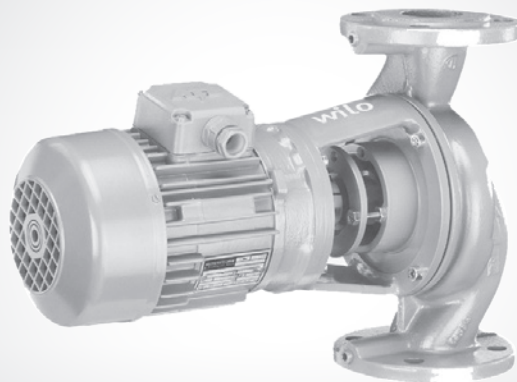


Wilo-VeroLine-IPH-O, IPH-W



- de** Einbau- und Betriebsanleitung
- en** Installation and operating instructions
- fr** Notice de montage et de mise en service
- nl** Inbouw- en bedieningsvoorschriften

Fig. 1:

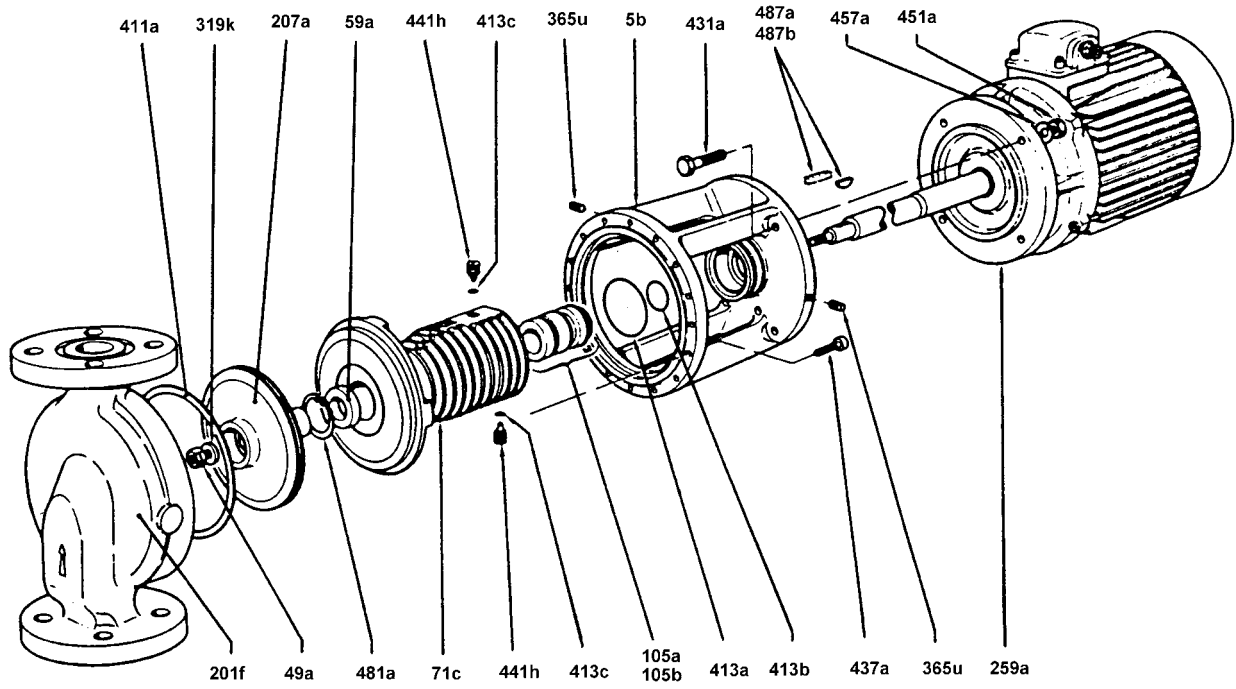


Fig. 2:

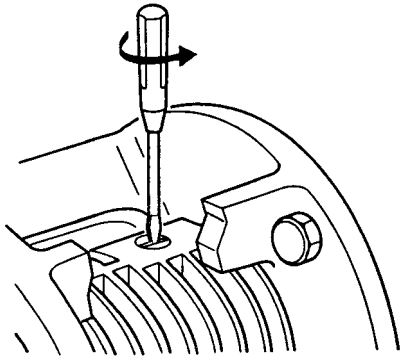


Fig. 3:

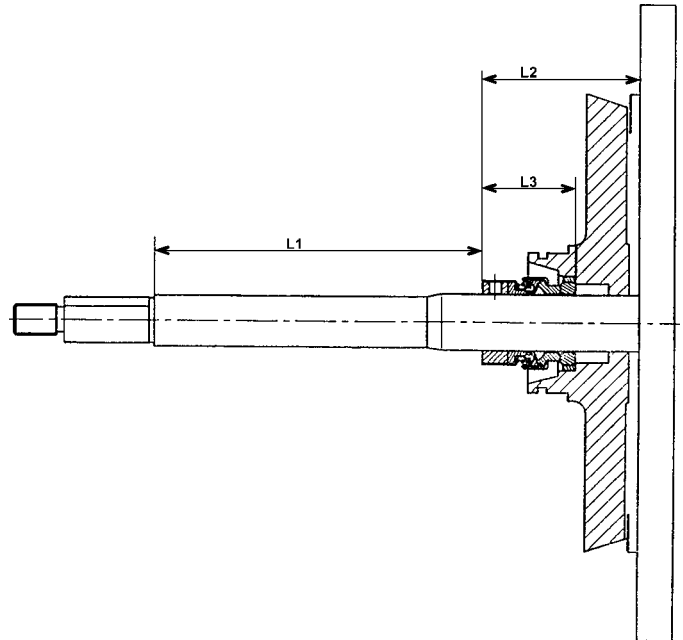
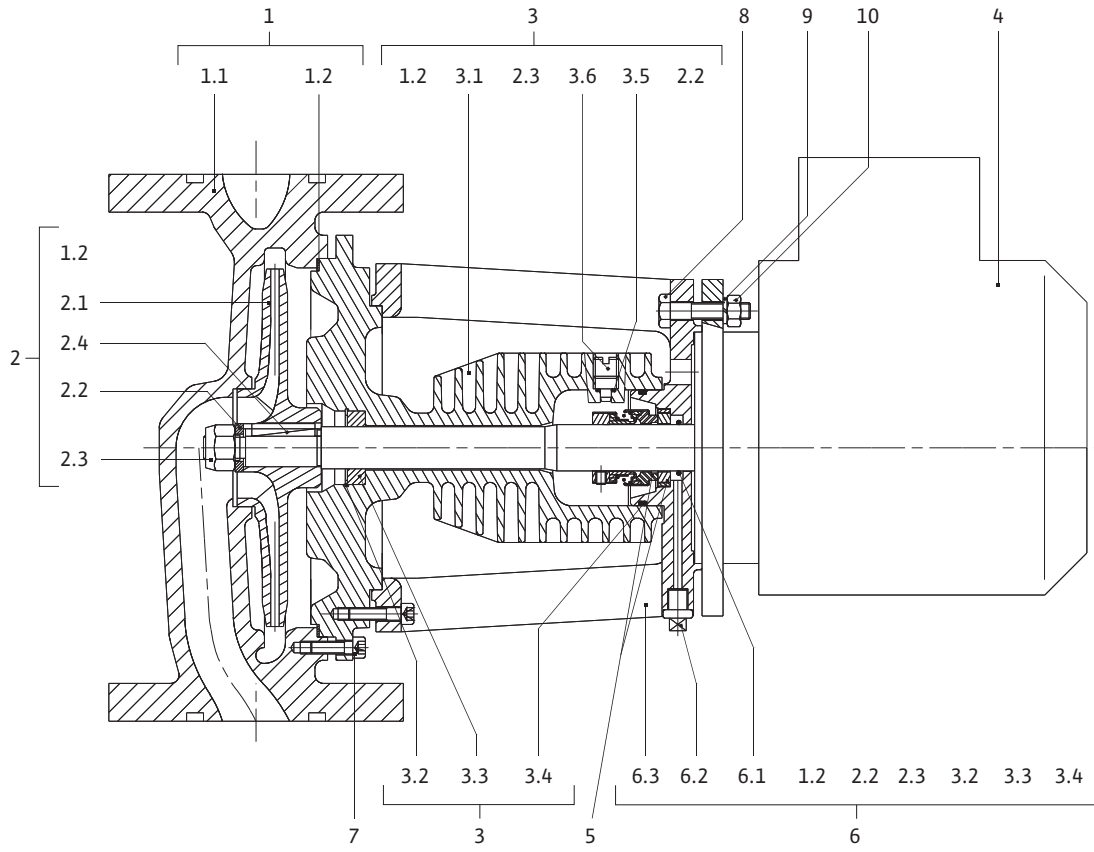


