

OWNER'S MANUAL

DEHLER 44

Name of Boat

Shipyard Number

HIN (Hull Identification Number)

Design Category

A



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Your Distributor's Stamp

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1.2 Introduction

*This manual has been written and compiled to make it possible for you to use your sailing yacht, a **DEHLER 44**, in a safe and pleasant way.*

Apart from many details regarding the yacht itself, the manual also contains details about the equipment supplied or integrated fittings and information on its use and maintenance, in addition to the information given by the manufacturer. Please read the manual through carefully and become familiar with everything before you go sailing with your yacht.

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

*We hope you will enjoy your new **DEHLER 44** 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 handle and maintain the yacht and its systems safely, identify possible technical faults and sometimes even to rectify these faults himself. Furthermore it is to the advantage of the owner to undertake maintenance and servicing of the Dehler 44 and thus maintain its value.

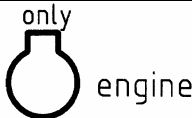
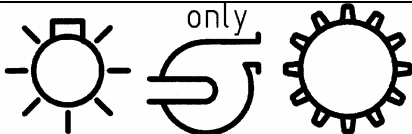
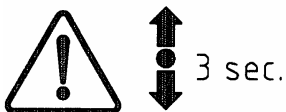
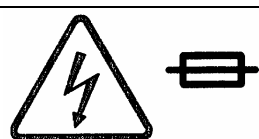
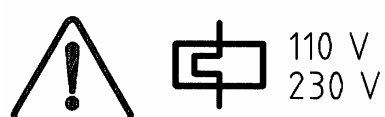
The shipyard reserves the right to carry out changes in equipment and technique. The systems represented in this manual should not be considered a basis for the sales contract. In this respect you should use the construction specifications and the relevant price list for the purchase of your yacht.

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

1.3 Stick on notices - List

List of the most important information, indicated by stick on notices.

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

Danger! Prevent suffocation. Be sure there is ventilation present when using the cooker. Don't use the cooker for heating!	Don't use the cooker for heating!	Notice on front trim of the cooker lid
	Shut off valve Gas Oven	Notice on the locker flap pantry
	Main switch Engine	Notice next to the switch, foot space stern cabin
	Main switch General consumption	Notice beside the switch under the navi-table
	Emergency fuel shut-off valve Diesel engine	Sticker bulkhead rear cabin
	Only switch with neutral number of revolutions!	Sticker next to the engine controll in cockpit
	Cold-resistant Please observe manufacturer's instructions!	For inboard diesel engine and heat exchanger at the companionway bulkhead and hand wash-basin.
	Fuse 12V A= see print	Sticker in foot space under navi-table
	Automatic fuse 110V or 230V	Sticker next to the automatic fuse shore connection
	Sticker Fire extinguisher	Notice for fire extinguisher under navigation seat and under the aft locker starboard

Yacht Manual Dehler 44

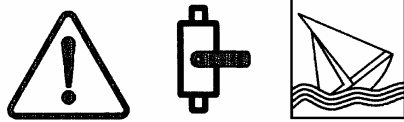
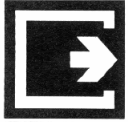
	Electric water-heater	Sticker next to the switch on the shore connection panel
	When sailing, close the sea cocks	Sticker on each locker door hand washbasin and galley valve
	Notice for the escape hatch	Sticker on frame of escape hatch forward
	Lifting belt position	Four stickers on deck side
ACHTUNG <u>FLÜSSIGGASANLAGE</u> Rauchen und offenes Feuer bei geöffnetem Flaschenbehälter verboten	Gas Installation Warnings	Sticker behind the bulkhead for the gas bottle

ABB: WARNINGS

1.4 Design Category

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

The yacht type DEHLER 44 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 above (Beaufort Scale) and waves as high as 4 m or more, these boats can continue sailing on their own.

1.5 Identification

For a yacht of this size the EC Directive only provides for Aa module certification. 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 recognised testing institute. The „Germanische Lloyd“ (Abbreviation GL), one of the testing institutes authorised by the EC Directive, was in charge of testing; see the Statement of Conformity on page 12.

The hull identification number was stamped on the mirror in the gel coat on the surface of the starboard side of the boat. This is a worldwide **unique** succession of numbers and letters. For example:

DEDEH 69011B606

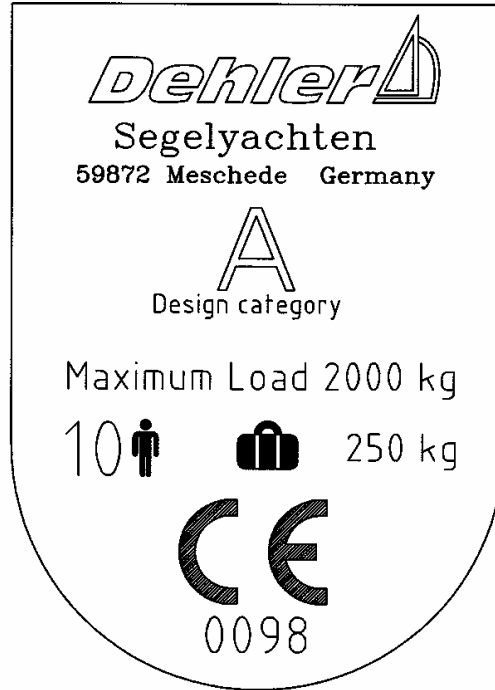
This succession of numbers and letters comprises the following data:

DE	Germany, Country of Origin
DEH	Unique Shipyard Code (the Register is kept by the German Boat and Shipbuilders' Association)
69	Designated Type as chosen by the shipyard
11	Serial Construction Number
B	Start of Construction Month February
6	2006, when construction started
06	End digits of the year 2006, 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

1.6 Manufacturer's Plate

The manufacturer's plate on the companionway bulkhead starboard is a requirement of the EC Directive, giving certain data which are explained here.



Explanation of the information required by the Directive:

A	Design Category A: High Sea
Maximum Load	This weight indication includes. persons, supplies, food supplies, water, fuel and personal equipment
Max. no of Persons (10, in this case)	Maximum number of persons, recommended by the manufacturer, when the boat is located in a maritime area corresponding to its design category.
Max. Equipment (250 kg, in this case)	Maximum weight of personal equipment
0098	CE Sign indicating that the boat was built according 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).

1.7 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
amended by Directiv 2003/44/EC**

We hereby 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 and in its performance in use. If the boat is modified in such a way that the “basic safety requirements” are affected without our approval, this statement shall no longer be valid.

Description of the boat	Sailing yacht	
Type of Boat	Dehler 44	
Main dimensions	13,70 x 3,86 x 2,20	
Or	13,70 x 3,86 x 2,50	
Serial number of hull	see number on plate	
Design Category	A	
Certification module		
Design and Konstruktion	B + C	
Certification module		
Noise Emission	A (Directive 94/25/EC)	
Relevant Directives	EC-RL Pleasure Craft	(94/25/EG)

- | | |
|--------------------------------------|-------------------|
| • Harmonized standards applicable | see Annex Page 12 |
| • International standards applicable | see Annex Page 12 |
| • National standards applicable | see Annex Page 12 |
| • Other regulations applicable | see Annex Page 12 |

Selected testing institute according to Annex XIV **ECB Nederland BV**
Address **Julianaweg 224A, 1131 NW Voendam NL**

in charge of

- EC Testing of Construction Type (Module B) pursuant to Annex VII

Test Certificate No. . DEM -1335

Freienohl, (date)

Signature of Manufacturer

Position of the signatory

1.8 Technical Regulations

Appendix to the Statement of Conformity or Manufacturer's Certificate

Relevant 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	General Specifications	prEN ISO 8666
2.1	Hull Identification Number	EN ISO 10087
2.2	Manufacturer's Plate	prEN ISO 14945
		prEN ISO 11192
2.3	Protection against falling overboard	ISO/DIS 15085
2.4	View from main steering position	prEN ISO 11591
2.5	Owner's Manual	EN ISO 10240
3.1	Dimensions	prEN ISO 12215 (6 parts)
3.2	Stability, freeboard	pr EN ISO 12217 (3 parts)
3.3	Buoyancy, floating capacity	EN ISO 12217 (3 parts)
3.4	Openings, hatches, windows	prEN ISO 12216
		EN ISO 9093 (2 parts)
3.5	Flooding	prEN ISO 11812
3.6	Recommended maximum load	prEN ISO 14946
3.7	Storage space for life-rafts	-----
3.8	Emergency escape	-----
3.9	Anchoring, mooring, towing	EN ISO 15084
4	Engine power, manoeuvring capacity	prEN ISO 11592
		DIN EN ISO 8665
5.1	Engine system and engine compartment	DIN EN ISO 16147
5.2	Fuel system	prEN ISO 10088
		DIN EN ISO 7840
		DIN EN ISO 8469
5.3	Electrical system	
	- Bilge pumps	EN 28849/ISO 8849
	- Fans	DIN EN ISO 9097
	- Direct current systems	DIN EN ISO 10133
	- Alternating current systems	DIN EN ISO 13297
5.4	Steering systems	EN 28848/ISO 8848
	- Sail steering	EN 28847/ISO 8847
	- Segmental wheel system	prEN ISO 13929
5.5	Liquid gas systems	ISO 10240
5.6	Fire protection	DIN EN ISO 9094-1
5.8	Protection from spraying water	prEN ISO 8099

2. Description of the boat

2.1 Main data

On the basis of difference materials an keels they on values data for weight LWL and draft

		D44	D44sq	D44R
Overall length	LüA	13,70 m	13,70 m	13,70 m
Length waterline	Lwl	11,92 m	11,95 m	11,99 m
Maximum beam	B _{max}	3,86 m	3,86 m	3,86 m
Beam hull	Bh	3,86 m	3,86 m	3,86 m
Draught hul	Trumpf	0,58 m	0,58 m	0,53 m
Max. draught standard keel	T _{max}	2,25 m	2,55 m	2,50 m
Side height midships	Db	1,35 m	1,35 m	1,40 m
Transport height standard keel without support Hr		4,00 m	4,30 m	4,30 m
Full height mast	HD	20,80 m	20,80 m	20,85 m

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

Mainsail 60,92 m², forresail from 41,34 to 150 m²

Unladen weight standard keel	G _{leer}	10300 kg	9700 kg	8670 kg
Max. weight standard keel	V _{max}	ca.12800 kg	ca. 11700 kg	ca. 10670 kg
Keel weight standard keel 2.40m	G _s	3660 kg	3470 kg	3470 kg

Inboard diesel engine	Volvo, Typ	D2-40	29,1kW/ 40PS
Option:	Volvo, Typ	D2-55	40,5kW / 55PS

230 V Alternating current

Landline installation with battery charger and a 230 V socket

24 V – Direct current installation

Batteries

Starter battery	124 V 790 Ah
• consumer	24 V 400 Ah Gel battery (4x 12V 200 Ah)

Tanks

2 NIRO fresh water tank	total 400 l
2 NIRO fuel tank	total 180 l
2 NIRO holding tanks	total 100 l

2.2 Height

* The full height can be critical when you have to pass under a bridge or a high voltage line. This is the height above the **waterline up to the highest point of the mast**. It is measured without possible antennas or radar reflectors but does include 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.

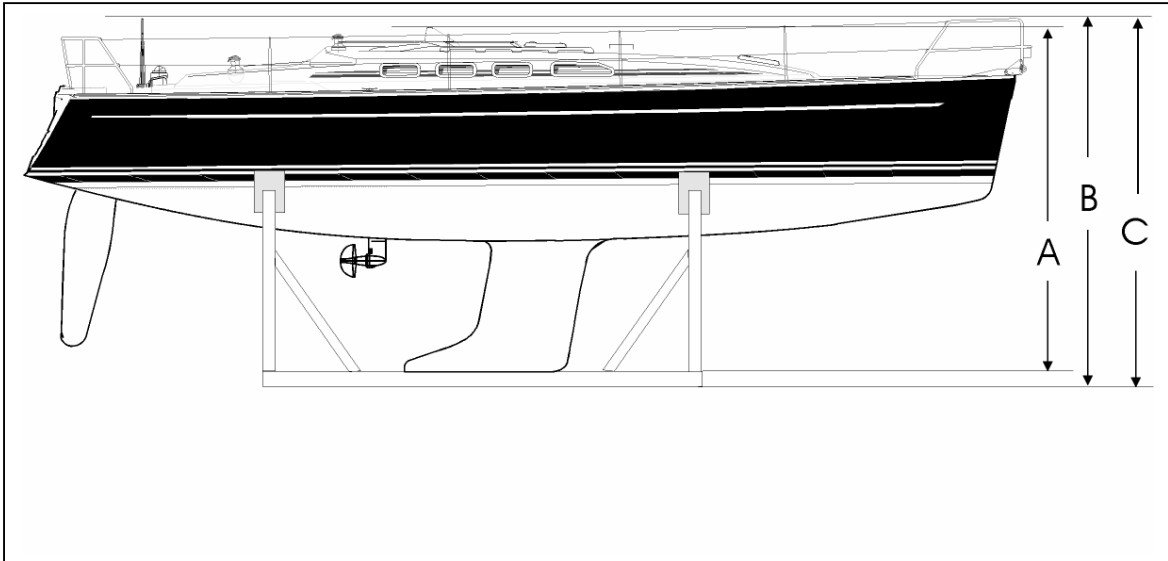


ABB: TRANSPORT MEASUREMENTS

2.3 Transport measurements

Standard keel draught 2.20 m (draught 2,50m D44sq):

A = Transport height without support, pulpit and helm	4,24 m	(4,53m)
B = Transport height with support and pulpit	4,43 m	(4,73m)
C = Transport height with support and helm	4,41 m	(4,71m)

2.4 Maximum number of persons

The Directive requires the maximum number of persons recommended on board when the boat is sailing in its designated range to be delineated. The **Dehler 44** is designed for offshore navigation, that is to say trips of several days between different ports. Therefore we recommend the following:

- For sailing trips lasting several days, no more than 10 persons should be on board, since this is the maximum number of berths available;
- **Note:** There **must** be enough life-jackets on board for all persons on the boat. An inflatable life-raft should have enough space for at least 10 persons.

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

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

2.5 Life-raft

A life-raft corresponding to the sailing area designated by the design category must be mounted in the place provided on deck. The life-raft must have enough room for all people on board.

NOTE

According to the cabin version, a 10 man life-raft must be stowed under the helmsman's seat

2.6 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 44**, the recommended lifting points are marked on the edge of the coaming. The forward lifting point corresponds to **A**, approx. 4,30 m from the front of the bow and the after lifting point to **B**, approx. 3,92 m from the edge of the stern. The distance C between these two marks is about 5,00 m. With reference to these markings, the belts should not be displaced more than as follows:

Rear and front: max. 200 mm forwards or backwards. The position of the saildrive and the log/lot issuer must be noted upon hoisting.

