

# AquaTech Pressmain

HEATING & CHILLED SYSTEM PRESSURISATION UNITS



## MICROPACK 'ETM' SERIES

**GENERAL**

The “Micropack” ETM Series system pressurisation unit is designed to maintain a minimum set pressure in a sealed heating or chilled water system.

Once the system has been initially filled via a quick filling loop, should the pressure fall below the cold fill pressure the ETM unit operates automatically to restore that pressure.

If high or low pressure conditions occur the boiler/chiller operation can be interrupted via the volt-free contacts provided.

The unit is used in conjunction with a suitably sized expansion vessel from the “Aquatank” range of replaceable diaphragm vessels to BS6144 (see table on page 3).

**FEATURES of STANDARD MODEL 2ETM40**

- Microprocessor/Transducer control  
(For long term accuracy & reliability)
- Low water protection in break tank
- Common Boiler / Chiller interlock fault relay  
(volt-free)
- Mains water break tank with type 'AB' air gap to  
Water Supply Regulations 1999.
- Two pressurisation pumps
- Compact wall mounted cabinet.  
(300 wide x 400 high x 170 deep)
- Automatic alternation of duty pump  
(for even wear)
- Automatic periodic pump pulsing (To prevent  
pump seizure)

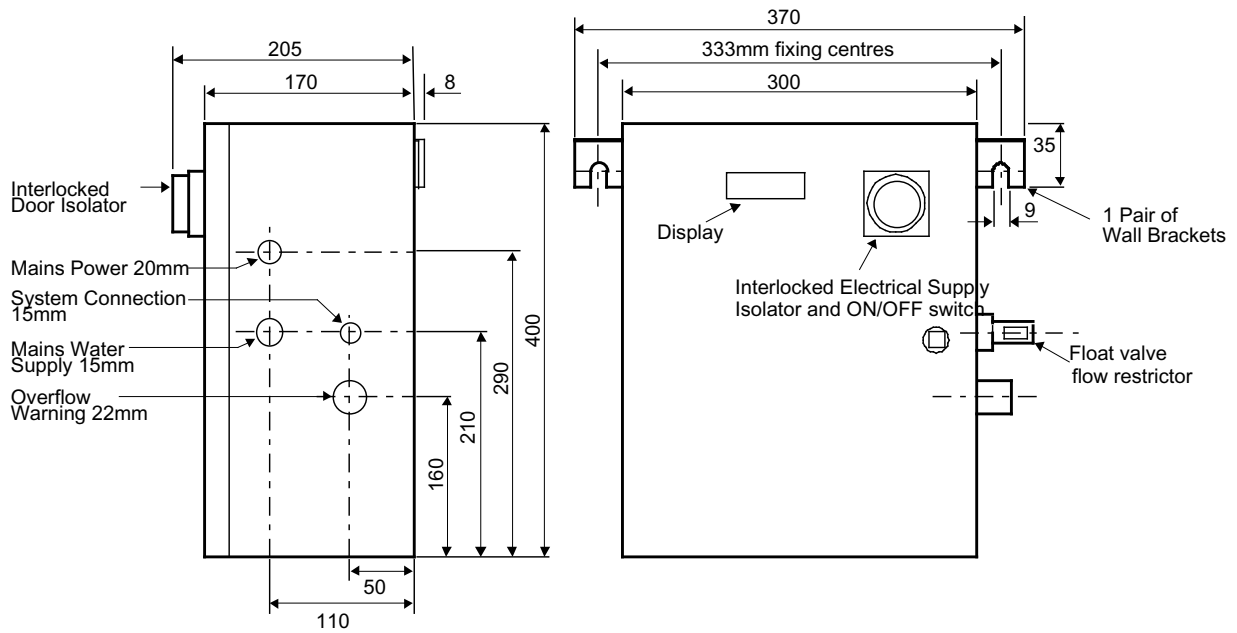
**FEATURES of ENHANCED MODEL 2ETM40-E (as above with addition of below)**

