

# BRITTHERM<sup>®</sup>

## BRITTHERM Replacement Pump Head

### H4 series

PWM-Controlled E-Motor



636199

**INSTALLATION AND  
OPERATION MANUAL**

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## WARNING SIGNS



General safety warning



Shock hazard



Injury hazard



Thermal hazard (burns)



General warnings or recommendations



### PLEASE READ DETAILED INSTRUCTIONS.

Only qualified and licensed engineers should install the pump. If you do not have an engineer to install and operate the pump, we strongly recommend contacting the local engineer or visit us at [www.brittherm.co.uk](http://www.brittherm.co.uk) or call us on 0208 9044 832.

You should carefully read the instructions and specifications of the pump, purpose and recommendations for pump operation before changing the pump operation mode (speed). The best way is to contact the engineer who installed the pump for you and consult with him on the issues in which you are interested.

Once the installation has been completed and the pump has been commissioned, you have 30 calendar days to register your warranty at <https://www.brittherm.co.uk/guarantees> by scanning the QR code that you see on the pump nameplate. To complete the warranty registration, you will need the following information: pump model, invoice number, purchase/installation date, name and email address of the owner, and address where the pump is fitted. Please see the last page for the warranty information.



In case of any anomalies that you observed in the pump operation, you should contact the engineer who installed the pump for you and consult with him. Do not try to disassemble and troubleshoot the pump yourself. This can be a life-threatening activity.

## PRODUCT DESCRIPTION

The universal electric motor with remote electronic control of the rotor speed of the H4 Series (pump head) is designed for the repair replacement of such electric motors in modern combined gas boilers with clockwise rotor rotation.

The remote control of the rotor speed of the H3 electric motors is carried out using the PWM technology - a low-voltage signal coming from the boiler's electronic board, via a special control cable. This is a universal PWM technology, standardized for pumps used in boilers of all boiler manufacturers without any exception, which are sold on the British market, taking into account new regulations and energy saving requirements in the heating industry.

The H4 series electric motor is designed to replace failed pump motors in many modern models of wall-mounted gas boilers that have been operated in the UK since 2010.

The pump motor replacement makes it possible to reduce the cost of repairing equipment and simplify the process of replacing a part.

For the correct selection of the pump motor, it is necessary to know the direction of rotation of the pump rotor, electrical and hydraulic characteristics, and impeller dimensions.

All information is provided in tables and diagrams in this document and at <https://www.brittherm.co.uk>

The power and control cable is connected using special connectors.

The electric glandless pump motor provides lubrication of bearings and cooling by the pumped fluid.

An aluminium alloy body reliably protects motor windings. The pump body is ventilated to prevent condensation and corrosion.

The pump is mounted using four screws.

## PUMP OPERATION



Make sure that the heating system is filled and under the required pressure before turning on the pump. Pump operation without the pumped liquid can damage the pump. Warranties do not cover such damage.

Make sure that the pump is installed correctly, check the direction of the required fluid flow, check that there are no fluid leaks at the pump and pipe connections.

Check the correct connection of the electrical cable - phase, zero and ground.

Make sure that the valves upstream and downstream of the pump are open.

Water will flow out of the pump - this is normal. Prepare a container to collect water.



Pump operation characteristics in all modes are indicated in Appendix I thereto.

## PACKAGE

- Pump assembly - 1 piece;
- Universal fixing bolts - 4 pieces;
- Two control cables (2 pieces);
- Installation and operation manual - 1 piece;
- Individual packaging - 1 piece;



Full specifications are given in Appendix I thereto.

# INSTALLATION



Figures of pumps are given for understanding the installation rules and may differ from the actual products.



Personnel who have a permit to work with electrical equipment, trained and have sufficient experience in operating similar pumping equipment should install pumps!

Check the completeness, absence of mechanical damage on the pump, electric cable and electric plug before installation.

To replace the pump motor, it is necessary to drain water from equipment where the pump is installed, turn off the power supply and disconnect the electrical connectors. Loosen the screws as shown in figure 2. Water may leak from the pump. Remove the faulty pump, install a new one with a gasket.

Once the pump is in position, tighten the screws evenly and crosswise. Fill the system with hydraulic fluid and perform the procedure for bleeding from the pump.

