

OWNER'S MANUAL

DEHLER 39

Name of Boat

Shipyard Number

HIN (Hull Identification Number)

Design Category

A



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Owner's manual version 28.08.01



Your Seller's Stamp

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1.3 Introduction

This manual was set up and compiled to make it possible for you to use your sailing boat in a safe and pleasant way.

Apart from many details regarding the sailing boat itself, the manual also contains indications about the supplied or fitted gear and information on its use and maintenance, in addition to the information given by the manufacturer. Please read the manual carefully through and get used to it before you go sailing with your yacht.

We kindly recommend you to make copies of the relevant parts of the manual and some manufacturer's information, such as instructions about maintenance and warning, so as to have them handy on board in case you need to find out quickly the cause of a technical fault and repair it.

In case this is your first sailing boat or if you are not yet used to the special features of a yacht of this size, please try to know some more about the handling and use of the yacht for your own safety and comfort, before taking over the command. Your seller is there to help you with everything you need.

Of course, a prerequisite for a successful sailing trip is that you have sufficient experience as a sailor, so that you know how to behave in all kinds of situations.

*We hope you will enjoy your new **DEHLER 39** and wish you good luck and safe sailing.*

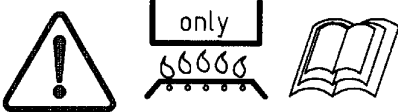
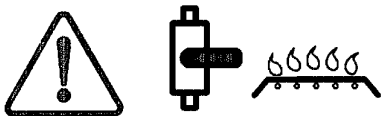
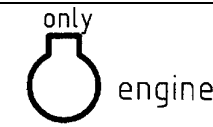
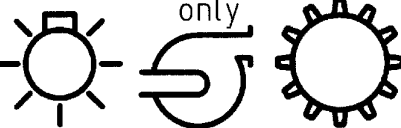
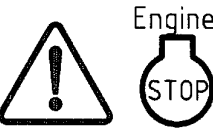
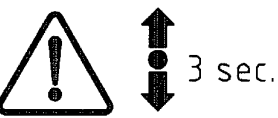
An Owner's Manual is a technical document which gives you a general description of the yacht and its technical systems. It helps the skipper/sailor to safely handle and maintain the yacht and its systems, identify possible technical faults and sometimes even to repair these faults himself. The shipyard reserves the right to carry out changes in the equipment and technique. The systems represented in this manual should not be considered a basis for the sales contract. In that case you should use the description of the construction given in the valid price list from which you bought your yacht.

**PLEASE KEEP THIS MANUAL IN A SAFE PLACE AND GIVE IT TO THE
NEW OWNER, IN CASE YOU SELL THE YACHT.**

1.4 Stickers - List

List of main indications, made known by stickers.

Observance of the indication stickers is very important for both the boat and its crew. Non-observance of the indications can lead to the boat's total loss and problems for the crew. As the skipper responsible for the boat's safety you should inform new crew members about the stickers and their meaning.

	Don't use the cooker for heating!	Sticker under the cooker's lid
	Shut valve Gas Oven	Sticker under the cooker's lid
	Main switch Engine	Indication next to the companion way bow
	Main switch Consumption	Indication next to the companion way bow
	Emergency shut-off valve Fuel Diesel engine	Sticker in the space under the navigation table, above the reach through opening
	Only switch with neutral number of revolutions!	Sticker next to the Gas/Switch
	Cold-resistant Please observe manufacturer's instructions!	For onboard diesel engine and heat exchanger at the companion way bulkhead and the scavenger valve
	Fuse 12V A= see print	Sticker inside the companion way valve
	Automatic fuse 110V or 230V	Sticker next to the automatic fuse Shore connection

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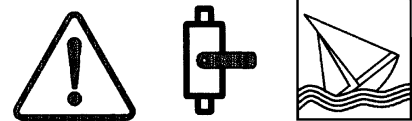
		Sticker Fire extinguisher	Indication for fire extinguisher on the navigation seat and on the starboard fore castle locker
		Electric water-heater	Sticker next to the switch on the shore connection panel
		When sailing, close the sea valves	Sticker on each cupboard door and on the flap door hiding the sea valves
		Indication for the escape hatch	Sticker on the bow bulkhead on the bow hull
		Position crane belt	Four stickers on deck side
ACHTUNG <u>FLÜSSIGGASANLAGE</u> Rauchen und offenes Feuer bei geöffnetem Flaschenbehälter verboten		Warnings Gas Installation	Sticker behind the bulkhead for the gas bottle

FIGURE.: WARNINGS

1.5 Design Category

One of the requirements of the EC Directive on Pleasure Craft is that every boat should belong to a specific design category.

The yacht type DEHLER 39 belongs to Design Category A.

The Directive describes Design Category A as follows::

Design Category A: High Sea

Designed for longer trips, with possible weather conditions of a force 8 wind or more (Beaufort Scale) and waves as high as 4 m or more, during which these boats can go on sailing on their own.

1.6 Identification

For a yacht of this size the EC Directive only foresees the certification model Aa. This means that the manufacturer certifies the conformity of its construction and equipment with the directive, but that its stability needs to be tested by a recognized testing institute. The „Germanische Lloyd“ (Abbreviation GL), one of the testing institutes allowed by the EC Directive, was in charge of testing, see the Statement of Conformity on page 12.

On the mirror on the fore castle the hull identification number was stamped in a gel coating. This is a world-wide **unique** succession of numbers and letters. For example:

DEDEH 65012K900

This succession of numbers and letters comprises the following data:

DE	Germany, Country of Origin
DEH	Unique Shipyard Code (the Register is kept by the German Boat and Shipbuilders' Association)
65	Type Name as chosen by the shipyard
12	Continuous Construction Number
K	Start of Construction Month November
9	1999, when construction started
00	End digits of the year 2000, when the yacht was delivered

Month	Code	Month	Code	Month	Code
January	A	May	E	September	I
February	B	June	F	October	J
March	C	July	G	November	K
April	D	August	H	December	L

1.7 Manufacturer's Plate

The manufacturer's plate on the fore castle companion way bulkhead is a requirement of the EC Directive, explaining certain obligatory data.



3 – Cab.-Version



2 – Cab. – Version

Explanation of the information required by the Directive:

A	Design Category A: High Sea
Maximum additional load	This weight indication comprises. persons, supplies, food supplies, water, fuel and personal equipment
Max. Pers.	Maximum number of persons, recommended by the manufacturer,when the boat is located in a maritime area corresponding to its design category.
Max. kg	Maximum weight of personal equipment
0098	CE Sign indicating that the boat was built accordin to the requirements of the Directive. The succession of numbers is the reference number of the certifying institute, in this case the Germanische Lloyd (see Statement of Conformity).

1.8 Statement of Conformity

**Dehler Deutschland GmbH
Industriegebiet Im Langel
D-59872 Meschede-Freienohl**

**EC- Statement of Conformity
according to EC-Directive „Pleasure Craft“ 94/25/EC, Annex XV**

We herewith state that the sailing boat described hereunder complies with the basic safety and health requirements of the EC Directive „Pleasure Craft“, both in its concept and construction method as in its commercial execution. In case the boat undergoes changes, which affect the „basic safety requirements“ without our approval, this statement shall no longer be valid.

Description of the boat	Sailing yacht
Type of Boat	Dehler 39
Main dimensions	11,80 x 3,85 x 1,98 m or 11,80 x 3,85 x 2,35 m
Serial number of hull	see entry on the covering plate
Design Category	A
Certification module	Aa
Applicable Directives	EC-RL Pleasure Craft (94/25/Ec)
•	
•	
•	
• Applied harmonized standards	see Annex Page 13
• Applied international standards	see Annex Page 13
• Applied national standards	see Annex Page 13
• Other applied regulations	see Annex Page 13
Selected testing institute according to Annex XIV	Germanischer Lloyd
Address	Vorsetzen 32, D – 20459 Hamburg
in charge of	
- internal manufacture checking and testing (Module Aa) pursuant to Annex VI	
- numbers 3.2 and 3.3	
- EC Testing of Construction Type (Module B) pursuant to Annex VII	
-	

Test Certificate No. . **88.01.0457**

Freienohl,

Signature of Manufacturer

Position of the undersigned

1.9 Technical Regulations

Attachment to the Statement of Conformity or Manufacturer's Certificate

Applied Standards and/or Technical Regulations

listed in the same order as in Annex I and Annex II of the Directive

Annex I

1	Design Category	Annex I	
2.1	Hull Identification Number	EN ISO	10087
2.2	Manufacturer's Plate	ISO/WD	14945
2.3	Protection against falling overboard	ISO/WD	15085
2.5	Owner's Manual	EN ISO	10240
3.1	Sizing	ISO/WD	12215 (6 Volumes)
3.2	Stability, free board	ISO/WD	12217 (3 Volumes)
3.3	Buoyancy, floating capacity	ISO/WD	12217 (3 Volumes)
3.4	Openings, hatches, windows	ISO/DIS	12216
3.5	Flooding		
	- Cockpit, Cockpit drainage	ISO/CD	11812
	- Bilge system	ISO/WD	15083
3.6	Recommended maximum load	ISO/WD	14946
3.7	Storage space for lifeboats	-----	
3.8	Emergency escape		
	- (fire protection)	ISO/DIS	9094
3.9	Anchoring, mooring, towing	ISO/WD	15084
4	Engine power, manoeuvring capacity	ISO/CD	11592
5.1	Engine system and engine room		
	- Steam, noise, heat	ICOMIA-Standard in preparation	
	- Ventilation	ISO	11105 (Petrol)
	- Exposed parts	Annex I	
5.2	Fuel system	ISO	10088
5.3	Electrical system		
	- Direct current systems	ISO	10133
	- Alternating current systems	ISO	13297
5.4	Steering systems	(5 standards see construction elements)	
	- Auxiliary rudder	Annex I	
5.5	Liquid gas systems	ISO/DIS	10239.2
5.6	Fire protection	ISO/DIS	9094
5.7	Navigation lights	National Regulations	
5.8	Sewage	ISO	8099
	- Waste water tank		
	- Holding and preparation systems		
	- Black water tanks		

2. Description of the boat

2.1 Main data

Overall length	Ol	11.80 m
Length waterline	Lwl	11.03 m
Maximum beam	Bmax	3.85 m
Beam hull	Bh	3.80 m
Draft hull	Hull	0.50 m
Max. draft standard keel	Tmax	1.98 m
Draft regatta keel (optional)	Tmax	2.35 m
Side height midship	Db	1.22 m
Transport height standard keel without support	Hr	4.02 m
Transport height regatta keel without support	Hr	4.39 m
Full height mast*	Hd	18.30 m

Full height mast with additional antennas	Hmax D
---	--------

- The full height can be critical when you have to pass under a bridge or a high voltage line. It is the height above the **waterline until the highest point of the mast**. It is measured without possible antennas nor a radar reflector but taking into account the measurement for the WINDEX. Please correct the measurement if you install any additional gear and mark it in the last line of the main data.

2.2 Transport measurements

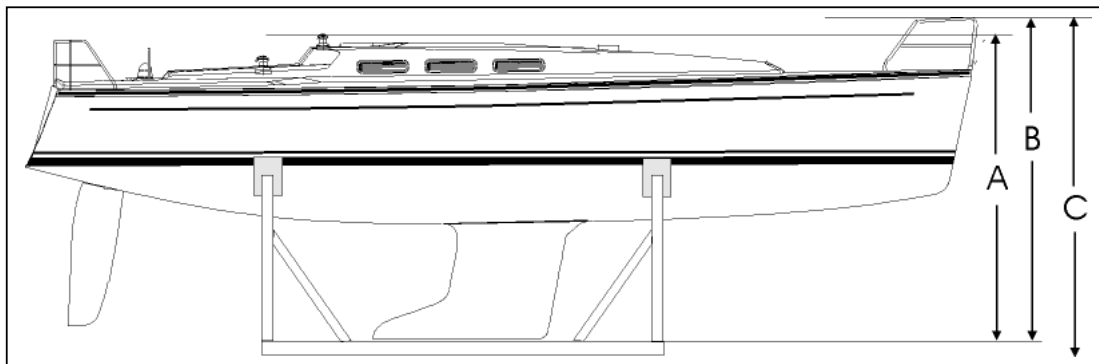


FIGURE.: TRANSPORT MEASUREMENTS

Standard keel:

A = Transport height without bow basket and helm 3.81m

B = Transport height with bow basket 4.02 m C = Transport height with support 4.18 m

Regatta keel:

A = Transport height with bow basket and helm 4.18 m

B = Transport height with 4.39 m C = Transport height with support 4,50 m

Transport width, see main data

2.3 Dimensions of sails

Mainsail 44.0 m²

Frontsail from 34,7 till 115 m²

2.4 Weights

Weight without load-	Standard keel Gempty	7 800 kg
Weight without load	Regatta keel Gempty	7 150 kg
Max. weight	with standard keel	approx. 9 800 kg
	V _{max}	
Max. weight	With Regatta keel	approx. 9 150 kg
	V _{max}	
Keel weight	standard keel Gs	2,945 kg
Keel weight	regatta keel Gs	2,295 kg

2.5 Engine system

Manufacturer YANMAR, Type	3GM30 FC 27 hp
Optional	3JH3CE 40 hp

2.6 Electrical system

2.6.1 230 V Alternating current

The **Dehler 39** is equipped with a shore connection system to charge the batteries and to ensure that the hot water supply works even when mooring at a port. Additional 230 V plugs complete the system.

2.6.2 12 V Direct current system

Normal on-board power supply and the supply for navigation lighting, pumps, electric and electronic gear, night lights and comfort lighting is supplied by a 12 V direct current system.

2.6.3 Battery capacities

The **Dehler 39** is equipped with 3 batteries, which are used as consumption and starter batteries.

- Starter battery **12 V 55 Ah**, free of maintenance, leak protection
- The battery is placed under the berth/double berth at the port stern
- Consumption batteries 2 x **12 V 110 Ah**, maintenance-free, leak protection
Optional 2 x **12 V 200 Ah**, Gel, maintenance-free, leak protection
- The batteries are placed under the berth/double berth at the starboard and port stern in the storage space under the floor bulkhead..

2.7 Capacity of tanks

1 PE-Fresh water tank 230 l

The tank is installed in the cabin under the port corner cabin quilting

1 PE- Freshwater tank(optional) **174 l**
The tank is placed at the bow under the triangular quiltings

1 stainless steel fuel tank **110 l**
The tank is installed in the cabin under the starboard side berth

1 stainless steel holding tank (optional) **45 l**
The tank is installed on starboard in the closet of the shower room- rear cabin

1 stanless steel holding tank	45 l
(incl. in second shower room.)	

To see a detailed description of the different water tanks, see installation schemes on the next pages.

2.8 Maximum number of persons

The Directive requires to establish a maximum recommended number of persons on-board when the boat is sailing in its adequate area. The **Dehler 39** is designed for off-coast navigation , that is to say trips of a few days between different ports. Therefore we recommend you the following::

- In case of sailing journeys of a few days, no more than 8 persons should be on board, since this is the maximum number of available berths;
- **Note:** There **should** be enough life-jackets on board for all persons on the boat.. An inflatable lifeboat should have enough space for at least 8 persons.

For day trips, if possible not more than 10 persons should be on board, since there is just enough space for them in the cockpit. For very short trips, the number can be increased.

- **Note:** There **should** be enough life-jackets on board for all persons on the boat.

2.9 Additional load

The Directive requires the shipyard to recommend the maximum additional load. It comprises persons, personal equipment, fuel, water and food supplies. It is marked on the type plate.

Maximum additional load for the DEHLER 39 is 2000 kg.

This value was taken as a basis to calculate the yacht's stability..

2.10 Cranes

In many harbours yachts are taken on land with a crane and hoisting gear. Belts are to be placed taking into account the solidity of the boat's build and the distribution of weight. On the Dehler 39, the recommended bearances are marked on the coaming guard rods. The bearance at the front is **A, at about 4.00 m** of the bow front and the bearance at the rear is **B, at about 3.00 m** of the stern side.

The distance C between these two markings is about 5.00 m. Taking into account these markings, belts should not be displaced more as:

Rear and front: max. 200 mm forwards or backwards.

