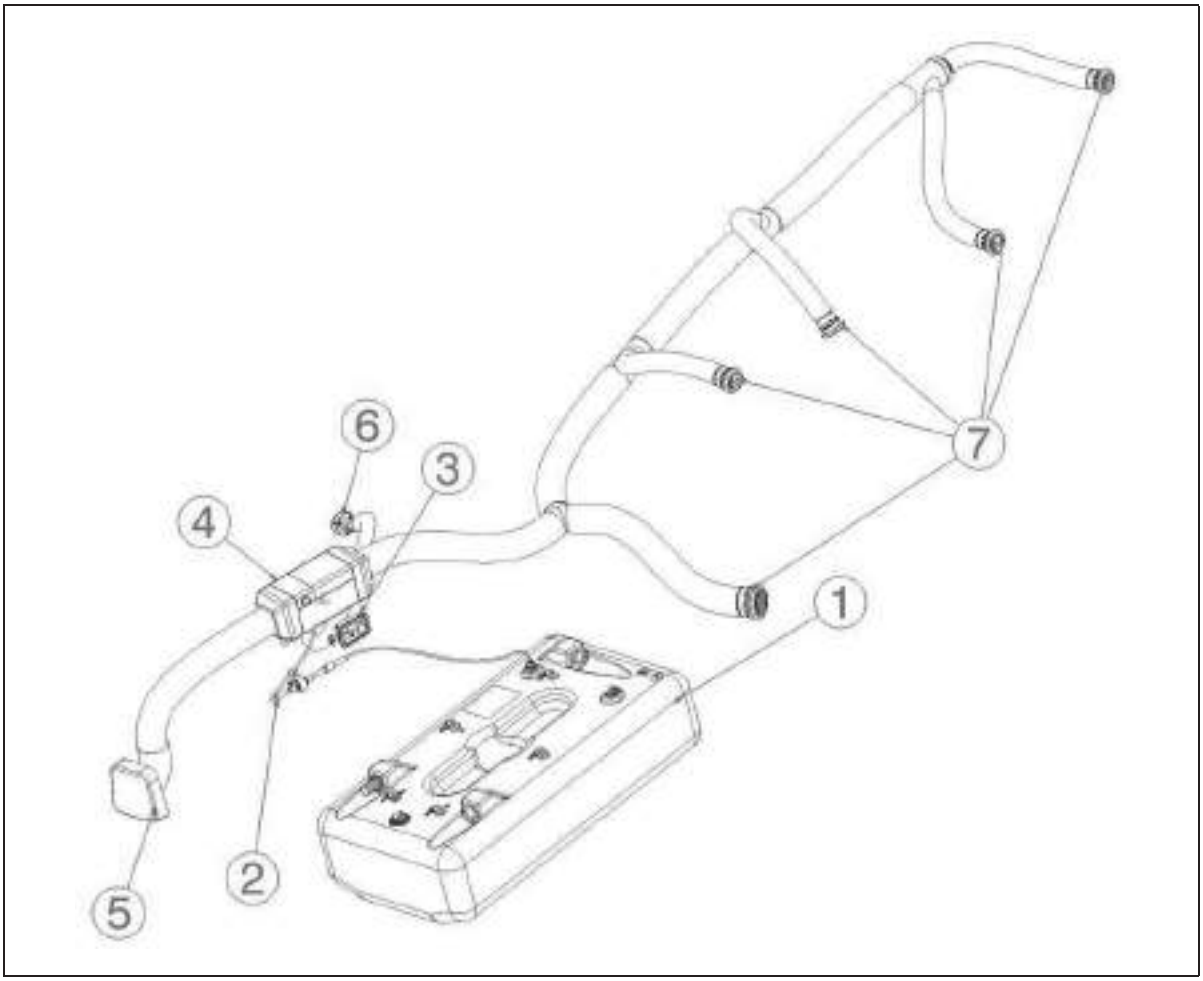
Layout diagram



Reference	Designation
1	Diesel tank
2	Metering pump
3	Control box
4	Heater
5	Fresh air intake
6	Heating exhaust
7	Hot air openings

- The heater must be switched off when refilling the fuel tank.
- The heater's exhaust gases are very hot: they risk burning the shock mounts or the cables running too close to the exhaust outlet skin fitting.

12 WATER SYSTEMS

12.1 GENERAL POINTS

- It is essential to rinse the entire on-board water system the first time the boat is used (The water system is protected in the factory by a dietary anti-freeze).

- The water tanks may have had an anti-algae treatment using a copper sulphate based product. It is advisable to renew the treatment according to the area in which the boat is sailing.

- Drain all the water systems during winterisation (in particular the cockpit shower and water heater) to avoid damage from freezing.

- Clean/change the filters regularly.

- Regularly check water-tightness of joints in the water system installations. Check that screws and bolts are well tightened and replace them if they are worn or corroded.

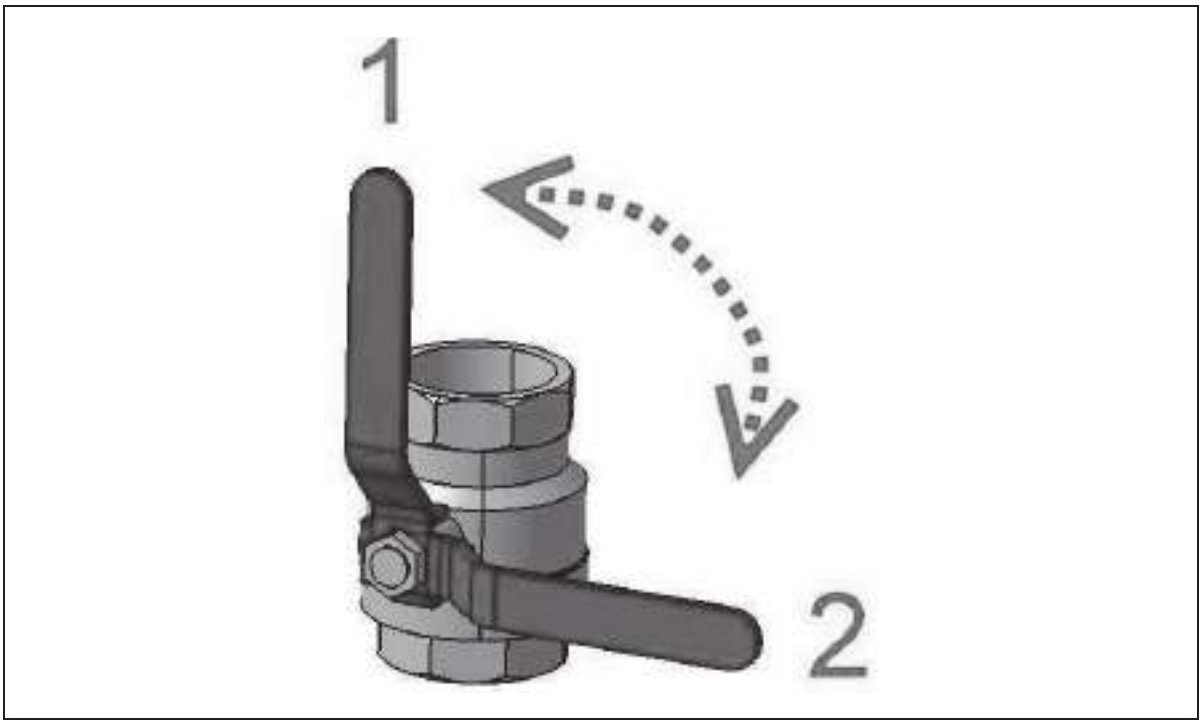
- Disconnect shore water supply before leaving the boat (if fitted).

- If the boat is sailing in temperatures below freezing, it is possible to use anti-freeze in the water systems: use a non-toxic anti-freeze marked for dietary use.

NEVER USE AUTOMOBILE ANTI-FREEZE: RISK OF POISONING.

12.2 USING A VALVE

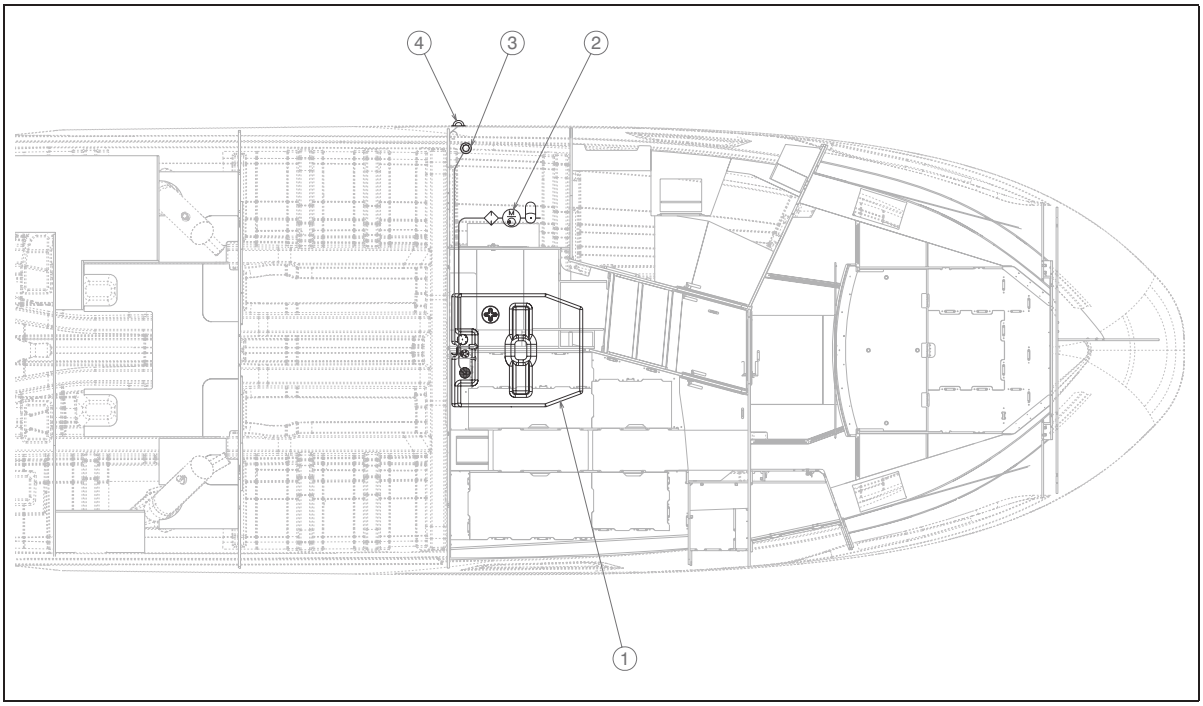
The valve is shut when the valve handle is at right angles to the pipe, the valve is open when the valve handle is in line with the pipe.



Reference	Designation
1	Open valve
2	Closed valve

- Valves have a lifespan of approximately 5 years. It is essential to have all valves on board checked by a professional every 5 years and possibly replace them.

12.3 FRESH WATER FILLING SYSTEM



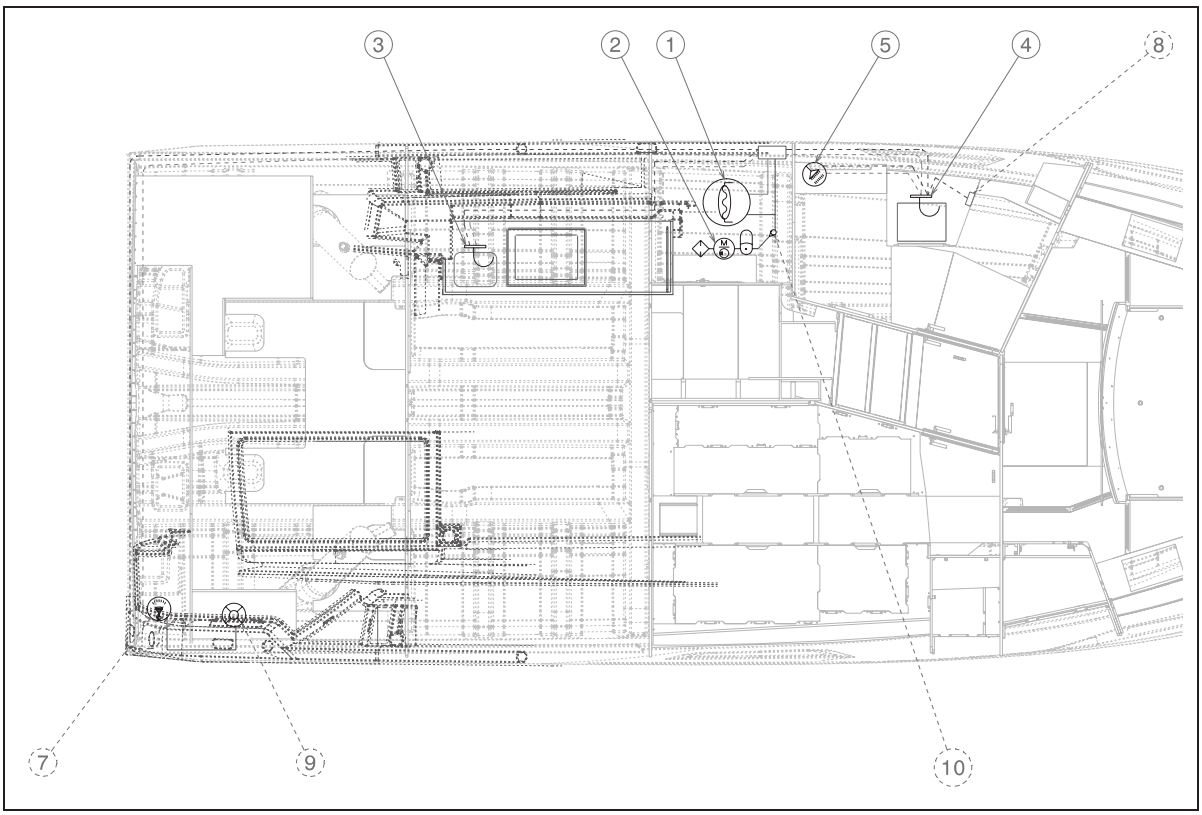
	Supply pipe - 19 mm diameter
	Pipe vent hole - 16 mm diameter
	Pipe filling - 38 mm diameter

Reference	Designation
1	Fresh water tank
2	Water unit
3	'WATER' deck filler
4	Tank vent

Water tank
Access: Aft cabin

Gauge: Touch screen

12.4 FRESH WATER DISTRIBUTION SYSTEM



□	Connectors
▬▬▬	Coldwater system - 19 mm diameter
▬▬▬	Hot water system - 19 mm diameter
▬ ▬ ▬	Coldwater system - 12 mm diameter
▬ ▬ ▬	Hot water system - 12 mm diameter

Reference	Designation
1	Water heater
2	Water unit
3	Sink mixer tap - Galley
4	Washbasin mixer tap - Head
5	Mixer shower
7	Cockpit shower
8	Electromagnetic valve - WC
9	Shore freshwater supply
10	Non-return valve

12.5 MAIN PLUMBING EQUIPMENT

12.5.1 Water unit

- The water unit is supplied by direct current.

