

BRITTHERM[®]

BRITTHERM CIRCULATOR PUMPS

P3 series

(cast iron volute pumps with 9 control programs)



636199

INSTALLATION AND
OPERATION MANUAL

Table of Contents

General Information.....	03
Product Description.....	04
Pump Operation.....	05
Program Control.....	06
Night Mode/Package.....	07
Installation.....	08
Appendix (Specifications).....	11
Appendix (Malfunctions).....	18
Warranty.....	20

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 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

P3 Series Pumps are the next generation of P1 series pumps produced according to the technology of compact rotor with permanent magnets that meet the most strict ErP regulations, and with a minimum $EEL \leq 0.16 \sim 0.23$. The P3 Series Pump is a model range similar in characteristics to the P2 Series Pumps, differs from P2 only in the location of the control panel, which is very convenient for installing P3 pumps in hidden cabinets, in small niches, in places with difficult access.

These pumps have 9 built-in automatic operation modes and P3 pumps can be used in any domestic heating system, including underfloor heating systems, cooling and air conditioning systems, solar and geothermal energy systems, for clean water recycling and pumping, if its specifications meet the specified parameters of such systems.

Intelligent operation modes of P3 Series pumps automatically adjust to the specifications of any heating system in order to achieve optimal comfort and minimum energy consumption, i.e. to achieve the best effect for any closed heating system, for any goals that customers set for themselves. P3 Series Pumps do not require maintenance during the entire service life, that confirms their high reliability, which is why we successfully offer our customers a 6-year warranty for these pumps.

It is suitable for:

- Domestic heating systems
- Heating systems using HIU
- Radiator heating
- Underfloor heating
- Non-potable water recirculation
- Cooling systems
- Air conditioning systems
- Solar heating systems
- Heating systems using heat pumps

The pump design consists of a motor and a pump body. The cast iron volute pump casing (pump volute) has a cathaphoretic coating that acts as a protective layer providing ten times greater corrosion resistance than untreated cast iron.

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

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

The power cable is connected using spring-loaded electrical clamps

The pump is mounted using coupling nuts.

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

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.

Energise the pump. The pump operation and rotor rotation direction should be checked using special instruments - rotation indicators, which the engineer must have. The pump should run quietly. Bleed air as described above if extraneous noises appear.

The air outlet from the heating system should be through air vents at top points.



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

PROGRAM CONTROL

Everything under control

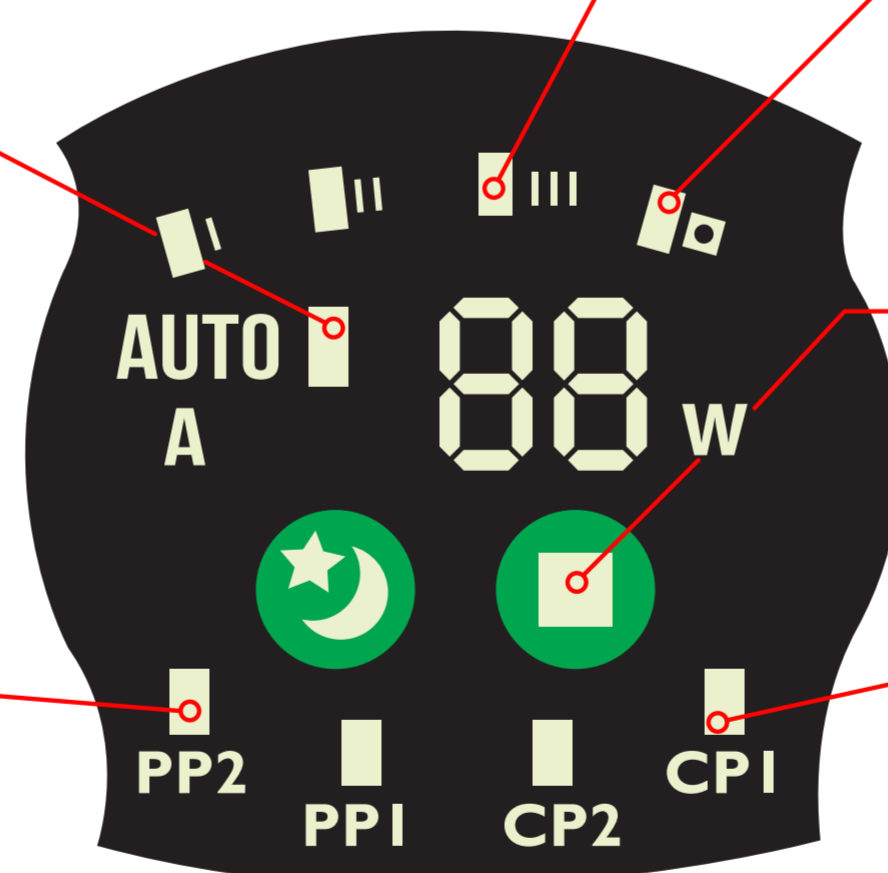
9-segment power display provides an easy overview of all that is going on in the pump.

Autoadapt mode

- The factory setting, AUTO, analyzes the heating system and automatically adjusts the pump setting to meet the heating requirement. The result is optimum comfort and a minimum of energy consumption.
- AUTO can be used in 80% of the heating system.

Proportional pressure mode

- If the proportional pressure mode is selected, the differential pressure varies proportionally with the flow, i.e. higher flow means higher differential pressure
- Proportional pressure is the preferred choice for one-string systems with high flow variation
- Proportional pressure curve (high and low).



Constant speed mode

Three constant speed modes for constant flow applications.

Night mode

The night mode reduces the power consumption to a minimum with power-saving features.

Easy operation

Intuitive one-touch operation makes control mode selection simple.

Constant pressure mode

- The pump maintains constant pressure regardless of the flow.
- The preferred operation mode for under floor heating and 2 string systems with low flow variation
 - Constant pressure curves (low and high).



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.

NIGHT MODE

Push the button to start the Night Mode.

Once the Night Mode is enabled, the pump would reduce its power consumption automatically.

After 2 hours the power would drop to its minimum level (5-10 Watts).

After 7 hours the pump would revert to its original setting automatically.

PACKAGE

- Pump assembly - 1 piece;
- Set of coupling nuts with gaskets - 1 set;
- Thermal insulation foam jacket - 1 piece;
- Power cable, 1.3m long, with plug (UK) - 1 set;
- 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.



Pumps should be installed by personnel who have a permit to work with electrical equipment, trained and have sufficient experience in operating similar pumping equipment!

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

The pump motor, during installation, should always be placed parallel to the horizontal surface relative to the floor in the room.

The correct layout of the pump is shown in Fig. 2 and 3.