Fig. 4:



1 General

About this document

The language of the original operating instructions is German. All other languages of these instructions are translations of the original operating instructions.

These installation and operating instructions are an integral part of the product. They must be kept readily available at the place where the product is installed. Strict adherence to these instructions is a precondition for the proper use and correct operation of the product.

These installation and operating instructions correspond to the relevant version of the product and the underlying safety regulations and standards valid at the time of going to print.

EC declaration of conformity:

A copy of the EC declaration of conformity is a component of these operating instructions.

If a technical modification is made on the designs named there without our agreement or the declarations made in the installation and operating instructions on product/personnel safety are not observed, this declaration loses its validity.

2 Safety

These operating instructions contain basic information which must be adhered to during installation, operation and maintenance. For this reason, these operating instructions must, without fail, be read by the service technician and the responsible specialist/operator before installation and commissioning.

It is not only the general safety instructions listed under the main point "safety" that must be adhered to but also the special safety instructions with danger symbols included under the following main points.

2.1 Indication of instructions in the operating instructions

Symbols



General danger symbol



Danger due to electrical voltage



NOTE

Signal words

DANGER!

Acutely dangerous situation.

Non-observance results in death or the most serious of injuries.

WARNING!

The user can suffer (serious) injuries. "Warning" implies that (serious) injury to persons is probable if this information is disregarded.

CAUTION!

There is a risk of damaging the product/unit. "Caution" implies that damage to the product is likely if this information is disregarded.

NOTE

Useful information on handling the product. It draws attention to possible problems.

- Information that appears directly on the product, such as
- Direction of rotation arrow
 - Rating plate
 - Warning sticker
- Must be strictly complied with and kept in legible condition.
- 2.2 Personnel qualifications**
- The installation, operating and maintenance personnel must have the appropriate qualifications for this work. Area of responsibility, terms of reference and monitoring of the personnel are to be ensured by the operator. If the personnel are not in possession of the necessary knowledge, they are to be trained and instructed. This can be accomplished if necessary by the manufacturer of the product at the request of the operator.
- 2.3 Danger in the event of non-observance of the safety instructions**
- Non-observance of the safety instructions can result in risk of injury to persons and damage to the environment and the product/unit. Non-observance of the safety instructions results in the loss of any claims to damages.
- In detail, non-observance can, for example, result in the following risks:
- Danger to persons from electrical, mechanical and bacteriological influences
 - Pollution of the environment due to leakage of hazardous materials
 - Damage to property
 - Failure of important product/unit functions
 - Failure of required maintenance and repair procedures
- 2.4 Safety consciousness on the job**
- The safety instructions included in these installation and operating instructions, the existing national regulations for accident prevention together with any internal working, operating and safety regulations of the operator are to be complied with.
- 2.5 Safety instructions for the operator**
- This appliance is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety or where they receive instructions from such a person as to how the device is to be operated.
- Children should be supervised to ensure that they do not play with the appliance.
- If hot or cold components on the product/the unit lead to hazards, local measures must be taken to guard them against touching.
 - Guards protecting against touching moving components (such as the coupling) must not be removed whilst the product is in operation.
 - Leakages (e.g. from the shaft seals) of hazardous fluids (which are explosive, toxic or hot) must be led away so that no danger to persons or to the environment arises. National statutory provisions are to be complied with.
 - Danger from electrical current must be eliminated. Local directives or general directives (e.g. IEC, VDE etc.) and local energy supply companies must be adhered to.
 - The area near the pump unit must be kept free of contaminants to eliminate the chance of a fire or an explosion due to contact of contaminants with hot unit surfaces.
 - The instructions in this manual apply to the standard version of the product. This book does not discuss all details or frequent deviations. Additional information can be requested from the manufacturer, if necessary.
 - If there are any doubts about the function or setting of parts of the product, contact the manufacturer immediately.

2.6 Safety instructions for inspection and installation work

The operator must ensure that all installation and maintenance work is carried out by authorised and qualified personnel who are sufficiently informed from their own detailed study of the operating instructions.

Work to the product/unit must only be carried out when at a standstill. It is mandatory that the procedure described in the installation and operating instructions for shutting down the product/unit are complied with.

Immediately on conclusion of the work, all safety and protective devices must be put back in position and/or recommissioned.

2.7 Unauthorised modification and manufacture of spare parts

Unauthorised modification and manufacture of spare parts will impair the safety of the product/personnel and will make void the manufacturer's declarations regarding safety.

Modifications to the product are only permissible after consultation with the manufacturer. Original spare parts and accessories authorised by the manufacturer ensure safety. The use of other parts will absolve us of liability for consequential events.

2.8 Improper use

The operating safety of the supplied product is only guaranteed for conventional use in accordance with Chapter 4 of the operating instructions. The limit values must on no account fall under or exceed those specified in the catalogue/data sheet.

3 Transport and interim storage

3.1 Shipping

The pump is enclosed in a box or lashed to a pallet ex works and is protected against dirt and moisture.

Transport inspection

On arrival, inspect the pump immediately for any transport damage. If damage is detected, the necessary steps involving the forwarding agent must be taken within the specified period.

Storage

Before installation and/or during interim storage, the pump must be kept dry, frost-free and protected from mechanical damage.



CAUTION! Risk of damage due to incorrect packaging!
If the pump is transported again at a later time, it must be packaged so that it cannot be damaged during transport.

- Use the original packaging for this, or choose equivalent packaging.

3.2 Transport for installation/dismantling purposes



WARNING! Risk of injury!
Improper transport can lead to personal injury.

- The pump must be transported using approved load bearing equipment. This is to be attached to the pump flanges and, if necessary, to the outer motor diameter (safety device to protect against slipping required!).
- Transport eyes can be screwed into the threaded holes provided on the motor for that purpose. These eyes must only be used for guiding while bearing the load (fig. 5).
- To lift with a crane, the pump must be supported by suitable belts, as shown. Place loops around the pump which tighten from the pump's own weight.
- If transport eyes are attached to the motor, they are only approved for transporting the motor, not the complete pump (fig. 6).

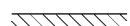
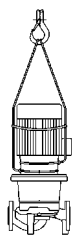


Fig. 5: Attaching the transport ropes

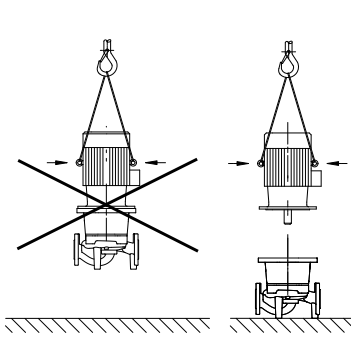


Fig. 6: Transporting the motor (schematic diagram)



WARNING! Risk of injury due to the weight of the pump!
The pump itself and pump parts can be extremely heavy. Falling parts pose a risk of cuts, crush injuries, bruises or impacts, which may lead to death.

