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CALL SIGN DHNL

Reg no 3181 ROSTOCK

## OWNER'S MANUAL

### FEELING 416

This manual is specifically attributed to FEELING 416 N° FR – FEE 416\_\_\_\_\_ This document should always remain on board..

This document includes 42 pages, numbered from page 1 to page 42 plus 19 pages of appendices numbered from page A1 to A19.

Edited 15/02/01

## INTRODUCTION

KIRIÉ is pleased to present you with this manual that will help you to get to know your boat better.

This manual is designed to help you get the maximum pleasure from your boat in total safety. It contains details of the boat, the equipment supplied and fitted, the installations and instructions on its use and maintenance. Read it through carefully and familiarise yourself with your boat before you set sail.

If this is your first boat or if you are changing to an unfamiliar type of boat, please ensure, for your comfort and safety, that you have experience of handling and using it before taking over command. Your dealer, your national sailing association or your local sailing club will be able to help you.

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NAME:  
ADDRESS:

TEL:  
FAX:

This is your local representative who can provide all the necessary assistance and answer all your questions. He can also guide and advise you on the technical checks for commissioning your boat and on how to maintain it.

As soon as you receive your owner's manual date and sign the enclosed receipt and return it within 8 days to **KIRIE**, in order to be covered by our warranty. The warranty is not valid unless the receipt is returned to the manufacturer on time.

For the conditions of the warranty please see page 44.

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Design category : A

Certificate N° B FEE 98 022 V

Length OA : 12.50 m  
Length of hull : 12.22 m  
Length waterline : 9.81 m  
Maximum beam : 4.20 m

Lightship draught Deep Keel : 1.95 m  
Lightship draught Shoal Draught Keel : 1.50 m  
Lightship draught (lifting keel) : 0.8 / 2.20 m  
Air draught 16.95 m

Weight of ballast (fixed keel) : 2300 kg  
Weight of ballast (board + ballast) : 2300 kg  
Displacement, light (f. keel / l. keel) : 8500 / 8900 kg  
Maximum authorised load : 2730 kg

French registered tonnage : 17.28 Tx

Number of persons authorised depending on category :  
A B C D  
10 12 14 14

Mainsail area : 30.85 m<sup>2</sup>  
Genoa area : 53.30 m<sup>2</sup>  
I : 15.50 m  
J : 4.93 m  
P : 13.85 m  
E : 3.98 m

Water capacity : 400 l  
Fuel capacity : 250 l Aluminium

Engine : ..... N° .....  
Installed power : ..... CV - ..... kW  
Maximum authorised power : 59 kW

Engine battery : 12 V 90 A  
Service battery : 12 V 2 x 90 A  
Alternator : 12 V 60 A / h  
Charger : 12 V 30 A / h

Gas bottle : 1.8 kg Camping Gaz type

Wetted area : approx. 29 m<sup>2</sup>

## **2. DESIGN CATEGORY OF YOUR YACHT**

Your FEELING 416 is classed under the "HIGH SEAS" design category (Category A) of the European directive for yacht construction (Ref. 95/25/CE).

Your vessel is therefore designed for sailing in normal conditions, in winds in excess of force 8 on the Beaufort scale and in heavy seas with significant wave heights of over 4 m.

Its ability to sail also depends on the skills of the crew, their physical capabilities, the condition of the boat and its equipment. Please therefore take these into account before you set out to sea.

Your Feeling 416 has not only received the greatest care and attention from everyone involved in its construction but also benefits from architectural and technological innovations that make this boat state of the art. KIRIE has drawn on its long experience to select only products of the highest quality for your Feeling 416.

### **3.1. THE COMPOSITE LAMINATE**

The hull is made in a GRP / balsa sandwich. It is moulded in one piece. The glass cloths are entirely laid up by hand.

Your deck is made in a GRP / balsa sandwich. It has great resistance to compression. The cloths and moulding techniques are the same as those used for the hull.

The floor beams are in solid timber, laminated to the hull then covered with a partial moulding.

### **3.2. THE INTERIOR FITTINGS**

The interior fittings of your Feeling 416 are made in Elm in the form of solid timber, marine plywood or bonded-laminated timber. They are laminated to the hull and deck in order to obtain greater homogeneity and rigidity. We take particular care in the quality of the varnishes applied in several coats.

The high density foam cushions and mattresses are easily uncovered.

The soles are in stripe effect non-skid laminated plywood.

### **3.3. KEEL AND CENTREBOARD**

The keel (or the centreboard) is solidly bolted to the hull with stainless steel backing plates and nuts.

The keel (or centreboard) is installed towards the end of construction, as soon as the hull has been strengthened enough to avoid any risk of deformation.

The centreboard is equipped with a control line for raising it and another for lowering it. You will find the operating diagram in the appendices.

#### **4.1. COMPANIONWAY**

- Easy access from the cockpit
- Companionway fitted with three bonded-laminated steps
- Handrails
- Removable front panel for access to engine
- Sliding Plexiglas hatch
- 2 part washboard with ventilation

#### **4.2. SALOON (fixed keel version)**

- Headroom 1.86m
- L-shaped settee to starboard
- Lateral settee to port
- Shelves on hull side and behind settee backs
- Stowage bins under seats
- Cupboard with sliding doors
- Stainless steel mast pillar
- Saloon table with bar (convertible into double berth on option)
- Ventilation by opening deck-hatch and 2 opening port-lights with dorade boxes
- Lighting by halogen deckhead lights and reading lights, plus fixed panoramic windows

#### **4.3. SALOON (lifting keel version)**

Identical to the fixed keel version with trimmed unit round centreboard casing

#### **4.4. CHART TABLE**

- To port facing forward
- Headroom 1.86m
- Desk with chart stowage with stowage locker underneath
- Bookshelf
- 12V DC - 14 function electrical panel with voltmeter, ammeter and water level gauge
- 230V AC - 3 function electrical panel
- Instrument panel for fitting of all instruments
- Navigator's seat with stowage underneath
- Ventilation by opening port-light
- Flexible chart reading light
- Wet locker behind chart table

#### **4.5. GALLEY (fixed keel version)**

- U-shaped layout
- Headroom 1.86m
- Double s/s sink with pressurised hot and cold water mixer tap
- Seawater foot pump
- Gimballed 2 burner stove / oven with pot holders
- Small locker under cooker
- Cupboard and stowage under sink
- 3 drawers under work surface
- 150 l approx. refrigerator with drainage.
- Crockery cupboard with sliding doors
- Stowage space in central part
- 1 220V AC outlet
- Ventilation by opening port-light and dorade box
- Lighting by halogen deckhead light

#### **4.6. GALLEY (lifting keel version)**

Identical to the fixed keel version except for:

- Units with central sinks on end of centreboard casing.

#### **4.7. FORWARD CABIN (3 cabin version)**

- Headroom 1.82m
- Large double berth
- Stowage space under berth
- Settee
- Hanging locker
- Lateral shelves
- Vinyl and slatted wood hull trim
- Ventilation by 2 opening deck hatches
- Lighting by halogen deckhead light and 2 reading lights

#### **4.8. FORWARD CABINS (4 cabin version)**

Symmetrical starboard and port cabin

- 2 up and over bunks
- 1 sitting position in extension of the lower bunk
- stowage space under lower bunk
- stowage space forward
- 1 hanging locker
- 1 shelf with washbasin and stowage underneath

#### **4.9. AFT CABIN(S)**

- Headroom 1.93m
- Double berth with mattress
- Stowage space under foot of berth
- Fuel tank under port berth
- Batteries under starboard berth (lifting keel version)
- Hanging locker with shelves
- Seat with stowage underneath
- Shelves on hull side
- Access door to engine
- Access to technical compartment and aft zone
- Opening port-lights on coachroof, hull and cockpit
- Lighting by deckhead light and reading light

#### **4.10. HEAD (aft port)**

- Headroom 1.80m
- One-piece GRP moulding with:
- Shower tray with grating
- Large oilskin bin
- Stowage unit with access to sea-cocks under washbasin
- Washbasin with mixer tap shower fitting, pressurised hot and cold water
- Marine toilet
- Shelf unit on side
- Toilet paper holder and mirror
- Electric shower drainage pump
- 110/220V insulated shaver outlet
- Ventilation by opening port-light
- Lighting by deckhead light

#### **4.11. ADDITIONAL HEAD (Aft starboard or forward starboard)**

- One piece GRP moulding including:
- Shower tray with grating
- Stowage unit with access to sea-cocks
- Washbasin with mixer tap shower fitting, pressurised hot and cold water
- Marine toilet
- Shelf unit on side
- Toilet paper holder and mirror
- Electric shower drainage pump
- 110/220V insulated shaver outlet
- Ventilation by opening port-light
- Lighting by deckhead light

## IMPORTANT

### Always:

- ✦ Check the condition of the batteries and the charging system before putting to sea.
- ✦ Disconnect and remove the batteries for winter storage.
- ✦ Keep the battery voltage at more than 10.5V during winter storage.
- ✦ Check that the navigation equipment is working.
- ✦ Check that the navigation lights are working before sailing at night and carry replacement bulbs for all the navigation and internal lights.

### Never:

- ✦ Work on any electrical equipment while it is connected.
- ✦ Modify the electrical installation or the main wiring unless this is done by a qualified marine electrician.
- ✦ Change or modify the breaking capacity of any overload protection.
- ✦ Install or replace any electrical equipment with components rated for a higher capacity than that prescribed without recalibrating the conductors and the fuses.
- ✦ Leave the boat unattended when the electrical equipment is on.

## 5.2. 12V SYSTEM

The 12V system includes three 90 Ah batteries, one of for the engine, the two others of 90 Ah for services. These batteries are located under the sole of the companionway. The batteries are connected to circuit breakers, the "-" are common. These batteries are found under the sole at the foot of the companionway in the fixe d keel version and under the aft starboard berth in the lifting keel version.

The 12V DC electrical panel is equipped with single pole circuit breakers, a voltmeter, ammeter and water gauge. The voltmeter indicates the state of charge of the batteries. The electrical panel instruction notice and relevant wiring diagrams are found in the appendices.

To power the system, switch on the "+" and "-" circuit breakers. This feeds power to the electrical switchboard. Each function is protected by a single pole circuit breaker whose capacities are given in the appendices.

To feed a function, switch on the corresponding circuit breaker, a red warning light comes on.



## **WARNING**

### **To reduce the risk of fire or electric shock:**

- ✦ Switch off the power at the dock using the installed selector switch before connecting or disconnecting the boat / dock power cable.
- ✦ Connect the boat / dock power cable in the boat before connecting it to the power point on the dock.
- ✦ Disconnect the boat / dock power cable from the power point on the dock first.
- ✦ Close the protective cover on the dock power point firmly.
- ✦ Do not let the end of the boat / dock power cable dangle in the water – this can create an electrical field that could injure or kill any swimmers in the area.
- ✦ Do not modify the boat / dock power cable connections; always use compatible connections.

## **5.4. ELECTRICAL CONSUMPTION**

The capacity of the batteries has been designed to provide the power requirement of all onboard accessories. To avoid problems, however, always ensure that the batteries are properly charged and maintained.

## **IMPORTANT**

If you install any new electrical equipment, please ensure that the battery capacity is still suitable for the new overall level of consumption.



Type of appliance	Consumption
Two-coloured light	1.8 A
Reading light	0.8 A
Deckhead light	0.8 A
Electric pump	5 A
Water pump	6 A
Refrigerator compressor	5 A

(Values given as a guideline only)

## **Examples of consumption of electrical equipment**

## **6. MECHANICAL SYSTEM**

### **6.1. GENERAL**

Your Feeling 416 is equipped as standard with a 50 hp Volvo diesel engine selected by KIRIE for its mechanical properties and the quality of the after-sales service provided by the manufacturer. It can be fitted on option with a 60 hp engine.

Carefully read the instructions for operating the engine before starting it. Do not hesitate to contact your dealer.

The engine must be regularly maintained in accordance with the manufacturer's recommendations (levels, oil changes, lubrication, etc.). Carefully follow the instructions for winter storage.

The propeller shaft is in 316L stainless steel of 30 mm diameter. The propeller nose is 10% and the propeller is a fixed three-blade type 17x16x3 LH 30 for the 50 hp engine and a 17x12x3 LH30 for the 60 hp engine..

### **6.2. STARTING**

The "-" and "+" engine circuit breakers must be switched on for the engine to start. Then read the user's manual for the engine and follow the instructions below.

- Open the engine raw water inlet sea-cock
- Open the fuel tank valve
- Place the engine in neutral and apply a little throttle
- Pre-heat for a few moments
- Start
- Check that water flows normally from the exhaust.

#### **IMPORTANT**

After each hauling out or beaching, press the bellows of the rotating seal (at the end of the propeller shaft tube) to fill it with water and to avoid burning the seal, before starting the engine.

### **6.3. EXHAUST GAS EMISSIONS**

#### **DANGER**

Combustion engines produce carbon monoxide gas. Prolonged exposure to exhaust fumes can have serious consequences and even kill.

### PRECAUTIONS!

Match the speed of your boat to the surrounding conditions in all situations, leaving a margin of safety. Pay particular attention to:

- The sea conditions, currents and the force of the wind.
- Traffic.
- Manoeuvring in port.
- Passing through moorings.
- To lower the centreboard (on lifting keel versions) during harbour manoeuvres.

### 6.5. MAINTENANCE

Your engine must be regularly maintained. You should change the oil for the first time after approx. 50 hours of operation.

### IMPORTANT

- ⚡ Regularly check the oil levels (in the engine and the gearbox) and the water level.
- ⚡ Scrupulously observe the engine manufacturer's servicing and maintenance instructions
- ⚡ Do not stow anything in the engine compartment.

## **7. FUEL SYSTEM**

### **7.1. GENERAL**

#### **ATTENTION**

**Never:**

- ❖ Store inflammable materials in unventilated spaces.
- ❖ Smoke when refilling the tanks.
- ❖ Block the ventilation holes or engine ventilation grills.
- ❖ Block the access to the shut-off valve

### **7.2. DIESEL SYSTEM**

Your Feeling 416's fuel system is designed to ISO 7840 standard. There is a shut-off valve on the tank (under the aft berth). The fuel gauge is fitted on the electrical switchboard. Do not alter your boat's fuel circuit. Regularly check the condition of the hoses, especially around the collars.

The layout of the fuel circuit is shown in the appendices.

## **8. STEERING SYSTEM**

The steering system is an essential element in the comfort and safety of your boat. The Feeling 416 is fitted with a wheel steering system as standard. Kirié has selected for you a pushrod steering system giving it remarkable smoothness and feel.

If there are problems with the wheel steering system, an emergency tiller can be fitted to the top of the rudder stock to enable you to return to port.

### **8.1. SINGLE RUDDER**

The stainless steel stock is guided by 2 bearings in the stern tube. A screw deck cap provides access to the head of the stock for fitting an emergency tiller. The steering pushrod goes directly from the pedestal steering arm to the stock steering arm.

Diagram of the system in the appendices.

