

AquaTech Pressmain

**COLD WATER PRESSURE BOOSTER SETS
WITH END-SUCTION TYPE PUMPS**



MICROMATIC 'HM-ET' SERIES

WRAS
APPROVED
PRODUCT

AGM
group member

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OVERVIEW

The MicroMatic "HM2ET" range of quality assured cold water pressure booster sets is designed to increase the pressure of cold water services within a building. Where, for example, the mains water pressure is insufficient to feed rooftop storage tanks, or where water is stored at low level and needs to be distributed to the upper floors of a building.

FEATURES:

- WRAS approved product
- Potable water specification
- Automatic rotation of duty pump
- All wetted pump parts - Aisi304 Stainless Steel
- Compact design and easy installation
- High quality materials and workmanship
- Electronic low water protection
- Reliable Microprocessor/transducer control
- Wide range of models;
 - Duty flow rates from 0.5 l/s - 18 l/s
 - Duty pressures from 1.5 bar to 6.5 bar
- Temperature range - 15°C to 90°C (except pump types 17-C05 & 17-C07 - Max temp. 60°C)
- Quiet running End-Suction design

GENERAL:

HM2ET Series sets are fully automatic packaged units, pumps are arranged in operation as duty with standby. All assembled on a fabricated galvanised steel base frame complete with control panel and suction/discharge manifolds.

OPERATION OF PUMPS:

Hydropneumatic intermittent operation via AquaTech Pressmain MPC-BO Microprocessor control system.

DETAILS OF EQUIPMENT:

Pumps:

End-Suction design using latest technology to achieve quiet running and high efficiency (EFF2). Stainless steel Aisi304 is used for all wetted components.

Electric Motors:

These are totally enclosed, fan ventilated (TEFC) type to BS 4999 part 21 with class "F" insulation class "B" temperature rise protected to IP55, arranged for direct-on-line starting.

Hydraulic Accumulator:

Our hydraulic accumulators are manufactured from high grade steel automatically welded. The stored water is contained within a rubber membrane so that the steel shell is never in contact with the water. This ensures that the water is not contaminated by corrosion from the steel shell, with resulting long life.

Pipework:

Standard manifolds of fabricated Copper tube to EN1057, including isolating valves on each pump suction and discharge, with non-return valves on each pump. (Stainless Steel, Galvanised and Plastic options available; contact AquaTech Pressmain sales for details).

Control Panel:

Automatic control by MPC-BO microcontroller;
Accurate pressure measurement by transducer;
Illuminated digital display for pressure and faults;
Automatic alternation of duty pump;
"Minimum Run" timers adjustable between 0-4 mins;
Electronic low water protection;
Motor contactor/s and overload protection;
Volt-free relay operating on low water & low pressure (single pole);
Interlocked door isolator.

The above equipment is complete with all necessary terminals, labels and interconnections, enclosed in a sheet steel, dust and damp proof housing with lockable door to IP54.

2 Digit LED Display indicating:

Power On
Working Pressure
Low Water Level (L.L)
Low Pressure (L.P)

Low Water Cut-out:

A Low Water Cut-out Type LWP-1 is fitted into the pump suction manifold to protect the pumps from damage in the event of water mains failure. A warning signal on the control panel indicates when the cut-out is in operation. The set is returned to normal working automatically after the break tank has been recharged.

Quality System:

Designed and manufactured in accordance with AquaTech Pressmain quality procedures. AquaTech Pressmain is registered to ISO9001 by BSI

WRAS Approved:

This product is WRAS approved.
Approval Number: 0710086

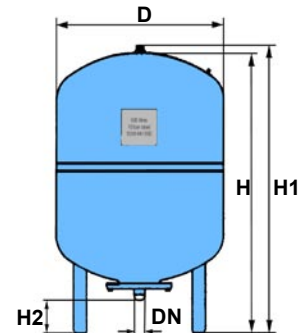


HYDRAULIC ACCUMULATORS

To ensure reliable and economic running of Fixed Speed / Hydro-pneumatic water booster sets, an auxiliary hydraulic accumulator should be an integral part of the boosted system. For assistance with sizing please contact the AquaTech Pressmain sales office.