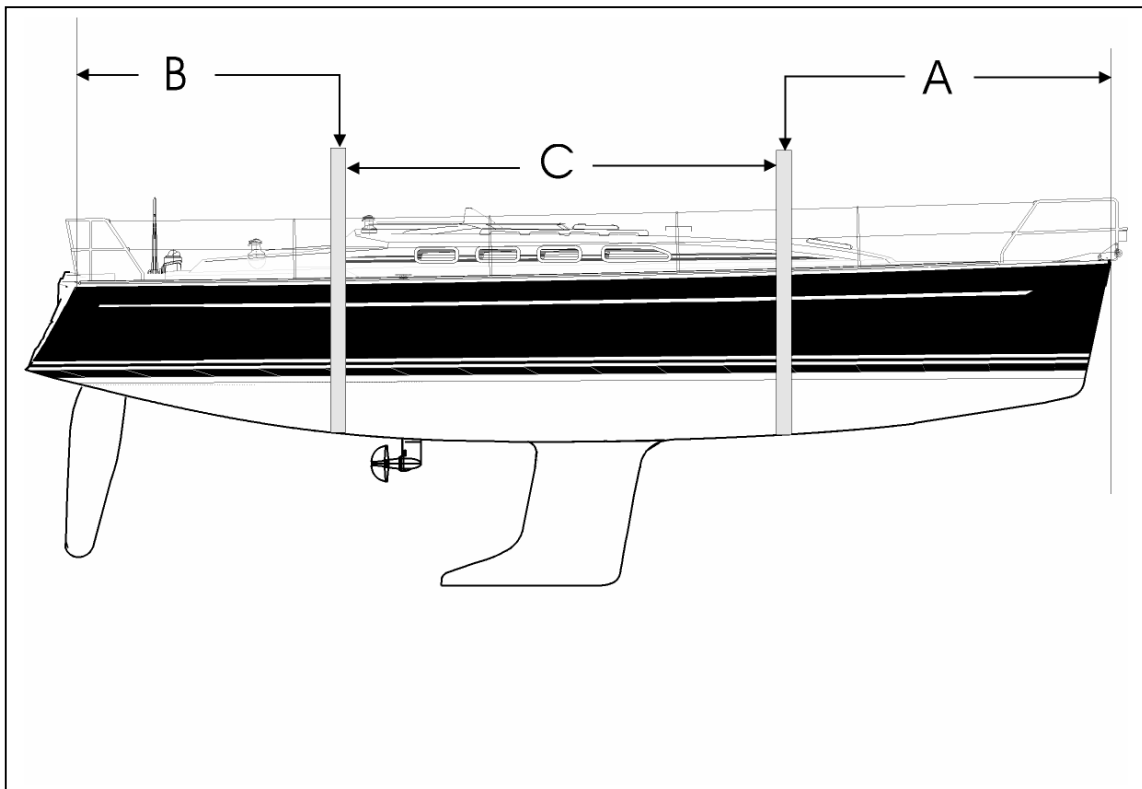


ABB: LIFTING POINTS FOR BELTS

3. General Drawings

- 1 Sail storage space
- 2 Bow berths
- 3 Holding tank
- 4 head bow
- 5 Fresh water tank port bow
- 6 Sofa saloon
- 7 Navigation place
- 8 Battery: engine
- 9 Clothes locker bow berth
- 10 Cooler
- 11 Fresh water tank starboard bow
- 12 Gas cooker
- 13 Battery: consumer
- 14 WC salon
- 15 Storage space life-raft
- 16 Clothes locker aft
- 17 Heat exchanger
- 18 aft cabin starboard
- 19 Heater

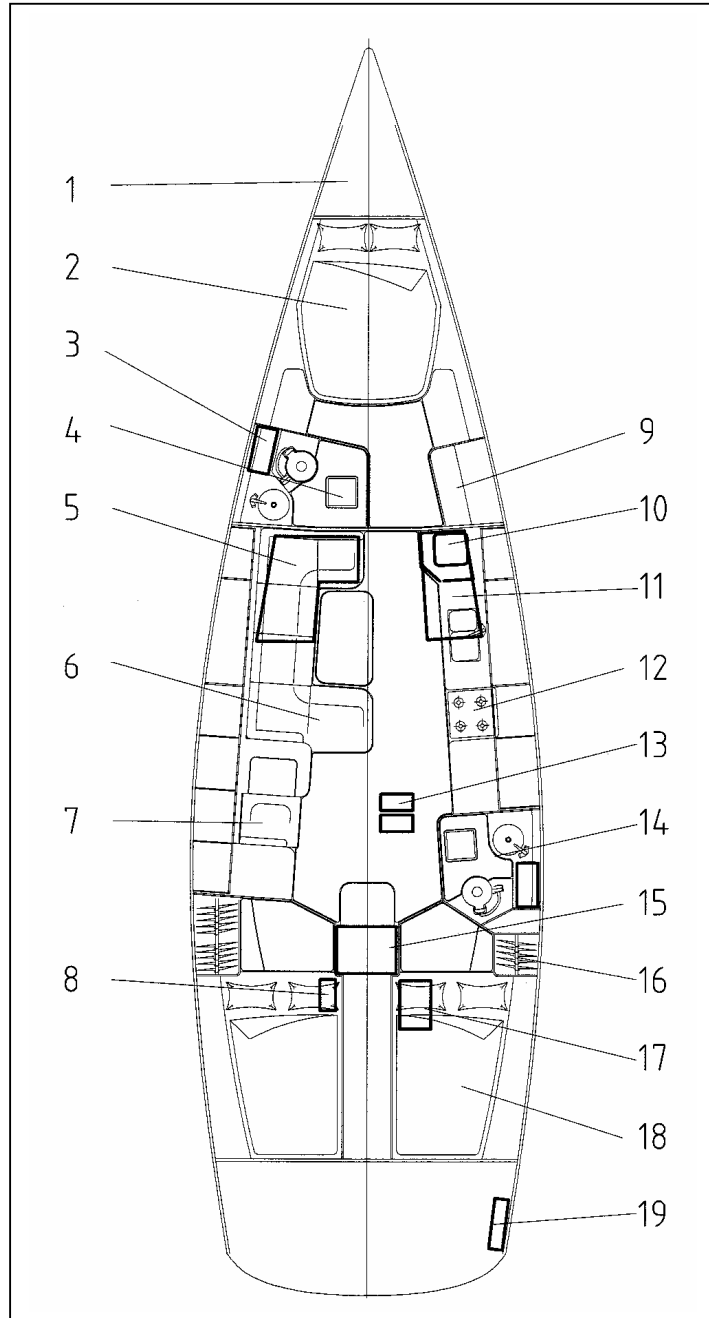


ABB.: GENERALPLAN

Decklayout

Components

- 1 Under deck Furler
- 2 Pulpit
- 3 anchor hatch
- 4 anchor fitting
- 5 Bow cleat
- 6 escape hatch
- 7 Deck hatch
- 8 Holding tank forward
- 9 Water fill in
- 10 Mast collar
- 11 Chain plate
- 12 Halyard guide under deck
- 13 Deck hatch salon
- 14 Halyard stopper
- 15 Fuel fill in
- 16 winches
- 17 Traveller
- 18 utility boxes
- 19 Cockpit table
- 20 Steering wheel
- 21 adjustable foot support
- 22 storage gangway
- 23 bathing ladder

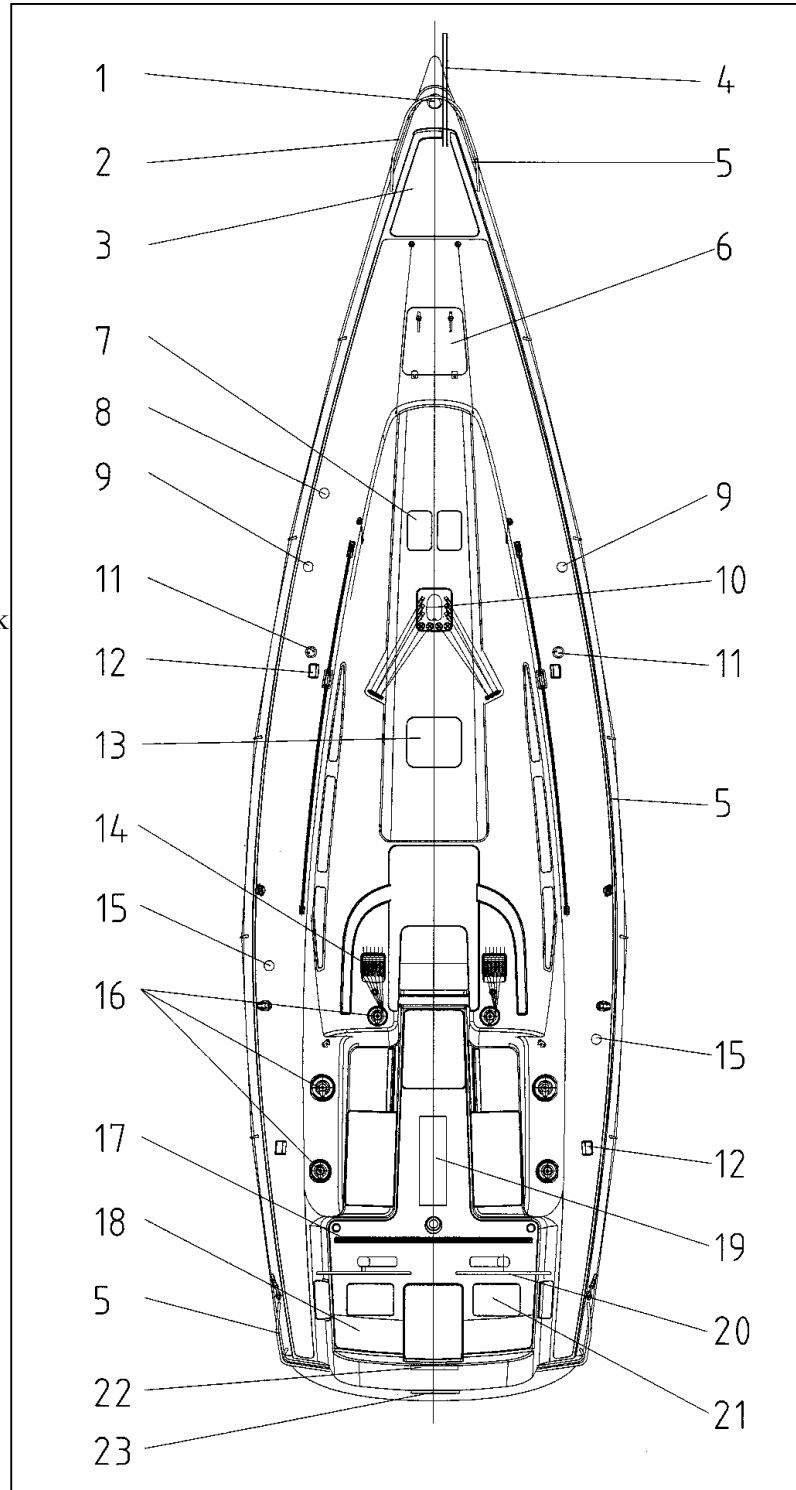


ABB: DECK LAYOUT

-3.2.1 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 genoa slides, halyard pegs, winches, deck hatches or rollers are screwed and sealed with a flexible silicone rubber substance.

3.2.2 Guard rails

The deck is equipped with a pulpit, a pushpit, an integrated safety ladder/swimming ladder and guard rail supports. The deck guard rail has a continuous height of 610 mm. The eight railing posts and the bolts for the pulpit and pushpit are screwed on the aluminium deck reinforcement and glued with epoxy resin.

3.3 Sail plan

Mainsail	61,0 m ²
Genoa 140 %	66,2 m ²
Jib 100 %	46,0 m ²
Spinnaker approx.	176,0 m ²
Gennaker	166,0 m ²

The canvas quality is chosen for the wind strain corresponding to the sails. The mainsail can be reduced by two one-line quick reefings.

Sailmakers have to take care of measurements of reefing sheaves inside boom.

3.3.1 Sail dimensions

P = 17,40 m
E = 6,15 m
I = 17,21 m
J = 5,03 m

With these data any sailmaker can make the sail you require.

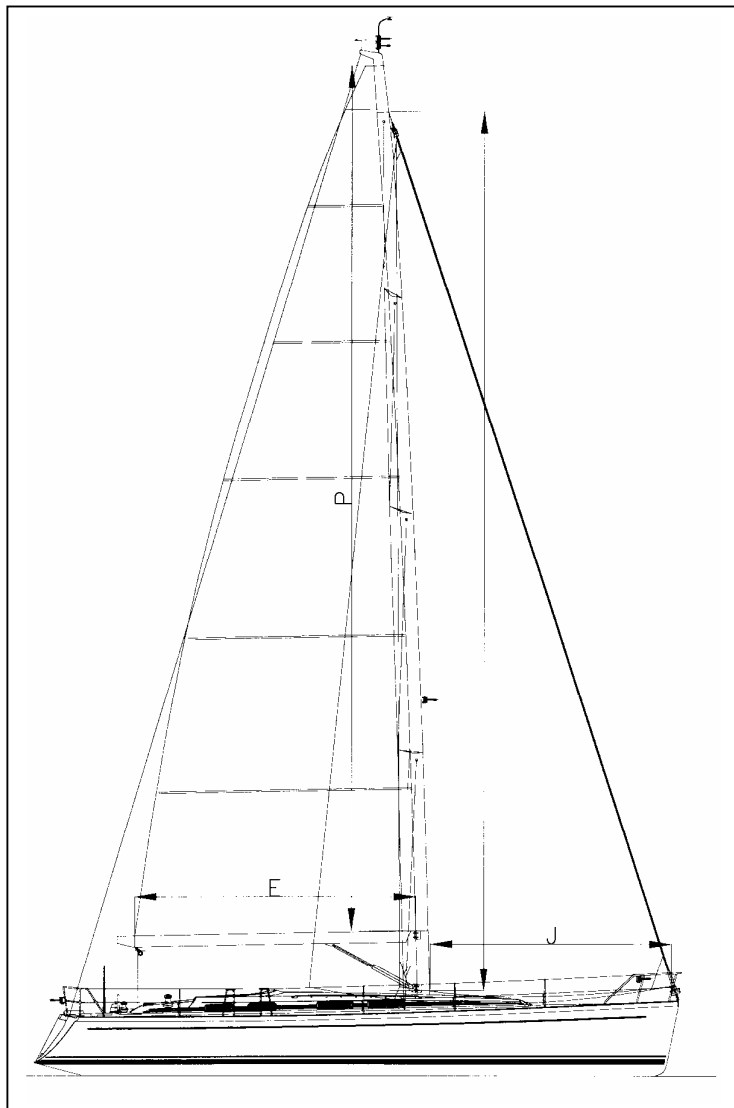


ABB: SAIL PLAN

3.3.2 Rigging plan

The mast is placed in a mast step under deck:

Mast length: 20,984 m

Boom length 6,38 m

Length upper spreader 0,8m, mid spreader 1,10m, lower spreader 1,25m

The profile measurements for the Selden rigging are higher than the necessary minimum moment of inertia and moment of resistance, which must be maintained if the rigging is eventually replaced: mast profile C264 and main boom profile B200 mass

The main boom is equipped with:

Single line reefing system for reef 1 and reef 2. Reefing line starts at mast luff, is guided by gooseneck sheave inside the boom. Line goes out of the boom by reefing sheave up to block which is fixed in main sail, down to the end of boom, inside the boom back to gooseneck, down to mast collar and organizer to cockpit. Reef 3 is a conventional standard reef.

