DUFOUR

YACHTS

OWNER'S MANUAL

IN ACCORDANCE WITH EUROPEAN DIRECTIVE 94/25/EC
AS AMENDED BY EUROPEAN DIRECTIVE 2003/44/EC

DESIGN CATEGORY A

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Your agent

Name

is **DUFOUR YACHTS'** representative and will give you all the help you need to resolve any difficulties you might have during launching and masting of your boat, as well as for commissioning and maintenance technical checks. If necessary, he will help you with the administrative process of registering your boat.

As soon as you become the owner, familiarize yourself with the manual supplied with your boat, sign and date the receipt acknowledgements below, and give (or send) the last one to your agent.

Owner's Manual receipt acknowledgement to be kept in your Manual

I, the undersigned:
Name
Address

owner of **DUFOUR 450** No.

confirm that I have received the Owner's Manual for my **DUFOUR 450** and accept its being written in English.

Dated:

Signature:

Detach along dotted line

✂……

Owner's Manual receipt acknowledgement to be returned to DUFOUR YACHTS

1, Rue Blaise Pascal- 17187 PERIGNY CEDEX- FRANCE

I, the undersigned:
Name
Address

owner of **DUFOUR 450** No.

confirm that I have received the Owner's Manual for my **DUFOUR 450** and accept its being written in English.

Dated:

Signature:

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CONTENTS

INTRODUCTION

DUFOUR YACHTS is pleased to present you with this Manual which will help you get to know your boat better.

This Manual has been produced to help you use your boat safely and enjoyably. It contains details of the boat, the equipment supplied or fitted, its systems and information about their use. Read it carefully and familiarize yourself with the boat before using it.

This Owner's Manual is not a course in sailing safety or seamanship. If this is your first boat, or you are changing to a type of boat you are unfamiliar with, for your convenience and safety, make sure you gain experience handling and using it before taking command. Your agent, your national sailing or cruising federation or your yacht club will be happy to give you information about sailing schools or qualified instructors in your area.

Ensure that forecast wind and sea conditions correspond to the design category of your boat, and that you and your crew are capable of handling the boat in these conditions. Even when your boat is suitable for them, the sea and wind conditions corresponding to design categories A, B, and C vary from severe storm for category A to severe conditions for the top end of category C, subject to dangers of abnormal gusts or waves; these are dangerous conditions in which only an experienced, trained crew in good condition, sailing a properly-maintained boat, can sail in a satisfactory manner.

This Owner's Manual is not a detailed maintenance or repair guide. In the event of problems, consult the boatbuilder or the boatbuilder's representative. If a maintenance manual is provided, be sure to use it.

Always employ the services of an experienced professional for maintenance, fitting accessories, or modifications. Modifications that could affect the characteristics of the boat must be assessed, carried out and documented by qualified personnel. The boatbuilder cannot be held responsible for modifications made without their approval.

In certain countries, a skipper's licence or authorization is required, or special regulations are in force.

Always maintain your boat correctly and make allowance for deterioration due to age or resulting, where applicable, from heavy or unsuitable use. Any boat, however sturdy it is, can be severely damaged if it is used incorrectly. This is incompatible with safe sailing. Always suit your speed and heading to the prevailing sea conditions.

If your boat is equipped with a life-raft, read its instruction manual carefully. The crew must have on board all the safety equipment (life-jackets, harnesses, etc.) corresponding to the type of boat, weather conditions, etc. In some countries, this equipment is mandatory. The crew must be familiarized with the use of all the safety equipment and with emergency safety procedures (man overboard recovery, towing, etc.); training sessions are regularly organized by sailing schools and clubs.

It is recommended that all persons wear appropriate buoyancy aids (life-jackets, personal flotation devices) when on deck. It should be noted that in certain countries, it is compulsory to wear a buoyancy aid (complying with national regulations) at all times.

KEEP THIS MANUAL IN A SAFE PLACE AND PASS IT ON TO THE NEW OWNER IF YOU SELL THE BOAT.

***WARNING*: Our boats are regularly improved in the light of our customers' experiences and researched by the shipyard, and so the specifications given in this Owner's Manual are not contractually binding and may be changed without notice and without any obligation to update. This manual is intended to cover as much information as possible, so certain equipment or paragraphs might not apply to your boat. In case of doubt, please refer to the inventory which should have been given to you by your agent when you placed your order.**

I. GENERAL INFORMATION

Design category

Your **DUFOUR 450** comes under the OCEAN-GOING design category A.

Under conditions of normal use, your boat is designed to sail in waves with a significant height exceeding 4 m and winds of force 8 or above on the Beaufort scale, and to withstand the severest conditions.

This sailing capability is equally dependent on the skills of the crew, their physical capacities, the maintenance of the boat and its equipment.

So always take care before putting to sea.

DUFOUR YACHTS is not able to guarantee perfect functioning of the boat in exceptional sea conditions (violent storms, hurricanes, cyclones, waterspouts, etc.)

SUMMARY OF DESIGN CATEGORIES

Design categories	Type of sailing	Wind strength (Beaufort)	Wind speed	Significant wave height to be taken into account
A	Ocean-going	Greater than 8	Up to 28 m/s	Higher than 4 m
B	Open sea	Up to and including 8	Up to 21m/s	Up to and including 4 m
C	Inshore	Up to and including 6	Up to 17 m/s	Up to and including 2 m
D	Sheltered waters	Up to and including 4	Up to 13 m/s	Up to and including 0.5 m

Check weather information before putting to sea: **Take to the sea, don't take risks !**
In port: every day, the Harbor Master's Office posts weather bulletins and forecasts for the next few days.
Météo France on 0836 68 08 08
Navifax - direct on 0836 70 18 52
VHF: CROSS transmit several bulletins per day, preceded by an announcement on Channel 16.

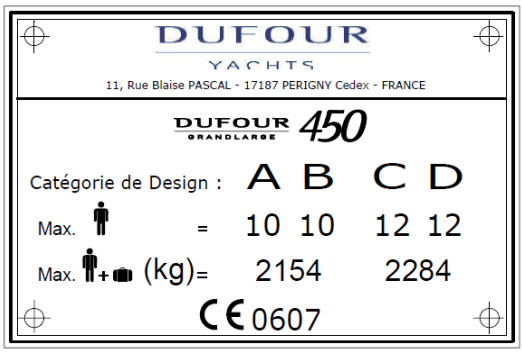
Certification

DUFOUR YACHTS has chosen the Institut pour la Certification et la Normalisation dans le Nautisme as the notified body for verifying that your boat complies with European directive CE 94/25, as per module B.

Identification

The hull identification number is located on starboard side of transom. It contains a series of letters and numbers that begin with FR-DUF...

Builder's plate



Part of this information is given on the builder's plate attached to the boat. A full explanation of this information is given in the chapter that follows.

Design category = **A** **:** Ocean-going (see 1.1)
Maximum No. of persons in A = **10**
Maximum No. of persons in B = **10**
Maximum No. of persons in C = **12**
Maximum No. of persons in D = **12**

: Recommended by the builder for navigation in sea conditions for category for which it was built.

WARNING
Do not exceed the maximum recommended number of people. However many people there are aboard, the total weight of the people and equipment must never exceed the maximum recommended loading.

Max. recommended load A/B= **2154 kg**
Max. recommended load C/D= **2284 kg**

: : recommended by the builder, including the weight of all persons aboard, the provisions and personal effects, and of all equipment not included in the light displacement weight of the boat, excluding the content of the tanks.

WARNING
When loading the boat, never exceed the recommended maximum load. Always load the boat carefully and distribute the weight in a suitable manner in order to maintain the theoretical trim (approximately horizontal). Avoid placing heavy loads high up.

CE 0607

: CE mark indicating that the boat complies with all the requirements of the Directive. The sequence of numbers is the Certification institution's code. In this case, ICNN (Institut pour la Certification et la Normalisation dans le Nautisme), (refer also to: Safety Compliance Declaration)

Degrees of danger

DANGER	Indicates the existence of an extreme intrinsic risk that may give rise to a high probability of death or serious injury if appropriate precautions are not taken.
WARNING	Indicates the existence of a risk of injury or death if appropriate precautions are not taken.

CAUTION	Indicates a reminder of safety practices or attracts attention to hazardous practices that may cause injuries, or damage to the boat, its components or the environment.

II. PRINCIPAL SPECIFICATIONS

Model:	DUFOUR 445 Grand Large
Designer:	Umberto Felci
Interior design	DUFOUR Design
Design category	A
Notified body No.	CE/0607
Engine #	
LOA (L_{max}):	13.50 m
Hull length (L_H):	13.25 m
LWL:	11.92 m
Maximum beam (B_{max}):	4.34 m
Hull beam (B_H):	4.34 m
Draft (deep ballast)	2.20 m
Deep ballast weight	2850 kg
Light displacement (deep ballast):	10275 kg
Displacement at maximum loading (deep ballast):	12885 kg
Draft (shallow ballast)	1.95 m
Shallow ballast weight	3000 kg
Light displacement (shallow ballast):	10425 kg
Displacement at maximum loading (shallow ballast):	13035 kg
Air draft (standard)	18.50 m
Standard mainsail area (approximate)	43.5 m²
Genoa area (approximate)	50.5 m²
Water capacity excluding 20 L water-heater (approximate)	530 L
Diesel capacity (approximate)	250 L
Holding tank (standard + optional)	50 L + 50 L
Engine battery	100 Ah
Auxiliary battery (2 as standard + 2 as option)	2 x 100 Ah + 2 x 100 Ah (option)
Primary means of propulsion	Sail
Maximum permissible on-board engine power	75 hp / 55 kW
Total weight of liquids (all tanks full)	742 kg

***NB*: due to the trim and loading of the boat, it is not usually possible to use the whole of the various tank capacities for fresh water and diesel. You are recommended to maintain a diesel reserve of 20%.**

III. ELECTRICAL SYSTEMS

Safety and operating instructions for the electrical system (ISO 10133)

WARNING
Improper use of the DC and/or AC systems may give rise to fire or explosion hazards.
Improper use of the AC systems may give rise to the risk of electrocution.

Always:
● Check the condition of the batteries (charge and electrolyte level) and the charging system before putting to sea.
● Disconnect and remove batteries for wintering.
● Do not let battery voltage drop below 10·5 V during wintering.
● Carry spare bulbs for all navigation lights and interior lighting. Respect power ratings, particularly for navigation lights.
● Check operation of the navigational instruments.
● Check operation of navigation lights before night sailings

Never:
● Work on an electrical installation that is live.
● Make any modification to an installation and the associated circuits, unless it is carried out by an electrician qualified in marine electrics.
● Change or modify the breaking capacity of overload protection devices
● Replace electrical apparatus or equipment with units exceeding the rated capacity without uprating the wiring and protection.
● Leave the boat unattended when the electrical installation is powered, with the exception when applicable of the automatic bilge pump and the fire or theft protection circuits.

If a fuse or circuit-breaker blows continually, you should consult a specialist to determine the cause of the short-circuit.

Installing new equipment

Since 1 January 1996, electrical equipment is subject to the European “electromagnetic compatibility” directive (Ref 89/336/CEE). So new equipment being installed must meet this standard and bear the CE mark. Equipment must also be supplied with a compliance certificate and instructions for use.
In the case of 220 or 110 V installations, use only double-insulated or earthed equipment. When such equipment is being installed, respect the fitting instructions (conductor size, protection).
To avoid maintenance problems, be sure to enter in the manual any modifications that may have been made to the electrical circuits.

Batteries

The battery facilities consist of two 100 Ah auxiliary batteries as standard in the technical space between the aft bunks with two supplementary 100 Ah batteries as an option for engine starting Their capacities have been designed to handle the power requirements of the on-board accessories. To avoid any problems, it is necessary to keep a close eye on the maintenance and correct charging of the batteries.

ATTENTION!
● When installing new electrical appliances, take care that the overall consumption of these appliances remains within the capacity of your batteries.
● Always disconnect the negative (-) battery terminal before the positive (+) terminal.
● Never allow a conductive object (tools, etc.) to bridge across the two battery terminals.
● When handling batteries, keep them horizontal to avoid spillage of electrolyte. Wear gloves and protective clothing that will prevent any risk of contact with electrolyte in the event of a leak.
In the event of electrolyte splashes, rinse the affected part of the body copiously and consult a doctor.

Electric windlass

ATTENTION!
It is essential to run the engine with the throttle slightly open when using the electric windlass.

220 / 110 Volt installation

DANGER!
The on-board 220V installation is protected by a circuit breaker and fitted with a residual current device. The wiring of additional 220 V on-board accessories must be carried out by professionals, and the master circuit-breaker uprated if necessary.

- Disconnect the boat's power supply when system is not in use.
- Connect the metal cases or housings of installed electrical equipment to the boat's protective conductor (green or green / yellow wire).
- Use double-insulated or earthed electrical appliances.

ATTENTION!
When the boat is moored at the quayside, set the isolator to the "off" position.

DANGER!
Your boat is delivered without a boat / shore power supply cable or shore connection plug. The cable used must be designed for exterior use. Its cross-sectional area must be appropriate for its length and the rating of the main circuit-breaker (see electrical diagram). The plug must be suitable for the socket on the shore (if necessary, seek the advice of a professional). It should be as close as possible to the **IP 67 / IEC529** type

● Switch off the shore supply at the on-board isolator before connecting or disconnecting the shore/boat supply cable.
● Connect the shore/boat supply cable at the boat end before connecting it to the shore outlet.
● Disconnect the shore/boat supply cable at the shore outlet before disconnecting it at the boat end.
● Close the shore outlet cover properly

Never:
● Make modifications to the shore supply cable; you must only use compatible connectors.
● Go swimming close to a boat connected to a shore supply socket: danger of electrocution!

Location of the 220 V master circuit-breaker: by the chart table.
Have the system inspected at least every two years.
During haul-out maintenance, set to the 'on' position in order to have **earth [grounding] protection** via the shore socket.

WARNING
Never let the end of a ship/shore supply cable dangle into the water. It may create an electrical field that could injure or kill nearby swimmers.

IV. GAS INSTALLATION

Operating advice

- Read carefully all instructions for the cooker and regulator before use or maintenance.

- Ensure that the gas cylinder and regulator are in accordance with the requirements of the cooker (flow rate, pressure, type of gas) and with the regulations in force in the country where it is being used.

- Make sure the appliance gas taps are closed before opening the valve on the cylinder.

WARNING
● Fuel-burning naked-flame appliances use up the oxygen in the cabin and release combustion products inside the vessel. Proper ventilation is necessary: open the designated vents while these appliances are being used.
● Never block the ventilation openings and check that appliances with flues are working properly.
● Do not use the cooker/oven as a means of heating.

- Do not obstruct quick access to the elements of the gas installation (cylinder locker, shut-off valve).

- The gas cylinder must always be stowed in the sealed, ventilated space provided. The same applies to spare or empty cylinders. Keep close to hand the protective mechanisms, lids or caps. No other equipment must be stowed in this space.

- Never leave the boat unattended when gas appliances are on.

- Close all valves in the circuit when the boat is left empty (shut-off valve, regulator valve), even if the cylinder is believed to be empty. In the case of the latter, disconnect the valves.

- After the boat has been shut up, never smoke when going below, and ensure that there is no smell of gas.

- If you smell gas, close the circuit valves and the cooker taps, ventilate the boat, and find the leak before using the installation again.

WARNING
In the event of an emergency, the circuit valves must be closed immediately.

ATTENTION!
Certain precautions must be taken to avoid any contact with naked flames or other hot areas.

Checking the system

Check the LPG installation for leaks before use.
Check the seals for all connections as follows:

- close valves on all devices
- open gas cylinder valve
- allow gauge pressure to stabilize
- close gas cylinder valve
- observe pressure gauge value for 3 minutes; if it drops, there must be a leak: do not use devices
- search for leaks using a leak detection device or using soapy water (cylinder valve open, other valves closed) or any other foaming solution as per standard EN14291
- have leaks repaired before using installation again; repairs and modifications to the circuit should be carried out by a competent person.

ATTENTION!
Do not use solutions containing ammonia.

DANGER!
Never use a flame to look for leaks.

Flexible hoses must be:

- checked regularly, at least once a year,
- replaced if the expiry date marked on the hose is passed,
- replaced five years after the date of manufacture that may be marked on them,
- replaced in the event of damage.

Changing the gas cylinder

DANGER!
● Close the cooker valves and those on the front of the cooker before changing the gas cylinder.
● Do not smoke nor use a naked light during replacement of the gas cylinder.
● Ensure that the compartment housing the gas cylinder is well ventilated when replacing it.

WARNING
In the case of an LPG installation:
● Never leave the boat unattended when appliances using LPG are turned on.
● Refrain from smoking or using a naked flame while LPG cylinders are being changed.
● Close the valve on the empty cylinder before disconnecting it to change.

V. DRAIN & SANITATION SYSTEM

Specifications of the drain system

Pump type	Theoretical flow rate
Manual	38 L @ 45 strokes/minute
Electric 12V	1920 L / h

Read carefully the operating and maintenance instructions for your boat's bilge pump.

ATTENTION!
The level of the water in the bilge must be kept to a minimum.

WARNING
The bilge pump system is not designed to handle water entering as a result of holing of the hull. It is intended to remove water coming from spray, leaks from seacocks or other moderate leaks.

ATTENTION!
- Ensure that bilge pumps are in working order before putting to sea
- Regularly clean away any debris that might obstruct the sump well and the pump intake points or strainers.

If the watertight bulkheads that isolate the fore- and after-peaks are fitted with valves, these should normally be kept closed and only opened in order to drain the water into the main bilge.
- Know where to find the hand pump and its handle.
- Know where to find the switch for the electric pump on the electrical panel.

Pressurized fresh-water pump

Fresh water is supplied to the sink and washbasins by an electric pump. A filter is installed upstream of the pump, and must be cleaned regularly.

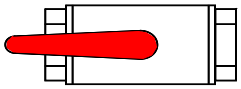
Never allow the pump to run if the tank is empty. Refill the tank before using the water supply again.

The tanks can be sterilized using Clonazone® tablets (available from pharmacies). Every year, remove the inspection covers and clean them by filling with water containing a bactericidal detergent; leave it to act for a few hours, then rinse two or three times. During wintering, fill the tanks up completely to avoid the development of algæ or bacteria, or if there is a risk of freezing, empty the tanks; never use anti-freeze.
Hot water is produced by a water heater connected to the engine cooling circuit and the shore electric supply.
After the water heater has been emptied, make sure that the heating element is covered before power is re-applied.