- RS232 or 422/485 serial communications port
- 8 Volt free signal relays (Functions can be varied  
to suit requirements)
- Indicators for pump run, tripped, hand, off & auto
- Additional analogue & digital inputs & outputs  
available if required
- High water protection in break tank
- Keypad for ease of setting parameters
- Illuminated comprehensive 2 line LCD display
- Non volatile Eprom memory

(Note, Both units are fully adjustable on site)

Construction Standards 'Micropack' ETM Series			
ITEM	MODEL/SERIES	STANDARD/CLASS	REMARKS
Quality System	Manufacturing	ISO 9001:1994	Cert No. FM33090
Wiring Standards		BSEN 60204: Part 1:1998	
Electro Magnetic Compatibility		European Directive 89/336/EEC:1992 European Directive 89/392/EEC:1994	
Mains Water Breaktank	5 Litres Nominal Capacity		
Mains Float Valve	TB Mk.2	WRC.950 2008	0.5" Type 'AB' Air Gap
Pipework	Polyurethane Type TU		
Pipe Fittings		TUV 9205-8323-501	
Pumps	ET 508	IMQ & VDE Standards	
Pump Motors	T.E. Encapsulated	IP55, Class F Insulation	Thermal Overload Protected
Control Cabinet	AQ-HM-S	IP54	
Interlocked Door Isolator	LA2 & LA3	BS, UL, CSA, VDE, IEC	
Microprocessor Enhanced	MPC or 2000Plus		
Transducer Control	292	SS/Ceramic	8 Bar Max. Test Pressure

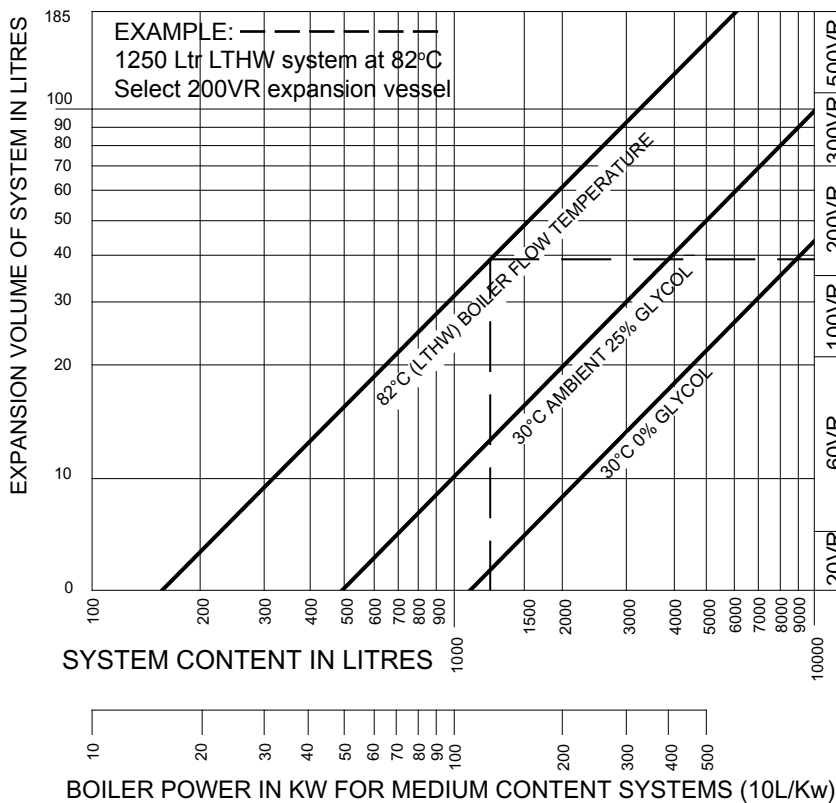
# DIMENSIONS



All Dimensions in mm.

