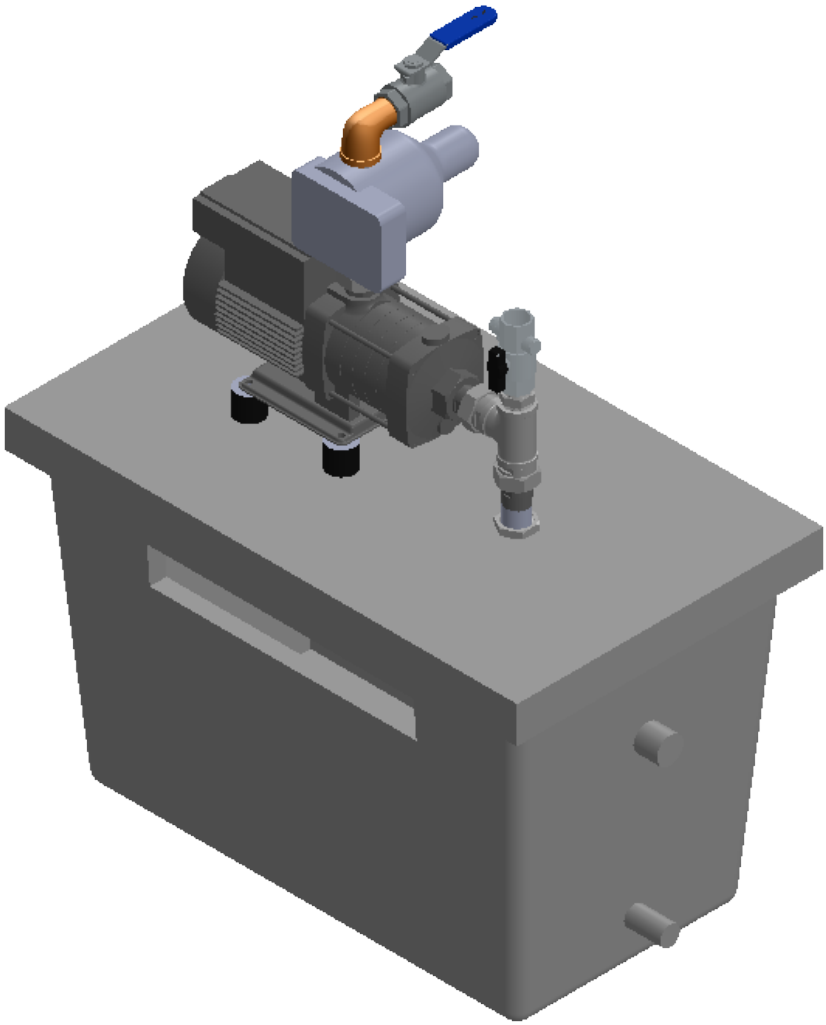
Dutypoint Systems

Dutypoint HP Series Cat 5 Booster



Operation and Instruction Manual

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Important Health & Safety Information

1.1 Document Conventions

Throughout this manual, text may be accompanied by one of the following icons. Where these occur the conventions shown below are applied.

In general these conventions will also apply to OEM Manufacture's manuals that are included within this User Guide, however variations may occur, but these will be redefined at the beginning of their manual.

PLEASE READ THE FOLLOWING INFORMATION WHICH IS PROVIDED FOR YOUR SAFETY

Danger: Denotes attention to the possibility of the risk of personal injury or damage to adjacent property if the information is ignored.

Electric Shock: Denotes attention to the possibility of life-threatening electric shock if the information is ignored.

Warning: Denotes attention to a condition that may result in under-performance or damage to the equipment if the information is ignored.

Note: Denotes attention to an important factor applicable to the action being performed.

1.2 Health and Safety Information

Basic safety warnings relating to all products.

United Kingdom Health & Safety at Work Act 1974

Dutypoint Responsibility

Section 6(a) of this Act requires manufacturers to advise their customers on the safety and the handling precautions to be observed when installing, operating, maintaining and servicing their products. The user's attention is therefore drawn to the following:

- The appropriate sections of this manual must be read before working on the equipment.
- Installation, operating and maintenance must only be carried out by suitably trained/qualified personnel.
- Normal safety precautions must be taken and appropriate procedures observed to avoid accidents.