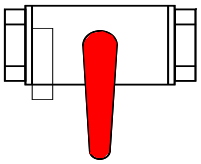
Seacocks

Seacocks are of the ¼-turn type:
- OPEN position: handle in line with seacock body,
- CLOSED position: handle perpendicular to seacock body.

Open seacock



Closed seacock



ATTENTION!
● Never interfere with the tightening of the seacocks to the hull. In the event of a leak, consult a professional.
● In bad weather or when leaving your boat, close all the sanitation system seacocks. ● Keep seacocks closed when not being used.
● During wintering, clean and rinse the seacocks and skin fittings. Inspect the brass accessories; slight surface corrosion is normal.
● In the event of more serious corrosion, consult your agent.

Operation of the sea toilets

- Open the seawater inlet seacock.
- Open the bowl emptying seacock.
- Set the lever to the "FLUSH" position.
- Operate the pump.
- To empty the bowl and avoid any water slopping when heeling, set the lever to the "DRY BOWL" position.
- Operate the pump until the bowl is dry.
- Repeat these flushing / bowl draining operations as many times as is necessary to ensure complete emptying of the pipes.
- When toilets are not being used, set the lever to the "DRY BOWL" position, or the "CLEF" ("KEY") position for certain models.
- Close seacocks after use, as the toilet is below the waterline.
- Change the toilet seals regularly.

Holding tank operation

ATTENTION!
Where a holding tank is fitted, take care to lock the evacuation tank, to avoid any accidental discharge during wintering.

- The sewage tanks (50 l + optional extra 50 l) operate using the toilet hand pump.
- The contents of the toilet bowl are discharged straight into the holding tank.
- Periodically check that the vent is working properly.
- A deck plate is provided for emptying the tank.
- The discharge valve can be sealed in the closed position.
- Once a season, arrange to clean out the tank using a biodegradable disinfectant chemical. Leave the system empty if the vessel is to be left in below-freezing temperatures.

VI. FLOODING

To avoid the risks of the boat flooding:

- Before putting to sea, always check that portholes, deck hatches and any other openings that could allow flooding are shut.
- When sailing, close all seacocks when they are not being used, except the engine water intake.
- Do not exceed the recommended maximum load.

Periodically check:

- the seals of skin fittings, seacocks and pipes
- proper emptying of the cockpit drains
- the seals of cable glands and sail-drive gaskets

WARNING
Cockpit locker lids must be fastened shut before putting to sea. This is particularly important for those lockers that represent a major flooding risk

VII. FIRE PROTECTION

Installation

Fire-extinguishers are subject to national regulations, and for this reason they are not supplied with your boat.

We recommend you to equip your boat with fire extinguishers meeting the ISO 9094-1 standard, with the following specifications:

a) Minimum capacity per extinguisher: 5A/34B(*)
b) Minimum combined extinguisher capacity: 10A/68B(*)
(*) As per the ISO/WD 9094-2 standards
c) 1 extinguisher within:
- 1 m (for boats < 10 m) or 2 m (for boats > 10 m) of the cockpit
- 2 m of the extinguisher opening for dowsing the engine,
d) 1 extinguisher within 2 m of the cooker,
e) 1 extinguisher within 5 m of the bunks.
f) CO2 extinguishers may be placed in accommodation areas only where flammable liquids are present (e.g. galley) or where there is powered electrical equipment. There must not be more than one CO2 extinguisher per area at risk, and its maximum capacity must not exceed 2 kg.

Only compatible replacement parts must be used in fire protection systems. They must bear the same markings and be technically equivalent.

In addition, a fire blanket should be stored close to the galley — very useful particularly in the event of a pan fire involving oil.

WARNING
If a CO_2 extinguisher is fitted, the following information must be displayed close to its location:
"This extinguisher contains CO2 - use only on electrical or cooker fires. To avoid suffocation after discharging, leave the area immediately. Ventilate before re-entering."
Do not open the engine compartment immediately after putting out a fire, to avoid the release of toxic smoke or spraying of burning materials (oil, water).

Safety instructions

ATTENTION!
It is the responsibility of the owner / skipper to:
● Have fire-fighting equipment checked in accordance with the stipulations of the builder and the regulations in your country.
● Replace fire-fighting equipment if it has expired or been discharged, by extinguishers of equal or greater capacity.
● Point out to the crew members:
- the location and operation of firefighting equipment
- the location of the engine compartment discharge orifice
● Ensure that fire-fighting equipment is readily accessible whenever the boat is occupied.
● Always keep the bilges clean and check that there is no fuel vapor or gas.

Never:
● Obstruct gangways to emergency exits (deck hatches)
● Obstruct safety controls (gas valves, fuel valves, and electrical switches).
● Obstruct fire extinguisher stowages.
● Leave the boat unattended with a cooker or heater alight.
● Use a gas lamp in the boat
● Fill a fuel tank or change a gas cylinder while the engine is running, or the cooker or heater are alight.
● Smoke while handling fuel or gas.
● Fit free-hanging curtains near the cooker or any other appliance using a naked flame.
● Store flammable products in the engine compartment.

VIII. ENGINE

Regular maintenance must be carried out in accordance with the engine manufacturer's recommendations. Read carefully the engine operating instructions that come with the boat. Do not hesitate to consult your agent or a qualified professional. In particular, follow the instructions for wintering.

General precautions

ATTENTION!
Do not use sail and engine if the heel angle is more than 10°.
Any engine change must respect the capacities of the boat and be performed by an engineer specializing in marine mechanics.

ATTENTION!
After first launching and tensioning of rigging, check the alignment of the propeller shaft or the sail-drive flange ring.
● Ensure that the ventilation orifices (vents, engine ventilation grilles) are clear.
● Ensure that the cooling circuit water intake seacock is open, and that water is coming out of the engine exhaust.
● Boats fitted with rotating seal stern gland: bleed the air from the gland after each launch.

Place the throttle in neutral before starting the engine in order to prevent boat movement and/or rotation of the propeller.
On subsequent launches, a brief check of propeller fixing can be made. Incorrect operation of the folding propeller will lead to vibration
Regularly check the condition of the anodes and ensure that they are suitable for the boat's environment (fresh water, salt water). Change the anodes every year. The 3 anodes have an average life of 1–2 years.
These anodes are made of zinc. It is essential not to use magnesium ones. Impressed current cathodic protection systems should not be used
If the anodes are not eroded, you need to check:
- that they have not been painted over,
- that they are correctly fixed and in contact with the hull,
- and that they are indeed made of zinc.

Exhaust gas emissions

DANGER!
Internal combustion engines produce carbon monoxide. Prolonged exposure to exhaust gasses can have serious consequences, and may even cause death.

Safety

DANGER!
In order to avoid all risk of serious injury from the propeller, the engine must not run when there are people swimming near the boat.
Whenever possible, the engine must be stopped for any engine maintenance or checking operations. If this is impossible, then particular care must be taken with moving parts (propeller shaft, belts, etc.) to avoid any danger of injury.

Wintering

Read carefully the operating and maintenance instructions for the engine that come with your boat along with the instructions for wintering.
In the absence of other instructions, proceed as follows:

- Close the engine water intake seacock.
- Disconnect the pipe from the engine water intake seacock.
- Drain the seawater circuit.
- Place the pipe into a drum of –25° anti-freeze coolant.
- Run the engine until the fluid comes out of the exhaust.
- At the end of this operation, re-connect the pipe to the seacock.
- Attach a notice to the electrical panel and the battery isolator to the effect that the engine water intake seacock is closed.

IX. FUEL INSTALLATION

In the event of deterioration, flexible fuel pipes must be replaced by pipes bearing the same markings. Do the same for all fuel lines.

ATTENTION!
● Depending on the trim and loading of your boat, the whole of the nominal fuel capacity may not be usable. Always maintain a 20% reserve for safety.
● Avoid contact between flammable materials and hot parts of the engine.
● Clear up any fuel overflows in the boat when filling the tanks.

Never:
● Store flammable materials in unventilated spaces.
● Smoke while filling tanks.
● Obstruct ventilation openings (vents, engine ventilation grilles). ensure that they are kept clear.
● Modify the installation, unless this is carried out by a technician qualified in this field.

X. STEERING SYSTEM

The steering system plays a vital role in the safety and comfort of your boat.

Helm

The DUFOUR 450 is fitted, as standard, with an emergency tiller and, as option, with a dual wheel with a system of rudder cables and chains

Checks to be carried out periodically: Check the play in the various elements (rudder stock/bearings, tension and wear in mechanical components) and grease the sprocket and chain if necessary.

In the event of any doubt or problem, consult your agent.

Emergency tiller

ATTENTION!
● The Dufour 450 is equipped with an emergency tiller that must be kept readily accessible — we recommend its stowage in a nacelle cockpit locker.
● It is only designed for sailing at reduced speed in the event of damage to the helm.

To use it:
- Unscrew the deck-plate to reveal the head of the rudder stock.
- Fit the tiller onto the head of the rudder stock.

XI. SAILING

WARNING
In all situations, make sure you adapt the speed of your boat to the surrounding conditions, and always maintain a margin for safety. Pay particular attention to:
● The state of the sea, currents, the strength of the wind.
- other boat movements
- manoeuvres in ports
- manoeuvring through mooring areas.
● Obey the rules of priority as set out in the Rules of the Road and imposed by COLREG
● Ensure you always have sufficient stopping or maneuvering distance if necessary to avoid a collision
● Respect speed limit areas.
● Out of courtesy and for the safety of other vessels, take care not to create excessive wash close to other craft.

WARNING
● You should fit your boat with life-lines. Anchor-points are provided on the deck. Please refer to the deck fittings plan for your boat.
● Your boat's stability has been designed to take into account the boat builder's catalogue options. Any alteration to on-board weight distribution (for example: adding a radar, changing an engine, etc.) can have an effect on your boat's stability, trim, and performance.
Breaking waves represent a significant threat to stability.
Towing a boat creates significant overloading, adversely affecting the stability of your boat.

● **Never:**
Raise heavy weights using the boom.

XII. LIGHTNING PROTECTION

Your boat is protected against lightning. The rigging is electrically grounded. Nonetheless, for your safety, it is necessary to respect certain precautions.

Maintenance

If the vessel has been hit by lightning:

- The protection installation must be inspected to detect physical damage and check the integrity of the device, as well as the continuity of the grounding protection.

- The compasses, electrical and electronic devices must be examined in order to ascertain if damage or calibration changes have occurred.

Protection of persons during a storm

WARNING
During a thunderstorm, it is preferable to obey the following instructions:
● People should stay below as far as possible.
● People should stay out of the water and not let their arms or legs hang into the water.
● Whilst maintaining satisfactory control of the boat and its sailing, people should not touch any part connected to a lightning protection installation, especially not in such a way as to form a link between such parts.
● It is desirable that people should avoid any contact with metal parts of the rigging, the spars, deck fittings and the lifelines.

XIII. ENVIRONMENTAL PROTECTION & SAFETY

We recommend you to find out about local regulations concerning respect for the environment, and to obey international regulations against pollution in the marine environment (MARPOL), together with the codes of good practice.

ATTENTION!
● Most cleaning products, engine oils and hydrocarbons are likely to affect the environment, so they should be discharged in authorized locations (check with the Harbour Master's Office).
● Do not start up the bilge pump when there is any oil or hydrocarbons in the engine compartment because these products need to be discharged in authorized locations.
● Certain products may also constitute a risk for your safety and the safety of others, and so it is important to read and comply with the instructions for use.
● Substances used must be labeled and stored in an appropriate place in the boat.

XIV. SAFETY FACILITIES

There is no harmonization of mandatory safety equipment across the European Community. You should find out about current national requirements for CE-marked vessels.

In France, the skipper is responsible for ensuring that recreational craft bearing the CE mark carry aboard the mandatory handling and safety equipment stipulated for the relevant sailing category.

Your boat is provided with a stowage position for a life-raft, read the life-raft instruction manual carefully. The crew must be made familiar with the use of all the safety equipment (harnesses, flares, life-raft, etc.). Sailing schools and clubs regularly organize training sessions.

Advice for hoisting a person up the mast

XV. HANDLING, TRANSPORTING, HAULOUT

When craning, take care that the slings are correctly positioned and are not fouling the propeller, the sail-drive or a fragile transducer.
Lifting frames must be wide enough, or fitted with spreaders, so as to avoid applying excessive lateral pressure on the rubbing strakes.
Avoid allowing slings to foul the life-lines. During transport or haulout, the keel should be in proper contact with its support and should be taking most of the boat's weight.
Cradle pads must be positioned against structural elements and exert only the pressure necessary for the boat to be properly balanced.
Take advantage of the opportunity provided by haul-outs to inspect the propeller, rudder, skin fittings, and transducers.

ATTENTION!
Aft lifting point is located near the sail-drive.

XVI. GUARANTEE, TRANSFER OF OWNERSHIP

A) CONTRACTUAL WARRANTIES

Note: This guarantee does not apply to boats being used for commercial purposes (it being specified that any hiring or chartering activity falls into this category) nor to sailing boats taking part in competitions, which may be covered by special guarantees.

8 - Warranties

a) New boats and equipment:

8.1.1 – For both Commercial Purchasers and private consumers domiciled outside the territory of the European Union, the Seller is required to furnish the statutory warranties defined (in the context of the sale of vessels) by Articles 1641 and 1648 of the French Civil Code and (in the context of a marine construction contract) by Articles 7 and 8 of Act No. 67.5 dated 3rd January 1967 pertaining to vessels.

8.1.2 – For Purchasers domiciled within the territory of the European Union and taking out the contract as private consumers, the Seller is required to furnish the guarantees as defined in the context of a boat sales contract by Articles 7 and 8 of the Act dated 7/1/1967 pertaining to vessels, and in the context of the Order (2005-136) dated 17/2/2005 and incorporated into the French Consumer Code. Independently of this guarantee, the Seller remains liable for discrepancies between the goods and the contract and for redhibitory defects under the conditions provided for under Articles 1641 to 1649 of the French Civil Code (see 8.1.1).

8.2 – Visible defects: acceptance by the Purchaser releases the Seller from their obligation in respect of discrepancies and visible defects.

8.3 - Contractual guarantee
Except for guarantee or penalty clauses expressly agreed at the time of accepting the order, the Seller's guar-antee is granted under the following conditions:

- The Purchaser benefits from a contractual warranty running for two years from the date of acceptance of the vessel, as noted on the acceptance report.

- This is limited to the replacement or free repair, at the yacht-builder's discretion, of any parts acknow-ledged as being defective by the yacht-builder's technical services; this being without any other com-pens-ation of any kind.

- For components and accessories visibly bearing the mark of another supplier, the warranty is limited to the warranty offered by that supplier.

- It is stipulated that any handling, transport, parking, or convoying costs incurred in carrying out these operations remain the sole liability of the buyer/user, unless **DUFOUR YACHTS** yacht-builders offer to waive them in full or in part.

- The boatbuilder's warranty excludes:
  - the cost of transporting the boat or any parts, and any consequences thereof, together with expenses and/or any damage arising out of the inability to use the boat and/or the equipment;
  - normal wear and tear;
  - cracking, crazing, or discolouration of the gelcoat;
  - damaging resulting from:
    - unforeseeable circumstances or force majeure;
    - conversions and modifications, or repairs, even partial, carried out other than in workshops authorized by the manufacturer;
    - failure to observe the maintenance recommendations set out in the Owner's Manual supplied with the boat;
    - improper use, in particular through negligence, carelessness, abuse, or abnormal usage;
    - participating in competitions;
    - negligence in respect of essential protective measures;
    - unsuitable storage or transport conditions.

In order to benefit from the boatbuilder's contractual warranty, each time they make a claim under it, the buyer/user shall be required to submit the boat delivery certificate and the warranty document, duly completed, and, on pain of rendering it void, shall notify their dealer/vendor of the fault or defect in writing, in detail and with justifications, within 15 days of its being discovered.

8.4 – the guarantee covers usage at sea in wind and sea conditions acceptable for safety and in accordance with the vessel's approval category. Under these conditions, it cannot under any circumstances cover events arising during or resulting from collisions, groundings, breaking seas, tidal waves, cyclones, severe storms, and all other exceptional events and/or events arising out of an error of seamanship.

8.5 – Loss of or damage to products occurring after handover do not release the Purchaser from their obligation to pay the price.

b) Used boats and equipment:

The order form specifies if the boat or equipment is second-hand. The Purchaser benefits from a contractual guarantee, covering hull and engine only, running for

one year from the date of acceptance of the vessel or goods, as noted on the acceptance report.

c) In addition to the contractual warranty detailed above, the Seller remains liable for discrepancies in the goods and for latent defects under the conditions provided for under Articles 1641 to 1649 of the French Civil Code and the provisions of the Order dated 17/02/2005, where applicable.

B) COMMON WARRANTY CONDITIONS

Any claim under these guarantee conditions must be made formally to **DUFOUR YACHTS** in writing as soon as the defect is discovered, and within eight (8) days for claims under the contractual guarantee. Any claim will also be required to quote the serial number of the boat concerned, and where applicable the part number(s) of the part(s) involved in the guarantee claim.

Furthermore, the claim shall indicate the exact circumstances under which the problem occurred.

In order to investigate the request **DUFOUR YACHTS** may ask for any details and appoint, at its own expense, a survey-or or technician of its choice to determine the circumstances of the occurrence of the problem and demand any necessary papers.

Immobilization following problems encountered and/or replacement and/or repair work, whatever the duration, does not create entitlement to compensation.

The owner shall under all circumstances remain liable for parking fees, customs duties and other ancillary expenses.

All repairs and/or replacements will be carried out by an authorized **DUFOUR YACHTS** agent or by a professional duly acting under the Boatbuilder's instructions. If the nature of the repairs requires the guarantee repair work to be carried out in **DUFOUR YACHTS** workshops or in any location other than the place where the Product is located, the owner will be liable for the cost of both outward and return transport to the Yacht builder.

In the event of the boat's needing to be taken out of the water, haul-out and re-launching costs shall be at the owner's expense.

C) WARRANTY TRANSFER

The guarantees are afforded to the first purchaser of the boat involved. They are only transferable with **DUFOUR YACHTS**' prior written agreement.