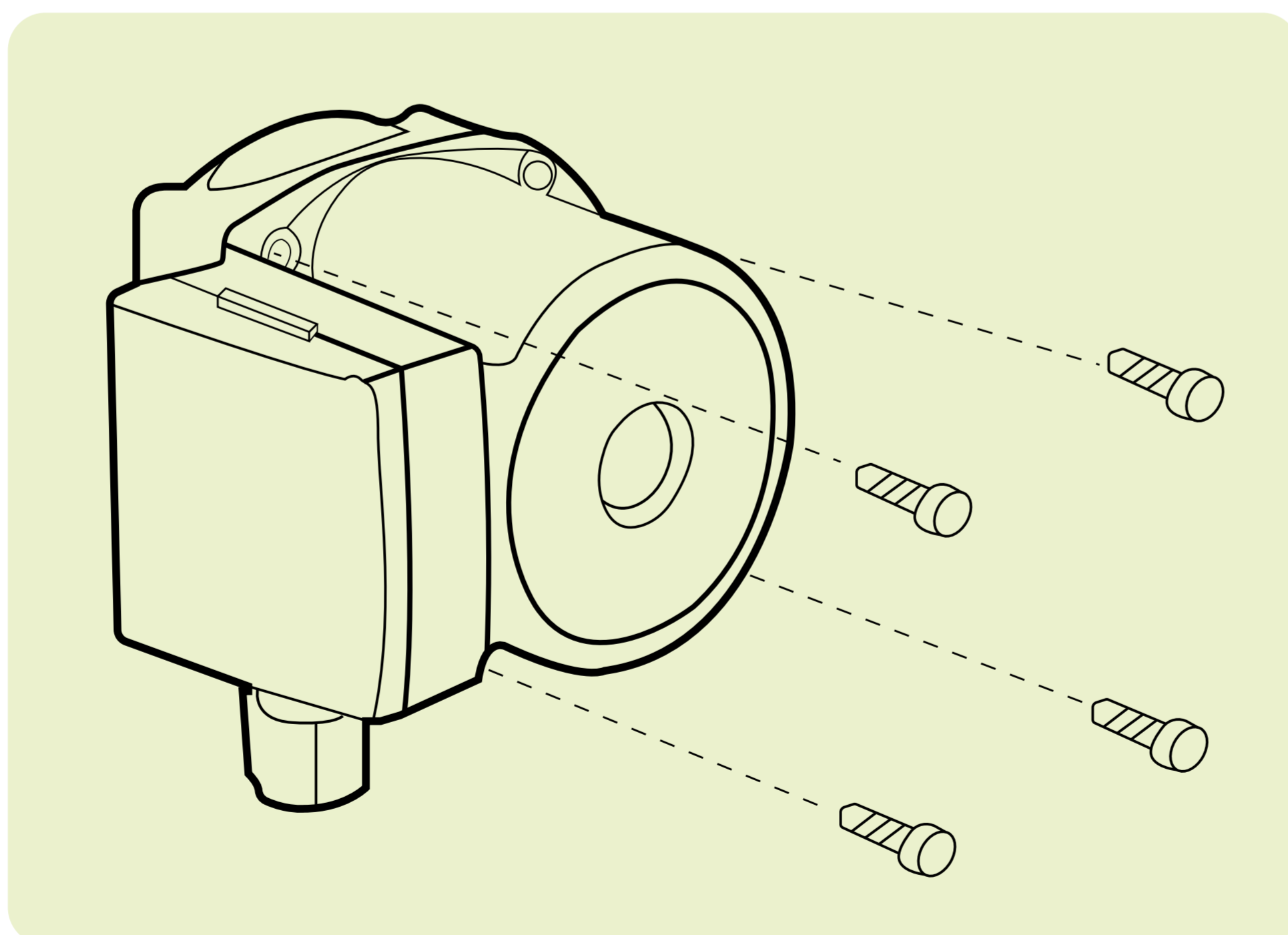


Fig. 2

Do not position the pump casing with the terminals down, Fig. 3

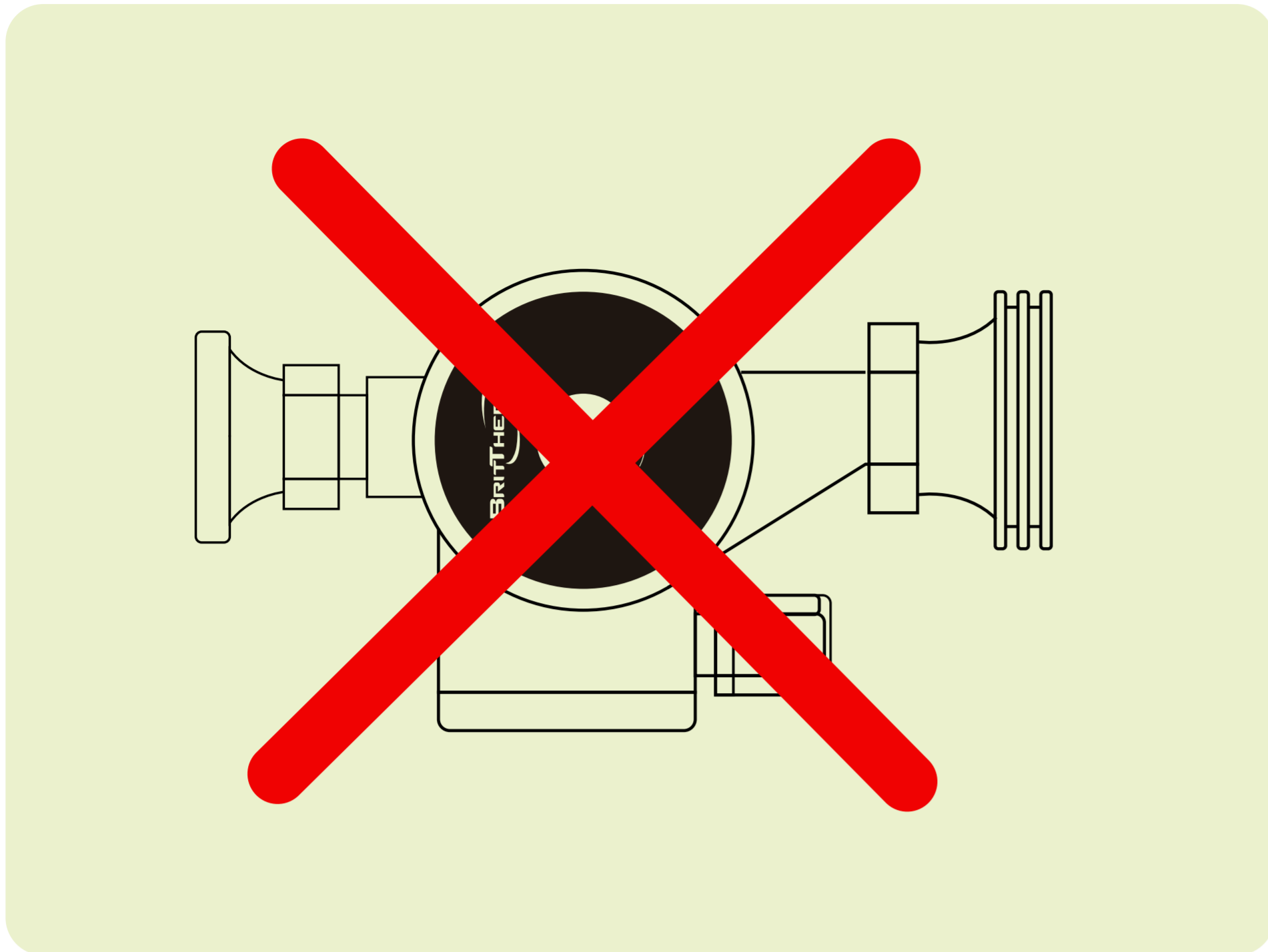


Fig. 3

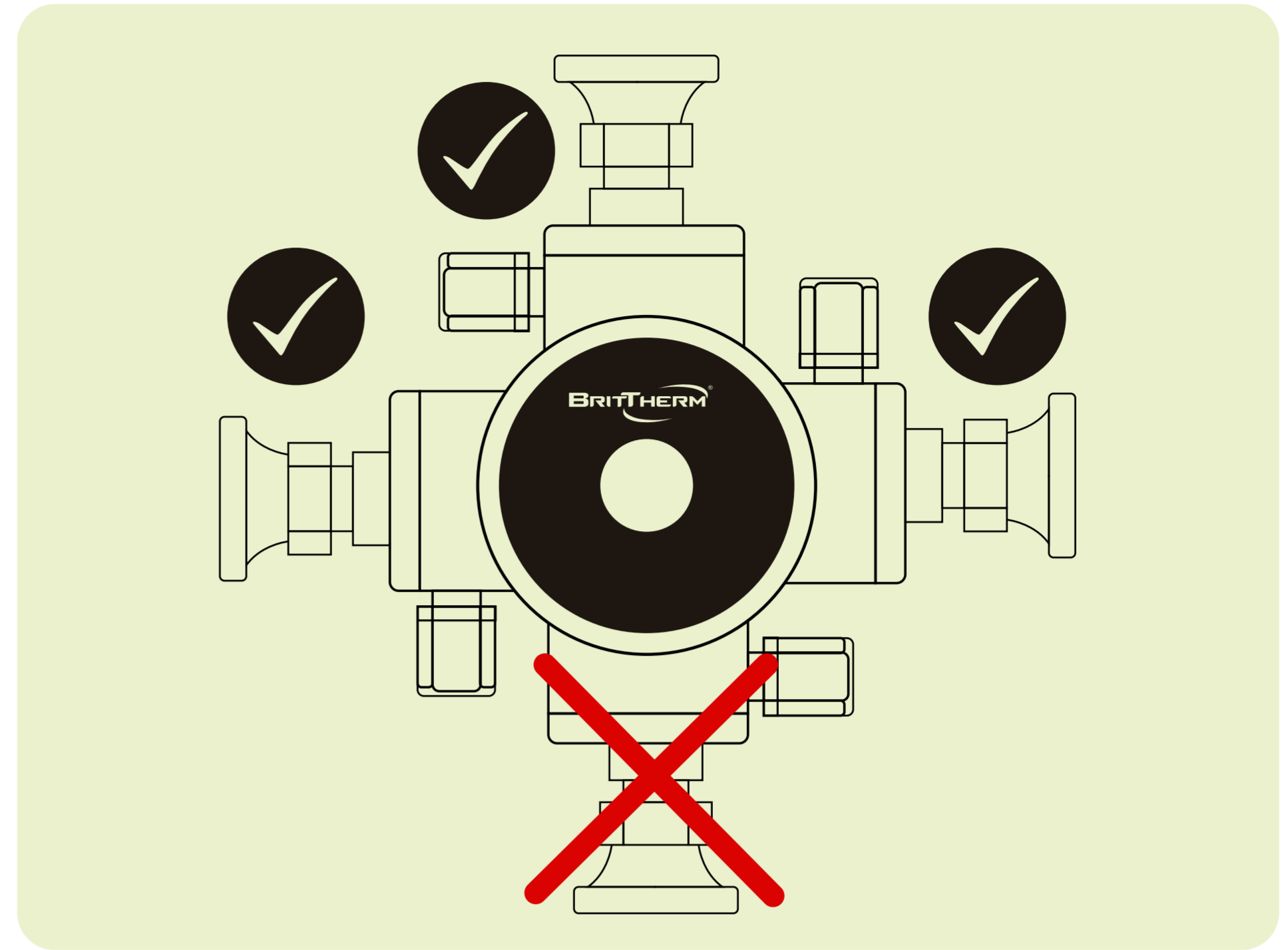


Fig. 4

Permissible layout of the pump and terminal box are shown in Fig. 4

Be sure to check the compliance of the mains voltage at the site and on the pump nameplate marking. The use of grounding is a prerequisite for ensuring the electrical safety of the equipment, as well as the safety of people in this room and in rooms nearby.

## PUMP MAINTENANCE

The pump structure is designed in such a way that it does not require special maintenance throughout the entire period of its operation.



It is recommended at least once every 6 months to check for fluid leaks at connections, for damage of the supply cable.

