

WALLY WHY 150

Owner's Manual



20 years ahead

This manual has been drafted in compliance with standard UNI EN ISO 10240: 2024.
Any reprinting, either in whole or in part, without prior written approval by **FERRETTI SPA** is strictly prohibited.
This manual has been issued by **FERRETTI SPA**.

WALLY



A FERRETTI GROUP BRAND

Registered offices:
Via Irma Bandiera, 62
47841 Cattolica – Rimini – Italy
Tel. +39.0541.839611
Fax +39.0541.839625

Administrative headquarters:
Via Ansaldo, 7
47100 Forlì – Italy
Tel. +39.0543.474411
Fax +39.0543.782410
www.ferrettigroup.com

www.wally.com
customerservice@wally.com

1 - FOREWORD

1.1	GENERAL INFORMATION	2
1.1.1	INTRODUCTION TO THE USE OF THE MANUAL	2
1.2	MANUAL INTRODUCTION	3
1.2.1	SERVICE REQUEST PROCEDURE - WARRANTY	5
1.3	KNOW YOUR RESPONSIBILITY AS OWNER	6
1.4	NOTICES	7
1.4.1	SPECIFIC SAFETY WARNINGS	8
1.5	CERTIFICATION, CLASSIFICATION AND IDENTIFICATION	9
1.5.1	YACHT IDENTIFICATION SPECIFICATIONS	10
1.6	LOAD-CARRYING CAPACITY	11

2 - SAFETY

2.1	SAFETY RULES AND WARNINGS	14
2.1.1	USE-RELATED RULES	16
2.1.2	MAINTENANCE RULES	18
2.1.3	FIRE PREVENTION RULES	21
2.1.4	INTERNATIONAL STANDARDS FOR THE PREVENTION OF COLLISIONS AT SEA (COLREG 1972)	24
2.2	NOTES ON THE ENVIRONMENT	25
2.2.1	REGULATIONS FOR WASTE DISPOSAL	26
2.3	SAFETY EQUIPMENT	27
2.3.1	ARRANGEMENT OF SAFETY EQUIPMENT	29
2.3.2	ARRANGEMENT OF FIRE-FIGHTING EQUIPMENT	31
2.3.3	SELF-INFLATABLE LIFE RAFT	33
2.3.4	INDIVIDUAL LIFE JACKET	35
2.3.5	EPIRB (OPTIONAL)	36
2.3.6	LIFE BUOY	37
2.3.7	SIGNALLING ROCKETS	38
2.3.8	EMERGENCY BOARDING SYSTEM	39
2.3.9	PORTABLE FIRE EXTINGUISHERS	41
2.4	MAN OVERBOARD RECOVERY	44
2.5	ESCAPE ROUTES	45
2.5.1	ABANDONMENT OF THE YACHT	48

2.6	FORBIDDEN AREAS	49
2.7	HOOING POINTS	53
2.8	ENGINE ROOM FIRE-FIGHTING SYSTEM	56
2.8.1	MAINTENANCE OF THE ENGINE ROOM FIRE-FIGHTING SYSTEM	60
2.8.2	RESTORING THE FIRE-FIGHTING SYSTEM IN THE ENGINE ROOM	61
2.9	ALARM DEVICES	62
2.9.1	FIRE DETECTION UNIT	63
2.10	ANTENNAS, NAVIGATION LIGHTS AND DAYLIGHT SIGNALS	67
2.10.1	ANTENNAS	67
2.10.2	NAVIGATION LIGHTS AND DAYLIGHT SIGNALS	68
2.11	MANDATORY SAFETY EQUIPMENT	71
2.12	SAFETY PLATES	72
2.13	SCHEDULE	73

3 - DESCRIPTION OF THE YACHT

3.1	MAIN DIMENSIONS AND CHARACTERISTIC DATA OF THE YACHT	76
3.2	GENERAL YACHT LAYOUT	79
3.3	UPPER DECK AND HELM STATIONS	80
3.4	MAIN DECK	82
3.4.1	GALLEY	84
3.5	LOWER DECK	85
3.5.1	PORTHOLE	86
3.6	ENGINE ROOM	87

4 - HELM STATION

4.1	YACHT HELM STATION	90
4.1.1	HELM STATION	92
4.1.2	SIDE HELM POSITIONS	94
4.2	INSTRUMENTATION	95
4.2.1	SYNOPTIC ON THE HELM STATION	95

4.2.2	VHF-DSC RADIOTELEPHONE	96
4.2.3	THROTTLE	99
4.2.4	MAGNETIC COMPASS	100
4.2.5	ENGINE CONTROL PANEL	100
4.2.6	THRUSTERS CONTROL PANEL	101
4.2.7	MULTIFUNCTION DISPLAY	101
4.2.8	STEERING WHEEL	102
4.2.9	MANOEUVRING JOYSTICK	103
4.2.10	WATCHIT SYSTEM (OPTIONAL)	104

5 - WATER SYSTEMS

5.1	FRESH WATER SYSTEM	108
5.1.1	COLD AND HOT FRESH WATER SYSTEM	112
5.1.2	WATERMAKER	114
5.1.3	FRESH WATER SYSTEM MAINTENANCE	116
5.2	GREY WATER SYSTEM	119
5.3	BLACK WATER SYSTEM	123
5.3.1	OPERATION OF THE TOILET	128
5.3.2	BLACK AND GREY WATERS DRAINING SYSTEM MAINTENANCE	130
5.4	SCUPPERS SYSTEM	132
5.5	BILGE EXHAUST SYSTEM	135
5.5.1	MAIN BILGE EXHAUST SYSTEM	135
5.5.2	MAIN BILGE EXHAUST SYSTEM MAINTENANCE	138
5.5.3	CENTRALISED PUMP SYSTEM	140
5.6	SEA WATER SYSTEMS	141
5.6.1	SEA COCKS AND STRAINERS MAINTENANCE	145

6 - ELECTRIC SYSTEM

6.1	GENERAL DESCRIPTION OF THE ELECTRICAL SYSTEM	150
6.1.1	MAINTENANCE OF THE ELECTRIC SYSTEM	155
6.2	ELECTRICAL PANELS	156
6.3	GROUND PROTECTION SYSTEM	178

6.4	BATTERY SET	180
6.4.1	CHECKING AND MAINTAINING BATTERIES	181
6.5	BATTERY BREAKER PANEL	183
6.6	BATTERY CHARGER	185
6.6.1	CHECKING AND MAINTAINING THE BATTERY CHARGER	188
6.7	ELECTRIC POWER SUPPLY FROM SHORE	190
6.8	FUSES	192
6.9	INVERTER	193
6.9.1	INVERTER MAINTENANCE	195
6.10	GENERATORS	196
6.10.1	GENERATOR CONTROL PANEL	200
6.10.2	GENERATOR MAINTENANCE	201
6.11	SACRIFICIAL ANODES	203
6.11.1	SACRIFICIAL ANODES MAINTENANCE	204

7 - PROPULSION SYSTEMS

7.1	MAIN PROPULSION SYSTEM	206
7.1.1	ENGINE CONTROL PANEL	208
7.1.2	START OF ENGINES	209
7.1.3	CHECKS AFTER START OF ENGINES	211
7.1.4	STOP OF ENGINES	212
7.1.5	ENGINE EMERGENCY PROCEDURE	213
7.1.6	ENGINE MAINTENANCE	214
7.2	PROPELLERS	216
7.2.1	MAINTENANCE OF THE PROPELLERS	217
7.3	EXHAUST SYSTEM	220
7.3.1	ENGINE EXHAUSTS	220
7.3.2	MAINTENANCE OF THE ENGINE EXHAUSTS	223
7.4	FUEL SYSTEM	224
7.4.1	FUEL INLET	230
7.4.2	FUEL QUALITY	231
7.4.3	FUEL SYSTEM MAINTENANCE	232
7.5	THRUSTER SYSTEM	238
7.6	CENTRALIZED OIL CHANGE SYSTEM (OPTIONAL)	240

8 - STEERING SYSTEMS

8.1	STEERING SYSTEM.....	242
8.1.1	EMERGENCY YACHT STEERING.....	243
8.2	INTERCEPTORS SYSTEM.....	244
8.3	GYROSCOPIC STABILIZER (OPT).....	246
8.4	STABILIZING FINS SYSTEM.....	248

9 - AIR CONDITIONING AND VENTILATION SYSTEM

9.1	AIR CONDITIONING SYSTEM.....	252
9.1.1	REFRIGERATING UNIT CONTROL PANEL.....	257
9.1.2	FAN-COIL CONTROL PANEL.....	258
9.1.3	AIR CONDITIONING SYSTEM MAINTENANCE.....	259
9.2	VENTILATION SYSTEM.....	260
9.2.1	ENGINE ROOM VENTILATION SYSTEM.....	260

10 - AUXILIARY EQUIPMENT ON BOARD

10.1	MOORING AND ANCHORING ARRANGEMENTS.....	264
10.1.1	ANCHOR WINCH.....	268
10.1.2	ANCHOR WINCH MAINTENANCE.....	271
10.1.3	WARPING WINCHES.....	272
10.1.4	WARPING WINCHES MAINTENANCE.....	273
10.2	COMPRESSED AIR SYSTEM.....	274
10.3	GANGWAY / SWIM LADDER SYSTEM.....	276
10.3.1	GANGWAY / SWIM LADDER SYSTEM MAINTENANCE.....	279
10.4	STERN LIFT SYSTEM.....	280
10.5	WINDSCREEN WIPER SYSTEM.....	283
10.5.1	MAINTENANCE OF THE WINDSCREEN WIPER SYSTEM.....	284

11 - INFORMATION FOR USE

11.1	GENERAL INFORMATION.....	286
11.2	PRECAUTIONS FOR HARSH CLIMATES.....	287
11.2.1	COOLING SYSTEM.....	287
11.2.2	FUEL SYSTEM.....	288
11.3	NAVIGATION SET UP PROCEDURES.....	288
11.3.1	WEATHER.....	290
11.4	FIRST PERIOD OF USE.....	291
11.4.1	ENGINE DRIVE.....	292
11.5	REFUELLING.....	293
11.6	WATER SUPPLY.....	295
11.7	SHORE CONNECTIONS.....	296
11.7.1	WATER CONNECTIONS (OPTIONAL).....	296
11.7.2	ELECTRIC SHORE POWER SUPPLY.....	297
11.8	MOORING AND UNMOORING.....	298
11.8.1	LEAVING THE MOORING.....	299
11.8.2	MOORING MANOEUVRE.....	299
11.8.3	UNATTENDED MOORING.....	300
11.9	OPERATION AND PRECAUTIONS DURING NAVIGATION.....	301
11.9.1	OPERATING IN SHALLOW WATER.....	303
11.10	NAVIGATION IN SPECIAL CONDITIONS.....	304
11.10.1	NAVIGATION WITH BAD WEATHER CONDITIONS.....	304
11.11	ENGINE EMERGENCY SUCTION FROM THE BILGE.....	306
11.12	TOWING THE YACHT.....	310
11.13	YACHT STEERING RULES.....	312
11.14	ANCHORING OPERATIONS.....	314
11.15	HAULAGE AND LAUNCH.....	315

12 - HULL AND FURNITURE MAINTENANCE

12.1	GENERAL MAINTENANCE OUTLINES.....	318
12.2	LONG PERIODS OF YACHT INACTIVITY.....	320
12.3	RE-USE OF THE YACHT AFTER A LONG INACTIVITY.....	322

12.4	HULL MAINTENANCE	323
12.4.1	BOTTOM HULL	324
12.5	GENERAL MAINTENANCE.....	325
12.6	MARBLE MAINTENANCE.....	337
12.7	SPEED MULTISENSOR MAINTENANCE	338

13 - TROUBLESHOOTING

13.1	GENERAL NOTES	340
13.2	MAIN ENGINES.....	341
13.3	GENERATOR.....	345
13.4	BATTERY CHARGER	347
13.5	INVERTER.....	349
13.6	UTILITIES	350
13.7	FUEL SYSTEM	351
13.8	WASTE WATER DISCHARGE SYSTEM.....	352
13.9	FRESH WATER SYSTEM.....	353
13.9.1	WATERMAKER.....	354
13.10	BILGE PUMPS	355
13.11	AIR CONDITIONING SYSTEM.....	357
13.12	GANGWAY / SWIM LADDER	359
13.13	BOW THRUSTER	360



wallywhy150

1
FOREWORD



1.1 GENERAL INFORMATION

NAME OF THE YACHT _____ WALLYWHY 150
 TYPE OF YACHT _____ MOTOR YACHT
 PROJECT CATEGORY _____ A

CAUTION

CATEGORY A: This yacht is designed for cruising in conditions where the wind can lower than 10 on the Beaufort scale.

These conditions can be found in long crossings, for example inter-ocean or near the coast, exposed to wind and waves for several hundred nautical miles.

1.1.1 Introduction to the use of the manual

Prior to operate the yacht and the equipment on board, read the manual carefully, in order to acquire an adequate familiarity with the systems and their operation, so as to avoid hazard to personnel and risks of costly damages.

A great passion for sea and the prestige of this yacht are elements that encourage constant and regular maintenance to ensure long periods of cruising, a long life span and an ensuing improvement in safety.

The maintenance operations described in the manual are simple, but should be performed by authorised and qualified technical staff only, according to standard procedures and in compliance with national and international regulations.

For specific interventions it is advisable to request the service of specialized technicians or contact our Service Department.

For an easy and quick consulting, the manual is subdivided in the following sections:

- FOREWORD
- SAFETY
- DESCRIPTION OF THE YACHT
- HELM STATION
- WATER SYSTEMS
- ELECTRIC SYSTEM
- PROPULSION SYSTEMS
- YACHT STEERING SYSTEMS
- AIR CONDITIONING AND VENTILATION
- AUXILIARY EQUIPMENT ON BOARD
- INFORMATION FOR USE
- HULL AND FURNITURE MAINTENANCE
- TROUBLESHOOTING

CAUTION

Please keep this manual carefully in a safe, dry and easily accessible place for an easy consultation. When you decide to change the yacht, deliver this manual to the new owner in its integrity.

1.2 MANUAL INTRODUCTION

The documentation provided by WALLY to the Owner consists of two types of documents:

- The **"Owner's Manual"**, edited by experienced professional staff in compliance with the regulations in force;
- The **Technical Document Collection**, concerning the on-board devices/systems (engines, air conditioning, etc.): It consists in a series of independent manuals, delivered by the relevant Manufacturer and/or Suppliers.

The Owner's manual is the Main Document and must be read in whole, in any case before considering the documents in the Technical Document Collection.

The associated Technical Documentation Collection makes up the set of the Reference Documents that are required to complete the information provided in the Owner's Manual.

Since these documents are independent and aimed at giving information on specific single components, it is necessary to refer to them when indicated by the Main Document.



CAUTION

WALLY recommends carefully reading the whole documentation delivered by the Manufacturers of the various components.

For all problems concerning the use and the maintenance of components you can refer directly to the Service Departments listed in the documents delivered by the Manufacturers.

Anyway, in case of need, some little interventions can be carried out by the staff on board, after consulting the operation manual.

This manual has been realized by WALLY in their mother language (Italian) and translated into other languages, to satisfy the customer's requirements, and has been issued with the purpose of assisting you with the use of your yacht in full safety and with complete satisfaction.

This manual contains a detailed description of the yacht, of the systems and devices installed and practical information about its use and maintenance.

Always use trained and competent persons for maintenance, repair and modifications. The modifications that may affect the safety features of the yacht should be evaluated, carried out and documented by competent people. The manufacturer of the yacht can not be held responsible for changes that are not approved.

We recommend that you carefully read through this manual so as to become familiar with its contents before starting to sail for the first time.

If this is your first yacht, or if this is a type of yacht that you are not familiar with, for your safety and to ensure your maximum satisfaction, make sure you have acquired sufficient experience about how to use and operate the yacht, before "taking the command".



CAUTION

Make sure that the conditions of wind and sea correspond to the design category of your yacht and that you and your crew are capable of manoeuvring the yacht in such conditions.

Even when your yacht is classified accordingly, the conditions of sea and wind corresponding to design categories A, B and C ranging from storm conditions for category A to the conditions of wind and sea strong for the upper limit of category C, exposed to the dangers of a tidal wave or a wind gust. These are therefore dangerous conditions, where only a competent crew, coached and trained on well-maintained yacht can operate satisfactorily.

THIS MANUAL must BE STORED AND WILL ALWAYS BE ON THIS YACHT AT EVERY TRANSFER OF PROPERTY.

SANCTIONS ARE ENVISAGED IF THE YACHT IS NOT EQUIPPED WITH THE "OWNER'S MANUAL".

IN CASE YOU LOSE OR DAMAGE THIS MANUAL, WALLY WILL ALWAYS BE ABLE TO SUPPLY YOU WITH A NEW COPY OF IT.



CAUTION

WALLY declines all responsibility for any damage to third parties due to discrepancies between the manual and reality.

**CAUTION**

This manual contains pictures of details not representing completely our yacht or with colours not corresponding to your arrangements. This is mainly due to the fact that it is possible to encounter problems during the realization of details' photos, like bed covers and sofas, which are defined only shortly before yacht delivery and therefore when the manual itself has already been issued.

**CAUTION**

In some countries, a license or permit to drive are required or specific regulations are in force. This yacht may be conducted exclusively by authorized personnel to command and to the conduct of pleasure craft in relation to the same class of the yacht.

**CAUTION**

All yachts, regardless of their strength, may undergo serious damage if used improperly. This is not compatible with safe navigation. Always adjust the speed and course of the yacht under the terms of sea.

**CAUTION**

If the yacht is equipped with a life raft, carefully read the operating manual. The yacht should have on board the appropriate safety equipment (life jackets, safety line, etc..) depending on the type of yacht, to the weather conditions, etc.. This equipment is mandatory in some countries. The crew should be familiar with the use of all safety equipment and emergency manoeuvring (man overboard recovery, towing, etc..), cruising schools and clubs regularly organize training sessions.

**CAUTION**

All persons should wear a suitable buoyancy aid (life jacket / personal flotation equipment) when they are on the deck. Note that, in some countries, it is a legal requirement to always wear a buoyancy aid that complies with the applicable regulations.

1.2.1 Service request procedure - warranty

The extensive WALLY service network is glad to provide you with any information regarding issues not addressed by the manual. Customers may contact Dealers, Sale Offices, Service Centres or directly:

WALLY AFTER SALES & SERVICE DEPARTMENT
 Via Ansaldo 7 - 47100
 Forlì - Italy
 Tel +39 0543 474445
 Fax +39 02 70058589
customer.service@wally.com

WALLY has carefully selected all main components and accessories installed aboard your yacht, choosing among the most reliable manufacturers who, by offering a wide service network, also guarantee a speedy availability of spare parts.

CAUTION

For all aspects related to the warranty of the yacht, please exclusively refer to what indicated in the sale agreement and in the warranty certificate in which all warranty conditions applicable to the purchased product are specified.

CAUTION

The maintenance operations described in the manual are simple, but should be performed by authorised and qualified technical staff only, according to the standard procedures delivered by the devices Manufacturers and in compliance with national and international regulations. We suggest contacting the WALLY After Sales & Service.

CAUTION

WALLY declines all responsibility for damage due to improper preservation and poor maintenance.

CAUTION

WALLY declines all responsibility for the installation and operation of electric, electronic or mechanical equipment improperly installed by third parties in any unauthorised way by the Shipyard.

WARNING

WALLY declines all responsibility concerning tampering carried out by third parties on equipment installed in the Shipyard. Such tampering or unauthorized installations will not only void the warranty, but may cause damage to the yacht and injuries to the people on board.

WARNING

Equipment and devices: engine, winch, extractors and other devices are guaranteed by their manufacturers, who will service them directly through their service points. In case of need, the WALLY After Sales & Service will support your requests in order to provide you with a quick service and to guarantee the respect of the applicable rules. Upon yacht purchase, the Owner must send the Warranty Certificates of the relevant Manufacturers, in order to start the warranty period. WALLY will not be liable for undelivered Warranty Certificates.

1.3 KNOW YOUR RESPONSIBILITY AS OWNER

As owners of a yacht, it is your responsibility to be aware of several laws and rules applicable to navigation, operation and equipment of your yacht.

In the United States, the Federal Government, through the Coast Guard, it establishes the requirements for personal flotation devices (e.g. life jackets) and other safety equipment which must be on board the recreational craft.

Personal flotation devices and other safety equipment must be approved by the Coast Guard and / or other organizations dealing with rules relating to safety. If approved, an adhesive will indicate on equipment itself.

Member States may impose additional requirements.
It is necessary that you know the rules that relate to your areas of action.

It is the responsibility of the owner and / or operator of the yacht to know the rules of navigation and safety and navigational practices.

Take up time to read the Nautical Rules of Navigation (COLREGS) that are found in the publication of the Coast Guard "Navigation Rules - International and Internal". CG-169 must be on all the length of more than 39 feet yachts. Study the techniques of navigation and safety practices to run your yacht and its equipment.

You are the key person in ensuring the safety of your passengers, the crew and the yacht. Take up time to read the chapter on Safety in this manual for important information regarding the safety procedures.

Each yacht owner or operator must be well informed about the yacht and its systems.

Since you are responsible for the operation of your yacht, we provide you with information about these topics.

For every system on board we have planned a detailed description, including diagrams where appropriate, as well as information about the Maintenance and troubleshooting.

A variety of instruction manuals, courses and videos to help you to improve your knowledge of navigation rules, navigation, operation of the yacht, naval electronics operation, Maintenance, etc..

1.4 NOTICES

To highlight particularly significant sections and/or to indicate some important requirements, some symbols have been defined as follows.



CAUTION

It indicates a reminder to apply certain safety measures or to avoid certain unsafe practices that could lead to personal injury or damage to the yacht, to its components or to the environment.



WARNING

It indicates the existence of a possible hazard that may lead to personal injury or death, if proper safety precautions are not taken.



DANGER

It indicates the existence of a serious hazard that could involve a high probability of death or of serious injury if suitable safety precautions are not taken.



ENVIRONMENT

This symbol draws your attention to the possible hazards of environmental pollution.

NOTE / MAINTENANCE

Draws your attention on information and important memos.

1.4.1 Specific safety warnings

They integrate the general safety notice and are aimed at providing specific information about the nature of possible dangers.

Fire hazard:

To indicate a specific fire hazard.



DANGER

The cause of fire breaking is described here.

Electric shock hazard:

To indicate a specific electrocution risk.



DANGER

The cause of electrocution is described here.

Burn hazard:

To indicate a specific burn hazard.



DANGER

The cause of burn is described here.

Forbidden areas:

To forbid the access, the transit or the stay in a dangerous area.



DANGER

This area describes the forbidden area: for forbidden areas are meant dangerous places or the approaching to mechanical moving parts.

1.5 CERTIFICATION, CLASSIFICATION AND IDENTIFICATION

WALLY yachts undergo rigid and accurate tests required by the International Authorities in charge, in order to obtain a CLASSIFICATION CERTIFICATE.

The WALLY WHY150 yacht, on which you are about to cruise, has obtained the RINA S.p.A. classification (REGISTRO ITALIANO NAVALE) after supervision of the hull lamination, of the reinforcement structures, of the power system and of the safety equipment on board.

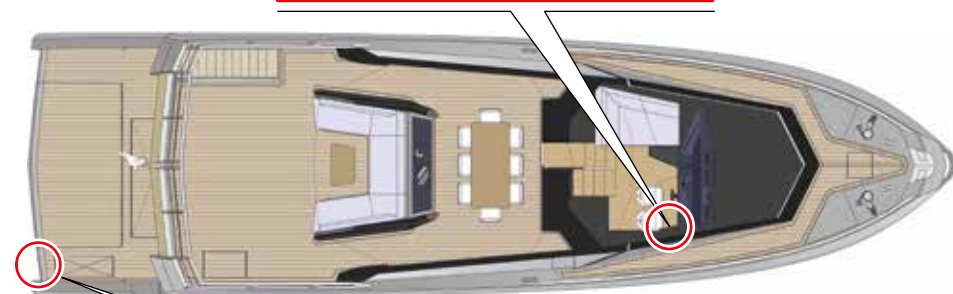
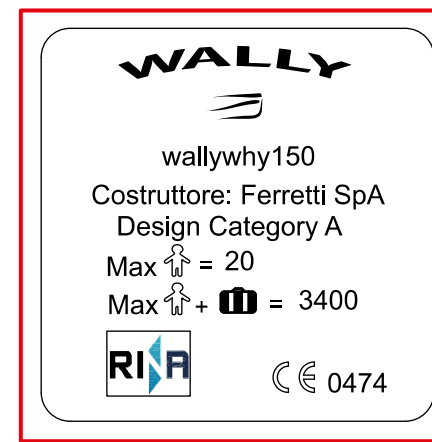
CAUTION

Always keep the plates readable and, if deteriorated or altered, address to WALLY for replacement.

In the figure aside you will find two plates shown in detail: Manufacturer plate and yacht identification code plate.

NOTE

Builder's plate: Part of the information is provided on the manufacturer's plate affixed to the yacht. A full explanation of this information is provided in the relevant sections of this manual.



1.5.1 Yacht identification specifications

Manufacturer	FERRETTI S.p.A.
Model	WALLYWHY 150
Type of yacht	MOTOR YACHT
Identification number CIN (Craft Identification Number)	IT-FERW1507G627
Navigation class	A (open sea navigation): the wind force can be higher than 8 and the wave height can exceed 4 metres
Certification forms	B+F
Classification	"EC" conformity according to the standards stated by the Directive 2013/53/EU

1.6 LOAD-CARRYING CAPACITY

Maximum number of passengers	n° 20
Maximum load-carrying capacity	kg 3400 (people + luggage) (7.495 lb)
Safety equipment (standard)	n° 16
Berths	n° 12

Located in:

- 2 in the owner's cabin (double bed)
- 2 in VIP cabin amidships (double bed)
- 2 in starboard guest cabin (single beds);
- 2 in crew cabin (single beds);
- 2 in the captain's cabin (single beds)
- 2 in the crews' cabin (single beds).

WARNING

Do not exceed the maximum recommended number of persons. Regardless of the number of person on board, the total weight of persons and equipment must never exceed the maximum recommended load. Always use the seats/seating spaces provided.

CAUTION

Make sure that safety equipment is perfectly efficient and available to each passenger.

CAUTION

The maximum load carrying-capacity includes the weight of all persons on board, all their luggage and personal effects and any other equipment not included in the unladen displacement.

CAUTION

When the yacht is being loaded, never exceed the maximum load carrying capacity. Always take great care when loading the yacht and try to distribute the loads evenly so as to keep the correct trim.
Avoid placing heavy loads in the upper part to not reduce the stability.

CAUTION

The maximum load recommended by the manufacturer excludes the mass of the contents of the fixed fuel and water tanks when full.
It must exceed the total load that can be added to the displacement to discharge and dry yacht.

CAUTION

The safety equipment provided by the manufacturer are provided for the maximum number of transportable persons.
Before cruising, check that the number of safety equipment is always greater than or equal to the number of persons on board.

CAUTION

Changes in the arrangement of the on-board masses, such as the addition of weights at the top, a structure, or the replacement of components with different specifications, can significantly affect the stability, trim, and performance of the yacht.
In such cases, contact WALLY After Sales & Service.



wallywhy150

2
SAFETY

WALLY



2.1 SAFETY RULES AND WARNINGS

Your yacht has been designed paying the utmost attention to all aspects regarding your safety and the safety of your guests. However, all personnel on board must be instructed and aware about some precautions to be adopted at all times.

For this purpose, it is advisable that all people on board carefully read the guidelines contained in this manual, as well as the signs installed on the yacht and, in particular, all safety notices.

The time spent in reading such instructions will prevent unpleasant accidents. Remember that you are responsible for your safety and the safety of your passengers, and that you may jeopardize the safety of other yachts. Please make sure you are perfectly aware of the main safety rules:



DANGER

Only the personnel having a regular license or the necessary qualifications can steer this yacht.

Personnel operating the yacht must not be under the influence of alcohol, drugs or narcotics.

- During normal operation or any activities on the yacht, keep passageways and escape routes in proper conditions, in order to avoid hazards to people's safety;
- Always perform regular inspections of hull conditions, power system, safety equipment, and systems on a regular basis;
- Always check the fuel level before cruising and compare the tanks' capacity with the engines' consumption and the length and the expected type of cruise;
- Check the expected weather conditions in your cruising area;
- In any case, always act according to common sense.

Safety is also "in the hands" of all those on board, who should be instructed and aware of some precautions to be adopted all times:

- Move carefully around the yacht because its stability may be suddenly affected by the sea waves;
- Persons on board must know the location of life jackets and the location of fire extinguishers (see safety equipment) and of the life raft;
- All passengers must be aware of the risks caused by the fires and the correct way to proceed in the event a fire should occur;
- The engine room must be properly ventilated when the engines are running;
- Everybody on board must be able to release and launch the life buoy and the life raft at sea;
- Access to the engine room must be allowed only to authorized personnel, aware of possible dangers like:
 - ♦ Moving mechanical parts;
 - ♦ Hot parts and components;
 - ♦ Circuits with pressurized, hot or irritating fluids;
 - ♦ Circuits with flammable fluids;
 - ♦ High noise when engines are running;
 - ♦ Possibility of inadvertently manoeuvring valves that are important for safe navigation.

Do not tamper with, disconnect, eliminate or by-pass the safety devices installed on your yacht. Periodically check their real efficiency in time to ensure that they can be used in case of need. Failure to meet such requirements may lead to serious risks to the health and safety of passengers.



WARNING

Personnel performing any type of operation during the entire lifetime of the yacht must be technically qualified and have proven abilities and experience acquired and recognised in the specific field. The lack of such skills can endanger your safety as well as the safety of people on board and the integrity of the yacht.

Make sure any parts not stored or not secured correctly, cannot move during navigation, hinder the passage, prevent the opening of inner hatches, fall against the people on board, damage or hinder the quick finding of necessary pieces.



DANGER

Carbon monoxide poisoning

Adequate ventilation of the yacht is required when the engines are running when navigating at low speeds or in conditions where fumes may re-enter the hull.



DANGER

The personnel in charge of the yacht must not be under the influence of alcohol, drugs or narcotics.



DANGER

It is absolutely forbidden to remain on the external decks outside protected areas during navigation.



DANGER

When the yacht is being loaded, never exceed the maximum load carrying capacity. Always take great care when loading the yacht and try to distribute the loads evenly so as to keep the correct trim.
Avoid placing heavy loads in the upper part to not reduce the stability.



CAUTION

Always place the necessary attention while navigating, especially in adverse weather conditions or breaking waves.

2.1.1 Use-related rules



DANGER

Carbon monoxide poisoning

Fossil fuel combustion generates a high quantities of carbon monoxide. This gas is a colourless, odourless and highly toxic. When the engines and/or the generator are running, the yacht must be properly ventilated, in particular if underway at low speed, or when the exhaust fumes may blow back on board (e.g. when the yacht is shored or anchored or riding the anchor).

Arrange the load evenly so as to keep the correct trim.
Do not overload the yacht especially at bow and aft.
Observe the rules to prevent a sea collision and respect the speed limits; moreover always pay the utmost attention during navigation.



WARNING

The Captain is the only person responsible for driving the yacht. Prior to departure, the Captain must ensure that the safety equipment required by law is present on board and perfectly working.

The Captain should always meet the requirements and have the specific qualification to steer this yacht as requested by the laws in force in the country of use.

After becoming duly informed as to the operation and controls of the yacht, at first use the Captain should simulate some test manoeuvres, to locate the controls and to be aware of the common reactions of this yacht.



WARNING

Do not use the yacht if the safety equipment is inoperative. Failure to meet such requirement may cause serious risks to the safety and health of passengers.

The basic operations like start, navigation, anchorage and mooring must be carried out and checked thoroughly; in particular all procedures for navigation set-up should strictly be observed.



WARNING

At high speed, the use of the autopilot is dangerous and not recommended. Always be very careful during navigation even when the autopilot is in use.

All refuelling phases have to be carried out with the necessary precautions to avoid even the smallest spillage of products which could pollute the environment.

When navigating near harbours, beaches and shores, observe the directives issued by local port authorities, particularly as to the speed; high speed can originate wake waves which can jeopardize the safety of the environment and of people.

Before lowering the anchor in free waters, be aware of the kind of sea bottom underneath and near your yacht, to avoid damaging.



CAUTION

In the case of using a jet-ski, every passenger must wear a life jacket; the driver must also possess a valid license and follow the rules of the country where it is located.



CAUTION

Close portholes, windows and skylights during navigation, especially in poor weather conditions.
Also, make sure that you have closed or locked doors to prevent collisions with objects or people.



CAUTION

The bilge water is to be reduced to a minimum.
The yacht's stability is compromised with the addition of weights on top. In the event of rough seas: cabinets and doors must be closed to reduce the risk of flooding.
Crashing waves are a serious danger to stability.



CAUTION

Avoid sudden manoeuvres at high speeds.



CAUTION

For comfort and safety, reduce speed in the presence of waves.



CAUTION

Do not remove or move any weight placed under the floorboards in the deck floor.



CAUTION

It is extremely dangerous to operate the yacht controls under the influence of alcohol or drugs. Never take alcohol or drugs before or during work. Do not take medicines that cause dizziness.



CAUTION

Activating the **throttle** from outside the helm station can cause serious accidents even fatal ones: controls must only be operated from the correct position in the helm station.

2.1.2 Maintenance rules

Keep your yacht in conditions of the highest efficiency, carrying out all scheduled maintenance of the devices on board. A good maintenance will provide the best performance, a longer useful life and a constant respect of the safety requirements.

For the general cleaning of your yacht, only use bio-degradable or environmentally friendly products.



ENVIRONMENT

During navigation, do not release any on-board waste at sea, but keep it and dump it in waste containers ashore.

Remember that it is forbidden to dump oils and fuels into the sea; therefore, it is recommended to clean the engines' bilges by using absorbent materials to be disposed of later on into dedicated containers.

Before carrying out maintenance and adjustment operations on your yacht, activate all safety devices provided and evaluate if it is necessary to inform all persons on board. In particular, place warning signs in the nearby areas and prevent access to any device that, if operated, could cause unexpected hazardous conditions, thus endangering the persons and/or property on board.

Maintenance and adjustment operations must be carried out by authorized personnel who must use all necessary protections according to the procedures provided by the Manufacturer.

All maintenance operations requiring a precise technical knowledge or particular skills must be carried out exclusively by qualified personnel with recognised experience, acquired in the specific field of intervention.

To carry out maintenance in an area that is not easily accessible, or dangerous, take all of the necessary safety measures, according to rules and standards applicable to safety at work.



ENVIRONMENT

Any maintenance operation must be carried out in the strict respect of the surrounding environment. Take all necessary measures to avoid that even one single "oil drop" may be spilled: the protection of our environment starts with this type of attention.

Access to the engine room during navigation must be limited to authorised personnel only, wearing appropriate personal protective equipment.

Inspect the sea water system inlets and outlets as well as the bilge systems. These checks are vital to ensure yacht buoyancy.

Do not perform any maintenance operations or adjustments other than those indicated and/or suggested by the Manufacturer. If necessary, contact the Service Centre for more precise instructions.

Keep all yacht's components clean by following the procedures and using the specific products suggested by the Manufacturer.

Use oils and greases recommended by Manufacturer. This will ensure yacht functionality and the expected safety level.

Do not start any work before ensuring that people on board are not in danger. If something about the work to be carried out is doubtful, ask someone with knowledge.

Do not draw any conclusions.

Always operate with caution, care, and under safety conditions.

Apart from the regulations stated in this manual, specific warnings are given throughout. This section is meant to provide safety rules for operation and maintenance procedures.



CAUTION

This section includes a certain amount of information to maintain the components without dangers. Remember that each time you activate the controls, you are in fact the pilot.

You must therefore read and understand the information given before activating the controls.

 CAUTION

The use of unsuitable clothing can cause accidents; do not wear loose, flapping clothes which could be easily get caught in the yacht's moving parts. Wear protective clothes suitable for the kind of work to carry out (helmets, safety shoes and protective goggles, overalls). Button cuffs, do not use ties or scarves and do not leave your long hair loose.

 CAUTION

Be alert and use the greatest caution while working. Take great care to avoid possible dangers.

 CAUTION

Lifted equipment may fall and hurt you. Do not walk or work under lifted devices not sufficiently and safely supported.

 DANGER

The engines' moving parts are dangerous; do not open hatches while running the yacht.

 CAUTION

Yacht entrance. Always face the yacht to enter or leave it and use the handles and the steps. Make sure that steps, handles and rubber soled shoes are clean and dry. It is advised to remove the shoes. Do not jump down from the yacht; do not use the yacht controls as handholds; use the handles.

 CAUTION

Metallic chips from working with metallic parts can cause injury: always wear safety goggles and use a soft mallet or punch.

 CAUTION

Insufficient **information** may cause accidents. If two or more persons are working simultaneously in the same area, make sure that each one of them is aware of the operation carried out by the others. Before starting the engine, move the other persons from the risky areas (rotary blades and engine belt, tools and movements, engine inner and rear parts). Failure to comply with these precautions may cause serious injury, and even death.

 DANGER

Do not approach unprotected flames to the yacht. Do not smoke during refuelling or while working on the engine. Carry out refuelling with the engine shut off. Failure to comply with these precautions can cause accidents and injuries.

 CAUTION

A frozen **battery** may blow up if used or charged; do not start a yacht with a frozen battery. To prevent the battery from freezing always keep it completely charged.

 DANGER

The **battery** releases explosive gas: do not allow sparks or flames to come close to the battery and never smoke near it. If the battery is used or charged in a closed area, check for good ventilation. Do not check the battery charge by short-circuiting the terminals with metal tools: use a density gauge or a voltmeter.

 CAUTION

Do not remove the oil tank **filling plug** when the engine is on, because the hydraulic system under pressure may cause injury. Stop the engine before releasing pressure.

 CAUTION

The spilling of hydraulic oil under **pressure** may cause injuries: before disconnecting or connecting the hoses, stop the engine and operate the controls to release the residual pressure. Prevent the engine from starting when the hoses are disconnected.

 CAUTION

If damaged, the **hydraulic hoses** may cause death, carry out appropriate periodical checks to check for the presence of:

- Damaged fittings;
- Wear of outer coatings as consequence of rubbing;
- Swelling on outer coatings;
- Bent or squashed hoses;
- Fittings not properly located.

 CAUTION

Oil is poisonous: do not swallow. The engine oil contains dangerous polluting agents which can generate skin tumours. Handle oil as little as possible and protect your skin with creams and gloves. Any skin that comes into contact with oil must be washed carefully with warm water and soap: do not use petrol, fuel or oil.

 CAUTION

Hydraulic oil spraying at high pressure penetrates the skin: do not check for oil leaks with your fingers or allow your face to become too close to them. Use a cardboard blank to verify the possible presence of hydraulic oil. If oil penetrates the skin, ask immediately for a doctor for the relevant treatment.

 CAUTION

The **cleaning** of metallic parts with unsuitable solvents may cause corrosion; use detergents and solvents of the prescribed type only.

 CAUTION

Seals and O-rings fitted incorrectly, or damaged or worn out may cause leaks or accidents; replace them immediately except when otherwise prescribed. Do not use trichlorethane or solvent near O-rings and seals.

 DANGER

Hot coolant. When the engine temperature is high, the cooling system is under pressure and the hot fluid can spill over when you remove the radiator plug.

Therefore, before removing it, wait until the system has cooled down, then turn the plug up to the first notch and release the system's pressure.

 CAUTION

During the restoring operations of metallic or non metallic components, wear **safety glasses**. Move away from the area or protect possible flammable materials, which could catch fire from sparks.

2.1.3 Fire prevention rules



DANGER

On all yachts, fire is a major danger.
All fire prevention measures must be followed scrupulously.

Before steering a yacht, the Captain must be perfectly aware of the following fire prevention measures.

This yacht must always be equipped with portable fire extinguishers positioned as illustrated in the chapter "Arrangement of fire-fighting equipment".

The yacht's Owner and the Captain are directly responsible for:

- Having fire extinguishers and fire-fighting equipment overhauled as scheduled on their labels, and having them replaced, as required by the rules in force, with similar or equivalent or higher capacity ones;
- Inform crew members and guests on the yacht about the location and methods of use of fire extinguishers and fire extinguishing systems and emergency exits;
- Ensuring that fire extinguishers are also available in the passengers' cabins.



CAUTION

The engine room is equipped with a gas fire-fighting system.



WARNING

EXPLOSION HAZARD

Any lithium battery powered device on board must be recharged only in open air areas, connected to a suitable charging system. Also please refer to the device dedicated Use and Maintenance Manual.



WARNING

NEVER:

- Obstruct passageways and the escape routes;
- Hinder access to safety devices, such as fuel valves, electrical switches, etc..;
- Obstruct access to fire extinguishers stowed inside the lockers;
- Leave the yacht unattended, when burners or heat generating equipment are on;
- Use naked flames;
- Modify electric or fuel supply systems, without consulting WALLY beforehand;
- Smoke near or when handling flammable materials;
- Stow highly flammable materials (such as fuel, thinners, etc..) In proximity to heat sources, such as engines, galley, etc..;
- Stow flammable material in the engine room. Non-flammable materials may be stowed only if properly rigged, so they do not accidentally come into contact with rotating engine parts, or obstruct access to the engine room.

Keep the bilge clean and check it frequently for any oil or fuel leaks.



CAUTION

In case fire breaks out in proximity to electrical equipment, do not use water, but use the manual dry-powder fire extinguishers only. After using the extinguishers, leave and ventilate the area immediately before re-approaching it, in order to prevent asphyxia and physical harm. Clean out any fire extinguishing powder out very carefully.

In addition to these requirements, WALLY recommends the following:

- Avoid smoking lower deck, especially in the engine room.
- Avoid dropping liquids in the bilge and keep it clean, especially the engine room bilge. In case of fuel leaks from the engines or from the generator, operate as follows:
 - ♦ Stop all engines immediately;
 - ♦ Locate the leak cause and, if possible, repair it after closure of supply valves;
 - ♦ Dry and clean the bilge before restarting the engines, without draining at sea or in the harbour;

- Do not stow flammable items in proximity to heat sources, like engines, burners, halogen lamps, etc.;
- Should the yacht leak, try to remedy with plugs and/or rags, if possible, from outside;
- In case a system of the yacht breaks, close all hull valves, locate and repair the leak if possible. Remember to reopen all hull valves not involved.

CAUTION

The Captain of a pleasure yacht must be perfectly aware of the basic fire-fighting techniques and how to use the extinguishers.

In case of fire, follow the procedures described below:

- Keep calm and do not spread panic among the passengers;
- Stop the yacht, and close the sea cocks and the drains;
- Set the battery breaker to "OFF";
- Close the air intakes in the engine room;
- Locate the fire and its origin;
- Avoid breathing smoke;
- Extinguish the fire, by following standard fire extinguishing techniques.

DANGER

In the event of the yacht sinking, if possible, close the fuel and sewage valves.

Regular and correct maintenance of the systems and prudent behaviour of all passengers are indispensable measures for preventing any risk of fire.

Over 90% of the probabilities of fighting a fire successfully, depends on the ability to prevent and avoid any condition that may help a fire to spread. The small remaining percentage depends on the crew's reaction ability, and most of all, their rapidity to enter into action.

Nearly all fires, if detected early, can be extinguished easily.

For these reasons, it is necessary to carry out preventive surveys on a regular basis and identify all possible fire sources, and in particular:

- Check the proper operation of all main equipment/systems;
- Visit all compartments and in particular the engine room frequently;
- If a system does not work correctly, identify the failure and take the appropriate corrective actions;
- Operate all systems and equipment as specified.

If a fire is detected, identify and remove the cause, if possible, (e.g. in case of a short-circuit, cut-off the electrical system), extinguish the fire promptly and be vigilant to make sure that the fire does not break out again.

CAUTION

The ability to operate the fire extinguishers properly can ensure the success of the operation.

It is vital that the fire fighting operations are performed by people competent in this type of emergencies.

It is in any case necessary to be aware of the minimum fire-prevention and fire-fighting rules; the first defence is to prevent fires before they start spreading.

The following table contains the classification of the fire types:

Comparison between fire classes

American	Europe/Australia/Asia	Fuel/Heat source
Class A	Class A	Ordinary fuels
Class B	Class B	Flammable liquids
	Class C	Flammable gases
Class C	Class E	Electric appliances
Class D	Class D	Combustible metals
Class K	Class F	Cooking oil or fat

It is very important to use the correct extinguishing agent according to each fire class; normally, water can be used only for class A fires, together with chemical extinguishing agents (portable or fixed devices).

Each yacht owner/operator/master must be well informed and proficient regarding the measures to be adopted in the event of a fire and the applicable fire-extinguishing methods.

2.1.4 International standards for the prevention of collisions at sea (COLREG 1972)

The pneumatic whistle (horn) installed on board the yacht adequately meets the requirements of the regulations against collisions at sea (Colreg 1972). Below is an excerpt from the "Rules for the prevention of collisions at sea".

- **Application** (Rule No. 1): These Regulations apply to all ships on the high seas and in all communicating waters accessible to maritime navigation.
- **Responsibility** (Regulation No. 2): Nothing in these rules shall relieve a ship, the Owner or the crew itself of the consequences of any negligence in the application of the rules.
- **Definitions** (Rule No. 32):
 - "Short sound" means a sound lasting approximately one second;
 - "Prolonged sound" means a sound lasting from four to six seconds.
- **Warning and operating signals** (Rule No. 34):
 - a short sound "I'm going to starboard";
 - – two short sounds "I'm going to the left";
 - – – three short sounds "I go back with the machines";
 - – – two long sounds and a short one "I intend to pass you on the straight side";
 - – – – two long sounds and two short "I'm going to overtake you on the left side";
 - – – – one long, one short, one long and one short sound "is fine for overtaking";
 - – – – – five short sounds "I have doubts about the manoeuvre";
 - a prolonged sound "ship approaching a channel elbow";
 - a prolonged sound 'ship responding to previous signal'.

- **Signs in conditions of reduced visibility** (Rule No. 35 and No. 37):
 - a prolonged sound at intervals of two minutes 'ship propelled by mechanical means in a speedboat';
 - – two prolonged sounds at two-second intervals, repeated every two minutes, "ship propelled mechanically under way, with machinery stationary and without rudder";
 - – – one prolonged and two short beeps at two-minute intervals "ship steering rough or having difficulty manoeuvring or towing";
 - – – – one prolonged and three short sounds at two-minute intervals 'last towed yacht sounding in response to the tugboat';
 - – – a short, long and short sound 'ship at anchor' means its position as approaching ship with risk of collision;
 - – – – five seconds of continuous sound at one-minute intervals "yacht at anchor indicating its position";
 - – – three short sounds in rapid succession "signaling a stranded ship";
 - – – – four short sounds "pilot ship in service";
 - – – – a continuous sound "danger and need for help".

2.2 NOTES ON THE ENVIRONMENT

Environmental pollution is caused by three kinds of polluting agents:

- Water polluters;
- Air polluters;
- Soil polluters.

Non oily and black waters (containing only human organic waste) can be discharged into the open sea. In harbour areas they should be collected into suitable containers and afterwards discharged either during navigation into open sea or by means of special drainage systems fastened to the shore or wheel-conveyed (with optional black water tank).

Soil pollution is caused by discharging waste at shore.

International rules for pleasure yachts essentially prescribe the following:

- During navigation it is forbidden to discharge any non biodegradable product, either of food or commercial origin, into the open sea.
- In the harbour, normal waste is considered as urban waste that must be hermetically sealed in plastic bags and thrown into waste dumpsters.
- Special waste must be disposed of into suitable containers or, if these are not available, it must be delivered to local waste disposing areas, in compliance with the rules in force, issued by the local Port Authority.
- The following waste is considered special waste:
 - Water and oily mixtures (e.g.: Bilge water);
 - Oils (fuel, additives and lubricants);
 - Poisonous chemical substances (like battery acids, paints, thinners and the relevant containers);
 - Spray cans containing C.F.C. gas;
 - Batteries;
 - Spent flares;
 - Expired pharmaceutical products;
 - Products containing lead or asbestos;
 - Etc..

- Fuel and oil leaks.
- Waste discharge and disposal.
- Excessive noise.
- Wake / wake from board.
- Exhaust fumes.
- Paints, detergents and other agents.

Please remember that, according to legislation, until such waste is delivered to suitable disposal areas, you will be considered as possessors and therefore indictable in case of unlawful discharge. Should specific cases be missing in the harbour area, the Authority in charge for the disposal is the Port Authority section "Waste Disposal".

2.2.1 Regulations for waste disposal

The rules governing the discharge of waste (MARPOL 73/78) apply to all yachts with no limits on tonnage and service, therefore also including recreational yachts.

The regulations apply to the entire Mediterranean Sea.

When moored in a harbour, always check that your yacht is not a source of pollution. The environment must be respected and safeguarded, preventing risks for the life of aquatic flora and fauna. It is good practice to leave no trace behind you, to respect laws on safety and environmental protection. Do not discharge bilge waste, oily residues, fuel or other liquids overboard. Dispose of solid waste and old engine oil in the containers provided at mooring points.

WARNING

When cruising, it is always necessary to behave suitably and to respect the safety and the comfort of your guests and of persons on nearby yachts. Therefore:

- Avoid excessive noise;
- Do not leave the engines running for long periods without moving off;
- Do not cruise at high speed or beyond the permitted limits when leaving or entering harbours, marinas, etc., To prevent causing excessive wash or wave motion.

ENVIRONMENT

It is absolutely prohibited to throw into the sea: plastic materials, synthetic cables, fishing nets, waste bags, floating packaging materials, cordage, paper, rags, glass, metals, bottles, galley utensils and similar.

Non-comminuted or ungrounded foodstuff waste can only be disposed of beyond 12 miles.

CAUTION

It is forbidden to use toilets or holding tanks near the shore or in any prohibited area. Use the facilities of the suction port or marina to empty the holding tank before leaving port.

ENVIRONMENT

Always consider and comply with local and international environmental laws against marine pollution (MARPOL).

It is advisable to consider the local environmental laws and to respect the rules of good practice.

CAUTION

Within 12 nautical miles from the coast, it is forbidden to discharge the sewage tank into the sea. Keep the discharge pump deactivated and disable the activation automatism if present.

NOTE

When garbage is mixed with other harmful substances having different disposal or discharge requirements, the more stringent disposal requirements apply.

Although discharge at sea, except in special areas, of a wide range of ship-generated garbage is permitted at specified distances from the nearest land, preference should be given to disposal at shore reception facilities.

2.3 SAFETY EQUIPMENT

Everybody on board must know the location and the use of safety equipment, that is: life jackets, life buoys, life buoys with line for "man overboard", life rafts, extinguishers and fire extinguishing systems (i.e. in engine room, etc..) and radiotelephone.



CAUTION

The diagram shows the position indicated by the manufacturer for safety equipment; therefore represents a useful guide the placement and number. To adapt and place the safety equipment in accordance with local, national, and international laws.



CAUTION

The above-mentioned safety systems must comply with existing local and international navigation regulations, and which must be periodically inspected and maintained by qualified technical personnel, prior to the expiry date indicated on the systems.



CAUTION

The Captain is required to inform the crew on the yacht about the safety equipment, whether in case of fire or in case of sinking and listing.



CAUTION

Ensure that safety devices are efficient and available to each passenger.



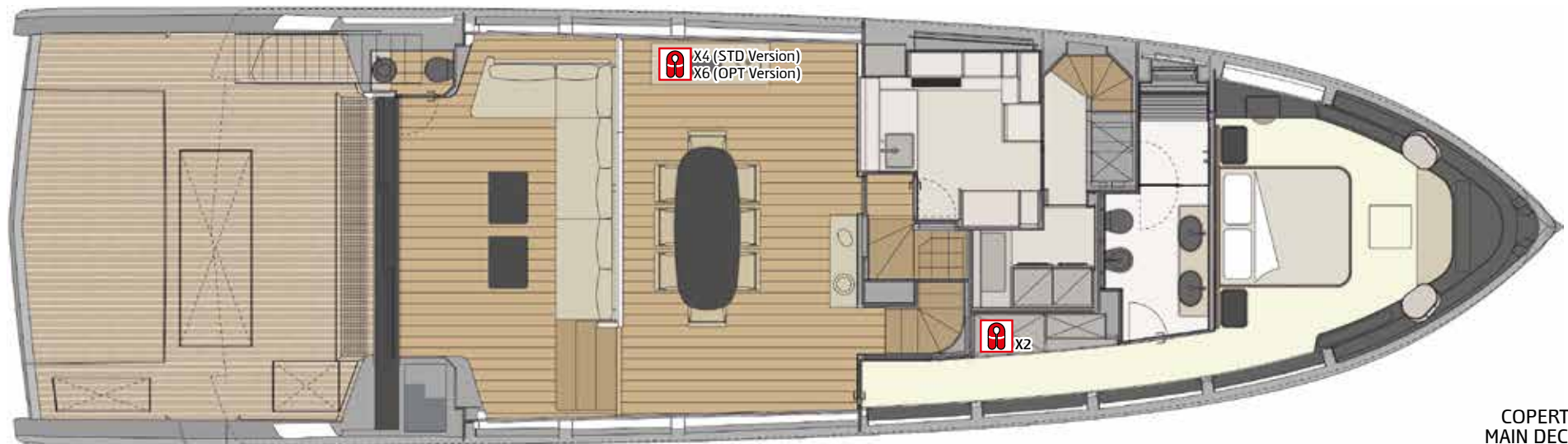
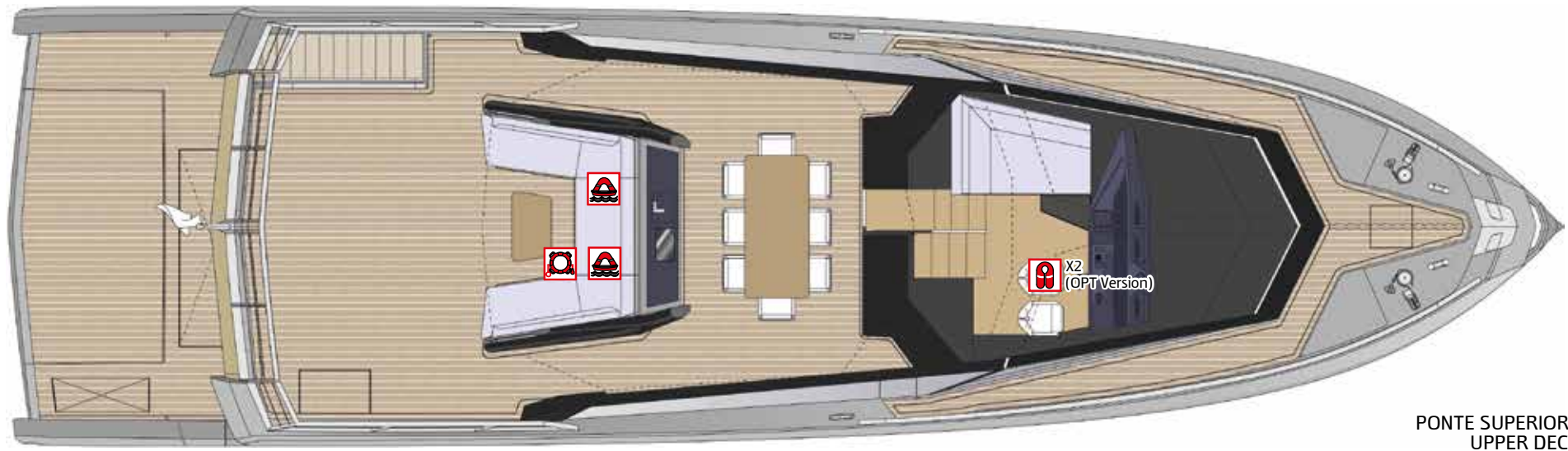
**CAUTION**

To cruise at a distance of over six miles from the coast, pleasure yachts both with and without EC mark must have a deviation chart officially authorized by Maritime Authorities. To this purpose, the compass installed on board must be compensated by personnel authorized by the Harbour Master who, after completing the operation (compass turns), will issue the chart with residual deviations. These charts do not have an expiry date, and are therefore not renewed when periodic inspections are made for the renewal of the Safety Certificate. It is one of the responsibilities of the captain of the yacht to verify correct compass operation and to update deviation values.

**DANGER**

Periodically inspect the wear conditions of safety equipment and check servicing or replacement dates, so that the equipment is always in perfect working order.

2.3.1 Arrangement of safety equipment

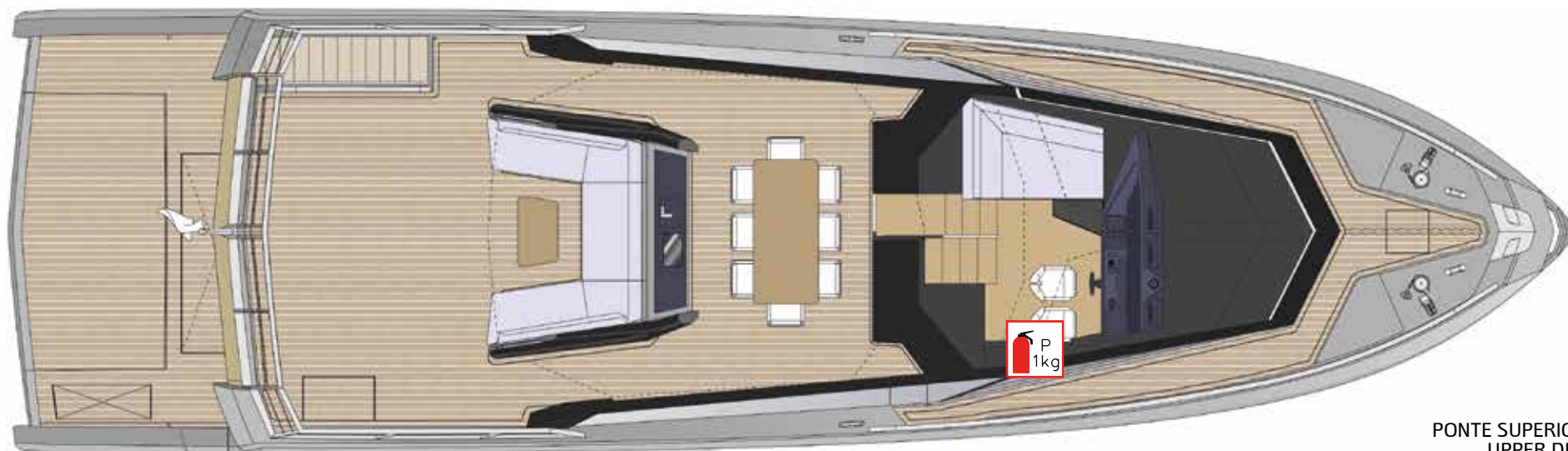




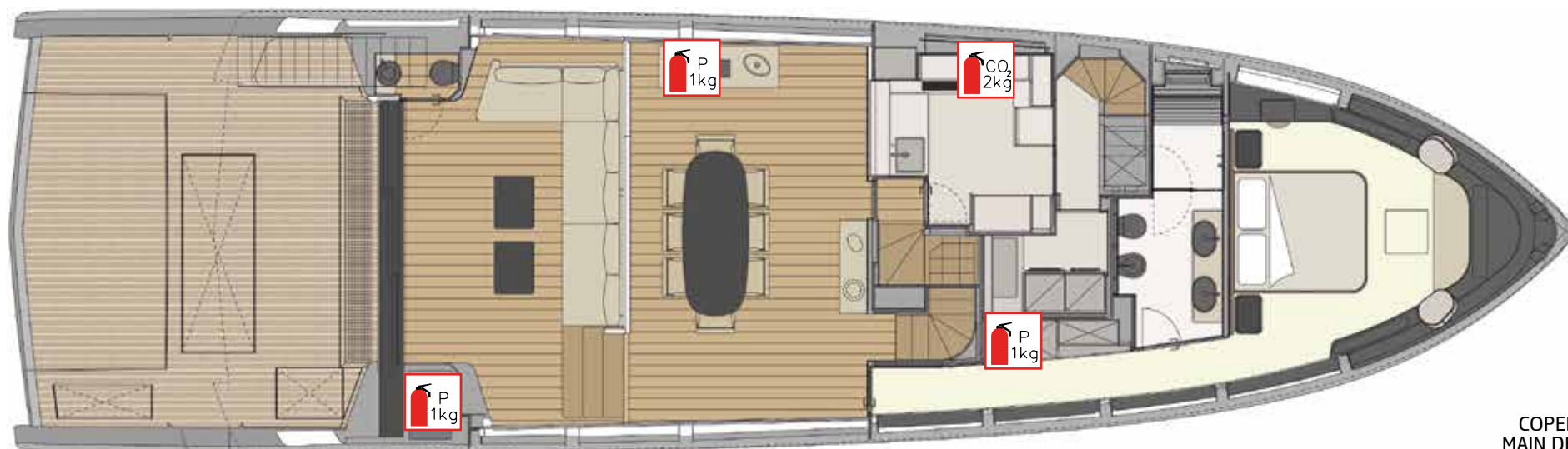
SOTTOCOPERTA
LOWER DECK

ICONA ICON	DESCRIZIONE DESCRIPTION
	Zattere / Liferaft STD: 2x8 p. - OPT: 2x6 p + 1x8 p.
	Giubbotto salvagente per adulto Adult lifejacket STD: 16 p. - OPT: 20 p.
	Salvagente anulare + boetta + cima Lifebuoy + light buoy + rope

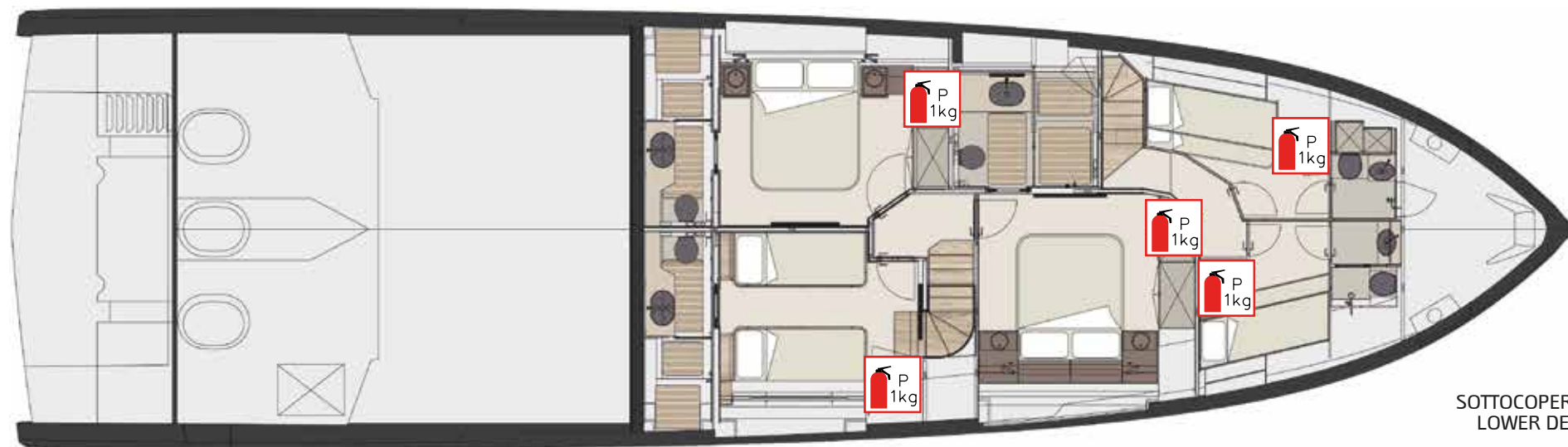
2.3.2 Arrangement of fire-fighting equipment



PONTE SUPERIORE
UPPER DECK



COPERTA
MAIN DECK

SOTTOCOPERTA
LOWER DECK

ICONA ICON	DESCRIZIONE DESCRIPTION
	Estintore portatile a polvere da 1kg 1 kg portable powder extinguisher A-B-C 5A/34B
	Estintore portatile a CO ₂ da 2 kg 2 kg portable CO ₂ extinguisher A-B-C 5A/34B

⚠ WARNING

THIS EXTINGUISHER USES CO₂H0,5X

AS AN EXTINGUISHING MEDIUM
IT SHALL BE USED ONLY TO FIGHT
ELECTRIC OR GALLEY FIRES.

TO AVOID ASPHYXIATION
ASFER DISCHARGE
LEAVE THE AREA IMMEDIATELY AND
VENTILATE BEFORE ENTERING

2.3.3 Self-inflatable life raft

WARNING

Before any trip, check that there are no impediments to its immediate use.

In case the use of self-inflatable life rafts becomes necessary, perform the following operations:

- Shut the engines down and wear the life jackets;
- Perform the distress call using the VHF device;
- Uncoil the life line of each raft by 3 to 4 m (9,8 to 13,1 ft); secure it tightly to a fixed point of the yacht and launch the self-inflatable life raft into the sea on the lee side;

WARNING

Check that the anchoring line is always well fastened to the yacht.

- Unwind the lifeline completely, then give a strong and decisive pull; the raft will open in a couple of minutes;
- Board by jumping directly from the yacht into the life raft;
- If the distress call has already been made and you have received an answer, prepare for a relatively short wait; then evaluate whether to cut or not the life line. If you did not have the time to make the distress call or you did not receive an answer, prepare for a long wait; in this case, plan for survival, taking the following items, as well as the equipment included in the kit: floating smoke signals and rockets, a knife, drinking water and energy foods that do not cause thirst. Before boarding the raft wear all possible garments, except for shoes that could injure other shipwrecked persons or damage the life raft;
- Embark possible clothes and supplies;
- If somebody falls overboard, help him/her to up into the life raft; throw the life buoy with line, if necessary;
- Make sure that everybody is on board, take the knife out of its sheath, and cut the line that ties the life raft to the yacht;
- Move quickly away from the sinking yacht, using the oars;
- When the overpressure valves have stopped hissing, close them by tightening the safety plugs.



**CAUTION**

The self-inflating life raft has a limited time validity, check its expiry date on the certificate. The raft may be serviced by an accredited body which extends its validity. Sanctions apply for non-compliance with this rule.

**DANGER**

If the life raft opens upside down, jump into the water and roll it over, by pulling the special rope.

If the life raft does not open after the first pull, repeat the operation two or three times. If the life raft still does not open, jump into the water and, keeping a hand on the container, pull the emergency line strongly. If the life raft still does not open, cut the container open with a knife and operate the opening device directly (by pulling the life line).

**DANGER**

All persons on board must know the location of self-inflatable rafts storage and the correct use procedures.

**DANGER**

With very high waves and strong wind there is the risk that the raft may overturn: shift the weight of persons on board towards the side tending to lift.

If the life raft all does capsize, roll it over and return on board.

Oars are only useful for small manoeuvres.

- The life raft is fitted with stabilisers and a floating anchor, for improving its stability and drift. The stabilisers give stability to the raft. Keep the floating anchor into the water. The anchor prevents excessively rapid drifts.
- When the life raft is towed, weigh the floating anchor on board.
- With very high waves and strong wind there is the risk that the raft may overturn: shift the weight of persons on board towards the side tending to lift.
- If the life raft all does capsize, roll it over and return on board. If the sea is rough, it is advisable to wear the life jackets all the time. If the raft deflates, inflate it again from time to time using the relevant inflating device provided with the raft.
- If air blows out of a hole, use one of the plugs stowed inside the repair kit.
- You can perform minor repairs, by using the glue provided with the kit. Clean the torn area and the repair pad, spread both with the glue. Hold the pad for thirty seconds, pressing from the centre outwards, in order to eliminate any air bubbles.
- Hold down for a little time and inflate again, after one hour.

2.3.4 Individual life jacket

This kind of life jacket assures, by means of a suitable distribution of the floating material, the support of a body with the face out of water, apart from the position taken by the body when diving in the water. These life jackets must be worn correctly and firmly tied by means of strong laces.

It is important to learn, particularly for children, how to float in water with the life jacket.

To avoid energy waste it is necessary to float by keeping legs and arms folded as far as possible and tight to the body to maintain the heat. The individual life jacket is equipped with an orange whistle, fastened to the jacket by means of a safety cord.

The whistle is particularly useful to indicate the wearer's position when the weather conditions do not allow sufficient visibility (bad weather, fog, etc..).

The individual life jacket has to be worn under following circumstances:

- When you navigate through sandbanks or tide reefs;
- At first sign of bad weather;
- When visibility is limited;
- When you navigate with rough sea;
- When you navigate alone;
- At any time with children below 10 years of age.



CAUTION

The yacht must be equipped with a number of individual life jackets equal to the number of persons present on board. All persons boarded must know the location of the life jackets, how to wear them, how to tie them properly to the body, and where the whistle is located.



DANGER

If you are to choose a life jacket for a child, take care about for the correct size and that smaller children do not slip out of them once in water. We recommend that all children wear an individual life jacket when they move on the yacht.



**CAUTION****CARING FOR AND INSPECTING THE LIFE JACKETS**

The life jackets must be handled with care so that they are able to save your lives whenever necessary. Check that all the belts, braces and buckles are in good condition and firmly secured on a regular basis. Make sure that all the seams are steadfast and that any welded or glued part adheres perfectly. Check that the reflecting strip, whistle and light are firmly secured and that the light battery has not yet expired.

MAINTENANCE

Wash in warm soapy water after use.

Dry thoroughly.

Store in a dry, ventilated area away from direct sunlight and harmful chemicals.

Check the lifejacket regularly to make sure it is in good working condition.

**CAUTION**

Do not use the life jackets as pillows.

Practice of their use before you start navigating.

For people with problems may not be suitable.

With waterproof clothing or similar you can not reach the optimal use.

The use of lifejackets does not guarantee total safety and the final rescue of the wearer, but it does support in water for a long period.

2.3.5 EPIRB (optional)

It is a distress transmitter whose purpose is to signal the position of boats and ships in serious emergency situations.

It essentially consists of a radio transmitter that interfaces with the satellite system for search and rescue operations.

When in use, the EPIRB emits signals on emergency frequencies that are picked up by the network of satellites in orbit and transmitted back to the ground at the rescue coordination centres.

The correct procedure for activating the EPIRB is as follows:

- When abandoning the yacht, take the EPIRB and place it on the life raft;
- Untie the line attached to the device and secure it to the life raft;
- Activate it according to the model;
- The EPIRB will start flashing;
- Make sure that there are no obstacles in the sky so that the signal reaches the satellites.

2.3.6 Life buoy

The life buoy is equipped with a lifeline of 30 m (98,4 ft) and with an automatic light buoy.

The life line is not twistable and it is orange in order to be easily seen in water.

At least once a month:

- Check the fastening of the floating line;
- Check the loading condition of the batteries of light buoy;
- At least once every 6 months check the status of the floating line.

CAUTION

All crew and passengers must know the location of the life buoy.

CAUTION

The captain must ensure that the crew and passengers are familiar with the use of the life buoy:

- How and where to throw it;
- How to behave in case of "man overboard".



2.3.7 Signalling rockets

Pleasure yachts are obligated to carry 4 manual rockets with red light and 4 manual orange smoke signals as required.

Always verify the legislation of the Country in whose waters the yacht is going to navigate.

- The signalling rockets have a limited lifetime; it is therefore necessary to check their expiry date and eventually to replace them.
- The floating smoke signals, visible up to 4 km (2,5 mi), have to be used with the daylight, to indicate the correct position.
- The red light rockets, visible up to 10 km (6,2 mi), are designed for night use, but they can also be seen during the day.
- Before using the signalling rockets, always wait for the arrival of an air plane or to see persons on the shore or on other crafts.
- Store the signalling rockets away from flammable liquids and from other fuels.
- As the content of the signalling rockets absorbs the moisture, make sure to have them located in a dry and accessible place.
- All persons boarded must know the place of the signalling rockets and the method of use.
- Carefully follow the activation instruction for all signalling rockets.
- Each month, and anyway before each navigation, check that they can be used immediately without obstacles.



DANGER

Keep the signalling rockets away from heat sources, such as flammable liquids or naked flames, and out of the reach of children.



DANGER

Once the signalling rocket has been lit, never direct it towards persons, there is a risk of burns and scalds.



WARNING

The signalling rockets have a limited lifetime, indicated on their containers. Once expired, contact the rockets suppliers which offer a disposal service. Do not light them unless necessary, because they can activate the Emergency Services.

2.3.8 Emergency boarding system

If you are in the water and in the event of an emergency or fall, you can use the boarding aid, consisting of a "ladder" positioned under the stern platform on the starboard side, to get back on board the yacht safely and easily.

To do so, unlock the ladder and pull it up until you can place it into vertical position.



CAUTION

Do not tamper with or remove the emergency boarding opening system. Check the integrity of the system before each use of the yacht.



WARNING

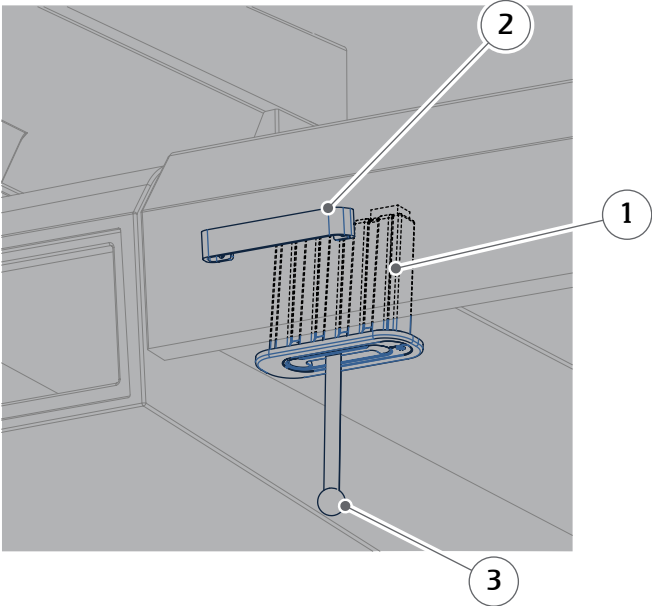
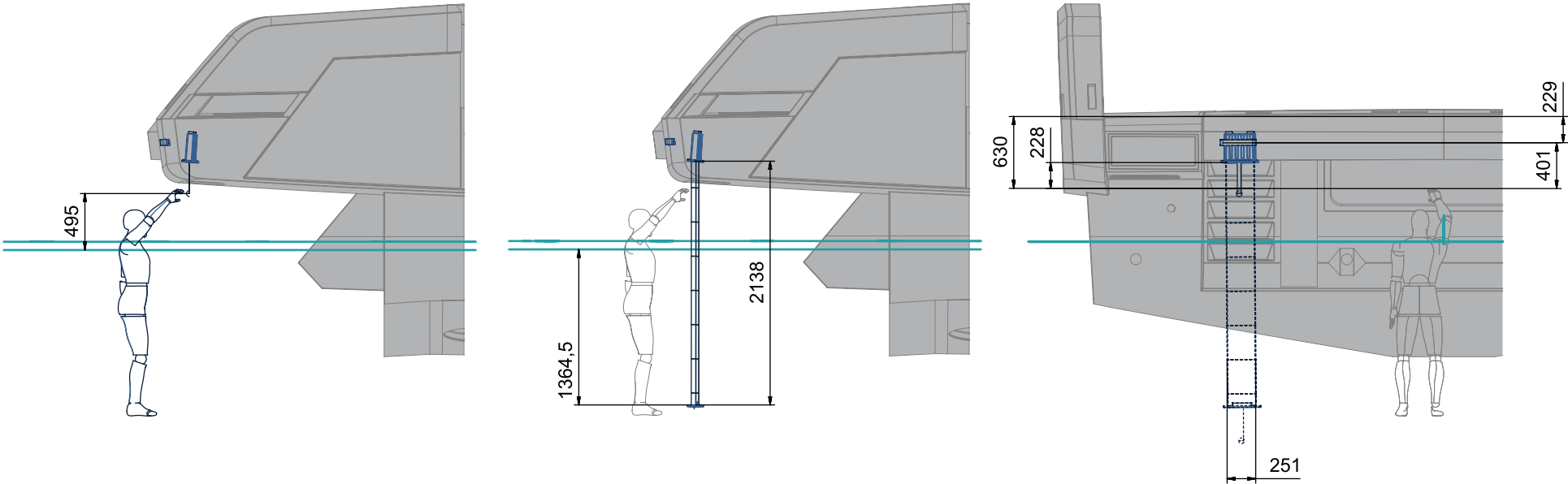
After the use of the ladder for climbing on board, place it back to its correct position and lock it.
 The boarding aid is a safety device and must be used only in case of emergency.



DANGER

It is the responsibility of the captain, when the yacht is manned but not under way, to ensure the possibility of returning on board by extracting the safety ladder.





ICONA ICON	DESCRIZIONE DESCRIPTION
①	Mezzo di risalita a bordo Emergency boarding system
②	Maniglia Handle
③	Pallina apertura mezzo di risalita a bordo Emergency boarding system opening ball

2.3.9 Portable fire extinguishers

In order to supply an easy, ready and quick fire-fighting system on board of your ship, portable fire extinguishers have been set out, designed to be carried manually, and in compliance with the rules in force.

In case a fire breaks out, immediately reach a fire-fighting station where a portable fire extinguisher is located.

The use of a fire extinguisher requires a certain familiarity with it, but some theoretical-practical rules can facilitate its handling:

- Make sure that the safety pin (1) against accidental discharge, has been removed;
- Always direct the extinguisher towards the bottom of the flame;
- Do not stand but try to bow as far as possible;
- Do not hit the fire from above;
- Shift the fan-shaped jet slowly from one side to the other of the flame;
- Act immediately before the temperature becomes too high;
- Always stay windward;
- If the material burnt is wood, paper or tissue, after the fire has been extinguished, pour on water to prevent any further spread of flames;
- Always act dressed, avoiding loose clothing or similar;
- Head the yacht so that the fire is leeward;
- Persons not engaged with the fire fighting must gather windward from the fire area and if necessary, disembark on a rescue device (tender, rubber dinghy, self-inflatable life raft), that must be linked to the yacht with a line, in order also to embark the persons engaged with the fire fighting;
- If the fire is big the operators must abundantly wet their clothing;
- The engines must be shut-off immediately and the fuel must be cut-off;
- Isolated objects in flames must immediately be thrown overboard;
- All openings that can allow air to penetrate through the flames must be closed;
- After using the extinguisher to fight fire in closed spaces, ventilate the space carefully, prior to entry, and remove powder deposits.





DANGER

The person in charge of the yacht must make sure that all passengers know the locations and how to operate the fire extinguishers on board correctly.



WARNING

We advise regularly checking the charge status (visual check of pressure gauge and weight) and also its overhauling, according to the rules in force in the country whose flag the yacht flies.



DANGER

Pay particular attention during the cleaning and cooling operation because the components are still hot and can generate burns or scalds.

The arrangement of the fire extinguishers is indicated in the previous “2.3.2 Arrangement of fire-fighting equipment” diagram.



CAUTION

All fire extinguishers should be checked at least every 6 months by qualified staff and in any case, after each navigation.
Even after a partial use, the extinguishers should be recharged by authorized personnel.

The extinguisher should be kept in a good condition and the charge indicator, located on the pressure gauge, must always be positioned in the green field. Keep the extinguishers in a vertical position.
After the use of a dry-chemical fire extinguisher, carefully clean the parts that came in contact with the powder because it is highly corrosive.



WARNING

For further information relevant to the use of the different systems and equipment, see the various manufacturers manuals, delivered separately.