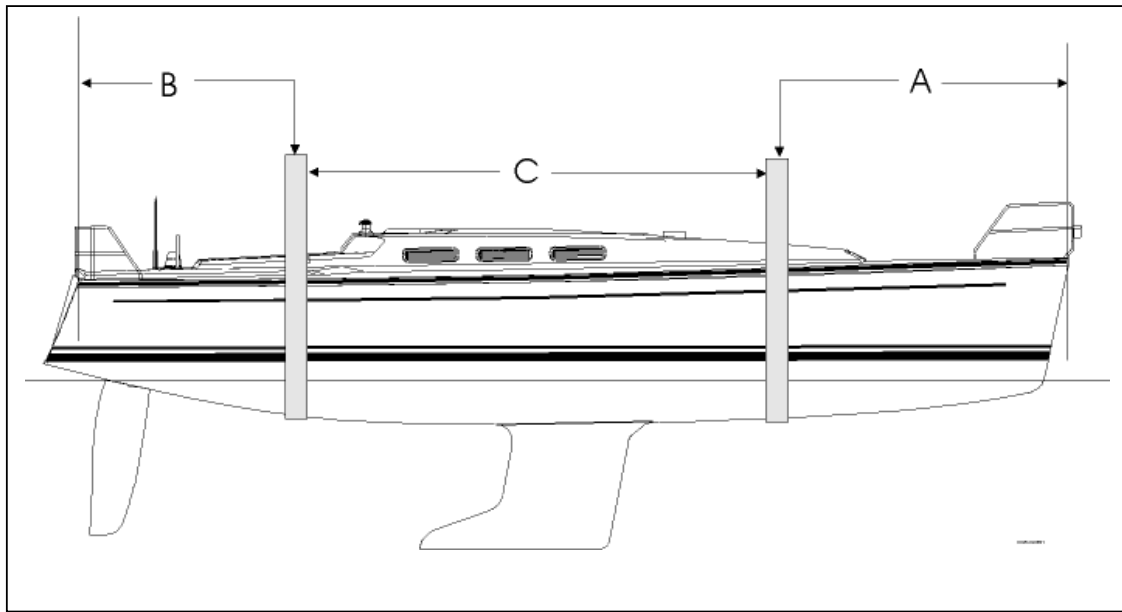


FIGURE.: CRANE BELT BEARANCES

3. General Drawings

3.1 >2 Cab.-Version

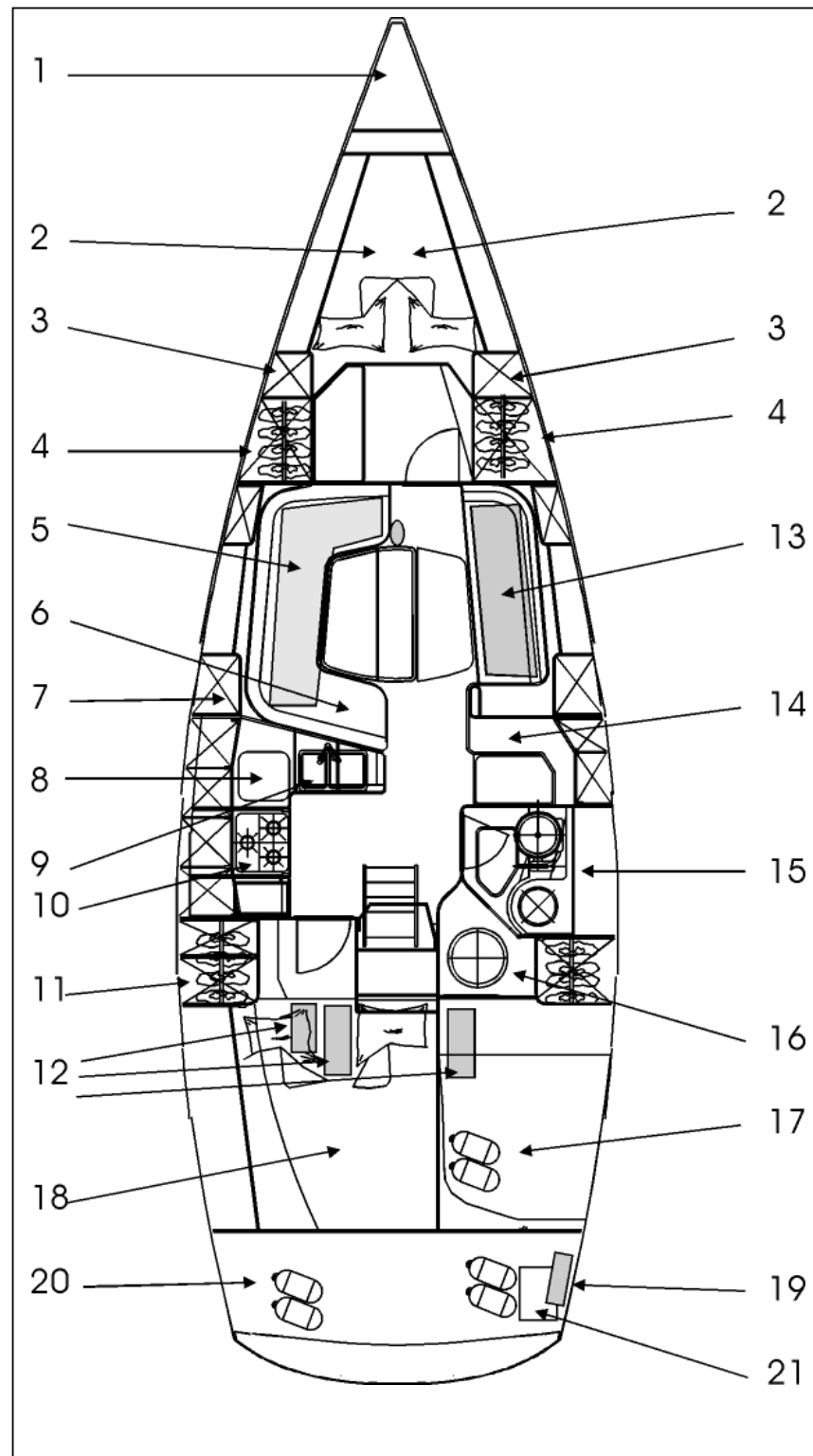


FIGURE.: GENERAL DRAWING 2-CAB.

3.2 >3 Cab.-Version

Components

2 + 3 Cab.

⇐ ⇒

1. Anchor entrance
2. Bow berths
3. Storage space
4. Bow cupboard
5. Water tank
6. Cabin couch
7. Storage closets
8. Cool-box
9. Double sink
10. Gas cooker
11. Cupboard
12. Batteries
13. Fuel tank
14. Navigation room
15. Shower room
16. Shower 2-Cab.
17. Storage space 2-Cab.
18. Stern berths
19. Heating
20. Storage space stern
21. Heat exchanger

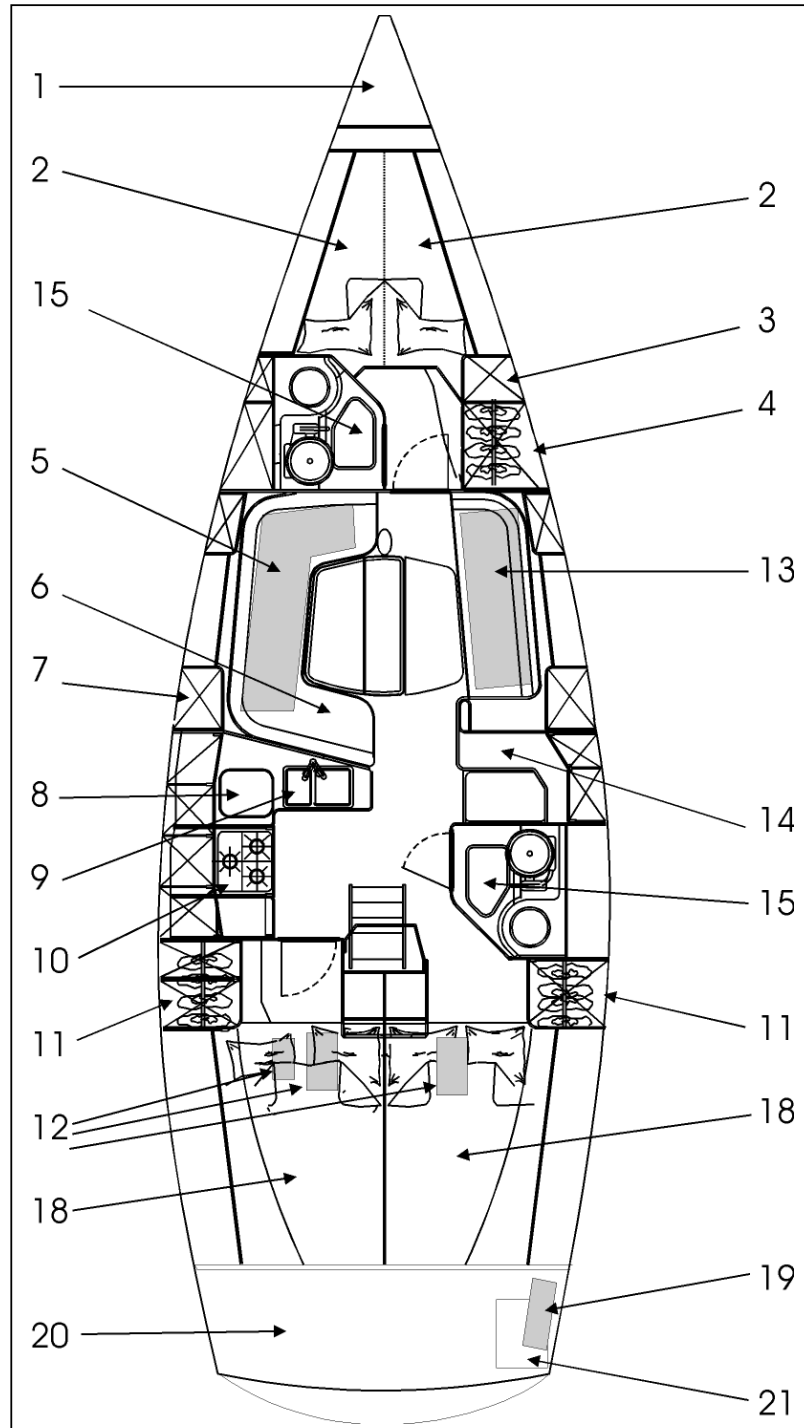


FIGURE.: General drawing 3-Cab.

3.3 Deck drawing Components

1. Bow basket
2. Bow notches
3. Anchor entrance cover
4. Kicking strap turnaround
5. Front hatch
(Escape hatch)
6. Filling snout
Water
7. Filling cap
Diesel
8. Mast rudder-hole
9. Shroud chainplate
port
10. Shroud chainplate
stern
11. Cabin hatch
12. Genua slide
13. Deck ventilator
14. Spring notches
15. Lever clamps
16. Waste water tank-
Suction cap
17. Halyard winches
18. Genua winches
19. Traveller
20. Spinnaker winches
or main sheet
21. Steering column
22. Helm
23. Gas tank
24. Rear notches
25. Backstay chainplates
26. Storage space cover
27. Foldable helmsman's seat with **space for the lifeboat** under the seat

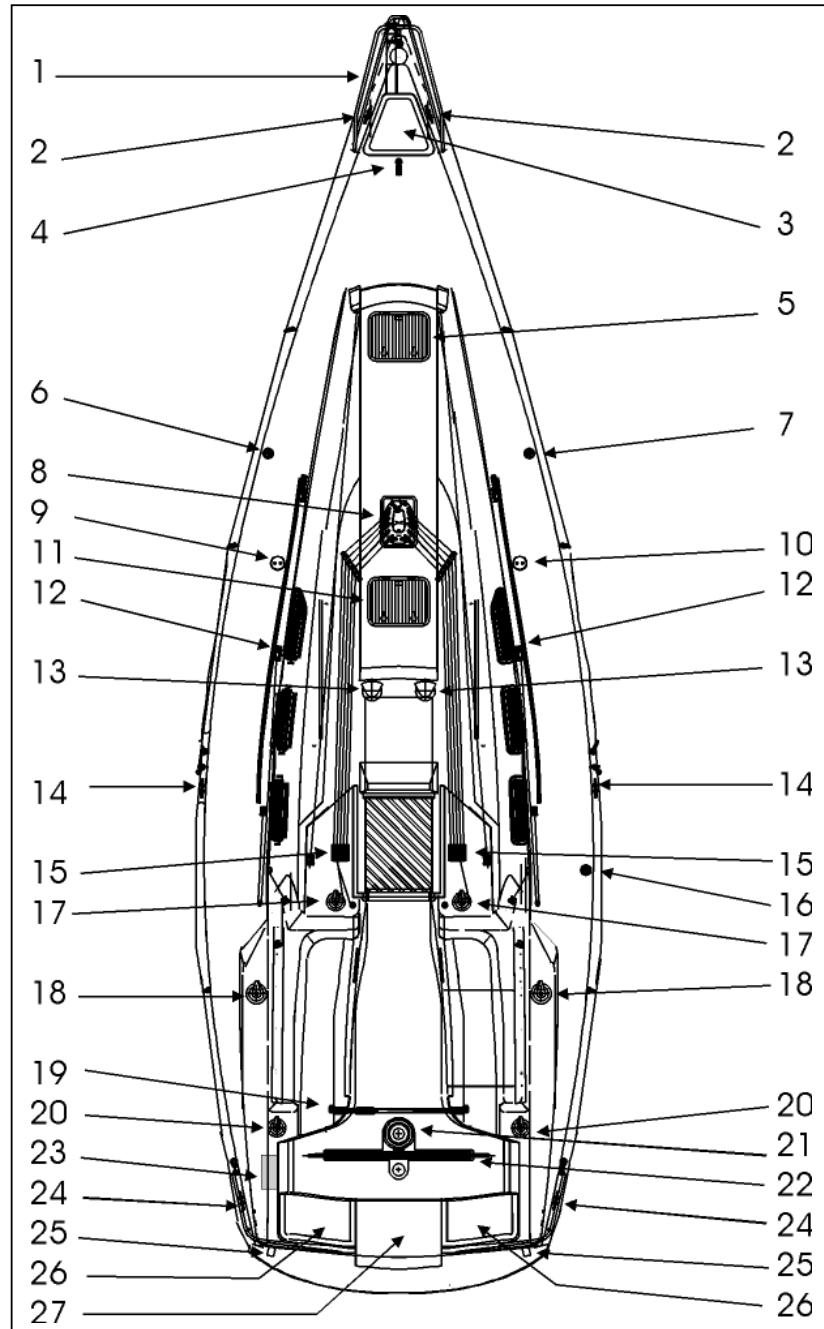


FIGURE.: DECK DRAWING

3.3.1 Deck

The deck is a sandwich construction. Balsa wood of different thicknesses is used as intermediate layer.. In areas with a lot of strain reinforcements of aluminium, plywood or solid wood are used.

Fittings such as genua slides, halyard pegs, winches, deck hatches or turnaround bushings are sealed with an elastic silicone rubber mass and screwed.

3.3.2 Sea railing

The deck is equipped with a bow basket, stern basket, integrated safety ladder/swimming ladder and conical sea railing supports. The sea fence has a continuous height of 610 mm. The eight railing bolts and the bolt for the bow and stern basket are screwed on the aluminium deck reinforcement and glued with epoxy resin.

Cleaning and Maintenance Hints

Stainless steel Fittings: Polish matt or dark areas, so that the stainless steel keeps its anti-corrosion characteristics

Winches, Blocks: Dismount at least for winter storage, cleaning and treatment with appropriate lubricants

Windows, hatch panes: Wash with clean water and polish with a soft cloth

Teak wood: Wash regularly with clean water. It will not be good to use high pressure watercleaner.

3.3.3 Lifeboat

If you use the yacht in sea areas corresponding to its design category, a lifeboat should be installed on the established point on the deck. The lifeboat shall have sufficient space for all persons on board.

HINT

According to the cabin version, a lifeboat for 6 or 8 persons should be stored in the storage space under the helmsman's seat.

3.4 Sail plan

As a sailing boat for families and regatta crews the boat is equipped with the following sails:

Mainsail	44.0 m ²
Genua 140 %	49.0 m ²
Jib 100 %	34.7 m ²
Spinnaker approx.	115.0 m ²
Gennaker	93.0 m ²

The canvas quality was chosen for the wind strain corresponding to the sails. The mainsail can be reduced by two one-line quick reefings to 35.9 m² (Reefing 1) and to 26.5 m² (reefing 2).

Optional

Mast and deck fittings are available to set spinnaker and other windsails.

3.4.1 Sail dimensions

- P = 14.90
- E = 5.40
- I = 15.70
- J = 4.40

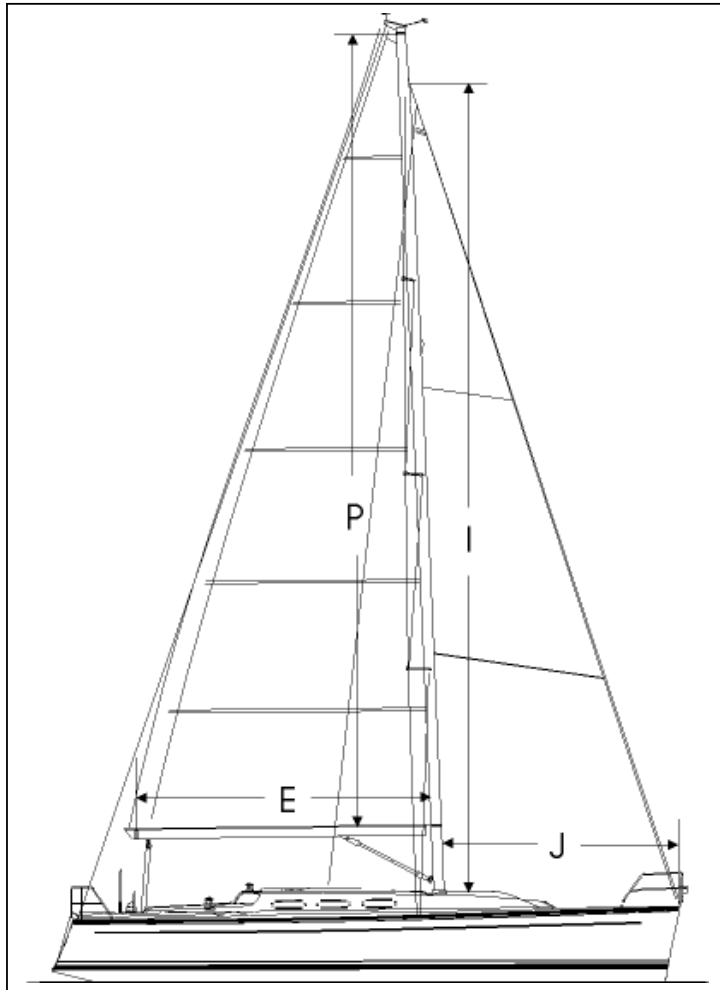


FIGURE: SAIL RIB

With these data every sailmaker can make the sail you wish.

3.4.2 Mastling plan

- The mast is placed in a mast rail under the deck:
- Mast length: 18.44 m
- Boom length 5.60 m
- Length sailing arms from top to bottom 67.0 cm, 101.1cm and 117.6 cm

The profile measures for the SPARCRAFT rigging are higher than the necessary minimum moment of inertia and moment of resistance, which have to be maintained when the rigging is eventually replaced. Mast profile F 810 Dimensions 121 x 190 mm.

Main boom profile F 460 Dimensions 116 x 215 mm.

3.4.3 Halyard running

1. Top shroud
2. Spinnaker halyard
3. Main halyard
4. Reefing1
5. Outhaul
6. Main boom kicking strap
7. free
8. Reefing 2
9. Jib halyard
10. Spinnaker halyard 2
11. Spinnaker boom kicking strap
(optional)
12. Spinnaker boom kicking strap
(optional)

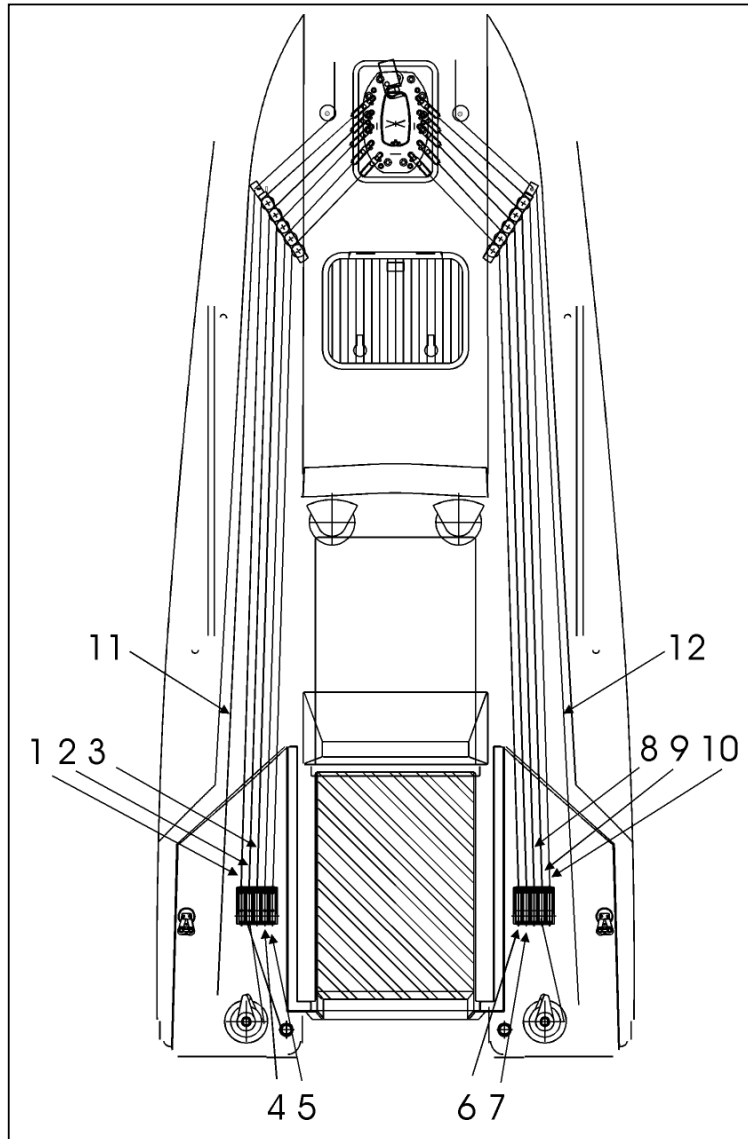


FIGURE.: Halyard running

3.4.4 Main sheet running

Standard: Mainsheethaul
1:4/1:8. If you pull both ends
of sheet, it is 1:4. If you pull
only one end it is 1:8.