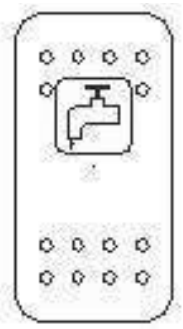
- It serves to feed all the boat's plumbing equipment with fresh water. It is fitted with a pressure switch that activates the flow when the pressure in the water system falls.

- The water unit must only be used with the fresh water supply. All other use (with sea water or bilge water, with oil products) is prohibited.

- Make sure that the water unit is never run dry.

- The pressure and capacity of the water unit depend on the temperature of the stored fresh water supply.

Control: Steering station



Location: Cave

12.5.2 Cockpit shower

- The cockpit shower allows the use of fresh water for rinsing off.
- The shower is fitted with a mixer tap.

The tap has a dual function:

- It allows the water to be turned on/off;
- It allows a choice of water temperature (hot water / Cold water).

Operation:

To use the shower, turn on the water by tipping the tap on its axis.

Then press the button on the top of the shower to allow the flow of water.

Choose the required temperature by turning the tap clockwise or anti-clockwise.

After using the shower, it is important to turn off the water by tipping the tap on its axix.

Location: Starboard cockpit

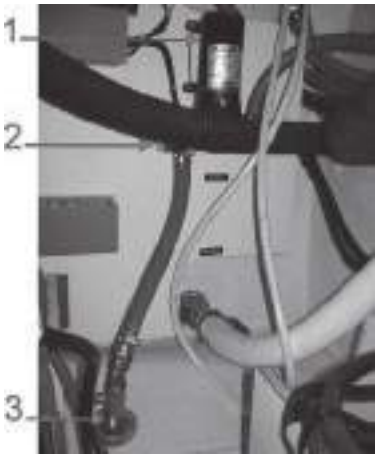
12.5.3 Deck wash pump (sea water/fresh water)

- The deck wash pump is supplied by direct current.
- The deck wash pump allows the deck or the boat's tender to be washed.

Control: Steering station

Siting of the sea water/fresh water selector valve: Cockpit locker

Location: Engine compartment



1. Deck wash pump
2. Sea water filter
3. Sea water intake

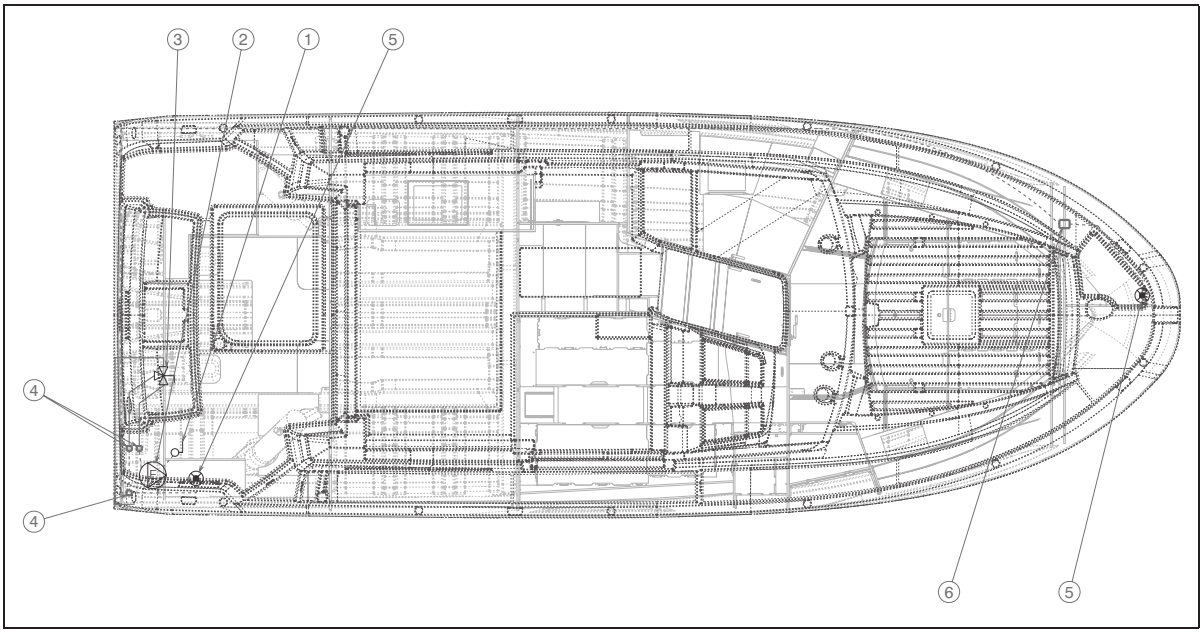
Operation

- Open the sea water intake valve.
- Select sea water/fresh water supply.
- Attach a hose to the connector provided in the cockpit.
- Start the pump.

cockpit exit

Outlet - Chain locker

Diagram of the layout - Deck wash pump



	Pipe - Water - 25 mm diameter
	Pipe - Water - 20 mm diameter

Reference	Designation
1	Sea water suction valve
2	Electric pump + Filter
3	Valve to select fresh water / sea water
4	Connector
5	Water inlet
6	Wire runs

12.5.4 Shore freshwater supply

- The shore fresh water supply arrives directly into the fresh water plumbing system via the water unit, without passing through the tanks.

- A non-return valve in the distribution circuit allows the shore supply water to be used without opening the valve.

- The shore water supply connection is located in the cockpit.

- Disconnect shore water supply before leaving the boat.

Location: Cockpit

12.5.5 Water heater

- The water heater allows the use of hot water on board the boat.

- The water heater functions by recovering calories from the port engine cooling circuit or the on-board AC electrical circuit.

- The water heater thermostat regulates the water temperature only when it is operating with electrical resistance. The thermostat is pre-set in the factory.

- The mixer tap allows the temperature leaving the water heater to be adjusted.

- Never switch on the water heater if it is not filled with water.

- A valve allows the water heater to be connected to the heat exchanger. This valve allows you to isolate a faulty circuit.

Supply valve port engine cooling system

Location: Cave

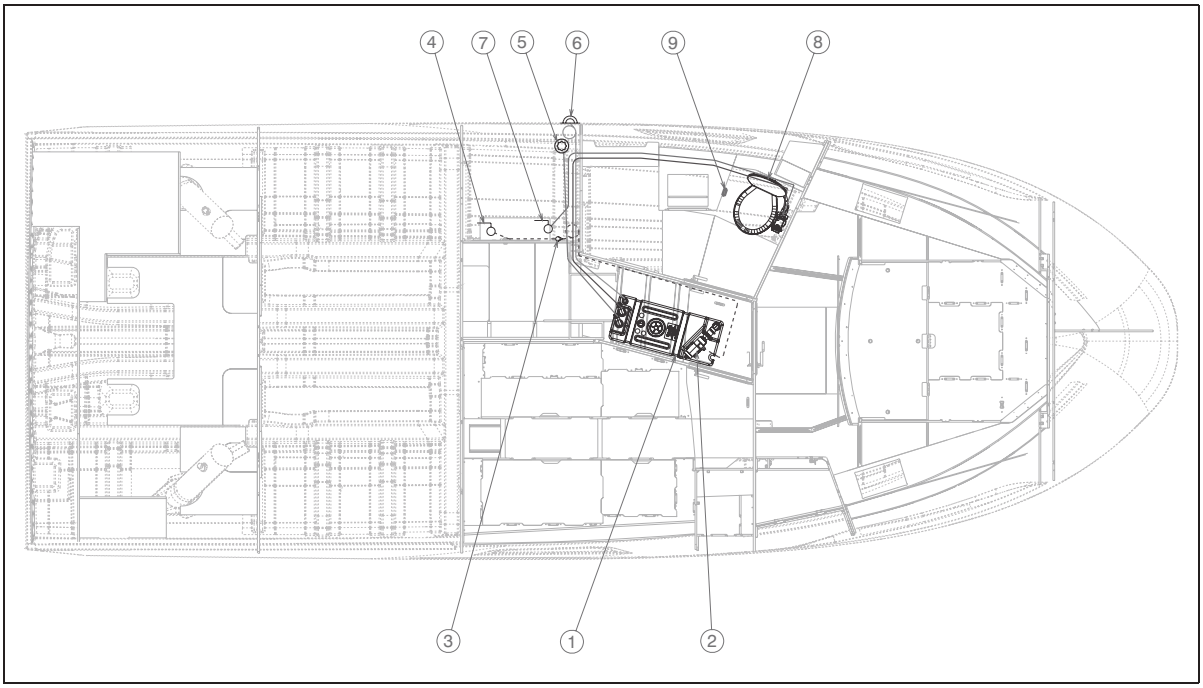
1. Water heater - 25 l
2. Thermostatic mixer valve

12.6 BLACK WATER SYSTEM (WC)

General points

- Black water is human waste including the flushing water from the toilets.
- Close the valves after each use and above all when the boat is unattended.
- Regularly check the valves and thru-hull seacocks for proper operation and watertightness.
- Regularly check the tightness of the flexible pipe clamps and connections.

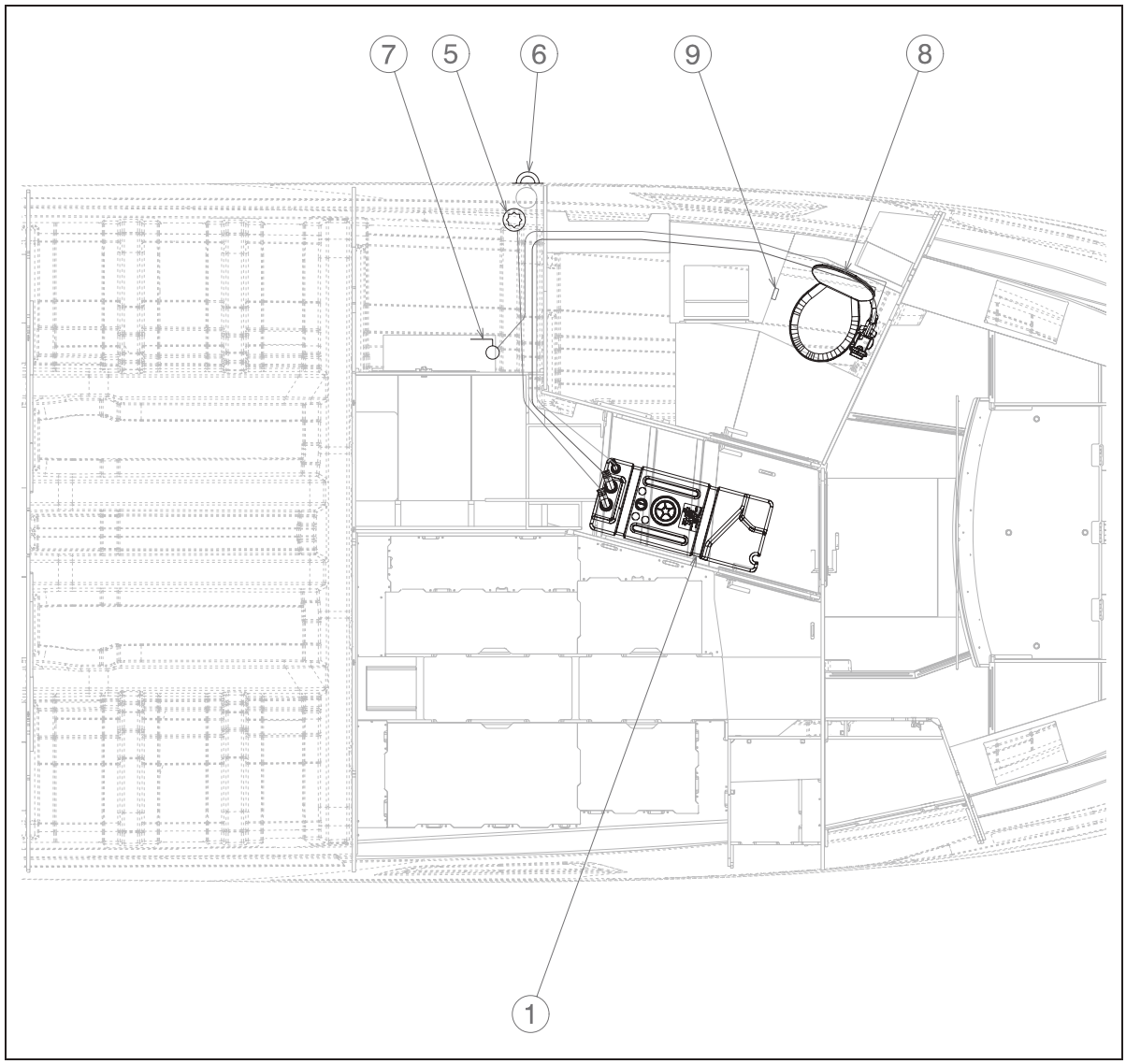
12.6.1 Location diagram of black water system



	Seawater supply pipe - 20 mm diameter
	Pipe - Vent hole - 25 mm diameter
	Pipe - Intake - 38 mm diameter
	Draining hose - 25 mm diameter
	Draining hose - 38 mm diameter

Reference	Designation
1	Holding tank
2	Pump - Masher
3	Non-return valve
4	Draining valve
5	Filler cap - Intake
6	Vent hole
7	Suction valve - WC
8	Manual toilet
9	Gauge

Location diagram of black water system (specification for SWITZERLAND)



	Seawater supply pipe - 20 mm diameter
	Pipe - Vent hole - 25 mm diameter
	Pipe - Intake - 38 mm diameter
	Draining hose - 38 mm diameter

Reference	Designation
1	Holding tank
5	'WASTE' pump out drain plug
6	Black water tank
7	Seawater intake valve - WC
8	Manual toilet
9	Black water tank gauge

YOUR BOAT IS FITTED WITH A BLACK WATER TANK

To minimise the smells coming from this tank, we advise the following use and maintenance:

1) Holding tank

- A black water tank is used solely for the temporary collection of water coming from the toilets.
- The tank can be emptied in 2 ways:
    - By connection to a pumping system that empties the tank by suction. This system uses the 'WASTE' deck connection.
    - Via the thru-hull fitting emptying directly into the sea (on condition that this is allowed by law in the country where the boat is sailing).
- Only use water soluble toilet paper to avoid any blockage.