3.3.3 Halyard running

- 1 Spi boom lift
- 2 Spinnaker halyard 2
- 3 Reefing 3
- 4 Boom vang port side
- 5 Spi down haul port side
- 6 Genoa halyard
- 7 Main halyard
- 8 Spi down haul starboard
- 9 Boom vang starboard
- 10 Clew outhaul
- 11 Reefing 1
- 12 Spinnaker halyard 1

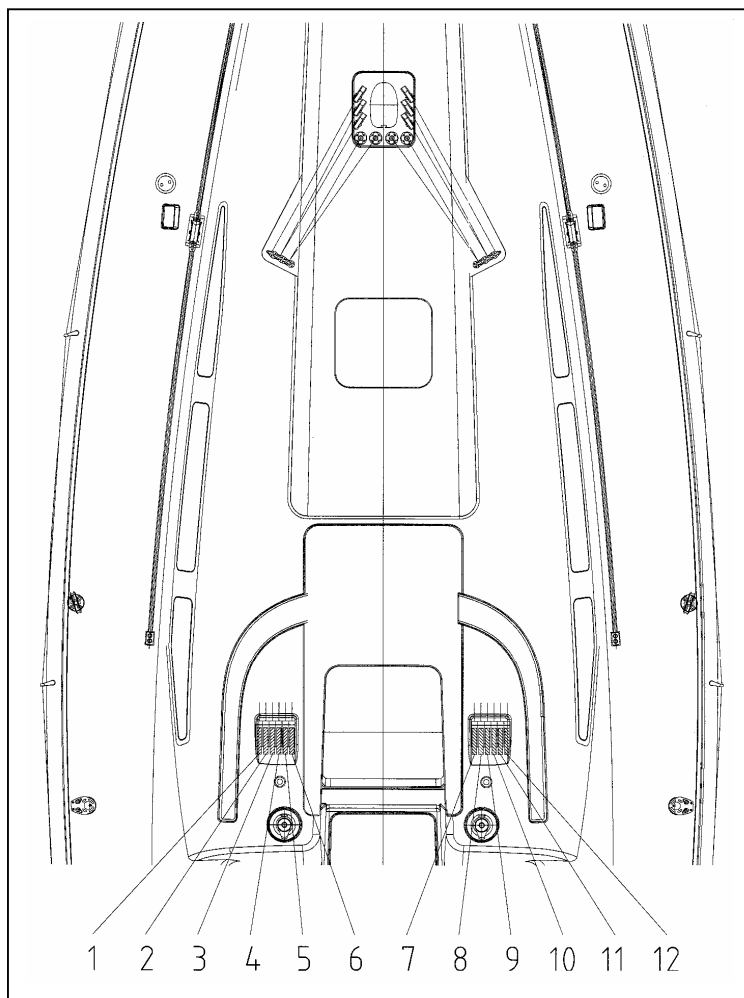


ABB.:HALYARD RUNNING

3.3.4 Genoa slide / Main sheet traveller

Both the genoa slide and the main sheet traveller can be continuously adjusted from the cockpit. The adjustable top setting on the genoa slide is particularly practical with a foresail roller reefing system.

3.4 Shrouds, stays and halyards

3.4.1 Dyform rig dimensions

Forestay

Dyform type 10mm Ø FLD 17780 mm

Backstay

Dyform type 8mm Ø 17100 mm

Backstay-Hahnepot Briddle

Dyform type 8mm Ø 6000m

V3/D4 Dyform type 10mm Ø 7670 mm

D3 Dyform type 6mm Ø 3690 mm

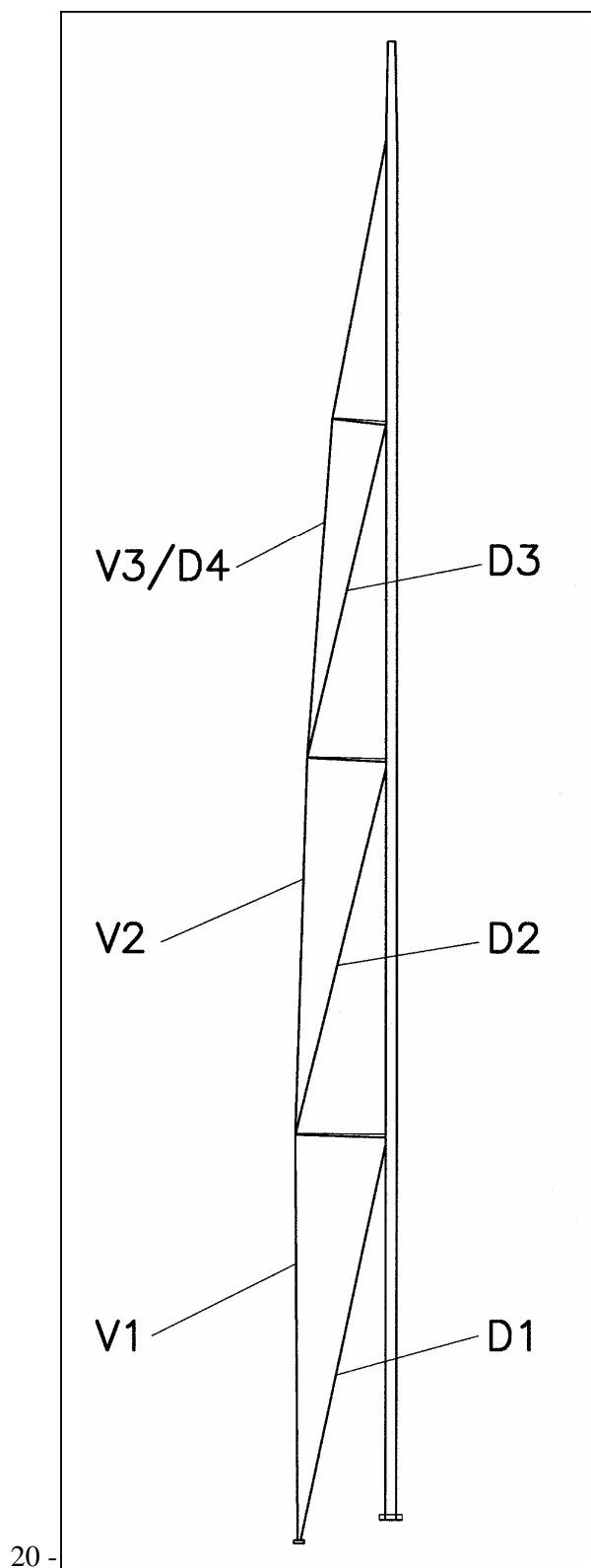
V2 Typ Dyform 10mm Ø 4125 mm

D2 Typ Dyform 8mm Ø 3890 mm

V1 Dyform type 12mm Ø 5180 mm
(end of screw terminal, without sleeve)

D1 Dyform type 10mm Ø 5240 mm
(end of screw terminal, without sleeve)

ABB: SHROUDS STAYS



3.5 Running Rigging

Name	Material	Diameter	Lenght	Identifying thread
Genoa halyard	Dyneema	12 mm	40 m	blue
1st spinnaker halyard	Dyna Lite	12 mm	42 m	red
Main halyard	Dyneema	12 mm	44 m	white
Dirk	Cupsheet	8 mm	44 m	black
Main sheet	Dyneema	10 mm	52 m	white
Genoa sheet	Dyneema	12 mm	20 m	blue
Flag line	Nylon Braided	4 mm	15 m	white
Operating line main sheet traveller	Tasmania	8 mm	12 m	white
Operating line genoa sheet traveller	Dyna Lite	8 mm	18 m	blue
Cunningham	Cupsheet	8 mm	8 m	wihte
2nd spinnaker halyard	Dyna Lite	12 mm	50 m	green
Topping lift	Dyna Lite	8 mm	37 m	yellow
Spinnaker kicking strap	Dyna Lite	8 mm	40 m	yellow
Operating line spinnaker sled	Tasmania	8 mm	19 m	yellow
Spinnaker sheets	Dyneema	10 mm	31 m	red
Spinnaker aft-haul	Dyneema	12 mm	24 m	black
Gennaker sheet	Gemini X	12 mm	32 m	red

4. Description of inboard systems

4.1 Engine installation

The **Dehler 44** is equipped with a Volvo engine installation and saildrive. The table below provides the most important data, but we would like to refer you to the extensive information provided by Yanmar. As the skipper you must be acquainted with the safety and maintenance instructions.

Manufacturer	Volvo	Volvo
Type	D2-55	D2-40
Cylinder capacity	4	4
Cubic capacity	2216 cm ³	1510 cm ³
Rated output	41 kW / 55 PS	29 kW / 40 PS
rpm	3.000 rpm	3.200 rpm
Cooling	Fresh water cooling heat exchanger	Fresh water cooling heat exchanger
Reduction ratio	2,2 : 1	2,2 : 1
Saildrive gearbox	130 S	130 S
Dry weight	ca. 253 kg	ca.189 kg
Three phase current generator	14 V / 115 A	14 V / 115 A
Folding propeller *	18x14L 2Bl	17x13L 2Bl
	18x13L 3Bl	17x12L 3Bl

According to the manufacturer there may be slight
differences in pitch and diameter

The engine housing is insulated on partition bulkheads. The engine can be reached via the companion-way stairs, or via the bulkhead doors in the stern port berth.

4.1.1 Exhaust system

The yacht is equipped with a wet exhaust system, i.e. cooling seawater is injected into the exhaust outlet pipe, which cools the exhaust fumes. This mixture is taken downwards to a silencer/water collector – mounted under the double berth. The pipe continues on towards the stern and forms a swan's neck in front of the port inner edge of the transom.

The exhaust pipe is made of synthetic rubber reinforced with a steel spiral. The pipe is heat-resistant, although with certain limits. Do **not** interrupt the sea water supply. Attention must be paid therefore to providing a continuous supply. The pipe is fixed at all connection points with two clamps.

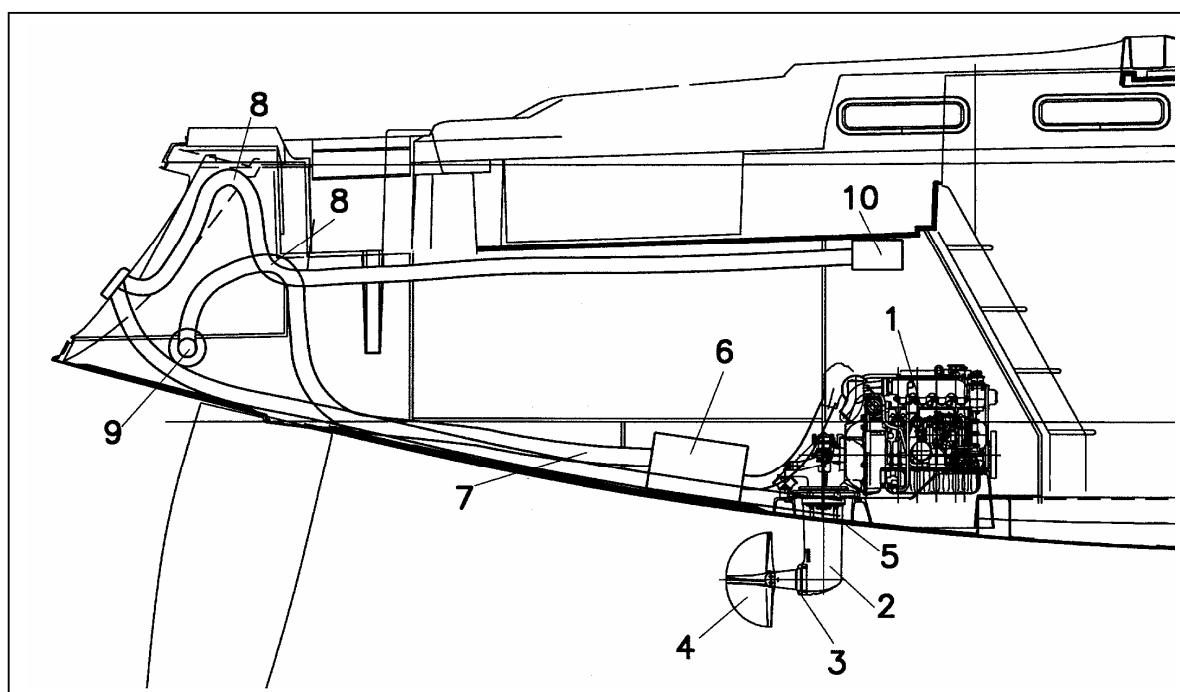


ABB: ENGINE INSTALLATION

Components

- | | | |
|-----------------------|-----------------|---------------------|
| 1 = Inboard diesel | 2 = Saildrive | 3 = Zinc ring |
| 4 = Folding propeller | 5 = Gasket | 6 = Water collector |
| 7 = Exhaust pipe | 8 = Swan's neck | 9 = Outlet |
| 10 = Ventilator fan | | |

IMPORTANT

Every time after starting the engine, the skipper should check that cooling water is being expelled with the exhaust fumes at the outlet!

4.1.2 Propeller

The yacht can be fitted with either a fixed propeller or a folding propeller .

IMPORTANT

In freshwater areas the zinc ring (3) must be replaced by a magnesium ring.

4.1.3 Fuel tank

The fuel tanks are positioned below the bunk in the stern cabin. There are tanks to both port and starboard, each with a capacity of 90 litres.

The tanks are filled individually via the screw caps to port and starboard on the cabin roof structure. (Marked FUEL and bearing a symbol).



To provide a supply, the 3-way valve in the technical area, between the two stern cabins

(see ABB fuel pipe system Pos.10), must be switched to the correct position:

Lever turned to port, supply from the port tank, lever turned to starboard, supply from the starboard tank. Lever in the middle, both fuel pipes are shut off.

The intake and return to the inboard diesel engine passes through a fixed copper pipe with fireproof fuel hoses at the ends in accordance with ISO 7840. Every tank is fitted with out-board ventilation. This feeds out to the surface on the port side close to the backstay mounting.

4.1.4 Fuel supply/circulation

The feed pipe leads from the inlet pipe on the fuel tank, via a quick shut off valve (3-way valve) on the fuel pipe, to the coarse filter/ water separator through the tunnel in the technical area in the rear berth on to the fine filter and diesel pump. The engine return pipe to the tank is positioned almost parallel to this.

IMPORTANT

Perfect running of the engine is only possible with clean fuel. Therefore it is absolutely essential to regularly inspect and clean the filter and water separator.

Warning

**Turn off the engine, heating and the cooker when filling the tank.
Never smoke while filling the tank!
Never approach with a naked flame!**

WARNING

To ensure that the fuel system does not draw in any air, switch over from the port fuel tank to the starboard fuel tank in good time.
Regularly check the fuel level on the E-Panel in the navigation area!

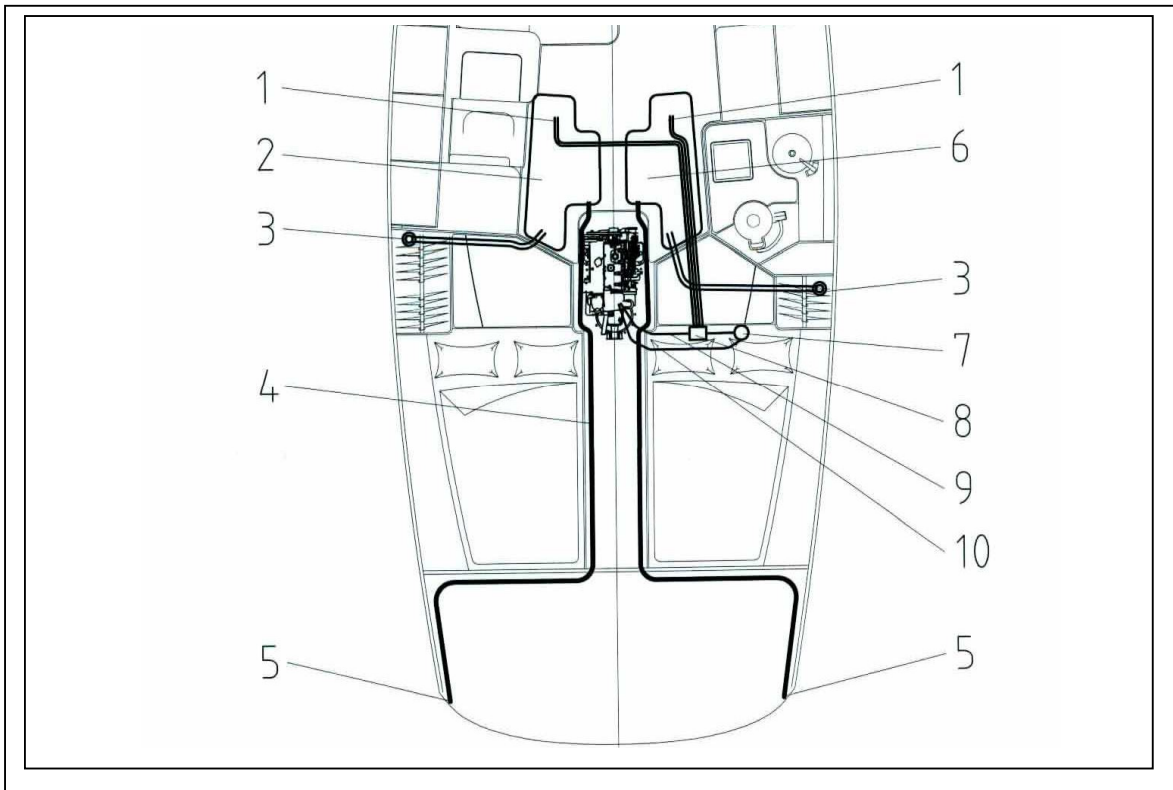


ABB: FUEL PIPE SYSTEM

Components

- | | |
|--------------------------|-----------------------|
| 1 supply and return pipe | 6 Fuel tank starboard |
| 2 Fuel tank port side | 7 Diesel filter |
| 3 Filler cap | 8 Switch over valve |
| 4 Ventilation pipe | 9 Return pipe |
| 5 Ventilation at stern | 10 Forward pipe |

4.1.5 Engine switch panel

The engine switchboard with a control lever is installed in the cockpit's coaming starboard. All other information can be found in the extensive information provided by FA. Yanmar.