Refer to DUTYPOINT SYSTEMS for any technical advice or product information.

Customer / Contractor Responsibility

It is the responsibility of the customer and/or the contractor:

- To ensure that anyone working on the equipment is wearing all necessary protective gear/clothing.
- Is aware of appropriate health & safety warnings
- has read the information in this section of the manual.

Hand Control Mode

In the 'HAND' position the pump(s) controlled by the switch will normally run at full speed and completely independently of any control devices, and can result in pump(s) running against a closed valve head if there is no draw.

This can cause the system to be maintained at the maximum pressure produced by the pump plus any incoming pressure and additional pressure caused by water surge and can potentially damage the pump and other parts of the system.

The 'HAND' option should only be used with a competent operator in attendance, or when there is a continued demand sufficient to provide constant flow through the pumps to maintain the running pressure of the system to an acceptable level.

Pump Servicing

- Familiarise yourself with the relevant contents of this manual
- Installation, maintenance and repair work must only be carried out by trained, skilled and suitably qualified personnel.
- Disconnect or lock-out the power source to ensure that the pump(s) will remain inoperative. **Locking out the equipment by switching off the release mechanism or set value WILL NOT prevent accidental starting of the motor.**
- Allow the pump(s) to cool if over-heated.
- **CLOSE** the isolating valves on the suction and discharge connections of the affected pump(s).
- **VENT** the pump(s) slowly and cautiously – *Refer to the relevant section of this manual.*
- **DRAIN** the pump(s).

High Voltages

Especially applicable when Variable Speed Controllers (Inverters) are fitted.

• When the inverter variable speed drive head is connected to the power supply the components of the power unit – as well as certain components of the master control unit – are also connected to the power supply.

TOUCHING THESE COMPONENTS CAN SERIOUSLY ENDANGER LIFE!

• Before removing the frequency inverter cover, the system must be disconnected from the power supply. After switching off the power supply **wait at least 5 minutes** before starting work on or in the inverter drive head – the capacitors in the intermediate circuit must be given time to discharge completely via the discharge resistors.

Up to 800 volts can be present – if there are faults this can be higher.

• All work carried out when the frequency inverter is open must be performed only by suitably qualified and properly authorised personnel.

When connecting external control wires care must be taken not to short circuit adjacent components. Bare cable ends which are not in use must be insulated.

THE SYSTEM MUST ONLY BE OPERATED WHEN IT HAS BEEN CORRECTLY EARTHED AND PIPES BONDED TO EARTH IN ACCORDANCE WITH IEE REGULATIONS

Electronic Safety Devices

- High voltage tests of the inverter or the motor may damage the electronic components. **Bridge before the incoming/outgoing terminals L-L2-L3 and U-V-W.**
- To avoid incorrect metering by capacitors incorporated in the electronic circuits, isolate the motor from the inverter drive head.

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1.3 Operating Limits for Standard Dutypoint Systems Pumpsets

Table showing standard operating limits which apply to cold water booster sets.