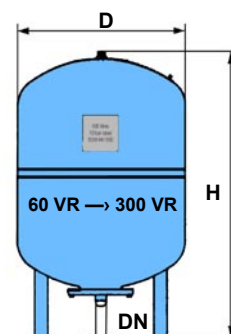
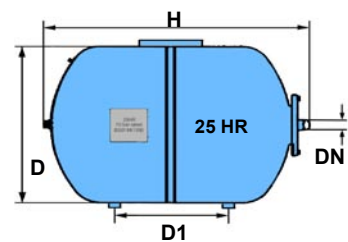
Approx. weight 12Kg.

## EXPANSION VESSEL SELECTION GUIDE



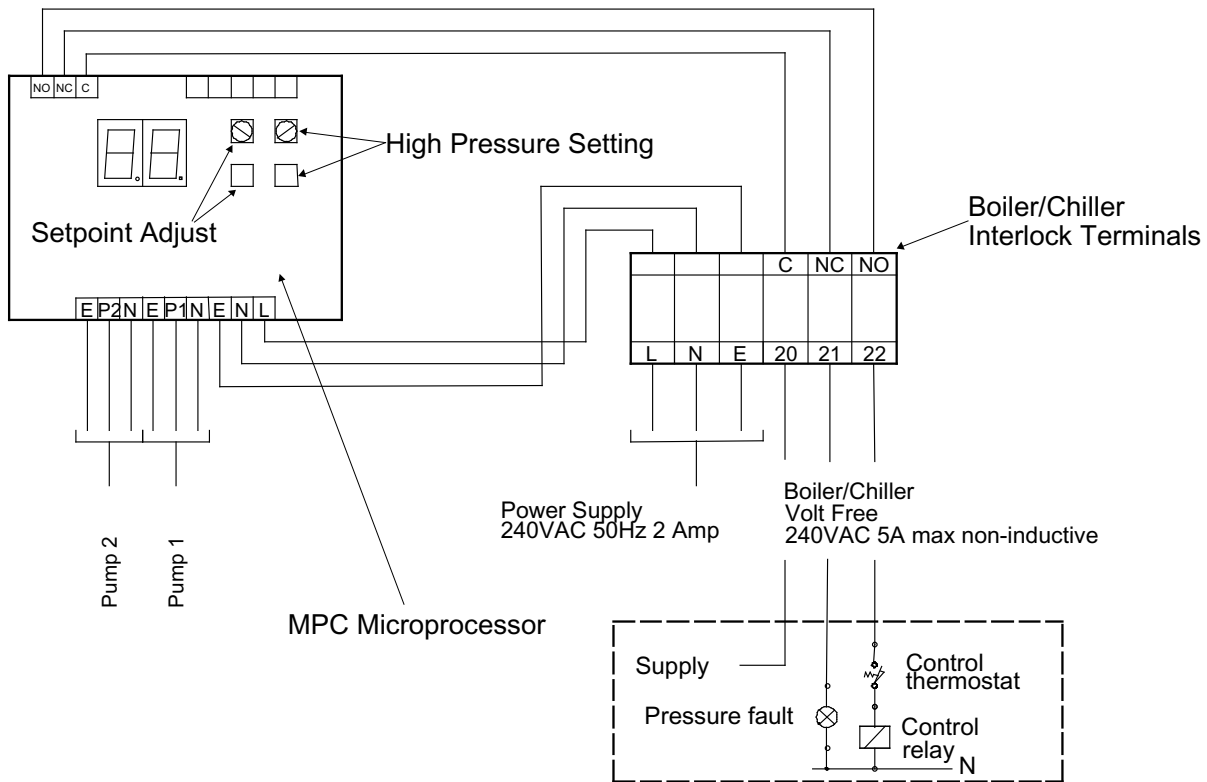
### AQUATANK 'VR' Series:

The diaphragm vessels for special applications: Meets or exceeds EC norms for pressure vessels 97/23/EC; Max working pressure: 10 bar; Vessel Material: Steel RSt 37-2.; All vessel parts in contact with water are coated against corrosion; Diaphragm: Made of special high quality rubber material; Filling Valve: Schraeder-valve-type; Surface Treatment: Blue, durable powder coating finish.