Portable fire-extinguishers maintenance:

Component	Maintenance	Notes and precautions
Portable fire extinguishers	Checks and tests	Check the state of charge of each fire extinguisher at least once every 12 months, and in any case before each journey at sea, by means of the installed pressure gauge. The fire extinguisher is correctly charged when the weight value is as stated on the fire extinguisher's tag, and the charge indicator on the pressure gauge is in the green area. If they are found to be discharged or insufficiently charged, or at least every 10 years, have qualified technicians: • Check the condition of the container (cylinder); • Refill the extinguishing medium; • Carry out a hydrostatic test. Have fire extinguishers recharged even after partial use. MAINTENANCE At least every 12 months, and, in any case, before each journey to sea, check the state of charge of the fire extinguisher. At least every 10 years, and in any case before each journey to sea, check the external state of the fire extinguisher. At least every 6 months check the fastening of the fire extinguisher.

2.4 MAN OVERBOARD RECOVERY

Recover a man overboard before possible hypothermia or drowning.

Rescue is a combination of actions: reach the man overboard, establish a contact and bring him/her on board.

- Keep a visual contact with the man overboard.
- Slow down and go towards the man overboard. At night, direct the best light source available towards the man overboard.
- Launch the life buoy into the sea, towards the man overboard, and fasten it to the yacht by means of a line. It shall be used as a further reference to the rescuers.
- When approaching the man overboard, stop the yacht or slow down.
- When you are near the man overboard, stop the engines with the gear engaged, in order to avoid that the propellers continue rotating.

Help the man overboard board the yacht.

NOTE

If the victim presents drowning symptoms, give specific assistance.
In case of serious danger, immediately make a distress call.

2.5 ESCAPE ROUTES

In order to deal with the different emergency situations that could require the abandonment of the yacht (fire, collision with sinking hazard etc..) in the quickest and safest way, the rules in force require an "escape plan" informing about the safest and most secure, as well as the quickest, paths (from any yacht area) for taking shelter and reaching the muster stations, outdoors, from which it will be easier to leave the yacht.



WARNING

Always keep escape routes dry, clear, accessible and unblocked.



DANGER

The various yacht's areas have more than one escape route. It is therefore necessary, according to the nature and position of the danger or fire source, to choose the safest and most suitable escape route very carefully.



DANGER

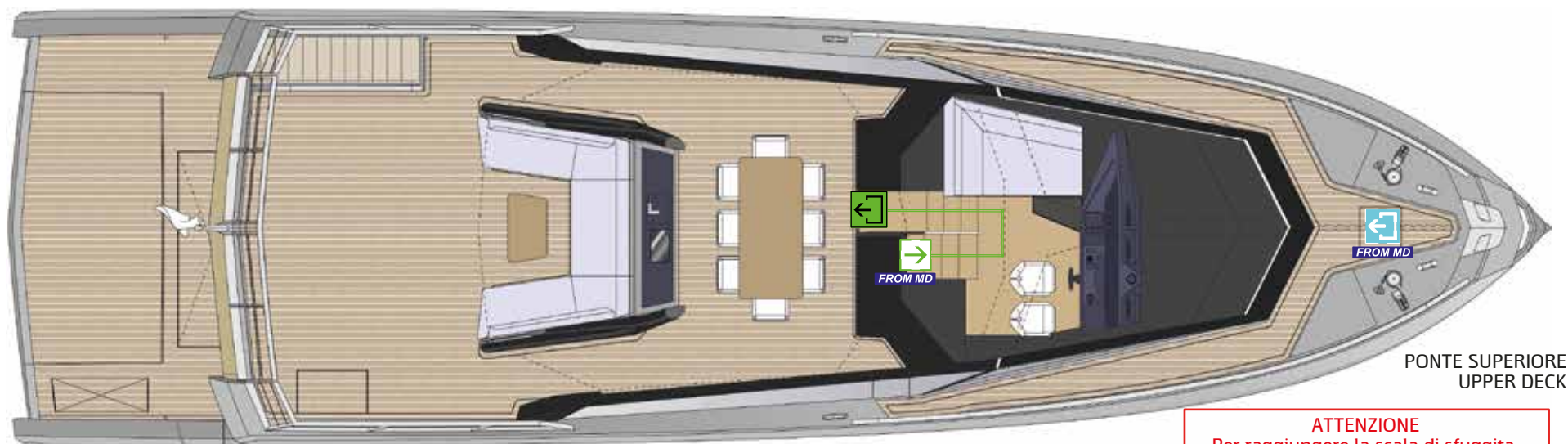
For safety reasons, the access door to the engine room must be kept closed at all times and situations. It must remain open only during the crossing.



WARNING

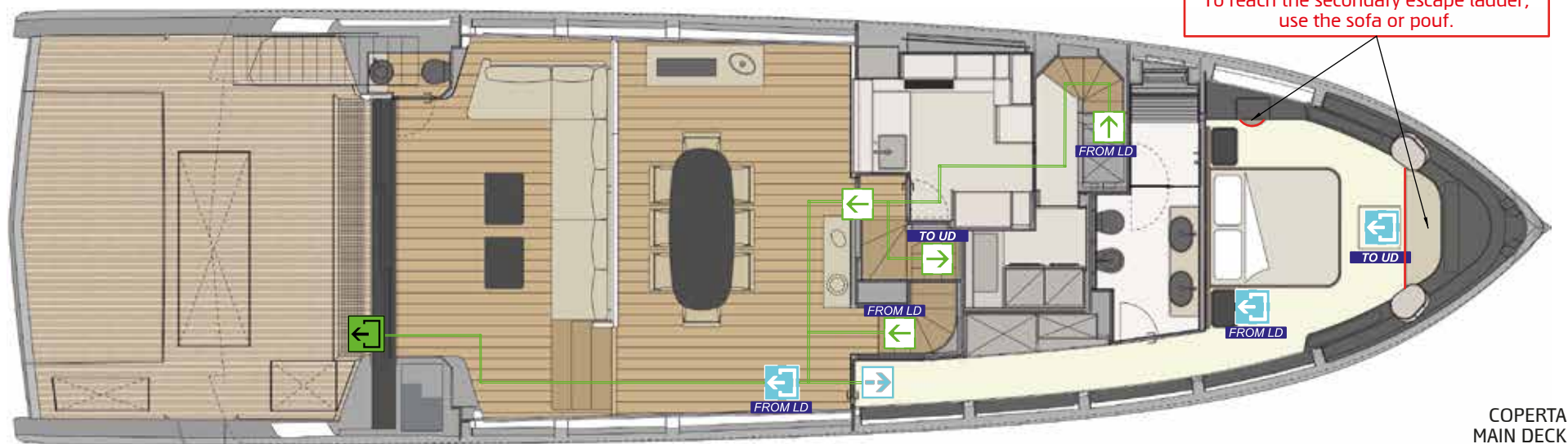
Stairs shall be used with care when navigating.





ATTENZIONE
Per raggiungere la scala di sfuggita
secondaria, utilizzare il divano o il pouf.

WARNING
To reach the secondary escape ladder,
use the sofa or pouf.





SOTTOCOPERTA
LOWER DECK

ICONA ICON	DESCRIZIONE DESCRIPTION
	Via di fuga primaria Primary escape route
	Via di fuga secondaria Secondary escape route
	Sfuggita principale Primary escape passage
	Sfuggita secondaria Secondary escape passage

2.5.1 Abandonment of the yacht

When you must abandon the yacht, swim against the current or windward.
The fuel leaks float in the direction of the current and can catch fire.
When you have taken shelter, count the person present on the yacht and help people in need.
Take advantage of the distress call.

Keep all people gathered in order to facilitate the rescue operation.

2.6 FORBIDDEN AREAS

On board the yacht some areas are “dangerous”, and need plenty of care, and possibly require wearing protective equipment, in order to safeguard the integrity of people on board.



DANGER

During navigation, the risks relating to any hazardous area increase significantly; we recommend scrupulously observing the safety rules indicated in this manual.

The areas are following:

- Engine compartment: area with a high level of noise, presence of moving components, hazard of burns, hazard of stumbling and falling. The access to the engine compartment is only allowed to trained and expert crew, prepared for the risks and equipped with proper safety devices, if necessary;
- Stern platform: outdoor area with no protection against falling into the sea. During navigation, this area becomes a no-go zone. It is only allowed to enter and remain in this area when the yacht is not in navigation and the engines are not running.
- Bow anchorage area: external area not protected against falling overboard. When cruising, this area becomes a prohibited zone. Access and stay in this area is only permitted when the yacht is not underway.

During navigation, passengers can stay in the working deck areas while preferably remaining seated. In the event of moving, use the special handrails provided.

In case of fall overboard, following rescue devices can be used:

- Life buoy;
- Individual life jacket;
- Emergency boarding system.

In order to gain access to the cockpit during navigation, the protection gates provided on board (1 starboard + 1 port yacht) must be fitted.

There are 4 locations on deck for mounting the gates.

While the yacht is stationary, the gates can be stored in the appropriate holders inside the cockpit seating storage.





DANGER

Keep the gates closed for fall protection during navigation.

In the diagram below, hazardous areas are highlighted in red where caution should be exercised.



DANGER

Be careful when the deck is slippery.

NOTE

It is responsibility of the Captain to inform all persons on board about dangerous areas when they exist, possible areas temporarily forbidden when maintenance operations are being carried out, as well as about the correct behaviour to be adopted in the above-mentioned areas, also according to weather and sea conditions.



CAUTION

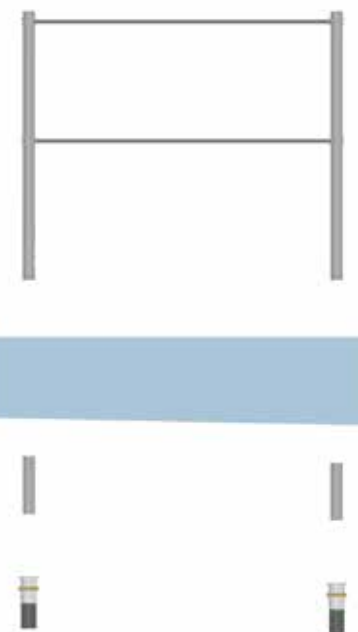
All the areas where there is polished fibreglass are no-step areas.

Steccato con linea vita
Stanchion with lifeline

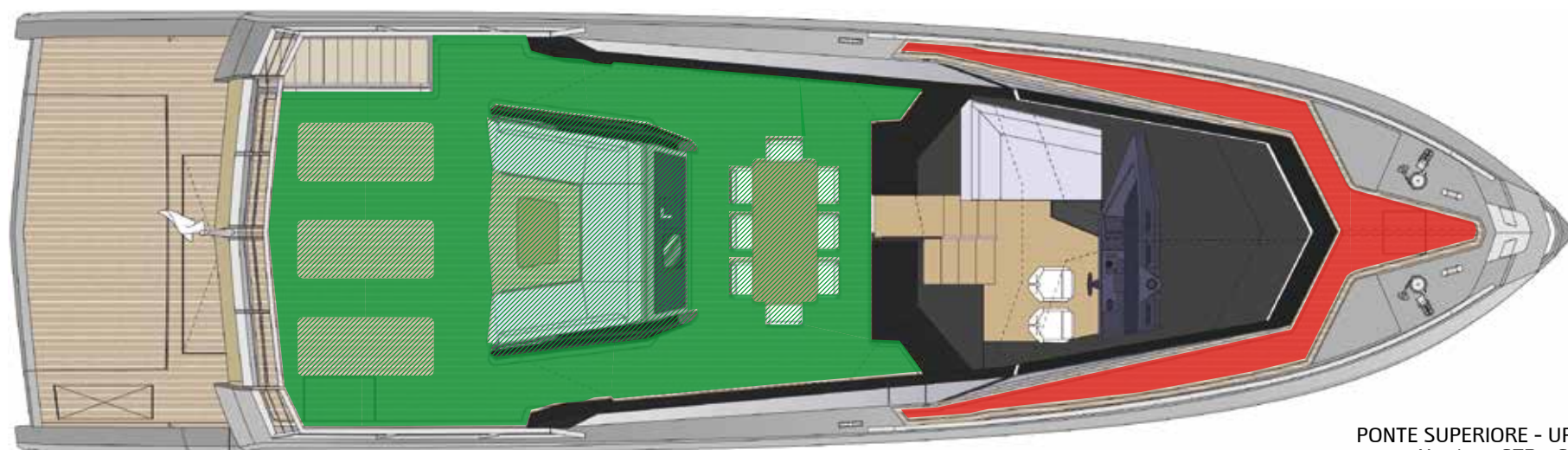
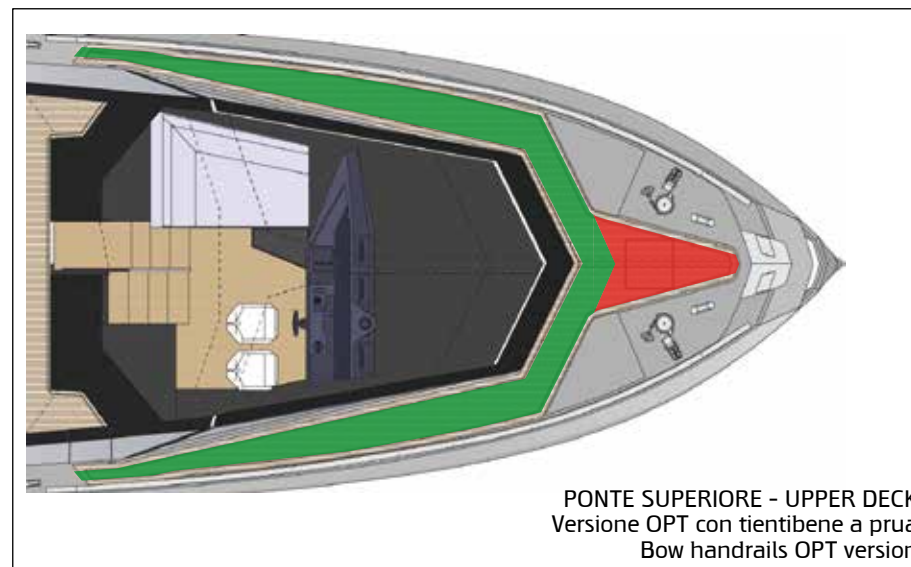
Basamento
Basement

Perno corto in carbonio
Short carbon pin

Blocco rapido sul ponte
Smart lock on deck



Forbidden areas:





Targhetta di pericolo per aree interdette da utilizzare a prua
Warning label for prohibited areas, use at the bow



ICONA ICON	DESCRIZIONE DESCRIPTION
	Zona rossa (interdetta) Red zone (forbidden area)
	Zona verde (Libera - ponte di lavoro) Green zone (Free - working bridge)
	Cancelletti di protezione Safety gates

2.7 HOOKING POINTS

Hooking points were provided on board the yacht in order to be able to move around safely, as well as perimeter handrails.

The supplied telescopic ladder must be installed in order to access the hard top.

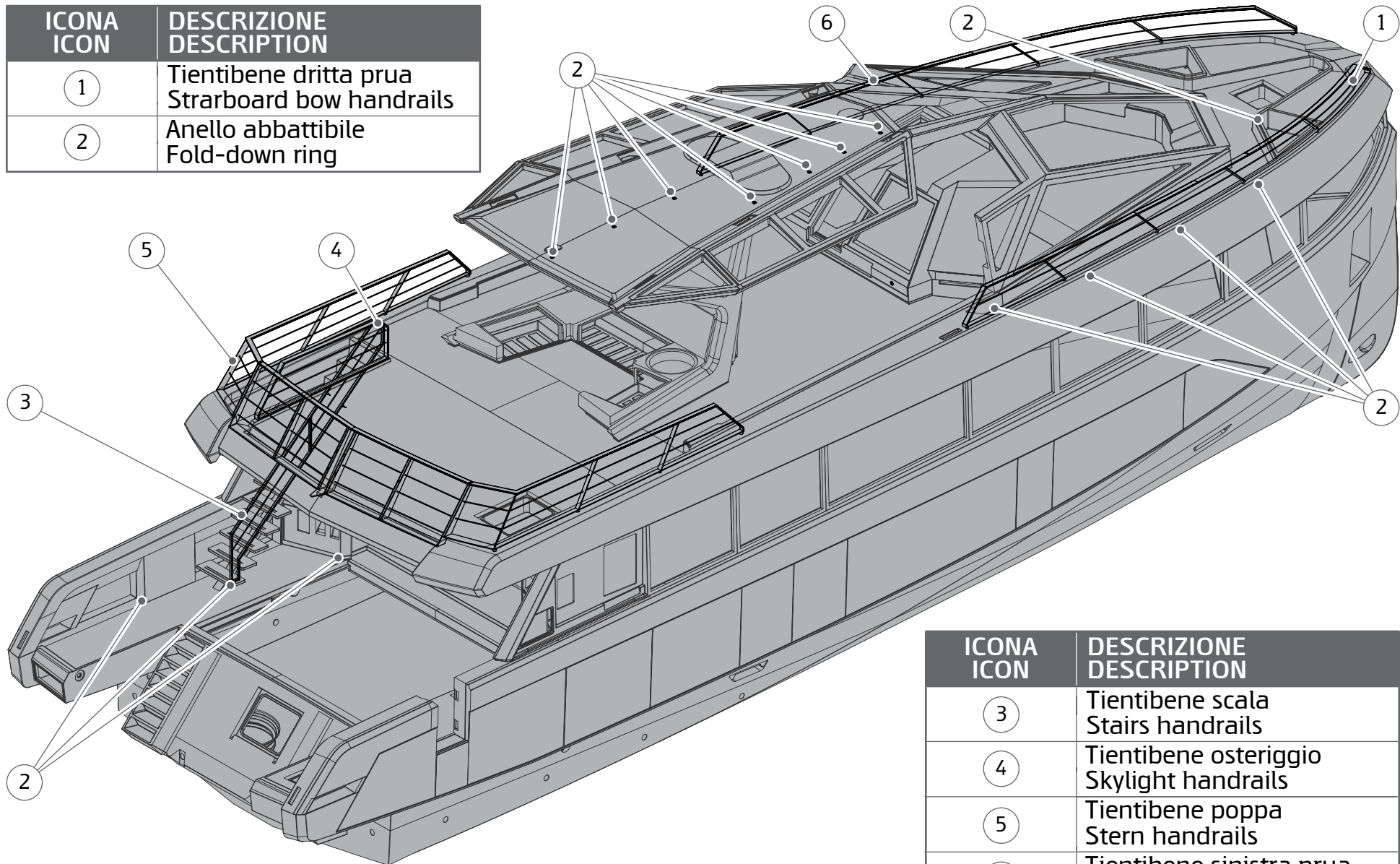


CAUTION

Access the Hard Top only with safety belt by qualified / trained technical personnel for work at height.

Hooking points:

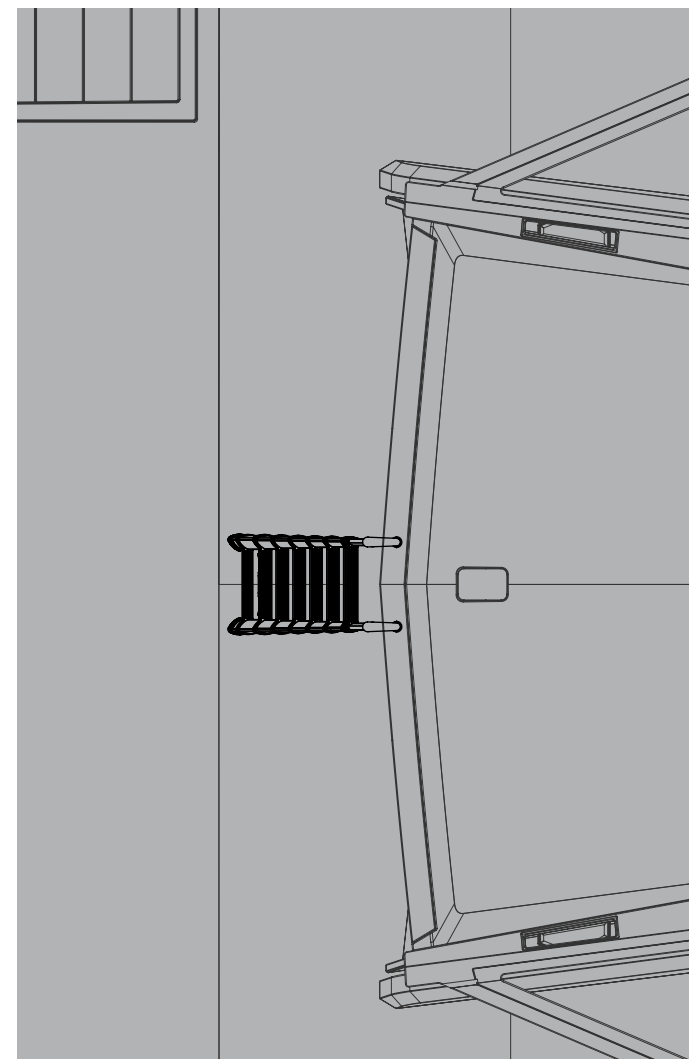
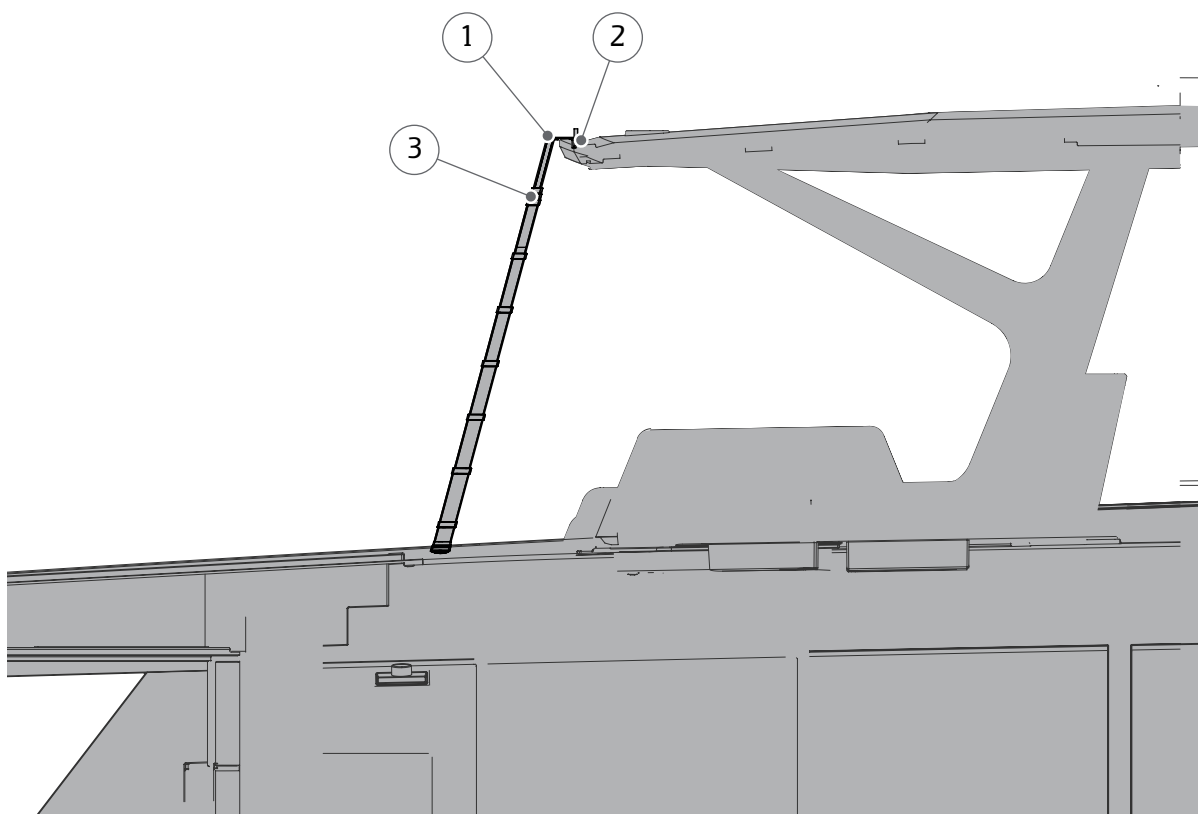
ICONA ICON	DESCRIZIONE DESCRIPTION
①	Tientibene dritta prua Starboard bow handrails
②	Anello abbattibile Fold-down ring



ICONA ICON	DESCRIZIONE DESCRIPTION
③	Tientibene scala Stairs handrails
④	Tientibene osteriggio Skylight handrails
⑤	Tientibene poppa Stern handrails
⑥	Tientibene sinistra prua Port bow handrails

Telescopic ladder:

ICONA ICON	DESCRIZIONE DESCRIPTION
①	Piedino scala telescopica Telescopic ladder foot
②	Bicchiere scala telescopica Telescopic ladder recess bush fitting
③	Scala telescopica Telescopic ladder



2.8 ENGINE ROOM FIRE-FIGHTING SYSTEM

The engine room is protected by its own fire-fighting system, with automatic or manual activation, which uses type HFC-227 gas as extinguishing agent. The cylinder is installed on the centre of the engine room.

The discharge is automatically activated by means of a glass flask filled with liquid; when the temperature in the engine room rises, the liquid expands until the flask breaks, and the extinguisher discharge activates.

The flask is fitted on the same cylinder. The extinguisher can also be activated manually; release is controlled by the tie rod located on the crew area access stairs.

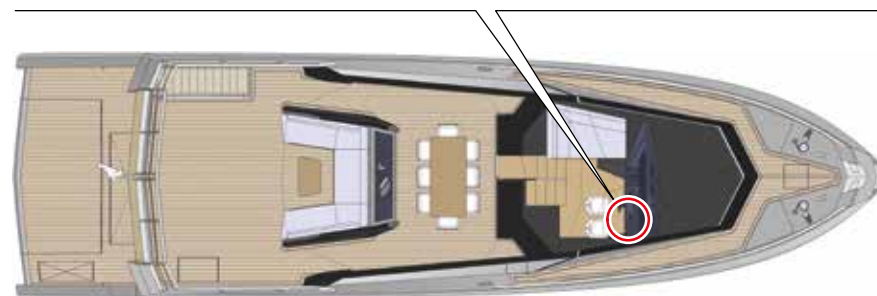
The system is equipped with a control unit which in case of discharge, automatically stops the engines, the generators and the extractors in the engine room.

On the helm station there is a panel for controlling the fire-fighting system described below:

1. **Green light**
Indicates that the extinguisher is full.
2. **Red light**
Indicates that the extinguisher is empty.
3. **SILENCE button**
It turns off the acoustic signal which indicates that the system is operating and that the extinguisher is releasing gas.
4. **DIMMER**
It varies the brightness of the control lights of the CHARGE/OVERRIDE panel.
5. **OVERRIDE button**
 - When this button is pressed, the control unit which, in case of extinguisher discharge, stops the engines, generators and electric extractors, is cut off.
 - In OVERRIDE position the control unit is disabled.

WARNING

The OVERRIDE button must be pressed only when navigating in confined waters or with a collision hazard and to restart the engines after the system's discharge.



CAUTION

The OVERRIDE button must only be used in case of real emergency.

CAUTION

The engine room is equipped with fixed fighting system. To avoid asphyxia, leave the area before the system's discharge. After discharge, ventilate the area before entering.

In case of fire in the engine room, operate as follows:

- Stop both engines, if running, with the stop buttons on the dashboard
- Stop the generator, if running;
- Open the battery breaker buttons by selecting the uses;
- From the fire-prevention panel disconnect the fuel supply to the engines and generator by pulling the relative tie rod;
- Remove safety wire and pin by slipping them off;
- Pull tie rod for extinguisher discharge. The extinguisher can be automatically discharged, but pull the handle anyway.

CAUTION

In case of fire

Leave immediately the engine room, close the access door and pull the fuel supply cut-off tie rods for fire fighting system activation.

DANGER

Before activating the fire-fighting system, make sure that nobody is inside the engine room.

DANGER

Do not open the engine room access hatch, until the fire is completely extinguished.

DANGER

Once checked that the fire is totally extinguished, before entering the engine room, ventilate the room adequately, so as to avoid risks of burns and poisoning due to high temperatures and to poisonous gas suspended in the air.

CAUTION

Keep the fire-fighting control tie rods efficient; service them periodically and check for their operation (as per rules in force).

DANGER

To reset the fire-fighting system, with the aim of resuming navigation is a recommended operation only in case the fire source has not produced damages to the yacht's structure or to important devices of the same. In such a case, or should you have any doubt, it is essential, to wait for rescue without resuming navigation.

WARNING

Remember that, as a result of the fire-fighting system reset, the HFC-227 extinguisher will be discharged and will be inefficient in case of another fire break-out. Therefore, once returned to the harbour, you must have the fire extinguishers immediately recharged by authorised personnel.

CAUTION

If the fire breaks out underway, perform the distress call "MAY DAY"; if the yacht is in the harbour, advise the Port Authority and evacuate all unnecessary personnel.

CAUTION

Do not delay fire fighting because of a rescue call.

**DANGER**

The fire-fighting system, which only covers the engine room, may not be activated in particular fire conditions and for this reason IT IS ALWAYS MANDATORY TO OPERATE THE SAFETY ROD.

**WARNING**

When operating the fire extinguishing system, disconnect the engine room extractors and close the air intakes. Once the fire is extinguished, ventilate the room for a long time before going inside without activating the extractors. Clean out all the powder very carefully, to prevent corrosion.

**CAUTION**

The automatic system is calibrated to detect the fire when they reach 79°C (174°F), therefore, if a beginning of a fire is found, it is absolutely necessary to actuate manually the system in order to limit damage to a minimum.

**DANGER**

The automatic fire extinguishing system does not block the possible escape of oil, only suitable tie-rods are able to block this. Always apply the tie rods in the event of a discharge.

**DANGER**

The chemical agents for extinguishing fires and the residues of a discharge system are toxic. To avoid diseases, injuries or death caused by the breathing of fumes, make sure that nobody stays in the engine room during the system discharge.

**WARNING**

It is possible for a fire to reappear following the discharge of a fire-fighting system. If fire spreads again, the passengers on board are in danger. Even the opening of the engine room access hatch can cause through oxygen a new fire spread. If fire spreads out again, to avoid heavy injuries or even death, do not open the hatch or engine room access door until the fire has been completely extinguished.

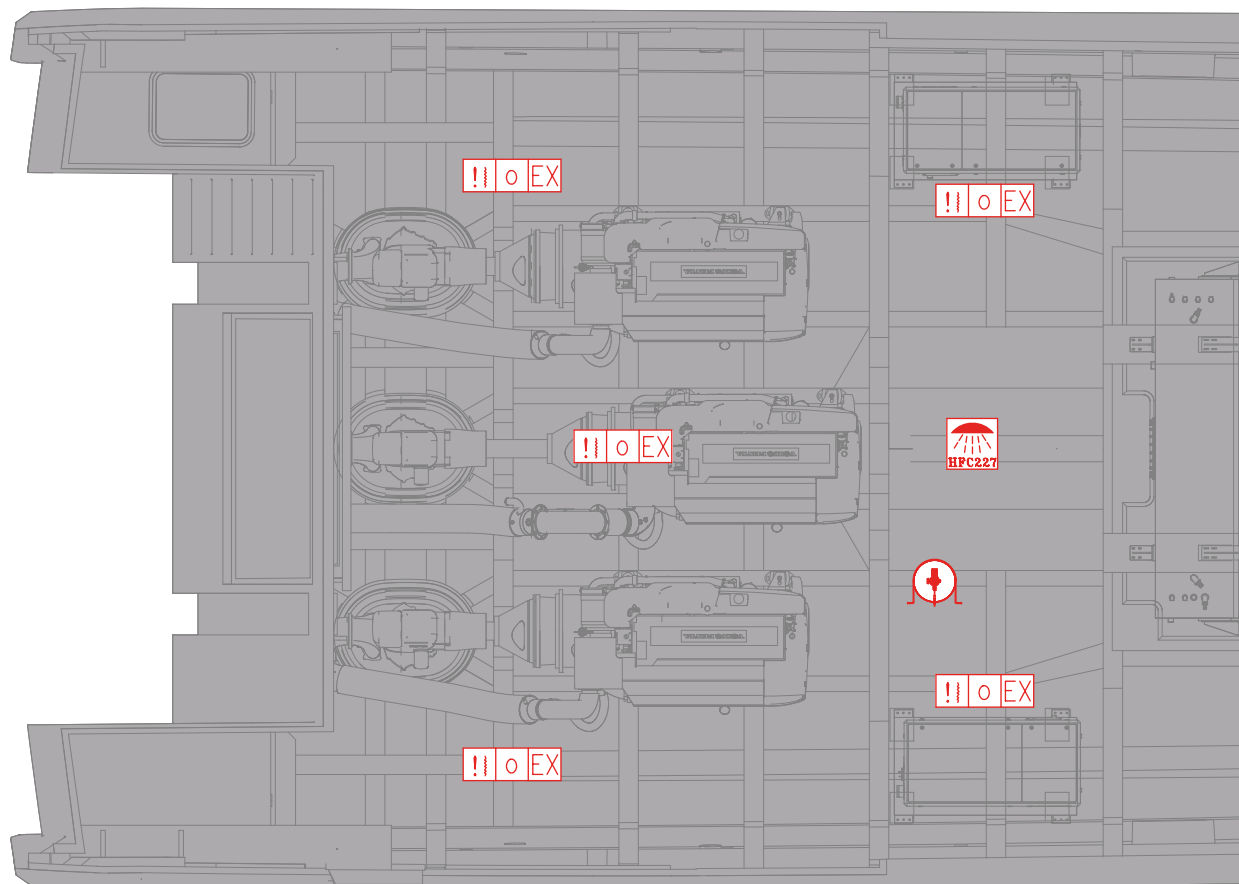
**WARNING**

Before entering in the engine room after a fire, make sure that this has been completely extinguished. Before entering this room ventilate it by opening the hatchways.

**DANGER**

The fire-extinguishing cylinder/s has a safety pin. Check that the above-mentioned pin has actually been removed. If this is not the case, should fire spread out, the cylinder/s would be jammed and would not discharge with consequent possibility of heavy damages to your yacht up to its sinking.

Engine room smoke detector system:



ICONA ICON	DESCRIZIONE DESCRIPTION
	Spazio protetto da HFC-227 Space protected da HFC-227
	Segnale acustico e visivo Acustical and flash alarm

ICONA ICON	DESCRIZIONE DESCRIPTION
	Sensore antincendio Smoke and heat detector
	Bombola Cylinder

2.8.1 Maintenance of the engine room fire-fighting system

Have the system overhauled by a qualified service centre according to the manufacturer's instructions. The technician who performs maintenance should attach a tag indicating the date of the check to the system.

Check the discharge indicator before use, to make sure that the fixed fire-fighting system has not been discharged.

Check the state of the fire extinguishing system on the main electrical panel. To do this, check the status indicator (full/empty) located on the electrical panel itself.

The fixed fire-fighting systems must be checked at least once a month and in any case, before each navigation.

- For corrosion.
- To make sure that the access to the controls is not hindered.
- To make sure that the cylinders are firmly sitting.
- To make sure that the pulling cables are not broken, loose, damaged or twisted.
- To make sure that the cable connections are fastened properly.
- To make sure that the distribution pipe connections are firmly fastened and that the discharge nozzles are not clogged.
- To make sure that the system has not discharged.

CAUTION

Accidental discharge of the chemical agents for fire extinguishing during handling or installation may cause serious injuries. The chemical agents for extinguishing fires and the residues of a discharge system are toxic. Protect eyes and skin during installation or maintenance of the fire-fighting systems.

CAUTION

The extinguisher CONTAINS TOXIC CONCENTRATED CHEMICAL AGENTS AND SUB PRODUCTS FOR FIRE FIGHTING. Avoid inhaling fumes or long exposure to them.

THE ACCIDENTAL DRAIN DURING USE OR INSTALLATION CAN CAUSE SERIOUS INJURIES. Never let it drop down. Keep it far from extreme heat.

CAUTION

Read the instruction manual carefully before attempting to install, remove, activate or perform maintenance on this device.

CAUTION

During maintenance operations, pay attention not to break the flasks unintentionally, in order to prevent accidental cylinder releases.

CAUTION

Check that at environment temperature the cylinders pressure gauge is set to correct actuation position indicated by the supplier.

2.8.2 Restoring the fire-fighting system in the engine room

If the fire-fighting system of the engine room has been activated and a fire has been extinguished, it is necessary to restore the essential conditions for navigation, in order to quickly reach the nearest harbour in which to carry out the due checks.

To resume navigation, the ventilation system of the engine room and the fuel system of the propulsion engines must be brought back to normal working condition.



WARNING

Note that after the fire-fighting system has been reset, the HFC-227 will be empty and will no longer be effective in the event of a new fire. Therefore, once back in port, the fire extinguisher must be refilled immediately by authorised personnel.



DANGER

Before entering the engine room, ventilate the room properly, to avoid risks due to high temperatures and noxious gases suspended in the air.



DANGER

These operations have to be carried out directly from the engine room; therefore before carrying out any operation, carefully read the safety instructions in this.



DANGER

Resetting the fire-fighting system, with the aim of resuming navigation is a recommended operation only in case the fire source has not caused damage to the yacht's structure or to important devices of the same. In such a case, or should you have any doubt, it is essential, to wait for rescue without resuming navigation.

To allow the propulsion engines to start, manual intervention is required on the engine supply valves on the fuel tank in the engine room.

To do this, open the previously closed fuel delivery valves by turning them anticlockwise.

The fuel shut-off valves should not be left in intermediate positions but completely open, when the handle is parallel to the longitudinal axis of the pipe.

To make sure that the fire extinguisher is operational, the pressure gauge must be in the green field.



CAUTION

Reinsert the factory-fitted safety pin on the detector/cylinder sensor valve until installation is complete or the inspection has been carried out. Protect your eyes during installation or maintenance.



WARNING

During maintenance operations, pay attention not to break the flask located on the cylinder, because, even if the safety pin is inserted, if the flask breaks, the fire-fighting system activates.

MAINTENANCE

At least once a month, and in any case, before each navigation, check the charge status of the fire extinguisher.

At least once a month, and anyway before each navigation, check the external condition of the fire extinguisher. At least every 6 months check the fastening of the fire extinguisher.

2.9 ALARM DEVICES

Smoke detection control unit

The alarm devices include a smoke detection unit, a flashing signal unit with alarm siren. These devices are activated in the event of smoke detected by sensors positioned in the engine room, and other areas of the yacht.

You can monitor the presence of smoke in the yacht also from the panel touch screen present on the dashboard.

MAINTENANCE

At least every month carry out an operation test.

Bilge water alarm system

An alarm siren is provided to warn against a high water level in the bilge, operated by floating switches located in the various compartments of the bilge on board.

The alarm is present on the control panel in the monitoring system by means of a warning light/acoustic signal.

MAINTENANCE

At least once a week check the operation of the floating switches and of the siren.

At least once a month clean the floating switches.



CAUTION

To prevent false alarms, make sure that the system is isolated and disabled before performing maintenance and cleaning of the smoke detectors. Once the periodic maintenance of all detectors is finished and rehabilitate the system.



CAUTION

For more information about the various devices installed on the yacht, refer to the use and maintenance manuals delivered separately by the Manufacturer.

2.9.1 Fire detection unit

On board your yacht there is a fire detection unit that can identify anomalous situations and diagnose them. It has a wide range of signals: alarm, pre-alarm, fault, warning, exclusion, tests, monitor. All reports are visible both and on display on both LEDs.

Each detection unit is equipped with its own output of alarm repetition, allowing the alarm to be repeated on the monitoring system.

Both the smoke control unit and the signal light/acoustic alarm unit are supplied with a buffer battery, in this way danger can be detected even without power supply.

If the main power supply of the control unit should fail, the malfunction is indicated visually (alarm warning light) on its control panel.

If both power supplies (main and buffer battery) should fail, the control unit activates the smoke alarm siren.

CAUTION

The control unit has been set and tested by WALLY.
 Do not alter the programming controls, read the user manual for a correct operation reset, or better, address WALLY After Sales & Service.

CAUTION

In case the accumulator of the smoke detection unit is discharged, the siren starts automatically.



Use of the smoke control unit and of the signal light/ acoustic alarm unit
The batteries mounted on this unit do not need to be topped up with distilled water.

Keep the terminals on the battery top clean at all times to prevent the battery discharge. Check the battery terminals, they should not be loose and must not have any sign of rust or oxidation.

Apply some Vaseline on the terminals to prevent their corrosion.



ENVIRONMENT

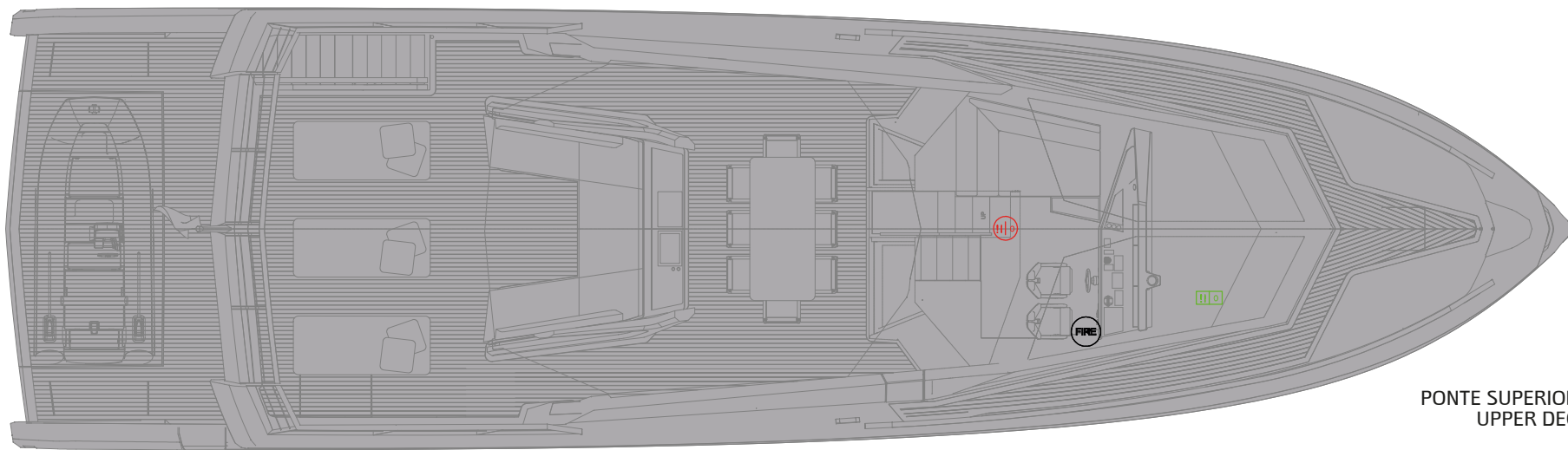
Handle and dispose of batteries according to the rules in force. Use only authorised disposal procedures. In case of doubts, contact the Port Authority.



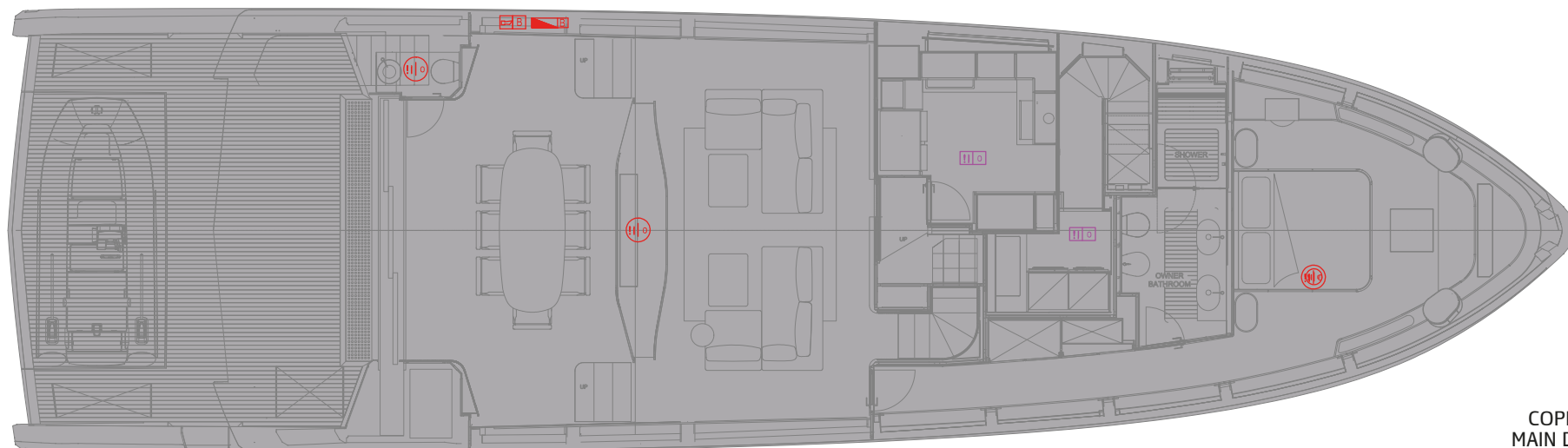
WARNING

If possible, keep a spare battery on board.

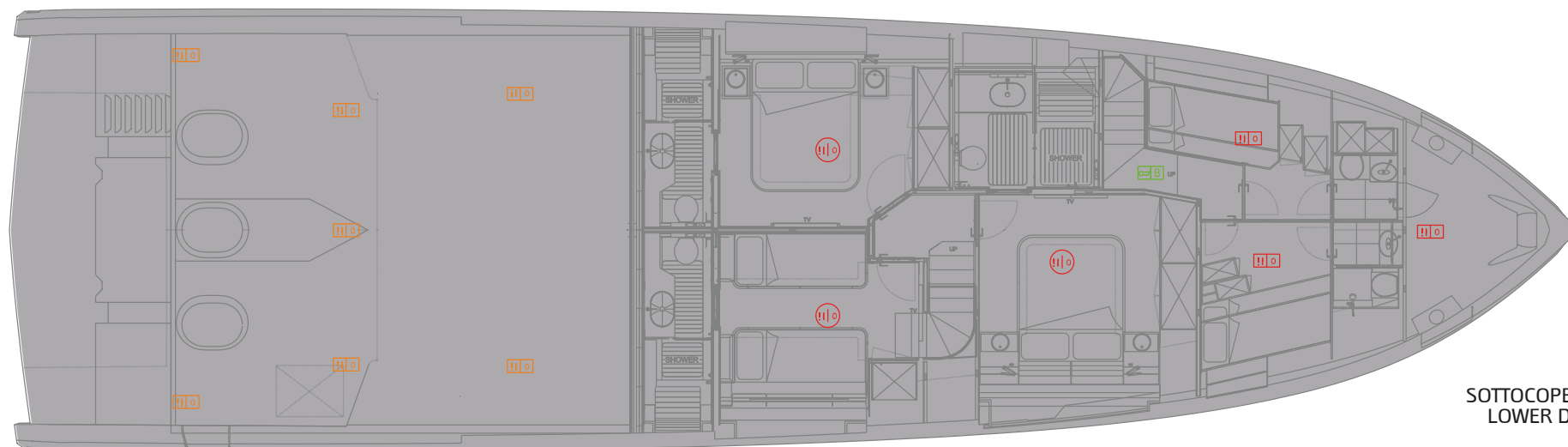
Fire detection system diagram:



PONTE SUPERIORE
UPPER DECK



COPERTA
MAIN DECK



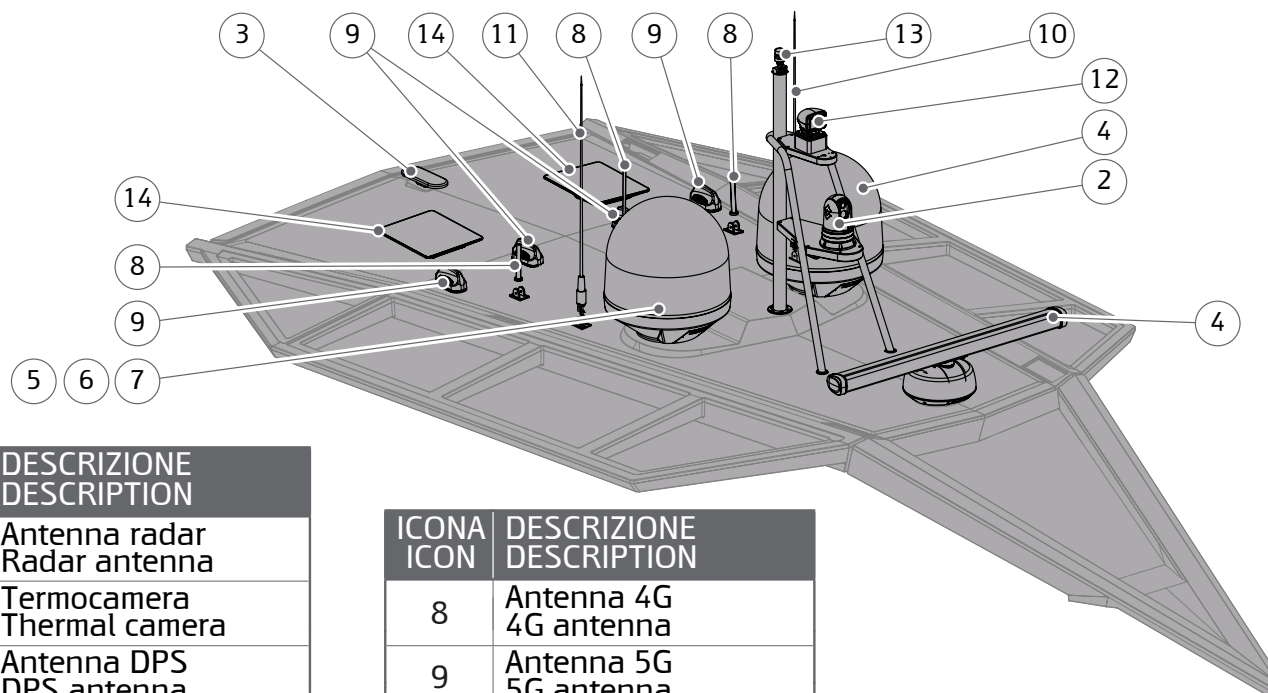
SOTTOCOPERTA
LOWER DECK

ICONA ICON	DESCRIZIONE DESCRIPTION
	Centralina con batterie Control unit with batteries
	STD: Sirena autoalimentata STD: Self-powered alarm
	OPT: Sirena allarme audio-visiva OPT: Audio-visual alarm siren
	Rilevatore di fumo Smoke detector

ICONA ICON	DESCRIZIONE DESCRIPTION
	STD: Rilevatore di fumo STD: Smoke detector OPT: Rilevatore di fumo e calore OPT: Heat and smoke detector
	Rilevatore di calore Heat detector
	Rilevatore di fumo Smoke detector

2.10 ANTENNAS, NAVIGATION LIGHTS AND DAYLIGHT SIGNALS

2.10.1 Antennas



ICONA ICON	DESCRIZIONE DESCRIPTION
1	Antenna radar Radar antenna
2	Termocamera Thermal camera
3	Antenna DPS DPS antenna
4	Antenna TV satellitare Satellite TV antenna
5	Dome vuoto Empty dome
6	Antenna TV TV antenna
7	Antenna GPS GPS antenna

ICONA ICON	DESCRIZIONE DESCRIPTION
8	Antenna 4G 4G antenna
9	Antenna 5G 5G antenna
10	Antenna AIS AIS antenna
11	Antenna VHF VHF antenna
12	Faro di ricerca Searchlight
13	Stazione meteo Weather station

ICONA ICON	DESCRIZIONE DESCRIPTION
14	Antenna Starlink Starlink antenna

2.10.2 Navigation lights and daylight signals

NAVIGATION LIGHTS:

The rules relevant to the navigation lights must be observed from sunset to dawn and during this period no other lights must be visible except the lights that cannot be exchanged for those specified in this manual.

Although the lighting system is preset by the Manufacturers, the Owner/Captain has the responsibility for the observance of the local rules.

Please note that the local and international rules relevant to lighting can slightly vary, we suggest therefore to gather information about the local rules of your area.

Night navigation requires more precaution. All rules are applicable but apart from the right of course, it is advisable to slow down and to keep the proper distance from other yachts.

It is a good rule to remember that bright lights reduce visibility at night.

Mast head light (white)

Visibility range 225°.

Shown by every engine-driven yacht.

Side lights or navigation lights (red port, green starboard)

Visibility range 112° 30' each.

Shown by any moving yacht and caused by any reason.

Aft light (white)

Said also stern light, visibility range 135°.

Shown by any moving yacht and caused by any reason.

Anchor riding light (white)

Visibility range 360°, can be seen from any point of the horizon.

Seen from every anchored or under navigation yacht, or in specific circumstances.



CAUTION

In the presence of TV-SAT (optional), stay more than 2 metres away from the antenna during transmission.

MAINTENANCE

At least once a week check the operation of the navigation lights.

At least once a week carry out accurate cleaning of glasses and headlights.

At least once every six months check the presence of corrosion in the connections of the navigation light cables.

At least once every six months, tighten the cable connections of the navigation lights.

The use of headlights during the various situations of use of the yacht during night navigation are illustrated below:

- **Navigation:** Masthead lights, side lights and stern lights ON.
- **At anchor:** Anchor lights ON.
- **Adrift:** Two red lights ON (not under command mast installed).
- **Aground:** anchor light and two red lights ON (not under command mast mast installed).



CAUTION

The positioning of the navigation lights is optimised by adapting the regulatory requirements to the geometry of the yacht, providing lights where they are most easily visible.

Non-steering lights (N.U.C. = Not Under Command) and a bell are not included in the on-board equipment.

The fitting of lights and sound signals is subject to the approval of the Flag Administration where the yacht is registered.



WARNING

Navigation lights, shapes and sound signals.

Where navigation lights, shapes and sound signals are installed, they must be in conformity with COLREG 1972 (II International Regulations for Preventing Collisions at Sea) or CEVNI (European Code for Inland Waterways). Regulations depending on the case.

DAYLIGHT SIGNALS:

In order to increase the safety of people on board, the manufacturer has provided the installation of a mast for daytime shapes, in accordance with Directive 2013/53/EU.

NOTE

The combined use of shapes, sound signals and navigation lights increases the visibility of the yacht, reducing the risk of collisions.

Daytime signals have the same function as navigation lights but are more visible during the day than navigation lights.

Depending on the situation, appropriate signalling templates shall be used.

Hereunder is a list of the most common ones to adopt after installing the relevant mast:

- Yacht at anchor:



- Not under command yacht:



- Stranded yacht:



- Yacht with limited manoeuvrability:

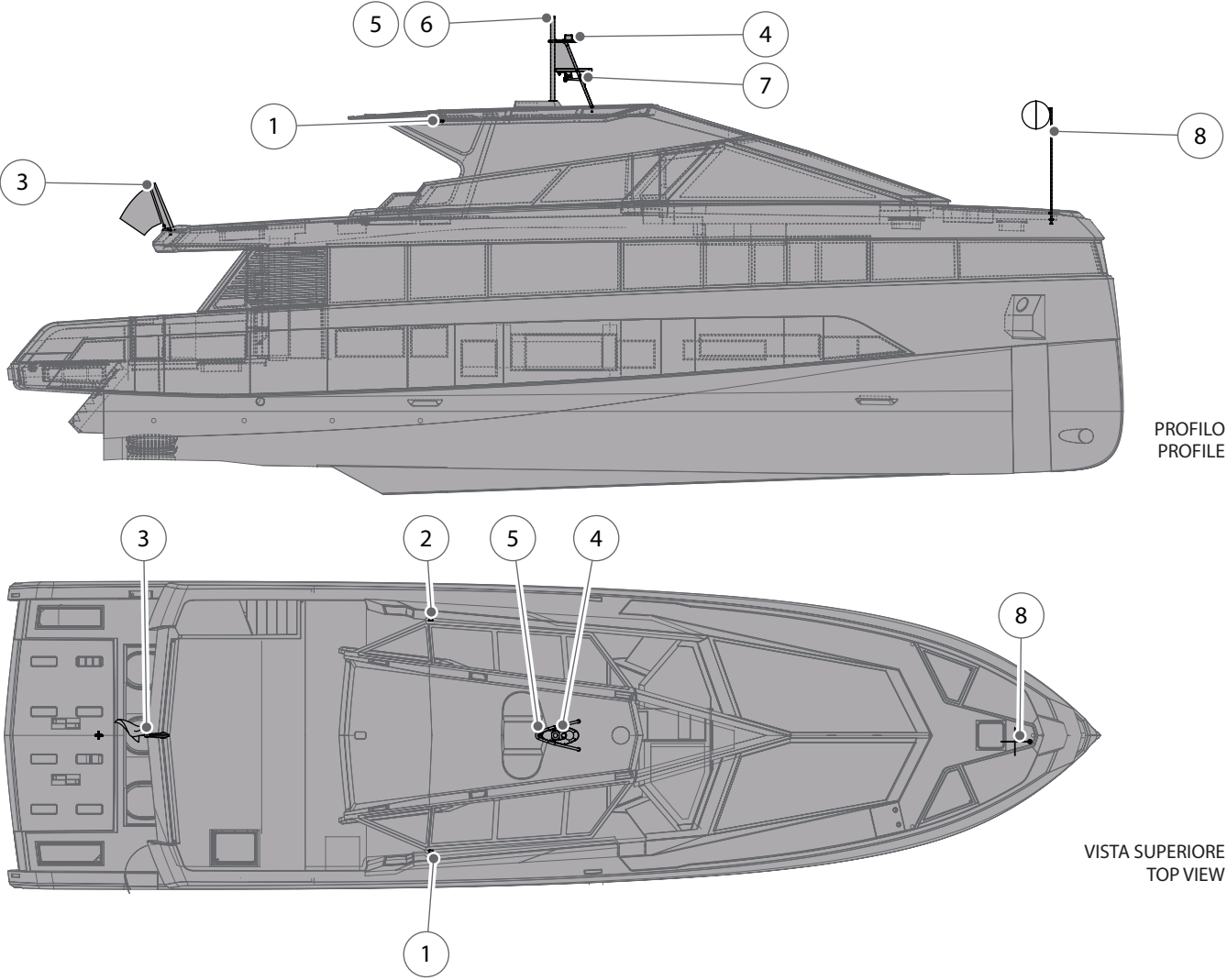


- Yacht to trailer or towed:



Navigation lights and daylight signals:

ICONA ICON	DESCRIZIONE DESCRIPTION
1	Luce di posizione verde di dritta 112.5° Starboard green sidelight 112.5°
2	Luce di posizione rossa a babordo 112.5° Port red sidelight 112.5°
3	Luce bianca di poppa 135° Stern white light 135°
4	Luce di testa d'albero 225° Masthead white light 225°
5	Luce bianca a 360° All round white light 360°
6	Stazione meteo (opt) Weather station (opt)
7	Tromba per segnali acustici Whistle for sound signals
8	Supporto per segnali diurni Day signal holder



2.11 MANDATORY SAFETY EQUIPMENT

In order to ensure the maintenance of the intrinsic safety conditions of the yacht, the Owner must keep the yacht in good operational conditions (as regards to the hull, and the propulsion, electrical and fire-fighting systems), and also to provide for the replacement of any system, rescue and safety equipment showing signs of wear or deficiencies capable of impairing their efficiency.

In addition to the equipment provided by WALLY, the Owner is responsible for providing the yacht with any further system and safety/marine equipment required by the rules in force in the nation where the yacht is used, according to weather and sea conditions and to the distance from safe harbours along the intended course.



DANGER

Rescue equipment must be arranged so as that when it is launched there are no obstacles to free floating and must be equipped with proper fitting allowing for quick release from the yacht when at sea.

The Owner is responsible for equipping the yacht with some of the equipment listed.



WARNING

The above-mentioned safety systems must comply with existing local and international navigation regulations, and must be periodically inspected and maintained by specialized companies and qualified technical personnel, prior to the expiry date indicated on the systems.



CAUTION

Refer to the local Port Authorities for instructions and changes of the Safety Rules in force in the country where you are.

2.12 SAFETY PLATES

The plates applied on the yacht are used to point out special risks: each plate is located on the part of the yacht which can be a source of risk. Before working with or on this part of the yacht, read the safety warning carefully.

Keep all the plates clean and readable, replace them if missing or damaged.

The fire extinguisher positioning plates are located close to the extinguishers.



CAUTION

It is prohibited to remove or damage the safety plates on the yacht.

2.13 SCHEDULE

Minimum rescue facilities and safety equipment to be kept on board of yachts and pleasure yachts with no limit of distance from the shore and with expiry date.

	2028	2029	2030	2031	2032	2033	2034	2035	2036
Self-inflatable life raft (for all persons on board)									
Individual life buoy (for each person on board)									
Life jacket with rope (floating type)									
Light buoy									
Smoke buoy									
Red light hand fires									
Red signal rockets with parachute									
Compass and deviation schedules									
Nautical charts									
First aid kit									
RTF inspection									
Property tax									
Insurance									
License (pilot)									
Portable fire extinguishers									
Fixed fire extinguisher in the engine room									
E.p.i.r.b.									



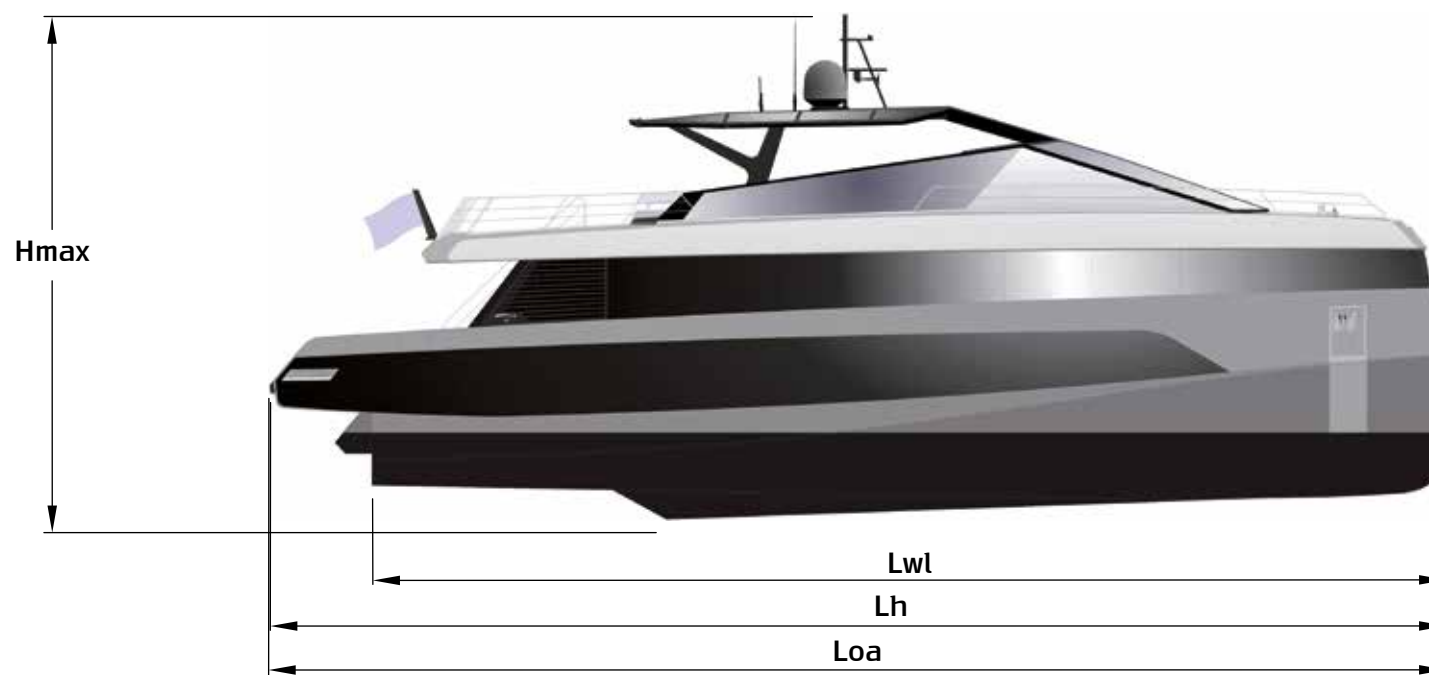
wallywhy150

3
DESCRIPTION OF
THE YACHT

WALLY



3.1 MAIN DIMENSIONS AND CHARACTERISTIC DATA OF THE YACHT



Loa = overall length	23,99 m	78 ft 8 in
Lh = Hull length	23,98 m	78 ft 8 in
Lwl = waterline length (boat fully laden)	22,50 m	73 ft 10 in
Maximum beam	6,78 m	22 ft 3 in
Hmax = Overall height	10,6 m	34 ft 10 in
Transom	0,01 m	0 ft 0 in
Depth under propellers (boat fully laden)	2,0 m	6 ft 5 in
Displacement unladen	84000 Kg	185188 lbs
Displacement laden	97000 Kg	213848 lbs

Features		
Hull type		Variable geometry with 10° deadrise
Construction material		GRP
Propulsion	Model	3x VOLVO PENTA D13 IPS 1350
	Configuration	6 in line cylinders
	Power	1000 mhp (735 kW)
	rpm	2300
Dry weight	Kg	2458 kg (5419 lb)
Displacement	lt	12,8 lt (3,4 gal)
Fuel tank capacity	(lt) approximately	9000 lt - 2378 gal
Water tank capacity	(lt) approximately	2000 lt - 528 gal
Black water tank capacity	(lt) approximately	500 lt - 132 gal
Grey water tank capacity	(lt) approximately	500 lt - 132 gal
Total weight of liquids (full tanks)	Kg	10200 kg - 22457 lb
On board electric power supply	(V)	230V single-phase by power generators
	(V)	24 V by batteries
Power generator (no.2)	Model	2 x 35 Kw KOHLER
	Voltage (V)	230V single-phase
	Frequency (Hz)	50
	Power (kW)	35+35
Batteries	Engines (no.)	6 x 12V 120ah
	Services (no.)	12 x 2V 640ah
	Generator (no.)	2 x 12V 180ah
	Auxiliary (no.)	4 x 12V 180Ah

Features		
Bilge pumps	Engine room (no.)	3
	Port guest cabin (no.)	1
	Starboard guest cabin (no.)	1
	Crew area (no.)	1
	Chain well (No.)	1

CAUTION

WALLY yachts are designed to obtain a correct transversal trim with full optional equipment, as well as spare propellers and shafts.
If the yacht is not provided with full optional and with spare propellers and shafts, some weights are inserted to correct the transversal trim.
The above-mentioned weights can be removed or displaced as soon as the yacht is provided with a new equipment.

NOTE

The technical specifications and the performances indicated are merely indicative, do not constitute an offer with the value of a contract in any way, and are referred to standard models of the yachts built by the Shipyard in the European version.
The only technical indications or descriptions with contract value for the purchaser are those relevant to the specific yacht purchased and contained in the sale documents.

WARNING

When loading the yacht, never exceed the maximum recommended load. Always load the yacht carefully and distribute loads appropriately to maintain design trim (approximately level).

3.2 GENERAL YACHT LAYOUT

This chapter contains a general description of the yacht and is supported by a set of illustrations thanks to which it is possible to easily locate the main areas and the different devices.

Advice and information on the correct use of the various instruments are also given.

The structure of the yacht has been divided as follows:

1. Upper deck;
2. Main deck;
3. Engine room;
4. Lower deck.

The yacht is provided with both electronic and mechanical devices and instruments; some of these are provided with their own user's manuals. The information contained therein are an integral part of this Owner's Manual.



3.3 UPPER DECK AND HELM STATIONS

1. Main deck access stairs
2. Sofa
3. Mobile bar
4. Upper deck table
5. Helm station access
6. Anchorage area
7. Helm station
8. Access door to bow area
9. Side helm positions





CAUTION

Never use denaturised alcohol or acetone to clean Plexiglas parts; they could crack inside.



CAUTION

During navigation it is not recommended to move, because a lateral skid of the yacht could have a negative effect on a moving passenger, causing an accidental fall or the impact against a piece of furniture.



CAUTION

Keep all on-board steps clean and dry.

Access to the helm station from the upper deck is via the access.

The helm station allows the use and viewing of all the yacht's steering instruments.



CAUTION

For the correct use of the various devices installed in the main helm station, see the relevant instruction manuals.



WARNING

To prevent circumstances that could lead to property damage, injury or death due to the improper use of the helm and its controls, the yacht's owner/captain must ensure that inexperienced or unauthorized persons are never permitted to be at the helm station.



CAUTION

Turn on the spotlights of the passage ways so as to ensure a proper lighting.
Check the operation of the spotlights and, if necessary, replace their bulbs.

Both walk-around, protected by external handrail, allow the access to the bow area.



WARNING

When leaning on the outside handrail, be careful so as to prevent any accidental fall at sea.



DANGER

Pay particular attention to rotary pieces, keeping your feet, hands, clothing and hairs at due distance.
If you control the anchor winch from the main helm station make sure that nobody is near it and that your visual field is free.

On the bow of the yacht is the anchoring unit.
The windlasses are positioned on the starboard and port side of the bow.

Two cleats are also positioned at the bow.

Inside the bow peak there are also the remote control for the anchor winch, the hose connection for deck washdown, the solenoid valve controlling the anchor and chain washdown and a fresh water tap.

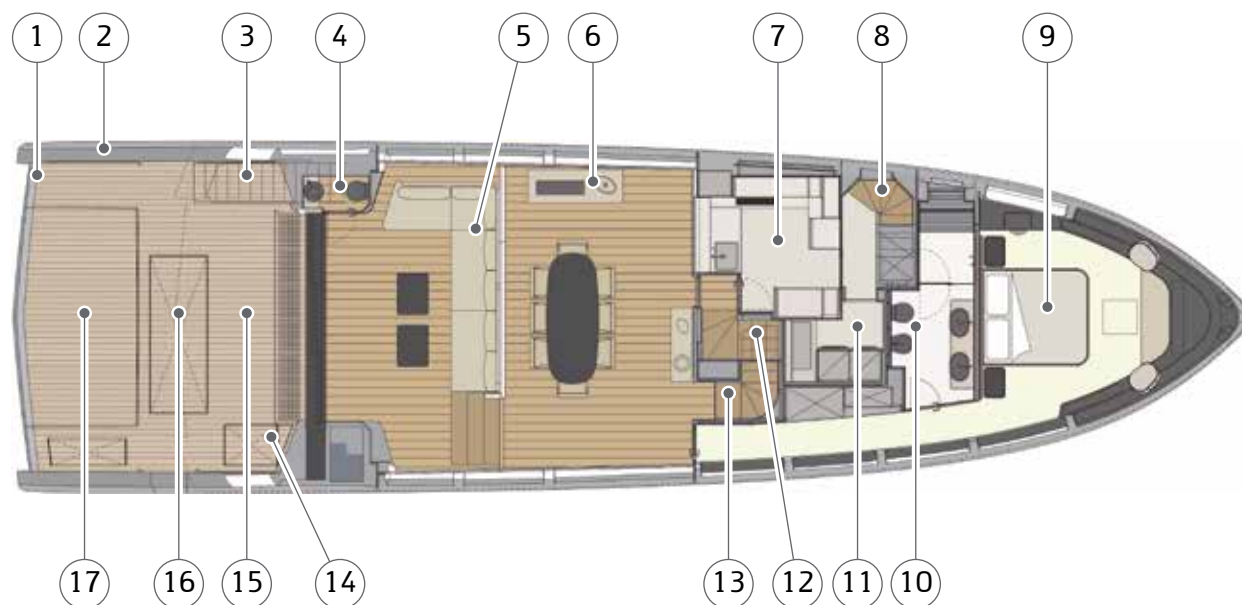


CAUTION

The protection railing is interrupted at bow for the anchor weighing.

3.4 MAIN DECK

1. Gangway/ swim ladder
2. Mooring furniture
3. Upper deck access stairs
4. Service bathroom
5. Lower lounge area
6. Upper lounge area
7. Galley
8. Crew area access stairs
9. Owner's cabin
10. Owner's cabin bathroom
11. Laundry
12. Stairway access to bridge
13. Guest room access staircase
14. Engine room access hatch
15. Stern cockpit
16. Stern cockpit sofa
17. Stern platform/lift



⚠ CAUTION

The removable awnings and their support poles must always be dismantled and stored in the appropriate places before starting navigation. When the poles are not in use, they should be stored in the appropriate places. The awnings should only be installed when the yacht is at a standstill and the weather conditions are favourable. Do not leave the awnings open in case of heavy rain. Not leave the awnings installed unattended. Do not let them stagnate the water on the curtain fabric. When not using the awnings keep the holes to engage the poles closed with the appropriate lids.

Access to the yacht from the shore is via the hydraulic gangway located on the port side and housed under the stern platform.

⚠ CAUTION

Always use the gangway to board the yacht; any other access system is potentially dangerous.

The gangway also functions as a swim ladder, allowing for boarding from the water.

The central part of the aft platform is equipped with a lift that allows a tender to be launched or hauled from/in the water.

🚫 DANGER

Never stay on the stern platform during navigation, because this is not equipped with protection rails preventing a possible fall at sea.

🚫 DANGER

Never cruise with gangway and lift not properly stowed/lifted.

⚠ CAUTION

Periodically check that groundings are in order. Keep connections dry and protected with anti-corrosion grease.

⚠ CAUTION

In case a jet-ski is used, each passenger must wear a life jacket; the driver must also have a regular license and keep to the rules of the country where the jet-ski is driven.

🚫 DANGER

Stop using the on-board handlings if the sea-weather conditions (wind, currents, weather factors) could jeopardize the yacht's stability.

On both sides of the yacht inside the mooring lockers are stowed the aft cleats and the warping winches, useful for shore approaching manoeuvres.

⚠ CAUTION

Do not use the warping winches as permanent mooring points.

On the port side of the cockpit is the access to the upper deck.

In the cockpit area there is a nebulizer system that allows fresh water to be sprinkled to refresh the area.

⚠ CAUTION

Do not operate the nebulizer system when the fresh water tank is empty, to avoid possible damage to the system.

3.4.1 Galley

The galley is practical and gathers all the essential household appliances. During navigation it is advisable to properly close all doors. The dishwasher takes water from the cold fresh water system. It is connected with the sink draining and discharges at sea. In the galley, above the electric burners there is a suction hood to eliminate the cooking smokes.

CAUTION

Always check the absorption of the household appliances and deactivate them in case they are not used.

CAUTION

It is recommended not to fill pots more than 50% with water and not to use pressure cookers.

CAUTION

When using the galley, increase the ventilation of the inner rooms as much as possible. Never use the cooking top to heat the room.

CAUTION

Do not leave pans unattended when they are on the burner.

CAUTION

Do not put liquid food into the oven.

CAUTION

Never place metal containers with metal inserts in the oven.

CAUTION

In order to eliminate smells, vapour or fumes, it is necessary to turn on the suction hood at cooking start and to keep it on at cooking end for 10-15 minutes.

CAUTION

For the procedures and the correct use of the various household devices of the galley, refer to relevant manuals.

CAUTION

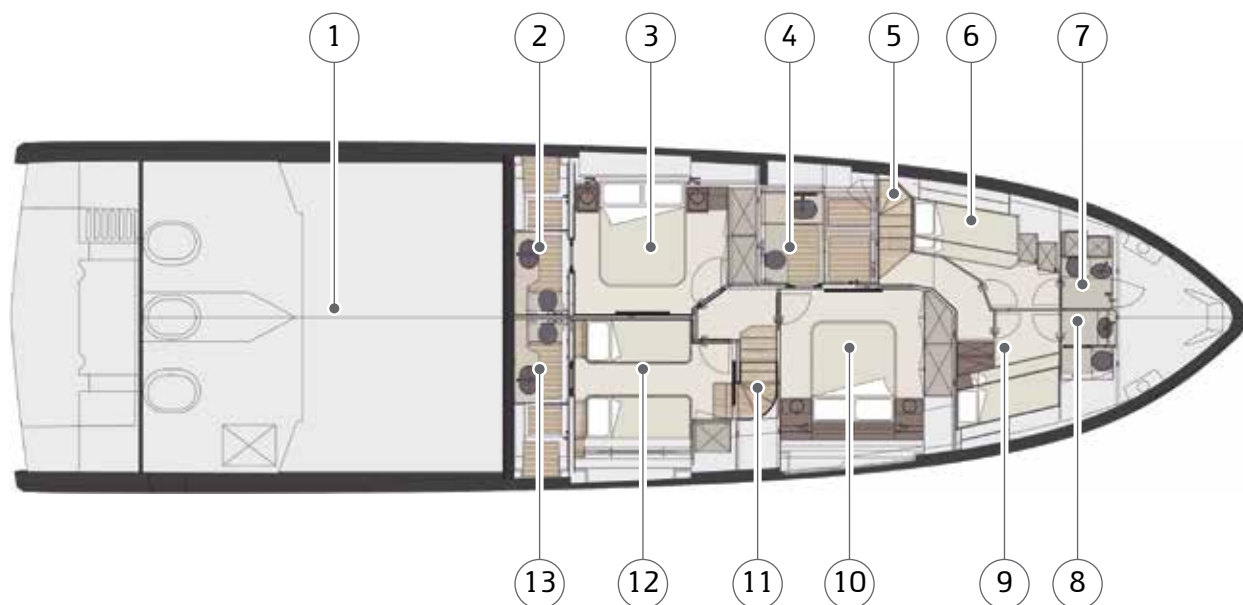
In case of navigation with rough sea, we recommend not to use the galley.

CAUTION

Children are allowed to use the galley only when they are able to use its items correctly and to understand the dangers specified in the special instruction manuals. The help of an adult is required.

3.5 LOWER DECK

1. Engine room
2. Guest port cabin bathroom
3. Guest port cabin
4. VIP cabin bathroom
5. Galley access stairs
6. Crews' cabin
7. Crews' bathroom
8. Captain's bathroom
9. Captain's cabin
10. VIP cabin
11. Access stairs to the main deck
12. Starboard guest cabin
13. Starboard guest cabin bathroom



The lower deck consists of areas, which are accessible from different not-connecting places. The areas are:

- Guest accommodation:
 - ♦ Guest;
 - ♦ VIP;
- Engine room;
- Crew cabins.



CAUTION

Before undertaking any navigation, check the closure of the cabs access doors. You will avoid unpleasant banging and accidental dangers.

In the crew dinette there is a multifunction display that shows the same information as the displays on the helm station.

3.5.1 Porthole

The porthole consists in a fixed part (frame) and a moving part (window). For opening, it is necessary to unlock the window by turning the handles 90° outwards.

Closing is done by means of a thick seal on the porthole frame.



CAUTION

Close the portholes and the skylight when navigating or when the yacht is left unattended for a long period.

3.6 ENGINE ROOM

The engine room can be reached through the hatch in the floor of the aft cockpit.

Before entering, switch on the ceiling lights.



DANGER

You are not allowed to enter the engine room during navigation.



DANGER

In the engine room, thermal engines create highly radiated areas which keep temperature high for a long time. Protect yourself and wait until they are cool before entering the engine room.



CAUTION

Do not store free-to-move items in the engine room, as they might skid during navigation.



CAUTION

Only authorized personnel should have access to the engine room and also be informed about the components operation and about the features of the fire-fighting system.



DANGER

For safety reasons, the access door to the engine room must be kept closed at all times and in all situations. It must remain open only during the crossing.

MAINTENANCE

At least once every three months tighten of the discharge raiser bolts.





wallywhy150

4
HELM STATION



4.1 YACHT HELM STATION

The yacht is equipped with a helm station with rudder on the main deck. The various navigation controls, instruments and devices are mounted in the helm station.

There are two manoeuvring stations positioned on the starboard and port side of the aft cockpit.