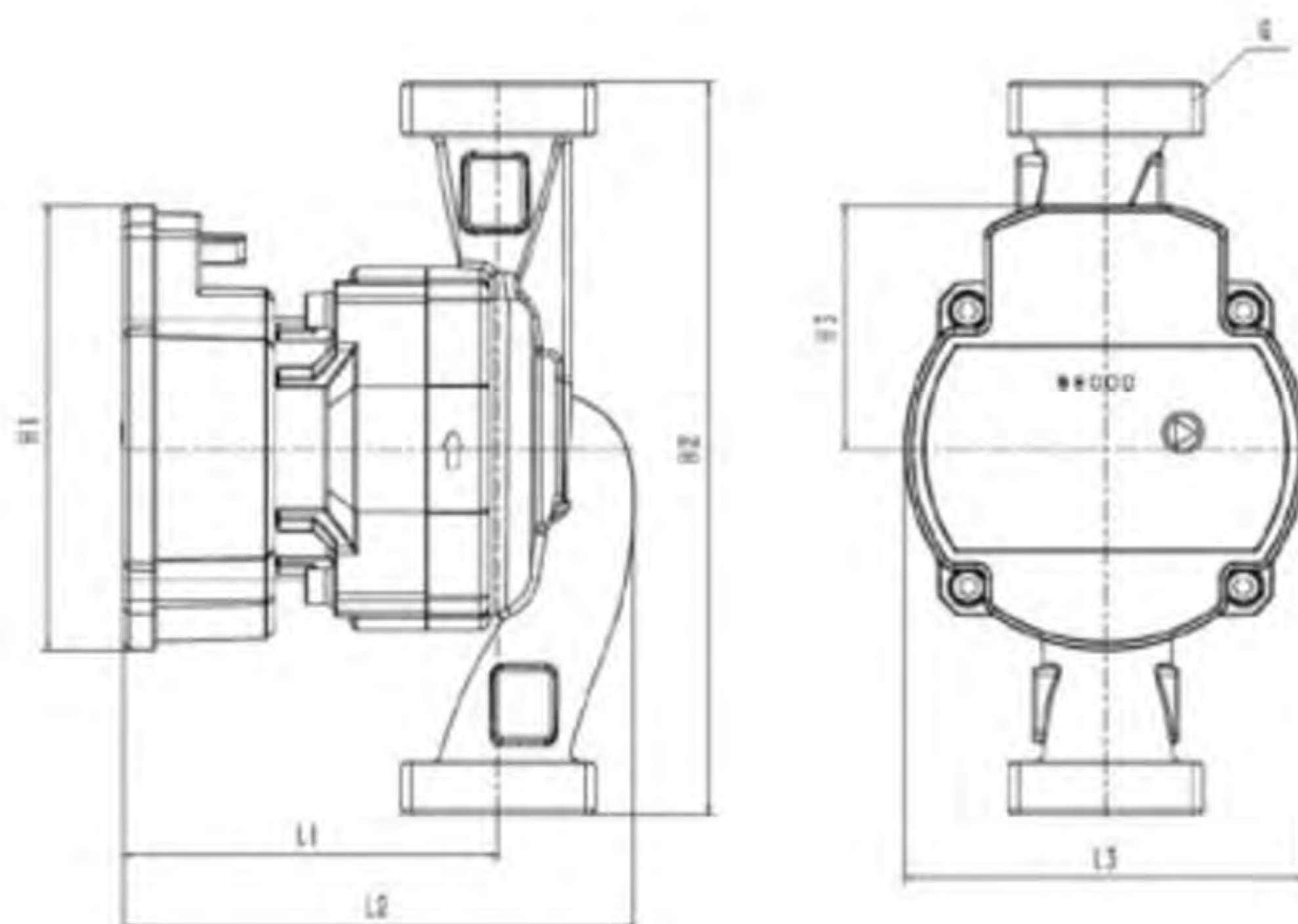
The pump should always run with a full system. Bearings are lubricated and pump is cooled by the pumped fluid.

