



Introduction

MIKROFILL 'MAXI' Fill and Pressurisation Units

The advantages of 'sealed' heating and chilled water systems are now widely accepted within the heating and ventilation industry. Sealed systems eliminate 'pumping over' and the associated inherent problems; reduced dissolved oxygen results in reduced corrosion in the system. Sealed systems also allow for much greater design flexibility, i.e. roof top plant rooms and for high resistance systems such as district heating schemes.

The **MIKROFILL 'MAXI'** range of fill and pressurisation units are purpose designed with both the specifier and the installer in mind.

We have incorporated the very best quality equipment into compact units with several unique features, which combine to give a unit that is not only extremely reliable, with extended guarantees, but is quiet and smooth in operation.

A WRc approved filling loop is an integral part of each unit; it enables the installer to initially fill the system and, in the unlikely event of a unit failure, it gives emergency 'back-up'. It also greatly reduces labour time and cost.

We have designed the **MIKROFILL 'MAXI'** to be installer friendly. A low hysteresis pressure switch manifold eradicates 'hunting' and enables the unit to be commissioned by the installer, although we do offer a full commissioning service if required.

FEATURES:

The **MIKROFILL 'MAXI'** range of Pressurisation Units includes 3 models:

MAXI - Single pump, single outlet

MAXI PLUS - Twin pump, single outlet

MAXI PLUS 2 - Twin pump, twin outlet

All models incorporate the following features:

- * Fully Zintec coated steel cabinet, including rear panel, finished in high quality textured epoxy powder coating.
- * Probably the most compact units available.
- * Integral high and low pressure switches, conveniently prewired to a plug and socket; 240V models have a double pole isolator with neon and fuse supplied as standard.
- * A WRc approved quick filling loop is an integral and unique part of every **MIKROFILL 'MAXI'**, making initial system filling very simple and giving emergency back-up if required.
- * The **MIKROFILL 'MAXI'** range of pressurisation units are suitable for systems operating between 1 - 6 bar, and incorporate a low hysteresis design which ensures smooth switching at all times, with no 'hunting' - in addition, all pumps are self venting, making commissioning a very simple procedure.
- * The **MIKROFILL 'MAXI'** range of units are designed and built in Britain and incorporate over 80% British made components.



SPECIFICATION

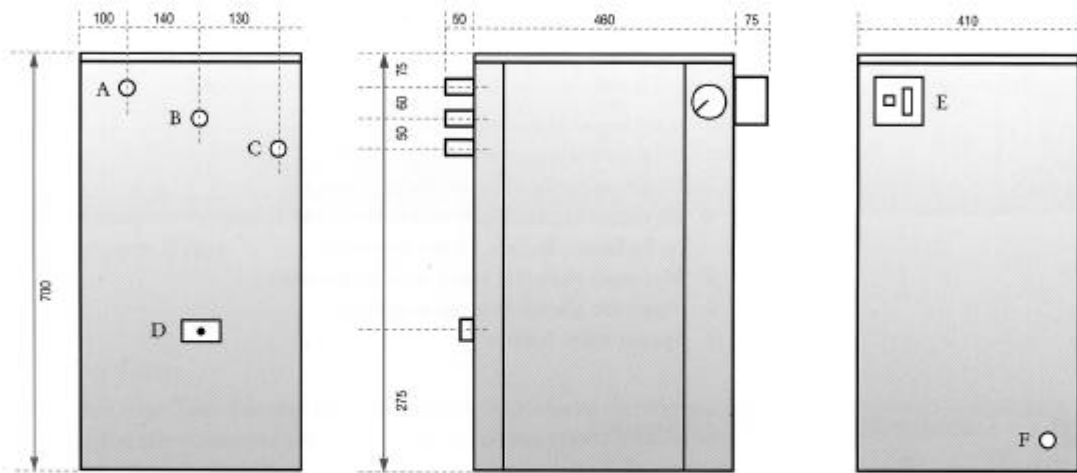
The **MIKROFILL 'MAXI'** is a fully packaged fill and pressurisation unit, suitable for operating up to 6 bar pressure, housed in a 1.2mm Zintec coated steel cabinet, finished in a textured stove enamelled epoxy powder paint. The unit includes a plastic header tank fed by a class 1 ball valve and designed with a type A air gap. All interconnecting pipework is either polybutylene or non ferrous materials.