CAUTION

Herewith only general information for first start-up is given: for the practice and the specific use of the individual systems, consult the manuals of the Manufacturers or the WALLY After Sales & Service.

CAUTION

It is a good rule to keep the instruments clean by washing them with wet and clean rags, avoid using chemical or abrasive products. After navigation, it is advisable to cover instrumentation and equipment.

CAUTION

The helm station must be used only by the Captain or by the crew members authorised by the same.
The accidental activation of the controls installed in the helm station is a source of danger for the ship and its passengers.

CAUTION

All electric appliances for navigation, whose parameters can be configured and set by software through the control panel, have been configured and tested upon delivery. These operations must be performed exclusively by authorized service personnel. Any modification of the preset configurations can alter the operation and reliability of the concerned system. Appliances must be used by the personnel in charge of driving the yacht and of using the systems.

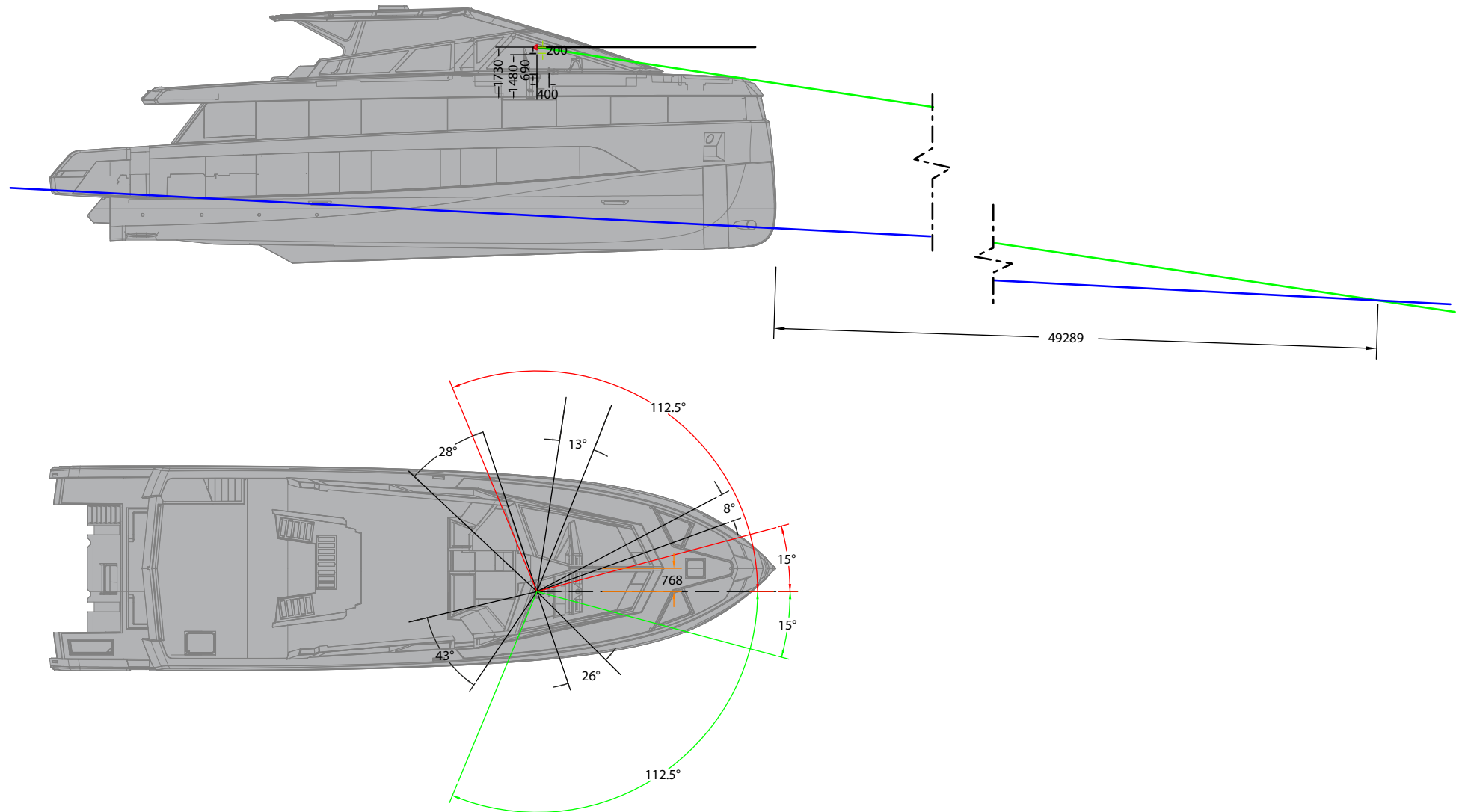
CAUTION

HORIZONTAL FIELD OF VIEW – View towards the stern.
Yacht equipped with autopilot. Manoeuvres that require aft visibility should be carried out from the helm station, in accordance with the provisions of the ISO11591 standard.

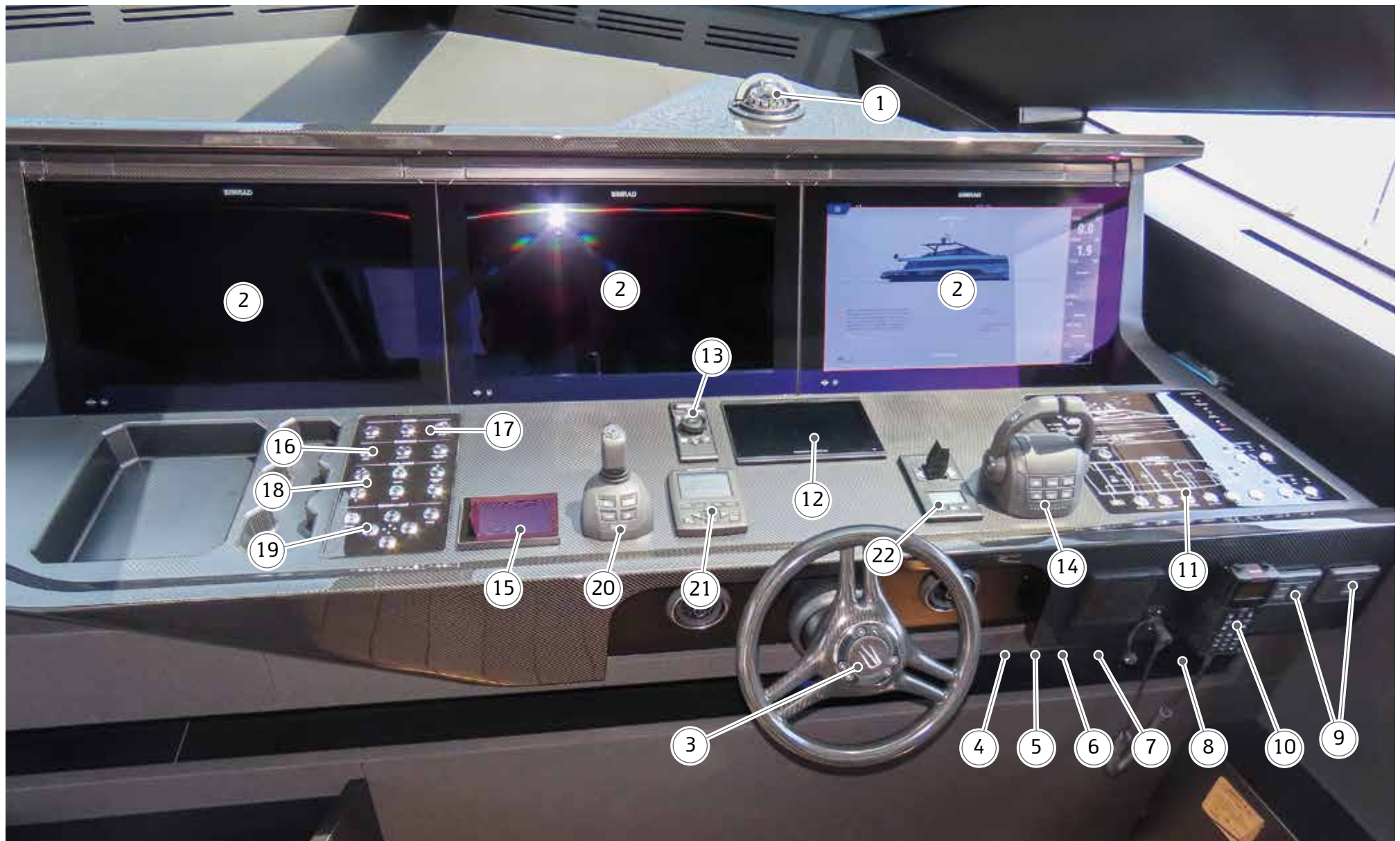
CAUTION

Refer to the specific manuals relating to the instrumentation on the bridge. Strictly follow the instructions contained therein.

Field of view diagram



4.1.1 Helm station



1. Magnetic compass

2. Multifunctional display

Allows for monitoring and management of on-board systems.
Your yacht can be equipped with the door opening monitoring system.

3. Rudder wheel

Allows you to steer the yacht.

4. USB socket

5. Emergency wiper mode activation button

6. OBD socket

7. Engine room fire-fighting system control panel

8. Memory card reader

9. Engine management buttons

Allows the main engines to be started and stopped.

10.VHF

This is a radiotelephone with digital selective calling (DSC). The emergency and call buttons are protected against accidental use. Single or group calls can be adequately made from the keypad using either the internal directory or by directly dialling the number.

Your yacht can be equipped with the AIS (Automatic Identification System), which allows you to exchange information with other yachts equipped with the same technology. This system allows you to communicate your yacht's position, course and speed.

11.Synoptic panel

12.Propulsion engine control display

13.Multifunctional display control keyboard

Allows you to manage multifunctional displays

14.Throttles

Allow for engine operation.

15.Gyroscopic stabilizer control panel

Allows you to control and monitor the operation of the gyroscopic stabilizer.

16.Wiper controls

They allow:

- The windscreen wipers to be activated/deactivated;
- The windscreen wash to be activated;
- The speed of the windscreen wipers to be managed.

17.Various commands:

- Acoustic signal activator;
- Engine room extractor activator;
- Activation of dashboard lighting.

18.Windlass control buttons

Allow operation of the windlass to be activated and managed.

For a proper operation, check the anchors position through the visualization of bow cameras on the wheelhouse multifunctional displays.

19.Searchlight control buttons

Allow you to switch on and manage the operation of the searchlight.

20.Manoeuvring joystick

Allows low-speed manoeuvring by autonomously managing main engines and thrusters.

21.Setting control panel and stabiliser fins

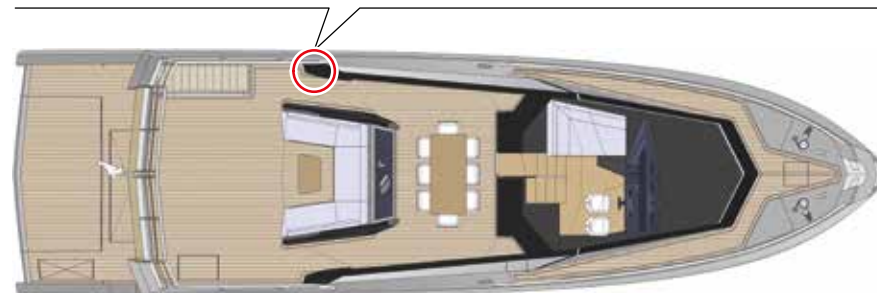
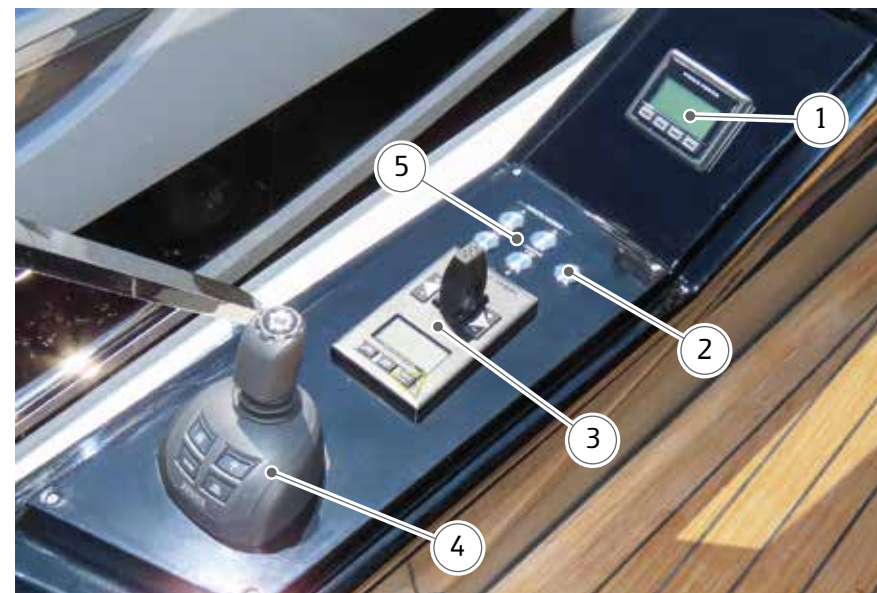
Allows for the management of setting correctors and stabiliser fins.

22.Control panel for bow and stern thrusters

Allow the thrust generated by bow and stern thrusters to be driven and managed.

4.1.2 Side helm positions

1. **Engine control panel**
Allows you to start and stop the main engines.
2. **Acoustic signal activator (opt)**
3. **Control panel for bow and stern thruster (opt)**
Allows the thrust generated by bow and stern thruster to be driven and managed.
4. **Joystick control of main engines and bow and stern thruster (opt)**
Allows low-speed manoeuvring by autonomously managing main engines and thrusters.
5. **Windlass control buttons**
Allow operation of the windlass to be activated and managed.
For a proper operation, check the anchors position through the visualization of bow cameras on the wheelhouse multifunctional displays.



4.2 INSTRUMENTATION

4.2.1 Synoptic on the helm station

The synoptic panel is located on the starboard side of the helm station.
The functions on the panel are as follows:

1. **Indicator lights and navigation light test buttons**
Allow for the status of on-board utilities to be monitored.
2. **Alarm warning lights**
These report:
 - Shore socket connected
 - Non-locking stern platform
 - Pulled gangway.
3. **Grey water level operation and monitoring controls**
Allow to select the grey water pump operating mode and activate it manually.
The dedicated lights make it possible to monitor how full the grey water tank is.
4. **Pump operation and black water level monitoring controls**
Allow to select the black water pump operating mode and activate it manually.
The dedicated lights make it possible to monitor how full the black water tank is.
5. **Bilge pump activation buttons**
Allow to activate and monitor the status of the bilge pumps located in the various compartments of the yacht.
The warning lights make it possible to monitor any water in the bilge.



4.2.2 VHF-DSC Radiotelephone

The VHF device allows communication on channels dedicated to Port Authority, rescue and radio stations.

To ask for rescue it is necessary to use the suitable VHF/FM channel: after each hour, as a legal rule, follow 6 minutes of silence, from minute 0 to minute 3 and from minute 30 to minute 33, so as to enable a better listening of the distress communications.

If the VHF is used, the distress call must be preceded and ended by the wording **"MAYDAY, MAYDAY, MAYDAY"**.

It is therefore necessary to give your position, the yacht's name, the kind of damage and the kind of help you require (medical, mechanical, etc..).

⚠ CAUTION

Perform the **"MAYDAY"** rescue call, only in case of real need.

If, listening to the distress channel, a distress call that has not yet received an answer is picked up, it is possible to send a **"MAYDAY RELAY, MAYDAY RELAY, MAYDAY RELAY"**, forwarding the communication of the person who requested rescue.

It can in fact happen that the distress call, carried out on the open sea or by means of a poorly powered sender, is not received by the rescue team.

Acting as a spokesman, you can help the message reach its destination successfully.

⚠ CAUTION

Perform the call **"MAYDAY RELAY"** only if there is a reasonable certainty that the message has not been collected by the rescue team so as not to engage the distress channel uselessly.

The use of the standard procedure avoids creating confusion and shortens the transmission time. In case of danger, use only the phonetic alphabet recommended.



The VHF device is a vital and important communication line; please remember some fundamental rules:

- No transmission should be performed without reason;
- Listen before transmission so as to avoid interference with other senders;
- For distress calls, use and hold the best possible wireless contact;
- Always use your call identification or the name of the yacht in order to make yourself identifiable. The use of names or family names is not allowed;
- For distress calls it is important to give the yacht's position, the kind of danger, the time passed in water, the kind of yacht and the number of persons involved;
- For other calls, once the contact with the person called has been established, transfer the call on an operation channel;
- Cut out transmission if required by a coastal station;
- Retune the radio when the call is ended.

Operate the radiotelephone according to following instructions:

- Supply the radiotelephone with the magneto-thermal switch located on the main electrical panel.
- Press ON/C key; as default setting the device switches on the priority channel (16) frequency. If the function "LAST CHANNEL USED" has been previously set, the radiotelephone will switch on the frequency of the last channel selected.

The display shows the channel number and the volume and squelch levels.



WARNING

For the selection of channels and activation of the particular functions of the radiotelephone, please refer to the specific manual supplied by the manufacturer.

The keyboard has digital keys for the selection of the channels and function keys for the adjustment of the volume, of the squelch and of the scanning function.

The SHIFT key allows the access to the secondary functions.

The PTT key (press for transmission) located on the port side of the device, is activated when the receiver is unhooked from the holder.

Key 16 allows selecting the channel for vocal rescue request. It is however possible to carry out selective digital calls, quicker and simpler than the traditional calls. To obtain this, lift the protection flap on the front side of the radiotelephone. Then press the DISTRESS key to get access to the various functions.

Use the keys ´ and ´ to scroll the various distress grades at disposal:

- Not defined (default setting)
- Abandonment
- Piracy
- Man overboard (MOB)
- Fire
- Flooding
- Collision
- Grounding
- Listing
- Sinking
- Adrift

Keep DISTRESS key pressed to begin down counting 5 seconds before the message is sent.

Press ON/C to return to normal mode.



CAUTION

The DSC-call should only be performed if the yacht is in a real distress situation. Otherwise, to send a DSC-call with no need is considered as an infringement.

MANUAL DISTRESS CALL:

- Select the distress channel by pressing key 16/9 or by scrolling the channels with the volume keys.
- Press the transmission key "PTT" on the radiotelephone and make the call.

MAYDAY - MAYDAY - MAYDAY THIS IS:

Repeat the yacht's name for 3 (three) times.

MAYDAY THIS IS:

Repeat the yacht's name.

AT POSITION:

Specify the position of the yacht.

SPECIFY THE DISTRESS CAUSE:

- Release the "PTT" transmission key.
- Wait for the reply for a few seconds.
- If you do not receive any reply, repeat the message at regular intervals, until receiving a reply.
- When you receive an answer, continue the conversation:
 - Hold down "PTT" while talking.
 - Release "PTT" while listening.
- It may be required to switch to a working channel.

AUTOMATIC DISTRESS CALL:

- Lift the cover and press the DIST key; the display will show the wording "Distress call Undefined".
- DIST hold for about 3 seconds, then displays the message: "DISTRESS CALL SENDING" and the radio beeps.
- The distress message will be sent automatically and repeated at irregular intervals on Channel 70. Channel 16 will be available for communication after each transmission.
- If you receive no response after a short time, try to send the distress message manually.

**WARNING**

After the automatic SOS has been activated, it must be turned OFF by pressing the ON / C, otherwise the help message continues to be transmitted. The SOS function is automatically locked until the number of DSC has been entered. Consult the manual provided by the manufacturer for the correct entry operations.

- You can press ´ or ´ to scroll through the transmitted Distress call information.
- You now have the following soft-key options:

RESEND

Displays "HOLD DISTRESS 3 SECONDS TO SEND". You can then:

- Hold down the red "DISTRESS" key for 3 seconds to resend the call;
- Press the "EXIT" soft key to return to waiting for an acknowledgement.

PAUSE

Pauses the call repeat mode. You can then:

- Press the "EXIT" soft key to resume the same call.

CANCEL

Displays "DISTRESS CALL SEND CANCEL." You can then:

- Press the software button "NO" to return to waiting for a confirmation of receipt;
- Press the "YES" software button to send the "DISTRESS CANCEL" signal;
- Press "PTT" and report your situation using the handset;
- When finished talking, press "X" to return to standby mode.

NOTE

For further information on use and maintenance, please refer to the manufacturer's manual.

4.2.3 Throttle

The throttle block is a system designed to manage engine revolutions and inverter gears via electrical signals.

The two levers control all engines and propulsion units on your yacht.

In the case where the levers are in different positions to each other, but the engines operate as follows:

A - Levers both forward and reverse: all three engines deliver thrust in the chosen direction.

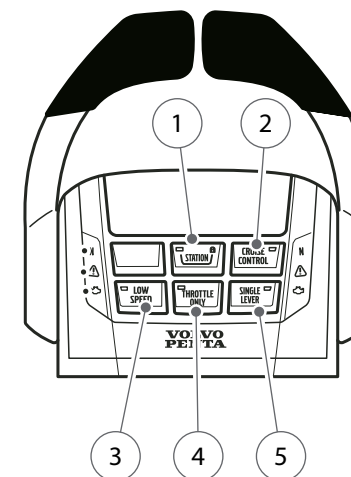
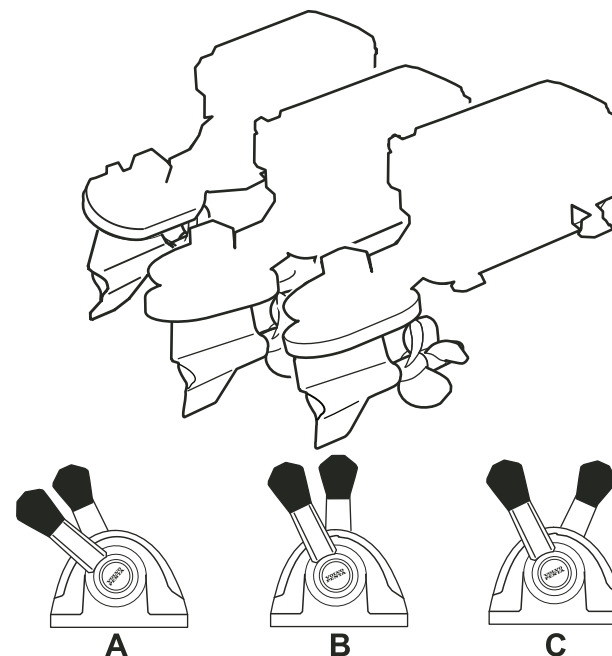
B - Levers in position one in neutral and one in forward or reverse: the central engine is in neutral and the other two engines will behave as selected via the levers (one in neutral and the other in forward or reverse).

C - Levers one forwards and the other backwards: the mid-engine is in neutral. The other engines will behave as selected via the levers (one in forward and the other in reverse).

Engine and transmission functions are controlled by buttons on the throttle block installed on the dashboard.

1. Station: press to activate the command station
2. Cruise control: press to activate the yacht's cruise control. you can increase or decrease the cruise speed by pressing the button at the rear of the throttle block.
3. Low speed: press to activate the low speed function.
4. Throttle only: Press to disable shift functions. The throttle lock in this mode only acts on the engine speed.
5. Single lever: Pressing this button activates the single lever function. The lever that is first moved controls all the engines.

The activation of each function is signalled by the illumination of an indicator light on each button.



NOTE

For further information on use and maintenance, please refer to the manufacturer's manual.

4.2.4 Magnetic compass

A magnetic compass fitted on the dashboard of a yacht is inevitably close to the magnetic fields produced by the electric and electronic systems on board. This condition is called "variation".

Only a skilled technician should set the compass to correct the variation and supply an accurate deviation schedule. This procedure is called "compass compensation" or "compass setting".

Compensate the compass after the yacht launch or when replacing it, in order to eliminate possible mistakes due to the compass position.

Do not approach the compass to steel or iron objects or objects made of other ferrous materials (e.g. tools, wrenches, batteries, etc..). The ferrous materials close to the compass alter the readings and make them unreliable. Remove any unnecessary object near the compass.

NOTE

The compass delivered with the yacht is not compensated for change or deviation. Any electrical or metallic item located in its proximity may influence the compass. The yacht's owner is responsible for the compass compensation. Compensation should be carried out after installing additional electronic equipment or once a year after a prolonged period of mooring or ground lay-up. Compensation should be carried out only by authorized and qualified personnel. As a compass can rarely be set to zero variation on all courses, the technician in charge of its compensation should give you a card containing the corrections to be applied to navigation calculations. Always keep this card available on the main helm station.

NOTE

For further information on use and maintenance, please refer to the manufacturer's manual.

4.2.5 Engine control panel

Engine control panels allow the propulsion engines to be switched ON and OFF.

The system is also equipped with an E-key which, when brought close to the control panels, enables the possibility of starting the engines.



WARNING

The electronic engine start system does not require a key to be inserted, but only the electronic key (E-key) on the engine ignition panel needs to be approached.

4.2.6 Thrusters control panel

On the control panel are the activation buttons and joysticks for controlling the operating propellers (with the screen-printed side of the side arrows).

NOTE

For further information on use and maintenance, please refer to the manufacturer's manual.

4.2.7 Multifunction display

Radar / Chartplotter / Fishfinder:

The radar/chartplotter interlocks radar, Fishfinder, plotter, ais, autopilot.



DANGER

Radiation danger.

The radar antenna emits radiations, which can damage the human body, especially the eyes. When the radar is operating, never look straight at the transmission aerial from a distance shorter than 40 in.

When the radar is in operation it is essential to stay out of the antenna's flow direction; therefore steer the yacht exclusively from the helm station. Turn OFF the radar when not strictly necessary for navigation.



WARNING

Be very careful when navigating, as a radar shadow forms near the yacht.



CAUTION

The electronic chart is an aid to navigation, designed to facilitate the use of authorized government charts, not to replace them. Only official government charts and notices to mariners contain all information needed for the safety of navigation and, as always, the Captain is responsible for their proper use.

MAINTENANCE

At least once a week carry out the cleaning of the LCD.

At least once every six months check the connection and the presence of corrosion on the cables.

Automatic pilot (autopilot):

The operation modes of the autopilot are following:

- AUTO (automatic control of the current heading as set course);
- NO DRIFT (advanced control of bow heading, cancelling the effects of wind, tides and rolling);
- NAV (track control);
- STBY (yacht control by means of the steering wheel).

The autopilot functions are checked by simply pressing the keys.



DANGER

When navigating with the autopilot enabled and if there is an obstacle in front of the yacht's bow, the best thing to do is set the device to standby in order to definitively take control of the yacht. Once by-passed the obstacle the device can be switched on by setting the track again.



WARNING

This instrument has been designed in order to offer the maximum precision and reliability; anyway its performance can be influenced by many factors. For this reason we recommend its use only as an help to navigation. A careful and continuous monitoring has always to be kept also under the best navigation and sea conditions.

MAINTENANCE

At least once a week check the correct operation. At least once every six months check all connections. When necessary have it calibrated.



WARNING

Never place electric and/or electronic sources of any kind closer than 1 meter from the autopilot compass (particularly in presence of loudspeakers, transceivers, tool boxes, etc..) because they could jeopardize the operation and reliability of the autopilot.



WARNING

An autopilot is a very useful navigational aid, but DOES NOT replace under any circumstances a human navigator.

Do not use automatic steering when:

- In heavy traffic areas or in narrow waters;
- In poor visibility or extreme sea conditions;
- When in areas where use of autopilot is prohibited by law.

When using an autopilot:

- Do not leave the helm unattended;
- Do not place any magnetic material or equipment near heading sensor used in the autopilot system;
- Verify at regular intervals course and position of yacht.
- Always switch to Standby mode and reduce speed in due time to avoid hazardous situations.

NOTE

For further information on use and maintenance, please refer to the manufacturer's manual.

4.2.8 Steering wheel

The rudder wheel, by means of an electric actuator, is connected to the stern foot, which steers the propeller's direction of propulsion.

4.2.9 Manoeuvring joystick

The system is designed to allow controlling your yacht with one hand. The joystick system offers high precision, for safe and stress-free manoeuvres. Optional dynamic positioning functions complete the package.

The shoring of yachts can become complex and demanding, even for the most experienced captains. The system allows performing these manoeuvres with a single control element, the joystick, and to pilot the yacht in an intuitive and precise way. The captain can focus all his attention to the manoeuvre, while the system takes control of the transmissions.

An integrated vector control intelligently manages the engines and thrusters to ensure that the yacht accurately mimics the movement of the joystick. The direction can be maintained by implementing the angle of inclination in the calculation.

Several functions can be selected using the buttons on the base of the joystick:

1. Docking: this function must be used during docking manoeuvres. By enabling it, engine revs are limited, and the yacht is governed entirely by the joystick.
2. Dynamic Position System: when enabled, this function helps the yacht maintain the position in which it is stopped.



CAUTION

The yacht with active DPS is cruising. The captain has the same responsibilities in terms of supervision as when the yacht is cruising.

3. Joystick Driving: enabling this function allows the yacht to be navigated using the joystick only.
4. High Mode: enabling this function allows the yacht to have additional power during docking manoeuvres.

NOTE

For further information on use and maintenance, please refer to the manufacturer's manual.

4.2.10 WATCHIT system (optional)

WATCHIT is an advanced system intended to assist the captain in operating the yacht in a safer way by providing an alert about potential risks both over and under the water.

This system processes data from the on-board sensors (GPS position, heading, speed, rudder angle, LOG, wind indicator, etc..) and from the maps data which allows to constantly assess the risk of collision and issue warnings in real time to prevent accidents at sea.

CAUTION

Do not use the system as a navigational tool as it is not intended as such. This system is intended only as an aid to navigation and does not substitute safe and alert yacht navigation and operation by a qualified operator.

Once the system was installed on board your yacht and was calibrated, there is no need to actively operate the system. The only action needs to be taken before leaving your port or marine is making sure the power supply switch/fuse is ON and the system will automatically power up.

The system has 4 modes of operation:

- **Normal Mode** – In this mode the system will generate a vocal an obstacle alert in case it has detected a potential hazard on the yacht's path. The alert will be heard 30 seconds before impact in order to allow enough time for the skipper to react.
- **Crowd Mode** – Whenever the system detects multiple objects in the near surrounding and the yacht speed is less than 15 Knots - the system will automatically switch to Crowd Mode and the vocal alerts will be replaced with Beeps to inform the captain about any potential risks. The beeps frequency will increase as the risking object will get closer to the yacht.
- **Anchor Mode** – Whenever the system has detected that the yacht has stopped – it will automatically switch to Anchor Mode. Incase the system has detected the yacht is drifting, it will popup a Drifting Notification. After 5 minutes incase no one acknowledge the notification – a drifting alert will be triggered.
- **Marina Mode** – Whenever the yacht has entered a marina, the system will switch to Marina Mode. In this mode no vocal alerts will be heard.



NOTE

For further information on use and maintenance, please refer to the manufacturer's manual.



wallywhy150

5
WATER SYSTEMS

WALLY



5.1 FRESH WATER SYSTEM

The system consists of:

- Fresh water tank;
- Shore connection;
- Fresh water inlet nozzle (1);
- Watermaker and water purifier (3);
- Autoclave group (2);
- Water heater;
- Water distribution manifold.

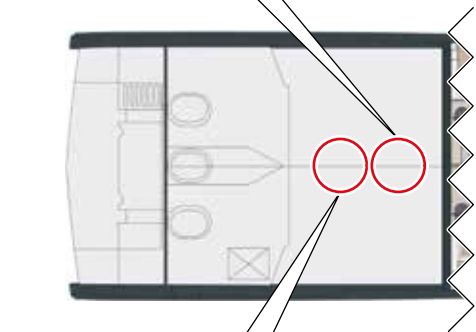
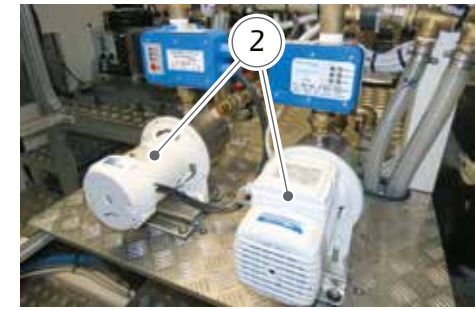
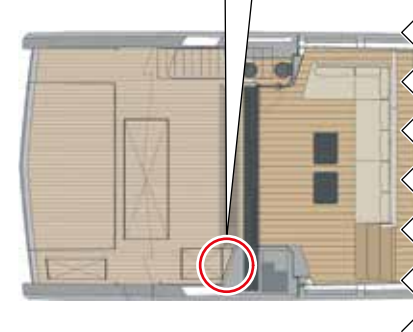
The fresh water system has a total capacity of 2000l (528 gal).

On the tank are installed the following connections:

- **Water inlet**
It is located in the aft cockpit inside a locker
- **Fresh water suction**
It supplies water to the autoclave pumps which pressurise the entire cold/hot water circuit. The autoclave pumps, in order to work, must be powered via the magneto-thermal breaker located on the main electrical panel.
- **Tank water level transducer**
It checks the fresh water level in the tank. The water level in the tank may be monitored through the control panel.

The system can also be supplied from shore.

The various utilities can thus be served without the aid of the on board autoclave thanks to the pressure of the shore water system.



The fresh water system is equipped with an autoclave pump with electronic pressure regulator, which requires:

- Less use of the batteries, as the pumps activates only with high delivery requests;
- The pumps continuous operation, eliminating the connection and disconnection phases;
- The device stopping the pumps in case of water lack is installed on both pumps;
- The pumps start after reaching the minimum pressure value set.

The panel with warning lights displays the various operation stages:

- Power On (green light - voltage);
- On (yellow light - pump runs for some seconds and brings the system under pressure 2.8/3 bar).

At utility connection the system starts the pump automatically, this latter stops when the utility disconnects, after resetting the system under pressure. When faults occur, such as water leak or pipe clogging, the electronic regulator indicates the faults by means of "Failure" red light and stops the pump.

The system restarts either by pressing the red Restart button, or by handling on the magneto-thermal switch on main electrical panel (by cutting out/in the pump voltage supply).

CAUTION

Before refilling the fresh water tank, check that the water supplied by the shore fresh water system is drinkable.

CAUTION

The fresh water circuit, and particularly the tank, must be sanitized periodically by pouring in the case a specific disinfectant solution. We recommend in any case that the water coming from the on-board system not be drunk.

CAUTION

On yacht equipped with direct connection to shore fresh water, the maximum operation pressure should not exceed 2.8 bar and the pipes must be disconnected for safety reasons, if the yacht is left unattended. Although there is a pressure reducer, check the pressure from the pressure gauge installed on this regulator.

CAUTION

Regularly inspect the fresh water and bilge circuits for leaks. Repair any leaks by releasing the pressure in the system, in order to avoid damaging the furniture and the electrical equipment.

CAUTION

The pressure regulator at pumps output is set at the factory; do not modify.

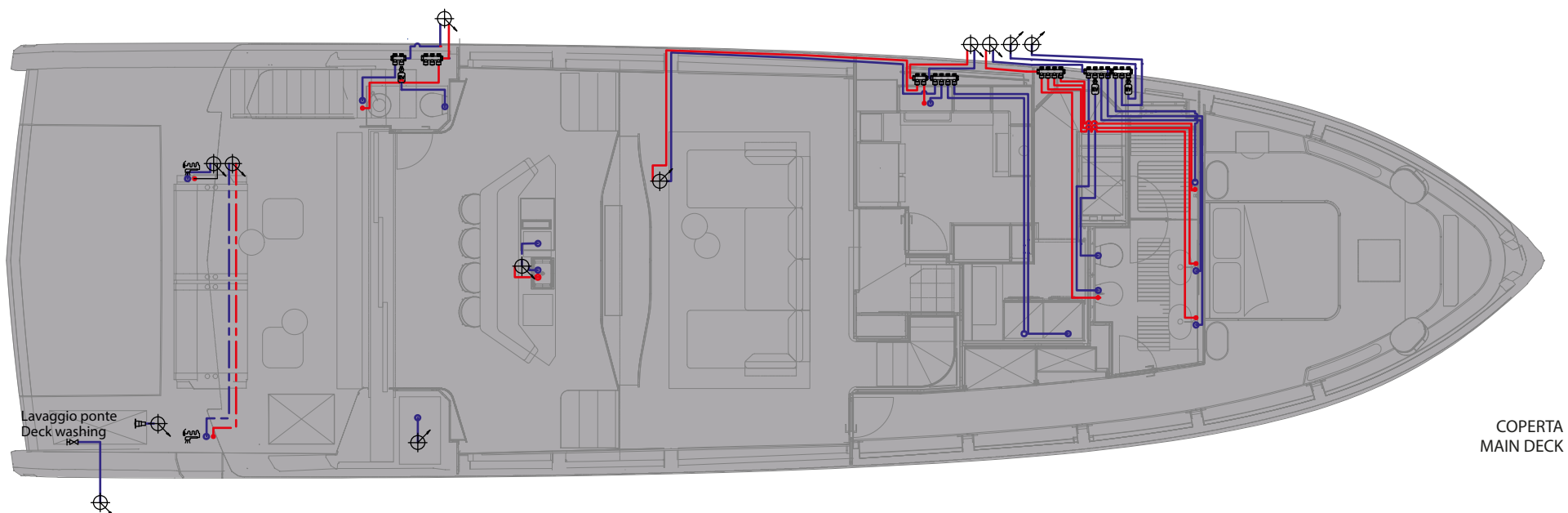
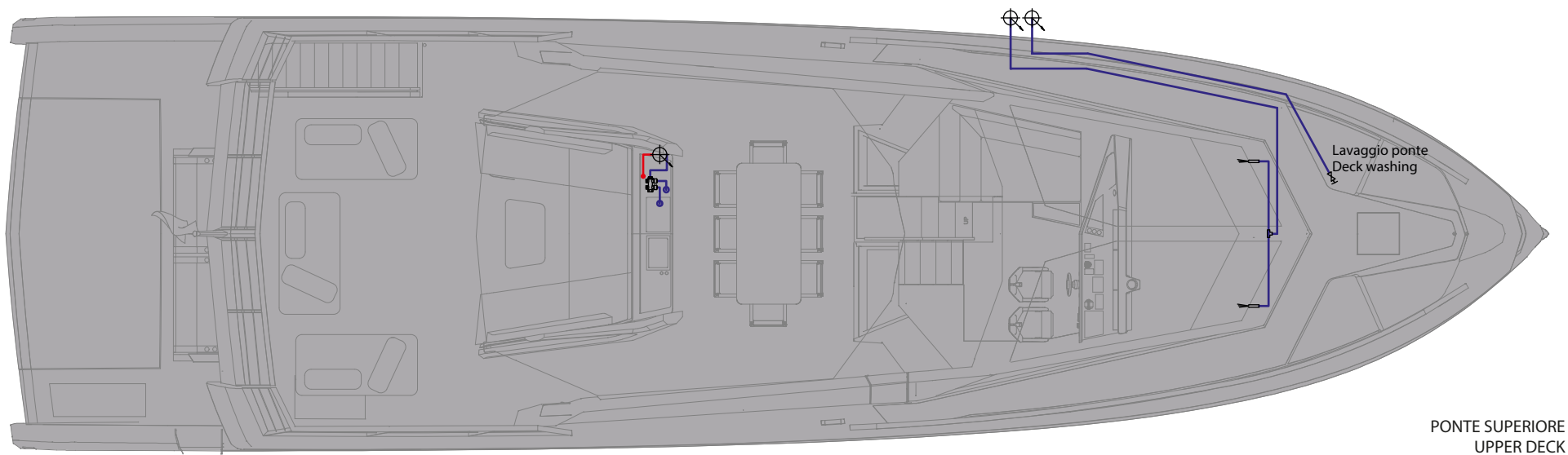
CAUTION

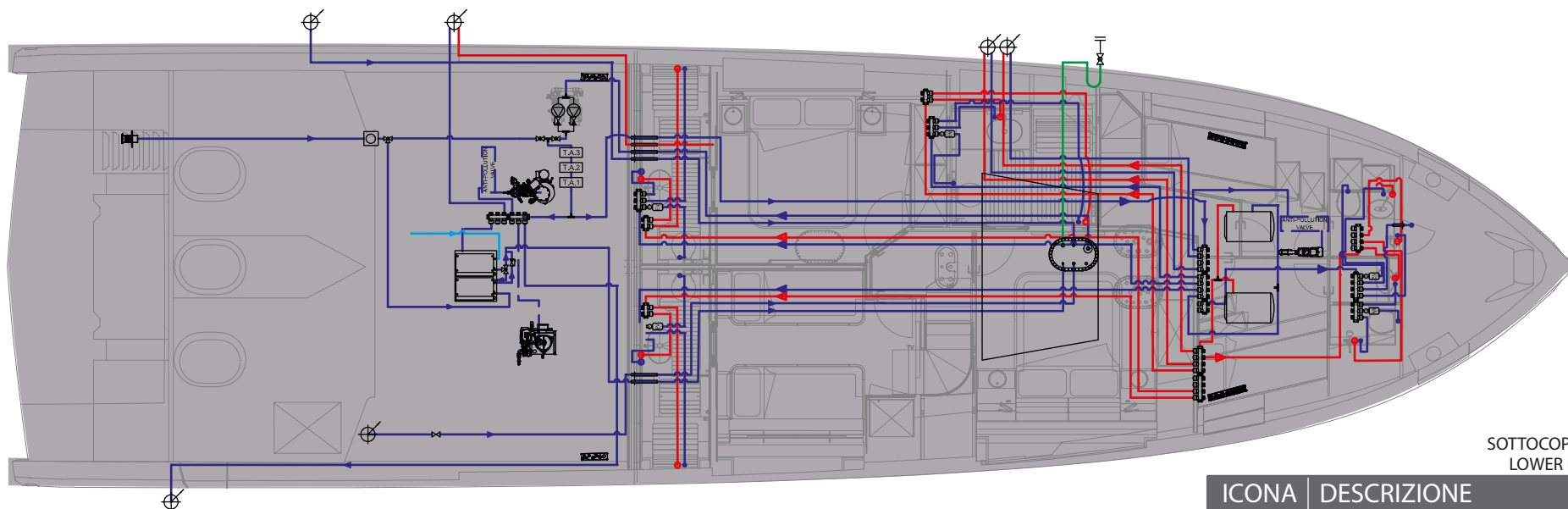
The inlet plug is marked "WATER" to avoid accidental introduction of different liquids. To avoid damage to the system and tanks, we recommend replenishing by gravity and not by pressure.

WARNING

It is a good norm to optimise the use of water, especially if navigating at open sea!

Fresh water system diagram:




SOTTOCOPERTA
LOWER DECK

ICONA ICON	DESCRIZIONE DESCRIPTION	ICONA ICON	DESCRIZIONE DESCRIPTION	ICONA ICON	DESCRIZIONE DESCRIPTION	ICONA ICON	DESCRIZIONE DESCRIPTION
	Raccordo a T T-junction		Ugello lavavetri Washer nozzle		Dissalatore Watermaker		Sea Xchange e Spot Zero Sea Xchange and Spot Zero
	Valvola di non ritorno Non return valve		Passaparatia stagno Watertight bulkhead		Riduttore di pressione Pressure reducer		Attacco a baionetta Straight bayonet
	Elettrovalvola con filtro Solenoid valve with filter		Fuori bordo Overboard		Imbarco acqua Fresh water filling		Linea acqua fredda Cold water line
	Lavaggio ponte con valvola Deck washing station		Al ponte superiore To upper deck		Collettore valvolato Manifold with valves		Linea acqua calda Hot water line
	Addolcitore Water softener		Al ponte inferiore To lower deck		Doccetta Shower head		Linea ricircolo Circulation line
	Filtro a carboni attivi Carbon filter		Gruppo autoclavi Water pumps		Pompa di alimentazione Feeding pump		Linea sfiato Air vent line
	Sterilizzatore UV UV sterilizer		Boiler Water heater		Attacco da banchina Freshwater inlet		Cavo elettrico Electrical cable
							Optional Optional

5.1.1 Cold and hot fresh water system

Cold fresh water system:

The system is kept under pressure by the autoclave pumps (1).

The pumps feed the system by sucking the water from the tank, which supplies the on-board utilities through pipes and distribution manifolds:

! WARNING

Before activating the system, ensure the proper position opening/ closing of the manifold valves: valve open, lever parallel to input hose, valve closed, lever perpendicular to input hose.

! WARNING

During navigation and, in general, when the water in the tank is used, we remind closing the valve fitted on the shore inlet line, located in the engine room.

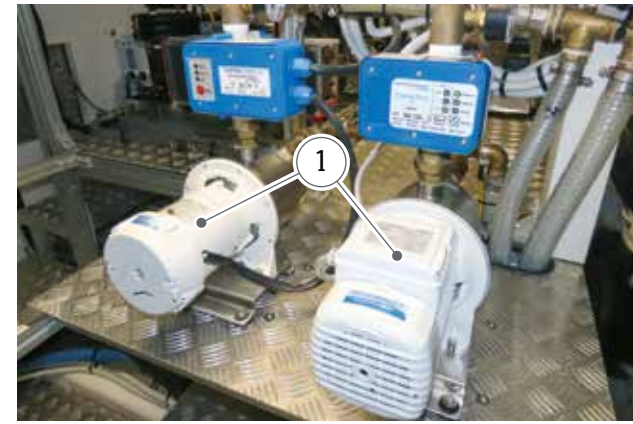
Hot fresh water system:

The water is drawn from the tank and via the autoclave pump is sent to the water heater (2), which heats it.

The surge tank pump keeps the circuit under pressure continuously. The thermostatic valves installed on the water heater allow the setting of the hot water temperature at the taps.

In order to use hot water, it is necessary to:

- The water heater and autoclave magneto-thermal switches in the main electrical panel located in the engine room must be in the ON position;
- Ensure that a power supply is connected (generator or shore);
- Make sure the service battery breaker is set to ON.



The water heaters are powered at 230 V AC, taken from shore or from the on board power generators. By means of a distribution manifold, the hot water is conveyed to the on-board utilities.

**WARNING**

To activate the water heater, either activate the generator or get connected to shore mains, without forgetting to check the current amperage of the harbour you are moored into.

**WARNING**

Never switch on the electric resistance if the water heater is empty.

NOTE

For further information on use and maintenance, please refer to the manufacturer's manual.

5.1.2 Watermaker

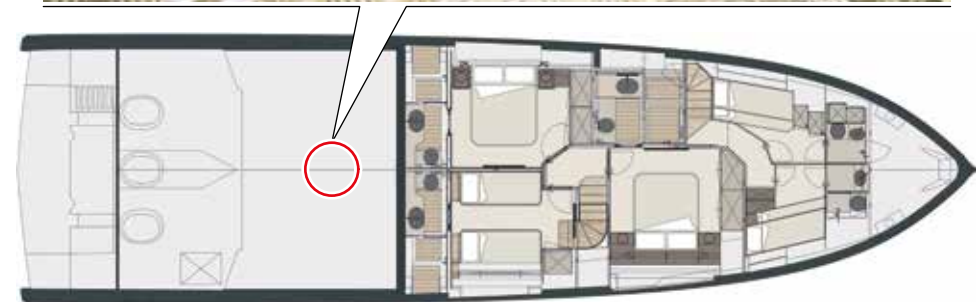
To solve the problem of water supply and to ensure a constant availability also during long navigations, the yacht has been provided with a watermaker system.

The watermakers are installed in the engine room and draws seawater through the dedicated sea inlet by means of a dedicated electric pump and, after straining and treating, sends it to the on-board tank.

Before the sea water is treated, it is filtered in order to remove all "suspended" particles, such as small seaweed and impurities in the water, which could clog the inner membranes of the watermakers, even within a short amount of time.

Excess water and salt concentrate are discharged overboard. In order to prevent the problem of the deposit of salts on the inner membranes and their crystallization over time, the system has been provided with an end-of-cycle flushing system which uses fresh water. Given the importance of this operation, clean the inner membranes of the watermakers according to the procedures and the schedules indicated by the manufacturer.

On the general electrical panel in the engine room (230 V mains), there is a magneto-thermal breaker which supplies and protects the watermakers system.



⚠ CAUTION

The watermaker is to be kept in good condition by scrupulously following the indications in the specific manual. Bad maintenance can lead to production of non-potable water unsuitable for food use.

⚠ CAUTION

The watermaker does not eliminate all dangerous agents present in polluted waters (see specific manual). Use the watermaker only in clean waters, to avoid contamination of its membranes, tanks and of the whole circuit.

**CAUTION**

In order to prevent clogging the watermaker filters and membranes, do not use the system where sea water is dirty or contains a great deal of sand in suspension.

NOTE

For further information on use and maintenance, please refer to the manufacturer's manual.

5.1.3 Fresh water system maintenance

Component	Maintenance	Notes and precautions
Fresh water tanks	Cleaning and checks	At least every month, drain the fresh water tanks completely and rinse them a couple of times with clean fresh water for change completely the water stowed in the storing tanks and at the same time to wash them too. Periodically pour a specific disinfectant, in the quantity recommended by the Builder, into the tanks, through the intake filler, in order to prevent the formation of bacteria in the system.
Electric water heater	Cleaning and checks	MAINTENANCE At least once a month check the operation of the water heater. At least once a month check the operation of the relief valve. At least once a year carry out the thermostat calibration, and if necessary, have it calibrated again. At least every two years descale the resistor.  CAUTION If warm water is not available, because of the fresh water circuit discharge, switch off the water heater to prevent damaging it resistor.
Fresh water system	Checks	In case of need or of maintenance, by acting on the valves installed on the distribution manifolds, it is possible to cut out parts of the system or single utilities, without involving the operation of the general system. Check if along the hydraulic circuit, where possible, are present leaks due to the damage of piping.  WARNING The high temperature can cause the softening of the pipes and the following slackening of the fittings. Always check the pipes tightening, especially those located near heat sources.  WARNING During the winter, if you do not use the yacht, it is advisable to drain all the circuits where there is fresh water to avoid cracks due to frost.

Component	Maintenance	Notes and precautions
Surge tank pump	Cleaning and checks	The maintenance of the pump should be serviced by qualified personnel only, after having been disconnected from the power mains. No routine maintenance is required so long as the following precautions are taken: • In case of freezing risk, it is necessary to empty the pump body; then refill the pump before operating it but make sure the ambient temperature is higher than the water freezing temperature. • Make sure the pump never works dry. • If the pump remains unused for a long time, it is better to empty the body and clean it. • Periodically check the efficiency of valves and strainers. • To Direct Current motors the brushes must be periodically checked for consumption and spring pressure. Protect electric components of the pump with proper products. For further information, see the Manufacturer's Manual.  WARNING During the winter, if you do not use the yacht, it is advisable to drain all the circuits where there is fresh water to avoid cracks due to frost.  WARNING The surge tank pump is self-priming but it needs though, in order to operate, to have its body filled with liquid. For a correct use, we recommend priming first or after a long period of idling, to fill the pump body with liquid, to check the pressure inside the tank (it must have the same pressure priming the electric pump) and to verify the clockwise rotation of the pump (seen from the engine side).

Component	Maintenance	Notes and precautions
Surge tank pump	Cleaning and checks	 WARNING If the control panel shows the pump operating led remains always lit, but the connected utilities are not in use, check for leaks.  WARNING When anomalous situations occur, such as lack of water or pipes clogging, it indicates the presence of faults by means of the red light "Failure" and stops the pump. By pressing red button (reset) the system restart.  DANGER Before carrying out maintenance on the fresh water pump, avoid its accidental priming.

5.2 GREY WATER SYSTEM

The grey water system is organised in such a way as to collect the discharges of: washbasins, showers and bidets and fan-coils, in the secondary collection tanks from which these are sent to the main tank located in the bilge below the dunnages in the VIP cabin.

From the tank, through a pipe that reaches the grey water pump (1) located in the engine room, the water is discharged into the sea through a drain located in the engine room.

The grey water pump is controlled from the bridge control panel. The grey water system also includes some Rule compartments, to collect fan-coil condensate.

These cisterns are internally equipped with an emptying pump that is automatically activated thanks to a level sensor, discharging directly in the main tank.

The grey water pump has two operating modes, "AUTOMATIC" and "MANUAL", which can be selected by means of the control on the synoptic panel.

In "AUTOMATIC" mode, reaching the 3/4 level enables the pump, which remains active until the low level is reached.

If the pump is active, switching the auto/manual selector stops the pump.

In "MANUAL" mode, press the "MANUAL ON" button to start the pump.

The pump remains active until the low level is reached.

If the level is lower than the low level, the pump will not start, not even pressing the "MANUAL ON" button.

The yacht can be equipped with a black/grey water treatment system (opt).

NOTE

The tank level should always be checked using the warning lights on the bridge or, in any case, the tank should be emptied under manual control before entering port, in order to avoid having to cruise out to sea again to empty it.





CAUTION

The alarm is triggered with the high contact of the main grey water tank, but the fresh water pump is not disabled.



ENVIRONMENT

Do not discharge soapy waters drained by washing machines and dishwashers in the harbour, inside marinas or near beaches, because of the large amount of foam produced.

To increase the reliability and safety of the system, it is possible in case of a fault in the grey water pump, to drain by means of the black water pump. Under such conditions, it is necessary to ensure the proper opening of the concerned manifold valves.

The system is equipped with anti-odour siphons to allow for regular flow and avoid the formation of unpleasant odours.



WARNING

Do not pour any corrosive product into the washbasins or showers or products at high temperatures, as they could cause damage to the grey water system.



CAUTION

Totally empty the system and the grey water tank before the lay-up period in order to prevent any problems with freezing.

MAINTENANCE

At least once every three months:

- Carry out the complete cleaning of the tank;
- Carry out the complete cleaning of the pump.

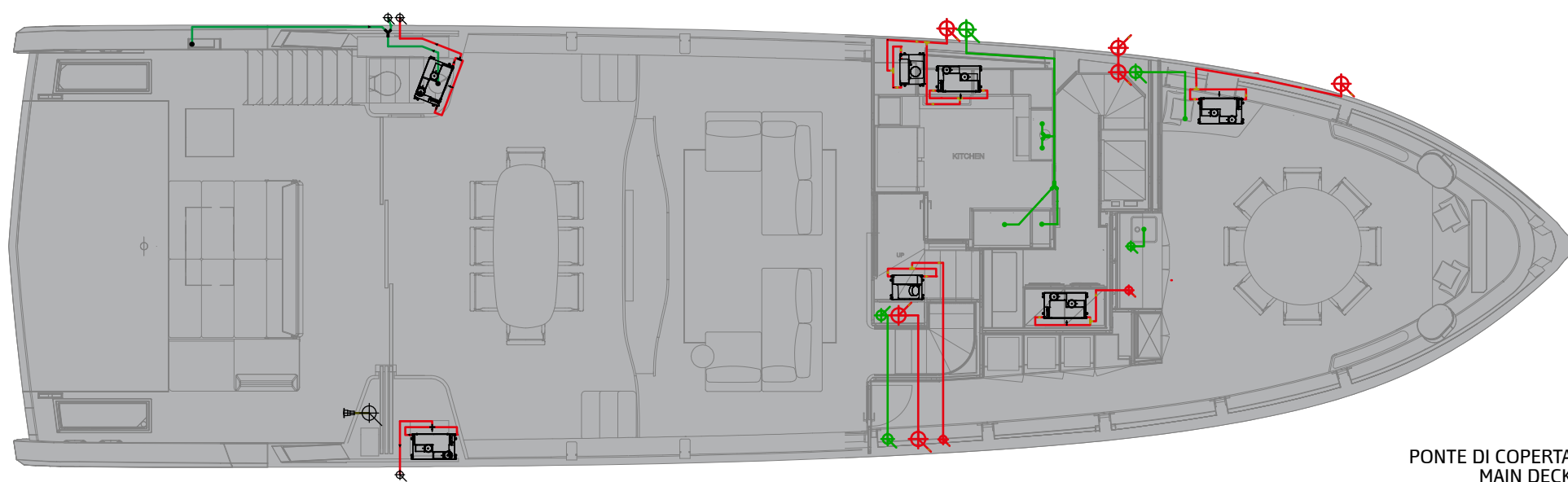
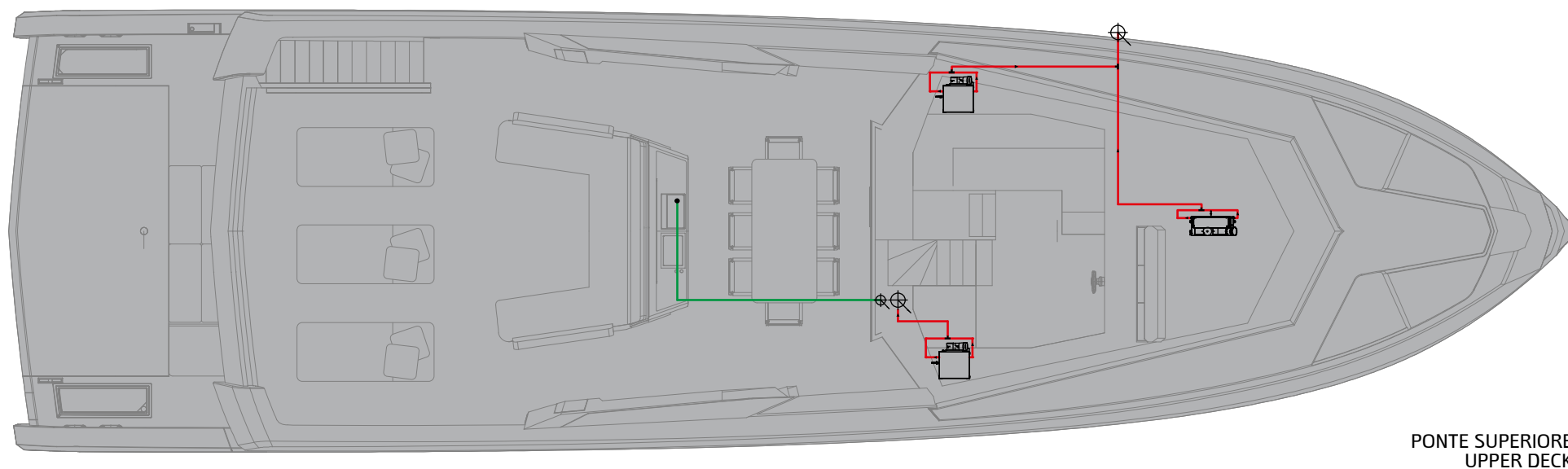
At least once every six months check the status of the pump.

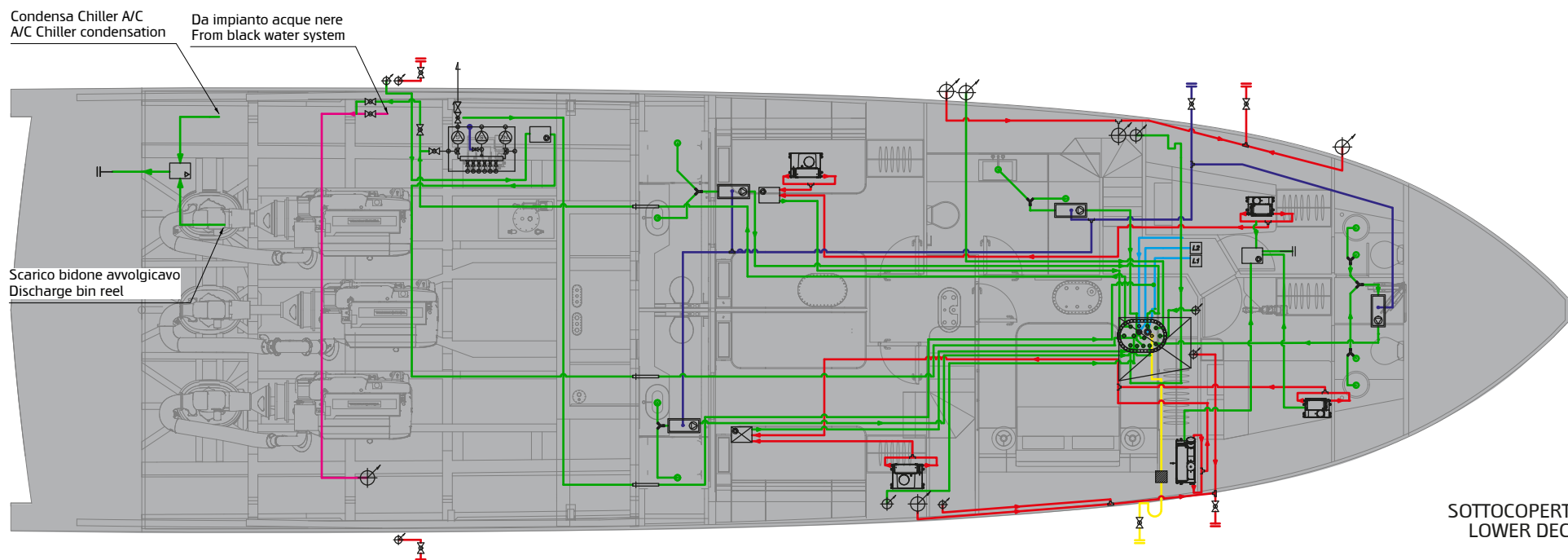


CAUTION

Do not activate the grey water pump manually if the level for the automatic stop is the lowest, to keep the pump primed.

Grey water system diagram:





ICONA ICON	DESCRIZIONE DESCRIPTION
	Valvola a sfera Ball valve
	Valvola di non ritorno Non return valve
	Valvola a 3 vie 3-way valve
	Bocchetta di scarico Outboard discharge
	Filtro anti odori No-smell filter
	Passaparatia stagno Watertight bulkhead
	Fuori bordo Over board

ICONA ICON	DESCRIZIONE DESCRIPTION
	Sonda a 3 contatti 3-contact probe
	Sensore di livello Level sensor
	Cassetta di rilancio Grey water pumping unit
	Cassetta raccolta acque Water pumping unit tank
	Al ponte superiore To upper deck
	Al ponte inferiore To lower deck
	Raccordo a T Equal "T"

ICONA ICON	DESCRIZIONE DESCRIPTION
	Gruppo preassemblato Assembled pumps
	Sifone Siphon
	Drenaggio fancoil Fancoil drainage
	Linea acque grigie Gray water line
	Linea sfiato Air vent line
	Linea acque nere Black water line
	Sea water line Linea acqua mare
	Ventilazione Air-vent

5.3 BLACK WATER SYSTEM

The system consists essentially of a tank and of a black water pump (1) draining off board.

The water used for washing the toilets is taken from the fresh water circuit through the distribution manifolds.

On the manifolds are installed the solenoid valves for each toilet; they allow the flush of water each time the buttons "Before use" or "After use", on the control panels of the toilets, are pressed.

Each toilet has a macerator pump conveying black waters into the holding tank.

The holding tank has a capacity of 500 l (132 gal).

The lid of the black water tank can be inspected from the dunnages in the VIP cabin.

A pump located in the engine room empties the tank via a suction line which discharges directly into the sea through a drain below the waterline.

The pump has two operating modes, automatic and manual, which can be selected by means of the control on the synoptic panel.

In "automatic" mode, reaching the 3/4 threshold triggers the pump, which remains active until the low level threshold is reached.

To start the pump In "MANUAL" mode, press the "MANUAL ON" button on the bridge control panel.

The pump remains active until the low level is reached.

If the level is lower than the low level, the pump will not start, not even pressing the "MANUAL ON" button.

The yacht can be equipped with a black/grey water treatment system (opt).



CAUTION

Within 12 nautical miles from the coast it is forbidden to discharge the black water tank into the sea; it is necessary to keep the discharge pump inactive and to exclude the automatic activation.

On the synoptic panel of the main helm station, there are the warning lights of full-tank WC-disabled, full-tank pre-alarm and manual or automatic activation control of tank drain

The possibility of discharging the sewage tank from the forward outlet of the stern cockpit and conveying its contents into the onshore sewage system is the solution with the least environmental impact, to be adopted whenever one is moored in an equipped place.

CAUTION

Before leaving port, check the level indicators of the sewage tank on the synoptic on the bridge in order to perform suction from the shore if necessary.

Procedure for emptying through the shoreside nozzle.

- Handle the hose by paying attention not to soil the deck teak, and dampen it ahead of time.
- Correctly fit the outlet for shore drain by means of the screw connection.
- Take advantage of harbour services for sewage intake with vacuum system.
- Once the operation is completed, disconnect the hose correctly by paying attention again so as not to soil the deck teak. If necessary, rinse.

Before entering shore, you should check the tank level and decide whether you should discharge at sea or use the port facilities by checking in advance if the your destination port is equipped for tank emptying through the nozzle.

To increase the reliability and safety of the system, in case of a fault in the black water pump, it is possible to drain by means of the grey water pump. Under such conditions, it is necessary to ensure the proper opening of the concerned manifold valves.

CAUTION

During the suction black water from the shore is strictly prohibited to:

- Use the toilet;
- Press the command button then operate the pump discharge overboard.

WARNING

Before use, make sure:

- Enable the utility by setting the WC system magneto-thermal switch on the helm station electrical panel to ON if necessary;
- The absence of the retention tank high level warning light on the bridge.

CAUTION

We recommend regularly monitor the level black water from monitoring system panel (Levels) to achieve optimum use of the retention system in compliance with environmental regulations locally in force.

CAUTION

In case of sinking hazard, if escaping condition allow you this, close the ball valve of the black water drain.

CAUTION

Totally empty the system and the black water tank before the lay-up period in order to prevent any problems with freezing.

CAUTION

For all pleasure yachts, drain at sea of on-board toilets is forbidden inside harbours, landings and moorings dedicated to yachts' anchor riding, and also within the limit of beaches visited by swimmers, as stated in the single regulations of the Port Authorities.

CAUTION

Direct sea discharge can only be carried out in the event of an emergency.

The holding tank is equipped with a sea water washing system. In order to wash the tank, you have to open the valve concerned, located on the tank door, and start the concerned pump.

This operation has to be performed periodically at a variable time interval, according to the use of the tank.
In addition to this, we recommend constantly checking the filling of the tank, so as to disconnect the pump when necessary.



WARNING

The valve for washing the holding tank must always be closed, except for during washing operations. If the valve remains open, the tank can be flooded and sea water can be boarded.



WARNING

The holding tank washing must be performed only in compliance with legislation in force, in the harbour, only under provided it is connected to the disposal facilities on land.



WARNING

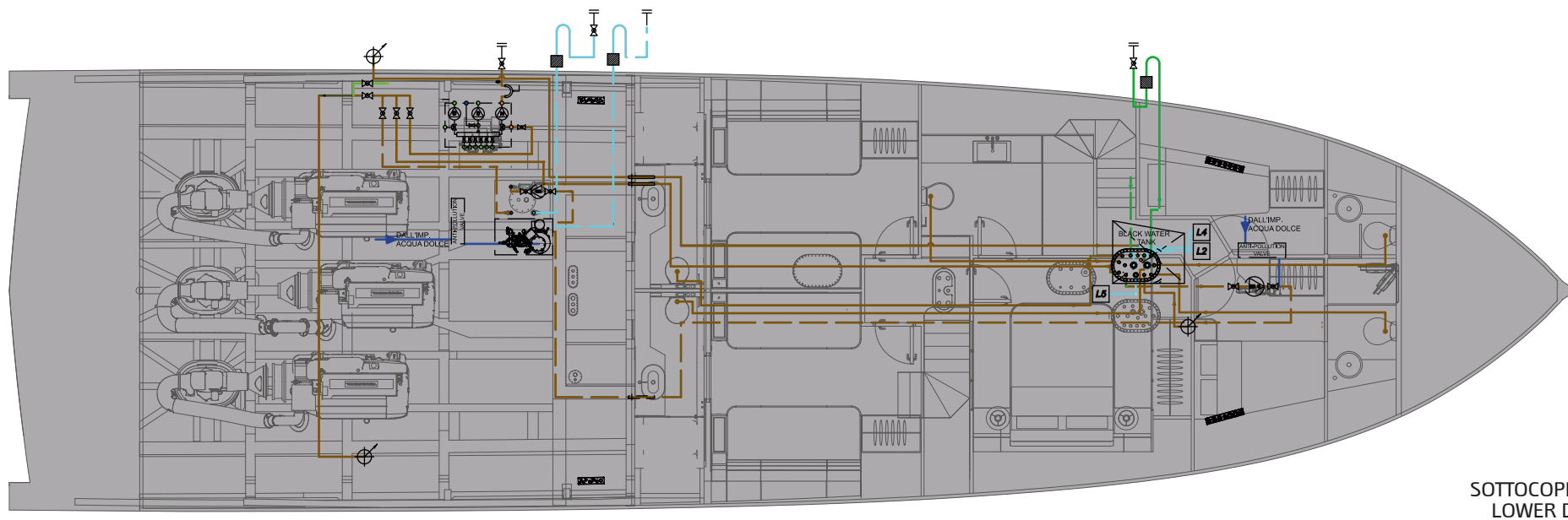
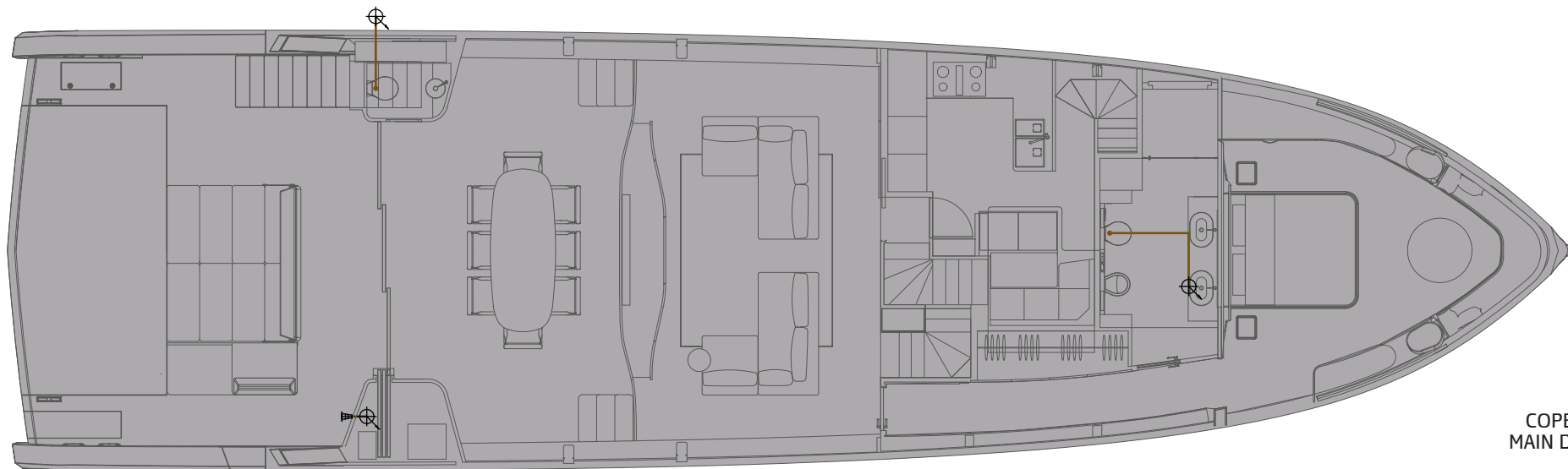
When using chemical products, follow the manufacturer indications meticulously and use the suitable protection devices.



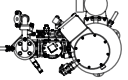
DANGER

Holding tank washing must be performed by experienced personnel and followed carefully until the tank is empty.
An excessive pump operation can cause the intake of a large quantity of water with consequent overfilling and bilge flooding.

Black water system diagram:



ICONA ICON	DESCRIZIONE DESCRIPTION
	Valvola di non ritorno Non return valve
	Valvola a sfera Ball valve
	Filtro anti odori No-smell filter
	Passaparatia stagno Watertight bulkhead penetration
	Fuori bordo Overboard
	Livellostato cassa fanghi Sludge tank level
	Livello cassa acque nere Black water level
	Livellostato acciaio Stainless steel level
	Sensore a tre vie Three-contact sensor
	Sonda livello acque nere Black water level gauge

ICONA ICON	DESCRIZIONE DESCRIPTION
	Sifone Siphonbreak
	Serbatoio fanghi Sludge tank
	Valvola antinquinamento Anti-pollution valve
	Pompa Feeding pump
	Trattamento acque nere Black water treatment
	Pompa Feeding pump
	Gruppo preassemblato Assembled pumps
	Pompa fanghi Sludge pump
	Linea acque nere Black water line
	Linea scarico Discharge line

ICONA ICON	DESCRIZIONE DESCRIPTION
	Linea acque grigie Grey water line
	Linea sfiato Air vent line
	Impianti optional Optional system
	Linea impianto aria compressa Compressed air system line

5.3.1 Operation of the toilet

The bathroom toilets are made of ceramic and their control panels contain two backlit buttons:

1. Button "before use"
2. Button "after use"

After 2 minutes of service the backlit buttons 1 and 2 switch off and the device sets to energy saving mode.

Approaching the hand to the panel, the backlight will be restored and the operation panel.

In case of alarm for a full tank, the two button icons are illuminated permanently.

To clean the surface of the panel, you can turn it off by pressing briefly one of the two buttons.

This prevents the accidental activation of the toilet control.

⚠ CAUTION

We suggest not to use the residential function of the toilet, as the water inside the toilet could splash out and wet the floor due to the yacht's rolling.

⚠ CAUTION

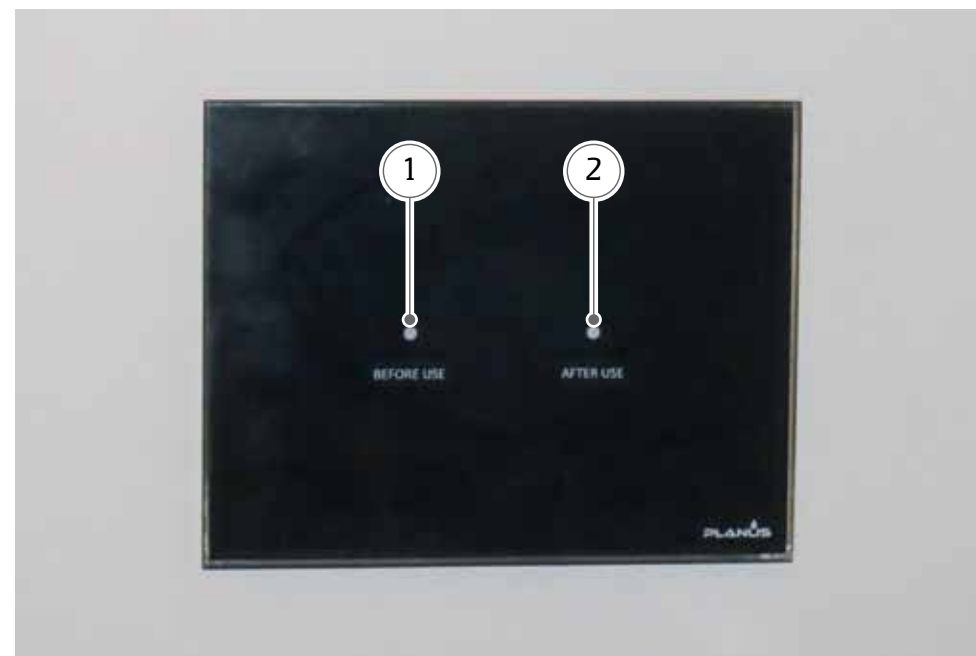
Except for organic waste, only very thin toilet paper can be discharged into the sea toilets. Paper tissues or handkerchiefs and sanitary napkins may clog and damage the sanitary system.

⚠ CAUTION

Make sure that toilets are electrically powered and that the black water system is operating before using them.

⚠ CAUTION

The full tank condition is indicated by the red light on the synoptic on the dashboard.



**CAUTION**

The disabling of toilet drain protection can cause the tank to overfill.

NOTE

For further information on use and maintenance, please refer to the manufacturer's manual.

5.3.2 Black and grey waters draining system maintenance

Component	Maintenance	Notes and precautions
Black and grey water tanks	Rinse the tanks (at least every month)	Have the tanks filled with clean water and drain them two or three times. To prevent the formation of bacteria and of bad smell, pour periodically a disinfectant into the toilet, sink and bidet drains.  CAUTION Should deodorants or disinfectants be used, avoid abrasive substances or acids, because they could damage tubes and seals.  CAUTION In case of need, break or pollution of the tanks, they can be replaced. Contact the WALLY After Sales & Service. MAINTENANCE At least once a week check the correct operation: • Of Toilets; • Of the black water pump. At least once every three months check the status of the tubes and connections. At least once every six months protect with proper products: • Of Toilets solenoid valves; • The black waters pump. When necessary, at least once a year, carry out the accurate cleaning of the holding tank.
Pumps	Replacement of impeller and mechanical seal	This is a complex operation and should only be undertaken by skilled personnel.  CAUTION The electric motor may become hot when running (see manual of the electric pumps). Pay attention. The electric pump must only be repaired by competent or qualified personnel, using manufacturer's spares; if this procedure is not followed, the manufacturer is relieved of any responsibility and warranty is void and null.

Component	Maintenance	Notes and precautions
Pumps	Operation check and cleaning (at least every month)	Electric pumps usually do not need ordinary maintenance, as long as some precautions are taken, which extend their lives (address to the pumps' Manufacturer).  DANGER Before each intervention make sure that voltage is disconnected and that there is no possibility of accidental connection. • If there is a risk of freezing, it is necessary to empty the pump casing from the liquid and to fill it, before restarting the pump. • Make sure that the pump never runs dry. • The DC motor brushes must be periodically checked for consumption and spring pressure. • If the pump does not work for a long time, it is better to empty the pump casing and clean it. • If a strainer and a foot valve are installed, check periodically for their efficiency and cleaning. • Check that the impeller is jammed, this could cause heavy damages to the electric motor; if this happens, descale the impeller and pump body. • At least once a month, have the operation of the grey/black water pumps checked, having their tanks filled with clean water until the pump activates and having the correct overboard draining checked.

5.4 SCUPPERS SYSTEM

The scupper system, by means of suitable holes and drainage channels, allows rainwater, seawater or other water that may fall onto the main deck to flow quickly off the yacht.

All waters collected by the scuppers are conveyed by means of manifold tubes, placed along the bulwarks.

The total or partial clogging of one or of more scuppers must absolutely be prevented, because it is a cause of flooding and consequent loss of stability by the yacht and its structures.



CAUTION

Always check the correct water flow towards the scuppers.

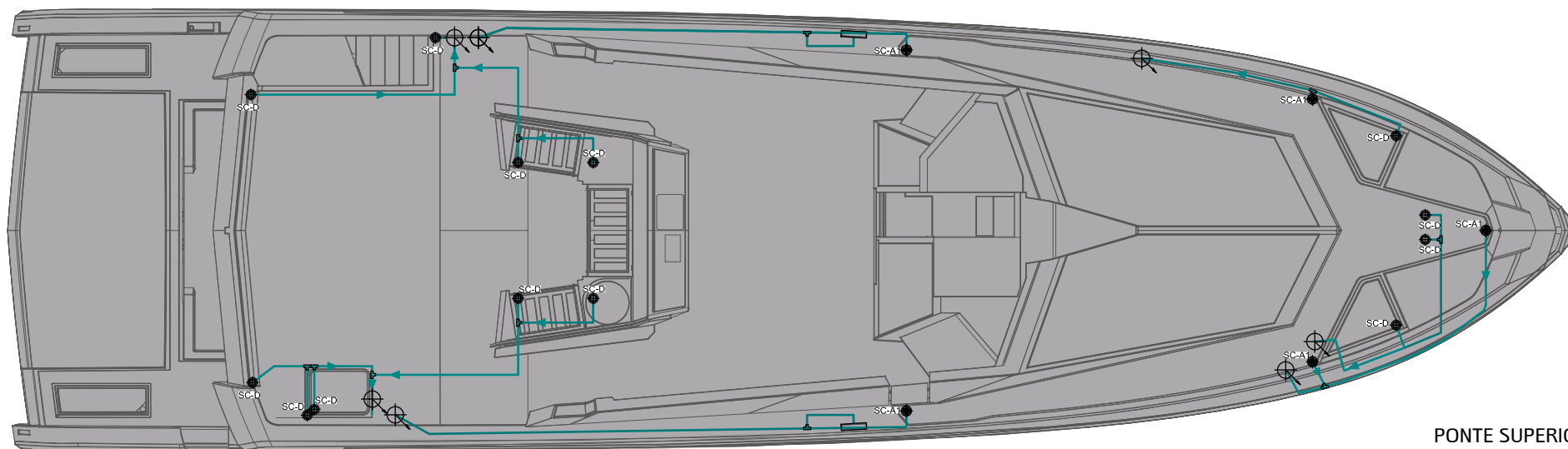
The partial or total clogging of one or more scuppers is a possible cause of damage for the yacht structure and of loss of stability.



