

Introduction

“MIKROFILL” Sealed System Filling Device

The “MIKROFILL” sealed system filling device is a unique, fully automatic unit, purpose designed for the filling and management of water pressure in Commercial, Industrial and Domestic heating and cooling systems. It is suitable for all applications with cold fill requirement up to 1.8 bar, and replaces traditional ‘break tank’ type pressurisation units. It requires almost no routine maintenance and, importantly no site commissioning, every unit being factory set, and guaranteed for a period of 5 years.

The “MIKROFILL” is a British designed, and patented unit and is WRc approved. It represents the very latest in sealed system technology and offers the following benefits.

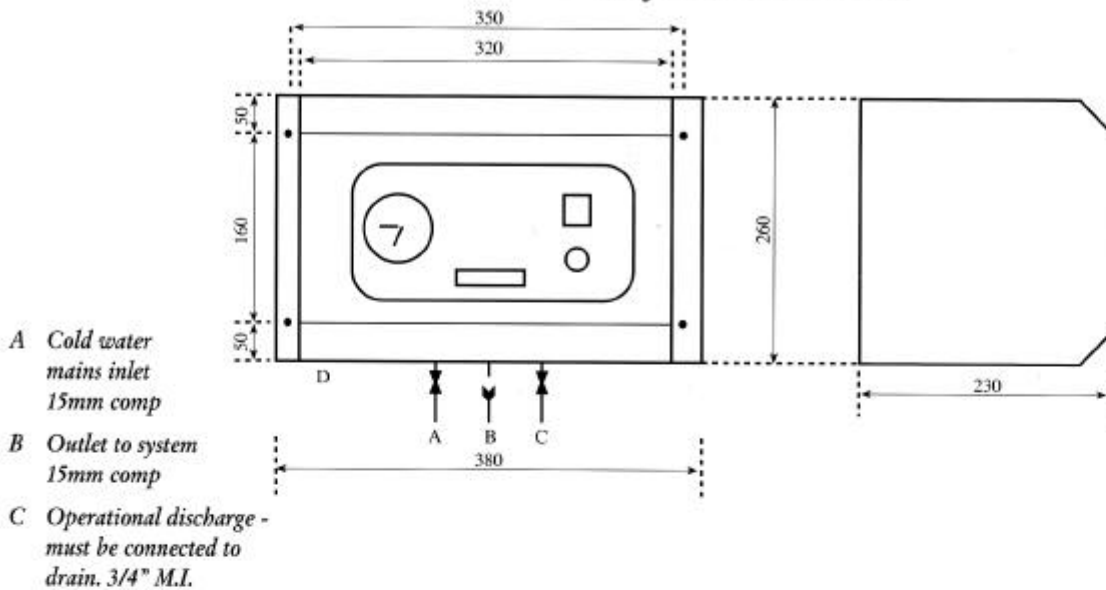
- ★ Compact wall mounted design.
- ★ Fully pre-commissioned.
- ★ Very low noise levels.
- ★ Easily installed.
- ★ Ultra reliable.
- ★ Low maintenance
- ★ Zero Legionella risk.
- ★ No ‘Filling Loops’



FEATURES:

- ★ Most compact fully automatic filling device available (320mm width 265 height 230 depth).
- ★ Robust casing.
- ★ Full instrumentation :- illuminated double pole on/off switch, fuse, pressure gauge, and ‘hours run’ meter, (to determine water usage, and system water content).
- ★ Fully safety interlocked against low mains water pressure.
- ★ Available with integral high & low pressure switches for boiler or chiller safety interlocks.
- ★ Unique patented design.
- ★ WRc approved.
- ★ High fill rate option available for larger installations.
- ★ Designed and built in Britain.
- ★ Simple electrical connections 240v 1 phase.
- ★ No break tanks, no pumps.
- ★ Suitable for use with cold water booster sets.

dimensions and electrical information



Clearance

- Top - No minimum requirement
- Sides - 150mm
- Front - 300mm

Electrical data

Model	Start Current Amps	Run Current Amps
MIKROFILL 240V	0.95	0.6

Weight

Standard Unit	
As delivered	10.5Kg

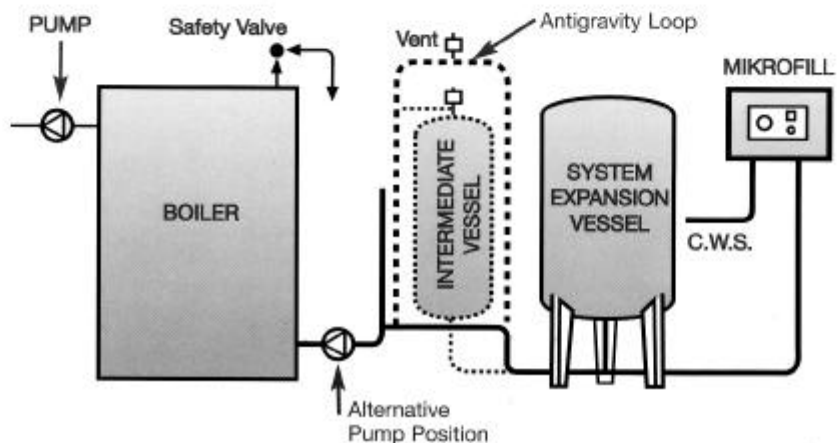
installation notes

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.