An ownership transfer note is supplied with the Product documents. This must be sent to **DUFOUR YACHTS** within thirty (30) days of the transfer.

This note must bear the names, addresses and telephone numbers of the former owner and the Purchaser, the date of sale, and the Product's hull number.

Upon reception, **DUFOUR YACHTS** will confirm the guarantee expiry dates and specify whether the unit has received the annual inspection that gives entitlement to the continuation of the contractual guarantees.

D) Statutory declarations

Article L.211-4 of the French Consumer Code:

"The seller is required to supply goods that conform to the contract and to assume liability for discrepancies existing at the moment of handover. He shall likewise be liable for discrepancies arising out of the packaging, assembly instructions, or installation when he is liable for this under the contract or it has been carried out under his responsibility."

Article L. 211-5 of the French Consumer Code:

"In order to conform to the contract, the goods must:

1) Be suitable for the normally-expected use for similar types of goods and, where applicable:

- correspond to the description given by the seller and possess the qualities the sellet has presented to the buyer in the form of a sample or model;

- present the qualities that a buyer may reasonably expect with regard to public declarations made by the seller, by the producer, or by his representative, particularly in advertising material or labelling;

2) Either present the characteristics defined by joint agreement by the parties, or be suitable for any special usage sought by the buyer that the seller has been made aware of and has agreed to."

Article L.211-12 of the French Consumer Code:

"Actions arising out of a discrepancy shall lapse after two years from the date of handover of the goods."

Article 1641 of the Civil Code:

"The seller is obliged to guarantee against latent defects in the article sold which render it unfit for its intended use, or which adversely affect this use to such an extent that the buyer would not have purchased it, or would have only paid a lower price, if he had known about them."

Article 1648, Para. 1 of the Civil Code:

"Actions arising out of redhibitory defects must be brought by the purchaser within two years of discovery of the defect."

DUFOUR

YACHTS

TRANSFER OF OWNERSHIP CERTIFICATE

TRANSFER OF OWNERSHIP

Modèle du bateau / Boat model:.....

N° de coque / Hull N°: .....

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

....

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

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

A ETE VENDU A / BEING SOLD TO :

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

.....

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

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

Fait à ..... le .....

Le vendeur / Seller L'acheteur / Buyer

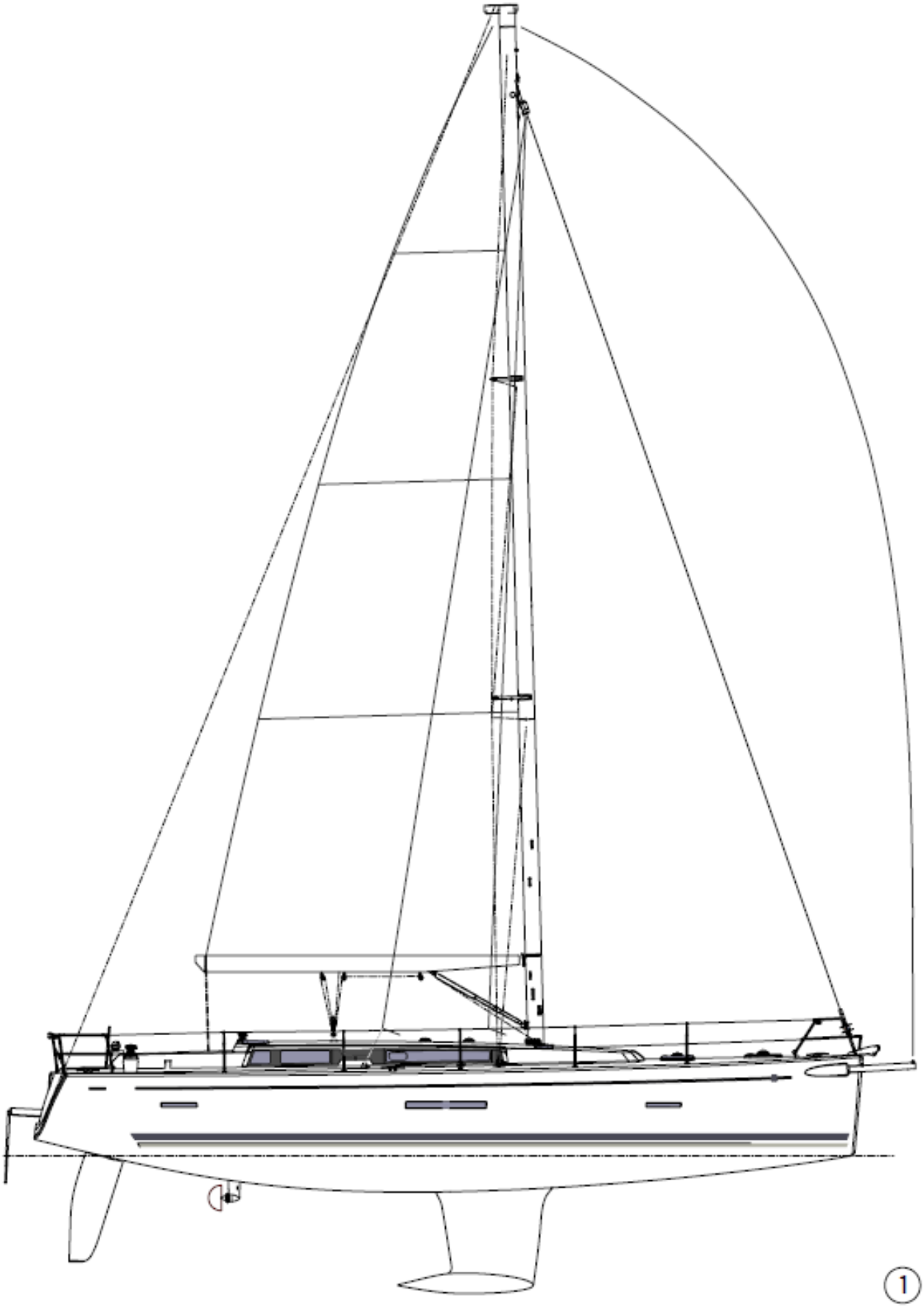
DUFOUR YACHTS, le : .....

Exemplaire à retourner dans les 15 jours suivant la transaction à :
Return the copy within 15 days after the transaction to :

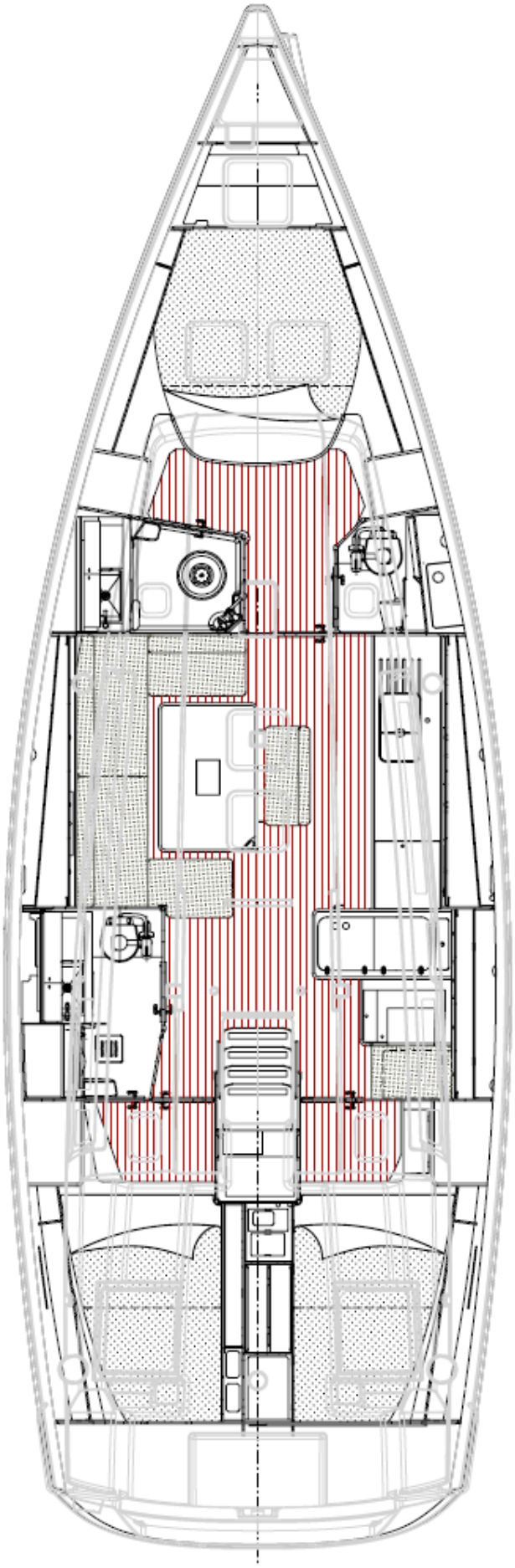
S A V DUFOUR YACHTS
11 rue Blaise Pascal
17187 PERIGNY CEDEX FRANCE

DRAWINGS

Presentation plan



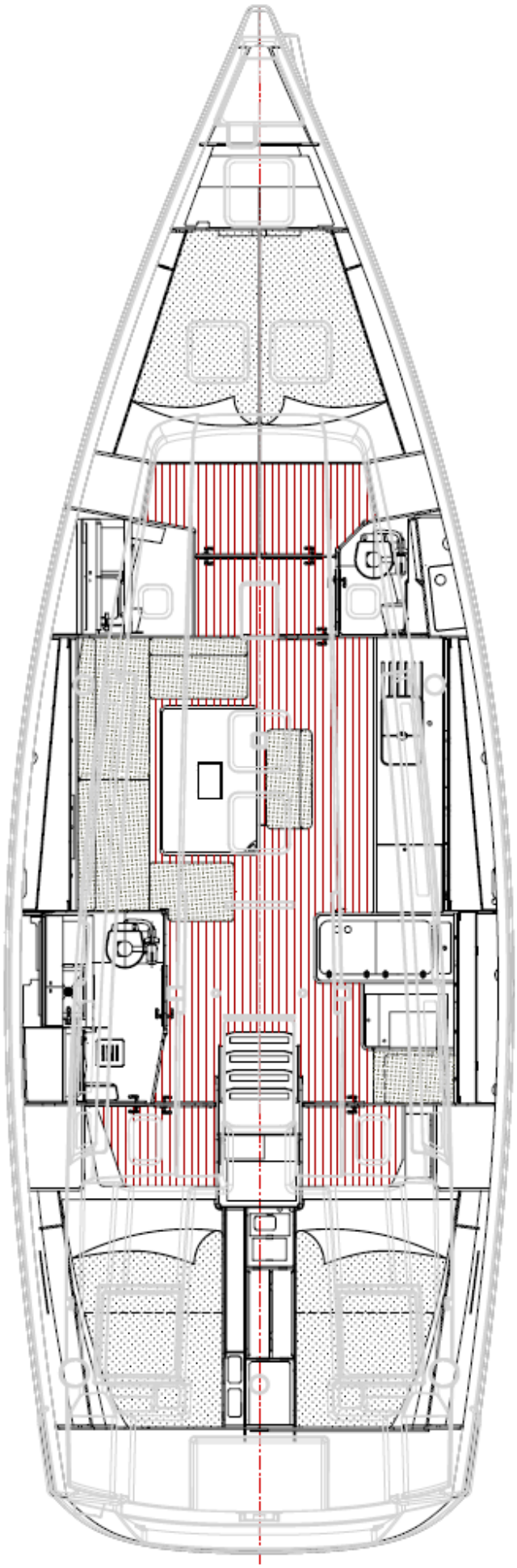
1. Accommodation layout



V3

2

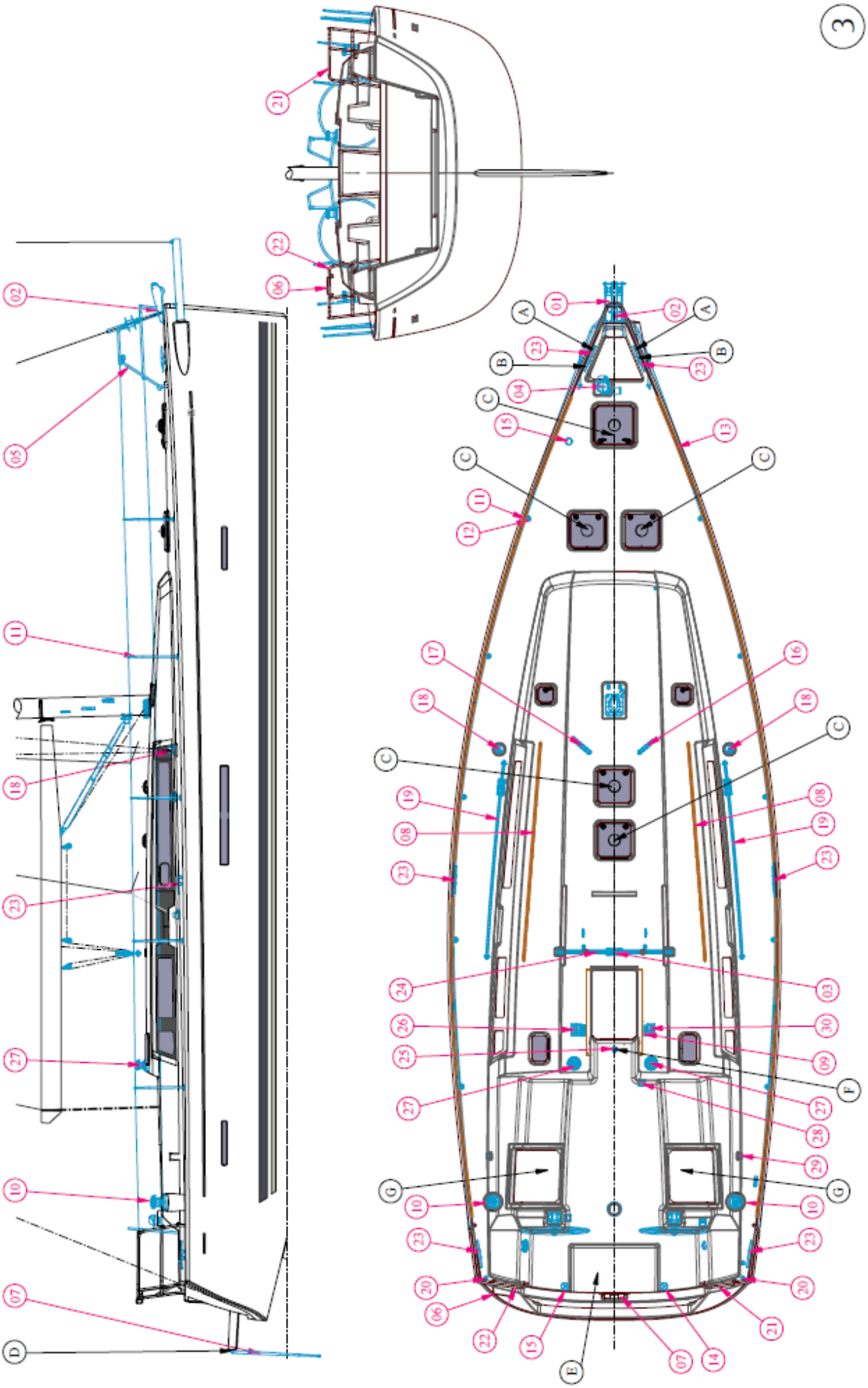
V4



2

2. Deck fittings plan

Ref.	*Description*
1	Twin-roller stemhead fitting
2	Forestay chain plate
3	Mainsail track traveller
4	Windlass
5	Bow pulpit
6	Lifebelt bracket
7	Telescopic bathing ladder
8	Coachroof handrail
9	Single jam-cleat
10	Genoa sheet winch
11	Stanchion
12	Stanchion base
13	Toerail
14	Fuel filler deck-plate
15	Water deck plate
16	4-way deck organizer
17	5-way deck organizer
18	Single chainplate for mains and lower shrouds
19	Genoa track with traveller
20	Preventer stay chain plate
21	Starboard stern rail
22	Stern Port balcony
23	Mooring cleat
24	Mainsail sheet track
25	Hinged chain-plate
26	Dual ratchet block
27	Halyard winch
28	Crank handle holder
29	Genoa return pulley
30	Triple ratchet block
A	Life-line anchor point (on port & starboard cleats)
B	Towing points (Port & Starboard)
C	Hatches must be closed when sailing
D	"Man overboard": reboarding
E	Space provided for stowing life-raft
F	Anchor point for safety harnesses
G	Lockers (must be closed when sailing)
*	Option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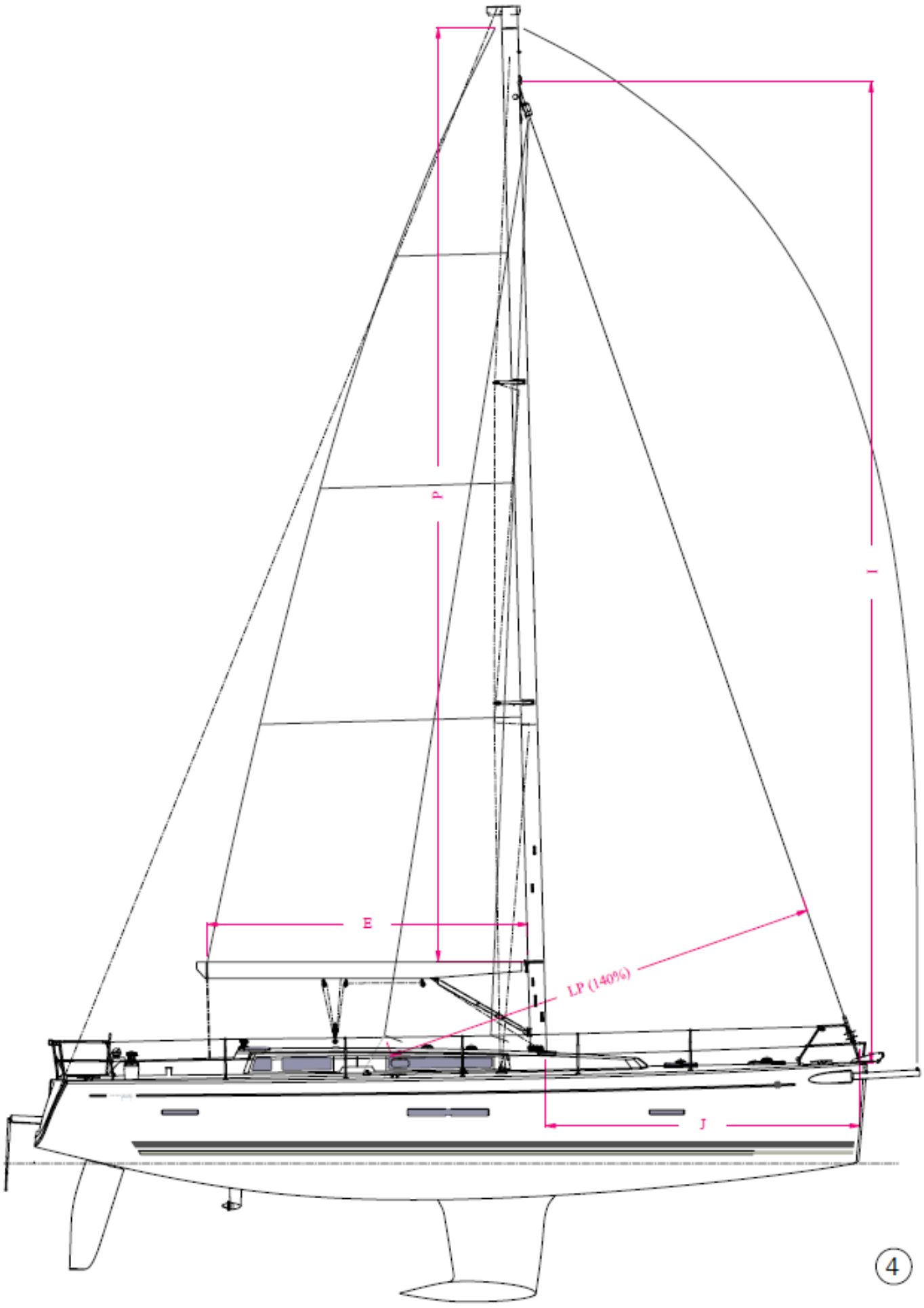
E
F

