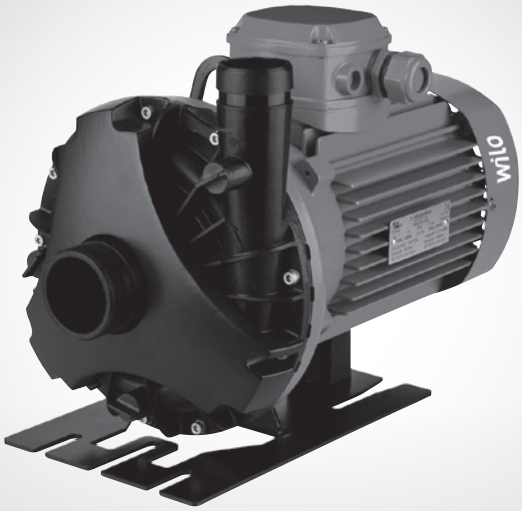
Pioneering for You

Wilo-BAC



ErP READY APPLIES TO EUROPEAN DIRECTIVE FOR ENERGY RELATED PRODUCTS

en Installation and operating instructions

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Fig. 1:

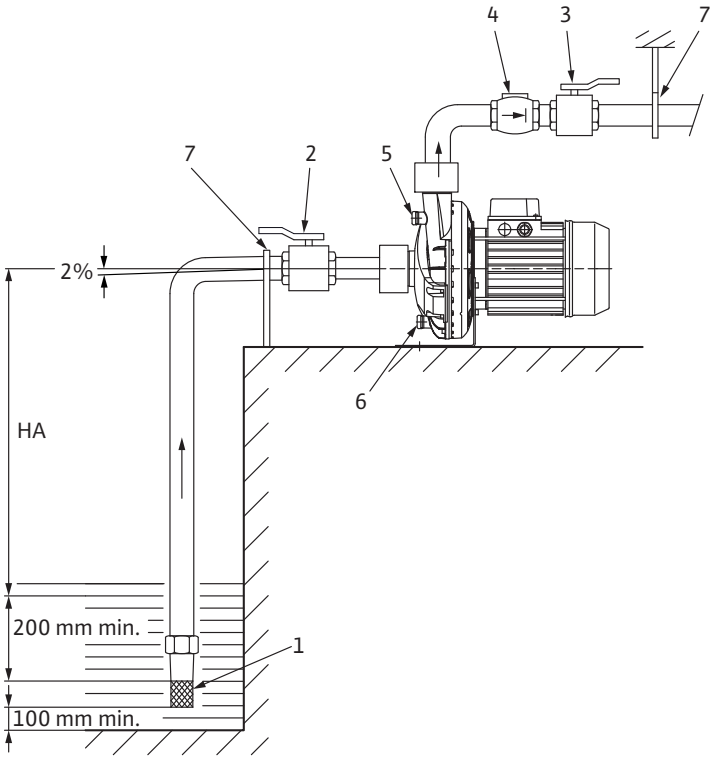


Fig. 2:

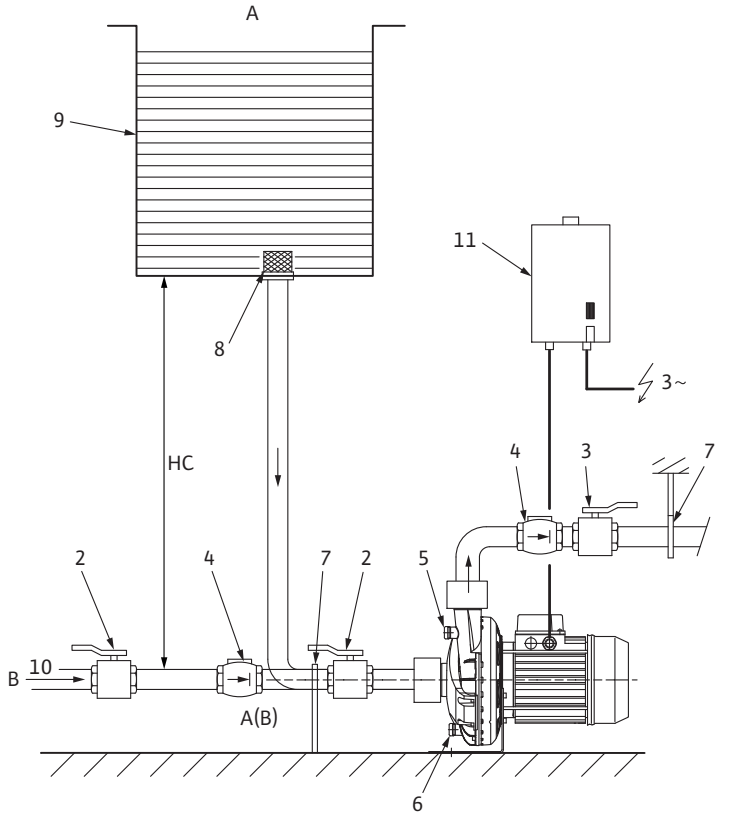
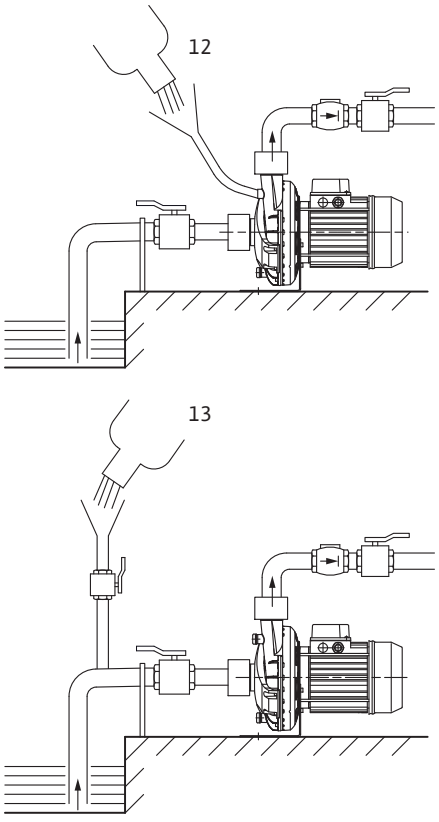


Fig. 3:



1 General

About this document

The language of the original operating instructions is English. 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.