- Always use suitable lifting equipment and secure parts against falling.
- Never stand underneath a suspended load.
- Wear protective clothing for all work (safety shoes, helmet, protective gloves and protective goggles).

4 Intended use

Purpose

Glanded pumps in the IPH series are used specifically for pumping hot water and hot liquids in the fields of application specified below.

Fields of application

They may be used for:

- Hot-water heating systems,
- District heating systems,
- Industrial circulation systems,
- Heat carrier circuits.

Contraindications

Typical installation locations are technical rooms within the building with other domestic installations. Installing the device directly in other used rooms (residential and work rooms) is not intended.



CAUTION! Risk of material damage!
Unpermitted substances in the fluid can destroy the pump. Abrasive solids (e.g. sand) increase pump wear.
Pumps without an Ex rating are not suitable for use in potentially explosive areas.

- The intended use includes complying with these instructions.
- Any other use is considered to be outside the intended use.

5 Product information

5.1 Type key

The type key consists of the following elements:

For example:	IPH-O 65/125-2.2/2
IP	Flange-end pump as In-line Pump
...H-O	Heat transfer media (heat transfer oil)
...H-W	Superheated water
65	Nominal diameter DN of the pipe connection
125	Nominal impeller diameter [mm]
2.2	Rated power P_2 [kW]
2	Number of motor poles

5.2 Technical data

Property	Value	Remarks
Rated speed	2900 or 1450 rpm	
Nominal diameters DN	IPH-O: 20 to 80 IPH-W: 20 to 80	
Permissible min./max. fluid temperature	IPH-O: +20 °C to +350 °C IPH-W: -10 °C to +210 °C	
Max. ambient temperature	+40 °C	
Maximum permissible operating pressure	IPH-O: 9 bar at max. +350 °C IPH-W: 23 bar at max. +210 °C	
Insulation class	F	
Protection class	IP 55	
Pipe and pressure measurement connections	Tongue and groove flange PN25 (in accordance with DIN EN 1092-1)	Standard version
Approved fluids	Heating water according to VDI 2035 Water/glycol mixture up to 40 Vol.-%	Standard version
	Heat transfer oil	Standard version
Electrical connection	3~400 V, 50 Hz	Standard version
	3~230 V, 50 Hz	Alternative application for standard version (no additional charge)
Motor special version	Special voltage/frequency (on request)	Special version or auxiliary equipment (at additional charge)
Motor protection	Required onsite	Standard version
Speed control	Wilo control devices	Standard version

When ordering spare parts, make sure to state all the information given on the pump and motor rating plates.

Fluids

If water/glycol mixtures with up to 40% glycol (or fluids with a different velocity to pure water) are used, the pump data must be corrected to match the higher viscosity, regardless of the percentage mixture relationship and the fluid temperature. The motor power must also be adjusted if necessary.

- Only use mixtures with corrosion inhibitors. The respective manufacturer's instructions are to be observed.
- The fluid must be sediment-free.
- Wilo's approval must be obtained for the use of other fluids.



NOTE
Always read and follow the material safety data sheet for the fluid being pumped.

5.3 Scope of delivery

- IPH-W/O pump
- Installation and operating instructions
- Counter flange and seals

5.4 Accessories

Accessories must be ordered separately:

- PTC thermistor tripping unit for switch cabinet installation
- For a detailed list, consult the catalogue/price list.

6 Description and function

6.1 Description of the product

The single-stage centrifugal pump is equipped with a directly flanged motor and a one-piece shaft (monobloc design). The steel pump housing has an in-line construction, i.e. the suction and pressure ports lie along a straight line. The pump is designed as an in-line pump. The pump weight and the position of its centre of gravity enable all pump sizes to be attached directly to the piping. This requires the pipe to be appropriately secured to the structure. The pump shaft is sealed by a mechanical seal for temperatures of up to +210 °C (IPH-W) or +350 °C (IPH-O). It is cooled by means of the housing cover's cooling fins.

In conjunction with a control device (Wilo-VR system or Wilo-CC system), the power of the pumps can be continuously controlled. This allows optimisation of the pump output for the demands of the installation and economically efficient pump operation.

7 Installation and electrical connection

Safety



DANGER! Risk of fatal injury!

Incorrect installation and improper electrical connections can be life-threatening.

- **Have the electrical connections established by approved electricians only, in compliance with the applicable regulations!**
- **Adhere to regulations for accident prevention!**



DANGER! Risk of fatal injury!

Failure to install safety devices on the motor, terminal box or on the coupling can cause electrical shock or contact with rotating parts, potentially resulting in life-threatening injuries.

- **Before commissioning and after maintenance work, all safety devices (such as terminal box covers or coupling covers) that were removed must be reinstalled.**
- **Keep a safe distance during commissioning.**
- **Always wear protective clothing, protective gloves and protective goggles when working.**



WARNING! Risk of injury due to the weight of the pump!

The pump itself and pump parts can be extremely heavy. Falling parts pose a risk of cuts, crush injuries, bruises or impacts, which may lead to death.

- **Always use suitable lifting equipment and secure parts against falling.**
- **When performing installation and maintenance work, protect the pump components against falling.**
- **Never stand underneath a suspended load.**



CAUTION! Risk of material damage!

Danger of damage due to incorrect handling.

- **Have the pump installed by qualified personnel only.**

7.1 Installation

Preparation

- The pump should only be installed after completion of all welding and soldering work and, if necessary, flushing of the pipe system. Dirt can cause the pump to fail.
- Standard pumps must be protected from the weather and installed in a frost/dust-free, well-ventilated environment which is not potentially explosive.
- Install the pump in a place that is easy to access so that subsequent inspections, maintenance (e.g. mechanical seal) or replacement is easily possible.

Positioning/alignment

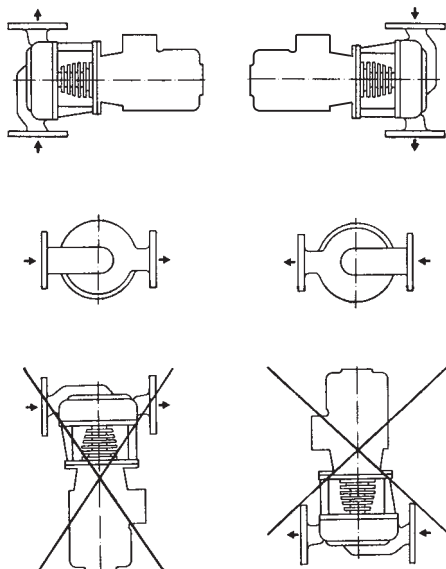


Fig. 7: Permitted installation positions

- A hook or eyelet with the corresponding bearing capacity is to be installed vertically above the pump (for the total weight of the pump: see catalogue/data sheet), to which hoisting gear or similar aids can be attached when conducting maintenance or repair work on the pump.



CAUTION! Risk of material damage!

Danger of damage due to incorrect handling.

- **Only use lifting eyes on the motor for carrying the weight of the motor and not for carrying the entire pump.**
- **Lift the pump using permitted load-bearing equipment (see chapter 3 "Transport and interim storage" on page 21).**
- Minimum distance between a wall and the fan guard of the motor: 30 cm.
- The suction and pressure flange are both marked with a cast arrow to indicate the flow direction. The direction of flow must correspond to the direction arrow on the flanges.
- Shut-off devices must be installed without fail in front of and behind the pump in order to avoid the entire system being drained when the pump is inspected or exchanged.
- Between the lower shut-off device and the pump, a drain cock must be fitted for draining the pump during dismantling.
- When using the pump in air-conditioning or cooling systems, the condensate which accumulates in the lantern can be discharged specifically via the existing holes. The lantern has an opening on the underside which allows a drain pipe for condensation water to be connected.
- The pipes and pump must be free of mechanical stress when installed.
- All installation positions except for "motor facing down" are allowed (see Installation positions fig. 7).
- The air vent valve or a venting screw (fig. 1, Item 441h) must always face upwards.



