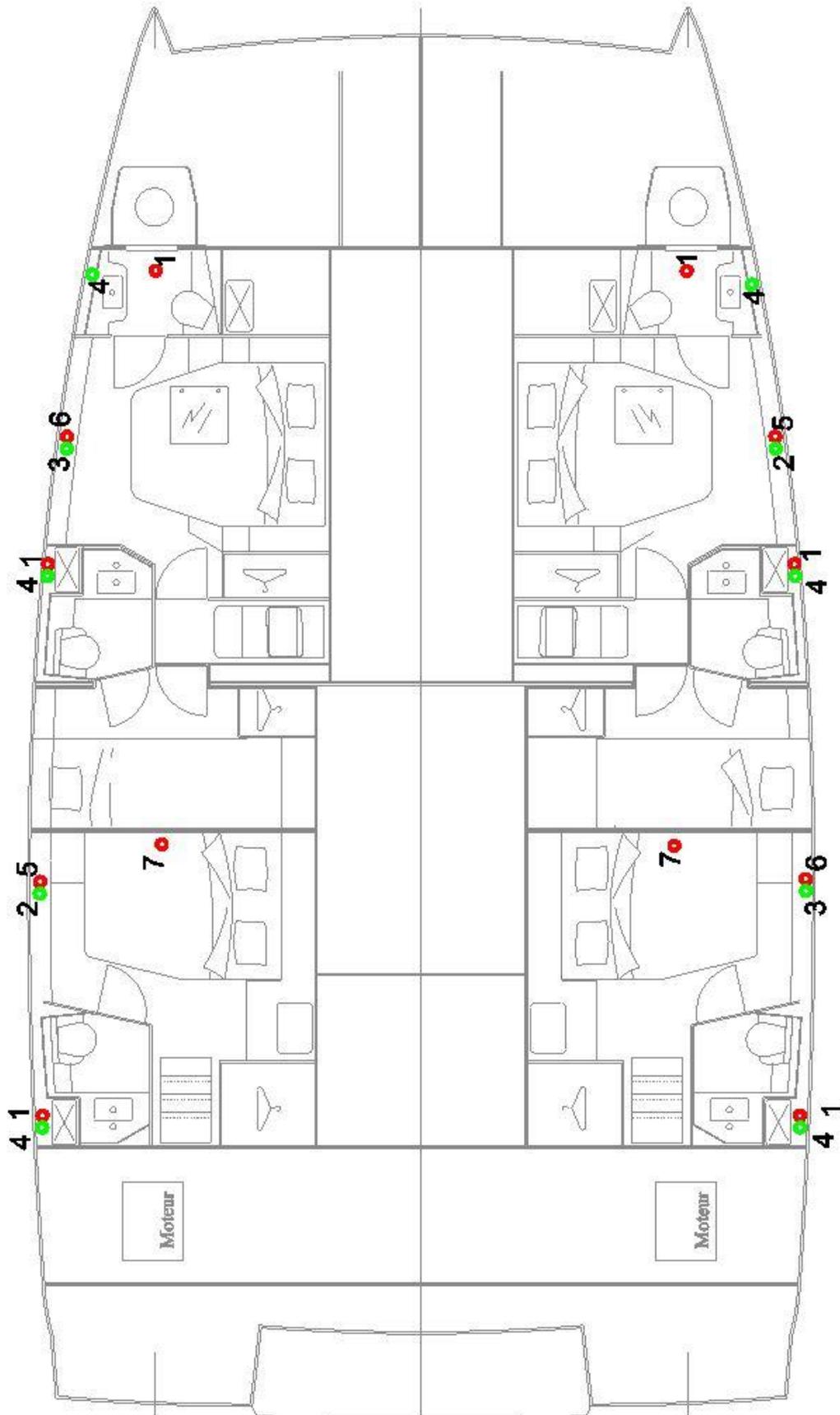


 DESSALINISATEUR		 WATERMAKER	
<i>Ref.</i>	<i>Désignation</i>	<i>Ref.</i>	<i>Description</i>
1	Dessalinisateur	1	Watermaker
2	Boitier de commandes	2	Control box
3	Passe coque crépine eau de mer	3	Through-hull seawater strainer
4	Vanne ¼ de tour 3/4"	4	¾" ¼-turn seacock
5	Vanne 3 voies sélection circuit	5	3-way selector valve
6	Filtre tamis	6	Strainer filter
7	Pompe basse pression	7	Low-pressure pump
8	Filtre cartouche 5µm	8	5µm filter cartridge
9	Vanne 3 voies rejet rinçage	9	3-way rinsing reject outlet
10	Passe coque rejet saumure	10	Reject brine outlet