The 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 the safety of the product/personnel 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 from 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 applied directly to the product, such as:

- Arrows indicating the direction of rotation,
- Identification for fluid connections,
- Rating plates and
- Warning stickers,

must be strictly complied with and kept in a fully legible condition.

2.2 Personnel qualifications

The installation, operating and maintenance personnel must have the appropriate qualifications for this work. The area of accountability, responsibility and personnel monitoring 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 product/unit as well as environmental hazards. Non-observance of the safety instructions results in the loss of any claims to damages.

In particular, lack of care may lead to problems such as:

- 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 on 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.

Children should be supervised to ensure that they do not play with the appliance.

- If hot or cold components on the product/unit cause hazards, measures must be taken by the customer to prevent them from being touched.
- Guards which prevent moving components (such as the coupling) from being touched must not be removed whilst the product is in operation.
- Leakages (e.g. from a shaft seal) of hazardous fluids (e.g. 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 observed.
- Danger from electrical current must be eliminated. Local directives or general directives [e.g. IEC, VDE etc.] and local power supply companies must be adhered to.

2.6 Safety instructions for installation and maintenance 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 on 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 be 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 put the safety of the product/personnel at risk and invalidate the statements on safety made by the manufacturer.

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 can nullify the liability from the results of the usage.

2.8 Improper use

The operating safety of the supplied product is only guaranteed when used properly in accordance with the section in the operating instructions titled “Intended use”. 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 delivered from the factory packaged in a cardboard box or secured to a pallet and protected against dust and moisture.

Transport inspection

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

Storage

Before installation, 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 select equivalent packaging**

Handling

Handle the pump with care to avoid any damage of the product before installing it.

3.2 Transport for installation/removal purposes

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

- **The pump must be transported using approved load-bearing equipment (e.g. block and tackle, crane, etc.). This must be secured to the pump flanges and, if necessary, to the external diameter of the motor (protection against slipping is required!).**
- **Never stand underneath a suspended load.**
- **Make sure the pump is securely positioned and is stable during storage and transport as well as prior to all installation and other assembly work.**

4 Intended use

Purpose

BAC pumps are single-stage centrifugal pumps that are used for fluid circulation in buildings, agriculture and industry.

Fields of application

They may be used for:

- Cooling systems
- Cold and hot water systems
- Industrial water systems
- Industrial circulation systems

Restrictions

The pumps are exclusively intended for installation and operation in enclosed rooms. Typical installation locations are technical rooms within the building with other domestic installations. No provision has been made for direct installation of the device in rooms used for other purposes (residential and work rooms).

The following is not permitted:

- Outdoor installation and operation outdoors

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

- **The correct use of the pump/installation also includes following these instructions.**
- **Any other use is considered to be incorrect use.**

5 Product information

5.1 General

Minimum efficiency index MEI:
The benchmark for most efficient water pumps is MEI ≥ 0,70.

NOTE
For detailed information on the MEI values of the pump types, see:
Wilo online catalogue, available at
www.wilo.com

The efficiency of a pump with a trimmed impeller is usually lower than that of a pump with the full impeller diameter. The trimming of the impeller will adapt the pump to a fixed duty point, leading to reduced energy consumption. The minimum efficiency index (MEI) is based on the full impeller diameter.

The operation of this water pump with variable duty points may be more efficient and economic when controlled, for example, by the use of a variable speed drive that matches the pump duty to the system.

Information on benchmark efficiency is available at
www.europump.org/efficiencycharts

5.2 Type key

The type key consists of the following elements:

Beispiel:	BAC 40-134/2,2/2-DM/R
BAC	**B**loc **A**ir **C**onditioning Single-stage horizontal pump in monobloc construction
40	Diameter of pressure port [mm]
-134	Impeller diameter [mm]
/2,2	Rated motor power P_2 [kW]
/2	Number of poles
-DM	Three-phase
/R	R = Victaulic coupling S = Screwed connection

5.3 Technical data

Property	Value	Remarks
Pipe connections	BAC 40.../S: Nominal diameter G2/G 1½ or Victaulic connections BAC 40.../R: 60.3/48.3 mm BAC 70.../R: 76.1/76.1 mm	
Permissible min./max. fluid temperature	-15 °C to +60 °C	
Ambient temperature max.	+40 °C	
Permissible humidity	< 95 %, non-condensing	
Max. admissible operating pressure	6,5 bar	
Max. admissible suction pressure	4,0 bar	
Suction Head	depends on NPSH value of the pump	
Approved fluids	Cooling/cold water Water/glycol mixture up to 40 % vol. Heating water according to VDI 2035 Other fluids on request	Heating water up to +60 °C
Permissible chloride content of fluid	Cl <150 mg/l	
Viscosity of fluid	1 cSt bis 50 cSt	
pH values of fluid	6 bis 8	
Permissible solid grain size in medium	Ø max. 0,5 mm	
Motor efficiency	IE2 for 3-phase motor according to IEC 60034-30	
Protection class	IP 55	
Insulation class	F	
Electrical connection	Electrical voltage and frequency see rating plate of motor	
Voltage tolerance	±10%	
Section of the power cable (cable with 4 wires)	0,75/1,1 kW: 1,5 mm^2 - 2,5 mm^2 1,5/2,2/3/4 kW: 2,5 mm^2 - 4,0 mm^2	
Acoustic pressure level	68 dB(A)	Value at 50 Hz

When ordering spare parts be sure to state all the information given on the pump and motor type plates.

Fluids

If water/glycol mixtures are used (or fluids with a viscosity other than that of pure water), an increase in power consumption of the pump is to be taken into account. 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 use of other media.
- Mixtures with a proportion of glycol of > 10 % influence the Δp-v pump curve and the flow calculation.