NOTE

The motor terminal box must not face downward or water may enter into it. If necessary, the motor housing can be rotated after loosening the fastening screws so that the terminal box is pointing upwards. This also ensures that one of the venting screws (fig. 1, Item 441h) is located at the highest possible point.



CAUTION! Risk of material damage!

Danger of damage due to incorrect handling.

- **Do not damage the housing flat gasket.**



NOTE

When pumping out of a tank, ensure that the liquid level is always high enough above the suction port of the pump so that the pump never runs dry. The minimum intake pressure must be observed.



NOTE

In the case of insulated systems, only the pump housing may be insulated, not the lantern and motor.

- Two opposite holes (fig. 1, Item 365u) on the flange on the motor side of the lantern make it possible (depending on the installation method) to identify leakages in the mechanical seal. These holes must not be blocked (remove plugs); provide a visible outlet for pipework.

7.2 Electrical connection

Safety



DANGER! Risk of fatal injury!

An improper electrical connection can result in a fatal electrical shock.

- **Have the electrical connection established by an electrician approved by the local electricity supplier only and in accordance with local regulations.**
- **Observe the installation and operating instructions for the accessories!**



WARNING! Risk of mains overload!

An inadequate mains design can lead to system failures and even to cable fires due to mains overload.

- **When designing the mains, with regard to the cable cross-sections and fuses, give special consideration to the fact that short-term simultaneous operation of all pumps is possible in multi-pump operation.**

Preparation/notes

- The electrical connection must be established via a fixed power cable, which is provided with a plug device or an all-pole switch with a contact opening width of at least 3 mm (in accordance with VDE 0730 Part 1 in Germany).
- The connection line is to be installed in such a way that it cannot under any circumstances come into contact with the pipe and/or the pump and motor housing.
- In order to ensure drip protection and strain relief on the threaded cable connection, cables are to be used which have a sufficient outer diameter and are to be screwed sufficiently tightly. To get rid of any drips that accumulate, the cables are to be bent into a drain loop near the threaded cable connection.
- Non-assigned threaded cable connections must remain sealed with the plugs provided by the manufacturer.
- When pumps are used in systems with water temperatures above 90 °C, a suitably heat-resistant power cable must be used.
- Check the current type and voltage of the mains connection.
- Observe the rating plate information for the pump. The current type and voltage of the mains connection must correspond to the details on the rating plate.
- Fuse protection on mains side: depending on the motor's rated current and the activation type.
- Earth the pump/installation in accordance with the regulations.

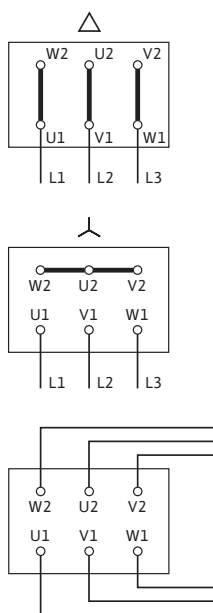


Fig. 8: Mains connection

- The use of a motor protection switch is recommended.
Setting the motor protection switch:
 - Direct starting:
Set according to the rated motor current specified on the name plate of the motor.
 - Y-Δ start:
If the motor protection switch is switched in the supply line to a Y-Δ contactor combination, set the switch as for direct starting. If the motor protection switch is switched in a thread of the motor supply line (U1/V1/W1 or U2/V2/W2), set the motor protection switch to 0.58 x rated motor current.
- The mains connection to the terminal board is dependent on the motor power P_2 , the mains voltage and the start-up type. The recommended switching arrangement of the connection bridges in the terminal box should be taken from the following table and fig. 8.
- When connecting automatic switching devices, observe the relevant installation and operating instructions.

Start-up type	Mains voltage 3~230 V	Mains voltage 3~400 V
Direct	Δ-circuit (fig. 8 top)	Y-circuit (fig. 8 centre)
Y-Δ starting	Remove connection bridges (fig. 8 below)	not possible

8 Commissioning/decommissioning

Safety



DANGER! Risk of fatal injury!

Failure to install safety devices on the motor, terminal box or on the coupling can cause electrical shock or contact with rotating parts, potentially resulting in life-threatening injuries.

- Before commissioning and after maintenance work, all safety devices (such as terminal box covers or coupling covers) that were removed must be reinstalled.
- Keep a safe distance during commissioning.
- Always wear protective clothing, protective gloves and protective goggles when working.



WARNING! Risk of burns or freezing to the pump when body parts come into contact with the pump!

Depending on the pump or system operating conditions (fluid temperature), the entire pump can become very hot or very cold.

- Keep a safe distance during operation!
- In the case of high water temperatures and system pressures, allow the pump to cool down before all work.
- Always wear protective clothing, protective gloves and protective goggles when working.

8.1 Commissioning



NOTE

Depending on the pump's installation position, one of the venting screws is not necessarily at the highest point (fig. 1, Item 441h and fig. 2). In this case, you have to loosen the socket screws on the pump housing and rotate the "lantern and motor" unit so that one of the venting screws is at the highest point.



CAUTION! Risk of damaging the pump!

- When rotating the "lantern and motor" unit, take care not to damage the housing's flat gasket.



CAUTION! Risk of damaging the pump!

- Protect the terminal box from any water escaping when venting.
- Close the stop valve on the pressure side.

- Open the stop valve on the suction side.
- Fill the system with water and vent it.
- Vent the pump using one of the venting screws until fluid comes out. Then close the venting screw again.



WARNING! Danger due to extremely hot or extremely cold pressurised fluid!

Depending on the temperature of the fluid and the system pressure, when the venting screw is opened completely, extremely hot or extremely cold fluid in liquid or vapour form may escape or shoot out at high pressure.

- Always exercise caution when opening the venting screw.



CAUTION! Risk of damaging the pump!

Running dry will destroy the mechanical seal.

- **Make sure that the pump does not run dry.**
- Switch on briefly and check whether the direction of rotation corresponds to the arrow on the pump housing. If the direction of rotation is incorrect, proceed as follows:
 - Swap the 2 phases on the motor terminal board (e.g. L1 for L2).
- Switch on the pump.
- Open the stop valve on the pressure side.
- Completely vent the pump and unit again.



NOTE

To avoid premature wear and resultant defects in the pump, a minimum volume flow of 10–15% of the pump's rated volume flow must be guaranteed.



NOTE

When pumping out of a tank, ensure that the liquid level is always high enough above the suction port of the pump so that the pump does not run dry. The minimum intake pressure must be observed.



WARNING! Danger of injury!

If the pump/system is installed improperly, liquid may be ejected during commissioning. Individual components may also become loose.

- **Keep a safe distance from the pump during commissioning.**
- **Wear protective clothing and gloves.**

8.2 Decommissioning

- Close both stop valves. If necessary, drain the pump.
- Prime and vent the pump before any recommissioning.

9 Maintenance

Safety

Have maintenance and repair work carried out by qualified skilled personnel only!

It is recommended to have the pump serviced and checked by Wilo after-sales service.



DANGER! Risk of fatal injury!

There is risk of fatal injury from electrical shock when working on electrical equipment.