# APPENDIX I

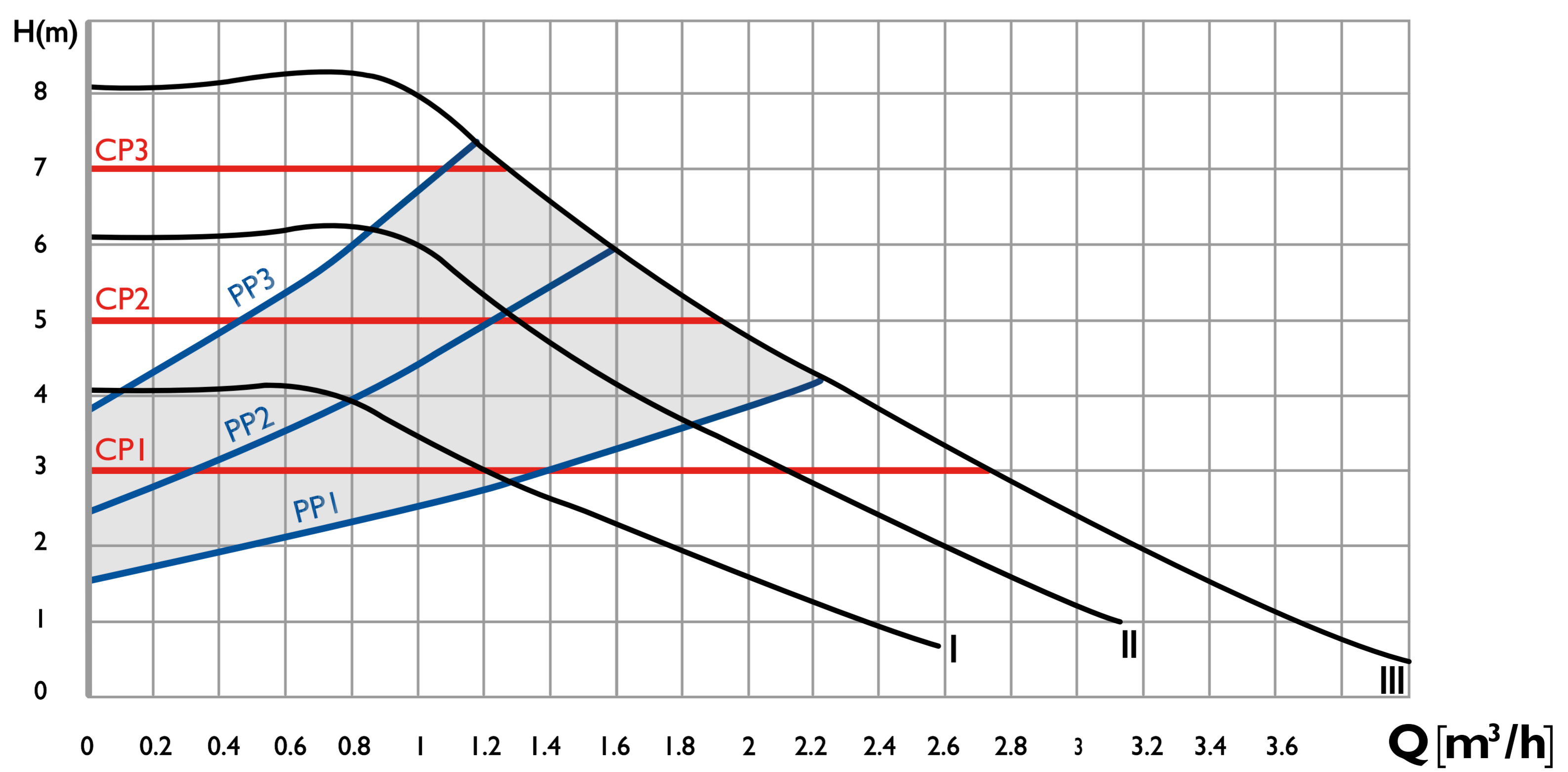
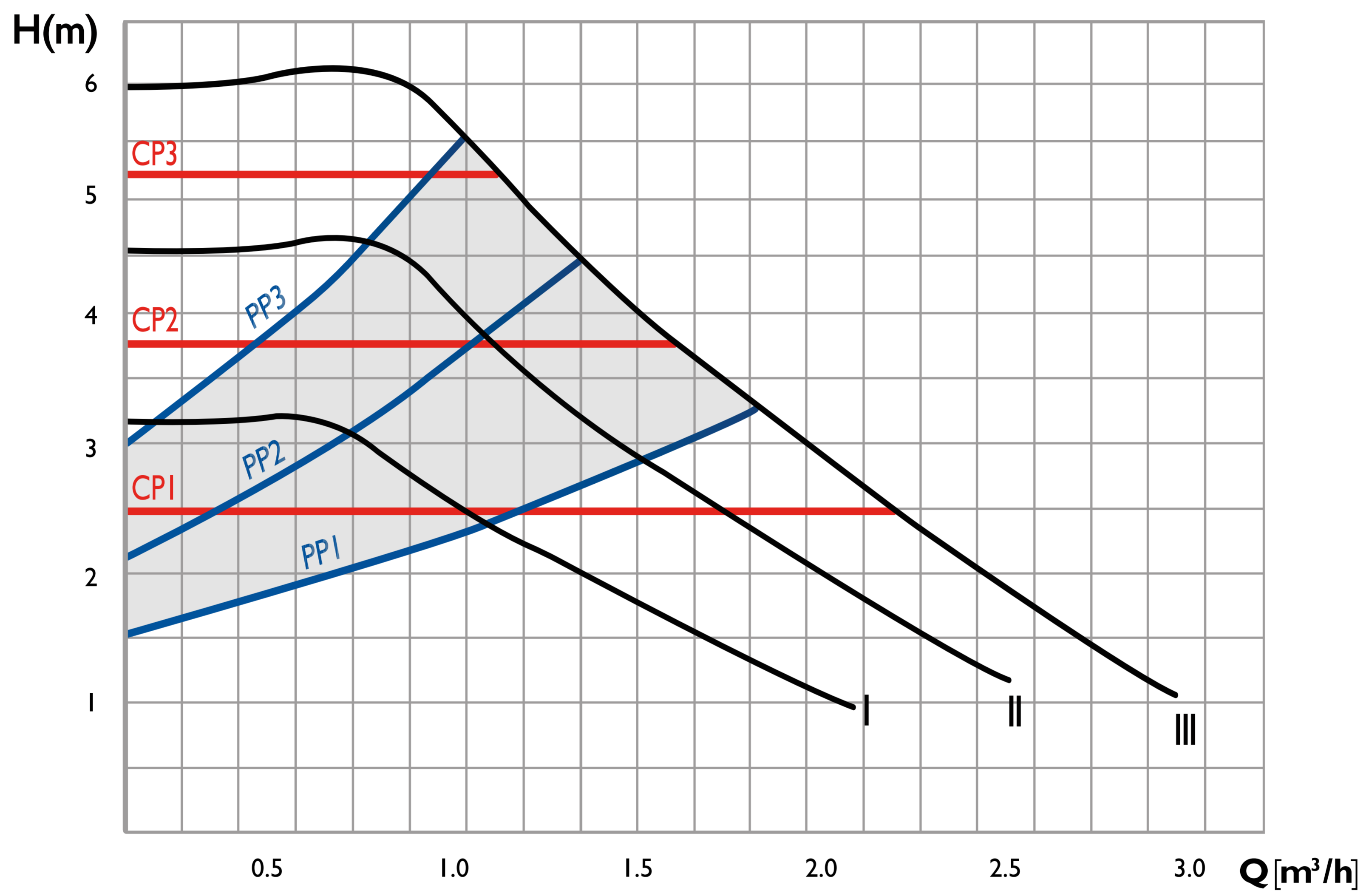