### **8.2. TWIN RUDDERS**

The stainless steel stocks are guided by 2 bearings in their stern tubes. A false central stock, enables movement to be transmitted to each rudder stock by a pushrod. The false central stock is linked to the pedestal steering arm by a pushrod.

Diagram of the system in the appendices.

## **9. GAS**

### **9.1. CHARACTERISTICS OF THE SYSTEM**

Type of bottle : Camping Gaz butane 2.8 Kg, maximum output of the regulator : 500 g/h, system operating pressure : 28 mb.

#### **ADVICE FOR OPERATION**

- ⚡ Carefully read the operating instructions for the stove and the gas regulator.
- ⚡ Close the valves on the supply hoses and gas bottles when the appliances are not in use.
- ⚡ Ensure that the gas taps on the stove are closed before opening the bottle valve.
- ⚡ Close all the valves in the system when the boat will be unoccupied, even if you think the bottle is empty.
- ⚡ The appliances burn fuel, consume oxygen in the cabin and emit combustion gases into the boat. Ventilation is required when the appliances are being used. Open the hatch covers when you are cooking.
- ⚡ Do not use the stove to heat the cabin.
- ⚡ Do not obstruct rapid access to any of the gas system components.
- ⚡ Do not leave the boat unattended when a gas appliance is lit.

#### **IMPORTANT**

In the event of an emergency, the gas system valves must be closed immediately.

### **9.2. CHECKING THE SYSTEM**

The gas system must be checked periodically as follows:

Check that there are no leaks in the connections, using a leak detector or soapy water, and that the valves on the appliances are closed, including the open bottle. If you detect a leak, close the valve on the bottle and repair the system before using it again. Repairs should only be carried out by qualified personnel. Do not hesitate to contact your dealer.

#### **ATTENTION**

**DANGER**

- ⚠ The hoses must be checked regularly, at least once a year, and replaced on the date indicated on the hose or in the event of any deterioration.
- ⚠ Never use a flame to search for leaks

**9.3. CHANGING THE GAS BOTTLE**

**DANGER**

- ⚠ Close the taps on the stove and below the sink.
- ⚠ Do not smoke or use a naked flame when replacing the gas bottle.

## **10. PLUMBING**

### **10.1. GENERAL**

The various plumbing diagrams are found in the appendices. Skin fittings and sea-cocks used on your Feeling 416 are in brass.

The sea-cocks used on your Feeling 416 are ¼ turn types :

CLOSED position: lever at right angles to the hose.

OPEN position: lever in line with the hose.

#### **ATTENTION**

- ✦ Close all the valves and cocks in the plumbing system when leaving your boat.
- ✦ When sailing keep all the valves and cocks shut except for those in immediate use.
- ✦ Clean and rinse the sea-cocks and the valves before winter storage
- ✦ Never adjust the tightness of sea-cocks on the hull. If you discover a leak, please consult your dealer.

### **10.2. FRESHWATER SYSTEM**

The Feeling 416's pressurised fresh water system consists of two tanks in the saloon to port and to starboard, a filter and an electric pump connected to an accumulator. This system enables the water pressure to be regulated and avoids the hammer effect.

A three-way valve is fitted under the galley for choosing one or other of the tanks

A valve is fitted to each tank. So you can choose to use whichever tank you want or keep one as a reserve.

To obtain freshwater you must switch on the water pump function on the electrical switchboard; the system is then pressurised.

The gauge on the electrical panel enables indicates the level of water in each of the 2 tanks.

Remember to shut off the circuit breaker of the plumbing system when you have finished using it.



### **10.3. SEAWATER SYSTEM**

Your Feeling 416 is equipped with a seawater foot pump in the galley. A skin fitting and a sea-cock is fitted under the sink for drawing seawater.

### **10.4. OPERATING MARINE TOILETS**

- Open the seawater inlet cock.
- Open the seawater outlet cock.
- Set the lever to the "OPEN - FLUSH" position.
- Operate the pump.
- To empty the bowl avoiding any water slopping, set the lever to "CLOSED - DRY BOWL".
- When the toilets are not in use, set the levers to "CLOSED - DRY BOWL"
- Close the valves after use.

Do not throw anything down the toilet. If the drainage system becomes blocked, check that the sea-cocks are firmly closed before disconnecting the hoses.

### **10.5. HOT WATER**

Your boat is fitted with a water heater as standard. Hot water is obtained either by running the engine (20 to 30 minutes to obtain water at 60°C) or in harbour with the 230V AC system by connecting the boat to the shore power and switching on the "water heater" function on the electrical panel.

The water heater is found in the technical compartment between the two aft cabins. Remember to regularly check the condition of the heating element.

Diagram of the hot water system in the appendices.

### **10.6. WASTEWATER HOLDING TANKS**

The boat is not fitted as standard with wastewater holding tanks. It is however possible on option to fit this type of tank either permanently or semi-permanently. Please contact your dealer.

## **11. FLOODING / BAILING**

The FEELING 416 has two bilge pumps for bailing the boat:

- -an electric pump located under the washbasin of the aft head, drawing from the lowest point of the boat under the saloon sole and in the shower. A three-way valve located nearby enables a choice between the shower tray or the bilges.
- -a manual bilge pump, located in the cockpit drawing from the lowest point of the boat under the saloon sole.

Read the instructions for the pumps carefully, especially the maintenance instructions.

### **ATTENTION**

To reduce the risk of water flooding the boat:

- ✦ Close the deck hatches and the port-lights before sailing.
- ✦ Close the plumbing sea-cocks when sailing.
- ✦ Periodically check:
  - the seals on the sea-cocks, valves and plumbing.
  - that the cockpit drains are flowing freely.
  - the propeller shaft seal.

In addition each head has its own shower discharge.

## **12. PROTECTION AGAINST FIRE**

### **12.1. CHARACTERISTICS**

Your Feeling 416 should be equipped with at least 3 fire extinguishers distributed as follows:

- 1 extinguisher in a cockpit locker.
- 1 extinguisher near the companionway and the cooker.
- 1 extinguisher in the forward cabin.

Each extinguisher must have a minimum capacity of 5A/34B.

A fire blanket must be stored in the locker under the chart table.

If there is a fire in the engine compartment, this can be extinguished without opening the compartment by removing the red bung found in the companionway between the first and second steps, placing the nozzle over this hole and then operating the extinguisher.

The emergency exits are the fixed companionway steps and the deck hatch in the forward cabin.

### **12.2. SAFETY INSTRUCTIONS**

#### **IMPORTANT**

**It is the boat owner's or captain's responsibility to:**

- ✦ check the fire extinguishing equipment in accordance with the manufacturer's instructions.
- ✦ replace any out of date or used fire extinguishing equipment with equipment of similar or of higher capacity.
- ✦ ensure that the fire extinguishing equipment is readily accessible when the boat is occupied
- ✦ instruct every member of the crew regarding:
  - the location and operation of the fire extinguishing equipment
  - the location of the extinguisher hole for the engine compartment on the companionway steps (red bung).
  - the location of the emergency exits

#### **ATTENTION**

**Always:**

- ✦ Keep the bilges clean and regularly check for the build up of fuel vapour or gas
- ✦ Only replace items of fire extinguishing equipment with similar equipment of the same description, technical capacity and fire resistance

**Never:**

- ❖ Obstruct access to the emergency exits (deck hatches).
- ❖ Obstruct access to the safety controls (gas valves, fuel valves, electrical switches).
- ❖ Obstruct the lockers housing fire extinguishers.
- ❖ Leave the boat unoccupied when the stove or the heating is on.
- ❖ Use gas lamps in the boat.
- ❖ Refill the fuel tank or change a gas bottle when the stove or the heating is on.
- ❖ Smoke when handling fuel or gas.
- ❖ Hang free-hanging curtains near the stove or any other appliance with a naked flame.
- ❖ Stow combustible products in the engine compartment.

**ATTENTION**

- ❖ CO2 extinguishers should only be used for electrical fires.
- ❖ A fire in the engine compartment should be extinguished using the extinguisher hole located in the panel on the companionway steps (red bung).
- ❖ Once the fire is out, do not immediately open the engine compartment; this avoids the risk of toxic fumes or superheated fluids (oil, water) escaping.

## **13. RIGGING AND SAILS**

### **13.1. RIGGING**

The mast is an essential part of your yacht: it is well dimensioned and well provided with stays. You must, however, tension it correctly and regularly check the condition of the mast and standing rigging. Carefully follow the mast manufacturer's instructions for tensioning and maintaining your mast.

#### **13.1.1. Tuning**

At the time of initial launching, the mast is tuned by your dealer. However this adjustment is not definitive. The cables forming the standard rigging will stretch slightly, which is normal. So you should recheck your adjustments after several hours sailing.

During the first sailing, observe the curve of the mast **when beating to windward**. It is important to note your observations in order to fine-tune your adjustments when back in harbour.

These observations should be carried out as follows:

- Lateral adjustment (position yourself behind the mast)
  - ° The mast should be straight in a transversal plane.
  - ° The top of the mast should neither bend to leeward, with the centre section bulging to windward, nor bend to windward with the centre section bulging to leeward.
- Fore and aft adjustment:
  - ° The mast should be generally straight. It can however have a slight bend to optimise sail shape.
  - ° Under no circumstances should the top of the mast bend forwards. To remedy, tension the backstay and consult your dealer.

**Your adjustments should be rechecked after about 30 hours sailing.**

#### **ADVICE :**

In all cases :

- Mast adjustment is carried out from bottom to top.

After adjustment

- Block bottle screws by tightening locking nuts or by spreading the split pins
- Bind bottle screws with adhesive tape or off-the-shelf protectors to avoid wear on sails
- Protect bottle screws and guard rail swagings.

### 13.1.2. Practical advice

For climbing up the mast:

- Choose the halyard which will haul you up to where you want to work.
- Check that this halyard is in good condition.
- Attach the boson's chair with a screwing shackle in the halyard loop or with a bowline (never a link or snap shackle)
- Have yourself winched up (three turns minimum).
- Make sure halyard is jammed once in place at the required height (jammer + hitches round winch).

For coming down the mast:

- Leave two turns round the winch.
- Let slide the halyard without jerking, on keeping an eye on the descent and without fouling the halyard round the winch.

Remember to slacken the backstay when leaving your boat, and to spread the halyards that could beat against the mast.

### 13.1.3. Maintenance

The mast and its accessories should be checked regularly, along with its rigging, to avoid eventual problems.

Mast

- Boom vang fittings.
- Gooseneck.
- Spreader roots.
- Halyard sheaves to be lubricated with WD40 or similar. These can seize through corrosion. Don't hesitate to change them to avoid premature wear of halyards.

Standing rigging:

- Check: - Hounds on mast.
- The condition of the cables.
- The blocking of bottle-screws

Halyards:

- Check splices
- Check wear spots due to clutches. In case of doubt about the condition of the halyard, do not hesitate to change it, proceeding as follows:
  - Whip a sufficiently long messenger to the rope (at least twice the length of the mast).
  - Bind the whipping with adhesive tape streamlining the join between the two lines.
  - Remove the halyard by pulling through the messenger into its place
  - Pull through the new halyard with the help of the messenger.



### **13.2. GENOA FURLER**

Your Feeling 416 is equipped as standard with a PROFURL genoa furling system - specially selected for its ease of use, robustness and the quality of service provided by the manufacturer. Regularly check the condition of the drum and the tubes. Follow the manufacturer's instructions.

### **13.3. SAILS**

The sails are your yacht's main source of propulsion. Take good care of them and they will provide maximum power. They are very susceptible to friction wear. The synthetic fibres can be damaged by chafing, particularly on the seams. Mark any places where there is a risk of chafing and protect them.

Do not let your sails flap because this can break the fibres inside the sails.

#### **13.3.1. Breaking in**

It is very important to break in your sails. In fact, they will take their proper shape and the threads in the seams will stretch to their final position under their initial load. Your sails will only keep their good appearance and provide good service if they are properly broken in.

#### **13.3.2. Tensioning**

You must apply equal tension to the sail in all directions (luff, leech and foot)

For a headsail, the more you harden the sheet, the more you have to tighten the luff.

For a mainsail, the more tension on the leech, the more you have to tighten the foot and the halyard.

#### **13.3.3. Furling and maintenance**

You should always take time to furl your sails carefully. How they are folded is very important, even at sea.

If the sails are wet with seawater, rinse them thoroughly with freshwater and allow them to dry before folding them. They should be flaked along the seam and then rolled from the clew.

If the sails are to be permanently rigged, we recommend that you protect them from UV rays and the weather (the furling genoa with a protective UV strip or a cover, the mainsail with a cover).

Never use acetone or soda to clean the sails.

<b>BEATING</b>	<b>REACHING</b>	<b>BROAD REACHING</b>	<b>RUNNING</b>
<b>Full</b>	<b>Full</b>	<b>Full</b>	<b>Full</b>
<b>100%</b>	<b>100% or Spi</b>	<b>100% or Spi</b>	<b>100% or Spi</b>
<b>Full</b>	<b>Full</b>	<b>Full</b>	<b>full</b>
<b>100%</b>	<b>100% or Spi</b>	<b>100% or Spi</b>	<b>100% or Spi</b>
<b>Full</b>	<b>Full</b>	<b>Full</b>	<b>full</b>
<b>80%</b>	<b>80% or Spi</b>	<b>80% or Spi</b>	<b>80% or Spi</b>
<b>1 reef</b>	<b>1 reef</b>	<b>Full</b>	<b>full</b>
<b>70%</b>	<b>80%</b>	<b>80%</b>	<b>80%</b>
<b>2 reefs</b>	<b>2 reefs</b>	<b>1 reef</b>	<b>1 reef</b>
<b>50%</b>	<b>50%</b>	<b>50 to 70%</b>	<b>50 to 70%</b>
<b>3 reefs</b>	<b>2 reefs</b>	<b>2 reefs</b>	<b>2 reefs</b>
<b>Storm jib</b>	<b>Storm jib</b>	<b>Storm jib</b>	<b>Storm jib</b>
<b>3 reefs Or Storm jib</b>	<b>3 reefs Or Storm jib</b>	<b>STORM JIB</b>	<b>STORM JIB</b>



### **13.4. RUNNING RIGGING**

For the running rigging to retain its original qualities as long as possible, you must rinse it in freshwater. We recommend that you do not leave any rigging contaminated with seawater in the sun because it will then rapidly deteriorate.

#### **Maintenance:**

- Whenever possible, hang up the running rigging to avoid it lying soaked in seawater.
- During winter storage, stow any rigging that can be removed from the deck in a locker. The halyards can be replaced by messenger lines.

## **14. DECK FITTINGS**

KIRIE has selected quality deck fittings for your Feeling 416. Your boat's deck fittings are installed on reinforcements suitably dimensioned for the loads. In sandwich zones, a plywood insert locally replaces the balsa core. Regular rinsing of the deck and the external fittings with freshwater will lengthen their service life.

The layouts for the deck fittings and the running rigging are provided in the appendices.

### **14.1. MAINTENANCE**

The winches must be serviced at least once a month and before any major passage.