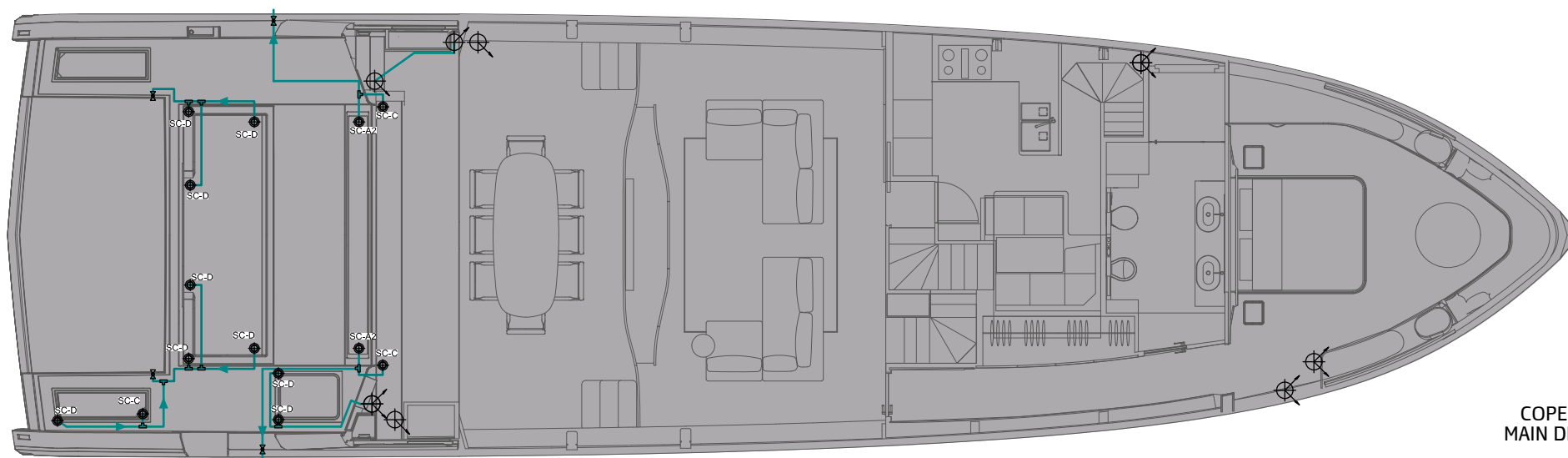
CAUTION

Avoid that incorrectly stowed objects clog the scuppers.

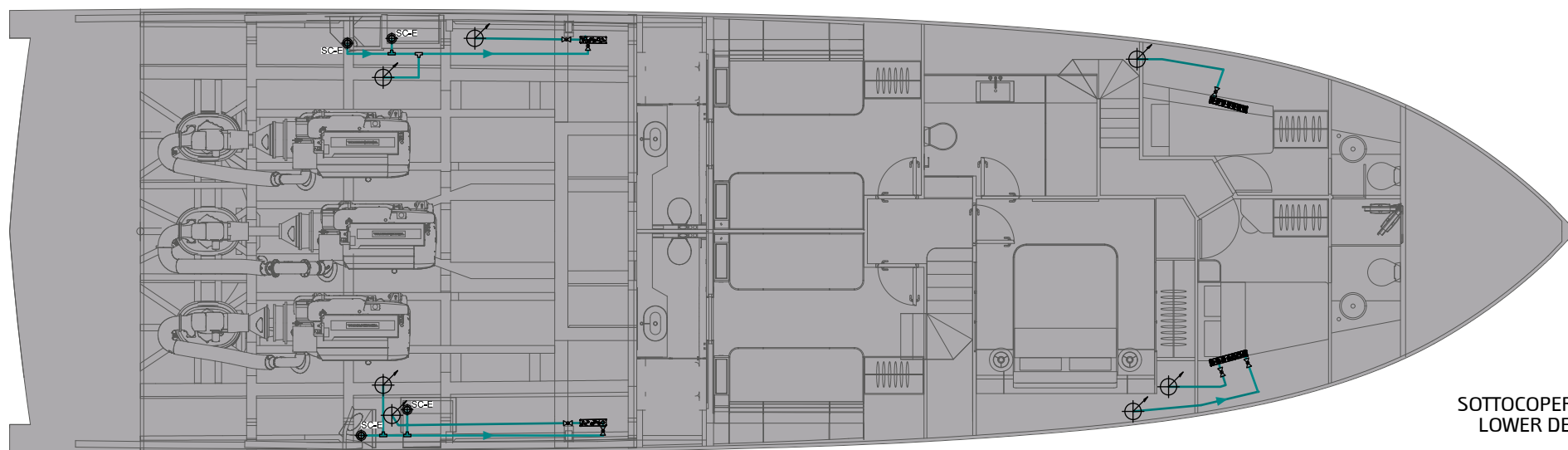
Scuppers system diagram:



PONTE SUPERIORE
UPPER DECK



COPERTA
MAIN DECK

SOTTOCOPERTA
LOWER DECK

ICONA ICON	DESCRIZIONE DESCRIPTION
	Ombrinale tipo A1 Scupper type A1
	Ombrinale tipo A2 Scupper type A2
	Ombrinale tipo B Scupper type B
	Ombrinale tipo C Scupper type C
	Ombrinale tipo D Scupper type D

ICONA ICON	DESCRIZIONE DESCRIPTION
	Ombrinale tipo E Scupper type E
	Raccordo Junction connection
	Valvola a sfera Ball valve
	Al ponte superiore To upper deck
	Al ponte inferiore To lower deck

5.5 BILGE EXHAUST SYSTEM

5.5.1 Main bilge exhaust system

The centrifugal diving pumps for bilge suction, driven by suitable float switches, suck water from the bilge and deliver it to the overboard drain. Another alarm activation float, placed higher than the first one, activates the alarm siren with signalling on the dashboard.

The pumps are connected directly to the batteries and can therefore start even if the battery master switch is positioned to OFF, thus ensuring water drain at any time (keep the magneto-thermal breakers on the electrical panel to ON).

The suctions of the pumps are equipped with net strainers; their purpose is to prevent the penetration inside the circuit of foreign bodies, which may damage the pump or cause pipe clogging.

- Engine room bilge pumps (126 l/min) [33 gal/min];
- Crew area bilge pumps (126 l/min) [33 gal/min];
- Guest cabin bilge pump (126 l/min) [33 gal/min];
- Chain pit bilge pump (126 l/min) [33 gal/min].

The bilge pumps can operate both in automatic mode, thanks to float switches and in manual mode.

To activate the pumps manually, push the respective buttons on the synoptic panel on the bridge. For the bilge pumps to work, activate the relative magneto-thermal switches on the main electrical panel.



WARNING

In case of emergency it is possible to extract the bilge water in the engine room through the sea pumps placed on each engine.



WARNING

Keep the bilge dry to allow the detection of water and to reduce the risk of slipping, as well as creating a less aggressive environment for the fixtures.



Should the automatic bilge pumps of the engine room, as well as the auxiliary bilge pump not be able to drain the bilge water, the engine room is equipped with the bilge emergency draining system, operating by means of flywheel valves with manual activation, as a draining pump.

In case of emergency, use the handwheels of the valves, taking the valves to the emergency position; the suction of the pumps, driven by the engines, is diverted towards the bilge.

Should it be necessary to use this draining system, the bilge level must be checked continuously, because in case of complete drainage, the engines will not be cooled down.

CAUTION

Be careful to replace the valves to sea water suction position, when the water level in the engine room bilge is under control, so as not to impair the engine components.

CAUTION

A suction basket to collect accidental oil leakage is located under the engines and does not communicate with the bilge.

ENVIRONMENT

Sea discharge of oils and fuels is prohibited.

CAUTION

In case of water presence in some compartments of the lower deck, before getting alert, check if the bilge water is fresh or salted, this will be of fundamental help with checking its source.

WARNING

The bilges must be kept dry and clean.
Remove any rags or other residues from the bilge, to prevent any clogging of the pump intakes, causing serious damage to the pumps and impairing the safety of the yacht.

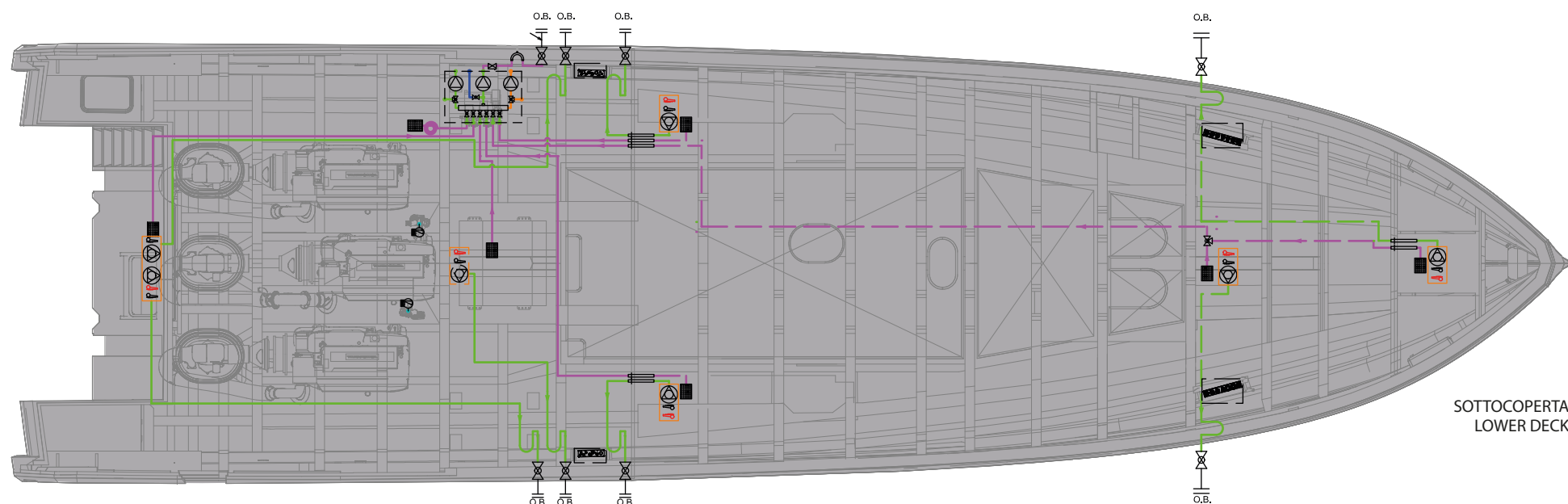
WARNING

The system total capacity is not designed for yacht draining in case of a hull leaks.

ENVIRONMENT

Possible oil or fuel spilled in the bilge must be collected and stowed.
It is forbidden to discharge bilge water mixed with oil or diesel fuel into the sea, because this can cause pollution.
During the maintenance operation in the engine room, it is compulsory to disconnect the magneto-thermal breakers of the bilge pump automatic suction system, avoiding in this way accidental spillages of liquids and consequently sea water pollution.

Bilge exhaust system diagram:



ICONA ICON	DESCRIZIONE DESCRIPTION
	Tubazione sentina primaria Primary bilge pipe
	Tubazioni sentina Bilge pipe
	Tubazioni acqua mare Sea water pipes
	Passaparatia stagno Watetight bulkhead penetration
	Fuori bordo Overboard
	Succhieruola con filtro Strum box with gauze
	Elettropompa E-pump

ICONA ICON	DESCRIZIONE DESCRIPTION
	Valvola a sfera Ball valve
	Valvola a tre vie 3-way valve
	Valvola di non ritorno Non return valve
	Interruttore galleggiante allarme Float switch alarm
	Interruttore galleggiante avvio Float switch starting pump
	Al ponte superiore To upper deck
	Al ponte inferiore To lower deck

ICONA ICON	DESCRIZIONE DESCRIPTION
	Valvola di non ritorno Non return valve
	Antisifone Siphonbreak
	Gruppo assemblato Assembled pumps
	Raccolta olio sotto motori Oil collection under engines

5.5.2 Main bilge exhaust system maintenance

Component	Maintenance	Notes and precautions
Bilge pumps	Operation check Bilge pump operation check	As shown in the following sequence.
Non-return valves	Operation check	As shown in the following sequence.

Bilge pumps functionality check:



DANGER

Before each intervention make sure that voltage is disconnected and that there is no possibility of accidental connection.

Check that the pump shaft turns freely (this is possible by inserting the screwdriver in the back end of the engine shaft).

Check the rotation direction, that the pump motor works within its output range and that the absorbed current is not higher than the one indicated in the tag.

These pumps, normally, do not need ordinary maintenance, provided that some measures are taken which extend their operation.

- Make sure that the pump never runs dry.
- The brushes, on DC motors, must be checked at regular intervals.
- If the yacht must remain inoperative for a long period, it is advisable to drain the pump body and to clean it.
- If a strainer and a foot valve are installed, check their efficiency and cleaning periodically.
- Check that the impeller is not jammed, this could cause serious damages to the electric motor; if this happens, descale the impeller and pump body.
- Have the operation of each bilge pump checked, having the bilge filled with clean water up to the activation of each pump and having the correct draining overboard checked.
- Have the operation of each bilge pump checked also manually.



CAUTION

Never run the electric pumps dry.



CAUTION

Check the operation of all bilge pumps at regular intervals. Clean debris from pump inlets.

Non-return valves

The on-board hydraulic system consists of check valves (or non-return valves) "EUROPE" type (1) and "CLAPET" type (2).

They require extraordinary maintenance only, due to their lack of operation, which can be caused by a foreign body inside the valve itself, or by a mechanical break; in both cases, check the failure, if it is not removable, carry out the replacement.



5.5.3 Centralised pump system

The yacht is equipped with a multi-purpose pump 90 l/min, which can be used, in case of emergency, to help or to replace the various automatic bilge pumps, in order to drain water from the bilge.

The multi- purpose pump, activated manually, by correctly shunting the valves on the relevant manifold, can replace the following pumps:

- The black water pump (1);
- The grey water pump (3);
- The automatic bilge pumps (2).

In case of failure of black or grey water pumps, the multi-purpose pump replaces the suction of one of the two pumps, by means of two deflecting valves installed on the multi-purpose pump manifold.

⚠ CAUTION

After the use of the multi-purpose pump, it is advisable to carry out a check of the impeller. For the procedure ask the WALLY After Sales & Service.

⚠ CAUTION

To use the multi-purpose pump, activate the magneto-thermal switch located on the general electrical panel.

🌍 ENVIRONMENT

The bilge drains can be discharged at sea only if they do not contain polluting substances.
If polluting agents are present in the bilge waters, dispose of them using the suitable containers for polluting agents located in harbours.

⚠ CAUTION

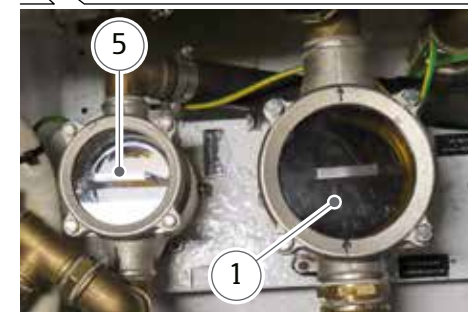
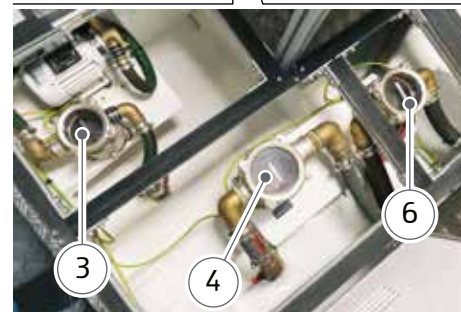
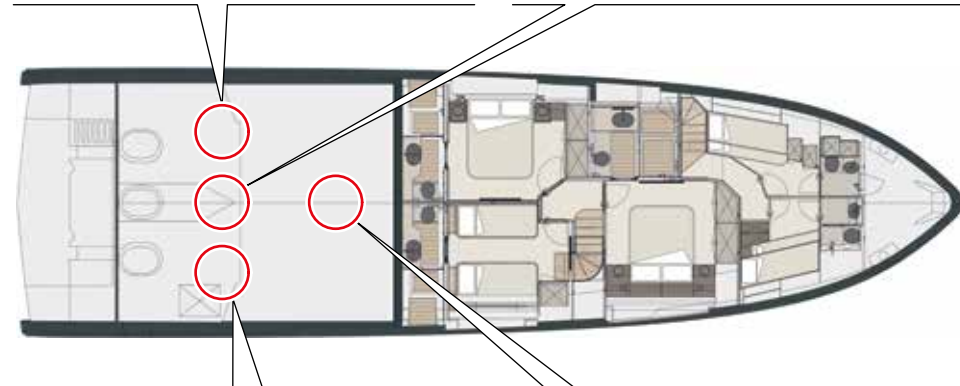
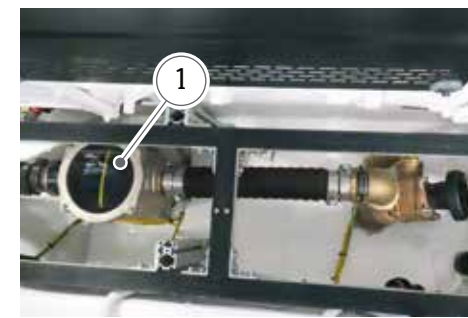
Never run the electric pumps dry.



5.6 SEA WATER SYSTEMS

The on board sea water systems are:

- **Engine cooling system (1)**
 It consists of three circuits, one for the right engine, one for the left engine and one for the central engine. Sea water is sucked directly from the internal pumps of the engines themselves via two sea intakes equipped with shut-off valves and filters. The water sucked from the engines, after passing through the filters, is sent to the heat exchangers of the engines themselves, and then discharged outboard from the stern foot. Special circuit branches also allow cooling of the exhaust manifolds and stern feet.
- **Generators cooling system**
 Sea water is drawn in by the pump of the generators themselves through the sea cock equipped with an interception valve and strainer. The water drawn in by the generators, after passing through the strainer, is sent to the heat exchangers of the generators themselves and then discharged overboard. To discharge the water and fumes coming out of the yacht, the generators convey the exhausts through the muffler and then pass to a separator.
- **Seawater fire extinguishing/washing system (4)**
 It consists of an electric pump that sucks in sea water through the services sea water intake equipped with a shut-off valve and strainer and sends it to the fire hose, as well as to services supplied by sea water such as black waters tanks washing and anchor chain washing.
- **Air conditioning unit cooling system (2)**
 This circuit consists of a seawater intake with shut-off valve, inspectable seawater strainers and connections for distribution to the air conditioning unit.
- **Gyroscopic stabilizer cooling system (opt) (3)**
 The sea water is sucked by the pump dedicated to cooling the stabiliser through a sea cock equipped with a shut-off valve and strainer. The suctioned water passes through the strainer before being sent to the heat exchanger of the gyroscopic stabilizer and then discharged outboard.
- **Watermaker system (5)**
 Seawater is sucked in by dedicated seawater pumps through a sea inlet equipped with a shut-off valve and filter. The water sucked through the filter is sent to the watermaker, treated and used to fill the fresh water tank.



 CAUTION

Before cleaning the strainer of the sea cocks, check that the utilities supplied with sea water are switched off and not used.

 WARNING

It is good practice to close all sea cocks when leaving the yacht in the water for a long time.

Clean the sea cock strainers according to the schedule and to the pollution condition of the water taken on (seaweed, mucilages, etc..).

- Close the valve of the relevant sea cock (by means of the handwheel or lever).
- Cut-off valves upstream of the relevant strainer.
- Remove the strainer cover by loosening the screws.
- Remove the strainer basket and wash away all impurities with fresh water.
- Replace if necessary.
- Reinstall the basket and the strainer cover.
- Open the valves upstream of the relevant strainer.
- Before restarting the system circuit, ensure that the screws and relevant washers are correctly fastened with the ring and disc on the strainer body.
- Completely reopen the overboard intake valve and check that there are no leaks from the strainer cover.

 WARNING

Before working on the system's seawater line, inhibit the operation of the powered utilities and close the seacock valve.
Before restarting the system circuit, make sure that the cut-off valve is completely open.

 WARNING

During navigation, regularly check the cleanliness of the sea water strainer baskets.

If the yacht is crossing a dirty sea area, check the condition of the strainers and proceed with their cleaning.

Taking suitable precautions is very important to prevent damage to mechanical parts (engines, generators, etc..), discharge systems and to not jeopardize the safety of the yacht.

 CAUTION

In case of sinking hazard, if the escaping conditions allow it, close all ball valves of the sea intakes.

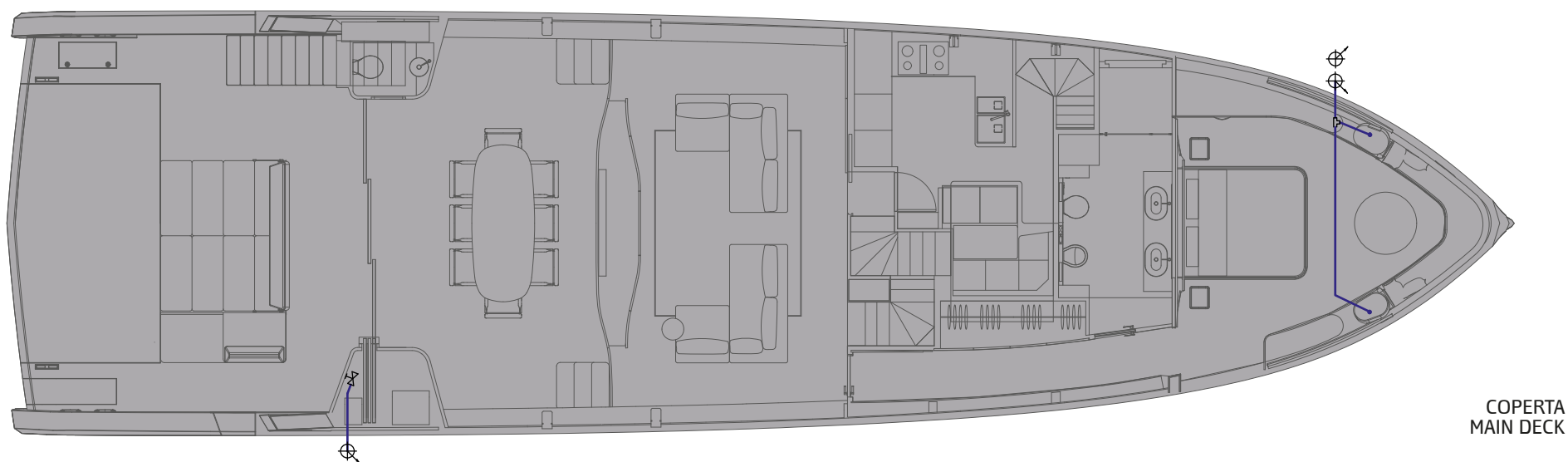
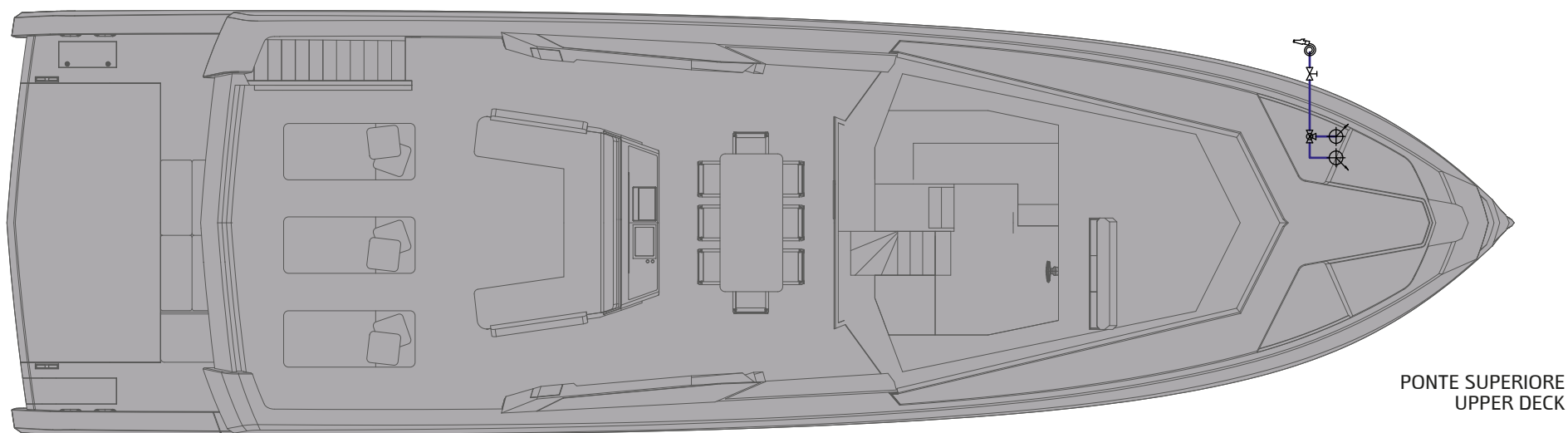
 DANGER

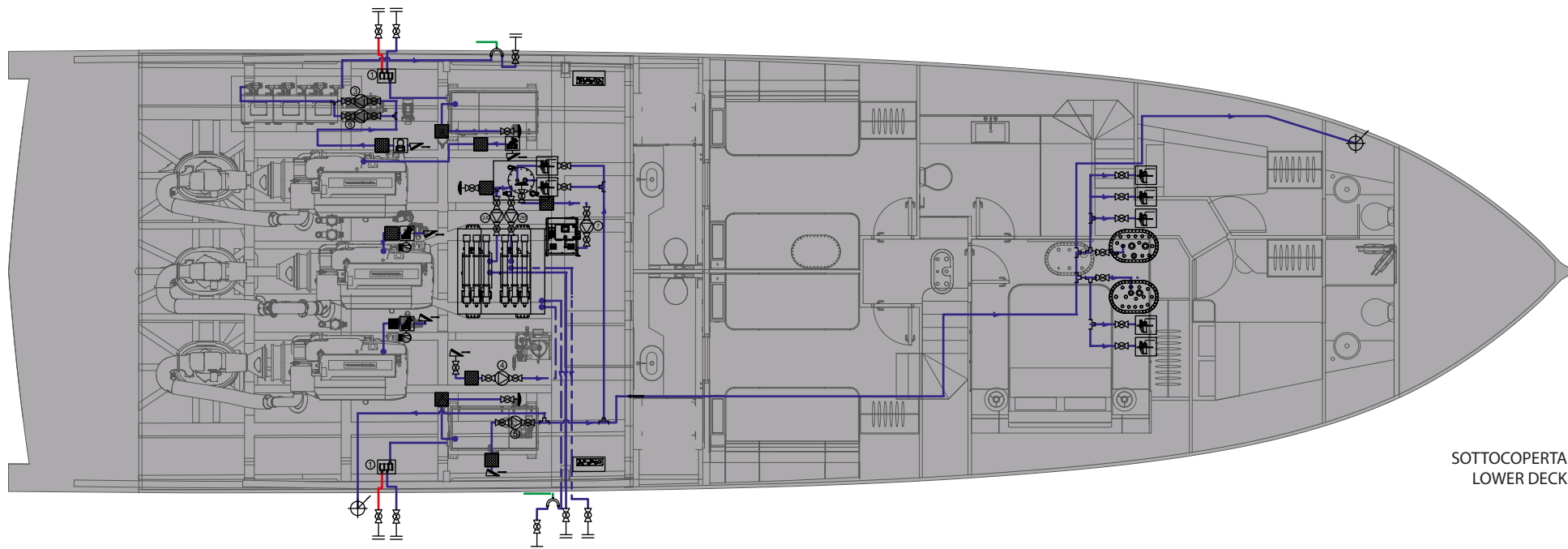
The lack of care while cleaning each sea intake strainer can cause serious damage to the on-board devices and, in some cases such as fire, it may have extremely serious consequences. Check before undertaking the navigation and at regular intervals during navigation, the condition of the sea cock strainers of the various devices through the transparent cover.

 WARNING

When there is a risk of the yacht sinking, if evacuation conditions allow it, close all seacock ball valves.

Sea water distribution system:





SOTTOCOPERTA
LOWER DECK

5.6.1 Sea cocks and strainers maintenance

Component	Maintenance	Notes and precautions
Seacocks and strainers	Cleaning (as required depending on the shoring area, but at least every month)	Seacock cleaning This operation has to be carried out outside, therefore the yacht must be in a dry shore or you can ask the intervention of a diver. - Have the sea cocks cleaned (removal of seaweed or barnacles. If necessary have them removed with a brush).  DANGER Before carrying out maintenance on the fresh water pump, avoid its accidental priming. Inspection and cleaning valves and strainers: - Cleaning is to be carried out more frequently if the water drawn in is particularly dirty (seaweed, mucilage, etc.).  WARNING Before removing the strainer, it is necessary to close the valve fitted to the sea cock, to prevent flooding the bilge with water.

Component	Maintenance	Notes and precautions
Seacocks and strainers	Cleaning (as required depending on the shoring area, but at least every month)	Inspection and cleaning valves and strainers: • Check for barnacles or corrosion on the control levers of the cut-off valves of the strainer to be checked. • Clean the control levers of the valves with a brush. • Move the levers repeatedly. • Close the cut-off valve upstream the strainer. • Remove the strainer cover by loosening the screws. • Remove the filter element, clean it with a brush and rinse it in water (replace as necessary). • Clean the strainer housing. • Check and, if necessary, replace the gasket of the strainer cover. • Fill the strainer with water to avoid the pumps running dry or that the system does not prime. • Reposition the strainer, the cover and tighten the nuts. • Reopen the cut-off valve and check whether the strainer cover is leaking.  WARNING Before servicing the sea water lines, disable the operation of the connected utilities. Before restarting the utilities, make sure that the cut-off valve is completely open.  WARNING During navigation, regularly check the cleanliness of the sea water strainer baskets. If the yacht is crossing a dirty sea area, check the condition of the strainers and proceed with their cleaning. Taking suitable precautions is very important to prevent damage to mechanical parts (engines, generators, etc..), discharge systems and to not jeopardize the safety of the yacht.

Component	Maintenance	Notes and precautions
Utility electric pump	Cleaning and checks	At least each week, check the operation of the sea water pump.  WARNING The pump is self-priming but, in order to operate, it needs to have its body filled with liquid. For a correct use, we recommend at first priming or after a long idling period, to fill the pump body with liquid and to verify the rotation direction of the pump (it should be clockwise, seen from the engine side). Besides, if on the control panel the pump operating led remains always lit, but the connected utilities are not in use, check for leaks.  DANGER Before servicing the pump, disable its operation. • Have the inner cleanliness of the pump checked; possibly, have it cleaned with well diluted detergent and dried. • Have the fittings for well tightening and corrosion checked. • Frequently check and keep the suction filter clean. • Check that the electric power supply cables are in good conditions. • For further information, see the Manufacturer's Manual.

Seacocks, strainers and valves:

Inspection and cleaning

The sea cock cleaning operation must be carried out from the outside, therefore with the yacht dry or with the intervention of a diver.

- Have the sea cocks checked for cleanliness (absence of algae or encrustations. If necessary, have them cleaned with a brush).



DANGER

If the yacht is in water, before working on the shaft lines, inhibit the starting of the engines, generators and sea water pumps.

- Check that there are no deposits or corrosion on the shut-off valve control levers of the strainer to be checked.
- Clean the valve control levers with a brush.
- Operate the levers repeatedly.
- Close the shut-off valve upstream of the strainer.
- Remove the strainer cover by loosening the screws.
- Remove the filter element, clean it with a brush and rinse it with water.
- Clean the strainer container.
- Check and, if necessary, replace the strainer cover gasket.
- Fill the strainer with water to prevent the pumps from running dry or the system from starting up.
- Replace the strainer, cover and tighten the bolts.
- Reopen the shut-off valve and check for leaks from the strainer cover.



CAUTION

Before reactivating the system, ensure that the shut-off valve is open.



DANGER

Before working on the sea water lines, inhibit the operation of the fed systems.



wallywhy150

6
ELECTRIC SYSTEM



6.1 GENERAL DESCRIPTION OF THE ELECTRICAL SYSTEM

The electric system of the yacht has been designed paying the utmost attention to all aspects regarding your SAFETY and the SAFETY of your Guests and it has been manufactured using high-quality materials, fully in compliance with the rules in force.

The electric system of your yacht consists of three defined and separated sections.

- Service network powered by a nominal voltage of 24V DC supplied by twelve each storage batteries 2V DC - 640Ah, connected to each other in series, and four accumulator batteries 12V 180Ah each. These battery banks are recharged by the engine alternators or alternatively by a dedicated battery charger.
- Engines network powered by a nominal voltage of 24V DC supplied by 2 accumulator batteries of 12V DC. - 120 Ah per engine, connected together in series and at the same time. These battery banks are recharged by the engine charger and alternators driven by the engines.
- 230V Services network supplied from the shore network, or alternatively, from generators on the yacht. Each generator is powered by a 12V DC battery. - 180 Ah located near the generator and is recharged by an alternator driven by the unit itself or by dedicated battery chargers.
- Auxiliary battery bank: 360Ah, 24Vdc (4x 180Ah, 12Vdc).
- Bow thruster batteries: 140Ah, 48Vdc (4x 70Ah, 12Vdc)

The yachts are equipped with electronic injection machines and electronic remote control systems. For this reason it is very important for the user to carry out some simple operation to prevent faults to the electric systems, which on their turn may cause problems to the propulsion system.

CAUTION

Before undertaking any navigation, check that the batteries are in good condition and that they supply the correct nominal current.

CAUTION

During navigation both the button switch of the service batteries and the button switch of the engines batteries must always be connected, that is positioned to ON. The parallel button switch must be normally disconnected and therefore set to OFF.

CAUTION

If during navigation an operation fault on the re-charging alternators occurs, set to "ON" the button switch of the parallel connection between the batteries sets and leave it connected until the fault has been removed.

CAUTION

Do not undertake navigation unless the push-button switches for the engine batteries and the service and auxiliary batteries are set to ON and do not switch them off during navigation.

CAUTION

If, during navigation, a remarkable and continuous voltage drop of one or each battery banks occurs, check the recharging efficiency (alternator recharge on monitoring system) of the relevant alternator. If the alternator is not working, start the generator and activate the independent electrical battery chargers.

CAUTION

The engine control systems: accelerator and gears engagement remote controls are electronic. Their reliability is very high, but in case of a sudden black-out, it is necessary to immediately switch off the engine which is not controllable any more by means of the relevant commands located in the main helm station.

CAUTION

Do not modify the electric systems or relevant drawings. The installation, the modifications or the maintenance must be carried out only by a skilled naval electrician. Inspect the system at least once a year.

⚠ CAUTION

Disconnect the shore power supply connections when the system is not in use.

⚠ CAUTION

Use electric devices with double isolation or grounding.

⚠ CAUTION

Switch off the service and engine battery chargers before starting the engines. Keep the service and engine battery chargers off while at sea.

⚠ CAUTION

Generator battery chargers must be switched off before starting the generators themselves. Keep the battery chargers turned off during the entire time the generators are running.

⚠ WARNING

Do not allow the cable end of shore power supply to float in the water. This can cause an electric field and following injuries or even the death of the swimmers nearby.

⚠ CAUTION

Do not modify connectors of shore power supply cable, use only plug compatible connectors.

⚠ WARNING

Before stopping the power generator, disconnect the various on-board services supplied by this; stopping the power generator under load can irreparably damage the electronic control units of the various utilities and have a negative influence on the generator operation. However, please refer to the manual of the power generator to obtain more detailed information about the starting and stopping procedures.

The on board electrical system has been designed and installed in compliance with the standards in force, applying the following criteria:

- All wiring, joints and line-feed protection devices such as magnetothermal switches and fuses have been collected and grouped both within and on the front panels of the various on board electrical panels.
- All electrical lines are oversized, ducted and/or inspectable and implemented with flame-retardant cables laid inside special self-extinguishing conduit; all the aforesaid lines are connected with special spring-type terminal blocks, the latter positioned inside the engine room main electrical panel and in the various electrical sub-panels.
- The system is highly fragmented into sub-circuits and protected with magneto thermal breakers and fuses for each single load or homogeneous load groups in order to simplify the tracing of possible faults which, for any line, can only occur at the load and the electrical panel.

The protection of the single electric system sections is performed by automatic magneto-thermal breakers of different amperage and size, according to the absorption of the various services to be protected and by the size of cables used for their supply.

All metallic wet pieces are interlocked with equipotential connections and linked on sacrificial anodes installed on the underwater quick-work.

⚠ WARNING

Refrain from performing any modification or intervention on the system and on the panel and take advantage of experienced Companies and skilled staff. Avoid particularly derivations on electric lines and splices of services not provided for on the same panel. Finally, if you need to assign services to the switches available, make sure that their characteristics are suitable with the device installed.

WARNING

NEVER:

- Work on the electric system while under voltage.
- Alter or modify the intensity of rated current of protections against overcurrent.
- Install or replace electric equipment or devices with components exceeding the rated current intensity of the circuit.
- Leave the yacht unattended with the electrical system powered, except for the circuits of the bilge automatic suction pumps, of the fire-fighting protection and of the alarms (directed to battery).

DANGER

Electrocution hazard! Turn the power off before removing the cover and servicing any electrical equipment internal component.

DANGER

All electrical systems (included those at low voltage) if wrongly handled or subjected to overloads, can originate short-circuits and dangerous overheating with potential fire hazards!

CAUTION

If you are compelled to use the "battery parallel connection", turn off all electronic devices, so as not to jeopardize their correct operation. In emergency conditions, use the battery parallel set for the shortest reasonable time.

DANGER

We recommend, in order to operate in complete safety, to carefully read the safety rules relevant to the maintenance and contained in this manual.

DANGER

When disconnecting the inverter by means of the switch located on the front panel, the connection with the mains is not broken off.

DANGER

Do not work on the inverter or on its system if still connected to a current source. Only qualified staff can carry out interventions on the electric system.

WARNING

The uses supplied by the inverter highly stress the batteries that could discharge as a result.

DANGER

Before working on the charger, inhibit the start-up of the generators and exclude the power supplies from the platform.

WARNING

Before carrying out the switching over of the AC sources (generator/ shore), it is advisable to disconnect all AC services currently operating, to prevent damaging the electronic boards of the relevant devices.

CAUTION

WALLY suggest to examine very carefully the whole documentation delivered by the manufacturers of the various components; and for any problem relevant to maintenance, to contact WALLY After Sales & Service directly.

DANGER

The system is similar to a domestic system in terms of features and risks and, if "wrongly" used, mishandled or serviced, it statistically represents one of the most frequent reasons for fire on board.



DANGER

Have the inner condition of the inverter and battery charger checked at least once a year by skilled personnel. Faults like loose connections, burnt wires, etc., with following risk of fire spreading, must be repaired immediately.



WARNING

Do not disconnect the battery master buttons with engines running or you may damage the engine alternators.



CAUTION

For the correct procedures of fuses replacement refer to the on-board electric manual delivered separately.

The on-board services are supplied by separate electric systems with different features:

- 12 / 24V DC;
- 230V AC (50 Hz).

[illegible]

6.1.1 Maintenance of the electric system

Component	Maintenance	Notes and precautions
Equipment and circuits	Cleaning and check	At least once every six months, have the various connections of electric boards, panels and boxes checked by experienced personnel. Make sure that ground connections of electric equipment and electrical panels are tight and not oxidized. Have the absorption of the different electric motors periodically checked by skilled personnel. When cleaning the bottom hull, carefully clean the electronic instrument ground static discharger and the porous plate connected the power generator grounding. Moreover, check the condition of the protection anodes and if necessary, replace them. During the lay-up period, do not apply any antifouling on the ground static dischargers.



DANGER

Do not modify the electric systems or relevant drawings. The installation, the modifications or the maintenance must be carried out only by a skilled naval electrician. Inspect the system at least once a year.



DANGER

Before carrying out any intervention on the electric system, disconnect all circuits (shore, generators and inverter):

- Disconnect the shore sockets;
- Set to off the magneto-thermal switch of generators;
- Set to off the magneto-thermal switches at inverters output and turn off the inverters (off button on the front).



CAUTION

It is forbidden to use pressurized water on light appliances installed outside.

6.2 ELECTRICAL PANELS

⚠ CAUTION

Before removing the front panel for maintenance, stop the generators and disconnect the shore connections.

NOTE

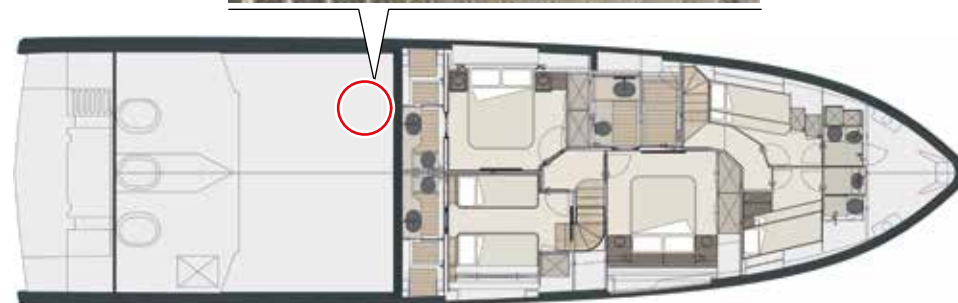
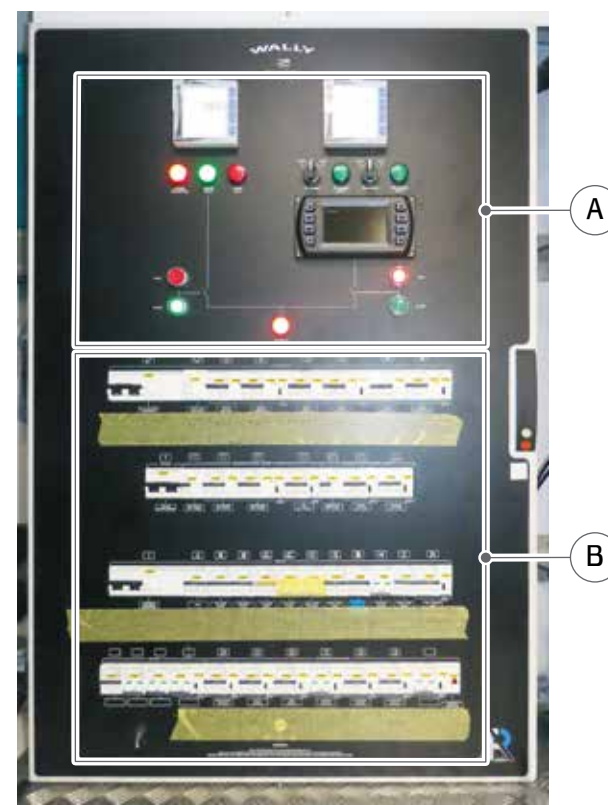
For a detailed description refer to the electric installation manual.

230V MAIN ELECTRICAL PANEL:

The electrical system is monitored from the electrical panel located in the engine room.

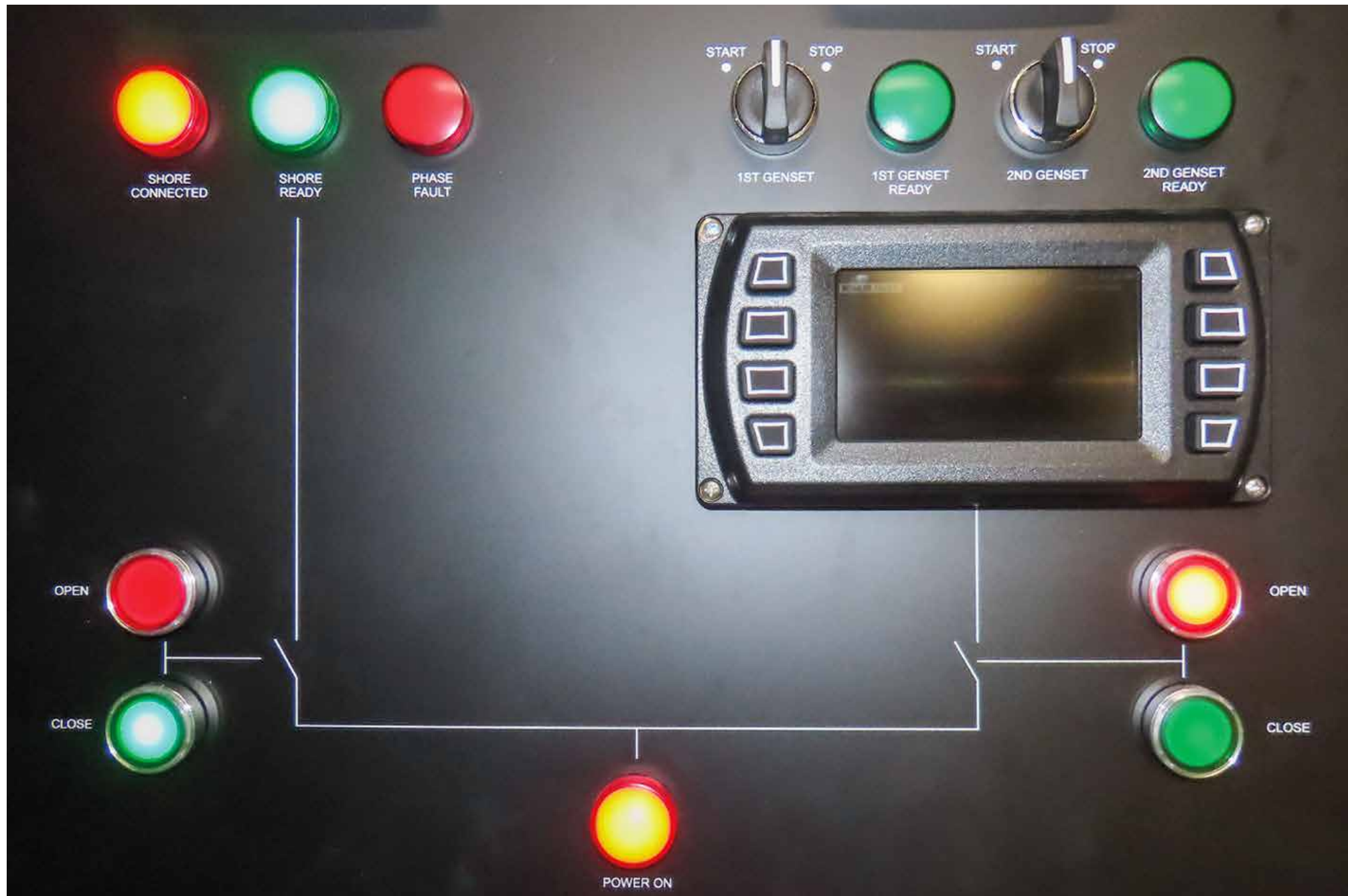
The following main sections have been identified, in order to make the descriptions easier:

- A. 230V services switch buttons and electrical voltage measuring instruments.
- B. Magneto-thermal breakers to protect 230V Services.



A. 230V services switch buttons and electrical voltage measuring instruments





B. Magneto-thermal breakers to protect 230V Services.









24V MAIN ELECTRICAL PANEL:

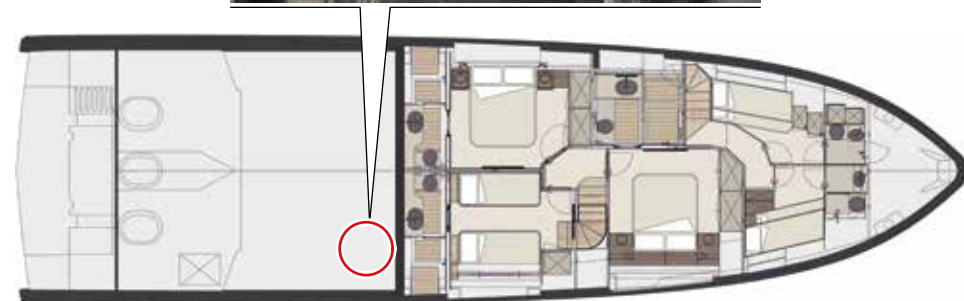
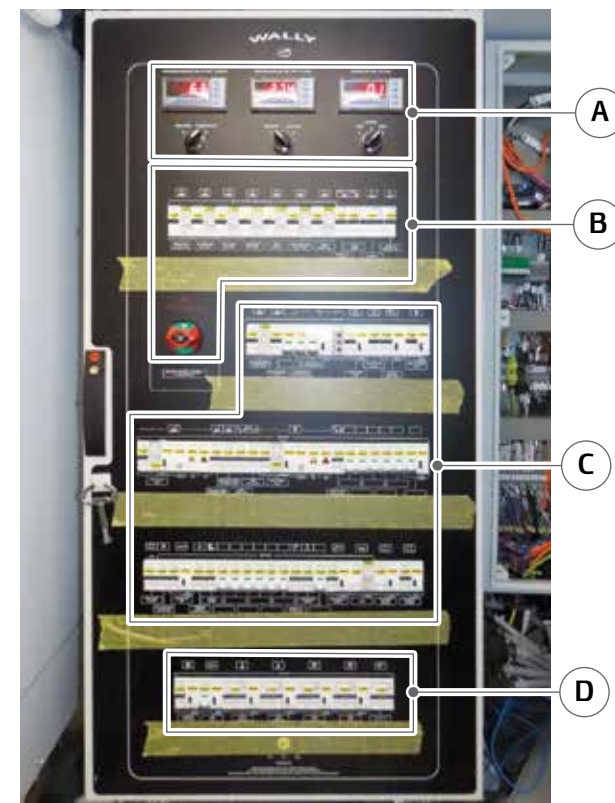
The electrical panel is located on the starboard side of the engine room. To simplify the descriptions, the following main sections have been identified:

- A. Measuring instruments.
- B. Magneto-thermal switches to protect the safety systems and the main battery breaker.
- C. Magneto-thermal switches protecting 24V services.
- D. Magneto-thermal switches to protect the 24V auxiliaries.



CAUTION

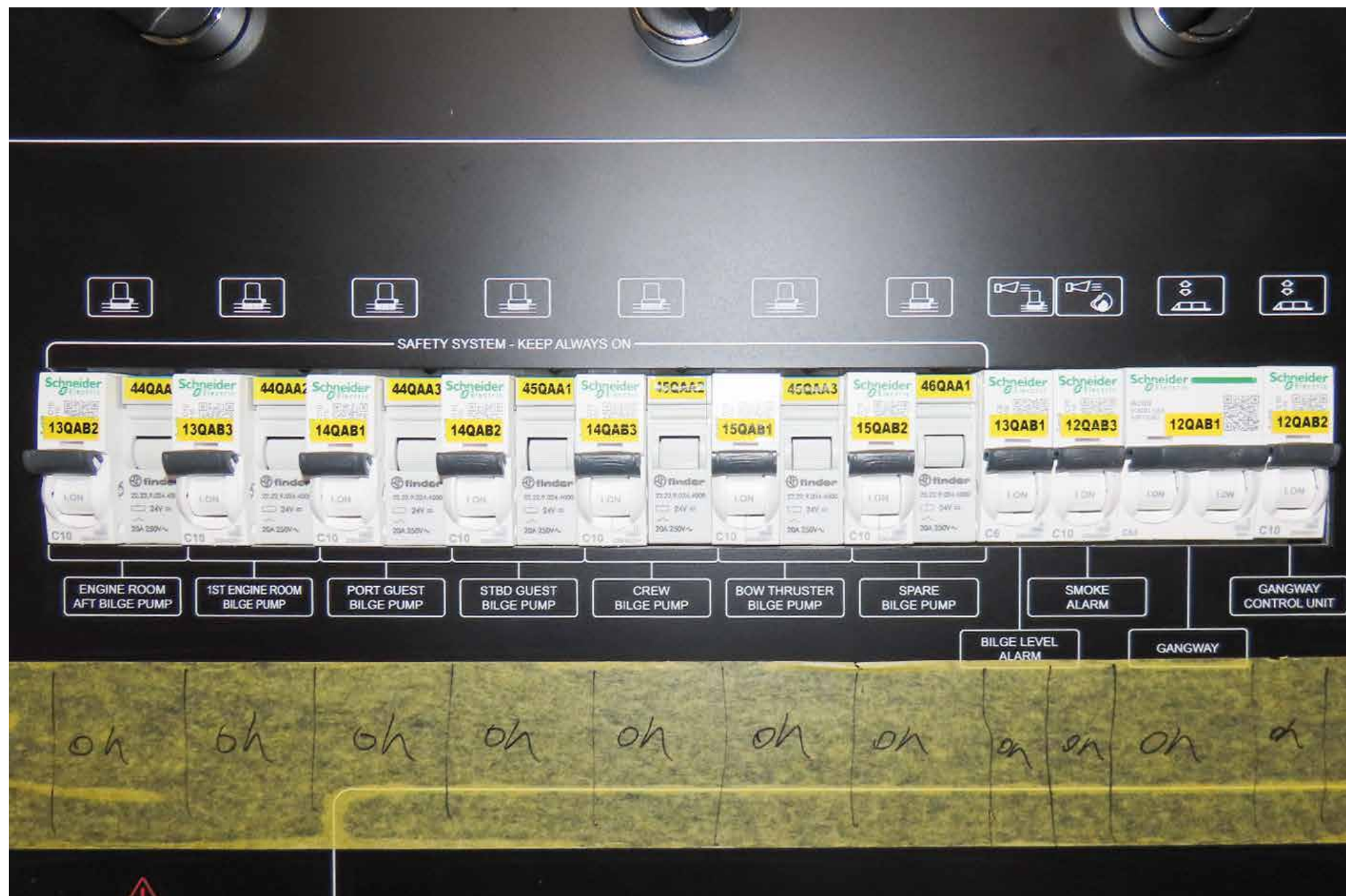
Always keep the safety systems and gangway powered. Operate the battery breaker switch for safety systems and gangways only in the event of a short circuit or an emergency.



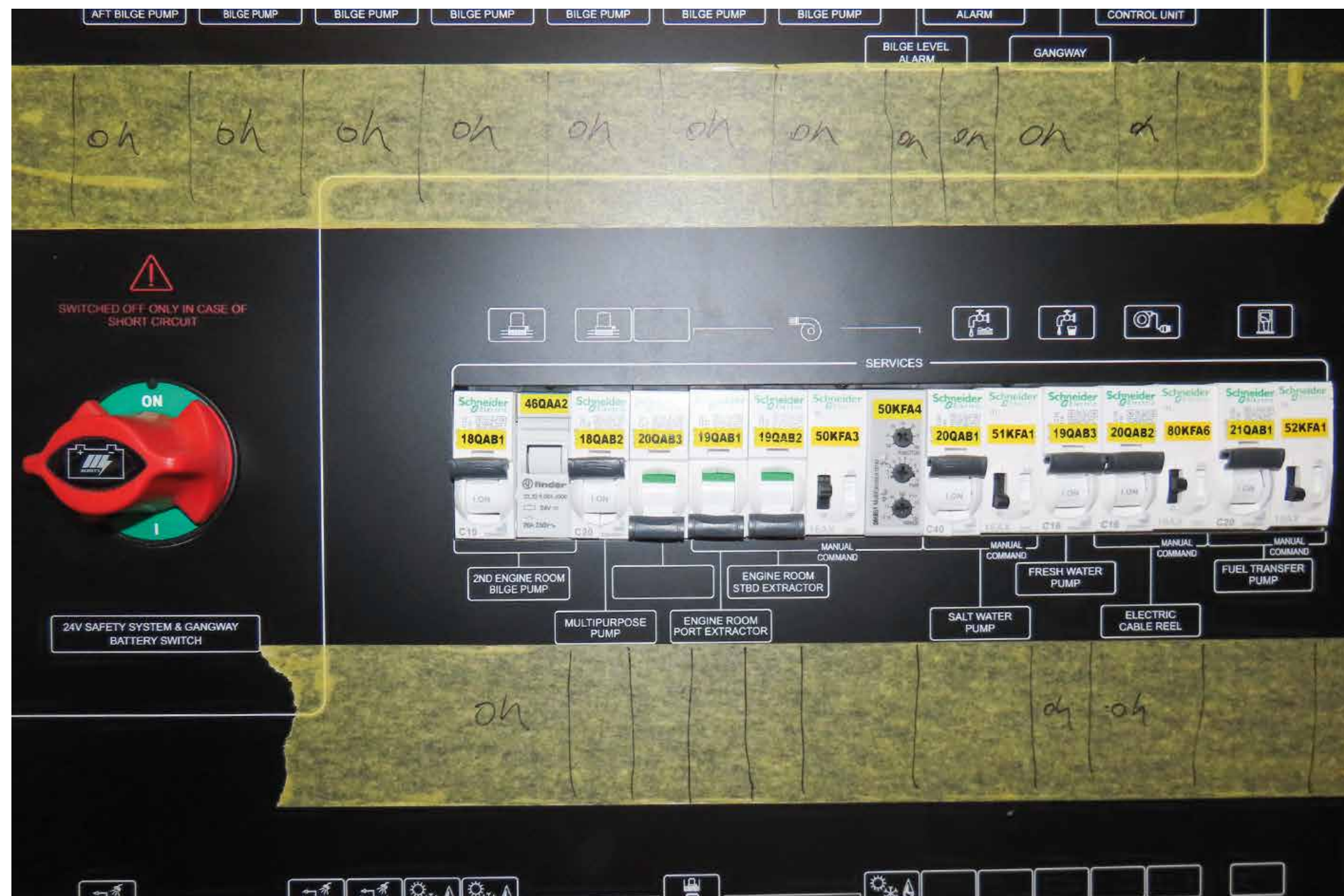
A. Measuring instruments

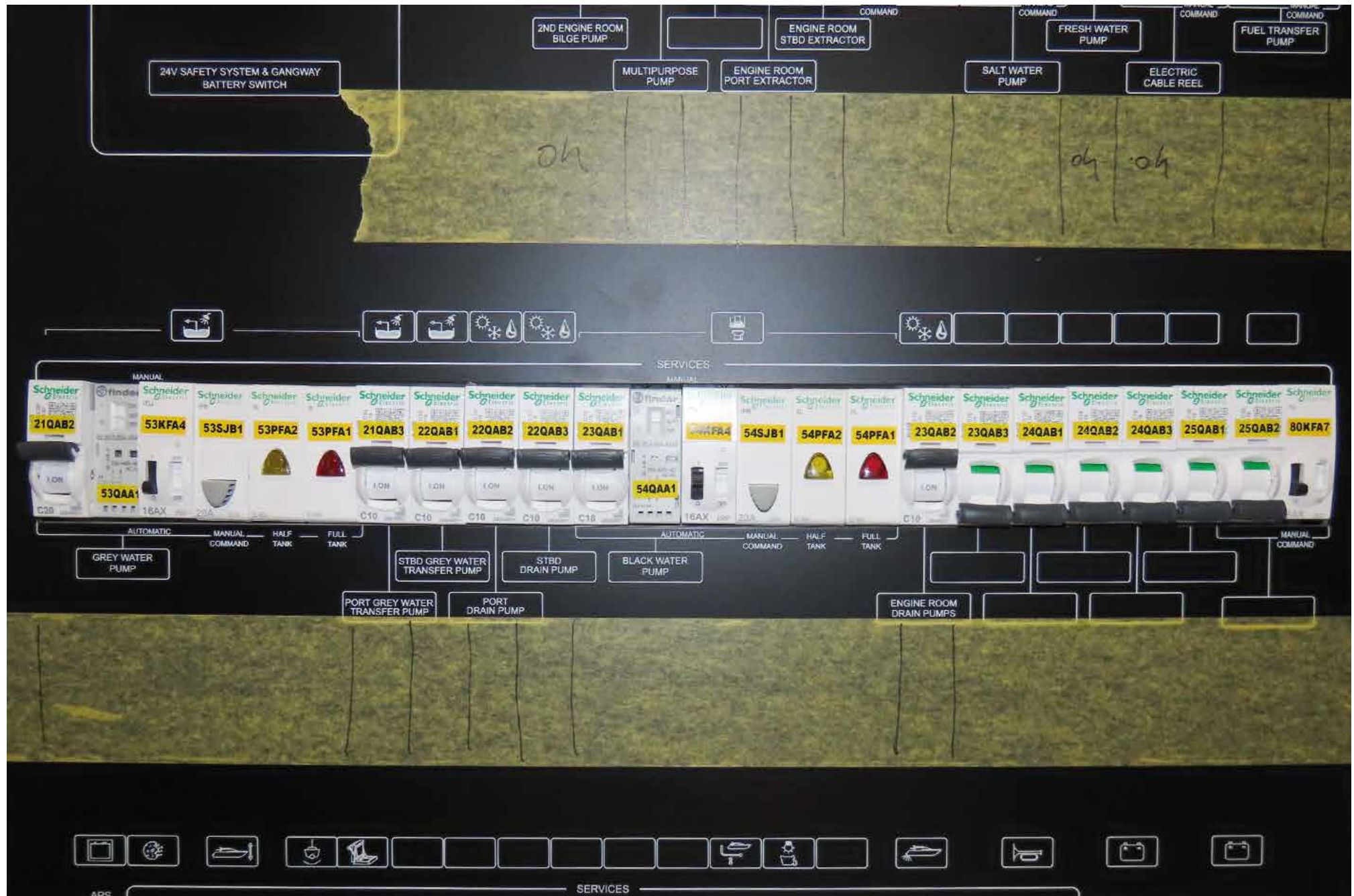


B. Magneto-thermal switches to protect the safety systems and the main battery breaker.



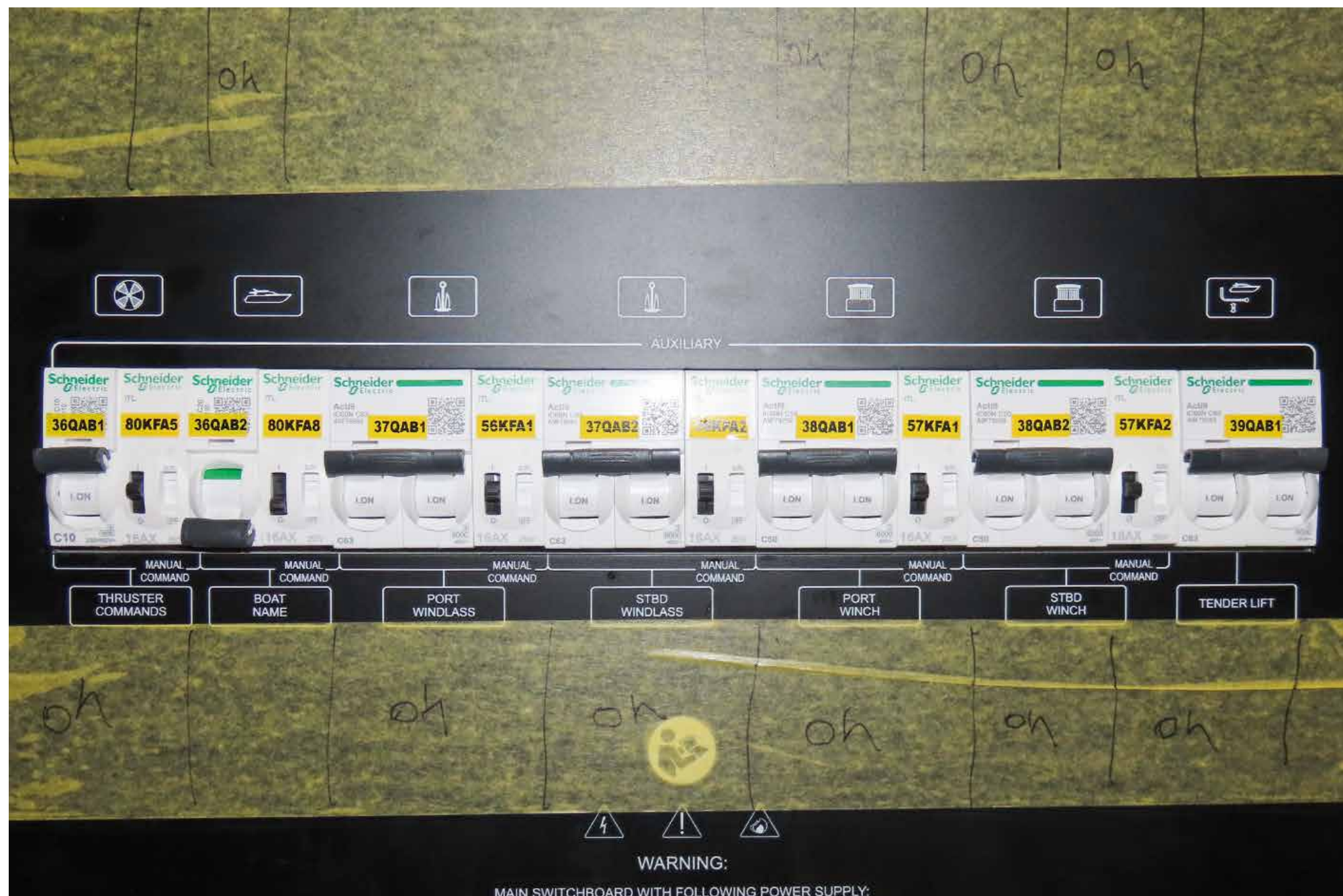
C. Magneto-thermal switches protecting 24V services.







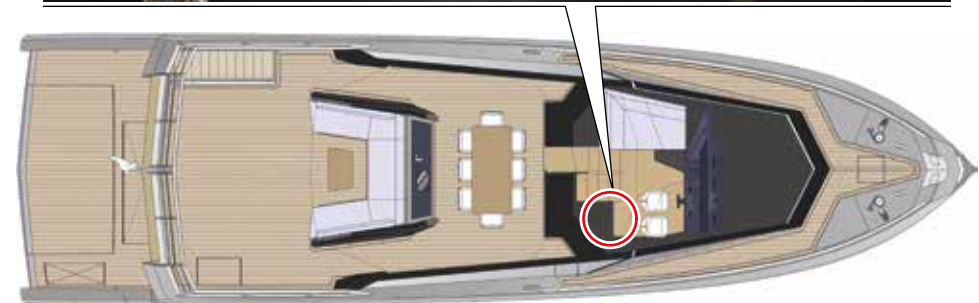
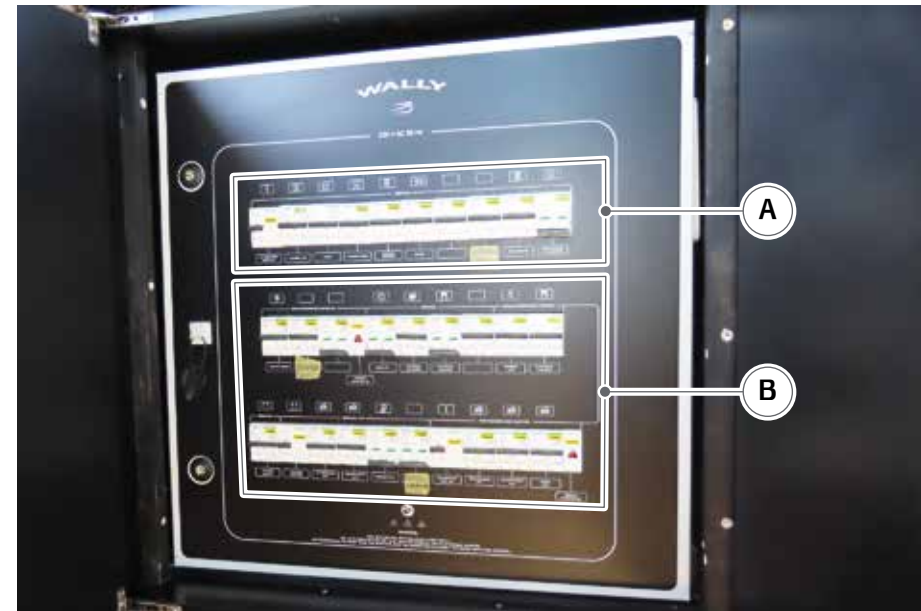
D. Magneto-thermal switches to protect the 24V auxiliaries.



230V HELM STATION ELECTRICAL PANEL:

The electrical panel is located on the dashboard.
To simplify the panel descriptions, the following main sections have been identified:

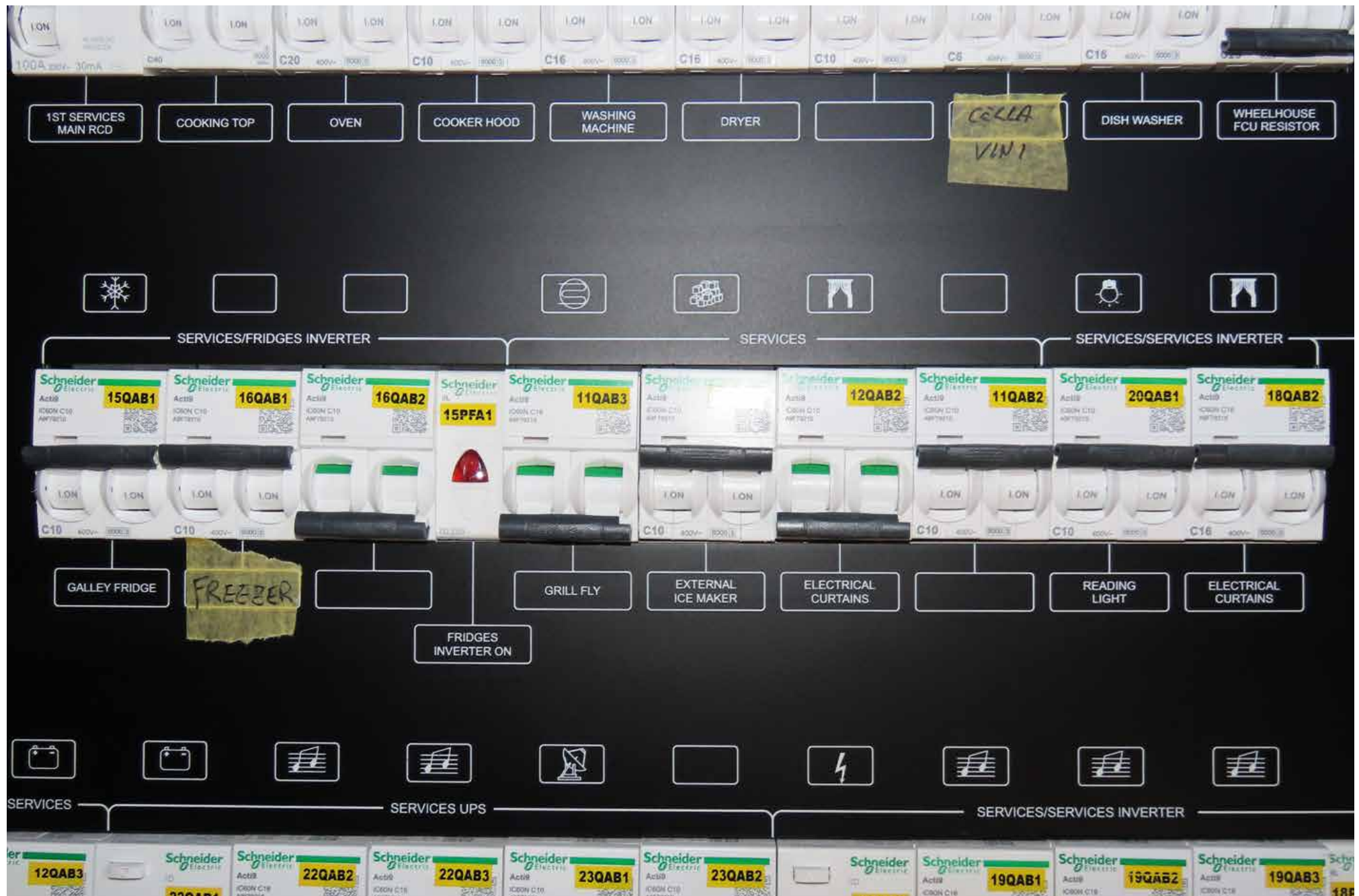
- A. Magneto-thermal switches to protect 230V Services.
- B. Magneto-thermal switches to protect services under 230V inverters.