NOTE: Sanitary towels and other items (paper handkerchiefs, dressings etc) in the toilets and black water tank will inevitably lead to blockages.

- Faecal matter causes formation of unpleasant odours in the black water tanks, to which the use of salt water for flushing the toilets also contributes. Algae present in salt water also give off unpleasant odours.
- Completely empty the black water system before leaving the vessel unattended in temperatures below freezing.
- Ask for information about the laws in force in your country or your marina about discharging your waste waters into the sea.

2) Use of toilets

- Every time the toilets are used, flush afterwards with copious amounts of water in the bowl using the toilet pump (manual or electric).

- When you are leaving the boat for several days, flush with fresh water, using for example the head's shower. Sea water that stagnates in the bowl gives off bad smells.

Location: Companionway

1. Masher (WC evacuation to sea)
2. Black water tank

WC evacuation to sea

Access: Cave

1. Black water tank gauge
2. Masher control

NOTE: The valve must be opened before starting the pump.

3) Maintenance of black water tank

- The risk of unpleasant odours forming increases when the waste water remains in the tank for a long time.

- Whenever possible empty the tank regularly even before it is full.

- Every time the tank is emptied put in about 5 litres of fresh water and add an appropriate detergent additive (available from chandleries). A very simple method is soda salts, which clean and disinfect at the same time.

- Before winterising, flush the tank with copious amounts of fresh water filling it through the 'WASTE' deck connection. Leave at least 5 litres of fresh water mixed with a detergent additive.

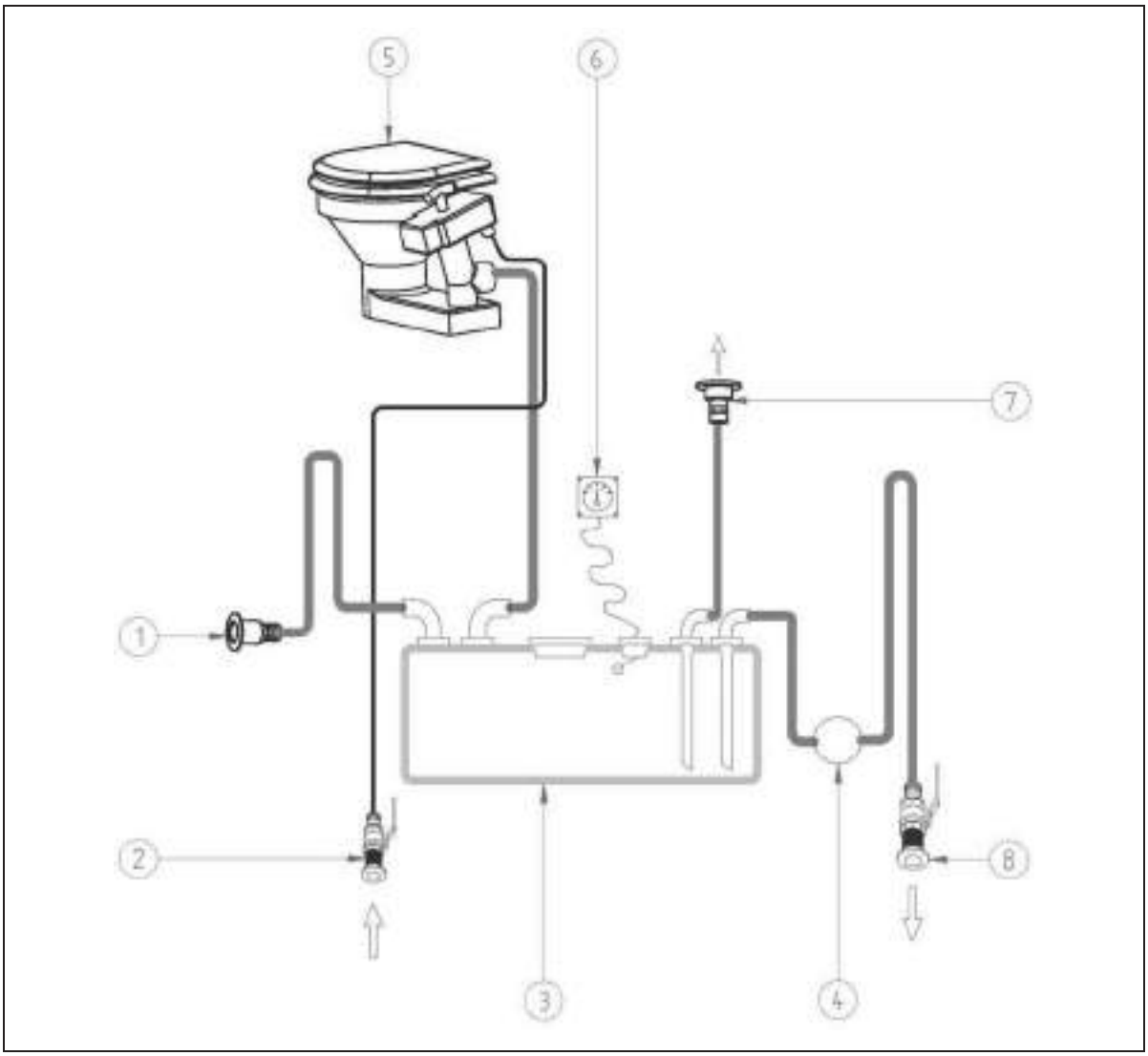
- Disinfecting: Disinfect the tank once a year by filling it with a solution of Javel water (1 to 1000).

- Never use automobile anti-freeze in the black water system: risk of poisoning.

ADVICE-RECOMMENDATION

- Respect local regulations regarding the emptying of black water tanks.

Drainage by electric pump DC (Masher)



Reference	Designation
1	Vent hole
2	Seawater intake valve
3	Black water tank
4	Masher (WC drainage pump)
5	WC
6	Gauge
7	'WASTE' deck connection
8	Sea discharge valve

Using a marine toilet with a tank drain by macerator

I. Open the sea water intake valve (Ref 2).

II. Fill the bowl by using the manual toilet pump.

III. Using the toilet (Ref 5).

IV.a. To empty the organic waste in the tank:

- Make sure the thru-hull seacock (Ref 8) is closed.
- Empty the bowl using the manual toilet pump.

IV.b. In the case of a direct discharge into the sea:

- Open the thru-hull seacock (Ref 8).
- Empty the bowl using the manual toilet pump.
- Empty the tank by switching the electric pump (Ref 4).

IV.c. To discharge through the deck:

- Open the deck connection marked 'WASTE' (Ref 7).
- Use the pump-out system where fitted at a port.

Use of a DC electric toilet has a tank-discharge macerator

I. Open the sea water intake valve (Ref 2).

II. Fill the bowl by pressing the fill button.

III. Using the toilet (Ref 5).

IV.a. To empty the organic waste in the tank:

- Make sure the thru-hull seacock (Ref 8) is closed.Empty the bowl by pressing the empty button.

IV.b. In the case of a direct discharge into the sea:

- Open the thru-hull seacock (Ref 8).
- Empty the bowl by pressing the empty button.

Control - Electric toilet

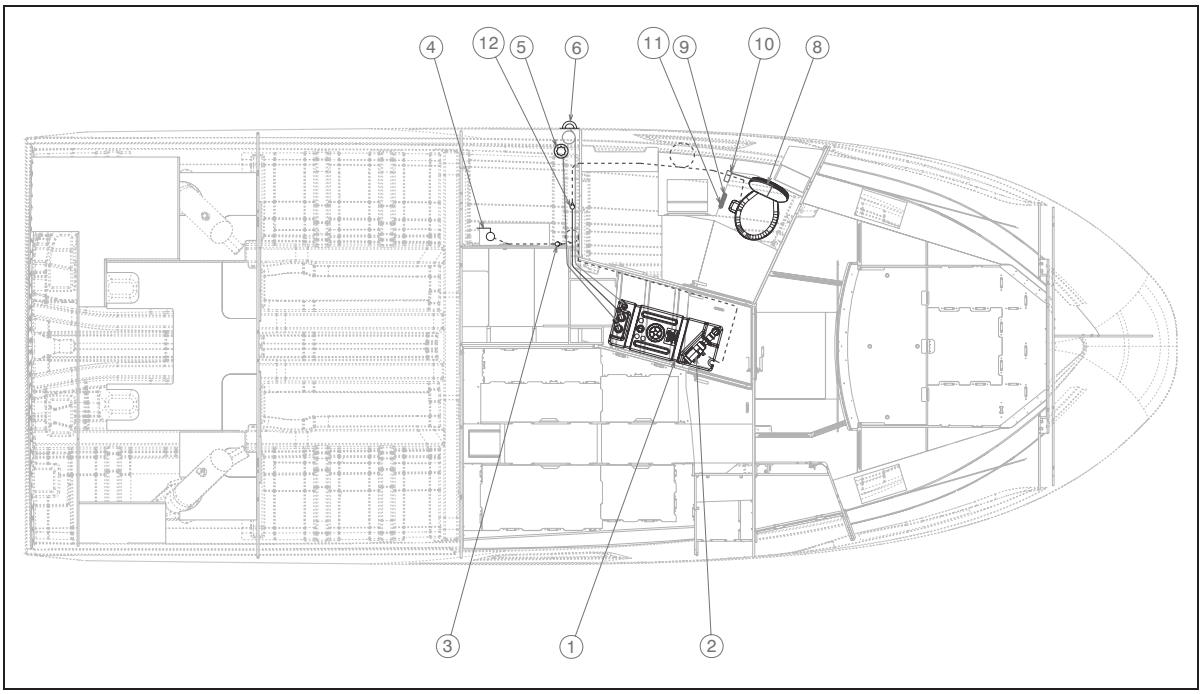
- Empty the tank by switching the electric pump (Ref 4).

IV.c. To discharge through the deck:

- Open the deck connection marked 'WASTE' (Ref 7).
- Use the pump-out system where fitted at a port.

Refer to the manufacturer's instructions for use and maintenance.

Layout diagram - Electric toilet



	Supply pipe - Fresh water - 20 mm diameter
	Pipe - Vent hole - 25 mm diameter
	Pipe - Intake - 38 mm diameter
	Draining hose - 25 mm diameter
	Draining hose - 38 mm diameter

Reference	Designation
1	Holding tank
2	Pump - Masher
3	Non-return valve
4	Draining valve
5	Filler cap - Intake
6	Vent hole
8	Electric toilet
9	Gauge
10	Electromagnetic valve
11	Control - WC
12	Non-return valve

12.7 WASTE WATER SYSTEM

General points

- The waste water system is the water coming from the sink, showers, air conditioning drains and washbasins. All this water is collected in the grey water tank, drained via a discharge pump controlled by a float switch.
- Close the valves after each use and above all when the boat is unattended.
- Regularly check the valves and thru-hull seacocks for proper operation and watertightness.
- Regularly check the tightness of the flexible pipe clamps and connections.

ADVICE-RECOMMENDATION

- Observe local regulations regarding the emptying of grey water tanks.