4.1.6 Engine monitoring

It is especially important to heed the engine temperature light in calm and tidal waters. If the water supply is disturbed engine over-heating may rapidly occur. As the light does **not** fall in the field of view of the skipper an audible warning signal should reliably prevent such a situation. See also the instructions in the Yanmar manual.

NOTE

The single lever circuit is a combination between a circuit and a throttle. Always allow a few seconds in neutral between gear changes. Delayed changing of gears avoids expensive repairs.

4.2 Fresh water, drinking water, cold

The **Dehler 44** has four stainless steel water tanks with a total capacity of 400 litres. These are installed below the sofa. The filler cap is located on the coaming close to the mast. An electric water pump with a secondary surge tank supplies the sink and the wash basin in the toilet area.

4.2.1 Cockpit shower

The fresh water tank also supplies the cockpit shower. The unit is installed on the surface aft.

Components:

- 1 Wash basin outlet
- 2 Port tank
- 3 water pump with manifold
- 4 starboard tank
- 5 Gally outlet
- 6 suction pipe water tank
- 7 head salon outlet
- 8 warm water boiler
- 9 colt and warm pipe parallel
- 10 Cockpit shower

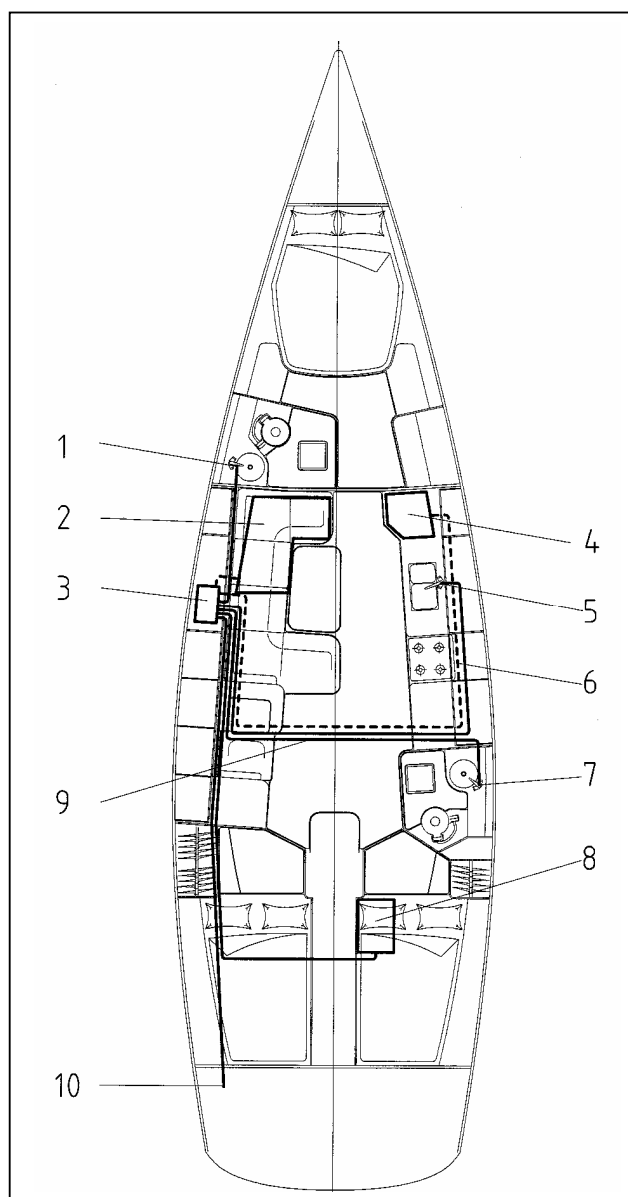


ABB.: COLD DRINKING WATER

4.3 Fresh water, hot

A heat exchanger with a capacity of 40 litres has been installed for the production of hot water. It is situated in the technical area between the stern cabins.

Components

- 1 Wash basin outlet
- 2 Port tank
- 3 water pump with manifold
- 4 starboard tank
- 5 Gally outlet
- 6 suction pipe water tank
- 7 head salon outlet
- 8 warm water boiler
- 9 colt and warm pipe parallel
- 10 Cockpit shower

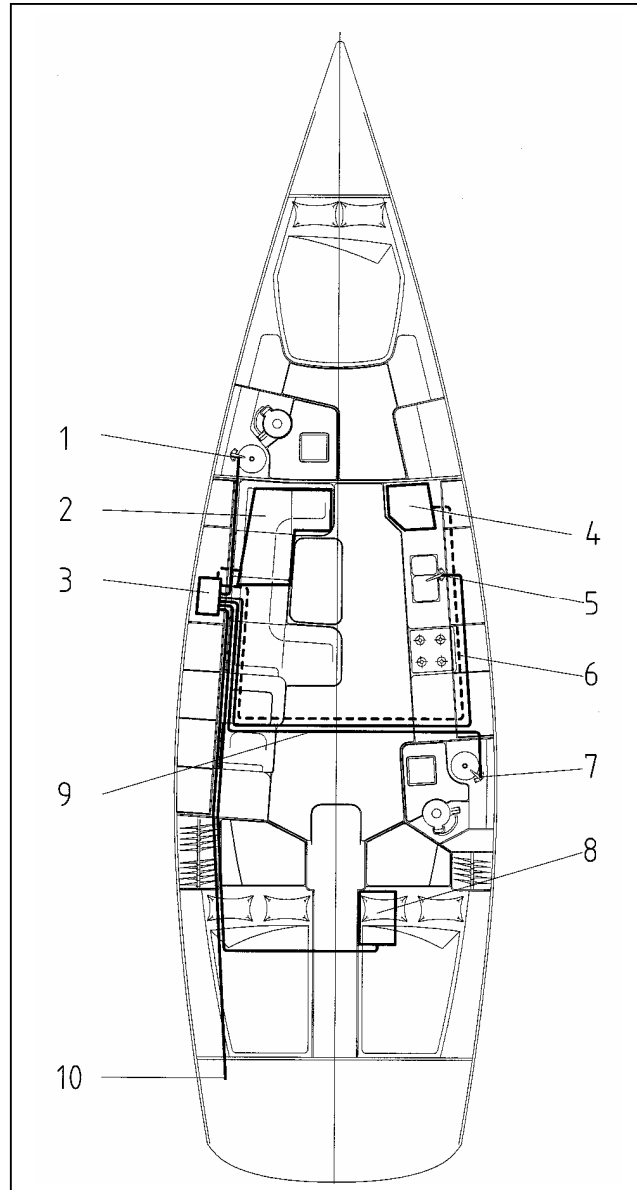


ABB.: HOT WATER

4.3.1 Hot water boiler

The engine twin-circuit cooling system is used among other things as a heat source. Because the engine is only expected to be used in calm weather and for manoeuvring in harbour, the hot water boiler/ heat exchanger is also equipped with an electric heating cartridge, which can be operated in harbour with a 230 V alternating current from the shore connection. The switch can be found beneath the navigation table.

Cold water is fed to the insulated boiler by the pressure pump. The water in the water boiler is heated by hot water from the engine, and supplies the hand wash basins, galley and where applicable the cockpit shower. The surge tank within the cold water circuit forms part of the hot water supply system.

4.3.2 Waste water pump

Shower water suction pumps have been fitted in both wet areas. At 12 l/min the pump removes more water than can be provided by the water supply system. If water builds up in the shower tray, this means that the filter is blocked and needs to be cleaned. The suction pump for the wet area is located in the locker beneath the hand wash basin. For the forward wet area the pump is on the living area side, to port, behind the back of the living area seat.

The pumps also serve as a bilge pump for the ice box, the oil locker, main bilge, and forward bilge. For this reason, a distributor, installed in the wet areas in the locker beneath the hand wash basin, can be used to select the required bilge position.

4.5 Alternating current installation

If the yacht is equipped with a 230 V shore connection unit, when you are mooring in a harbour, you can feed power into the onboard system with a connection cable. The socket (socket according to EEC standards) is to be found at the end of the cockpit. There is a 230 V socket in the shore connection unit in the space under the navigation table.

4.5.1 Shore connection unit

- Manufacturer Mastervolt
- On/off switch, battery charger
- FI- protection switch
- System control light
- On/off switch, heat exchanger
- with control light
- 230 V safety socket

Charging of the battery starts once the shore connection cable is plugged in. The 230 V socket is likewise ready to function. It is exclusively for electrical use. Please think about the power limit of land sockets. The feed for hot water heating in the heat exchanger has fixed cabling, which is separately switched and protected.



4.5.2 Charger Victron

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

NOTE

Please make yourself familiar with the **safety instructions** attached for the battery charger!

4.6 Onboard direct current system

The 12 V direct current system is responsible for the power supply for all general use appliances. The 12 V – Plus load circuit can be switched off using the main switches next to the port companion way and with the second master switch of the starter battery. The 24 V power supply is comprised of the following main components/power supply sources.

Consumer battery and a battery charger

There are some circuits reduced to 12V: Autopilot

Navigation

Permanent Current (not switched by Panel)

4.6.1 Master switch

The master switch for the engine is located in the stern port cabin, in the foot space. The master switch for the power supply batteries is located beneath the navigation table. See photo on the previous page.

4.6.2 Arrangement of the main fuses

The main fuses are located to port, close to the navigation chair behind the locker door:

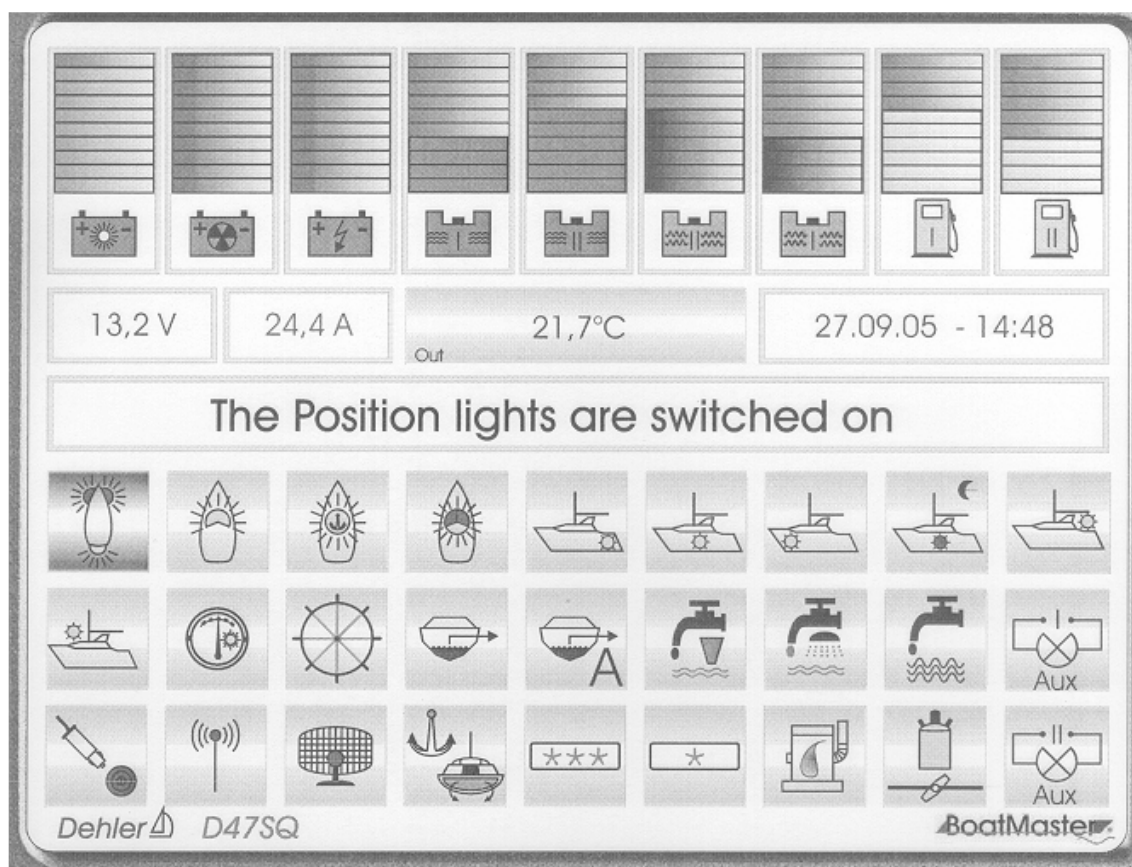


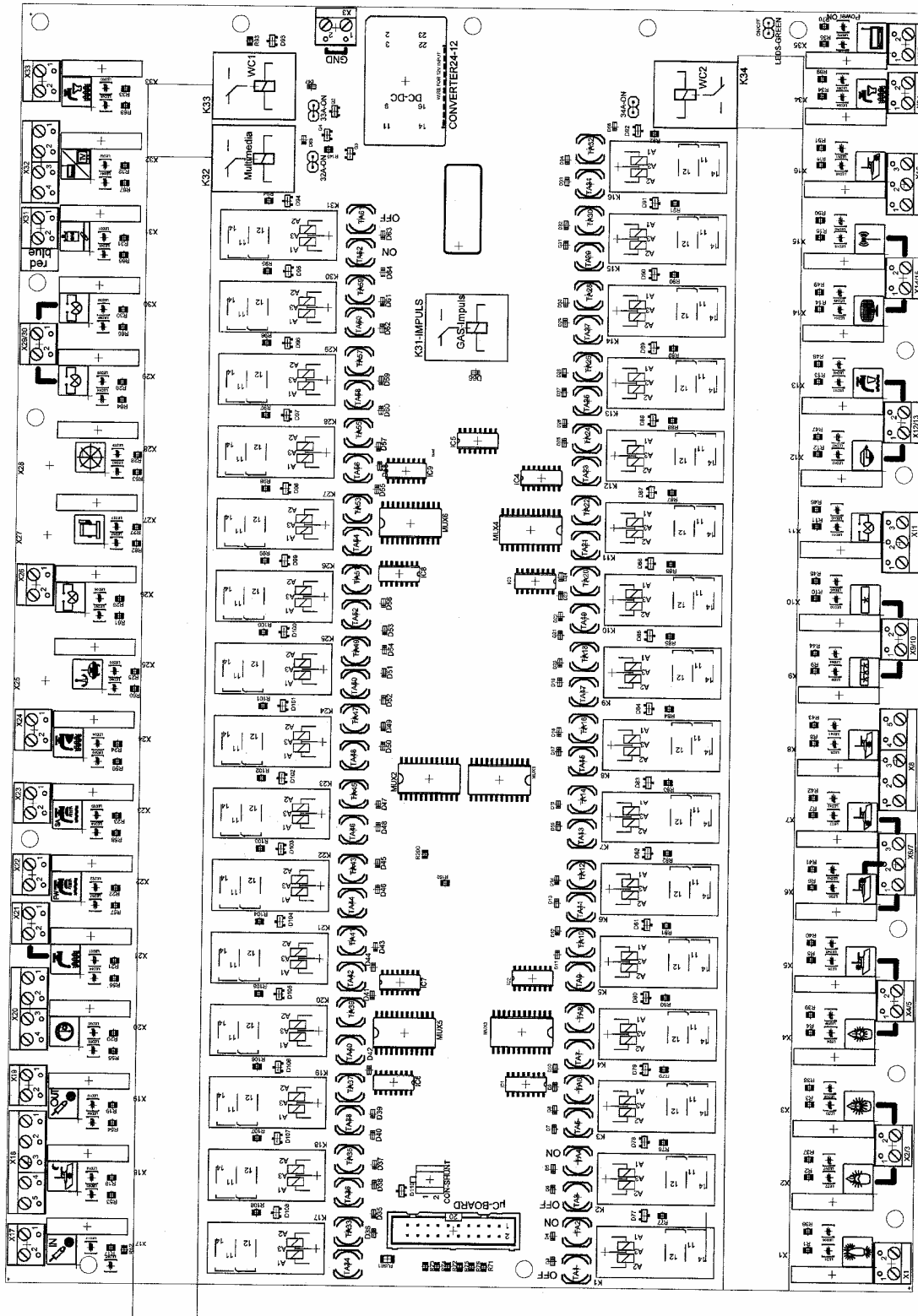
ABB.: MAIN FUSES

1 = General Consumption

2 = Anchor winch

Power supply for “General Consumption” is provided by the **power circuit distributor**, (switch board) above the starboard chart table.