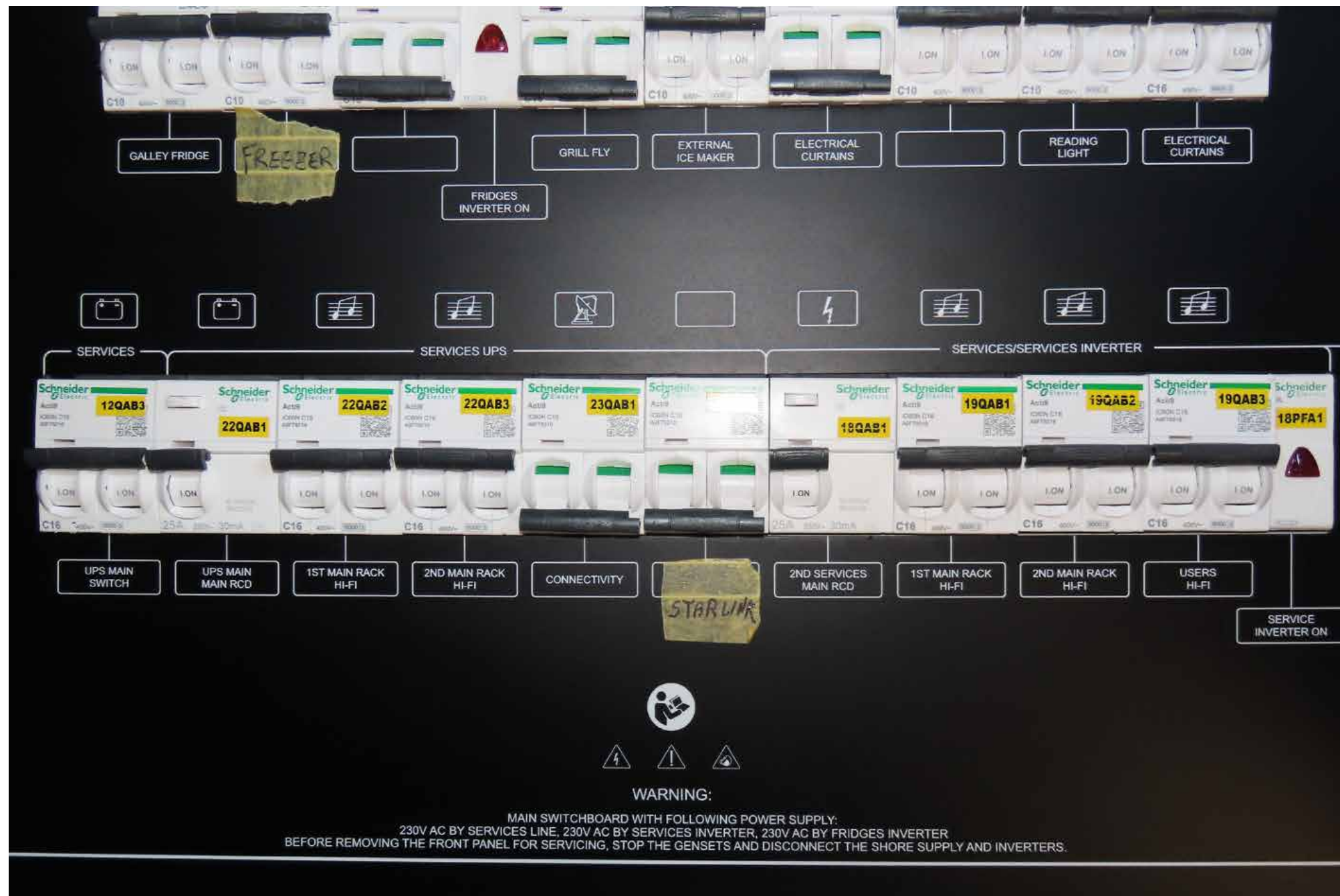


A. Magneto-thermal switches to protect 230V Services.



B. Magneto-thermal switches to protect services under 230V inverters.

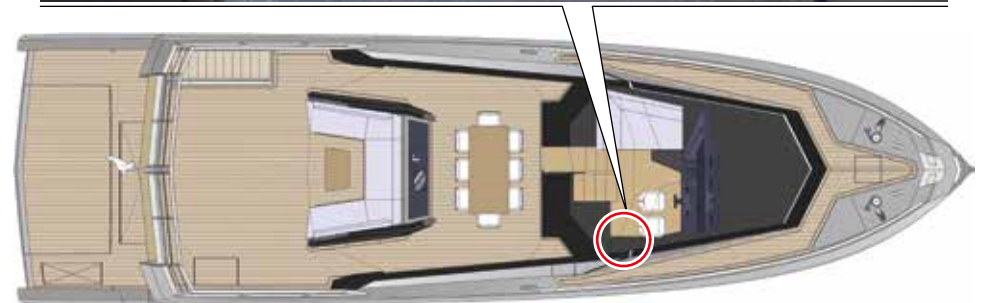




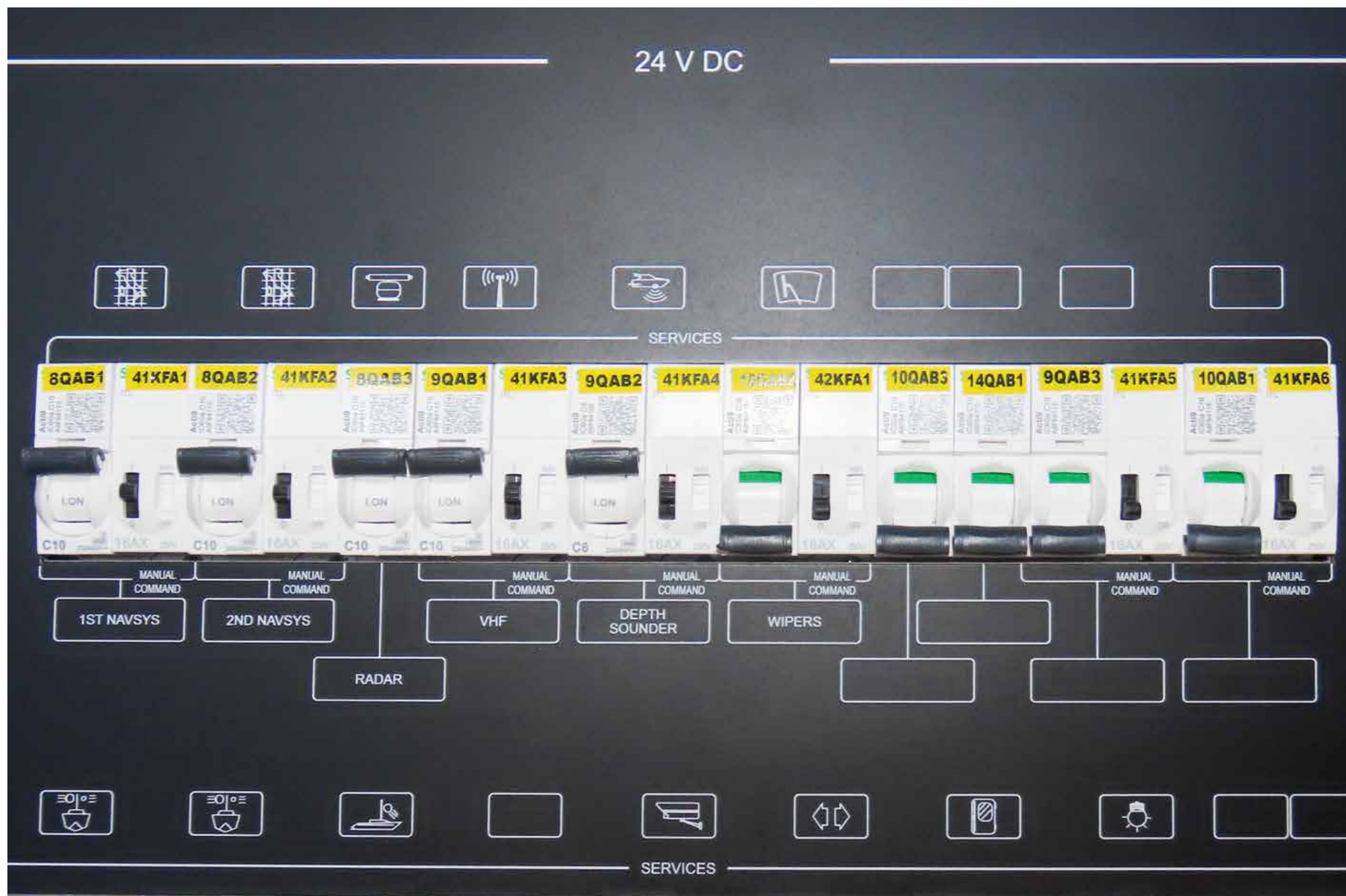
24V HELM STATION ELECTRICAL PANEL:

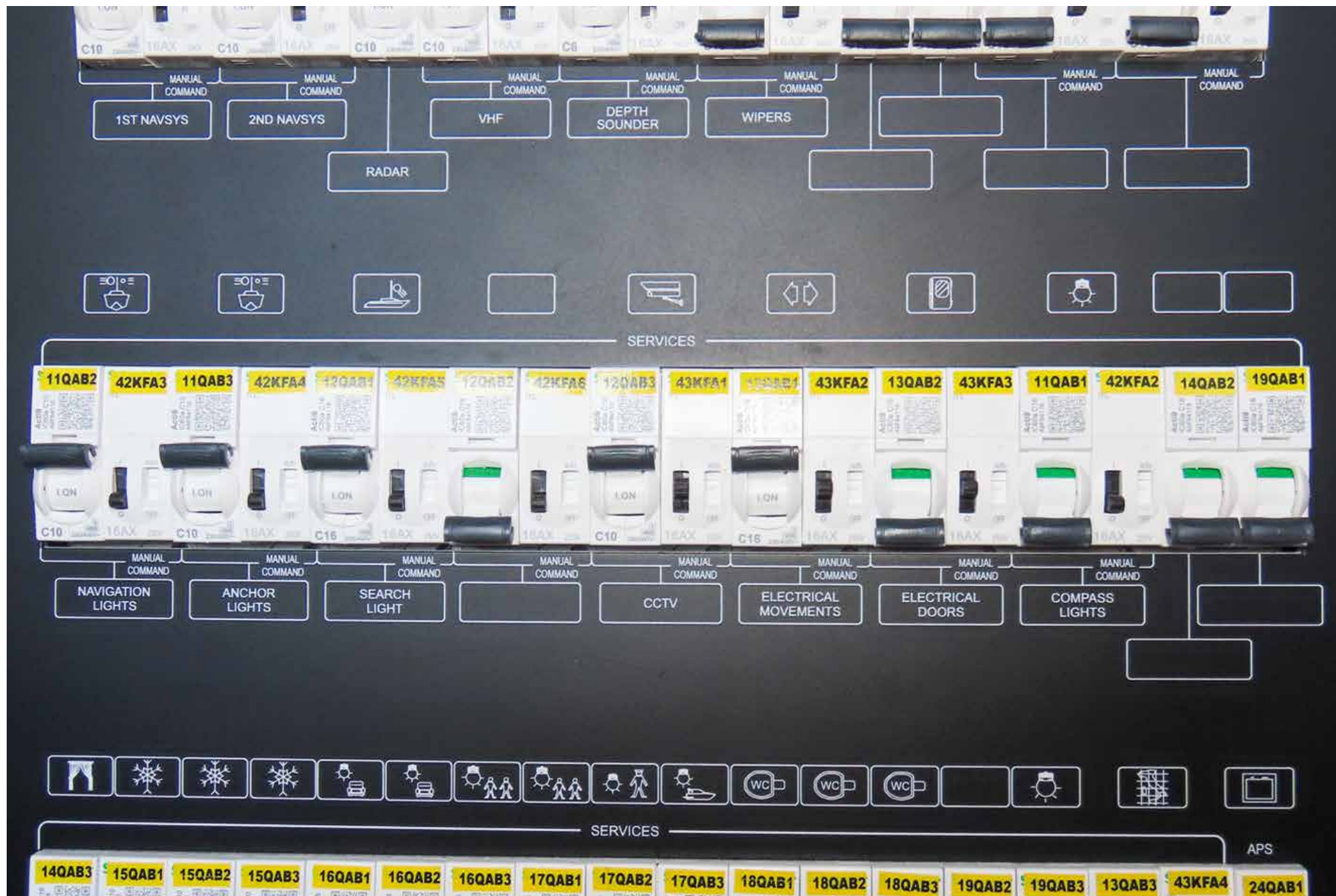
The electrical panel is located on the dashboard.
To simplify the panel descriptions, the following main sections have been identified:

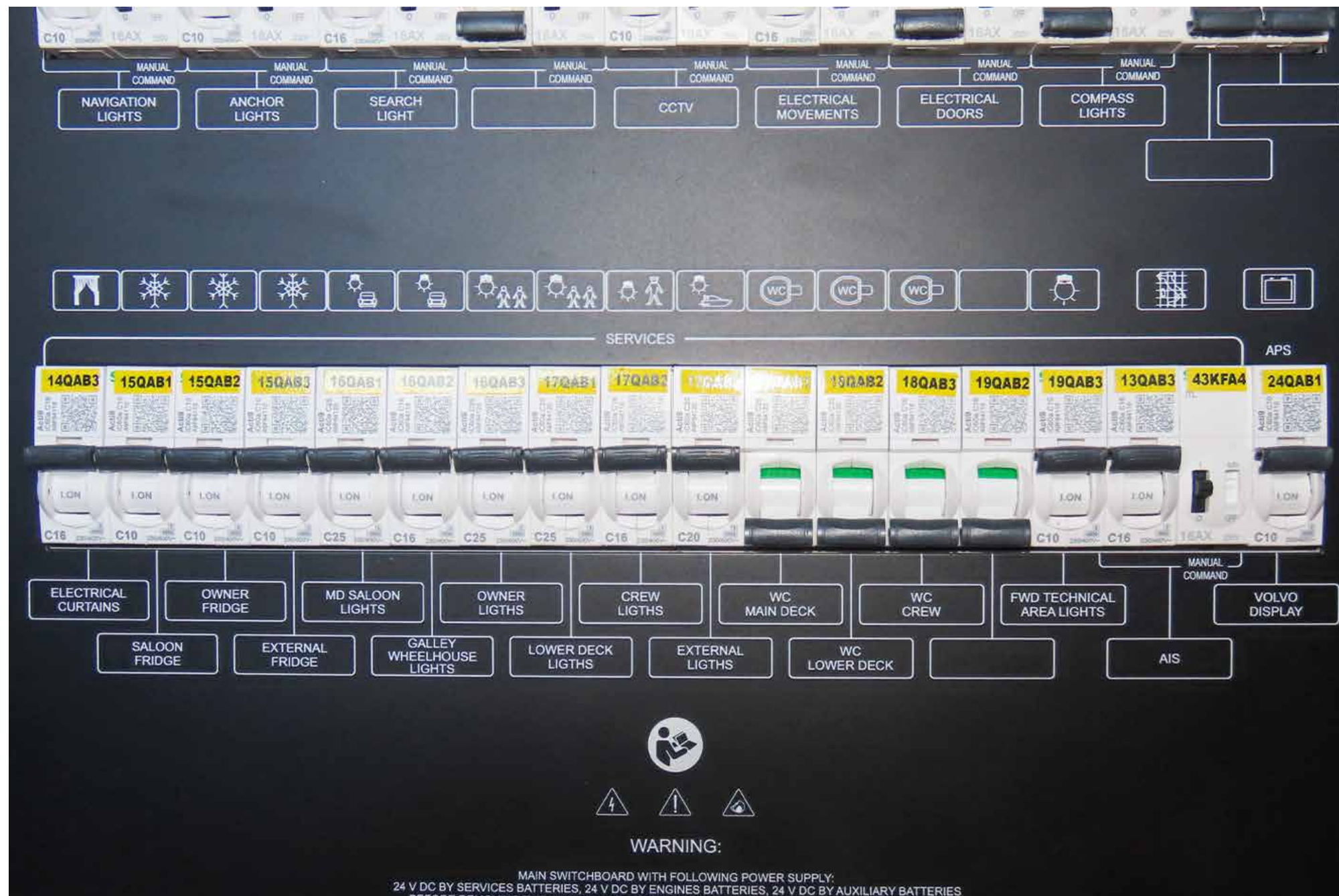
A. Magneto-thermal switches to protect 24V services.



A. Magneto-thermal switches to protect 24V services.







6.3 GROUND PROTECTION SYSTEM

On board there is an adequate grounding dispersion system fitted with a porous plate which constitutes the "means" of grounding the generators PE conductor, to which all the grounds of the alternating current systems are connected as well as all the negatives of the direct current systems.



DANGER

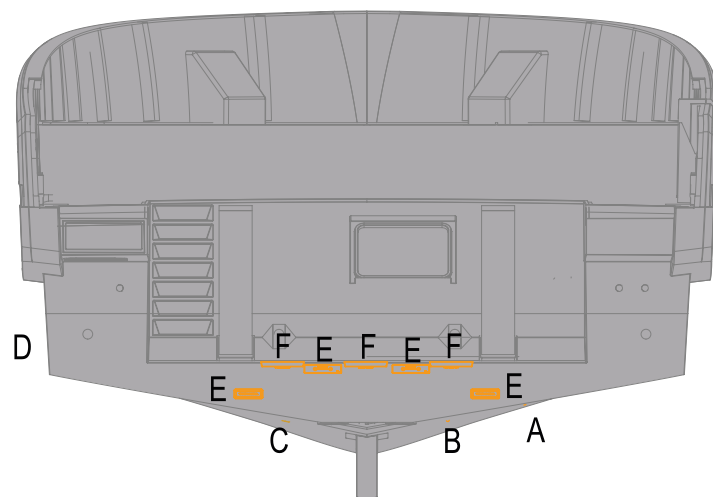
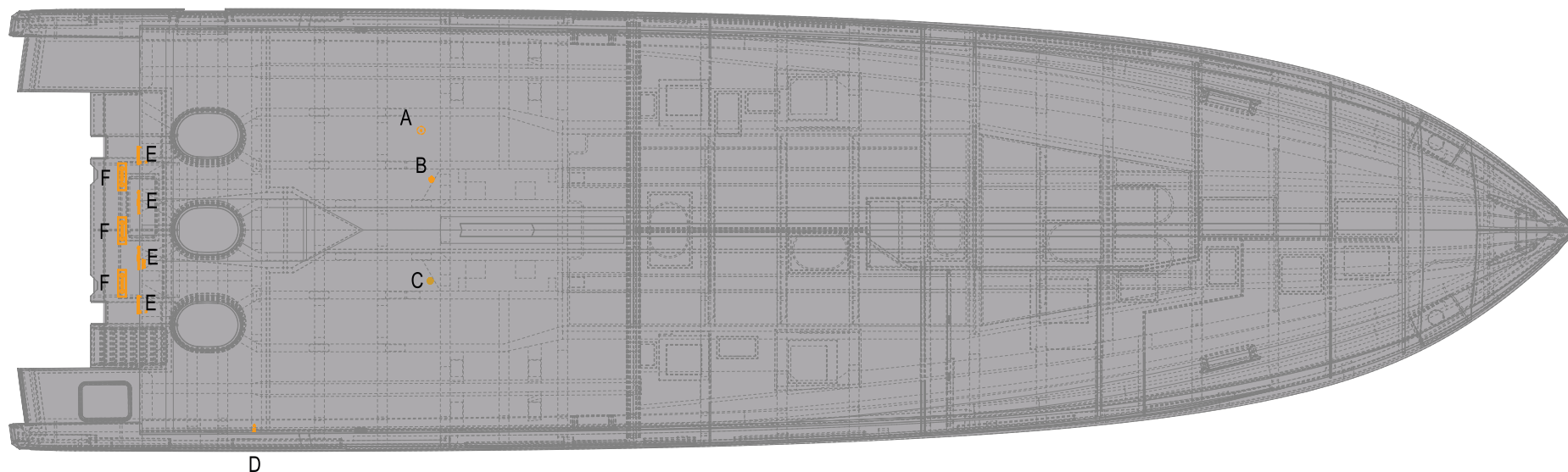
If the yacht is out of the water and connected to the shore power supply, check the presence of the shore-side system in the power supply system.



WARNING

Periodically check the status of sacrificial anode and porous plate: replace if the reduction for corrosion is more than 50% of their original mass. If their wearing is particularly quick, the on board electric system could be leaking. Have the electric system checked by experienced personnel.

Ground protection system diagram:



ICONA ICON	DESCRIZIONE DESCRIPTION
A	Piastra massa circolare con perno Circular ground plate with pin
B	Trasdut Trasdut
C	Trasduttore Transducer
D	Anodo di riferimento potenziale per il sistema di monitoraggio Potential reference anode for the monitoring system
E	Protezione da corrosione Corrosion protection
F	Anodi passivi per sistemi di protezione elettrica Passive anodes for electrical protection system

6.4 BATTERY SET

The batteries are normally charged by the alternators during the operation of the engines. As an alternative, you can recharge them with the battery charger from shore or with the generator.

Description	Element number	Features element
Engine start	2 + 2 + 2	12 V 120 Ah
Generator start	1 + 1	12 V 180 Ah
Services batteries	12	2 V 640 Ah
Auxiliary batteries	4	12 V 180 Ah
Bow thruster batteries	4	12 V 70 Ah

WARNING

The batteries left unloaded over long periods of not operation, lose progressively their charge, until they become completely flat and get irreparably damaged.

WARNING

Any replacement of a battery bank must only be carried out with batteries having the same characteristics.

WARNING

If the engines are ON; it is advisable to keep the switch of the battery charger to OFF, in order to avoid alternator damage.

DANGER

NEVER obstruct the air intakes of the battery boxes as natural ventilation must always be allowed so that the batteries do not overheat.

WARNING

Do not lay objects on the cases containing the batteries.

CAUTION

A frozen battery may blow up if used or charged; do not start a Yacht with frozen battery. To prevent the battery from freezing keep it always completely charged.

DANGER

The battery releases explosive gas: do not approach flames, sparkles or smoke near it. If the battery is used or charged in a closed area, ensure ventilation. Do not check the battery charge by short-circuiting the terminals with metal tools: use a densimeter or a voltmeter.

WARNING

EXPLOSION HAZARD

Any lithium battery powered device on board must be recharged only in open air areas, connected to a suitable charging system. Also please refer to the device dedicated Use and Maintenance Manual.

6.4.1 Checking and maintaining batteries

Component	Maintenance	Notes and precautions
Batteries	Battery check (accumulators)	It is recommended, however, to check the status at least twice a year and whenever there is a difficulty or delaying of charging time.

CAUTION

In case of contact with battery acid, wash the contaminated part with fresh water for at least 15 minutes and consult a doctor.

CAUTION

Remove bracelets, rings and every other piece of jewellery before working on the batteries.

WARNING

All maintenance operations listed must be performed only by skilled personnel.

CAUTION

Monitor the voltage of the engine and service batteries. During the charging phase 29.1V can be reached, this is a temporary value, well tolerated, both by the batteries and by the battery charger. This value must be monitored and, if this situation lasts for too long, the magneto-thermal breakers of the battery charger must be disconnected.

CAUTION

Always keep the batteries charged and recharge them periodically even if the yacht is left unattended. If the charge level drops to the minimum, the batteries can get irreparably damaged. Check the charge status each week.

WARNING

The battery replacement must always use the original model of battery originally furnished by the shipyard.

Carry out following checks:

Terminal inspection

- Check that the battery containers are clean and dry and that the terminals are coated with silicon grease and properly fastened. Clean and grease as required. Inspect at least every 6 months.
- Identify positive and negative cables, prior to connecting (connect the positive terminal first and then the negative, in order to avoid sparkles).

DANGER

Batteries may be subject to explosion hazard, with subsequent risks of serious personal injuries. Do not use open flames, smoke, cause sparks or use arc-welders in the area where batteries are located. Do not disconnect battery cables when the generator is running. Battery acid may cause serious injuries. Wear safety goggles, gloves and protective clothing. Do not wear any bracelet, ring or any other jewel when operating on batteries.

DANGER

Always remove the negative terminal (-) for grounding connection first and connect it last.



DANGER

Operations on batteries must be performed by qualified personnel.



CAUTION

Check the condition of the batteries, making sure there are no traces of electrolytic corrosion on the poles and connection terminals; if corrosion is detected, contact servicing and replace the affected elements.

6.5 BATTERY BREAKER PANEL

The panel is located in the stern cockpit to the left of the door leading to the main saloon.

The panel contains the control buttons for the electric battery breaker switches (each with a green LED) which activate:

- Service batteries;
- Auxiliary batteries;
- Starboard engine batteries;
- Port engine batteries;
- Central engine batteries;
- Central and port engines batteries parallel;
- Starboard and central engines batteries parallel.

When the led are lit the batteries are operating, in order to disconnect them press again the buttons (Led off).

If the electrical battery-disconnect switches should fail, the services battery direct manual breaker buttons installed on the starboard engine room bulkhead electrical panel can be used.

The generator battery manual breakers are located in the engine room near the generators themselves.



CAUTION

Do not disconnect the battery breaker switches with the engines running because the engine alternators might get damaged.



CAUTION

Use the "Services-engine parallel connection" breakers only if strictly necessary and disconnect them as soon as possible.

The on-board battery breakers are:

- **Generator batteries breaker**
These allow cutting in or out the generator batteries.
- **Service batteries breaker**
This switch allows cutting in or out the service battery set.
- **Engine battery parallel connection breaker**
In the event that an engine's batteries are discharged or not sufficiently

charged to allow it to start, the battery breaker allows the battery pack of one engine to be put in parallel with the battery pack of another engine, allowing it to start.



CAUTION

This connection must be activated only if the batteries are not sufficiently charged. The battery parallel connection switch, must be activated only with buttons connecting the battery banks set to ON.

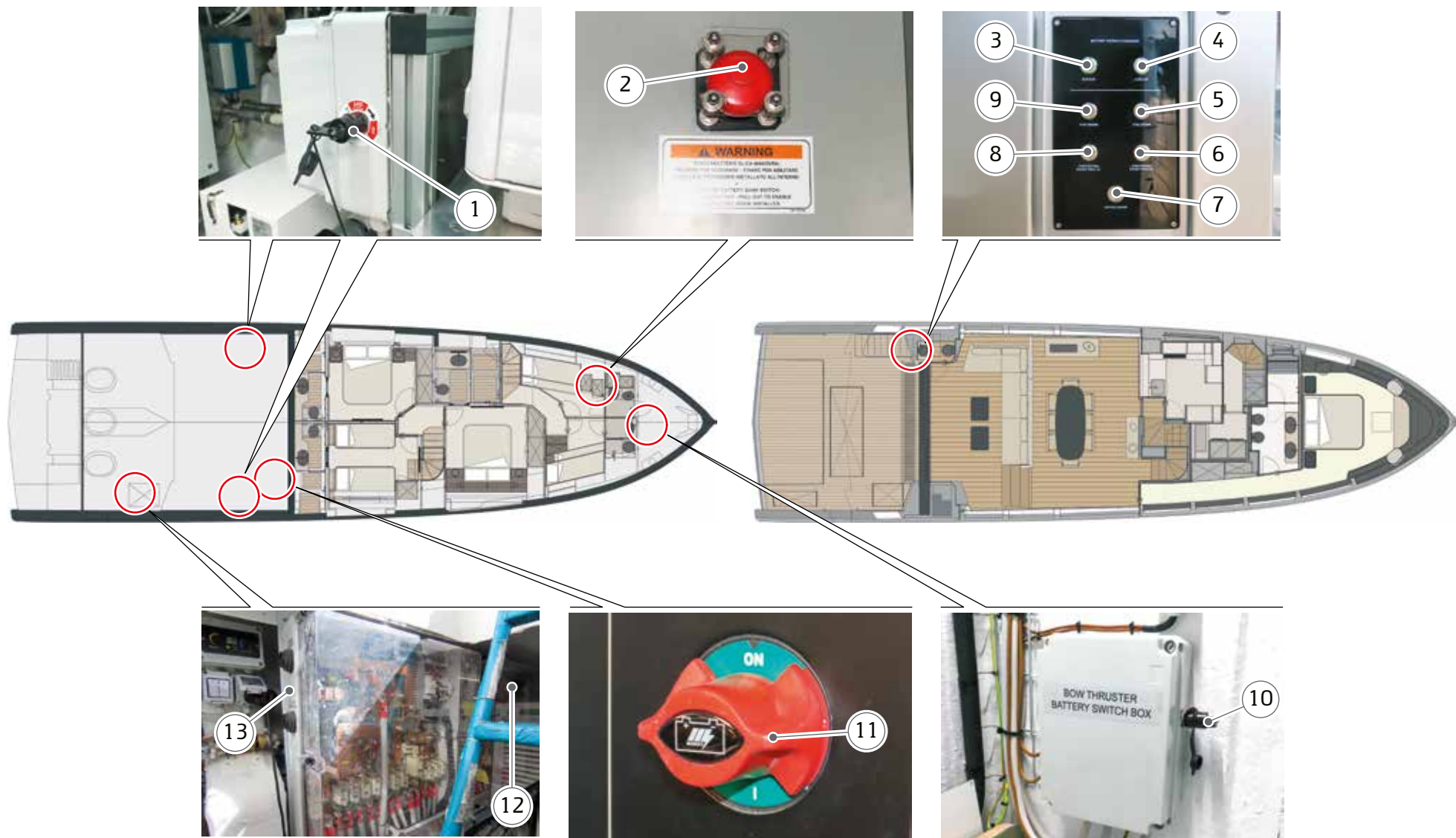
- **Battery breaker of each engine**
This switch allows cutting in or out the engine battery set.
- **Battery breaker electrical panel**
- **Direct battery-disconnect main switch**
- **Thruster battery breaker**
Positioned in the chain compartment accessible from the left crew cabin.



DANGER

Keep the breaker of the battery-powered utilities set to ON.
Cut out only in case of maintenance.

1. Generator battery breaker
2. Remote thruster battery breaker
3. Remote Services battery breaker
4. Remote auxiliary battery breaker
5. Starboard engine remote battery breaker
6. Remote parallel starboard and central engine battery breaker
7. Remote central engine battery breaker
8. Remote parallel port and central engine battery breaker
9. Port engine remote battery breaker
10. Bow thruster battery breaker
11. Battery-directed main switch
12. Engine battery breakers box
13. Auxiliary and service battery breakers box



6.6 BATTERY CHARGER

SERVICES (3) AND AUXILIARIES (4) BATTERY CHARGER

On board your yacht there is a fully automatic and high-performance service battery charger. The battery charger implements an optimised charging technique that charges the batteries quickly and safely while also powering the connected loads. In addition, each charger is protected against short circuits, overloads and high temperatures (typical of engine rooms). A front panel meter on each charger displays a reading of remaining battery capacity value, in a manner analogous to a car's fuel gauge. The more LEDs are lit, the more the battery is charged.

Energisation

The battery charger is energized when the switch is in the ON position. One of the LEDs on the front side turns on and the charge starts immediately.

De-energisation

The battery charger is de-energised when the switch is set to OFF. The connection between the electric mains and the battery charger is not interrupted with the switch.

Bulk (LED 1 ON)

The battery is discharged only when the first LED Bulk/ON (Quick charge/ON) is lit. Now the battery charger provides full power and the battery voltage increases slowly. After having reached the 27.6 V level, the battery is about 25% charged and the second LED turns on.

(LEDs 1 and 2 ON)

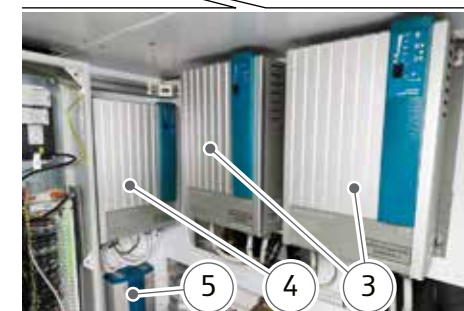
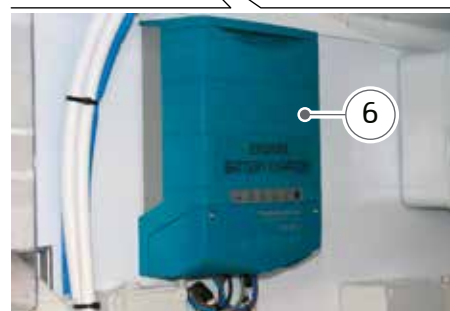
The battery has been charged to 25%. The battery charger still provides the maximum output current and voltage increases up to the level of absorption voltage. Phase A can last up to 6 hours max.

Absorption (LEDs 1, 2 and 3 ON)

The battery has been charged to 50%. The battery charger limits the charging voltage to a safe level and the charging current decreases slowly.

(LEDs 1 to 4 ON)

The battery has been charged to 75%. The charging voltage is limited to the absorption level, because the battery is nearly full. Current consumption will continue decreasing.



Maintenance (LEDs 1 to 5 on)

When all the LEDs are lit, the battery is fully charged. The slow maintenance/charging programme provides a output voltage, high enough to keep the batteries with a 100% charge, but low enough to prevent that the batteries suffer unnecessary constraints. The battery charger can now deliver full power to the connected utilities/loads.

LEDs on	Meaning
Normal operation: the green light of LED no. 6 turns ON	
1	Battery charger ON
1+2	U output > 27.6 V
1+2+3	U output = absorption (28.5 V)
1+2+3+4	3 hours after the max. bulk time has started or I < return amp
1+2+3+4+5	6 hours after the max. bulk time has started or I < return amp. for 15 min or more
9	Recharging current equal to 0-5% of total current
9+10	Recharging current equal to 5-25% of total current
9+10+11	Recharging current equal to 25-50% of total current
9+10+11+12	Recharging current equal to 50-75% of total current
9+10+11+12+13	Recharging current equal to 75-100% of total current
6	Green: normal operation, red: faulty, OFF: stand-by or OFF
7	Green: communication of MasterBus in progress, OFF: no communication of MasterBus
Failure condition: the red light of LED no. 6 turns ON	
6 red +1	Battery detection error
6 red +2	Too high temperature of the battery charger
6 red +3	Short-circuit warning: the battery charger will reduce charging current to 25%
6 red +4	CC error: CC voltage is too low or too high
6 red +5	Temperature detection error



CAUTION

Disconnect the shore power supply connections when the system is not in use.

ENGINE BATTERY CHARGER (6)

Your yacht is equipped with an on board engine battery charger. The Chargemaster is a fully automatic battery charger.

This means that under normal conditions it can remain switched on with AC power and batteries connected. It has an automatic input device that allows operation with virtually any available AC power source. The three-step Plus charging method ensures that the batteries are always 100% charged.

With an external AC source connected, the charger also functions as an AC/DC converter to supply DC loads connected to the batteries. The battery charger can be activated by keeping the POWER switch pressed for about 3 seconds.

The POWER switch will start blinking green and the charging status will be displayed. If necessary and if AC power is provided, the battery charger will start charging the batteries.

In the event that the charger is in standby or the AC power supply is interrupted, the POWER switch starts flashing red. After about two minutes, it stops flashing and the display turns off, thus preventing the battery from charging by the indicator light.

NOTE

For further information on use and maintenance, please refer to the manufacturer's manual.

GENERATOR BATTERY CHARGER (OPT) (1) (5)

Your yacht is equipped with two on board generator battery charger.

Each battery charger is located near its generator.

The battery charger regulates the voltage by stabilising it and thus ensuring the optimal value even in the presence of fluctuations due to starting heavy loads. The galvanic isolation between input and output satisfies the specific requirements of some communication devices and engine electronics.

The battery charger works automatically. Under normal conditions there is no need for specific actions. Despite its low power consumption under no load, the battery charger must be disconnected from the supply battery when not in use to avoid discharging the battery.

NOTE

For further information on use and maintenance, please refer to the manufacturer's manual.

BOW THRUSTER BATTERY CHARGER (2)

Your yacht is equipped with a on board bow thruster battery charger.

The battery charger is located in the chain compartment accessible from the port crew toilet.

The battery charger regulates the voltage by stabilising it and thus ensuring the optimal value even in the presence of fluctuations due to starting heavy loads. The galvanic isolation between input and output satisfies the specific requirements of some communication devices and engine electronics.

The battery charger works automatically. Under normal conditions there is no need for specific actions. Despite its low power consumption under no load, the battery charger must be disconnected from the supply battery when not in use to avoid discharging the battery.

NOTE

For further information on use and maintenance, please refer to the manufacturer's manual.

6.6.1 Checking and maintaining the battery charger

Component	Maintenance	Notes and precautions
Battery charger	Charge output inspection	At least two or three times a year, have the connection of each wire checked by skilled personnel for looseness or oxidation. Keep the battery charger dry, clean and away from dust in order to ensure a good dissipation of heat. Periodically check the good condition of the cooling fan.



DANGER

Do not work on the battery charger or on the electric system if they are still connected to a current source. Disconnect the mains supply before connecting or disconnecting the battery.
Modification to the electric system must be carried out exclusively by skilled personnel and only after the approval of WALLY.



WARNING

If the engines are ON, the alternators are charging the batteries; it is therefore advisable to keep the magneto-thermal of the battery charger to OFF, in order to avoid alternator damage.

MAINTENANCE

At least once a month check the correct operation of the battery charger.
At least once a month carry out the complete cleaning.
At least once every six months protect the contacts with proper products.



DANGER

Have the inner condition of the battery charger checked by skilled staff at least once a year. Faults like loose connections, burnt wires, etc., with following risk of fire spreading, must be repaired immediately.



DANGER

Before operating on the battery charger, disable the generators start and cut-off the dock power supply.

This device can operate in a reliable and optimal way, only if following operations are performed:

- Check that all breakers and indicator lights are working, the wiring does not present any signs of cuts and all parts are clean and free from oxidation;
- Remove the casing and check that circuit boards are free from oxidation. If necessary, clean by using the detergent solution;
- Protect the electric contacts by using an appropriate product (DC4);
- Reinstall the casing after cleaning;
- Check at least once a year the connection of each cable (for loose connections, etc.);
- Keep the battery charger dry, clean and in a dedusted area to ensure a good dissipation of heat.



WARNING

All maintenance operations listed must be performed only by skilled personnel.



DANGER

NEVER clog the air inlets of the cases containing the batteries because natural ventilation of the batteries must always be ensured so that they do not overheat.

Charge output

For a good operation, batteries must not be discharged below 30-40% of their capacity, therefore, always start recharging them, when this charge level is reached.

The battery charger is equipped with a temperature sensor located close to the batteries. According to the temperature value detected, together with the value of residual capacity of the batteries, the charger automatically adjusts the charging voltage according to temperature, thus remarkably increasing battery life. Moreover, besides the thermal compensation, the battery charger can also compensate the voltage drop due to the dispersion of the connection cables. The battery charger is provided with an integrated warning light which activates in case certain adjustment values are exceeded.



CAUTION

Should the battery voltage drop under 18 V, the battery charger will supply a current corresponding to the 25% of the maximum one and the recharge time will consequently increase.

6.7 ELECTRIC POWER SUPPLY FROM SHORE



DANGER

Before connecting the shore socket, ensure the type of voltage and the sockets available, their integrity and the absolute absence of moisture on the wire, on the socket and on the plug.

With plug connected check that wire:

- Cannot get in traction as a result of tide variations, yacht movements, etc..;
- Cannot get crushed, etc..;
- Does not come into contact with water.



CAUTION

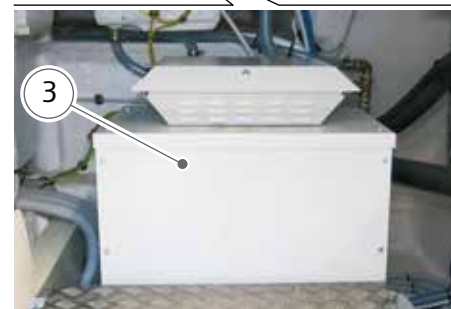
The connection must be performed under safety conditions with not powered connections and by paying attention to carry out a correct grounding.

The shore columns can supply different types of voltage, according to the harbour where you are moored; contact the Port Authority for the correct power supply of the column you are going to be connected.

In order to power the yacht's electrical system, which in turn ensures operation of the various on board systems, a 125 A - 50 Hz shoreside connector, equipped with cable reel (2), has been fitted astern on the port side.

By means of the main electrical panel, it is possible to check and monitor the electric parameters of the shore sockets, allowing a clear and readable display of the values measured, this facilitates the prevention of possible faults and malfunctioning and increases the safety of navigation.

It occurs very often to find shore plugs with dimensions not compatible with those on the yacht; in this case it is necessary to contact the Port Authority and to get a new plug or an adapter.



Electric shore power supply connection procedure:

- On the main engine room switchboard, turn OFF the general magneto-thermal breakers of the on-board services;
- Open the switch protecting the shore power connector (1).
- On the shore power column, open the power switch;
- Connect the power cable to the shore power column;
- Turn ON the switch on the shore power column;
- Turn ON the switch to protect the power supply to the yacht's shore socket;
- From the electrical panel in the engine room, select the shore power supply and monitor the voltage;
- Only if the voltage level is correct, close the magneto thermal breakers that feed the loads.

If the shoreside supply voltage is outside the correct operating range, the controller prevents selection of the shoreside supply and sends a signal to the monitoring station.

Downstream of the dockside electrical socket is a transformer (3) with a 400V three-phase input and a 230V 50Hz single-phase output to supply the on-board uses.

CAUTION

Do not modify connectors of shore power supply cable, use only plug compatible connectors. If the yacht power supply cable cannot be plugged into the shore socket, ask the Port Authority for an adapter. In any case, never use adapters cutting the mass conductor connection between the shore electrical system and the yacht electric system.

The use of these adapters can irreparably damage the electric devices.

DANGER

Do not leave shore power supply connected without people on board.

DANGER

Before carrying out any intervention on the electric system, disconnect all circuits and the shore connection.

WARNING

If the warning light on the main electrical panel in the engine room is on this means that the electric socket for shore power supply is plugged.

CAUTION

Disconnect the shore power supply connections when the system is not in use.

WARNING

Do not allow that cable end of shore power supply to floats in the water. This can cause an electric field as well as injuries or even the death of the swimmers nearby.

CAUTION

To cut the electric power supply from shore:

- Disable the shore power supply on the main switchboard in the engine room.
- Turn OFF the protections on the shore column.
- Disconnect the power supply cable from the shore power supply source (shore column), and from the yacht.

MAINTENANCE

At least once every two weeks, have the various connections of electric boards, panels and boxes checked by experienced and equipped personnel. Make sure that ground connections of electric equipment and electrical panels are tight and not oxidized. At least once a month check the status of the shore socket and eventually clean it.

DANGER

Risk of electric shock from leakage currents. Never swim in waters near harbours or marinas.

6.8 FUSES

In addition to these protections, there are common fuses with types and characteristics appropriate to the specific installation.

Please refer to the electric system user's manual for their location on board.

The main fuses on board have the following characteristics:

- 20 A
- 32 A
- 63 A
- 80 A
- 100 A
- 125 A
- 160 A
- 200 A
- 250 A



DANGER

For reasons of safety and reliability of any electrical system, any fuse must be replaced with one which has the same electrical characteristics: in case of doubt, consult an expert technician.



DANGER

At the end of eventual replacement of a fuse, ensure the proper keeping: DO NOT not leave any foreign objects inside the panel.

NOTE

For further information on use and maintenance, please refer to the manufacturer's manual.

6.9 INVERTER

On the starboard bulkhead of your yacht's engine room, there is 1 inverter dedicated to services (such as 230V sockets, TV/stereo, satellite TV, etc..) and 1 inverter for fridge.

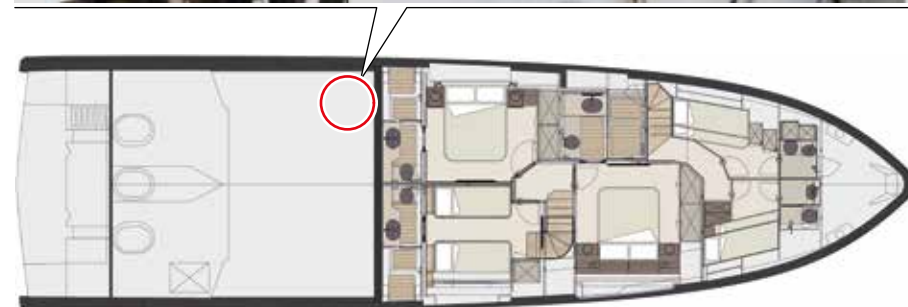
The inverter is a completely automatic high-efficiency device. The inverter transforms the 24V DC voltage into 230V AC.

- **ON, Switch**
Position the ON/OFF switch, located on the front panel of the inverter to "ON". The green light "inverter ON" lights up and the inverter starts.
- **OFF, Switch**
Position the ON/OFF switch, located on the front panel of the inverter to "OFF". The inverter stops and all lit lights switch OFF.

Warning lights:

The functions of the warning lights located on the inverter front panel are:

- **Inverter ON**
The green light indicates when the inverter is ON.
- **Overload**
Light lights up when the inverter is overloaded. When the inverter is overloaded, the power limiter reduces the voltage output. According to the load, the inverter will switch OFF after a short period.
- **Overload + ON slow**
When the inverter remains overloaded for a long period of time, it will switch OFF and the "overload + ON" indicators will blink slowly. This takes approx. 20 seconds, after which the inverter will restart automatically. This is called "wait state" and gives the inverter time to recover from any heavy surge load and gives the battery time to recover in case it is flat.
- **Overload + ON fast**
The inverter is switched OFF. When the inverter switches OFF 10 times with intervals no longer that 30 seconds, the inverter will switch OFF permanently and the "overload" and "ON" indicators will blink fast. To switch the inverter ON again, you have to switch the inverter OFF and ON again. When the output terminal is short-circuited, the inverter will overload. The "overload" and "ON" indicators will blink slowly. The inverter will try to start up ten times. If the short-circuit is not removed, the inverter will switch OFF permanently. Remove the short circuit and reset the inverter by switching it ON and OFF.



- **Low battery (nearly flat)**
The inverter is OFF when the battery voltage is too low.
If the voltage increases above certain values, the inverter restart automatically.
- **Temperature**
The inverter switches OFF in environments at high temperature and/ or remarkable overload. After the cooling, the inverter starts automatically.



DANGER

When disconnecting the inverter by means of the switch located on the front panel the connection with the mains is not broken off.



DANGER

Do not work on the inverter or on its system if still connected to a current source. Only qualified staff can carry out interventions on the electric system and only after the approval of WALLY.

6.9.1 Inverter maintenance

Component	Maintenance	Notes and precautions
Inverter	Maintenance and check	At least once a year, have the cable and wire connections checked by skilled personnel; they should still be tight and not oxidized. Keep the inverter/battery charger dry, clean and away from dust to ensure a good heat dissipation. Periodically check the good condition of the cooling fan. If the device is off during the maintenance and/or repair works, it should be set to prevent an unexpected or unintentional activation: • Switch off the connection with the batteries or remove the inverter fuse; • Make sure that nobody can tamper with the precautions taken.



DANGER

Have the inner condition of the inverter checked at least once a year by skilled personnel. Faults like loose connections, burnt wires, etc., with following fire break risks, must be removed immediately.



WARNING

The utilities supplied by the inverter highly stress the batteries that could discharge as a result.

MAINTENANCE

At least once a month check the correct operation of the inverter.
 At least once a month carry out the complete cleaning.
 At least once every six months protect the contacts with proper products.

6.10 GENERATORS

On board your yacht there are two generators (1) located on the left and starboard side of the engine room.

On the daily fuel tank flange, you can easily see the power generators, which can be cut-off by means of the two suction valves, on which you can handle quickly to cut-off the fuel lines in case of emergency in order to disconnect the generators. The connections going from the generators to the tank are for fuel flow-back.

The fuel, before reaching the generators, is led through the separator filters that hold the dirt particles and separate possible water.

The exhaust gases, instead of being discharged directly outside, are conveyed through mufflers (3), one per generator. These mufflers, by injecting water in the exhaust pipes, allow cooling down the fumes and, at the same time, reducing the noise produced by the water outflow.

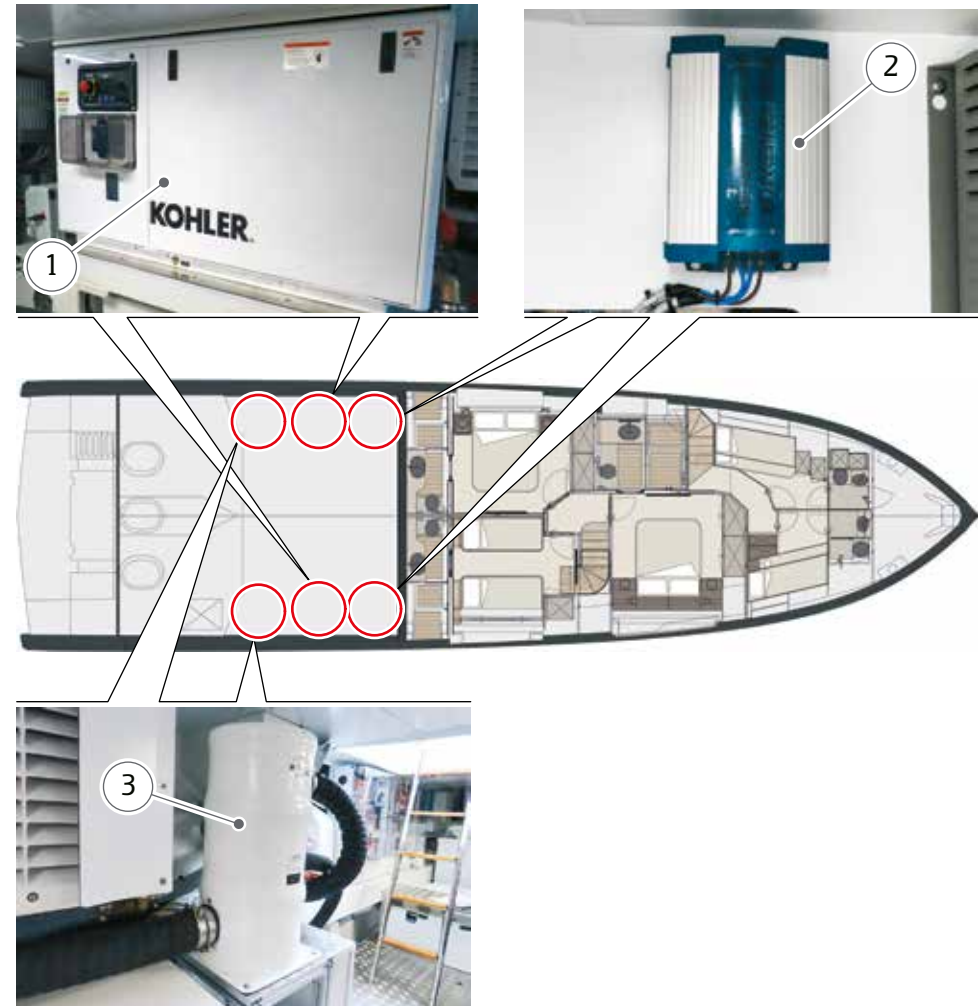
To further reduce the noise, the fumes are then sent to the separators. The separators use the gravity and centrifugal forces to separate exhaust gases from cooling water. This latter is separated and discharged directly under the water line. The exhaust gases without water are then conveyed and discharged overboard.

The sea cocks of the cooling circuit are installed on the hull with the sea water strainers, fastened to a surface close to the sea cocks valves. Clean the sea cock strainers according to the use frequency and to the condition of the sucked waters (seaweeds, mucilages, etc..).

Before cleaning the strainers, remember to close the sea cock valves, to stop the generators and then to proceed with maintenance. Once this cleaning operation is completed, reopen the valves supplying the cooling circuit. As to the unit supply, on each power generator set is located the control panel for the check and start/stop operations.

The generators are also equipped with battery breaker switches.

The dashboard control panel monitoring and controlling the main operating parameters (oil pressure, coolant temperature, rpm, etc..) of the generators, in order to detect any alarm situation or potential risk.

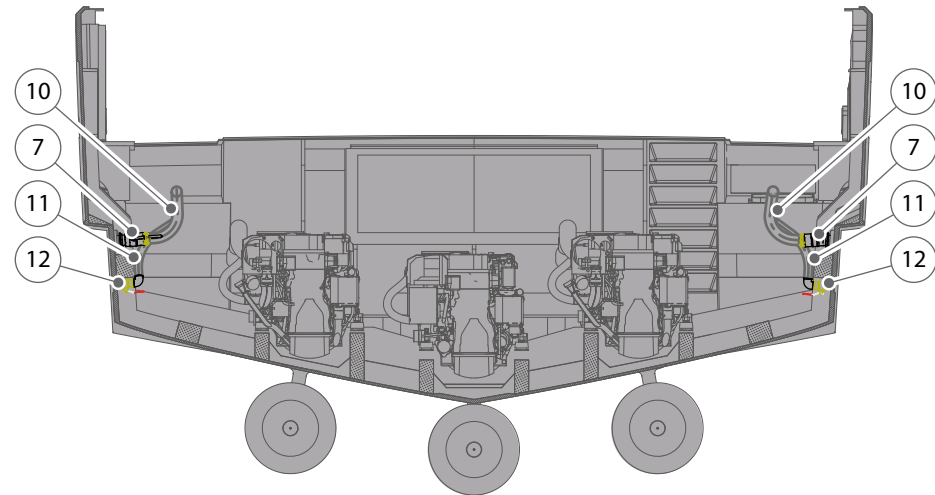
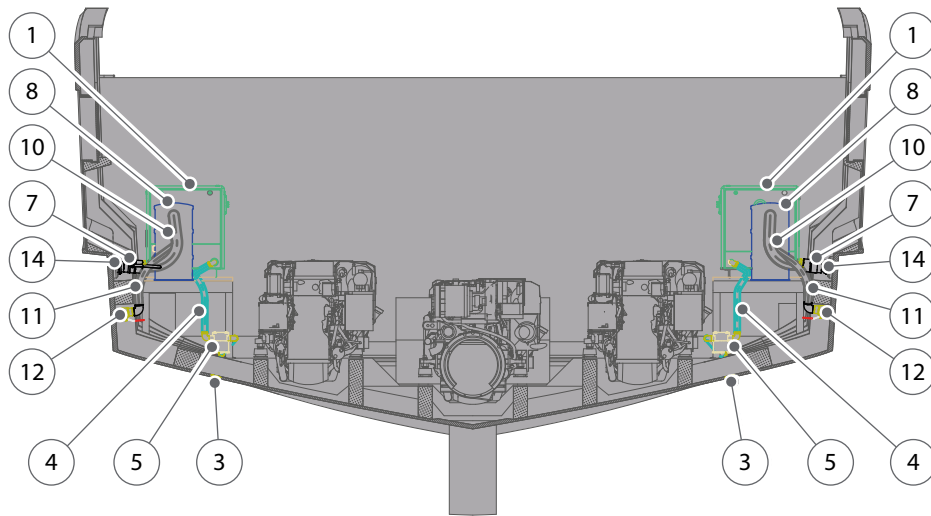
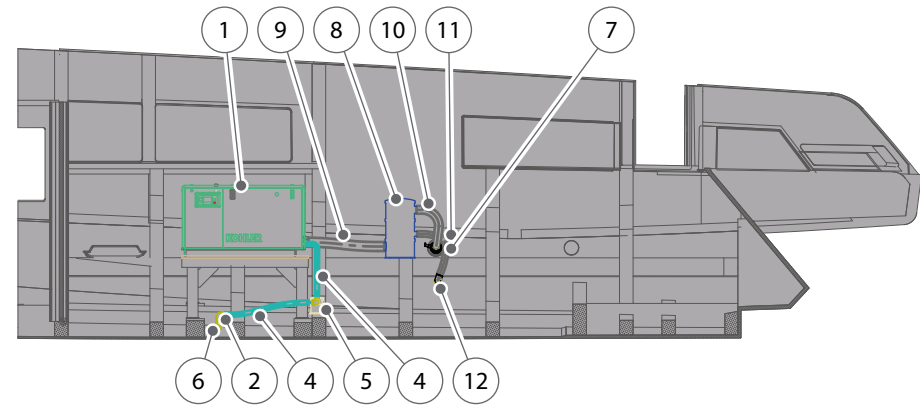
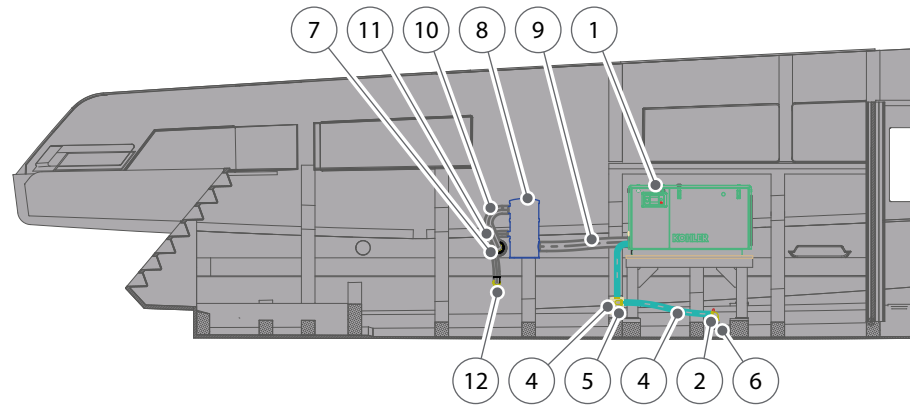


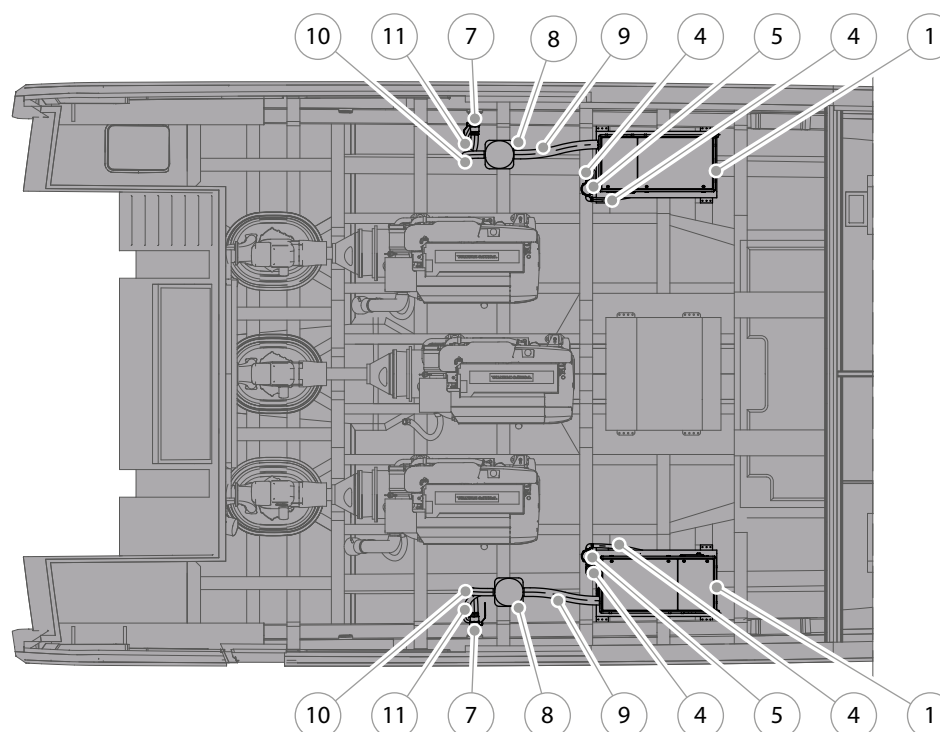
The generator start-up batteries are charged by a battery charger (2) (per generator) powered at 12V by the service batteries.

NOTE

For further information on use and maintenance, please refer to the manufacturer's manual.

Generators exhaust system diagram





ICONA ICON	DESCRIZIONE DESCRIPTION
1	Generatore Generator
2	Valvola a sfera Ball valve
3	Cuffia tonda Round cap
4	Linea acqua mare tubo spiralato Sea water line spiral hose
5	Filtro acqua mare Sea water filter
6	Scarico a mare Overboard discharge
7	Valvola a sfera Ball valve

ICONA ICON	DESCRIZIONE DESCRIPTION
8	Marmitta Muffler
9	Tubatura Piping
10	Tubatura Piping
11	Tubatura Piping
12	Valvola a sfera Ball valve
13	Scarico a mare Overboard discharge
14	Scarico a mare Overboard discharge

6.10.1 Generator control panel

Description

On the generator there is a control panel allowing to carry out the controls and the start/stop operations.

A display indicates, by means of the relevant warning lights, the fault detected, thus allowing the monitoring of the power generator set.

WARNING

Before stopping the power generators, disconnect the various on-board uses supplied by them; stopping the power generators under load can irreparably damage the electronic control units of the various utilities, beyond having a negative influence on the generators' operation. However, please refer to the manuals of the power generators to obtain more detailed information about the starting and stopping procedures.

CAUTION

Carbon monoxide poisoning:
 Start the generator only in a well ventilated area. The carbon monoxide, generated by the inner combustion of engines, is extremely toxic.

CAUTION

Explosion/fire hazard
 Check for the presence of fumes in the generator area.

NOTE

For further information on use and maintenance, please refer to the manufacturer's manual.



6.10.2 Generator maintenance

Component	Maintenance	Notes and precautions
Lubrication system	Oil specifications	Use specified oils according to Manufacturer's indication.
	Oil check	Check the oil level in the crankcase daily or before each start-up to ensure that the level is in the safe range. Remove the dipstick and wipe the end clean, reinsert as far as possible, and remove. Maintain the oil level between the marks (Min and Max).
	Oil change	For the oil change remove the draining hose from its holder. Position the hose in the oil collecting container. Remove the oil filling plug. Open the oil draining valve located on the engine and drain the oil completely in the container. Change oil according to intervals suggested by the Manufacturer.
		 CAUTION Do not mix different oils.
	Oil check	Remove the oil filter by turning it counter clockwise by means of a suitable wrench. Apply a thin layer of oil to the rubber seal of the new filter. Replace the oil filter according at time intervals recommended by the Manufacturer.
Fuel system	Cleaning and replacement of fuel pre-filter	Replace fuel pre-filter at time intervals recommended by the Manufacturer.
	Cleaning and replacement of fuel filter	Close the fuel supply valve. Loosen the fuel filter by turning it counter clockwise. Remove the filter and clean the contact surface. Tighten the filter on the adapter until the seal comes in contact. Replace fuel filter within the intervals indicated by the Manufacturer.

Component	Maintenance	Notes and precautions
Cooling system	Cleaning / replacement of the air cleaner	Release the two spring clamps and remove the cover of the air intake. Clean the cover and the base with a clean cloth so as to remove the dirt. Refit the filter and the cover at the base of the filter air intake. Replace the filter at time intervals recommended by the Manufacturer.
	Cooling liquid top up	Before filling the cooling system stop the generator and let it cool down. Close the draining taps. In order to discharge the pressure turn slowly the plug clockwise up to the first stop. Remove the plug after the pressure has been completely released.
	Sea water strainer	At least once a week check for the correct water flow through the strainers. At least once a month check the integrity of the strainers. At least once a month clean the suction strainer. At least once every six months check the condition of the cover seal.



ENVIRONMENT

Recover all waste materials (engine oil, fuel, filter, etc..) according to the rules in force concerning the special waste disposal.



DANGER

Hot coolant and steams may cause heavy injuries or even death.



CAUTION

Failure to observe the oil specifications may cause inadequate lubrication/ oil pressure and cold-starting difficulties.



CAUTION

If the oil level is not positioned between the two reference notches do not activate any device.



CAUTION

Pay special attention to the coolant level. After the coolant drains, allow coolant to completely refill the engine water jacket. Check the coolant level as prescribed in the Pre-start Checklist.



CAUTION

Damage due to sea water. Sea water quickly deteriorates metals. Wipe up sea water on and around the generator set and remove salt deposits from metal surfaces.



CAUTION

Do not add coolant if the engine is still hot. Adding coolant to an hot engine can cause the cylinder block or cylinder head to crack. Wait until the engine has cooled down.

NOTE

For further information on use and maintenance, please refer to the manufacturer's manual.

6.11 SACRIFICIAL ANODES

The submerged metallic parts of the yacht are protected against galvanic corruptions by means of anodes. Check for their wear very frequently, as it depends also (and highly) on environmental factors like sea chains nearby, metal posts or shores, metal hulls moored nearby, electric devices, etc.. The replacement is necessary when the wear exceeds 50%

The cathodic protection test can be performed on the monitoring system to check the state of the sacrificial anodes.
A reference anode (to be checked periodically) is installed on board, against which the system measures the electrical potential difference and checks if it falls within the correct protection range. An alarm signal is triggered in case of readings outside the safe range.



CAUTION

Each time the yacht is lifted, check for the condition of the propeller, of the protection anodes and of the fastening system.
Replace the anode frequently.

The propulsion and steering system is protected by 2 anodes for each propulsion system. One anode is installed on the IPS itself while the other is installed on the transom.

Replace an anode when about 1/3 of it is corroded.

When the yacht is winged, the corrosion protection deteriorates due to the oxidation of the sacrificial anode.

Even new anodes oxidize on the surface. The anodes must be cleaned before the yacht is launched.

The anode in the exhaust outlet is made of iron and does not need to be cleaned.



CAUTION

Do not use metal brushes or other steel tools for cleaning the anodes, as they may compromise the galvanic protection.

NOTE

For further information on use and maintenance, please refer to the manufacturer's manual.

6.11.1 Sacrificial anodes maintenance

Component	Maintenance	Notes and precautions
Sacrificial anodes	Periodical check (as necessary, according to the floating area) Assembly/disassembly	Metallic parts are protected against galvanic corrosion (caused by electrolytic currents due to the approach of different metallic bodies as steel or aluminium) by means of sacrificial anodes fitted on bottom hull, on stabilizer, on propeller shaft, etc.. The anodes' wear may depend on environmental factors as nearby chains, hulls or metallic docks, bad insulation of ground electric systems.

Periodical check

This operation must be carried out with yacht on dry shore or with the help of a diver.

Have the outer condition of the sacrificial anodes checked and have them replaced if they show evident signs of corrosion or if their volume is reduced to about 50%.

With the yacht out of the water, it is good practice to use a wire brush, to remove the surface layer of oxide and dirt on the external surface of the anodes.

CAUTION

Do not use pressurised water to clean the sacrificial anodes.

WARNING

To clean and check the yacht in water: disable the engines and generators start.

CAUTION

Check the anodes' wear conditions very frequently (when the yacht is on a dry shore or with the help of a diver) and replace them as soon as wear exceeds 50%.

CAUTION

Failure to replace the anodes causes corrosion on other metal parts.

Assembly/Disassembly

The sacrificial anodes are fastened to the yacht in several positions of the hull. We advise you to clean the seat of the sacrificial anode and cover with silicon the screws ends which fasten the anodes. This will ease the replacement of the anodes when worn out. We advise not to tighten the nuts fastening the anodes with glues or other materials which will hinder their removal.

CAUTION

Do not cover the contact surface between anode and hull with silicone.



wallywhy150

7
PROPULSION SYSTEMS



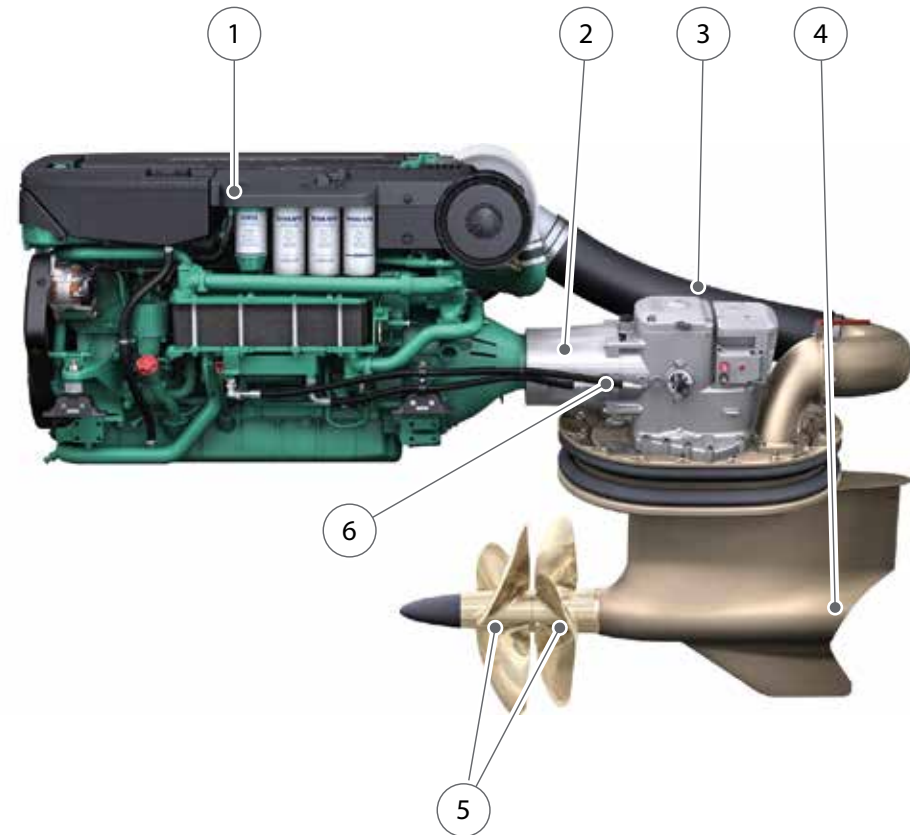
7.1 MAIN PROPULSION SYSTEM

In the engine room and steering unit compartment there are all components for the yacht thrusting.

The propulsion system consists of 3 equal units.

Each one includes:

1. VOLVO D13 IPS 1350 engine
2. Universal joint
3. Gas exhaust
4. IPS (Inboard Performance System) foot
5. Counter-rotating propellers
6. Transmission.



ENGINES:

They have following features:

- Model D13 IPS 1350
- Make VOLVO PENTA
- No. of cylinders 6
- Configuration in line
- Effective output 735/1000 kW/mhp
- Rated speed 2300 rpm
- Dry weight 2458 kg (5.419 lb)



CAUTION

Do not operate the craft with an engine of rated power exceeding the maximum recommended power (actual power engine series).

Among all the possible interventions to carry out on the engines in case of need (see the operating instruction manual) hereunder are the most useful, according to our experience:

- Replacement of the fuel filters.
- Replacement of the oil filters.



CAUTION

The engine data boards are very important in case of repairs. Therefore keep them with care together with the warranty.

Remember that you can obtain a flawless operation and a high power only by respecting the prescribed maintenance intervals and by using the specified fuels and lubricants.

The engines have been installed on suitable elastic supports, which absorb vibrations and allow the minimal motion of the engines; in this way structures and devices connected with them are not damaged.

Besides, the elastic supports easy engine position adjustment, both for a new installation or after the required run in.

NOTE

For further information on use and maintenance, please refer to the manufacturer's manual.



7.1.1 Engine control panel

This station must be used only in case of emergency. The controls on the panel allow all procedures for yacht navigation to be executed in “Local” mode. The engine can be started and stopped by selector.

The operating statuses of the engine and the information that has occurred regarding anomalies are shown on the display.



CAUTION

It is essential to deploy three people during local station operations: the first at the controls of the yacht, the second on the engine room hatch, who in turn relays the indications to the third person in charge of the local control panel.

NOTE

For further information on use and maintenance, please refer to the manufacturer's manual.

7.1.2 Start of engines

Commissioning

Before starting a new or overhauled engine, carefully read the relevant Manufacturer's Documentation. During the first service hours it is advisable to have new engines run below 75% of their maximum load and at variable speeds. After this initial run-in, the engine should be brought up to full output gradually.

CAUTION

Use only approved technical fluids; otherwise the Manufacturer's warranty will become null and void and the engines can get seriously damaged.

Daily start-up

Before daily starting of the engine, check fuel level, coolant level and engine oil level and replenish, if necessary. In case of need, fill with fuel, coolant and oil mix.

CAUTION

Engines must always be started with gear boxes at idle run and throttle levers must be set at minimum speed.

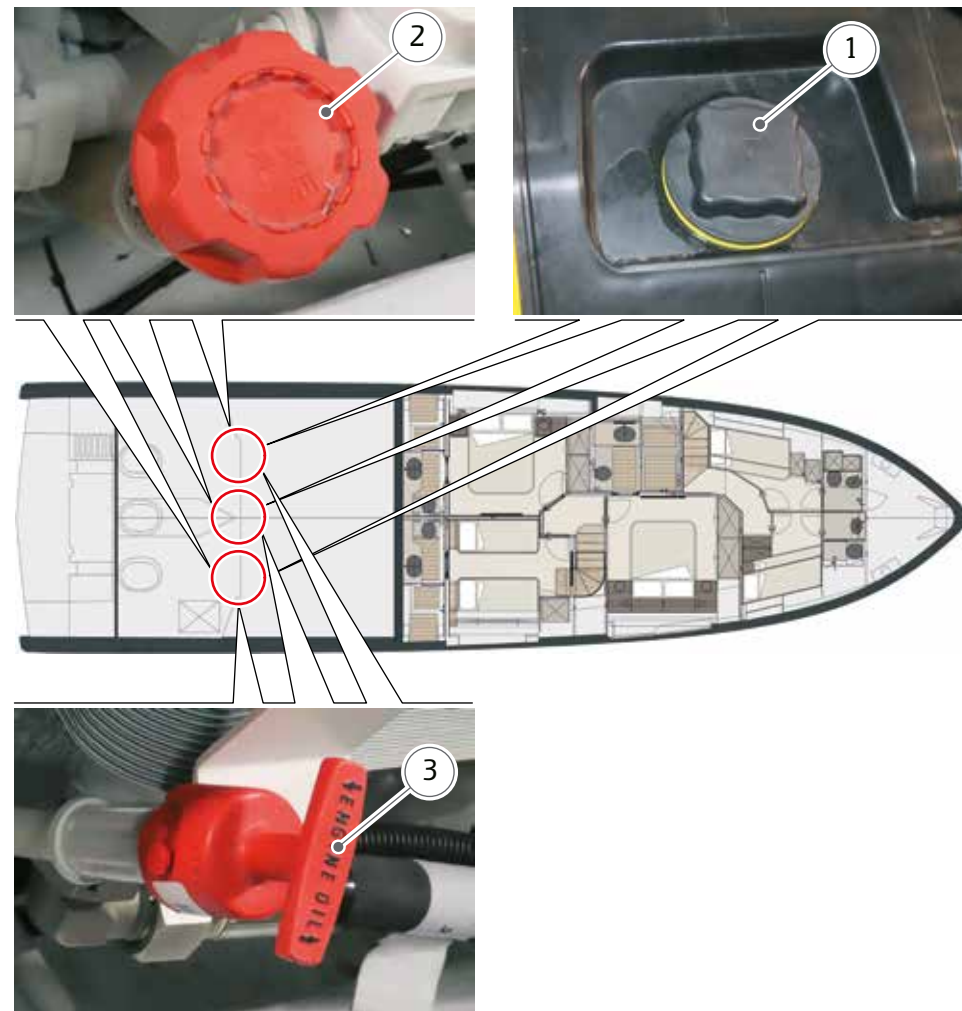
DANGER

Before starting an engine, ensure that nobody is standing in the dangerous area of the engine room.

Cooling liquid

Fill the cooling system of the engine with a mixture of drink water and antifreeze or anti-corrosion agent.

- Pour in coolant slowly in the expansion tank through proper filler (1).
- For the quantity of coolant, see the relevant manufacturer's documentation.



Engine oil

CAUTION

Do not top up oil so to exceed the MAX notch of the dipstick. If the oil level is too high, damage to the engines may occur!

Pour lubricating oil into engine by means of proper filler neck (2).
For refuelling quantities, refer to the Manufacturer's manual.

Sea water suction pumps

CAUTION

Do not let raw water pump run dry!
Make sure that all valves of the raw water circuit are open.
Drain the pump in case of freezing danger.

Oil level check

Check engine oil level only approx. 20 minutes after the yacht has been switched off.

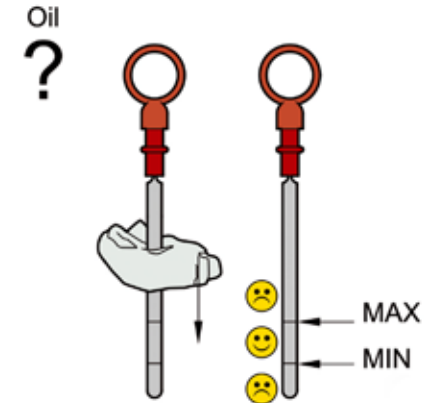
- Pull out dipstick (3) for oil level check.
- Wipe it with a clean, dry and lint-free cloth.
- Place it back up to retainer.
- Pull out dipstick again.

The oil level should be between the two notches in the dipstick and must never fall below the MIN notch.
Top up oil as necessary.

CAUTION

Do not top up oil exceeding the MAX notch of the dipstick. If the oil level is too high, damage to the engines may occur!

Ensure outmost cleanliness when handling fuels, lubricants and coolants.



Procedures for start-up

- Verify that the main electrical panel and the engine electronic power supply switchboards in the engine room are fitted with the following functional utilities of the yacht: engine start, exhaust fans, navigation lights, dashboard lights, thrusters, mooring, winch, horn, VHF, radar, autopilot, control panel, GPS/Navigator, depth sounder.
- Move the control levers and to the neutral position.
- Move the E-key closer to the engine start panel. The LEDs on the 'IGNITION' buttons will light up and the system will enable engine start-up.
- Then proceed by pressing the engine start 'START/STOP' button.
- Check that the oil pressure settles to the normal value within 10 seconds. Stop the engine immediately if this is not the case.
- Check if cooling water circulation is correct.
- Start the first engine and, only after it has been established that it is running properly, start the second and third engines as well.
- Start the left and centre engine by pressing the corresponding 'START/STOP' button.
- Warm up the engine up for about 2-3 minutes at 1000 rpm max.
- Check the alternator charge.
- Activate the bow thrusters by means of the control panel installed in the helm station.

CAUTION

Do not operate the starter motor for more than 10 consecutive seconds; if the engine has not yet started, release the button, wait about 30 seconds and then operate the engine start button again.

Throttle operation

- Bring both throttles to "NEUTRAL" position (vertical single levers).
- Press the button for the mode to be activated on the throttles themselves.



CAUTION

If you have to connect the batteries in parallel for the start-up of the propulsion engines, it is suggested to disconnect the electric devices in order to avoid current rushes or drops.



CAUTION

Should a magneto-thermal switch trip, do not try repeatedly to reset it, but check the relevant electric system condition.



CAUTION

We suggest avoiding slow running for more than 5 minutes. The slow run implies major wear of the engine mechanical parts and is the most harmful from the point of view of polluting exhaust.

7.1.3 Checks after start of engines

Following correct engine startup, some checks must be performed:

- Check for strange noises or excessive smoke. If these are detected, stop the engines and call for assistance.
- Check that alternators load the batteries.
- Verify the efficiency of the instrument system from the plotter to the radar, VHF, compass, etc..
- Plug out the shore cable if connected.
- Remove moorings and check for loose mooring ropes or floating objects hindering the propellers' movement.



DANGER

Make sure that no crew stands in front of gas exhausts and near the mooring ropes.

7.1.4 Stop of engines

Do not immediately stop the engines after a full-load operation, but let them run low (about 5 minutes) to balance the temperature differences.

- Bring the levers back to the central neutral position on the inverter.
- Press the START/STOP buttons (1) on the engine control panels and release them only after the engines have come to a complete stop.
- Press the IGNITION buttons (2). The signal LED will switch OFF.
- Disconnect unnecessary magneto-thermal switches.

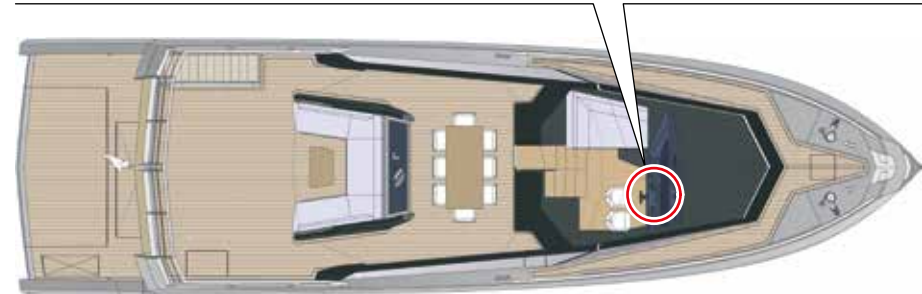
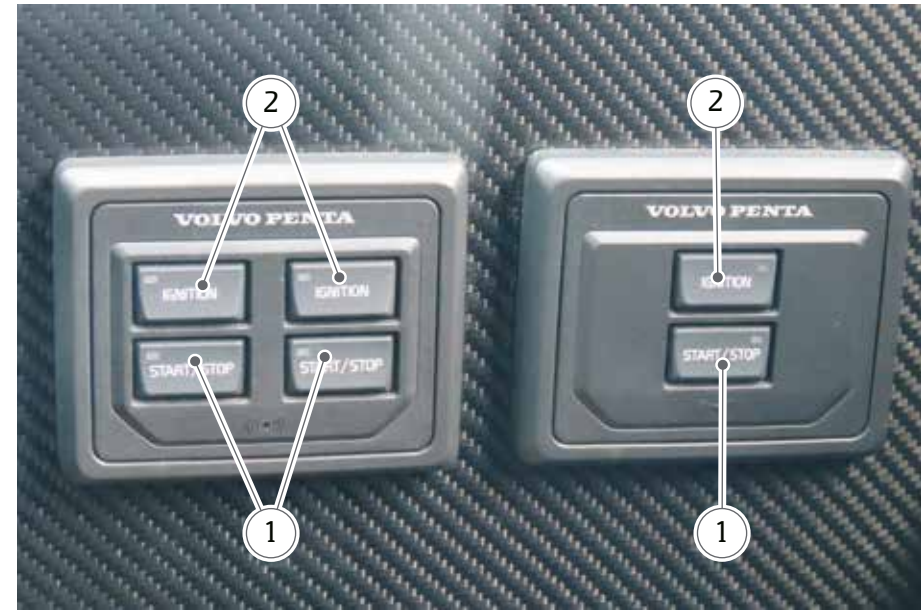
CAUTION

With engines stopped carry out following:

- Disconnect all unnecessary electric utilities and check the general status of the switchboard as well as the voltmeters and ammeters indications;
- Check the switches of the bilge pumps and their regular operation;
- Check for leaks;
- Rinse the yacht with fresh water;
- Connect the shore electric power supply;
- Keep the engine room extractor running for about 30 minutes, for ventilation and air cooling.

DANGER

Make sure that the engines cannot be started by unauthorized staff.



7.1.5 Engine emergency procedure

Due to a mechanical or electrical fault, the normal procedures for engine stop might not be sufficient; it is therefore necessary to stop the engines with the EMERGENCY procedures.

In the event of an engine malfunction alarm, it will be indicated on the dashboard in the engine control display.

Recognise the fault on the dashboard or in the engine room.

- **EMERGENCY STOP buttons in the engine room.**
Reach the engine room and access the engine control panels; press the red mushroom emergency stop button (1).

⚠ CAUTION

The emergency stop causes heavy stress on the engines with consequent hazard of component damage. Use only in case of real need.

⚠ WARNING

The engines emergency stop controls must be used only in case of real emergency.
Never use these controls during the normal engine stop procedure.

🚫 DANGER

Before restarting the engines after an emergency stop, make sure to find and to clear the reason of the fault.



7.1.6 Engine maintenance

Component	Maintenance	Notes and precautions
Lubrication system	Replacement of the oil separator filter	Replace the separator filter, according to the time intervals suggested by the Manufacturer.
	Oil level check	Check the oil level by means of the special dipstick; make sure the level is included in the allowable range (MIN - MAX). Do not start the engines if the oil level is not included between the two reference marks, as indicated in the Manufacturer's Manual.
	Oil and oil filter replacement	Replace engine oil according to time intervals and oil type suggested by the Manufacturer.
Fuel system	Fuel filter replacement	Replace fuel filter within the intervals indicated by the Manufacturer.
	Air cleaner replacement	Replace air filter within the intervals indicated by the Manufacturer.
Cooling system	Coolant check	Make sure the coolant is in the tank (lever sensor, reference plate, built-in eyelet).
	Cooling system filling	For coolant features refer to the User's Manual of the Manufacturer.
	Cooling system drainage	Drain the coolant only when the engine is stopped; follow the procedure indicated by the Manufacturer.

DANGER

A wrong use, a wrong maintenance, tampering and replacement of pieces, can cause serious damages or lethal events, beyond damaging the equipment.

The interventions on the electrical and mechanical equipment must be carried out by qualified staff after having examined the Manual delivered by the Manufacturer.

ENVIRONMENT

Dispose of waste materials (engine oil, fuel, filters, etc..) with respect for the environment and according to the laws in force.

Use only authorized disposal procedures, in case of doubts, contact the Port Authority.

DANGER

Any maintenance procedure on the engines is to be carried out with engines shut off, after they have sufficiently cooled down and after seeing to the prevention of their being switched on by disconnection of the magneto-thermal switches.

CAUTION

Use only approved fuels, otherwise the Manufacturer's warranty will become null and void.

CAUTION

Do not top up oil exceeding the MAX notch of the dipstick. If the oil level is too high, damage to the engines may occur!

CAUTION

Do not use open flames, do not generate electric sparks. Do not smoke. Risk of fires and explosions!

DANGER

Compressed air at high pressure may create the risk of injuries. Do not direct compressed-air jets at persons. Wear protective goggles, safety masks and ear protectors.

DANGER

Hot oil can contains combustion residues which are harmful to health. Risk of injury and scalding! Wear protective clothing, gloves and goggles/ safety mask. Avoid contact with skin. Do not inhale oil vapour.

DANGER

Because of the high temperature in the engine room, oil or fuel leaks can evaporate and create a serious risk of fire. Regularly check the integrity of the system.