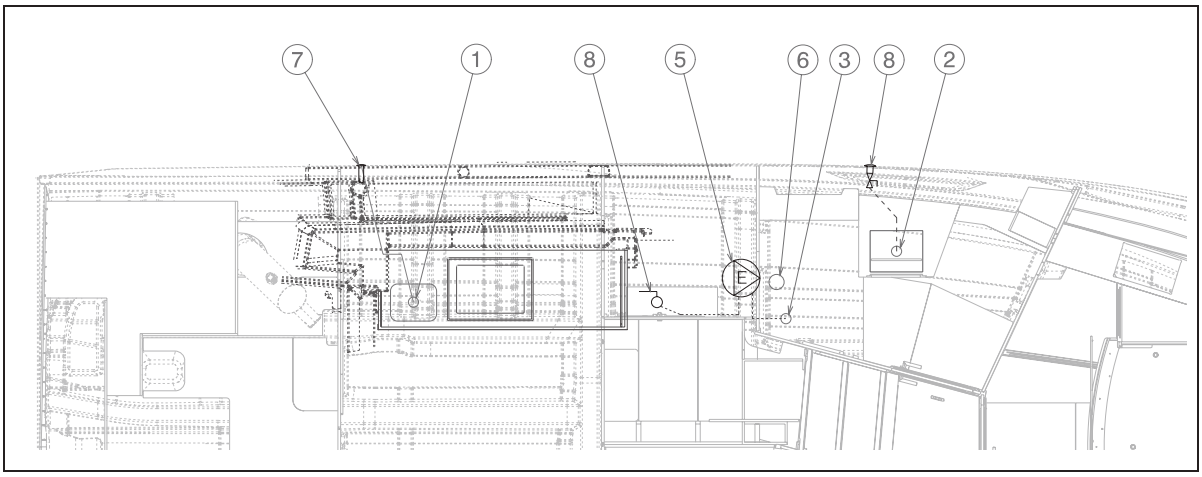
Draining pump for shower

Location: Cave

Control - Draining pump for shower

Shower plug hole

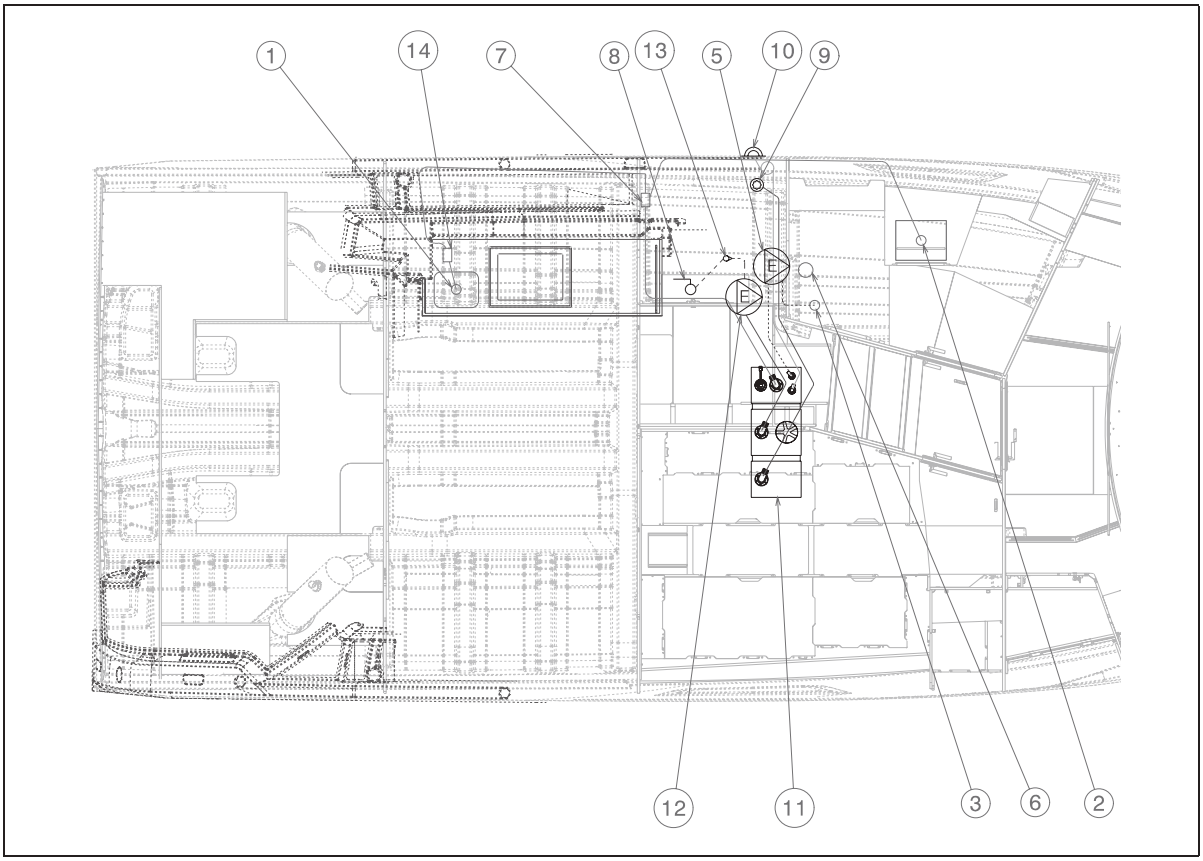
Layout diagram waste water



	Pipe - Waste water - 20 mm diameter
	Pipe - Waste water - 25 mm diameter
	Pipe - Waste water - 40 mm diameter

Reference	Designation
1	Sink plug hole - Galley
2	Washbasin drain plug
3	Shower plug hole
5	Electric pump - Shower
6	Drainage pump control - Shower
7	Kitchen sink evacuation through-hull
8	Draining valve

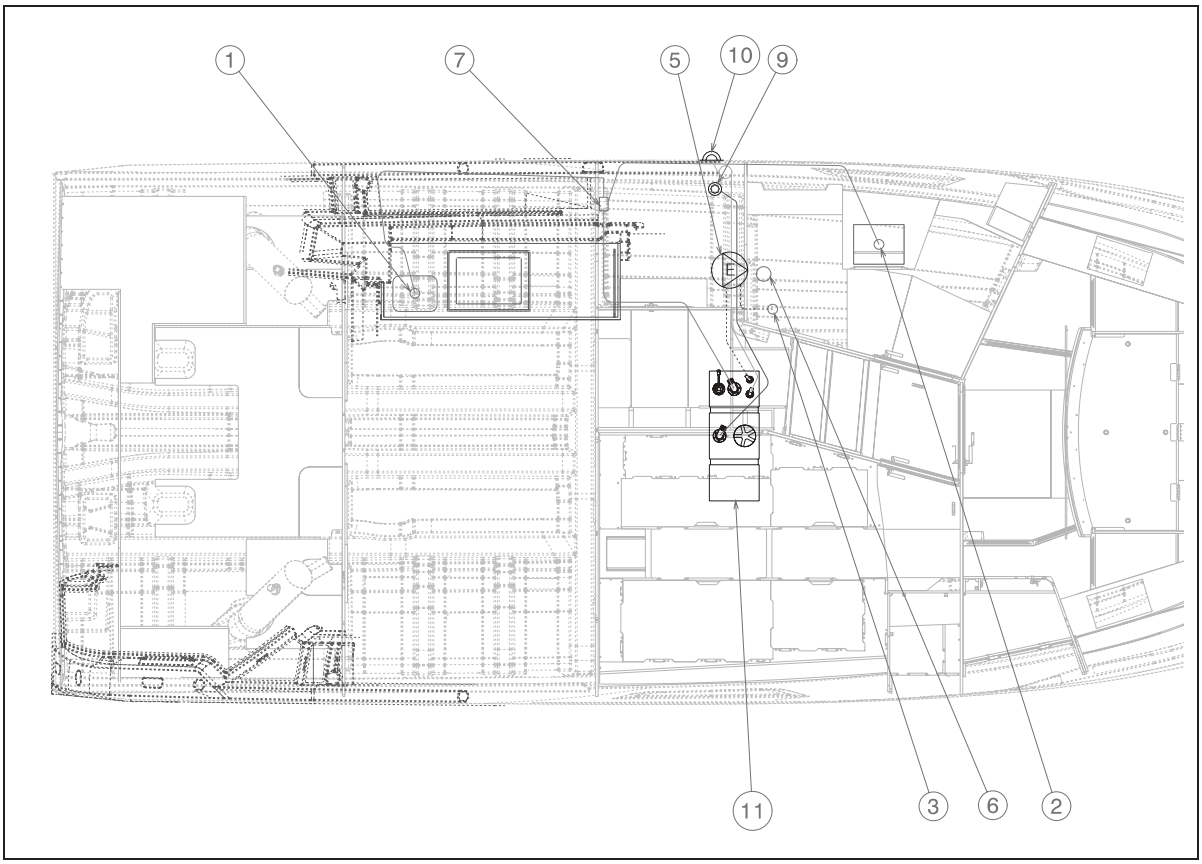
Reserve - Waste water: Layout diagram



	Pipe - Vent hole - 25 mm diameter
	Draining hose - 25 mm diameter
	Draining hose - 38 mm diameter
	Pipe - Waste water - 20 mm diameter
	Pipe - Waste water - 40 mm diameter

Reference	Designation
1	Drain plug + Syphon - Galley sink
2	Drain plug + Syphon - Washbasin
3	Shower plug hole
5	Electric pump - Shower
6	Drainage pump control - Shower
7	Connector
8	Draining valve
9	Filler cap - Intake
10	Tank vent hole
11	Tank - Waste water
12	Pump - Masher
13	Non-return valve

Layout diagram - specification for SWITZERLAND



	Pipe - Vent hole - 25 mm diameter
	Draining hose - 38 mm diameter
	Pipe - Waste water - 20 mm diameter
	Pipe - Waste water - 40 mm diameter

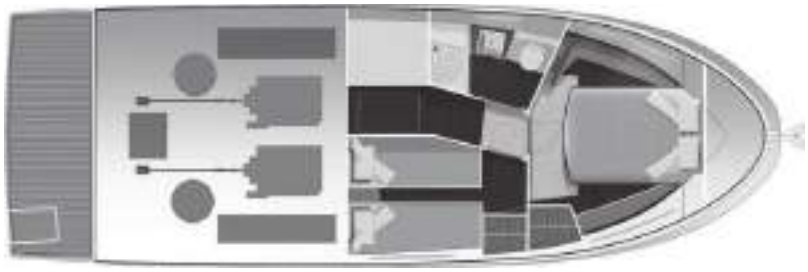
Reference	Designation
1	Drain plug + Syphon - Galley sink
2	Drain plug + Syphon - Washbasin
3	Shower plug hole
5	Electric pump - Shower
6	Drainage pump control - Shower
7	Connector
9	Filler cap - Intake
10	Tank vent hole
11	Tank - Waste water

13 ENGINE

13.1 INFORMATION ABOUT THE RISKS OF FIRE AND OF EXPLOSION OF ENGINES

- Make sure that the coolant is circulating properly.
- Ensure that the engine compartment ventilation air inlets are kept clear.
- Stop the engine and refrain from smoking during fuel tank filling.
- Get your fuel circuit checked regularly by a professional engineer.
- Avoid any contact between inflammable materials and the hot sections of the engine.
- Never switch off or de-energise the electric system when the engine is running.
- Never block the access of the fuel supply valve.
- Do not obstruct or modify the ventilation system.
- Never turn the engine over when the boat is on land.
- Fuel stored outside the fuel tanks (jerrycans, spare cans) must be kept in a well-ventilated place.
- Regularly check that the engine compartment is clean and dry.

Engine water intake valve
Location: Engine compartment



Fuel supply valve
located directly on the tank

Remote pull switches - Fuel supply valve (Motor & Generator)
Location: Cave

13.2 DANGER FROM MOVING MECHANICAL PARTS

- Keep away from the moving parts of the engine (belts and moving parts or hot components) and the drive shafts etc..
- Be careful if you have long hair, bulky clothing, rings etc (at risk of being caught).

13.3 GENERAL POINTS

- Don't install an engine more powerful or heavier than recommended on this boat, this risks compromising the boat's stability.
- Make sure you have enough fuel before sailing.
- Stop the engine before opening the engine compartment.
- Don't close the fuel supply valve between each use of the engine (unless for a lengthy absence).
- Get the whole propulsion system checked at least once a year by a professional engineer.

"see the chapter on ""Manoeuvrability""".

Type of motorisation

Your boat is fitted with two in-board diesel engines.

The transmission is of a shaftline type.

Filling up with fuel

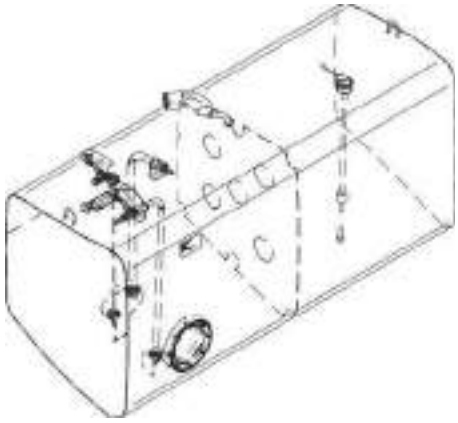
- Fill the fuel tank by opening the cap marked "DIESEL", provided for this.
- Fuel capacity: 2 x 400 l.
- Position of tanks: Engine compartment.
- Regularly check that the O ring on the filler cap is in good condition, to prevent any water ingress.
- Each fuel supply valve supplies one engine.
- The generator has its own fuel supply valve.

Gauge

- The level of fuel is transmitted to the indicator on the wheelhouse thanks to the dipstick.
- Some of the gauges must be calibrated when you first fill the tanks: please consult your dealer.

Gauge
Location: Steering station

Fuel tank



- The tanks' nominal capacity cannot be fully used due to the load and the need to maintain the correct trim. A 20% reserve should be kept.

ADVICE-RECOMMENDATION

- Regularly check that the O ring on the filler cap is in good condition, to prevent any water ingress.
- Keep the fuel tank as full as possible to prevent condensation.
- Be careful with any possible risk of oil and fuel spillage.
- Follow the engine manufacturer's instructions exactly.
- Never switch off the battery breakers when the boat's engine is running (risk of serious damage to the charging circuit).

13.4 STARTING THE ENGINE

Before starting the engine, it is imperative:

- to open the fuel supply valve;
- to open the sea water intake valve of the engine;
- to open the sea water intake seacock for the stern gland;
- to switch on the battery supply by using the battery isolator switches;
- to put the control lever in neutral.

Make a habit of looking to see if sea water is pumped out with the exhaust gases as soon as you start the engine. If no water runs out, stop the engine immediately. Check the coolant flow.

As soon as the engine starts, the engine compartment bilge fan operates.

Electronic key

- Before using the engine, make sure you carefully read the handbook provided by the engine manufacturer.

- Always start the engine with the control lever in neutral.
- Learn how to judge the necessary distance of deceleration for the vessel to come to a complete stop (The reverse gear is not a brake).

13.5 ENGINE WATER INTAKE VALVE

The sea water intake valve plays a crucial role in ensuring that the engine runs well.

- Keep the strainer under the hull as clean as possible;
- Brush the strainer whenever the boat is lifted out;
- Don't cover the strainer in antifoul.

This valve must absolutely always be opened before starting the engine.

A sea water filter filters the water before it goes through the heat exchanger.

Regularly inspect the sea water filter and clean it if necessary. Screw/unscrew the cover of the filter by hand (never use tools for this).

For lengthy absences, close the engine's sea water intake valve.

Sea water intake

Sea water filter

13.6 FUEL FILTER

Engine running problems may have different origins, including dirty fuel. The injection pump may wear out if there is water in the system. The water results either from the condensation resulting from an insufficiently filled tank, or from a filler cap either not closed properly or with a damaged seal.

In order to prevent any water infiltration, the fuel runs through two filters:

- One filter is an integral part of the engine, its role is to filter fuel very finely. Please refer to the engine manufacturer's notes for any maintenance and for the frequency of filter changes.

- The second filter is on the pipe that links the tank to the engine, it plays the role of a water decanter and prefilter.

Maintenance

- Purge the impurities by unscrewing the screw located at the base of the decanting bowl(without removing it). Let the liquid run into a receptacle until the fuel runs clear. Do this several times a year.

- Change the pre-filter at least once a year.