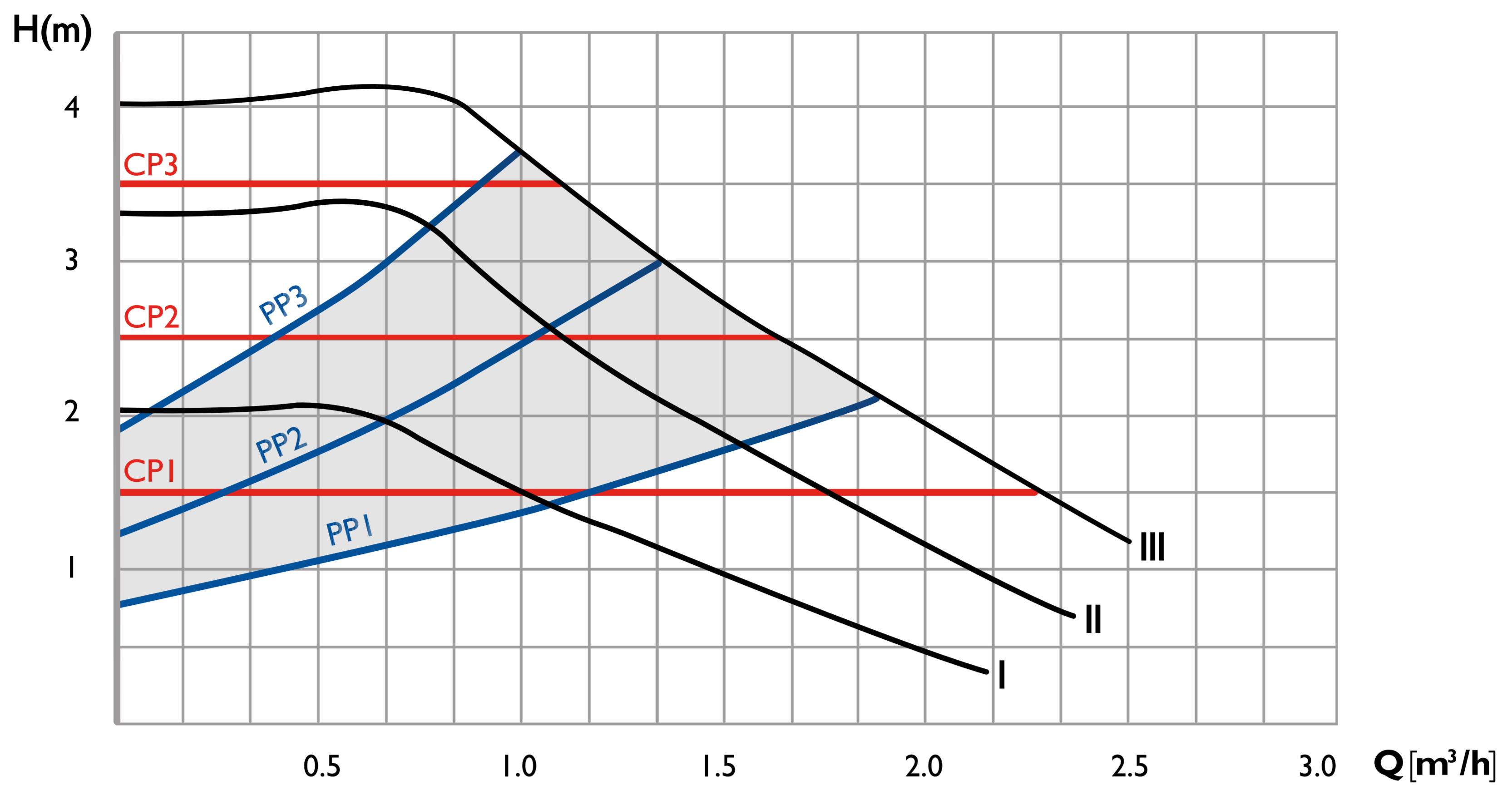
## H4 SERIES PUMPS SPECIFICATIONS