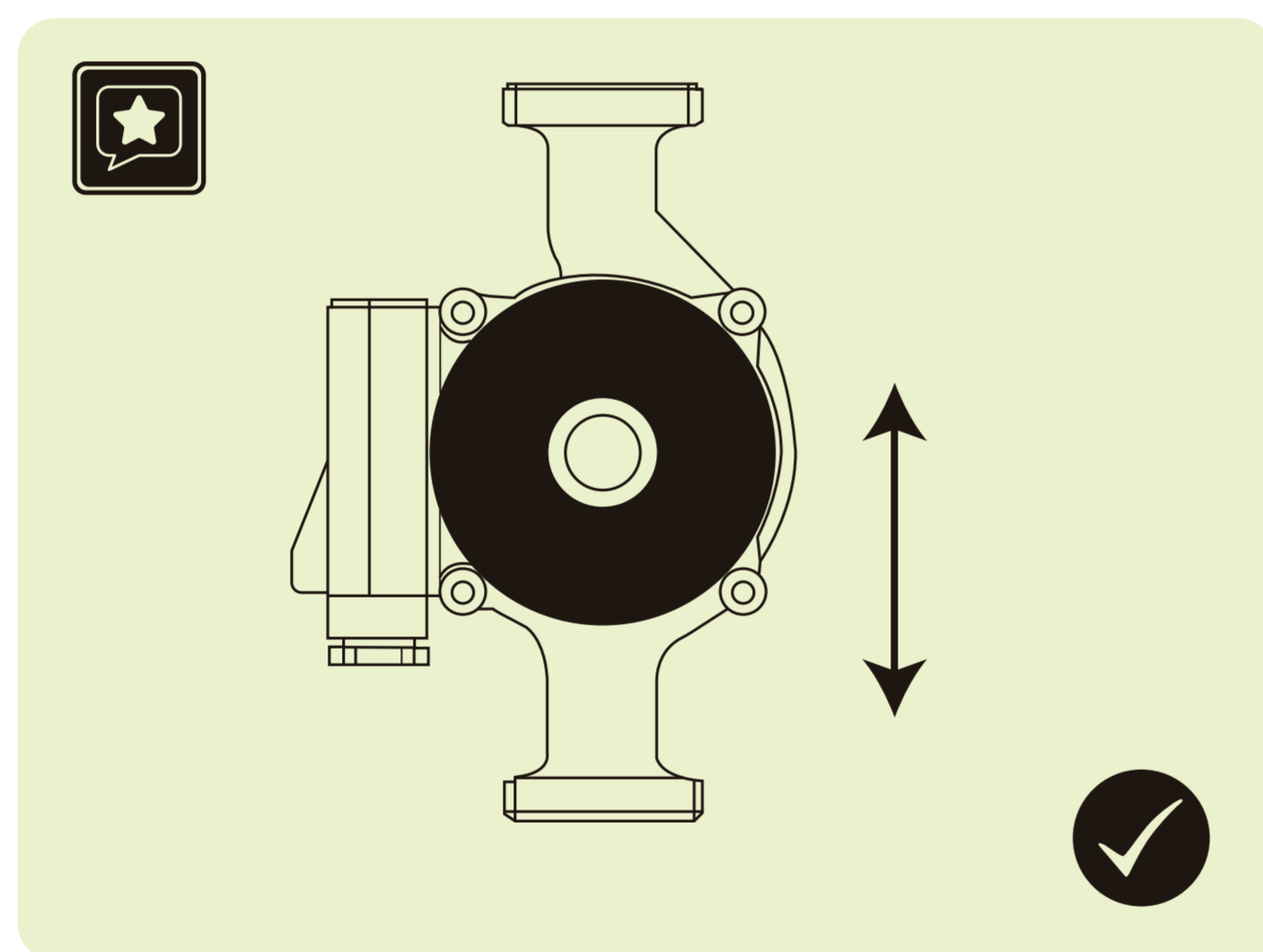


Fig. 2

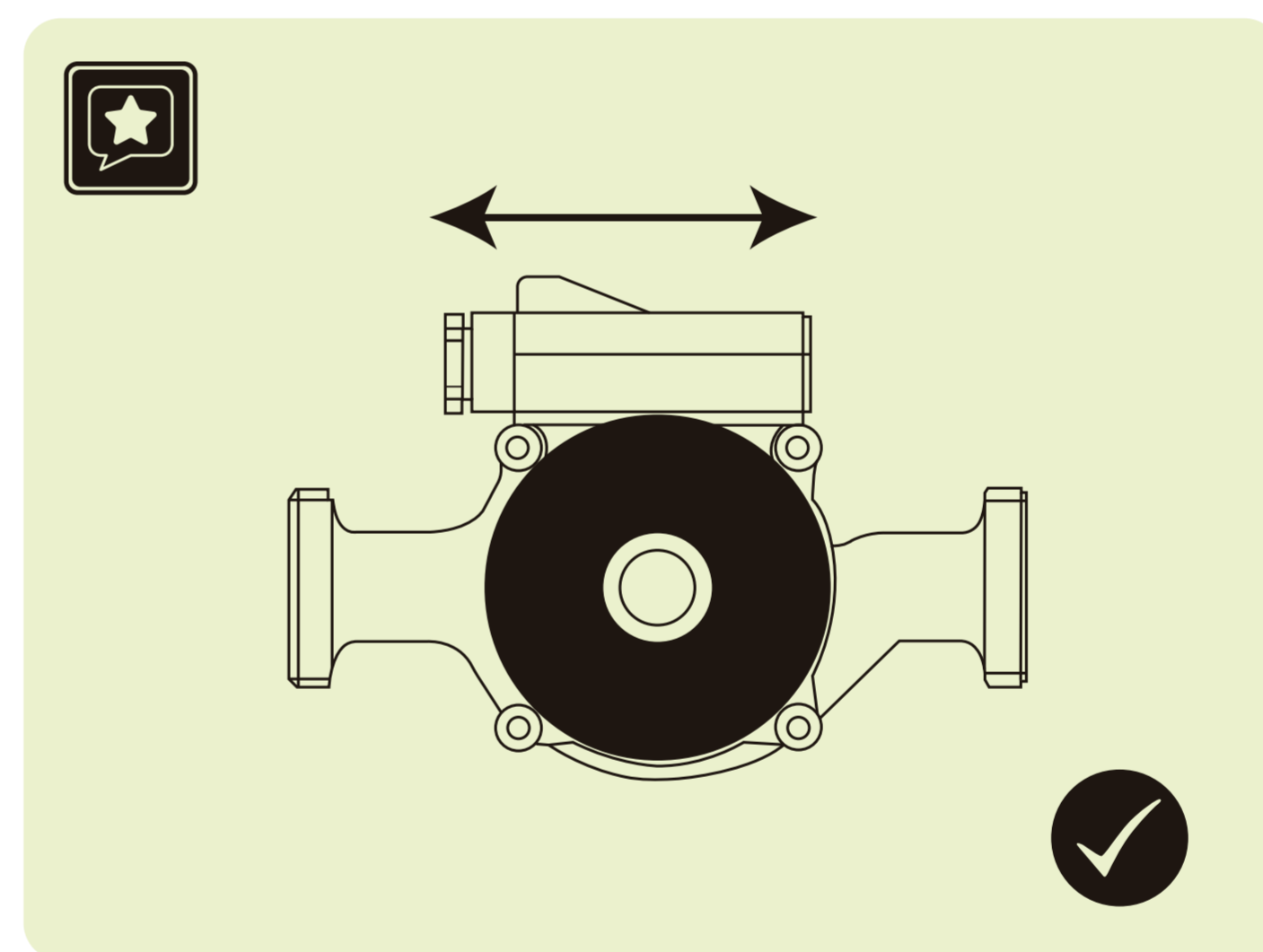


Fig. 3

Incorrect layout of the pump is shown in Fig. 4 and 5. Do not position the pump casing with the terminal box down, Fig. 6.