13.7 ENGINE INSTALLATION

INSTALLATION OF SHAFT ENGINE WITH BRACKET

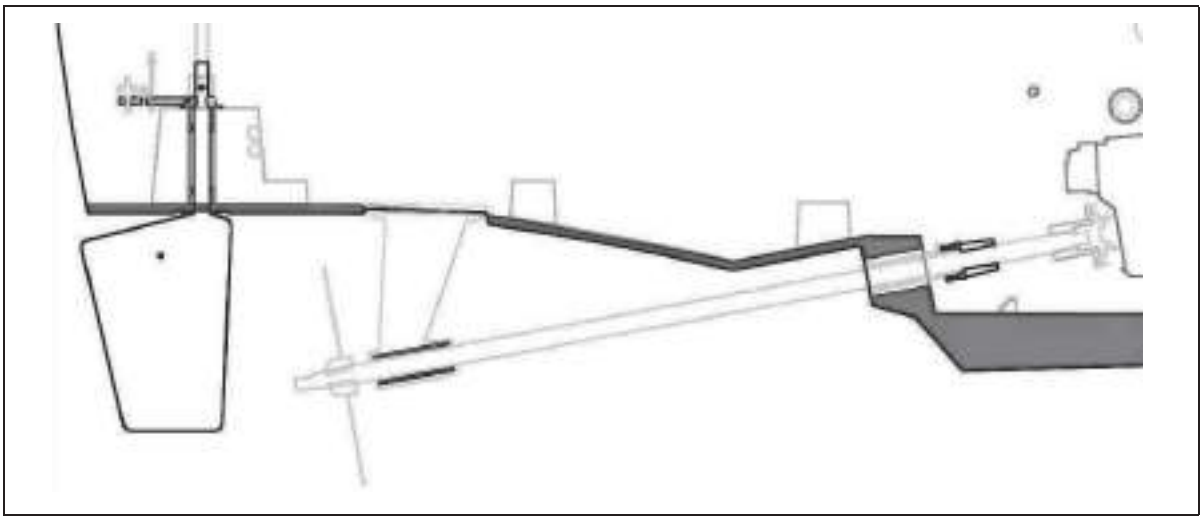
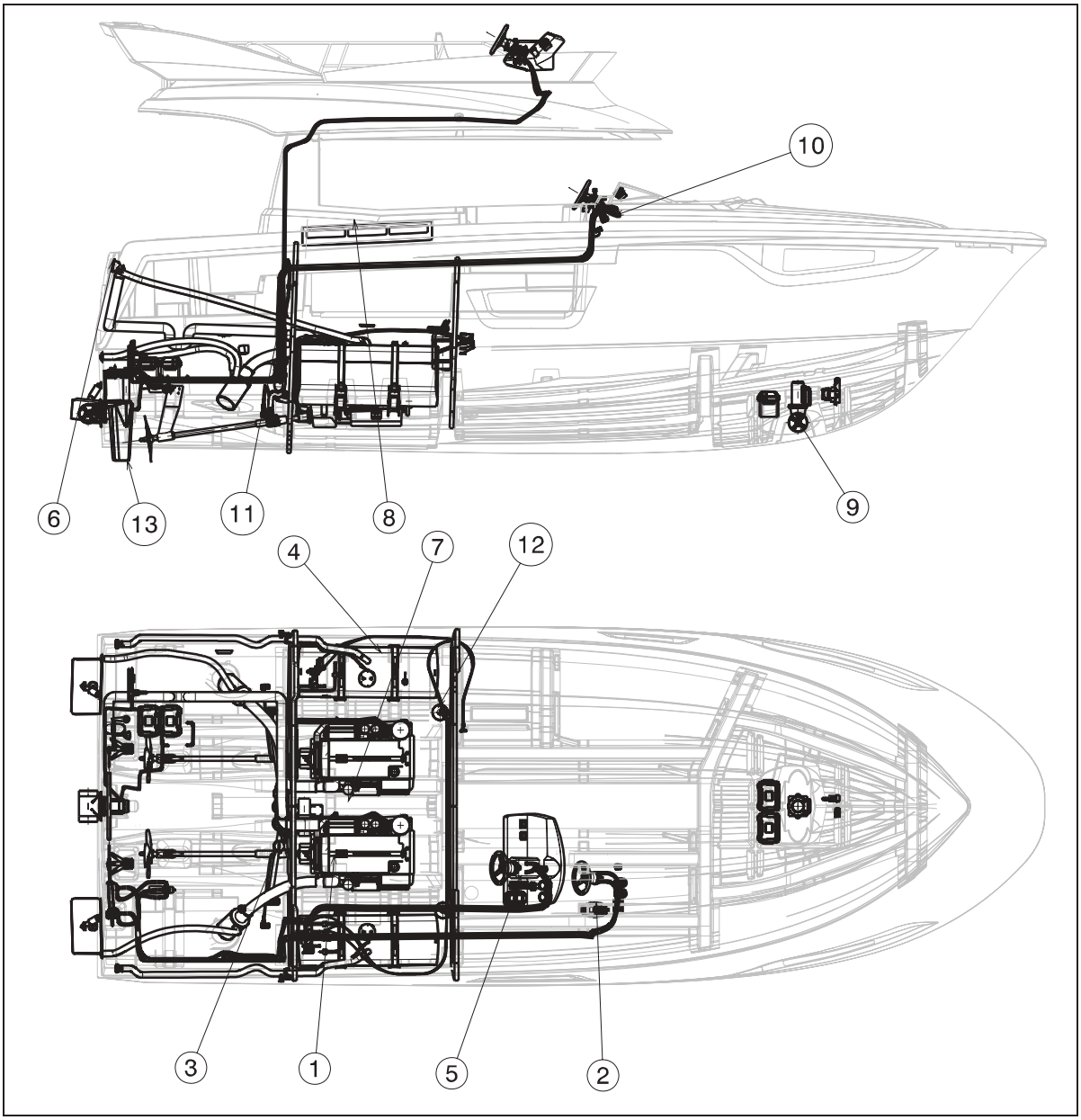


Diagram of the in-board engine layout



Reference	Designation
1	Motor
2	Engine control
3	Fuel filter
4	Fuel tank
5	Instrument panel - Motor
6	Deck filler
7	Battery
8	Ventilation
9	Bow thruster
10	Steering
11	Vents
12	Extinguisher
13	Rudder

13.8 ENGINE CONTROL

- The engine manufacturer's notes provide detailed explanations on how to operate the engine and keep it running well.

- Read the manufacturer's notes on use and maintenance of the engine.

Interior steering staion

Flying bridge control house

13.9 ACCESS TO THE ENGINE

The access to the engine is via:

- The cockpit,
- and saloon.

All access hatches to the engine absolutely must be kept shut when at sea.

13.10 FLAPS

General points

- The flaps (trim control system) allow the pilot to adjust the boat's trim under way and thus to reduce fuel consumption.
- The flaps run on DC power.
- A fuse protects the electrical circuit.
- They are operated by means of a push button situated on the wheelhouse and their position is adjustable.
- The flaps only work when the boat's engines are running.

ADVICE-RECOMMENDATION

- Refer to the manufacturer's instructions for use and maintenance.
- Adjust the flaps gradually to avoid abrupt hull movements. At high speeds, take care when adjusting the flaps.
- Retract the flaps fully if there is a heavy swell on the stern of the boat.

General points

The flaps are controlled electrically.

The actuator is mechanical.

The flaps need to be protected by an anode (see the chapter on Electricity).

Operation

When the tabs are lowered, the bow of the boat has a tendency to lift out of the water.

When the tabs are raised, the bow of the boat has a tendency to drop.

Maintenance

Clean the tabs regularly with clean water.

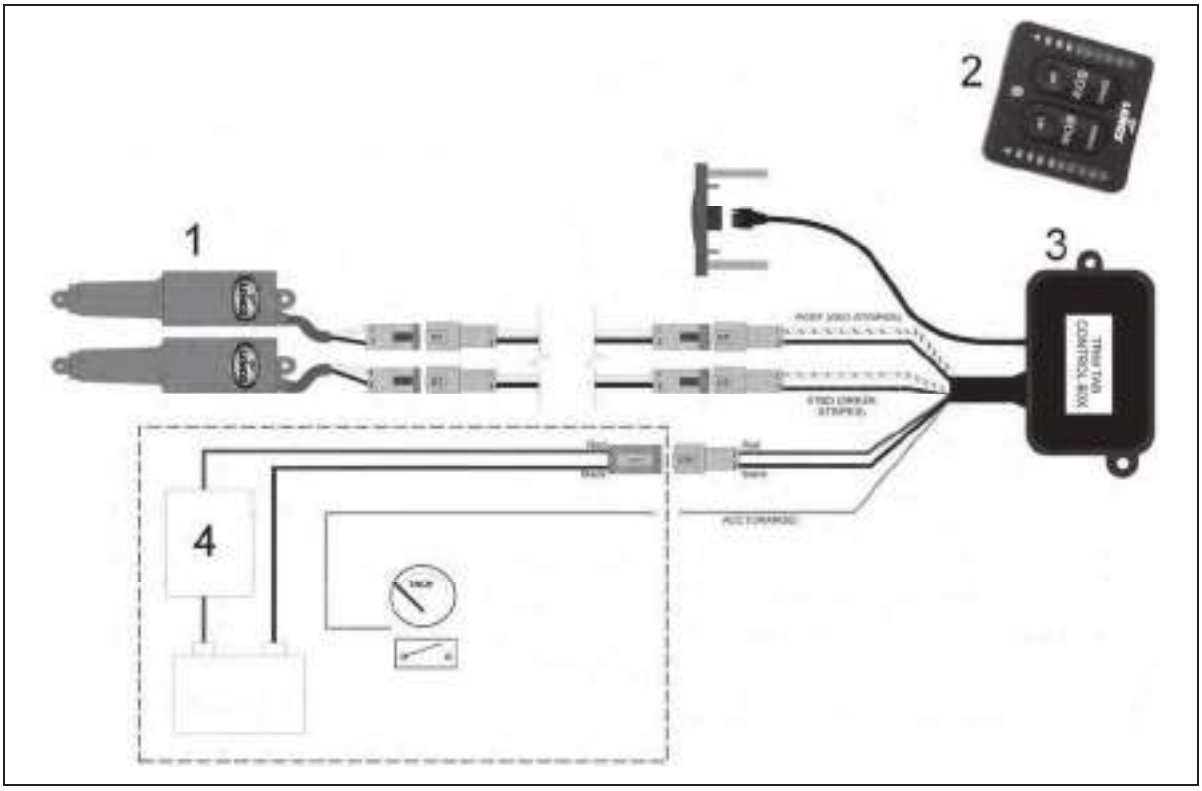
During lift-outs, repaint the tabs and actuator with antifouling. Do not cover the section below the anode or the anode itself with antifouling.

Control: Steering station

Flaps

Control box
Location: Engine compartment

Layout diagram



Reference	Designation
1	Mechanical actuator
2	Control panel
3	Control box
4	Fuse

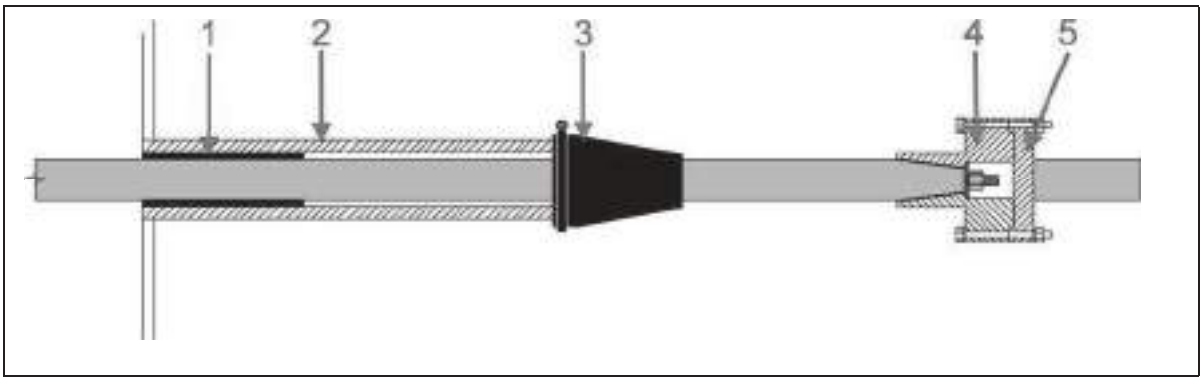
13.11 PROPELLER SHAFT

- The shaft is stainless steel.

- The shaft is aligned in the factory. When the boat is launched, its re-adjustment must be carried out by a professional.

- A hydrolube bush holds the shaft in the bracket.

This is a wearing ring. Check the hydrolube bush every time the boat is slipped. Change the hydrolube bush if necessary.



Reference	Designation
1	Hydrolube bush
2	Stern frame
3	Stuffing box
4	Connecting plate
5	Flange

13.12 STUFFING BOX

- The stern gland keeps the propeller shaft watertight.
- The stern gland is accessible through the engine compartment.
- Grease the watertight joint every 200 engine hours (or at least once a year). Apply grease as recommended by the mechanic.
- The stern gland is lubricated directly by a sea water supply valve.
- After launching the boat, drive the air out from the sleeve pinching it with your fingers.

Stuffing box

Sea water intake - Stern frame

13.13 PROPELLER

- The propeller delivered with the boat represents the end result of trials carried out in collaboration with the engine manufacturer. Never change the propeller without first consulting a professional engineer.
- Propeller efficiency will drop if the propeller blades are damaged in any way or dirty: regularly clean the blades carefully.
- During a lift-out, check the propellor: it should turn freely on its axis and there should be no play.
- Boats with twin engines are equipped with counter-rotating propellers.

- Respect speed limits.

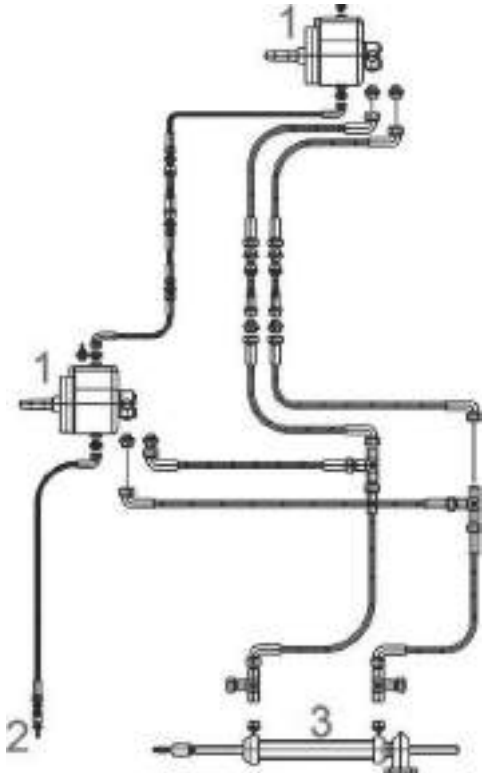
14 STEERING SYSTEM

14.1 GENERAL POINTS

- The steering is hydraulic.