- Remove the winch taking care to mark the position of the pawls.
- Degrease it using an industrial product or diesel oil.
- Rinse it in freshwater.
- Dry it.
- Lubricate it lightly and uniformly using a Teflon or silicon-based product.

The blocks consist of aluminium and stainless steel components. Electrolysis may cause some specks of corrosion. To delay this process, rinse the pulleys frequently with freshwater and lubricate them with a Teflon or silicon-based product.

Some specks of corrosion may appear on the stainless steel components. The quality of the steel is not to blame; this is usually due to ferrous deposits or atmospheric agents. Do not allow corrosion to take hold, however, rinse the components with freshwater and rub them gently using a non-abrasive passivating polish.

### **14.2. FITTING ADDITIONAL DECK EQUIPMENT**

You should not improvise when installing additional deck fittings. Several parameters must be taken into account; the position of the component, any interference with other components, internal access, load, etc. Please contact your dealer who is a marine professional.

If you wish to install any deck fittings, please proceed as follows:

- Ensure free access from inside.
- Position the component.
- Mark the holes required.
- Drill holes exactly the size of the bolts being used.
- Mill the edges of the holes.
- Coat the holes and the bolts with silicon-based mastic.
- Bolt the component in place taking care to use a backing-plate or washers, depending on the amount of traction the component must withstand.
- Tighten the bolt without crushing the laminate.

- Replace the headlining.

If you are unsure, do not embark on any work that you cannot finish properly or that endangers the watertightness of the vessel.

Check with your dealer or a specialist boatyard.

### **14.3. WINDLASS**

Your Feeling 416 is equipped with an electric windlass. The remote control is connected in the forward cabin. An 80A circuit breaker protects the windlass power circuit, it is fitted behind the electrical panel. You will find the wiring diagram of the windlass in the appendices.

The gypsy is specified for 10 mm diameter chain. If you sail with the anchor on the stemhead fitting, seize it with a line.

Once the ground tackle has taken, remember to seize the chain on a cleat or with the help of a line.

#### **ATTENTION**

Always:

- ✦ Drop anchor controlling the speed of the chain
- ✦ Seize the anchor on the stemhead fitting
- ✦ Stow the anchor in the chain locker on long passages

Never:

- ✦ Guide the chain with hands or feet
- ✦ Leave the chain only on the windlass (seize it on a cleat)

### **IMPORTANT**

- ♣ Scrupulously observe the application instructions for the products you are using.
- ♣ Never cover the anode with antifouling paint

#### **15.1.2. The keel (fixed keel version)**

The keel of your Feeling 416 is in lead. It should be treated with an appropriate protection. Apply 1 coat of keying primer for lead, then 2 coats of epoxy paint and 2 coats of antifouling.

#### **15.1.3. The ballast plate of the lifting keel version**

The ballast plate of the lifting keel version of the Feeling 416 is in cast iron. During regular maintenance, two situations may arise.

No traces of rust appear on the ballast, treat as per the hull.

The ballast plate shows signs of rust spots:

Strip, sand and apply 2 coats of anti-corrosion paint and 2 coats of antifouling.

## **15.2. SCRUBBING**

Scrubbing two or three times a year is preferable to once a year. This provides an opportunity to check the condition of the sea-cocks, the valves, the rudder blade, the sail drive, the anodes and the cleanliness of the engine raw water intake grill. You can employ a high-pressure water jet not exceeding 60 bars provided that the nozzle is kept at least 50cm away from the hull. Do not use a scraper, detergents or any solvent not recommended by your dealer.

The anode degrades more or less rapidly depending on the place where your boat is moored (aluminium pontoon) and the hull material of the neighbouring vessels (steel, aluminium, GRP). It should be regularly checked and replaced. To restrict electrolysis, the batteries should be switched off every time you leave your boat.

## **16. MAINTENANCE OF TOPSIDES**

The GRP composite requires little maintenance but it is useful to carry out a minimum of work to keep your boat in its original condition.

Scrapes and cracks in the gelcoat do not affect the structural integrity of your boat in any way. The gelcoat is not part of the structure but it is important to ensure that no water can penetrate the laminate. You should therefore repair any cracks immediately. It is important to consult your dealer if you suffer a major impact.

### **16.1. MAINTENANCE OF HULL AND DECK**

- Wash down your boat with freshwater after each trip to preserve its sheen.
- Preferably use a product specially designed for GRP for the hull and the deck or use washing powder.
- Rinse thoroughly after each "washing".
- Do not use abrasive detergents or acid.

### **16.2. REPAIRS TO THE HULL OR THE DECK**

#### **16.2.1. Light scratches:**

- Sand down with water and No. 400 and then No. 600 wet and dry paper.
- Rinse thoroughly frequently.
- Shine with a gelcoat polish.

#### **16.2.2. Cracks in the gelcoat in smooth areas:**

- Clean and dry the damaged section.
- Catalyse it.
- Use a spatula to apply a little catalysed gelcoat of the same colour as the deck or the hull (see your dealer).
- Cover the repair with polyamide film or adhesive paper.
- Remove the film when the repair is dry.
- Sand down with water and No. 400 and then No. 600 wet and dry paper.
- Rinse thoroughly frequently.
- Shine with a gelcoat polish.

#### **16.2.3. Cracks in the anti-skid surface**

Please consult your dealer.

#### **16.2.4. Cracks affecting the laminate**

Please consult your dealer.

#### **16.3. SCRATCHES TO THE PORT-LIGHTS**

- Rub down with a soft cloth or piece of cotton coated with a metal polish.
- If the scratches are deep, check with your dealer.

#### **IMPORTANT**

Never use solvents to clean deck hatches and port-lights.

#### **16.4. MAINTAINING THE EXTERNAL WOODWORK**

The wood used for your Feeling 416 deck is solid teak and requires little maintenance. It will fade naturally from atmospheric effects. You can also apply a maintenance product specially designed for teak.

## **17. PROTECTION AGAINST LIGHTNING**

Your Feeling 416 is protected against lightning. The rigging is electrically earthed by means of a stainless steel chainplate and an earthing braid connecting it to the keel bolts. Safety precautions should however be observed.

### **17.1. PROTECTING PEOPLE DURING A STORM**

#### **ATTENTION**

The following advice should be followed during a storm:

- ⚡ Remain inside the boat as much as possible.
- ⚡ Do not go into the water or dangle your arms or legs in the water.
- ⚡ While maintaining appropriate control of the vessel, do not touch any component connected to the lightning conduction system, particularly in any way that would form a connection between any of these components.
- ⚡ Avoid contact with any of the metal components in the rigging, the spars, the external fittings and the guardrails.

### **17.2. FOLLOWING A LIGHTNING STRIKE**

If the vessel has been struck by lightning:

- The lightning conduction system must be inspected for material damage and to check the integrity of the system and the continuity of its earth.
- The compasses and the electrical and electronic equipment must be inspected for any damage or any change in calibration.



## **18. PROTECTING THE ENVIRONMENT AND SAFETY**

Most maintenance products, engine oils and fuels or similar hydrocarbon products are harmful to the environment; they should only be disposed of in the appropriate places (please check with the harbour master).

### **IMPORTANT**

- ⚠ Certain products also represent a risk to your own and others people's safety; you should therefore always follow their instructions for use.
- ⚠ The products used should be labelled and stowed in an appropriate location on the vessel.
- ⚠ Do not start the bilge pump if there is oil or fuel in the engine compartment; such products should only be discharged at the locations prescribed by law.
- ⚠ Do not use the boat's toilet when in port.
- ⚠ Store your rubbish bags for disposing when you return to port.
- ⚠ Never throw anything into the sea.

**The Feeling 416 can be fitted with grey or black water holding tanks.**

There is as yet no common agreement within the European Community regarding compulsory safety equipment. We can inform you, however, of the prevailing French regulations for vessels with CE approval. Please contact your dealer

Your Feeling 416 should be fitted with ground tackle equipment to the following specifications:

A main ground tackle consisting of:

- a 20kg anchor
- 37m of 10mm diameter chain
- 25m of 18 mm rode

a secondary ground tackle consisting of:

- a 20kg anchor
- 8m of 10mm chain
- 54m of 18 mm rode

docklines consisting of:

- 2 docklines d16 Lg10m
- 1 dockline d16 Lg20m.

Please consult your dealer for the complete list of compulsory safety equipment.

## **20. HANDLING, HAULING OUT, BEACHING**

Any lifting must be carried out by professionals. When lifting the vessel from the water, ensure that the slings are correctly positioned and that they do not pull against the sail-drive leg or any fragile transducers. There are small arrows under the toerail marking the position for the slings.

Travel lifts should be wide and fitted with spreaders to avoid excessive transversal force on the topsides and guardrails.

During transportation or hauling out, the keel should be well supported on its bulb supporting most of the vessel's weight.

The cradle pads should be positioned on the structural elements and only exert sufficient pressure to maintain the vessel upright.

Take advantage of when the vessel is out of the water to check the sail-drive unit, the rudder blade, the sea-cocks and the condition of the anodes.

When drying out or beaching (for the lifting keel version) remember to completely raise your centreboard. Check that the zone where you are going to dry out is not rocky or presents any other type of surface susceptible in damaging the boat.

... guarantees against any hidden defect that could render our products incapable of sailing for the whole of the period prescribed by law. Any modification to our products and in particular the installation of parts other than original parts immediately invalidates this warranty.

The hull underbody is guaranteed against osmosis for a period of 5 years.

All the equipment is covered by individual manufacturer's warranties for 1 year.

This warranty allows the purchaser to obtain repair or replacement of any part recognised as defective provided that the user has correctly carried out the necessary maintenance at the prescribed intervals. This warranty does not cover transport and handling costs nor any other loss, in particular through immobilisation.

✂ .....  
Cut along the dotted line

### **Delivery receipt**

I the undersigned ..... owner of Feeling 416 N° ..... , declares having received the owner's manual, containing the declaration of compliance with the standard registered tonnage of a production recreational craft and the CE declaration of compliance.

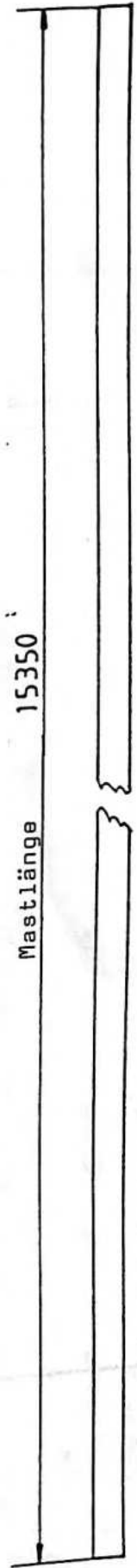
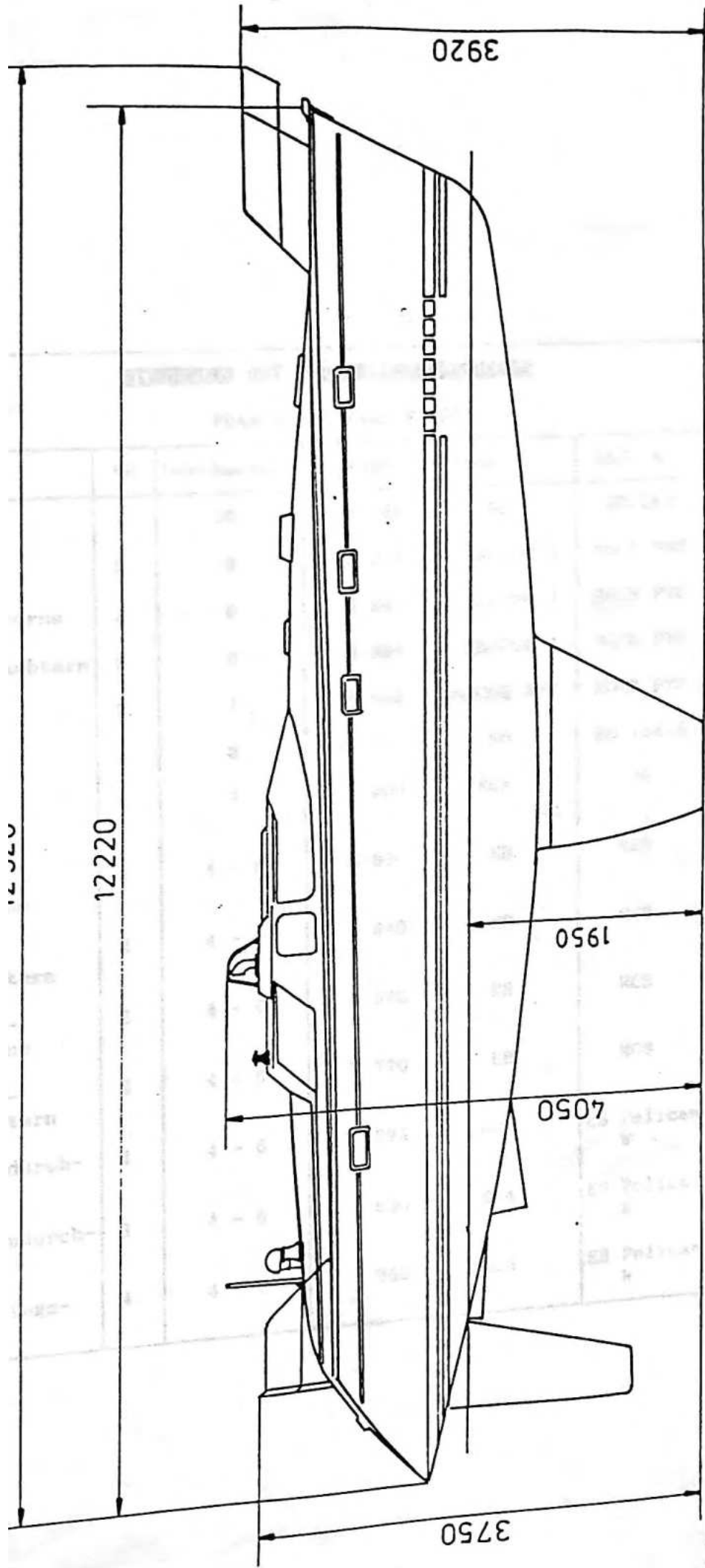
The boat was delivered complete and in good condition.

This boat is covered by the conditions of warranty figuring on page 44 of the owner's manual.

The warranty starts on ..... , the date of delivery of my boat.

Date .....