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

5.4 Scope of delivery

- Pump BAC
- Installation and operating instructions

5.5 Accessories

Accessories must be ordered separately:

- Suction kits
- Isolating valves
- Non-return valves
- Foot valve for strainer

- Bladder or galvanised tanks
- Vibrationless sleeves
- Motor protection circuit-breaker
- Dry-running protection
- Device for ON/OFF control and dry-running protection
- Victaulic coupling typ

6 Description and function

6.1 Product description

Legend, see (Fig. 1/2):

1 Foot valve for strainer (max. passage cross-section of 1 mm)
2 Pump suction valve
3 Pump discharge valve
4 Non-return valve
5 Filling plug
6 Drain plug
7 Pipe support
8 Strainer
9 Storage tank
10 Town water supply
11 Motor protection relay for three-phase motor
HA Suction head
HC Discharge head

6.2 Design of product

BAC pumps are non self-priming, single-stage centrifugal pumps in a horizontal monobloc construction. The suction port is arranged in an axial orientation and the pressure port is arranged in a radial orientation. They are equipped with an air cooled motor. The pump housing is made of composite, and depending on the power, the pumps are fitted with “Victaulic” and/or threaded unions. The shaft is sealed with a mechanical seal that does not need any maintenance..

7 Installation and electrical connection

Safety

DANGER! Danger of death!
Incorrect installation and improper electrical connections can result in a risk of fatal injury.

- **Have the electrical connections established by approved electricians only, in compliance with the applicable regulations.**
- **Accident prevention regulations must be observed!**

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

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

7.1 Commissioning

- Unpack the pump and dispose of the packaging in an environmentally-responsible manner.

7.2 Installation

CAUTION! Risk of damage to the pump!
Dirt can cause pump failure.

- **The pump should only be installed after completion of all welding and soldering work and, if necessary, flushing of the pipe system.**

WARNING! Risk of burns 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.

- **The pump must be positioned in a way that nobody will come into contact with the hot pump surfaces during operation.**

WARNING! Risk of fall!

- **The pump must be firmly fixed on the ground.**

CAUTION! Risk of remaining parts in the pump!

- **Remove all cover plugs from the pump housing before installation.**
- The pump must be installed in an easily accessible position to facilitate inspection or replacement.
- The pumps must be protected from the weather and installed in a frost/dust-free, well-ventilated atmosphere which is not potentially explosive. The pump must not be installed outdoors.
- The air access to the motor fan must be free. There must be a minimum distance of 0.3 m between the pump and the wall.
- Pumpe vorzugsweise auf einer glatten Zementoberfläche aufstellen.
- The pump must be fixed with at least two studs of Ø M8 or Ø M10, depending on the pump.
- The motor is provided with a condensate drain (under the motor). The drain is plugged in the factory to guarantee the IP55 protection. For use in air-conditioning or cooling applications, this plug must be removed to allow the evacuation of the condensate water.

NOTE
If the caps are removed, protection class IP 55 is no longer ensured!

7.3 Pipe connection

General

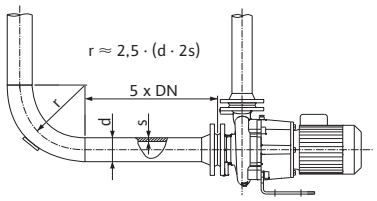


Fig. 4: Settling section before and after the pump

NOTE
A settling section must be provided before and after the pump, in the form of a straight pipe. The length of this settling section should be at least 5 x DN of the pump flange (Fig. 4). This measure serves to avoid flow cavitation.

Connection variants

There are two standard variants:

1 Pump in suction mode (Fig. 1)
2 Pump in pressure mode (Fig. 2), from storage tank (Fig. 2, Item 9) or municipal water supply (Fig. 2, Item 10) with dry-running protection system.

CAUTION! Risk of possible damage of the pump!
Tightening of screws or bolts must not exceed 10daNm. Use of impact wrench is prohibited.

- The circulation direction of the fluid is indicated on the pump housing.
- The pipes and pump must be free of mechanical stress when installed.
- The pump must be installed in a way that it does not carry the weight of the pipework.

NOTE
It is recommended that isolation valves are installed on the suction and pressure side of the pump.

- Use expansion rubbers to reduce noise and vibrations of the pump.
- Provide a suction pipe with a nominal cross-section which is at least as large as the pump connection.
- A non-return valve can be fitted on the pressure pipe to protect the pump against fluid hammer.
- For a direct connection to a public drinking water system, the suction pipe must also have a non-return valve and a guard valve.

- For an indirect connection via a tank, the suction pipe must have a strainer to keep any impurities out of the pump, as well as a non-return valve.
- If the pump is operated in suction mode (Fig. 1):
  immerse the strainer into the fluid (at least 200 mm) and, if necessary, put weights on the flexible hose. Limit the length of the suction pipe and avoid all features that cause losses of head (tapers, bends, etc.). No air must get into this pipe which rises upwards (by 2%).

CAUTION Risk of leak!
The alignment of the pipes and the pump ports is important.

- **If a "Victaulic" pipe union is used, an angular deviation of max. 3° of 2'' pumps is allowed, and an angular deviation of max. 2° of 3'' od pumps is allowed**
- **If screwed unions are used, the alignment of the pump ports must not have any deviation and the tightening must not exceed 4daNm.**
- **Carefully seal the pipes with suitable products.**

Nominal connection diameter (DN) of the pump:

Port type	Port ND (tapped):	
	Suction	Discharge
Victaulic ≤ 2,2 kW	2" (Ø 60,3 mm)	$1^1/_2$" (Ø48,3 mm)
Victaulic > 2,2 kW	3" od (Ø 76,1 mm)	3" od (Ø 76,1 mm)
Threaded ≤ 2,2 kW	2" (50-60 mm)	$1^1/_2$" (40-49 mm)

7.4 Electrical connection

Safety

DANGER! Risk of fatal injury!
A fatal shock may occur if the electrical connection is not made correctly.

- **Only allow the electrical connection to be made by an electrician approved by the local electricity supplier and in accordance with the local regulations in force.**
- **Check to ensure all connections (including potential-free contacts) are voltage-free.**
- **For a safe installation and operation, a proper grounding of the pump to the grounding terminals of the power supply is required.**
- **Observe the installation and operating instructions for the accessories!**
- Make sure that the operating current, the voltage and the frequency comply with the rating plate data of the motor.
- The pump must be connected to the power supply by a solid cable that is equipped with a grounded plug-connection or a main power switch.
- Three-phase motors must be connected to an approved safety switch. The nominal current must correspond to the electrical data on the rating plate of the motor.
- The supply cable must be laid in a way that it never touches the pipework and/or the pump and motor housing.
- The pump/installation must be grounded in compliance with local regulations. A ground fault interrupter can be used as an extra protection.
- The connection to the network must be in accordance with the connection plan.