60 VR → 500 VR

Type	60 VR	100 VR	200 VR	300 VR	500 VR
Nominal Content –litres	60	100	200	300	500
D mm	409	480	634	634	740
H mm	740	840	980	1280	1485
Water Connection DN BSP	1"	1"	1 1/4"	1 1/4"	1 1/4"
Weight Kg	25	32	50	55	85
Max. working Pressure-bar	10	10	10	10	10



DRAWING NOT TO SCALE - Hydraulic Accumulators are supplied free standing with flexible hose and drain-off for connection to booster set on site. A connection with isolating valve is also fitted on the discharge manifold of the booster set for this purpose.

HM2ET OPTIONAL FEATURES & ANCILLARIES

Pipework Material Options

AquaTech Pressmain will supply Copper pipework manifolds as standard, however we can provide Galvanised, ABS, UPVC and Stainless Steel in both 304 & 316 standards.

Flexible Connections

Made from EPDM rubber suitable for potable water applications, this spherical bellows type flexible coupling joint will absorb pipe movements, isolate vibration, reduce system noise and protect plant against start up surge forces. Gaskets are not required and the joints are easily and speedily installed. System pipework mating flanges are available upon request.

Anti Vibration Mountings

When fitted this turret type mount will isolate the pump package from the ground or floor-mounting surface. The mounting will arrest and reduce pump rotation starting inertia and associated vibration being transmitted through the ground or floor-mounting surface, which could potentially cause a noise problem.

Twin Feed Tank Low Water Switch

Designed to replace the suction mounted manifold low water protection probe, which AquaTech Pressmain fit as standard. The LSM-TT-B twin feed tank low water switch is supplied with two level sensors, one per tank, and a tank switch box.

This arrangement enables each tank level probe to be isolated while tank cleaning or maintenance is in progress and retaining water supply via the booster pump set to the building.

GRP Weather Proof Enclosure

Where internal plant room space is at a premium or where a unit needs to be remotely located, this fully encapsulated 25mm pre-insulated GRP enclosure may provide the ideal solution. It is supplied with internal frost stat and heater, natural vents and access door with Yale lock.

Please see separate data sheet DS118 for further details.

