

# PRESSURISATION SETS MFR/MFV/EPS



- Heating and chilled water applications
- Baseplate mounted or component set
- Fully packaged modules with purpose built wiring centre and easily adjusted pressure switches
- High spec models available for use with Building Management Systems
- Single and twin pump sets
- Single and twin outlet sets
- 3 and 5 bar models available
- Full range of expansion vessels 5 to 1000 litres
- Pump with continuously rated motor

# PRESSURISATION SETS MFR/MFV/EPS

Smedegaard Pumps manufacture a comprehensive range of pressurisation equipment for sealed heating and chilled water systems. Models vary from a single pump module with separate expansion vessel to a baseplate mounted twin pump unit suitable for use in conjunction with a Building Management System.

The **single pump MFR module** has the following components housed in a stove enamelled cabinet:-

- 3 bar pump with continuously rated single phase motor
- Pump control pressure switch
- High and low limit pressure switches
- Pressure regulating valve
- Pressure gauges
- Pump control vessel
- Break tank with ball valve and BS6281 Type A air gap
- Interconnecting pipework and fittings
- Control panel and wiring centre in IP55 enclosure
- Power on light
- High limit light
- Low limit light
- Pump run light
- Pump trip light

#### Additional MFR models and optional extras:-

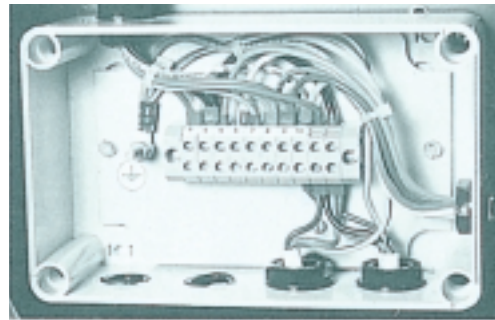
- MFRH model for cold fill pressure up to 5 bar
- Twin pump model with automatic changeover panel
- Three phase motors
- Twin outlets
- Module back panel
- Control panel cover---interlocked isolator
- Cabinet door lock
- Hour-run meter(s)
- Water flow meter (supplied loose)

#### MFV MODULE

The MFV module has all the components of the standard MFR with the following additional features:-

- Volt free contacts to provide remote indication of pump run, pump trip, high pressure, low pressure and low water level.
- Float switch in the break tank to provide warning of low water level, which shuts down the pump and boiler.
- Twin outlets.

This model serves as an intermediate unit for those requiring remote monitoring without full EPS specification.



Wiring centre MFR

#### Model Identification MFR L 121-200-B

- MODULE/VESSEL ARRANGEMENT**  
 B = Module and vessel(s)  
 pre-piped baseplate mounted  
 C = Separate module, and vessel(s)  
 M = Module with vessel mounted  
 on the side
- EXPANSION VESSEL SIZE(S)  
IN LITRES**
- NUMBER OF OUTLETS**  
 1 = Single outlet    2 = Twin outlet
- NUMBER OF PUMPS**  
 1 = Single pump    2 = Twin pump
- PHASE OF MOTORS**  
 1 = Single phase    3 = Three phase
- COLD FILL PRESSURE RANGE**  
 L = 0.8 - 3 bar    H = 3.1 - 5 bar
- MODULE TYPE**  
 MFR = Standard unit  
 MFV = Intermediate unit  
 BMS = High spec unit  
 EPS = Electronic

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## EPS MODULE

In contrast to the MFR and MFV modules, which are pressure switch controlled, the EPS module is electronically controlled. The electronics comprise three major components, a pressure transducer and two PCB's, these boards are mounted in a metal enclosure with door interlocked isolator. An LCD, on the front of the enclosure, gives a continuous display of the system pressure and when commissioning or under alarm conditions the system parameters/reason for fault are also shown. A pump selector switch, alarm/mute, LED's for system on and common fault are included, together with the system parameter adjustment buttons. These buttons are protected by a code system to prevent unauthorised tampering.

- Volt-free contacts for high pressure, low pressure, pump run, pump trip, low water level in the break tank and frequency of starts.
- Automatic changeover and alternative pump starting.
- Audible alarm and mute.

## Module/Vessel arrangements

All modules are supplied in the fully packaged form with expansion vessel supplied loose. This is particularly useful where a multiple of vessels is required to accommodate large system expansions. Alternatively, the modules can be fitted onto an extended steel baseplate with a suitable sized expansion vessel pre-piped to the module.