Optional: With optional mainsheet winches one part of the sheet is fastened at each winch.
Needed power is divided 1:2.

3.4.5 Furling genua / Main sheet traveller

As an option, the three furlings can be adjusted without graduation from the cockpit. The adjustable top setting of the furling genua makes a lot of sense with a frontsail roller reefing installation.

3.6 Shrouds, stays and halyards

Dimensions

Forestay Type Dyform 10mm Ø 16221 mm

Backstay Type Dyform 8 mm Ø 13880 mm

Bridles Type 8 mm Ø 7 x 19 mm

D4 / V 3 Type Dyform 8 mm Ø 7035 mm

D3 Type Dyform 7mm Ø 3711 mm

D2 Type Dyform 7mm Ø 3745 mm

V2 Type Dyform 7mm Ø 3638 mm

D1 Type Dyform 10mm Ø 4714 mm

V1 Type Dyform 10mm Ø 4713 mm

3.7 Running rigging

Dimensions

Main halyard 10 mm Ø 38m colour neon green

Jig halyard 10 mm Ø 35m colour light blue

Spinnaker halyard top 12 mm Ø 39m colour red*

Spinnaker halyard 10 mm Ø 34m colour red*

Top shroud 12 mm Ø 13m colour red*

Kicking strap 12 mm Ø 13 m colour blue/white*

Outhaul 12 mm Ø 13 m colour blue/white

Reefing line I 10 mm Ø 21,5m colour blue/white

Reefing line II 10 mm Ø 23m colour blue/white

2 Flag lines 4mm Ø 9m colour white

* Optional execution

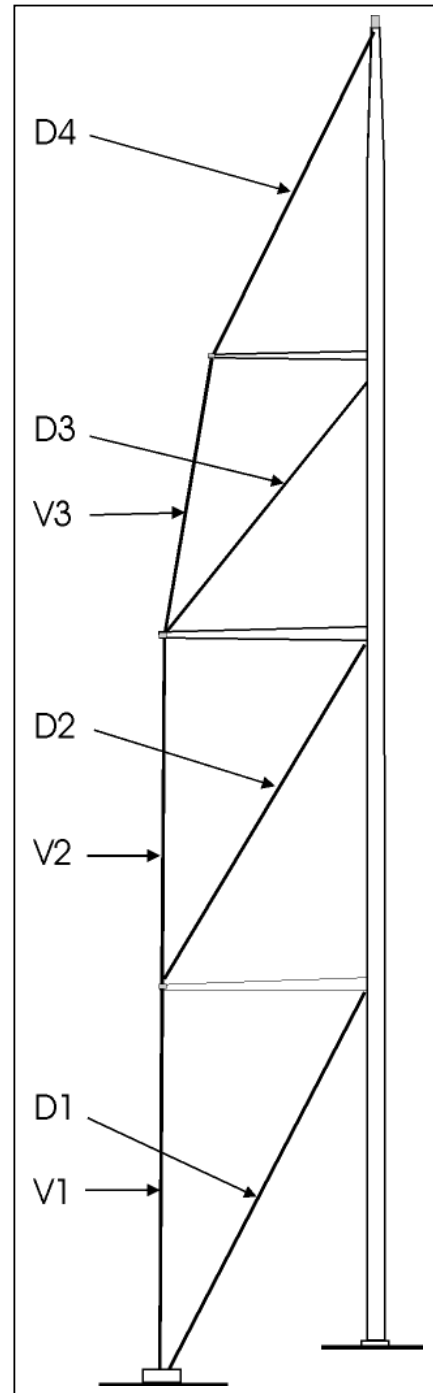


FIGURE: SHROUDS/STAYS

Main boom:

The main boom is equipped with a fast reefing device for the first and second reefing. A rope starts at the luff, gets turned around towards the stern by the main boom to the rear reefing strap, from there to a swivel bolt and so on to the deck winch. In this way the front and rear reefing straps get put up on the main boom with a reefing line and the sail gets smaller.

3.8 Hints for easy sailing

Rigging

- Before winter storage, the whole rigging should be washed with freshwater.
- For winter storage you should check the standing and running rigging, hatch panes and shroud tensioners. Reefings in the bolts: Absolutely replace the bolts.
- Lubricate the moveable parts with appropriate lubricants. For shroud tensioners we firmly recommend graphite grease. From time to time you should spray the rollers of the mainsail with a lubricant.
- If the mast or the boom show damaged parts, these should be cleaned and painted with a transparent varnish appropriate for aluminium.
- Dark or rusty areas on the stainless steel fittings should be polished, so that their quality characteristics remain..
- With an extendible mast there is always the risk of having a leak at the mast gasket. Additional sealing of joint between mast profile and gasket with silicone rubber.

Sails:

- Plastic sails are sensitive to UV rays. If sails remain on the main boom and the roller reefing device, they should be covered with a mast hood and a frontsail waterproof cloth
- Wet sails should not be stored for too long.
- Before winter storage, the sails should be washed with freshwater and then completely dried, so that you don't get mold stains.
- Seams and straps should be checked thoroughly and eventually repaired.

TAKE CARE with every sailing trip

- Check ropes, towing gear, shroud tensioners and bolt pins
- Fix the bolt pins with adhesive tape or through bending
- Replace all deformed or faulty bolts.

4. Description of on-board systems

4.1 Machine installation

The **Dehler 39** can be equipped with different machine installations. The table shows you the relevant data. At the same time we would like to refer to the extensive information of the company YANMAR. As skipper, you should be able to use the safety and maintenance indications.

	Standard	Optional
Manufacturer	YANMAR	YANMAR
Type	3GM30FC	3JH3CE
Number of cylinders	3	3
Cylinder capacity	954 cm ³	1496 cm ³
Rated power	18,2 kW / 27,3 PS	29,4 kW / 40 PS
Power/Continuous power	17,7 kW / 24,1 PS	26,5 kW / 36 PS
rpm	3,400 rpm	3650 rpm
Cooling	Fresh water cooling with heat exchanger	Fresh water cooling with heat exchanger
Reduction ratio	2,64: 1	2,31: 1
Gear Saildrive	SD 20	SD 31
Dry weight	approx.138 kg	Approx. 173 kg
Three phase current generator	12 V 55 A	12 V 55 A
Fixed propeller Standard	16 x 13" LHS 2-blade	16 x 12" LHS 3-blade
Foldable propeller GORI optional	16,5x13" LHS 2-blade	16,5x13" LHS 2-blade

In front of the installation. the engine room's partition walls are insulated. The engine is accessible through the bulkhead behind the companion way. In addition you can open a flap door in the shower room and in the rear cabin to get access to all relevant components of the engine. After removing the rear wall flap door in the rear cabin you get access to the oil measuring rod of the gear.

4.1.1 Exhaust system

The yacht is equipped with a wet exhaust system, meaning that in the exhaust bend pipe sea cooling water gets injected, which cools the exhaust fumes. This mix is guided downwards to the silencer/water collector – mounted under the double berth. The hose-pipe goes further towards the port and creates a swan neck in front of the inside of the port side mirror.

The exhaust pipe is made of synthetic rubber with a steel spiral. The hose pipe is heat-resistant, although with certain limits. Do **not** interrupt the sea water supply. Therefore, the continuous supply without obstacles should be checked. The hose pipe is fixed on all connection points with two braces.

Within the storage spaces the hose pipe gets partially covered, so as to avoid direct contact between stored parts or components and the hose pipe.

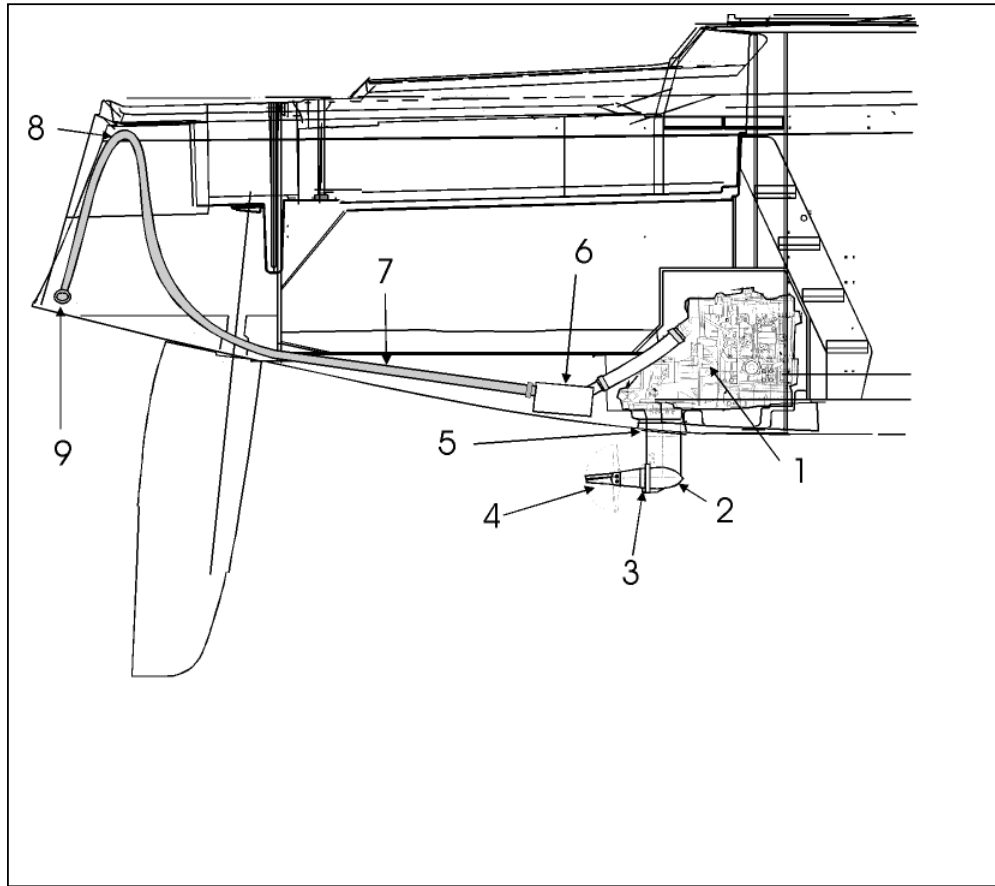


FIGURE.: MACHINE INSTALLATION

Components

- | | | |
|------------------------|---------------|---------------------|
| 1 = On-board diesel | 2 = Saildrive | 3 = Zinc ring |
| 4 = Foldable propeller | 5 = Gasket | 6 = Water collector |
| 7 = Exhaust pipe | 8 = Swan neck | 9 = Board outlet |

LOOK OUT!

Every time the engine starts, the skipper should check if together with the exhaust fumes the board outlet also expels cooling water!

4.1.2 Exhaust system/Maintenance

The seawater-cooled exhaust system with water collector, exhaust pipe and swan neck is cold-resistant and does not need drainage. The hose braces should be retightened once a year.

In winter, the diesel engine should be made cold-resistant. We recommend to place a longer suction hose on the suction snouts of the water pump, see YANMAR manual, to prepare an antifreeze mix in a bucket and let the engine suck up this mix until it is expelled through the exhaust pipe. In this way, you protect both the engine and the exhaust system against frost and corrosion.

4.1.3 Maintenance hints for the propeller

According to your boat's equipment, your yacht is either equipped with a fixed propeller or a GORI foldable propeller. The cinc ring/magnesium ring (cathodic protection galvanic anode) should be replaced once a year.

LOOK OUT

In freshwater areas the cinc ring (4) needs to be replaced by a magnesium ring.

Maintenance hints

During winter storage the propeller should be checked and eventually cleaned of vegetation. Deformations, dents or nicks should be repaired. After that, the propeller should probably be balanced again.

4.1.4 Engine maintenance intervals

Please find all other information on the on-board diesel engine YANMAR in the extensive manufacturer's information.

4.1.5 Fuel tank

A 110 l stainless steel diesel tank is installed under the starboard side cabin. It gets filled through the deck screw on the main deck at the starboard front (Inscription FUEL and Symbol).

Supply of and return to the on-board diesel engine occurs through a fixed copper pipe and at the ends with fireproof fuel hoses pursuant to ISO 7840. Off-board ventilation goes from the fuel tank to the starboard deck via a swan neck in the closet and is finally expelled through the starboard deck side.

4.1.6 Fuel cycle

The suction hose goes from the suction pipe on the fuel tank, via a coarse filter/water condenser to the fuel pipe and then on to the fine filter and the diesel pump, from the engine return to the tank. A fast shut off valve is installed in the suction pipe. You get access to it through the opening (11) in the space under the navigation table.

Components

1. Ventilation
2. Filling cap
3. Fuel tank
4. Tank transmitter cylinder
5. Return pipe
6. Pump heating
7. Filter
Water condenser
8. Suction pipe
9. Diesel pipe
Heating
10. On-board diesel engine
11. Fast shut-off valve

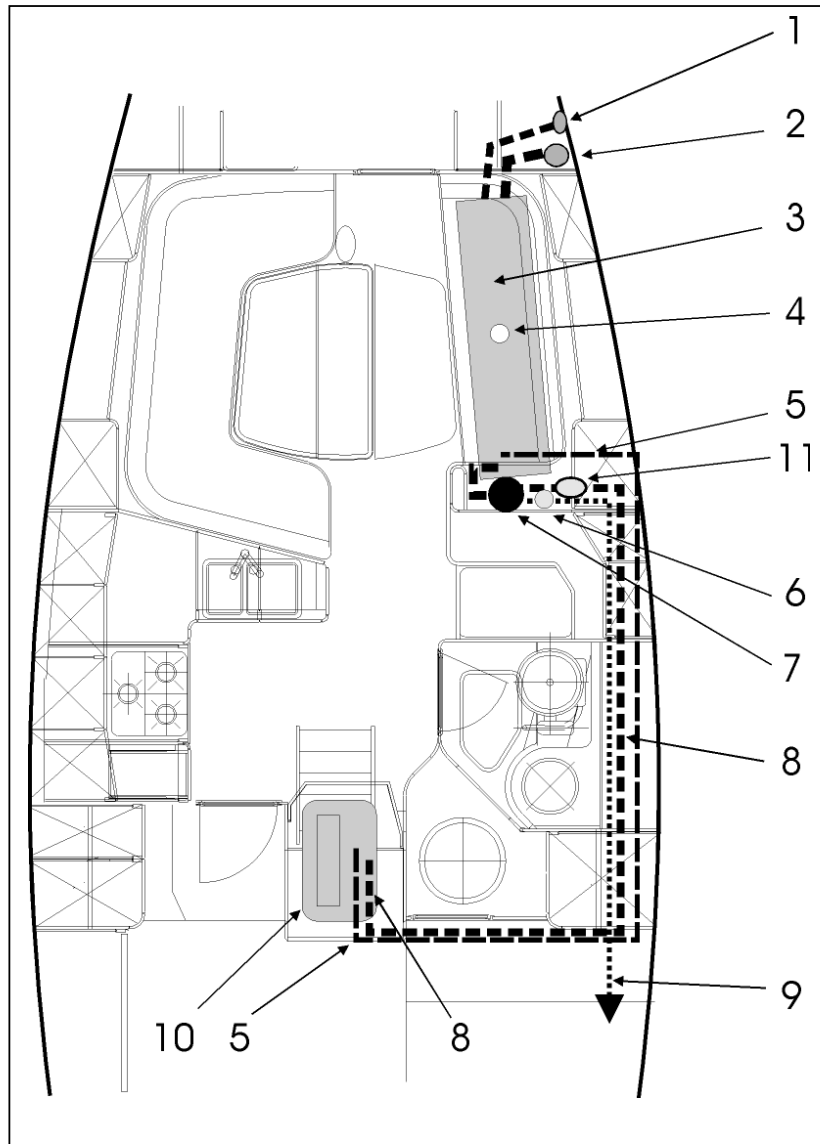


FIGURE.: FUEL PIPE SYSTEM

LOOK OUT

A perfect running of the engine is only possible with a clean fuel. Therefore it is absolutely necessary to regularly check and clean the filter and water condenser.



FIGURE.: DIESEL TANK

Warning

When filling the tank always put off the engine, heating and cooker.
When filling, do not smoke!
Never handle with open fire !

Look out

If a fire-risk exists, shut the safety valve behind the tank – you get access to it in the space under the navigation table.

4.1.7 Engine switch board

The engine switch board with a switch is installed in the cockpit's coaming guard rods. All other information can be found in the extensive information of the company YANMAR.

HINT

The one-switch circuit is a combination between a circuit and an accelerating lever. Between the gear changes always stay a few seconds in idle running. Delayed switching avoids expensive gear repairs.



FIGURE. ENGINE SWITCH BOARD

4.2 Fresh water, drinking water, cold

The **Dehler 39** has a polyurethane water tank, with a capacity of about 230 l, installed under the port cabin berth. On port side in the middle of the coaming guard rods you will find the filling snout. An electric pressure water pump with a pressure balancing deposit supplies the sink and the wash-basin in the toilet.

4.2.1 Cockpit shower(optional)

The fresh water tank also supplies the cockpit shower. The unit is installed under the helmsman's seat against the cockpit's port side wall.

4.2.2 Shower in the shower room near to the companion way

The shower spray head is at the same time the tap for the wash-basin. The installation is completed a filter and a suction pump with a separate outlet valve. Both parts are installed in the closet under the wash-basin.