7.5 Operation with Wilo control devices

The power of the pumps can be continuously controlled in combination with a control device (Wilo-VR-System or Wilo-CC-System). This allows an optimised pump output in a given installation and is also economically efficient.

7.6 Operation with frequency converter (of other manufacturers)

Motors from Wilo/Salmson can generally be operated with external frequency converters if these frequency converters comply with the demands specified in the application guideline IEC /TS 60034-17 and IEC/TS 60034-25.

The impulse voltage of the converter (without filter) must be below the limiting curve shown in (Fig. 5).

This concerns the voltage at the motor terminals. This is not only determined by the frequency converter, but also e.g. by the motor cable used (type, cross-section, screening, length, ...

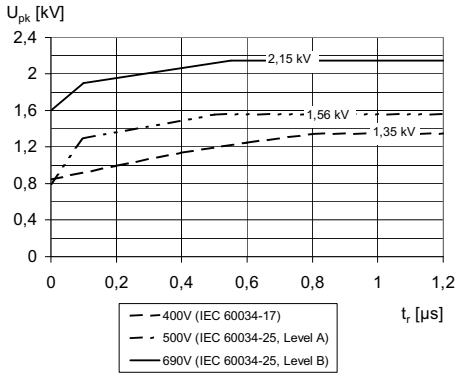


Fig. 5: Limit curve for the permitted impulse voltage Upk (including voltage reflection and damping), measured between the terminals of two branches, depending on the rise time t_r

- Strictly follow the instructions provided by the manufacturer of the frequency converter. The rise times and peak voltages for different cable lengths are specified in the corresponding installation and operating instructions.
- Take to following points into account:
  - use suitable cables with a sufficient cross-section (max. 5% voltage loss)
  - connect the correct screening according to the manufacturer's recommendation of the frequency converter
  - pass data lines (e.g. PTC-evaluation) separately from the mains cable
  - possibly use of a sinusoidal filter (LC) in agreement with the manufacturer of the converter

Operation is possible from 12.5 Hz up to 50 Hz. In case of low frequency operation, it is recommended to start with 50 Hz and then turn down to the selected value.

8 Commissioning

8.1 System filling and venting

CAUTION! Possible damage of the pump!
Dry running destroys the mechanical seal

- **Make sure that the pump does not run dry.**
- **The system must be filled before starting the pump.**

If a venting procedure is necessary (according to chapter 8.1.1 “Venting procedure – pump in pressure mode” on page 27 and chapter 8.1.2 “Venting procedure – pump in suction mode” on page 27), observe the following instructions.

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.**

WARNING! Danger due to extremely hot or extremely cold pressurised fluid!
Depending on the temperature of the fluid and the system pressure, when the vent 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 plug.**

WARNING! Risk 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, protective gloves and protective goggles.**

8.1.1 Venting procedure – pump in pressure mode

See (Fig. 2):

- Close the discharge valve (Fig. 2, Item 3).
- Unscrew the filling plug (Fig. 2, Item 5) (on the upper part of hydraulics).
- Open the suction valve slowly (Fig. 2, Item 2) and completely fill the pump.
- Only screw the filling plug back in after water has flown out and all air has been eliminated.
- Open the suction valve completely (Fig. 2, Item 2).
- Check if the direction of rotation is correct according to the arrow on the pump housing by briefly starting the pump. If the direction of rotation is not correct, invert 2 phases on the motor terminal board.
- Open the discharge valve (Fig. 2, Item 3).

8.1.2 Venting procedure – pump in suction mode

Two cases are possible.

First case, see (Fig. 1):

- Open the discharge valve (Fig. 1, Item 3).
- Open the suction valve (Fig. 1, Item 2).
- Unscrew the filling plug (Fig. 1, Item 5) (on the upper part of hydraulics).
- Put a funnel into the port and slowly and completely fill the pump and the suction pipe.
- Filling is complete when water has flown out and all air has been eliminated. Screw the plug back in.
- Check if the direction of rotation is correct according to the arrow on the pump housing by briefly starting the pump. If the direction of rotation is not correct, invert 2 phases on the motor terminal board.

Second case, see (Fig. 1/3):

- To make the filling process easier, install a vertical pipe (minimum length 25 cm), fitted with a stopcock and a funnel, on the pump suction pipe (see Fig. 3)
- Open the discharge valve (Fig. 1, Item 3)
- Open the suction valve (Fig. 1, Item 2).
- Unscrew the filling plug (Fig. 1, Item 5) (on the upper part of the hydraulics).
- Fill the pump and the suction pipe completely until water flows out.
- Close the stopcock (which can be left in place), remove the pipe, and screw the filling plug back in.

CAUTION! Risk of wrong evacuation of air!
A check is always required in both cases mentioned above. After screwing in again of the filling plug, it is necessary to:

- **Start the motor by a brief impulse.**
- **Unscrew again the filling plug and complete the filling until the final water level is reached in the pump.**
- **If necessary, repeat this operation.**
- Check if the direction of rotation is correct according to the arrow on the pump housing by briefly starting the pump. If the direction of rotation is not correct, invert 2 phases on the motor terminal board.

NOTE
To prevent the pump from accidentally priming while the full water level has not been reached, we recommend protecting it with a suitable device (dry running protection or float switch).

8.2 Commissioning

WARNING! Risk of injury!
- **Installation must be designed in order that no one could be hurt in case of fluid leakage (mechanical seal failure...).**

CAUTION! Possible damage of the pump!
The pump must not be operated at zero flow (closed discharge valve) for more than ten minutes.
- We recommend establishing a minimum flow of about 10 % of the rated capacity of the pump, to avoid the formation of a gas pocket.
- Use a pressure gauge to check the stability of the discharge pressure; if it is unstable, vent the pump again or perform the filling operation.

CAUTION! Risk of motor overload!
- **Check that the input current does not exceed the value marked on the motor rating plate.**

9 Maintenance/Service

Maintenance and repairs may only be carried out by qualified experts!

It is recommended to have the pump serviced and checked by Wilo-Customer Service.