- **Work on electrical equipment may only be done by electricians approved by the local electricity supplier.**
- **Before working on electrical equipment, switch it off and secure it against being switched on again.**
- **Follow the installation and operating instructions for the pump, level control device and other accessories.**

**DANGER! Risk of fatal injury!**

Failure to install safety devices on the motor, terminal box or on the coupling can cause electrical shock or contact with rotating parts, potentially resulting in life-threatening injuries.

- Before commissioning and after maintenance work, all safety devices (such as terminal box covers or coupling covers) that were removed must be reinstalled.
- Keep a safe distance during commissioning.
- Always wear protective clothing, protective gloves and protective goggles when working.

**WARNING! Risk of injury due to the weight of the pump!**

The pump itself and pump parts can be extremely heavy. Falling parts pose a risk of cuts, crush injuries, bruises or impacts, which may lead to death.

- Always use suitable lifting equipment and secure parts against falling.
- When performing installation and maintenance work, protect the pump components against falling.
- Never stand underneath a suspended load.

**DANGER! Risk of burns or freezing to the pump when body parts come into contact with the pump!**

Depending on the pump or system operating conditions (fluid temperature), the entire pump can become very hot or very cold.

- Keep a safe distance during operation!
- In the case of high water temperatures and system pressures, allow the pump to cool down before all work.
- Always wear protective clothing, protective gloves and protective goggles when working.

9.1 Mechanical seal

The mechanical seal is maintenance-free. There may be a slight amount of drip leakage during the running-in period. Once in a while, however, a visual inspection is required. If there is clearly detectable leakage, the seal is to be changed. Wilo offers a repair kit which contains the necessary parts for replacement.

9.2 Disassembling and dismantling the pump**9.2.1 Dismantling**

See fig. 1 for disassembling/dismantling the pump:

- Disconnect the system from the power and secure it against being switched on.
- Close the check valves in front of and behind the pump.
- Drain the pump.

**WARNING! Danger due to extremely hot or extremely cold pressurised fluid!**

Depending on the temperature of the fluid and the system pressure, when the venting screw is opened completely, extremely hot or extremely cold fluid in liquid or vapour form may escape or shoot out at high pressure.

- Take extra care when draining the unit.
- Loosen the screws (437a) on the flange between the pump and the lantern (5b) and remove the motor, together with the impeller and lantern, from the pump housing. The pump housing (201f) remains in its installed position.
- Store the housing seal (411a) in a safe place.
- Loosen the impeller nut (49a) and remove the impeller disc (319k), impeller (207a) and key (487b).
- Remove the housing cover (71c), circlip (481a) and radial bearing (59a).



CAUTION! Risk of material damage!
Danger of damage due to incorrect handling.

- **When changing the mechanical seal, you also have to replace the radial bearing.**
- Remove the rotating part of the mechanical seal (105b) from the shaft by loosening the set screws (hexagon socket).
- Separate the lantern (5b) from the motor flange and remove the static part of the mechanical seal (105a) together with the seal rings (413a and 413b).
- Clean all the components, tight seats and sealing surfaces thoroughly and check for wear.

9.2.2 Installation

To assemble the unit, follow the dismantling steps in reverse order.



NOTE
 If the pump has been dismantled, it is a good idea to replace the bearing, mechanical seal and seal rings with new parts.



NOTE
 When tightening screw connections in conjunction with the work described in the following: Observe the screw tightening torque for the thread type (see section “Screw tightening torques” on page 30).



NOTE
 If you replace the mechanical seal, comply with installation dimension L2 as per fig. 3.



NOTE
 If it is not possible to check dimension L2 using standard measuring means, you have to determine dimension L1 on the old part from the shaft end to the mechanical seal. Then transfer this dimension L1 to the new part so that you can then install the mechanical seal on the new shaft.

	Motor power		
	P ₂ < 1 kW	P ₂ ≥ 1 kW	P ₂ ≥ 4 kW
L1 [mm]	107 ± 0.3	129 ± 0.3	129 ± 0.3
L2 [mm]	52 ± 0.6	52 ± 0.6	62 ± 0.6
L3 [mm]	37 +0.7/-0.6	37 +0.7/-0.6	37 +0.7/-0.6

Screw tightening torques

Screw connection		Tightening torque Nm ± 10 %	Installation instructions
Heat sink — pump housing	M6x25	25	-
	M8x30	35	
Lantern — heat sink	M6x20	25	-
Lantern — motor	M8x40 M8-8 nut Washer	25	-
	M12x50 M12-8 nut Washer	60	-
Impeller — shaft	M8 nut	25	-
	M12x1.25 nut	60	
	M8 screw	12	

10 Faults, causes and remedies

Have faults remedied by qualified personnel only! Observe the safety instructions in chapter 9.2 “Disassembling and dismantling the pump” on page 29.

- If the malfunction cannot be rectified, consult a specialist technician or the nearest Wilo customer service or representative office.

Fault	Cause	Remedy
Pump does not start or stops working	Pump blocked	Disconnect motor from power supply, remove cause of blockage; if motor blocked, overhaul/replace motor/motor impeller unit
	Cable terminal loose	Tighten all terminal screws
	Fuses defective	Check fuses; replace faulty fuses
	Motor damaged	Have the motor checked by Wilo customer service or a specialised service centre and serviced if necessary
	Motor protection switch has triggered	Throttle the pump to the rated volume flow on the pressure side
	Motor protection switch set incorrectly	Set the motor protection switch to the correct rated current as shown on the rating plate.
	Motor protection switch affected by excessive ambient temperature	Move the motor protection switch or protect it using thermal insulation
Pump runs at reduced output	Incorrect direction of rotation	Check direction of rotation, change if necessary
	Stop valve on the pressure side throttled	Slowly open the stop valve
	Air in the suction line	Seal leaks at the flanges; vent
Pump making noises	Insufficient supply pressure	Increase supply pressure, observe minimum pressure at the suction port, check slide valve and filter on the suction side and clean if need be
	Motor has bearing damage	Have the pump checked by Wilo after-sales service or a specialised service centre and repaired if necessary

11 Spare parts

Spare parts may be ordered via a local specialist and/or Wilo after-sales service.

To avoid queries and incorrect orders, all data of the rating plate should be submitted for each order.



CAUTION! Risk of material damage!

Trouble-free pump operation can only be guaranteed when original spare parts are used.

- Only use original Wilo spare parts.
 - Each component is identified in the table below.
- Information to be provided when ordering spare parts:**
- Spare part number
 - Name/description of the spare part
 - All data on the pump and motor rating plate

Spare parts

For the allocation of assemblies, see fig. 4.

No.	Part	Details
1	Pump housing (set) with:	
1.1		Pump housing
1.2		Flat gasket
2	Impeller (set) with:	
1.2		Flat gasket
2.1		Impeller
2.2		Disc
2.3		Nut
2.4		Key
3	Cooling housing (set) with:	
1.2		Flat gasket
2.2		Disc
2.3		Nut
3.1		Cooling housing
3.2		Circlip
3.3		Retaining ring
3.4		O-ring
3.5		O-ring
3.6		Screw
4	Motor	
5	Mechanical seal (set)	Nut
6	Intermediate piece (set) with:	Locking disc
1.2		Flat gasket
2.2		Disc
2.3		Nut
3.2		Circlip
3.3		Retaining ring
3.4		O-ring
6.1		O-ring
6.2		Plug
6.3		Lantern
7	Fastening screw for pump housing/heat sink	
8	Fastening screw for motor/lantern	
9	Contact disc for motor/lantern	
10	Nut for motor/lantern	
	Counter flange (set) with:	
		Weld neck flange
		Flat gasket

12 Disposal

Proper disposal and recycling of this product prevents damage to the environment and risks to personal health.

Disposal in accordance with the regulations requires the product to be drained and cleaned.