3. Sail diagram

I	15.80 m
J	5.00 m
P	14.85 m
E	5.10 m
LP (140% overlap)	7.00 m
Mainsail area	43.5 m²
Genoa area (140 %)	55.0 m²
Jib area (108 %)	42.5 m²
Gennaker area**	130 m²

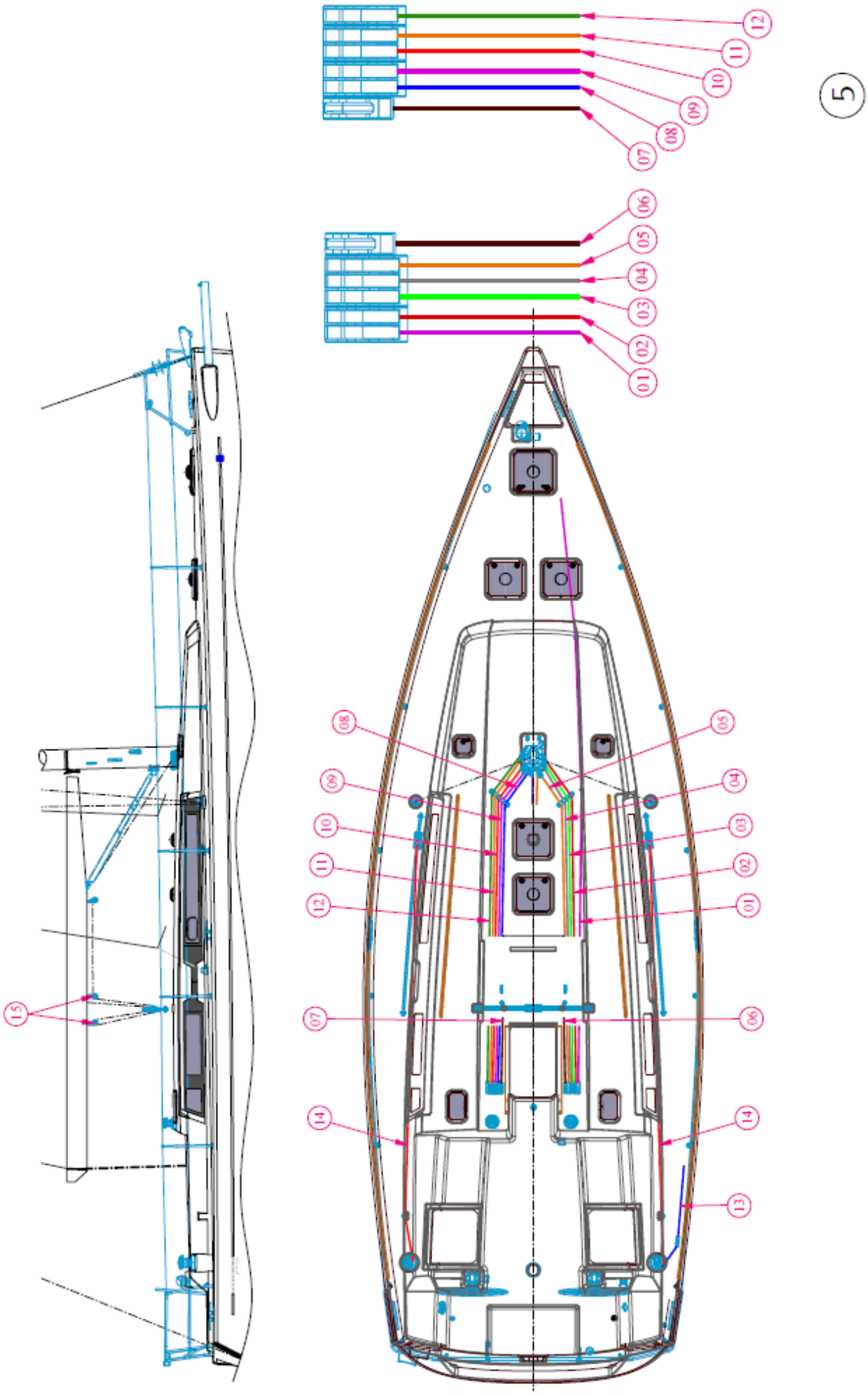
Not supplied **



4

4. Halyard and sheet operating diagram

Ref.	*Description standard mast*
1	Spinnaker tack
2	Spinnaker halyard
3	Main halyard
4	Reef line 1
5	Mainsheet
6	Adjusting Mainsail car 2
7	Adjusting Mainsail car 1
8	Boom vang
9	Mainsail foot
10	Reef line 2
11	Genoa halyard
12	Releasable forestay chain plate or self-tacking jib sheet
13	Spinnaker sheet
14	Genoa sheet
15	Mainsail sheet block
*	Option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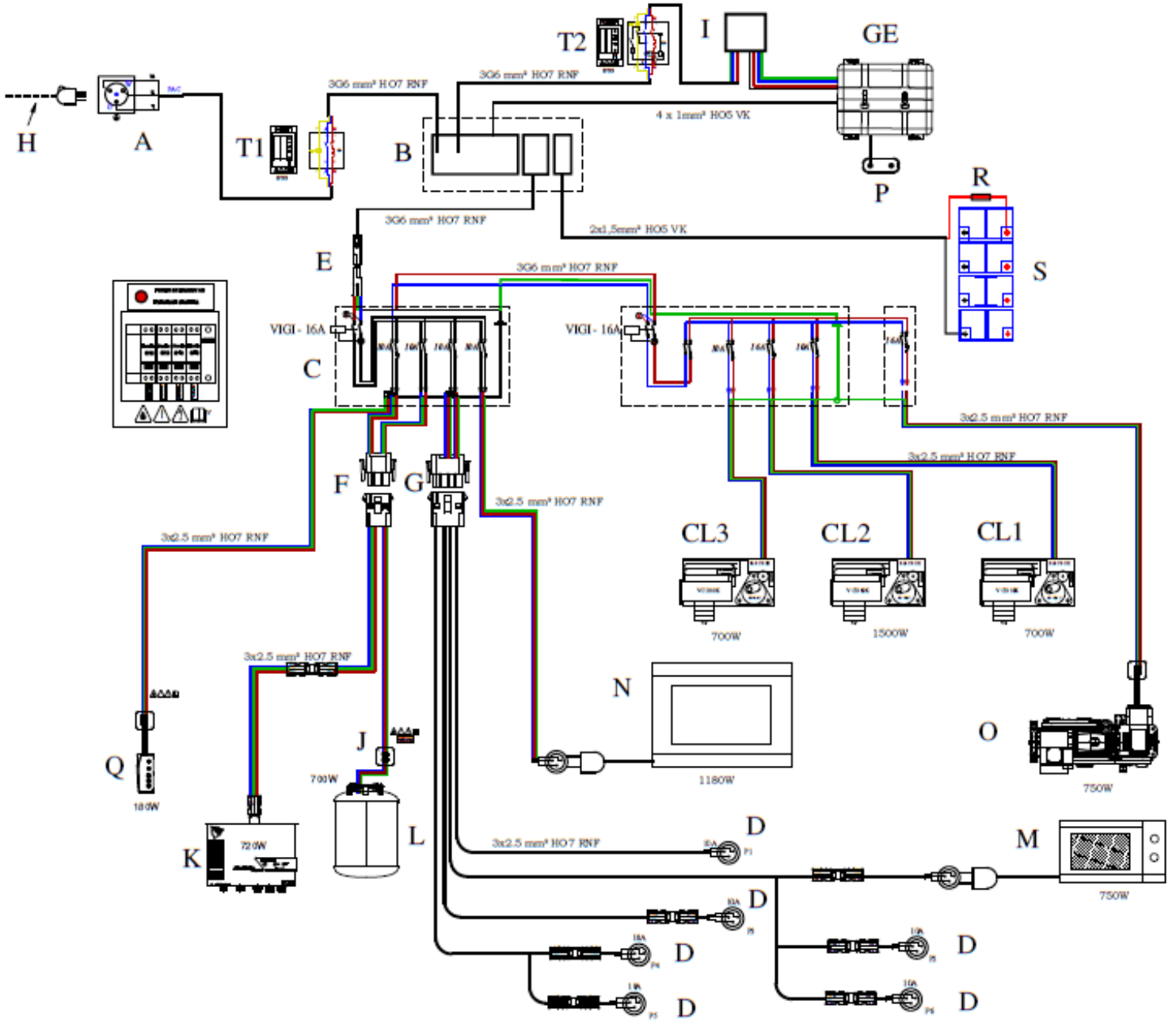
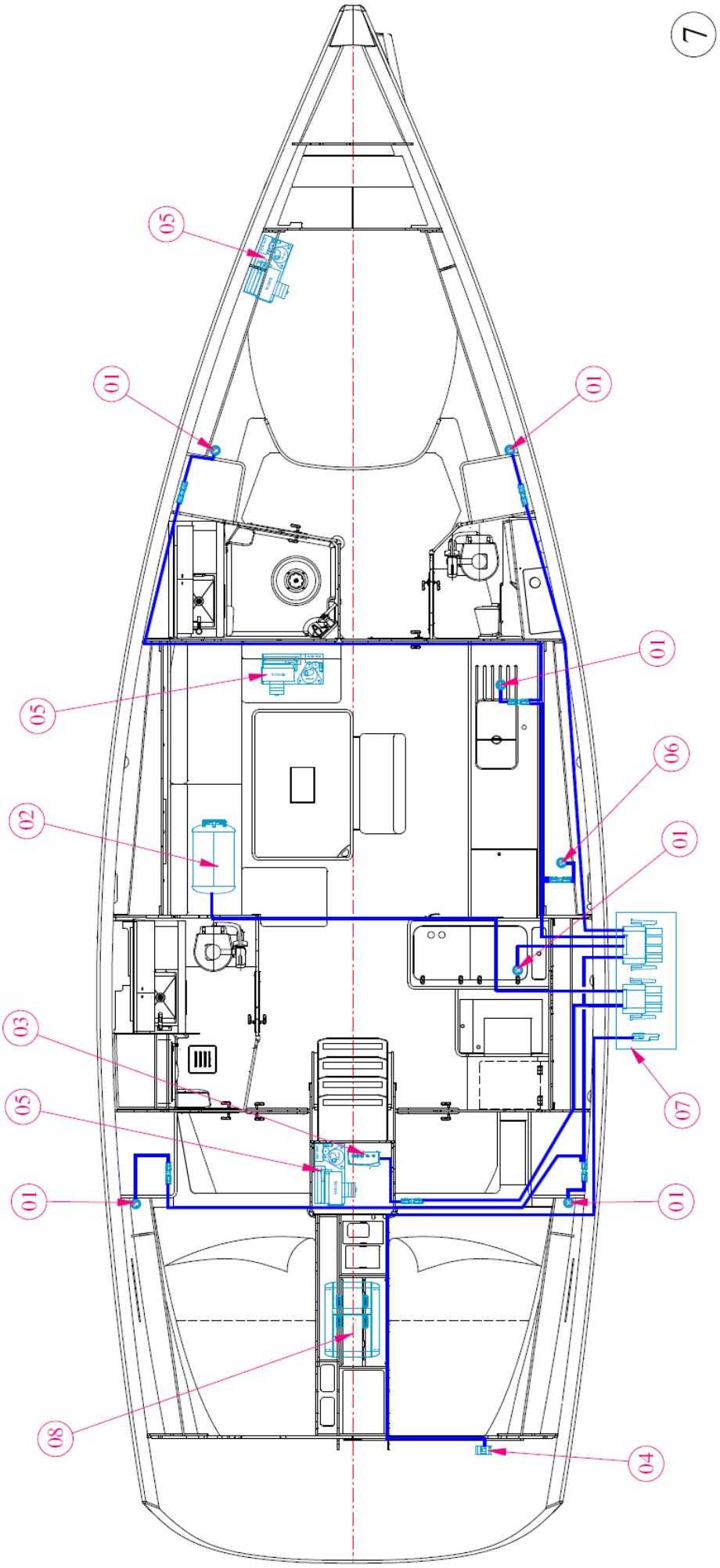
5.220 V circuit diagram

Ref.	Description
	Equipment
A	Shore AC connection *
B	Electrical cabinet with master circuit breaker *
C	16 A residual current circuit breaker *
CL1	700 W air conditioning*
CL2	1500 W air conditioning*
CL3	700 W air conditioning*
D	220V outlets *
E	E Connector*
F	F Connector*
G	G Connector*
GE	Power generator*
H	Shore cable 220 V **
I	Inverter (SAS unit)*
J	Connection box
K	Battery charger*
L	Water heater
M	Optional equipment (microwave oven)*
N	Optional equipment (dishwasher)*
O	Desalinator*
P	Earthing plate*
Q	Thruster*
R	Fuse 3 A
S	Auxiliary battery
T1	Residual current circuit breaker
T2	Residual current circuit breaker
	Electrical wiring colours
b	light blue
g	green
m	brown
n	black
r	red
v	green/yellow
w	white
*	Option


H
A
T1
T2
I
GE
P
R
S
B
E
C
VIGI - 16A
VIGI - 16A
F
G
CL3
CL2
CL1
700W
1500W
700W
N
1180W
O
750W
Q
180W
J
700W
K
720W
L
M
750W
D
3G6 mm² HO7 RNF
4 x 1mm² HO5 VK
2x1,5mm² HO5 VK
3x2,5 mm² HO7 RNF

6. 220 V electrical installation diagram

Ref.	*Description*
1	220 V (or 110 V) outlet *
2	Water heater
3	Battery charger *
4	Main circuit-breaker box*
5	Air conditioning*
6	Power socket for microwave oven*
7	6-way box with residual-current C/B*
8	Power generator*
*	Option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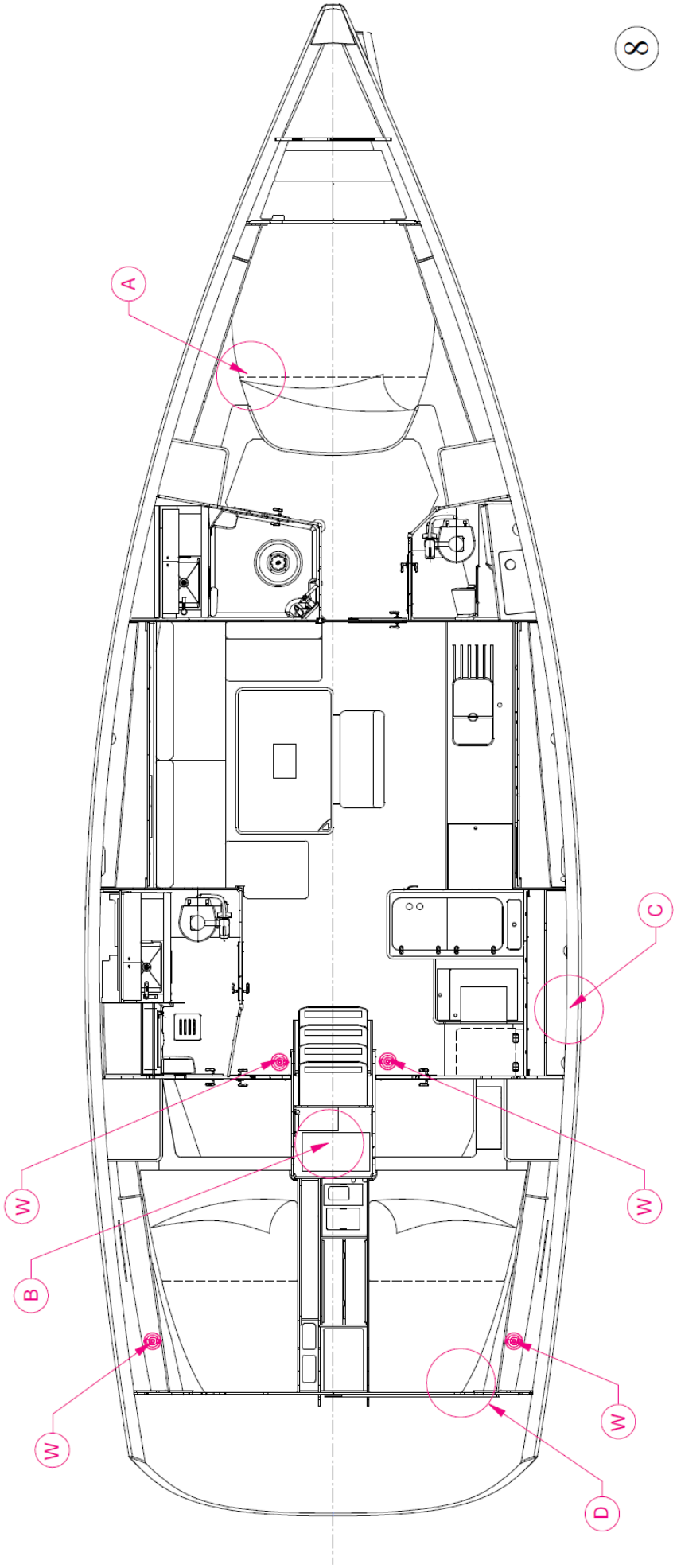
7. Fuse location diagram

