

## MiniBreak CAT 5 tank and booster set

Date 22/09/22 - Revision 2



## Operating and maintenance instructions

## Introduction

This leaflet contains information to enable the safe installation and operation of the products mentioned above. The following instructions must be read and understood by all persons responsible for the installation, operation and maintenance of this product.

## Warning Symbols



Safety instruction where noncompliance would affect safety.



Safety instruction where electrical hazard is involved.



Safety instruction where noncompliance could cause damage to the equipment.

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## Instruction for safe use



This product has been designed for boosting cold water to the operating conditions shown and creating an air gap arrangement that provides category 5 back flow protection. This product should not be installed until this leaflet has been studied carefully. Handling, transportation and installation of this equipment should only take place with the proper use of lifting equipment. This product must be stored in a dry, frost-free environment.

## Noise Emissions

This equipment operates at a noise level lower than 70dBA.

**Protection degree** IP54

## Installation



The Dutypoint MiniBreak tank booster set is despatched mounted on a wooden pallet and covered in a protective film, it is recommended that the unit be retained in the protective packaging until the product is to be installed. The unit will arrive pre-packaged and wired ready for installation. This product has been fully run tested at our works under simulated site conditions. The unit should be thoroughly checked for physical damage that may have been caused during transit. If the unit is found to have damage it must be reported immediately and should not be installed.

The unit should be sited in a dry, frost-free environment wall mounted in a position that will allow adequate room for general maintenance and service.

## Inexperienced users



This product must be operated by qualified personnel only.

Be aware of the following precautions:

This product is not to be used by anyone with physical or mental disabilities, or anyone without the relevant experience and knowledge, unless they have received instructions on using the equipment and on the associated risk or are supervised by a responsible person.

Children must be supervised to ensure that they do not play on or around the product.

## Electrical connections



The cable used for the incoming supply must be of adequate size to carry the motor full load current. This is shown on the duty plate. A high sensitivity differential switch (0.03A) is also recommended.

All connections must be made using the appropriate wiring drawings for the equipment being installed, with particular attention being paid to the supply voltages.

**Never operate this product with the pump controller front panel or the motor terminal cover removed.**

**It is essential that this equipment is earthed to the building earth system.**

**Pump operates at 230v 50Hz**

**The base frame must be earth bonded directly to the building earth system.**



The power supply wiring should be arranged such that it enters the enclosure through appropriate cable gland and then enters the pump controller through its cable gland.

## Water supply and system connection



Connect the Dutypoint MiniBreak tank booster water inlet 15mm compression (left side of cabinet) to a suitable water supply. The inlet should be provided with an isolation valve to aid maintenance. If the pressure available at the ball valve is below 0.3 bar, a low pressure orifice must be obtained and fitted.

Extend the 22mm plastic overflow pipe from the left hand side of the unit to a position where an overflow will be noticed and rectified.

It is the responsibility of the installer to ensure that the overflow is able to keep up with the incoming water volume, if this is not the case then a pressure reducing valve should be fitted to reduce the incoming mains water volume.

Connect the discharge port 15mm push fit (right hand side of cabinet) to the system inlet.

Draining the break tank can be achieved by isolating the suction line ball valve on the flexible connector and removing the flexible end attached to the pump, the flexible connector can then be positioned over a container to collect the drained water.

The break tank is constructed to have a weir slot as required by the water bylaws to prevent back flow contamination, if the inlet ball valve or NRV suffered a catastrophic failure the overflow may not be able to keep up with the inflow in which case excess water will be ejected through the weir slot and onto the plant room floor, if this is not acceptable then consideration should be given to fitting the wash down set onto a tray with overflow to a drain.

### Volt Free Contacts – Pump Running

Both open and closed volt free contacts are available which indicate if the pump is running. See appropriate drawing for volt free contact wiring configurations. Rating 1A 50v maximum.

### Commissioning



1. Ensure the water tank is clean.
2. With the power supply off. Open the water supply to the water tank and fill with water until the ball valve closes and stops further filling. Check the water level is correct and all joints are sound.
3. Check the pump has been fully evacuated of all air by removing the bleed screw of the pump and allow water to escape until no air is present, replace the bleed screw.
4. Open discharge valve and power the product, the pump should then start to run and push all air out of the discharge system, when free of air close the discharge valve and the flow will stop and the pump will switch off after approximately 10 seconds.