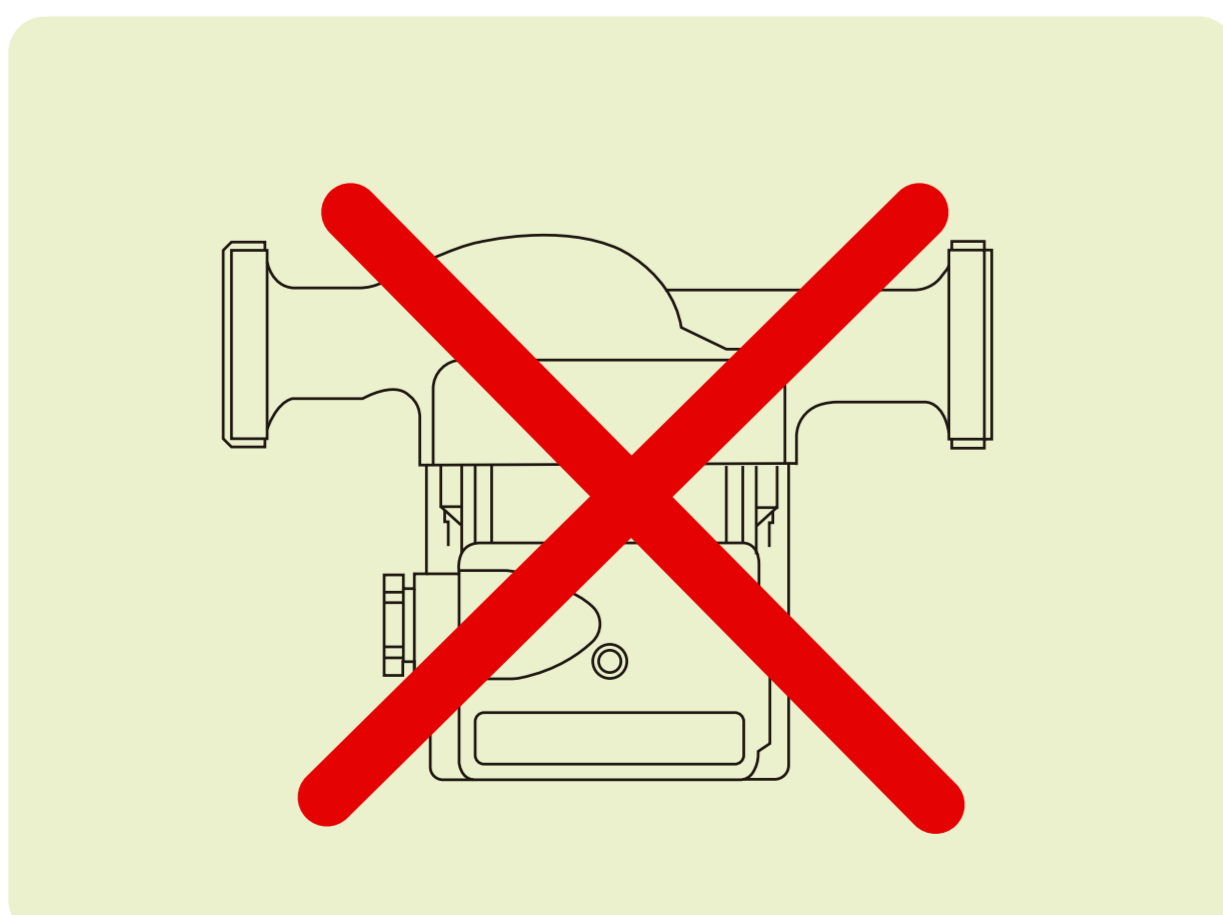


Fig. 4

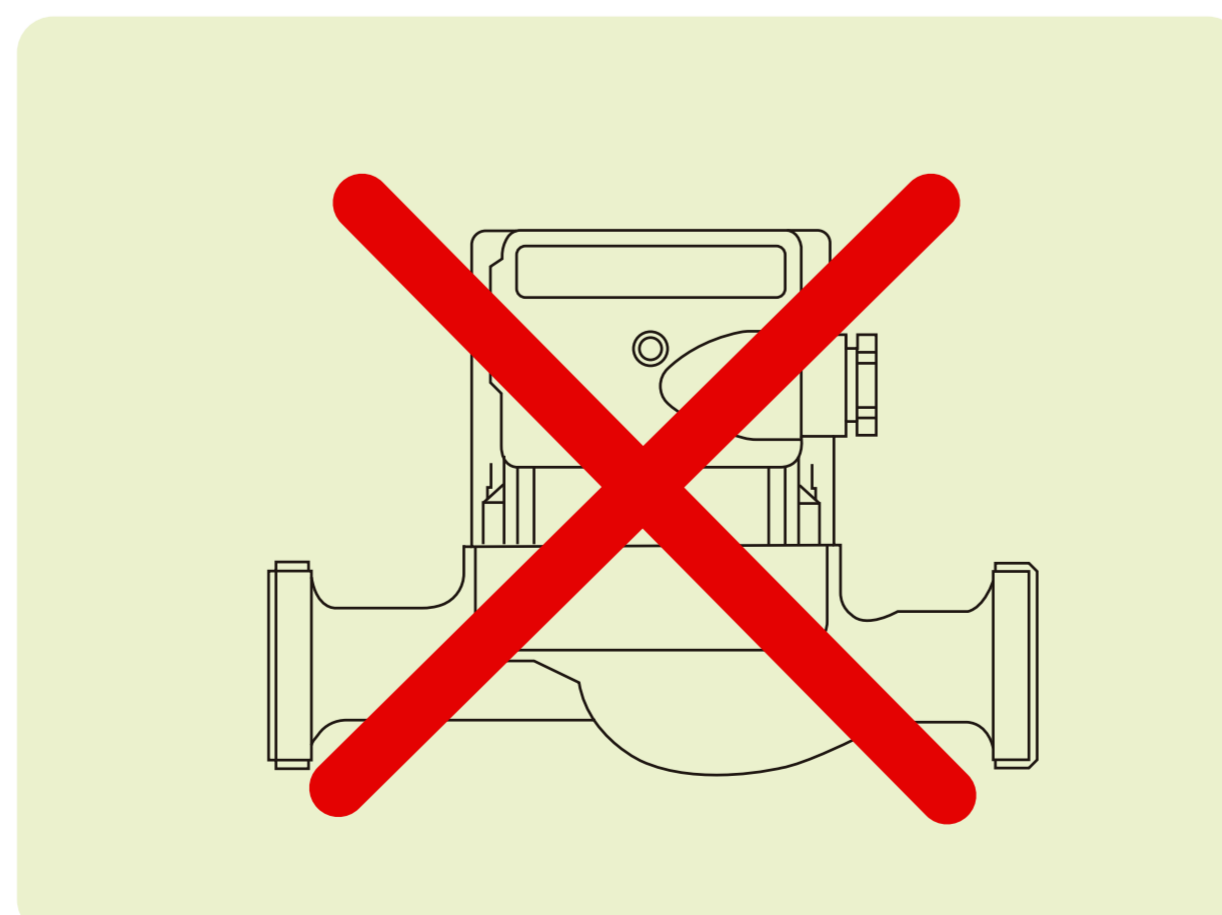


Fig. 5



Fig. 6

Permissible layout of the pump and terminal box are shown in Fig. 7

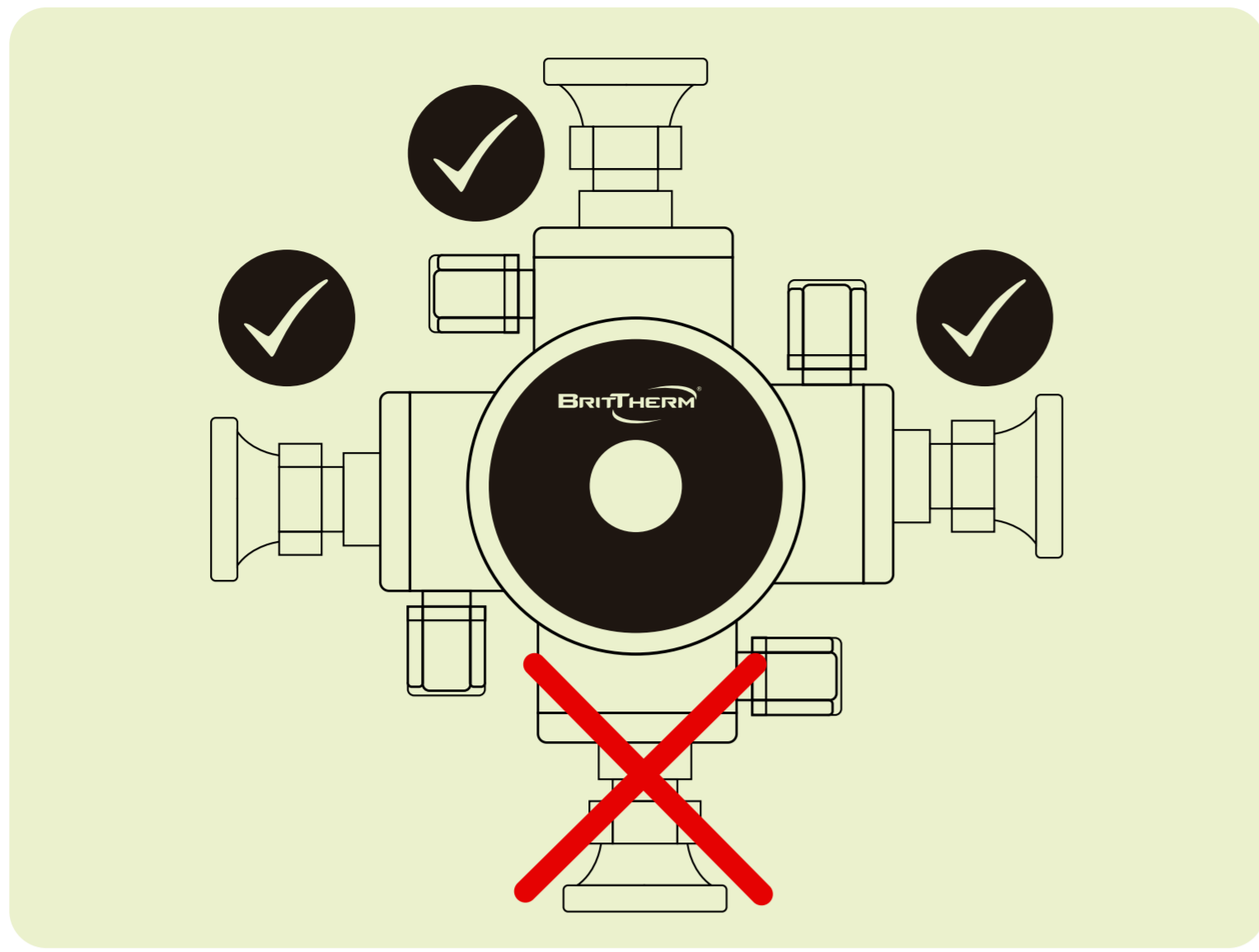


Fig. 7

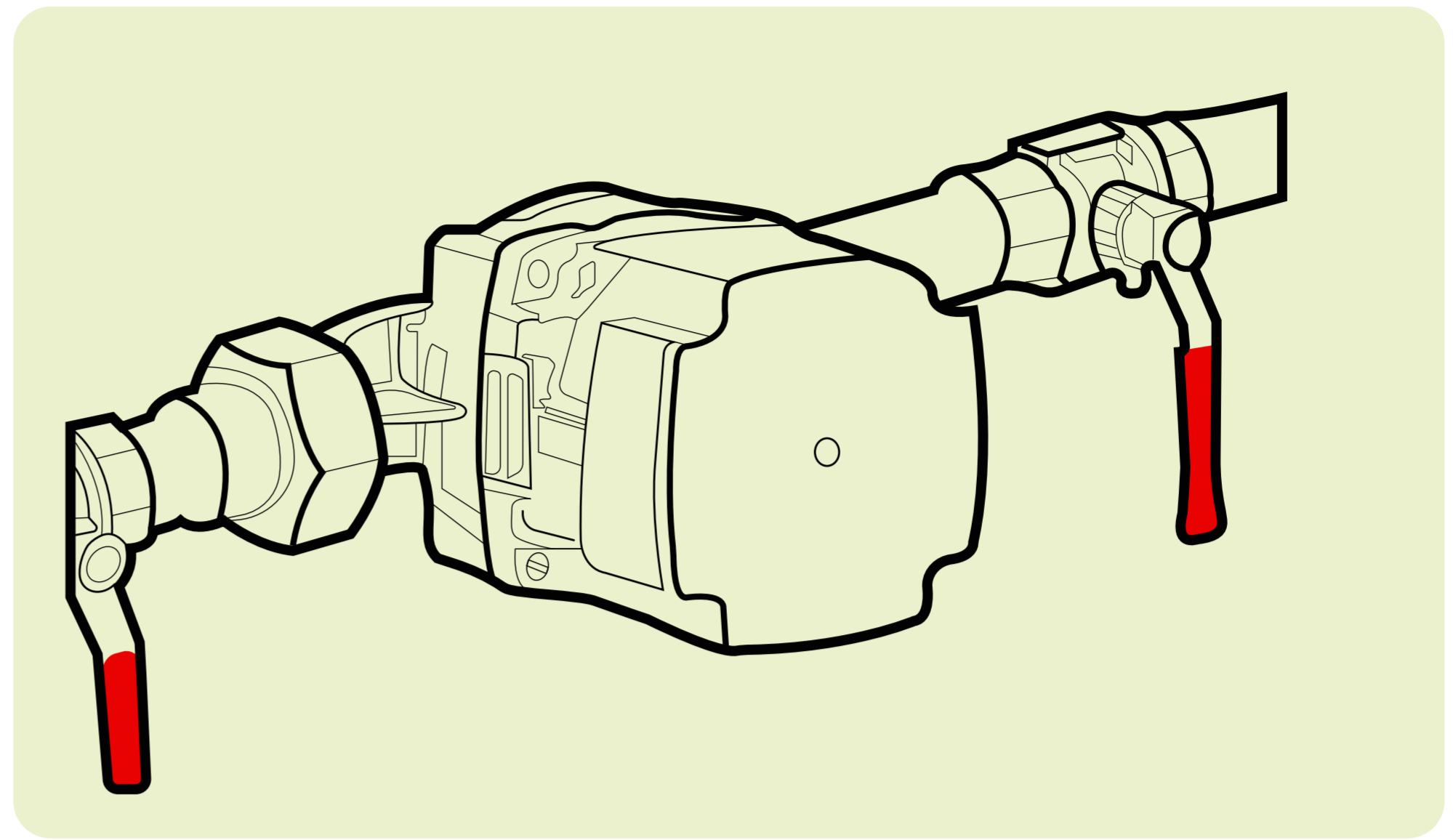


Fig. 8

It is recommended to install shut-off valves upstream and downstream of the pump as shown in Fig. 8.

If necessary, you can change the layout of the pump motor relative to the volute by 90-180-270 degrees. To do this, it is enough to unscrew the four screws securing the motor, rotate the body in 90-degree pitch and tighten the screws, as shown in Fig. 9.



To perform this procedure, it is necessary to close the valves upstream and downstream of the pump, turn off the power supply and prepare a container for liquid. Water will flow from the pump after unscrewing the screws. Once the pump is in position, tighten the screws evenly and crosswise. Open the valves. The air outlet from the system should be through air vents at top points.