Ref.	Description
A	***Zone A - 12 V***
	250A blade fuse: bow thruster*
B	***Zone B - 12 V***
	125A blade fuse: on-board protection
	80A blade fuse: power generator*
	3A spade fuse: power generator auto start*
	15A spade fuse: auto bilge pump*
	10A spade fuse: bilge fan
	Single pole 6A C-curve circuit breaker: rear hatch piston*
	Single pole circuit breaker 100A: elec. winch port halyard*
	Single pole circuit breaker 100A: elec. winch starboard halyard*
	Single pole circuit breaker 100A: elec. winch port Genoa*
	Single pole circuit breaker 100A: elec. winch starboard Genoa*
C	***Zone C - 12 V***
	30A spade fuse: 12/220V converter*
	1A spade fuse: gas solenoid*
	10A spade fuse: thruster*
	15A spade fuse: freezer*
	40A spade fuse: autopilot*
	10A spade fuse: heating*
	5A spade fuse: windlass*
	Free resetting circuit breaker type C 16A: WC x2*
	Free resetting circuit breaker type C 100A: windlass*
	Free resetting circuit breaker type C 63A: desalinator*
	Zone C - 220 V
	Ph/N circuit breaker 10A: dishwasher*
	16A/30mA residual current circuit-breaker: airconditioning*
	10A D-curve 2-pole circuit breaker: fore aircon*
	10A D-curve 2-pole circuit breaker: aft aircon*
	16A D-curve 2-pole circuit breaker: saloon aircon*
D	***Zone D - 220 V***
	32A 2-pole circuit breaker: shore general protection
	32A residual current circuit-breaker: power generator general protection
W	***Winches zone***
	5A spade fuse: port halyard winch*
	5A spade fuse: starboard halyard winch*
	5A spade fuse: port Genoa winch*
	5A spade fuse: starboard Genoa winch*
*	Option


8
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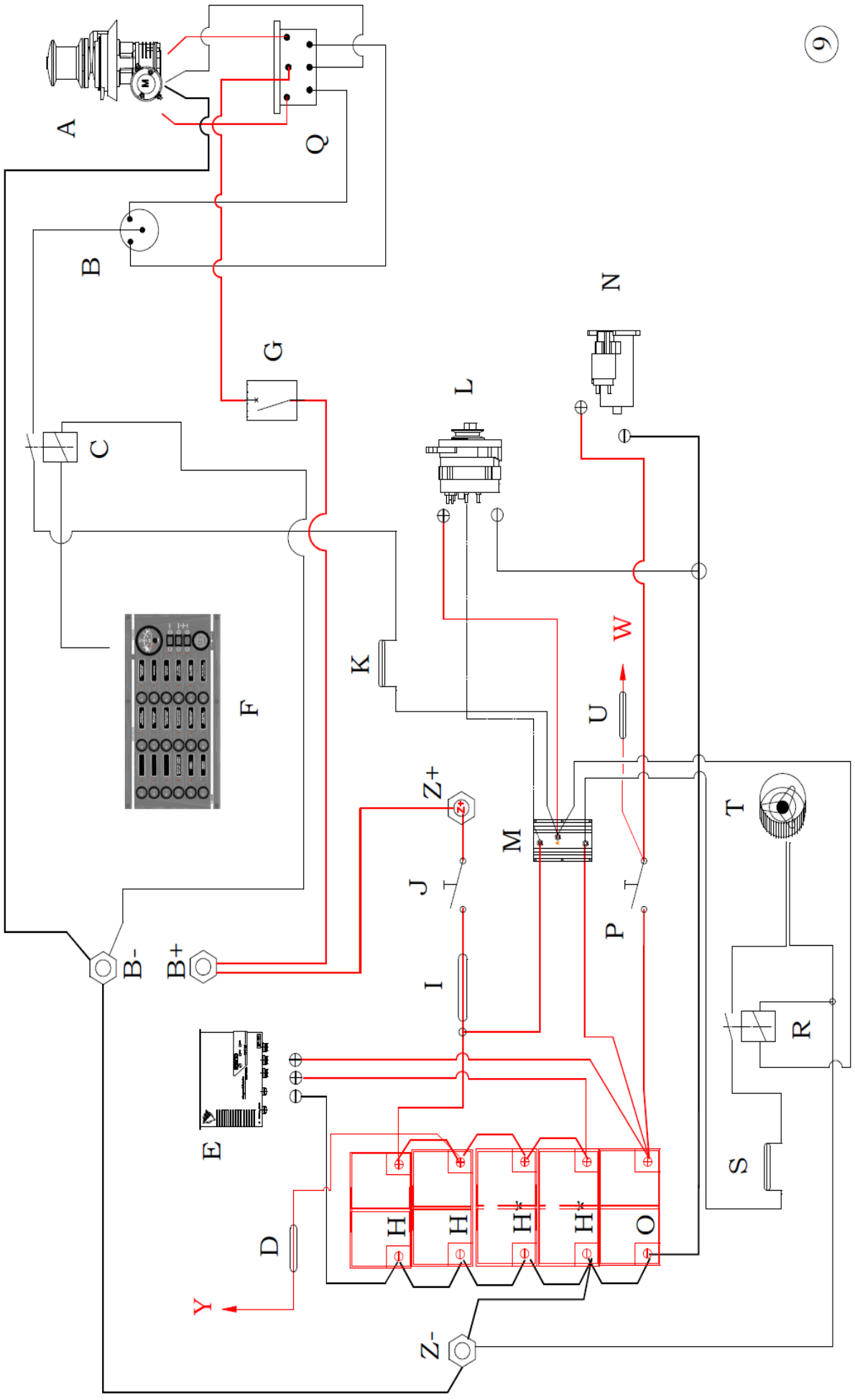
W
W
B
W
W
D

8. Charging & power circuit diagram

Ref.	*Description*
A	Windlass*
B	Windlass remote control *
C	Windlass remote control relay *
D	Fuse 15 A
E	Battery charger*
F	12 V distribution panel
G	Windlass single-pole 100 A circuit breaker*
H	Auxiliary batteries (2 as std + 2 as option*)
I	Fuse 125 A (auxiliary)
J	House batteries switch
K	Fuse 5A*
L	Alternator
M	Splitter
N	Starter motor
O	Engine battery
P	Engine battery isolator
Q	Windlass relay*
R	Bilge fan relay
S	Fuse 5A
T	Bilge fan
U	Fuse 8 A
B-	-ve terminal (electrical panel)
B+	+ve terminal (electrical panel)
W	Battery test
Y	Panel for auto bilge pump option
Z–	–ve terminal (technical area)
Z+	+ve terminal (technical area)
*	Option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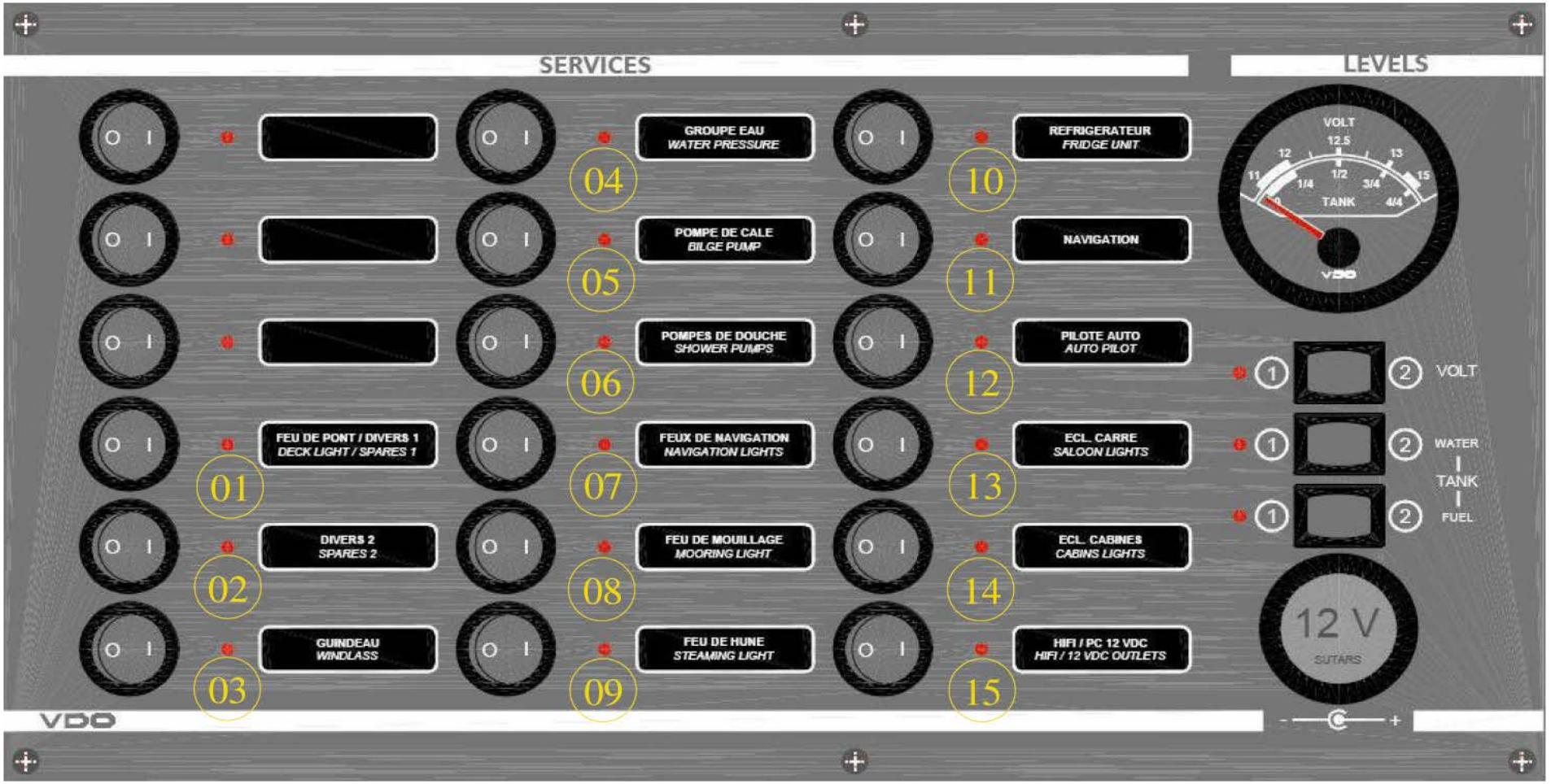
9. 12 V distribution panel diagram

Ref.	Description	Protection
	12 V distribution panel	
1	Deck light / Spares 1	10 A
2	Miscellaneous 2	10 A
3	Windlass control	10 A
4	Water pump unit	10 A
5	Bilge pump	15 A
6	Shower drain pumps	10 A
7	Navigation lights	10 A
8	Mooring light	10 A
9	Steaming light	10 A
10	Refrigerator	10 A
11	Navigation instrument pack	10 A
12	Auto pilot	20 A
13	Saloon lights	15 A
14	Cabin lighting	15 A
15	HiFi / 12 V outlet	10 A


SERVICES
LEVELS
GROUPE EAU
WATER PRESSURE
04
POMPE DE CALE
BILGE PUMP
05
POMPES DE DOUCHE
SHOWER PUMPS
06
FEU DE PONT / DIVERS 1
DECK LIGHT / SPARES 1
01
FEUX DE NAVIGATION
NAVIGATION LIGHTS
07
DIVERS 2
SPARES 2
02
FEU DE MOUILLAGE
MOORING LIGHT
08
GUINDEAU
WINDLASS
03
FEU DE HUNE
STEAMING LIGHT
09
REFRIGERATEUR
FRIDGE UNIT
10
NAVIGATION
11
PILOTE AUTO
AUTO PILOT
12
ECL. CARRE
SALOON LIGHTS
13
ECL. CABINES
CABINS LIGHTS
14
HIFI / PC 12 VDC
HIFI / 12 VDC OUTLETS
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VOLT
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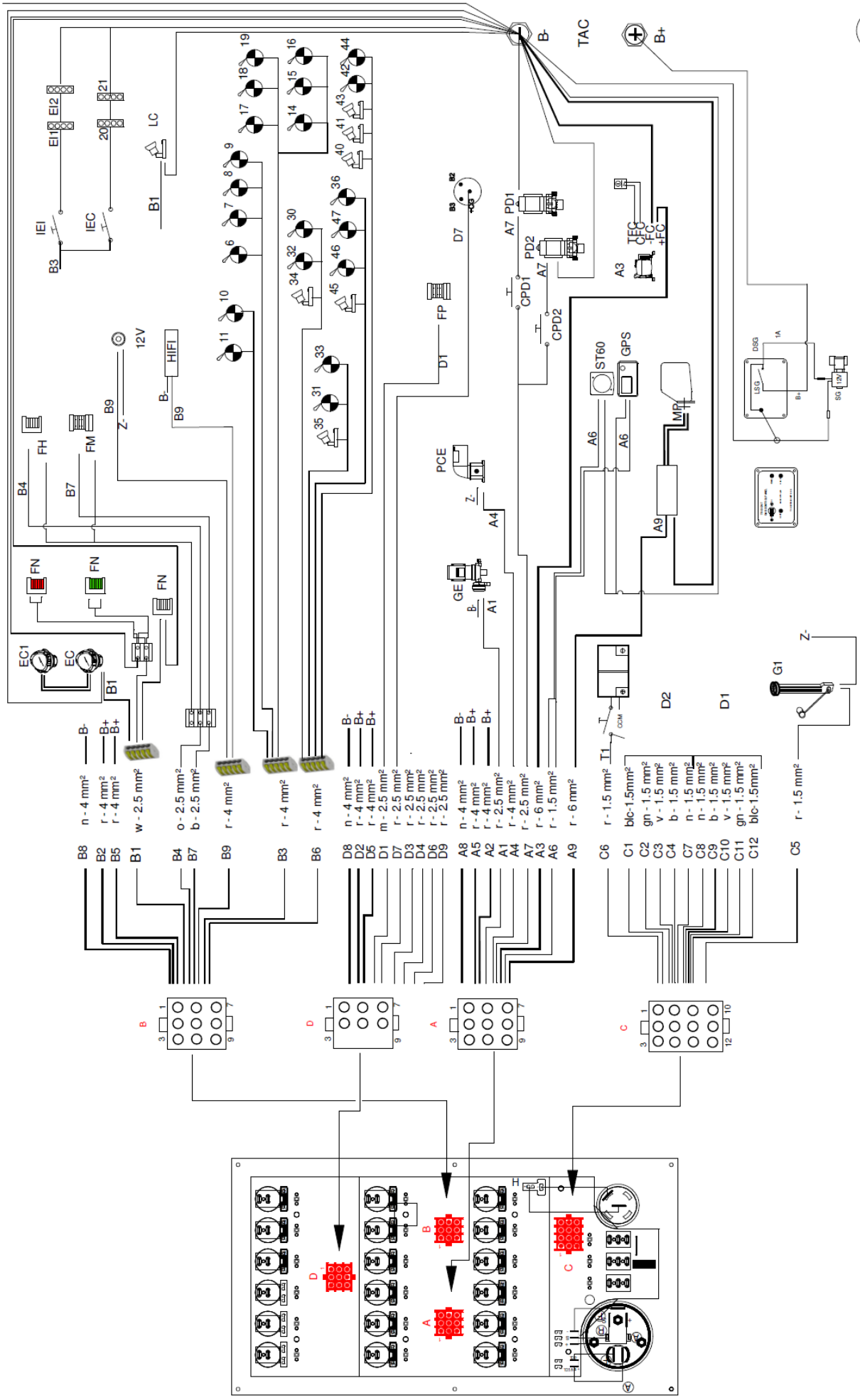
3/4
4/4
TANK
VOLT
WATER
TANK
FUEL
12 V
SUTARS
VDO

