

Sealed system Benefits

In today’s demanding environment nearly all heating and chilled water circulating systems are designed to operate in sealed networks.

The main benefits over previous systems which used feed and expansion tanks to accommodate expanded water are many.

Large volumes of water are no longer required to be stored at the top of the building.

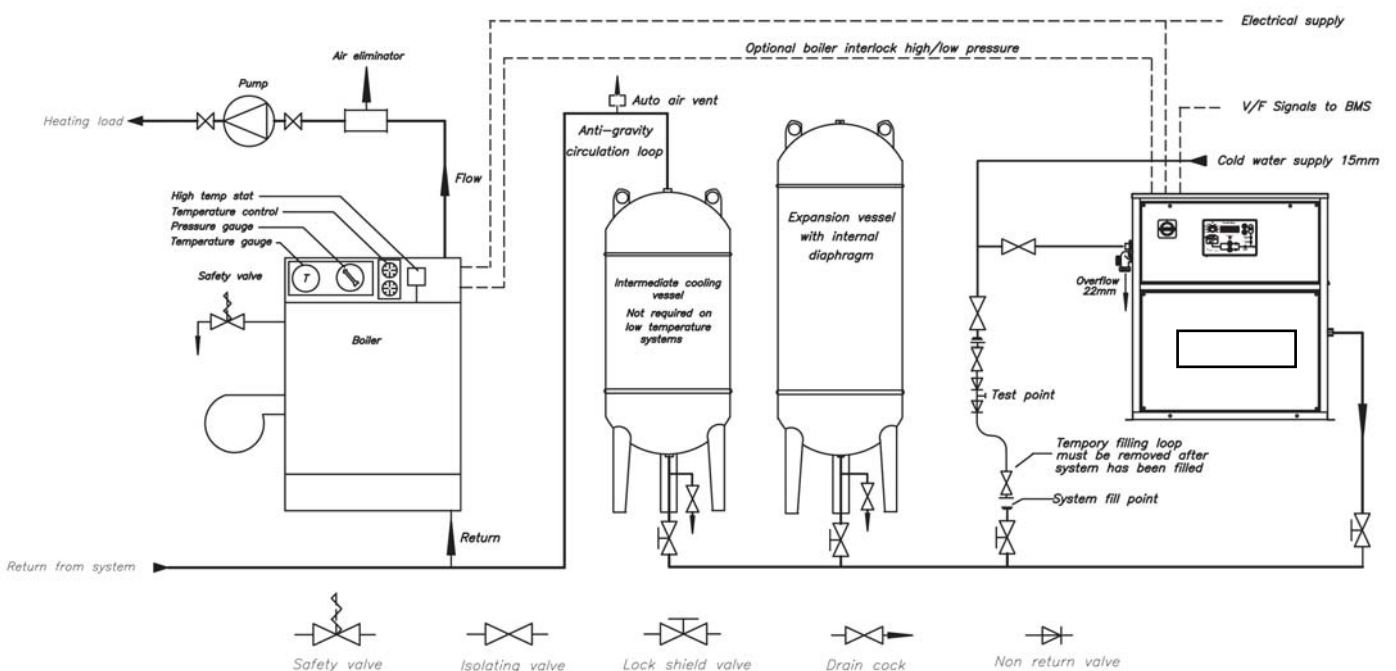
Expansion vessels can now be used in place of the storage tanks and these can be placed anywhere in the building, usually in the basement where the weight is not such a problem.

The Feed and expansion tank being open to atmosphere allowed water to evaporate making unnecessary demands on this precious resource.

Sealed systems reduce corrosion to an absolute minimum by sealing the system content from atmosphere, and only adding fresh water to replace loses through leakage.

Sealed systems also offer the possibility of operating at higher temperatures if required (Max 120 Deg C) which permits lower circulation rates, smaller pumps and reduced pipe work dimension with obvious cost savings.

Pressurisation system guide
Low/Medium temperature typical layout



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MOVING WATER ENGINEERS

Application

- Mains door interlocked disconnect switch.
- Auto/Manual/Off selector switch.
- Back lit digital display.
- Control panel section IP 54.
- MCB protected motors.
- Simple set point adjustment.
- Parameter lock.
- Remote inhibit.
- Delay start.
- Exercise regime.
- Break tank low water monitoring.
- Transducer controlled.
- High/Low pressure contacts for boiler/chiller interlock.
- Anti-bounce internal vessel 5lt.
- Auto isolating valves on each pump.

Additionally twin pump units have:

- Automatic duty pump rotation with omission of tripped or failed pumps.
- Duty pump fail with auto change over to stand by pump.

LED indicators for :

- Pump run each pump.
- Pump trip each pump.
- Low pressure.
- High pressure.
- Duty pump failed.
- Excessive run time.
- Break tank Low water.
- Back lit display provides indication of power on.

Volt free contact for:

- Pump run each pump.
- Pump trip each pump.
- High pressure.
- Low pressure.
- Excessive run time.
- Break tank low level.
- Duty pump failed (two pump units).

Expansion vessel sizing

Vessel sizing Calculations should be carried out in accordance with BS7074.

Details of calculating method can be obtained from Pumps UK or we will be happy to calculate the required vessel size for you if you can provide the following data.

1. Static height above pressurisation unit.
2. System content (volume) if unknown boiler power (Kw) can be used to estimate system content.
3. Flow and return temperatures.
4. Glycol content (%).
5. Final working pressure.