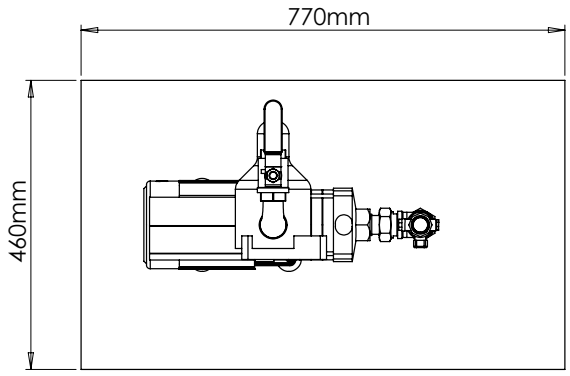
Table showing standard operating limits

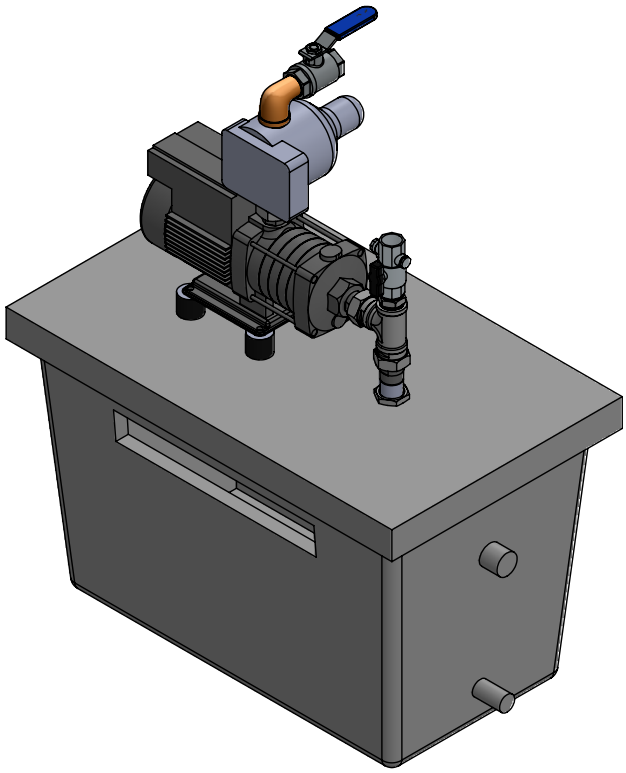
Type of pumped liquids	Water with no gas or aggressive substances
Maximum pumped liquids temperature	+35°C domestic uses. (EN 60335-2-41). 40°C for other purposes
Minimum pumped liquid temperature	1°C to avoid icing
Operating ambient temperature	+5°C to 40°C for indoor installation. (CEI EN 60439-1).
Relative humidity	Max 50% at 40°C.
Air impurities	The air must be clean and free of acid vapours, corrosive gases and excessive amounts of dust.
Storage temperature	+5°C to 50°C.