A self priming STUART TURNER peripheral pump with brass body, rotor and nitrile seals is mounted on the chassis. Water pressure control is by way of an adjustable 1 - 6 bar pressure reducing valve, with line strainer and non return valve, and a 1 - 7 bar pressure switch. A pump pressure gauge and shock arrester vessel are also fitted. In addition, a system pressure gauge is fitted via a self sealing valve.

High and low pressure switches are fitted as standard and are mounted, together with the pump control switch, onto a back plate, and connected via a low hysteresis, high volume manifold. The high and low pressure switches are prewired to a plug and socket. An integral WRc approved filling loop is also fitted as standard. The unit and all components are designed to be splashproof in excess of IP 44.

Twin pump units - as above but with two pumps, all associated pipework and a fully automatic changeover unit on duty pump failure. All units, inclusive of pumps, carry a full 3 year guarantee.

dimensions and electrical information



A Cold water mains inlet
1/2 BSP F1

B Overspill pipe
22mm plastic compression

C Outlet to system
1/2 BSP F1

D Park clip for filling loop

PLEASE NOTE Connections for filling loop are located on A, B and to comply with water by-laws the filling loop must be disconnected after initial fill and stored in park clip.

E Double pole, fused spur isolator, with neon, Mains supply 10A, 240V 1 Phase (on twin pump units this isolator is replaced with autochangeover unit).

F High / low pressure switch wiring access 20mm hole for gland nut.

Electrical data

Model	Start Current Amps	Run Current Amps	KW
MAXI 240V	8	2.6	390
MAXI 415V	5.5	1.08	460

Weight	Single Pump	Twin Pump
As delivered	19Kg	25Kg
Operational (with water)	39.5Kg	45.5Kg

installation notes

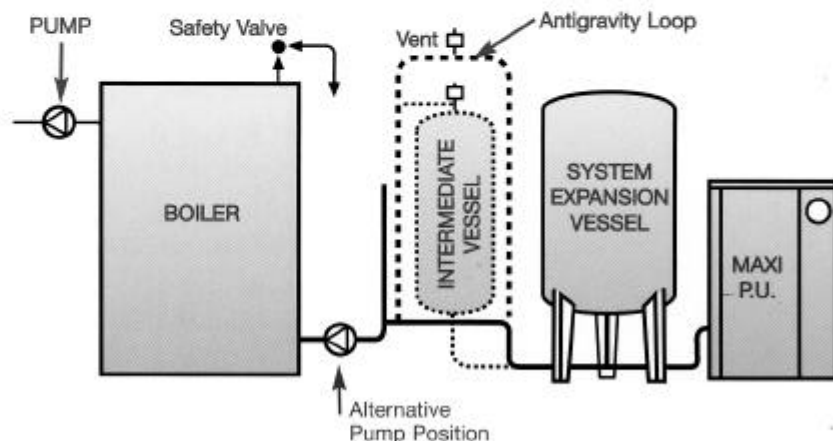


The expansion vessel is usually connected on the inlet side of the pump on the system return. With this arrangement pump pressure is additive and the entire system is above atmospheric pressure.

For flow temperature above 95°C an intermediate vessel and/or antigravity loop must be installed between the system and the pressurisation module to prevent high temperature water reaching either the expansion vessel or the components.

NOTES

- On installations where the vessel is remote from the module the intermediate cold water cushion must be between the system and the system connection on the module, not between the vessel and the module.
- On twin outlet sets, allow 1 metre clearance from the right-hand side of the cabinet to give access.