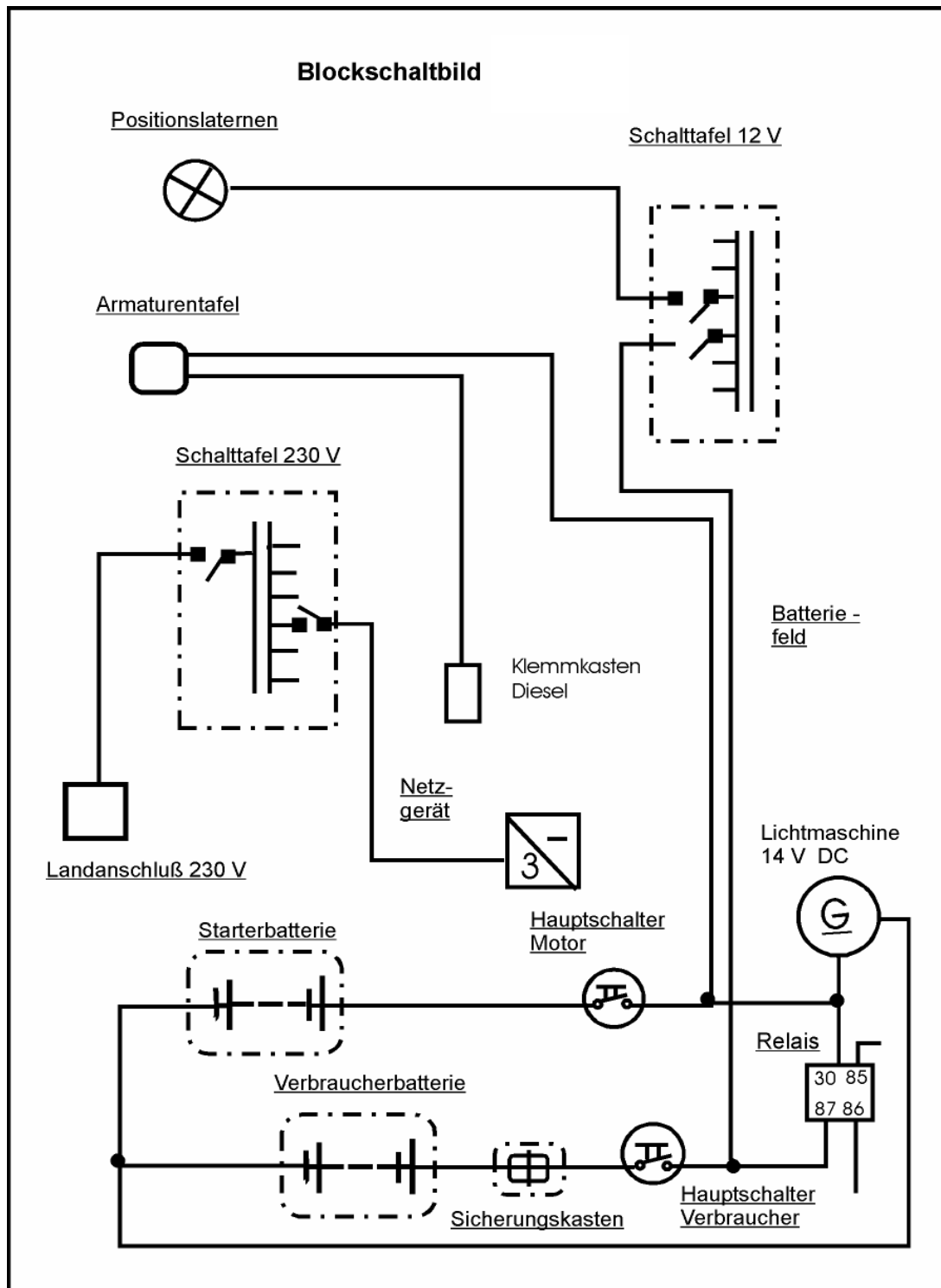


Abb: 230V System

4.6.3 Electric wiring diagram

The wiring diagram is there to help specialists to trace faults. It shows the layout of the 12 V and 230 V systems in a diagrammatical form.

4.6.4 Additional fuses

Apart from the fuses on the control panel and in the companion way, three more “in-line” fine wire fuses have been installed, in each case a 3.25 A fine fuse in the control cables of the indicator for the consumer batteries. An additional “delay action” 3.15 A fine wire fuse protects the cable for the engine compartment ventilation.

4.6.5 Control panel data

- Manufactured by CALIRA, Panel 428
- Circuits with thermal protected switches
- Ammeter
- Switch
- Combined indicator voltmeter
- for water/diesel + holding tank (optional) indicators
- 12 V socket

Direct current consumers

The main circuits are the following:

Navigation lights	Refrigeration unit for cool-box
Water pumps	Engine instruments/Tank indicator
VHF Radio/ radio	Electronic navigation instruments
Auxiliary consumption	Bilge pumps, Shower/Bilge
Anchor winch	Self steering gear

4.6.6 Battery charging

The yacht is equipped with a 24 V 90 Ah starter battery, located beneath the bunks in the stern port cabin. Consumer battery are placed below floor in salon and in forward cabin below bed. Consumer batteries (4x200 Ah Gel) are switched as a 24V System 400 Ah.

The batteries are charged via the engine alternator. As soon as the shore connection is switched on, the battery charger starts charging all batteries.

Alternating current consumers

The fixed 230 V connections are for the battery charger and hot water provision. The 230 V sockets in the panel of the land line unit are intended for carrying out small repairs with electrical machines when on a sailing trip or for connecting other comfort consumers.

4.6.7 Auxiliary supply

Navigation lighting must have absolute priority. If there is a drop in capacity caused by a technical fault in the supply, all other consumers must first be switched off. Running the engine, even when sailing, can recharge the batteries, which enables you to switch on the second most important consumers.

4.6.8 Tank monitoring

The fuel tank, water tank and holding tank indicators are all integrated in the navigation control panel. Thus their level can be checked.

NOTE

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

4.6.9 Terminals/Supplies

In the event of a fault it is necessary for its elimination to check whether the distribution points are receiving any current. In this page we want to show you where the terminals and supplies are positioned and how to find them on your boat.

- 1 behind the blind in the forward port wet area locker
- 2 in the forward starboard locker
- 3 behind the backrest on the living area sofa
- 4 locker gally
- 5 in the stern starboard berth locker
- 6 in the stern port berth locker
- 7 Stern storage space port side
- 8 Stern storage space starboard

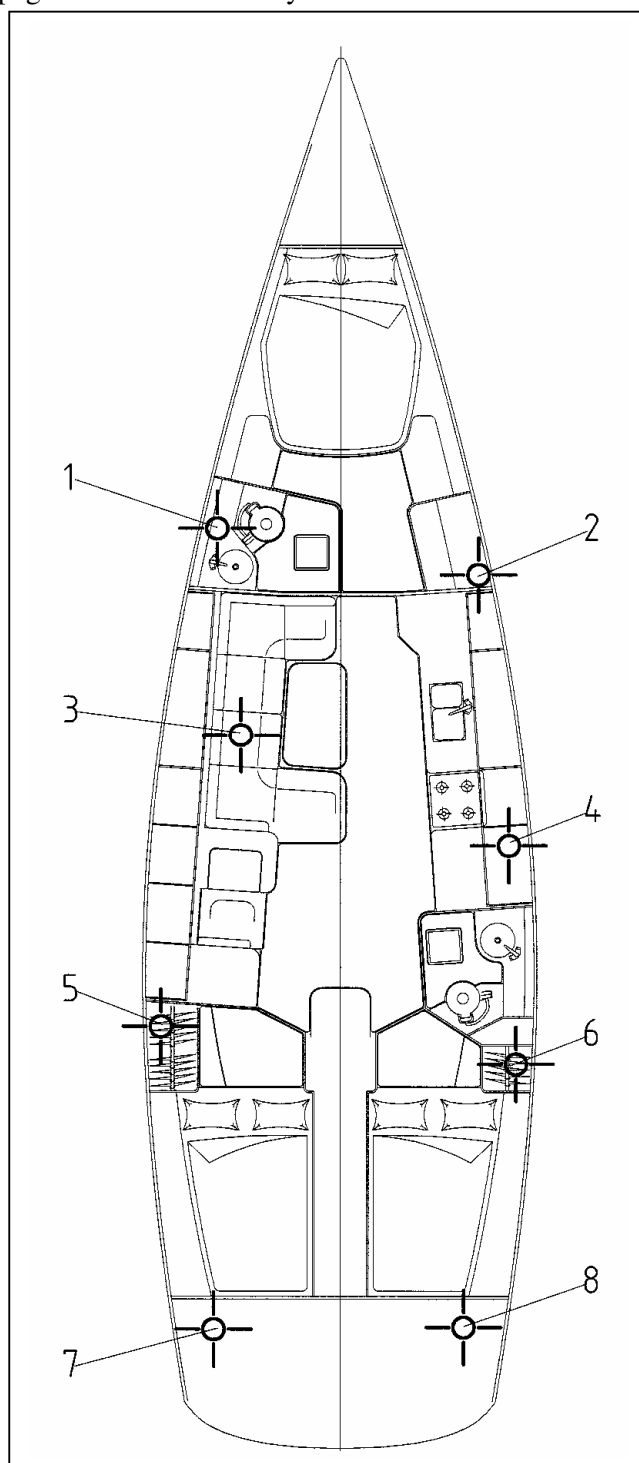


ABB.: TERMINALS

Important

Before setting out: check the battery voltage and functioning of the navigation lights

Important

Never
work on live electrical installations,
choose more or less powerful fuses and thermofuses,
install electrical appliances that exceed the permissible loading of the power circuit.

Important information concerning the alternating current installation:

WARNING

In order to avoid the risk of electrocution or fire:

Never let the shore connection cable hang in the water
Always connect the shore connection cable on board first and then on land

Do not change the shore connection plugs
(Adapters, e.g. in Denmark, should be left on board)

Repairs on the 230 V installation should only be carried out by a specialist.

4.7 Bilge systems

4.7.1 Anchor locker

The **anchor locker** is watertight from the boat. It empties outboard directly through an opening.

4.7.2 Cockpit

The **cockpit** is drained through the bilge drains in the foot space to port and starboard.

Components:

- 1 Suction nozzle mechanical pump
- 2 Electric bilge pump
- 3 Mechanical pump
- 4 Outlet – electric pump
- 5 Outlet – mechanical pump

4.7.3 Hand bilge pump

The suction filter with return valve is installed in the saloon between the galley and the navigation table in the bilges (1). It is connected by a flexible hose to the hand bilge pump with a capacity of 90 l/min, mounted on the bulkhead wall of the aft port side locker. The outlet is on the port side rear surface of the boat.

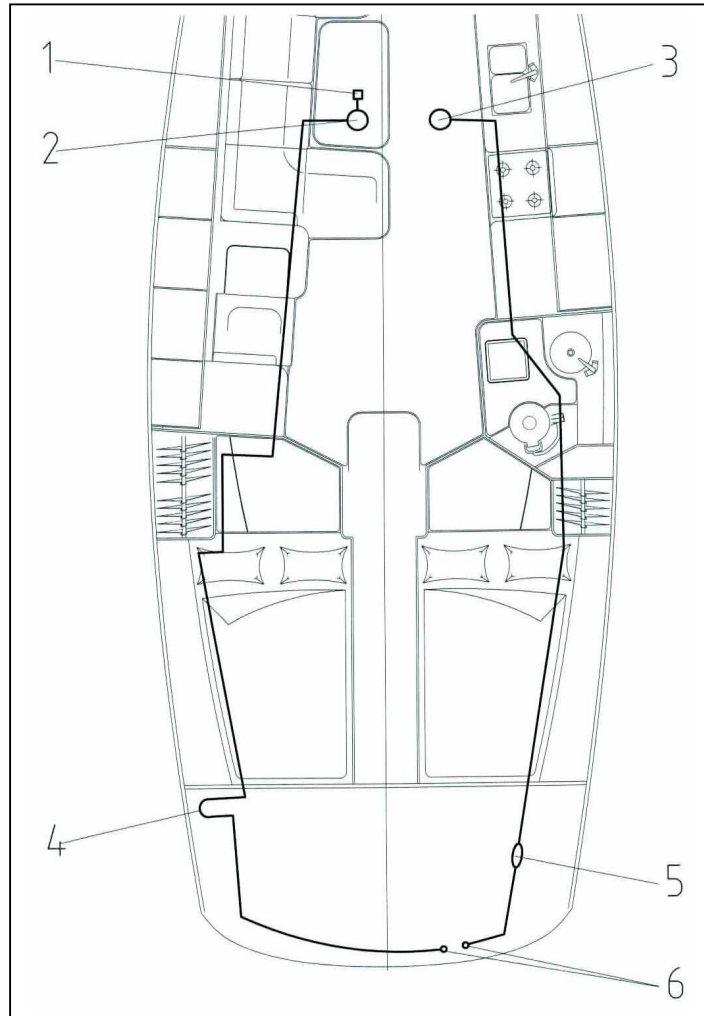


ABB: BILGE SYSTEM

NOTE

The hand lever is easily accessible, fixed in the stern storage space starboard aft

4.7.4 Piston pump

A piston pump is an excellent bilge emptying device. Every boat should have one on board and it should always be accessible in the galley locker.