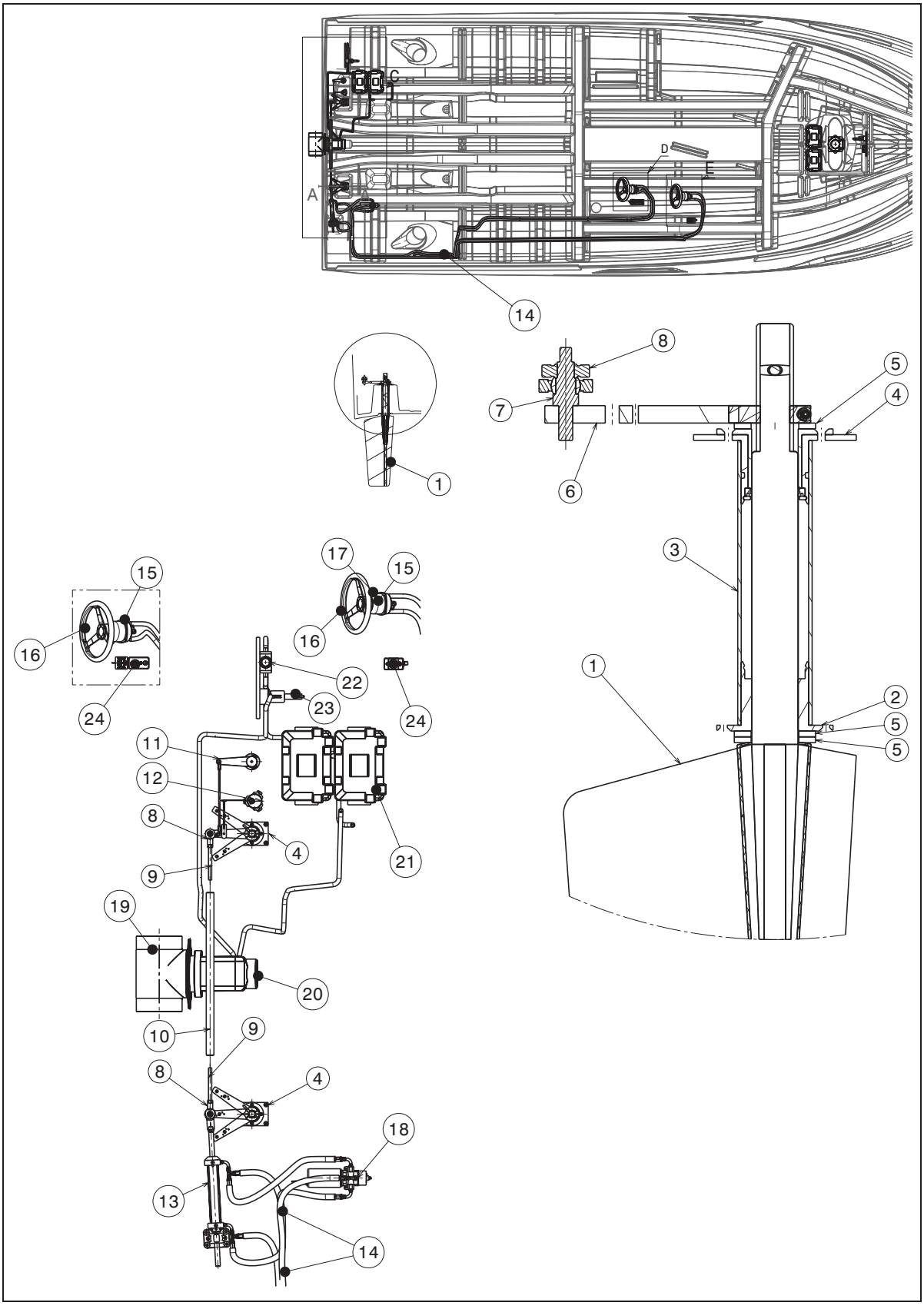
- The steering system is an important safety feature. For this reason, the annual inspection of the whole system must be carried out by a professional engineer.

General view



1. Hydraulic pump
2. Bleed cover
3. Hydraulic piston

Diagram of the layout - Steering system



Reference	Designation
1	Stainless steel rudder
2	Flanged bush (Low)
3	Rudder port tube
4	Flanged bush (High)
5	Balance bush
6	Steering connecting rod
7	Rocker bar pin
8	Ball clevis
9	Thread stalk
10	Tie bar
11	Tiller angle indicator (rudder)
12	Helm angle transmitter
13	Piston
14	Kit - Steering
15	Hydraulic pump
16	Steering wheel
17	Bleed cover
18	Reversible unit (Auto pilot)
19	Stern thruster
20	Bow thruster
21	Batteries
22	Battery switch
23	Fuse
24	Control panel - Thruster

14.2 HYDRAULIC STEERING

General points

- Protect the ram from any risk of impact, scratches or any other type of degradation. No impurities must ever penetrate the inside of the ram.

- Nothing must impede the movement of the ram: regularly ensure that the ram is able to function smoothly.

Replenishing and bleeding the circuit

- This task must be carried out by a professional engineer: please consult your dealer.

- Use only oil ISO 22.

- The whole of the hydraulic circuit must be kept scrupulously clean: any impurity risks causing the deterioration of the steering gear.

After each winter, check

that rotating the wheel to starboard turns the boat to starboard;

that the circuit is properly bled;

that there are no leaks in the connections, the pumps, the ram or the flexible hydraulic hoses;

that the pump is filled with oil to the correct level(25 mm of air must be left in the pump : this space is vital for the hydraulic circuit to work properly, it allows the oil to expand);

that the nuts and screws are fully tightened to the correct torque as shown in the manufacturer's instructions;

that the hydraulic hoses have not been flattened or deformed.

Access: Engine compartment

1. Hydraulic piston
2. Tank

ADVICE-RECOMMENDATION

Refer to the manufacturer's instructions for use and maintenance.

14.3 BOW THRUSTER / STERN THRUSTER

General points

- The bow-thruster's motor is DC powered.
- The bow-thruster assists with steering the boat when manoeuvering at low speed (picking up a mooring buoy or berthing on a pontoon for instance).
- An operating relay is installed in the circuit.
- A fuse protects the electrical circuit.
- The bow-thruster motor has its own battery bank.

Operation

- Turn on the bow thruster battery switches.
- The engine's positive battery isolator automatically comes on and goes off when the engine is started/stopped. The negative supply of the bow-thruster motor is connected to the main earthing point of the boat.
- The bow-thruster motor must operate with the boat's engine running.
- A control panel is located in the wheelhouse/on the flybridge.
- To turn the bowthruster on or off, press the red button while holding the joystick pushed to the right for a few seconds.
- When the bow-thruster motor is not in use, switch off the electrical supply both:
    - to the control panel,
    - and to the switches of the motor's batteries.

Control: Steering station

Maintenance

- The bow-thruster's motor:
    - is lubricated for life and the oil does not require draining;
    - must not be dismantled, even partially.
- Regularly check the charge state of the motor's batteries: a loss of voltage will cause premature wearing of the motor's relay contacts and brushes.

Anode - Bow and stern thrusters

During lift-out

- Check that the propellers turn properly, with neither play nor stiffness.
- Clean the blades carefully.
- Remove the propeller, clean the housing and the shaft, smear the shaft and the stainlees steel capsules with silicon-based grease before putting the propeller back.
- After cleaning and applying a primer, antifoul the housing and the propellers.

Bow thruster

Location: Forward cabin

1. 315A fuse
2. Motor
3. Electric battery switch

Bow thruster

Bow thruster batteries

Nozzle

ADVICE-RECOMMENDATION

- Refer to the manufacturer's instructions for use and maintenance.
- Never run the motor when the propeller is out of the water.
- In the case of dual control, be careful to use just one control at a time.
- The motor must not run for longer than 3 minutes (risk of overheating).

Stern thruster

Location: Engine compartment

1. Electric battery switch
2. 315A fuse
3. Batteries - Stern thruster

Motor

Nozzle

15 DECK FITTINGS

15.1 GENERAL POINTS

15.1.1 Polyester

- Regularly brush the deck using a gentle de-greasing agent then rinse the deck with fresh water.
- Use as few cleaning agents as possible.
- Don't use solvents or aggressive detergent agents.
- Don't discharge cleaning agents into the water: Consult the harbourmaster's office to find out the conditions of water use and the maintenance area for cleaning your vessel.
- Don't use a pressure washer.

15.1.2 Plexiglas (PMMA)

- Rinse plexiglas with fresh water.
- Use a polish paste for thin scratches.
- Consult your dealer concerning deep scratches.

ADVICE-RECOMMENDATION

Never use solvents, alcohol, acetone or detergents on the plexiglass.

15.1.3 STAINLESS STEEL

Stainless steel is an alloy of iron and carbon (steel) with the addition of chromium. This chromium provokes the formation of a protective film which separates the steel from the atmosphere outside. This coating is usually invisible as it's so thin. So in spite of its name this steel is not stainless and requires a minimum of maintenance:

- The use of chrome tools is preferable whenever handling stainless steel;
- Re-nourish the protective film regularly with passivation paste.

15.1.4 Solid wood on exterior wooden panelling

- Wood exposed to harsh conditions, such as salty air and UV rays tends to become whiter and to lose its natural colour. This phenomenon has no effect on the intrinsic qualities of the wood, but can spoil its aesthetic appeal.

- To maintain the colour of the wood, regularly wash the woodwork in fresh water using a sponge (if necessary, use a mild soap).

- It is recommended to oil the external woodwork regularly using teak oil to protect them from the harsh conditions.

ADVICE-RECOMMENDATION

Never use detergents, acetone or other harsh products on the wood.

15.1.5 Exterior cushions

- Bring the removable cushions inside (washed with soapy water then dried) when the vessel is unoccupied.

- Put canvas sheets/protective covering over the fixed upholstery.

Maintenance

To maintain the quality of the fabric, you are advised to spray it regularly with clarified water and to brush it with a soft brush (brush for clothes). It is advisable to clean thoroughly every 2 years.

Stain removal

Follow these steps for routine cleaning::

- Remove as much debris as possible using a soft brush;
- Spray the fabric with water;
- Prepare a cleaning solution using mild soap and water (Do not use detergent);
- Wash with a soft brush;
- Wait for soapy solution to act;
- Rinse thoroughly in fresh water;
- Dry in the open air.

ADVICE-RECOMMENDATION

Never:

- Use a heat source (hairdryer/clothes dryer);
- Use detergent, silicone, acetone, chlorine-based products or hot water;
- Use a high pressure cleaner.

15.2 EQUIPMENT

15.2.1 Gangway

Description

- The gangway allows you to embark/disembark easily when the boat is moored stern on to the pontoon.
- The gangway is hydraulic and telescopic (adjustable length).
- The gangway control is situated in the cockpit.
- The gangway is comprised of the external part and a hydraulic unit situated in the engine compartment.
- A control box situated on the hydraulic unit prevents accidental operation of the control panel. As a precaution it is advised to leave it on the 'AUTO' setting.
- The hydraulic pump controlled by the electric motor is situated under the hydraulic unit reservoir. The motor has a speed regulator: it controls the speed at which the gangway moves.
- The gangway can also serve as a davit for lifting out the tender.

Operation

- The gangway runs on DC power.
- A breaker protects the electrical circuit.
- The gangway motor is designed to run continuously for a maximum of 4 minutes. After this the motor will cut out automatically (risk of overheating).

Location: Aft quarterdeck



Maintenance

- Wash the gangway off regularly with clean water.

- Its location at the stern of the boat makes the gangway particularly prone to fouling due to the exhaust gases: clean the fouled areas regularly with a non-abrasive detergent.

- Change the oil in the hydraulic unit at least once a year.

- Regualrly check the connections which could loosen with vibration.

- Do not use the gangway when at sea.

- Never manoeuvre the gangway with anyone on it, below it or within its arc of movement.

- Do not use the gangway as a diving board.

ADVICE-RECOMMENDATION

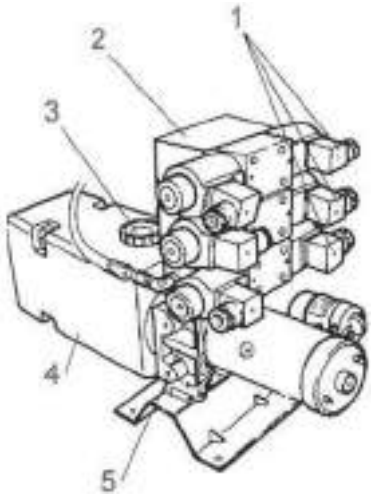
- Refer to the manufacturer's instructions for use and maintenance.

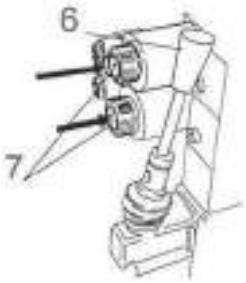
- Maximum load permitted on gangway: 110 kg.

- Telescopic gangway: Ensure that the stanchions are correctly seated in their sockets before recovering the gangway.

- Manual operation prevents the position sensors from working: the electronics are no longer able to correct the alignment of the gangway if it is not retracting correctly into its housing. Use this procedure with caution.

Hydraulic unit





1. Electric valves
2. Electric valve support block
3. Oil filler cap
4. Oil reservoir
5. Engine support block
6. Manual emergency lever
7. Electric valve opening cap

Location: Engine compartment

Emergency procedure

In the event of power failure the system can be operated manually. The hydraulic unit is equipped with a manual emergency pump. The electric valve can also be opened or closed manually.

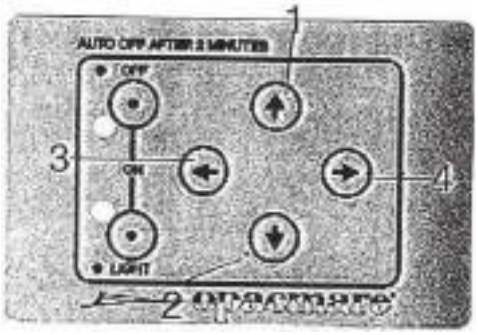
In this case, manoeuvring of the gangway will be slower but still possible:

1. Activate the lever of the manual pump with one hand. To control one of the available hydraulic manoeuvres, open the electric valve of the desired function.

2. With the other hand, press on the electric valve opening cap using a pointed tool (e.g. screwdriver). When the lever is operated, oil will be directed towards the piston. The lever must be activated several times to expel air and pressurise the system.

Control

Location: Cockpit



1. Control for raising gangway
2. Control for lowering gangway
3. Control for retracting gangway
4. Control for extending telescopic gangway

Remote control

The ON/OFF button turns the control on and off.

The green light is illuminated when the gangway is being operated.