CAUTION

It is absolutely necessary to view with WALLY the documentation of the different components provided by the Manufacturer; for any problem relevant to the use or maintenance, please directly refer to the Service Centres, listed in the documentation provided by the Manufacturer. In any case there are some small procedures that can be carried out by the crew on board, after consulting the operation manual.

ENVIRONMENT

Handle used fuel filters as special waste.

DANGER

Coolant is hot and under pressure. Risk of injury and scalding! Let the engine cool down and wear protective clothing, gloves and goggles safety mask.

CAUTION

Cold coolant in a hot engine causes thermal stress with the risk of formation of cracks in the components. Fill/top up only a cold engine.

CAUTION

If the oil level is not positioned between the two reference notches do not activate any device.

7.2 PROPELLERS

The propellers have been designed in order to result lightly “unloaded” with a new yacht, hull clean and without displacement overloads: in this way the engines will develop all their power in average normal operating conditions, with hulls and propellers not perfectly clean and some overloads on board.

Periodically check if the propellers are not too “dirty”, as this leads to a fast performance decrease and to a vibration increase.

In the event of a collision with the seabed or submerged/semi-submerged bodies, immediately check the propellers and IPS; in the event of noticeable vibrations, reduce revolutions to idle and head to port for repair, as increased vibrations could cause damage to the yacht’s propulsion organs and structures.

CAUTION

WALLY yachts are designed to have a correct transverse setting with full optional equipment, and in the presence of propellers.

In the event that the yacht is not equipped with all options, and propellers, weights are inserted to compensate and correct its transverse setting.

7.2.1 Maintenance of the propellers

Component	Maintenance	Notes and precautions
Propellers	Periodical checks	The propeller check should be performed according to the floating waters. Inspection and possible cleaning may be carried out with the yacht in a dry shore or with the help of a diver. Check if the propeller blades have notches, fractures, fouling or barnacles which may have a negative influence on the yacht performances during navigation. If you notice corrosion, check the anodes conditions and replace the propellers for major failures.
	Assembly/disassembly	The propellers are not interchangeable with others of different origin as they have been designed according to the specifications of your yacht. Replace only with genuine spare parts supplied by the WALLY After Sales & Service.

Periodical checks of propellers:



DANGER

To clean and check the yacht in water: disable the engines and generators start.

It is advisable to carry out this operation by yacht in dry shore because maintenance is in this way eased. Check if the propeller paddles show notches or breaks, scales or barnacles, which may have a negative influence on the yacht output during navigation. If you notice corrosion, check the anodes conditions and replace the propellers for major failures.

Propellers assembly/disassembly:

The IPS unit is equipped with a special propeller replacement tool.

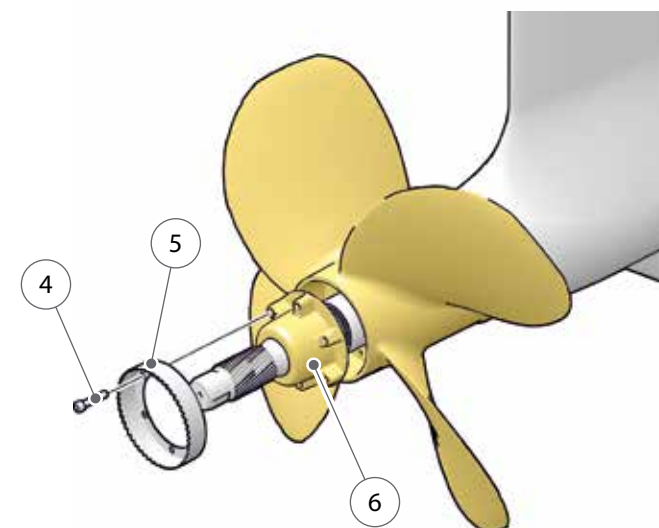
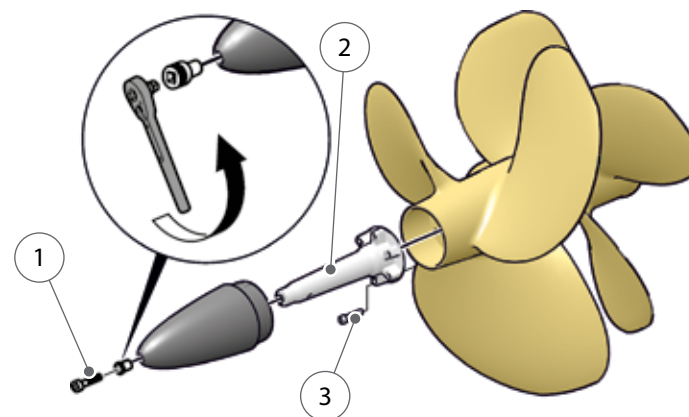


CAUTION

Do not replace the propellers of your yacht with other of doubtful origin. Contact the WALLY After Sales & Service. Each yacht model has its own propeller

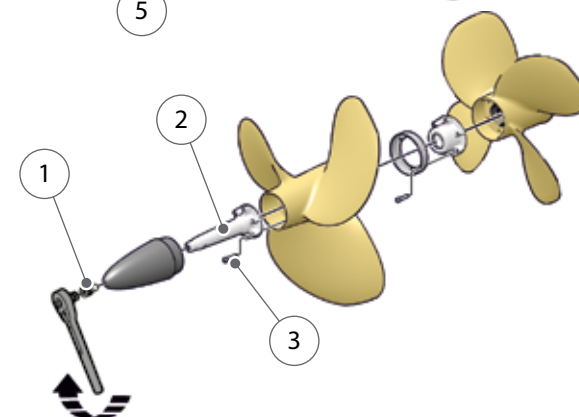
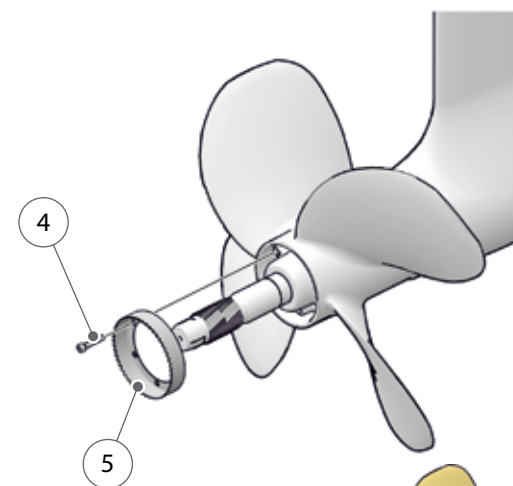
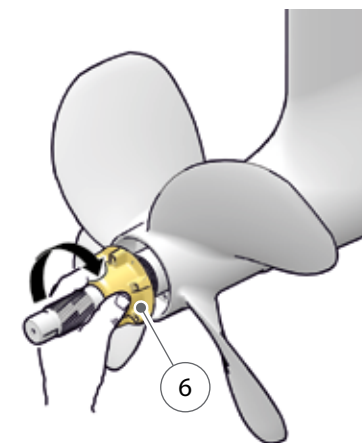
Disassembly:

1. Unscrew the cone (1) using the special tool and remove the propeller cone.
2. Remove the nut (2) by unscrewing the four hexagonal screw (3) using the special tool. Remove the forward propeller from the propeller shaft.
3. Unscrew the four hexagonal screws (4) using the special tool and remove the line cutter (5) from the rear propeller shaft. Remove the nut (6) and the rear propeller from the propeller shaft.
4. Wipe the propeller shafts clean.



Installation:

1. Brush waterproof grease, onto the propeller shaft splines and threads on both propeller shafts.
2. Install the aft propeller. Then install the aft nut (6) and tighten it by hand until it bottoms. Attach the line cutter (5) and tighten with the accompanying special tool and four hexagonal screw (4).
3. Install the forward propeller on the propeller shaft. Tighten the nut (2) by hand. Tighten the nut with the accompanying special tool and four hexagonal screws (3).
4. Press the propeller cone onto the propeller nut (2) until it bottoms.
5. Tighten the screw (1).



7.3 EXHAUST SYSTEM

7.3.1 Engine exhausts

The exhaust gases from your yacht's engines are discharged through the IPS system. The system consists of a tube (1) connecting the engine riser with the IPS riser.

The engines also have an idling exhaust with a muffler (2).

The exhausts have to be checked at regular intervals to avoid the formation of build-ups that could prevent the correct gas ejection.

WARNING

When starting engines, check that water is coming out of the minimum exhaust; this is a sign that the engine cooling system is working properly and that the exhaust is cooling. In case no water comes out, speed up. If the problem continues, contact the WALLY After Sales & Service.

CAUTION

A strong smell and a light smoke from exhaust insulation are normal during the first period of use.

MAINTENANCE

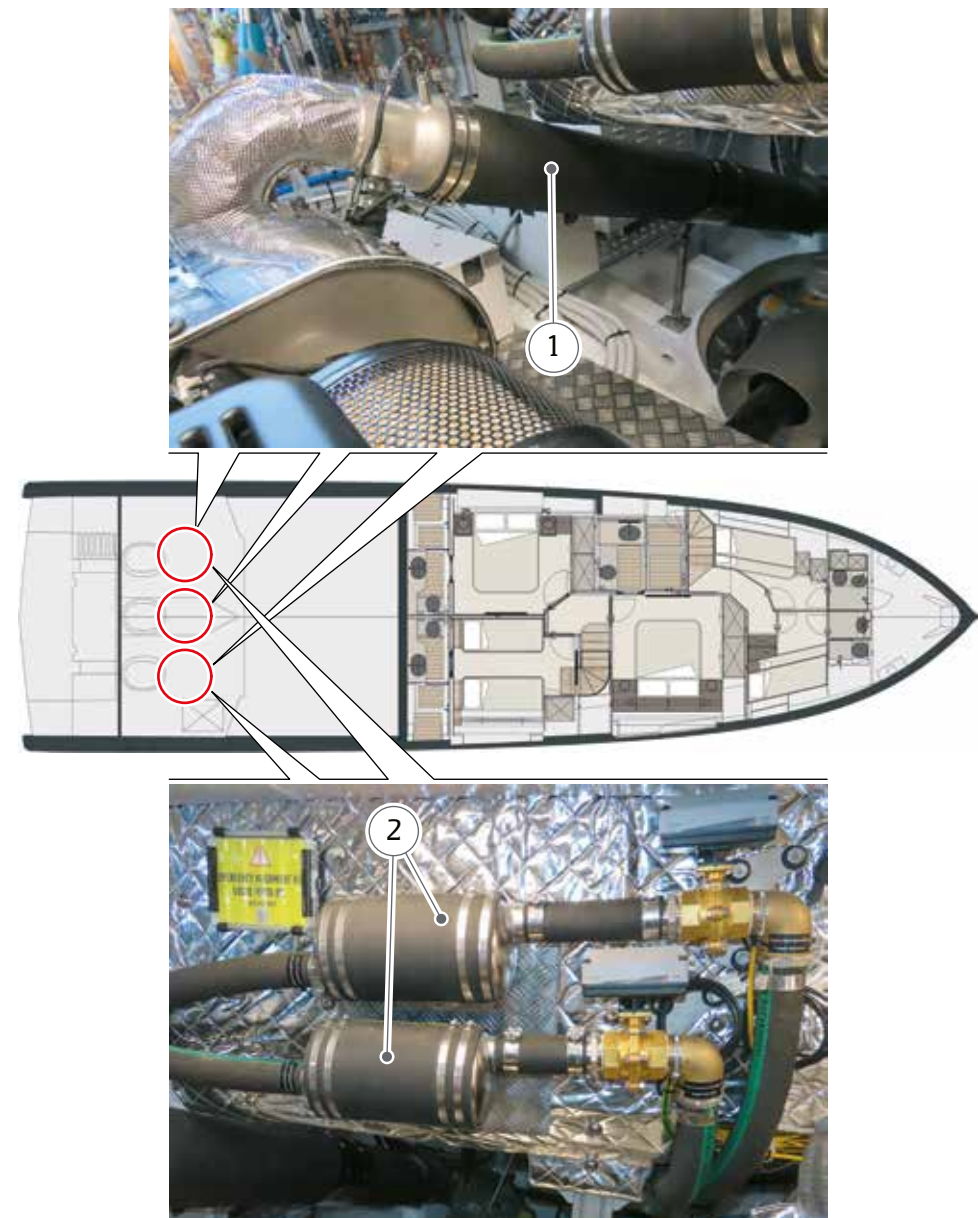
At least once every three months carry out the tightening of the discharge raiser bolts.

CAUTION

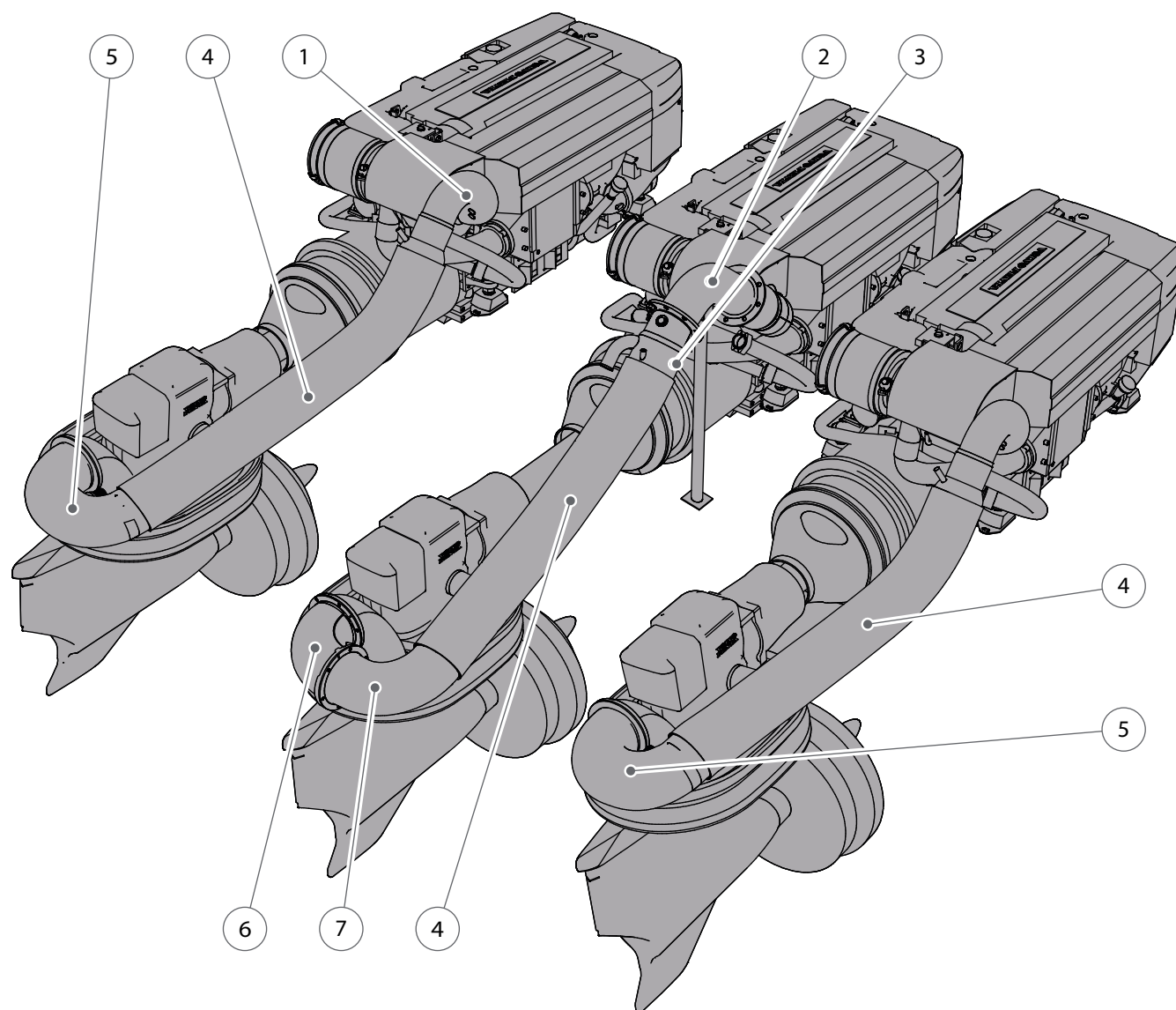
Temperature sensors have been installed on the engine exhausts and are visible on the dashboard; an excessively high temperature inside the exhausts is indicated on the display.

CAUTION

Avoid prolonged use of engines at low speeds to avoid overheating of the exhaust pipes due to reduced cooling water circulation.

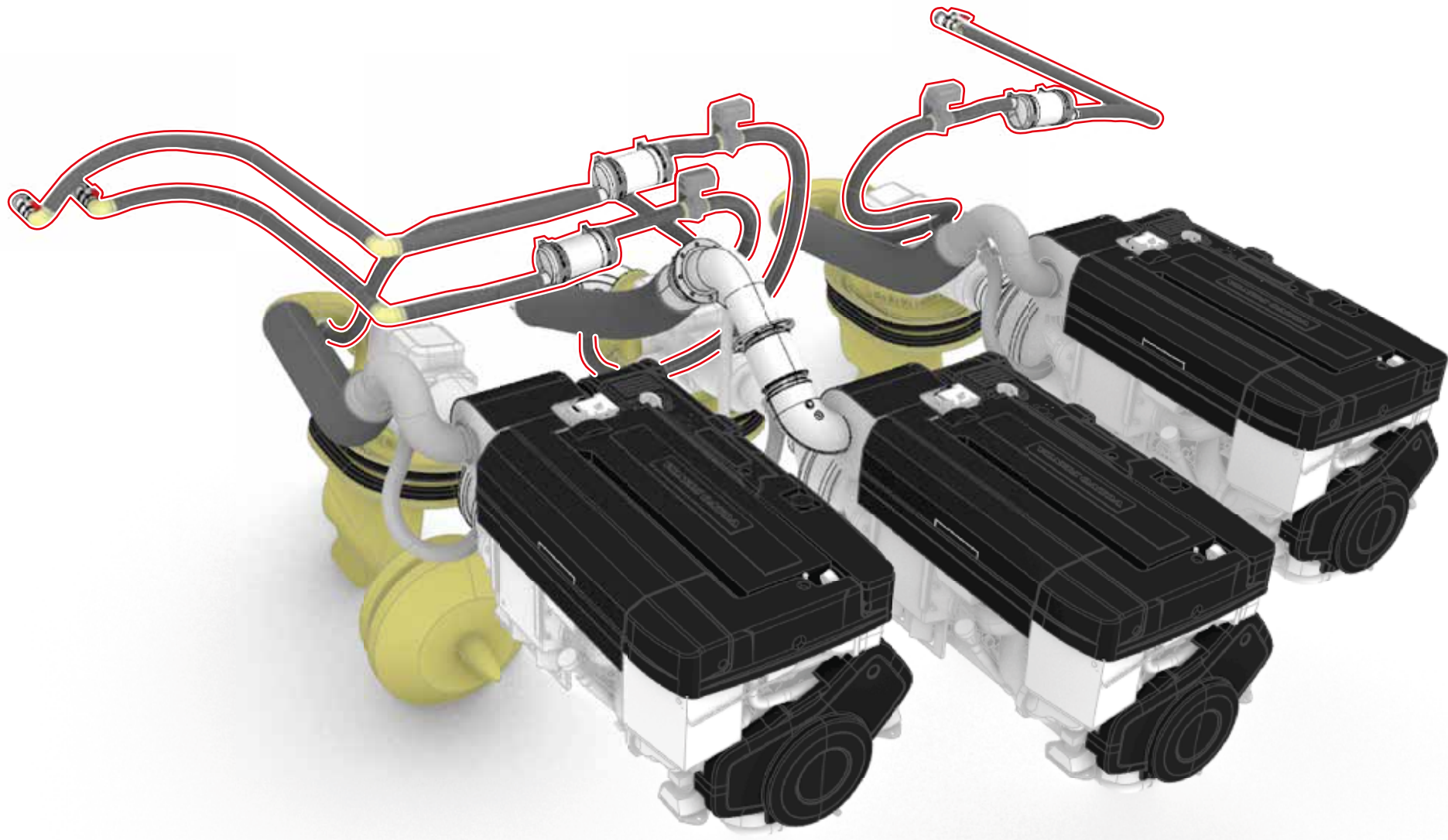


Engines exhaust system diagram:



ICONA ICON	DESCRIZIONE DESCRIPTION
1	Riser turbina Turbine riser
2	Collettore gas caldo Hot gas manifold
3	Riser scarico Exhaust riser
4	Scarico Exhaust
5	Riser IPS IPS riser
6	Collare IPS centrale Central IPS manifold
7	Riser IPS centrale Central IPS riser

Minimum exhaust system diagram (optional):



— Scarichi di minima
 Minimum exhaust

7.3.2 Maintenance of the engine exhausts

Component	Maintenance	Notes and precautions
Exhausts	Periodical check (as necessary, according to the floating area)	Check the underwater exhaust terminal cleanliness conditions periodically. Clean, if necessary.  CAUTION Carbon deposits, marine growths and fouling may affect the engine regular operation, causing performance degradation and serious damages.

7.4 FUEL SYSTEM

The main fuel tank is located amidships at the bow of the engine room.
The day tank is located at the bow of the engine room.
The tank is filled from a filler neck located forward of the aft cockpit to the left of the entrance door to the main saloon.

The fuel level is detected by a sensor and is visible by means of the control panel, located in the main station.
The daily tank level can also be monitored by means of an optical indicator attached directly to the fuel tank flange.

CAUTION

It is a good rule, before each navigation, to check again the fuel level also by means of the visual check installed on the tank flange.

NOTE

The level indicated without operating the valve refers to the last check.

CAUTION

While checking for consumption and distances, it is a good rule to always keep plenty of margin, so as to be able to face bad weather conditions or other possible unexpected events.

Fuel is drawn directly from the daily tank and delivered to supply the engines and generators.

The fuel sucked, before reaching the uses, flows through the water/fuel separator filters holding impurities and separating possible water in the fuel.

If the level of the day tank reaches the minimum level, fuel can be transferred from the main tank to the day tank using two 230 V and 24V electric pumps.

The transfer of fuel from the structural tank to the daily tank is done manually.

The two tanks are continuously communicating with each other and it is necessary to verify through the monitoring system that the daily tank does not fall below the minimum level.

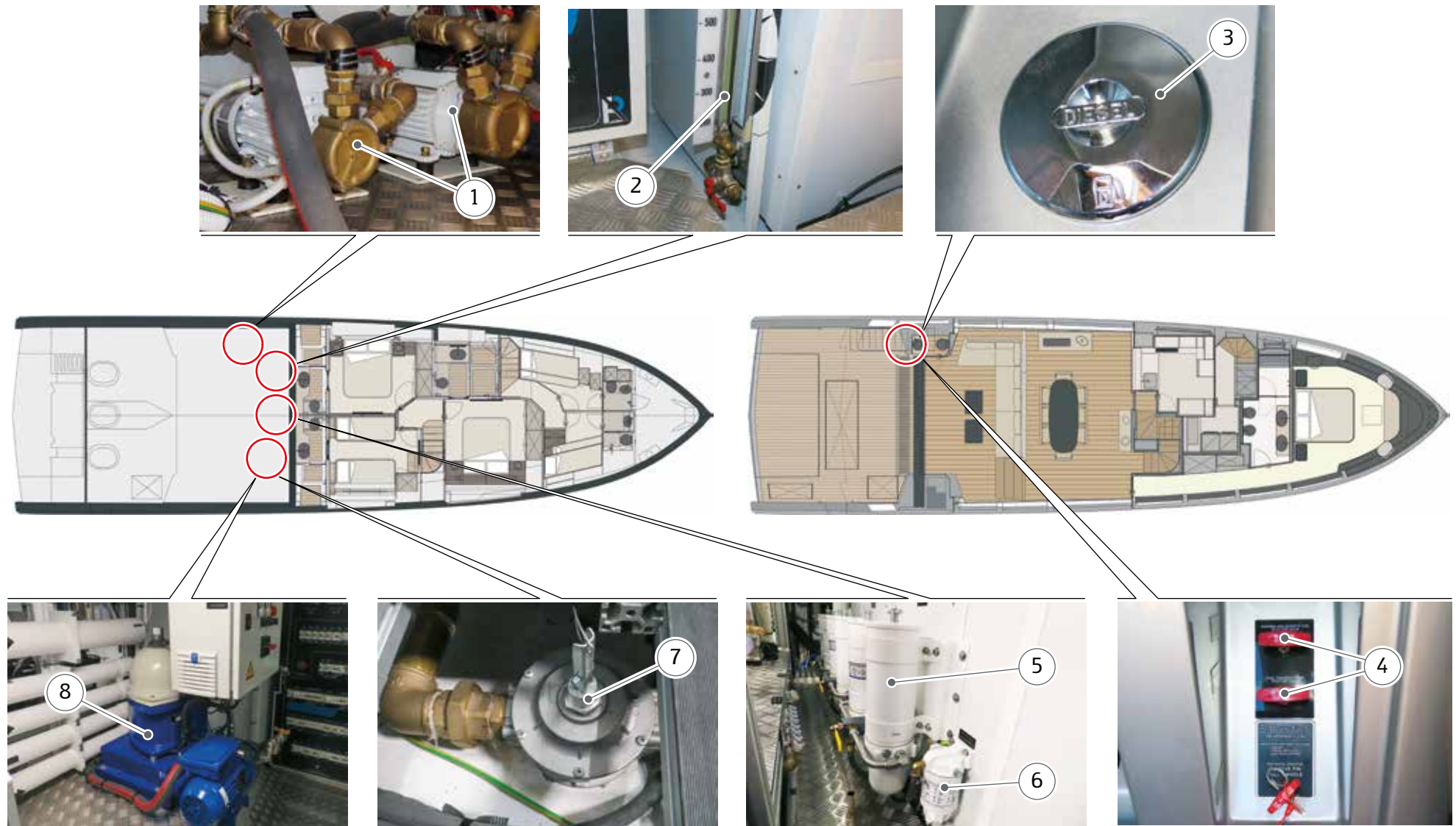
In "OFF" mode, transfer between the main tank and the daily tank is blocked and the fuel in the main tank is unusable.

In order for the manual control of the electric pumps to be activated, it is necessary to act on another selector on the general electrical panel where it is possible to select the type of pump 24 V or 230 V.

During boarding, the fuel flow produces a lot of foam; if this comes out, you might think the tank is full. Therefore, it is good to wait for a few minutes and then top up, in order to be sure that the tank has been filled correctly.

WARNING

The sensor reading can be distorted by the temperature, because the specific weight of fuel varies according to this last parameter and to the yacht trim. Therefore before setting-up for navigation, always refer to the visual level in the engine room.



The design of the tanks also ensures the fuel settles inside them. It is advisable to fill the tanks a few hours before departure, so that any fuel impurities and water have time to settle.

The fuel suctions of the engines and generators, as well as on site, are remotely intercepted by quick-acting valves located on the outlets of the day tank and remotely controlled by tie rods to be operated only in case of emergency located in the aft cockpit to the left of the access door to the main salon.

Operation of the fire prevention system must be preceded by manual closure of the fuel shut-OFF valves.

CAUTION

Fuel leaks create a fire and explosion hazard.

For a better understanding of the system, see the manuals of the single devices.

Your yacht can be fitted with a fuel treatment system.

The system eliminates impurities in the fuel and stores them in a special tank in the engine room.

CAUTION

It is necessary to empty the fuel tank to the internal structural tank in case the yacht should be in storage or in the hull in dry condition.

1. Fuel transfer pump;
2. Visual fuel level;
3. Fuel filling cap;
4. Fuel interception tie rods;
5. Engine fuel pre-filter;
6. Generator fuel filter;
7. Fuel shut-off valve;
8. Fuel treatment system (optional).



ENVIRONMENT

Every marina has dedicated toxic waste disposal areas. It is recommended not to scatter waste that can contaminate the environment (such as used oil, fuel, oily liquids, batteries, etc.).

When working in the engine room, block use of the bilge pump switches to prevent any accidental spillage of fuel, lubricants or other liquids from polluting the water around the yacht.



CAUTION

Pay attention not to accidentally damage fuel system lines. Perform a visual inspection of all pipes periodically.

The fire-fighting system drive does not result in the automatic closing of the fuel shut-OFF valves with the arrest of the generators, which must be stopped manually using the appropriate emergency buttons.



DANGER

Because of the high temperature in the engine room, oil or fuel leaks can evaporate and create a serious risk of fire.



DANGER

Fuel leak can cause a fire to break. Check regularly the integrity of the system.



WARNING

The bilges of the engine room must always be kept clean, so that fuel or oil leaks or penetrations from the engines or the generators can be easily noticed. If leaks are noticed, it is necessary to stop the engines and to let them cool and only afterward, if possible, repair the leak. Finally clean the bilges.



ENVIRONMENT

It is forbidden to discharge bilge water mixed with oil or diesel fuel into the sea, because this can cause of serious pollution. Check periodically the level of possible oily waters contained into the collecting tanks under the engines, should their level be close to bilge over flooding, disconnect the magneto-thermal switches of the bilge automatic pump system, to avoid accidental spills, until the tanks have been completely drained in accordance with the environmental legislation. During the maintenance operation in the engine room, it is compulsory to disconnect the magneto-thermal switches of the bilge pumps automatic suction system, avoiding in this way accidental spills.



CAUTION

The bleeding procedure should be carried out every two or three refuelling operations.



ENVIRONMENT

Handle water mixed with fuel and dispose of it according to the rules in force. Use only authorized disposal procedures; in case of doubt, refer to the Port Authorities.



DANGER

It is forbidden to smoke, use naked flames or keep mobile phones switched on during refuelling.



DANGER

EXPLOSION/FIRE DANGER

- Stow flammable material in a safety-approved container. Never stow flammable material in non-vented areas.
- Check bilge and engine room for fumes.
- Keep the ventilation system free of obstructions. Never modify the ventilation system.
- Inspect the fuel system for leaks.

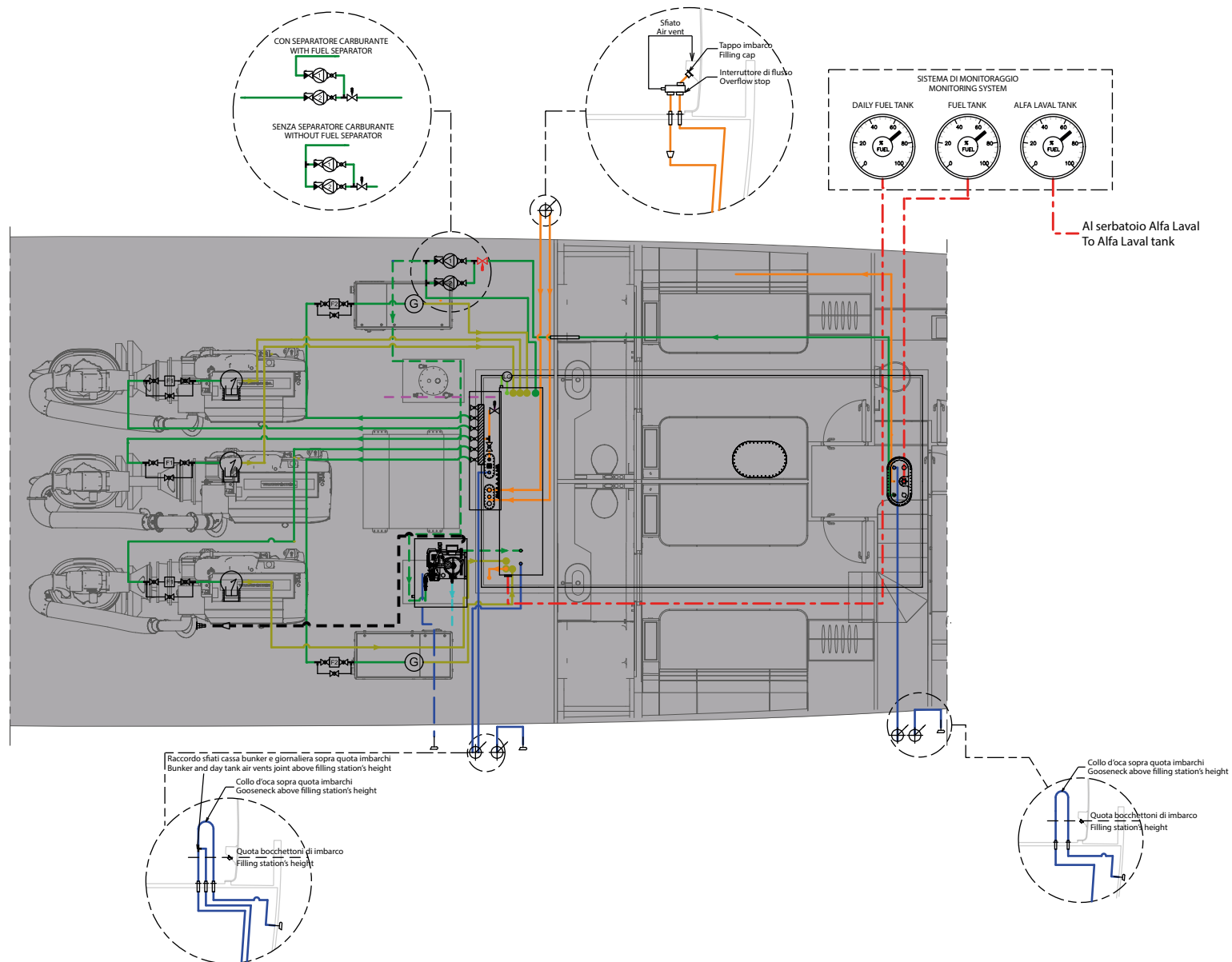


DANGER

EXPLOSION/FIRE/POLLUTION DANGER

Fuel system connections that are too loose or too tight can leak, resulting in fuel loss, environmental pollution and explosion/fire danger.

Fuel system diagram:



ICONA ICON	DESCRIZIONE DESCRIPTION
	Sfiato aria carburante Fuel tank air vent pipe
	Tubazione trasferimento-alimentazione carburante Transfert-feeding fuel pipe
	Tubazione trasferimento-alimentazione carburante Transfert-feeding fuel pipe
	Tubazione imbarco carburante Fuel filling pipe
	Tubazione ritorno carburante DDGG e MMPP DDGG and MMPP return fuel pipe
	Tubazione morchie Sludge pipe
	Cavo elettrico Electrical cable
	Valvola a sfera Ball valve
	Valvola a sfera intercettata da remoto Ball valve with remote control
	Valvola intercettazione da remoto Valve with remote control
	Valvola di non ritorno Non-return valve
	Motore diesel Diesel engine
	Generatore diesel Diesel generator
	Filtro semplice Fuel prefilter
	Filtro carburante DDGG DDGG fuel filter
	Pompa di trasferimento Transfer pump
	Pompa di trasferimento carburante Fuel oil transfer pump
	Livello visivo Level gauge
	Connessione di mandata e/o prelievo dotato di pescante Tank connection with suction
	Connessione su cielo cassa Tank top connection

ICONA ICON	DESCRIZIONE DESCRIPTION
	Passaparatia stagno centralizzato Centralized watertight bulkhead penetration
	Fuori bordo sfiato Air vent over board
	Tappo imbarco Filling cap
	Interruttore di flusso Overflow stop
	Riduzione Sleeve reduction
	Collettore Manifold
	Alfa laval Alfa laval
	Cassa morchie Sludge tank
	Pompa alfa laval Alfa laval fuel feeding pump
	Tappo sbarco Pump out cap
	Fuori bordo sfiato Air vent over board

7.4.1 Fuel inlet

The fuel intake of the yacht is equipped with a flow switch having the function to prevent undesired leaks of fuel from the plug and from the vent which may stain the bridge and pollute the water. The leak of fuel may occur during refuelling, if the tank is almost completely full.

The fuel coming out of the intake duct is collected in a tank with suitable capacity, which, on its turn, will drain automatically into the on-board fuel tank, through the return duct.

Also the flow switch is equipped with own air vent, bleeding from the wall near the filler plug of the tank.

⚠ CAUTION

The inlet plug carries the indication "DIESEL" to avoid accidental input of different fuels.

Filling lines pressure must be kept constantly under 0.3bar during bunkering operations.

⚠ CAUTION

Before refuelling, wash the teak with fresh water to avoid its contamination with fuel.

🔥 DANGER

During refuelling operations, do not approach open flames to the yacht; do not smoke. Carry out refuelling with engine shut off. The lack of consideration of these precautions can cause accidents and injuries.



7.4.2 Fuel quality

For the good performance of the engines installed on your yacht, fuel quality is of primary importance.

Fuel should be purchased from reliable high-sale filling stations, for both the quality and a probable short stay of fuel inside the shore tank.

The fuels:

- European Standard EN590
- DIN EN 590 (Germany)
- ÖNORM EN 590
- ASTM D975 No. 1D (USA)
- BS 2869 Part 1 Class A 1 (United Kingdom)
- BS MA 100 DMX (Marine Diesel Fuel)

are suitable to supply the engines.

If the above type of fuel is not available in some countries, follow the rules indicated in the manual relevant to the engines.



CAUTION

Stop all engines when refuelling.



WARNING

For the type of fuel to be used, follow the manufacturer's recommendations. Diesel engines require very clean fuel. Keep filters clean.



WARNING

If fuel containing water reaches the engines it can seriously damage the injection system. To avoid this, drain water from the fuel tank and service regularly the fuel/water separator filter.
During winter service do not use fluidity correctors.



CAUTION

We advise to drain and clean the tank periodically, at least once a year. Please remember that re-used fuel must be filtered.

7.4.3 Fuel system maintenance

Component	Maintenance	Notes and precautions
Fuel tank	Bleeding (at least every two or three refuelling and at least once a month)	As shown in the following sequence
Water/fuel separator filters for engines	Maintenance and check Water drain from collection tank Replacement of filter element Troubleshooting procedure	As shown in the following sequence
Water/fuel separator filters for generators	Maintenance and water drain Replacement of filter element Troubleshooting procedure	As shown in the following sequence

Fuel tank:

Bleeding

For the drainage of water and possible impurities embarked with fuel, it is necessary to wait for some hours after refuelling, so that the suspended particles have enough time to settle down.

Purging is done by opening the bleed valve present.

To this aim take off the blanking plug from the valve, open the valve slowly and let the water and the deposits drain into a container, until only clean fuel comes out. After the operation close the valve, disconnect the hose and reinsert the plug.

During long periods of inactivity of the yacht, it is advisable, when the tank is empty, to open the inspection hatches and remove the fuel deposits taken on board during refuelling.



WARNING

The bleeding of tank is a special operation, that has therefore to be carried out by specialized personnel. Contact the WALLY After Sales & Service to receive suitable help.

PLEASE NOTE: The crew should always be present during this operation, as fuel leaks may occur in the engine room.



WARNING

During the tank inner cleaning, it is a good norm, to ventilate the room for a long time with the help of fans and to wear all necessary protections, to avoid injuries caused by gas fumes.

During the flange assembly, make sure that the screws are correctly and uniformly tight, in order to prevent leaks of fumes and fuel.

These are extraordinary maintenance operations, please contact WALLY Service in advance.



CAUTION

The draining should never be conveyed to the bilge. If the drained substances fall into the bilge, stop the bilge pumps immediately.



CAUTION

The bleeding procedure should be carried out every two or three refuelling operations.



ENVIRONMENT

Handle water mixed with fuel and dispose of it according to the rules in force. Use only authorized disposal procedures; in case of doubt, refer to the Port Authorities.



CAUTION

We advise to drain and clean the tank periodically, at least once a year. Please remember that re-used fuel must be filtered.



WARNING

The bilges of the engine room must always be kept clean, so that fuel or oil leaks or penetrations from the engines or the generator can be easily noticed. If leaks are noticed, it is necessary to stop the engines and to let them cool and only afterward, if possible, repair the leak. Finally clean the bilges.



ENVIRONMENT

It is forbidden to discharge bilge water mixed with oil or fuel into the sea, as it can cause serious pollution. Periodically check the level of possible oily waters inside the collection tanks under the engines; should the level be next to overflowing into the bilge, disconnect the magneto-thermal switches of pumps of the bilge suction system, to prevent accidental spilling, until the bilge is empty, in compliance with current legislation for environmental protection. During the maintenance operation in the engine room, it is compulsory to disconnect the magneto-thermal switches of the bilge pumps suction system, avoiding in this way accidental spills.

Water/fuel separator filters for engines:

Maintenance and check

Bleed frequency or the replacement of the filter element (1) are determined by the contamination level of the fuel.

Water drain from collection tank

Check or drain the water collection tank (2) daily.

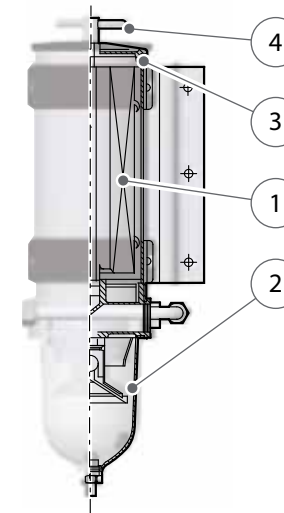
The collecting tank must be drained before polluting agents reach the turbine end.

WARNING

If the engine has to carry on running, select the filter to be left in line and carry out maintenance on the other one.

This operation is a good procedure even if the engine is not running.

- After having placed a capacious collection container underneath it, open the drain to discharge containments.
- Remove the cover (3) and fill with clean fuel.
- Close the cover and tighten the T-handle (4) firmly by hand.



Replacement of filter element

Replace the element according to the time intervals recommended by the Manufacturer or if a power lack is noticed, which indicates namely that the element is clogged.

The current value varies according to the different fuel systems. Also extra elements like a tank too full or fuel excessively polluted can clog the filter.

- Remove the cover.
- Remove the element by holding the handle and by pulling lightly forward with a twisting movement.
- Insert a new filter having the same filtering features of the one replaced.
- Check and, if necessary, replace the filter cover gasket. Apply a layer of clean fuel or engine oil on the seal before reinstalling it, insert the new element with a slow twisting movement downwards.
- Fill with clean fuel, then replace the cover. Tighten the T-handle manually.
- Start the engine and ensure there are no leaks. Repair any leaks with engine shut off.

MAINTENANCE

At least once a month check the operation. At least once a week, and anyway before each refuelling, check for the presence of water in the fuel. If necessary drain the water present. When necessary, but at least once a year, replace the cartridge of the filters.

Troubleshooting procedure

The main reason for a poor start-up or lack of power is the result of a clogged filter or of an air leak in the fuel system. If the device does not prime or does not hold the idle run, or air bubbles are visible through the check glass, first of all check the cover by means of the T-handle and vent it, if it had not been closed properly. Then check all connections and lines and make sure that no fuel line is clogged with contaminants. If the fuel tank is equipped with an incorporated filter, check for its possible clogging. If the problem persists and the filter element is new, address to Dealer.



CAUTION

The separators have to be checked at regular intervals as suggested by manufacturer, so as not to impair the engines operation.

Water/fuel separator filters for generators:

Maintenance and water drain from collection tank

Bleed frequency or the replacement of the filter element (1) are determined by the contamination level of the fuel.

Check or drain the water collection tank (2) daily.

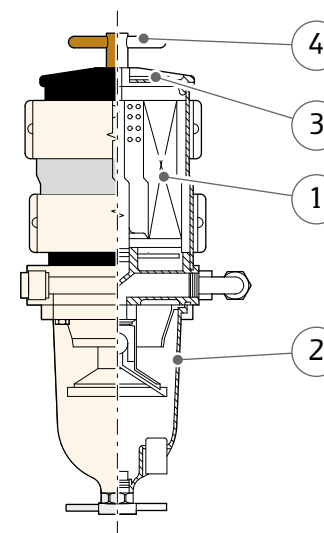
The collection tank must be drained before containments reach the engine.

- After having placed a capacious collection container underneath it, open the drain to discharge containments.
- Remove the cover (3) and fill with clean fuel.
- Close the cover and tighten the T-handle (4) firmly by hand.

Replacement of filter element

Replace the element according to the schedule recommended by the manufacturer or if a lack of power is noticed. Power loss indicates that the element is indeed clogged. Other elements like a too full tank or excessively contaminated fuel can also clog the filter.

- Close the seacock.
- Remove the cover.
- Remove the element by holding the handle and by pulling lightly forward with a twisting movement.
- Insert a new filter having the same filtering features of the one replaced.
- Check and, if necessary, replace the filter cover gasket. Apply a layer of clean fuel or engine oil on the seal before reinstalling it, insert the new element with a slow twisting movement downwards.
- Fill with clean fuel, then replace the cover. Tighten the T-handle manually and reopen the valve.
- Start the engine and ensure there are no leaks. Repair any leaks with engine shut off.



MAINTENANCE

At least once a month check the operation. At least once a week, and anyway before each refuelling, check for the presence of water in the fuel. If necessary drain the water present. When necessary, but at least once a year, replace the cartridge of the filters.

Troubleshooting procedure

The main reason for a poor start-up or lack of power is the result of a clogged filter or of an air leak in the fuel system.

If the device does not prime or does not hold the idle run, or air bubbles are visible through the check glass, first of all check the cover by means of the T-handle and vent it, if it had not been closed properly. Then check all connections and lines and make sure that no fuel line is clogged with contaminants. If the fuel tank is equipped with an incorporated filter, check for its possible clogging. If the problem persists and the filter element is new, address to Dealer.

**CAUTION**

The separators must be checked at regular intervals as suggested by the Manufacturer, in order not to impair the generators' operation.

7.5 THRUSTER SYSTEM

The thruster is a very simple and robust accessory, but it requires some attention:

- The thrusters should be used at a very low speed, or without a thruster; at higher speeds, more correct reactions are obtained by staggered use of the engines;
- Each time the yacht is lifted up, check the condition of each thruster, of the protection anodes and of the fastening system.

Use of the thruster

Enable the relevant commands by means of the ON button on the joystick control panel.

A continuously on indicator light confirms readiness for use.

The propellers are controlled via the control joysticks.



WARNING

When the thruster is no longer in use, press the OFF button on the control panel.



CAUTION

In case it is necessary to replace a fuse on the thruster system, have this operation carried out by a skilled naval electrician. Take care to carry out a preliminary inspection of the relevant thruster technical operation documents or to contact the WALLY After Sales & Service.



WARNING

The synoptic panel of the main helm station carries a light which, if alight, indicates that the bow thruster is supplied.



DANGER

During the thruster operation, pay attention to possible swimmers or small yachts which may be close to the thruster openings.

Do not test the thruster when the yacht is outside water, unless you are sure the workers are at safety distance from the thruster tunnel.





CAUTION

When the bow thruster is not used, always disconnect the control unit.



DANGER

Always stop the thruster before undertaking inspection or maintenance tasks by disconnecting the switches and possibly also the battery terminals.



CAUTION

Never activate the thruster longer than one second when the yacht is at dry dock, because this can damage the electric motor seriously.

NOTE

For further information on use and maintenance, please refer to the manufacturer's manual.

7.6 CENTRALIZED OIL CHANGE SYSTEM (OPTIONAL)

Your yacht is equipped with a manual centralized oil change system.

The system allows the oil contained in engines, gearboxes and generators to be drained and replaced with new oil.

The drained oil must be collected in special containers and properly disposed of.



ENVIRONMENT

Possible oil spilled in the bilge must be collected and stowed.
It is forbidden to discharge bilge water mixed with oil into the sea, because this can cause pollution.

During the maintenance operation in the engine room, it is compulsory to disconnect the magneto-thermal breakers of the bilge pump automatic suction system, avoiding in this way accidental spillages of liquids and consequently sea water pollution.

NOTE

For further information on use and maintenance, please refer to the manufacturer's manual.



wallywhy150

8
STEERING SYSTEMS



8.1 STEERING SYSTEM

The steering system is designed to facilitate steering during navigation and improve safety conditions.

The rudder wheel is connected to a system that constantly acquires its true position. Electronic connections drive the motors of the IPS, which steer the propellers in the chosen direction.

When the autopilot is activated, the system automatically sets itself into a by-pass state, deactivating all its signals, thus allowing the autopilot to control the IPS.

NOTE

For further information on use and maintenance, please refer to the manufacturer's manual.



8.1.1 Emergency yacht steering

In the event that the yacht cannot be manoeuvred from the helm station, inside the engine room there is a device to be used in an emergency situation.

This kit allows you to unlock the engines, enabling you to manoeuvre the yacht manually.

NOTE

For further information on use and maintenance, please refer to the manufacturer's manual.



8.2 INTERCEPTORS SYSTEM

The yacht is equipped with 4 interceptors, which can be controlled from the helm station. Each interceptor is driven by an electric motor.

They allow you to vary both the yacht's longitudinal and transverse trim during navigation.

Familiarisation with the use of interceptors is important, as their correct use will improve performance and comfort.

In principle, lowering and raising the interceptors will lower and raise the bow of the yacht respectively.

Correct positioning of the interceptors results in a stable and ideal setup which can increase speed while reducing consumption.

In particular navigation conditions, when, due to lateral forces of the sea, sea currents and wind, the yacht assumes an inclined attitude, to restore normal conditions while maintaining the course, it is necessary to act on the wheel of the rudder or with the offset use of the interceptors.

WARNING

Interceptors are normally used during cruising, both to make it more comfortable and to achieve better performance of the yacht, according to the sea and navigation condition, and the yacht loading.

CAUTION

When using reverse, set the interceptors fully up otherwise they may be damaged.

A signal sent from the bridge to the electronic control unit located in the engine room activates the interceptor drive motor. The motor rotates in the chosen direction and determines the interceptor inclination.

Pressing the button on the other position determines the opposite movement of the motor. Each button controls the movement of an interceptor.

It is possible to display, via the control panel on the dashboard, the inclination of the attitude correctors, measured by means of a position transducer placed on each of them.

Some suggestions will be useful in familiarizing yourself with the interceptors:

- After the hull has moved to the glide position, adjust the position of the interceptors to find the angle most favourable to navigation;
- At high speed, it is advisable not to operate the interceptors simultane-

ously, one up and the other down, but to perform the operations separately to avoid sudden skids; instead, it is possible to manoeuvre them simultaneously in the same direction;

- In calm seas, the best position for interceptors is to allow maximum speed with less yacht drag;
- In rough "bow" sea, the "down" interceptors will allow you to "beat less" and cruise with more comfort even if your speed will be reduced;
- In rough seas "on the stern", the interceptors "up" will tend to raise the bow thus avoiding unpleasant on her beam ends;
- With lateral wave motion or asymmetrical lateral load, the best stability is achieved with staggered interceptors;
- If the yacht is not in motion, place the interceptors all on.

CAUTION

The manual use of Interceptor, running at high speed, requires special attention and it is normally not recommended.

CAUTION

Setting interceptors, like transmission systems, can give sudden changes of direction to the yacht if they are operated too quickly or with considerable incidence, especially with increasing speed and during manoeuvres (since they are dimensioned and optimised for intermediate speeds).

CAUTION

As is good practice on a yacht, always make sure that passengers are seated before performing large adjustment manoeuvres on the interceptors, especially if you are navigating at high speed.

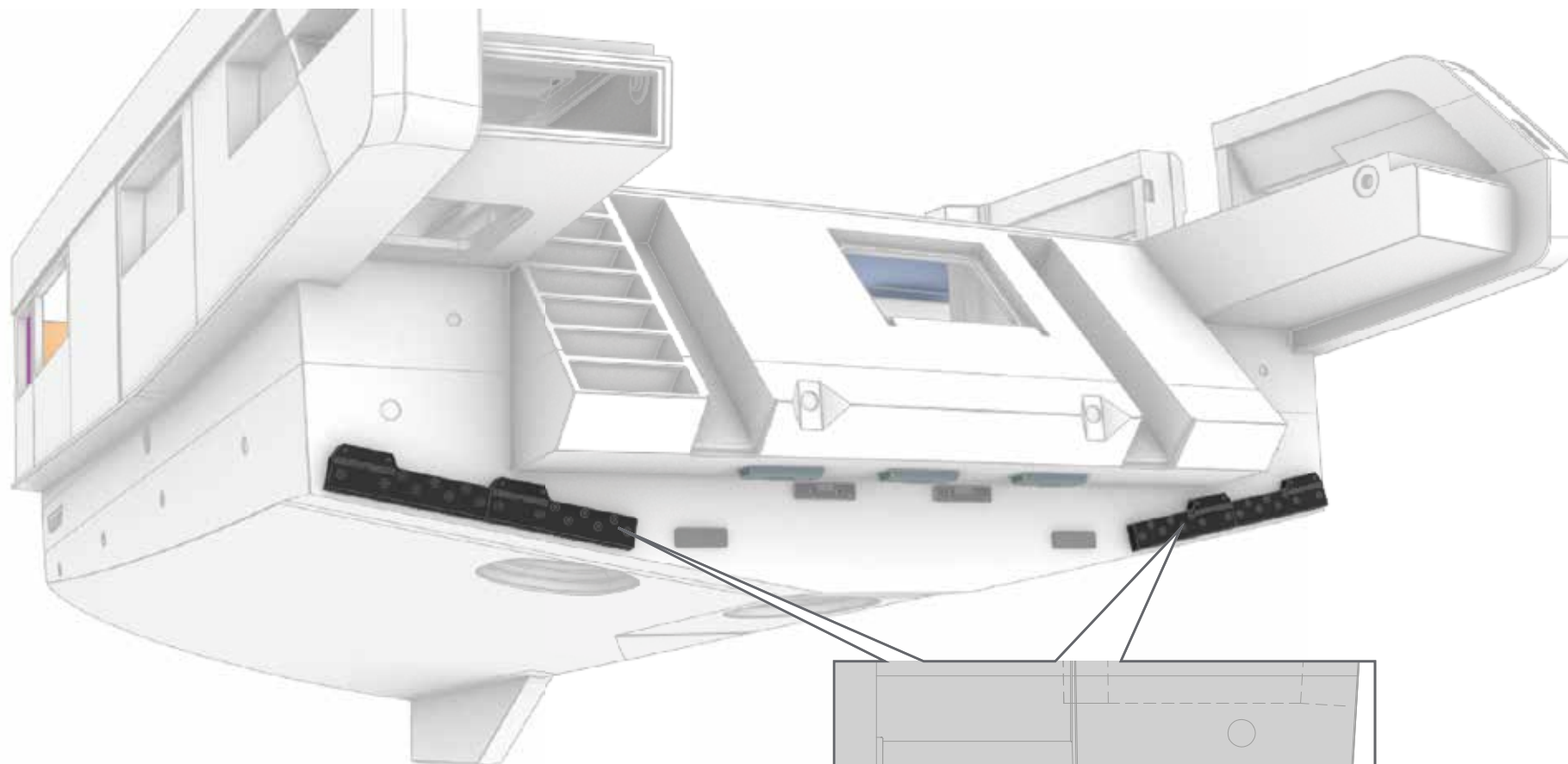
CAUTION

Periodically clean Interceptor to remove any corrosion that may affect their efficiency.

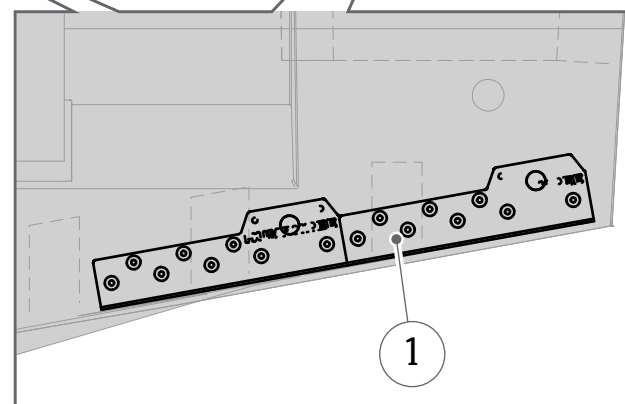
NOTE

For further information on use and maintenance, please refer to the manufacturer's manual.

Interceptor diagram:



ICONA ICON	DESCRIZIONE DESCRIPTION
①	Correttori di assetto Interceptor



8.3 GYROSCOPIC STABILIZER (OPT)

To reduce the annoying effect of the oscillatory rolling motion caused by wave motion, a system consisting of a gyroscopic stabilizer capable of generating a rotation equal and opposite to that of the waves can be installed, depending on the configuration of the yacht.

The system provides a remarkable reduction of the pitch both with the yacht stationary or during navigation with low energy consumption that does not impair the quality of life on board and does not affect performance.

Thanks to these important features, the device can also be kept on at night to allow a greater comfort by damping almost completely the annoying rolling motion.

The stabilizer devices are based on a well-known principle of physics: a gyroscope tends to maintain its vertical rotation axis, parallel to the acceleration of gravity.

When an external force attempts to vary the position of the stabilizer, such as roll caused by the movement of waves, the stabilizer prevents this action by rotating along an axis perpendicular to its own and that of the disruptive cause.

This generated operation (roll) is decreased by the presence of a damper specially calibrated according to the characteristics of each yacht.

The system consists of a stabiliser positioned centrally in the engine room and a display on the dashboard.



CAUTION

Have the scheduled PERIODIC INSPECTION performed by skilled personnel every two years. Address to WALLY for further information.

WARNING

During operation, the stabilizers, vibration dampers and their housing overheat. Touching the stabilizers during operation may cause burns.

DANGER

The stabilizer housing is not a solid component. If you place objects or sit on the stabilizer, the stabilizer may become damaged.

**CAUTION**

The stabilizer is not watertight.
If it's submerged in seawater, it could be damaged.

MAINTENANCE

The gyroscope system is designed to require as little maintenance as possible. However, since the system is equipped with mechanical and electrical components for operation at sea, periodic checks and maintenance are recommended. The manufacturer recommends an annual inspection and maintenance interval every 2000 hours of operation of the gyroscope in the absence of failure.

NOTE

For further information on use and maintenance, please refer to the manufacturer's manual.

8.4 STABILIZING FINS SYSTEM

The stabilizing fins are wing profiles that use the speed of the water they meet to create lift on the upper or lower surface, according to how they are rotated with respect to their axis.

They move in such a way as to give a counter-response to the rolling action of the yacht.

The higher the navigation speed, the greater the lift that the stabilizing fins can create.

The system automatically adapts its intervention according to:

- Cruising speed;
- Sea conditions;
- Wave direction;
- Heeling data detected.

The stabilizing fins are controlled via the relative display on the helm station.

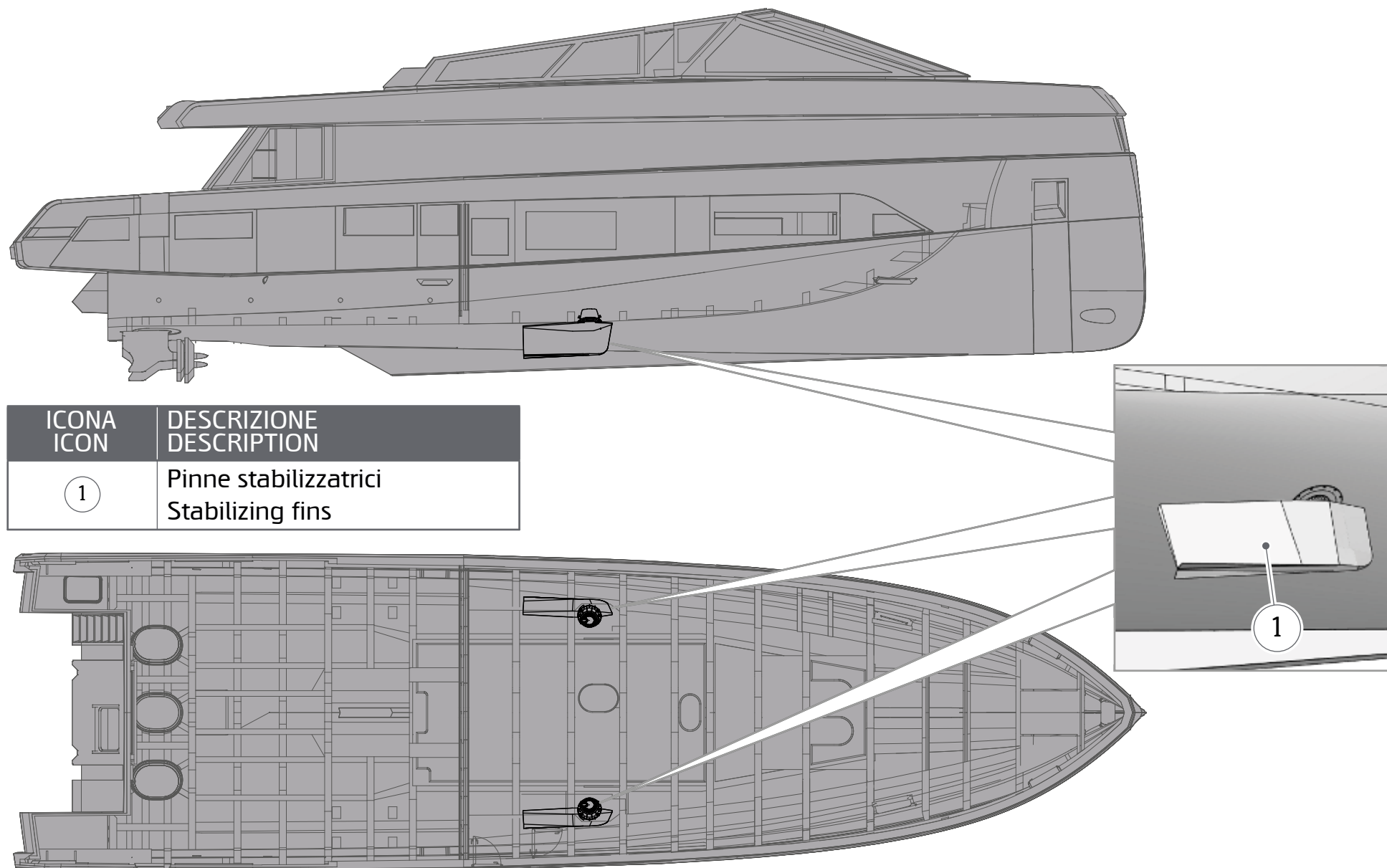
The fins are moved by means of electric motors.

NOTE

For further information on use and maintenance, please refer to the manufacturer's manual.



Stabilizing fins system diagram:





wallywhy150

9
AIR CONDITIONING
SYSTEM

WALLY



9.1 AIR CONDITIONING SYSTEM

The air conditioning system consists of two conditioning unit with heat pump (1) equipped with inner heat exchanger that cools (or heats in winter) the fresh water of a closed circuit. This unit is used to cool water used as a thermal exchange with the air of the rooms to be cooled down.

In winter the inversion of the cooling circuit (by heat pump) allows the water heating instead of the cooling, in this way the rooms get warmed up. The fresh water, by means of a circulation pump, delivers cooled (or heated) water to the fan-coils until it reaches the set temperature.

WARNING

Check that fresh water circulates regularly. Because of a pressure drops or of a long period of inactivity, stop the system and top up water through supply valve until the requested pressure is achieved, this will be indicated by proper pressure switch installed on the unit. After this, close the supply valve.

The entire system is powered by 230V AC, and is controlled by magneto-thermal switches on the main switchboard.

Your yacht is equipped with two air handling units (AHUs).

The AHU manages air treatment and exchange in your yacht's rooms.

In general, in the winter season the AHU is responsible for increasing the temperature and humidity in the air, while in the summer season it is responsible for decreasing the temperature and humidity in the air.

The compressors set are located in the engine room on the starboard and port side.

Each conditioned room is equipped with self-adjusting control panel.

The control panel (2) is located at the bow of the compressor unit on the port side of the engine room.



CAUTION

The magneto-thermal switches for AIR CONDITIONING and FAN COIL BLOWERS are installed on the main electrical panel, both switches must be set to ON, in order to operate the air conditioning system correctly.

For operation and maintenance descriptions and information, please refer to the relevant Manufacturer's Manual.

Before starting the system, check that the seawater pump and the circulation pump rotate freely by turning the cooling fan of the electric motor with a screwdriver.

Rotation should be free, in case the pump is locked, do not start, but eliminate troubles first (dirt, rust, scraps, etc..).

Check that sea-water intake and outlet valves are both open.

It is advisable to check the power absorbed by the pumps and to compare it with the plate data.

The unit will work normally if the circulation of sea water and treated water is correct. After a few seconds the compressor will start.

Its operation will stop when reaching the temperature of chilled water 7°C (45°F) to 8°C (46°F). The temperature of the chilled water can be checked by suitable thermometers placed on the unit.

The cooled water temperature can be set by means of the thermostat on the unit's control panel. The chilled water circulation pump will circulate water to the different fan-coils.

Fancoils will exchange heat with surrounding ambient, the return water will be heated and the thermostat will automatically start the compressor, in a differential range of 3 (37°F) to 4°C (39°F), thus keeping the chilled water temperature in the range from 7 (45°F) to 11°C (52°F).

CAUTION

Clean the strainer of the sea cock according to the time interval of the system use and to the pollution conditions of the sucked waters (seaweeds, mucilage's, etc..).

CAUTION

Before cleaning the strainer, remember to close the sea cock valve, to stop the generator and then proceed with maintenance. Once this operation is finished, remember to open the valve which supplies the cooling circuit.

CAUTION

When starting the unit after a prolonged shut down check the correct operation of the sea water pump and make sure of proper circulation.

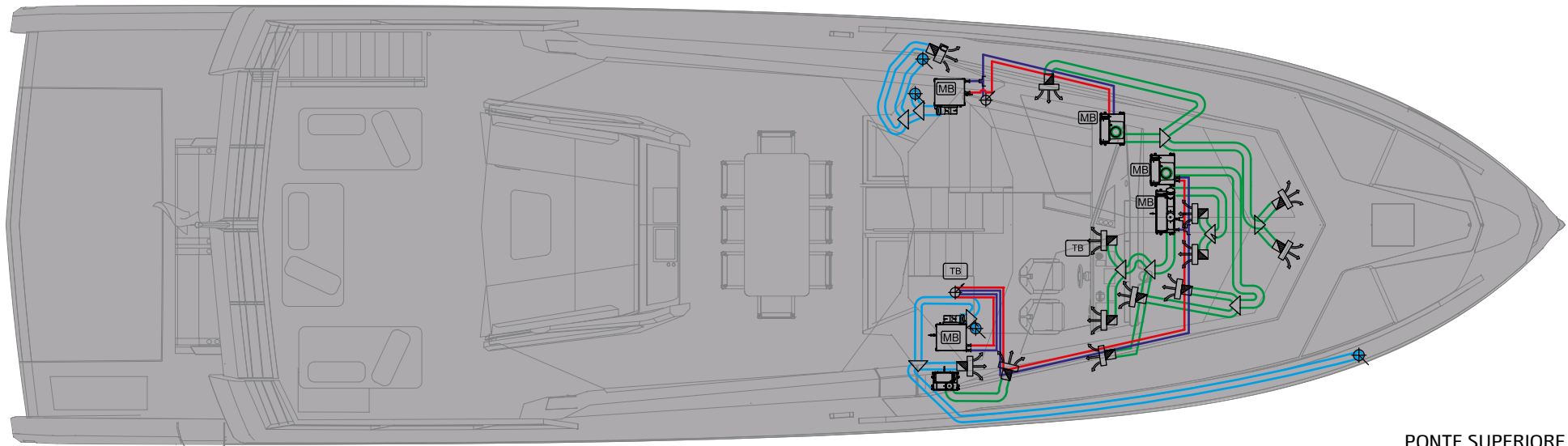
CAUTION

The excessive use of conditioned air may cause infirmities due to the great difference of temperature between the yacht inside and the outside.

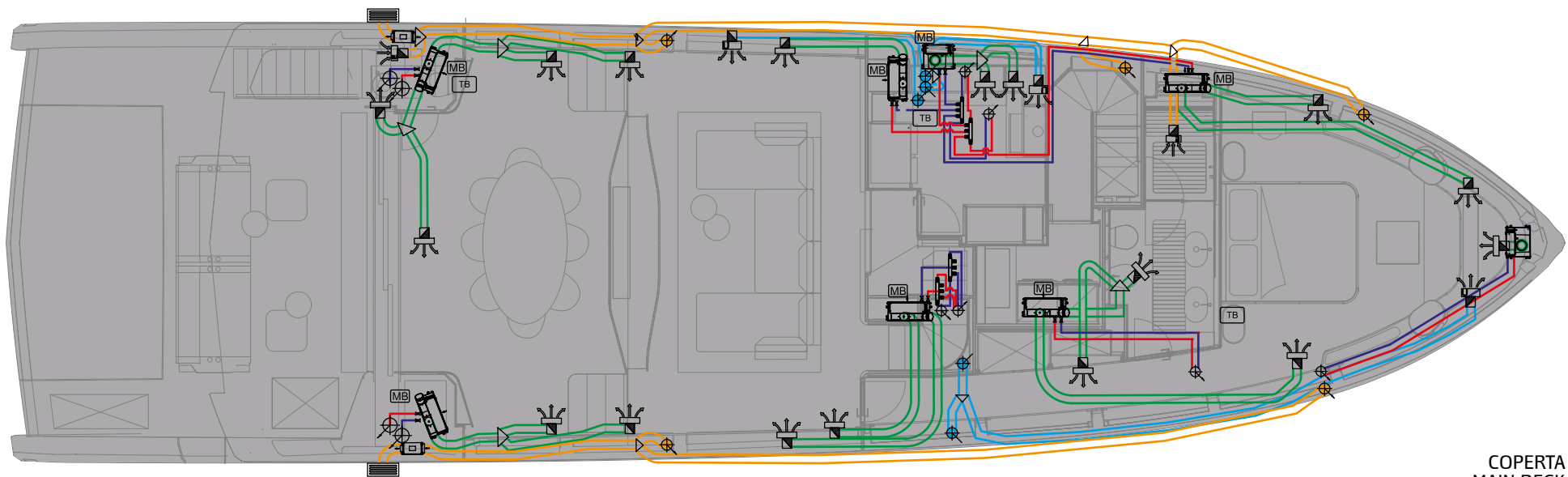
CAUTION

Never clog the temperature sensors located in each air conditioned room; as their clogging could impair the correct operation of the system.

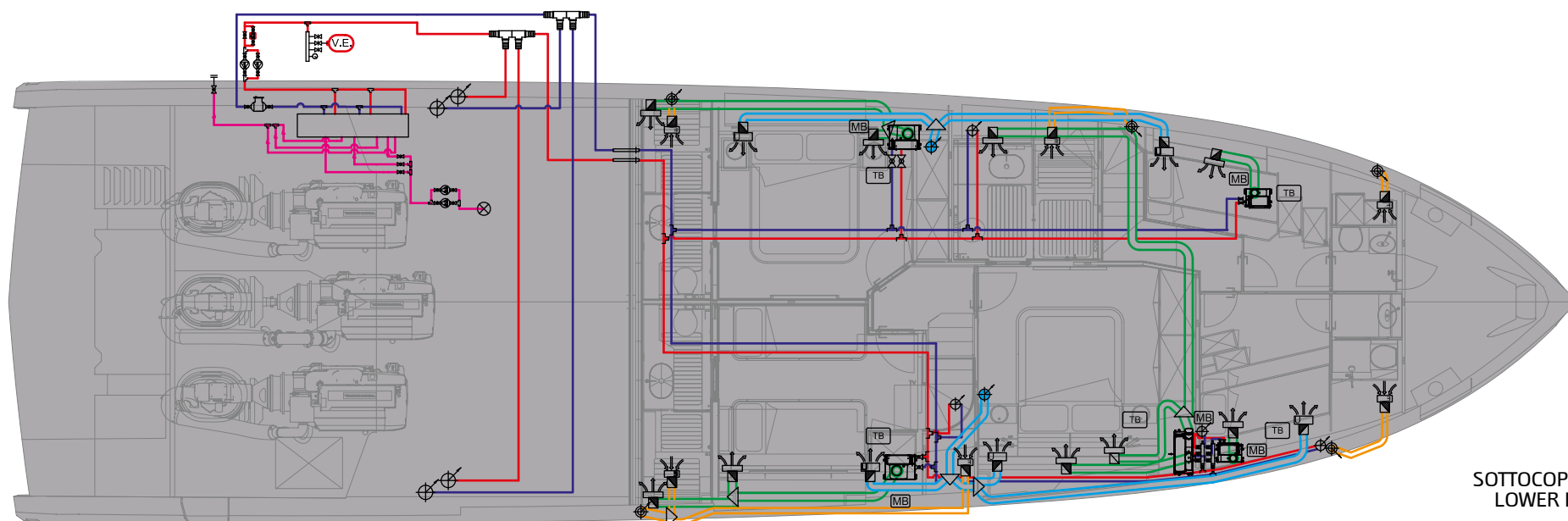
Air conditioning system diagram:



PONTE SUPERIORE
UPPER DECK



COPERTA
MAIN DECK

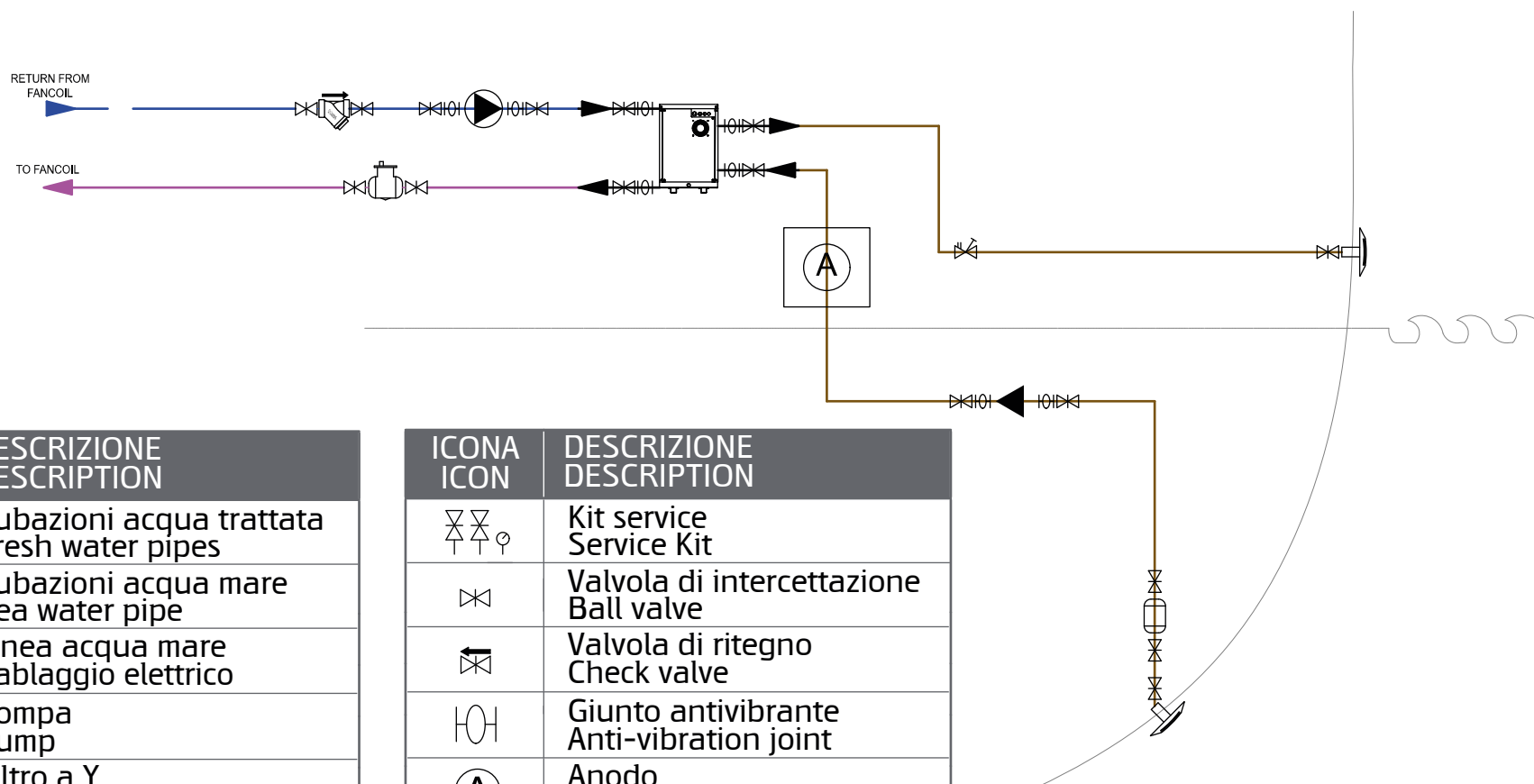


SOTTOCOPERTA
LOWER DECK

ICONA ICON	DESCRIZIONE DESCRIPTION
	Linea mandata acqua Water delivery line
	Linea ritorno acqua Water return line
	Linea acqua mare Sea water line
	Mandata fan coil Air delivery fan coil
	Mandata UTA Air delivery ATU
	Estrazione aria Air extraction
	Valvola a sfera Ball valve

ICONA ICON	DESCRIZIONE DESCRIPTION
	Estrattore Blower
	Griglie di mandata aria UTA Delivery air grilles ATU
	Griglie di estrazione aria Extraction air grilles
	Aspirazione aria Air intake
	Griglia di mandata aria Delivery air grill fan coil
	Fan coil Fan coil
	UTA ATU

ICONA ICON	DESCRIZIONE DESCRIPTION
	Controllo fan coil Fan coil control panel
	Display Display
	Pompa Pump
	Vaso di espansione Expansion tank
	Filtro a 45° 45° filter
	Kit manometro Pressure gauge kit
	Diseareatore Air bleeder



ICONA ICON	DESCRIZIONE DESCRIPTION
	Tubazioni acqua trattata Fresh water pipes
	Tubazioni acqua mare Sea water pipe
	Linea acqua mare Cablaggio elettrico
	Pompa Pump
	Filtro a Y Fresh water Y filter
	Diseareatore Air bleeder
	Vaso di espansione Expansion tank
	Flussostato Flow switch
	Valvola di taratura Balancing valve

ICONA ICON	DESCRIZIONE DESCRIPTION
	Kit service Service Kit
	Valvola di intercettazione Ball valve
	Valvola di ritegno Check valve
	Giunto antivibrante Anti-vibration joint
	Anodo Anodes
	Fitro acqua mare Sea water strainer
	Valvola a 3 vie manuale Manual 3-way valve
	Elettrovalvola a 3 vie Motorized 3-way valve
	Presa/scarico mare Sea water intake/outlet

9.1.1 Refrigerating unit control panel

The control panel of the refrigeration system is located in the engine room at the bow of the unit itself.

It allows the operating parameters of the system to be set.

At first start the chiller unit will operate according to the parameters set.

CAUTION

It is strongly recommended NOT TO CHANGE the factory setting. This is possible only in exceptional cases and with the help of WALLY After Sales & Service.

CAUTION

The signal of any alarm implies a failure in the operation of the system. INVESTIGATE and ELIMINATE THE REASON FOR THE FAULTY OPERATION before restarting the system.

NOTE

For further information on use and maintenance, please refer to the manufacturer's manual.



9.1.2 Fan-coil control panel

Management of the individual fan-coils in each room of your yacht is carried out by a thermostat in each room.

The thermostat with touch-screen display allows all-round control of on-board comfort.

NOTE

For further information on use and maintenance, please refer to the manufacturer's manual.



9.1.3 Air conditioning system maintenance

No delivery of cool or warm air from fan-coils

Lack of treated water in pipes. Check if the pressure gauge operates at the minimum pressure of 10 m with idle system. In case the gauge reads 0, most probably there are air pockets in the circuit or water leaks. Stop the system and fill water through a cock so as to reach a pressure of 10- 15 m. Bleed air by means of the relevant valves installed on the heat exchanger, the fan-coils and the manifolds, keep the bleed valve open. If the treated water flows regularly, and the outlet does not release warm or cold air, check if the fan turns and if the room thermostat is set to correct summer-winter position.