Components

1. Checking cover with transmitter cylinder for tank indication
 2. Polyurethane water tank
 3. Pressure water pump
 4. Pressure balancing deposit
 5. Sink tap
 6. Wash-basin tap (shower optional)
 7. Supply pipes
- Cockpit shower cold + hot
8. Additional water tank (optional)

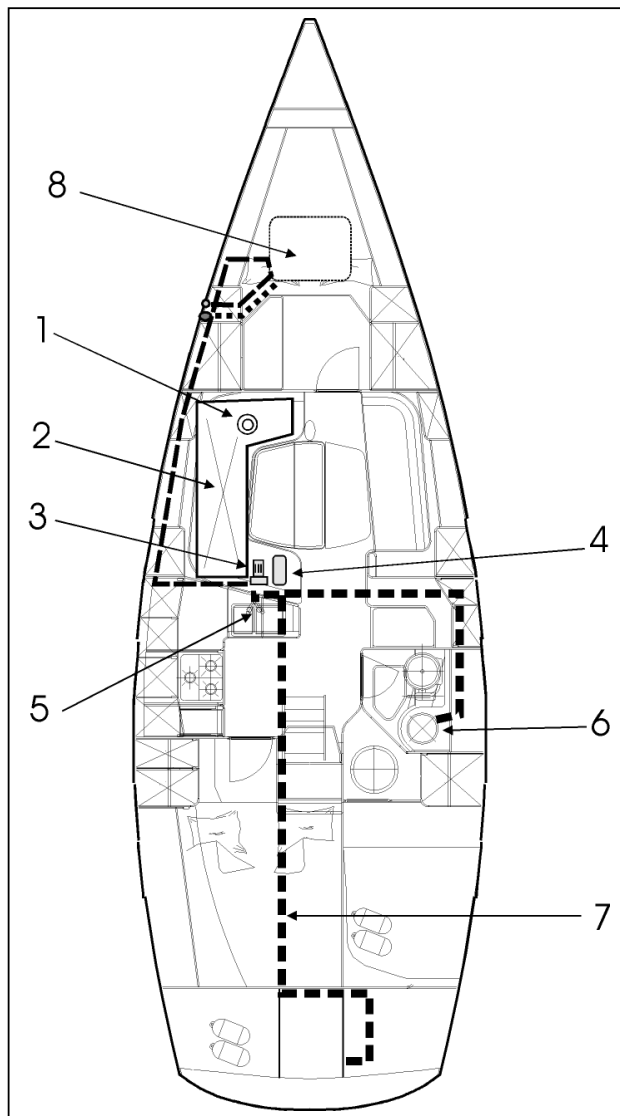


FIGURE.: Drinking water, cold

HINT

The tank is equipped with a checking cover for cleaning. The joint should be saturated with Vaseline. The checking cover should be firmly tightened.

4.2 Fresh water, hot

A SIGMAR heat exchanger with a 20 l capacity is installed for the production of hot water. You'll find it in the starboard rear storage space.

Components

- 1 Checking cover with transmitter cylinder for tank indicator
- 2 Polyurethane water tank
- 3 Pressure water pump
- 4 Pressure balancing deposit
- 5 Sink tap
- 6 Wash-basin tap
- 7 Hot water supply
Engine supply
- 8 Hot water pipe (black)
- 9 Cold water supply tank
- 10 Hot water supply
Engine return
- 11 Heat exchanger
- 12 Drainage pipe heat exchanger

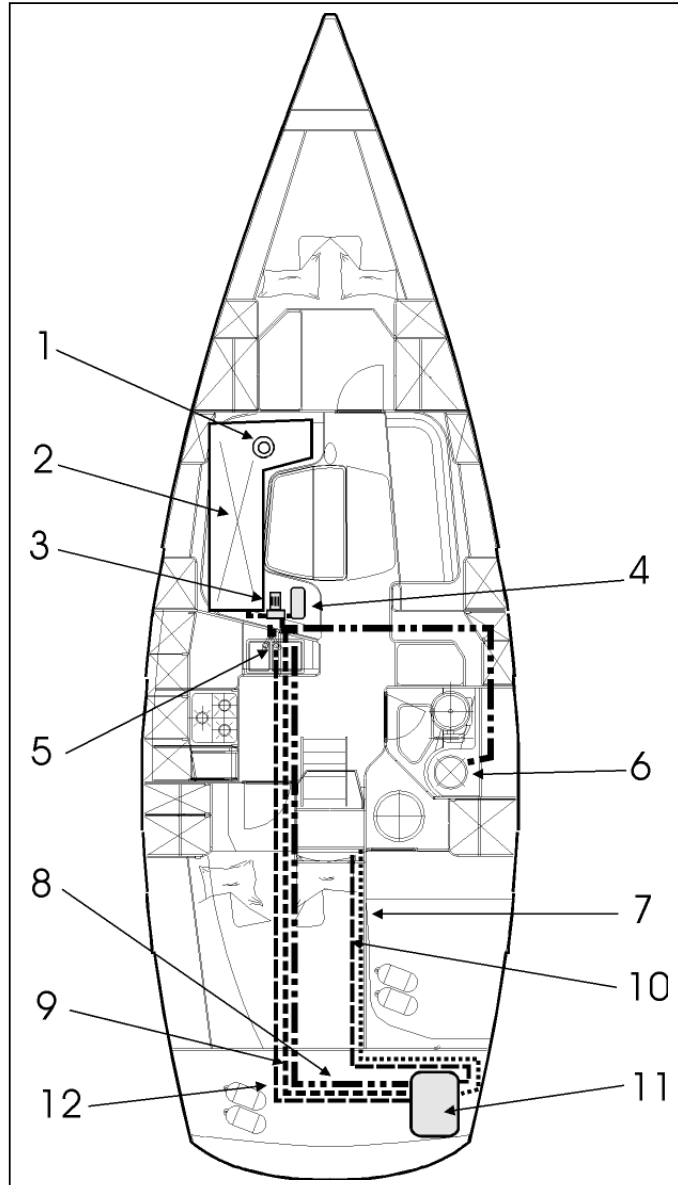


FIGURE.: HOT WATER

From time to time, you should replace the water in the tank. In addition you can add commercial water treatment products, for example Micropur, to the water.

The engine two-circuit cooling gets used once as heat source. Since the engine is only foreseen to be used in calm weather and for manoeuvring in harbours, the hot water storage heater/heat exchanger is also equipped with a 1200 Watt electric heating cartridge, which in harbours can be used with 230 V alternating current via the shore connection. You will find the switch in the space under the navigation table.

The cold water gets guided to the insulated heat exchanger by the pressure pump. The pressure balancing deposit in the cold water cycle serves also for the hot water inlet. The water in the heat exchanger gets heated by the hot water of the engine. This way the wash-basin, pantry and eventually the cockpit shower get supplied.

4.3.1 Heat exchanger – cold-resistant

In case of frost risk, the heat exchanger should be drained. In comparison with the attached instruction manual we improved the installation and made it more user-friendly. The sketch shows you the construction. When normally running, the valves are set as shown.

In case you need to drain the heat exchanger, the valve (4) of the water tank has to be closed as well as the cold water inlet valve (6). Then you should open the ventilation valve (12) on the heat exchanger and finally the valve (5) of the suction pipe of the heat exchanger. If you open the sink's cold water valve, the water pump will start and drain the heat exchanger.

Components

1. Water tank
2. Pressure water pump
3. Pressure balancing deposit
4. Valve cold water inlet
5. Valve bilge water Heat exchanger
6. Cold water valve
7. Hot water pipe
8. Sink
9. Bilge water pipe
10. Heat exchanger
11. On-board outlet ventilation
12. Ventilation valve

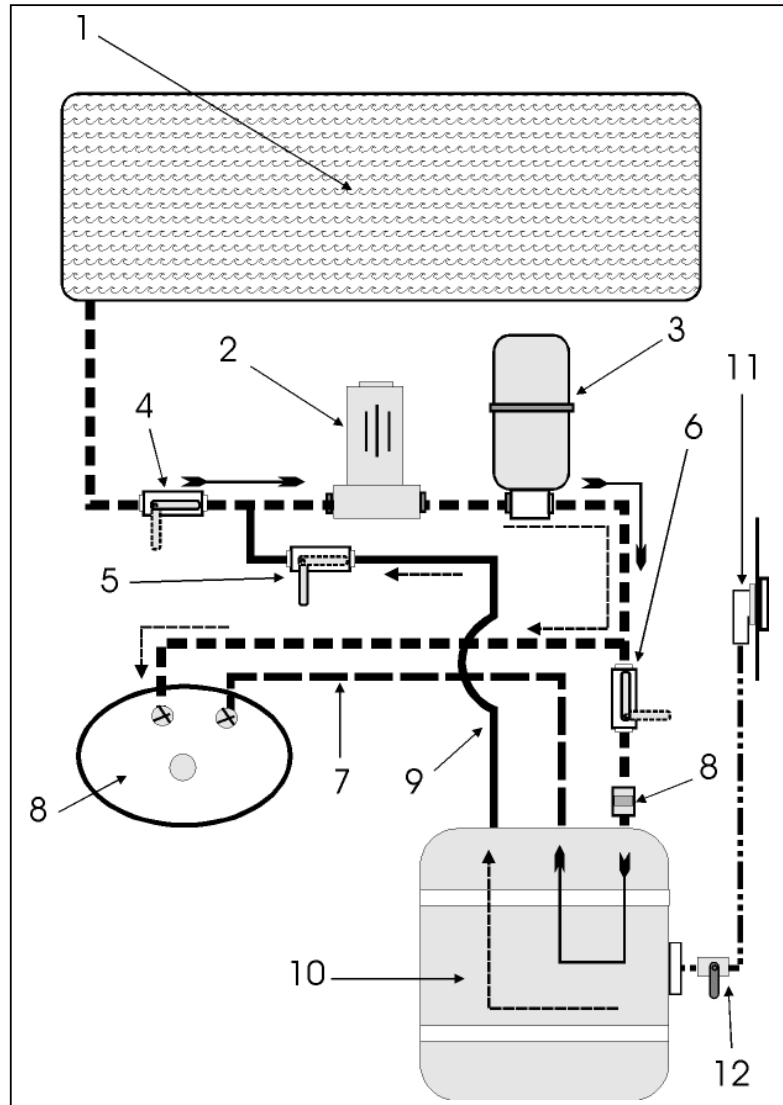


FIGURE.: HEAT EXCHANGER

We set the thermostat on 90 ° C.

Look out

Every year, you should retighten the hose braces.
In case of frost risk, you have to drain the installation via the taps with the help of a pressure water pump and with the cold water tap opened.



FIGURE.: Fresh water distribution

4.3.2 Waste water pump

We installed a JABSCO 37202 shower water suction pump. With 12 l/min. the pump sucks more water as the water supply can supply. If the water in the shower unit goes up, this means that the filter is clogged and should be cleaned. You get easy access to it in the cupboard under the wash-basin. The switch can be found on the port bulkhead wall.

4.3.3 Fast shut-off valve fresh water installation

In case of repair, the single water cycles can be closed through the closing of the fast shut-off valves, in order to replace for example the pressure water pump.



IMPORTANT

Please observe the indications of SIGMA for maintenance and replacement of thermostat and heating element!

4.5 Alternating current installation

The yacht is equipped with a 230 V shore connection unit. When you are mooring in a harbour, you can feed power into the on.-board system with a connection cable. The plug (plug according to EEC standards) can be installed in the anchor locker or at the end of the cockpit. 230 V plugs are placed in the shore connection unit in the space under the navigation table, the shower room and the pantry.

4.5.1 Shore connection unit

- Manufacturer CALIRA 421
- On/off charge unit
- FI- automatic switch
- Net control light
- On/off switch heat exchanger
- with control light
- 230 V safety plug

Charging of the battery starts once the shore connection cable gets plugged in. The three 230 V plugs are all ready. They are only there for power consumers.. Please think about the limited watt power of land plugs. The outlet towards the hot water heating in the heat exchanger has a fixed cabling, which is separately switched and protected.

FIGURE.:SHORE CONNECTION
SWITCH BOARD



4.5.2 Charge unit MASTERVOLT

Name	Standard	Optional
Model	IVO 12/25-2	IVO 12/40-3
Voltage	230/110V	230/110V
Power	25 Amp.	40 Amp.
Charge voltage	14,25-13,25V	14,25-13,25V
Charge characteristic	IUoUo	IUoUo

HINT

Please read through the attached **safety instructions** of the charge unit!

4.6 On-board direct current system

The 12 V direct current system is in charge of the power supply for all consumers. The main switches next to the port companion way interrupt the 12 V – consumers – power circuit and the second main switch interrupts the starter battery. The 12 V power supply comprises the following main components/power supply sources.

- Starter battery
- Consumer battery
- Engine generator
- Charge device

4.6.1 Setup of main fuses

You'll find the fuses for the different consumers behind the companion way flap door – above the engine room. According to the boat's equipment you will find up to seven fuses.

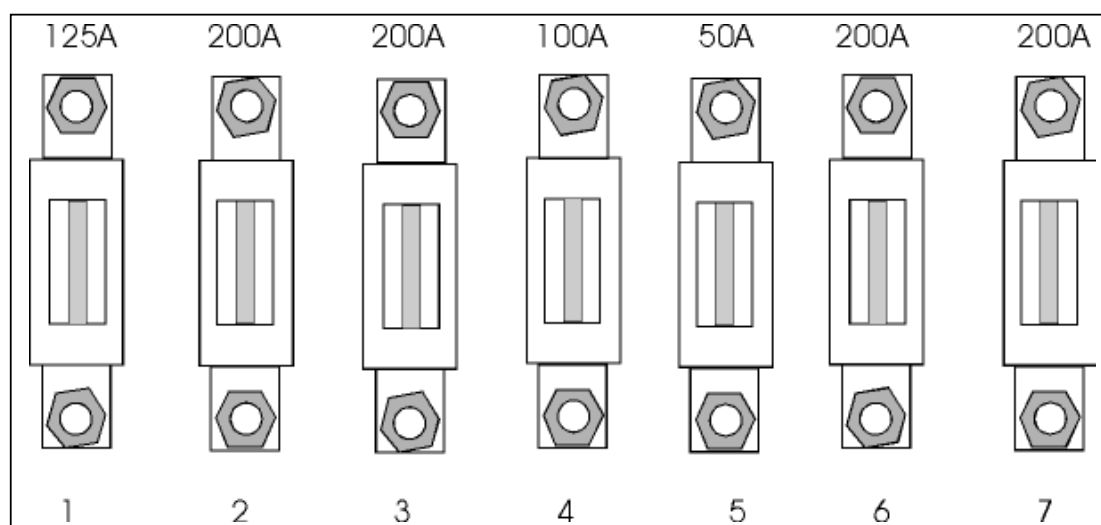


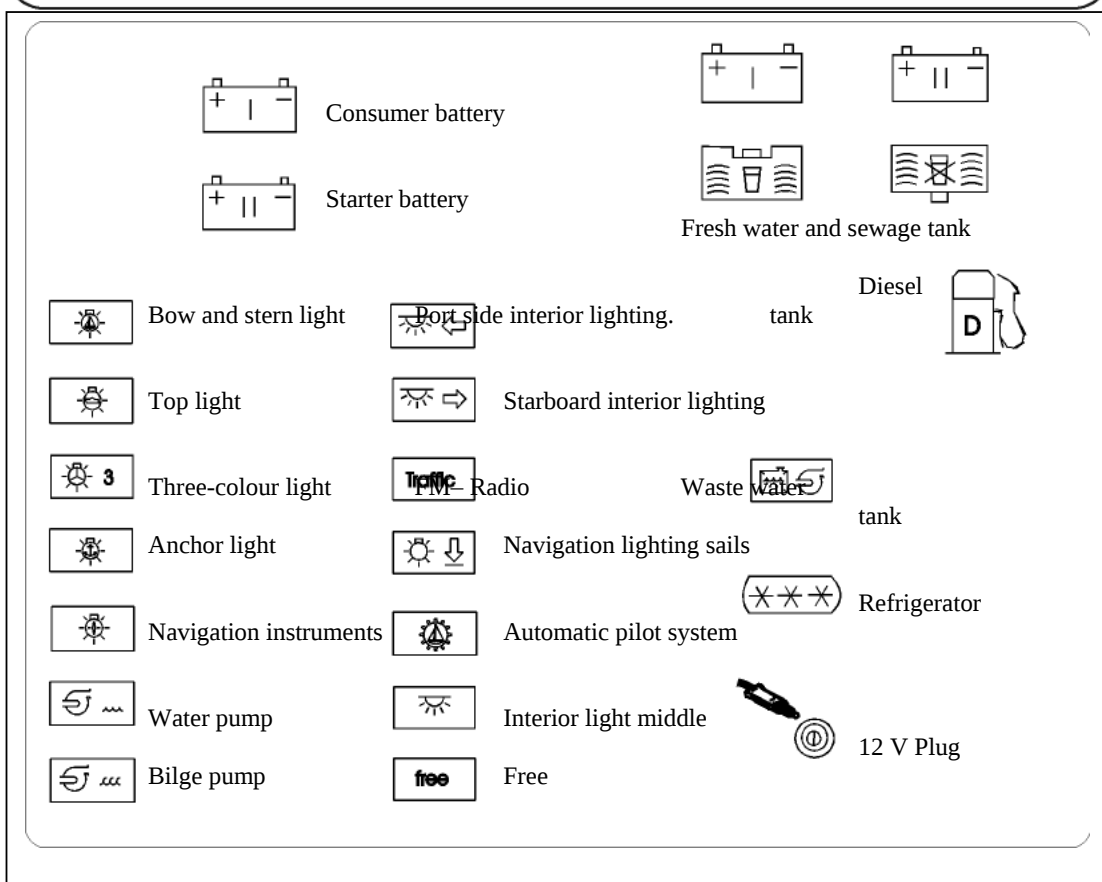
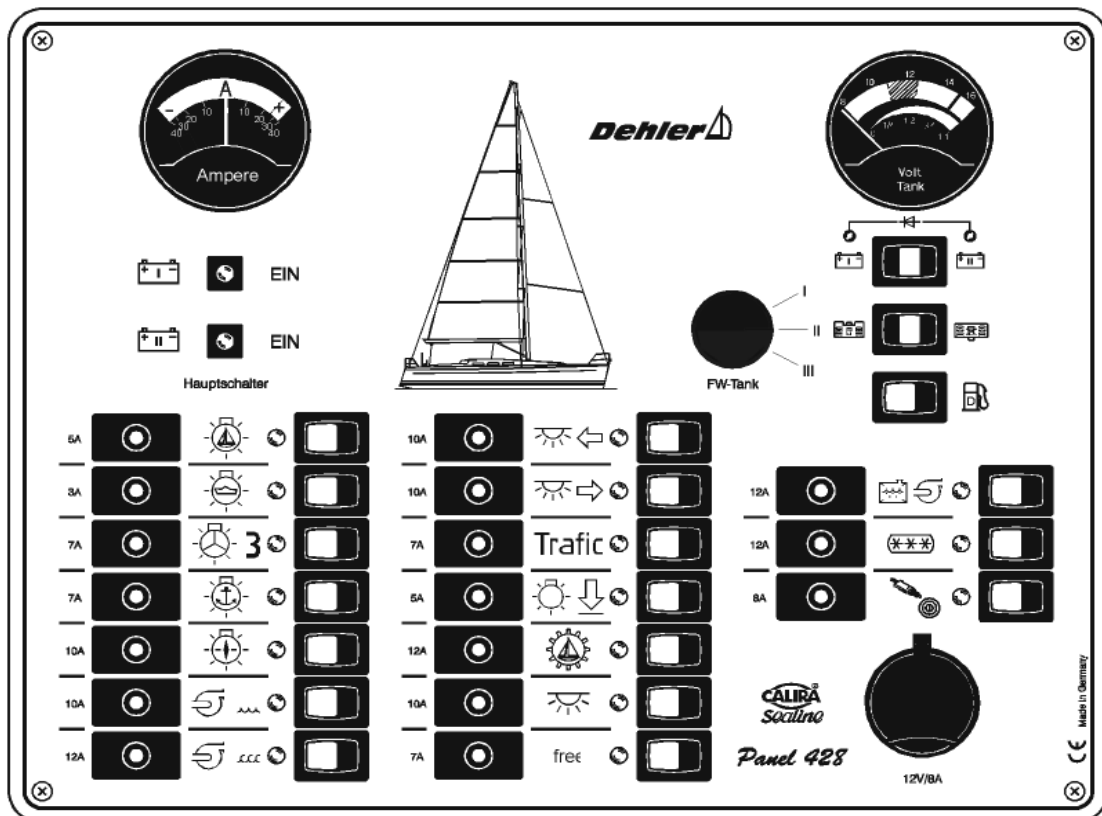
FIGURE.: MAIN FUSES

- | | |
|---|---|
| 1 = Electric halyard winch deck | 2 = Electric starbord genua winch |
| 3 = Electric starboard main sheet winch | 4 = Anchor winch |
| 5 = General consumers | 6 = Electric port side main sheet winch |
| 7 = Electric port side genua winch | |

Further distribution to the „general consumers“ is done via the **power circuit distributor**, (switch board) above the starboard chart table.