10. Electrical panel terminal diagram

Ref.	*Description*
A	**A Connector**
1	Water pump unit
2/5	Battery positive
3	Fridge thermostat relay
4	Bilge pump
6	Navigation equipment**
7	Shower drain pumps
8	Battery negative
9	Autopilot
B	**B connector**
1	Navigation lights and compass
2/5	Battery positive
3	Saloon and chart table lights
4	Mooring light
6	Cabin and toilet lights
7	Steaming light*
8	Battery negative
9	HIFI * / 12 V outlet
C	**C Connector**
6	Engine battery test – T1
1/2/3/4	Fore watertank sensor – D1
9/10/11/12	Aft watertank sensor – D2
5	Fuel gauge transducer – G1
7	Water & fuel at level 0
8	Fuel gauge transducer – G2**
D	**D Connector**
1	Deck lights ** / Spares 1
2/5	Battery positive
3	Spares 5
4	Spares 2
6	Spares 4
7	Windlass control
8	Battery negative
9	Spares 3
	Electrical wiring colours
n	black
r	red
w	white
o	orange
m	brown
b	blue
*	Option
**	Not supplied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CPD1
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+FC
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GPS
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gn - 1.5 mm²
v - 1.5 mm²
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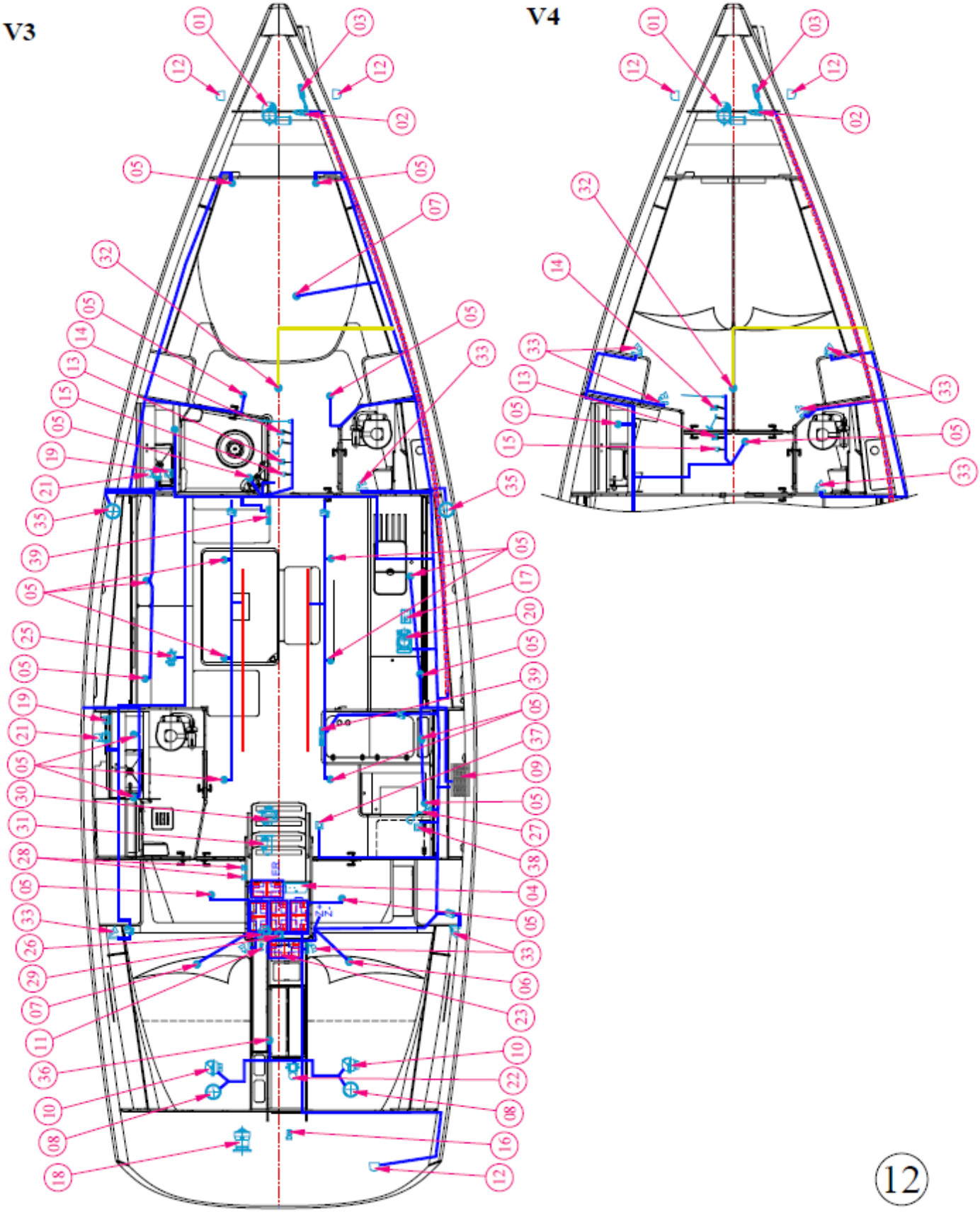
11. 12 V electrical installation diagram

Ref.	Description
1	Windlass*
2	Windlass relay*
3	Windlass remote control*
4	25 A battery charger *
5	Bulkhead light + switch
6	Diesel gauge
7	Fresh water gauge
8	Cockpit speaker
9	12V control panel
10	Steering compass
11	Auxiliary fuse
12	Navigation lights
13	Steaming light
14	Mooring light
15	Deck light
16	Solenoid valve *
17	Gas alarm detector panel *
18	Autopilot motor*
19	Shower pump control
20	Refrigeration unit
21	Shower waste pump
22	Electric bilge pump
23	100 Ah engine battery
24	100 Ah auxiliary batteries (2+2*)
25	Water pump unit
26	Motor fan
27	Chart table reading light
28	Engine and auxiliary battery isolator
29	Splitter
30	Alternator
31	Starter motor
32	Speed sensor/transducer*
33	Spotlight
34	Reading light
35	Saloon speaker
36	Plug socket
37	Indirect lighting control
38	Courtesy lighting control
39	Courtesy lighting
40	Indirect lighting
*	Option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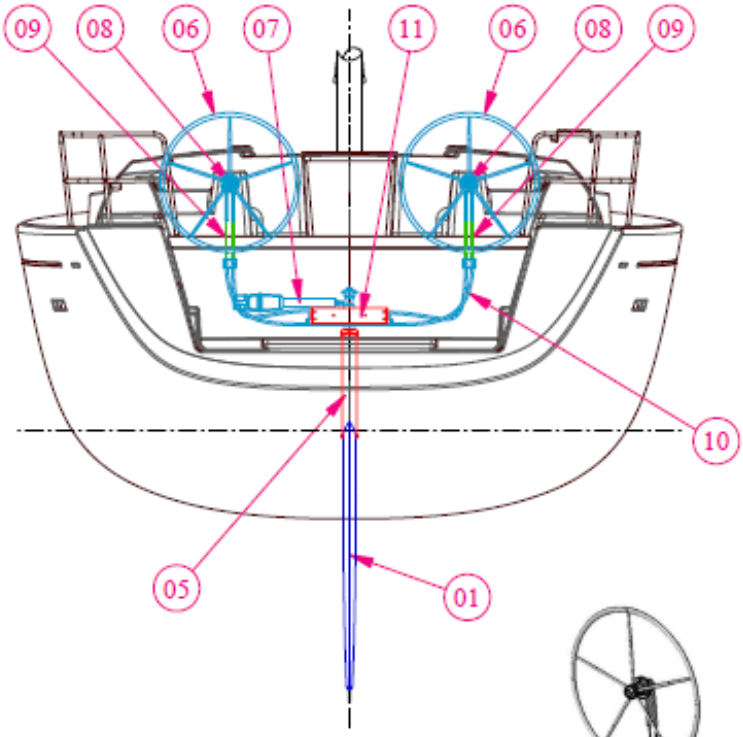
12. Steering system diagram

Ref.	*Description*
1	Rudder blade
2	Rudder stock
3	Steering column
4	Tiller deck plate
5	Rudder trunk
6	Steering wheel
7	Autopilot*
8	Bulkhead fitting + brake
9	Chain assembly + Ø5 cable
10	Pull-Push duct
11	Sleeve terminations and Rudder stop set
12	Quadrant
13	Thrust bearing
14	JP3 bearing
*	Option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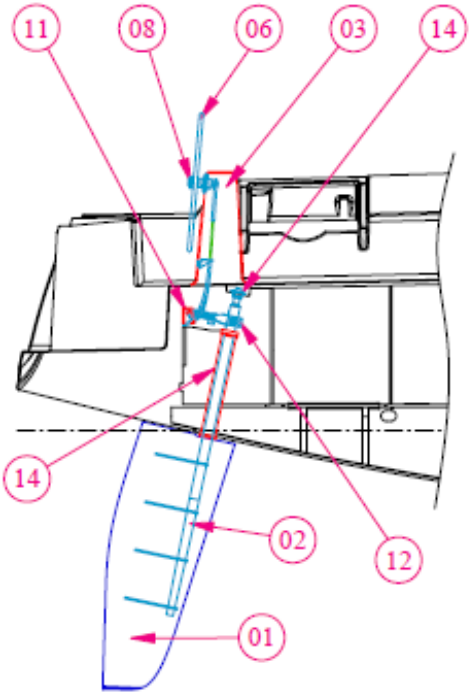
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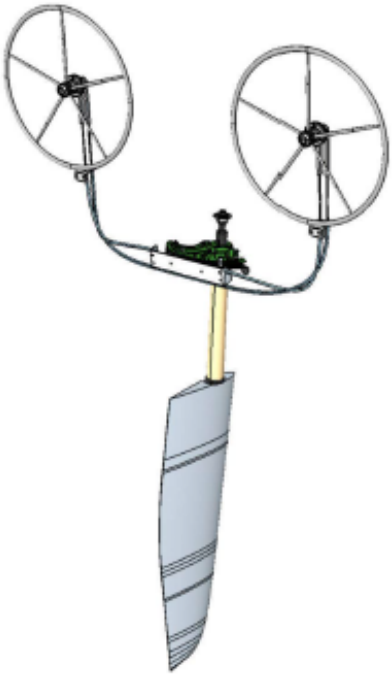

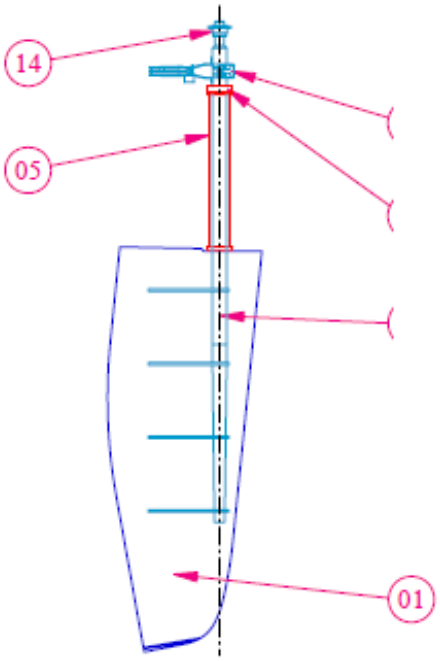
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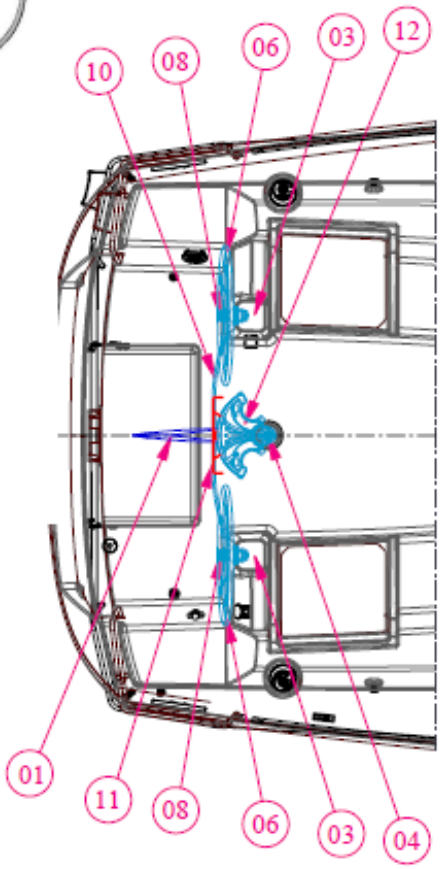
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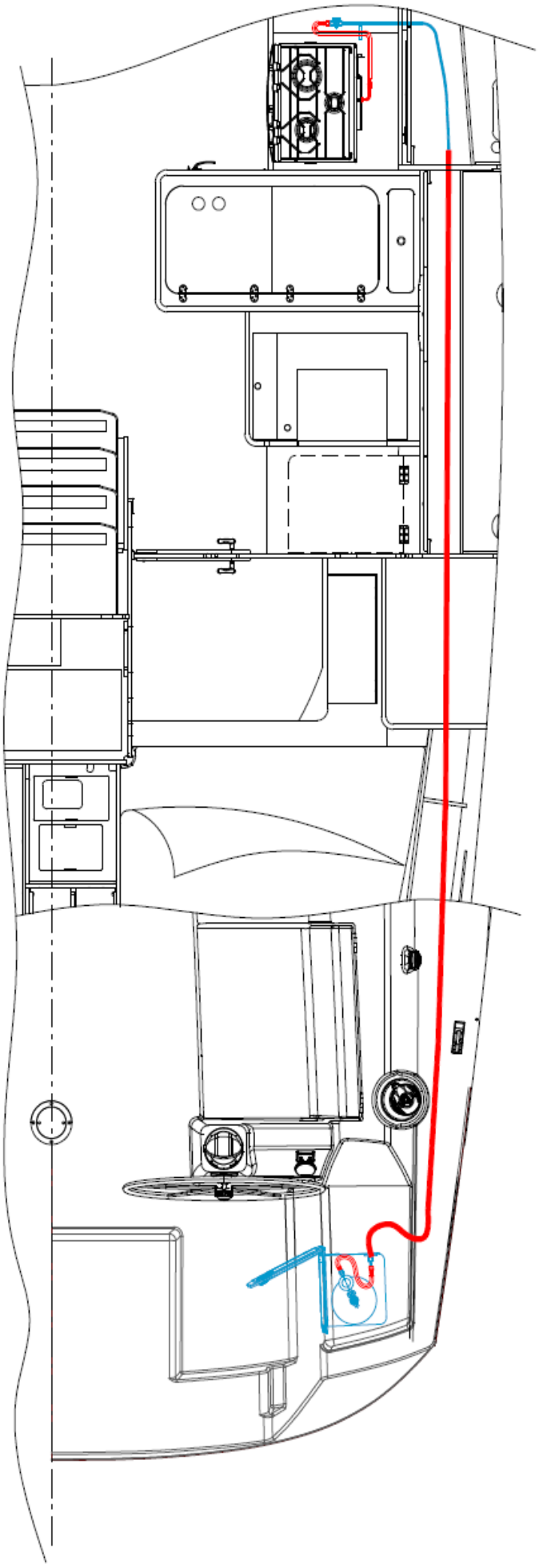
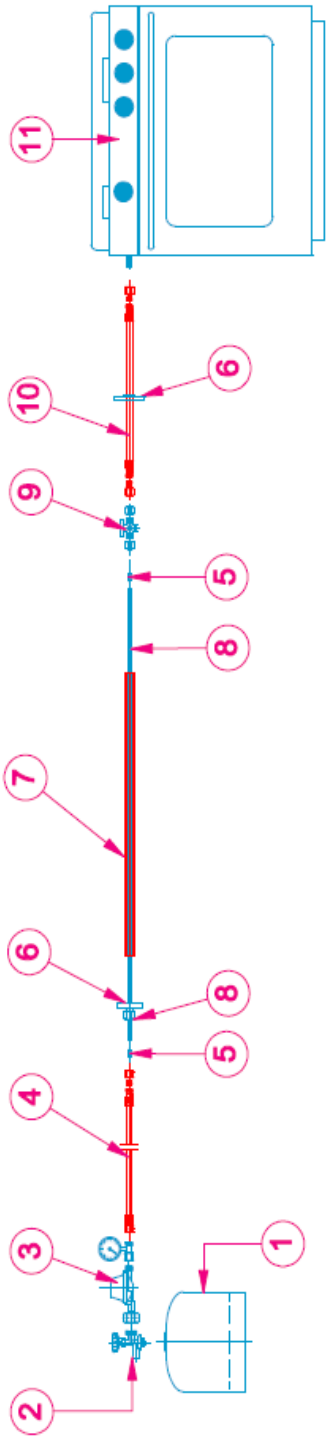
13. Gas system diagram

Ref.	*Description*
1	1.8 kg gas cylinder **
2	CE shut-off valve (Fr. or Ger.) ** **
3	30 mbar CE regulator (Fr. or Ger.) ** / pressure gauge**
4	Medium-length connecting hose
5	Spacer / 6x8 pipe
6	Watertight bulkhead fitting
7	PVC pipe
8	6x8 copper pipe
9	CE gas shut-off valve (in compartment below cooker)
10	Long connection hose
11	3 burner stove / oven
**	Not supplied

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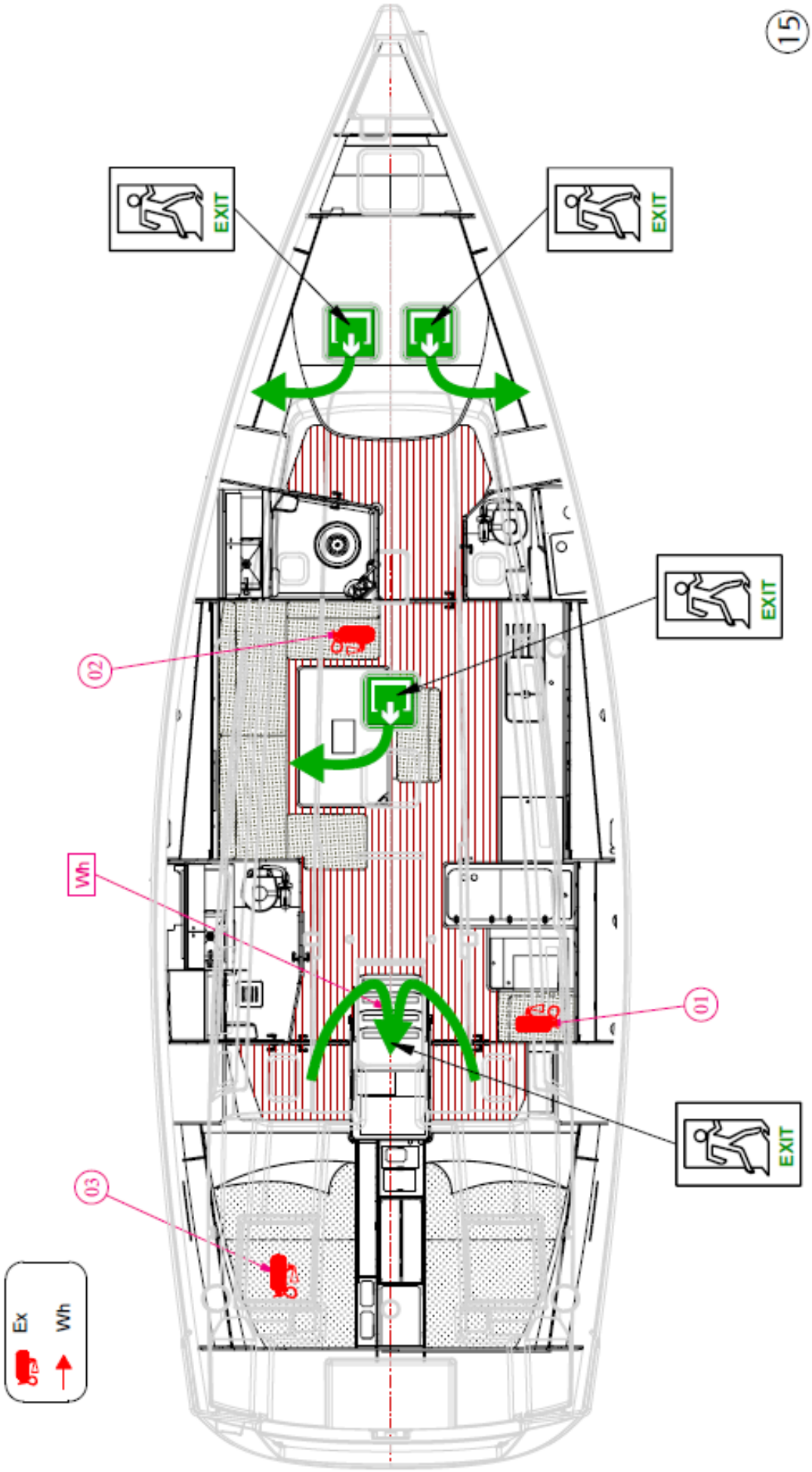
14. Abandon ship plan