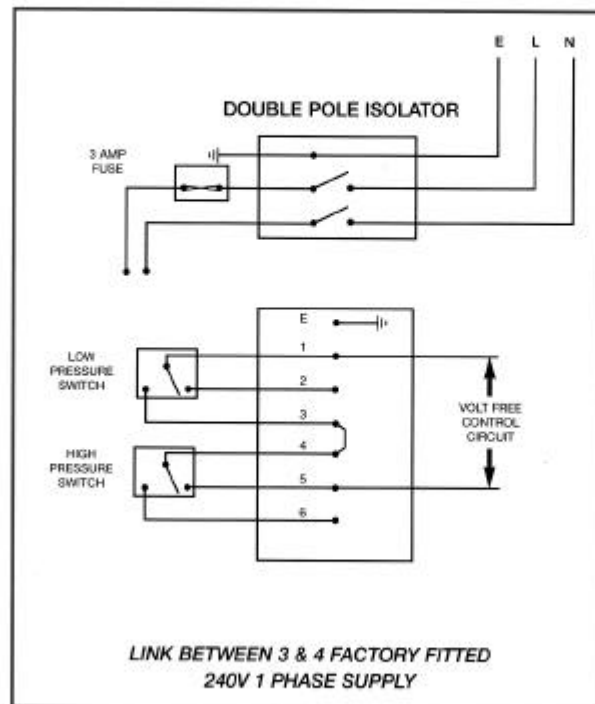
Antigravity loop or intermediate vessel shown dotted, only required for flow temperatures above 95°C. Capacity not less than 6% of vessel volume.

Electrical connection data



Wiring Diagrams

Standard 240V



The “MIKROFILL” unit has been purpose designed to offer a modern alternative to the empirically developed “break tank” type pressurisation unit. The “MIKROFILL” uses a minimal amount of energy, (none whilst on standby). It has zero Legionella risk, unlike conventional units, and does not require site commissioning.

The “MIKROFILL” sealed system filling device which is WRc approved, utilises the pressure of the mains water supply to fill the system, and therefore the cold fill pressure is limited to pressures below cold water mains supply pressure. The units are factory set at 1.5 bar cold fill pressure, which is suitable for the majority of commercial & industrial applications, where static head is no more than 13m (1.27bar). The high & low pressure switches, are also factory set. Individual site requirements can be accommodated, please advise when ordering.

At “MIKROFILL SYSTEMS LTD”, we are continuously developing our products, and therefore reserve the right to change specification without notice.

MIKROFILL SYSTEMS LTD.

MANUFACTURERS OF PRESSURISATION EQUIPMENT
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OPERATING AND MAINTENANCE INSTRUCTIONS FOR THE “MIKROFILL SEALED SYSTEM FILLING DEVICE”.

OPERATING INSTRUCTIONS

The Mikrofill Sealed System Filling Device is designed as a factory set unit and as such is intended to be installed without the need for site commissioning. The factory default setting is 1.5 bar cold fill. The mains water low pressure interlock is set at 1.8 bar, and the BMS high low pressure switches are set at 2.75 and 0.5 bar respectively. Should a lower cold fill pressure setting be required then this will be factory set. Site commissioning can be undertaken, please contact our service department 01527-574574 ext. 206 for details.

The Mikrofill Sealed System Filling Device can be fed from a cold water booster set, and in these installations cold fill pressure can be set to within 0.3 bar of the booster set pressure. The high and low pressure switches are wired as “volt free” contacts, and as such can be incorporated in the control circuits of boilers, or chillers to interlock the equipment against high or low conditions. The low pressure switch is situated on the right hand side panel, and the high pressure switch is situated on the left hand side panels. The hours run meter indicates the time that the Mikrofill Sealed System Filling Device is actually operating and the red digits indicate each 36 second period, i.e. $100 \times 36 = 3600 \text{ sec} = 1 \text{ hour}$. The standard fill rate of the Mikrofill Unit is 12L/sec, for larger installations a fill rate of 17L/sec can be requested. After each operation the Mikrofill System Filling Device performs an operational discharge of approx. 2.5ml and for this reason it is most important that the drain connection is made. A 15mm mains cold water supply of minimum pressure 1.8 bar is required and the feed to the system should be made in 15mm (1/2”) pipework increasing to 22mm (3/4”) at the expansion vessels (large installation may require 28mm (1”) pipework from the vessel).

MAINTENANCE

The Mikrofill Sealed System Filling Device is designed to require minimum maintenance, all components being tested to 1 million operation. There is however a line strainer situated in the inlet valve which should be cleared periodically (12 monthly).

To facilitate the removal of the filter close the inlet valve, and remove the slatted cap on the side of the inlet valve, the basket strainer is situated inside the body of the valve, and can be removed with long nosed pliers, cleaning is best undertaken with an air line, or alternatively clean in warm soapy water.

FAULT FINDING

Unit switched on but does not operate.

1. System pressure already satisfied.
2. Power supply fault, check supply.
3. Low inlet water pressure, check water pressure, must be 1.8 bar minimum, if satisfactory, check filter clean is necessary.
4. High pressure alarm/interlock operating, check pressure in expansion vessel. It is useful in new systems to note the water content of the system by using the hours run meter, do as to 'double; check the sizing in the expansion vessel.

If after the above checks the unit still fails to operate please call our service department, every effort is made to insure that the Mikrofill Sealed System Filling Device gives the best possible service, and to this end two independent run tests are carried out on every unit, but should you experience difficulties our service department are there to assist.

Electrical Data

240v 1PH 1A. Fused 3amp. Max. rating volt free contacts 16A @ 240v.

WRc Approval No.: 0712034.

PARTS LIST

1 No. Mains Water Solenoid Valve Part No. SCE21094BW

1 No. Operational Discharge Solenoid Valve Part No. SCE210C34

1 No. Hours Run Meter Part No. 08191606

When ordering the above parts please quote the name of the part and the part No. required.