Type	25 HR	60 VR	100 VR	200 VR	300 VR
Nominal Content –litres	25	60	100	200	300
D mm	295	409	480	634	634
D1 mm	228	-	-	-	-
H mm	485	740	840	980	1280
Water Connection DN BSP	1"	1"	1"	1 ¼"	1 ¼"
Dry Weight Kg	5.6	25	32	50	55
Max. working Pressure-bar	10	10	10	10	10

## STANDARD 2ETM40 ELECTRICAL CONNECTIONS



TYPICAL BOILER/CHILLER INTERRUPT CIRCUIT

### CONNECTION NOTES

Safety Interrupt Volt free terminals 20/22 change state when either High or Low pressure is sensed on the system. The control relay de-energises in a fault condition.

### SPECIFICATION FOR STANDARD "MICROPACK" 2ETM40 SERIES

Twin pump pressurisation unit suitable for a cold fill pressures of up to 3.0 bar (45 psi), complete with MPC microprocessor and 292 pressure transducer incorporating: combined high/low system pressure cut out single pole relay with "volt-free" contacts; digital pressure and fault display; solid state drive for pressurisation pumps with thermal overload; automatic cut-out and reset on low water level in breaktank.

5 litre mains water breaktank with 15mm float valve having type A air gap to BS6281:Part 1.

All contained within powder coated sheet steel enclosure, with interlocked door isolator and interconnecting piping and wiring.