Lubricants must be collected. The pump components are to be separated according to material (metal, plastic, electronics).

1. Use public or private disposal organisations when disposing of all or part of the product.
2. For more information on proper disposal, please contact your local council or waste disposal office or the supplier from whom you obtained the product.

Subject to change without prior notice!

D EG – Konformitätserklärung

GB EC – Declaration of conformity

F Déclaration de conformité CE

(gemäß 2006/42/EG Anhang II,1A und 2004/108/EG Anhang IV,2,
according 2006/42/EC annex II,1A and 2004/108/EC annex IV,2,
conforme 2006/42/CE appendice II,1A et 2004/108/CE appendice IV,2)

Hiermit erklären wir, dass die Bauart der Baureihe :

IPh

Herewith, we declare that the product type of the series:

Par le présent, nous déclarons que l'agrégat de la série :

(Die Seriennummer ist auf dem Typenschild des Produktes angegeben. /

The serial number is marked on the product site plate. /

Le numéro de série est inscrit sur la plaque signalétique du produit.)

in der gelieferten Ausführung folgenden einschlägigen Bestimmungen entspricht:

in its delivered state complies with the following relevant provisions:

est conforme aux dispositions suivantes dont il relève:

EG-Maschinenrichtlinie

2006/42/EG

EC-Machinery directive

Directives CE relatives aux machines

Die Schutzziele der Niederspannungsrichtlinie 2006/95/EG werden gemäß Anhang I, Nr. 1.5.1 der Maschinenrichtlinie 2006/42/EG eingehalten.

The protection objectives of the low-voltage directive 2006/95/EC are realized according annex I, No. 1.5.1 of the EC-Machinery directive 2006/42/EC.

Les objectifs protection de la directive basse-tension 2006/95/CE sont respectées conformément à appendice I, n° 1.5.1 de la directive CE relatives aux machines 2006/42/CE.

Elektromagnetische Verträglichkeit – Richtlinie

2004/108/EG

Electromagnetic compatibility – directive

Compatibilité électromagnétique – directive

Angewendete harmonisierte Normen, insbesondere:

EN 809

Applied harmonized standards, in particular:

EN 14121-1

Normes harmonisées, notamment:

EN 60034-1

Bei einer mit uns nicht abgestimmten technischen Änderung der oben genannten Bauarten, verliert diese Erklärung ihre Gültigkeit.

If the above mentioned series are technically modified without our approval, this declaration shall no longer be applicable.

Si les gammes mentionnées ci-dessus sont modifiées sans notre approbation, cette déclaration perdra sa validité.

Bevollmächtigter für die Zusammenstellung der technischen Unterlagen ist:

Olaf Kuhnt

Authorized representative for the completion of the technical documentation:

Nortkirchenstraße 100

Mandataire pour le complément de la documentation technique est :

44263 Dortmund

Germany

Dortmund, 30.10.2009

i. V. 
Erwin Prieß
Quality Manager

wilo

WILO SE

Nortkirchenstraße 100

44263 Dortmund

Germany

<p>NL EG-verklaring van overeenstemming Hiemede verklaren wij dat dit aggregaat in de geleverde uitvoering voldoet aan de volgende bepalingen: EG-richtlijnen betreffende machines 2006/42/EG De veiligheidsdoelstellingen van de laagspanningsrichtlijn worden overeenkomstig bijlage I, nr. 1.5.1 van de machinerichtlijn 2006/42/EG aangehouden.</p> <p>Elektromagnetische compatibiliteit 2004/108/EG</p>
Gebruikte geharmoniseerde normen, in het bijzonder: zie vorige pagina

<p>IT Dichiarazione di conformità CE Con la presente si dichiara che i presenti prodotti sono conformi alle seguenti disposizioni e direttive rilevanti: Direttiva macchine 2006/42/EG Gli obiettivi di protezione della direttiva macchine vengono rispettati secondo allegato I, n. 1.5.1 dalla direttiva macchine 2006/42/CE.</p> <p>Compatibilità elettromagnetica 2004/108/EG</p>
Norme armonizzate applicate, in particolare: vedi pagina precedente

<p>ES Declaración de conformidad CE Por la presente declaramos la conformidad del producto en su estado de suministro con las disposiciones pertinentes siguientes: Directiva sobre máquinas 2006/42/EG Se cumplen los objetivos en materia de seguridad establecidos en la Directiva de Baja tensión según lo especificado en el Anexo I, punto 1.5.1 de la Directiva de Máquinas 2006/42/CE.</p> <p>Directiva sobre compatibilidad electromagnética 2004/108/EG</p>
Normas armonizadas adoptadas, especialmente: véase página anterior

<p>PT Declaração de Conformidade CE Pela presente, declaramos que esta unidade no seu estado original, está conforme os seguintes requisitos: Directivas CEE relativas a máquinas 2006/42/EG Os objetivos de protecção da directiva de baixa tensão são cumpridos de acordo com o anexo I, nº 1.5.1 da directiva de máquinas 2006/42/CE.</p> <p>Compatibilidade electromagnética 2004/108/EG</p>
Normas harmonizadas aplicadas, especialmente: ver página anterior

<p>SV CE- försäkran Härmed förklarar vi att denna maskin i levererat utförande motsvarar följande tillämpliga bestämmelser: EG-Maskindirektiv 2006/42/EG Produkten uppfyller säkerhetsmålen i lågspänningsdirektivet enligt bilaga I, nr 1.5.1 i maskindirektiv 2006/42/EG.</p> <p>EG-Elektromagnetisk kompatibilitet – riktlinje 2004/108/EG</p>
Tillämpade harmoniserade normer, i synnerhet: se föregående sida

<p>NO EU-Overensstemmelseerklæring Vi erklærer hermed at denne enhet i utførelse som levert er i overensstemmelse med følgende relevante bestemmelser: EG-Maskindirektiv 2006/42/EG Lavspenningsdirektivets vernemål overholdes i samsvar med vedlegg I, nr. 1.5.1 i maskindirektiv 2006/42/EF.</p> <p>EG-EMV-Elektromagnetisk kompatibilitet 2004/108/EG</p>
Anvendte harmoniserte standarder, særlig: se forrige side

<p>FI CE-standardinmukaisuuslause Ilmoitamme täten, että tämä laite vastaa seuraavia asiaankuuluvia määräyksiä: EU-konodirektiivit: 2006/42/EG Pienjännitedirektiivin suojatavoitteita noudatetaan konodirektiivin 2006/42/EY liitteen I, nro 1.5.1 mukaisesti.</p> <p>Sähkömagneettinen soveltuvuus 2004/108/EG</p>
Käytetyt yhteensovitetut standardit, erityisesti: katso edellinen sivu.