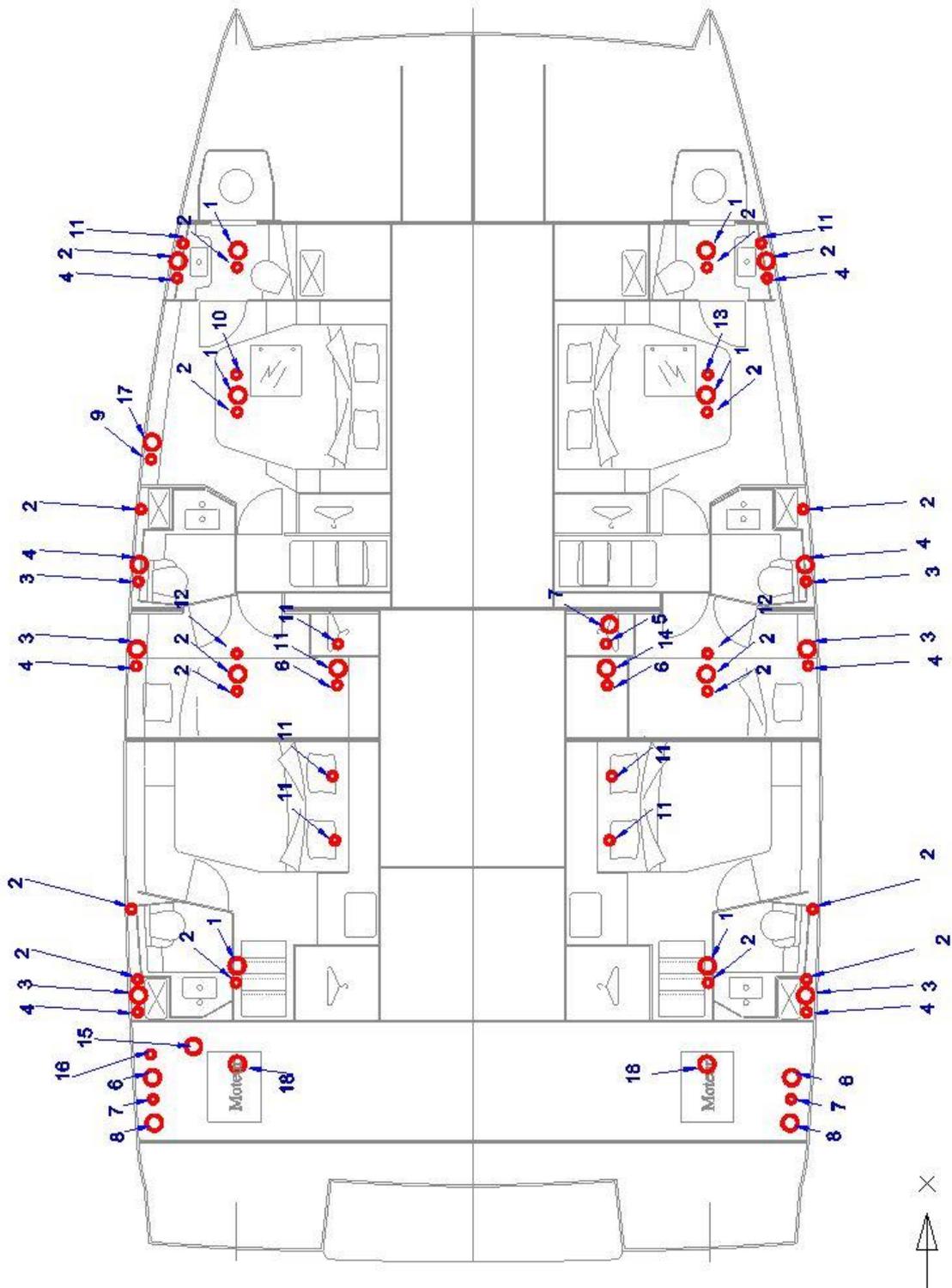


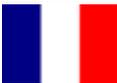
- CIRCUIT REFROIDISSEMENT GROUPE ELECTROGENE
- CIRCUIT REFROIDISSEMENT GROUPE MOTEUR
- CIRCUIT EAU DE MER CUISINE ET PONT
- CIRCUIT EAU DE MER CLIMATISATION
- CIRCUIT REJET CLIMATISATION