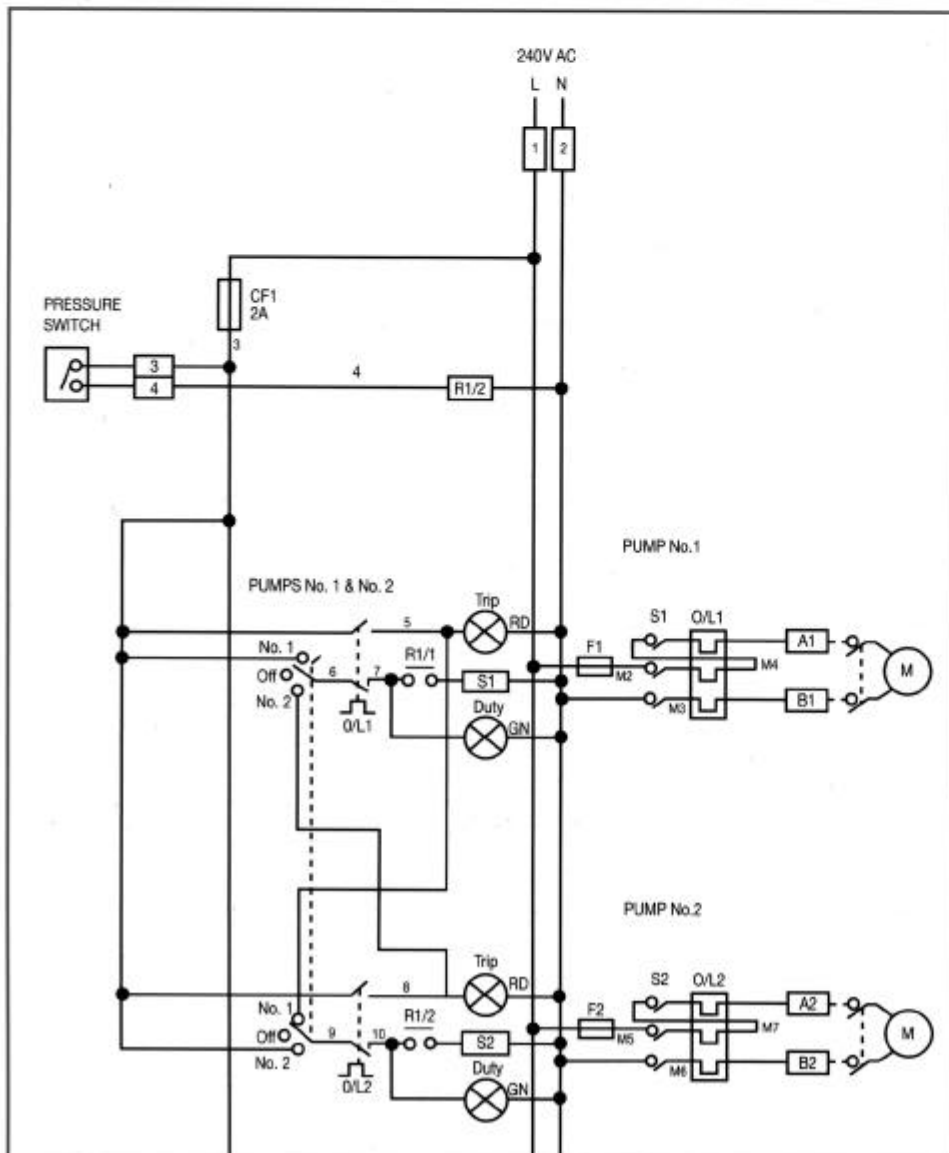
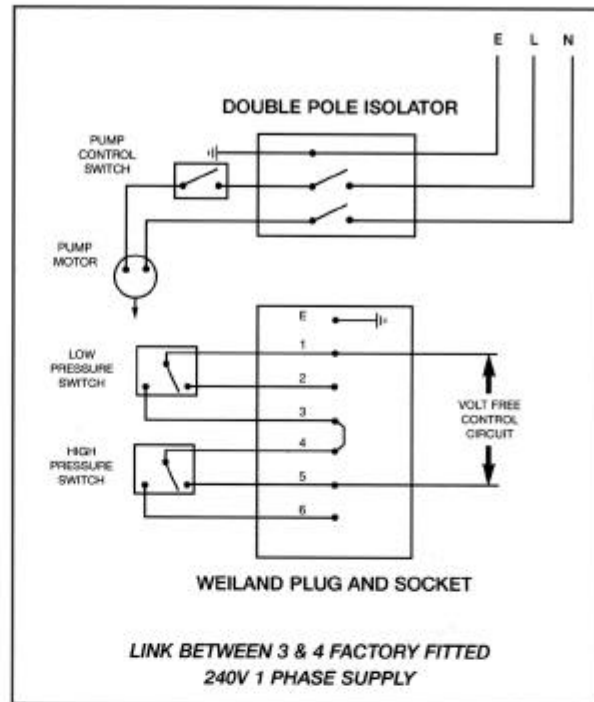
Antigravity loop or intermediate vessel shown dotted, only required for flow temperatures above 95°C. Capacity not less than 6% of vessel volume.

electrical connection data



Wiring Diagrams

Standard 240V
Single Pump 'MAXI'



Twin Pump
with auto changeover
'MAXI PLUS'
240V

For 415V 3 phase units,
please contact our
technical department for
wiring information

MIKROFILL SYSTEMS LTD.

MANUFACTURERS OF PRESSURISATION EQUIPMENT
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INSTALLATION AND COMMISSIONING INSTRUCTIONS FOR THE “MAXI PLUS” AND “MAXI CONTRACT” PRESSURISATION UNIT.