Fan-coils air setting

Select the desired mode from the thermostat in each room on board.

Room temperature setting

To obtain the desired room temperature, set the thermostat to +21, +22°C / +70, +72°F in winter cycle and to +24, +25°C / +75, +77°F in summer cycle. Refer to the instruction manual.

Temperature check of treated water in the fan-coils circuit

The treated water temperature check is performed through two digital control panels. The water temperature inside the fan-coil circuit may vary from 0 °C/32°F +60°C/+140°F and by exactly the water temperature in the fan-coil circuit.

For a good BTU/h performance, the thermometer should indicate +7 + 8 °C/+45, +46°F in summer and +45°C/+113°F in winter after 15-20 minutes of operation.

When the set temperature is reached, the compressor stops, while the treated water pump keeps running.

The compressor starts automatically when water temperature decreases by 3°C/37°F in winter cycle or increases by 3°C/37°F in summer cycle. In winter, if the sea water temperature drops below +10°C/50°F, the heating output of the unit is seriously affected.

Sea water circuit check and cleaning

Check the strainer located on sea water suction periodically, specially when the yacht is shored.

Never leave water in the system when the yacht is out of water.

At least once a year, it is important to have the system rinsed with fresh water for half an hour, to remove all sea water residues.

Fan-coil cleaning

At least once every six months clean the fan-coils sucking the dust trapped in the back screen. Disassemble the filter, clean it, disinfect it and reassemble it; if broken, replace it.

Winter cycle

The units can produce hot water for heating purposes, by using the heat pump, reverse cycle principle.

The selector acts on the solenoid valves for cycle inversion. In winter, the heating capacity of the unit depends on the sea water temperature; efficiency diminishes as sea water temperature grows colder.

WARNING

Pay attention not to damage the airtight cooling circuit.

CAUTION

The topping-up of the chilling liquid must be carried out by skilled and qualified personnel, according to the indications of the Manufacturer.

CAUTION

The air inlets of the air conditioning system must always be free; their obstruction beyond involving the system performance, can also generate serious problems.

NOTE

For further information on use and maintenance, please refer to the manufacturer's manual.

9.2 VENTILATION SYSTEM

9.2.1 Engine room ventilation system

The ventilation system of the engine room allows the necessary air recirculation for the operation of the propulsion systems and of the machinery installed on your yacht, so as to keep a safe temperature inside the engine room.

The ventilation system consists of two lateral air intakes (1), which let air enter in the room and prevent the penetration of sprinkled water and of two extractors (2), withdrawing the inside air and conveying it outside.

In the event of an emergency, the extractors are stopped directly by activation of the fire extinguishing system.

In order to activate the air extractors, the magneto-thermal switches on the 230V general consumer switchboard must be activated.

The extractors may be activated in 3 ways:

1. Actuating the motors (shutdown delay after they have been brought to a standstill).
2. With manual activation from the dashboard.
3. From the engine room thermostat which activates the extractors when the local temperature exceeds the pre-set threshold.

⚠ CAUTION

While the engines are running, the extractors must always be activated. It is suggested to keep them on for at least 30 minutes, after anchoring, to eliminate the residual heat.

⚠ CAUTION

Do not place any type of tool or clothing on the extractors or in the air intakes, as this could damage the rotating parts of the electric extractors or obstruct the passage of air.



**DANGER****Carbon monoxide poisoning.**

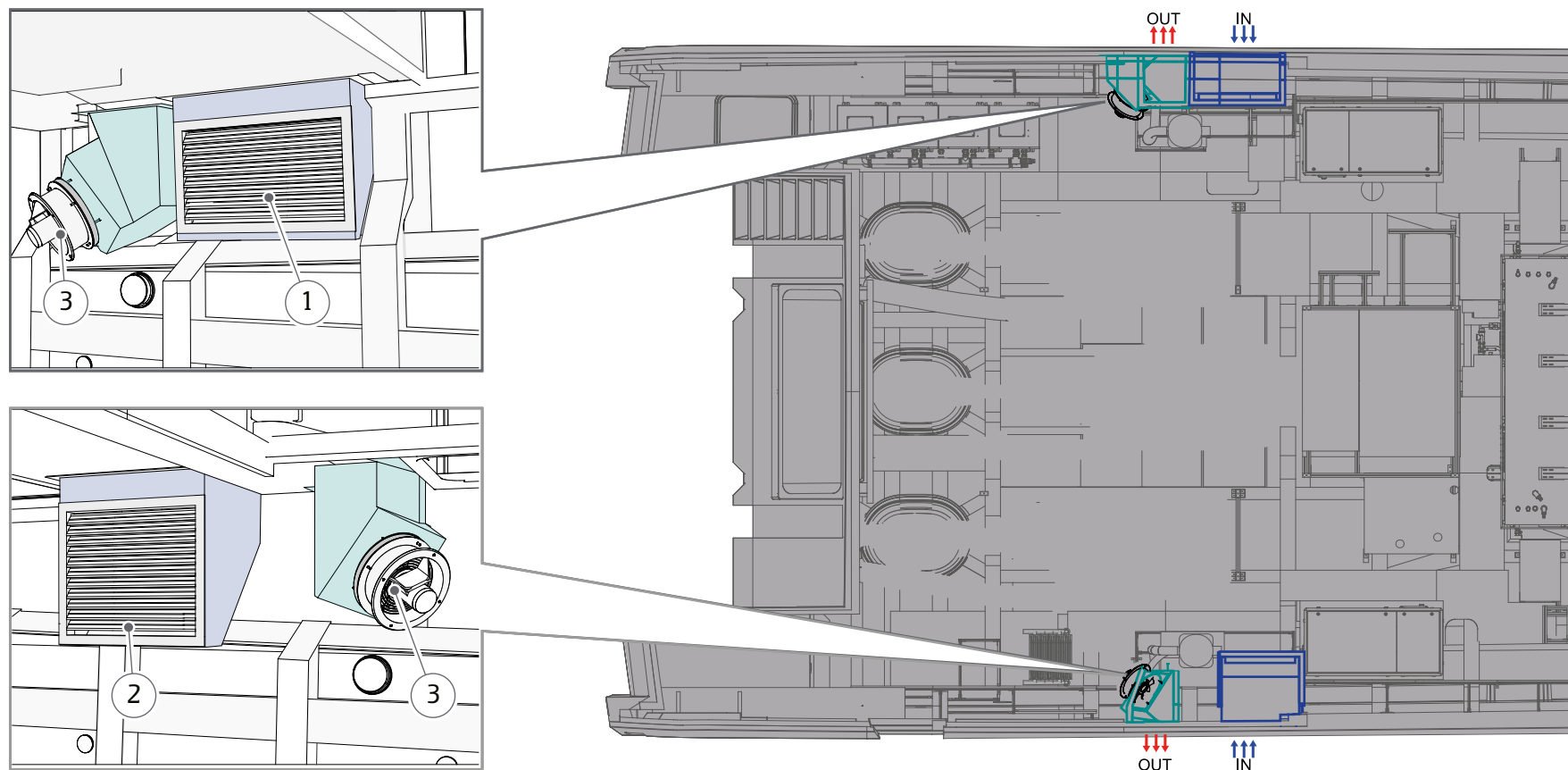
Fossil fuel combustion generates a high quantity of carbon monoxide.

This gas is a colourless, odourless and highly toxic. When the engines and/or the generators are running, the yacht must be properly ventilated, in particular if underway at low speed, or when the exhaust fumes may blow back on board (e.g. when the yacht is shored or anchored or riding the anchor).

**DANGER**

It is strictly forbidden to insert your hands or tools inside the fan when operating or when electrically connected. Before starting the fan, make sure that this one is protected against tampering, in compliance with the laws in force.

Engine room ventilation system diagram:



ICONA ICON	DESCRIZIONE DESCRIPTION
①	Carter immissione aria sinistro Port air intake carter
②	Carter immissione aria destro Starboard air intake carter
③	Estrattore Extractor



wallywhy150

10
AUXILIARY EQUIPMENT
ON BOARD



10.1 MOORING AND ANCHORING ARRANGEMENTS

Your yacht is equipped with deck instruments necessary for easy and safe mooring.

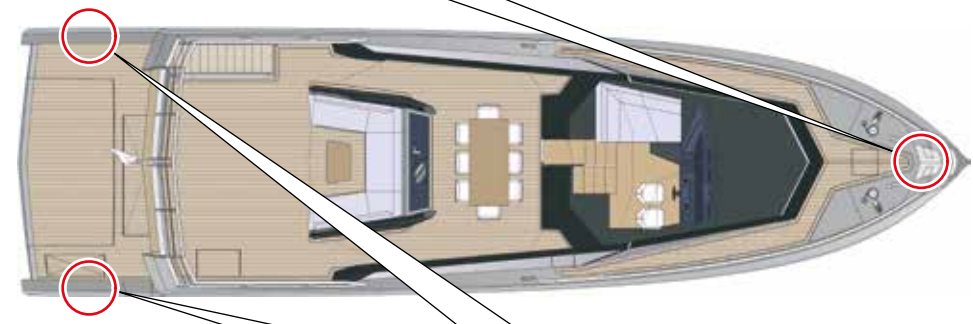
In addition to the anchor windlasses, mooring equipment is located at the bow, on the side walk around and at the stern and consists of cleats, fairleads and mooring winches:

- A cleat, a mooring winch and a fairlead are housed inside each aft mooring cabinet;
- A cleat is arranged on each side of the walk-around of your yacht;
- At the stern, there is a retractable cleat (optional) on each side of the yacht for mooring the tender only
- In the anchorage area at the extreme bow, there are two cleats, two anchor winches and one fairlead.

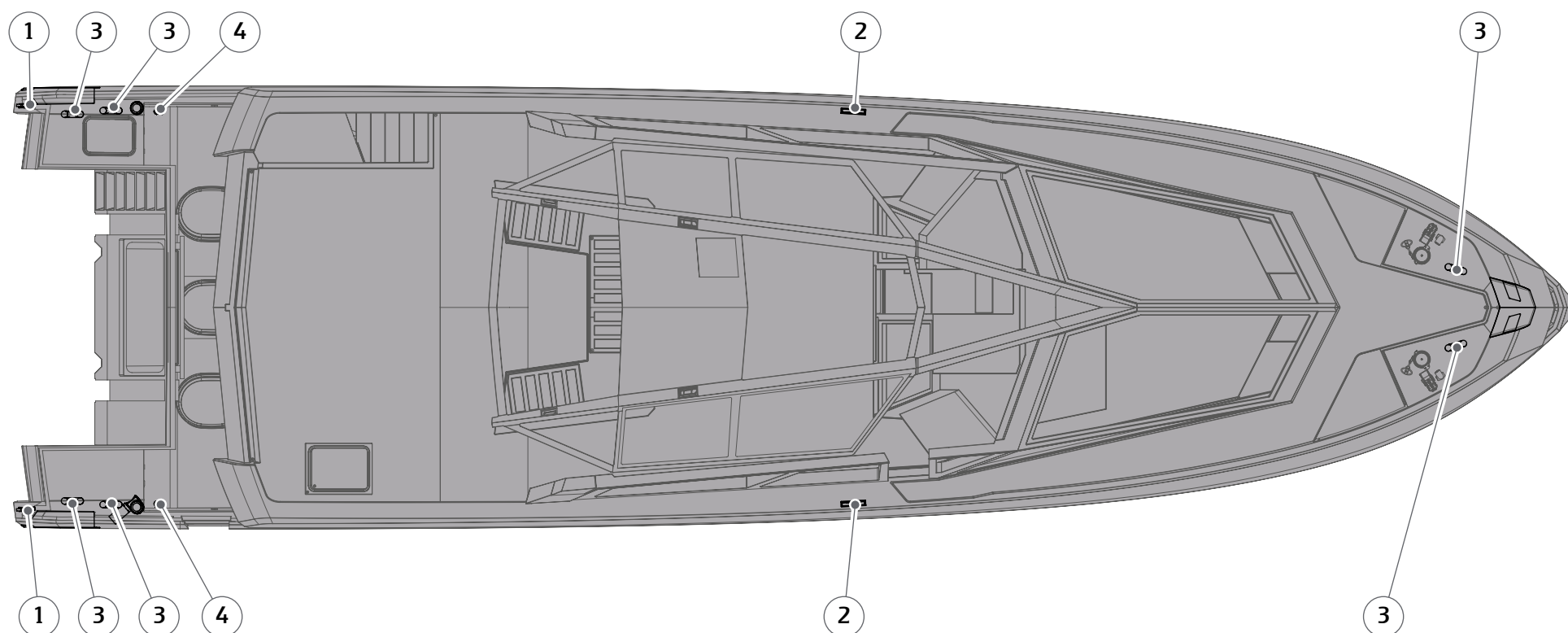
⚠ CAUTION

Do not use the stern cleats as permanent mooring points. They should be used only for the service tender or mooring of watercraft. Stern cleats cannot be used for towing tenders or chase boats.

Access to the chain well compartment is through a hatch in the crew toilet on the port side of the main deck.

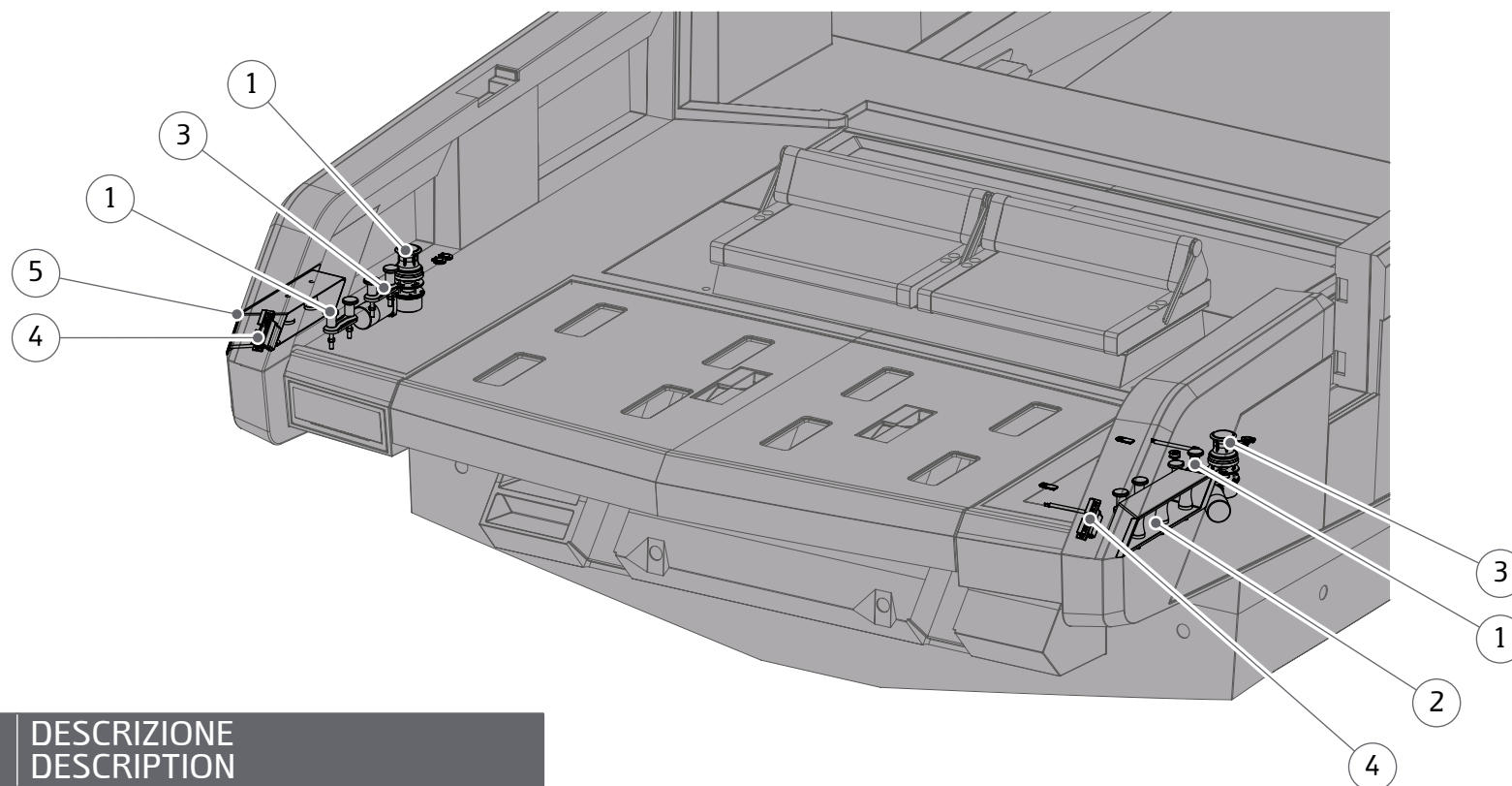


Mooring points:



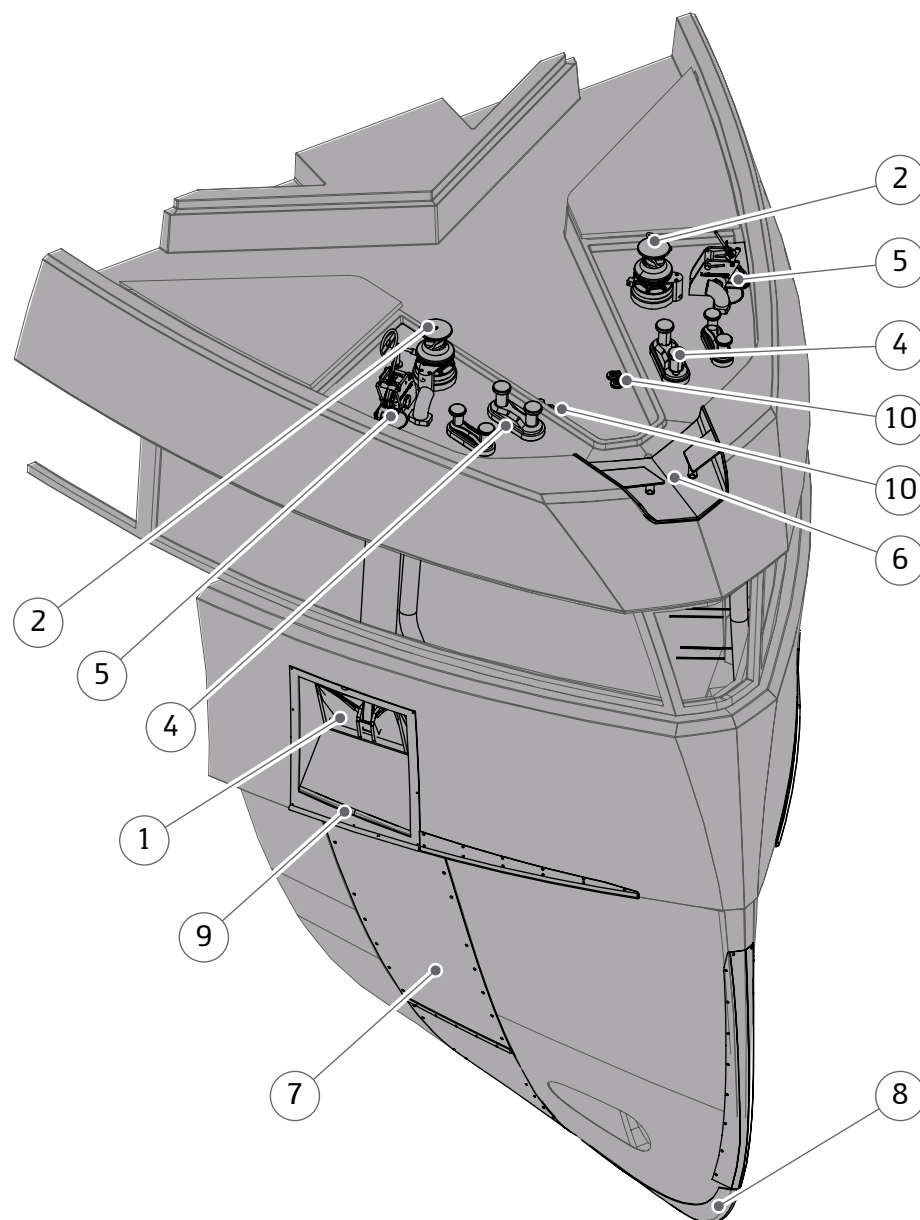
ICONA ICON	DESCRIZIONE DESCRIPTION
①	Bitta a scomparsa Pop-up cleat
②	Bitta Cleat
③	Bitta Cleat
④	Comando tonneggio a piede Foot winch command

Stern mooring:



ICONA ICON	DESCRIZIONE DESCRIPTION
①	Bitta Cleat
②	Passacime sinistro Port fairlead
③	Argano Capstan
④	Bitta a scomparsa Pop-up cleat
⑤	Passacime destro Starboard fairlead

Bow mooring:



ICONA ICON	DESCRIZIONE DESCRIPTION
①	Ancora Anchor
②	Verricello Anchor winch
③	Catena Chain
④	Bitta Cleat
⑤	Ferma catena Chain stopper
⑥	Passacime prua Bow fairlead
⑦	Piastra protezione scafo Hull protection plate
⑧	Protezione scafo Hull protection
⑨	Cubia Hawse
⑩	Comando a piede (optional) Foot command (optional)

10.1.1 Anchor winch

The yacht is equipped with two winches that moves the anchors housed in the bow.

The anchor chains glides into the yacht through the chain guides and reaches the anchor winches, then winds around the wildcat and glides into the chain pits.

The anchor winches are equipped with control for chain displacement in both directions and with manual brake to lock the chain during mooring.

The winches are equipped with a clutch separating the drive shaft from the wildcat; this allows using it as a warping winch for pulling a line.

The yacht is equipped with a camera in each anchor pocket to allow the operator to check the correct position of the anchors from the wheelhouse multifunctional displays.

CAUTION

WALLY is exonerated from any responsibility for any accidents or damage to persons or property caused by incorrect use of the device.

Anchor winch activation controls

The winches, located in the bow, can be operated via the control panel on the helm station.

CAUTION

If you intend to use the anchor, remove the slip lock and the safety anchor lock.

CAUTION

Do not bring body parts or objects near the area where the chain, the line and the wildcat run. Make sure the electric motor is not powered when acting manually on the anchor winch (also when you use the lever to loosen the clutch): people having the remote controls of the anchor winch (remote push-button panel) might accidentally activate it.





CAUTION

Lock the chain with the appropriate safety lock before leaving for navigation.



CAUTION

Do not operate the anchor winch electrically with the lever in the drum housing or in the wildcat cover.

Clutch use

The wildcat is connected to the main shaft by means of the clutch. The clutch opens (disengages) when rotating counterclockwise the lever inserted in the bushing. When rotating clockwise, the clutch will closed (engage).

Anchoring

The wind and the sea conditions highly affect an anchored yacht. Make sure the anchor is set in any situation. It is necessary to understand the principles of the chain length and its effect on the anchor performance.

The radius is technically defined as the ratio between the chain length and the vertical distance from the bow to the sea bottom.

The chain length depends on the type of anchor, on the sea bottom, on the tide, on the wind and on the sea conditions.

The chain length is 5 times the depth of calm sea; it is 7:1 in normal conditions and up to 10:1 in critical conditions.

$$\text{Radius} = \frac{\text{Chain length}}{\text{Bow height} + \text{water depth}}$$

As it is necessary to know the length of the chain to be used for mooring.

$$\text{Chain length} = (\text{bow height} + \text{water depth}) \times \text{radius}$$

Anchor weighing

Start the yacht's engine. Make sure the clutch is engaged and pull out the lever. Press the control button available and start to weigh the anchor. If the anchor winch stops without any reason, the anchor might be stuck and therefore the anchor winch magneto-thermal trips, due to the effect of the effort. In this case, if after several attempts the anchor winch remains stuck, we suggest to manoeuvre the yacht, to release the anchor. Check the raise of the last metres/feet in order to avoid bow damage.

Anchor lowering

Lower the anchor by means of the electric controls or manually. To carry out this operation manually, open the clutch and let the wildcat rotate freely on its shaft and the chain fall into the water. To brake the anchor chain fall, turn the lever clockwise.

To lower the anchor electrically, press the control button at your disposal.

In this case the anchor lowering is perfectly controllable and the unrolling of the chain or of the line is regular.

Lock the chain with the appropriate safety lock before leaving for navigation. The anchor and the chain may damage the yacht bow if the anchor winch is not operated carefully.

We suggest to carry out the operation by means of the remote control located near the anchor winch; this will allow checking the lifting and lowering speed of the chain and the entry and exit of the anchor shaft into the anchor roller. Namely during those operations, an excessive gliding of the chain or a wrong entry or exit of the anchor shaft from the roller, may cause damages to the yacht's bow.



DANGER

Do not use the on board auxiliary equipment for aims or in different ways from those indicated in the manual delivered by the Manufacturer. Always disconnect the warping winches not in use, to prevent accidental activation.



DANGER

Never get too close to moving parts to avoid danger and injury.

 CAUTION

The anchoring area is a circle with the centre at the anchoring point and a radius equal to the chain length plus the yacht length.

The entire anchoring area must be free, in case of sudden variations of wind and/or current direction, especially in case of night anchoring.

At night, before dropping the anchor, check that the white anchor light works.

Before dropping the anchor, check the nautical charts: anchoring is prohibited in certain areas, in weeds covered sea bottom, anchoring is unsafe and harmful to the environment, on rocky sea bottom, the anchor may get stranded or lost.

Anchor the yacht with the engines running, both for safety reasons and to compensate the electrical consumption of the winch.

Check the anchoring point frequently.

The distance from obstacles or other yachts must be, at 360°, greater than the length of chain dropped.

During anchor riding it is advisable to leave the winch powered.

Do not reverse the winch rotation suddenly.

 CAUTION

The anchor chain is fastened to the yacht by means of a line and an hook system. If it is impossible to remove the anchor from the sea bottom, this system will ease up to resume navigation.

**DANGER**

When the winch is operating, be extremely cautious of rotating parts; keep your feet, hands and the remote control cable at safe distance.

Anchoring operations

- Make sure that the engines battery breaker is on;
- Turn the anchor winch switch ON, on the main electrical panel;
- When the key-pad is not used, disconnect it to prevent contact oxidation;
- Before operating the anchor winch with the electrical control, ensure that the gypsy clutch is tight and remove the slip lock and the safety anchor lock;
- Let the yacht move backward slowly; if necessary, use the engines;
- Lower the anchor until just below the waterline, and hold;
- Lower the anchor until it reaches the sea bottom;
- Once the anchor holds, leave the lock and the brake engaged.

 CAUTION

Operate the anchor winch with the engines running, in order to provide the high current required and reduce the stress by slowly moving the yacht toward the anchor.

Lower and raise the anchor always by using the electrical control, after engaging wildcat and barrel. This latter can be disengaged both for casting off the anchor in case of need and to operate the barrel as a warping winch.

Weighing the anchor

To weigh the anchor, perform the same operations previously described above, in reverse order.

In windy or strong current conditions, start the engines and keep the bow toward the anchor position to avoid the breakage of the chock.

Once the anchor on board has been recovered, restore the chain lock before resuming navigation.

 CAUTION

Prior to departing, check that the anchors are correctly positioned and the chain stopper is properly fastened.

10.1.2 Anchor winch maintenance

Component	Maintenance	Notes and precautions
Reduction motor	Check and cleaning (before each navigation)	When you weigh the chain, after an anchor mooring in a muddy or weedy sea bottom, we advise you to wash the chain using the proper system. The outer part of the winch requires frequent washes with fresh water because very much exposed to sea salt during navigation specially with choppy sea.



CAUTION

The valves that allow the chains to be washed must normally be kept closed.

They must be kept open only during the chain washing stage.

10.1.3 Warping winches

At stern, inside each mooring locker, a warping winch is installed on the side. For their operation it is necessary to wind the line into the barrel and to operate the foot button.

The foot buttons for each winch are located at the base of the relevant mooring locker and can be activated by pressing them with one foot:

- UP: recovers the line;
- DOWN: releases the line.

Near the warping winches are fitted two mooring cleats.

For a safe anchor mooring, the lines used for warping have to be fastened to the proper cleats.



DANGER

Do not approach your hands to the sliding area of the mooring rope.



10.1.4 Warping winches maintenance

Component	Maintenance	Notes and precautions
Reduction motor	Inspection and cleaning	For a correct maintenance and check refer to instruction manual delivered by the Manufacturer.

Reduction motor:



DANGER

Before carrying out any maintenance operation on the anchor winch cut-off the electric power connected with it and remove with care the chain from the wildcat.

The winches are made of materials resistant to sea environment: it is necessary, in any case, to remove periodically the layer of salt which forms on the outer surfaces, to avoid dangerous corrosion, which could jeopardize its integrity. Wash accurately with fresh water and clean the surfaces, particularly those in which salt remains trapped.

MAINTENANCE

At least once a week:

- Check the operation;
- Wash with fresh water and carry out an accurate cleaning.

At least once every six months grease the terminals of the electric motor.

At least once a year disassemble and check the exposed parts.

10.2 COMPRESSED AIR SYSTEM

In the engine room, the manufacturer installed a compressed air unit consisting of a compressor unit.

A second unit can optionally be installed next to the first compressor.

This system supplies with compressed air:

- Horn on the aerials plane;
- Engine room air hose connector;
- Air hose connector to waste water treatment system (optional);

CAUTION

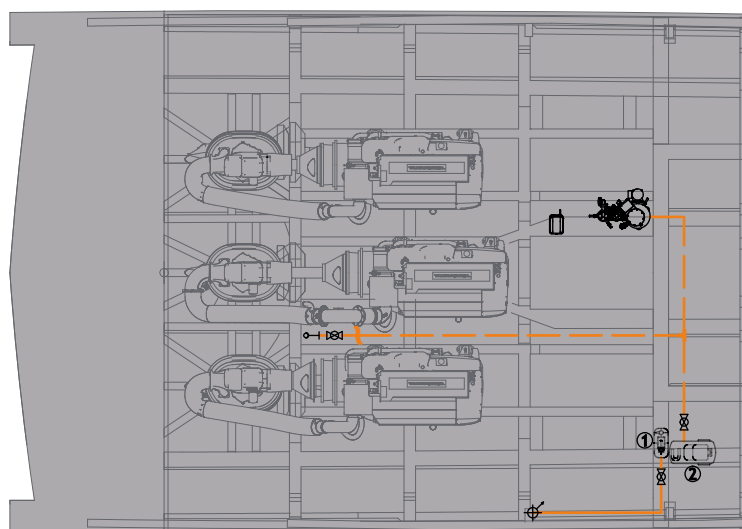
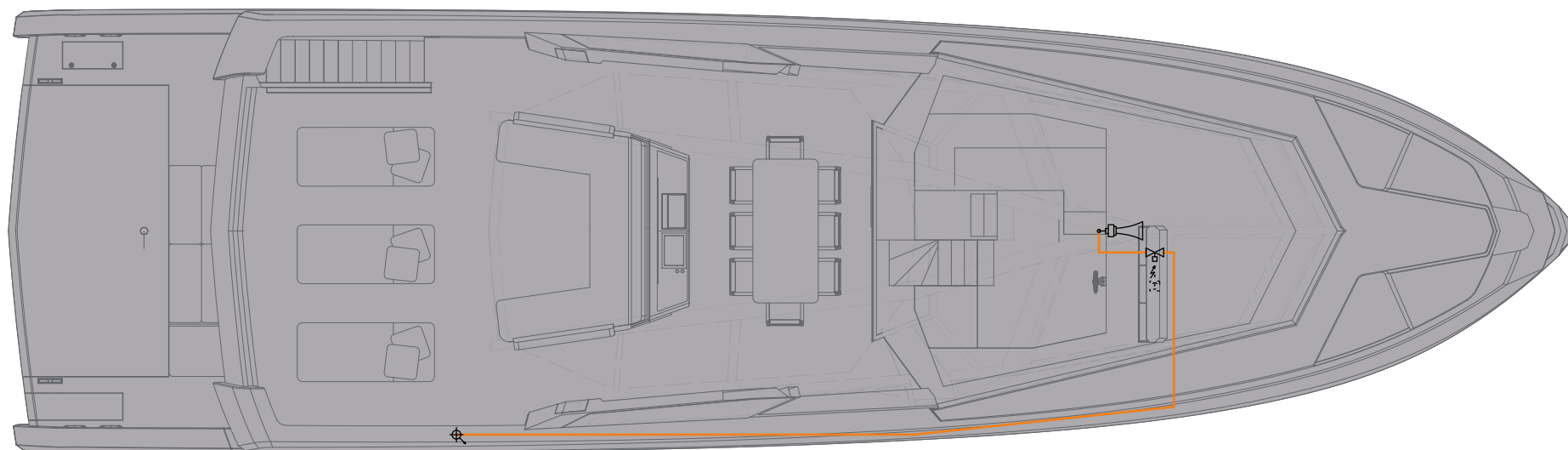
Be very careful when the compressed air use to prevent damage to property and / or people.

NOTE

For further information on use and maintenance, please refer to the manufacturer's manual.



Compressed air system diagram:



ICONA ICON	DESCRIZIONE DESCRIPTION
	Valvola a sfera mini Mini ball valve
	Attacco rapido Quick connection
	Elettrovalvola Solenoid valve
	Segnalatore a fischio Horn signal
	Compressore 24V Compressor 24V
	Compressore 25L Compressor 25L

ICONA ICON	DESCRIZIONE DESCRIPTION
	Compressore SELMAR SELMAR compressor
	Al ponte superiore/inferiore To upper/lower deck
	Tubo (opt) Pipe (opt)
	Tubo Pipe

10.3 GANGWAY / SWIM LADDER SYSTEM

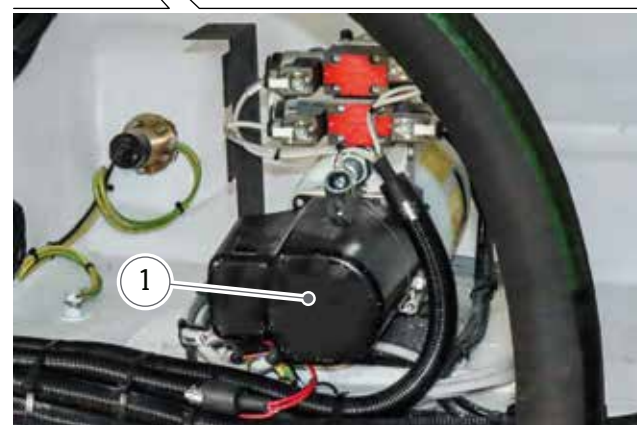
The system operates via a hydraulic control unit (1) located on the left side of the engine room.

The gangway / swim ladder (2) is movement assisted for extension/retraction. Once the gangway is fully removed, the free end can be raised or lowered to adjust the trim to dockside height or used with the swim ladder.

The system is powered by the pump that sucks oil from the tank and sends it through solenoid valves and pipes to the hydraulic pistons that drive the gangway. The signal sent by the remote control is picked up by a receiver that transmits it to the hydraulic control unit.

The gangway / swim ladder can be operated via the control panel located in the aft cockpit on the port side of the deck.

The functions are to be performed by holding down the respective panel button until the movement is completed.



⚠ CAUTION

In order not to jeopardize the gangway of the seals, perform the washing in the box avoiding that water enters under pressure.

⚠ CAUTION

The gangway must always be closed during navigation.

🚫 DANGER

Do not operate the gangway during the passage of people. When using the gangway, exercise due caution and use the rail.



DANGER

Do not cruise with the gangway / swim ladder improperly stowed. Ensure that the gangway, garage hatch and swim ladder are properly closed before cruising.



CAUTION

The hydraulic gangway, even if easy manoeuvrable, might damage people and things. Its use is recommended only to well experienced people.



DANGER

Be careful of moving parts and hands.

MAINTENANCE

At least once a week carry out the washing with fresh water and an accurate cleaning.

At least once a month:

- Check the oil level in the control unit, when necessary top-up;
- Check the possible presence of oil leaks and bleeding;
- Check the operation of the emergency pump;
- Check the possible presence of corrosion;
- Grease the pulley gliding races of the steel cable.

At least once every six months:

- Grease the swivel pins and the gliding sleeves;
- Tighten the locking bolts.



CAUTION

Always check for the correct gangway position from the shore. Never jump on the gangway.



CAUTION

Position the gangway in such a way that it cannot touch the shore, either because of the normal yacht swinging or of the tide change. Should the gangway strike against the shore, it could get seriously damaged.



CAUTION

Do not use the gangway/swim ladder as a springboard.



DANGER

Risk of electric shock from leakage currents. Do not swim in the waters of ports or marinas.



DANGER

Under no circumstances use the gangway / swim ladder lowered in water with the engines running. Take care not to approach the interceptor area, as these may be accidentally activated.



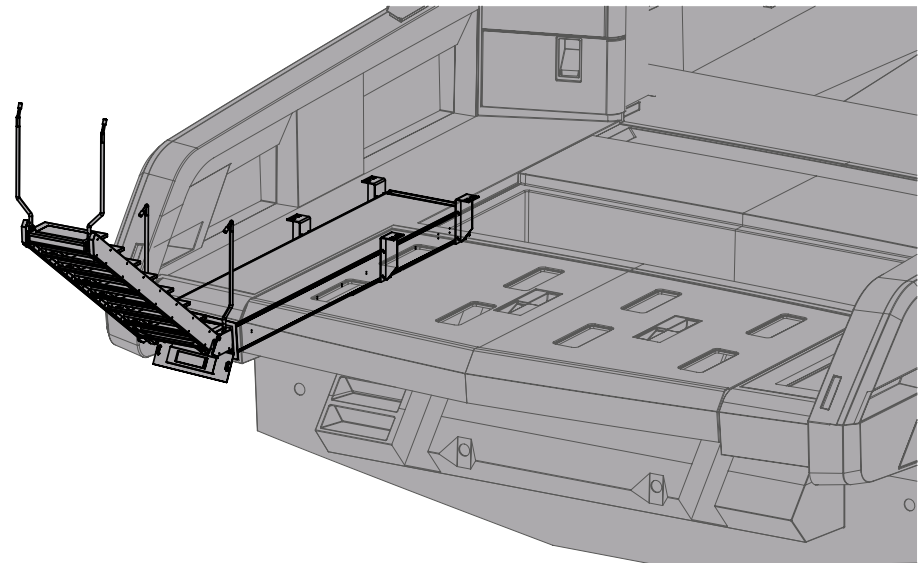
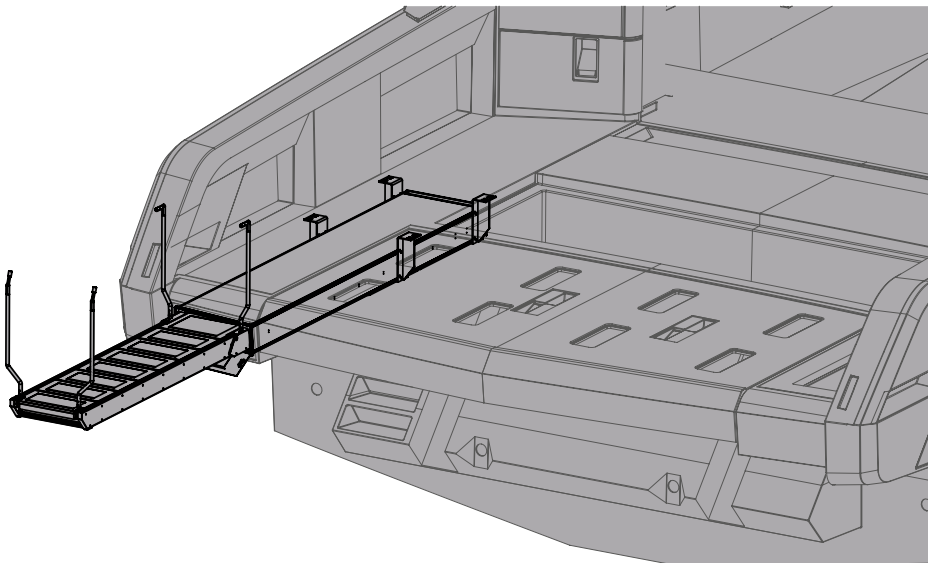
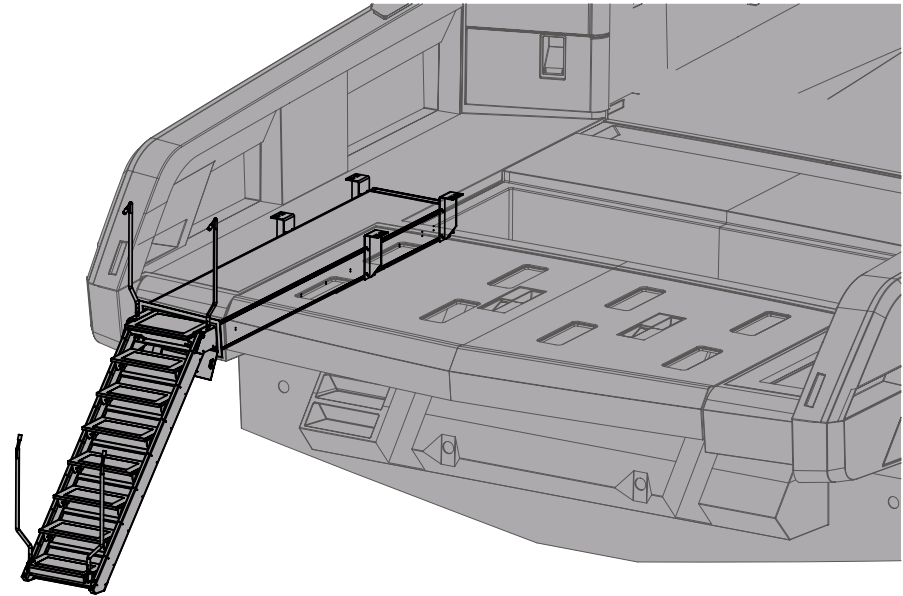
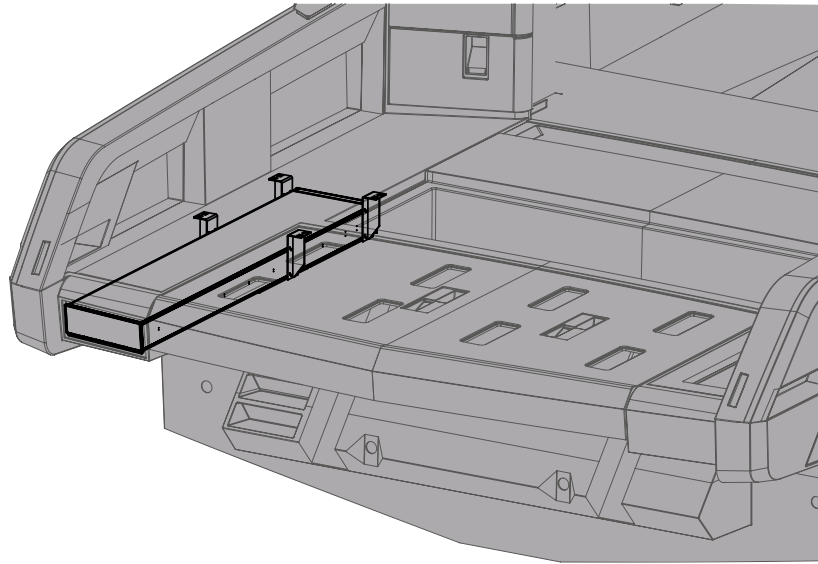
CAUTION

Pay attention because the ladder can be slippery. Secure the grip before starting the return on board.

NOTE

For further information on use and maintenance, please refer to the manufacturer's manual.

Gangway / swim ladder system diagram:



10.3.1 Gangway / swim ladder system maintenance

Component	Maintenance	Notes and precautions
Electro-hydraulic control unit	Oil check and top-up	Check monthly and before each navigation the oil level inside the tank. Top up keeping the oil level at about three-quarters of the tank's capacity, and using the type of oil recommended by the Manufacturer.
Gangway / swim ladder	Outer cleaning Ordinary maintenance	The gangway / swim ladder are uniquely positioned with respect to all other on-board equipment and are in continuous contact with sea water and exhaust gases. The system therefore requires more thorough cleaning.

To keep all our accessories and their parts in good working order, they should be cleaned carefully and thoroughly as often as possible.

For a careful and thorough clearing operation, cover all the steel parts with a layer of paraffin oil. As far as the coated parts are concerned, use a paste/cream. This will prevent the forming of rust stains, that could give the impression the device is built with materials not suitable for its use.



DANGER

Disconnect the power supply during cleaning or maintenance, so that the gangway / swim ladder cannot be moved by any person.



ENVIRONMENT

Do not discharge hydraulic oil in the sea, but in the special areas for toxic waste disposal.

Verify oil level at each beginning and season end, if below minimum level, top up with the oil recommended by the Manufacturer. Verify the correct operation of emergency pump and hand operation of solenoid valves at each season beginning and end.



CAUTION

During assembly and subsequent topping up, ensure there is no infiltration of any slag, shavings, dust, etc.. into the oil tank and therefore also into the hydraulic circuit.



CAUTION

The spares must correspond to the requirements established by the Manufacturer, this is obviously ensured with the use of original spares.



CAUTION

The check and maintenance operations must be carried out by skilled technicians, instructed about the control unit operating conditions.

10.4 STERN LIFT SYSTEM

At the stern of the yacht there is a lift that allows the launching or hauling of a tender placed on it.

The movement of the stern lift takes place thanks to an electro-hydraulic control unit (24V) located in the engine room.

The lift movement is controlled by a push-button panel on the aft cockpit on the port side.

1. Stern lift.
2. Stern lift activation button.
3. Button to raise the lift..
4. Button to lower the lift.
5. Warning lights:
 - Unlocked lift;
 - Down position reached;
 - Emergency ON.

CAUTION

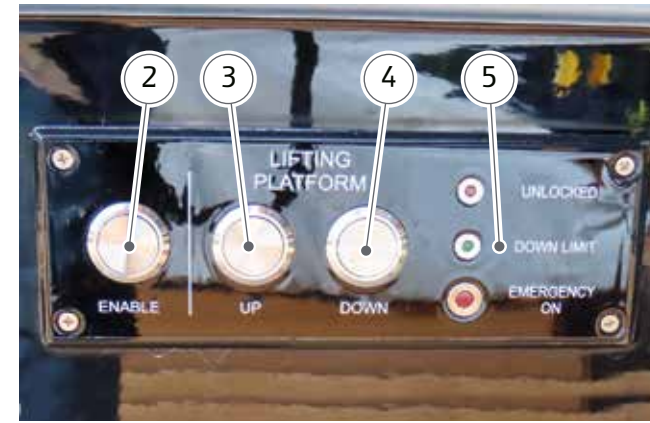
Never exceed the maximum load capacity of the tender lift (450 kg) (992 lb) to avoid possible damage.

CAUTION

Keep the lift lowered only for the time necessary to launch or haul the tender.

DANGER

Never cruise with the lift down.
This prohibition is also valid for low-speed manoeuvres.
When cruising, the platform must be in the top position with the locking pins inserted.





DANGER

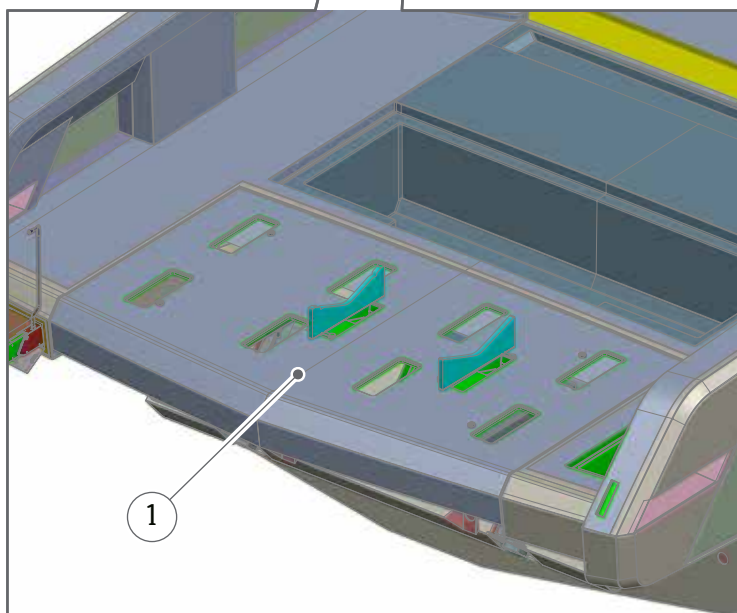
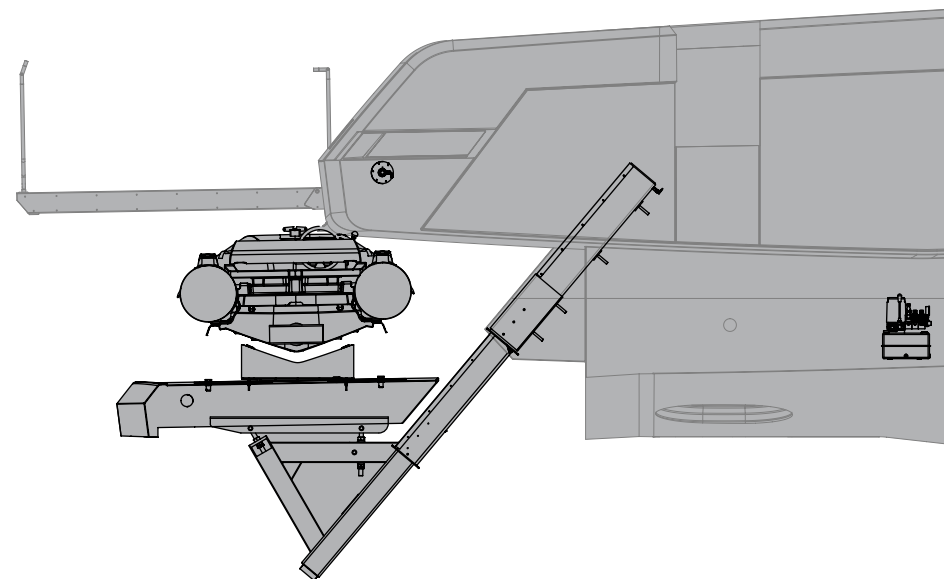
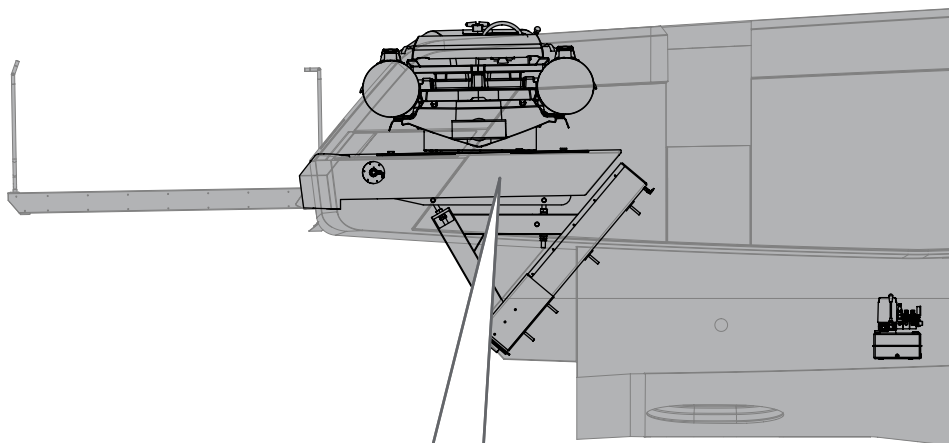
It is forbidden to:

- Move people with the lift;
- Lower the lift in unfavourable weather conditions;
- Leave the lift down when the yacht is unattended.

NOTE

Switch OFF the stern lift system magneto-thermal during navigation.

Stern launching hauling system diagram:



ICONA ICON	DESCRIZIONE DESCRIPTION
①	Lift di poppa Stern lift

10.5 WINDSCREEN WIPER SYSTEM

In order to ensure a sufficient visibility under any weather condition, your yacht has been equipped with an efficient windscreen wiping system.

The system is supplied at 24V and allows activating, by means of mechanical brackets and at variable speed, the windscreen wipers.

The windscreen wiper system is controlled by a special panel on the dashboard.

1. ON/OFF: wipers button activation;
2. WASH: washer button activation.
3. SPEED: wipers button speed adjustment;

The system is equipped with an emergency control (4) installed on the dashboard; if in normal operation (NORMAL position) the windscreen wipers do not operate (control unit failure), press the BYPASS TERGI button and start the primary wiper arm operation in order to ensure a minimum of visibility.

In bypass mode, the starboard wiper, facing the driving position, is operated at maximum speed.



10.5.1 Maintenance of the windscreen wiper system

Component	Maintenance	Notes and precautions
Windscreen wiper blades	Cleaning	Clean accurately with fresh water after each navigation return. Clean periodically the windscreen wiping blades using specific detergent or alcohol. Apply Vaseline oil on the blades and grease the arms springs with silicone grease.
	Replacement	Replace the windscreen wiper blades at least once a year with original spares. If necessary and if the blade rubber results to be deformed or worn out, replace them more frequently.
Windscreen washer	Cleaning	If the screen washing system does not work or has a poor performance, check that the supply circuit of the nozzles is not clogged. In such a case, clean the spray holes with a needle.



WARNING

During the cleaning or maintenance operation, make sure that nobody can operate the windscreen wiping system causing damages to persons.



CAUTION

Do not remove foreign bodies activating the blades when the windscreen is dry.



CAUTION

With very harsh weather, and with the freezing risk, detach first the wiping blades from the windscreen surface.
Before activating the windscreen wiping system make sure that ice has not stuck the blades on the windscreen surface; if necessary to spray an anti-freezing agent to detach them.



wallywhy150

11
INFORMATION FOR USE



11.1 GENERAL INFORMATION

This part of the manual describes some basic rules to always keep in mind:

- Periodically check the availability and efficiency of individual and collective safety equipment.
- Keep a safe distance.
- Check that all yacht safety equipment on board is in good condition and no maintenance activity is overdue.

NOTE

The manufacturer provides some of the international equipment required. The owner will have to equip the yacht with devices required by national laws.

- In case of using the fixed fire-fighting system: do not ventilate the engine room, until the fire has been completely extinguished.
- Ventilate the engine room before entering. Ventilate the lower deck compartment before entering, if portable extinguishers have been used.
- When operating the gangway, be sure that nobody is in the way.
- Oils, used filters, emulsions, coolants and electrolytes are all harmful products: avoid contact with the skin and dispose of them carefully.
- In the engine room, be cautious with hot and moving parts.
- Wear hearing protection when entering the engine room.
- Do not use open flames and do not smoke, when handling fuel or lubricants.
- Do not scatter fuel in the environment.
- Replace the fresh water stored in the tanks frequently and apply bactericides as needed.
- Do not exceed speed limits in harbours or confined waters.
- Reduce speed in the proximity of other yachts or swimmers.
- Adjust speed according to sea conditions.
- Reduce speed before entering the engines room. Modify the course, if necessary.
- Before connecting the shore power socket, make sure that the main switch on the switchboard is not switched on.
- Before leaving the yacht, turn the battery breakers off.
- Handle hot oils carefully, in order to prevent serious burns.
- Do not work on engines, IPS systems and generators without first inhibiting their start-up.
- Open the coolant tanks very carefully, in order to prevent serious burns.

- Do not perform any work on the generator's electric board when it is running: serious risk of electric shock.
- Do not inhale exhaust fumes: risk of serious injuries or death.
- Before disconnecting a battery, check if the battery charger is operating. If it is, disconnect it and remove the negative wire first and then the positive one. When reconnecting the battery, follow the same steps in reverse order (the positive wire first and then the negative one).
- Replace any part showing signs of corrosion immediately.
- Never disconnect the batteries when the generators are running.
- Switch the radar off, prior to performing any work on the aerial.



DANGER

The responsibility for the operation of each yacht lies solely with the owner. It is the Owner's direct responsibility to ensure, prior to departure, that the safety equipment required by law is present on board and fully functional.



DANGER

We recommend that you read the safety instructions in this manual carefully before you set off on your voyage and before operating the various on-board devices.

11.2 PRECAUTIONS FOR HARSH CLIMATES

Regularly check that all equipment and machinery containing water is protected with the correct proportion of non-toxic antifreeze.

If the outside temperature is below or close to 0°C (32°F), the fresh water and sea water systems run the risk of freezing.

Piping and hoses may break from freezing and this could lead to the yacht sinking.

The systems subject to the risk of freezing include, but are not limited to:

- The engine and generator sea water and fresh water cooling systems;
- The watermaker system;
- The fresh water system (cold and hot water piping, pumps and tanks);
- The windscreen washing system;
- The toilet and waste systems (piping, pumps and black water tanks);
- The air-conditioning system pumps and piping;
- All sea water pumps and piping;
- The icemakers and refrigerators;
- Etc..

For more information on the maintenance and service requirements of your yacht and its equipment, and for special information about maintenance in cold weather, see the sections in this manual that refer to the single components, devices and equipment, but be sure to consult the User Manuals provided by the Manufacturers for specific information.

11.2.1 Cooling system

The antifreeze liquid is advised for all kinds of climates: it increases the working temperature range, lowering the freezing point and increasing the boiling point.

When the temperature comes close to 0°C (32°F) it is necessary, in order to avoid the risk of freezing, to make sure that the cooling lines are filled with antifreeze mixture. If not, replace the cooling liquid with such a mixture.

Before filling the system with antifreeze mix, it is necessary to wash the cooling circuit.

We recommend the use of antifreeze liquid.



ENVIRONMENT

Concentrated coolant must be treated as special waste.

When disposing of used coolant, abide by the regulations of the local authority.



CAUTION

Regularly check that all devices containing water are filled with the correct quantity of anti-freeze if necessary.

Each time that the outside temperature drops below 0°C (32°F) the water (fresh or sea) inside the ducts may freeze and cause them to break.

All systems and equipment containing water, both sea water systems (engine cooling system, generators cooling system, etc..) and fresh water systems (windscreen wipers, fresh water pump, etc..) may run this risk.

11.2.2 Fuel system

With low temperatures, diesel fuel can form some solidified paraffin suspensions which can clog the fuel filters; making the normal engine supply impossible.

Fuel as per European standard EN590 guarantees fluidity up to 0°C (32°F) during the summer period, and up to -20°C (4°F) during the winter period.

WARNING

There is a special type of fuel for countries subject to very low temperatures.

CAUTION

Do not add petrol to fuel, in order to avoid serious engine damage.

NOTE

For further information on use and maintenance, please refer to the manufacturer's manual.

11.3 NAVIGATION SET UP PROCEDURES

Accurate preliminary checks carried out with time, are fundamental for a safe navigation. Here is some fundamental advice to consider when setting up for navigation:

- Gather information on the weather forecast and warnings.
- Consult the pilot's book.
- Consult the navigation charts, and consider the cruise distance, courses, dangerous sea bottoms and flats.
- Consider the quantity of diesel oil necessary.
- Consider the length of navigation.
- Check the monitoring system and on the synoptic panel of the main helm station for warning lights for the bilge pumps, indicating the presence of water. If the indicators are lit, turn on the bilge pump switches. If pumps do not prime, batteries may be discharged (recharge batteries). If pumps work, but water does not come out, this means that the suctions are clogged (clean them).
- Check the cleanliness of the sea cock strainers for engine and generator cooling and for the other on board utilities. If they are dirty, check closing or close the hull valves, remove and clean the baskets, then replace them and close the strainer housings; clean and open the hull valves.

WARNING

During navigation, regularly check the cleanliness of the sea water strainer baskets. If the yacht is crossing a dirty sea area, check the condition of the strainers and proceed with their cleaning. Taking suitable precautions is very important to prevent damage to mechanical parts (engines, generators, etc..), discharge systems and not to jeopardize the safety of the yacht.

WARNING

Once the hull valves have been reopened, make sure that no leaks are present.

- Make sure that engines and generator V belts are properly adjusted. If necessary restore correct tension.
- Check oil levels of engines, gear boxes and generators. If necessary, top up.
- Check engines and generators coolant level. If necessary, top up.

- Ensure fuel system separator filters are properly clean. If water is present, drain the filters by mean of tap.
- Check the hydraulic oil levels of the various control units. If necessary, top up.

WARNING

To carry out the above mentioned checks and the top-ups, refer to specific manuals supplied by the Manufacturer.

- Check liquid levels (fuel, fresh water) in the tanks.
- Ensure everything necessary has been loaded (provisions, nautical charts, documents, rockets, first aid kit, etc..).
- Check the proper fastening of all mobile components, on the main deck and lower deck.
- Ensure the load has been distributed evenly, so that the yacht maintains a proper trim.

CAUTION

The materials stowed can alter the trim, especially the transversal one. Try to arrange loads equally and securely, in order to avoid sudden displacements.

WARNING

The designated captain of the yacht must ensure that all persons on board are aware of the location of safety systems (fire extinguishers, life rafts, lifebuoys, etc.) and that they are aware of their use.

CAUTION

Safety equipment should always be checked before each navigation, in order to ensure the good condition of the safety devices and to become familiar with their location and use. The little time spent may be very useful in case of need.

- Create a checklist of safety equipment, as indicated herein after.
- Ensure that life jackets are in good condition, that the inflating device is in working order and that the jackets are in the correct location and easily accessible (do not obstruct access hatches with anything).

- Ensure that the collective life rafts are easily accessible and that their mooring and anti-capsize line is in good condition (properly rolled up and not worn out).
- Ensure that the life buoy is in its correct location and fitted with the relevant safety rope.
- Check extinguisher charge level. The extinguisher is charged when the pressure gauge indicator is in the green sector.

11.3.1 Weather

Learn to understand weather patterns and signs of change.

Bad weather and sea conditions can cause an uncomfortable and unsafe situations.

Here are a few basic weather-related rules:

- Check the forecast and sea conditions before leaving and while navigating;
- A sudden change in wind direction or speed, or an increase in wave height indicates worsening weather conditions;
- If a storm approaches, immediately seek a safe harbour;
- If a storm hits, head the bow of your yacht into the wind;
- If you encounter fog, identify your position, set a safe course, slow down, and alert other yachts of your presence with a sound signal.

11.4 FIRST PERIOD OF USE

During the first period of yacht operation, in addition to the normal maintenance and check operations indicated in this manual, we recommend carrying out the following additional operations and more accurate checks. The duration of this period varies according to the frequency and use modes, but are in any case suitable to allow a correct run-in of all systems and components on board.



WARNING

We recommend consulting the technical documentation provided by the Manufacturers of the various on-board systems and components; they can indicate operations, checks and specific times not included in this section of the Manual.

Following the first period of use, the hereunder listed additional operations and checks, should be performed at longer time intervals, although in any case, they play an important role for the safeguarding and reliability of the yacht and navigation safety.

- It is recommended that new or overhauled engines should not be operated above 75% of their maximum load and at variable speeds. After this initial run-in, the engine should be brought up to full output gradually.
- After starting each engine, check for the correct circulation of the cooling water inside the circuit, by verifying that it comes out of the drains. Check also for the presence of leaks from the sea cock valves and strainers of the cooling circuits.
- Before the engines start, check the correct tension of the v-belts.
- Check the possible presence of unusual noises from the engines exhaust.
- During navigation monitor constantly the temperatures and operation pressures of the devices on board (propulsion engines, generators, IPS).
- Check, by means of indicators installed on the main electrical panel, the correct charge condition of the batteries starting the engines and the utilities. Moreover, the engine alternators must correctly charge the batteries.
- Check before and after cruising the correct oil level in hydraulics such as hydraulic gangway, stern lift, etc.
- After the generator to start, wait several minutes before loading. Bring it slowly to maximum performance monitoring its correct operation.
- Check the correct load level of all extinguishers (fixed and portable) installed on board; the indicator needle on the pressure gauge should be set in the green range.

- Check the indicator of the main pressure gauge for possible pressure drops inside the system.
- Before and after navigation, check the correct operation of all bilge pumps on board.
- Check tightness and closure of portholes and hatches.
- Check the correct sliding and closure of the salon door, considering that it is not watertight.



DANGER

Before performing the listed checks and maintenance operations, we recommend carefully reading the Safety Rules relevant to maintenance, contained in this Manual.



WARNING

Should more or less serious faults be noticed, contact the WALLY After Sales & Service as soon as possible.



CAUTION

WALLY declines all responsibility regarding tampering carried out by third parties on equipment installed in the Shipyard. Such tampering or unauthorized installations will not only immediately void the warranty, but may cause damage to the yacht and injuries to the people on board. WALLY declines all responsibility concerning periodical maintenance activities scheduled by the Shipyard or by Manufacturers, but not carried out, on equipment/components, for which it is necessary to refer to their own Technical Manuals.

11.4.1 Engine drive

Despite the efficiency and high performance of the motor-yacht, and in particular the sensitivity to the action of the IPS, which allows an immediate response to commands, the use of this yacht requires careful and responsible handling.

Minimum glide speed is influenced by displacement, weight distribution on board, position of trim tabs and sea conditions.

The excellent choice and quality of the engines allows keeping high speeds for a long time with no consequences.

However, an excellent compromise between travel speed, comfort and fuel consumption is achieved at speeds of around 1500/2000 rpm less than the maximum permitted rpm.

Do not keep the propulsion engines at idle run for a long period of time; this to prevent them from getting "dirty" or overheated.

Avoid harsh accelerations or decelerations to avoid excessive stresses for the engine turbines.

When the yacht reaches the cruising speed, the engine check instruments should set to constant values.

If the instruments show contrasting or abnormal indications during continuous run, check for failures of the systems or of the equipment and contact WALLY After Sales & Service.

CAUTION

Even if the automatic pilot controls the route, navigation must be supervised in any case.

CAUTION

During navigation, keep rear lateral sliding door closed to avoid the introduction of exhaust gases and water splashes into the main deck compartments, under special conditions of wind direction and force. This will improve comfort for the passengers and silence inside the compartments.

CAUTION

The speed of the yacht must be controlled, together with the position of the trim tabs, according to the sea conditions and the prevailing wave direction, so as not to subject the structure of the yacht to avoidable stress and assure the occupants' comfort when underway.

DANGER

Reversing with one of the engines stopped is strictly prohibited. This operation is only permitted if the lives of the persons on board and the safety of the yacht itself are at risk, however, with the engines running they must turn at no more than 1000 rpm.

11.5 REFUELLING

Refuel as follows:

- Ensure the yacht is properly moored, stop the engines and generators, if running.
- The fuel filler neck is located to the left of the access door to the main saloon in the aft cockpit.
- Wash the teak with fresh water ahead of time to prevent soiling it accidentally.
- Loosen the filling nozzle, make sure that the refuelling pump is the correct size, then insert the pump and hold it still.
- Do not top up the tanks to the highest level, so as to allow the fuel to expand into the tank, without spilling out from vents.
- Tighten the filler cap firmly and remove any fuel drops from the hull and the teak.



CAUTION

The filler cap carries the indication "DIESEL" to avoid accidental introduction of different liquids.

Filling lines pressure must be kept constantly under 0.3bar during bunkering operations.



CAUTION

Refuelling should be performed at the end of navigation, in order to allow fuel to cool down, without condensation. Drain the tanks, every 2 or 3 refuelling operations. Before refuelling, wash the teak with fresh water to avoid its contamination with fuel.



DANGER

Do not smoke during refuelling, do not leave the yacht unattended, do not leave the engines running.



ENVIRONMENT

Do not disperse fuel in the environment: it causes pollution.



**DANGER**

Fuel leaks create a fire and explosion hazard.
Fuel cannot be stowed inside the garage.

**CAUTION**

Stop all engines when refuelling.

**DANGER**

It is forbidden to smoke, use naked flames or keep mobile phones switched on during refuelling.

**CAUTION****Explosion/fire hazard**

- Stow flammable material in a safety-approved container. Never stow flammable material in non-vented areas.
- Check bilge and engine room for fumes.
- Keep the ventilation system free of obstructions.
- Never modify the ventilation system.
- Inspect the fuel system for leaks.

**CAUTION****Explosion/fire/pollution hazard**

Fuel system connections that are too loose or too tight can leak, resulting in fuel spillage, environmental pollution and explosion/fire hazard.

11.6 WATER SUPPLY

Refill water as follows:

- Ensure the yacht is properly moored; we suggest stopping the engines and the generators, if running.
- The water filler neck (1) is located on the starboard side of the access door to the main saloon in the aft cockpit.
- Loosen the filling nozzle and insert the hose (it must have suitable dimensions).

At the end of filling, remove the hose and tighten the filler cap.

CAUTION

Often replace fresh water in the tanks and, if necessary, disinfect it with suitable products. Avoid leaving the tanks full in case of frosting risk. Do not leave the yacht unattended while filling.

CAUTION

The filler cap is marked "WATER" to avoid accidental introduction of different liquids. To avoid damage to the system and tanks, we recommend replenishing by gravity and not by pressure.

CAUTION

Before refilling the fresh water tank, check that the water supplied by the shore fresh water system is potable.



11.7 SHORE CONNECTIONS

11.7.1 Water connections (Optional)

To avoid using fresh water from the tank, it is possible to connect to an external water system via the outlet on the starboard side of the main saloon access door in the aft cockpit.

Connecting it supplies all the utilities on the yacht without having to use fresh water pumps.



CAUTION

The pipe must be disconnected during periods when the yacht is un-manned.

11.7.2 Electric shore power supply

Proceed as follows to make the shore power connection:

- On the main engine room switchboard, turn OFF the general magneto-thermal breakers of the on-board services;
- Open the switch protecting the shore power connector.
- On the shore power column, open the power switch;
- Connect the power cable to the shore power column;
- Turn ON the switch on the shore power column;
- Turn ON the switch to protect the power supply to the yacht's shore socket;
- From the electrical panel in the engine room, select the shore power supply and monitor the voltage;
- Only if the voltage level is correct, close the magneto thermal breakers that feed the loads.



11.8 MOORING AND UNMOORING

CAUTION

Before starting the unmooring manoeuvre, ensure that the engines, IPS and thrusters are working properly. During such manoeuvres, the Captain should prevent any unpleasant noise, and/or wake that might bother other people. Before unmooring, make sure that all doors, hatches, portholes, etc., are closed.

WARNING

Before starting the manoeuvre, make sure that people on board, especially children, do not obstruct operations and that they stay in suitable places.

DANGER

Check with extreme care that no one on board is in danger (with legs or arms outside the edge, in precarious balance or moving on wet or slippery surfaces) and that the fenders are well positioned and fastened.

The yacht is equipped with powerful engines and highly efficient thrusters. The bow/stern thrusters are to be used at very low speed, or without fresh way; at higher speed, it is possible to obtain a more correct reaction, by using the engines throttles in an off-set way.

The ability to exploit these excellent qualities depends mainly on the "familiarity" the Captain has with his yacht. Practice is the only way to acquire confidence, and finally you will be able to safely perform mooring and unmooring manoeuvres even in very difficult or crowded areas.

A basic rule, that should always be applied, is to manoeuvre at low speed, so as to have enough time to react and to better evaluate the situation; in this way, in case of accidental contact with other yachts, you will not cause any serious damage.

Before unmooring check following:

- That there are no other yachts manoeuvring nearby;
- That the mooring ropes are not damaged;
- That the fenders are positioned and well fastened (in case of wind or surf prepare a passenger with fender to avoid damages);
- That there are no floating objects or loose ropes which can damage the propeller.

If the yacht is moored with the stern to the shore:

- Undo the stern lines, haul in the chain until distant from the shore, and head to the exit.

If the mooring is on the side:

- Ease away the mooring rope from stern, warp on bow rope to move away the stern from the shore, manoeuvre for way out.

11.8.1 Leaving the mooring

The yacht is manoeuvred by turning the wheel that moves the IPS.

In case of need and/or when in confined waters, manoeuvre the yacht by using the engines (changing the rpm and reversing the engine direction of rotation).

It is a good rule not to leave the steering wheel, particularly when cruising at high speed or in confined waters.

Do not exceed the speed limits when operating in confined waters, harbours and wherever required.

Keep in mind that the rudders effect is proportional to the propellers rpm and to the yacht fresh way, especially with headway; as a result of a high rpm and a high speed, the rudder efficiency is high, while when the engines are idling, with low fresh way, the reaction of the tiller angle is almost negligible.



WARNING

Before unmooring disconnect the electric cables for shore electric power supply.



CAUTION

It is the Owner's/the operators' responsibility to make sure that the mooring ropes, the towing ropes, the anchor chain(s), the anchor lines and the anchor(s) are suitable for the intended use of the yacht, i.e. the resistance of the ropes or chains must not exceed 80% of the resistance to breaking of the relevant strength point.

11.8.2 Mooring manoeuvre

Before setting back for the harbour, stop in free waters and test the gear boxes and the bow/stern thrusters. Also check:

- That mooring lines are ready for use;
- That the mooring point and the berthing course are free from incoming, leaving or moored yachts or yachts with the signal of unsteered craft at shore;
- Check that on the main electrical panel, all necessary uses are supplied (anchor winch, bow/stern thrusters, etc..). Disconnect unnecessary uses;
- That interceptors are lifted;
- That the yacht hook is easily accessible and does not hinder any passage;
- The operation of acoustic and visible signals and of swinging spotlight;
- In case of at-night mooring, have a torch light (possibly operating) handy;
- That the passengers will not interfere with operations and, if participating, they know whom to listen to and what to do;
- That bilge, grey water tanks and holding tanks are empty;
- That mooring ropes and fenders are correctly arranged.

Lift the interceptors, if necessary and reduce speed.

If the yacht is moored with the stern to the shore:

- Warp on stern ropes and on an anchor log, so as to haul the shore.

If the mooring is on the side:

- Warp on bow and stern ropes, so as to haul parallel to the shore.

Once moored:

- Stop the engines;
- Make sure the warning lights on the dashboard go out;
- Cut out any electrical equipment not in use and check the general condition of the main electrical panel and the indication of voltmeters and ammeters;
- Check bilge pump switches and their regular operation;
- Check bilge and dry it;
- Rinse the yacht with fresh water;
- Connect shore electric power supply;
- Stop the generators, once cooled down.

Before leaving the yacht, check following:

- Lower deck lights are not powered;
- Ensure that navigation lights and external lights are not powered;
- Ensure that unnecessary devices (plotter, radiotelephone, anchor winch, etc..) Are not powered;
- Ensure that devices in use are powered; (bilge pumps);
- Ensure that the shore plug is properly connected and the cable cannot be damaged;
- Disconnect battery breakers;
- Make sure that the devices (life jackets, yacht hook, torches, etc..) Are in their correct positions;
- Ensure that all bottles and containers with flammable liquids are properly sealed;
- Make sure that no food residues are left around (they could rot or clog scuppers etc..);
- Ensure that the gangway is in the right position and properly fastened;
- Ensure that mooring is correct (in case of bad weather conditions, tighten the mooring lines as much as possible and check the distance from other yachts is appropriate; ensure fenders are properly fastened, etc..);
- Ensure that sea water intakes are closed;
- That lower deck compartments are properly closed;
- That all portholes are well closed;
- All fire extinguishers.

11.8.3 Unattended mooring

If the yacht is moored and left unguarded, operate as follows:

- Close sea cocks and overboard drain valves of sea water circuits.
- Check the layout of the main switchboards and switch off all unnecessary consumers.
- Check all on board compartments, portholes, skylights and bilge.
- Ensure the yacht is safely moored.
- Disconnect all unnecessary uses.

CAUTION

The electric power supply from shore must be disconnected, especially if the yacht is left unattended for a long time.
It is necessary to recharge the batteries periodically.
Overboard outlets and drain pipes should be regularly checked, in order to ensure good buoyancy.
The electric system should be regularly checked, in order to prevent fires on board.

CAUTION

Inform the port manager of the arrangement of the on-board fire-fighting system.

CAUTION

Disconnect all pumps of the yacht.

11.9 OPERATION AND PRECAUTIONS DURING NAVIGATION

- During navigation do not unlock the chain stopper because you can seriously damage the yacht bow.
- Maintain a safe speed for the sea conditions, visibility, and when near other yachts.
- Do not exceed speed limits in harbour and confined waters.
- Follow all navigation rules applicable to the waters in which you are operating.
- Obtain plastic laminated reference cards for the Rules of Navigation and keep them handy on the bridge.
- Consult charts for information on locations of reefs, rocks, shoals, or other hazards to make sure that the yacht is not at risk of grounding or collision with fixed or floating structures.
- Frequently check that your route ahead and around the yacht is unobstructed (no yachts or objects in the expected route or approaching your yacht).
- Frequently confirm the yacht's position as you cruise, using all available aids, such as charts, visual observations and bearings, depth soundings, GPS, radar, etc..
- If the yacht is controlled by the autopilot, be especially careful to keep a good visual watch. The autopilot cannot see.
- Before night navigation, make sure that navigation lights and search lights are operational. Ensure that the correct navigation lights are turned on for operation at night. Do not keep the anchor riding light on while the yacht is navigating.
- Use navigation lights in all conditions of reduced visibility, such as fog and rain and at all times between sunset and sunrise.

WARNING

When navigating at night, visual sharpness is crucial for a safe passage. To avoid collisions, reduce speed at night to compensate for limitations of visibility. Avoid switching on inner lights that may affect the pilot's night vision.

- Know the characteristics of the sea bottom prior to anchoring. Keep well clear of other anchored yachts.
- During anchoring, pay special attention to avoid the rotating parts of the winch and take precautions when handling the anchor chain as it comes off the winch. Caution is needed to avoid injury to hands and fingers. Also, take care to avoid entangling feet and legs in the anchor rode.
- While the yacht is navigating, all persons on board must be seated in the designated seating areas in order to prevent injury due to falls caused by yacht movements with rough sea and in active wake areas or in the event of sudden changes in yacht speed or during manoeuvring. No one should be seated on the spoiler or forward decks when the yacht is navigating.

WARNING

For comfort and safety, reduce the speed in the presence of waves.

WARNING

Persons entering the engine room when the yacht is navigating should be aware of the hazards of the yacht's motion and their potential exposure to high ambient temperatures, hot equipment components and operating machinery within the engine room.

Prior to entering the engine room, set the yacht on the most comfortable heading for sea and wind conditions. Persons in the engine room should maintain communication with the pilot.

 CAUTION

To avoid heavy injuries or even death caused by hazards in the engine room, avoid the contact with hot and/or moving parts, while you are working in this area, wear proper safety clothing and also safety goggles and safety gloves. Be extremely cautious in proximity to hot and moving parts. Wear hearing protection if the engine is running.

 DANGER

It is forbidden to carry out sudden manoeuvres at high speed. This can result in accidents to persons on board.

 DANGER

It is forbidden to stand or sit on the forward cockpit during navigation at high speed.

 DANGER

Reversing with one of the engines stopped is strictly prohibited. This operation is only permitted if the lives of the persons on board and the safety of the yacht itself are at risk, however, with the engines running they must turn at no more than 1000 rpm.

 WARNING

In order to achieve the best compromise between comfort and speed, while minimizing fuel consumption, it is recommended to keep the engine operating speed in the range between 1500 and 2000 rpm.

Observing the following guidelines will improve comfort, minimize noise inside the yacht, avoid damage and assist in the proper operation of the yacht.