DANGER! Risk of fatal injury!
There is a mortal danger through 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 prevent it from being switched on again.**
- **Any damage to the connecting cable should always be rectified by a qualified electrician only.**
- **Follow the installation and operating instructions for the pump, level control device and other accessories.**
- **After maintenance, all safety devices such as terminal box cover that were removed must be reinstalled!**

DANGER! Risk of fatal injury!
The pump itself and the parts of pump 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.**
- **Make sure the pump is securely positioned and is stable during storage and transport as well as prior to all installation and other assembly work.**

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.**
- No special servicing while the pump is in operation.

- Always keep the pump perfectly clean.
- To avoid any blocking of the shaft and the hydraulic system in frosty periods, empty the pump by removing the drain plug (on the lower part of hydraulic) and the filling plug. Screw the 2 plugs back in without tightening them.
- If there is no risk of frost, do not drain the pump.

10 Faults, causes and remedies

Only qualified personnel is allowed to repair. Observe the safety instructions as described in chapter 9 “Maintenance/Service” on page 28.

- **If a fault cannot be remedied, contact a specialist, the after-sales department or the nearest sales office.**

Fault	Cause	Remedy
The Pump runs but no delivery	Pump obstructed by the internal parts	Check and clean the pump
	Suction pipe obstructed	Check and clean the pipe
	Water level/suction pressure is insufficient	Fill the storage tank, vent the pump
	The suction pressure is too low; this is generally accompanied by cavitation noise	Loss of head on suction or suction height too great (check the NPSH of the pump installed)
	Wrong direction of rotation	Invert two phase wires on the motor terminal block or circuit-breaker
	The supply voltage to the motor is too low	Check the voltage and the wire sections of the cable
The pump is vibrating	The pump is installed loosely on its foundation	Check and tighten completely the nuts of the stud bolts
	Foreign bodies inside the pump	Have the pump dismantled and clean it
	The pump runs with difficulty, damaged bearing	Have the pump repaired by the after-sales
	Electrical connection of the pump is wrong	Check and correct the pump connection
The pump overheats	Voltage supply is too low	Check the voltage on the terminals of the motor; it should be within ±10 % of the rated voltage
	Particles obstructing the pump	Have the pump dismantled and clean it
	Ambient temperature above 40 °C	The motor is designed to operate at an ambient temperature of not more than +40 °C, if necessary, install a cooling system
The pump fails to run	No power	Check the power supply, fuses, cables
	Turbine is blocked	Clean the pump
	Motor protection has triggered	Check and adjust the motor protection
No sufficient flow	The motor speed is not high enough (caused by particles or too low voltage)	Clean the pump, check the electrical supply
	The motor is defective	Call the after-sales service, replace the motor
	Water level/suction pressure is insufficient	Fill the storage tank, vent the pump
	Wrong direction of rotation	Invert two phases wires on the motor terminal block or circuit-breaker
	Wear of the internal parts	Have the pump repaired by the after-sales service

Fault	Cause	Remedy
The motor protection triggers	The setting of the thermal relay is too low	Check the current with an amperemeter, or set to the current rating marked on the motor data plate
	The voltage is too low	Check that the conductor cross-sections of the power cable are adequate
	One phase is open-circuit	Check it and, if necessary, replace the power cable
	Motor protection switch is defective	Replace the motor protection switch
	The motor is defective	Call the after-sales service, replace the motor
	Flow rate too high because of too low system resistance	Reduce pump on outlet side
The flow is irregular	The suction height (HA) is exceeded	Reread the installation conditions and recommendations in this instruction manual
	The diameter of the suction pipe is smaller than that of the pump	The suction pipe must have the same diameter as the pump suction port
	The strainer and suction pipe are partially obstructed	Remove the filter and clean it

11 Spare parts

Spare parts can be ordered from your local specialist and/or via Wilo customer service.

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

CAUTION! Risk of property 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**

NOTE:
List of genuine spare parts: see Wilo spare parts documentation.
Spare parts catalogue is available at: www.wilo.com.

12 Disposal

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

Proper disposal requires the drainage and cleaning and the dismantling of the pump unit.

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 l'annexe IV,2)

Hiermit erklären wir, dass die Pumpenbauarten der Baureihe:
Herewith, we declare that the pump types of the series: **BAC**
Par le présent, nous déclarons que les types de pompes de la série :

*(*Die Seriennummer ist auf dem Typenschild des Produktes nach Punkten b) & c) von §1.7.4.2 und §1.7.3 des Anhanges I der Maschinenrichtlinie angegeben. */ The serial number is marked on the product site plate according to points b) & c) of §1.7.4.2 and §1.7.3 of the annex I of the Machinery directive 2006/42/EC. / Le numéro de série est inscrit sur la plaque signalétique du produit en accord avec les points b) & c) du §1.7.4.2 et du §1.7.3 de l'annexe I de la Directive Machines 2006/42/CE)*

in der gelieferten Ausführung folgenden einschlägigen Bestimmungen entsprechen:
in their delivered state comply with the following relevant provisions:
sont conformes aux dispositions suivantes dont ils relèvent:

EG-Maschinenrichtlinie **2006/42/EG**
EC-Machinery directive
Directive CE relative aux machines

Die Schutzziele der Niederspannungsrichtlinie 2006/95/EG werden gemäß Anhang I, Nr. 1.5.1 der 2006/42/EG Maschinenrichtlinie 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 de protection de sécurité de la directive basse-tension 2006/95/CE sont respectés conformément à l'annexe I, no1.5.1 de la directive CE relatives aux machines 2006/42/CE.*

Elektromagnetische Verträglichkeit - Richtlinie **2004/108/EG**
Electromagnetic compatibility - directive
Directive compatibilité électromagnétique

Richtlinie energieverbrauchsrelevanter Produkte **2009/125/EG**
Energy-related products - directive
Directive des produits liés à l'énergie

Die verwendeten 50Hz Induktionselektromotoren - Drehstrom, Käfigläufer, einstufig - entsprechen den Ökodesign - Anforderungen der **Verordnung 640/2009** und der **Verordnung 547/2012** für Wasserpumpen.
*This applies according to eco-design requirements of the **regulation 640/2009** to the versions with an induction electric motor, squirrel cage, three-phase, single speed, running at 50 Hz and of the **regulation 547/2012** for water pumps.*
*Qui s'applique suivant les exigences d'éco-conception du **règlement 640/2009** aux versions comportant un moteur électrique à induction à cage d'écureuil, triphasé, mono-vitesse, fonctionnant à 50 Hz et, du **règlement 547/2012** pour les pompes à eau,*

und entsprechender nationaler Gesetzgebung,
and with the relevant national legislation,
et aux législations nationales les transposant,