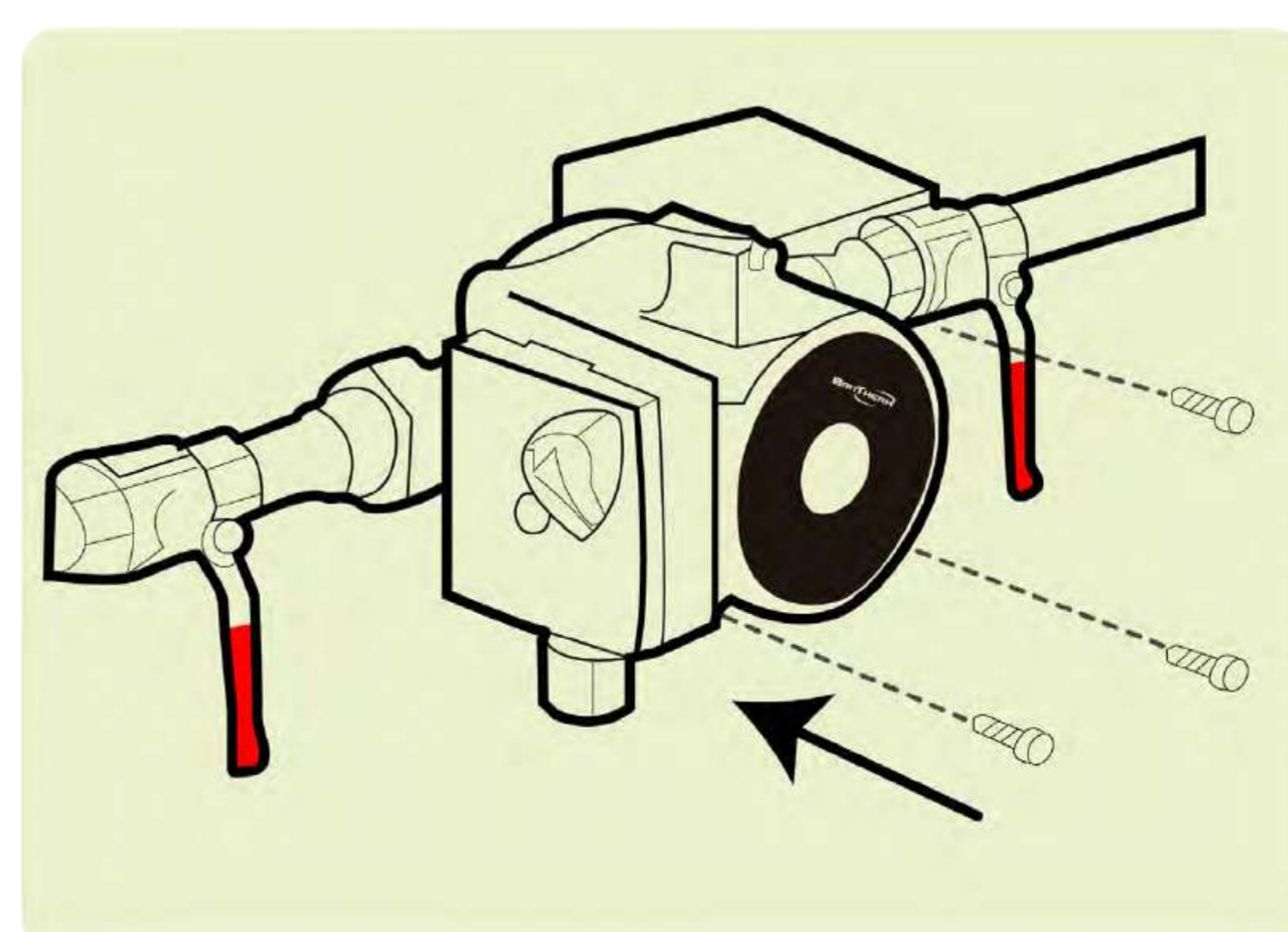
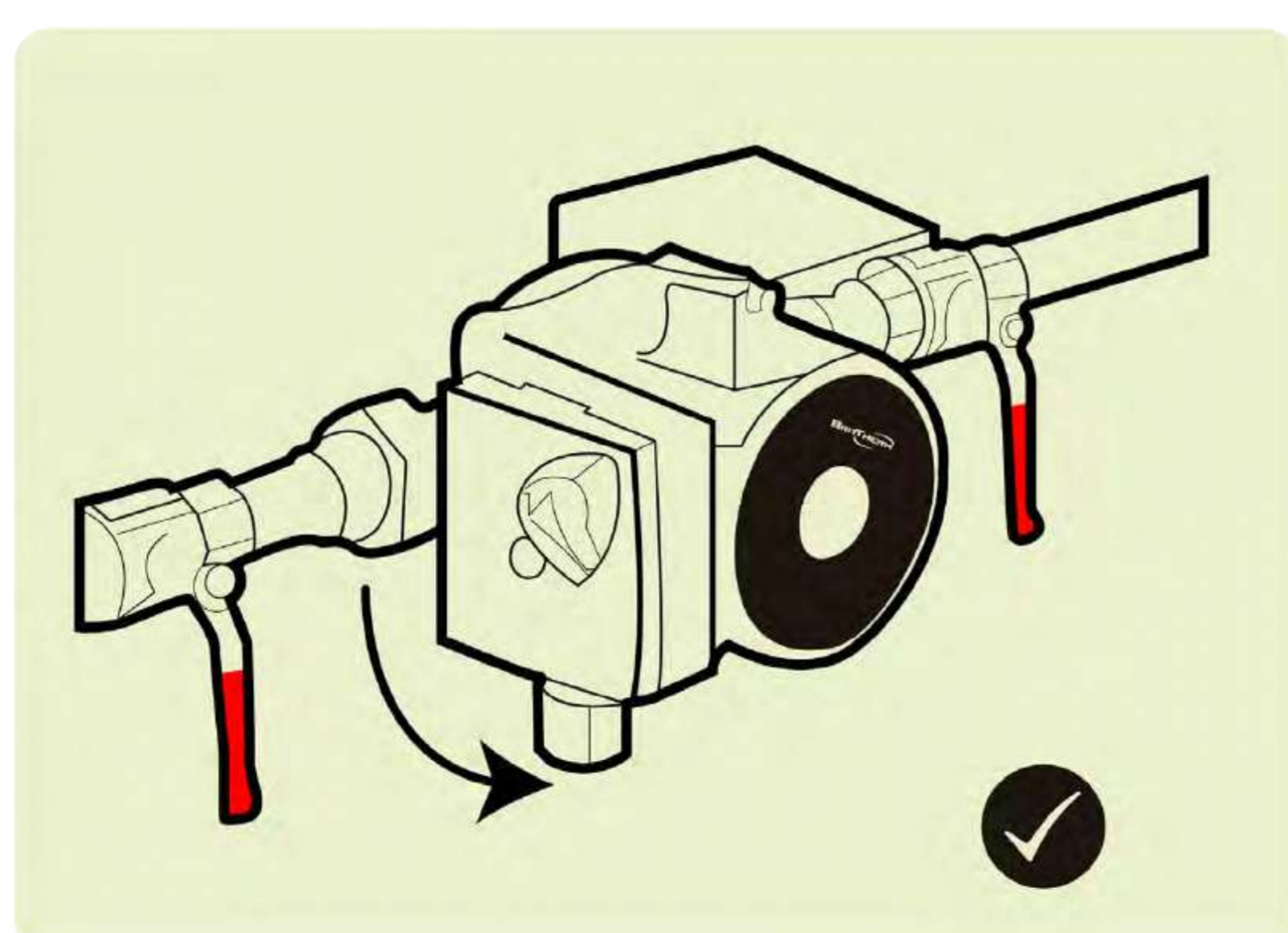


Fig. 9

Use coupling nuts and gaskets to mount the pump, Fig. 10.
Use special or universal wrenches of the appropriate size.
Do not overtighten the nuts as this may damage the rubber seals.

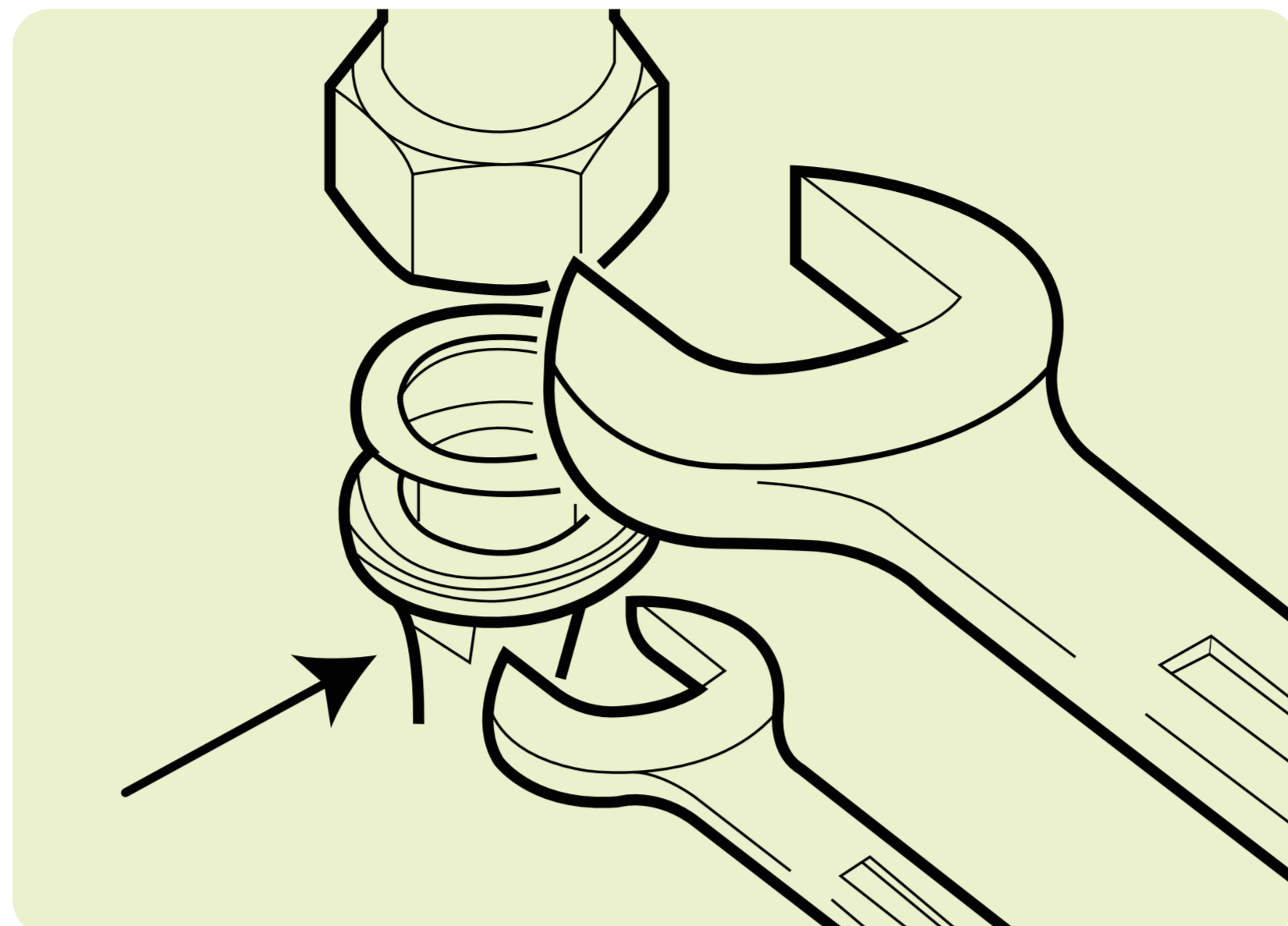


Fig. 10

The pump installation should be carried out taking into account the possibility of its replacement and maintenance.
Always use new seals when replacing or installing the pump in a new place.



The P-Series pump uses a quick release connector. Just connect the power cable to the connector. See Fig. 11.

Brown - to terminal L (phase);
Blue - to terminal N (neutral);
Yellow-green - to terminal \oplus (ground).