## Expansion vessels

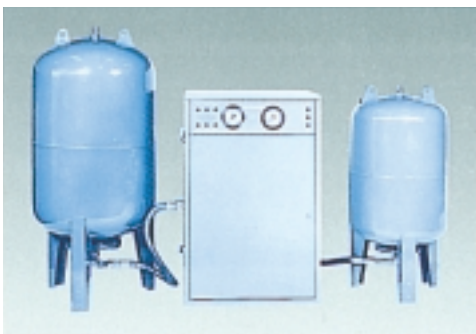
The standard range of expansion vessels, 25 to 1000 litre, has E.P.D.M. rubber replaceable sleeves. The use of this material also allows the vessels to be fitted in H.W.S. systems. We restrict the maximum allowable vessel acceptance to 45% which prevents over-stretching of the diaphragm and possible premature failure. Suitable for temperatures up to 100°C and 10 bar working pressure.

## Expansion vessel sizing

Smedegaard slider available upon request.

## Twin outlet sets

Twin outlet modules enable two separate systems, usually heating and chilled water, to be pressurised from a single unit. As illustrated these are normally supplied for separate mounting of module and vessels/.



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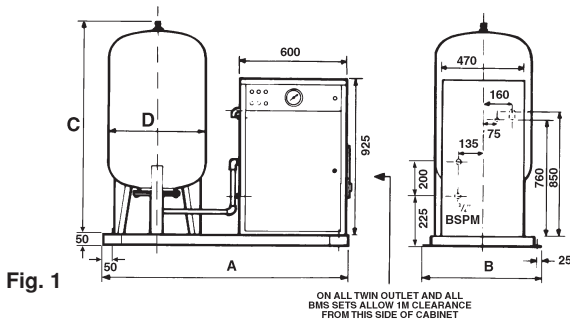


Fig. 1

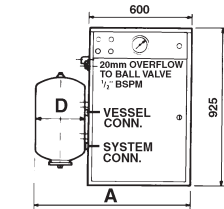


Fig. 2 MFR/MFV/BMS/EPS25M/50M

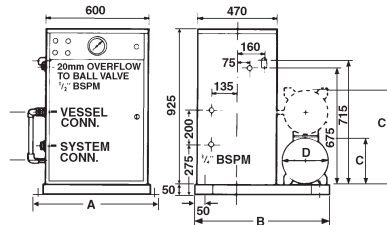


Fig. 3 MFR/MFV/BMS/EPS25B/50B

## Electrical Data

Model	Motor kW	Full Load & Starting Current - Amps				Approx Net Weight - kg*	
		230-1-50		400-3-50		Single Pump	Twin Pump
		Full Load	Starting	Full Load	Starting		
MFRL/MFVL/BMSL/EPS	0.37	2.6	15.0	1.0	6.0	55	67

## Dimensions in mm

Model	A	B	C	D	Approx Net Weight - kg*		
					Single Pump	Twin Pump	Vessel only
MFR/MFV/BMS/EPS 25M**	885	470	900	285	61	73	6
MFR/MFV/BMS/EPS 25B***	720	770	285	285	75	87	6
MFR/MFV/BMS/EPS 50M**	1005	470	570	405	83	95	14
MFR/MFV/BMS/EPS 60B	1100	600	800	415	89	101	18
MFR/MFV/BMS/EPS 80B	1300	660	900	485	108	120	35
MFR/MFV/BMS/EPS 100B	1300	660	800	500	113	125	40
MFR/MFV/BMS/EPS 150B	1300	660	1030	506	123	135	50
MFR/MFV/BMS/EPS 200B	1300	660	1010	600	133	145	60
MFR/MFV/BMS/EPS 300B	1300	660	1200	650	158	170	80
MFR/MFV/BMS/EPS 500B	1500	850	1400	770	205	217	118
MFR/MFV/BMS/EPS750B	1500	850	1970	800	285	297	200
MFR/MFV/BMS/EPS 1000B	1500	850	2430	800	335	347	250

\* Weights are based on MRFL/MFVL/BMSL/EPSL unit, for H units add 5kg on single pump sets and 10 kg on twin pump sets.

\*\* Vessel is vertical and fitted on side of cabinet Fig 2.

\*\*\* Vessels are horizontal and fitted behind cabinet Fig 3.

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Whilst every care has been taken to ensure that data is correct, no responsibility can be accepted for inaccuracies or misprints.

It is SMEDEGAARD' policy to continually improve and develop the product range. We reserve the right to change specifications without prior notice.

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