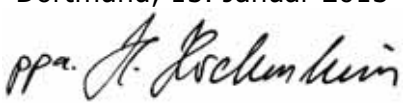
angewendete harmonisierte Normen, insbesondere:
as well as following relevant harmonized standards:
ainsi qu'aux normes européennes harmonisées suivantes :

EN 809+A1
EN ISO 12100
EN 60034-1
EN 60204-1

Bevollmächtigter für die Zusammenstellung der technischen Unterlagen ist:
Authorized representative for the completion of the technical documentation:
Personne autorisée à constituer le dossier technique est :

Division Pumps and Systems
Quality Manager – PBU Multistage & Domestic
Pompes Salmson
80 Bd de l'Industrie - BP0527
F-53005 Laval Cedex

Dortmund, 15. Januar 2013



Holger HERCHENHEIN
Group Quality Manager

wilo

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Nortkirchenstraße 100
44263 Dortmund
Germany

Document: 2117789.2
CE-AS-Sh. Nr. 4138791

NL

EG-verklaring van overeenstemming

Hiermede 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.

Elektromagnetische compatibiliteit 2004/108/EG

Richtlijn voor energieverbruiksrelevante producten 2009/125/EG

De gebruikte 50 Hz inductie-elektromotoren – draaistroom, kooianker, ééntraps – conform de ecodesign-vereisten van de verordening 640/2009.

Conform de ecodesign-vereisten van de verordening 547/2012 voor waterpompen.

gebruikte geharmoniseerde normen, in het bijzonder: zie vorige pagina

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.

Compatibilità elettromagnetica 2004/108/EG

Direttiva relativa ai prodotti connessi all'energia 2009/125/CE

I motori elettrici a induzione utilizzati da 50 Hz – corrente trifase, motore a gabbia di scoiattolo, monostadio – soddisfano i requisiti di progettazione ecocompatibile del regolamento 640/2009.

Ai sensi dei requisiti di progettazione ecocompatibile del regolamento 547/2012 per le pompe per acqua.

norme armonizzate applicate, in particolare: vedi pagina precedente

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.

Directiva sobre compatibilidad electromagnética 2004/108/EG

Directiva 2009/125/CE relativa a los productos relacionados con el consumo de energía

Los motores eléctricos de inducción de 50 Hz utilizados (de corriente trifásica, rotores en jaula deardilla, motores de una etapa) cumplen los requisitos relativos al ecodiseño establecidos en el Reglamento 640/2009.

De conformidad con los requisitos relativos al ecodiseño del Reglamento 547/2012 para bombas hidráulicas.

normas armonizadas adoptadas, especialmente: véase página anterior

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 objectivos 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.

Compatibilidade electromagnética 2004/108/EG

Directiva relativa à criação de um quadro para definir os requisitos de concepção ecológica dos produtos relacionados com o consumo de energia 2009/125/CE

Os motores eléctricos de indução de 50 Hz utilizados – corrente trifásica, com rotor em curto-circuito, monocelular – cumprem os requisitos de concepção ecológica do Regulamento 640/2009.

Cumprem os requisitos de concepção ecológica do Regulamento 547/2012 para as bombas de água.

normas harmonizadas aplicadas, especialmente: ver página anterior

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.

EG–Elektromagnetisk kompatibilitet – riktlinje 2004/108/EG

Direktivet om energirelaterade produkter 2009/125/EG

De använda elektriska induktionsmotorerna på 50 Hz – trefas, kortslutningsmotor, enstegs – motsvarar kraven på ekodesign för elektriska motorer i förordning 640/2009.

Motsvarande ekodesignkraven i förordning 547/2012 för vattenpumpar.

tillämpade harmoniserade normer, i synnerhet: se föregående sida

NO

EU-Overensstemmelseserklæring

Vi erklærer hermed at denne enheten 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 maskindirektivet 2006/42/EF.

EG–EMV–Elektromagnetisk kompatibilitet 2004/108/EG

Direktiv energirelaterte produkter 2009/125/EF

De 50 Hz induksjonsmotorene som finner anvendelse – trefasevekselstrøms kortslutningsmotor, ettrinns – samsvarer med kravene til økodesign i forordning 640/2009.

I samsvar med kravene til økodesign i forordning 547/2012 for vannpumper.

anvendte harmoniserte standarder, særlig: se forrige side

FI

CE-standardinmukaisuusseloste

Ilmoitamme täten, että tämä laite vastaa seuraavia asiaankuuluvia määräyksiä:

EU–konedirektiivit: 2006/42/EG

Pienjännitedirektiivin suojatavoitteita noudatetaan konedirektiivin 2006/42/EY liitteen I, nro 1.5.1 mukaisesti.

Sähkömagneettinen soveltuvuus 2004/108/EG

Energiaan liittyviä tuotteita koskeva direktiivi 2009/125/EY

Käytettävät 50 Hz:n induktio-sähkömoottorit (vaihevirta- ja oikosulkumoottori, yksivaiheinen moottori) vastaavat asetuksen 640/2009 ekologista suunnittelua koskevia vaatimuksia.

Asetuksessa 547/2012 esitettyjä vesipumppujen ekologista suunnittelua koskevia vaatimuksia vastaava.

käytetyt yhteensovitetut standardit, erityisesti: katso edellinen sivu.

DA

EF-overensstemmelseserklæring

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.

Elektromagnetisk kompatibilitet: 2004/108/EG

Direktiv 2009/125/EF om energirelaterede produkter

De anvendte 50 Hz induktionselektromotorer - trefasestrøm, kortslutningsmotor, et-trins - opfylder kravene til miljøvenligt design i forordning 640/2009.

I overensstemmelse med kravene til miljøvenligt design i forordning 547/2012 for vandpumper.

anvendte harmoniserede standarder, særligt: se forrige side

HU

EK-megfelelőségi 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.