<p>DA CE-overensstemmelseerklæring Vi erklærer hermed, at denne enhed ved levering overholder følgende relevante bestemmelser: EU-maskindirektiver 2006/42/EG Lavspændingsdirektivets mål om beskyttelse overholdes i henhold til bilag I, nr. 1.5.1 i maskindirektivet 2006/42/EF.</p> <p>Elektromagnetisk kompatibilitet: 2004/108/EG</p>
Anvendte harmoniserede standarder, særligt: se forrige side

<p>HU EK-megfelelősségi nyilatkozat Ezennel kijelentjük, hogy az berendezés megfelel az alábbi irányelveknek: Gépek irányelv: 2006/42/EK A kisfeszültségű irányelv védelmi előírásait a 2006/42/EK gépekre vonatkozó irányelv I. függelékének 1.5.1. sz. pontja szerint teljesíti.</p> <p>Elektromágnesség-összeférhetőség irányelv: 2004/108/EK</p>
Alkalmazott harmonizált szabványoknak, különösen: lásd az előző oldalt

<p>CS Prohlášení o shodě ES Prohlašujeme tímto, že tento agregát v dodaném provedení odpovídá následujícím příslušným ustanovením: Směrnice ES pro strojní zařízení 2006/42/ES Cíle týkající se bezpečnosti stanovené ve směrnici o elektrických zařízeních nízkého napětí jsou dodrženy podle přílohy I, č. 1.5.1 směrnice o strojních zařízeních 2006/42/ES.</p> <p>Směrnice o elektromagnetické kompatibilitě 2004/108/ES</p>
Použité harmonizační normy, zejména: viz předchozí strana

<p>PL Deklaracja Zgodności WE Niniejszym deklarujemy z pełną odpowiedzialnością, że dostarczony wyrób jest zgodny z następującymi dokumentami: dyrektywy maszynowej WE 2006/42/WE Zestawienie wymagań dyrektywy w niskonapięciowej zgodnie z załącznikiem I, nr 1.5.1 dyrektywy maszynowej 2006/42/WE.</p> <p>dyrektywą dot. kompatybilności elektromagnetycznej 2004/108/WE</p>
Stosowanymi normami zharmonizowanymi, a w szczególności: patrz poprzednia strona

<p>RU Декларация о соответствии Европейским нормам Настоящим документом заявляем, что данный агрегат в его объеме поставки соответствует следующим нормативным документам: Директивы ЕС в отношении машин 2006/42/EG Требования по безопасности, изложенные в директиве по низковольтному напряжению, соблюдаются согласно приложению I, № 1.5.1 директивы в отношении машин 2006/42/EG.</p> <p>Электромáгнитная устойчивость 2004/108/EG</p>
Используемые согласованные стандарты и нормы, в частности: см. предыдущую страницу

<p>EL Δήλωση συμμόρφωσης της ΕΕ Δηλώνουμε ότι το προϊόν αυτό ο' αυτή την κατάσταση παράδοσης ικανοποιεί τις ακόλουθες διατάξεις: Οδηγίες ΕΚ για μηχανήματα 2006/42/ΕΚ Οι απαιτήσεις προστασίας της οδηγίας χαμηλής τάσης τηρούνται σύμφωνα με το παράρτημα Ι, αρ. 1.5.1 της οδηγίας σχετικά με τα μηχανήματα 2006/42/ΕΓ.</p> <p>Ηλεκτρομαγνητική συμβατότητα ΕΚ-2004/108/ΕΚ</p>
Ενσωματωμένα χρησιμοποιούμενα πρότυπα, ιδιαίτερα: βλέπε προηγούμενη σελίδα

<p>TR CE Uygunluk Teyid Belgesi Bu cihazın teslim edildiği şekliyle aşağıdaki standartlara uygun olduğunu teyid ederiz: AB-Makina Standartları 2006/42/EG Aşağıdaki genilim yönetiminin koruma hedefleri, 2006/42/AT makine yönetimi Ek I, no. 1.5.1'e uygundur.</p> <p>Elektromanyetik Uyumluluk 2004/108/EG</p>
Kisimen kullanılan standartlar için: bkz. bir önceki sayfa

<p>RO CE-Declarație de conformitate Prin prezenta declarație am acest produs așa cum este livrat, corespunde cu următoarele prevederi aplicabile: Directiva CE pentru mașini 2006/42/EG Sunt respectate obiectivele de protecție din directiva privind joasa tensiune conform Anexei I, Nr. 1.5.1 din directiva privind mașinile 2006/42/CE.</p> <p>Compatibilitatea electromagnetică – directiva 2004/108/EG</p>
Standarde armonizate aplicate, îndeosebi: vezi pagina precedentă

<p>ET EÜ vastavusdeklaratsioon Käesolevaga tõendame, et see toode vastab järgmistele asjakohastele direktiividele: Masindirektiiv 2006/42/EÜ Madalpingedirektiivi kaitse-eesmärgid on täidetud vastavalt masinate direktiivi 2006/42/EÜ I lisa punktile 1.5.1.</p> <p>Elektromagnetilise ühilduvuse direktiiv 2004/108/EÜ</p>
Kohaldatud harmoneeritud standardid, eriti: vt eelmist lk

<p>LV EC - atbilstības deklarācija Ar šo mēs apliecinām, ka šis izstrādājums atbilst sekojošiem noteikumiem: Mašīnu direktīva 2006/42/EK Zemsprieguma direktīvas drošības mērķi tiek ievēroti atbilstoši Mašīnu direktīvas 2006/42/EK I pielikumam I, Nr. 1.5.1.</p> <p>Elektromagnētiskās savietojamības direktīva 2004/108/EG</p>
Piemēroti harmonizēti standarti, tai skaitā: skatīt iepriekšējo lappusi

<p>LT EB atitikties deklaracija Šiuo pažymima, kad šis gaminytis atitinka šias normas ir direktyvas: Mašinių direktyva 2006/42/EB Laikomasi žemos įtampos direktyvos keliamų saugos reikalavimų pagal Mašinių direktyvos 2006/42/EB I priedo 1.5.1 punktą.</p> <p>Elektromagnetinio suderinamumo direktyvų 2004/108/EB</p>
Pritaikytus vieningus standartus, o būtent: žr. ankstesniame puslapyje

<p>SK ES vyhlásenie o zhode Týmto vyhlasujeme, že konštrukcie tejto konštrukčnej série v dodanom vyhotovení vyhovujú nasledujúcim príslušným ustanoveniam: Stroje - smernica 2006/42/ES Bezpečnostné ciele smernice o nízkom napätí sú dodržované v zmysle prílohy I, č. 1.5.1 smernice o strojových zariadeniach 2006/42/ES.</p> <p>Elektromagnetická zhoda - smernica 2004/108/ES</p>
Používané harmonizované normy, najmä: pozri predchádzajúcu stranu

<p>SL ES – izjava o skladnosti Izjavljamo, da dobavljene vrste izdelbe te serije ustrezajo sledečim zadevnim določilom: Direktiva o strojih 2006/42/ES Cilji Direktive o nizkonapetostni opremi so v skladu s prilogo I, št. 1.5.1 Direktive o strojih 2006/42/EG doseženi.</p> <p>Direktiva o elektromagnetni združljivosti 2004/108/ES</p>
Uporabljeni harmonizirani standardi, predvsem: glejte prejšnjo stran

<p>BG EO-Декларация за съответствие Декларираме, че продуктът отговаря на следните изисквания: Машина директива 2006/42/EO Целите за защита на разпоредбата за ниско напрежение са съставени съгласно Приложение I, № 1.5.1 от Директивата за машини 2006/42/EC.</p> <p>Електромагнитна съвместимост – директива 2004/108/EO</p>
Хармонизирани стандарти: вж. предната страница

<p>MT Dikjarazzjoni ta' konformità KE B'dan il-mezz, niddikjaraw li l-prodotti tas-serje jissodisfaw id-dispożizzjonijiet relevanti li għejjin: Makkinarju – Direttiva 2006/42/KE L-oġġettivi tas-sigurtà tad-Direttiva dwar il-Vultaġġ Baxx huma konformi mal-Anness I, Nru 1.5.1 tad-Direttiva dwar il-Makkinarju 2006/42/KE.</p> <p>Kompatibbiltà elettromanjetika – Direttiva 2004/108/KE</p>
B'mod partikolari: ara l-paġna ta' qabel

<p>HR EZ izjava o skladnosti Ovim izjavljujemo da vrste konstrukcije serije u isporučenoj izvedbi odgovaraju sledećim važećim propisima: EZ smjernica o strojevima 2006/42/EZ Ciljevi zaštite smjernice o niskom naponu ispunjeni su skladno prilogu I, br. 1.5.1 smjernice o strojevima 2006/42/EZ.</p> <p>Elektromagnetna kompatibilnost – smjernica 2004/108/EZ</p>
Primijenjene harmonizirane norme, posebno: vidjeti prethodnu stranicu