- Do not run the engines at idle longer than necessary.
- Avoid sudden accelerations and decelerations, which create stress on engine turbochargers.
- Run at idle for a few minutes before shutting down the engines, to allow a gradual cool-down.
- Once the yacht is at cruising speed, the engine instrumentation readings should remain steady. However, if, during normal operating conditions, the engine gauges show abnormal or contradicting values, investigate for possible systems and/or equipment problems or failures (stop the engines).
- Monitor the control panel gauges and system condition alerts frequently.
- Once in open waters and well clear of other yachts, increase the engine rpm gradually, until the desired speed is reached. Adjust the interceptor positions for the best performance. For information on interceptor adjustment refer to chapter "Interceptor".
- Adjust the speed to accommodate sea conditions.
- Check the engine exhausts. Very black smoke means in particular dirty filters or unburned fuel, due to improper calibration of injection pumps or injectors. Very white smoke may mean presence of water in the fuel. Bluish smoke may mean abnormal oil combustion.
- In case of abnormal vibration, reduce speed and run at slow rpm until the cause of the vibration is determined. If the vibration is severe, take the engines out of gear. It may be necessary to check the propeller condition. It may also be necessary for a specialist to check the IPS.
- Perform a visual inspection of the bilges periodically.

For the supply of fuel to consider the distance that we intend to cover.

 WARNING

While the yacht is underway, all persons on board must be seated in the designated seating areas in order to prevent injury due to falls caused by sudden yacht movements in active wake areas or in the event of sudden changes in yacht speed or during manoeuvring.

**WARNING**

Persons operating your yacht must never be under the influence of alcohol or drugs. The yacht's pilot should be experienced in the use of all instruments and controls, and know the handling characteristics of the yacht at all speeds and sea conditions.

You should be certain that persons intending to operate your yacht are completely knowledgeable about its proper operation. If you are not certain about an individual's qualifications or competence, the person must be supervised by a qualified operator.

The yacht is very efficient and is equipped with very responsive rudders; nevertheless, because of its size and performance capability, only persons experienced, competent, responsible, cautious and with necessary qualifications should operate the yacht.

The yacht is manoeuvred by turning the helm wheel on the dashboard. The rudder wheel drives the IPS via an electrical system.

The operation of the IPS is independent of the operation of the engines.

Never leave the steering wheel unattended when the yacht is navigating.

Keep in mind that the rudder effect is proportional to the propeller rpm and the yacht's speed, especially when moving forward.

As a consequence, the rudder efficiency is high at high rpm and speed. On the contrary, when the engines are idling and the yacht's speed is low, the yacht's reaction to the tiller angle is almost negligible.

If necessary, or when in restricted waters, the yacht can be manoeuvred with the engines by varying and/or reversing the engine speeds and alternating the power from the engines.

At low rpm, operating on a single engine, alternating port and starboard engines and using the "back and fill" method for turning the yacht is the recommended practice. Learn and practice the skills for handling the yacht at low speed and engine rpm.

When the yacht's speed increases, the transition of the hull from displacement mode to planing mode is a critical phase.

The transition to the planing mode should be done as quickly as practical to achieve fuel efficiency and provide a comfortable motion.

The minimum planing speed depends on yacht's displacement, on load distribution, on interceptor position and on sea conditions.

Adjust speed and interceptor position according to sea conditions and to the loading conditions of the yacht, in order to ensure an easy yacht movement and to avoid stress to the structure due to the effects of sea conditions.

**WARNING**

At high speed, the use of the autopilot is dangerous and not recommended. Anyway, be always very careful during navigation also when the autopilot is in use.

The high quality engines allow the yacht to be run safely at cruising speed for extended periods of time.

11.9.1 Operating in shallow water

**COLLISION DANGER**

Use extra caution in shallow water or where underwater/floating objects may be present. Hitting an object at high speed or at an acute angle can seriously injure people and damage the yacht.

11.10 NAVIGATION IN SPECIAL CONDITIONS

11.10.1 Navigation with bad weather conditions

Your yacht has been designed for safe comfortable use, under all weather and sea conditions, bad or favourable; in any case, the navigation safety (especially with bad weather) depends mainly on the Captain's behaviour, who should either not set off or reduce the yacht's speed, sometimes considerably, and steer the yacht with the proper attitude.

It is very important during navigation in harsh weather, to make sure that all pieces of furniture, hatches, and mobile parts, are duly fastened or stowed, to avoid damages and above all to avoid hurting persons on board.

The reliability of the machinery, also due to a perfect maintenance, the scrupulous check during the pre-navigation phase and a Captain of proven experience assume, under adverse sea and weather conditions, an even greater importance. The following table shows the maximum speed allowed in function of the wave height, in order to safeguard the yacht structural integrity.

Speed (knots)	Wave height in metres
10	3,03
11	2,66
12	2,37
13	2,13
14	1,93
15	1,76
16	1,62
17	1,49
18	1,38
19	1,29
20	1,20
21	1,13
22	1,06
23	1,00

Beaufort Scale	Descriptive Term	Wind speed		Probable wave Height (metres)	
		m/sec	knots	average	max
0	Calm	0 - 0,2	until 1	-	-
1	Light air	0,3 - 1,5	1 - 3	0,1	0,1
2	Light breeze	1,6 - 3,3	4 - 6	0,2	0,3
3	Gentle breeze	3,4 - 5,4	7 - 10	0,6	1,0
4	Moderate wind	5,5 - 7,9	11 - 16	1,0	1,5
5	Gentle wind	8,0 - 10,7	17 - 21	2,0	2,5
6	Fresh wind	10,8 - 13,8	22 - 27	3,0	4,0
7	Strong wind	13,9 - 17,1	28 - 33	4,0	5,5
8	Gale	17,2 - 20,7	34 - 40	5,5	7,5
9	Strong gale	20,8 - 24,4	41 - 47	7,0	10,0
10	Storm	24,5 - 28,4	48 - 55	9,0	12,5
11	Violent storm	28,5 - 32,6	56 - 63	11,5	16,0
12	Hurricane	over 32,7	over 64	14,0	



WARNING

WALLY declines all responsibility for the improper use of the yacht, in relation to the wave height conditions.



WARNING

Before undertaking navigation, it is necessary to be aware of the sea and weather conditions you will find along the transfer route and in the area you want to reach.

11.11 ENGINE EMERGENCY SUCTION FROM THE BILGE

In the engine room there is the bilge emergency draining system, which operates with shunters, which allow using the sea water pumps, driven by the propulsion engines as draining pumps.

The diverters are valves which, in their normal position, ensure sea water suction for engine cooling, through the sea cocks and the sea water strainers. In case of emergency, operate the levers (3) of both valves, bringing them to the emergency position: the suction of the pumps, driven by the engines is then diverted directly to the bilge.

Should it be necessary to use this draining system, the bilge level must be checked continuously, because in case of complete drainage, the engines will be without coolant.

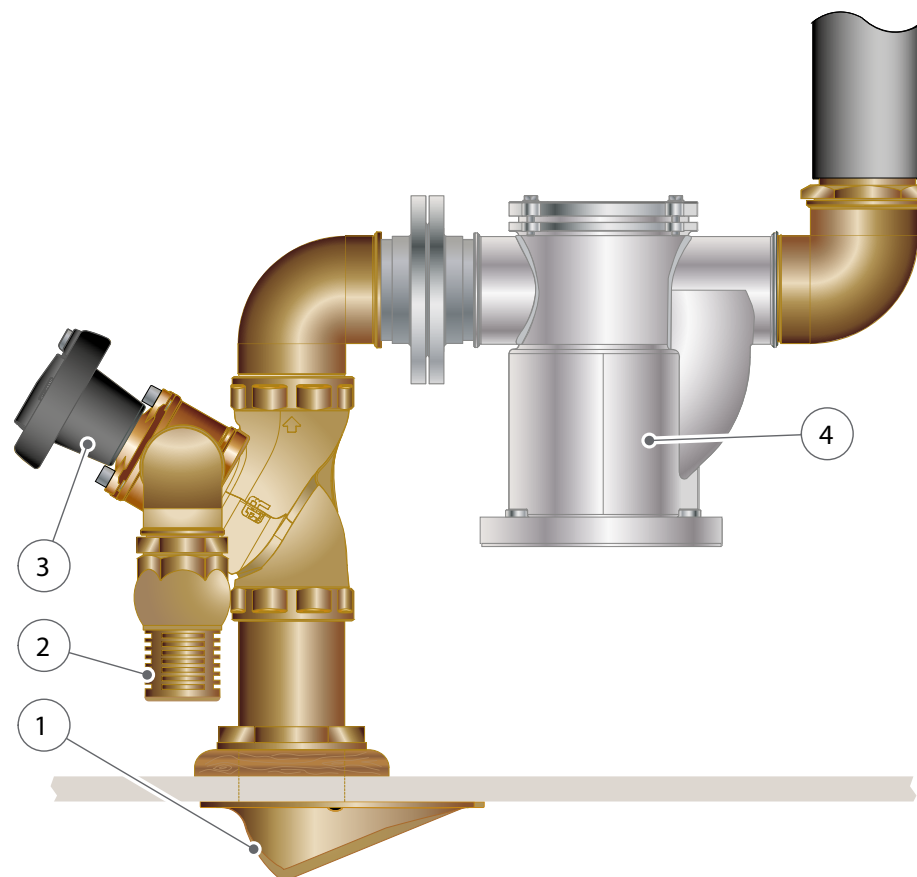
⚠ CAUTION

In case of emergency it is possible to extract the water from the bilge through the sea water pumps of each engine.

1. Engine sea cocks
2. Bilge emergency suction cocks
3. Suction selection handwheel
4. Engine sea cock strainers

⚠ CAUTION

When the bilge is empty, remember turning the valves back to sea water intake position, in order to avoid damaging the engines.

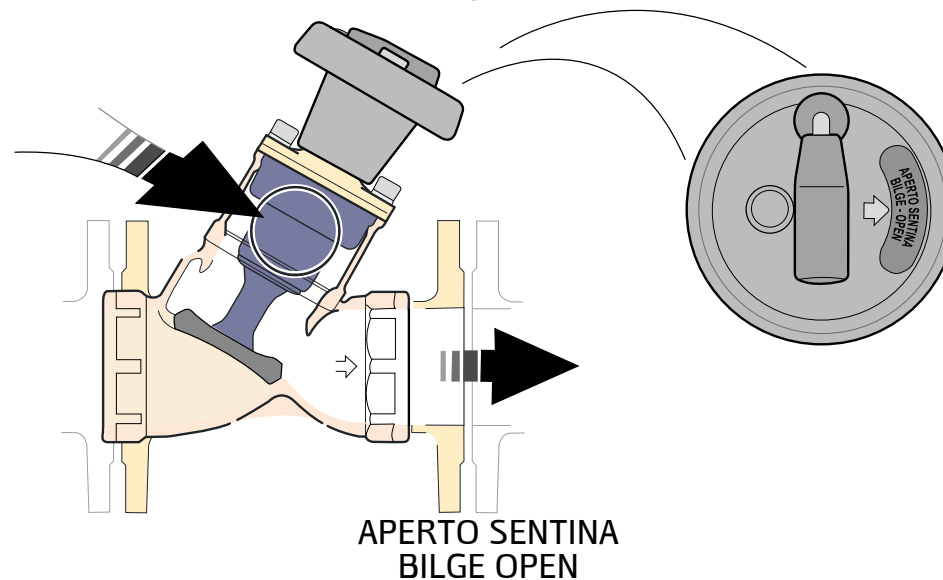
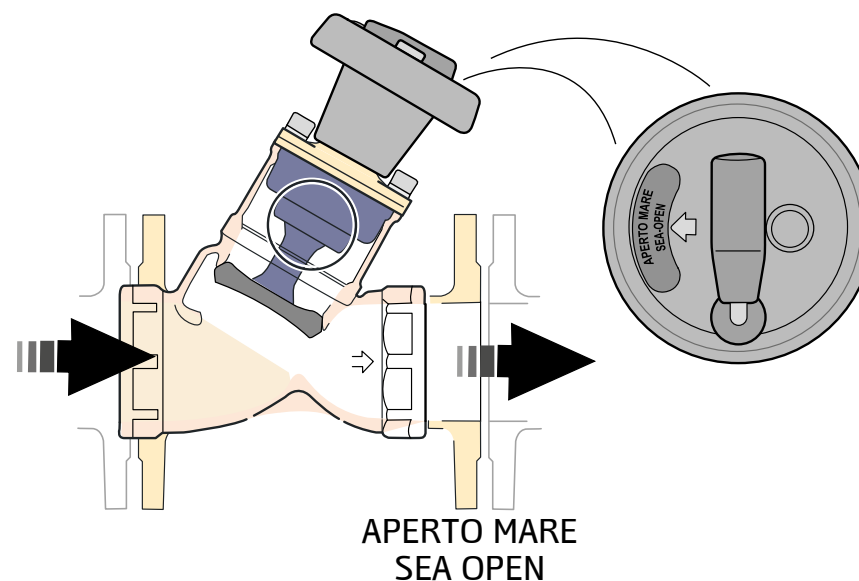


Operating diagram:

All valves are provided in the sea-open position. Before proceeding with the installation, visually check the passage and that the wording through the handwheel window reads: **APERTO MARE / SEA-OPEN**.

The direction of the water flow through the valve must align with the arrow on each valve.

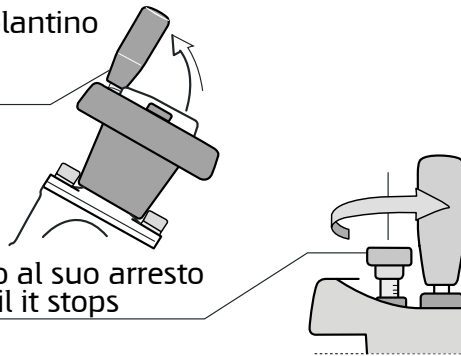
The handwheel is provided with a position indicator to simplify its use.



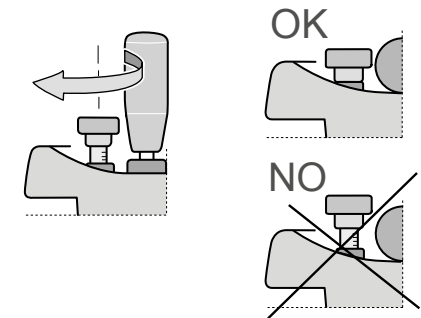
To enable water inlet from **SENTINA / BILGE**, proceed as follows:

Sollevare la leva del volantino
Lift the lever on the
handwheel

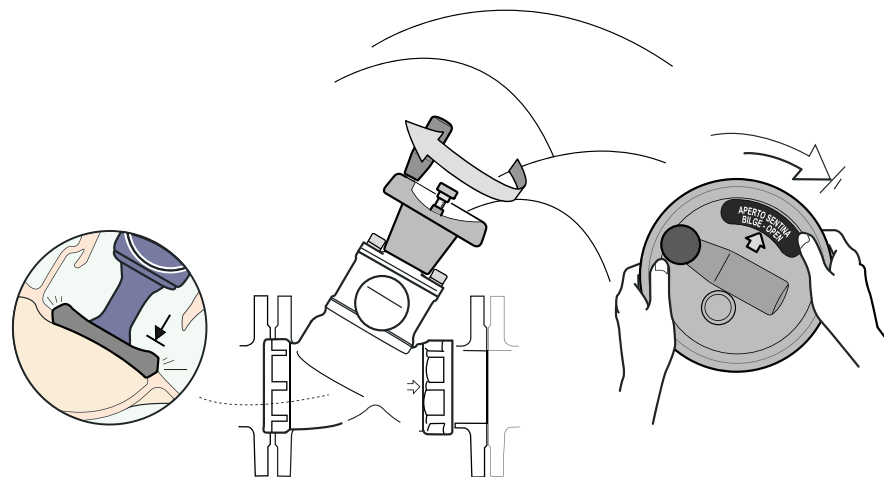
Svitare il perno sino al suo arresto
Loosen the pin until it stops



Tighten the pin until it stops



Turn the handwheel clockwise until it stops. In this phase the shutter, located in its housing, offers resistance. With both hands, close until it mechanically locks. The wording in the handwheel window will read: **APERTO SENTINA / BILGE-OPEN**, which indicates the inlet position.



CAUTION

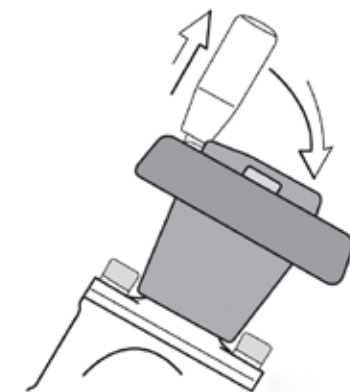
The pin is correctly tightened as shown.
A complete closure of the pin has the purpose of preventing any movement of the shutter.

Lower the handwheel lever into its seat.

To enable water inlet from **SEA**, proceed as described above, turning the handwheel counterclockwise. Once the operation is finished, the wording in the handwheel window will read:

APERTO MARE / SEA-OPEN

which indicates the inlet position.



Maintenance:

During ordinary maintenance, which must be carried out while the yacht is in dry shore, it is recommended to extract the valve control block as follows: make sure that the indicator is positioned to **SEA-OPEN** (first turn the handwheel counterclockwise). Loosen the screws with an Allen wrench and extract the mechanism from its body, paying special attention to the rubber components (gaskets).

DO NOT remove the handwheel from its seat!

If necessary, clean the rubber components with fresh water and soap, do not use any chemical cleaners and pay attention not to damage the gaskets. If necessary, the control block can be replaced with a new one.

When reassembling, use silicone grease, and pay special attention to the seats of the gaskets.

Make sure to insert the mechanism in "**APERTO MARE - SEA OPEN**" position (first turn the handwheel counterclockwise as indicated in the INSTRUCTIONS).

Tighten the screws with a torque of approx. 9 Nm.

11.12 TOWING THE YACHT

In case the yacht needs to be drawn or towed, fasten the towing lines as shown in the figure, in order to distribute the load evenly and pull in the middle.

It is a good rule, after fastening the cleats, to carry on with the rope, and the winch: so as to load the strongest yacht's points only.

The towing rope length depends on the sea conditions, and must be adjusted in such a way to limit the pulling forces without damaging the deck fittings.



DANGER

Do not approach and do not carry out any kind of intervention on transmission during the towing because propeller can turn.



WARNING

In case it is necessary to tow another yacht, do this under calm sea and calm wind conditions only, and tow ship with a displacement not exceeding 50% of your ship displacement; in case of emergency, if towing is not possible, give help by taking on board people of the other ship, as many as permitted and possible, and reach the nearest harbour. Anyway, inform immediately the Port Authority.



WARNING

Towing can be carried out continuously for 8 hours as long as the oil temperature is kept under control, which must not exceed 80 °C. If temperature exceeds 80°C, stop navigation and wait until the temperature lowers. When the engine is shut off, the throttle position is unimportant.



CAUTION

Always tow other yachts or let your yacht be towed at low speed. Never exceed the speed of the towing yacht when you are being towed.





CAUTION

Fasten your yacht to a towing rope so that it can be released when loaded.



CAUTION

It is the Owner's/operators' responsibility to make sure that the mooring ropes, the towing ropes, the anchor chain(s), the anchor lines and the anchor(s) are suitable for the intended use of the yacht, i.e., the resistance of the ropes or chains must not exceed 80% of the resistance to breaking of the relevant strength point.

The Owner should also determine which action is necessary when fastening a towing rope on board.



CAUTION

Do not stand near the ropes during drawing (or towing) operations, a rope that breaks can be extremely dangerous "whip lash effect".



DANGER

During towing, the propeller is kept rotating by the flow of water. We recommend not carrying out any kind of service on the thrust devices.

11.13 YACHT STEERING RULES

Ship in sight

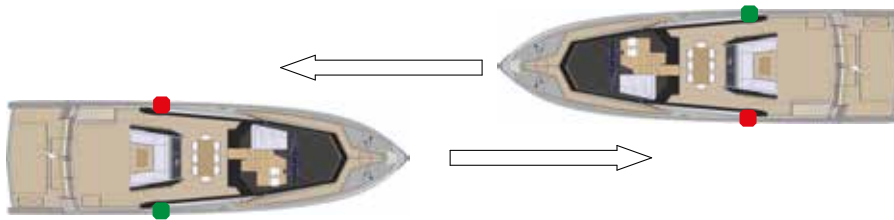
We can consider three ways of encountering another yacht on the water:

- Meeting;
- Crossing;
- Overtaking.

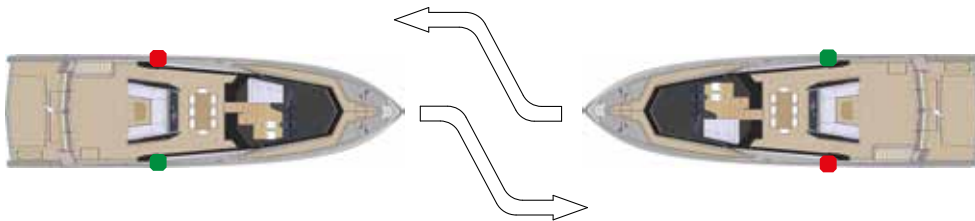
Normally, the yacht with less manoeuvrability has the right-of-way. Stay clear of the yacht and pass to its stern. The yacht, that has the right-of-way, is called the "privileged yacht". This yacht can maintain speed and course. The "burdened yacht" is the yacht, which must adjust her course and/or speed as required to keep clear of the privileged yacht.

Meeting

When meeting another yacht proceeding on a parallel course, both yachts shall adjust the speed accordingly and keep on course.

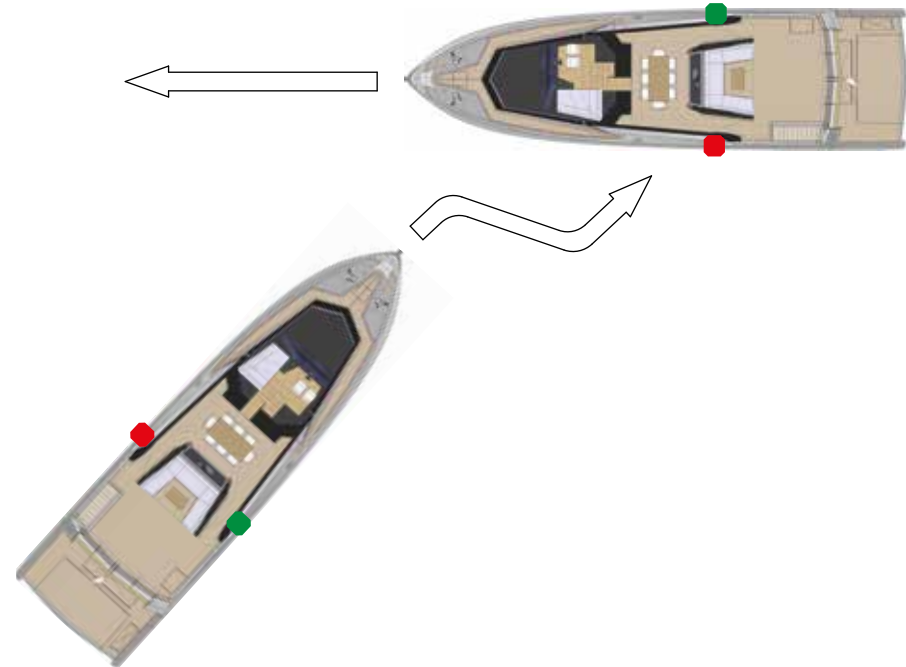


When two power-driven yachts are meeting on reciprocal or nearly reciprocal courses so as to involve risk of collision each shall alter its course to starboard so that each shall pass on the port side of the other.



Crossing situation

When two power driven yachts are crossing so as to involve risk of collision, the yacht which has the other on its own starboard side shall keep out of the way and shall, if the circumstances of the case admit, avoid crossing ahead of the other yacht.



Overtaking situation

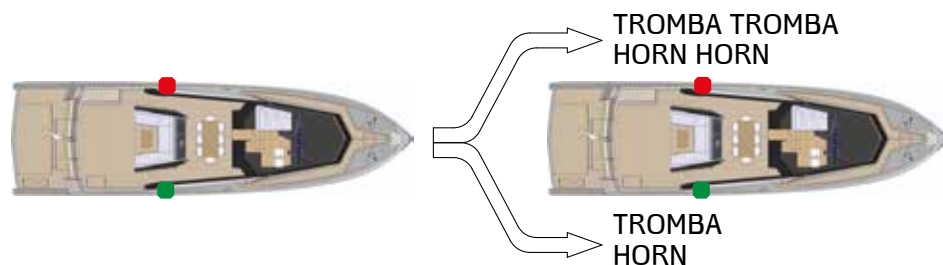
An overtake is defined as when one yacht comes from a direction of over 22.5 degrees aft, with respect to the yacht that it intends to overtake, in order that the stern lights can be seen but none of the side lights.

If you find yourselves overtaking a slower yacht, which is in your path, you are the burdened yacht.

Make any adjustment necessary to avoid collision and pass either to port or starboard.

Signal your intent to do so by sounding your horn twice if passing on the port and once if passing on the starboard.

The yacht being overtaken by another, takes precedence over the latter and thus must maintain the same route and the same speed no pull or maneuver.



11.14 ANCHORING OPERATIONS

CAUTION

If the anchor has to be used, unlock it, check the wildcats clutch engagement and test the operation of the anchor winch from the helm station in use.

We remind you that the anchor winch system has no end stroke safety controls, therefore we suggest you to handle "manually" the last chain metres, by means of remote controls and when this latter is close to the roller or when you reckon to lower almost the whole chain.

To avoid overheating of the anchor winch, it is advisable to help recovering it, by moving slowly the yacht toward the chain, without approaching it too closely, so as not to damage the hull.

If you weigh the chain after an anchoring on a muddy or weedy sea bottom, we suggest washing it during the weighing, using the button on the helm stations.



11.15 HAULAGE AND LAUNCH

⚠ CAUTION

The lifting method depends on the type of the lifting equipment; therefore it cannot be suggested.

⚠ CAUTION

Before the haulage and launching operations, check that there are no unexpected materials on board, that all items are properly rigged and that nobody is on board.

⚠ WARNING

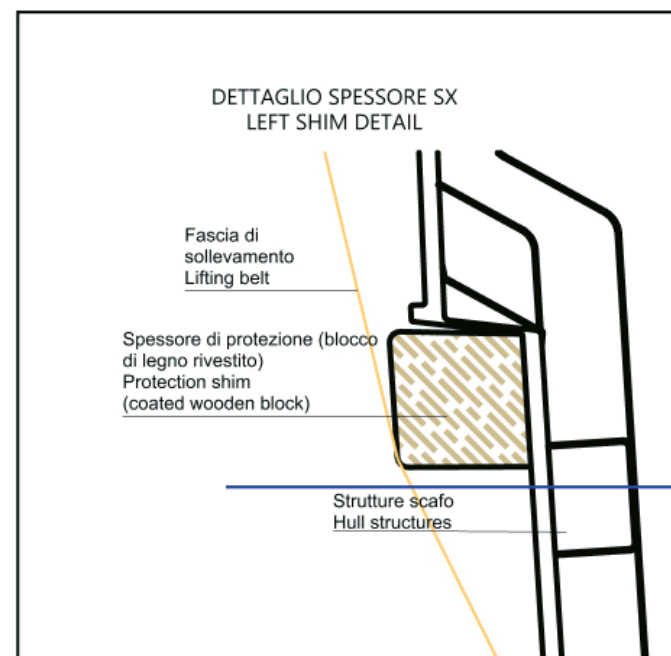
Hauling and launching operations have to be carried out only by skilled personnel and in qualified shipyards and under their direct responsibility. WALLY declines all responsibility for damage to property and harm to persons caused by the wrong performance of the hereunder listed operations.

- The lifting hoists must be in a good condition and particularly the lifting straps should not be worn out, and should be covered with suitable protections to preserve the bulwarks gel-coat and the antifouling paint on the bottom hull.
- The travel lift capacity must be greater than the yacht weight.
- If only one crane is available, use a "spacer" to give the lifting straps an angle greater than hull width.
- Test the stability before lifting the yacht, its centre of gravity depends on the load and its displacement.

⚠ CAUTION

Never place the lifting straps in the areas highlighted on the drawing.

ATTENZIONE
SOLO CINGHIE DI SOLLEVAMENTO VERTICALI
WARNING
ONLY VERTICAL LIFTING STRAPS



CAUTION

Do not put the lifting straps in way of intakes, of sea exhausts or of other protrusions.

Lifting straps must be positioned according to the loading conditions of the yacht at the moment of its lifting, because these vary remarkably, for instance, when the yacht is unloaded and dry or when the yacht is fully loaded. The lifting straps arrangement must be carefully evaluated each time, in order to prevent any damage to the yacht.

CAUTION

WALLY declines all responsibility for the location of the lifting straps, the lowering of the yacht to the ground and the support points carried out in other Shipyards.

DANGER

During haulage and launch, never stay underneath or in proximity of the yacht.

- When ashore, the yacht must be located on a cradle with 7 supports of width and size adequate to distribute the yacht weight evenly.
- The hull inclination must be as "natural" as possible, e.g. it must be parallel to the waterline and not to the keel. This to prevent that liquids on board keep a normal level and that rainwater can be drained naturally.

Cradles

WALLY is capable of providing the cradles for a correct support of the yacht (optional on demand). WALLY is not responsible for any damage resulting from the use of cradles different from those expressly produced by WALLY.

Propping

It is a common procedure to use supporting props if no actual storage capacities are available. It is very important to take some basic precautions while positioning the supporting props for the yacht in order to prevent damage to the hull structures, accidental falls of the yacht or injury to the involved personnel.

The following list contains useful advice.

We also recommend always having propping operations carried out by experienced personnel.

- Use props with adequate strength and stability (each keel prop must support at least 1/7 of the whole weight of the yacht).
- Use correctly dimensioned supporting plates to prevent negative weight concentrations.
- Place the props preferably next to transversal structural reinforcements (stringers).
- Locate the props along the supporting fins of the hull.
- Always place at least 7 props along the keel, 4 props starboard and 4 props port in order to guarantee stability and weight distribution.
- Start positioning the 7 keel supports along a straight line, appropriately spaced to distribute weight.
- It is important that the props have the same height in order to prevent that the load is concentrated mainly on one of them.
- Have the yacht lowered very slowly until it almost touches the keel props, adjust the height of the props until they are in contact with the keel, in order to guarantee a uniform load distribution and a neutral trim of the yacht; keep part of the weight supported by the crane.
- Position the adequately spaced lateral props; it is important to remember that the lateral props must guarantee stability, but the whole weight must be supported mainly by the keel props.
- Check the support for stability, then completely lower the yacht and remove the belts.

The suggestions above are to be considered as being generally valid for propping the yacht without damaging it or harming the personnel involved; however, since the propping conditions may significantly vary depending on the props used and the surface on which the props rest, the above suggestions must be adapted case by case. WALLY is therefore not responsible for any damage to the yacht occurring while the yacht is at dry dock on props.



wallywhy150

12
HULL AND FURNITURE
MAINTENANCE



12.1 GENERAL MAINTENANCE OUTLINES

The yacht is equipped with a large number of sophisticated devices and systems, which require not only a certain care when it comes to use, but also regular maintenance to obtain correct operation.

One of the factors that might cause problems or faults, is usually the irregular use of the yacht and because of this, of the on-board devices.

Experience indicates that regular use of the devices normally gives fewer problems, and therefore, we recommend operating all on-board devices regularly, for short periods.

Daily checks and regular maintenance are important for maintaining equipment/components in the best working order and efficiency. If the regular maintenance schedule is not correctly followed, the equipment's performance can deteriorate, causing reduced efficiency, a shorter life and the occurrence of unexpected problems which can compromise safety at sea.

The maintenance schedule is based on time intervals or running hours. For example, if a maintenance task is scheduled every 100 hours or 3 months, this task must be repeated at 200 hours or after 6 months, at 300 hours or after 9 months, and so on. In case of a long period of inactivity (for example, during winter), it is advisable to lay up the yacht, possibly under cover.

CAUTION

Some general information about ordinary maintenance tasks, their schedule and procedures is provided herein with. For further specific information referring to maintenance schedule, see Manufacturer Manuals of on board devices/components, issued by the various Manufacturers.

CAUTION

Look over the maintenance safety rules contained in this manual in order to act with the maximum safety and follow the indications here below.

CAUTION

During the replacements, remove the parts with care and order, in this way the assembly operations are as easy as possible. Make sure to install genuine spare parts, in this way the system efficiency is not altered. Sometimes the use of non-genuine spare parts may cause the withdrawal of the Manufacturer's warranty.

CAUTION

Check periodically that all equipment containing water is filled with the correct quantity of anti-freeze. If the outside temperature drops below 0°C, all fresh or sea water systems are exposed to the risk of freezing and consequent breakage. Systems especially subject to risks of freezing are all systems and devices containing either fresh or sea water.

WARNING

Before carrying out any maintenance and adjustment operation on the yacht, turn all necessary safety devices on and consider informing all personnel, in particular persons operating nearby. In particular, place warning signs in the areas concerned and prevent any device, if operated, from causing unexpected hazardous conditions, thus endangering the persons on board and/or property. To avoid pollution, do not scatter any type of waste in the environment, and only use the dedicated disposal areas in the harbours.

CAUTION

When working in the engine room, switch magneto-thermal switches of the bilge draining pumps off, to prevent that fuel, lubricants and other liquid spilling causes sea pollution.



CAUTION

WALLY declines all responsibility for the installation and operation of electric, electronic or mechanical equipment improperly installed by third parties in a manner not authorised by the Shipyard.

WALLY declines all responsibility with regard to tampering carried out by third parties on equipment installed in the Shipyard. Such tampering or unauthorized installations will not only immediately void the warranty, it may also cause damage to the yacht and injuries to the people on board.

WALLY declines all responsibility concerning regular maintenance operations scheduled by the Shipyard or by Manufacturers, but not carried out, on equipment/components, for which it is necessary to refer to the relevant Technical Manuals.



CAUTION

It is forbidden to use pressurized water on light appliances installed outside.

12.2 LONG PERIODS OF YACHT INACTIVITY

Following list only represents a general guide to give the customer an idea of the ordinary maintenances which should be carried out when the yacht remains stationary for a rather long period without being used. We recommend carefully checking the instruction manuals of the single devices, because they often contain detailed information and very important specifications relevant to the maintenance of each device.

The following instructions **NEVER REPLACE** the specific instructions concerning each single device and issued by the device's Manufacturer.

- **Engines**
Before winter time let fresh water flow into the sea water circuit, check the antifreeze liquid, the sacrificial anodes against the galvanic currents, remove salt build-ups and spray protective agents.
Carry out the scheduled maintenance of the propulsion engines, indicated in the Use and Maintenance section.
- **Generators**
Use the same procedure as for the engines.
- **IPS (Inboard Performance System)**
Carry out the IPS maintenance program.
- **Batteries**
Check the liquid level and regularly charge the batteries, protect the terminals with Vaseline grease; the best solution would be to disconnect the batteries from the system and to charge them regularly with a separate battery charger, but this is not always possible on yachts.
- **Watermaker**
A proper procedure provided by the supplier in the instruction manual has to be followed when the watermaker is not used for a long time.
- **Washers and Dishwashers**
Carry out an empty washing cycle, carefully remove all detergent residues, and dry thoroughly. Clean the filters.
- **Sun-deck cushions**
Remove all sun-deck cushions and store them into a dry place.
- **Aluminium and steel**
Wash all metallic parts with fresh water and protect by rubbing with a rag soaked into Vaseline oil.
- **Wood and interior upholstery**
Cover the cushions of sofas with sheets and above all cover all windows with the relevant covering sheets, so that as little light as possible is projected inside, because the UV-rays fade the wood and tissue colours.

- **Teak wood deck**
Wash with water and neutral soap and treat with proper products. Sandpaper if strictly necessary.

CAUTION

DO NOT USE mechanical or forced water jet equipment (e.g. pressure washers, etc..) to wash the deck, as this force alters the wood and the caulking sealants (it detaches the microparticles) causing damage in some cases even radical (e.g. detachment of the staves).

CAUTION

DO NOT USE alkaline-based or acid-based detergents or aggressive detergents (soda, solvents, ammonia, etc..) to wash the deck; their aggressive degreasing action corrodes the wood (it eliminates its natural water repellency and whitens its natural colour), while the caulking sealant modifies its physical-chemical qualities, softening the surface, damaging the waterproofing, sealing and anchoring of the deck.

- **Sacrificial anodes**
Check their wear and if necessary, replace the hull, propellers shafts and interceptor anodes, etc..
- **LOG Transducer**
Pull out the propeller, clean it and apply the proper propeller plug.
- **Windscreen wiper**
Wash with fresh water and lubricate with Vaseline oil.
- **Anchor winch**
Check the oil level in the gear box where possible. Check the oil level, protect the electrical components with a suitable protective spray and lubricate with silicon grease clutches and wildcat.
- **Water tank**
Wash with disinfectant, drain the fresh water circuit, especially if frost is forecasted.
- **Fuel tank**
Cleaning by means of a decanter especially if there are traces of water in the fuel.
- **Grey water tank**
Pour sterilizing products into the washbasin, showers, and bidet wastes. Empty the tank and clean, ensuring the float is efficient.

- **Black water tank**
Pour a sanitary product containing Paraformaldehyde (available in camping equipment shops) into the WCs and rinse the tank with this mix a couple of times. Drain the tank completely.
- **Air conditioning**
Before winter:
- Let water flow in the sea water system.
After winter:
- Check the anti-freeze mix in the fresh water circuit: top-up or replace it if necessary (perform replacement at least every two seasons);
- Carry out the maintenance operations suggested by the Manufacturer.
- **Tender engine**
Wash with the fresh water contained in the cooling system of the engine. Carry out the maintenance as recommended by the supplier.
- **Bow and stern thruster**
Protect the electrical components with a proper spray and check the oil level.
- **Electro-hydraulic control units**
Protect with the proper sprays and check the oil level.
- **Fire extinguishers**
Check the loading condition and expiry date for regular inspections.
- **Safety equipment**
Check the expiry dates of the self-inflatable means, flares etc.
- **Refrigerators**
Cleanliness for all and protection for those outside in case the yacht remains outdoors.
- **Engine room**
As for the engine room, we suggest carrying out a general cleaning, by removing all traces of salt drifts on devices and protect all electric, mechanic and hydraulic devices, by spraying them with protective agents.
- Clean all cabins and inspect all dunnages on-board.
- Check all hatches seals and lubricate their contact with appropriate silicone lubricant.
- Clean fan coils with an air jet, sucking the dust from the back net.
- Inspect the outer hull and all components: propeller, anodes, supports, interceptors, fan coils, sea cocks, bow/stern thruster.
- Carry out laying up of the yacht in a sheltered and dry place. If the yacht is stationed outside, cover it with a waterproof sheet, in such a way that allows ventilation. Otherwise the formation of damaging moisture could be helped.
- Wash the yacht with fresh water.
- Check all systems and fastenings on the yacht: damages, wear, cracks are

signs of unsuitable use. Repair the damaged equipment. If necessary, fit new ones.

- Check the efficiency of limber holes and that they are not clogged so as to cause the leaking of the bilge system.
- Check the fastening of the partial or total covering of the yacht.
- Disconnect all unnecessary utilities.



DANGER

During recharge the batteries produce explosive gas. Do not approach to recharging area with free flames or sparkles.

Avoid wrong connections; never connect a positive terminal (+) with a negative one (-).

12.3 RE-USE OF THE YACHT AFTER A LONG INACTIVITY

Engines:

After the winter, check engines oil and replace them if necessary. Check oil and fuel filters and replace them if necessary.

- Adjust the belt tension of the alternator belts both of engines and generators.
- Fill the fuel tank. Vent the air of the fuel system.
- Start propulsion engines.

CAUTION

After a long period of yacht inactivity, carry out all above-listed operations and following checks:

- Check the condition of all hoses and connections of the steering system, interceptor, gangway, swim ladder, etc.
- Start the engines.
- Stop the engines.
- Clean fuel filters. Replace engine oil filters and add oil to the engines if necessary.
- Check all bilge pumps and their operation.
- Check the operation of the black water, grey water and sea water pumps.
- Check the operation of all on-board instruments used for navigation.

- Let the engine run at middle speed for some minutes, before letting them run at full speed.

Generator:

- Start the engine of the power generator.

Hull:

- Verify the hull.
- Have the bottom hull accurately cleaned, as well as the rudders and interceptors with brushes (with water) or a jet-cleaner (dry) to remove seaweed and scales.
- Check the paintwork condition of the hull. If necessary, have 2 coats of suitable antifouling paint applied by specialized personnel.

Propellers e anodes:

- Check the condition of the propeller and check the IPS for leaks.
- Check the conditions of the sacrificial anodes; if necessary, replace them.

Batteries:

- Check the charge of the batteries, and that their terminals and housings are dry and clean.

12.4 HULL MAINTENANCE

Component	Maintenance	Notes and precautions
Bottom hull	Periodical cleaning and check of antifouling treatment (as required according to stationary area, but at least every three months)	The length of the anti-fouling effects depends mainly on the conditions of the waters where the yacht is stationed.
	Check/restoration	 CAUTION When removing the old antifouling, do not use sandblasting methods, as this may damage the gel-coat surface and the anti-osmosis resin applied by the Manufacturer. As suggested by the antifouling manufacturers, use paint removers or, as an alternative, wet sanding.
	Preparation of the surface of an already treated yacht	The Shipyard uses high-quality ant-fouling paint and applies two layers.
		 CAUTION Bad maintenance condition (barnacles, etc..) may cause cavitation and damage shaft, rudders, propellers, etc..
		 CAUTION Small areas of paint may peel off from the propellers even after a short period of operation.

12.4.1 Bottom hull

Antifouling treatment

If scales build up on the hull, this causes notable speed reduction and with time may damage the “gel-coat”. When you choose an antifouling paint for your yacht, it is important that you find the proper product, suitable for your yacht and for the waters in which you are going to navigate. Contact the WALLY After Sales & Service.

Check/restoration

The cleaning and checks have to be carried with yacht at dry shore or with the help of a diver. Have the repairs done only with yacht at dry shore.

WARNING

To clean or check the yacht in water, disable engines and generators ignition.

CAUTION

There are some hull areas where operations can be carried out after hull pressing; in these areas, fillers are usually used which, over time, may produce local faults, like bubbles or small cracklings. These little faults do not impair the hull's mechanical strength at all. To repair them just sandpaper the area, remove the bubbles, and apply fillings suitable for the bottom hull.

- Have the bottom hull accurately cleaned, as well as the IPS and flaps with brushes (water) or a jet-cleaner (dry) to remove seaweed and scale.
- Check the paintwork situation of the bottom hull. If necessary, have 2 coats of suitable antifouling paint applied by specialised personnel.

Preparation of the surface of an already treated yacht

Carefully check the old anti-fouling paint to see if it is still good or if it needs a new layer. Make sure that the new product is compatible with the old one. Contact the WALLY After Sales & Service. If the old antifouling is crusty, thick and tends to scale off, then remove it and start the treatment as for a new yacht.

CAUTION

Antifouling is poisonous and should never be burnt, use only authorized disposal procedures and in case of doubts contact the authorities in charge. The sandblasting operations and removal of antifouling must be carried out with suitable clothes and protections.

WARNING

During the application of antifouling, make sure that following parts of the bottom hull are not painted:

- Depth sounder transducer
- LOG speed sensor propeller
- Sacrificial anodes
- IPS and propellers;
- Underwater lights;
- Hull porous plate;
- Reference anode of the monitoring system.

12.5 GENERAL MAINTENANCE

Component	Maintenance	Notes and precautions
Gel-coat	Formation of bubbles Regular cleaning (as required)	In some areas of the yacht, bubbles may form on the gel-coat; these bubbles can break over time, thus exposing the fibreglass underneath. The drawback occurs generally in vicinity sharp angles, and depends on air bubbles that, during fabrication, remain entrapped between fibreglass and gel-coat, although quality checks are carried out by specialised personnel. Broken gel-coat bubbles are easy to repair by filling the voids and touching up with gel-coat that can be requested from the WALLY After Sales & Service.  CAUTION Always wash using neutral products. In case of particularly persistent dirt, do not use products containing ammonia which can turn the surface yellowish.
	Formation of cracks Regular cleaning (as required)	When underway, some structural parts of the yacht are subject to bending, and create tension or compression stresses in fibreglass and on the gel-coat; the different elasticity of gel-coat and fibreglass can cause small cracks on the gel-coat surface, in particular in the most stressed areas, e.g., near cleats, stanchions, etc. This problem, however, does not jeopardize the mechanical and structural characteristics of fibreglass.  CAUTION To remove possible gelcoat, do not use sandblasting methods that may damage the surface of the anti-osmosis resin applied and could expose fibres. As suggested by gel-coat Manufacturers, use suitable products or, as an alternative, wet sand. MAINTENANCE At least once a month carefully clean all fibreglass parts. At least once every six months check the status of the fibreglass. When necessary, but at least once every two years, polish all fibreglass parts.  CAUTION The alteration of colour and brightness in areas which are highly exposed is considered normal. The necessary polishing has to be considered as normal maintenance.

Component	Maintenance	Notes and precautions
Wood and upholstery	Regular cleaning	The worst enemies of these materials are light and moisture; to protect them, they must be kept away from direct light as much as possible and the interior must be ventilated as soon as the weather conditions allow. The use of external awnings is extremely important because there is no species of wood, either natural or dyed, which, when exposed to the sun's rays, does not undergo a change in colour. The woods used for the yacht's fittings are exclusively natural-based materials carefully selected and the painting cycles with which they are treated comply with environmental regulations. Furniture made of wood, precisely because of the natural origin of both the material and the treatments, may be subject, if not properly treated and maintained, to: • Colour variations due to exposure to direct and continuous light. It is advisable to shade the heavily exposed parts with the internal curtains supplied with the yacht; • Retention of dirt if not cleaned promptly, given the characteristic absorbency of wood fibres. It is recommended to use non-aggressive products; • Scratches and marks if in contact with sharp or metallic objects, due to the inevitable relative "softness" of the wood. Even if the production processes have been carefully studied and tested, the furnishings and fittings made of natural wood may undergo variations in colour over time due to the "natural" maturation of the material due to ageing. Despite the painting cycles developed after many years of experience, wood remains a "living" material, and therefore subject to movement and settlement. Scratches caused by bumps must be repaired immediately, to avoid the blackening of the wood below. The technical staff of the WALLY After Sales & Service will advise you about the maintenance level you have to apply at the end of each season's use. Correct maintenance will allow you to avoid deterioration which is expensive to repair.  CAUTION The extremely precious finishes of the polish-varnished woods used for bathroom floors and cockpit tables is the result of careful work: they are water resistant but at the same time delicate and need careful maintenance. Such surfaces must therefore be dried after use or after rain and must be washed and maintained regularly.

Component	Maintenance	Notes and precautions
Wood and upholstery	Regular cleaning	 CAUTION Upholstery and wooden parts: the leather and wooden parts have to be treated as natural products, subject to colour alteration, particularly if the necessary precautions for good maintenance are not taken. WALLY therefore reserves the right to evaluate any problems and its own responsibility according to case. MAINTENANCE At least once a week, carefully wash and clean all teak outside parts, and at least once a year perform a protective treatment with suitable products.  CAUTION Current use: • Do not walk or jump on the cushions; • Prevent the cushions from turning yellow due to direct exposure to sunlight; • Prevent the absorption of water or moisture by not leaving the upholstery exposed to bad weather, particularly during periods of inactivity. Cleaning: • Remove ordinary dirt with a warm water solution and neutral soap: do not use detergents or solvents; • Dry with a soft rag, not leaving any residues. Preservation: • Store clean and dry upholstery in a cool, ventilated room with no moisture; • Do not place heavy objects on upholstery when stored.

Component	Maintenance	Notes and precautions
Teak	Regular cleaning	The characteristic of teak is its resistance to weathering and therefore, it does not require maintenance. Over time, teak tends to assume a particular silver colour that may not appeal; in this case, to maintain the original colour of the teak, it needs to be treated regularly with specific products (e.g. teak wonder). If the wood has smears that cannot be removed with normal washing, it is necessary to sand the wood to remove stains, and then repaint with wonder teak. You must use fresh water and manual brush (no hard bristles) at least once a day. This will remove any machinery, common dirt from feet and shoes, and normal environmental salt. This process, if carried out regularly, allows constant maintenance of your teak and caulking. In this case only time and wear will naturally deteriorate this product.  CAUTION Do not clean the teak with stiff brushes, as even rubbing the grain lengthways can damage the softer grain of the wood. Non-black caulking may not behave in the same way as the black one. Any aesthetic issues, such as surface mildew, colour variations, dirt in the caulking are not defects and may be prevented with regular maintenance and service on the teak surface and caulking.

Component	Maintenance	Notes and precautions
Teak	Regular cleaning	 CAUTION Washing the deck with mechanical equipment or with a jet of pressurised water (hydro-cleaners, for example) IS STRONGLY ADVISED AGAINST since this force alters the wood and the caulking sealants (detaches the micro-particles), even causing serious damage in some cases. Washing the deck with alkaline or acid-based detergents, or however with aggressive agents (soda, solvents, ammonia, etc..) IS STRONGLY ADVISED AGAINST. Their aggressive degreasing action corrodes the wood (eliminates its natural water-repellent properties and bleaches its natural colour), while the physical-chemical properties of the caulking sealant are altered, with its surface portion becoming softened and the impermeability, sealing and anchorage of the deck becoming damaged.  CAUTION Be careful when cleaning the exterior painted parts. The use of alkaline or acid-based soaps or detergents, which are usually used to remove dirt or salt, can settle on the deck and irreparably damage the teak and caulking sealant. Therefore, teak and caulking sealant must be insulated when these washes are carried out. Therefore, when these washes are carried out, it is necessary to isolate the teak and caulking sealant from any deposits, even temporary, of soaps and/or detergents. If it is not possible to cover the deck when cleaning the fibreglass, we recommend wetting the deck surface with plenty of fresh water. We recommend the same procedure when refuelling. If fuel seeps into the wood or caulking sealant, the deck will be irreparably damaged there. Use a neutral detergent to clean the teak.
Ceilings Panels	Regularly check the flatness of the panels and / or any discontinuities or steps between the ceiling panels	Whenever the ceilings are disassembled, it is compulsory to check the status of the Fit Lock or/ and 3M Dual Lock fastening systems, breakage of the teeth, and/ or the entire system.  WARNING Do not install Fit Lock or 3M Dual Lock ceiling panels with damaged fastening systems , due to a possible reduction of their retention power. Damaged parts must absolutely be replaced with new ones. In order to be sure that the ceilings have been reassembled correctly, check flatness with the other ceiling panels and the absence of discontinuities and steps between one ceiling panel and the others.

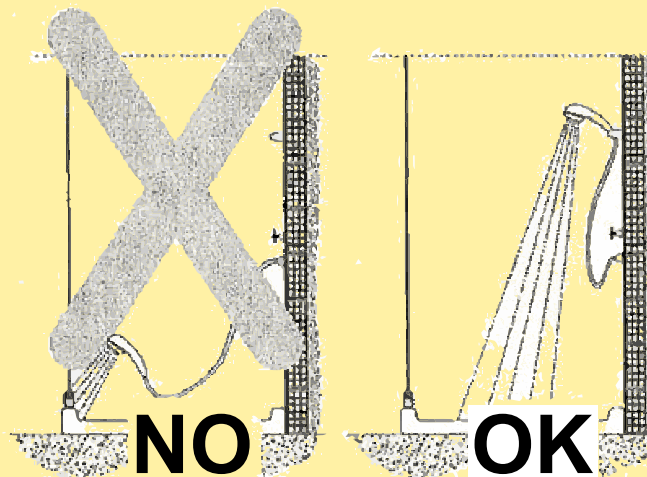
Component	Maintenance	Notes and precautions
Light alloys and stainless steel	Regular cleaning	It is a good rule to accurately wash the entire yacht after each navigation, in particular all metal parts that may be damaged by sea water. Have plenty of fresh water sprayed on handrail, windows, skylights, rub rail, anchors, cleats and stairs. Protect all metal parts with Vaseline oil periodically. MAINTENANCE At least once a year check the fastening of all metallic parts of the yacht. ⚠ CAUTION The stern glass door is not watertight, so do not point the bolt of water towards the window, when washing. ⚠ CAUTION Never use brushes or abrasive rags on metallic fittings, not even on rusty spots, scratches on the surface result in a less shiny appearance and diminish the mechanical features.

Component	Maintenance	Notes and precautions
Sun-deck cushions	Regular cleaning	Remove the cushions from the seats at regular intervals and let their underside and the seat surface dry. When washing or when it is raining, remove the cushions and stow them in a covered place; however, when cushions are wet, remove them from their seats, to prevent water or moisture from remaining trapped between cushions and underneath surfaces. This could affect the gel-coat and also create osmosis bubbles and deteriorate the cushion cover. The cushions must be washed with running water; do not use jet-cleaners, brushes or abrasive sponges.
	General Care and Cleaning Guide	MAINTENANCE At least every 6 months, check seams and fasteners. At least every month carry out the washing of the cushions.
		• For light soiling, a solution of 10% PH neutral soap in warm water applied with a soft damp cloth. Rinse with clean water and dry. • For heavy soiling, dampen a soft white cloth with a one to one (1:1) solution of an all-purpose and dye-free household cleaner and water. Rub gently and rinse with a damp cloth.
		 CAUTION Do not use alcohol-based cleaning agents!  CAUTION Do not use aggressive detergents and/or solvents, which will cause immediate damage and contribute to the deterioration of the material.

Component	Maintenance	Notes and precautions
Windscreen/windows	Regular cleaning	 CAUTION Rags and chamois leathers used for cleaning glass must be replaced at least every 3 months. The inner side of windows and windscreen can be cleaned with non-aggressive and non-acid detergents for glass and a soft or paper cloth.  CAUTION If, after normal cleaning, some traces of dirt or light scratches remain, do not try and remove them with mechanical means or using aggressive detergents, solvents or abrasive products. Contact the WALLY After Sales & Service.  CAUTION For cleaning the outer side of coloured or mirrored (pyrolytic) windows and windscreen: • Evenly wet the whole surface of the glass with plenty of fresh water. • Use a neutral detergent or a delicate commercial product (not alkaline) diluted in fresh water. • Spread the solution with a soft and clean cloth. Frequently rinse the cloth in order to prevent deposits of dust or dirt particles which could scratch the glass or its glazed coating. • Rinse the soapy surface with plenty of fresh (or distilled) water. • We recommend drying the glass with chamois leather only. For cleaning the tinted windows and windscreen it is possible to use the same type of detergent used for internal cleaning (non-aggressive and non-acid).
Mirrored glass walls	Regular cleaning	 CAUTION For cleaning mirrored glass walls only use water and neutral soap. Different products could damage the surface coating.
Windscreen wiper and washer	Regular cleaning (as required)	Wash them carefully with fresh water and coat with Vaseline oil; grease the spring with silicone grease. Check the rubber blade conditions regularly, and replace the blades if worn; this prevents bad visibility problems.

Component	Maintenance	Notes and precautions
Windscreen and deckhouse glass	Inspection of seals	 CAUTION At least once every 6 months check the condition of the glass seals. If you feel that the seals have deteriorated due to a wear, please contact our WALLY After Sales & Service.
Light fittings	Regular cleaning	DO NOT use alcohol-based products to clean the light bodies.
Instrumentation and navigation lights	Regular cleaning (as required)	Use clean wet rags for cleaning. MAINTENANCE At least once a week, check the operation of the navigation lights. At least once a week, carry out careful cleaning of glasses and headlights. At least once every six months, check the presence of corrosion in the connections of the navigation light cables. At least once every six months, tighten the cable connections of the navigation lights.  CAUTION Do not use chemical or abrasive products. After navigation, cover instrumentation and equipment.
Metal parts and connectors	Regular cleaning (as required)	Grease connectors and metal parts of the devices installed and exposed to moist and salty environment to prevent oxidation; pay particular attention to the above-mentioned components of the steering system, gangway, hatches, and control units, etc..

Component	Maintenance	Notes and precautions
Plexiglass	Regular cleaning (as required)	To clean the Plexiglas, only use products that do not contain aggressive substances such as alcohol, ammonia or the like. Preference for antistatic liquid detergent.  CAUTION Never use alcohol or acetone to clean Plexiglas parts; they could crack inside. Use cloth of soft material (such as cotton or felt) To clean, degrease and polish the Plexiglas, spray a small amount of antistatic liquid detergent on the cloth and wipe the surface. The antistatic effect of the cleaner is very useful to prevent dust from being attracted by static electricity generated during rubbing and that makes it very difficult to clean the entire surface smoothly. If the cause of opacity is dirt, simply use an anti-static cleaning fluid and a soft cloth to remove smears: the Plexiglas will clean and bright. If opacity is due to the contact with aggressive substances, it means that the surface has been compromised in the structure and the Plexiglas will not return as before. If the marks are light and have been caused by wear and not from chemicals, anti-scratch paste can solve the problem. Even for light scratches anti-scratch paste is suitable.

Component	Maintenance	Notes and precautions
Shower	Checking and replacing gaskets	 CAUTION Carry out regular maintenance and/or replacement of the shower box seals, in order to prevent water leakage.
		 CAUTION The shower enclosures are made in such a way as to avoid water leaks outside the enclosure, under normal conditions of shower use. However, they do not have a watertight seal.  The functionality of the shower cubicles is subject to the use for which it was designed; the water tightness is therefore conditioned by the correct use.
Fenders	Regular cleaning (as required)	Always keep all the fenders and their sleeves clean by washing regularly with fresh water, in order to prevent the salt deposited on them from scratching the paint of the hull.

Component	Maintenance	Notes and precautions
Back glass wall	Cleaning	The stern glass wall has many functional and aesthetic advantages. The salon door, that completely overlaps the fixed part port makes it possible to convert the salon and the cockpit into a single, large room. Of course, this glass wall needs particular care during washing, because a lack of care may allow water to penetrate. To avoid this problem, we advise taking great care to the direction of the water jet for rinsing: it should not be directed frontally and with pressure, but the water should be let flow down from above. MAINTENANCE At least once a week, clean thoroughly. At least once a month, check the operation. At least once every six months, check the locking with open door. When necessary have them adjusted.

12.6 MARBLE MAINTENANCE

THE WORST ENEMIES OF MARBLE ARE:

Some substances damage marble more than others.

Keeping them away from surfaces, or at least removing them promptly as soon as they come into contact with the marble is very important if you want to preserve its appearance.

The worst enemies of marble surfaces are:

1. **Water:** a enemy of marble, especially that with a high presence of limestone. If it settles on marble surfaces and is not dried, it can ruin them in the long run.
2. **Coffee, wine and dyes:** as dark substances, coffee, wine and other food dyes can damage marble when they come into contact with it.
3. **Tomato sauce:** tomato sauce, when it stains, is very difficult to remove, and the same applies to marble.
4. **Polishing wax:** marble should be polished from time to time, but never apply too much wax to avoid risking obtaining the opposite effect, i.e. making it dull.
5. **Sugary substances:** fruit, juices and sweet substances, if deposited on marble, can corrode it, ruining its natural lustre. If they accidentally fall on the marble, they need to be cleaned quickly.

HOW TO CLEAN MARBLE:

1. **Damp cloth:** If the stain to be removed is not particularly stubborn, a damp cloth can be used to clean marble surfaces and achieve an excellent effect. It is important to always remember to dry the surface, otherwise, limescale will damage it.
2. **Marseille soap:** Marseille soap is also perfect for cleaning marble surfaces. Lightly dampen a cloth and rub it lightly on the soap, then wipe the marble. After rinsing, carefully dry the surface, which will look as good as new.
3. **Hydrogen peroxide:** Hydrogen peroxide is another product that can have infinite uses, including cleaning marble. Put a drop of hydrogen peroxide on a damp cloth and rub it on the marble surface to quickly restore its shine.
4. **Baking soda:** Baking soda is another useful substance for cleaning marble. Put a tablespoon of baking soda in a glass or container and mix. The resulting compound is a slightly abrasive paste that will penetrate the marble, freeing it from foreign substances, the stains. Baking soda is also perfect for polishing, so the marble will look shinier after the treatment.

5. **Detergents for marble:** On the market, you can find numerous special detergents for cleaning marble surfaces. They are very useful for those who have large marble surfaces to wash, such as floors. Make sure that the detergent is not too acidic and aggressive, or the surface will be weakened over time and more susceptible to stains.

HOW NOT TO CLEAN MARBLE:

CAUTION

Do not use generic household cleaners of any kind.

Cleaning marble with products purchased in non-specialised shops that contain acids, alkalis and other chemicals can mark or damage the surface, leaving the stone more vulnerable to staining.

The most common and popular household cleaners are too aggressive for use on marble and can cause damage.

Trying to save time by using low-end products such as general surface cleaners will only lead to expensive repairs or marble restoration.

CAUTION

Do not use vinegar, ammonia or lemon juice.

Powders and even "soft" creams contain abrasives that can scratch and dull the surface.

Detergent soap scum and water are the main contributors to bathroom wear. Use only specific detergents for marble to avoid most marble cleaning problems.

CAUTION

Do not place toiletry products on the worktop.

Hair products, toothpaste, perfumes, colognes, nail products, creams, lotions and potions can stain or mark the surface leaving dots, rings or dull areas. Protect surfaces by making sure these products do not come into contact with the marble.

12.7 SPEED MULTISENSOR MAINTENANCE

Component	Maintenance	Notes and precautions
Speed multisensor with valve	Regular check - Ordinary Maintenance	As indicated in the Manufacturer's manual. MAINTENANCE At least once every six months check the correct operation. At least once every six months check the connection of the cables. At least once every six months check the propeller and grease the outer Log.



wallywhy150

13
TROUBLESHOOTING



13.1 GENERAL NOTES

The yacht is equipped with a large number of complex devices and installations. These require regular checks and maintenance to keep their operation correct.

One of the factors that might lead to problems or faults, is usually the irregular use of the yacht and, as a consequence of this, of the on-board devices. Experience has shown that the regular use of the devices normally means fewer problems and , therefore, we recommend regularly operating all on-board devices for short periods.

When an on-board problem is detected, it is essential to carry out a quick check in order to understand its cause and, if possible, to find a remedy. In order to analyse a malfunction it is appropriate to ask the following questions:

- Is the malfunction caused by a human error?
- Is the malfunction due to bad weather conditions ?
- Is the malfunction due to a device failure or to a fault of another external device, but in some way connected to the first one?
- At what stage does the malfunction occur: at the start, at steady state, at device switch OFF?
- Does the malfunction occur repeatedly; if yes in which way?
- What does the malfunction imply from an operating point of view?
- Does the malfunction trigger any signals (luminous and/ or acoustic: sirens, buzzers, etc.) and/or messages on a display and/or anomalous noises (like whistles, beats, buzzes, etc..) and/or anomalous smells (burning smell)?
- Does the malfunction interfere with the operation of other devices?
- Is the malfunction a real apparent fault (that is, it can be cleared after a device reset and following switch ON).

The best, most complete answer we can give to the previous questions, will give us a malfunction analysis.

This section of the Manual analyses the most likely causes, that may lead to the malfunctioning of a component of the main components/devices on board. For any possible analysed cause, a corrective action is advised, in order provide a solution to the problem that is as effective as possible.

WARNING

We recommend, in order to operate with peace of mind, in full safety, taking good note of the Safety Rules relevant to Maintenance described in the "SAFETY RULES".

WARNING

Corrective actions may only be carried out by specialised and authorised personnel.
WALLY declines all responsibility for proposed corrective actions carried out by unskilled personnel.

CAUTION

For more detailed information, please refer to the various Manufacturer's Service Departments or contact the WALLY After Sales & Service directly.

13.2 MAIN ENGINES

For further information, please contact the WALLY After Sales & Service.

Problem	Cause	Corrective action
1. Engine does not turn when starter is actuated: - Battery - Starter - Engine wiring - LOP Local Operation Panel - ECU Engine Control Unit - Engine - Start-interlock limit switch	• Low or defective • Cable connections defective • Engine wiring or starter defective • Faulty • Loose seating of assemblies or connectors • Loose plug-in connections • Gear locked (engine cannot start manually) • Limit switch not installed or defective • Wiring defective	• Charge or replace (see Manufacturer's documentation) • Check that cable connections are properly secured (see Manufacturer's documentation) • Check that cable connections are properly secured, contact Service • Contact Service Department • Visual inspection • Check plug-in connections • Contact Service Department • Check limit switch • Check wiring
2. Engine turns but does not fire: - Starter - Engine wiring - Fuel system - ECU Engine Control Unit	• Poor or defective starter rotation • Faulty • Not vented • Faulty	• Charge or replace battery (see Manufacturer's documentation) • Contact Service Department • Check vent • Contact Service Department

Problem	Cause	Corrective action
3. Engine fires unevenly: - Fuel injection equipment - Engine wiring - Fuel system - ECU Engine Control Unit	• Injector defective • Faulty • Not vented • Faulty	• Replace • Contact Service Department • Check vent • Contact Service Department
4. Engine does not reach full-load speed: - Fuel supply - Air supply - Fuel injection equipment - Engine wiring - Yacht - IPS - Propeller	• Shut off • Fuel pre-filter clogged (water/fuel separator) • Fuel filter clogged • Air cleaner clogged • Injector defective • Injection pump defective • Faulty • Yacht too heavy • Yacht's trim position • Marine growths on hull, propeller shaft, propeller, rudder • IPS position • After propeller replacement: propeller too small/large	• Open shut-off valve before fuel pre-filter (water/fuel separator) • Replace • Replace • Check air cleaner clogging indicator • Replace • Replace • Contact Service Department • Check yacht's load condition, reduce load if necessary • Trim yacht • Clean • Align IPS • Replace only with original spares

Problem	Cause	Corrective action
5. Engine speed not steady: - Fuel injection equipment - Speed sensor - Fuel system - ECU Engine Control Unit	• Injector defective • Injection pump defective • Faulty • Not vented • Faulty	• Replace • Replace • Contact Service Department • Vent • Contact Service Department
6. Charge-air temperature too high: - Coolant - Intercooler - Engine room	• Incorrect coolant concentration • Contaminated • Air intake temperature too high	• Check coolant properties • Contact Service Department • Check fans and ventilation air supply
7. Charge air pressure too low: - Air supply - Intercooler - Turbo charger exhaust	• Air cleaner clogged • Contaminated • Faulty	• Check air cleaner clogging indicator • Contact Service Department • Contact Service Department
8. Coolant leaks from intercooler: - Intercooler	• Leaking, major coolant discharge	• Contact Service Department
9. Exhaust gas black: - Air supply - Fuel injection equipment - Yacht	• Air cleaner clogged • Injector defective • Injection pump defective • Overload	• Check air cleaner clogging indicator • Replace • Replace • Contact Service Department
10. Exhaust gas blue: - Engine oil - Exhaust turbocharger, piston rings, cylinder liner	• Too much oil in engine • Oil separator clogged • Faulty	• Drain engine oil • Replace • Contact Service Department

Problem	Cause	Corrective action
11.White exhaust gas: - Engine - Fuel system - Intercooler	• Not at operating temperature • Water in fuel • Leaking	• Run engine to reach operating temperature • Check fuel pre-filter (water/fuel separator filter) and drain pre-filter • Contact Service Department

13.3 GENERATOR

For further information, please contact the WALLY After Sales & Service.

Problem	Cause	Corrective action
1. Fluctuating or low oil pressure	- Oil level too low - Dirty oil	- Stop the generator immediately and top up with suitable oil - Replace dirty oil with new suitable oil
2. Cooling water temperature too high	- Excessive load - Air in the cooling circuit - Coolant low level or wrong mixture - Sea water intake is obstructed or sea water intake strainer is clogged	- Reduce the load - Bleed the circuit - Restore the cooling water level and correct percentage - Clean sea cock and strainer
3. Black smoke	- Engine room insufficient ventilation - Excessive load - Unsuitable fuel - Cooling water temperature too high - Lack of maintenance	- Check that air intakes are not obstructed - Reduce the load - Replace with suitable fuel - See step 2 - Have the scheduled maintenance operations carried out
4. Blue smoke	- Excessive oil - Dirty oil - Lack of maintenance	- Discharge the excess oil by draining oil filters - Replace dirty oil with new suitable oil - Have the scheduled maintenance operations carried out
5. White smoke	- Cold generator - Generator with too low load	- Let the generator warm up - Increase the generator load

Problem	Cause	Corrective action
6. Lack of power	• Engine room insufficient ventilation • Fuel filter clogged • Unsuitable fuel • Cooling water temperature too high • Lack of maintenance	• Check that air intakes are not obstructed • Clean • Replace with suitable fuel • See step 2 • Have the scheduled maintenance operations carried out
7. Excessive or unusual noise	• Insulation cover not properly fastened • Leakage from the exhaust • Exhaust not properly fastened • Lack of maintenance	• Check • Check the exhaust • Check the exhaust • Have the scheduled maintenance operations carried out

13.4 BATTERY CHARGER

For further information, please contact the WALLY After Sales & Service.

Problem	Cause	Corrective action
1. No inverter output voltage. The inverter does not work, or just for a few seconds	- Battery voltage may be too low. Low voltage cut-out switch trips at 10V (12V), 20V (24V) or 40V (48V) - Battery connections are corroded - Check if the inverter is overheated. In case of overheating LED of temperature + failure lights up - Overload or short circuit - LED overload + failure will be lit	- Recharge battery for 24 hrs - Check for corrosion, and replace bad sections - Disconnect connected load. Improve ventilation - Disconnect excessive load - Remove short circuit condition
2. Battery charger does not operate	- AC voltage not supplied - Input voltage too low - The battery charger will not operate below 160/80V	- Check installation - The AC green LED should light up, if power is supplied - Check fuses or magneto-thermal switches - Check the generator output voltage, remove connected load, output voltage should come up
3. The battery charger does not operate, while mains voltage is present	- Mains frequency could be too high or too low - The frequency must be within 35-66 Hz	- Check the generator output frequency - Check generator rpm
4. Batteries not fully charged	- Charge current too low - Current to load too high - Charge time too short - Battery temperature too low - Defective battery (short circuit in cell)	- See "charge current too low" - Decrease the battery load - Replace the battery - Use temperature sensor - Replace the battery

Problem	Cause	Corrective action
5. Battery loses charge quickly	• Battery capacity reduced because: - Wastage - Sulphating/stagnation	• Replace batteries • Charge/discharge several times, this might help, otherwise replace batteries
6. Batteries are warm	• Defective batteries (short circuit in cell) • Battery temperature too high • Charge voltage too high	• Replace batteries • Use temperature sensor • Check the switches setting

13.5 INVERTER

If you can not correct a problem with the aid of Problem shoot list, contact WALLY After Sales & Service.

Problem	Cause	Corrective action
1. No output voltage and no lighting of warning lights (LED off)	• High output voltage • DC fuse burnt out • Switch set on remote control, but this is not available	• Check the battery voltage and switch off the charger • Replace the fuse • Place the switch to ON
2. No voltage in output, LED of battery charge is ON	• Batteries flat	• Charge the batteries, the inverter will switch on when the battery voltage exceeds 24 V
3. No voltage in output, temperature LED ON	• The inverter is overloaded	• Reduce the charge and let the inverter cool down
4. No output voltage, LED "ON" is lit	• Inverter is in stand-by	• Connect a charge or modify the jumper's settings
5. Low voltage in output	• Low power supply = jumper adjustment	• Connect a charge > 30 W or modify the jumper's settings
6. The inverter turns on and off, the "ON" LED and the battery charger LED flash in turns	• Batteries flat • Wires are too thin • The connections are corroded or faulty	• Disconnect the charge and charge the batteries • Replace with wires of correct diameter • Tighten connections. If wires are burnt out, replace them
7. The inverter lights ON/OFF, the ON LED is lit, the "overload" LED flashes once a second and the fan operates at full speed	• The inverter is overloaded • The inverter has been switched off ten times as a result of an overload or short-circuit condition	• Reduce the inverter load • Reduce the load or the short-circuit. Reset the inverter manually through ON/OFF switch

13.6 UTILITIES

For further information, please contact the WALLY After Sales & Service.

Problem	Cause	Corrective action
1. A connected utility will not receive power supply	• Power line fuses blown • Wiring disconnected • Connections oxidised maintenance	• Check the line and replace the fuses • Check wiring connections • Check and carry out proper maintenance

13.7 FUEL SYSTEM

For further information, please contact the WALLY After Sales & Service.

Problem	Cause	Corrective action
1. Irregular fuel supply to engines and generators and engines	• Circuit valves closed or not fully open • Filters clogged	• Check/Open • Clean • Replace filter

13.8 WASTE WATER DISCHARGE SYSTEM

For further information, please contact the WALLY After Sales & Service.

Problem	Cause	Corrective action
1. Holding tank or grey water tank drain irregular	• Circuit valves closed or not fully open • Lack of maintenance • Abnormal pumps operation	• Check/open • Carry out maintenance • Check

13.9 FRESH WATER SYSTEM

For further information, please contact the WALLY After Sales & Service.

Problem	Cause	Corrective action
1. No water to outlets	• Circuit valves closed or not fully open • Tanks empty • Pump not receiving electric power supply • Protection pump mode	• Check/open • Fill the tanks and bleed the circuit • Check • Reset
2. Pump starts even with outlets closed	• Circuit leaking	• Eliminate leakage
3. The pump gets continuously on/off	• The tank has no air inside the membrane	• Contact the Service Department

13.9.1 Watermaker

For further information, please contact the WALLY After Sales & Service.

Problem	Cause	Corrective action
1. The pump runs but can't reach the pressure as indicated	• The pump sucks air • Worn valves • Worn seat of pressure relief valve • Improper or worn nozzle • Worn gaskets	• Check the intake pipes. They must be well air-tight • Check and/or replace • Check and clean • Check and/or replace • Check and/or replace
2. Irregular pressure variations	• Worn intake and/or pressure relief valve • Presence of foreign bodies in valves • Air suction • Worn gaskets • Relief valve too open	• Check and/or replace • Check and clean • Check intake pipes • Check and/or replace • Close the valve nut clockwise
3. Drop in pressure	• Worn nozzle • Worn intake and/or pressure relief valve • Presence of foreign bodies in valves	• Replace • Check and/or replace • Check and clean
4. Noise	• Air suction • Broken or unloaded spring of intake and/ or pressure valves • Presence of foreign matters • Worn bearings • Exceeding temperatures of pumped fluid	• Check the suction pipes are well air-tight • Check and clean • Check and clean valves • Replace • Decrease the temperature

13.10 BILGE PUMPS

For further information, please contact the WALLY After Sales & Service.

Problem	Cause	Corrective action
1. Bilge pump does not run. No water pumped	- Wire connections - Blown fuse	- Check wire connection integrity, make sure wire connections are not corroded - A visual check may not be enough, a slight pull on each wire will indicate if wires are still connected - Check to ensure that no wire joints are hanging down into the water - Check the correct fuse size - If fuse size is correct, check the impeller through the inlet opening to be sure it is not jammed or stuck with debris
2. Repeated blown fuse	Fuse rating or clogged impeller	- Re-check fuse to verify compliance to pump specifications - Also examine impeller area and clean any obstructions
3. Pump runs without water output	- Airlocking/cavitating - Pump strainer & impeller area clogged with debris	- Inspect and reposition hose for short vertical discharge - We suggest installing pump below water line to ensure sufficient water flow - Faulty or clogged check valve may add to pump air locking - Disconnect pump and clean outside of strainer, clean debris around impeller, & reattached & re-hook wiring

Problem	Cause	Corrective action
4. Pump shaft corroded	Electrolysis, cracked housing	- Inspect pump housing for cracks which can cause leakage into motor cavity causing corrosion - Possible incorrect current running through wiring causing corrosion
5. Pump stays on after water is pumped out	Wire connections may be incorrect, automatic pumps may have faulty circuit, possible electrical short	On bilge pumps check for correct positive and negative battery connections
6. Nozzle breakage	Hose clamp fastened too tightly	Suggest using plastic style hose clamp, do not use PVC hose
7. Pump impeller spins backward	Check wiring	Switch wiring for correct polarity
8. Wires overheated, melted insulation	Incorrect fuse size, possible jammed impeller	- Inspect and clean impeller area of any debris - Make sure that impeller is free to rotate - Check to make certain correct fuse rating is installed - Replace all damaged wiring

13.11 AIR CONDITIONING SYSTEM

For further information, please contact the WALLY After Sales & Service.

Problem	Cause	Corrective action
1. High crankcase temperature	- Overheating - Poor circulation of treated water (winter cycle) or condensation water (summer cycle)	- Check coolant charge - Correct circulation
2. Low suction pressure	- Low coolant charge - Poor circulation of condensation water (winter cycle) or treated water (summer cycle)	- Add - Correct circulation
3. System noisy	- Loose fastening bolts - Unit base improperly insulated - Improper support or insulation of piping - Piping vibrations	- Tighten bolts - Insulate foundation - Use correct piping techniques and support piping with suitable hangers - Clip pipes correctly. Check the couplings
4. Compressor does not start	- Power off - Thermostat broken - Pressure switch open - Faulty wiring - Pumps not operating - Flow-switch does not close - Gas discharging unit	- Check the supply. Check fuses and/or magne-to-thermal switches - Adjust thermostat - Reset switch and check proper calibration, 20 bar (h.p.) and 2.5 bar (l.p.) - Check diagram and rewire - Check pumps free rotation. Check the magne-to-thermal switches - Restore correct treated water circulation - Check coolant circuit for possible breaks due to transport and installation
5. Compressor cycles intermittently	- Low pressure switch erratic in operation - Low coolant charge - Internal protection tripped	- Check pressure switch setting. Check good cir-culation of condensed water - Add - Check for any voltage drop, correct

Problem	Cause	Corrective action
6. High delivery pressure with compressor stop (high pressure switch)	• Coolant overcharge • Insufficient or no condenser water flow; clogged condenser or sea-water strainer • Condensed water pump off • Poor treated water circulation (winter cycle) • Air in coolant circuit	• Remove excess coolant • Adjust water regulating valve to condenser; clean condenser or sea-water strainer • Check pump and start • Check for air in the circuit. Check for possible clogging • Restore vacuum and refill with coolant

13.12 GANGWAY / SWIM LADDER

For further information, please contact the WALLY After Sales & Service.

Problem	Cause	Corrective action
1. The system does not react to the controls	- Flat battery - Fuse	- Verify that the battery of the sender is loaded or correctly inserted - Verify that the self learning of the sender code has been carried out - Check that the hydraulic control unit is correctly supplied; check for the integrity of the fuse
2. The gangway does not move smoothly	The hydraulic power unit has a thermal protection	Wait until hydraulic power unit is disconnected (about 5 minutes) and re-try handling on the adjusting trimmer (shift few degrees each time), if the problem continues, also with trimmer at bottom scale (clockwise) address to service department

13.13 BOW THRUSTER

For further information, please contact the WALLY After Sales & Service.

Problem	Cause	Corrective action
1. The electric motor does not turn and the warning light on the control panel is off	No electric power supply	- Check that the main magneto-thermal switch has been activated - Check the status of the fuses of the control and main current; if necessary, replace them - Possible presence of a short circuit; check the cables
2. The electric motor does not turn and the warning light on the control panel is on	Presence of a foreign body in the tunnel, which blocks the propeller	Check and eliminate the cause of the block
3. The motor turns too slowly	- The battery is insufficiently charged - The contact of the blades is poor - Presence of seaweeds or fishing line stuck in the propeller	- Adequately charge the batteries - Replace the blades - Proceed to clean
4. The motor turns (too) quickly but there is no propulsion	The safety pin has broken due to the presence of an object in the tunnel	Replace the safety pin and eliminate the cause of the block of the propeller
5. The thruster leaks oil inside the yacht	Damage to the circuit or to seals	- Check the hose and its connections and, if possible, repair the damage - Check the sealing ring on the foot shaft and, if possible, repair the damage
6. The thruster leaks oil but not inside the yacht	Damage to the circuit or to seals	Check the sealing rings of the thruster shaft, at foot base