4.6.2 Additional fuses

Apart from the fuses on the switch boards and next to the companion way, three more „flying“ sensitive fuses are installed. A 3.25 A sensitive fuse at a time in the checking cable of the indicator for the consumer batteries. An additionall „slow“ 3.15 A sensitive fuse protects the cable for the engine room ventilation.



4.6.3 Main data switch board

- Manufacturer.CALIRA Switch board 428
- Power circuits with thermic safety switches
- Ammeter
- Button switch
- Combined Indicator Voltmeter
for tank indicator Water/Diesel + waste water tank (optional)
- 12 Volt plug

HINT

The lights on the switch board are no functional lights but only control lights to see if a switch circuit is switched on. You should regularly check the navigation lights!

Direct current consumers

The main circuits are the following:

Navigation lights
Water pumps
FM –Radio/ Car radio
Comfort consumers
Anchor winch

Refrigeration unit for cool-box
Engine instruments/Tank indicator
Electronic navigation instruments
Bilge pumps Shower/Bilge
Automatic pilot system

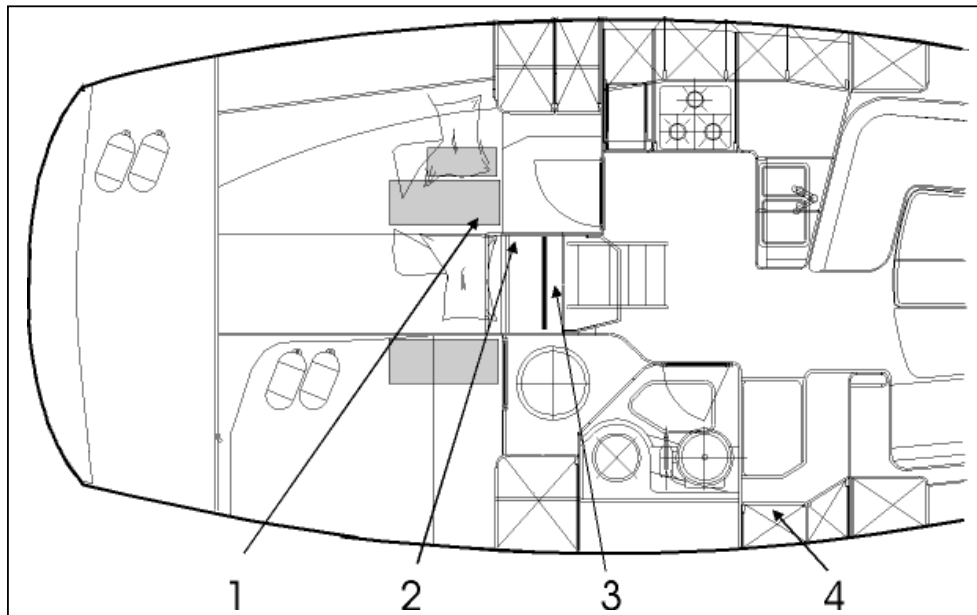


FIGURE: FUSE LOCATIONS

Fuse locations

1 = Flying fuses in steering cable
3 = Main fuses

2 = Ventilator fuse in engine room
4 = Thermofuses switch board

4.6.4 Battery Charging

The yacht is equipped with Ah 12 v 55 starter batteries, placed under the berths of the rear cabin. According to the equipment, the installed consumer batteries are 2 x 110 Ah or optionally 2 x 200 Ah gel, installed under the port side and starboard berths. Both batteries are maintenance-free and leak-protected.

The batteries get charged over the engine generator. As soon as the shore connection is switched on, the charge device starts charging both consumer batteries.

Alternating current consumers

There are fixed 230 V connections to the charge device and the hot water supply. The three 230 V safety switches are meant for small repairs of electrical machines when on a sailing trip or for the connection of other comfort consumers.

HINT

Don't forget that the watt power of shore connections is mostly limited. Max. 600 – 800 Watt.

4.6.5 Auxiliary supply

Navigation lighting should have absolute priority. In case there is a capacity bottleneck caused by a technical fault in the supply, all other consumers should first be switched off. The running of the machine, even when sailing, can recharge the batteries, which enables you to switch on the second most important consumers (don't exceed the maximum heeling of 20°.)

4.6.6 Tank Control

The fuel tank, water tank and waste water tank indicators are all integrated in the navigation panel. This way, you can check all the time their filling level.

HINT

The control indicator is a **stepped indicator** with four steps $\frac{1}{4}$ $\frac{1}{2}$ $\frac{3}{4}$ and full

The engine control light is very important when you are sailing in flat water areas and tidal waters. If the water supply gets disturbed, the engine will get quickly overheated. Since the control light **cannot** be seen by the skipper, an acoustic warning signal avoids these cases. See also hints in the YANMAR manual.

4.6.7 Wiring diagram of switch board

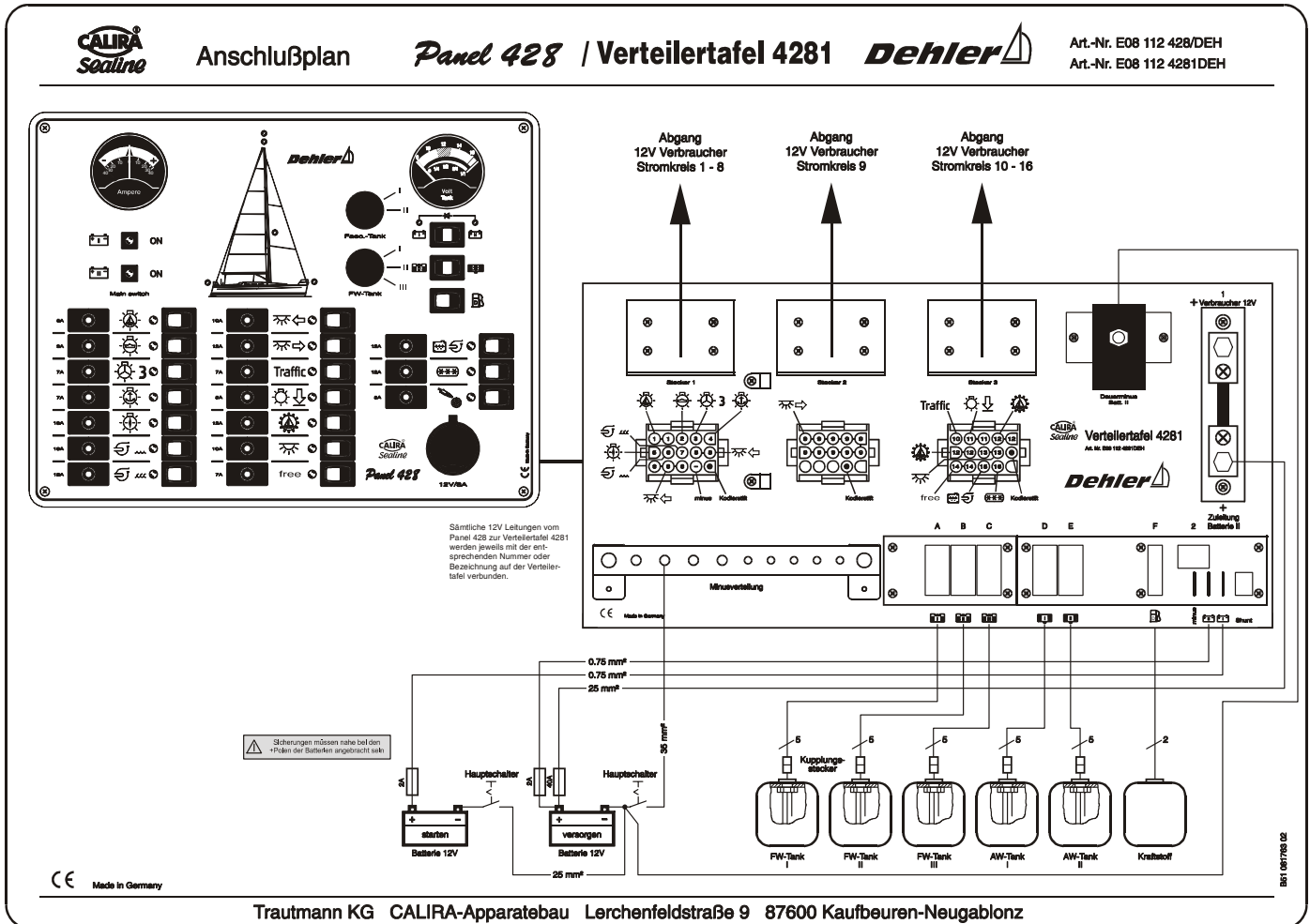


FIGURE.: WIRING DIAGRAM

4.6.8 Folded electric wiring diagram

Electric wiring diagram „Reverse“

4.6.9 Fuse bars/Switch bars

On the foldable wiring diagram you will equally find the fuse and switch bars with the same numbers. In this chapter we want to show you the setup of fuse and switch bars and how to find them on your boat.

1. Switch bar closet room
The switch bar N° 1 is only found on the 3-Cab. boat
2. Switch bar closet room starboard
After removing the upper ABS cover, you get access to the switch bar N° 2
3. Switch bar closet room port side
After removing the upper ABS cover, you get access to the switch bar N° 3
4. Switch bar back railing starboard
We installed switch bar N° 4 at the board wall before the construction iron support below.
5. Switch bar settee
Switch bar No 5 is installed under the quilting at the rear end of the tank.
6. Switch bar closet room
After dismounting the cover shelf above the closet, you get access to the switch bar No 6.
7. Fuse bar navigation room
Behind the screwed navigation plate you'll find the fuse bar N° 7.
8. Switch bar above the engine room
We installed switch bar no 8 in the big fuse room behind the companion way
9. Switch bar in stern storage space
We installed switch bar No 9 above the heating on the board wall.

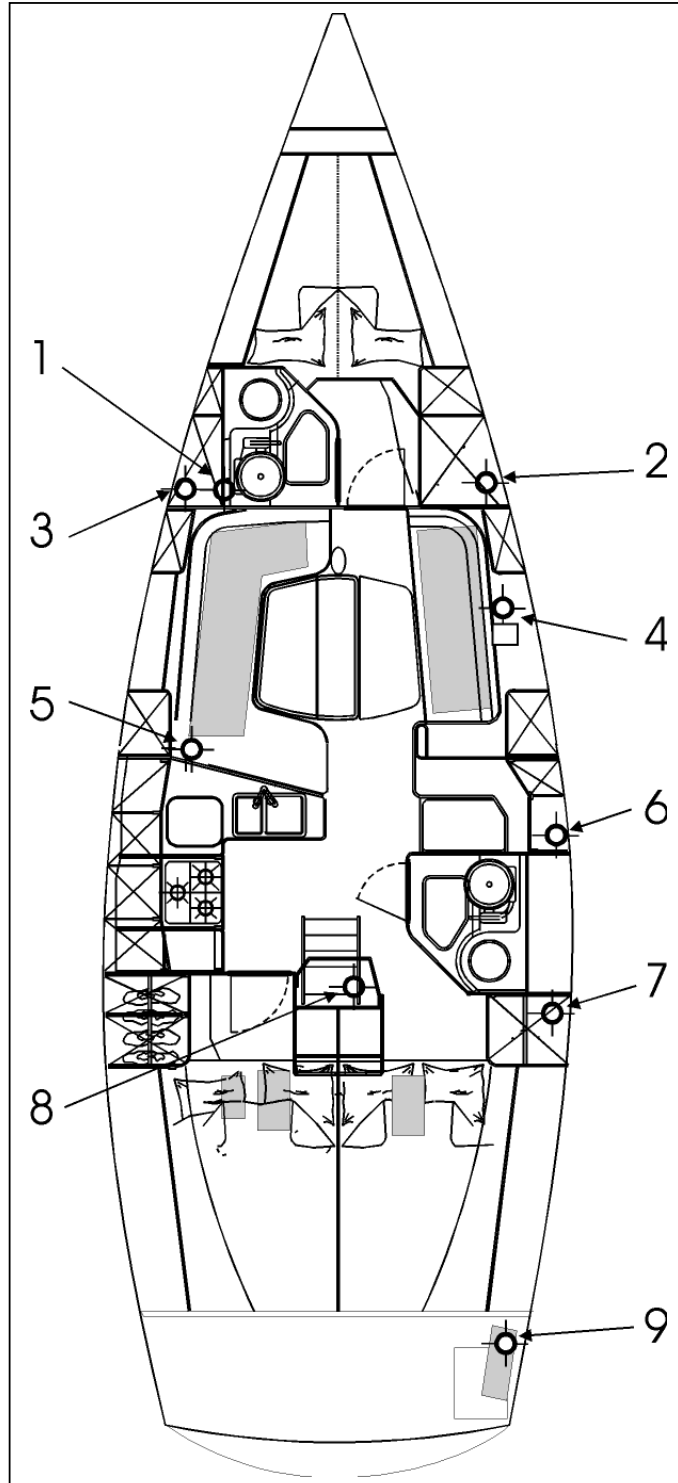


FIGURE.: FUSE BARS

4.6.10 Waste water tank (optional)

The filling level of the waste water tank can be seen on the navigation panel with the combined indicator. Please check regularly the filling level of the tank and drain it at fixed suction points wherever this is possible.

HINT

You need to control regularly the filling level of the holding tank, so that the ventilation pipe does not get clogged.

4.6.11 Holding tank 2nd Shower Room

The level indicator for the holding tank got installed next to the mirror cupboard.

4.6.12 Comfort Consumers

The most important feature is the interior lighting with plugs. All lamps have a built-in switch, so that a correct energy use is possible.

4.6.13 Electric wiring diagram

The wiring diagram helps when looking for faults. Specialists know the switch signs and switch abbreviations used according to DIN standards, which nowadays are used internationally. Try to get used to the most important symbols with the help of an expert.

4.6.14 Relevant indications for the direct current installation

HINT

Even maintenance-free batteries should be charged in winter (charge situation min. 50 %) so that they cannot frost.

Once a year all switches should be checked and sprayed with a special spray.

Get used to the electrical installation, so that you can react quickly in case of technical faults.

Look out!

Before starting, you need to check the battery voltage for the navigation lights.

Look out

You should never:
work on live electrical installations, choose more powerful or less powerful fuses and thermofuses nor install electrical appliances that exceed the allowed load value of the power circuit.

Relevant indications for the alternating current system:

WARNING

In order to avoid the risk of electrocution or fire:

- never hang the shore connection cable in the water
- first connect the shore connection cable on board and then on land
- don't change the shore connection plugs
(Adapters ,for example in Denmark, should be left on board)
- Repairs on the 230 V installation should always be carried out by a technician.

4.7 Bilge systems

4.7.1 Anchor locker

The **anchor locker** is watertight and placed off-board in front of the boat through an opening.

4.7.2 Cockpit

The **cockpit** gets drained through the bilge outlet in the helm hollow and through the rear openings on the mirror edge of the cockpit. See also Page 60/61.

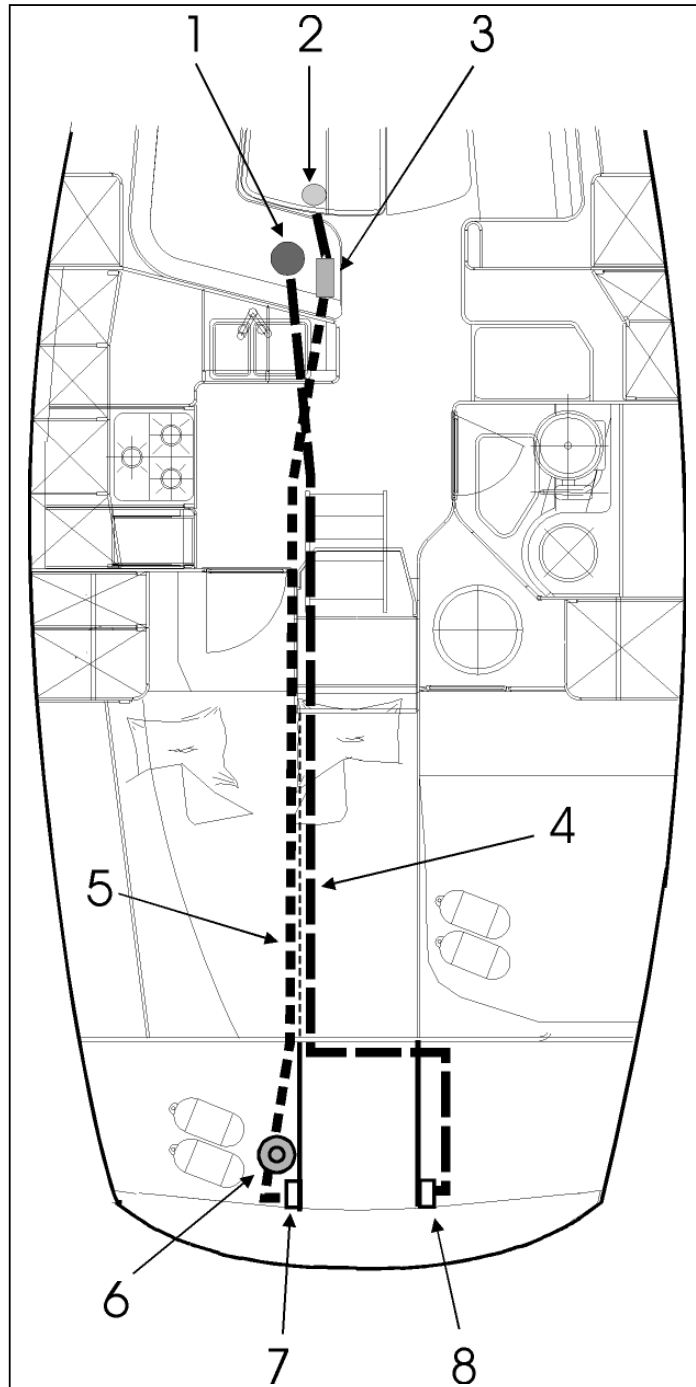
Components

1. Electrical bilge pump
2. Suction snout mechanical pump
3. Return check valve
4. Bilge pipe E – Bilge pump
5. Bilge pipe mechanical pump
6. Mechanical pump
7. Outlet mechanical pump
8. Outlet electric pump

4.7.3 Hand bilge pump

The suction filter is installed under the cabin table in the bilge (1). A return check valve avoids the return of the sucked bilge water. Through a flexible hose it gets to the Whale hand bilge pump with a capacity of 90 l/min, mounted on the bulkhead wall of the port side locker. The outlet is placed on the port side cockpit wall. The handling lever, fixed in the port side locker, is easily accessible.