Nº	Code	Model	EEI ≤	Max Head (meter)	Max Flow (meter <sup>3</sup> /hour)	Power (watt)	Current (ampere)	Weight (kg)
1	661996601	H4 20/4	0.23	4	2.2	3~25	0.05~0.30	1.8
2	661996602	H4 25/4	0.23	4	2.5	3~25	0.05~0.30	2.0
3	661996603	H4 32/4	0.23	4	2.9	3~25	0.05~0.30	2.4
4	661996604	H4 20/6	0.23	6	2.9	3~45	0.05~0.50	1.8
5	661996605	H4 25/6	0.23	6	3.2	3~45	0.05~0.50	2.0
6	661996606	H4 32/6	0.23	6	3.6	3~45	0.05~0.50	2.4
7	661996607	H4 20/8	0.23	8	2.9	3~65	0.05~0.65	1.8
8	661996608	H4 25/8	0.23	8	3.6	3~65	0.05~0.65	2.0
9	661996609	H4 32/8	0.23	8	4.0	3~65	0.05~0.65	2.4







## APPENDIX 2

### MALFUNCTIONS



The pump is an engineering equipment in which the electrical part (motor) and the pumping part, where the fluid is pumped, are combined. Therefore, when performing any work, it is necessary to follow the rules of electrical safety. Be sure to turn off the power before doing any work. Make sure that liquid does not enter inside the terminal box and electrical cables, plugs, sockets, etc.



If you find any malfunctions or failures, we recommend you to contact the engineer who installed the pump first and then Brittherm Limited by 0208 9044 832 or email [info@brittherm.co.uk](mailto:info@brittherm.co.uk)

#### Possible malfunctions and elimination methods:

MALFUNCTION	CAUSE	ELIMINATION METHOD
The pump is not working	No power supply	Check power supply, cable, switch. Replace defective components
Operation noise	Air in the system	Bleed air from the system through air vents
	High flow rate	Set lower speed
	Contamination, foreign objects in the impeller	Disassemble the pump, remove the blockage. Flush the system, install filters if necessary
Poor performance	Valves not fully open, dirty filter	Open the valves, clean the filter, ensure good circulation
	Set speed is low	Set higher speed

# WARRANTY

## H4 SERIES PUMP WARRANTY INFORMATION

Your P4 Series Pump comes with a 6-year warranty against manufacturing defects.

This warranty ensures peace of mind and protection for your investment, provided the following conditions are met:

**CORRECT INSTALLATION:** The pump must be installed by a qualified engineer according to BritTherm's installation manual.

**PROPER MAINTENANCE:** The system must be maintained in line with BritTherm maintenance guidelines.

**WARRANTY REGISTRATION:** The warranty must be registered within 30 days of purchase at [www.brittherm.co.uk/guarantees](http://www.brittherm.co.uk/guarantees). Incorrect or incomplete registration will void the warranty.

### WARRANTY CLAIMS PROCEDURE

In the unlikely event of a manufacturing fault, you can make a warranty claim.

Please provide the following information:

- The unique warranty registration code received during registration.
- A copy of the pump purchase invoice.
- Additional evidence such as photos or videos may be requested to facilitate the claim process.

Send all claims to [warehouse@brittherm.co.uk](mailto:warehouse@brittherm.co.uk). Once your claim is validated, BritTherm will provide a replacement pump free of charge.

Please note, BritTherm does not offer repairs under this warranty.

### EXCLUSIONS AND LIMITATIONS

The warranty does not cover:

- Malfunctions due to incorrect installation, inadequate maintenance, or the use of inappropriate liquids (e.g., those containing solid particles, fibres, or mineral oil).
- Damage caused by improper use, storage, or maintenance.
- Labour costs for pump removal or reinstallation.
- For full terms and conditions, visit our website at [www.brittherm.co.uk/guarantees](http://www.brittherm.co.uk/guarantees).

**BRITTHERM™ IS PROUD TO SUPPLY THE UK'S LONGEST-LASTING CENTRAL HEATING PUMPS, WITH FAST DELIVERY AND COMPETITIVE PRICING.**

THANK YOU FOR CHOOSING BRITTHERM!