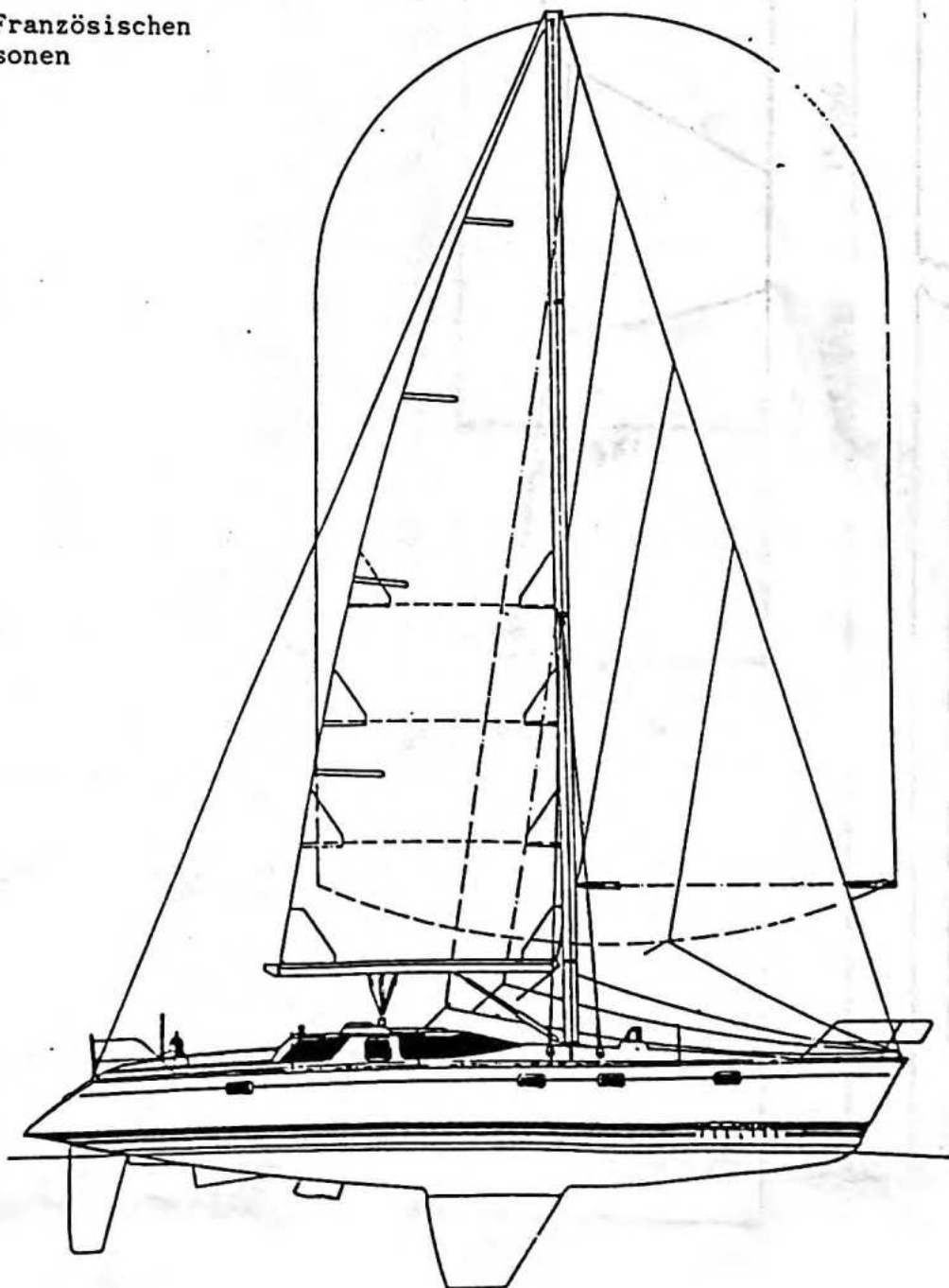
Signature



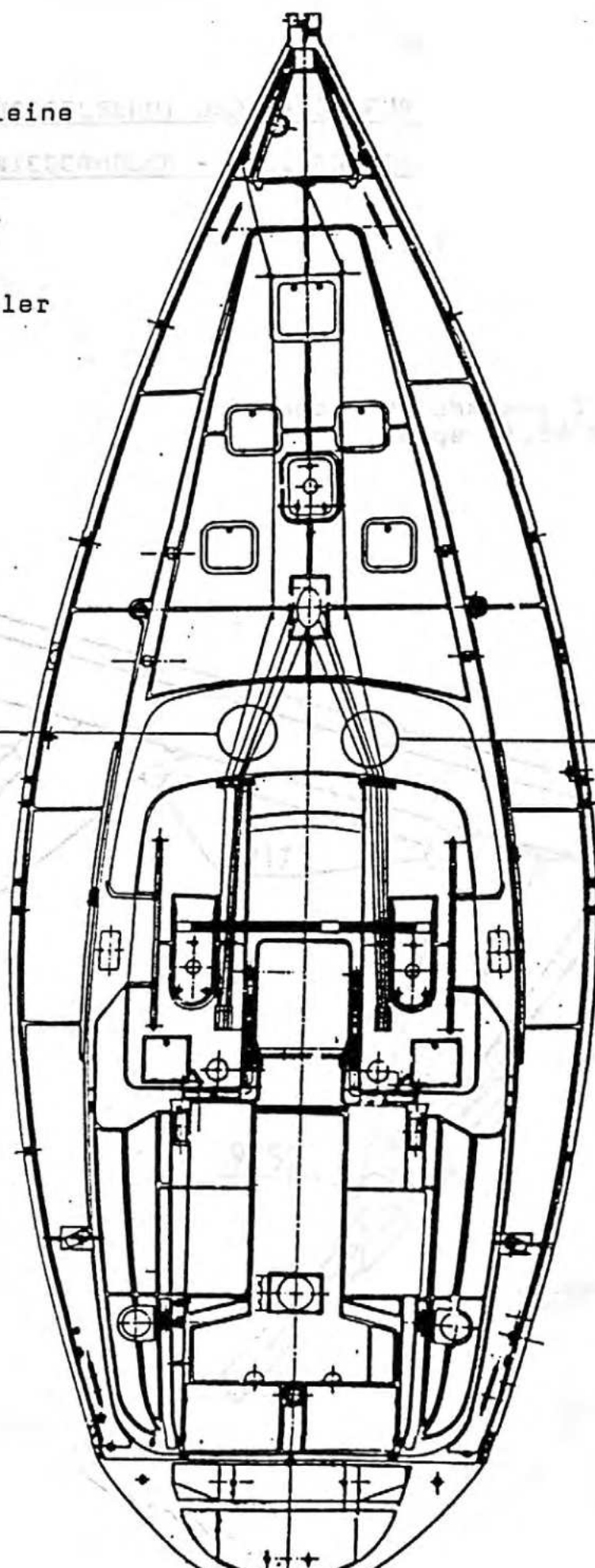
# TECHNISCHE DATEN FEELING 416

Länge über alles .....	12,50 M
Rumpflänge .....	12,22 M
Länge Wasserlinie .....	9,81 M
Breite über alles .....	4,20 M
Tiefgang : Tiefkiel .....	1,95 M
Integralschwerter .....	0,80 M <sup>110</sup> 2,12 M
Masthöhe über Wasserlinie.....	16,95 M
Gewicht : Kielyacht .....	7.800 KG
Integralschwerter .....	8.400 KG
Ballastanteil vom : Tiefkiel (Blei) .....	2.300 KG
Integralschwerter .....	2.480 KG
Schwert (DI Version)...	150 KG
Segelfläche : Tiefkiel.....	84,15 M2
Integralschwerter.....	84,15 M2
Wassertank .....	400 L.
Dieseltank .....	250 L.
Bruttoregistertonnen.....	17,28 Tx

Personenzulassung laut der Französischen  
Handelsmarine : 6/10/12 Personen  
Tiefkiel : Nr 3987  
Integralschwerter : Nr 4802



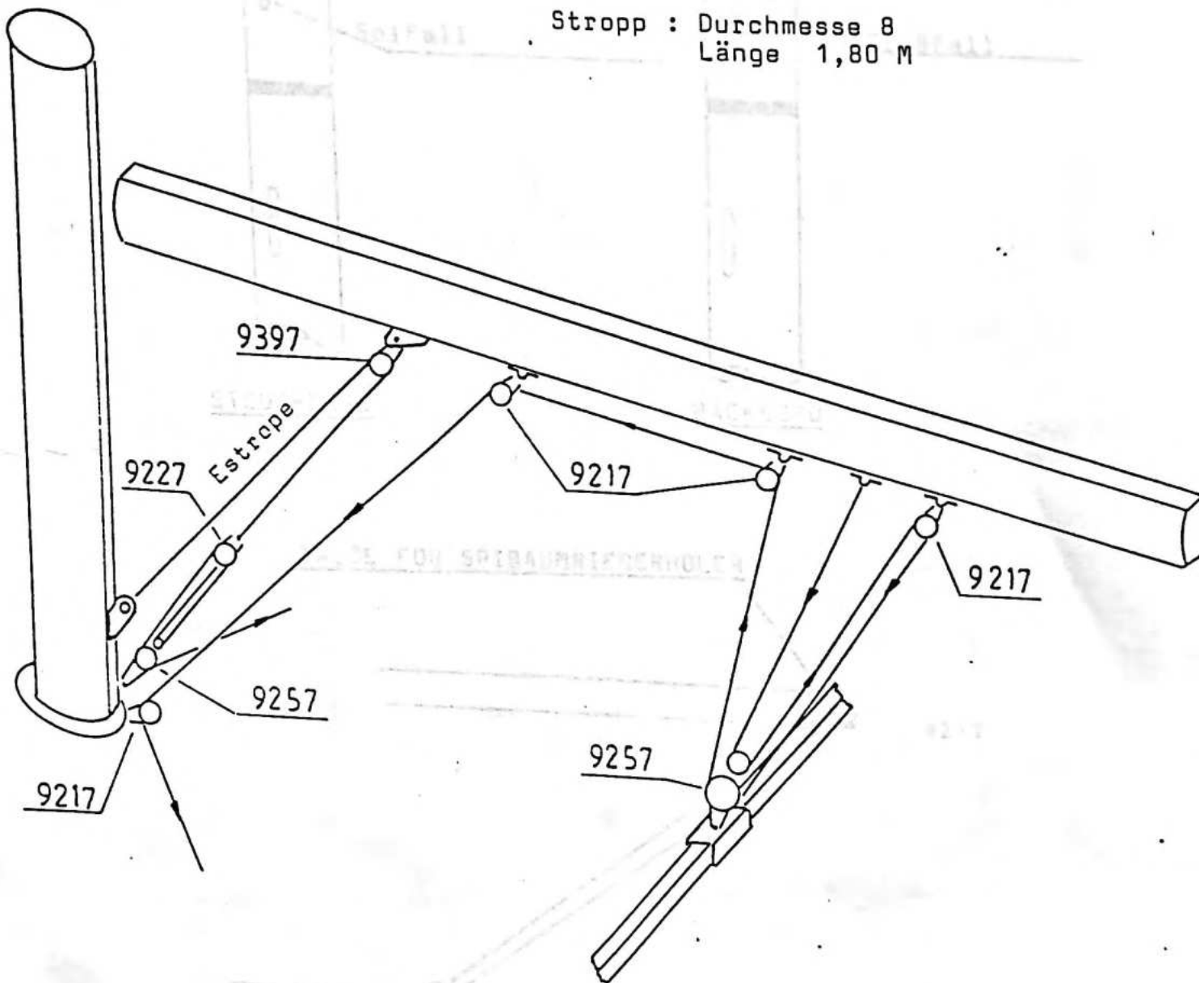
- 1 - Rollreiffanlageleine
- 2 - Genuafall
- 3 - Großfall
- 4 - Großschot
- 5 - Baumniederholer
- 6 - Spifall
- 7 - Spibaumdirk
- 8 - Spibaumniederholer