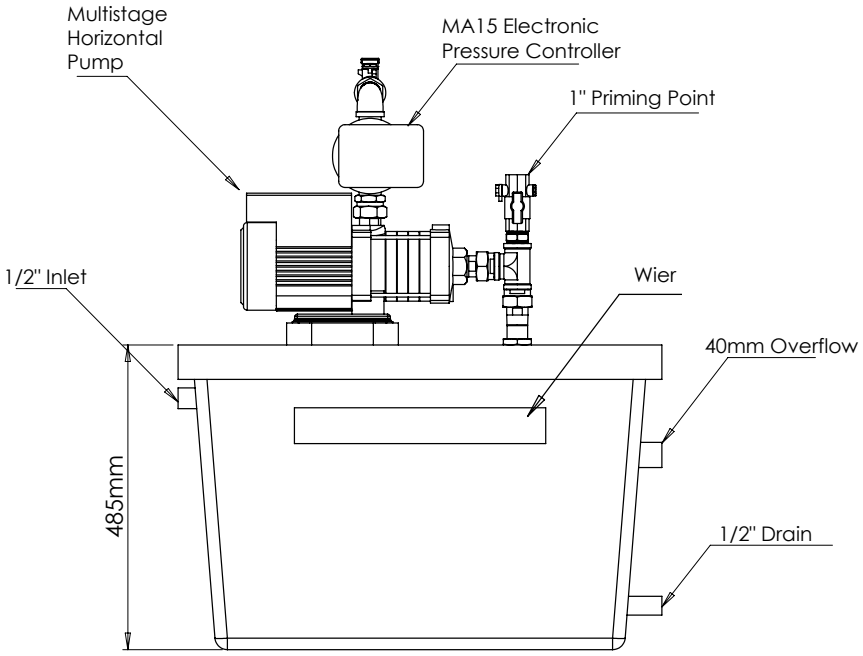
Technical Information

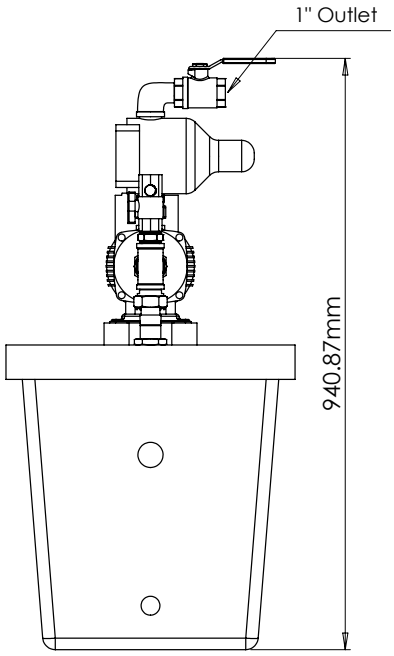
Dimensions and Performance

Dimensional Drawings



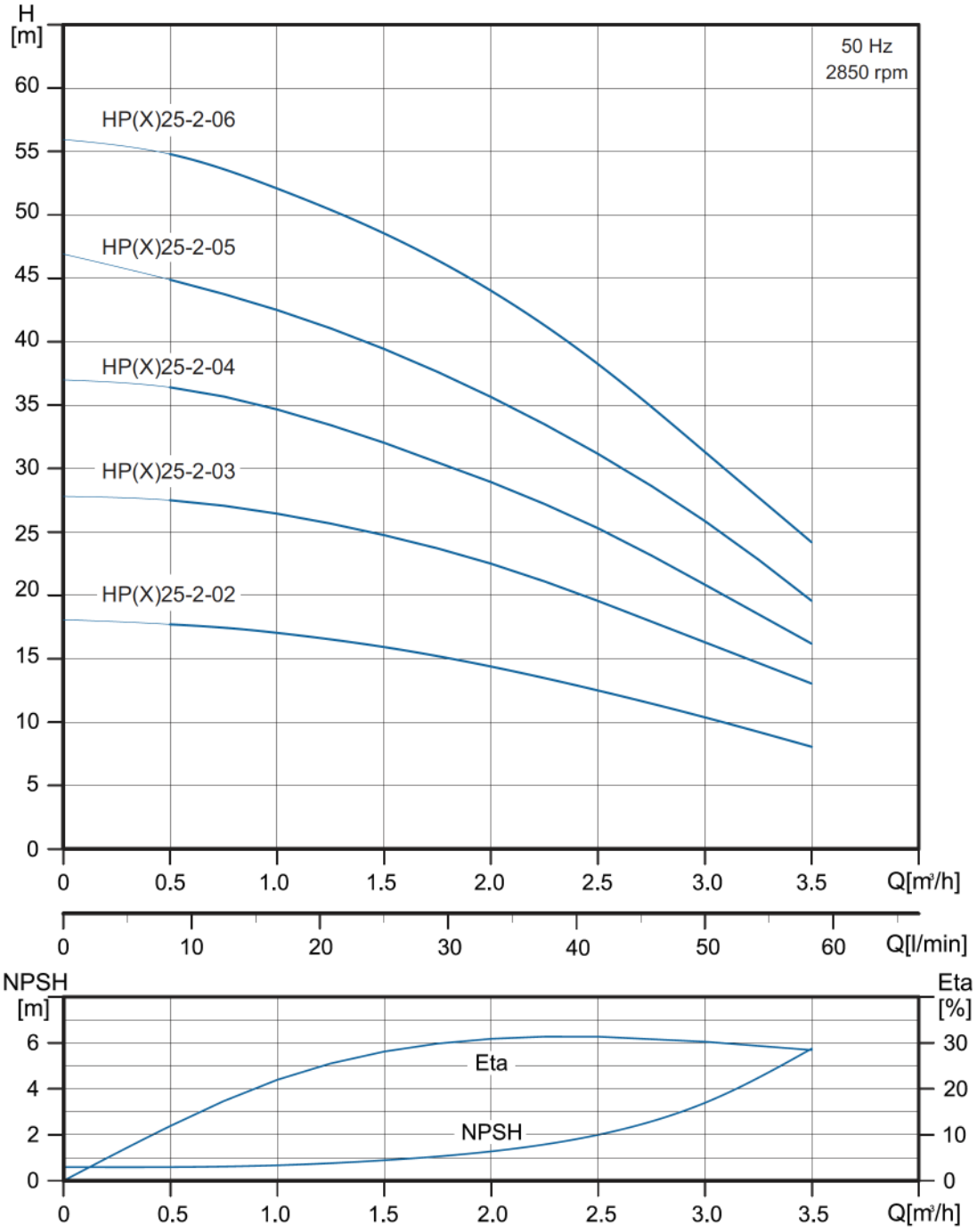






Pump Performance Curves

Modus HP Series Pump Performance Curves



Electrical Data

Model	1 x 220-240 V [M]	
	P_2	FLC [A]
HP(X)25-2-02	0.37 kW	2.1
HP(X)25-2-03	0.37 kW	2.3
HP(X)25-2-04	0.37 kW	2.6
HP(X)25-2-05	0.55 kW	3.2
HP(X)25-2-06	0.55 kW	3.7

MA15 Electronic Pump Controller Operating Instructions