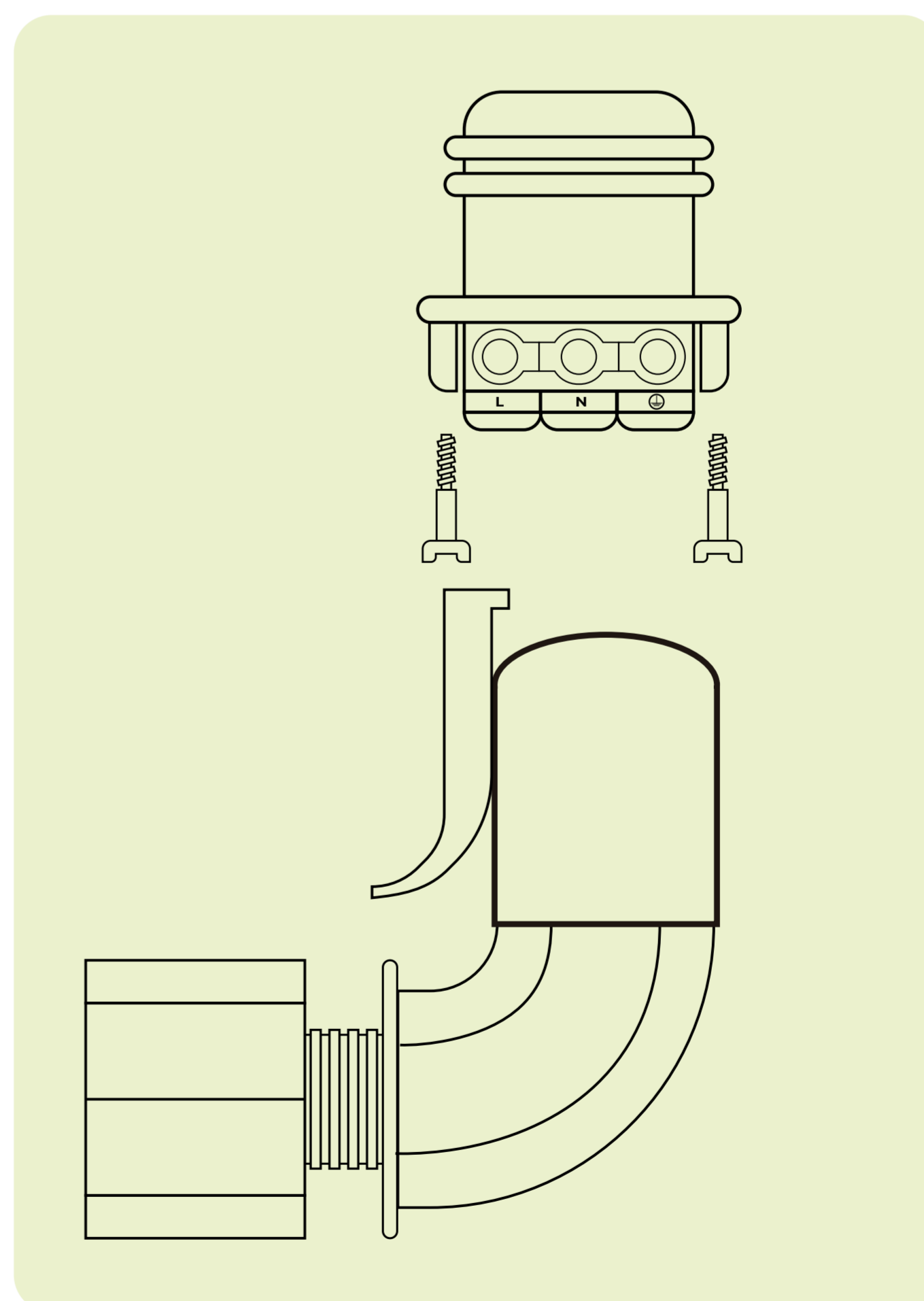
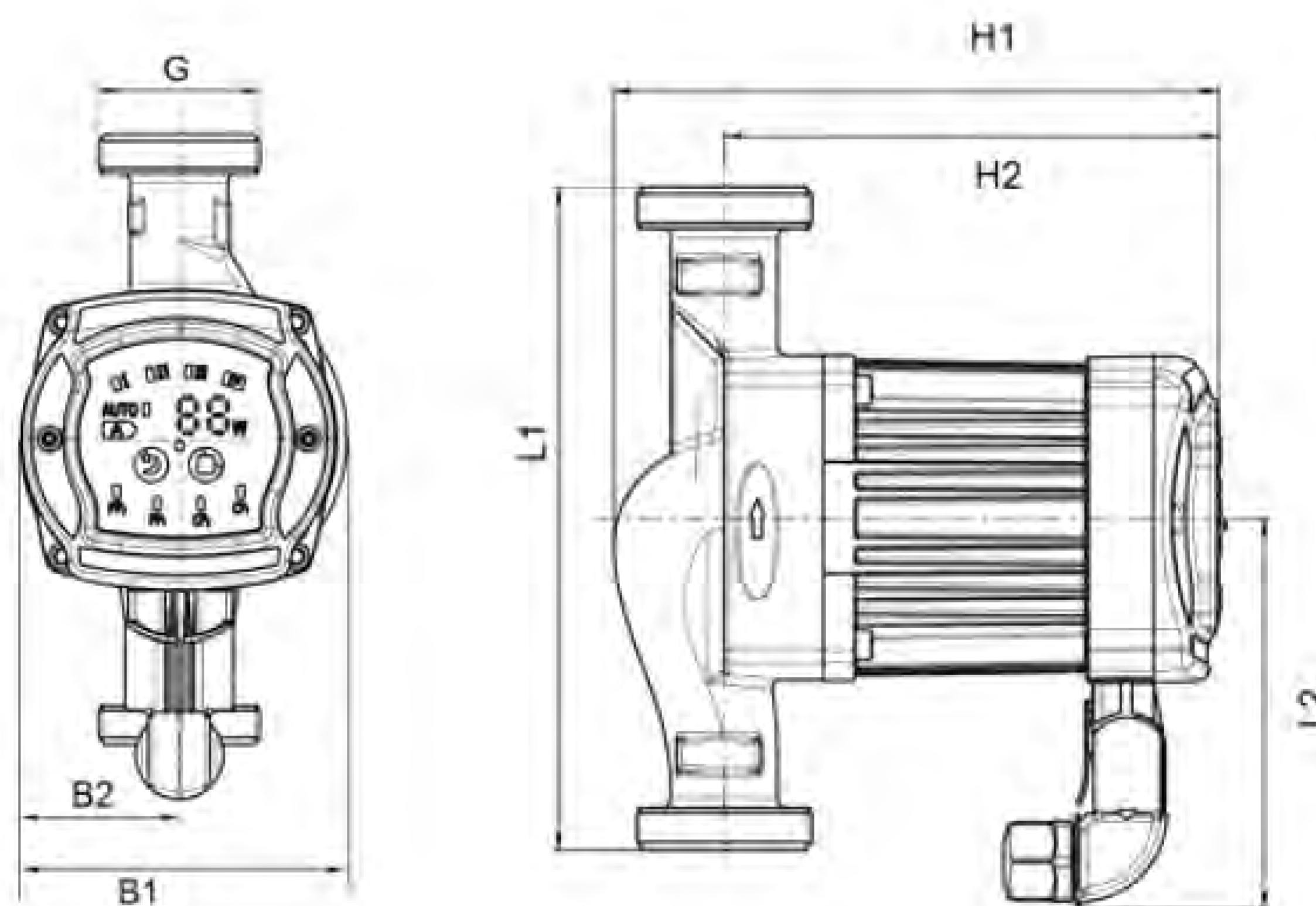


Fig. 11

Wire with plug is supplied complete with the product.