Electrical supply: 240v. 1 Phase, 50 Hz, 2 Amp; Max Power: 0.07 Kw

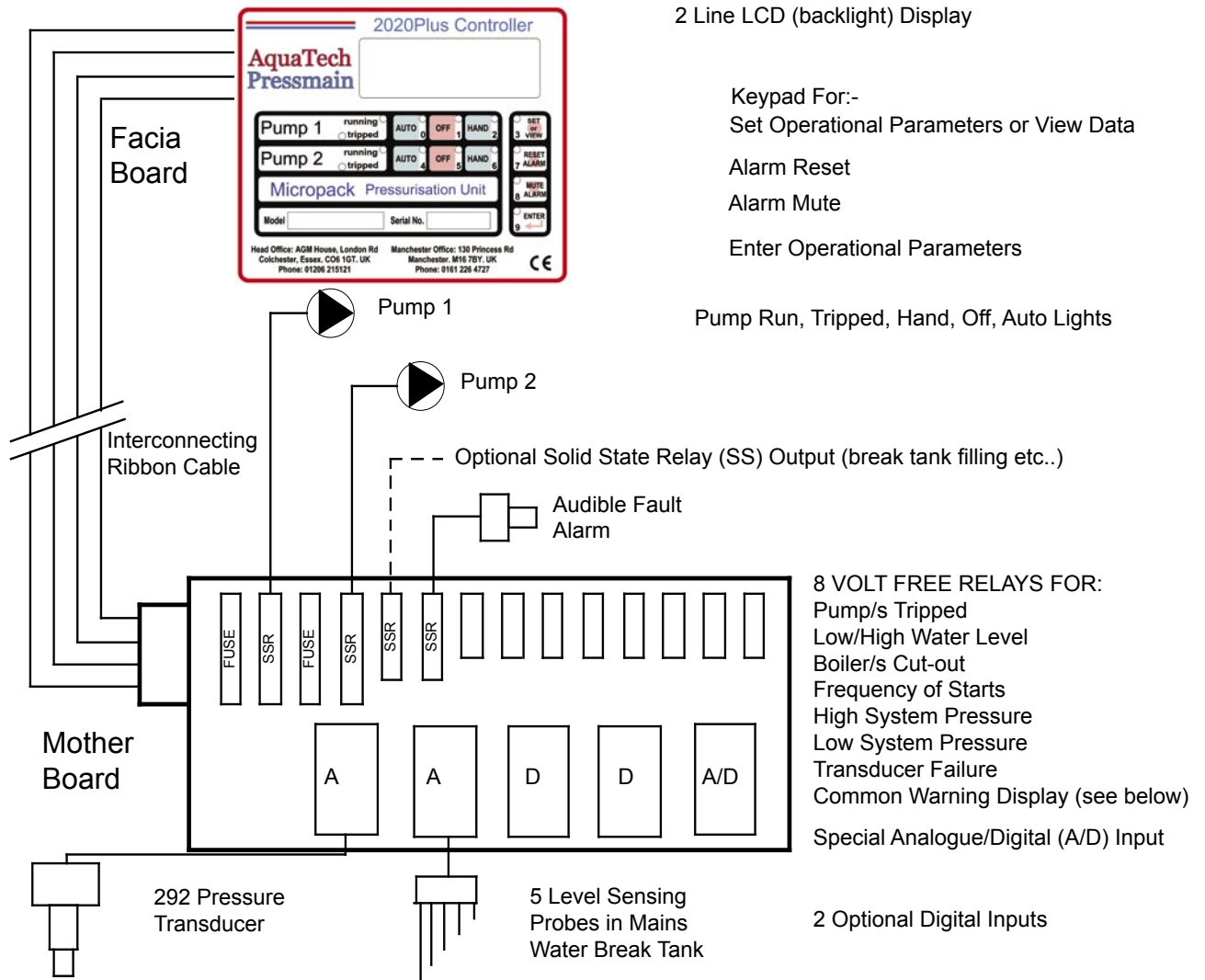
### OPERATIONAL/WARNING DISPLAY

"L.P" = Low System Pressure, (Scrolls with pressure reading).

"H.P" = High System Pressure, (Scrolls with pressure reading).

"L.L" = Low Water Level in Mains Water Break Tank.

# ENHANCED 2ETM40-E ELECTRICAL CONNECTIONS



## SPECIFICATION FOR MICROPACK 2ETM40-E (ENHANCED)

As standard specification with additions:

2000Plus microprocessor control, two thermal overload protected pump motors,

Fascia controls to provide 5 indicating lights for each pump condition or status:- run, tripped, hand, off auto.

Fascia keypad to enter & set operational parameters, reset alarm & mute.

Fascia 2 line LCD illuminated display to provide:

### OPERATIONAL DATA DISPLAY:

System Pressure  
System Status Including Warnings  
Alarms With Type of Fault  
Pump/s Tripped  
Transducer Fault  
Boiler/s Cut-out

### INFORMATION DISPLAYS:

Hours Run for Each Pump  
Hours Elapsed Since Last Service  
Parameter Settings Display  
High Pressure Cut-out Setting  
Duty Pressure (Cold Fill Pressure)  
Low Pressure Cut-out Setting  
Support Pump Delay Time