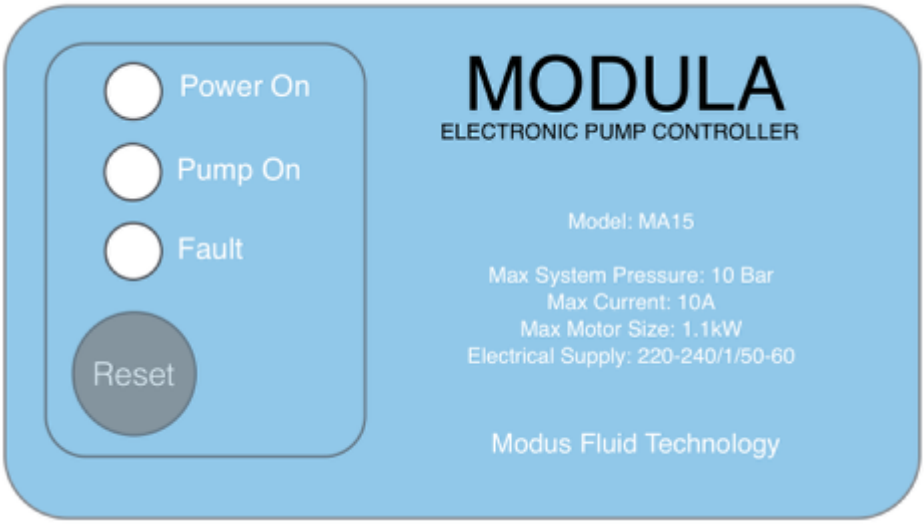
Note:

Prior to installation, read these installation and operating instructions. Installation and operation must comply with local regulations and accepted codes of good practice.

1. Applications

The MA15 controller, which incorporate dry-running protection, is intended for mounting on pumps. It is used for automatic operation of pumps in small water supply systems in single-family houses and blocks of flats, for garden watering, etc.

2. Control Panel



Functions of indicator lights and button:

Green Indicator Light/"Power On" - on when the electricity supply is switched on

Yellow Indicator Light/"Pump On" - on when the pump is running

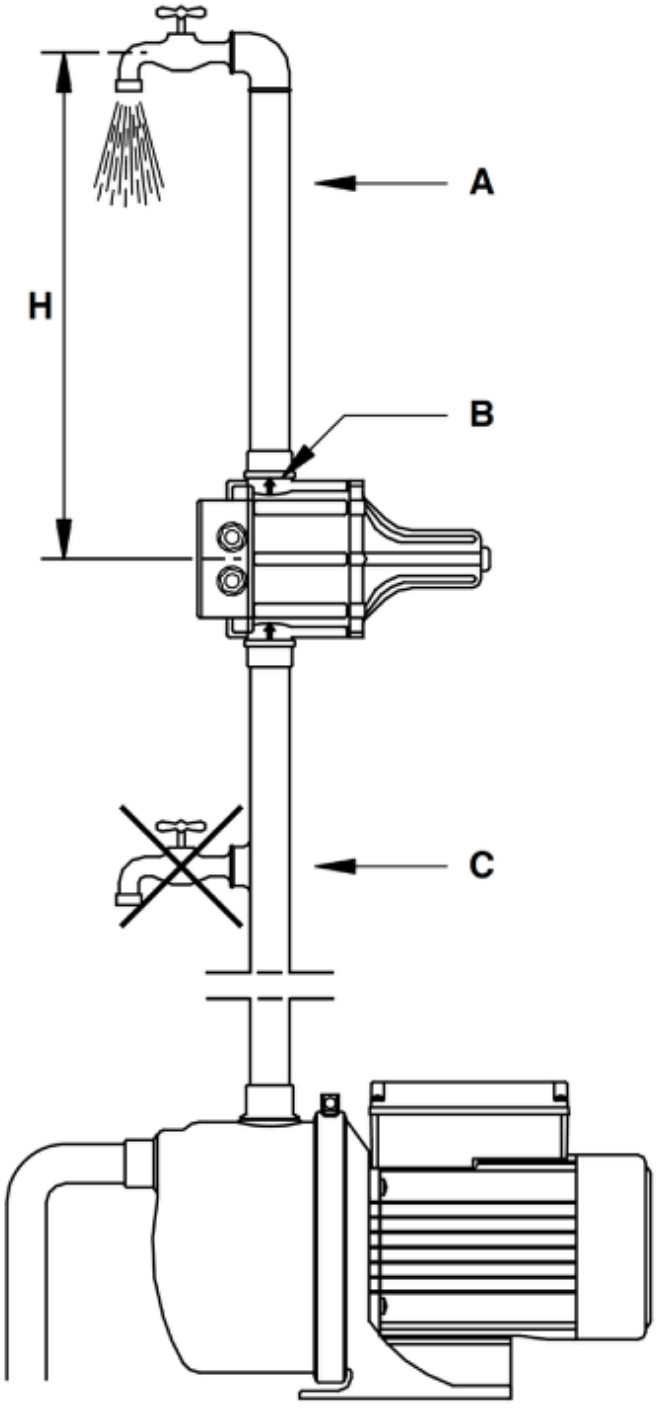
Red Indicator Light/"Fault" - on when there is operation failure. See fault finding chart.

3. Installation

Install the unit on the discharge side of the pump, see figure below.

When pumping from a well, borehole, etc., a non-return valve must always be fitted to the suction pipe of the pump. It is recommended to connect the pump/unit to the piping system by means of unions.

The installation location must be clean and well ventilated.



The unit can be fitted directly to the discharge port of the pump or between the pump and the first draw-off point.

A It is recommended to install the unit so that the distance of height between the unit and the highest draw-off point does not exceed the values stated.

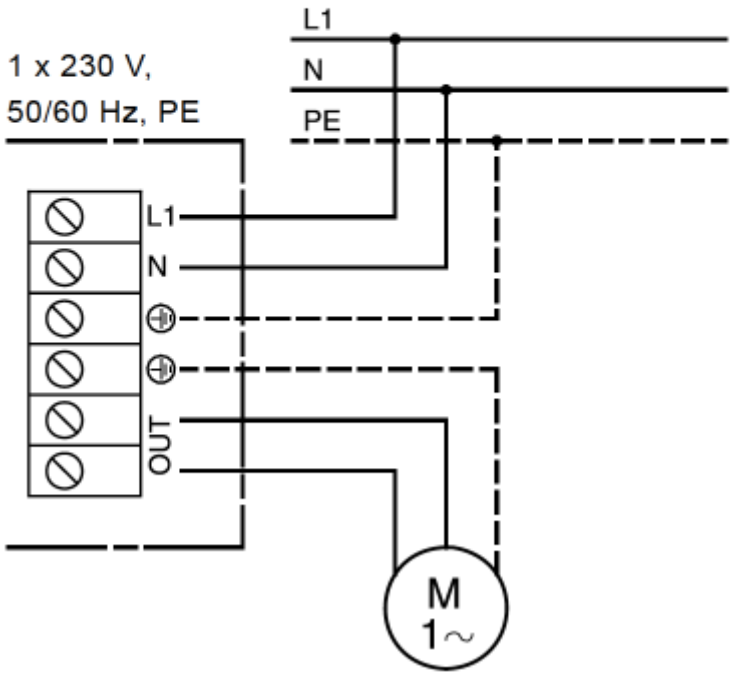
B The arrows on the unit indicate the flow direction. Always install the unit with the arrows pointing upwards.