APPENDIX I

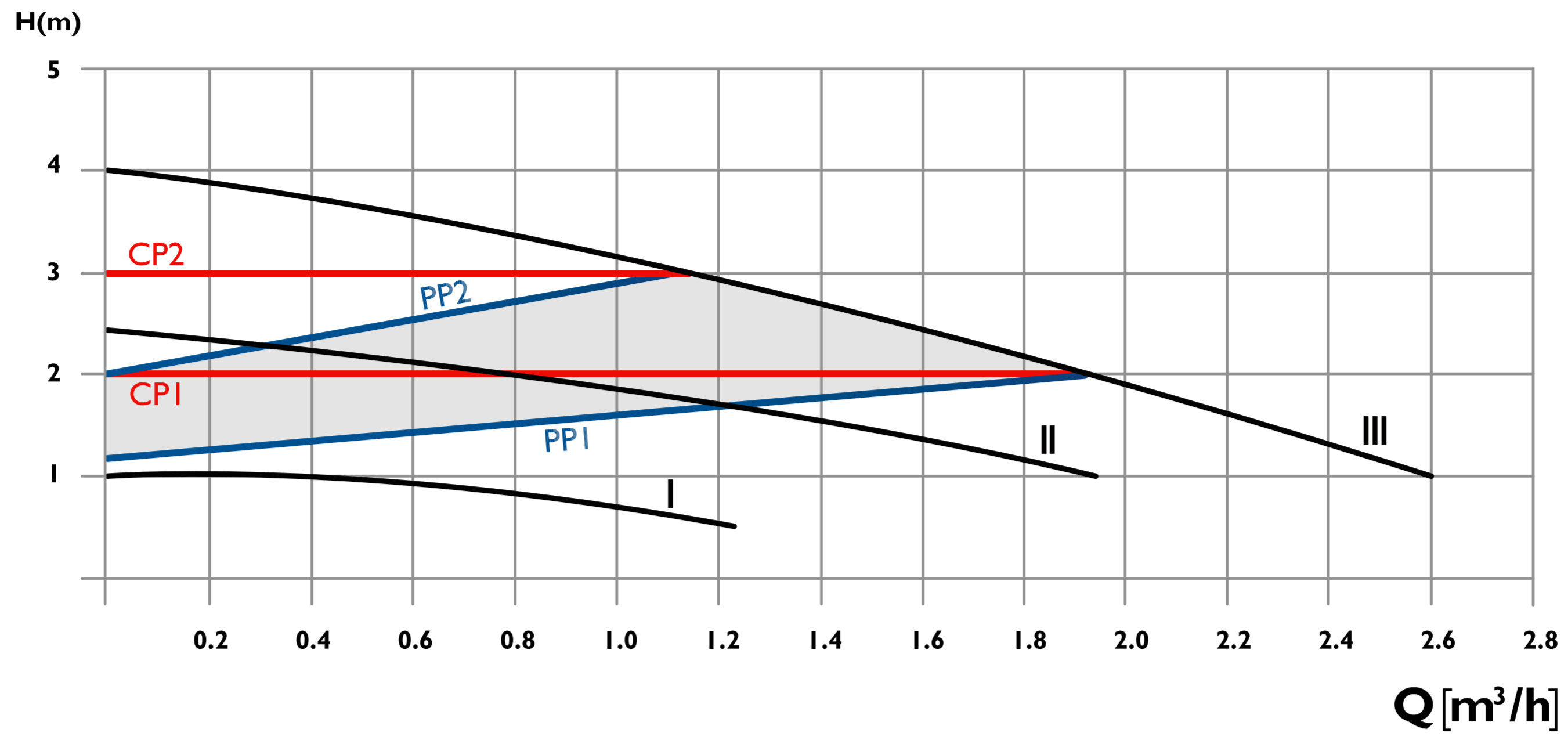
P3 SERIES PUMPS SPECIFICATIONS



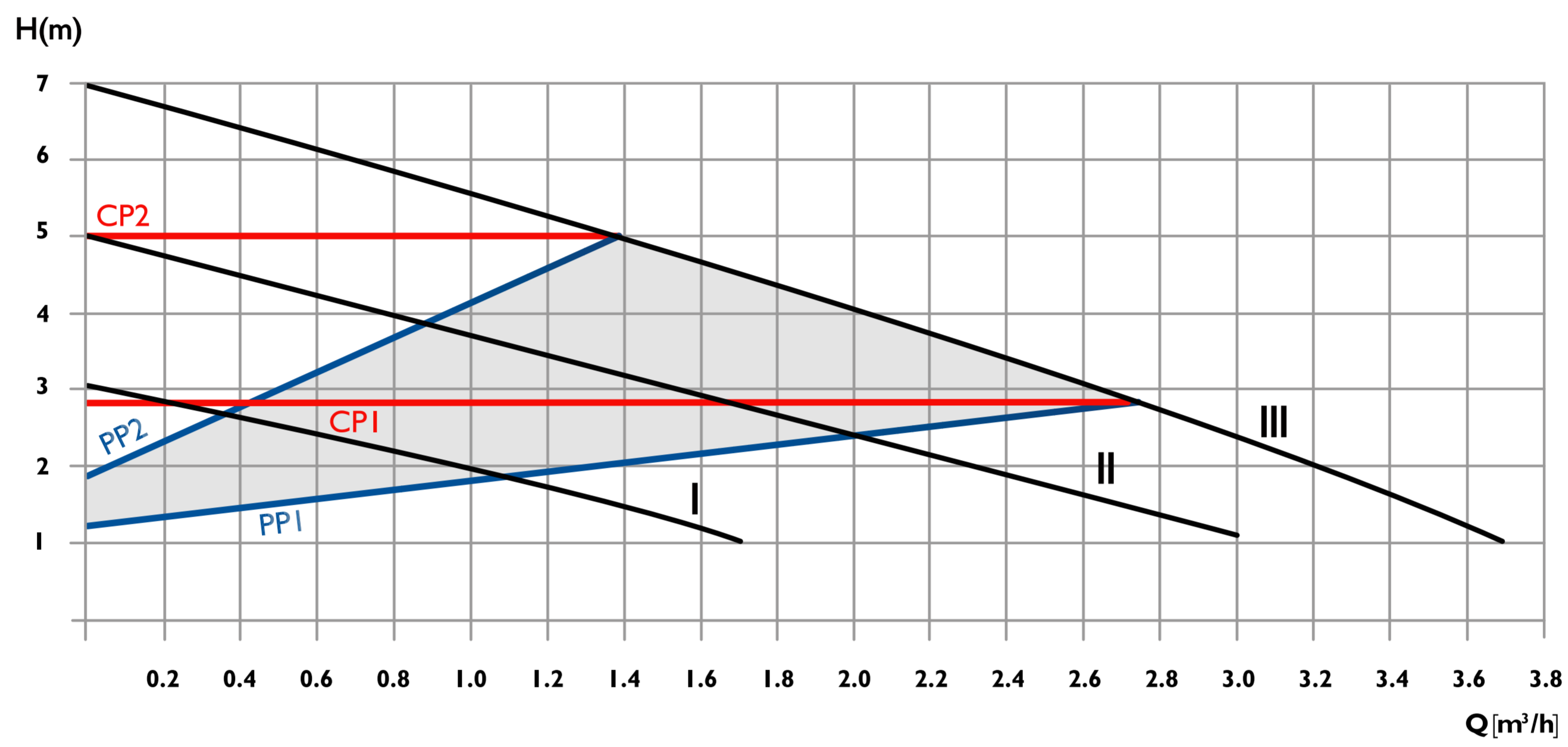
Type	L1 (mm)	L2 (mm)	B1 (mm)	B2 (mm)	H1 (mm)	H2 (mm)	G (inch)	Material of rear housing
P3 15/4, 5, 6, 7	130	80	155	105	129	101	1"	cast iron
P3 25/4, 5, 6, 7	130	80	155	105	129	101	1 1/2"	cast iron
P3 25/4, 5, 6, 7	180	80	155	105	129	101	1 1/2"	cast iron
P3 32/4, 5, 6, 7	180	80	155	105	129	101	2"	cast iron

Nº	Type	Model	EEl ≤	Max Flow (meter ³ /hour)	Max Head (meter)	Power (watt)	Current (ampere)	Pump volute length (mm)	Inlet/Outlet Thread (inch)	Pipe connection (inch)	Weight (kg)
1	661995401	P3 15/4-130	0.23	1.8	4	5~22	0.05~0.22	130	1"	3/4"	2.1
2	661995402	P3 25/4-130	0.23	2.6	4	5~22	0.05~0.22	130	1 1/2"	1"	2.3
3	661995403	P3 25/4-180	0.17	2.6	4	5~22	0.05~0.22	180	1 1/2"	1"	2.4
4	661995404	P3 32/4-180	0.23	3.0	4	5~22	0.05~0.22	180	2"	1 1/4"	2.4
5	661995405	P3 15/5-130	0.23	2.3	5	5~30	0.05~0.28	130	1"	3/4"	2.1
6	661995406	P3 25/5-130	0.20	3.1	5	5~30	0.05~0.28	130	1 1/2"	1"	2.3
7	661995407	P3 25/5-180	0.23	3.1	5	5~30	0.05~0.28	180	1 1/2"	1"	2.4
8	661995408	P3 32/5-180	0.23	3.4	5	5~30	0.05~0.28	180	2"	1 1/4"	2.4
9	661995409	P3 15/6-130	0.23	2.4	6	5~45	0.05~0.46	130	1"	3/4"	2.1
10	661995410	P3 25/6-130	0.22	3.6	6	5~45	0.05~0.46	130	1 1/2"	1"	2.3
11	661995411	P3 25/6-180	0.23	3.6	6	5~45	0.05~0.46	180	1 1/2"	1"	2.4
12	661995412	P3 32/6-180	0.23	3.6	6	5~45	0.05~0.46	180	2"	1 1/4"	2.4
13	661995413	P3 15/7-130	0.23	2.7	7	5~47	0.05~0.48	130	1"	3/4"	2.1
14	661995414	P3 25/7-130	0.21	3.7	7	5~47	0.05~0.48	130	1 1/2"	1"	2.3
15	661995415	P3 25/7-180	0.23	3.7	7	5~47	0.05~0.48	180	1 1/2"	1"	2.4
16	661995416	P3 32/7-180	0.23	3.7	7	5~47	0.05~0.48	180	2"	1 1/4"	2.4
17	661995417	P3 25/8-180*	0.23	6.8	8	12~140	0.12~1.20	180	1 1/2"	1"	3.3
18	661995418	P3 32/8-180*	0.23	7.3	8	12~140	0.12~1.20	180	2"	1 1/4"	3.5
19	661995419	P3 25/10-130*	0.23	6.8	10	12~140	0.12~1.20	180	1 1/2"	1"	3.3
20	661995420	P3 32/10-180*	0.23	7.3	10	12~140	0.12~1.20	180	2"	1 1/4"	3.5
21	661995421	P3 25/12-130*	0.23	6.8	12	12~140	0.12~1.20	180	1 1/2"	1"	3.3
22	661995422	P3 32/12-180*	0.23	7.3	12	12~140	0.12~1.20	180	2"	1 1/4"	3.5