FIGURE.: BILGE SYSTEMS



4.7.4 Piston pump

A piston pump is an excellent bilging device. Every boat should have one on board and it should anyway be accessible in the locker.

LOOK OUT

The yacht is equipped with a hand bilging system. The pump handle, placed under the port side locker cover, is easily accessible.

4.7.5 Electric bilge pump

In addition we installed a Whale 9000 electric bilge pump with a capacity of 90 l/min.. the suction filter (2) is placed under the rear cabin couch. The outlet is placed at the rear of the starboard cockpit. You'll find the switch amongst the group of switches on the navigation panel.

WARNING

The total pump capacity will probably not be sufficient to bilge the boat in case of a collision with floating objects. Take your measures for such exceptional events through leak seals and other devices.

HINT

Both bilge systems can only work if the suction filters are clearly under water. Small quantities of water should be bilged with a sponge or a dustpan.

4.8 Rudder system

The rudder system only needs minimum maintenance. The rudder blade with rudder shaft is guided in an upper and lower bearing. The rudder movement gets transmitted from the steering column through a rudder quadrant with two transmission levers with a return bearing. This combination is highly sensitive and direct. The rudder is held by a rudder calking ring, supported by a bearing in the rudder hole. In addition the rudder shaft gets sealed through a shaft joint in the rudder hole.

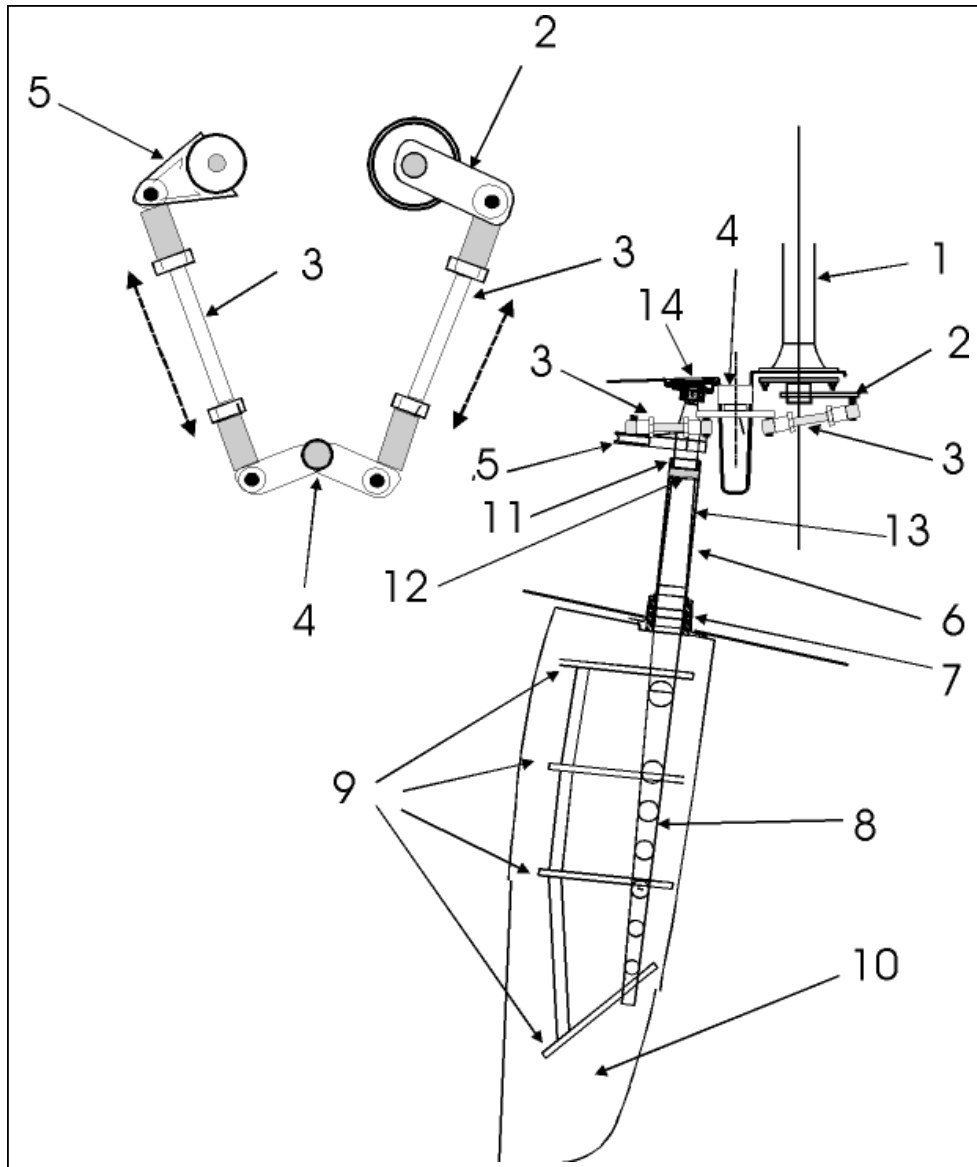


FIGURE.: RUDDER SYSTEM

Components

- | | | |
|--------------------------|---|------------------------|
| 1 = Steering column base | 2 = Rudder lever | 3 = Transmission lever |
| 4 = Return bearing | 5 = Rudder quadrant | 6 = Rudder shaft |
| 7 = Lower bearing. | 8 = Rudder hed | 9 = Rudder fittings |
| 10 = Rudder blade | 11 = Calking ring | 12 = Shaft joint |
| 13 = Rudder hole | 14 = Upper bearing with cover and inlet for auxiliary helm steering | |

4.8.1 Rudder blade and rudder bearing

The rudder blade, a modern prebalanced GFK profile with a big rudder force. The rudder shaft diam. 80 mm is made of aluminium, fixed and getting narrower at the lower end. The rudder force gets transmitted from the shaft to the rudder blade through welded fittings. The rudder shaft gets guided through an upper and lower continuously greased JP3 bearing.

4.8.2 Return

Because of the helm hollow, the transmission lever could not go directly from the rudder lever to the rudder quadrant. Therefore we needed to get a return with intermediate bearing support. Sketch 50 shows the setup of the components.

4.8.3 Steering column

We installed a Whitlock steering column type COBRA 6RDI. Please read through the attached information and observe the maintenance instructions.

4.8.4 Rudder maintenance

The rudder practically does not need any maintenance. Every five years you should dismount the rudder and carefully clean, grease and reinstall the bearing surfaces. Take care that the rudder can only be „pulled“ in a crane or over a depression after loosening the rudder calking ring. Every year you should check the tightening of the counter nuts of the transmission lever and of the rudder quadrant screws.

LOOK OUT

If the ship sails backwards, don't go too quick and always cling to the helm.
Don't **ever** let go of the helm!
The stop and the crown wheel get damaged by the impact of the rudder!

4.8.5 Emergency head

The emergency head is stored in the port side locker. One end of the emergency head is in fact a screw, which can loosen the cover of the upper bearing. The other end is equipped with a nut that can be placed on the bridle at the upper end of the rudder shaft. As skipper, you should get used to its handling.

Components

1. Emergency head
2. Nut
3. Cover upper bearing
4. Blind hole with bridle
5. Bearing
6. Cockpit floor

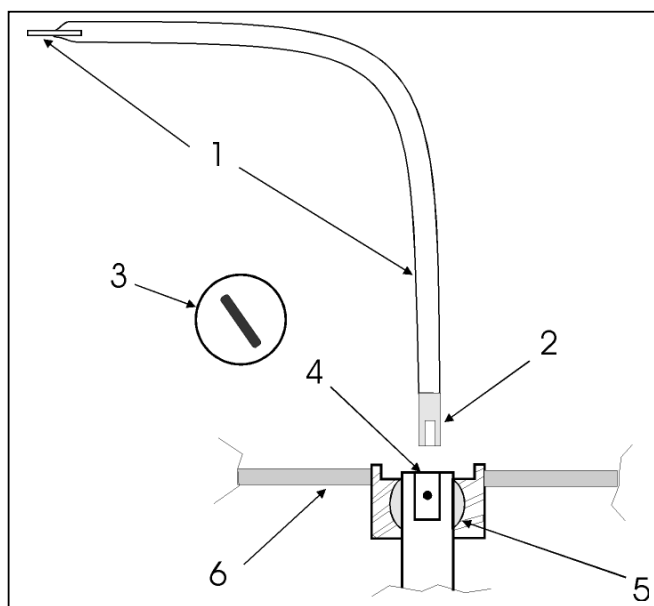


FIGURE.: EMERGENCY HEAD

4.9 Gas installation

The gas installation of the **Dehler 39** for the cooker was installed pursuant to the German Regulation, Folder G 608 and in compliance with the European Standard EN 10239. The stamped test certificate is attached to the documentation of the boat.

Components

1. Gas cooker
2. Shut-off valve before the cooker in the wardrobe
3. CU pipe
4. Pressure adjuster with shut-off valve and gas bottle
5. Camping – GAZ Bottle hollow

Handling of gas installation

Gas installations need to be handled carefully. Therefore you should keep to the following order:

- Open the shut-off valve in the bottle hollow in the port cockpit
- Open the valve in the cupboard for the cooker

Push on one of the burner valves and light the gas.

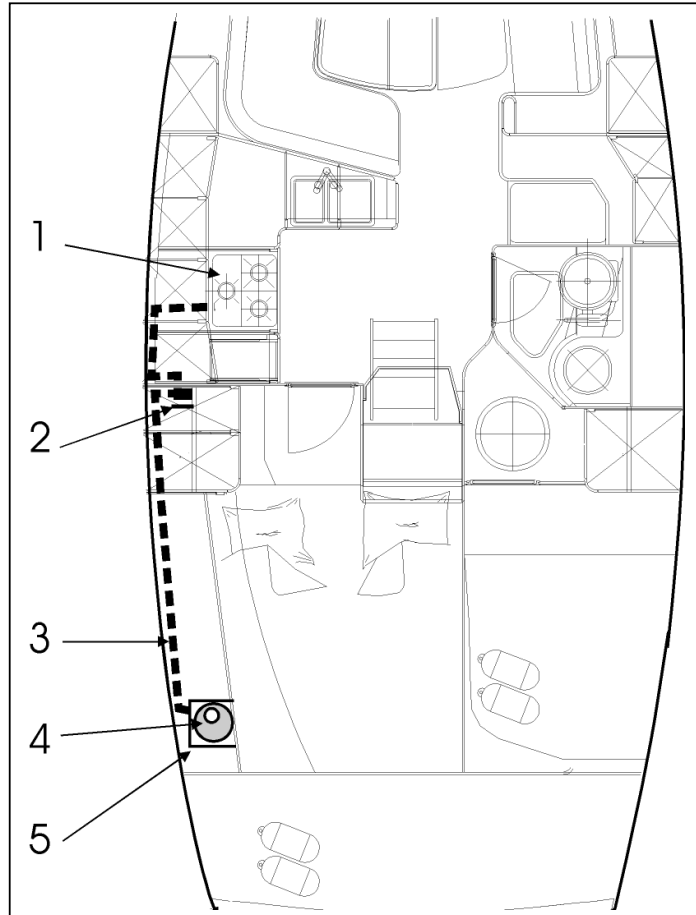


FIGURE.: GAS INSTALLATION

- Keep the valve opened, until the pilot flame allows further burning.

LOOK OUT

When switching off, always observe the following order:
Shut off the cooker burner valve in the cupboard and the valve in the bottle hollow .

Some additional hints on how to avoid problems with your gas installation:

- Close the valves of the supply pipe and the bottle, when you are not using the cooking stove. **With emergencies, immediately close the valves.**

- Regularly check the liquid gas installation, looking for possible leaks. Check all connections with soap water or liquid detergents (Keep the utensil valves closed and open the bottle and installation valves).
- If there are any leaks, close the bottle valve and let a technician repair the whole installation. before using it again.
- Since the flames consume oxygen, you need a good air intake and ventilation. Don't use the cooking stove to heat the cabin.
- The valves of empty gas bottles should be closed and disconnected from the installation. Have the closing screw at hand.
- Don't use the gas bottle hollow to store other equipment parts
- Don't leave the yacht without supervision, when the cooking stove is working.
- Regularly check the hose pipes of the liquid gas installation, at least once a year. Replace them if they are damaged.
- If you want to replace the cooker, take care that the new cooker has the same working pressure.

4.9.1 Certificate for Gas Installations

- **Comply every two years with the obligatory inspections pursuant to Instruction Sheet G 608 and ask the technician for a certificate.**

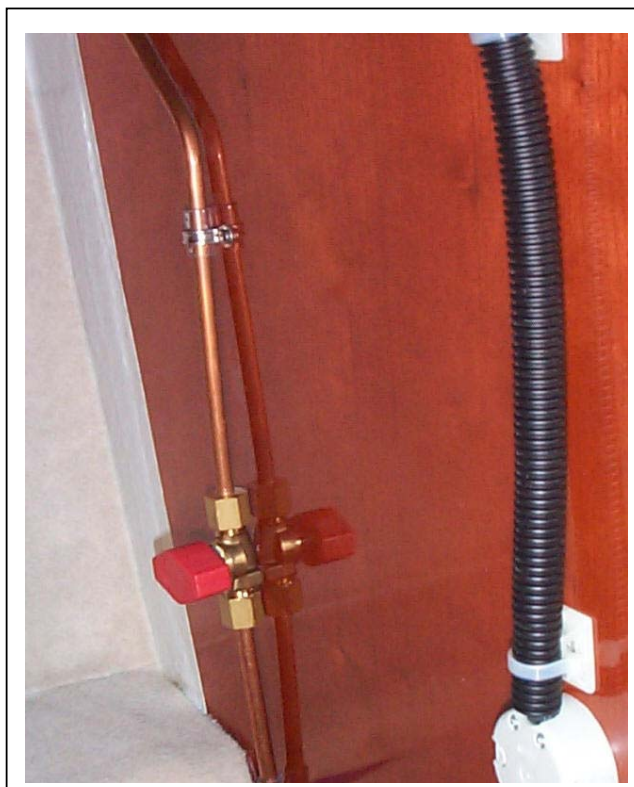
TAKE CARE

To check the pipe, do not use ammonia solutions.

Never use a flame to search for a leak.

Don't smoke and don't use a flame, whilst connecting or replacing gas bottles.

FIGURE.: SHUT-
OFF VALVE GAS



4.10 Pump toilet

The on-board toilet is a commercially available pump toilet. Without a holding tank, the fresh water inlet gets opened and the contents are pumped off through the outlet valve. See also the instructions for use of the supplier.

4.10.1 Holding tank (optional)

The 45 l holding tank is made of stainless steel plate and serves as an intermediate storage system“. The pump toilet can be used approx. 8 times. A regular control via the switch board is necessary so that the ventilation pipe does not get clogged. If possible, the tank should be sucked at every waste water pump station or only exceptionally be emptied outside of bays or harbours (normally when you are sailing with the engine). Therefore you should open the discharge valve.

4.10.2 Emptying of the tank

Where waste water pump stations are available, the tank contents should be sucked off through the standardized deck screw (1).

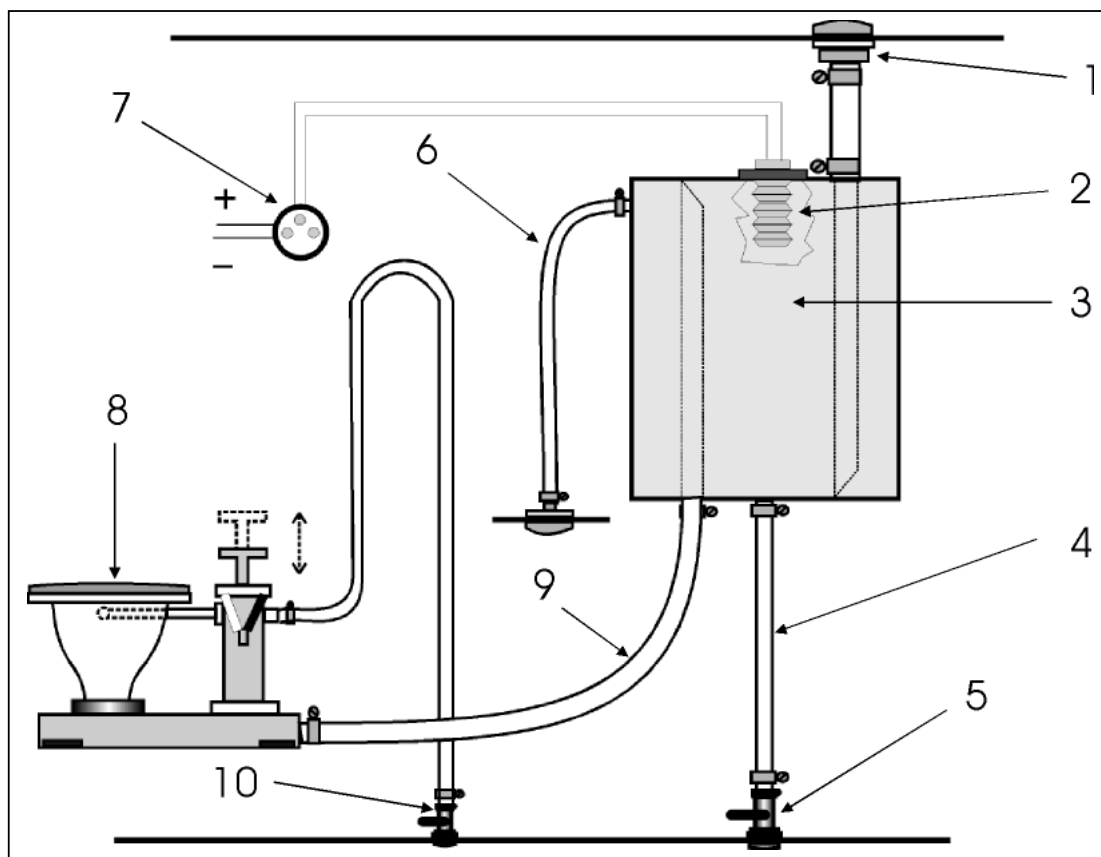


FIGURE.: HOLDING TANK SYSTEM

Components

- | | | |
|--|-----------------------------------|----------------------|
| 1 = Suction snout | 2 = Level indicator | 3 = Holding tank |
| 4 = Bilge pipe discharge | 5 = Fast shut-off valve discharge | 6 = Tank ventilation |
| 7 = Indicator | 8 = Pump toilet | 9 = Intake hose |
| 10 = Fast shut-off valve with sea water intake | | |

LOOK OUT!