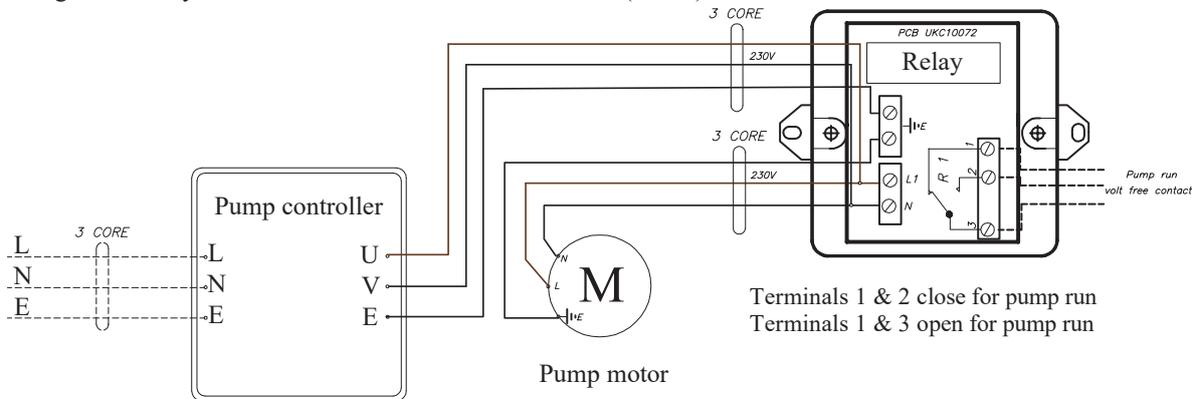
### Electrical connections

Supply

230v single phase + Earth

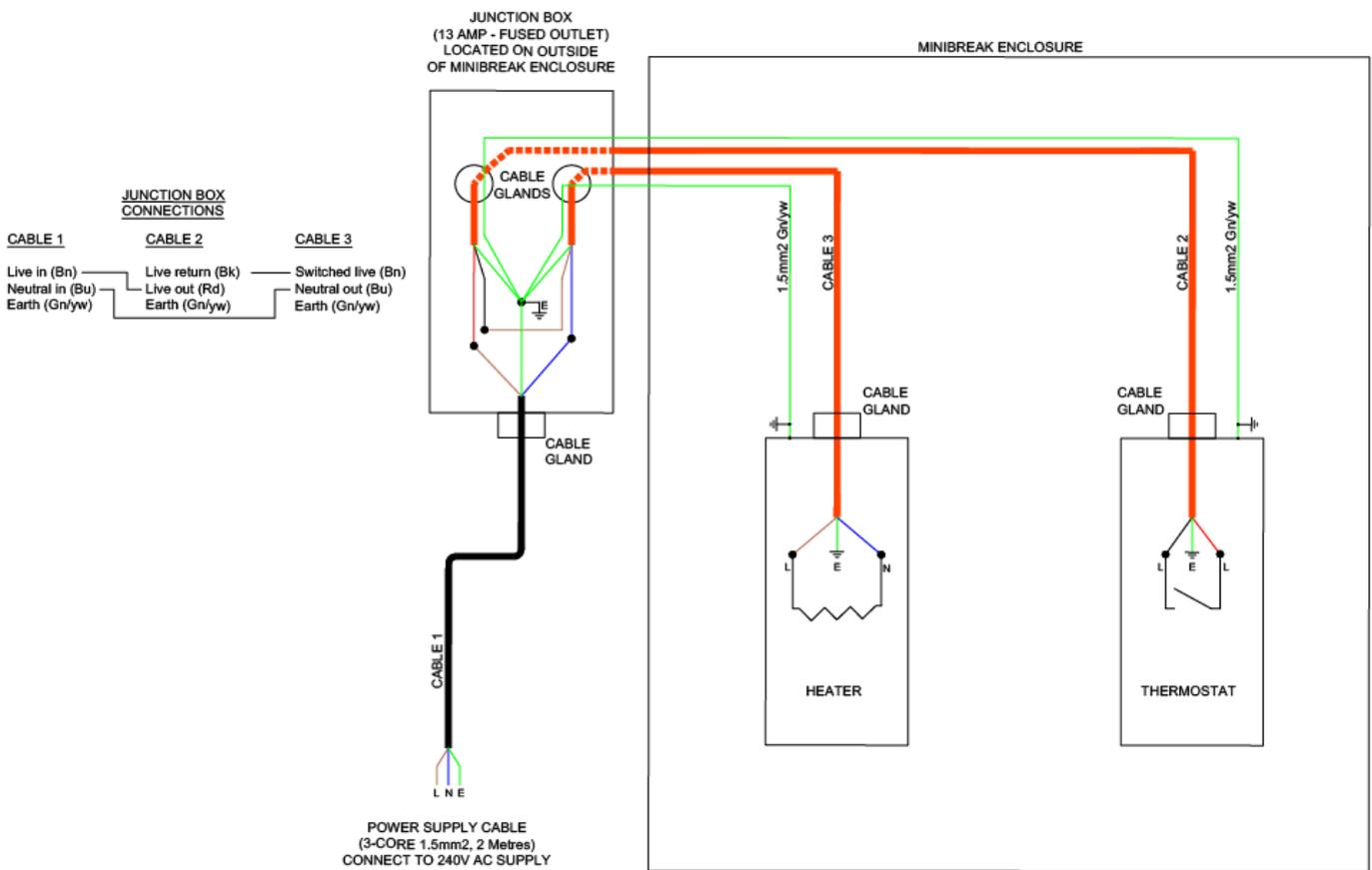
Connect to a suitable thermal switch or fused supply