Applied standards

- Safety Directive. 89/392/EEC.
- UK Health and Safety Requirements. S.I. 1992 NO 3073 S.I. 1994 No 2063
- Water supply (water fittings) Regulations.1999.
- Simple pressure vessel directive 87/404/EEC.
- Code of practice for heating and chilled water systems. BS7074 Parts 1,2 & 3.

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Specification

Base/enclosure

Open frame units have base plates manufactured from 14SWG galvanised steel and are suitable for floor mounting.

Enclosed units are manufactured from powder coated steel and have individual sections for electrical equipment and hydraulic equipment.

These units are suitable for either floor or wall mounting.

Pumps

All pumps are horizontal peripheral type with bronze body and impeller and are fitted with self adjusting mechanical seals.

Break tank

Manufactured from Polyethylene with an 18lt active capacity complete with weir and clip tight lid.

Ball valve 15mm to BS1212 part 2 constructed to give a type AB air gap in accordance with the water regulations 1999

Overflow 22mm (plastic).

Pipework

Nylon 4-10mm

Internal vessel.

Fixed diaphragm 5lt steel construction complying with BS4814

Electrical specification

Supply voltage

230V 50Hz 1Ph

For other supply voltages contact our sales office.

Volt free contact rating

50V AC 3A

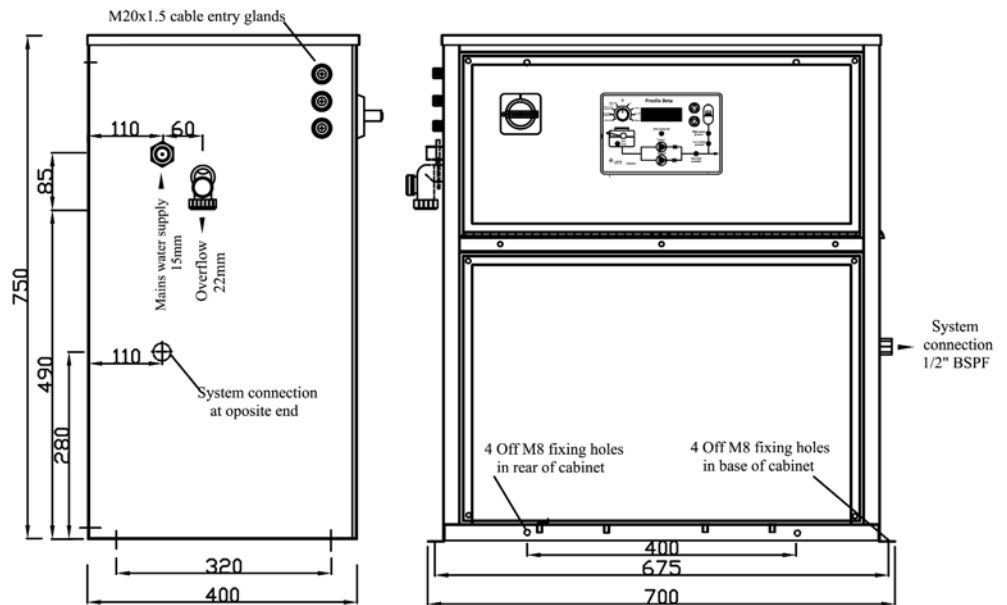
PRESSURE UNIT TYPES

Maximum fill pressure	Single pump Unit	Twin pump Unit	Kg	Motor Size	Input Current	Pre-fuse
2.8 bar	PUK 1LC		28Kg	0.37kW	2.3A	10A
5.5 bar	PUK 1HC		29Kg	0.37kW	3.2A	10A
2.8 bar		PUK 2LC	37Kg	0.37kW	2.3A	10A
5.5 bar		PUK 2HC	38Kg	0.37kW	3.2A	10A

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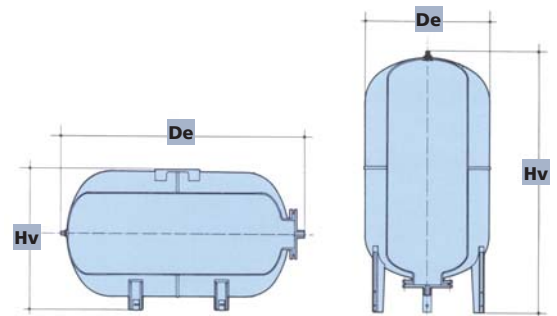
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PUK SERIES



Standard vessel details



Maximum continuous operating temperature 70°C.
All vessels have replaceable diaphragms.
Other vessels available on request.



Horizontal

Vertical

Vessel volume litres	Pressure rating bar	Mounting type	Dimensions De mm	Dimensions Hv mm	Product code No.	Connection size	Weight Kg
24	10	Horizontal	480	270	UK1100002498	1"	8
60	10	Vertical	380	860	UK1100006043	1"	19
80	10	Vertical	450	800	UK1100008024	1"	21
100	10	Vertical	450	960	UK1100010037	1"	23
200	10	Vertical	550	1280	UK1100020039	1½"	62
300	10	Vertical	630	1430	UK1100030031	1½"	65
500	10	Vertical	750	1610	UK1100050027	1½"	97
750	10	Vertical	750	2267	UK1100050028	1½"	222
1000	8	Vertical	850	2100	UK1100100026	1½"	296
24	16	Horizontal	480	270	UK1100002495	1"	15
100	16	Vertical	450	960	UK1100010039	1½"	39
200	16	Vertical	550	1280	UK1100020041	1½"	69
300	16	Vertical	630	1430	UK1100030033	1½"	89
500	16	Vertical	750	1610	UK110005028	1½"	135