Obnly open the fast shut-off valves for the working of the toilet installation!

Maintenance

The hose braces need to be checked every year yand eventually retightened.

HINT

Never add agressive toilet cleaners to the holding tank.

It is sufficient to fill the tank 2-4 x during the season, according to the frequency of use, up to a third with sea water and a small amount of detergent and then go on sailing for a few hours.

The rubber valves stay soft and the tanks gets cleansed

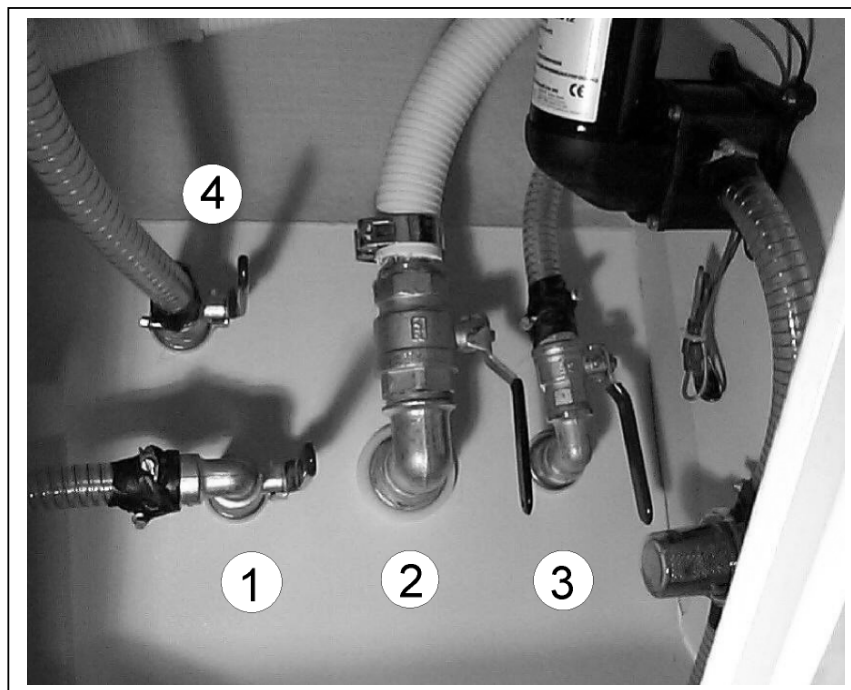


FIGURE.: FAST SHUT-OFF VALVE SHOWER ROOM

4.1.4 Fast shut-off valves

According to the yacht's equipment you will find the following fast shut-off valves in the shower room closet:

1 = Toilet sea water intake

2 = Discharge pump toilet or holding tank

3 = Discharge shower

4 = Discharge wash-basin

5. Fire protection

5.1 Preventive fire protection

During the construction of the Dehler 39 we were very careful about the possible fire risks. We looked at the choice of materials, the distance between the cooking stove fire and the surrounding built-in cabinets and the on-board diesel engine, with the engine room lined with self-extinguishing insulation material.

As owner of the yacht you should keep everything the same and observe the following instructions:

LOOK OUT

Keep the bilges clean and check regularly if the yacht smells of diesel fuel or gas.

Don't keep inflammable material in the engine room. If you store non-inflammable materials in the engine room, take care that they cannot fall into the machines and that they don't hinder the access to the machines.

You yourself and your crew can contribute to a preventive fire protection, by complying with the following instructions:

Never

- Close the ways to the exits and hatches
- Close the access to safety devices such as fuel and gas valves or switches on electrical installations
- change anything on the sailing boat (certainly not on electric, fuel or gas systems).
- leave the yacht without supervision, whilst using cookers and/or heating devices.

Never

Use gas lamps on the yacht.
Fill the tank or replace the gas bottles with a running engine or whilst using the cooker.

Smoke when handling diesel or gas.

5.2 Active fire protection

The well-known risk sources on-board are

- the cooking stove in the pantry and the engine room

If in spite of all protection measures you get a fire on-board, you have at your disposal two fire extinguishers, installed by you or by the shipyard at the marked points:

Nr. 1 Foam fire extinguisher

under the navigation seat
Fire category PG2 / 13A89B

Nr. 2 Foam fire extinguisher in the locker at the front bulkhead wall on starboard

Fire category PG2 / 13A89B

Nr. 3 HINT

Under the second companion way step you'll find an opening.

In case of fire, a fire in the engine room can be extinguished through this opening

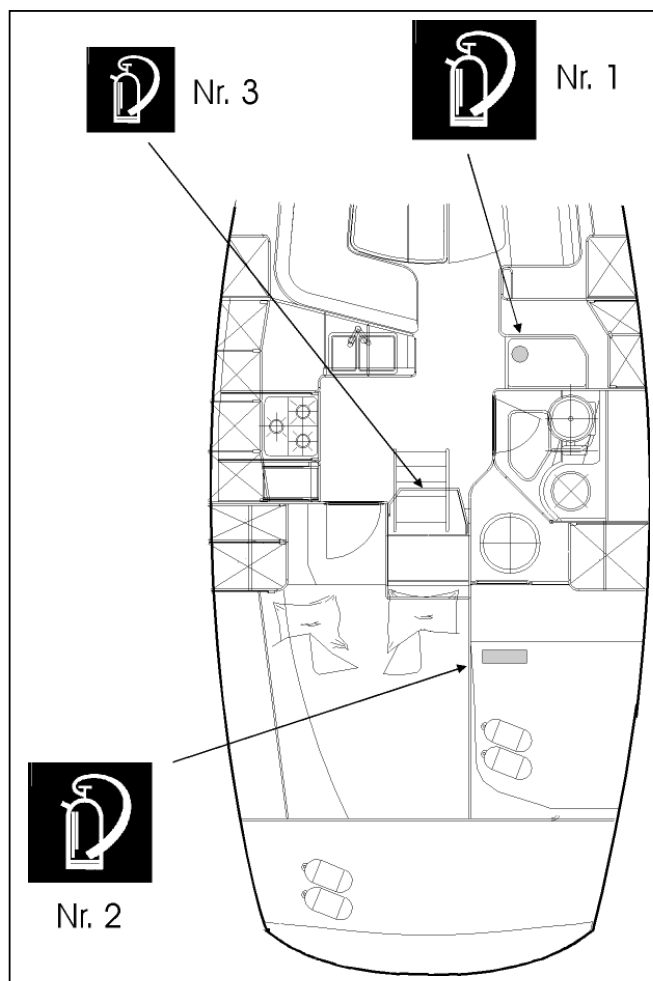


FIGURE.: FIRE EXTINGUISHER LOCATIONS

Remove grey closing valve.
put the snout of the fire extinguisher into the opening...

..

HINT

In addition you may install in the pantry a light **fire-extinguishing ceiling**, made of glass fibre and for example highly effective in case of fires caused by overheated fat..

No oxygen>no fire.

5.3 Firefighting

If in spite of all protection measures a fire starts on the yacht, you should behave as follows:
All persons who cannot actively fight against the fire, should go on deck, either

- via the companion way, or
when a fire starts in the pantry or the engine room
- through the escape hatch over the bow berth
-

5.4 In case of a fire in the pantry

Immediately close the gas supply valve!
Extinguish the flames with the fire-extinguishing ceiling. It can be re-used afterwards. When elements of the decoration are on fire, you should use the fire extinguisher.

5.5 in case of a fire in the engine room

First close the fuel supply valve in the tank room from the navigation seat.
Don't remove the companion way and don't open the companion way bulkhead.
You will find a tap in the companion way bulkhead. Remove this tap. You'll see a small opening. Just place the snout of the fire extinguisher into this hole and empty the fire extinguisher completely.
Wait a few minutes before opening the engine room, to check the damage.

5.6 In case of a fire in the living space

Here too the fire extinguishing ceiling can serve.
You should always have a piston pump in the equipment locker to activate the foam fire extinguisher in emergencies.

Relevant indications

It is the task of the boat owner to

- regularly check and maintain the fire extinguishers,
 - take care that fire extinguishers are replaced after their life cycle.
- The same goes for fire extinguishers that have been used. The new fire extinguishers should at least have the same extinguishing capacity as the previously installed.

It is the task of the skipper or the boat owner to take care that

- both fire extinguishers are easily accessible and
- that all persons on board know about the
- Setup and use of fire extinguishers and fire extinguishing ceiling,
- Location and function of the extinguishing hole for the engine room,
- Exit via the bow hatch.

6 Heating (optional):

To enable you to get more independent of the weather conditions and so extend the sailing season and to create a good inner climate in the **Dehler 39**, you can install a Webasto Air Top 5000D diesel heating. The heating is installed at the starboard side in the stern storage space and accessible through the starboard stern flap door. See the manufacturer's Instructions for Use

Combustion air

The angle chimney for combustion air got installed on the starboard mirror.

Hot air

Over the suction intake of the heating the air in the boat gets sucked into and heated in the heat exchanger. Then the air is guided through a pipe system towards four outlets in the cabin, bow, rear cabin and shower room: The quantity of air can be adjusted on all hot air outlets, except in the cabin.

6.1 Temperature control

The control element got installed on the navigation panel. The heating can be adjusted without phases. The thermostat is installed on the navigation bulkhead on the upper left part.

Air distribution of the diesel heating

- 1 Hot air outlet bow
- 2 Hot air pipes
- 3 Hot air outlet cabin
- 4 Hot air outlet shower room
- 5 Hot air outlet rear cabin
- 6 Diesel heating
- 7 Combustion air outlet

6.3 Dosage pump/Filter

The dosage pump and the fuel filter are installed behind the diesel tank and are accessible through the rear cover under the starboard cabin quilting.

Technical data:

All other data can be found in the extensive information submitted by the company Webasto. You should be correctly informed about the start-up phase and possible causes of technical faults.

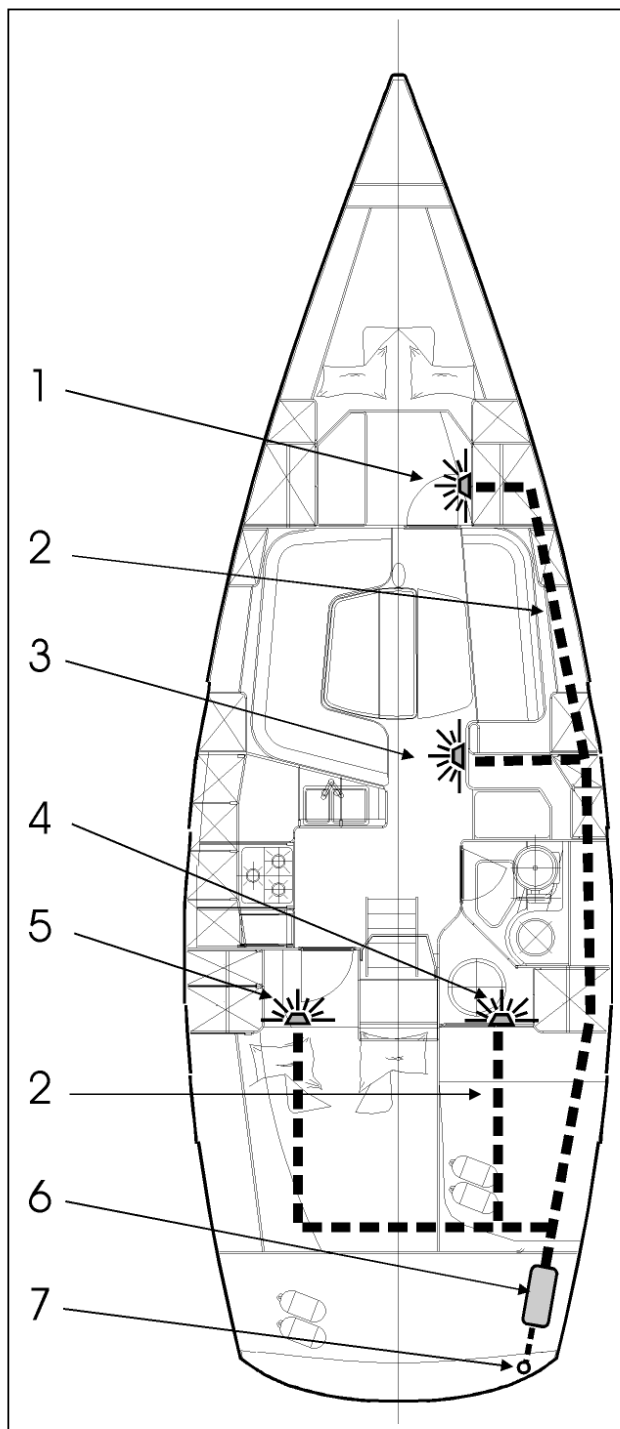


FIGURE.: ON-BOARD HEATING

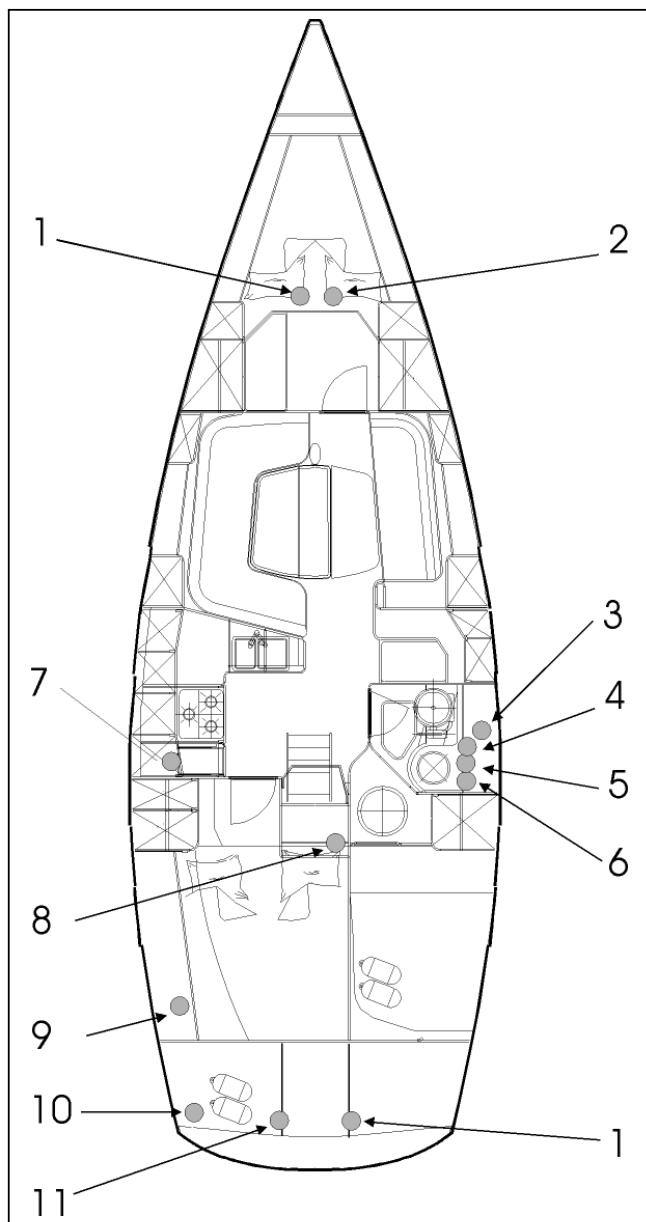
7. Board outlets, sea valves

7.1 >2 Cab. and 3 Cab.-Version

Holes under the waterline are possible weak points, therefore we paid a lot of attention to them.

Because of the different cabin setups and the second shower room on the bow, the number of board outlets increases.

The board outlets are made of a GL tested brass alloy and where necessary equipped with a fast shut-off ball valve. This basic setup is completed by a fitting hose connection support on the hose side of each valve. Each hose pipe is tightened by two braces.



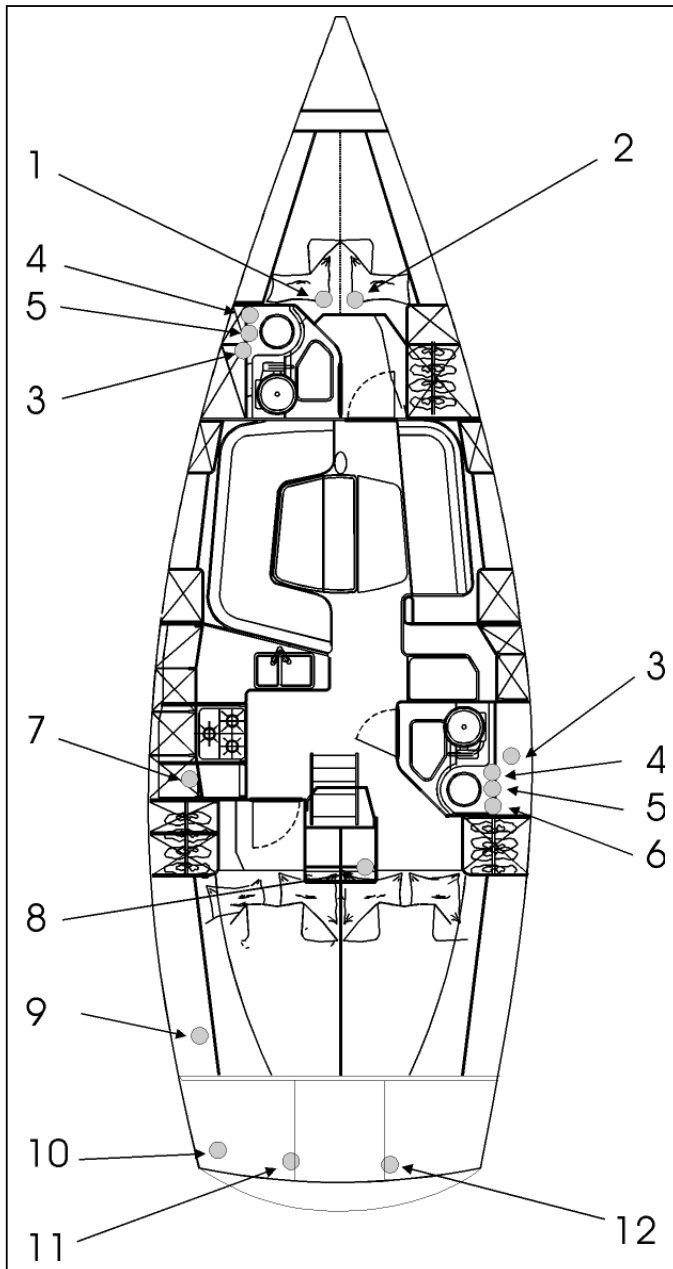
CAB.