4.7.5 Electric bilge pump

In addition we have installed an electric bilge pump with a capacity of 120 l/min. The suction filter (2) is under the galley towards the middle of the bilges. The outlet is on the flat part of the stern. The switch is on the navigation panel among the group of switches.

WARNING

The total pump capacity will probably not be sufficient to empty the boat in the event of a collision with solid objects. Take measures for such exceptional events with collision mats and other devices.

NOTE

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

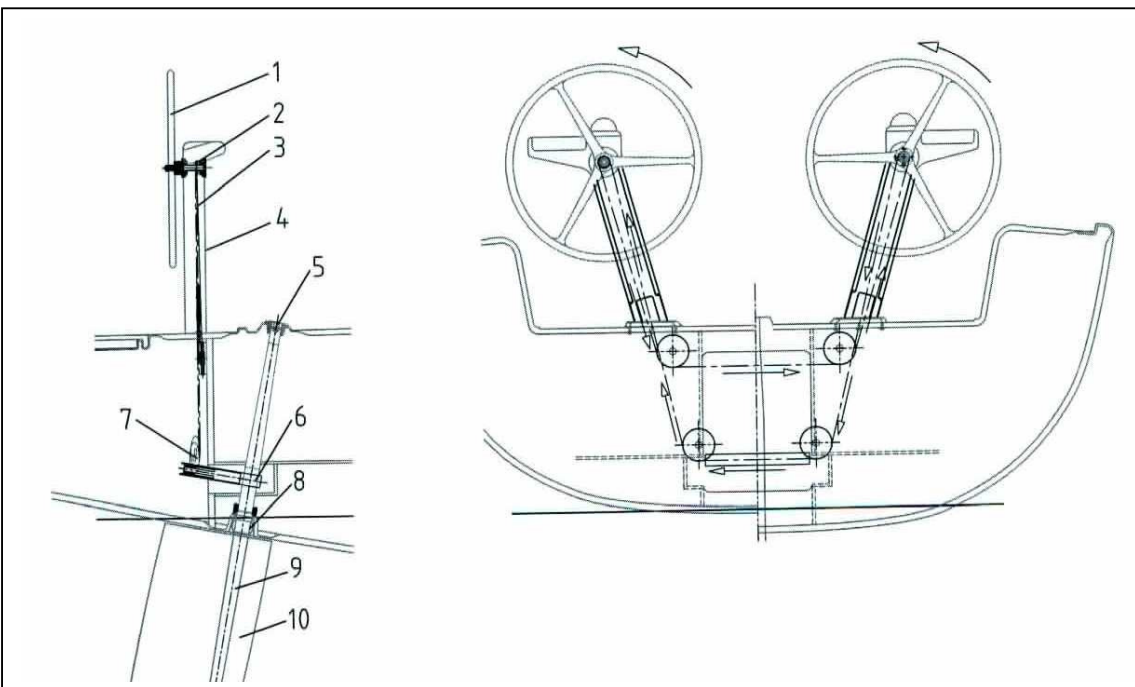
4.8 Rudder system

The rudder system only needs minimum maintenance. The rudder blade with rudder shaft is held in an upper and lower pendulum bearing. The power is transmitted from the cable drum on the steering column via a cross piece to the steering gear and from there to the rudder quadrant. Here the very strong steering cable can be put under strain. See also the supplier's documentation.

The rudder case is sealed to the shaft with a neoprene cuff.

4.8.1 Steering column

ABB: STEERING



Components

- | | |
|---------------------------|------------------------|
| 1 Steering wheel | 6 Quarant |
| 2 Steere | 7 Cable steering gear |
| 3 Transmission cable | 8 Lower rudder bearing |
| 4 Steering wheel GF cover | 9 Rudder shaft |
| 5 Upper rudder bearing | 10 Rudder blade |

4.8.2 Rudder blade and rudder housing

The rudder blade is a modern pre-balanced GFK profiled blade with considerable rudder force. The rudder shaft with a diameter of 69mm mm is made from sea water resistant aluminium, offset and tapered towards the lower end. The rudder force from the shaft is transferred to the rudder blade via welded fittings. The rudder shaft is held above and below by a JEFA pendulum pin bearing.

The rudder is practically maintenance free, but an annual cable tension check is needed and the tension should be adjusted if necessary. Every five years the rudder should be dismantled, the bearing surfaces carefully cleaned, greased and then reinstalled. Bear in mind that the rudder can only be removed by crane or above a pit after the rudder quadrant has been loosened.

After re-installation the transmission cable must have its tension re-set.

4.8.3 Rudder blade and rudder bearing

The rudder blade is a modern pre-balanced GF synthetic profiled blade with considerable rudder force. The rudder shaft, is made of stainless steel, offset and is narrower at the lower end. The rudder force from the wave to the rudder blade is transmitted with welded fittings. The rudder shaft is held above in a pendulum bearing, and below in a bearing.

IMPORTANT

Do not make sternway **too quickly**,
and always **hold the wheel firmly**.

Never let go of the wheel!

The stop mechanism and the cables are unnecessarily put under strain

4.8.4 Emergency tiller

The emergency tiller is stowed in the galley locker port side. One end of the emergency tiller is in fact a screw, with which the cover of the upper bearing can be loosened. The other end is equipped with a nut that must be placed on the connecting plate in the upper end of the rudder shaft. As skipper, you should get used to the hand grip and have tried out the tiller.

Components

1. Emergency tiller
2. Nut for insertion
3. Cover of upper bearing
4. Blind hole with connecting plate
5. Pendulum bearing
6. Cockpit floor

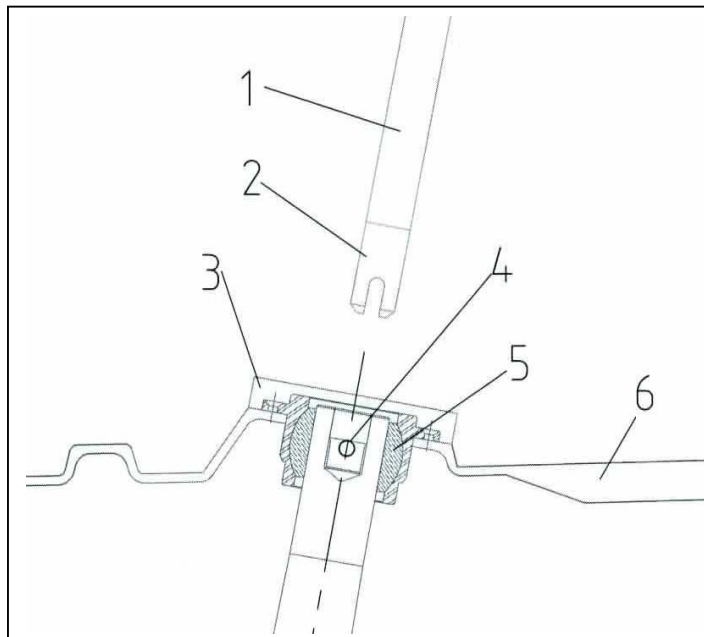


ABB.: NOTPINNE

4.9 Gas system

The **Dehler 44's** gas system for the cooker has been installed in accordance with German regulation G 608 and in compliance with European Standard EN 10240. The stamped test certificate is included in your yacht's documentation. Camping-GAZ bottles of up to 2800 gr. can be stowed.

Komponenten

Components

1. Gas cooker
2. Cooker shut-off valve in the clothes locker
3. Cu pipe
4. Pressure regulator
5. Shut-off valve and gas bottle
6. Camping gas bottle emplacement

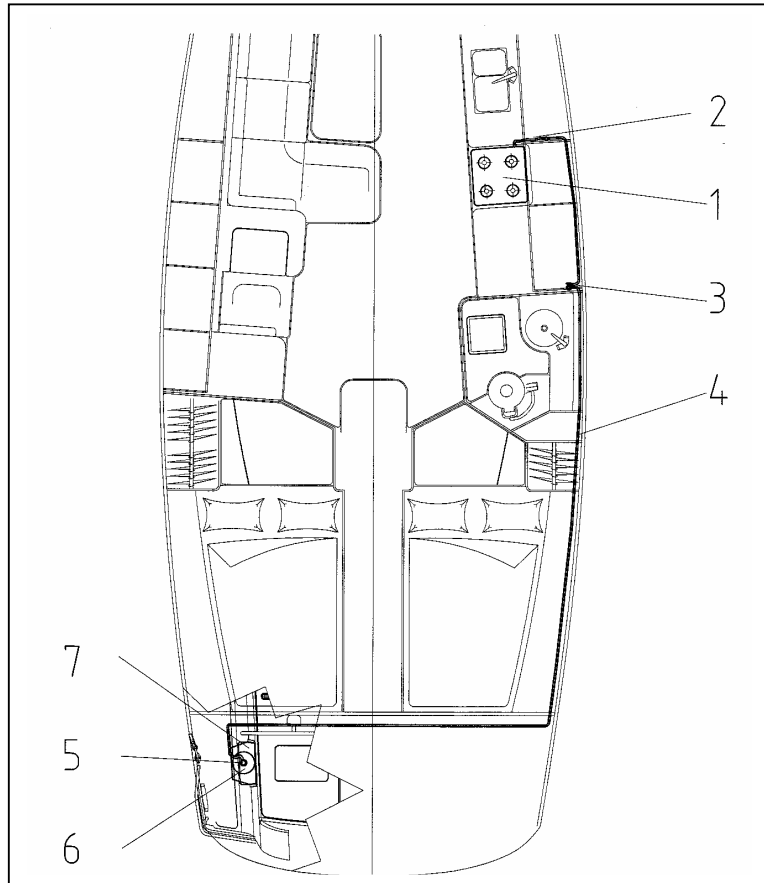


ABB: GAS INSTALLATION

Handling of gas installation

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

- Open the shut-off valve in the bottle emplacement in the cockpit port
- Open the valve in the locker for the cooker
- Push on one of the burner valves and light the gas.
- Keep the valve opened, until the safety pilot stays alight.

IMPORTANT

When switching off, always observe the following sequence:
Turn off burner – Shut off valve in locker - Close valve in bottle emplacement.

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 cooker. **In emergencies, immediately close the valves.**

Regularly check the liquid gas installation, looking for possible leaks. Check all connections with soapy water or liquid detergents (For this the burner valves of the cooker must be closed and the bottle and installation valves open).

If there are any leaks, close the bottle valve and have a technician repair the whole installation before using it again.

Since flames consume oxygen, good air intake and ventilation is necessary. Do not use the cooking stove to heat the cabin.

The valves of empty gas bottles should be closed and disconnected from the installation. Keep the screw cap at hand.

Do not use the gas bottle emplacement to store other pieces of equipment.

Do not leave the yacht unattended, when the cooker is being used.

Regularly check the hoses of the liquid gas installation, at least once a year. Replace them if they are damaged.

If you replace the cooker, take care that the new cooker has the same working pressure.



ABB: GAS SHUT-OFF VALVE

Important Note

Every two years you must comply with the obligatory inspections in accordance with Regulation G 608 and ask the technician for a certificate.

Do not use solutions containing ammonium for checking the pipe.
Never use a naked flame to search for a leak.

Do not smoke and do not use a naked flame when connecting up or replacing a gas bottle

Appendix concerning the gas installation

If a marine vessel is equipped with a liquid gas installation, instruction for operating and servicing the installation must be contained in the manual for the ship operator in accordance with ISO 10240, including instructions from the manufacturer of the unit, amongst other information the following from C2 through C13:

C2

Close the valves of the supply line and the bottles when the units are not in operation. In case of an emergency, always immediately close the valves.

C3

Be sure that the installation's valves are closed before opening the bottle's valve.

C4

Inspect the liquid gas installation regularly for possible leaks. Check all connections by:

- routinely inspecting a bubble leak detector (if there is a detector present)
- inspecting the overpressure measurement unit for a pressure drop, with the valves of the installation being closed and the bottle valve open, then closed (if there is a measurement unit on the supply pressure side)
- using a manually operated leak seeker, or
- using soapy water or cleaning agent. (Keep the installation's valves closed and the bottle and unit valves open).

If you find any leaks, close the bottle valve and have the installation repaired before using it again. The repair of the installation must be carried out by a professional.

CAUTION Use no solutions that contain ammonia.

ATTENTION Never work with open flame to seek leaks.

C5

ATTENTION When burning fuel with an open flame, the units use oxygen, and incineration residual is left behind in the vessel. Therefore be sure there is ventilation while operating the unit. Never use either the cooker nor the oven to heat the room. Never close the ventilation openings. The boat builder must make specifications regarding the type and location of relevant ventilation openings of living spaces containing installations.

C6

Never lock the access to parts of the liquid gas installation.

C7

See to it that the valves of empty gas bottles are closed and disconnected from the installation. Keep covers, caps or plugs within easy access. Stow spare bottles in ventilated bottle cupboards on the open deck or in special gas-tight cupboards that are ventilated by outside air.

C8

Never use the gas bottle cupboard or locker to store other equipment.

C9

ATTENTION Never leave your vessel without supervision when installations using liquid gas are being used.

10C

ATTENTION Never smoke, and never use any open flame when using liquid gas.

11C

Check the hose lines of the liquid gas installation regularly, at least once a year. Replace these if you discover any damage.

12C

Inspect the flue gas pipes at least annually. Replace these if you find any damage or holes.

13C

Do not use the oven if major turbulence or longterm shaking is probable (if the vessel is not equipped with a cardanically suspended oven).

4.10 Pump - WC

The WC on board is a commercially available pump toilet. Without a holding tank, the fresh water intake is opened and the contents are pumped out through the outlet valve. See also the supplier's instructions for use.

4.10.1 Rapid shut-off valves

From left to right in the locker under the hand washbasin are the following rapid shut-off valves:

- 1 = WC seawater intake
- 2 = Pump WC outlet or holding tank outlet
- 3 = Washbasin and shower tray outlet

4.10.2 Holding tank

The 60 l holding tank is made of stainless steel plate and serves as an intermediate storage system. In the fore part of the vessel the tank is in the clothes locker beside the hand basin, for the salon facility the tank is under the basin. The WC pump can be used approx. 8 times. Regular checking via the control panel is necessary so that the ventilation pipe does not get clogged. If possible, the tank should be emptied at every sewage emptying point and only exceptionally be emptied outside of bays or harbours (normally when you are sailing with the engine). The discharge valve is opened for this purpose.

4.10.3 Holding tank indicator

How full the holding tank is can be seen on the indicator in the navigation area. This should regularly be checked.

NOTE

The state of the holding tank must be regularly checked so that the ventilation pipe does not become clogged.

4.10.4 Emptying of the tank

Where sewage emptying stations are available, the tank contents should be drawn off through the standard deck screw fitting (1).