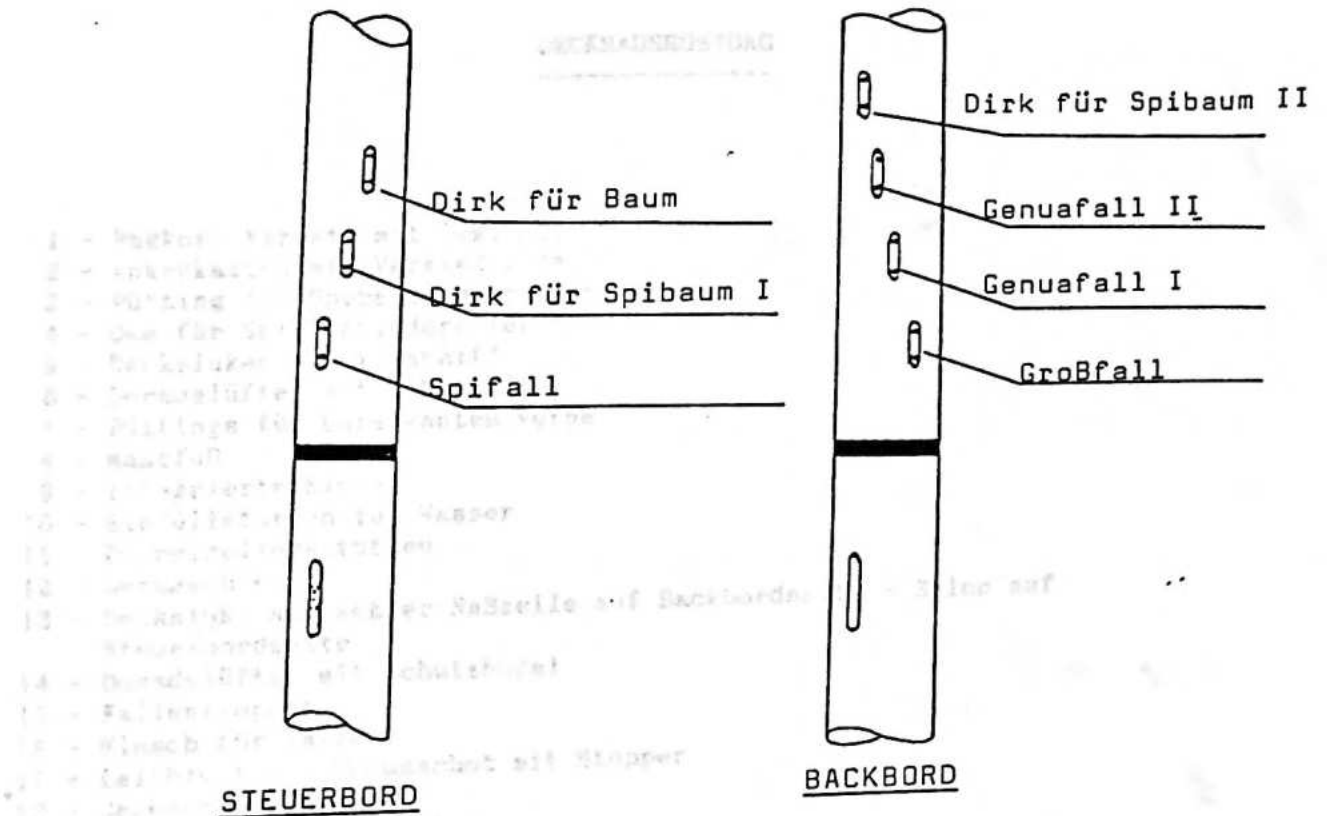


BAUMNIEDERHOLER - FEELING 416

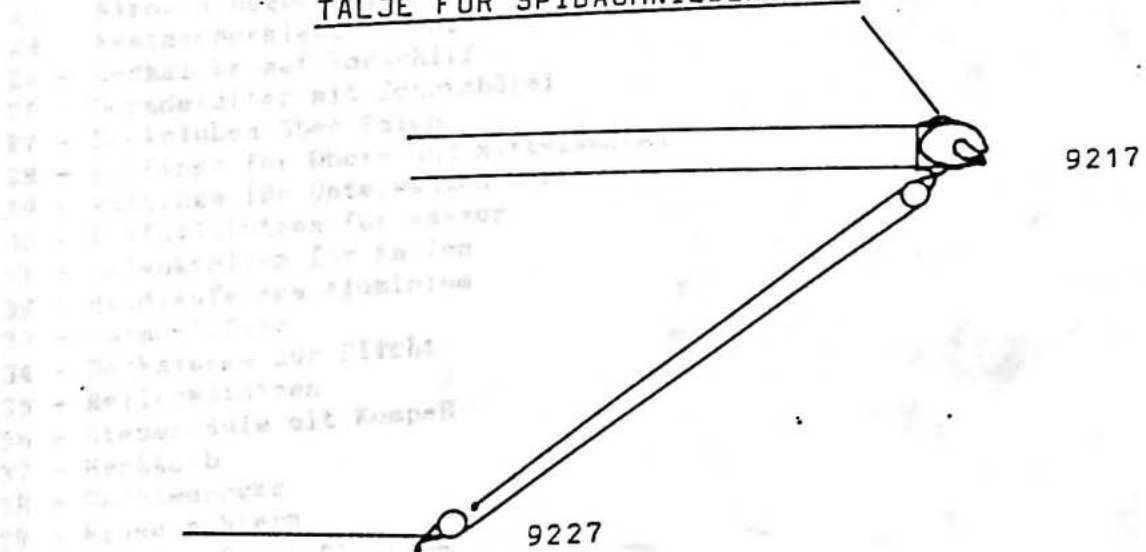
Stropp : Durchmesser 8  
Länge 1,80 M

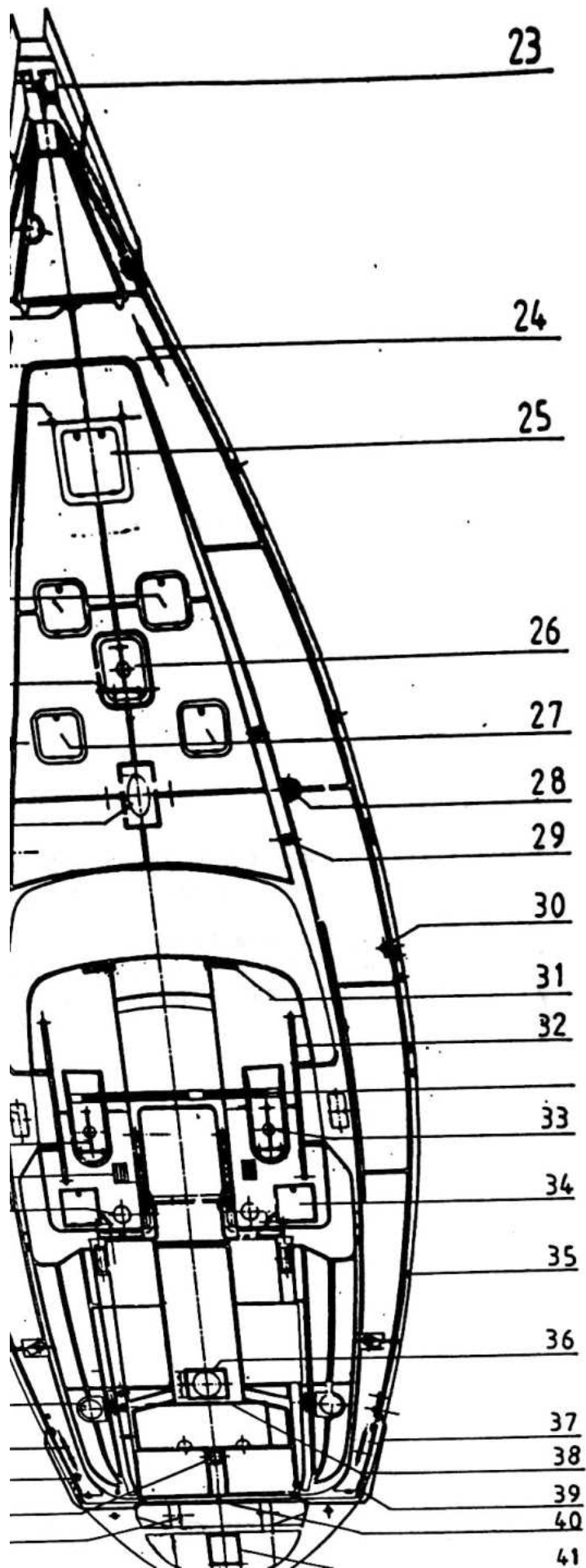


# FALLENDURCHGANG



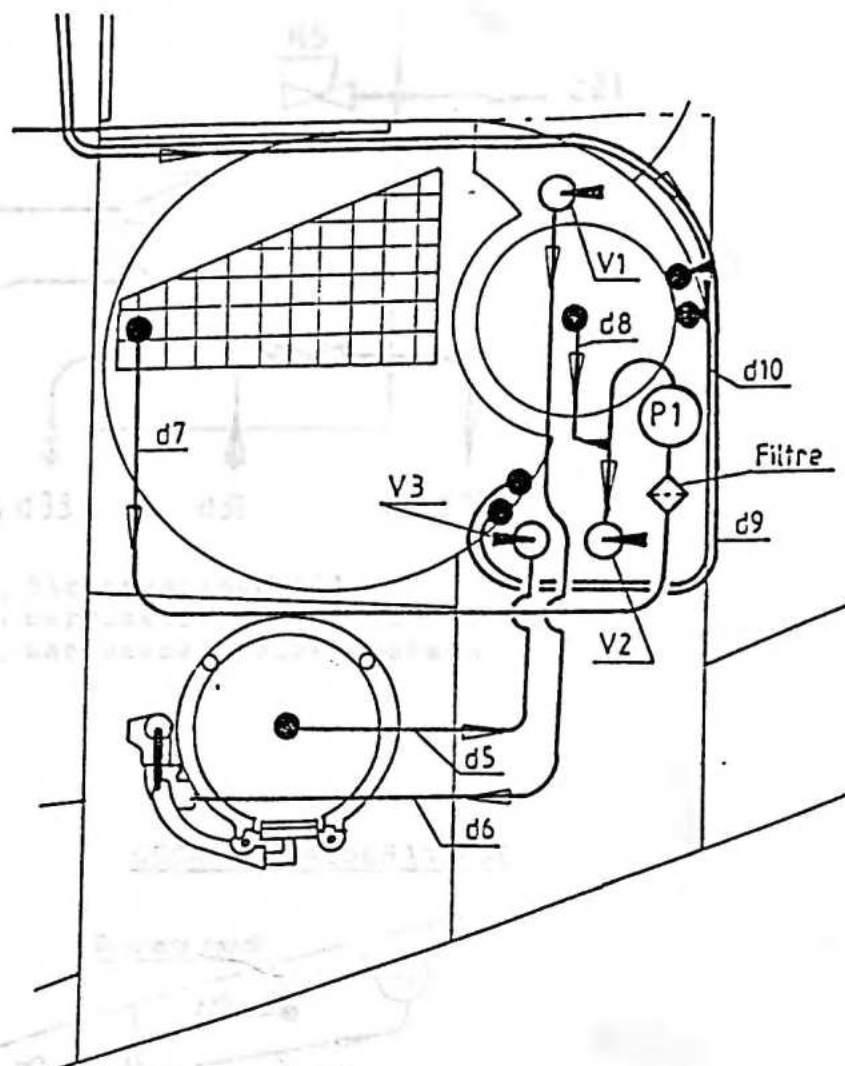
## TALJE FÜR SPIBAUMNIEDERHOLER



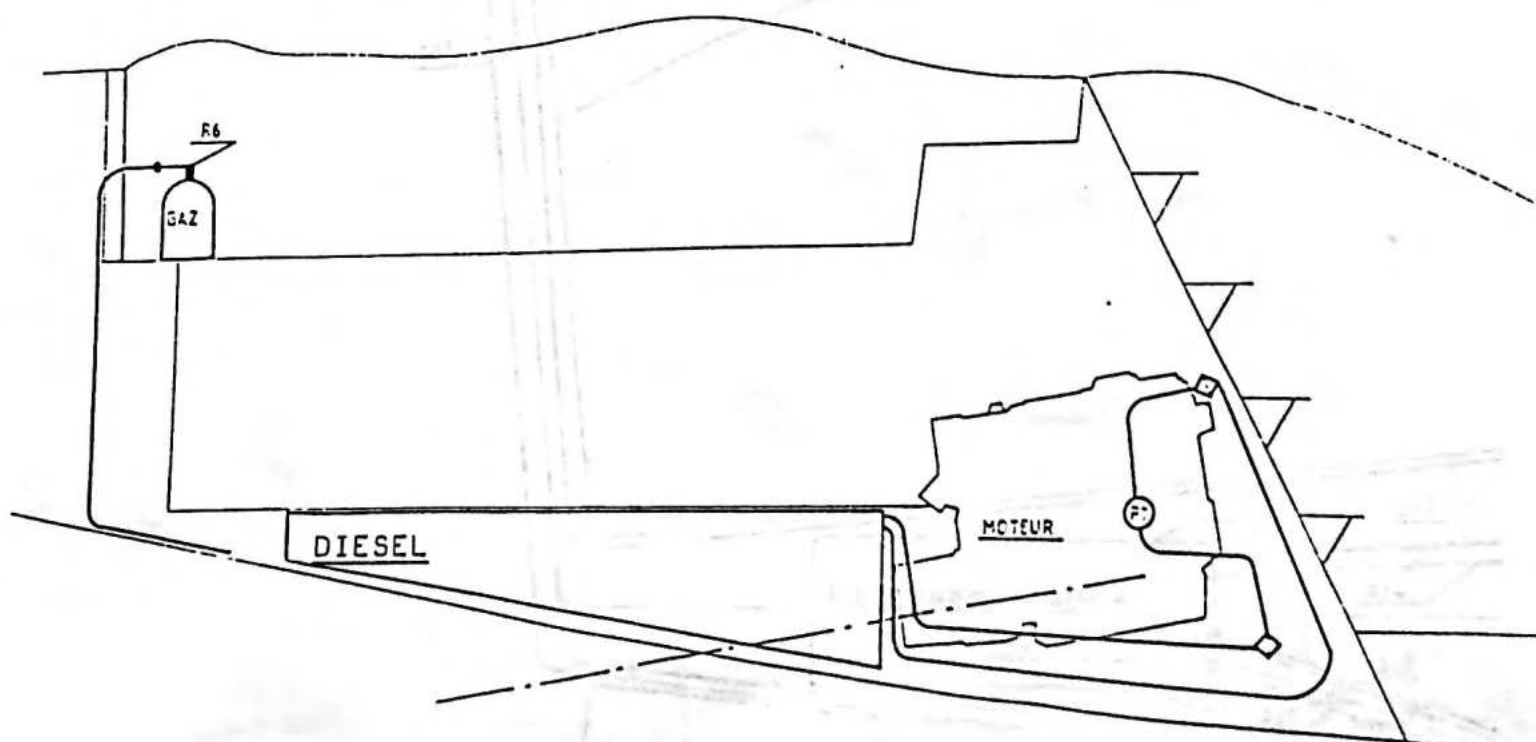


WASSERANLAGE - NABZELLE VORNE

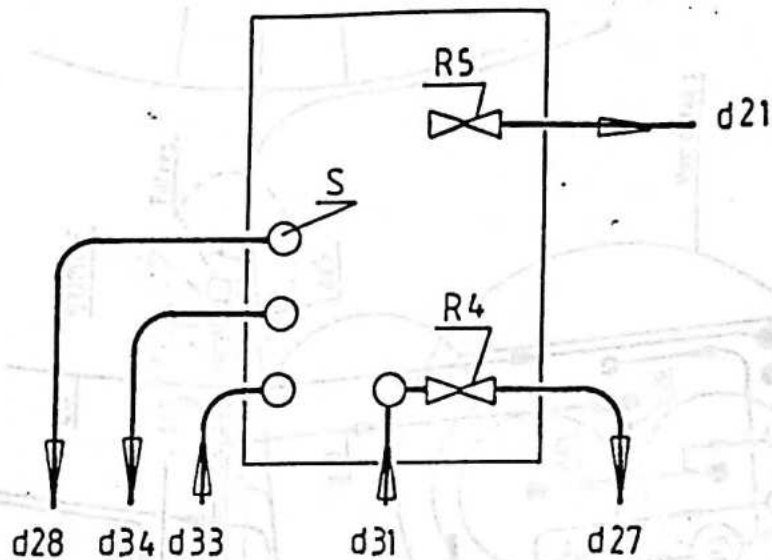
(Steuerbord)



GASANLAGE - DIESEL - MOTOR

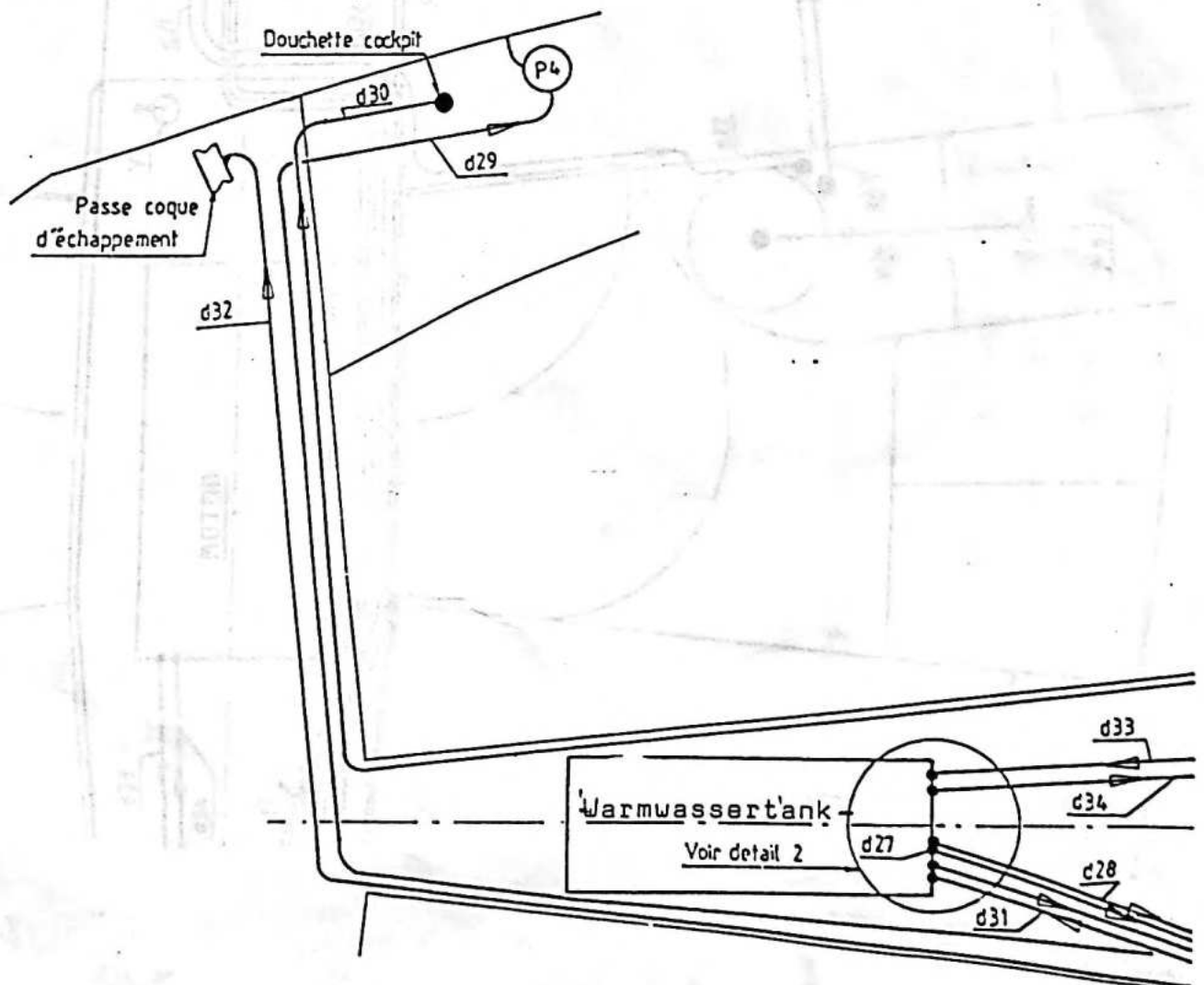


## SKIZZE 2 : WARMASSERANLAGE

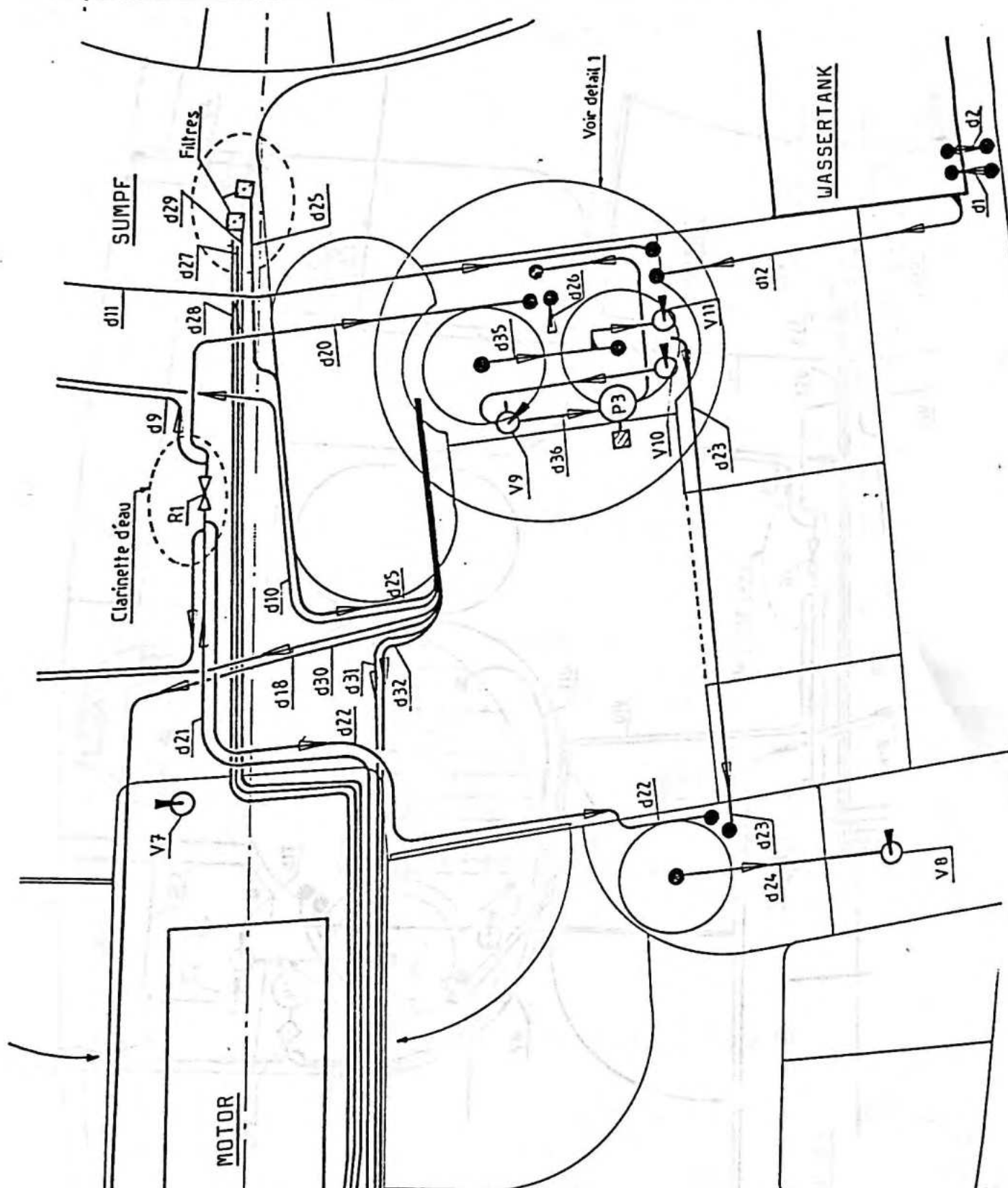


S : Sicherheitsventil  
 R 4 : Warmwassertankentwässerungshahn  
 R 5 : Warmwassersteuerungshahn