A high sensitivity differential switch is also recommended (0.03A)



MiniBreak HEATER-THERMOSTAT KIT \*

Heater thermostat wiring Diagram



\*Only applicable when MB1-FPKIT is ordered (not included in standard MiniBreak).

## Operation

When a draw off point connected to the system is opened the pressure will start to fall and the pump will start to pressurise the system. The pump will continue to run until demand ceases completely and flow has stopped (< 3l/m) the pump will run for approximately 10 seconds and will then shutdown. The pressure will now be sitting at the pump closed valve head value.

## Lack of water

If the pump controller senses a lack of water the pump will be stopped automatically after approximately 10 seconds and the red failure light will be illuminated.

If the water supply comes back online and a discharge is open the pump controller will automatically reset and start the pump.

If the water supply has been reinstated and the pump has not started automatically the reset button can be operated which will cause the pump to run for approximately 10 seconds and prime the system, if successful the pump will then operate normally.

## Maintenance

### Routine check (6 monthly intervals)



1. Check the pump produces the correct pressure.
2. Check that the pump operates without undue noise or vibration.
3. Check the break tank is clean and that the correct water level has been maintained.
4. Check that all screws are tight on electrical components.
5. Check that the earth connections are tight and making good contact.

## Pump removal

Isolate power supply feeding pump set.

Isolate water inlet feeding pump set.