<p>SR EZ izjava o uskladenosti Ovim izjavljujemo da vrste konstrukcije serije u isporučenoj verziji odgovaraju sledećim važećim propisima: EZ direktiva za mašine 2006/42/EZ Ciljevi zaštite direktive za niski napon ispunjeni su u skladu sa prilogom I, br. 1.5.1 direktive za mašine 2006/42/EZ.</p> <p>Elektromagnetna kompatibilnost – direktiva 2004/108/EZ</p>
Primenjeni harmonizovani standardi, a posebno: vidi prethodnu stranu

Wilo – International (Subsidiaries)

Argentina

WILO SALMSON
Argentina S.A.
C1295ABI Ciudad
Autónoma de Buenos Aires
T +54 11 4361 5929
info@salmson.com.ar

Australia

WILO Australia Pty Limited
Murrarie, Queensland,
4172
T +61 7 3907 6900
chris.dayton@wilo.com.au

Austria

WILO Pumpen
Österreich GmbH
2351 Wiener Neudorf
T +43 507 507-0
office@wilo.at

Azerbaijan

WILO Caspian LLC
1065 Baku
T +994 12 5962372
info@wilo.az

Belarus

WILO Bel IOOO
220035 Minsk
T +375 17 3963446
wilo@wilo.by

Belgium

WILO NV/SA
1083 Ganshoren
T +32 2 4823333
info@wilo.be

Bulgaria

WILO Bulgaria EOOD
1125 Sofia
T +359 2 9701970
info@wilo.bg

Brazil

WILO Comercio e
Importacao Ltda
Jundiá – São Paulo – Brasil
13.213-105
T +55 11 2923 9456
wilo@wilo-brasil.com.br

Canada

WILO Canada Inc.
Calgary, Alberta T2A 5L7
T +1 403 2769456
info@wilo-canada.com

China

WILO China Ltd.
101300 Beijing
T +86 10 58041888
wilobj@wilo.com.cn

Croatia

WILO Hrvatska d.o.o.
10430 Samobor
T +38 51 3430914
wilo-hrvatska@wilo.hr

Cuba

WILO SE
Oficina Comercial
Edificio Simona Apto 105
Siboney, La Habana. Cuba
T +53 5 2795135
T +53 7 272 2330
raul.rodriguez@wilo-cuba.com

Czech Republic

WILO CS, s.r.o.
25101 Cestlice
T +420 234 098711
info@wilo.cz

Denmark

WILO Danmark A/S
2690 Karlslunde
T +45 70 253312
wilo@wilo.dk

Estonia

WILO Eesti OÜ
12618 Tallinn
T +372 6 509780
info@wilo.ee

Finland

WILO Finland OY
02330 Espoo
T +358 207401540
wilo@wilo.fi

France

Wilo Salmson France S.A.S.
53005 Laval Cedex
T +33 2435 95400
info@wilo.fr

Great Britain

WILO (U.K.) Ltd.
Burton Upon Trent
DE14 2WJ
T +44 1283 523000
sales@wilo.co.uk

Greece

WILO Hellas SA
14569 Anixi (Attika)
T +302 10 6248300
wilo.info@wilo.gr

Hungary

WILO Magyarország Kft
2045 Törökbálint
(Budapest)
T +36 23 889500
wilo@wilo.hu

India

Mather and Platt Pumps
Ltd.
Pune 411019
T +91 20 27442100
services@matherplatt.com

Indonesia

PT. WILO Pumps Indonesia
Jakarta Timur, 13950
T +62 21 7247676
citrawilo@cbn.net.id

Ireland

WILO Ireland
Limerick
T +353 61 227566
sales@wilo.ie

Italy

WILO Italia s.r.l.
20068 Peschiera
Borromeo (Milano)
T +39 25538351
wilo.italia@wilo.it

Kazakhstan

WILO Central Asia
050002 Almaty
T +7 727 2785961
info@wilo.kz

Korea

WILO Pumps Ltd.
618-220 Gangseo, Busan
T +82 51 950 8000
wilo@wilo.co.kr

Latvia

WILO Baltic SIA
1019 Riga
T +371 6714-5229
info@wilo.lv

Lebanon

WILO LEBANON SARL
Jdeideh 1202 2030
Lebanon
T +961 1 888910
info@wilo.com.lb

Lithuania

WILO Lietuva UAB
03202 Vilnius
T +370 5 2136495
mail@wilo.lt

Morocco

WILO Maroc SARL
20250 Casablanca
T +212 (0) 5 22 66 09 24
contact@wilo.ma

The Netherlands

WILO Nederland B.V.
1551 NA Westzaan
T +31 88 9456 000
info@wilo.nl

Norway

WILO Norge AS
0975 Oslo
T +47 22 804570
wilo@wilo.no

Poland

WILO Polska Sp. z o.o.
05-506 Lesznowola
T +48 22 7026161
wilo@wilo.pl

Portugal

Bombas Wilo-Salmson
- Sistemas Hidraulicos Lda.
4050-040 Porto
T +351 22 2080350
bombas@wilo.pt

Romania

WILO Romania s.r.l.
077040 Com. Chiajna
Jud. Ilfov
T +40 21 3170164
wilo@wilo.ro

Russia

WILO Rus ooo
123592 Moscow
T +7 495 7810690
wilo@wilo.ru

Saudi Arabia

WILO ME - Riyadh
Riyadh 11465
T +966 1 4624430
wshoula@wataniaind.com

Serbia and Montenegro

WILO Beograd d.o.o.
11000 Beograd
T +381 11 2851278
office@wilo.rs

Slovakia

WILO CS s.r.o., org. Zložka
83106 Bratislava
T +421 2 33014511
info@wilo.sk

Slovenia

WILO Adriatic d.o.o.
1000 Ljubljana
T +386 1 5838130
wilo.adriatic@wilo.si

South Africa

Salmson South Africa
2065 Sandton
T +27 11 6082780
patrick.hulley@
salmson.co.za

Spain

WILO Ibérica S.A.
28806 Alcalá de Henares
(Madrid)
T +34 91 8797100
wilo.iberica@wilo.es

Sweden

WILO NORDIC AB
35033 Växjö
T +46 470 727600
wilo@wilo.se

Switzerland

EMB Pumpen AG
4310 Rheinfelden
T +41 61 83680-20
info@emb-pumpen.ch

Taiwan

WILO Taiwan CO., Ltd.
24159 New Taipei City
T +886 2 2999 8676
nelson.wu@wilo.com.tw

Turkey

WILO Pompa Sistemleri
San. ve Tic. A.Ş.,
34956 İstanbul
T +90 216 2509400
wilo@wilo.com.tr

Ukraine

WILO Ukraina t.o.w.
08130 Kiew
T +38 044 3937384
wilo@wilo.ua

United Arab Emirates

WILO Middle East FZE
Jebel Ali Free Zone-South
PO Box 262720 Dubai
T +971 4 880 91 77
info@wilo.ae

USA

WILO USA LLC
Rosemont, IL 60018
T +1 866 945 6872
info@wilo-usa.com

Vietnam

WILO Vietnam Co Ltd.
Ho Chi Minh City, Vietnam
T +84 8 38109975
nkminh@wilo.vn

wilo

Pioneering for You

WILO SE
Nortkirchenstraße 100
D-44263 Dortmund
Germany
T +49(0)231 4102-0
F +49(0)231 4102-7363
wilo@wilo.com
www.wilo.com