C Do not install draw-off points between the pump and the unit.

4. Electrical Connection

Never make any connections in the terminal box of the unit unless the electricity supply has been switched off.

The unit must be connected to an external mains switch with a minimum contact gap of 3 mm in all poles.



The electrical connections and protection must be carried out in accordance with local regulations.

Carry out the electrical connection as shown above.

Note: If the unit is incorporated in a system connected to an electricity supply system, which is/can be separated from the public supply, e.g. generator operation, the unit should be protected against overvoltage.

5. Start-Up

1. Switch on the electricity supply. The green and yellow indicator lights illuminate.

2. The pump runs for a few seconds until there is pressure on the system.

The pump stops and the yellow indicator light goes out. The system is ready for operation.

Note: If there is no pressure on the system and if the red indicator light illuminates. Go to point 3.

3. Open a tap and press Reset/Restart until the red indicator light goes out

4. Close the tap. The pump stops.

5. The green indicator light illuminates, the yellow indicator light goes out.

The unit is ready for operation.

6. Normal Operation

1. Open a tap

2. The unit starts the pump. The pump runs as long as water is consumed.

3. Close the tap.

4. The unit stops the pump at maximum pump pressure.

5. The unit is ready for operation.

Note

In case of minor system leakages, the pump starts.

Note: In case of a supply failure, the pump restarts automatically when the supply has been restored.

7. Dry Running

1. Dry Running!

The unit stops the pump after approx. 10 seconds. The red indicator light illuminates.

2. Water flow!

Press Reset/Restart

3. The unit is ready for operation.

8. Frost Protection

If the unit is not being used during periods of frost, the unit and the pipework must be drained. The unit has no drain hole and has to be removed for drainage.

9. Technical Data

Data	
Supply voltage	1 x 230 V ±10%, 50/60 Hz
Ambient temperature	+65°C
Maximum liquid temperature	+65°C
Cut-in pressure*	PC 15: 1.5 bar PC 22: 2.2 bar
Maximum system pressure	1 MPa (10 bar)
Contact load	8 A
Enclosure class	IP 65
Dimensions	See fig. A, page 72

10. Fault Finding Chart

Before starting work on the pump/unit, make sure that the electricity supply has been switched off and that it cannot be accidentally switched on.

Fault	Cause	Remedy
1. The pump does not start.	a) The fuses in the electric installation are blown.	Replace the fuses. If the new ones blow too, the electric installation should be checked.
	b) The ELCB or the voltage-operated ELCB has tripped out.	Cut in the circuit breaker.
	c) No electricity supply.	Contact the electricity supply authorities.
	d) The motor protection has cut off the electricity supply due to overload.	Check whether the motor/pump is blocked.
	e) The pump is defective.	Repair or replace the pump.
2. The green indicator light is on, but the pump does not start when water is consumed.	a) Too high system pressure.	Reduce the pressure.
	b) Too big distance of height between the unit and the draw-off point.	Adapt the installation.
3. Frequent starts and stops.	a) Leakage in the pipework.	Check and repair the pipework.
	b) Non-return valve or foot valve leaking.	Replace the non-return valve or foot valve.
4. The pump does not stop.	a) The pump is not capable of delivering the required discharge pressure.	Replace the pump.
	b) The unit is defective.	Replace the unit.
5. The red indicator light is on.	a) No water available at the pump suction port.	Check the pipework.
	b) The pump starts to self-prime (jet pumps only).	See section *5. Start-up*.
	c) The pump or unit is defective.	Replace the pump or unit.

11. Disposal

This product or parts of it must be disposed of in an environmentally sound way:

1. Use the public or private waste collection service.

2. If this is not possible, contact Modus Fluid Technology.

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