Ref.	*Description*
Ex	Recommended fire extinguisher locations
1	Under chart table: 2 kg FM 200 fire extinguisher**
2	Under saloon settee: 2 kg powder extinguisher **
3	In the cockpit: 2 kg powder extinguisher **
Wh	Engine compartment extinguishing hole
EXIT	Emergency exit
**	Not supplied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15. Fresh-water system diagram

Ref.	*Description*
1	Filler deck-plate
2	Filler hose
3	Vent
4	Vent hose
5	250 L aft water tank
6	Hot water pipe
7	1/2" 2-way manifold
8	Water pump unit
9	Fresh water pump
10	Water heater
11	Bathroom mixer tap
12	Galley mixer tap
13	Deck hand shower
14	280 L fore water tank
15	Cold water pipe
16	¾" Male bolt
17	½" ¼-turn FF valve
18	¾" WX F connector
19	½" WX M connector
20	Head shower single-lever mixer tap

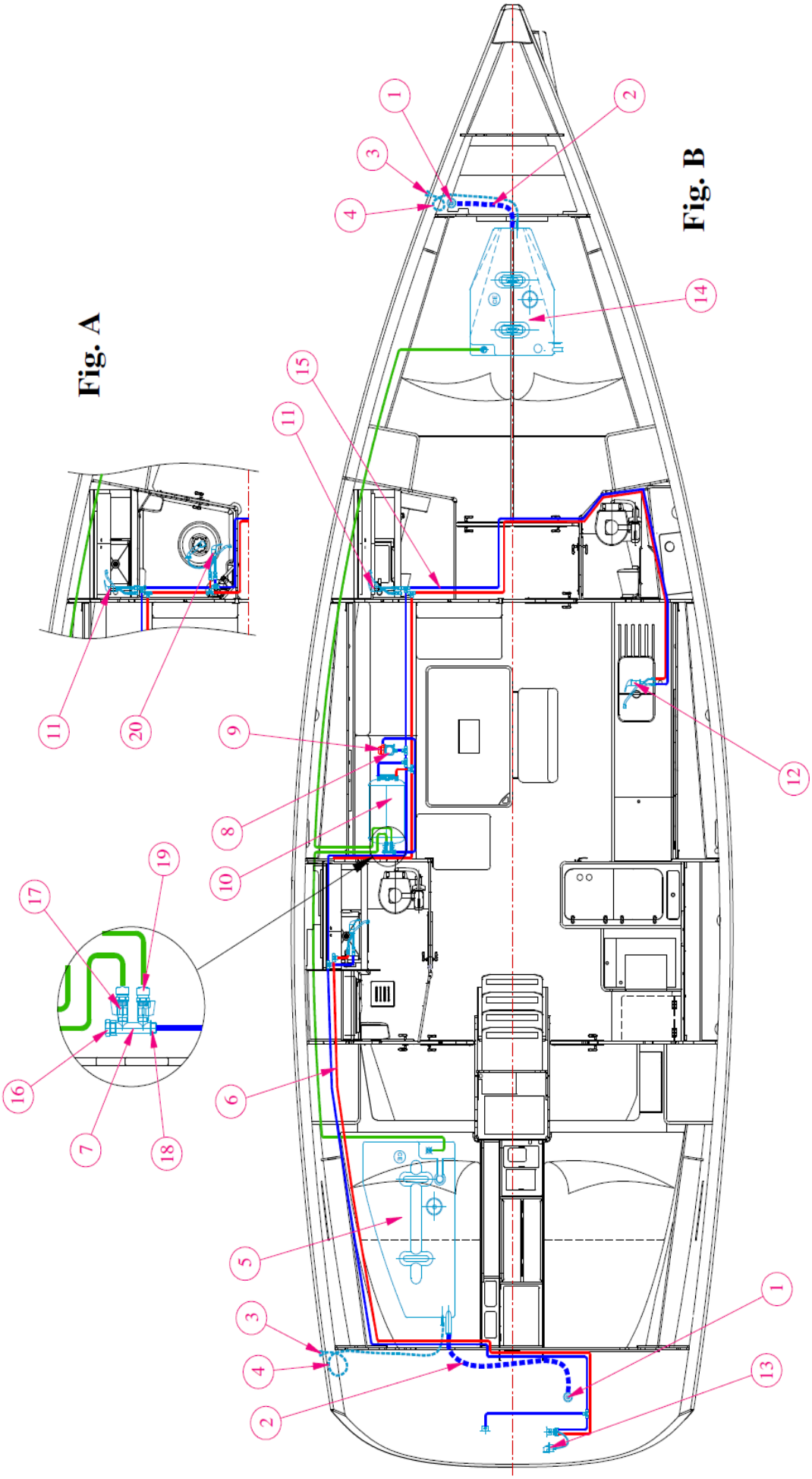
Fig. A
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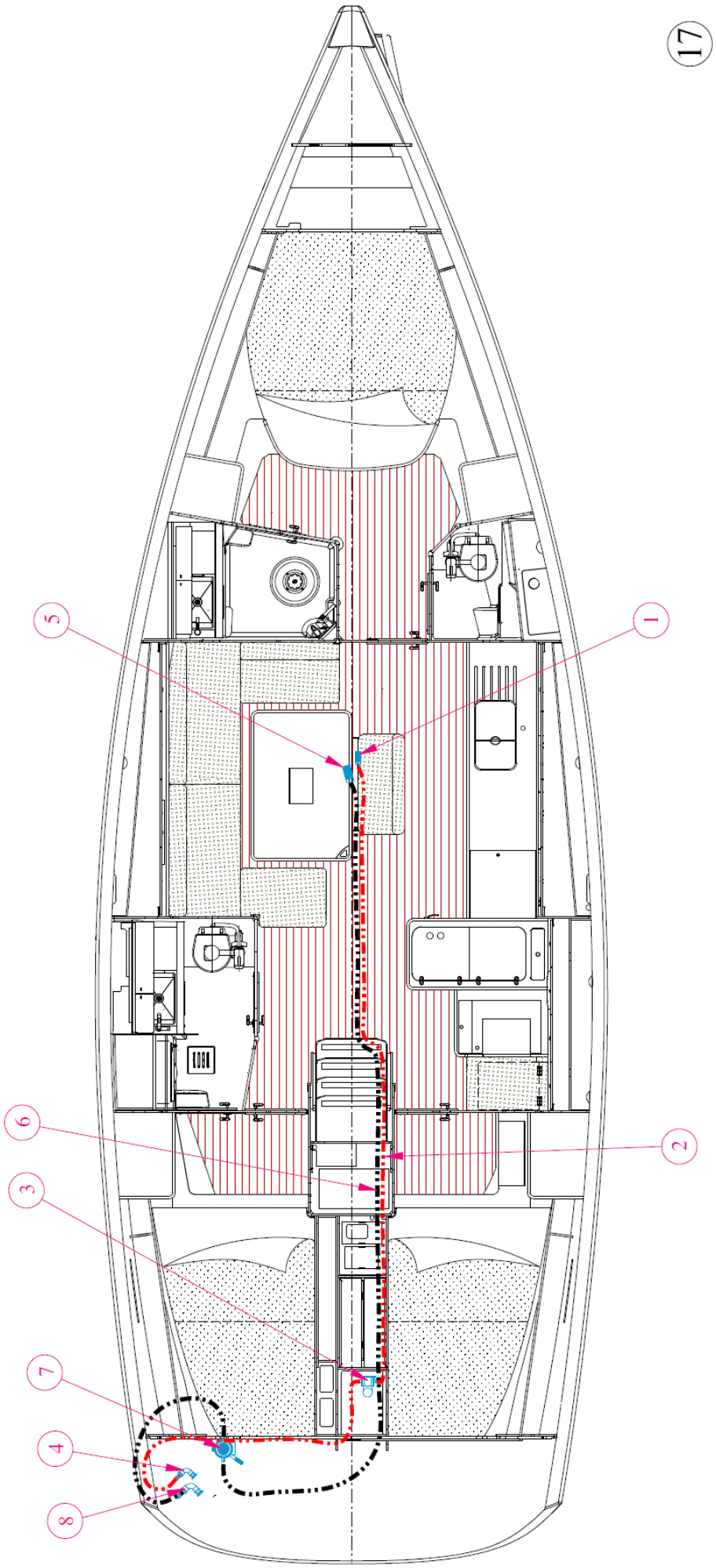
16. Drain system diagram

Ref.	Description
	Electric bilge pump
1	D20 3/4" valve strainer
2	Ø20 discharge hose
3	Electric bilge pump
4	3/4" skin fitting
	Manual bilge pump
5	D25 valve strainer
6	Ø25 discharge hose
7	Manual bilge pump
8	1" skin fitting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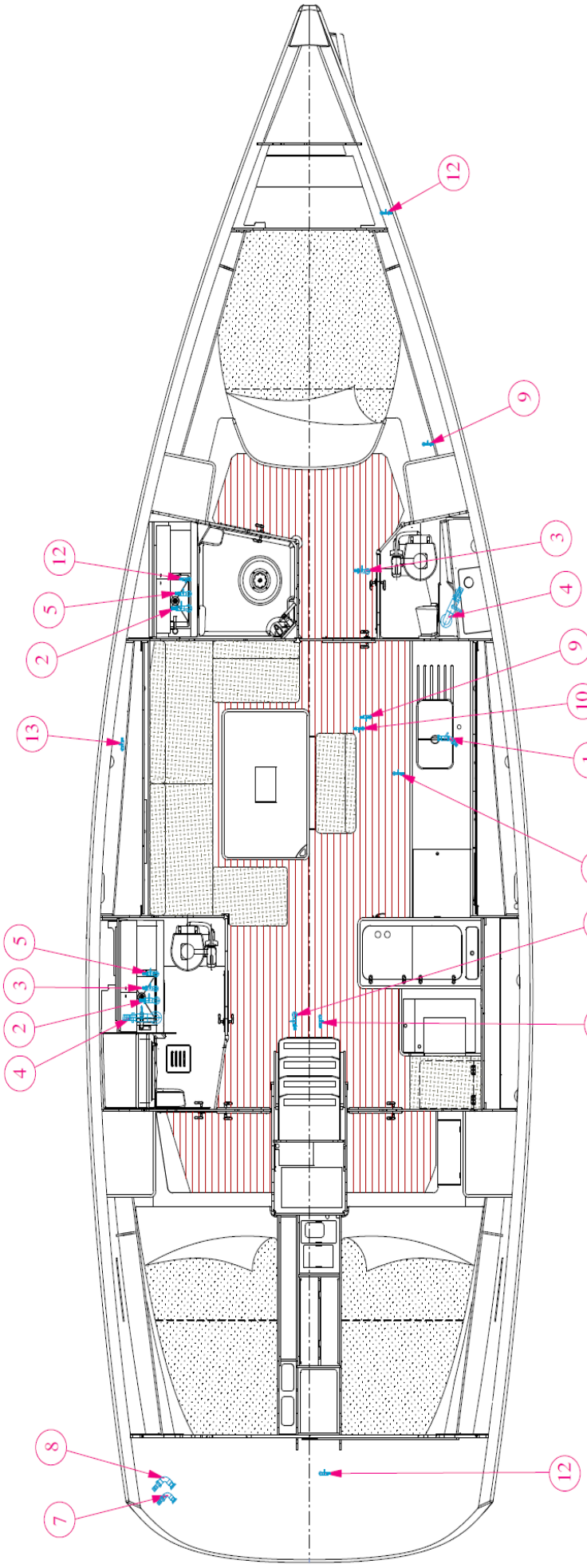
17. Skin fitting location diagram

Ref.	Description	Ø
	Skin-fittings + seacocks	
1	Galley sink discharge	1"
2	Washbasin discharge	1"
3	WC water intake	3/4"
4	Toilet discharge	2"
5	Shower waste	3/4"
6	Foot pump sea water intake*	1/2"
	Skin-fitting	
7	Electrical bilge pump discharge	3/4"
8	Manual bilge pump discharge	1"
	Strainer + skin-fitting*	
9	Air con seawater intake*	
10	Desalinator seawater intake*	
11	Power generator seawater intake*	
12	Aircon discharge*	
13	Desalinator discharge*	
*	Option	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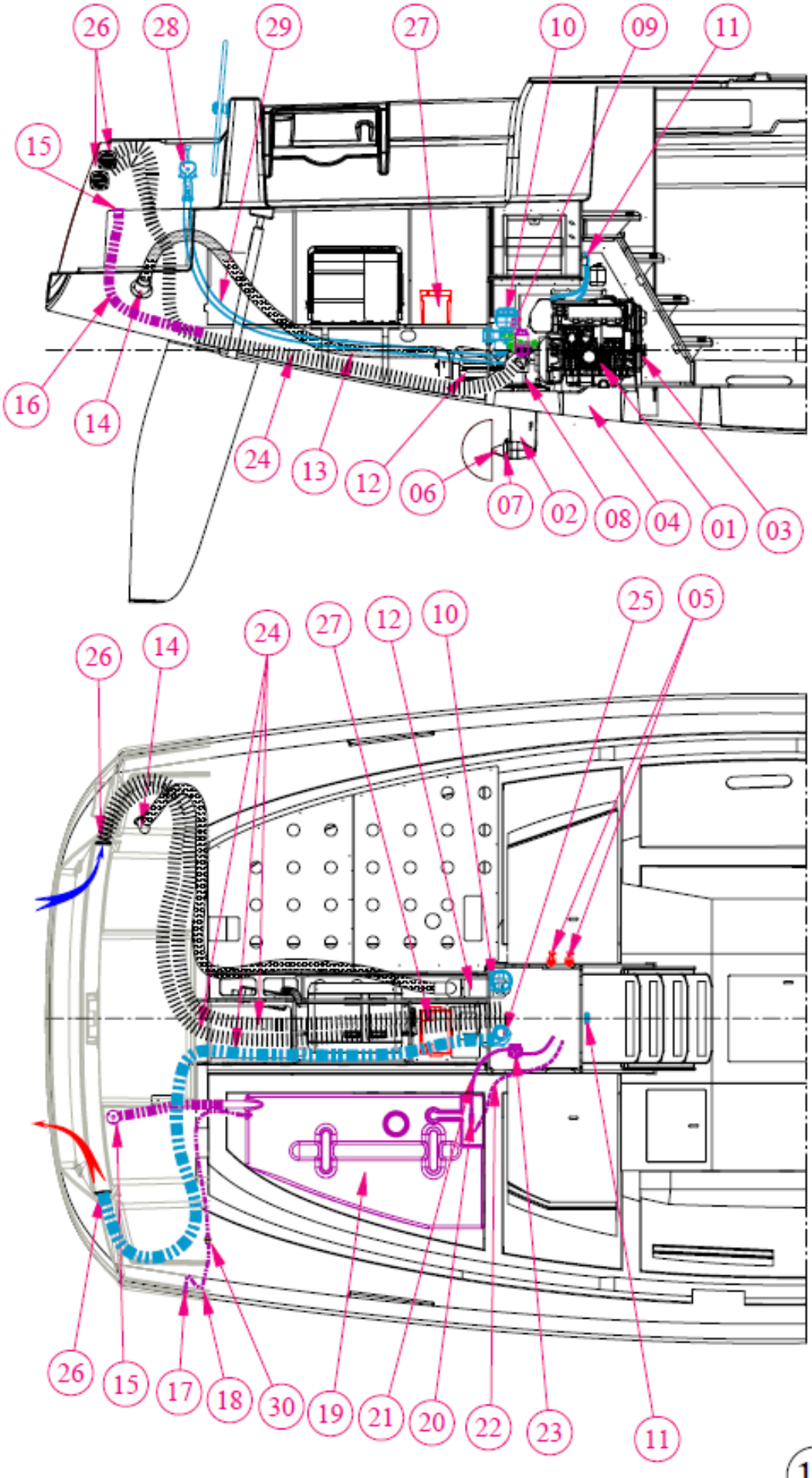
18. Engine installation diagram