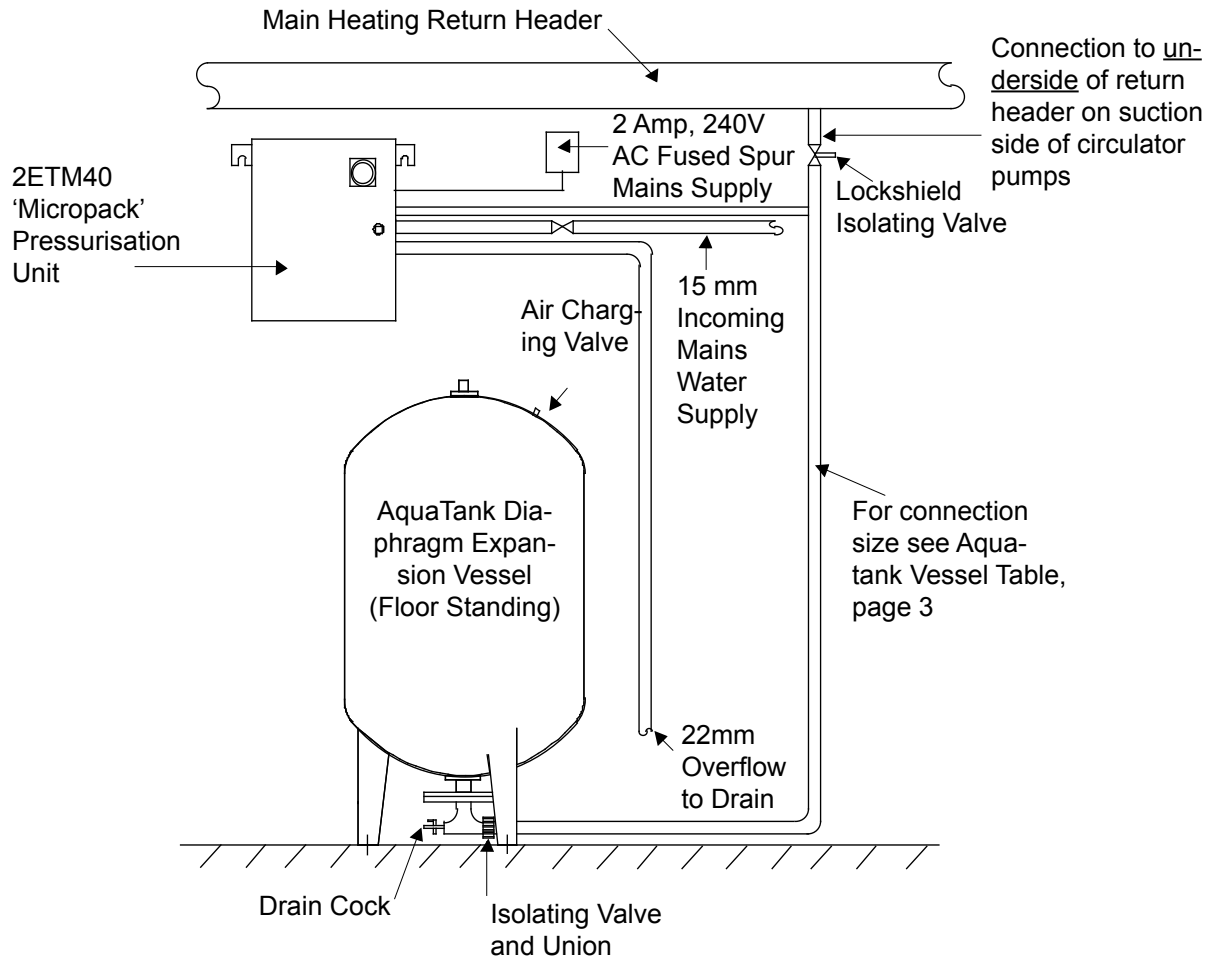
### BMS VOLT FREE RELAY CONNECTIONS:

High System Pressure  
Low System Pressure  
Low/High Water Level  
Excessive Frequency of Start/Demand  
Pump Tripped/Failed  
Transducer Fault  
Common Warning Signal for all Warning Displays\*  
Boiler/Chiller Cut-out

### \* WARNING DISPLAYS:

High Pressure Approach  
Low Pressure Approach  
Low Water Level Approach  
Servicing Reminder

# INSTALLATION DIAGRAM OF AN AQUATECH MICROPACK UNIT



## WORK AT SITE

- Bolt unit to wall.
- Connect 15mm mains water supply.
- Fit 22mm over flow warning pipe.
- Provide 2 amp 240 V AC 50Hz electrical supply and connect to unit.
- Wire boiler/chiller control to terminals.
- Connect MICROPACK ETM unit to system.
- Fill system via quick-filling loop.
- **CAUTION: Test pressure must not exceed 8.0 bar (115 psi)**

Please Note:  
All pipework & valves are supplied and fitted by contractor.

Use intermediate cooling vessel if flow exceeds 90°C.

The information in this specification is correct at time of issue; as AquaTech Pressmain design and development programmes are continuous, we reserve the right to make any changes to this specification without prior notice.

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Leaders in the design, manufacture and assembly of packaged fluid pumping equipment and control systems.  
Applications: Cold Water Supply; Fire Fighting; Heating & Chilled System Pressurisation; Tank Level Monitoring.