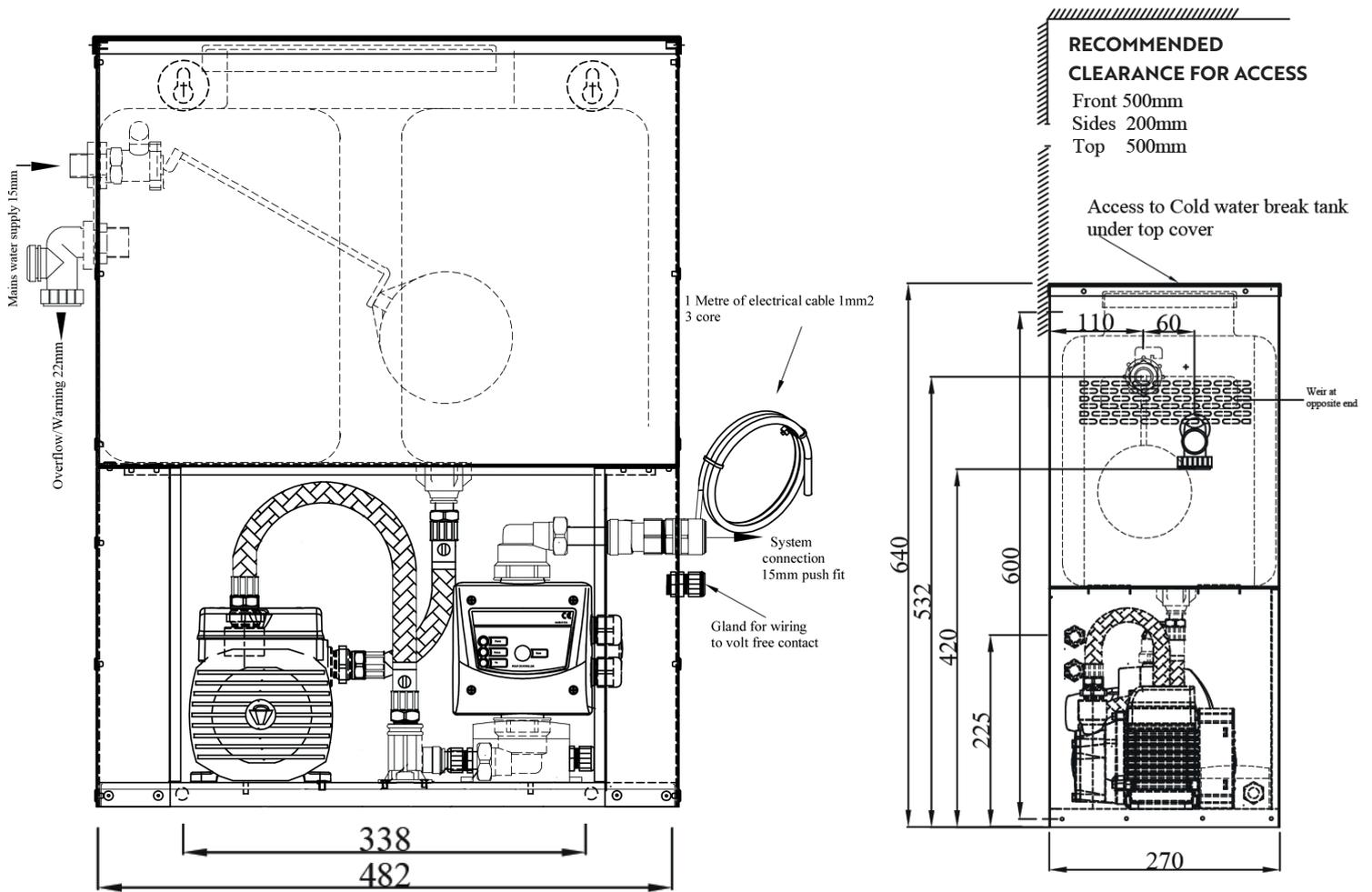
Open an outlet to release system pressure

Isolate the valve located on each flexible connector and remove the flexible from the pump suction and discharge ports, the pump can now be un-bolted from the base and pulled forward.

The electrical cable can now be removed from the pump terminal box.

The new pump can now be fitted reversing the above procedure.

## Dimensional drawing



## Specification

Model	Power	Input Current	Q	Flow Rate (m <sup>3</sup> /h)									
				0	0.1	0.3	0.6	0.9	1.2	1.5	1.8	1.9	
Single-phase	kW			Flow Rate (l/m)									
				0	2	5	10	15	20	25	30	32	
<b>MBI-35M</b>	0.37	2.5A	H metres	40	38	35	29	23.5	18	12.	57	5	

Q = Flow Rate

H = Total manometric head

HS = Suction height Tolerance of charactic curves in compliance with EN ISO 9906 App A.

# Declaration of Conformity

## UKCA & CE

We: Dutypoint Limited

Of: Olympus Park, Quedgeley, Gloucester, Gloucestershire,  
United Kingdom, GL2 4DH in accordance with the following

directives:

- 2006/42/EC : Machinery Directive
- S.I. 2008:1597 The Supply of Machinery (Safety) Regulations 2008
  
- Water supply (Water fittings) regulations 1999
- Simple pressure vessel directive 87/404/EEC



Hereby declare that the equipment:

Product Range	MiniBreak
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I hereby declare that the equipment described above has been designed to comply with the relevant sections of the above referenced specifications. The unit complies with all applicable essential requirements of the directives.



Nigel Freeman, Director

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## General fault finding guide

<b>Fault</b>	<b>Possible Cause</b>	<b>Remedy</b>
Pump fails to start	Power supply failure	Reinstate incoming power supply
Pump controller has no lights on	Isolator fuse blown/ MCB tripped	Replace fuse /reset MCB
Pump fails to stop	User point left open causing flow to take place	Close user point
	Leak in system	Switch unit off until leak is repaired
Pump runs but will not make pressure	Pump air locked	Vent pump
	Passing too much water	Check system for leaks
Pump overheating	Pump partially seized	Remove pump and check for sediment build up or foreign objects
Break tank overflowing	Leaking ball valve Non-return valve letting by	Replace ball valve seal Replace/clean non-return valve in the pump controller
Pump stops and pressure drops immediately	Non-return valve letting by	Replace non-return valve in pump controller unit

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