Elektromágneses összeférhetőség irányelv: 2004/108/EK

Energiával kapcsolatos termékekről szóló irányelv: 2009/125/EK

A használt 50 Hz-es indukciós villanymotorok – háromfázisú, kalickás forgórész, egyfokozatú – megfelelnek a 640/2009 rendelet környezetbarát tervezésre vonatkozó követelményeinek.

A vízszivattyúkról szóló 547/2012 rendelet környezetbarát tervezésre vonatkozó követelményeinek megfelelően.

alkalmazott harmonizált szabványoknak, különösen: lásd az előző oldalt

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.

Směrnice o elektromagnetické kompatibilitě 2004/108/ES

Směrnice pro výrobky spojené se spotřebou energie 2009/125/ES

Použité 50Hz třífázové indukční motory, s klecovým rotorem, jednostupňové – vyhovují požadavkům na ekodesign dle nařízení 640/2009.

Vyhovuje požadavkům na ekodesign dle nařízení 547/2012 pro vodní čerpadla.

použité harmonizační normy, zejména: viz předchozí strana

PL

Deklaracja Zgodności WE

Niniejszym deklarujemy z pełną odpowiedzialnością, że dostarczony wyrób jest zgodny z następującymi dokumentami:

dyrektywą maszynową WE 2006/42/WE

Przestrzegane są cele ochrony dyrektywy niskonapięciowej zgodnie z załącznikiem I, nr 1.5.1 dyrektywy maszynowej 2006/42/WE.

dyrektywą dot. kompatybilności elektromagnetycznej 2004/108/WE

Dyrektywa w sprawie ekoprojektu dla produktów związanych z energią 2009/125/WE.

Stosowane elektryczne silniki indukcyjne 50 Hz – trójfazowe, wirniki klatkowe, jednostopniowe – spełniają wymogi rozporządzenia 640/2009 dotyczące ekoprojektu.

Spełniają wymogi rozporządzenia 547/2012 dotyczącego ekoprojektu dla pomp wodnych.

stosowanymi normami zharmonizowanymi, a w szczególności: patrz poprzednia strona

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/ЕГ

Требования по безопасности, изложенные в директиве по низковольтному напряжению, соблюдаются согласно приложению I, № 1.5.1 директивы в отношении машин 2006/42/ЕГ.

Электромагнитная устойчивость 2004/108/ЕГ

Директива о продукции, связанной с энергопотреблением 2009/125/ЕС

Используемые асинхронные электродвигатели 50 Гц – трехфазного тока, короткозамкнутые, одноступенчатые – соответствуют требованиям к экодизайну

Соответствует требованиям к экодизайну предписания 547/2012 для водяных насосов.

Используемые согласованные стандарты и нормы, в частности : см. предыдущую страницу

EL

Δήλωση συμμόρφωσης της ΕΕ

Δηλώνουμε ότι το προϊόν αυτό σ' 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/ΕΚ.

Ηλεκτρομαγνητική συμβατότητα ΕΚ-2004/108/ΕΚ

Ευρωπαϊκή οδηγία για συνδεόμενα με την ενέργεια προϊόντα 2009/125/ΕΚ

Οι χρησιμοποιούμενοι επαγωγικοί ηλεκτροκινητήρες 50 Hz – τριφασικοί, δρομέας κλωβού, μονοβάθμιοι – ανταποκρίνονται στις απαιτήσεις οικολογικού σχεδιασμού του κανονισμού 640/2009.

Σύμφωνα με τις απαιτήσεις οικολογικού σχεδιασμού του κανονισμού 547/2012 για υδραντλίες.

Εναρμονισμένα χρησιμοποιούμενα πρότυπα, ιδιαίτερα: Βλέπε προηγούμενη σελίδα

TR

CE Uygunluk Teyid Belgesi

Bu cihazın teslim edildiği şekliyle aşağıdaki standartlara uygun olduğunu teyid ederiz:

AB-Makina Standartları 2006/42/EG

Alçak gerilim yönergesinin koruma hedefleri, 2006/42/AT makine yönergesi Ek I, no. 1.5.1'e uygundur.

Elektromanyetik Uyumluluk 2004/108/EG

Enerji ile ilgili ürünlerin çevreye duyarlı tasarımına ilişkin yönetmelik 2009/125/AT

Kullanılan 50 Hz indüksiyon elektromotorları – trifaze akım, sincap kafes motor, tek kademeli – 640/2009 Düzenlemesinde ekolojik tasarımla ilgili gerekliliklere uygundur.

Su pompaları ile ilgili 547/2012 Düzenlemesinde ekolojik tasarıma ilişkin gerekliliklere uygun.

kısmen kullanılan standartlar için: bkz. bir önceki sayfa

RO

EC-Declarație de conformitate

Prin prezenta declarăm că acest produs aşa cum este livrat, corespunde cu următoarele prevederi aplicabile:

Directiva CE pentru maşini 2006/42/EG

Sunt respectate obiectivele de protecţie din directiva privind joasa tensiune conform Anexei I, Nr. 1.5.1 din directiva privind maşinile 2006/42/CE.

Compatibilitatea electromagnetică – directiva 2004/108/EG

Directivă privind produsele cu impact energetic 2009/125/CE

Electromotoarele cu inducţie, de 50 Hz, utilizate – curent alternativ, motor în scurtcircuit, cu o treaptă – sunt în conformitate cu parametrii ecologici cuprinşi în Ordonanţa 640/2009.

În conformitate cu parametrii ecologici cuprinşi în Ordonanţa 547/2012 pentru pompe de apă.

standarde armonizate aplicate, îndeosebi: vezi pagina precedentă

ET

EÜ vastavusdeklaratsioon

Käesolevaga tõendame, et see toode vastab järgmistele asjakohastele direktiividele:

Masinadirektiiv 2006/42/EÜ

Madalpingedirektiivi kaitse-eesmärgid on täidetud vastavalt masinate direktiivi 2006/42/EÜ I lisa punktile 1.5.1.

Elektromagnetilise ühilduvuse direktiiv 2004/108/EÜ

Energiamõjuga toodete direktiiv 2009/125/EÜ

Kasutatud 50 Hz vahelduvvoolu elektrimootorid (vaheldUvvool, lühisrootor, üheastmeline) vastavad määruses 640/2009 sätestatud ökodisaini nõuetele.