The red light is illuminated when the system is turned off.

15.2.2 Tender inflator

No one is to be onboard the tender while launching or retrieving it.

Tender inflator

ADVICE-RECOMMENDATION

- Before heading out to sea, remove the outboard engine from the tender and store it on the boat.
- Secure the tender taking account of sea conditions.
- Secure the outboard engine to the tender once this is in the water.

15.3 BERTHING, ANCHORING, TOWING

15.3.1 Anchor points

Responsibility

It is the responsibility of the owner/user of the boat to ensure that the berthing lines, towing cables, chains and mooring lines and the anchors are adequate for the intended use of the boat, i.e. that the lines or chains do not exceed 80 % of the breaking strength of the corresponding anchor point.

	MOORING LINES	MOORING	TOWING
Reference	**A&B**	**B**	**B**
Anchor Point Breaking Strength	**24,2**	**34,7**	**34,7**
Mooring Line/Chain Breaking Strength	**19,4**	**27,8**	**27,8**

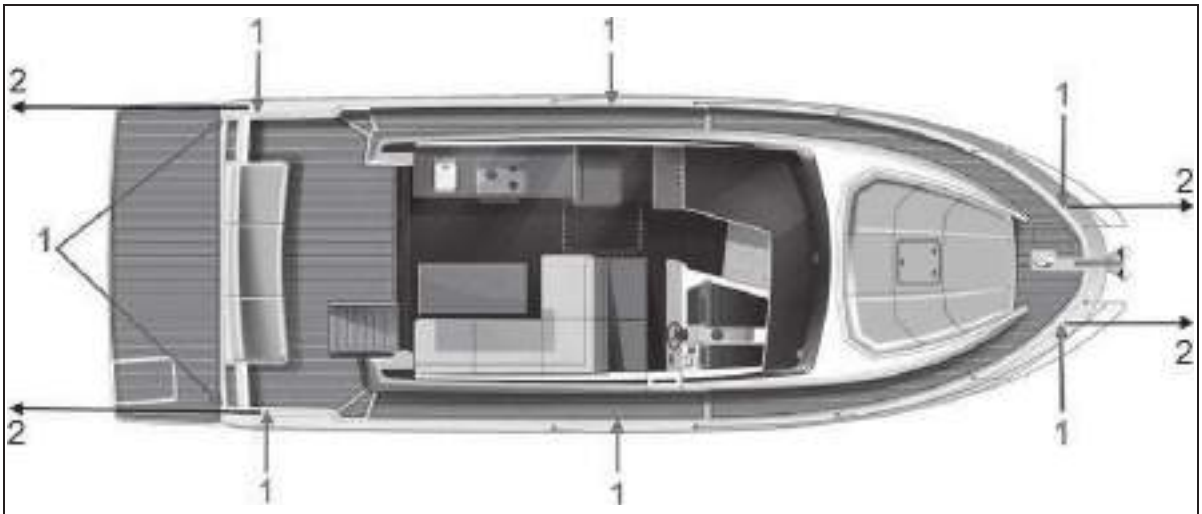
Note: Measurements are expressed in kN.

If non-metal anchor points are installed on the boat, their limited lifespan must be taken into account. They must be replaced as soon as they show signs of deterioration, visible surface cracks or permanent deformation.

15.3.2 Towing

Responsibility: It is important that the owner thinks through the actions required when securing a towing cable onboard.

Location of attachment points



1. Mooring cleats.

2. Towing:

- at the bow, to be towed
- at the stern, to tow

- Generally the breaking strength of lines/chains must not exceed 80% of the breaking strength of the anchor points.

- Always tow or be towed at low speed. Never exceed the maximum speed of a displacement hull during a tow.

- Be particularly vigilant when the end of a towing cable is being thrown or received (risk of the end becoming caught in the propeller).

- A towing cable must always be secured in such a way that it can be released under load.

- Do not try to stop the boat by using a boathook or your foot, hand or any other part of your body.

15.4 MAIN ELEMENTS OF THE CHAIN LOCKER

1. Chain locker
2. Bow fitting
3. 1 000 W Electric windlass
4. Chain holder
5. Clinch
6. Chain rim - 10 mm diameter
7. Handle
8. Remote control

Refer to the manufacturer's instructions for use and maintenance.

Windlass operations are dangerous:

- Always keep the anchor chain or rode free and unfouled;
- Carry out manoeuvres carefully and always wear shoes;
- Avoid wearing baggy clothing, long hair that's loose and jewellery that could get caught in the engine when it is running.

Operation relay
Location: Forward cabin

15.5 ELECTRIC WINDLASS

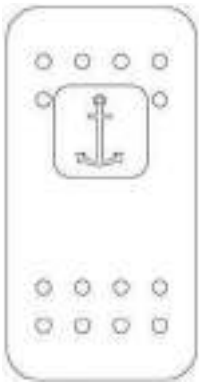
General points

- The windlass is DC powered.
- The windlass is designed for anchoring purposes: Any other use is dangerous and forbidden.
- An operation relay is fitted to the electrical circuit.
- A circuit-breaker protects the power supply to the windlass.
- The windlass operation is activated by an operational interlock relay which is powered by the engine's alternator: the windlass only works when the boat's engine is running.
- The controls to raise/lower the windlass are protected by a circuit-breaker positioned between the batteries and the windlass relay.
- Your boat may be equipped with a chain meter: this shows the length of chain let out.

Operation

- Before lowering the anchor, make sure that the chain or anchor rode is securely attached to the clinch.
- Activate the circuit-breaker then use the control to start the windlass.

Control: Steering station



- When at sea, secure the chain or anchor rode to secure points such as the chain stopper or the anchor rode to the belaying cleat (the windlass must not be used as the only method of securing the chain or rode).

- In the case of dual control, be careful to use just one control at a time.
- When raising the anchor, use the boat's engine to move towards the position of the anchor, until the boat is just over it: never use the windlass as a winch to move the boat forward.
- When out at sea, cut the electrical supply to the windlass.
- Cut the electrical supply when using the windlass manually.

Maintenance

- once a year, dismantle, carefully wash and grease all the moving parts of the windlass.
- Regularly grease the supply terminals of the electric motor of the windlass and of the relay control box.

Emergency anchoring procedure

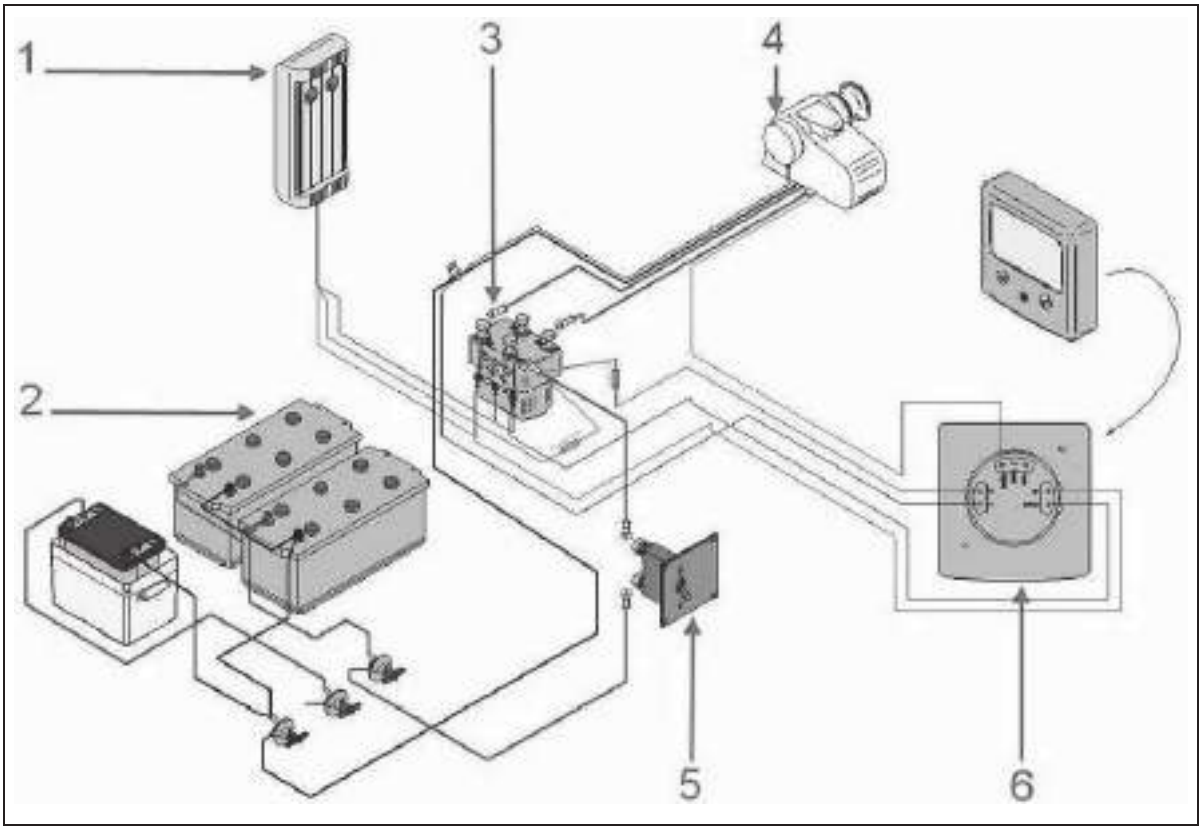
In the event of an electrical fault, it is possible to lower the anchor manually: Put the handle in the space provided for this to release the chain grab. Then let the chain run out using the handle to control its speed as it runs.

The handle serves only to release the chain grab in order to lower the anchor manually should the electric windlass break down. The handle cannot be used to raise the anchor manually.

ADVICE-RECOMMENDATION

- Before anchoring check the depth of water, the power of the current and the nature of the sea bed.
- Check the swinging area once the boat is at anchor.
- After each trip rinse the windlass and anchor chain or rode with fresh water.

Layout diagram - Chain meter



Reference	Designation
1	Remote control for the windlass
2	Service batteries
3	Operation relay
4	Windlass
5	Breaker
6	Chain meter

16 HULL FITTINGS

16.1 UPHOLSTERY

LEATHER

Maintenance

Leather must be regularly cleaned and waxed.

To do so, clean the leather surface with a damp rag. This operation will remove dust.

Every 6 months to a year depending on use, apply a leather shampoo on the leather then use a hydrating cream which will also protect it.

Stain removal

If the leather surface gets stained, clean immediatley using an absorbent piece of paper. Do not scour. Clean inwards to prevent the stain from spreading.

- Buffer applying denatured alcohol with a piece of cotton (ink and food stains).
- Apply absorbent powder (talcum) on grease stains.

Wait a couple of hours, then brush the excess of powder.

- Other: Apply white vinegar or acetic acid diluted in water.

ADVICE-RECOMMENDATION

- Test the product on a small hidden area of the surface before cleaning.
- Avoid excessive moisture.
- Do not scrub on leather surfaces.
- If you notice leather colour on the rag, immediately stop cleaning.

ALCANTARA (microfibre)

Stain removal

The fabric must be free from dust before removing. To do so, use a vacuum cleaner to achieve optimal cleanness.

Rub with a duster soaked in a solution containing ammonia diluted by 10%. Dilute to the strength appropriate for this fabric. Try it out first on a hidden corner, the hem for instance, if the appearance of the fabric changes, dilute accordingly.

Scrub the Alcantara fabric in all directions, particularly on the stains.

Rinse off the cleaning solution using a damp cloth.

Dry in the open air.

After taking the Alcantara fabric off, it's a good idea to use a soft brush on it to bring back its supersoft quality.

For difficult stains, dry-cleaning is recommended.

SYNTHETIC FABRIC

Stain removal

If you can remove the fabric:

- Clean in the washing machine (use the program for delicate fabric) at 30°.
- Do not iron.
- Never use Javel water.
- Do not dry-clean.
- Do not use a clothes drier.

If you cannot remove the fabric:

- Clean with the vacuum cleaner,
- Clean with a foam for synthetic fabrics (see foam use instructions).

COATED FABRIC (PVC)

Maintenance

- The PVC must be regularly cleaned with soapy water to maintain its appearance and avoid accumulation of debris. Try to avoid using the following products: lacqeurs, aggressive cleaning products, detergents, xylene or acetone-based products which can cause permanent damage or make the fabric deteriorate. The use of such products is at the owner's risk.

Stain removal

- All stains must be quickly removed to avoid formation of permanent stains.
- Use mild water to remove the stains found on the fabric surface. Use only clean, white, damp pieces of cloth.
- Difficult stains can be removed using a mixture of water (25%) and white spirit.
- Rinse with clean water.
- Dry with a soft piece of cloth.

ACRYLIC (bimini fabric type)

Maintenance

To maintain the quality of the fabric, you are advised to spray it regularly with clarified water and to brush it with a soft brush (brush for clothes). It is advisable to clean thoroughly every 2 years.

Stain removal

Follow these steps for routine cleaning::

- Remove as much debris as possible using a soft brush;
- Spray the fabric with water;
- Prepare a cleaning solution using mild soap and water (Do not use detergent);
- Wash with a soft brush;
- Wait for soapy solution to act;
- Rinse thoroughly in fresh water;
- Dry in the open air.

16.2 INTERIOR WOODWORK

- Clean the interior varnish using a de-greasing shampoo on a damp cloth.

- Polish the interior varnishing with a chamois leather.

- If there are any stains or light scratches, it is possible to polish the varnish. Doing this can give the polished area more of a shine than the rest of the varnishing onboard.

- If there are deeper scratches, it is possible to sand the scratched area lightly and then re-varnish it (consult your dealer).

16.3 INTERIOR MAINTENANCE

- Take advantage of fine weather to air the interior upholstery.

- Remove the cushions during lengthy periods of absence.

- Make sure the bilges are clean and dry.

- For lengthy periods of absence, leave the icebox and fridge doors open to prevent mould from developing.

- Install a dehumidifier in the saloon and leave open all the cabin doors and storage spaces (cupboards,iceboxes...).

ADVICE-RECOMMENDATION

If the stains persist or if in doubt, consult a cleaning specialist.

When winterising the boat, make sure the curtains are pulled to prevent the fabrics from being exposed to the sun's rays for a lengthy period (risk of fading).