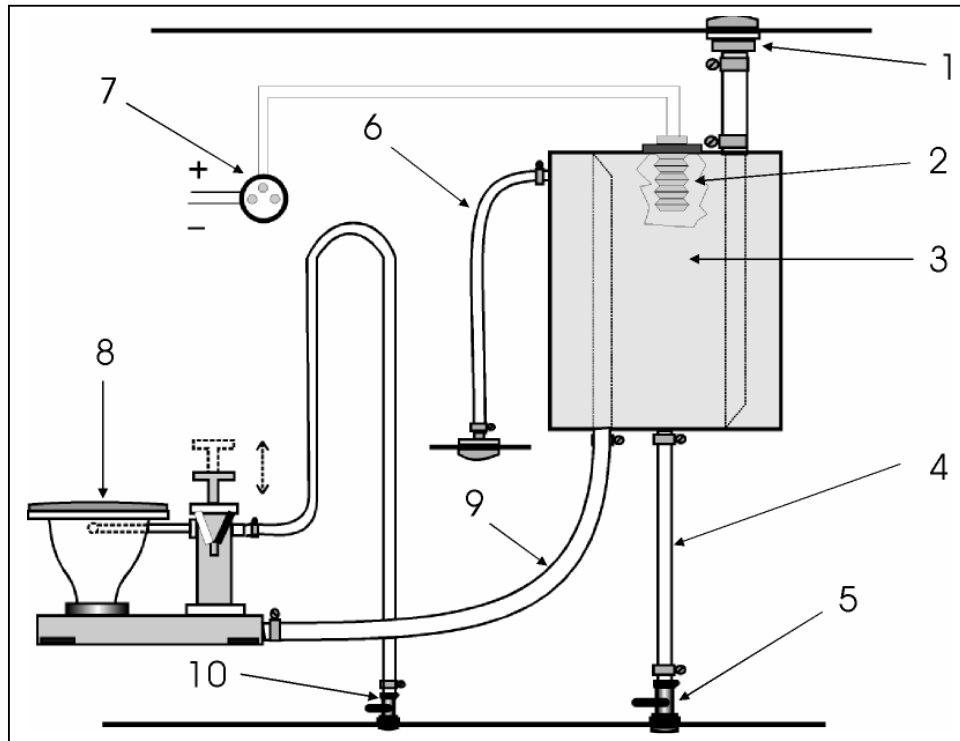


ABB: HOLDING TANK SYSTEM

Components

- | | | |
|---|---------------------------------|----------------------|
| 1 = Suction fitting | 2 = Level indicator | 3 = Holding tank |
| 4 = Discharge pipe | 5 = Quick shut-off valve outlet | 6 = Tank ventilation |
| 7 = Indicator | 8 = Pump WC | 9 = Intake hose |
| 10 = Quick shut-off valve with sea water intake | | |

IMPORTANT

Only open the quick shut-off valves for working the toilet installation!

5. Fire protection

5.1 Fire Prevention

During the construction of the **Dehler 44** we have paid special attention to avoiding the risk of fire. This included careful consideration of the choice of materials, the distance between the cooker burner flames and the surrounding built-in furnishings and the onboard diesel engine, with the engine compartment lined with self-extinguishing insulation material.

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

IMPORTANT

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

Do not keep inflammable material in the engine compartment. If you store non-inflammable materials in the engine compartment, they should be secured so that they cannot fall into the engine system and do not hinder the access to the engine.

You and your crew can contribute to fire prevention by complying with the following:

Never

block the way to exits and hatches;

block access to safety devices such as fuel and gas valves or switches on electrical installations;

change anything on the sailing boat (certainly nothing concerning electric, fuel or gas systems);

leave the yacht unattended, whilst using cookers and/or heating appliances.

Never

use gas lamps on the yacht;

fill the tank or replace the gas bottles with the engine running
or whilst using the cooker;
smoke when handling diesel or gas.

5.2 Active fire protection

The well-known sources of risk on board are
the cooker in the galley and the engine compartment

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

Nr. 1 **Dry powder extinguisher**
under the navigation seat
Fire category PG2 / 13A89B

Nr. 2 **NOTE**
Next to the second companionway
step there is an opening.
In the event of fire, a fire in the
engine compartment can be
extinguished through this opening
Remove grey closing valve,
PUT THE SNOUT OF THE FIRE
EXTINGUISHER INTO THE
OPENING

Nr. 3 **Dry powder extinguisher** in
the starboard locker on the forward
bulkhead
Fire category PG2 / 13A89B

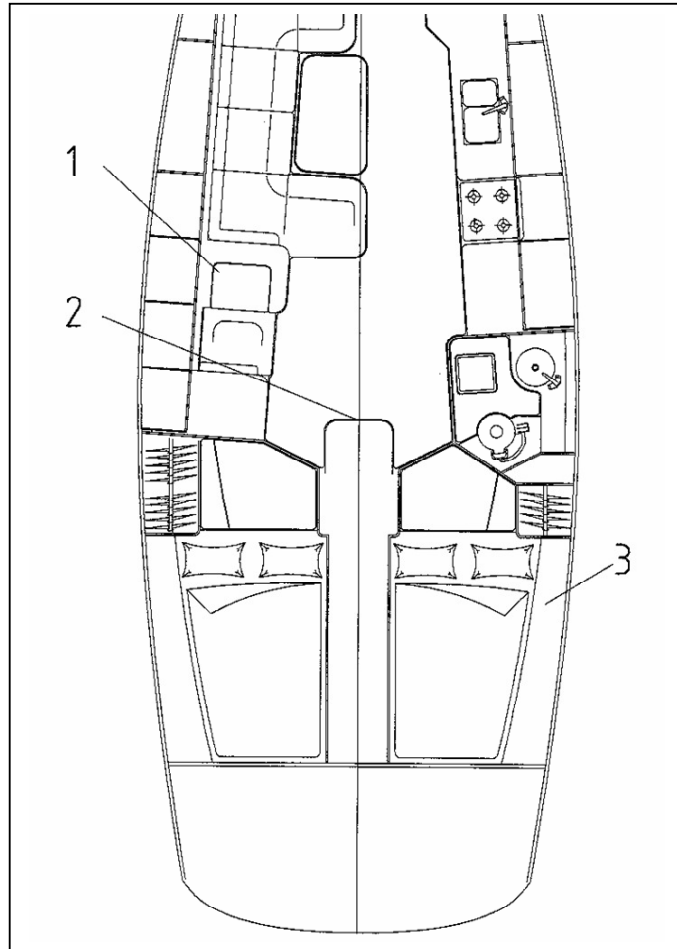


ABB : FIRE EXTINGUISHERS

NOTE

In addition you should keep handy in the galley a light **fire blanket**, made of glass fibre and highly effective in case of fires caused e.g. by overheated fat.

No oxygen > no fire.

5.3 Firefighting

If in spite of all preventive measures fire breaks out on the yacht, you should proceed as follows:

All persons who cannot actively fight the fire, must go on deck either via the companionway, or

if a fire starts in the galley or engine compartment through the escape hatch over the forward berth

5.4 In the event of fire in the galley

Immediately close the gas supply valve!

Extinguish the flames with the fire blanket. It can be re-used afterwards. If furnishing elements are on fire, use the fire extinguisher.

5.5 In the event of fire in the engine compartment

Important

On risk of fire close the safety valve on the tank.
This can be reached under the saloon quilting forward port side

First close the fuel supply valve on the tank (see photo page 25).

Do not remove the companionway and do not open the companionway bulkhead.

There is a capped hole in the companionway bulkhead. Remove this cap. This provides a small opening. Place the nozzle of the fire extinguisher into this hole and empty the fire extinguisher completely.

Wait a few minutes before opening the engine compartment to check the damage.

5.6 In the event of fire in the living area

Here too the fire blanket can be useful.

A piston pump should be at hand in the equipment locker in order to activate the dry powder extinguisher just in emergencies.

Important information

It is the task of the boat owner to:

regularly check and service the fire extinguishers,

see that fire extinguishers are replaced after their expiry time.

The same goes for fire extinguishers that have been used. The new fire extinguishers should have at least the same extinguishing capacity as those installed.

It is the task of the skipper or the boat owner to see that

both fire extinguishers are easily accessible and

that all persons on board know about

the position and use of fire extinguishers and fire blanket,

the location and function of the extinguishing hole for the engine compartment,

exiting via the forward hatch.

6. Heating

In order to make the sailing season less dependent on weather conditions and create a good interior climate in the **Dehler 44**, a Webasto Air Top AT5000 diesel heater can be installed. The heater is installed at the starboard side aft in the stern storage space and is accessible through the starboard stern flap door. See the manufacturer's Instructions for Use

Combustion air

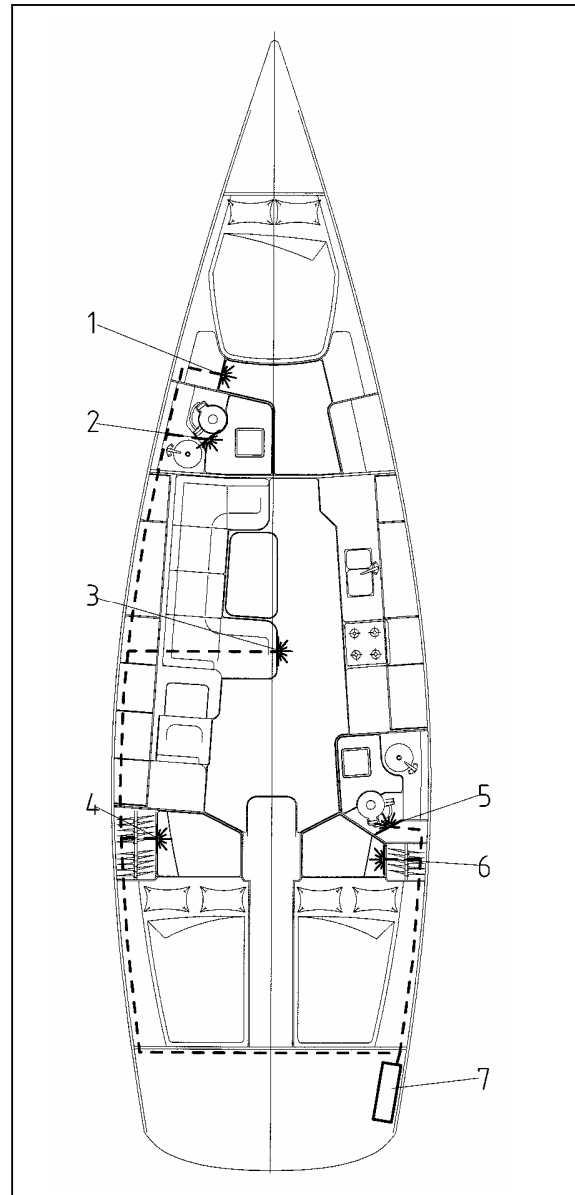
The chimney for combustion air is installed on the starboard side of the flat surface of the stern.

6.1 Hot air

The air in the boat is drawn into and heated in the heat exchanger via the heater intake. Then the air is carried through a pipe system to the four outlets in the cabin, bow, rear cabin and shower room; the quantity of air can be regulated at all hot air outlets, except in the cabin.

Air distribution of the diesel heater

- 1 Hot air outlet bow
- 2 Hot air outlet WC foreward part
- 3 Hot air outlet saloon
- 4 Hot air outlet saloon WC
- 5 Hot air outlet rear berth starboard
- 6 Hot air outlet rear berth port
- 7 Diesel heater



6.2 Dispensing pump/Filter

The dispensing pump and the fuel filter are mounted behind the diesel filter and are accessible through the cover aft under the port side cabin quilting.

6.3 Temperature control

The control element is mounted on the panel in the navigation area. The heating can be steadily adjusted. The thermostat is installed on the upper left of the navigation bulkhead.

IMPORTANT

The heating **must** continue running for 15 min. after turning off
in order to cool the combustion chamber.

Do not switch off the main switch before time

Technical data:

All other data can be found in the extensive information supplied by Webasto. You should inform yourself about the start-up phase and possible causes of technical faults.

7 . Hull openings, sea cocks

Openings under the waterline are possible weak points, to which we have therefore paid a lot of attention.

The hull openings are made of a GL tested brass alloy and where necessary fitted with a fast shut-off ball valve. This basic set-up is completed by a suitable hose connection on the hose side of each valve. Each hose is secured by two clamps.

List of hull openings

1. 1¼" hull opening with ball valve inlet WC
2. 1¼" hull opening with ball valve wash basin outlet
3. 1¼" hull opening with ball valve inlet WC
4. ¾" hull opening drainage flush hatches
5. ¾" hull opening drainage flush hatches
6. 1¼" hull opening with ball valve wash basin outlet
7. 1¼" hull opening with ball valve WC outlet
8. ¾" hull opening drainage gasbox
9. 1¼" hull opening with ball valve WC outlet
10. 1¼" hull opening with ball valve wash basin outlet
11. ¾" hull opening drainage bathing ladder locker
12. 1½" hull opening for drainage for life raft box
13. 1½" hull opening for drainage for life raft Box and cockpit table
14. 1½" hull opening for echosounder
15. 1½" hull opening for log
16. 3" exhaust exit
17. 1¼" hull opening, electric bilge pump outlet
18. 1¼" hull opening, outlet for mechanical bilge pump

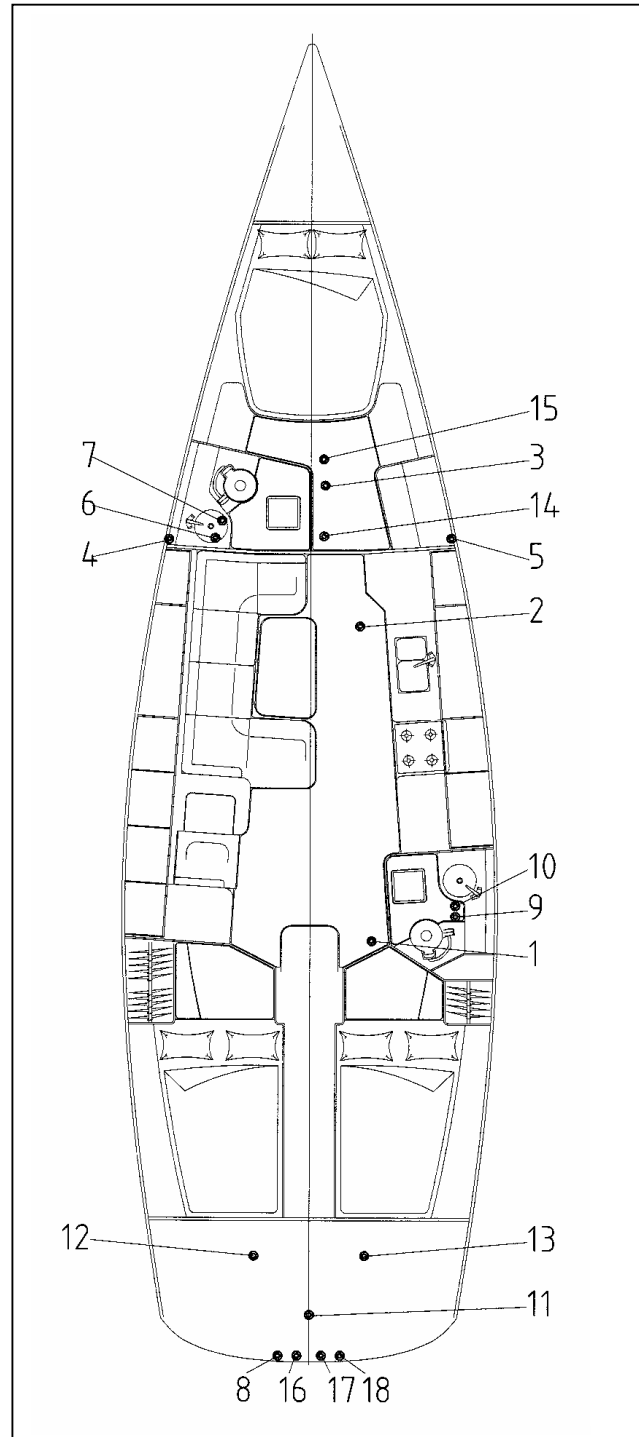


ABB.: HULL OPENINGS

7.1. Leak stoppers

In the event of a seacock or hull opening being damaged your **Dehler 44** is equipped with several leak stoppers made of soft wood, the diameters of which fit the different sizes of hull opening so that each opening can be blocked.

Important

Close the ball valves, when you leave the boat. Ball valves in enclosed spaces (for example toilet areas) should only be opened for use.