The Unit should be positioned so as to give sufficient working access to the front of the Unit, we would recommend a minimum clearance of 500mm. Consideration should also be given to clearance at the right hand side of the Unit to enable electrical connections to be made, and on the left hand side to enable the necessary water connections to be made and allow the filling loop to be used.

ELECTRICAL CONNECTIONS

The Unit is supplied with an illuminated double pole isolator, this isolator requires a 240v single phase supply fused at 5A this should be a permanent supply. The Unit is prewired with a 2M flying lead for this purpose. The high and low pressure switch wiring is terminated to a Weiland plug and socket and can be wired to suit the site requirements, see separate wiring diagram. It is recommended that, even in simple applications the boiler or chiller control circuit is interlocked via the high and low pressure switches.

COMMISSIONING

The filling loop must be used to initially fill the system, and the loop should enable the system to be filled to just below “cold fill Pressure”. The loop should then be disconnected and stored in the clips provided. Ensure that the illuminated isolator is switched off. Remove the top panel (lid) and front panel, check that the header tank is correctly positioned, and that the float valve is positioned and operating correctly.

Remove the top cover from the pump control pressure switch, and screw the pressure adjusting screw to minimum, (the pressure adjustment screw is situated to the right, do not adjust the differential screw on the left).

Ensure that the header tank is full of water and that the Unit is connected to the mains water supply.

Switch on at the illuminated isolator and the pump should operate, the pump fitted to the Unit is self priming and should not require venting. The system should start to fill, if the pump does not operate, increase the pump control switch pressure slowly, until it cuts in. The flow rate of the Unit is automatically adjusted to 17ltrs/min.

Slowly increase the pump pressure switch until the system reaches the required “cold fill Pressure”

The low pressure switch can be adjusted by using the filling loop to achieve the low pressure condition and then setting the low pressure switch again by adjusting the pressure switch again by adjusting the pressure screw situated under the cover on top of the low pressure switch. If site pressure is sufficient than this method may be used to set the high pressure switch, if the site pressure is not sufficient then the Unit can be used by increasing the pump pressure switch until the system reaches the high limit.

REMEMBER TO REDUCE THE SYSTEM PRESSURE TO COLD FILL PRESSURE AFTER SETTING THE HIGH LIMIT SWITCH. IF THE PUMP HAS BEEN USED TO SET THE HIGH LIMIT, RECOMMISSION TO RESET THE COLD FILL PRESSURE.

ALWAYS READ THE PRESSURE FROM THE GAUGE SITUATED ON THE FRONT OF THE CABINET.

Replace all covers.

MAINTENANCE

The Unit requires very little routine maintenance, it is recommended that the integral filter, situated inside the ballo fix isolating valve is cleaned periodically, (annually). This is under taken by closing the isolating valve, turning the isolating valve through 90° so that the flat face with the screw driver slot is facing forward. Remove cap by unscrewing with a large screwdriver. Once cap is removed pull out the small plastic 'basket' which houses the filter. This should be cleaned in warm soapy water. Reinstall in the reverse to the above.

ADDITIONAL INFORMATION, MIKROFILL MAXI PLUS.

The fused spur isolator supplied with the **Maxi Plus** is mounted on the pump contactor housing, and access for wiring is via this housing, a gland connector is fitted for your convenience.

The **Maxi Plus** is a twin pump unit with automatic changeover from the "duty" pump to the "standby pump" should the "duty" pump fail. The operation of the auto changeover facility is indicated by neon lamps on the control panel, should the "duty" pump fail, then the corresponding "fail" neon will be illuminated, and the standby pump "run" neon will also be illuminated.

To equalise wear on the pumps, it is recommended that the pump selection switch is operated on a regular basis, i.e. quarterly. Otherwise all maintenance is as the **Mikrofill Maxi Contract**.

SPECIFICATION

Casing	Mild Steel Casing "Zintec Coated" and Epoxy Powder Coated.
Pumps	Stuart Turner Self Priming Bronze Pump with Nitrile Rubber Seals max. working pressure 6.00 Bar max. water temp. 80c service kit (part No. 14-50-17044)
Pressure Switches	Teddington Controls Ltd. Model TBV 6271 Pressure range 0.5-7.00 Bar Differential 0.5 Bar
Enclosure Rating	In excess of I.P. 44.
Electrical Supply	240v 50Hz 1 phase. 10A fused.