NEVER:

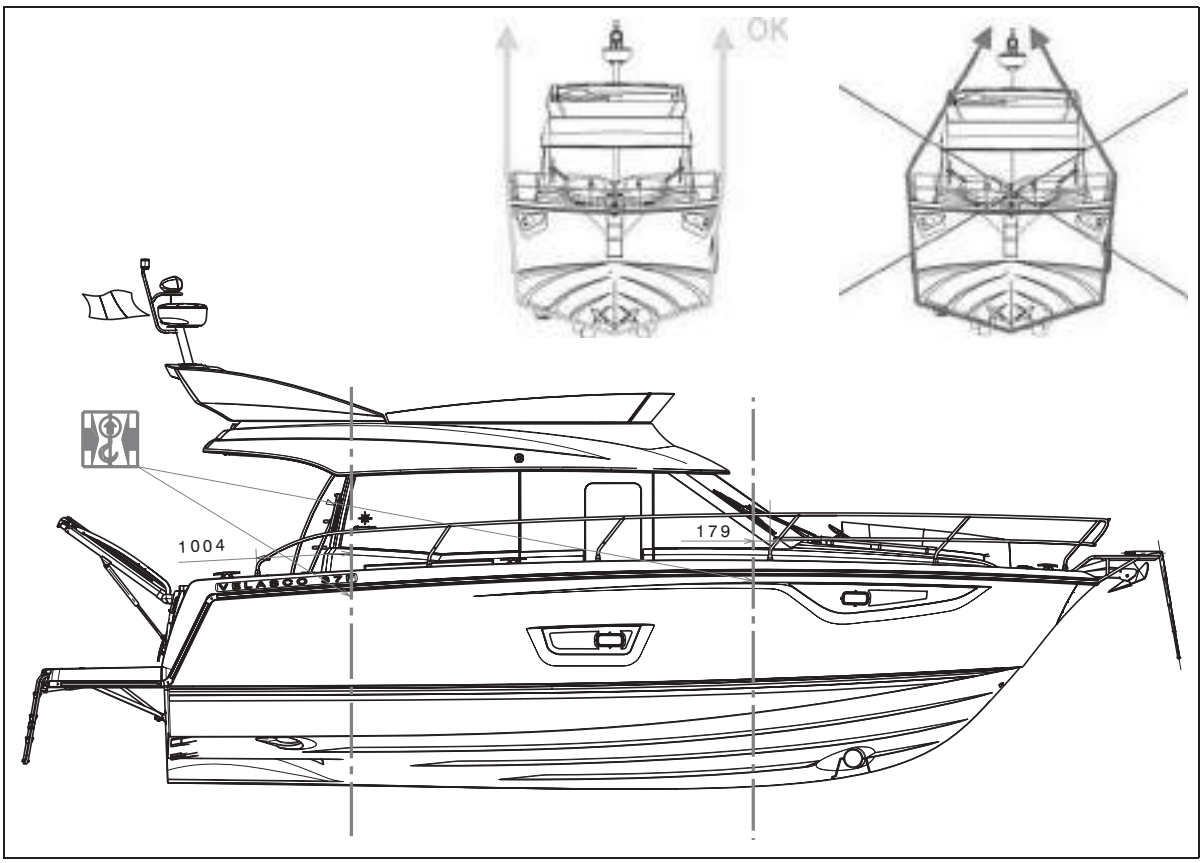
- Use a heat source (hairdryer/clothes dryer);

- Use detergent, silicone, acetone, chlorine-based products or hot water;

- Use a high pressure cleaner.

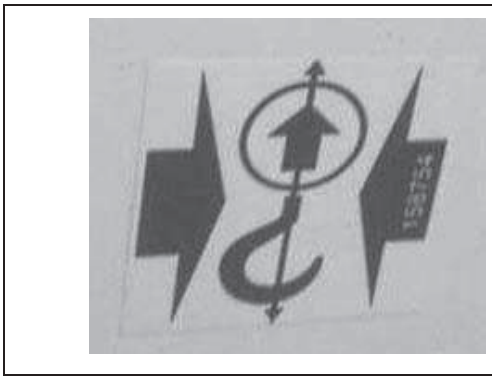
17 HANDLING, TRANSPORT

17.1 LIFTING PLAN



Note: Measurements are expressed in mm.

The position of the lifting slings is shown in the pictogram below:



17.2 LIFTING

- Before the first application of antifouling to the hull, you can lightly the hull using 400 µm or more wet and dry sandpaper.
- The lower hull of your boat should be covered with an anti-fouling paint which will prevent the adhesion of marine growth.
- The nature of the water where you keep your boat and the frequency of lifting it out determines the choice of antifouling.
- All bronze or steel surfaces, including the propellers, should be protected by a suitable antifoul paint.
- During lift-outs, check the anodes, cutlass bearing and propeller (see corresponding chapters).

Before applying the antifoul NEVER:

- Do any sandblasting;
- Use any other solvents than ethylic alcohol;
- Use detergents under pressure;
- Use scrapers;
- Use grinding tools.

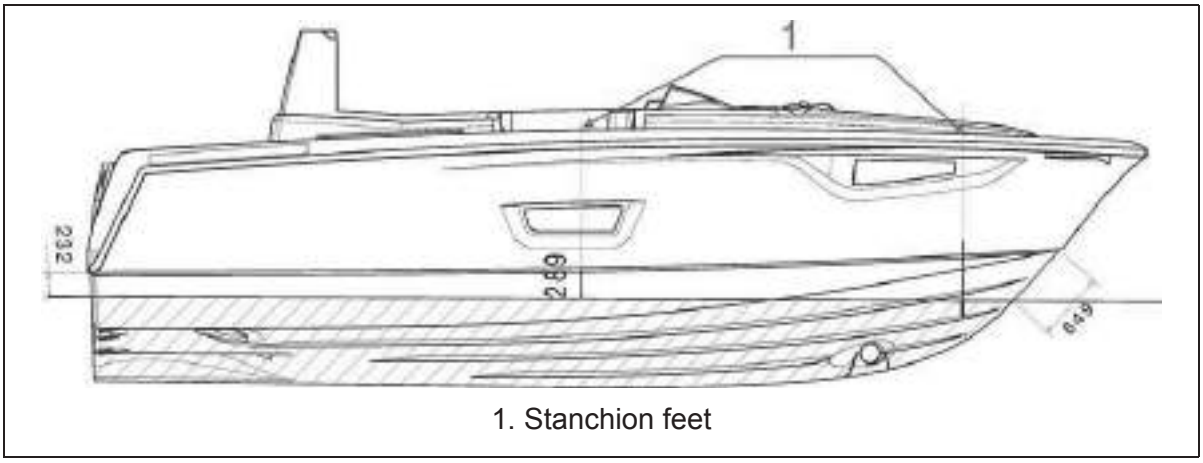
If cleaning off existing antifouling requires high pressure washing:

- Ensure the water temperature does not exceed 15 degrees;
- The water pressure must not exceed 150 bars;
- The distance between the hose nozzle and the hull must not be less than 10 centimetres.

The wet surface area of the boat is about: 35 m².

- Follow the manufacturer's recommendations scrupulously when applying antifouling.
- Never cover with antifouling:
  - the anodes;
  - the earthing plates (Generator / DC/AC converter);
  - the refrigeration unit condenser;
  - the sea water strainers;
  - the sensors of the electronic instruments.
- Avoid using copper or tin-based antifouling: these are banned in some countries.

17.3 UPPER LIMIT OF ANTIFOUL



1. Stanchion feet

Note: Measurements are expressed in mm.

17.4 LAUNCH/LIFT OUT

The initial commissioning of your boat will require a lot of skill and care. The proper working of all your boat's equipment is the result of the quality of the commissioning operations. This is why the initial launch must be overseen by your dealer.

Before launching

- Replace the log in its housing.
- Check the cleanliness of the sea water strainers.
- Check the anodes (see the chapter on Electricity).
- Check the propeller/hydrolube bush (see the chapter on Steering).
- Prepare enough fenders and lines.
- Check the engine's sea water intake valve and the fuel feed valve (see the chapter on motorisation).

Do not remain onboard or beneath the boat during the handling operations.

- When placing the slings make sure that the positioning marks are still visible.
- Submerge the sling fully under the engine mounting.

17.5 WINTER STORAGE

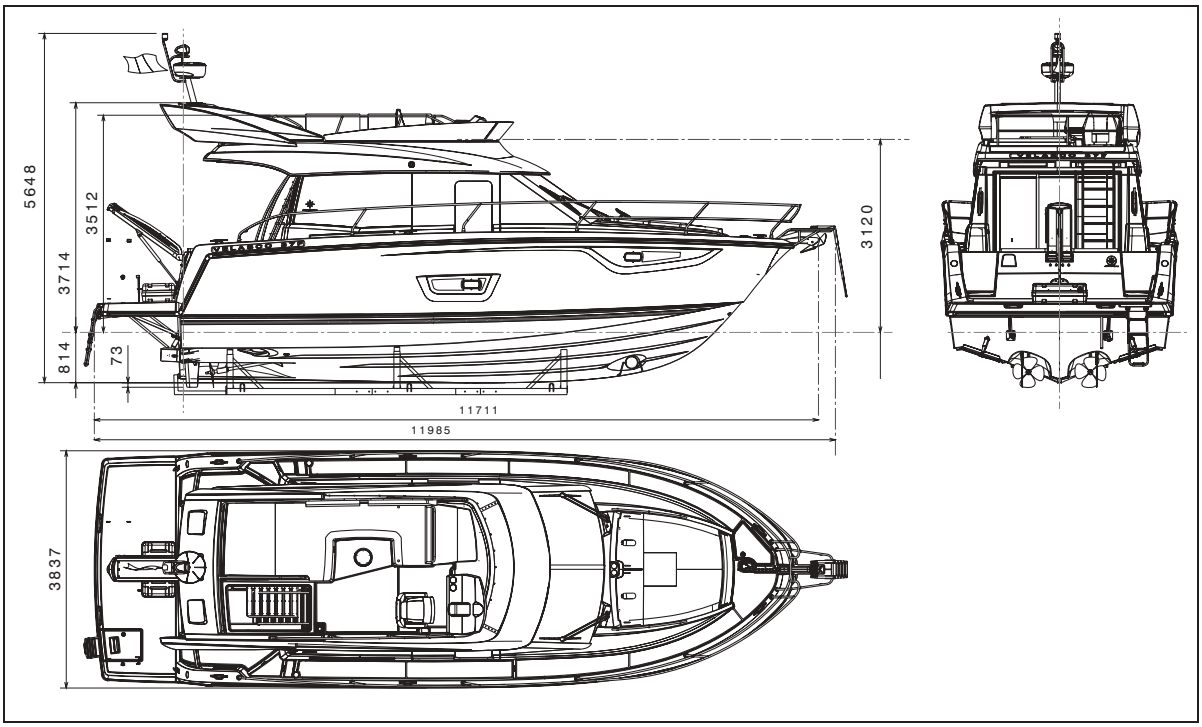
- Take advantage of laying up the boat to carry out a full inventory of the equipment.
- Check the expiry dates of the safety equipment.
- Have the liferaft overhauled.
- Empty the complete water system inside and outside and rinse it through with a mix of water and vinegar (do not use a chlorinated product).
- Empty and rinse the complete black water system.
- Dry out and clean the boat's bilges.
- Grease and close all the valves and through-hull fittings.
- Close all the boat's seacocks.
- Remove the depth sounder and log sensors.
- Put the covers back on the electronic screens.
- Install a dehumidifier in the saloon and leave open all the cabin doors and storage spaces.
- Air all of the cushions and upholstery for a good while before putting them back onboard and arranging them so as to limit the surface areas touching.
- Close the black-out curtains.
- Leave open the fridge/icebox doors to prevent mould and smells from developing.
- Protect the boat as well as possible with fenders.
- Make sure the boat is properly moored.
- Grease all mechanical and moving parts (bolts, hinges, locks...).
- Remove the movable upholstery.
- Disconnect the batteries. Make sure you recharge them during the winter period if the boat is left inactive for too long.

ADVICE-RECOMMENDATION

- The winterisation of the engine requires the skills of a professional engineer: please consult your dealer.
- This is not an exhaustive list of recommendations: Your dealer will give you the advice you need and will carry out the technical maintenance of your boat.

17.6 TRANSPORT

Packing plan



Note: Measurements are expressed in mm.

18 ENVIRONMENT

Waste management:

- Throw all packaging in the recycling containers provided for this.

- Once a piece of equipment has completely stopped working, find out about the relevant recycling regulations from your nearest recycling centre or from your dealer.

- Make sure you follow the relevant local laws when you scrap it.

- Some onboard equipment can have a toxic effect on the environment and on human health, caused by the specific substances they contain: Do not throw any equipment in household waste containers and absolutely not in the sea.

- Dead batteries are toxic to health and to the environment. So, batteries must not be put in with household waste, but must be recycled separately. Contact the harbour master or a specialist company about recycling them.

- Make sure you know the local enviromental regulations and follow the codes of best practice.

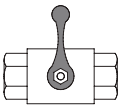
- Do not pump out the toilets or the contents of the black water tank near the coast or in areas where it's forbidden. Use the pump-out facilities available in ports or marinas to empty the contents of the black water tank before leaving port.

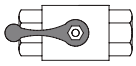
- Make sure you know the international regulations to prevent pollution in the marine environment (Convention MARPOL) and follow these as much as possible.

DINGHY 1: MEANING OF THE LABELS

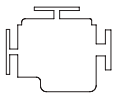
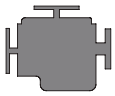
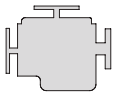
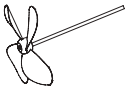
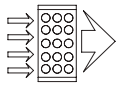
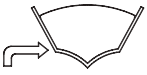
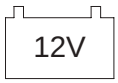
Engine group	Plumbing group	Colour - WC group	General electrical equipment	Comfort group	Drainage group

 Valve location label

 Closed valve

 Open valve

Meaning of the symbols

 Motor	 Shower	 Electric pump
 Port engine	 Washbasin	 Manual pump
 Starboard engine	 Ice maker	 Toilet
 Propeller shaft	 Deck wash	 Washer
 Filter	 Sea water tap	 Dryer
 Hull drainage	 Waste water tank	 Dishwasher
 Sea water intake	 Fresh water tank	 Water maker
 Shore power socket	 Fuel tank	 Fuel filter
 Service	 Holding tank	 Inverter
 Generator	 Battery stock	 Heating
 Breaker	 Thruster	 Air conditioning

Each label is defined by:

a functional group (specific colour) ;

EXAMPLE: