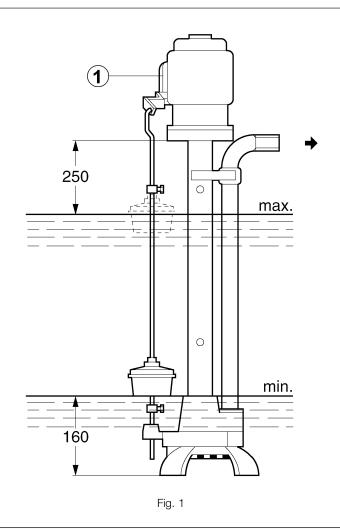


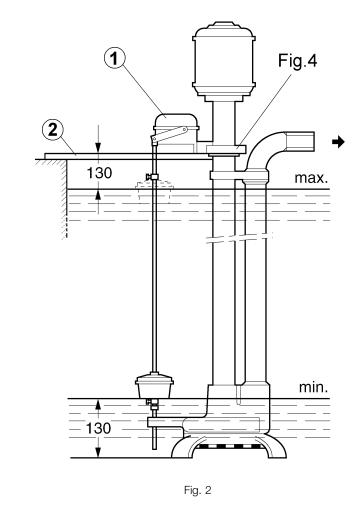


Wilo-Drain VC 32 / VC 40

- D Einbau- und Betriebsanleitung
- **GB** Installation and Operating Instructions
- F Notice de montage et de mise en service

RUS Инструкции по вводу в эксплуатацию и монтажу





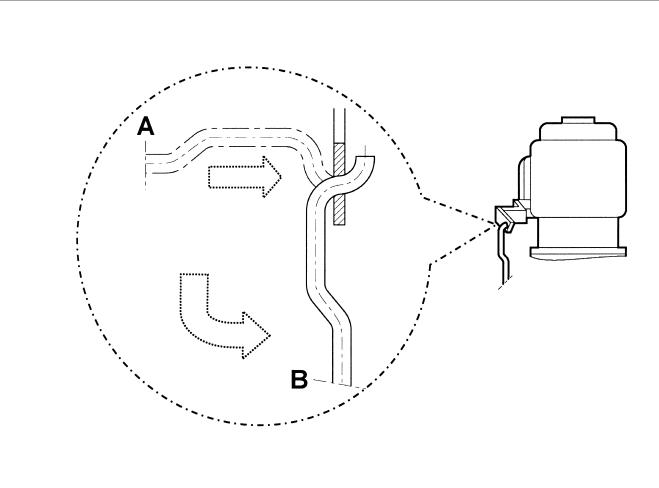
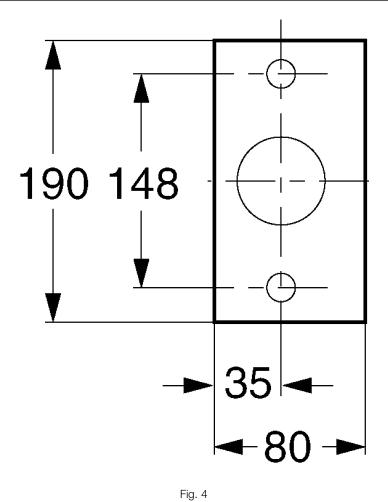
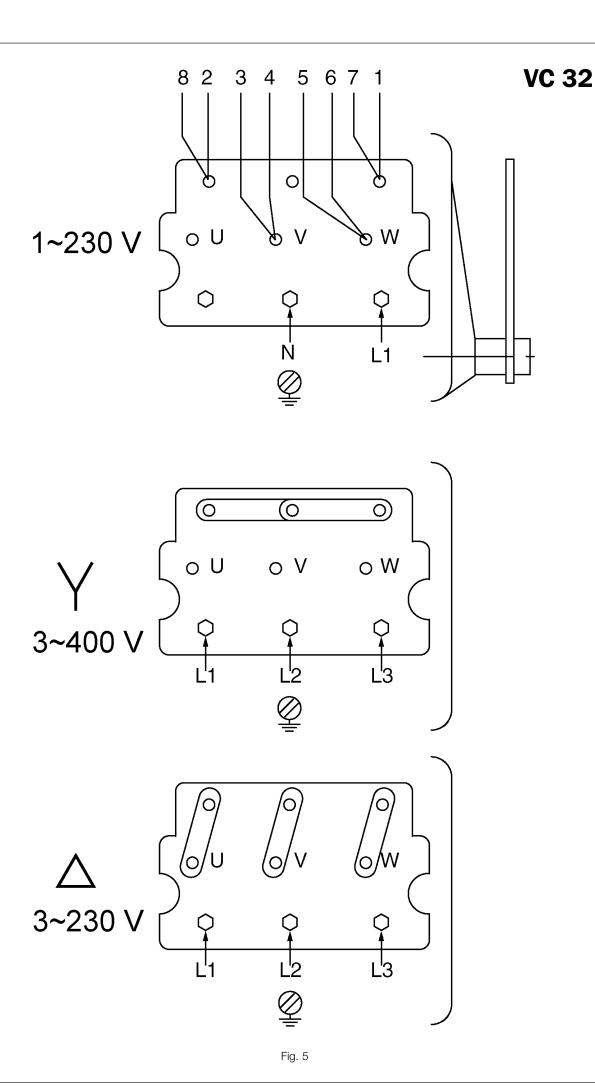


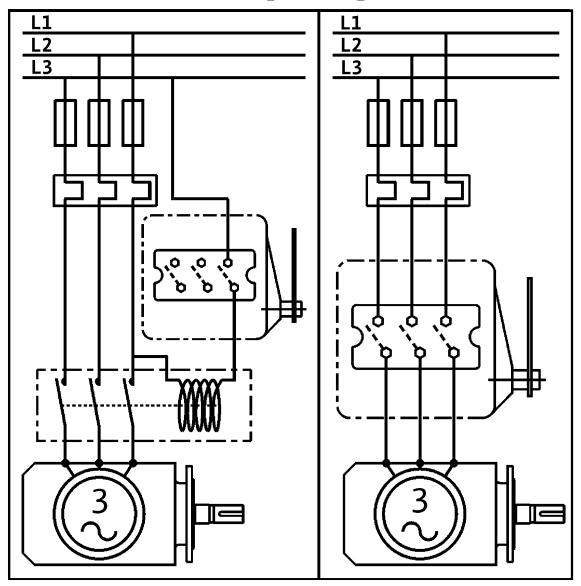
Fig. 3







RECOMMENDED 1 2



General Information

Installation and service by qualified personnel only!

1.1 Uses

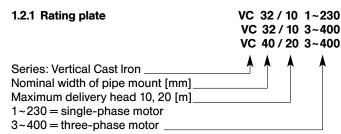
The pumps in the VC series are suitable for pumping chemically neutral, lightly soiled wastewater, condensate and clear fluids containing solids of 5 to 7 mm Ø from pump shafts from boiler and heating installations and basements at risk of flooding.

These pumps must not be used:

- to pump raw sewage containing faeces
- in areas where there is a risk of explosion
- to pump drinking water.

Local regulations must be observed.

1.2 Product data



1.2.2 Connection and electrical data

- max. permissible solid grain size: Ø 5 (VC 32), Ø 7 (VC 40)

- Power supply: 1 ~ 230 V, ±10% 3 ~ 230/400 V, ±10%

- Mains frequency: 50 Hz

- Protection category (motor): IP 54

- Insulation class (motor): F

Speed: max. 2900 ¹/min Sound pressure level: < 70 dB(A)

- max. current consumption: see rating plate

Power input P1: see rating plate

- Rated motor power P2: see rating plate Operating mode S1: 2 hours / day

- Operating mode S3 (optimum): Intermittent service, 25%

(2.5 min. mode, 7.5 min.

break).

Recommended operating frequency: 20 ¹/h

- Nominal width of connection size: 1" (VC 32),

11/2" (VC 40)

- admissible temperature range of the flow medium:

When ordering spare parts, please give all the information on the pump rating plate.

2 Safety

These instructions contain important information which must be observed when installing and operating the pump. These operating instructions must therefore be read by the installer and the responsible operator before assembly and commissioning. In addition to the general safety instructions laid down in the Safety section, the special safety instructions laid down in the following sections are also to be observed.

Danger symbols used in these operating instructions

Safety precautions contained in these operating instructions which if not followed could cause personal injury are indicated by the symbol:

with the following symbol used to indicate electrical voltage:

The symbol below indicates that by ignoring the relevant safety instructions, damage could be caused to the pump or installation: ATTENTION!

2.2 Staff training

The personnel installing the pump must have the appropriate qualifications for this work.

Risks incurred by failure to comply with the safety precautions

Failure to comply with the safety precautions could result in personal injury or damage to the pump or installation. Failure to comply with the safety precautions could also invalidate any claim for damages.

In particular, failure to comply may lead to problems such as:

- Failure of important pump or installation functions,
- Personal injury due to electrical, mechanical or bacteriological causes.

Safety precautions for the operator

Existing regulations for the prevention of accidents must be followed.

All risks caused by electrical energy must be eliminated. Directives conforming to the local or general regulations [such as IEC, VDE etc.] and the local electricity supply companies are to be observed.

2.5 Safety information for inspection and assembly

The operator is responsible for ensuring that inspection and assembly are carried out by authorised and qualified personnel who have studied the operating instructions closely. Work on a pump or installation should only be carried out once

the latter has been brought to a standstill.

2.6 Unauthorised modification and manufacture of spare parts

Alterations to the pump or installation may only be carried out with the manufacturer's consent. The use of original spare parts and accessories authorised by the manufacturer will ensure safety. The use of any other parts may invalidate claims invoking the liability of the manufacturer for any consequen-

2.7 Unauthorised operating methods

The operating safety of the pump delivered is only guaranteed for proper usage as detailed in section 1 of the operating instructions. All values must neither exceed nor fall below the limit values given in the catalogue or data sheet.

Transport and interim storage

ATTENTION! The pump may only be transported in the wooden packaging provided. The pump must be protected against moisture, frost and physical damage.

Product and accessory description

4.1 Pump description

The VC pumps are vertical, single-stage circulating pumps with a half-open multi-channel impeller and pressure pipe connections running parallel to the pump shaft. The pump and motor are connected via a rigid stay pipe. An inlet filter is built into the pump foot. The motor is held in place using lubricated, lowmaintenance antifriction bearings; the pump shaft is held in place using friction bearings lubricated using the pumping

medium. The stop-adjustable float switch automatically ensures correct operation of the pump.

VC 32: switch on motor terminal box (Fig. 1, pos. 1) VC 40: separately mounted switch box (Fig. 2, pos. 1)

4.2 Products delivered

- VC pump complete with built-in float switch
- Installation and operating instructions

Accessories

Accessories must be ordered separately.

- Non-return valve
- Shut-off fittings
- Pipe screws
- Flange / counter flange

Assembly / Installation

Assembly (Fig. 1, 2) 5.1

Place the pump complete with built-in float switch upright in a shaft or other container on a flat, fixed surface.

- Maximum shaft depth 950 mm, motor and switching appliance must not be flooded. Minimum shaft dimensions 450 x
- The pump must be installed in a frost-free place.
- The shaft must be free from coarse solids (e.g. building rubble) prior to installation and commissioning.
- The float switch must be free to move unhindered.
- Fixing the float switch connecting rod (Fig. 3):
 - Place the indented end of the float rod into the hole provided on the switching lever horizontally (A) then move down to a vertical position (B).
 - Pull the switching lever and float rod up to the highest switch setting and gently bend the lower end of the rod into the hole provided in the pump housing.

To set the pump switch-on and switch-off points, adjust the fixing screws on the float stops.

- The VC 40 pump can be fixed into 2 horizontal shaft covering halves (Fig. 2, pos. 2) using a fixing flange (Fig. 4).

- ATTENTION! Always ensure that the connection cable does not become damaged when lowering the pump into the shaft.
 - Do not use the cable to lower the pump!
 - Vertical position only.
 - For outdoor assembly, all piping, valves, electronic controls, etc. must be suitably protected from frost and all other damage.

5.2 Hydraulic connections

- Switch the electricity supply off before connecting the pressure pipe to the pump.
 - Diameter of the pressure pipe connection VC 32: 1"

VC 40: 11/2"

- Connect the pump ensuring that
 - the weight of the pump is not bearing down on the pressure pipe connection
 - the load of the pressure pipe does not act on the connecting sleeve.
- The customer must ensure the pipe weights are supported.

Electrical connection

The electrical connection should be made by a qualified electrician. Current national regulations must be observed (e.g. VDE regulations in Germany).

- Ensure all electrical installations comply with the IEC 364 standard and that the mains supply is equipped with a residual current operated circuit-breaker of max. 30 mA.
- Mains fuse 16 A, time-lag

- Ensure that the increased starting currents of
 - 1~Motor, 4 to 5 times the nominal motor current, and
 - 3~Motor, 6 to 7 times the nominal motor current, are drawn off by the mains network.
- The electrical connection must be made before the pump is lowered into the shaft.
- Check that the mains current and voltage comply with the data on the rating plate.
- The pump must be earthed in compliance with regulations.
- Assignment of supply terminals (Fig. 5) (Fig. 6):

Single-phase motor

- VC 32: 1~230 V

Connect the electricity directly to the motor terminal box: N, L1, PE: connector cables required: 3 x 0.75 mm² Factory-assigned: 1 = black, 2.3 = white, 4 = red, 5 = yellow, 6 = blue, 7 = brown, 8 = green

Three-phase motor

VC 32: 3~230 V

Connect the electricity directly to the motor terminal box: L1, L2, L3, PE connector cables required: 4 x 0.75 mm²

- VC 40: 3~400 V

Connect the electricity directly to the motor terminal box: L1, L2, L3, PE connector cables required: 4 x 1.55 mm²

- For three-phase motors it is advisable to install a motor safety switch. Set the nominal motor current in accordance with the rating plate data.
- **Direction of rotation** (only for three-phase motors) The correct direction of rotation must be tested before the pump is submerged. The correct direction of rotation is indicated by a directional arrow on the motor.
 - If the direction of rotation is incorrect, 2 of the mains connection phases must be switched.

Operation

The pump must never be used to empty a swimming pool while there are still bathers in the water.

Filling and ventilating the unit

- The water level may not be reduced below the minimum immersion depth of the pump housing. The level control must be set at the minimum level: Fig. 1/2.
- The pump can only be filled and bled when the pump housing is fully immersed.
- Always ensure the float can move freely.

6.2 Start of pump operation

- Start the pump and ensure that the built-in shut-off fittings are open.

ATTENTION! Do not allow the pump to run dry! The pumping liquid lubricates the friction bearing.

- The float switch will now automatically ensure correct operation of the pump.
- Check the current consumption. The current consumption must comply with the data on the rating plate.

Maintenance

Prior to maintenance or repair work, turn off the pump and ensure that it is not turned on by unauthorised personnel.

This pump requires practically no maintenance at all. Should the impeller become blocked with solids, proceed as

- Detach the pump from the pressure pipe connection.

ENGLISH

- Remove the pump from the shaft and rinse it carefully using clear water before touching it (never underestimate the risk of infection!).
- Set the pump down, loosen the 3 filter fixing screws, remove the base and disassemble the cover.
- If possible do not remove the impeller to clean it.

8 Problems, Causes and Remedies

Problems	Causes	Remedies
8.1. Pump does not run	a) Electricity supply cut off	a) Check wires If necessary replace fuses. Switch on the circuit breaker and mains switch.
	b) Winding or cable damaged	b) Check cable resistance and if ecessary replace cable. Attention: when replacing, match the phases up exactly according to colour.
	c) Rotor blocked (motor buzzing) d) Motor defect	c) Clean the impeller (see Chapter 7). d) Replace the motor
8.2. Pump works insufficiently or not at all	a) Inlet filter blocked b) Wrong direction of rotation c) Pressure pipe blocked d) Impeller blocked by foreign body e) Shut-off valve on outlet side closed or not fully open.	a) Remove and clean filter b) Interchange two of the mains connection phases c) Remove and clean piping d) See 8.1-c e) Check shut-off valve and open where necessary
8.3. Pump stops	a) Electronic installation fault b) Pump blocked c) Pump sluggish	a) Check entire electronic installation b) See 8.1-c c) See 8.1-c

If no solution can be found, please contact your plumbing and heating specialist or your nearest WILO customer services team or representative.



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* 14 Cent pro Minute aus dem deutschen Festnetz der T-Com