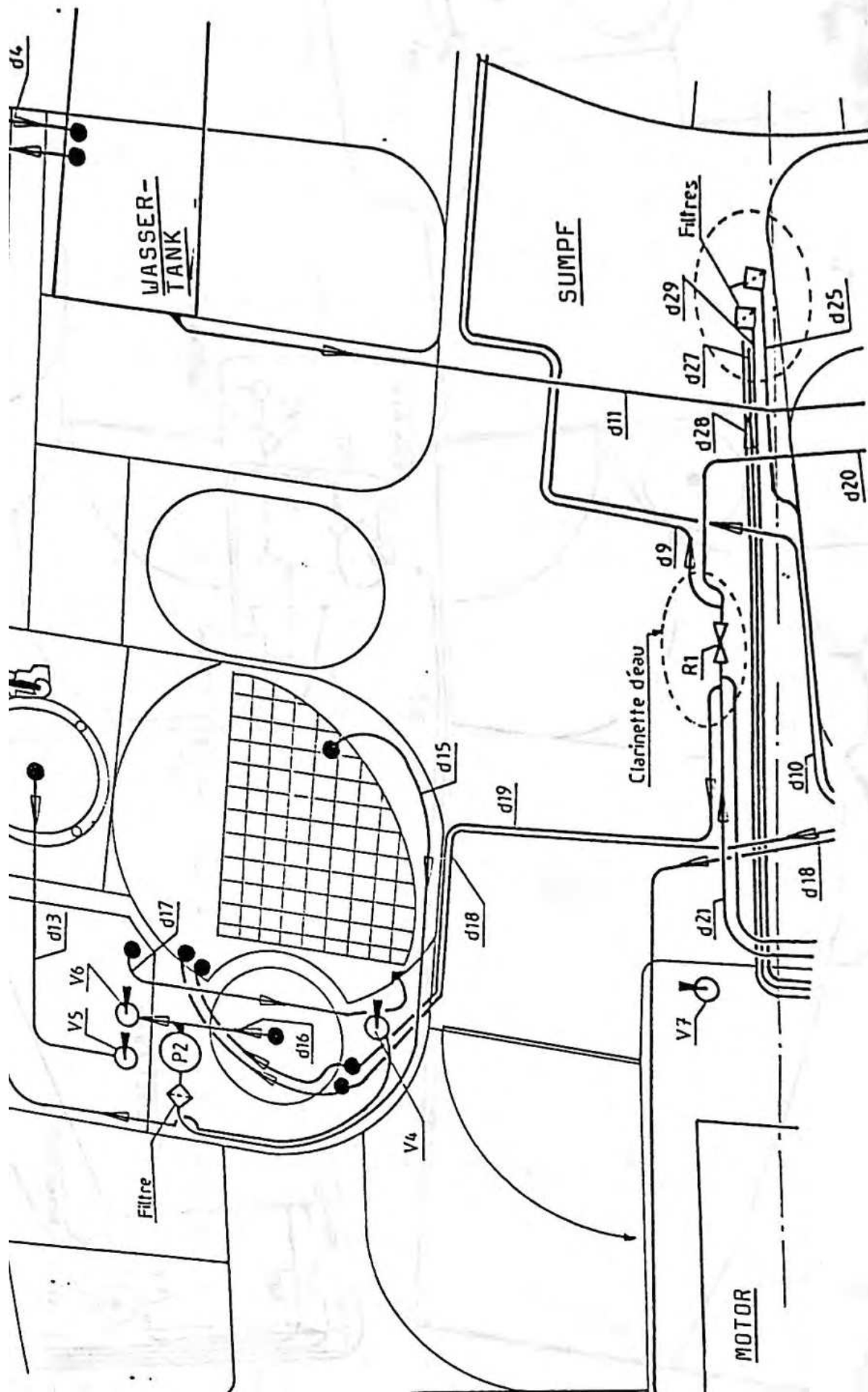
## COCKPIT-WASSERANLAGE



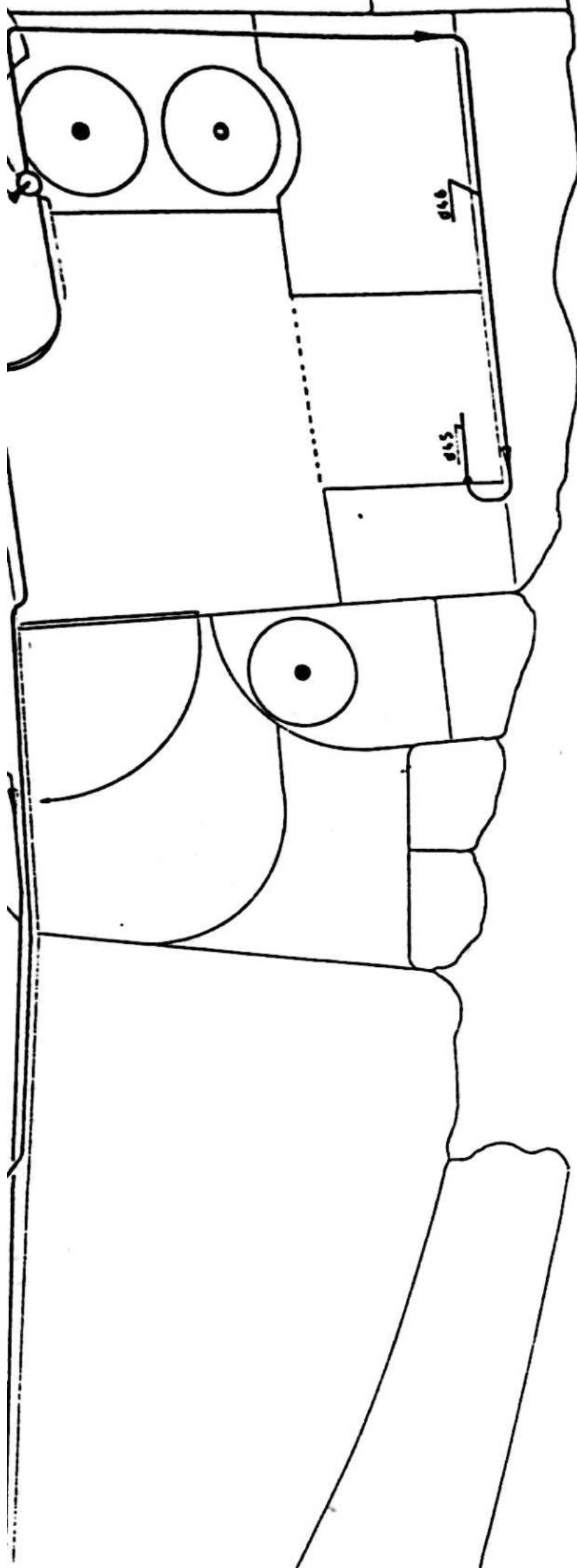
# PANTRY-, STEUERBORD ACHTERKABINE UND SUMPFWASSERANLAGE



# ELLE (Backbord) UND SUMPFWASSERANLAGE

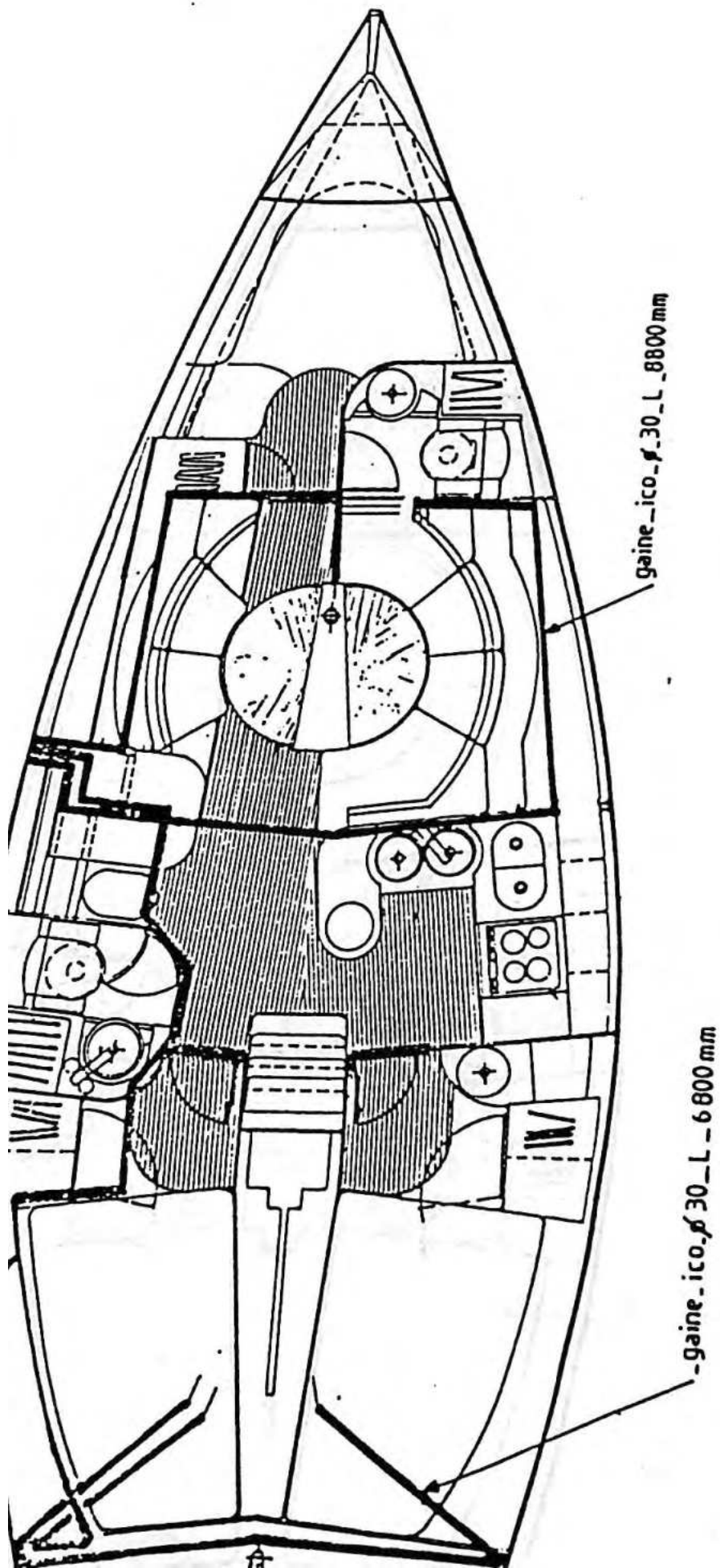






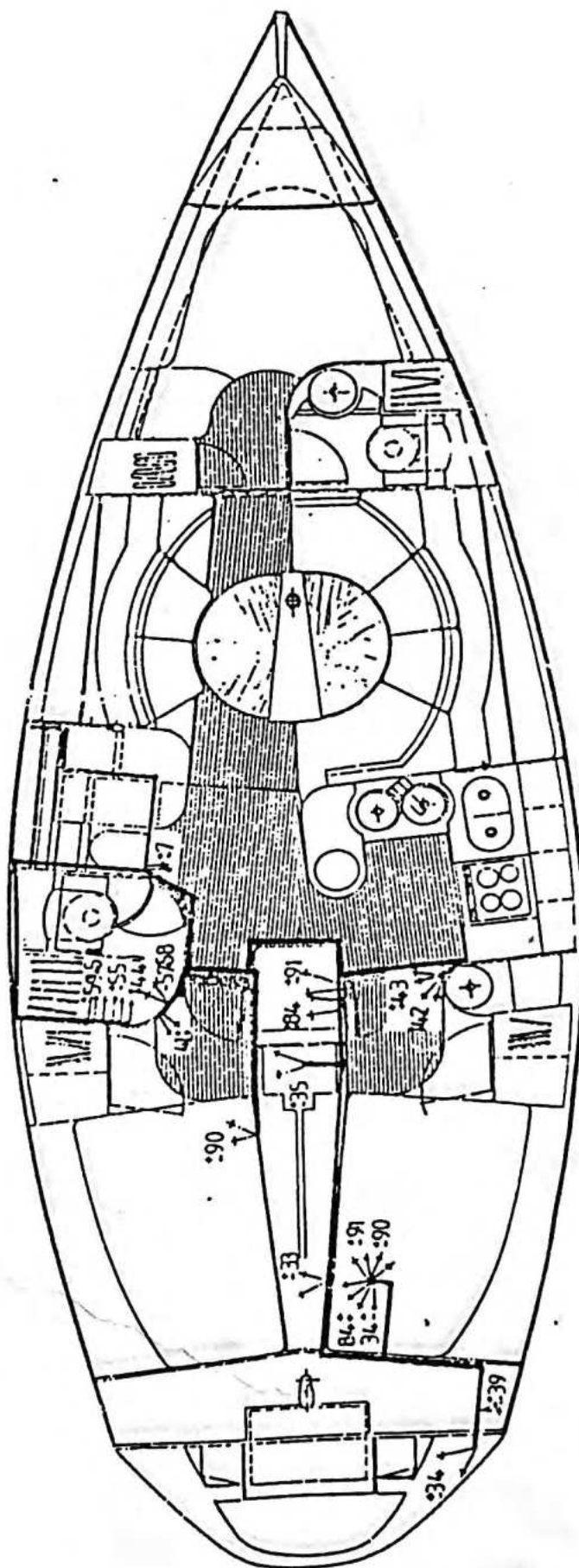
GAS- UND DIESELANLAGEN - MOTORKÜHLUNGS- UNDAUSPUFFANLAGEN

ROHRE FÜR ELEKTRONISCHE INSTRUMENTE

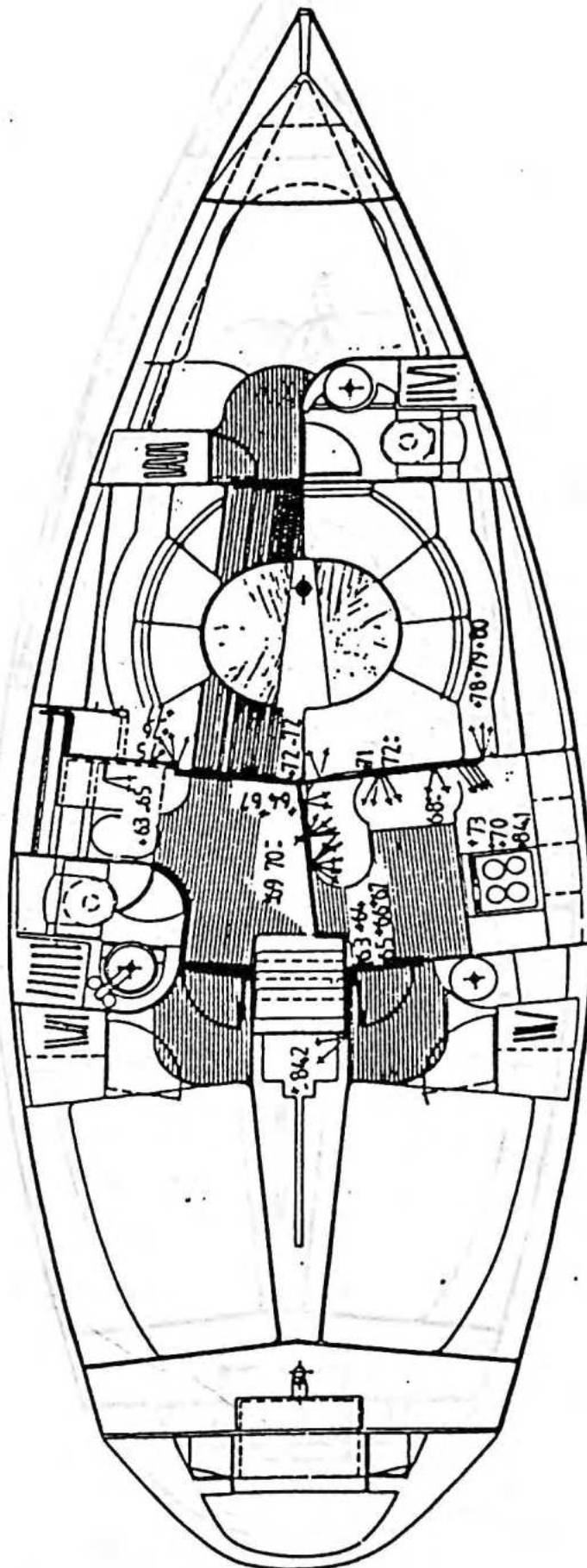




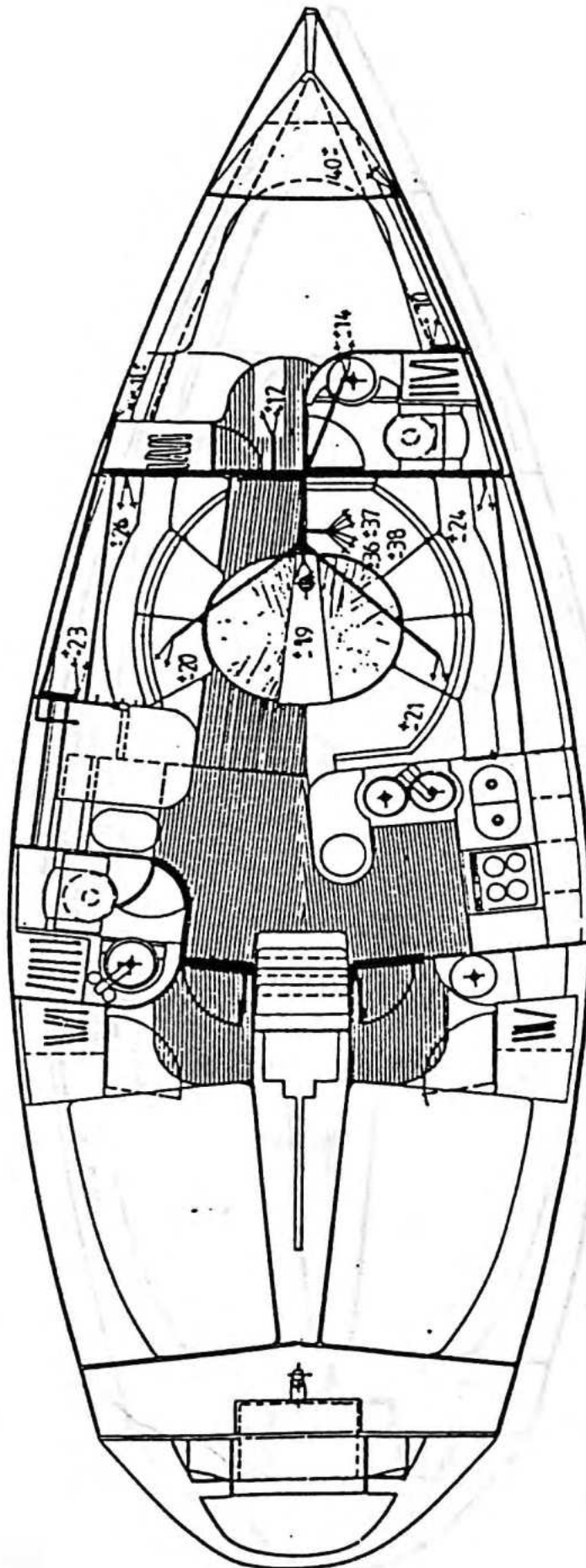
12 VOLT BILGENVERKABELUNG ACHTERN



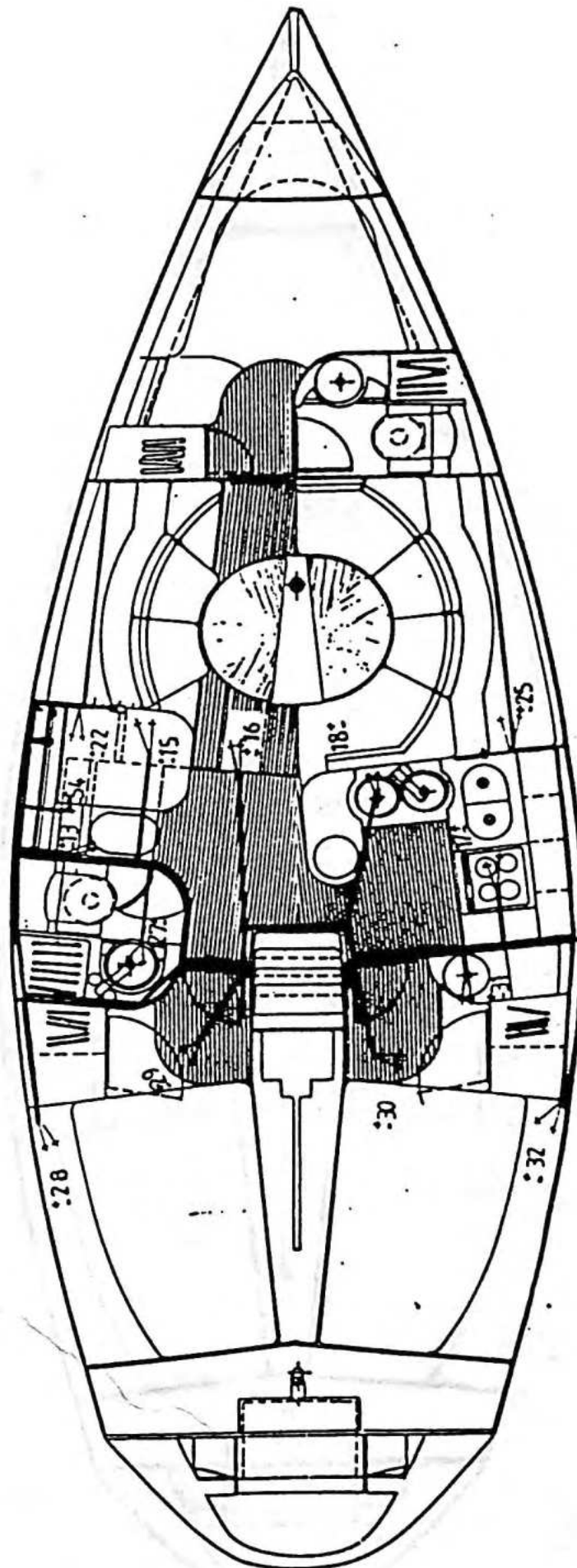