Kooskõlas veepumpade määruses 547/2012 sätestatud ökodisaini nõuega.

kohaldatud harmoneeritud standardid, eriti: vt eelmist lk

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

Pielikumam I, Nr. 1.5.1.

Elektromagnētiskās savietojamības direktīva 2004/108/EK

Direktīva 2009/125/EK par ar enerģiju saistītiem produktiem

Izmantotie 50 Hz indukcijas elektromotori – maiņstrāva, īsslēguma rotora motors, vienpakāpes – atbilst Regulas Nr. 640/2009 ekodizaina prasībām.

Atbilstoši Regulas Nr. 547/2012 ekodizaina prasībām ūdenssūkņiem.

piemēroti harmonizēti standarti, tai skaitā: skatīt iepriekšējo lappusi

LT

EB atitikties deklaracija

Šiuo pažymima, kad šis gaminys atitinka šias normas ir direktyvas:

Mašinų direktyvą 2006/42/EB

Laikomasi Žemos įtampos direktyvos keliamų saugos reikalavimų pagal Mašinų direktyvos 2006/42/EB I priedo 1.5.1 punktą.

Elektromagnetinio suderinamumo direktyvą 2004/108/EB

Su energija susijusių produktų direktyva 2009/125/EB

Naudojami 50 Hz indukciniai elektriniai varikliai – trifazės įtampos, su narveliniu rotoriumi, vienos pakopos – atitinka ekologinio projektavimo reikalavimus pagal Reglamentą 640/2009.

Atitinka ekologinio projektavimo reikalavimus pagal Reglamentą 547/2012 dėl vandens siurblių.

pritaikytus vieningus standartus, o būtent: žr. ankstesniame puslapyje

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 dodržiavané v zmysle prílohy I, č. 1.5.1 smernice o strojových zariadeniach 2006/42/ES.

Elektromagnetická zhoda - smernica 2004/108/ES

Smernica 2009/125/ES o energeticky významných výrobkoch

Použité 50 Hz indukčné elektromotory – jednostupňové, na trojfázový striedavý prúd, s rotormi nakrátko – zodpovedajú požiadavkám na ekodizajn uvedeným v nariadení 640/2009.

V súlade s požiadavkami na ekodizajn uvedenými v nariadení 547/2012 pre vodné čerpadlá.

používané harmonizované normy, najmä: pozri predchádzajúcu stranu

SL

ES – izjava o skladnosti

Izjavljamo, da dobavljene vrste izvedbe 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/ES doseženi.

Direktiva o elektromagnetni združljivosti 2004/108/ES

Direktiva 2009/125/ES za okoljsko primerno zasnovo izdelkov, povezanih z energijo

Uporabljeni 50 Hz indukcijski elektromotorji – trifazni tok, kletkasti rotor, enostopenjski – izpolnjujejo zahteve za okoljsko primerno zasnovo iz Uredbe 640/2009.

izpolnjujejo zahteve za okoljsko primerno zasnovo iz Uredbe 547/2012 za vodne črpalke.

uporabljeni harmonizirani standardi, predvsem: glejte prejšnjo stran

BG

ЕО-Декларация за съответствие

Декларираме, че продуктът отговаря на следните изисквания:

Машинна директива 2006/42/ЕО

Целите за защита на разпоредбата за ниско напрежение са съставени съгласно Приложение I, № 1.5.1 от Директивата за машини 2006/42/ЕС.

Електромагнитна съвместимост – директива 2004/108/ЕО

Директива за продуктите, свързани с енергопотреблението 2009/125/ЕО

Използваните индукционни електродвигатели 50 Hz – трифазен ток, търкалящи се лагери, едностъпални – отговарят на изискванията за екодизайн на Регламент 640/2009.

Съгласно изискванията за екодизайн на Регламент 547/2012 за водни помпи.

Хармонизирани стандарти: вж. предната страница

MT

Dikjarazzjoni ta' konformità KE

B'dan il-mezz, niddikjaraw li l-prodotti tas-serje jissodisfaw id-dispożizzjonijiet relevanti li ġejjin:

Makkinarju - Direttiva 2006/42/KE

L-objettivi tas-sigurta tad-Direttiva dwar il-Vultaġġ Baxx huma konformi mal-Anness I, Nru 1.5.1 tad-Direttiva dwar il-Makkinarju 2006/42/KE.

Kompatibbiltà elettromanjetika - Direttiva 2004/108/KE

Linja Gwida 2009/125/KE dwar prodotti relatati mal-użu tal-enerġija

Il-muturi elettriċi b'induzzjoni ta' 50 Hz użati- tliet fażijiet, squirrel-cage, singola - jissodisfaw ir-rekwiżiti tal-ekodisinn tar-Regolament 640/2009.

b'mod partikolari: ara l-paġna ta' qabel

HR

EZ izjava o sukladnosti

Ovim izjavljujemo da vrste konstrukcije serije u isporučenoj izvedbi odgovaraju sljedećim važećim propisima:

EZ smjernica o strojevima 2006/42/EZ

Ciljevi zaštite smjernice o niskom naponu ispunjeni su sukladno prilogu I, br. 1.5.1 smjernice o strojevima 2006/42/EZ.

Elektromagnetna kompatibilnost - smjernica 2004/108/EZ

Smjernica za proizvode relevantne u pogledu potrošnje energije 2009/125/EZ

Korišteni 50 Hz-ni indukcijski elektromotori – trofazni, s kratko spojenim rotorom, jednostupanjski – odgovaraju zahtjevima za ekološki dizajn iz uredbe 640/2009.

primijenjene harmonizirane norme, posebno: vidjeti prethodnu stranicu

SR

EZ izjava o usklađenosti

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.

Elektromagnetna kompatibilnost - direktiva 2004/108/EZ

Direktiva za proizvode relevantne u pogledu potrošnje energije 2009/125/EZ

Korišćeni 50 Hz-ni indukcioni elektromotori – trofazni, s kratkospojenim rotorom, jednostepeni – odgovaraju zahtevima za ekološki dizajn iz uredbe 640/2009.

primenjeni harmonizovani standardi, a posebno: vidi prethodnu stranu

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