List of board outlets

2-Cab.- and 3-Cab. distribution

- ⇐ ⇒
1. Board outlet 2" for log
 2. Board outlet 2" for echosounder
 3. Board outlet 3/4" with ball valve
Discharge wash-basin
 4. Board outlet 3/4", with ball valve,
Supply toilet
 5. Board outlet 1 1/4 with ball valve
discharge holding tank or direct
toilet
 6. Board outlet 3/4" with ball valve
Discharge shower
 7. Board outlet 1 1/4" with ball valve
Discharge sink
 8. Valve for cooling water intake
at the saildrive head
 9. Board outlet 3/4", discharge
helm hollow
 10. Exhaust outlet 2 "
 11. Board outlet 1/4",discharge
for mechanical bilge pump
 12. Board outlet 1 1/4", discharge
electrical bilge pump

FIGURE.: BOARD OUTLETS 2-



7.1.1 Cabin bilger

The cabin bilges through the holes on the mirror side.

7.1.2 Helm hollow

The helm hollow gets bilged off-board through its own bilge hose pipe.

7.1.3 Leak stop

In case of a damaged sea valve or board outlet your **Dehler 39** is equipped with several leak stops made of soft wood , whose diameters are fitted on the different sizes of the board outlets, able to close every possible opening.

Components

See the explanation on page 60.

FIGURE.: BOARD OUTLETS 3-CAB.

Look out

Close the ball valves, when you leave the boat. Ball valves in closed spaces (for example toilets) should only be opened when used.

Maintenance Indication

Board outlets should regularly be checked to see if there are no leaks.
Check the tightening of the hose braces.

Every year board outlets should be checked for electrolysis. In case of damage, install new board outlets.
Replacement should be carried out by a specialized firm.

Hint

In case of ball taps you can easily see if they are closed or open.

CLOSED: diagonal setting of the lever towards the hose or pipe

OPEN. the lever is set in the same direction as the hose or pipe

8. Environmental protection

8.1 Fuel and oil

When filling your **Dehler 39** you should be extremely careful. A piece of cloth around the filling cap can avoid that some fuel gets from the fuel hose into the water. In your engine manual you will also find a diagram with a specific curve for fuel consumption. This gives you a good indication for the engine's optimum number of revolutions.

To change the oil of the engine you just introduce a suction pump in the opening for the oil measuring rod, since you cannot drain it as happens with a car. At least once a year you should change the oil, even if you did not go sailing often. Before sucking the oil, let the engine warm up.

A well-maintained engine should never leak. Even then, if you want to avoid even the slightest oil spill in the bilge and therefore in the pumped bilge water, the engine base is shaped like a closed tub. In case water gets collected in the tub with possible traces of oil, it has to flow through a small bilge pump (a suction pump should be included in the equipment) which sucks it, gets then filled into a small canister and should be evacuated together with the used oil. In any case on board you should have oil binders.

8.2 Rubbish

Rubbish does not belong into the water, every fan of water sports agrees. This goes as well for biologically degradable rubbish. On your boat you should have a fixed place for rubbish, which you should collect and evacuate separately.

8.3 Noise

A wet exhaust of a diesel engine equipped with a silencer greatly reduces the engine noise. Rubber bearings, elastic couplings and the engine room insulation reduce even more the noise emissions. In spite of this fact, you should nevertheless avoid accelerating the engine and reduce the number of revolutions in sea areas with heavy traffic.

8.4 Backwater

Natural shores are backwater-sensitive. Please keep enough distance between your boat and such shores. The wave profile of your yacht will give you a good idea where to reduce speed in order to avoid unnecessary backwater. In narrow waterways you should also pay attention to the corresponding indication tables.

8.5 Exhaust fumes

A regular control of the exhaust fumes is necessary. The exhaust pipe should not expel black smoke nor blue clouds. In this case you should clean either the air filter of the engine – something you can do yourself – either a specialized workshop should re-adjust the settings of the engine.

8.6 Antifouling Paint

The part under the waterline of the **Dehler 39** can be protected by antifouling paint, since growth and vegetation means more energy consumption just to run the boat. The range of protective paints is large, their effect is wide and therefore the type of paint can be suited to every type of water.

If the anti-fouling paint needs to be sanded and repainted, discuss the work with your winter storage firm. During the sanding work the surface under the boat must always be covered with plastic or foil, in order to be able to dispose of the sanding dust as special rubbish.

If you want to protect the hull under the waterline with epoxy barrier and antifouling follow the description of the manufacturer of the used material.

8.9 Paint remover

Most paint removers are very aggressive and if possible should therefore not be used. Mechanical removal of the paint layers, for example with a scraper should be preferred above all other methods.

8.10 Holding tank (optional)

If your yacht is equipped with a waste water collector tank, you should check in areas where evacuation is forbidden that the sea valve – the direct off-board pumping connection – is closed.

The tank's capacity is limited. You should regularly check the filling level on the switch board of your navigation room. As much as possible you should use toilets in pleasure harbours or other places on land.

9. Anchoring, towing and tie up systems

The minimum equipment for the anchoring, towing and tie up systems for the **Dehler 39** was chosen in compliance with the construction guidelines of the Germanische Lloyd. The equipment elements should be resupplied by the shipyard or the owner in case of damages, so that the insurance cover for the yacht remains.

9.1 Anchor (optional)

A hot-galvanized 16 kg Delta anchor (this is an anchor with a great holding power). It lies ready for use in an anchor roll. In this position the anchor is secured by a separate chain stopper. Linked to it is a galvanized short anchor chain, length 30 m, rated thickness 8 mm.

9.2 Second anchor

According to its sailing area, a boat should be equipped with a second 15 kg anchor, chain and anchor line. You should choose another anchor with a great holding power, for example a Danforth anchor which can be stored safely in the equipment locker.

9.3 Tie up rope

- 2 ropes, Ø 16 mm, 18 m long, Polyamide,
- 2 ropes, Ø 16 mm, 12 m long, Polyamide.

This rope type can be replaced with other materials with a bigger diameter, that is say with Polyester (18 mm Ø) or polypropylene with a diameter of 20 mm.

9.4 Towing rope

In case the boat needs to be towed, it should have a towing rope on board which is used exclusively for this purpose. Dimensions: 18 mm diameter, polyamide, 3-braid cable, length 55 m.

On both ends the rope is split to form slip-knots which can be placed on the bow knobs so that when towing you get a hammock cordage.

Look out!

Before starting to sail, the skipper should check if

- the anchor tightening screw works,
- the anchor chain of the bow anchor is put up
- the necessary tie up and towing ropes are on board and ready for use.

10. >Ten golden rules for water sports fans

1. Please avoid sailing into canebrakes, reed beds and all other densely covered shore areas. Try also to avoid pebble, sand and sludge banks (resting and living areas for birds) as well as shore bushes. Also avoid shallow waters (spawn areas), certainly those with aquatic plants.
2. Please keep sufficient distance between the boat and canebrakes, reed beds and other densely covered shore areas as well as shore bushes – on wide rivers for example 30 to 50 meters.
3. Please comply with all valid instructions in nature reserves. Water sports are frequently forbidden in nature reserves, all-year or part of the year, or at least only possible under certain conditions.
4. Please be careful with water sports in „internationally protected wetland areas“. These areas are the living space of rare animals and plants and therefore their protection is useful.
5. When mooring, always use the foreseen spaces or at least a place where you cannot damage anything.
6. Even on land, don't go too near to reed beds and other densely covered areas, so as not to disturb and endanger the living space of birds, fishes, small animals and plants .
7. Observe and take photographs of animals from as far as possible.
8. If you are in a mud-flats area, don't go near to seal banks, so as not to disturb or drive away the animals. Keep a distance of at least 300 to 500 m between the boat and seal and bird areas and try to keep as near as possible to marked waterways. Try to sail as slow as possible.
9. Help to keep the water clean. Rubbish does not belong into the water, certainly not the contents of chemical toilets. This rubbish has to be evacuated , just as used oil, at special evacuation points in harbours. When in a harbour, use only the on-land toilets. When mooring in a harbour, don't let the engine run, affecting the environment with noise and exhaust fumes.
10. Make these rules your own and before going on a sailing trip try to inform yourself about the regulations in the area you want to go to. Try to transmit this knowledge and your own exemplary behaviour to younger people and non-organized water sports fans.

11. Maintenance, repairs and cleaning

11.1 Hull, deck

Winter storage is the right time to thoroughly inspect the hull and other bearing construction elements. If the gel coat is damaged and the laminate has become visible, this fine layer should be repaired, starting with the sanding of the bottom layer, the application of a new gel coat and its sealing through sanding and polishing. You can get the right repair packages and useful information from your seller.

For the cleaning and maintenance of all components of the technical equipment of the boat you will find useful hints in the different chapters of this manual or in the special manufacturer's installation and maintenance instructions, which belong to the boat's documentation.

11.2 Cleaning

Clean the parts of the boat under the waterline as soon as the boat is taken out of the water. High pressure cleaning machines remove every kind of vegetation. The next task is the repair and cleaning of the gel and varnish coat. All paint manufacturers give extensive information with their treatment and painting systems.

For boats sailing in salt water areas: Salt rests bind the water and accelerate corrosion. Where possible, wash the boat with freshwater

11.3 Ventilation

It doesn't matter if your boat is stored under roof or in the open air during winter. A correct ventilation avoids corrosion, mold stains and fungi. With clear weather, the low air humidity in winter quickly dries your boat.

11.4 Rigging

During winter storage, the rigging should also be thoroughly checked. Especially the standing and running rigging but also the hatch pane casings and the mast and boom profiles should be checked. When the rigging is laid down, you can repair all small damages with very few effort.

11.5 Electricity

Switches should show no corrosion and be well-fixed. Once a year you should check all connection points..

The battery needs some special care. Even the fact that it is „maintenance-free“ does not mean that with frost you can leave the battery connected on the boat. Only a charged battery, stored in a frost-free space and from time to time recharged, will work for years.

11.6 Hose braces

All hoses and pipes under the construction waterline are fixed with double hose braces. Every year you should check the fixing of the braces.

11.7 Tanks

For winter storage, tanks should either be empty or full.

Fuel tanks: If only rests of diesel remain, the tank should be emptied and ventilated. Fresh water tanks: empty and open them. Don't forget the electric fresh water pump. Clean (with light household cleaners) the holding tank and pipes and open them. Cover the ends of open tanks, pipes and hoses with a cloth or gauze (Air = YES, Dust = NO).

11.8 Pump toilet

After the cleaning, drain the pump toilet via the drainage tap or prepare an antifreeze mix and then drain with the pump so as to protect the toilet against frost. In winter, ball valves should be left open. With strong frost they could split open.

11.9 Paint

If you have any questions about paint, just speak with your storage company or your seller. if possible, always use the combined systems of just one manufacturer.

Worn-out and spare parts

As an experienced skipper, you won't have any trouble to find original spare parts. If you need some hints, please ask your seller.

In case you need spare parts and the original parts are not available, then you should pay attention to the solidity of the available parts, to keep the **Dehler 39** on the same technical level as at the beginning.

Repairs

Every specialized company can repair the hull. The interior construction was designed in such a way that nearly all areas are easily accessible. For repairs of the technical equipment, please see a specialized company. Your seller will also help you with pleasure.

12. Winter storage

With regard to winter storage, we already gave some useful hints in previous paragraphs. The basic principle should be: winter storage firms should be technically up-to-date. This is true for its environmental conditions, storage supports, fire protection and accessibility of the yacht. The company should also have established rules for work that can be carried out by the owners themselves, so that they do not affect other water sports fans.

13. Final remarks and indications

This manual complies with the guidelines of the harmonised European Standard EN 10240. Many of these guidelines will seem natural to you. Notwithstanding, we hope that your understanding of the different chapters will help you to understand also the technical systems and the idea behind their design and setup. As we already said in the introduction, the purpose of the manual is a carefree use of the boat. One of the things the manual does not deal with is the personal safety equipment.

This is a responsibility of the skipper. Of course there should be enough lifesaving equipment for everybody on board. What also belongs to the personal safety equipment is a FM-radio or mobile phone, a lifeboat, emergency signals, first-aid kits, relevant spare parts and repair tools, etc...

Since the fire protection guideline is so important, we draw your attention to the fact that fire extinguishers should be regularly maintained and that the skipper should inform the crew about their working.

People who are well equipped for emergencies, often do not have any problems. But just in case you find yourself in the midst of an emergency, be assured that your yacht is equipped with the right aids. Finally, we'd like to give you some useful addresses:

Boatmakers' Federation

In case you need a shipyard for renovation or extension, repairs, storage or other services, like for example the appointment of an expert, please direct yourself to.

Deutscher Boots- und Schiffbauer-Verband
St. Petersburger Str. 1, 20355 Hamburg
Postfach 30 12 27, 20305 Hamburg
Tel. 040 - 35 28 17, Fax - 34 42 27

If you have any questions about sailing or legal regulations, please direct yourself to the General Direction for Navigation. There you will get also the addresses of the regional **Navigation Authorities** that are competent in your case.

Wasser- und Schifffahrtsdirektion Nord
Hindenburgufer 247, 24106 Kiel
Tel. 0431 - 33 94-0, Fax - 33 94-348

Wasser- und Schifffahrtsdirektion Nordwest
Schloßplatz 9, 26603 Aurich
Tel. 04941 - 6 02-0, Fax - 6 02-378

Wasser- und Schifffahrtsdirektion Ost
Stresemannstr. 290, 10963 Berlin
Tel. 030 - 26 99 0-20, Fax - 26 99 0-270

Wasser- und Schifffahrtsdirektion Mitte
Am Waterlooplatz 5, 30169 Hannover
Tel. 0511 - 91 15-0, Fax - 91 15-400

Wasser- und Schifffahrtsdirektion West
Cheruskerring 11, 48147 Münster
Tel. 0251 - 27 08-0, Fax -27 08-115

Wasser- und Schifffahrtsdirektion Südwest
Brucknerstr. 2, 55127 Mainz
Tel. 06131 - 9 79-0, Fax -9 79-155

Wasser- und Schifffahrtsdirektion Süd
Wörthstr. 19, 97082 Würzburg
Tel. 0931 - 41 05-0, Fax - 41 05-380

14. Guarantee Card

Dear Customer,

We are convinced of the quality of our sailing boats and therefore are able to offer you a special guarantee, in addition to the legal warranty.

Dehler International – represented by your seller – extends the legal warranty for all elements of its own manufacturing from **6 months to 12 months**.

In addition to that, we guarantee **for a period of 5 years**

The non-appearance of osmosis

With this extended guarantee, you have the right to a repair or replacement of faulty parts. For repairs you can bring the boat to one of our service stations or to the manufacturer's factory. In case of technical faults in on-board parts that can be removed without too much effort (for example anchor entrance covers, bow swimming ladders, etc...) you yourself can take out these parts and send them to a place indicated by your seller.

In case it would be necessary to get a third firm to carry out the repairs, after you reached an agreement with your seller, you will get the costs reimbursed pursuant to the normal rates of the sector in Germany. If our service personnel carries out the repairs, we will take charge of their travel costs.

All other claims are excluded, except when there exists a legal liability obligation.

Our extended guarantee even covers faults caused by an incorrect treatment or excessive use. These include bleaching and cracks in the gel coat. Excluded from the guarantee are bubbles in the gel coat.

Above all, we would like to draw your attention to the fact that technical modifications as well as the use of materials that are not indicated in our documentation, need our approval. Liability for unapproved modifications or use does not apply.

We wish you nice sailing on all your trips with this yacht!

The customer's signature makes this agreement binding for both parties.

.....
Seller's stamp and signature

.....
Customer's signature

15. Manufacturers' Information

This is a list of the firms whose guarantee and warranty conditions you'll find in the documentation. These firms are ready to help you through their extensive service network. Nevertheless, if you have any problems, please contact your seller.

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Installed part	TYP	INFORMATION	SUPPLIER
<i>On-board diesel</i>	Yanmar GM / JH	Instruction manual	Fa. Marx 20097 Hamburg
Boat heating Control device Temperature sensor	Webasto	Technical description Instruction manual	Webasto GmbH 82131 Stockdorf
Compression fridge	Coolmatic	Instruction manual	Waeco 48282 Emstetten
Hand switch Fuel filter	Volvo Penta	Installation manual Installation manual	VOLVO – Penta 24159 Kiel
Winches Electrical winches	Harken	Spare parts list	Fa. Max Frisch 80805 München
Mechanical bilge pumps	Wahle BP 4410	Installation instructions Information on handling	Fa. Lindemann 20537 Hamburg
Pump toilet	PAR-Brydon	Installation instructions Instruction manual	JABSCO GmbH 22844 Norderstedt
Fresh water pressure pump	Shurflo	Installation manual	Fa. Lilie 71634 Ludwigsburg
Compass	Suunto S116-F	Instructions for use	Fa. Frisch 80805 München
Foldable propeller	GORI	Installation manual	Fa. GORI DK – Kolding
Gas cooker	LT 30 D	User's and Maintenance manual	Fa. Triton Belco 22081 Hamburg
Navigation lights	Aquasignal	Installation instructions Test certificate	Fa. Aquasignal 28307 Bremen
Navigation instruments Autopilot systems Log Echosounder	Raytheon Raytheon Raytheon	Installation and User's Manual	Holland Nautic NL - 7332 NZ Apeldoorn
Battery charging devices	Mastervolt	Installation and User's Manual	Mastervolt 1101 AN Amsterdam
Rolling reefing system	Furlex	Installation and User's Manual	Fa. Gotthard 22761 Hamburg
Turnblade propeller	SPW-Propeller	Maintenance instructions Setting instructions	SPW- GmbH 27572 Bremerhaven
Rigging	Sparcraft R.D.M.	User's Manual	Sparkraft F – 17185 Perigny Cedex
Steering column Helms	Whitlock Cobra 6	Maintenance instructions	Yachtausrüster Kohlhoff 28757 Bremen
Hot water boiler	Sigmar	User's Manual Maintenance manual	
Electric switch board	Verteilertafel 4281	Information sheet	Calira Apparatebau 87600 Kaufbeuren
Anchor winches	Sprint 1000 Simpson - Lawrence	User's Manual	Holland Nautic NL – 7332 NZ Apeldoorn
FM- Radio	Dantronik RS 8000	User's Manual	Marine GmbH & Co 24944 Flensburg