Note

With ball cocks you can easily see if they are closed or open:

CLOSED: lever is transverse to the hose or pipe

OPEN. the lever is perpendicular to the hose or pipe

8. Anchoring, towing and mooring systems

8.1 Anchor

Delta Anchor 20 kg, fire-galvanized (an anchor with great holding power).

8.2 Second anchor

Depending on its sailing area, a boat must be equipped with a second anchor, length of chain and anchor line. Another anchor with a great holding power should be chosen, e.g. a Danforth anchor, which can be stowed safely in the equipment locker.

8.3 Mooring ropes

- 2 ropes, Ø 14 mm, 20 m long, polyamide
- 2 ropes, Ø 14 mm, 12 m long, polyamide

8.4 Tow ropes

In case the yacht needs to be towed, it should have a towing rope on board which is used exclusively for this purpose. Dimensions: 14 mm diameter, polyamide, 3-braid hawser, length 55 m.

Important

Before setting out, the skipper must ensure that

- the anchor locking pin is operational,
- the anchor chain of the bow anchor is fixed,
- the necessary mooring and towing lines are on board and ready for use.

9. Environmental protection

9.1 Fuel and oil

When filling your **Dehler 44** you should be extremely careful. A piece of cloth around the filling cap can avoid fuel getting from the fuel hose into the water. In your engine manual you will also find a diagram with a graph showing specific fuel consumption. This gives a good indication for the engine's optimum number of revolutions.

To change the oil of the engine a suction pump is placed in the opening for the oil dipstick, since it cannot be drained as for a car. The oil should be changed at least once a year, even if you have not made many trips. Before draining out the oil, let the engine warm up.

A well-maintained engine should never leak. In order nevertheless to avoid even the slightest oil spill into the bilges and therefore into bilge water pumped out, the engine base is shaped like a closed pan. Any water that collects there with possible traces of oil in it must be drawn off through a small bilge pump (a suction pump should be included in the equipment), be put into a separate container and disposed of together with the used oil. In any case you should have oil-binding agents on board.

9.2 Rubbish

Rubbish does not belong in the water which goes without saying for any water sports enthusiast. This holds good too for biologically degradable rubbish. On your boat you should have a fixed place for rubbish, which you should collect and dispose of separately.

9.3 Noise

A wet exhaust of a diesel engine equipped with a silencer greatly reduces engine noise. Rubber bearings, flexible couplings and engine compartment insulation reduce noise emissions even more. You should nevertheless avoid accelerating too quickly and reduce the number of revolutions in sea areas with heavy traffic.

9.4 Backwash

Natural shores are sensitive to backwash. Please keep an adequate 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 backwash. In narrow waterways you should also heed the relevant notices.

9.5 Exhaust fumes

Regular checking of exhaust fumes is necessary. The exhaust should neither expel black smoke nor blue clouds. If this is the case you must clean either the air filter of the engine – something you can do yourself – or a specialized workshop must re-adjust the settings of the engine.

9.6 Antifouling Paint

The part under the waterline of the **Dehler 44** 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.

9.7 Paint remover

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

9.8 Holding tank

If your yacht is equipped with a sewage collection tank, it is essential to take care that in areas where evacuation is forbidden, the seacock – the connection for direct pumping outboard – is closed.

The capacity of the tank is limited. You should regularly check the level on the control panel in the navigation area. As far as possible you should use the toilets in the pleasure harbours or other places on land.

10. Ten golden rules for water sports enthusiasts

Avoid sailing into canebrakes, reed beds and all other densely covered shore areas. Avoid shingle, sand and mud banks (resting and feeding areas for birds) as well as shoreline coves. Also avoid shallow waters (spawning areas), especially those with aquatic plants.

Keep sufficient distance between the boat and canebrakes, reed beds and other densely covered shore areas as well as shoreline coves – on wide rivers for example 30 to 50 meters.

In nature reserves comply absolutely with all relevant directions. Water sports are frequently forbidden in nature reserves, all year or part of the year, or are only possible under certain conditions.

In "Internationally protected wetland areas" be especially considerate when undertaking water sports. These areas are the living spaces of rare animals and plants and are therefore particularly worthy of protection.

When mooring, always use the places provided or such places where you cannot obviously damage anything.

Even on land, do not go too near to reed beds and other densely covered areas, so as not to disturb and endanger the existence of birds, fish, small animals and plants.

Observe and take photographs of animals as far as possible only from a distance.

If you are in a mud-flats area, do not 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 areas where seals and birds gather and in any case keep near marked waterways. Sail as slowly as possible in these areas.

Help keep the water clean. Rubbish does not belong in the water, particularly not the contents of chemical toilets. This waste must be disposed of, just like used oil, at special disposal points in harbours. When in a harbour, only use the sanitary facilities on land. When tied up in a harbour, do not run the engine unnecessarily, so as not to pollute the environment additionally with noise and exhaust fumes.

Make these rules your own and before going on a sailing trip find out about the regulations in the area you want to go to. Pass this knowledge on with your own exemplary attitude towards the environment to younger people and especially to unorganised water sports enthusiasts.

11. Maintenance, repairs and cleaning

11.1 Hull, deck

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

For cleaning and servicing all components of the technical equipment of the boat you will find useful information in the different chapters of this manual or in the special manufacturers' installation and maintenance instructions, which are among the boat's documentation.

Information for maintenance of the deck

Stainless steel fittings: Polish matt or dark areas so that the stainless steel keeps its anti-corrosion properties

Winches, Blocks: Dismantle, clean and treat with suitable grease at least for winter storage

Windows, Hatch covers: Wash with clean water and polish with a soft cloth

Teak: Regularly wash with clear water. For a richer colour, sand lightly and impregnate with oil

11.2 Cleaning

Clean the parts of the boat under the waterline of your **Dehler 44** 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 coat and varnish. All paint manufacturers give extensive information with their treatment and painting systems.

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

11.3 Ventilation

No matter whether your boat is stored under a roof or in the open air during winter, correct ventilation avoids corrosion, mould stains and fungi. In clear weather, the low air humidity in winter quickly lets your boat dry out.

11.4 Rigging

During winter storage, the rigging should also be thoroughly checked. The standing and running rigging especially but also the halyard block housings and the mast and boom profiles

should be checked. When the rigging is down, you can repair every small bit of damage with very little effort.

Rigging check:

Wash the entire rigging abundantly with fresh water before winter storage.

For winter storage you should examine the standing and running rigging, the halyard blocks and shroud bottle screws. Grooves in the pins: essential to change the pins.

Grease moving parts with suitable lubricants. For shroud bottle screws graphite is particularly recommended. Spray the sliders of the mainsail now and then with a lubricant.

If the mast or boom shows damage, the areas should be cleaned and a paint suitable for aluminium applied.

Damaged areas on the stainless steel fittings or those covered with rust film should be polished so that they retain their good properties.

There is always the possibility with dismountable masts of leakage at the mast collar. Where the mast profile/collar meet, seal additionally with silicone rubber.

11.5 Care of the Sails

Synthetic sails are sensitive to UV rays. If the sails remain on the main boom and on the roller reefing installation they should always be covered with mast covering and foresail tarpaulin.

Do not stow the sails for long periods in wet conditions.

The sails should likewise be rinsed with fresh water before winter storage and then well dried, so that they do not get spotted with mildew.

Seams and cable eyes should be thoroughly checked and if necessary repaired.

IMPORTANT before every sailing trip:

Check hawsers, cordage, shroud bottle screws and cotter pins
Fix cotter pins with adhesive tape or by bending
Replace bent or damaged pins

11.6 Engine and propeller

The diesel engine must be made winterproof. We recommend fitting a long hose on the nozzle of the water pump, see the YANMAR manual, preparing an anti-freeze mixture in a bucket and letting the engine draw in this mixture until it comes out at the exhaust. In this way the engine and the exhaust system will be protected from frost and corrosion.

NOTE

The zinc ring/magnesium ring (sacrifice anode) should be renewed annually.

Note

During winter storage the propeller should be cleaned of any vegetation and be inspected. If deformed, dented or nicked these areas must be repaired. Subsequently it may be necessary to have the propeller balanced again.

11.6.1 Interval between engine servicing

All further information on the inboard YANMAR engine can be found in the documentation provided by the manufacturer.

11.6.2 Exhaust system /Maintenance

The seawater cooled exhaust system with water collector, exhaust hose and swan neck is winterproof and must not be emptied of water. The hose clamps should be tightened annually.

11.7 Electricity

Contacts should be free of corrosion and be firmly connected. Once a year you should check all connections.

The battery needs special care. Even the fact that it is “maintenance-free” does not mean that you can leave the battery connected on the boat in frosty conditions. Only a charged battery, stored in a frost-free area and from time to time recharged, will work for years without trouble

NOTE

Avoid major discharge of the batteries on board
Even maintenance free batteries must be charged up in winter
(charging condition at least 50%) so that they do not freeze

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

Make yourself familiar with the electrical system, so that you can react quickly in the event of a fault.

11.8 Hose clamps

All hoses and pipes under the construction waterline are fixed with double hose clamps. Every year you should check the clamps still fit firmly.

Water tank

NOTE

From time to time change the water in the tank. In addition you should add commercially available water purifying agents e.g. Micropur to the water

NOTE

For cleaning the tank has an inspection cover.
The seal should be smeared with vaseline.

The inspection cover must be well tightened.

Important

The hose clamps must be tightened annually. When there is a risk of freezing the system should be emptied via the bleed points using the pressure water pump with the cold-water cock open.

11.9 Heat exchanger

When there is danger of freezing the heat exchanger must be emptied. How to do this is described in the heat exchanger documents. The bilge pipe is directed with a Y piece for emptying the steering emplacement.

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

Fuel tanks: If only a small quantity of diesel remains, the tank should be emptied and ventilated.

Fresh water tanks: Empty completely and open them. Do not forget the electric fresh water pump.

Holding tank and pipes: Clean well (with mild household cleaners) and open them. Cover the ends of open tanks, pipes and hoses with a cloth or piece of gauze (Air = YES, Dust = NO).

11.10 Pump WC

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

The hose clamps should be checked annually and tightened if necessary.

11.11 Holding tank

NOTE

Never use strong WC cleaners in the holding tank

It is perfectly sufficient 2 –4 times in the season, depending on the frequency of use, to fill the tank a third full with seawater and a small squirt of washing-up liquid and sail for a few hours:

The rubber valves remain soft and the tank will be cleaned of grease.

11.13 Paint

If you have any questions about paint, discuss them with your storage company or your distributor. If possible, always keep with the compatible systems of one manufacturer.

11.14 Worn and spare parts

As an experienced skipper, you will not have any trouble finding original spare parts. If you need information, please ask your distributor.

If you need spare parts and the original parts are not available, then you should pay attention to the characteristics given in the manual, to keep the **Dehler 44** technically at the same high level as when you acquired it.

11.15 Hull openings

Servicing information

Hull opening seals must be checked at regular intervals for water resistance.
Check hose clamps for a firm fit

The hull openings should be checked every year for electrolysis
If damaged new openings must be fitted. The replacement should be carried out by a specialist firm.

11.16 Repairs

Any specialist company can repair the hull. The interior construction has been designed in such a way that nearly all areas are easily accessible without upheaval. For repairs of the technical equipment, please see a specialist company. Your distributor will be pleased to help you.

12. Winter storage

With regard to winter storage, we have already given useful information in different paragraphs. The basic principle should be: even winter storage firms must be technically up-to-date. This is true for the environmental conditions of storage, and for storage blocks, fire prevention and accessibility to the yacht. There must also be established rules for work that ought to be carried out by the owners themselves, in order not to interfere with other water sports enthusiasts.

13. Final remarks and tips

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 the different chapters will help you to understand the technical systems and the idea behind their design and set-up. As we already said in the introduction, the purpose of the manual is a carefree use of the boat. Among the matters the manual does not deal with is e.g. personal safety equipment.

This is exclusively the responsibility of the skipper. Of course there should be enough lifesaving equipment available for everybody on board. However, the provision and servicing of a VHF radio or mobile telephone, a life-raft, distance distress signals, first-aid kits, important spare parts and repair tools, etc also should be considered.

Since the fire protection guidelines are so important, we draw your attention again to the fact that fire extinguishers must be regularly serviced and that the skipper must inform the crew how to use them.

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

If you need a shipyard for renovation or alterations, repairs, storage or other services, such as, for example, the appointment of an expert, please contact:

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 contact the department for Waterways and Navigation. Here are also the addresses of the regional **Navigation Authorities** or those relevant 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. Warranty Card

Dehler – Warranty card

We are convinced of the quality of our sailing boats and are therefore able to offer the following additional guarantee, over and above the various legal warranties of the European Community:

In addition to legal guarantee, 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 should bring the boat to one of our servicing stations or to the manufacturer's works. In the event of technical faults in parts on board that can be removed without too much effort (for example anchor entrance covers, stern swimming ladders, etc.) you can take out these parts yourself and send them to a place indicated by your distributor.

If, exceptionally, and after prior agreement with your distributor, it should be necessary to have a third party carry out the repairs, you will have the costs reimbursed in accordance with the customary provisions for the Federal Republic of Germany.

If our service personnel carry out the repairs, travel costs will be at your expense.

All other claims are excluded, unless there exists compulsory legal responsibility.

Our extended guarantee does not cover faults caused by incorrect treatment or excessive use. These include bleaching and cracks in the gel coat. Excluded from the guarantee also are small 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 require our approval. Our responsibility is null and void if unapproved modifications have been carried out.

We wish you bon voyage for all your sailings trips with this yacht!

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

.....
Distributor's stamp and signature

.....
Customer's signature

15. Manufacturers' Information

This is a list of the firms whose guarantee and warranty conditions you will 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 distributor.

PART INSTALLED	TYPE	INFORMATION	SUPPLIER
INBOARD DIESEL ENGINE	Volvo Penta	Instruction manual	Volvo Penta 24159 Kiel
Boat heater Control device Temperature sensor	Webasto	Technical description Instruction manual	Webasto GmbH 82131 Stockdorf
Compression fridge	Isotherm Inox	Instruction manual	Buhk 28201 Bremen
Gear shift lever Fuel filter	Volvo Penta	Installation manual Installation manual	VOLVO – Penta 24159 Kiel
Winches Electrical winches	Harken	Spare parts list Servicing manual	Frisch 80805 München
Mechanical bilge pumps	Wahle BP 4410	Installation instructions Operating information	Fa. Lindemann 20537 Hamburg
Pump WC	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. Simrad 24837 Schleswig
Folding propeller	Flex-O-Fold	Installation manual	Fa. Felx –O-Fold DK-6040 Egtved
Gas cooker	Froce 10	User and Maintenance manual	Fa. Technautic NL-1521 Wormerveer
Navigation lights	Lopolight	Installation instructions Test certificate	Frisch 80805 München
Navigation instruments Self steering systems Log Echosounder	Raytheon Raytheon Raytheon	Installation and User Manual	Fa. Eissing 26723 Emden
Battery chargers	Mastervolt	Installation and User Manual	Mastervolt 1101 AN Amsterdam
Roller reefing system	Furlex	Installation and User Manual	Selden Mast AB S-42677 V. Frölunda
Rigging	Selden Masten	User Manual	Selden Mast AB S-42677 V. Frölunda
Steering system Steering wheels	Lwemar	Maintenance instructions	Lewmar Mid Europe NL-08042 PD Zwolle
Hot water boiler	Volvo	User Manual Maintenance manual	VOLVO –Penta 24159 Kiel
Electric control panel	Boatmaster	Information sheet	Fa. Target Elektronik 33106 Paderborn
Anchor winches	H 3	User Manual	Lewmar Mid Europe BV NL-08042 PD Zwolle
VHF Radio	Raython	User Manual	Fa. Eissing 26723 Emden