Ref.	Description
	General
1	Engine
2	Sail-drive
3	Engine sea-water pump
4	Polyester frame
5	Isolator
6	Propeller
7	Anode
	Cooling system / Exhaust
8	Seawater valve on sail-drive
9	Sea-water hose
10	Seawater filter
11	Anti-siphon swan neck
12	Waterlock silencer
13	Exhaust pipe
14	Exhaust outlet
	Fuel system
15	Fuel filler deck plate
16	Filler hose
17	Fuel tank vent
18	Fuel tank hose
19	250 L Fuel tank
20	Fuel shut-off valve
21	Fuel feed hose
22	Fuel return hose
23	Diesel filter with water separator
30	Anti-overflow vent
	Ventilation
24	Ventilation duct
25	Bilge fan
26	Ventilation grilles
	Miscellaneous
27	Engine battery
28	Engine controls
29	Control cables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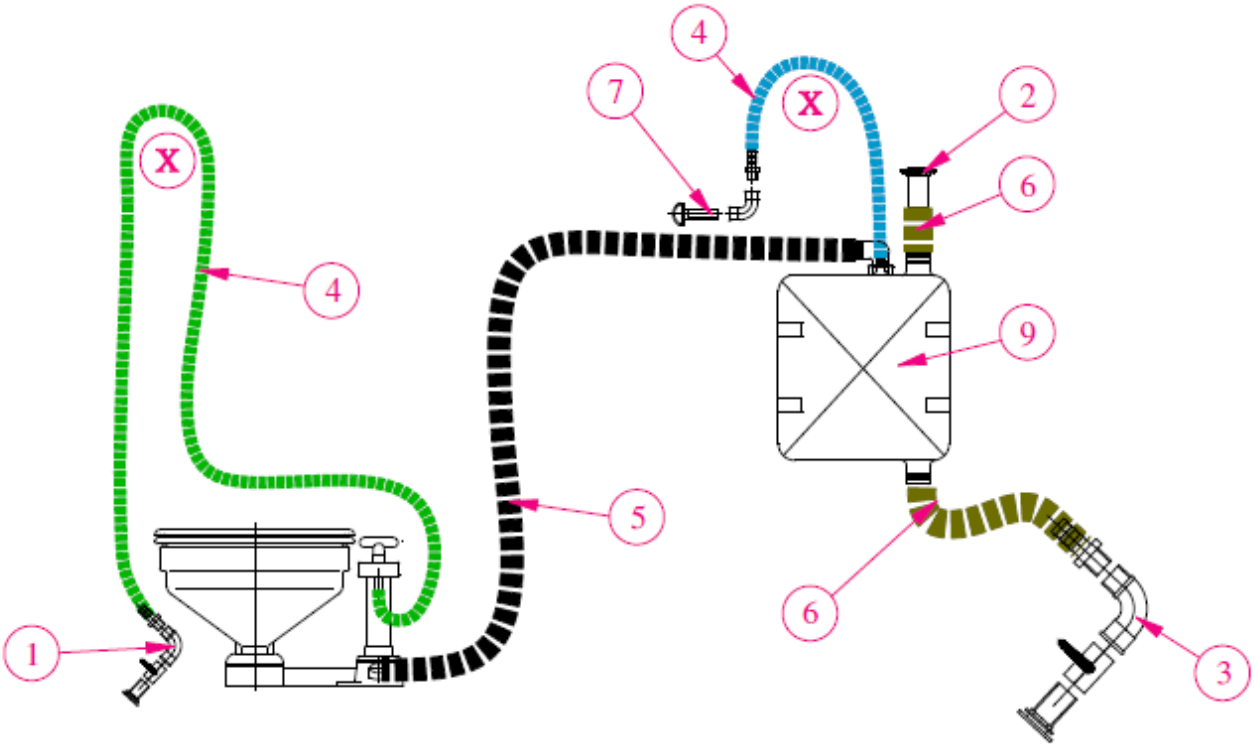
19. Holding tank installation diagram

Ref.	*Description*
1	Skin fitting & seacock, ¾"
2	Ø 50 waste deck-plate*
3	Skin fitting & seacock, 2"*
4	Ø20 hose*
5	Ø38 anti-odour hose*
6	Ø51 anti-odour hose*
7	Chromed brass vent*
8	Aft 50 L polythene holding tank*
9	Forward 50 L polythene holding tank*
X	U-bend*
*	Option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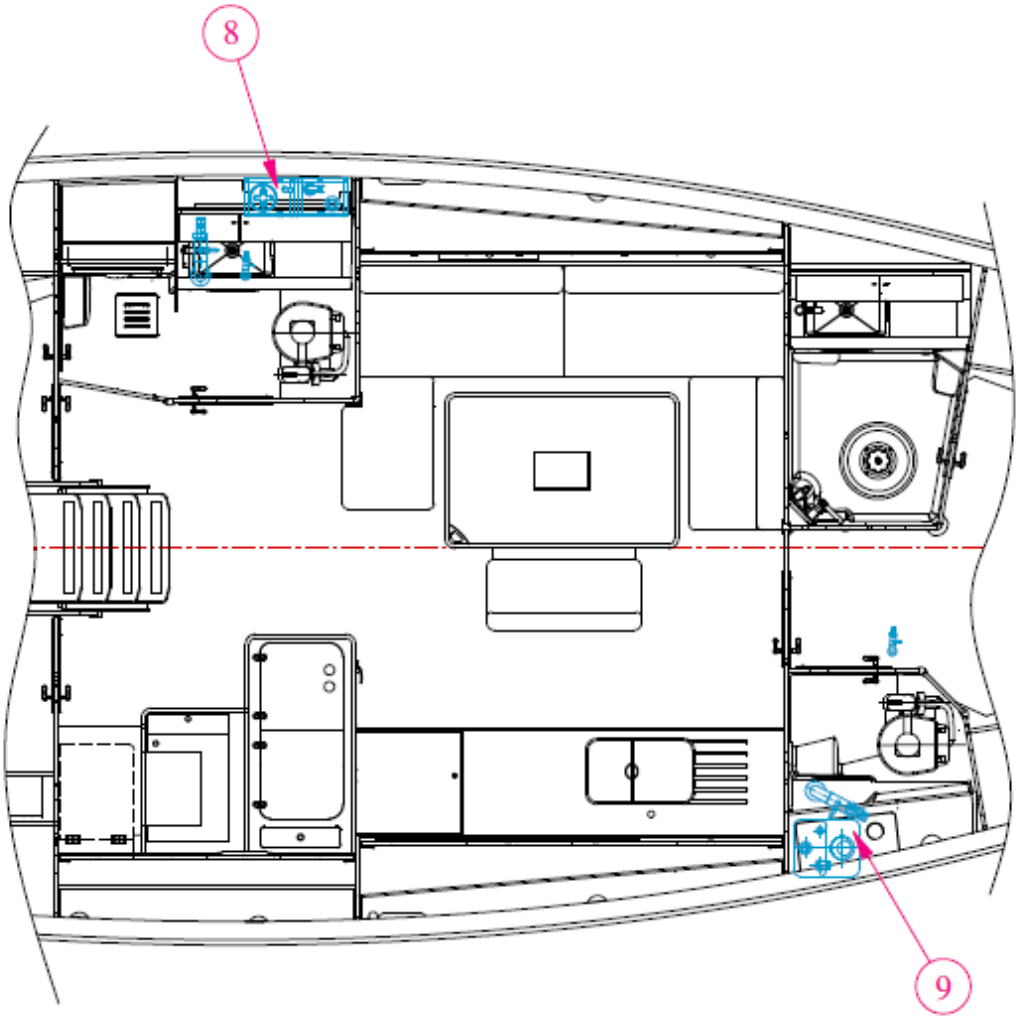
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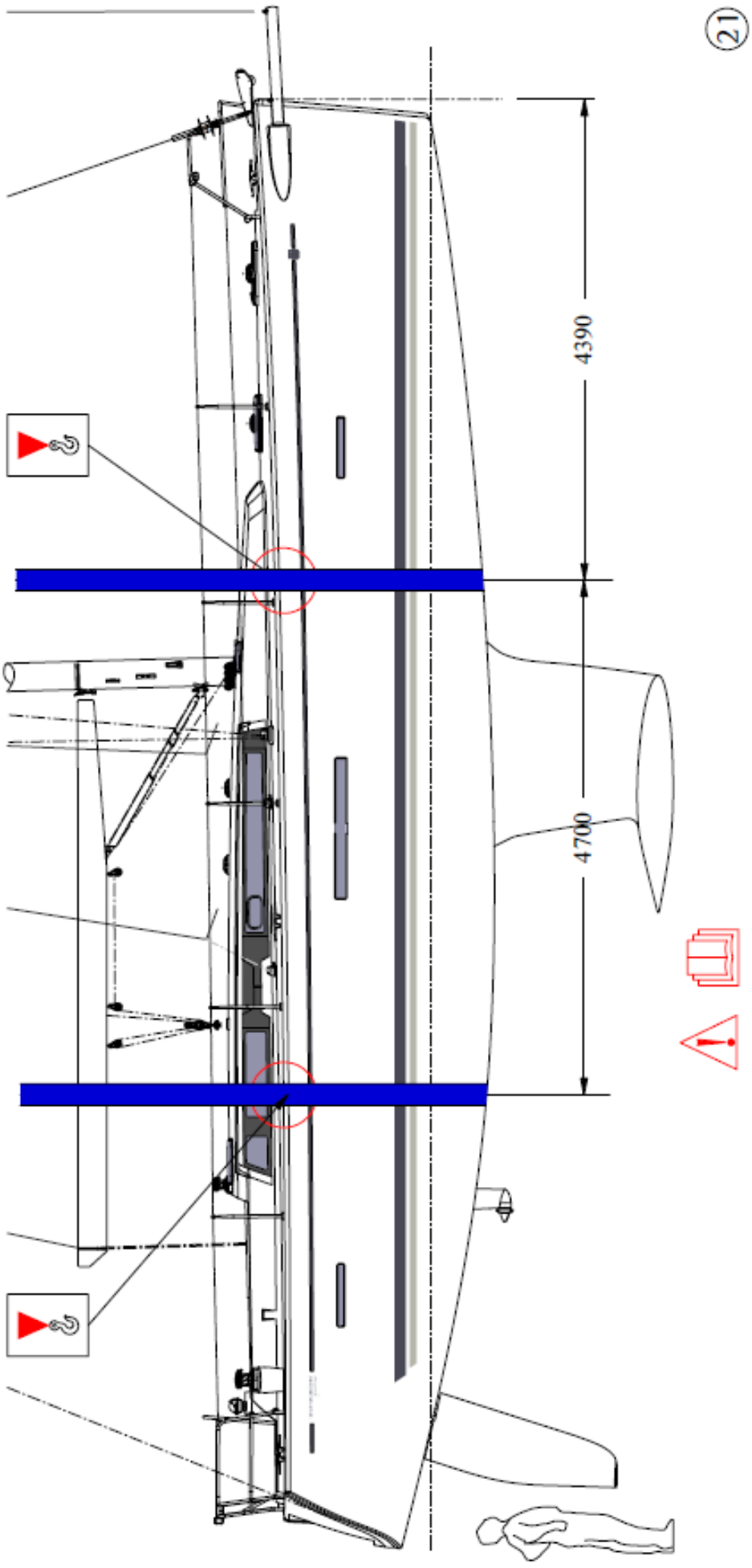
20. Lifting diagram

Ref.	Description	
▼	See red triangular marker under deck-line	
	Light displacement:	10275 kg
	Max. beam:	4.34 m
	Standard draught	2.20 m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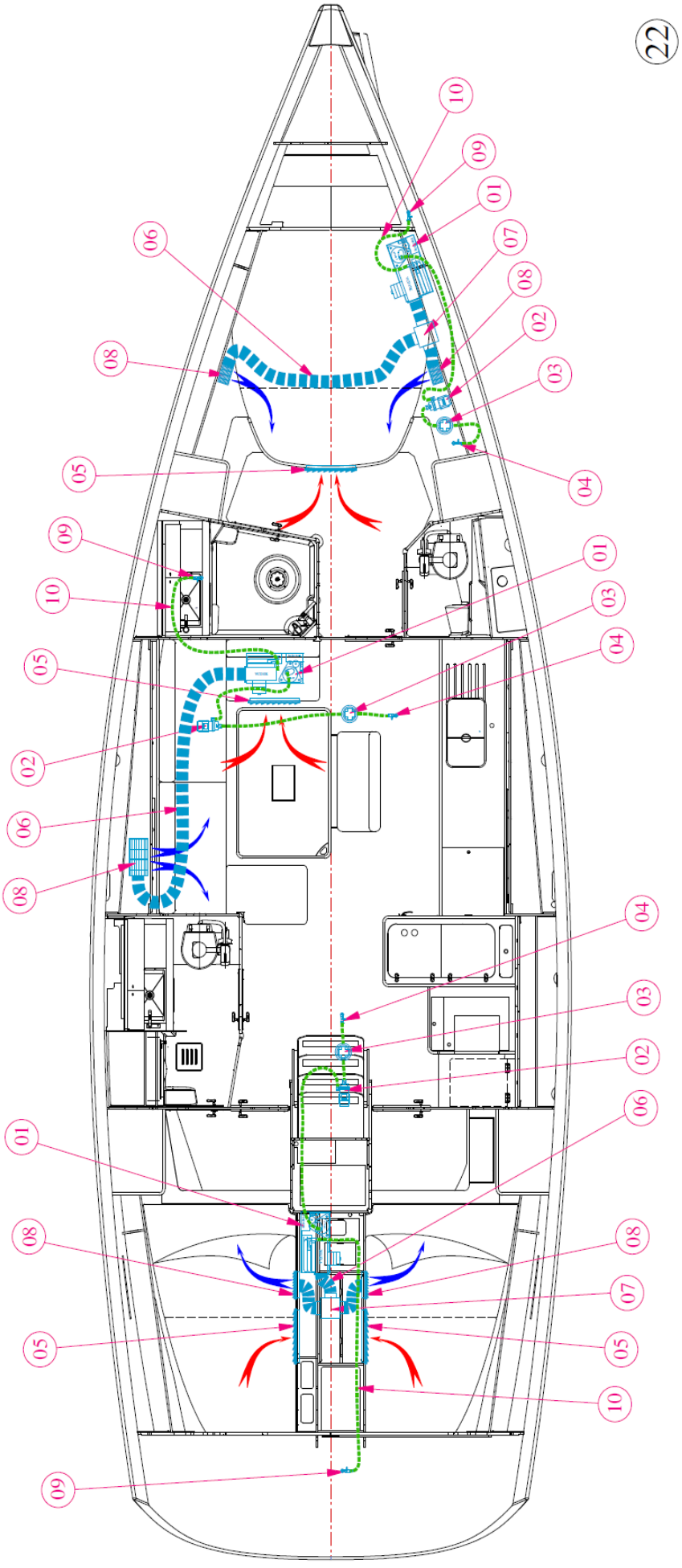
21. 220V airconditioning installation plan

Ref.	Description
1	Reversible airconditioning*
2	Seawater intake pump*
3	Seawater filter*
4	Skin fitting + seawater intake valve*
5	Air intake grille*
6	Ducts*
7	Transition unit*
8	Air blower grille*
9	Skin fitting elbow / seawater discharge*
10	Sea-water hose*
*	Option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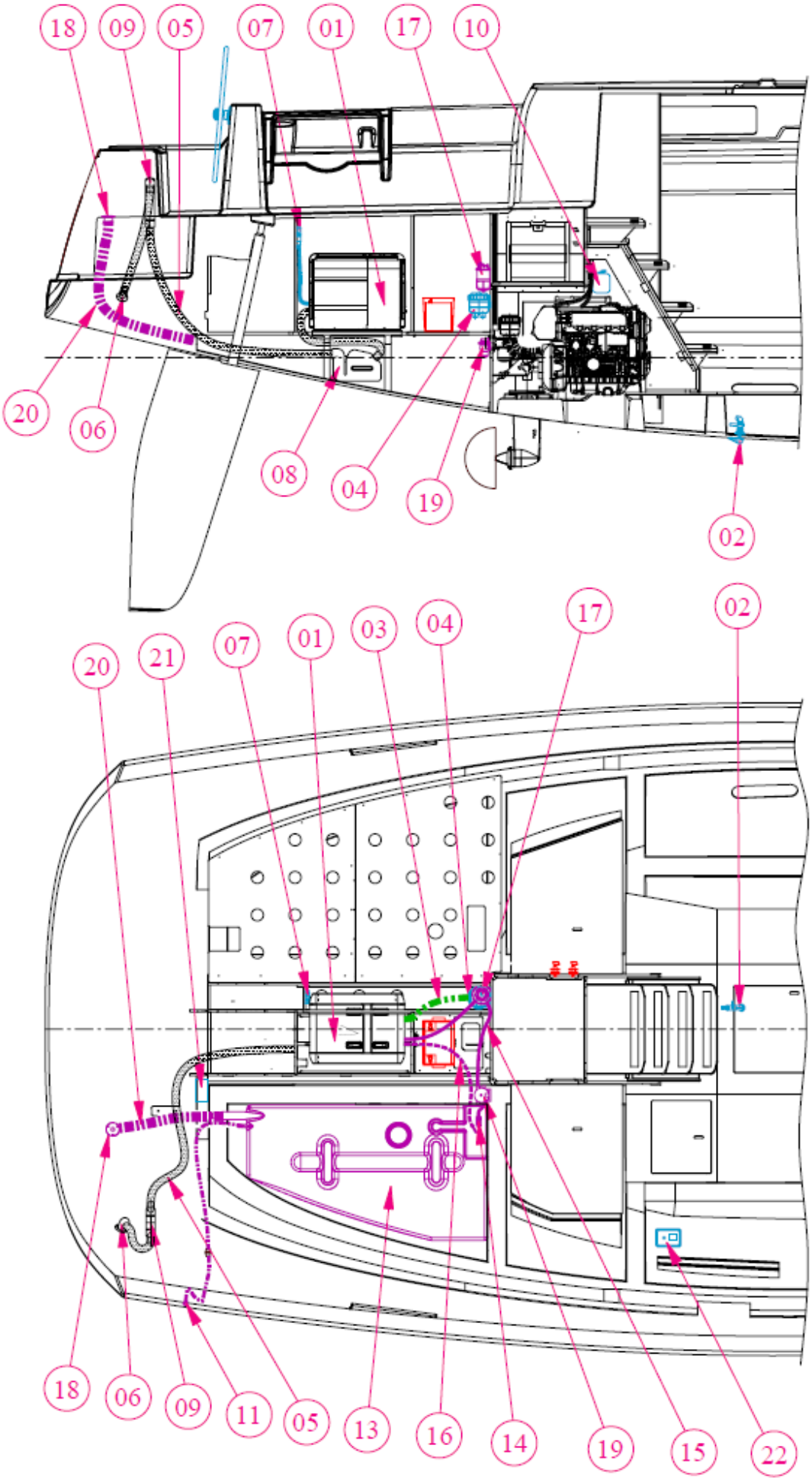
22. Power generator plan

Ref.	Description
	General
1	Power generator*
	Cooling system / Exhaust system
2	Seawater inlet*
3	Seawater hose*
4	Seawater filter*
5	Exhaust pipe*
6	Exhaust outlet*
7	Anti-siphon elbow*
8	Exhaust pipe*
9	Water separator*
10	Expansion tank*
	Fuel system
11	Fuel tank vent
12	Fuel tank hose
13	250 L Fuel tank
14	Fuel shut-off valve*
15	Fuel feed hose*
16	Fuel return hose*
17	Diesel pre-filter*
18	Fuel filler deck plate
19	Diesel pump*
20	Filler hose
	Miscellaneous
21	Electronic unit*
22	Control panel*
*	Option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Notes