12 VOLT SALONVERKABELUNG



12 VOLT VERKABELUNG AUF DECK VORNE

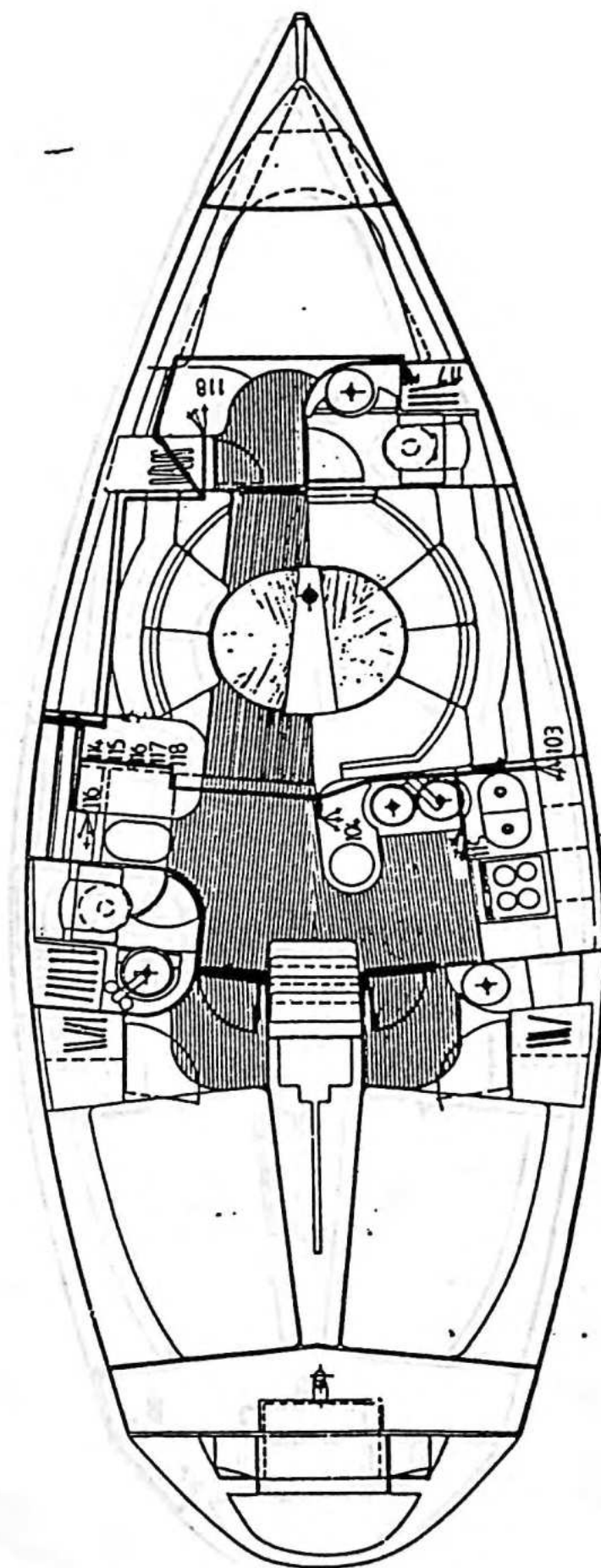


12 VOLT VERKABELUNG AUF DECK ACHTERN

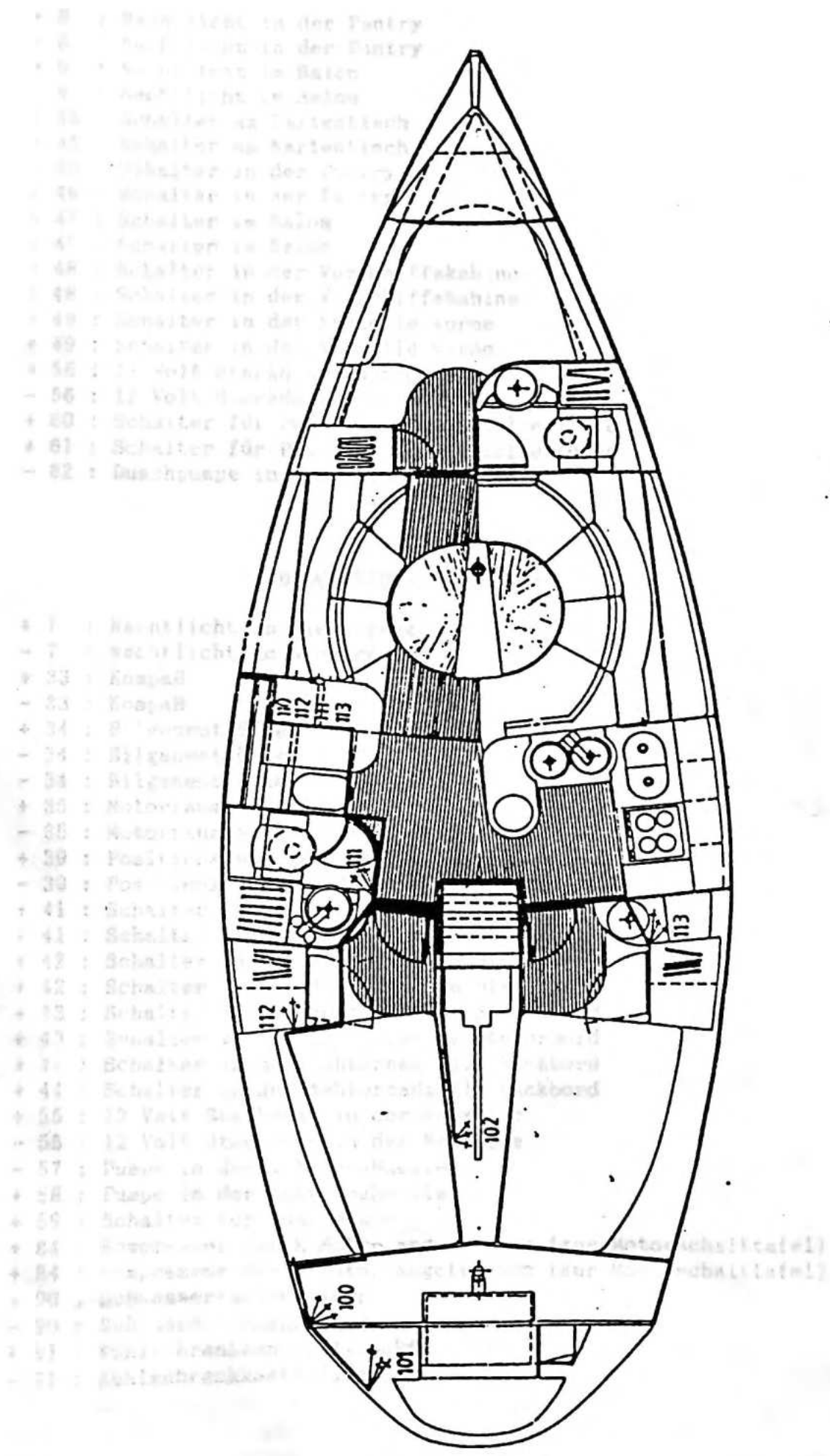


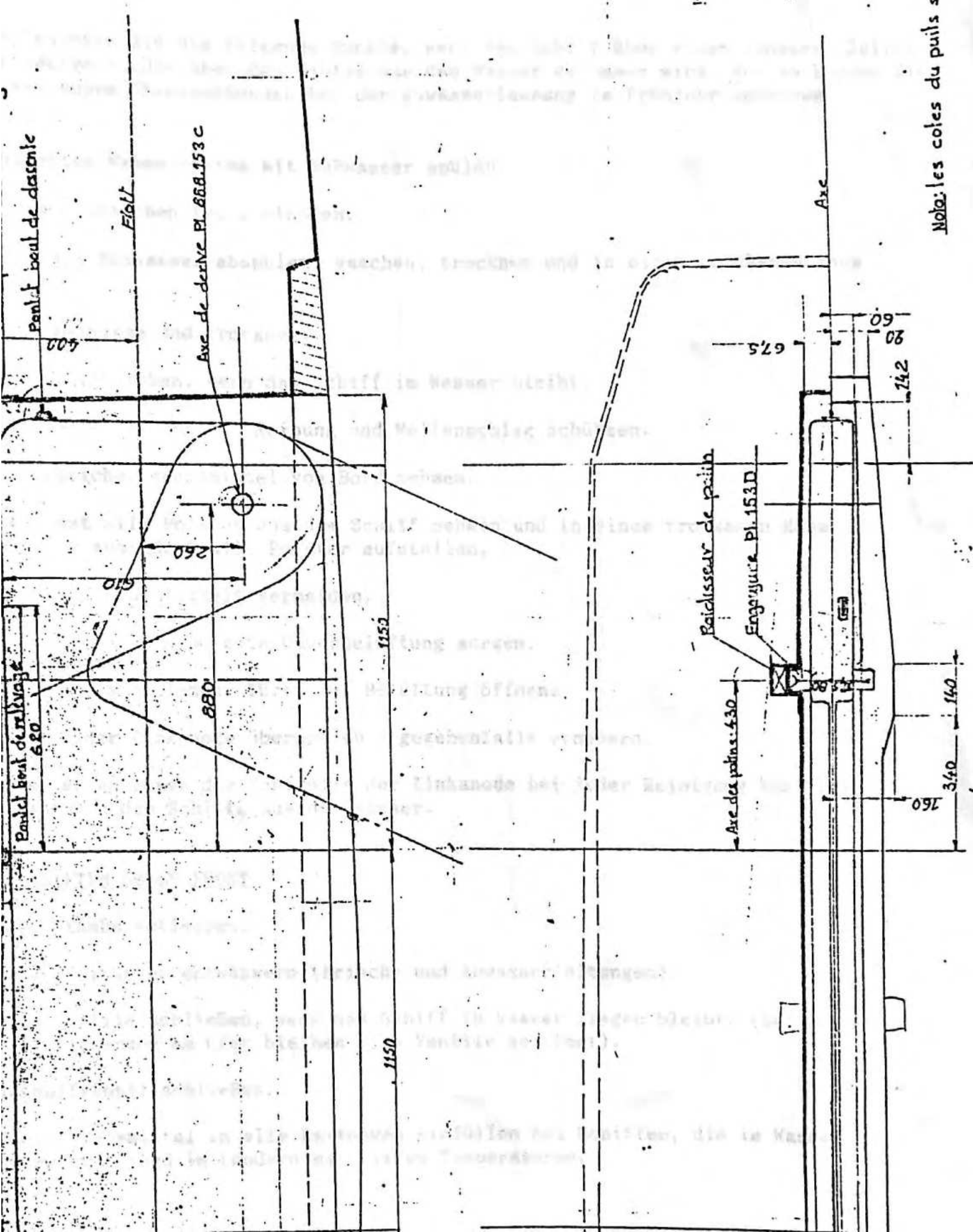


220 VOLT VERKABELUNG VORNE

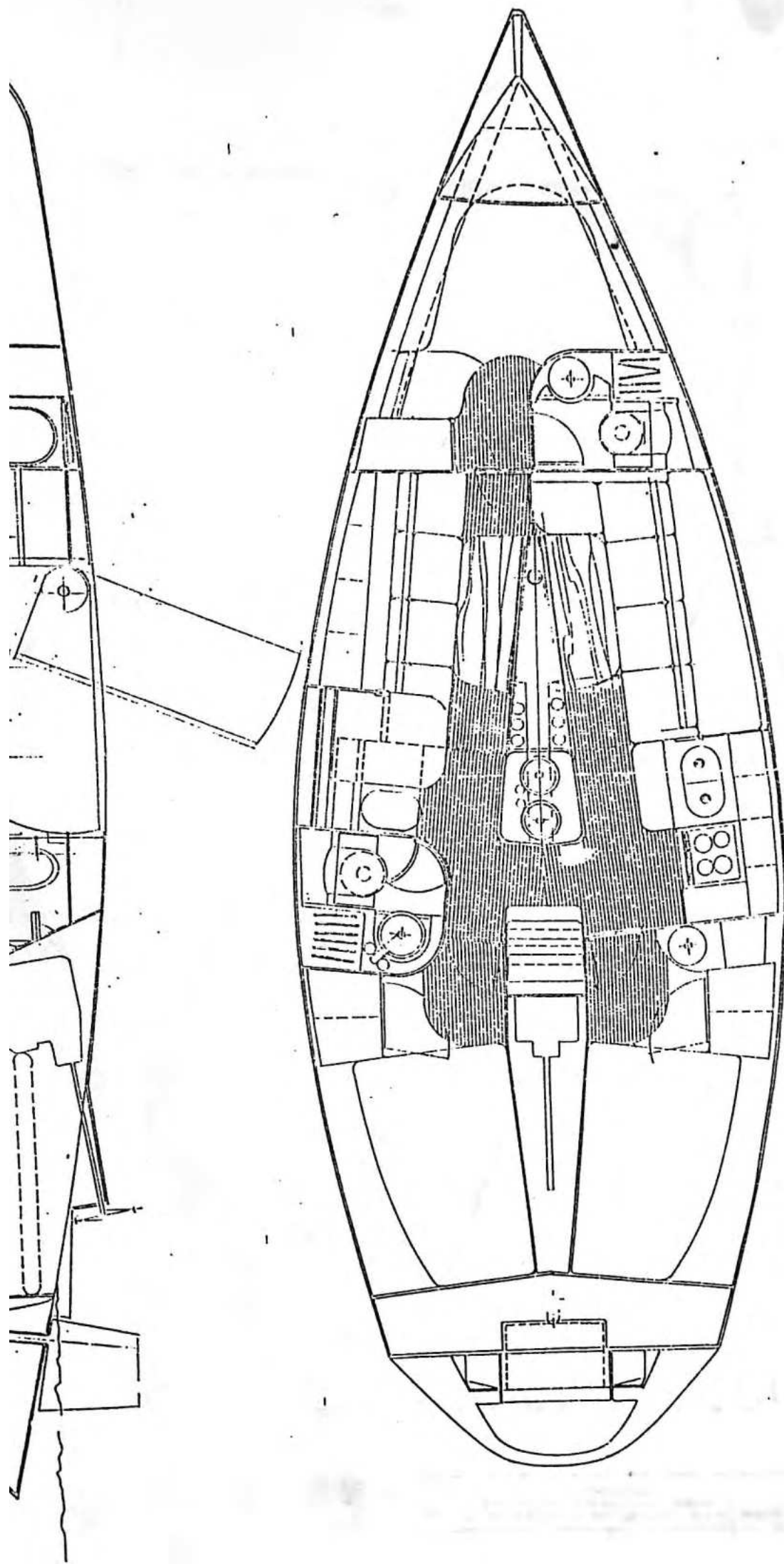


# 220 VOLT VERKABELUNG ACHTERN





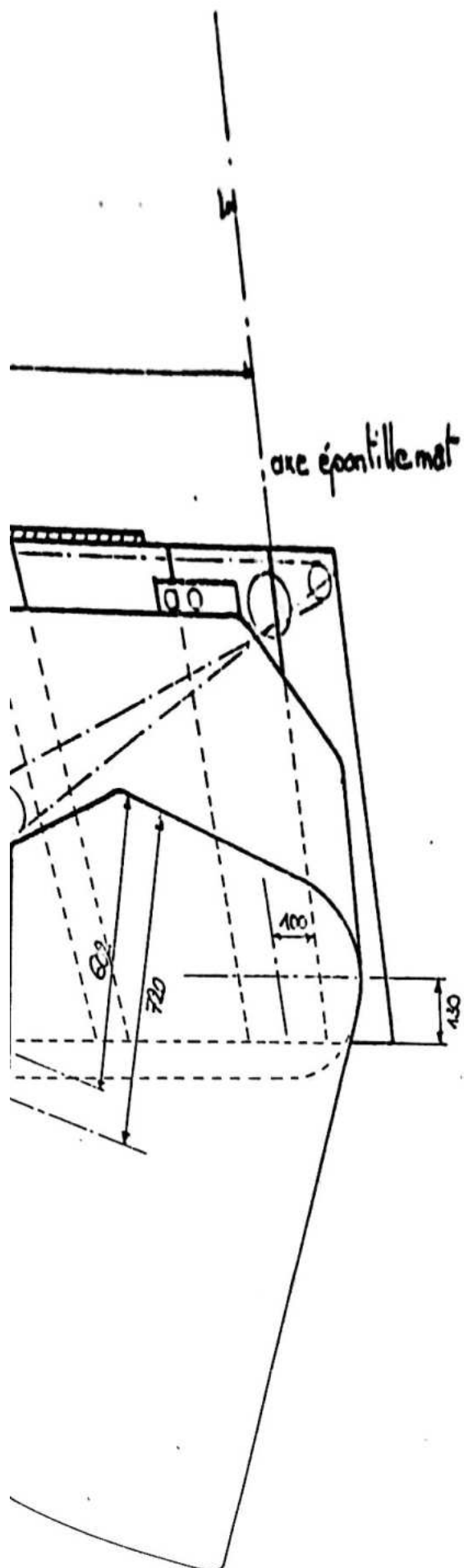
Notes: les coles du puits sont intérieures.



AP. FEELING 416 D.I.

24. 12. 93

PH. HARIE & A. MORTAIN



Repérage des remontées 1,70 m et 1,10 m.