 EAU DE MER		 SEA WATER SYSTEM	
<i>Ref.</i>	<i>Désignation</i>	<i>Ref.</i>	<i>Description</i>
1	Passe coque crépine	1	Through-hull strainer
2	Vanne ¼ de tour 3/4"	2	¾" ¼-turn seacock
3	Filtre eau de mer	3	Seawater filter
4	Pompe électrique	4	Electric pump
5	Robinet EDM cuisine	5	Galley seawater tap
6	Raccord tuyau automatique sur pont	6	Deck hose attachment
7	Circuit refroidissement interne GE	7	Cooling circuit internal pump
8	Rejet EDM par échappement GE	8	Seawater discharge pump
9	Circuit refroidissement interne moteur	9	Engine cooling circuit
10	Rejet EDM par échappement moteur	10	Raw water exhaust discharge
11	Rejet EDM climatiseur par passe coque	11	Aircon seawater discharge
12	Bloc climatiseur	12	Aircon unit



 LOCALISATION DES NABLES		 FILLER NECK LOCATIONS	
<i>Ref.</i>	<i>Désignation</i>	<i>Ref.</i>	<i>Description</i>
1	Nables vidanges holding tank (eaux noires)	1	Holding tank outlet (black water)
2	Nables remplissage réservoirs gasoil	2	Diesel tanks filler necks
3	Nables remplissage réservoirs eau douce	3	Fresh water tanks filler necks
4	Events holding tank (eaux noires)	4	Holding tank vents (black water)
5	Events réservoirs gasoil	5	Diesel tanks vents
6	Events réservoirs eau douce	6	Fresh water tanks vents
7		7	
8	Nables vidanges réservoirs eaux grises (OPTION)	8	Grey water outlets (option)
9	Events réservoirs eaux grises (OPTION)	9	Grey water tanks vents (option)



 LOCALISATION DES PASSES COQUE		 LOCATION OF THROUGH-HULLS	
<i>Ref.</i>	<i>Désignation</i>	<i>Ref.</i>	<i>Description</i>
1	Aspiration eaux noires Ø3/4"	1	¾" Black water suction
2	Evacuation eaux noires Ø1"1/2	2	1½" Black water outlet
3	Evacuation pompe de douche Ø 3/4"	3	Shower drain pump Ø¾"
4	Evacuation lavabo Ø 1"1/4	4	Hand-basin outlet Ø1¼"
5	Evacuation cuisine Ø 1"1/2	5	Galley outlet Ø1½"
6	Rejet assèchement électrique Ø 1"1/4	6	Electric bilge pump outlet Ø1¼"
7	Rejet assèchement manuel Ø 1"	7	Manual bilge pump outlet Ø1"
8	Sortie échappement moteur Ø 75/90	8	Engine exhaust outlet Ø75/90
9	Sortie échappement groupe électrogène	9	Generator exhaust outlet
10	Aspiration groupe electrogene Ø 1"	10	Generator intake Ø1"
11	Rejet climatisation Ø1/2"	11	Aircon discharge Ø½"
12	Aspiration climatisation Ø 1"	12	Aircon intake Ø1"
13	Aspiration EDM cuisine et pont Ø 3/4"	13	Seawater galley and deck Ø¾"
14	Rejet evier FLY Ø 1"	14	Flybridge sink outlet Ø1"
15	Rejet lave vaisselle Ø 3/4"	15	Dishwasher outlet Ø¾"
16	Aspiration EDM dessalinisateur Ø 3/4"	16	Watermaker inlet Ø¾"
17	Rejet saumure dessalinisateur Ø 3/4"	17	Watermaker reject brine outlet Ø ¾"
18	Rejet lave/seche linge Ø 3/4"	18	Washing machine/dryer outlet Ø¾"
19	Aspiration refroidissement moteur	19	Engine raw water intake
	OPTION		OPTION
	<p>NOTA : si l'option quillon équipe le bateau, seul le passe coque 1" évier fly est présent. Toutes les évacuations eaux grises étant dirigées dans les réservoirs.</p>		<p>NOTE: If the boat has the skeg keel option, only the 1" flybridge sink outlet is fitted. All other grey water waste outlets are led to the grey water holding tanks</p>

23. LIST OF DOCUMENTS ENCLOSED

After-sales Service tel. +33 (0)4 68 80 15 15

Email : sav.catana@catanagroup.com

24. LIST OF DOCUMENTS ENCLOSED

1. Engine user manual and guarantee
2. Charger user manual and guarantee (depending on options)
3. Refrigerator user manual and guarantee (depending on options)
4. Electronics user manual and guarantee (depending on options)
5. User manual for pumps
6. Maintenance manual for winches
7. Hob and oven user manual
8. Gas regulator user manual
9. Gas system leak detector manual
10. WC instruction manual
11. Radio (stereo) user manual and guarantee (depending on options)
12. Windlass user manual
13. Compass instruction manual
14. Liferaft logbook (depending on options)
15. Water heater instructions
16. Watermaker instructions (depending on options)