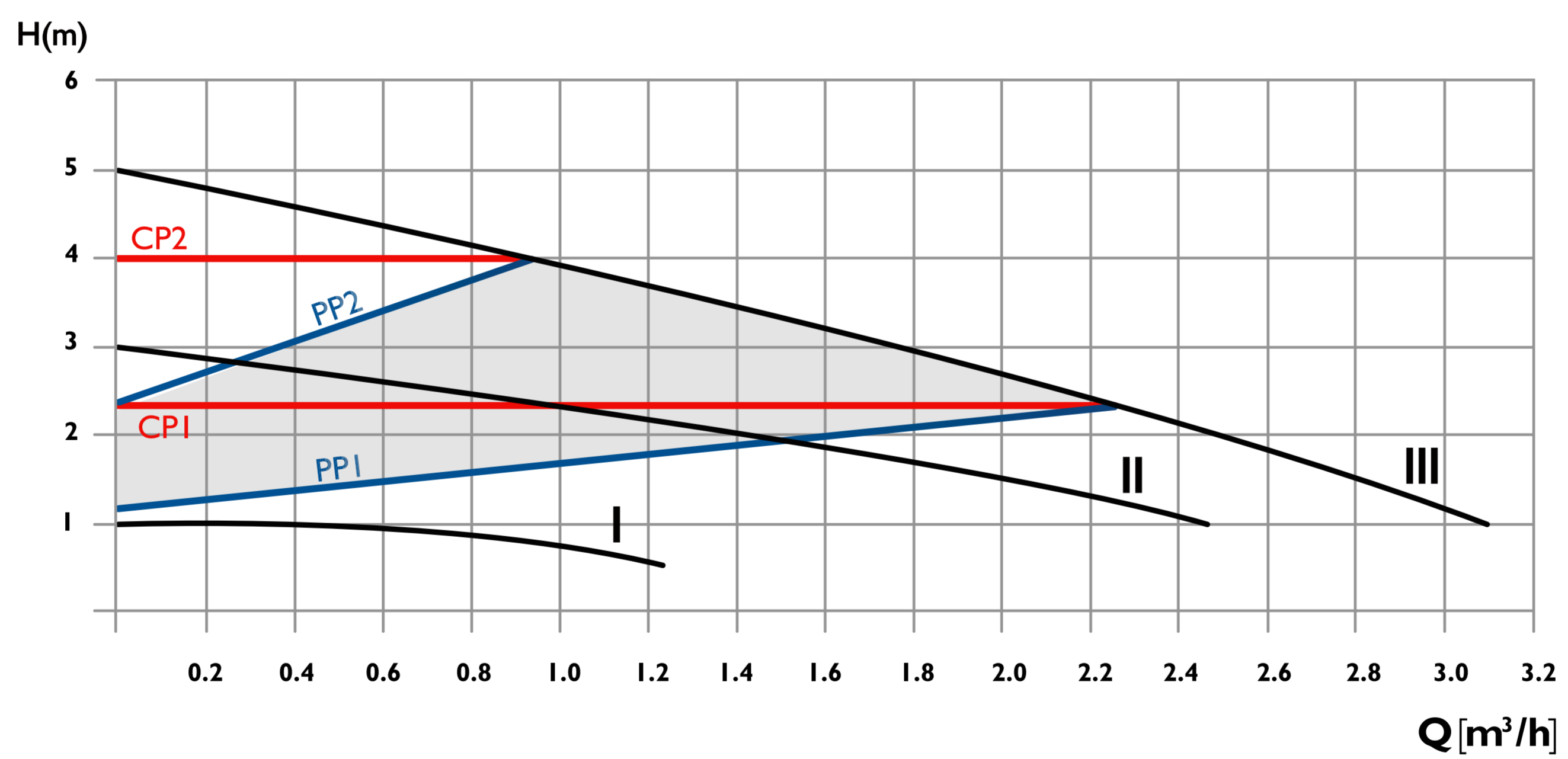
HEAD-CAPACITY CURVE



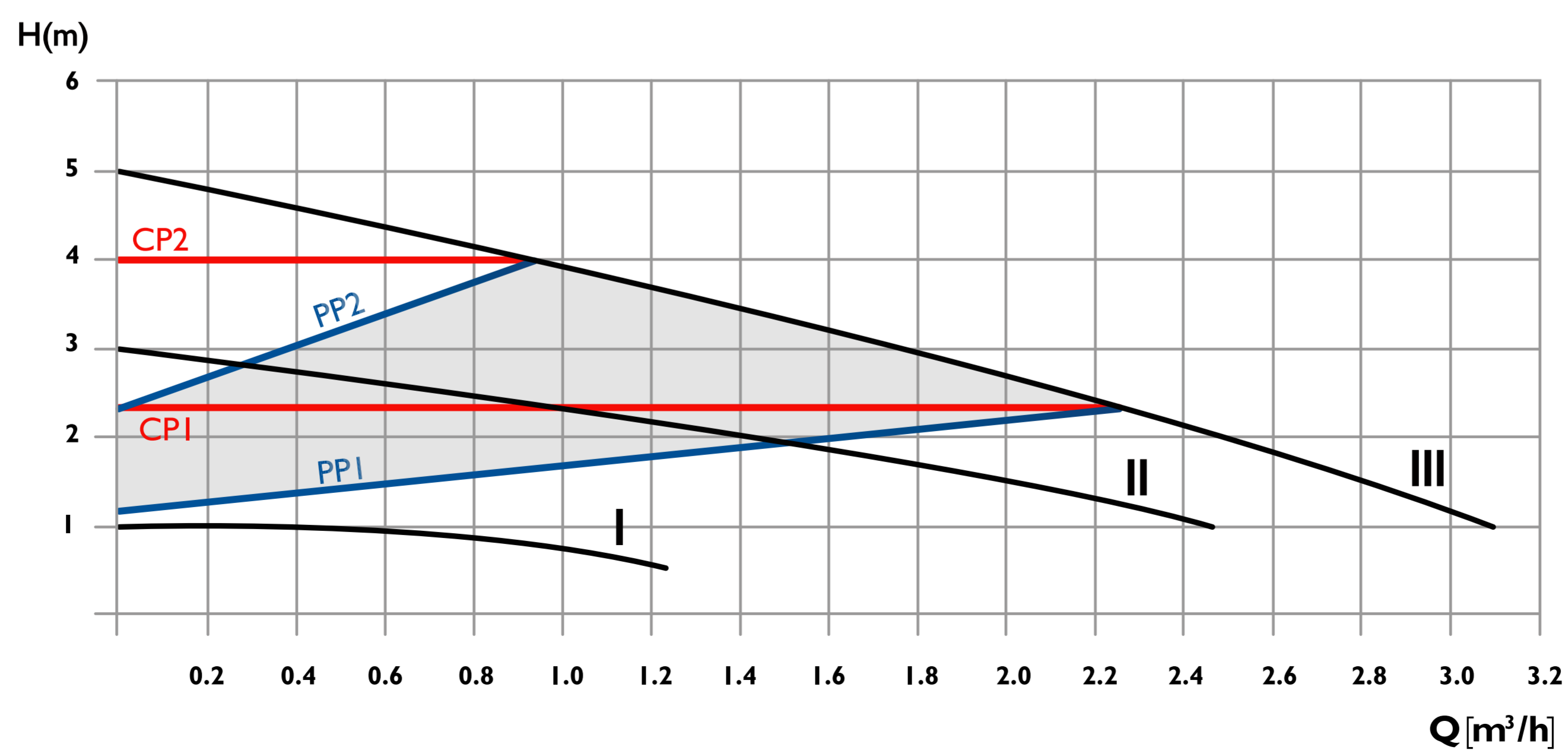
P3 25/4



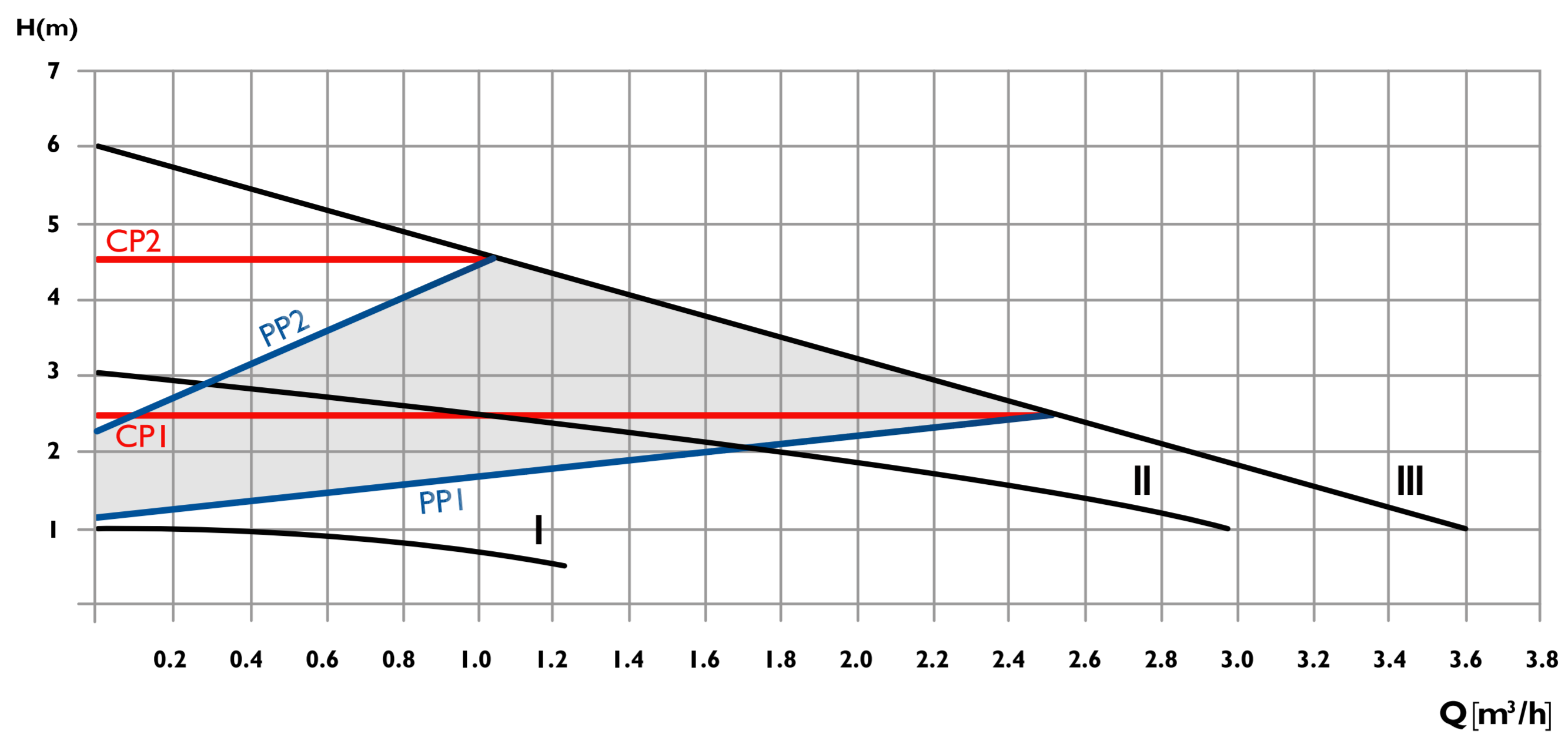
P3 32/4



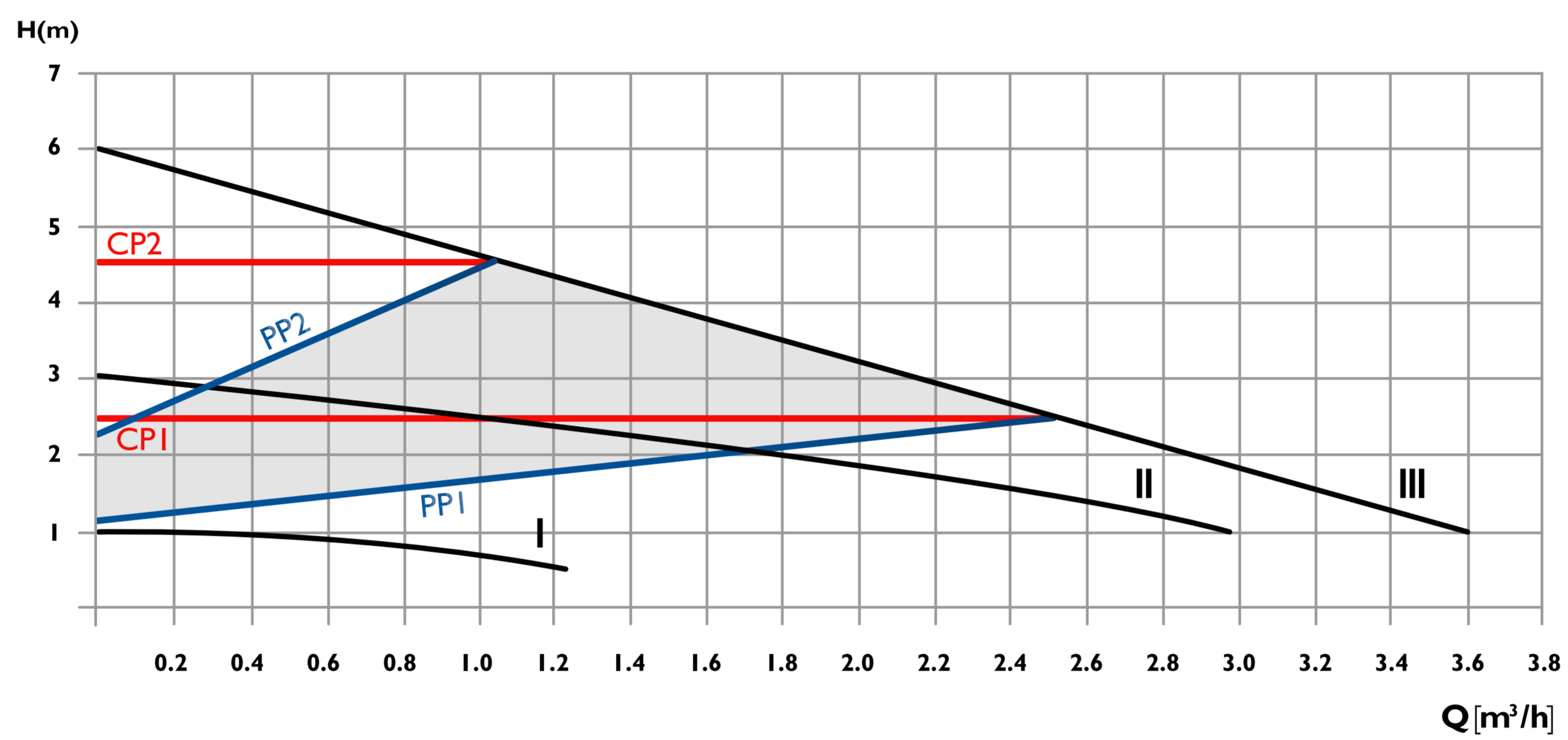
P3 25/5



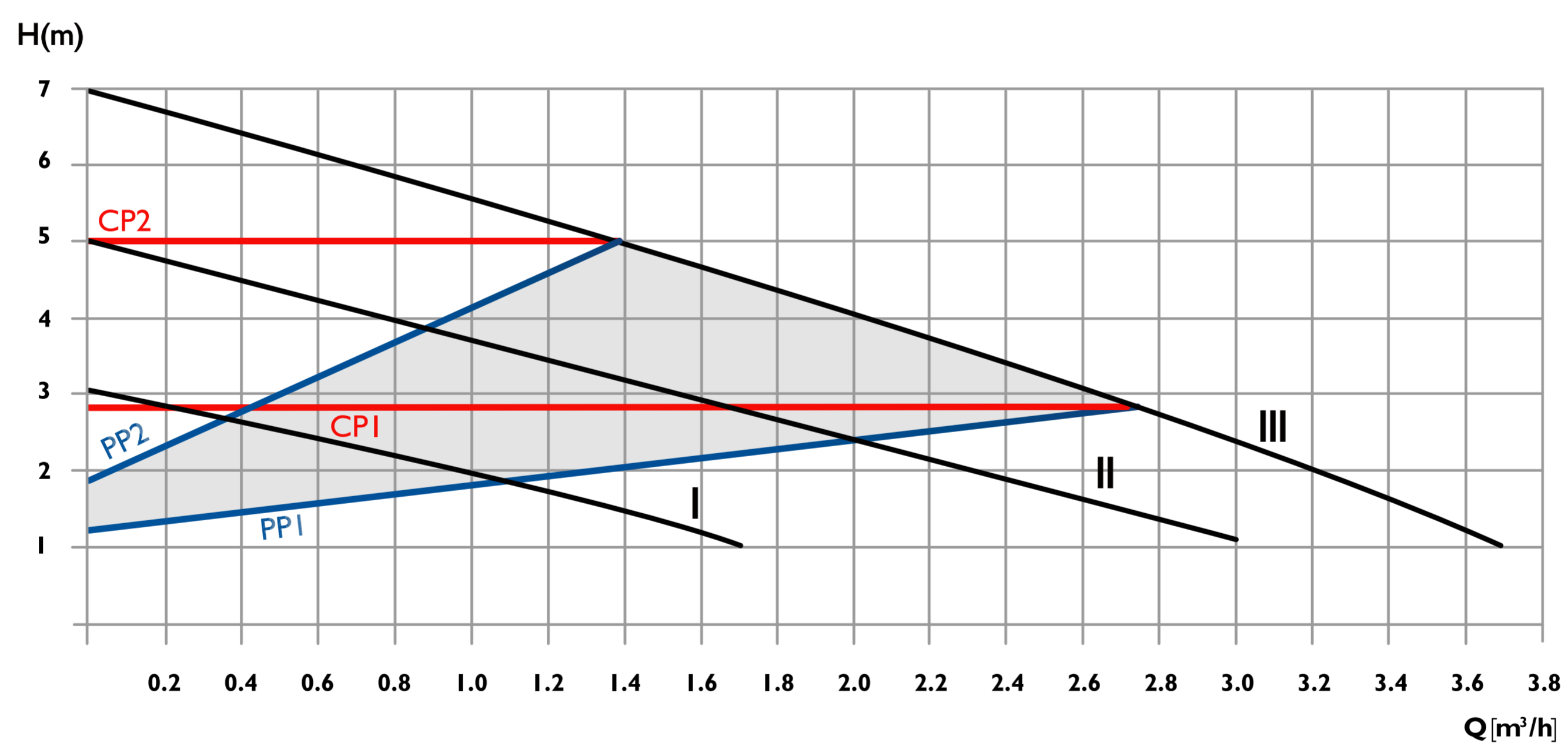
P3 32/5



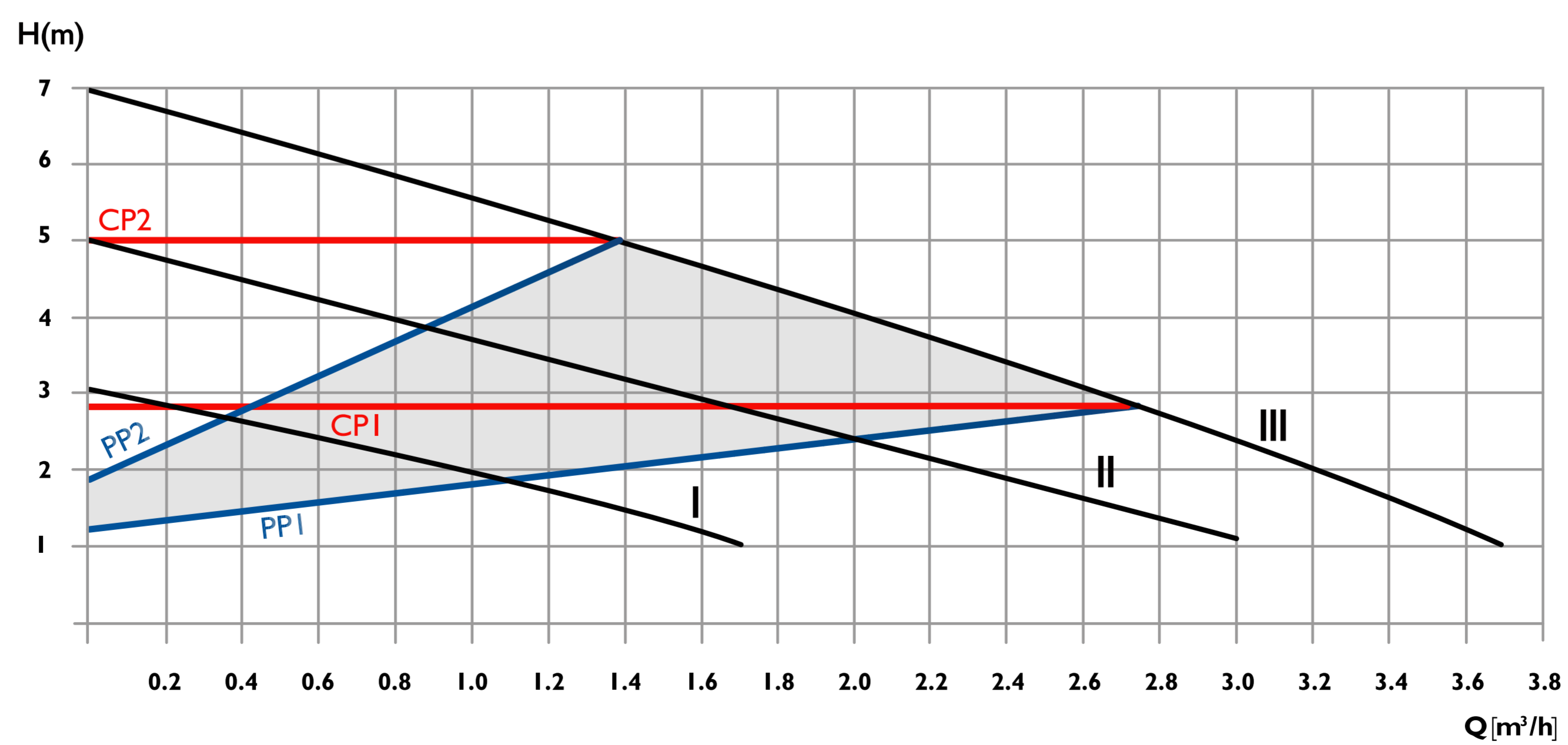
P3 25/6



P3 32/6



P3 25/7



P3 32/7

APPENDIX 2

MALFUNCTIONS



The pump is an engineering equipment in which the electrical part (motor) and the pumping part, where the liquid 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.

TROUBLE SHOOTING

Error Code	Protection type	Likely causes	What to do
E1	Locked-rotor protection	Pump rotor is blocked	Remove the bleed screw completely, then use a flat-head screw driver to rotate the shaft of the rotor till it can rotate smoothly.
E2	Open phase protection	One or more phases of the internal connection circuit is disconnected	Replace the pump
E4	Over-current protection by hardware	Short circuit of internal connection circuit	Replace the pump
E5	Over-current protection by software	Short circuit of internal connection circuit	Replace the pump



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

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
	Rotor blocked	Unscrew the plug, unlock the pump shaft by turning it with a screwdriver. IMPORTANT: water will flow out from under the plug
Operation noise	Air in the system	Remove air from the system through the air vents, from the pump through the plug. IMPORTANT: water will flow out from under the plug
	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

P3 SERIES PUMP WARRANTY INFORMATION

Your P3 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. 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. 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.

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

THANK YOU FOR CHOOSING BRITTHERM!