Acoustic Attenuator Enclosure

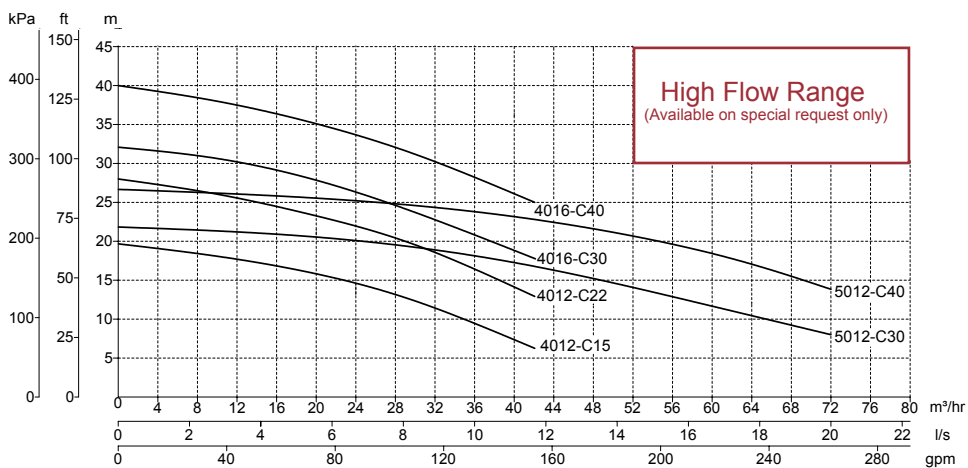
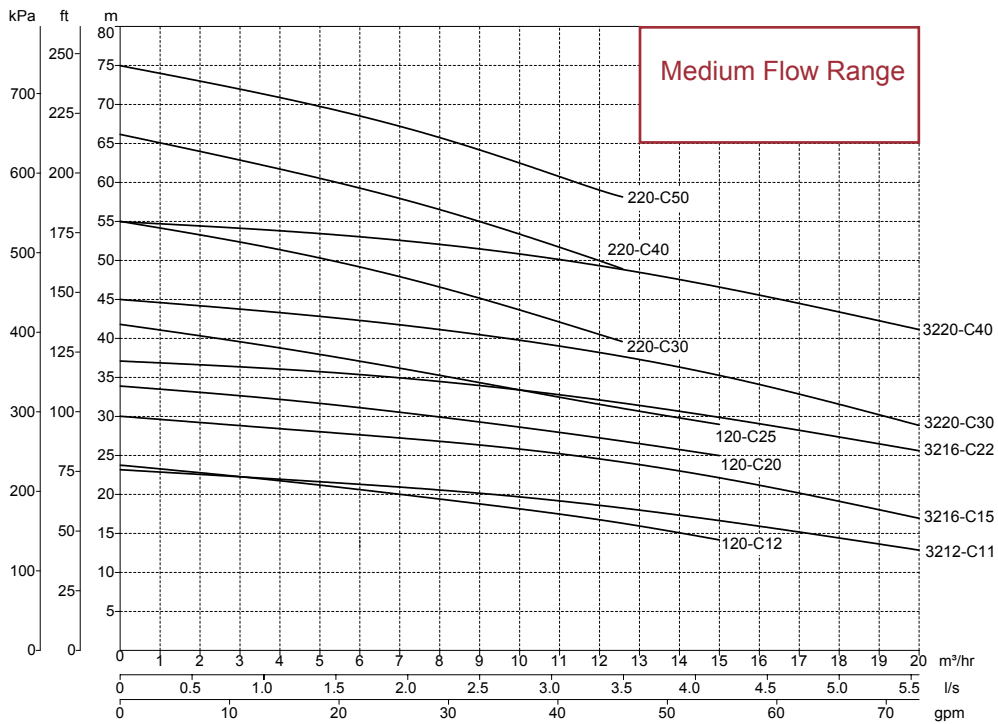
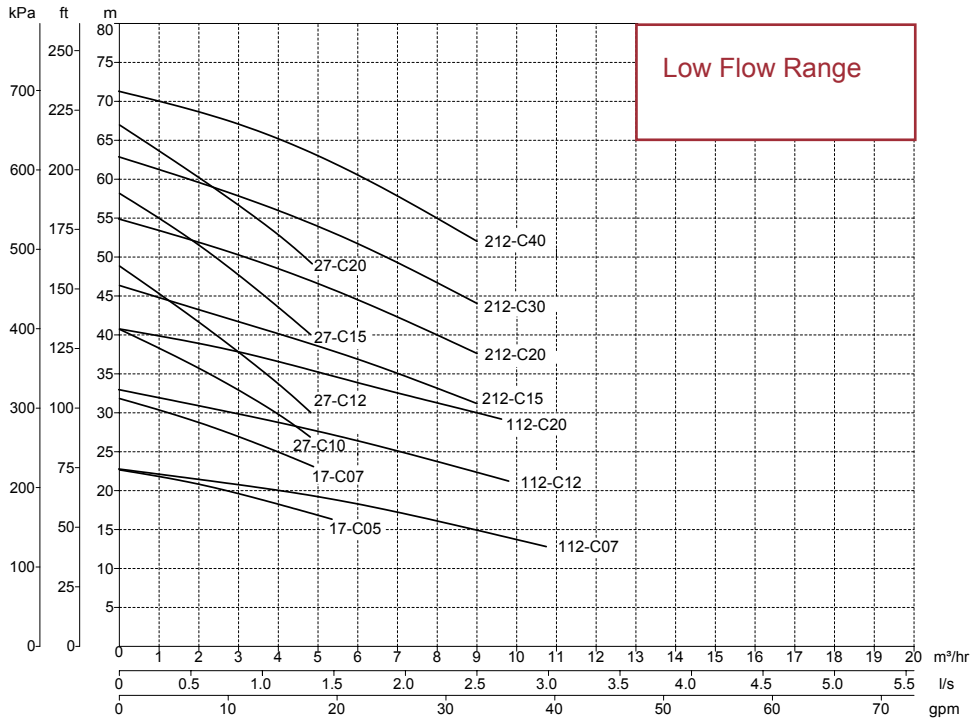
Although the standard package meets stringent EC noise levels this enclosure is specifically designed for noise sensitive applications. Typically an insertion loss of approximately 30dB(A) can be achieved in most applications. Enclosures are supplied complete with naturally ventilated acoustic louvres, removable panels for easy pump maintenance and glazed vision panel for viewing pump control panel fascia.

Distribution Manifolds

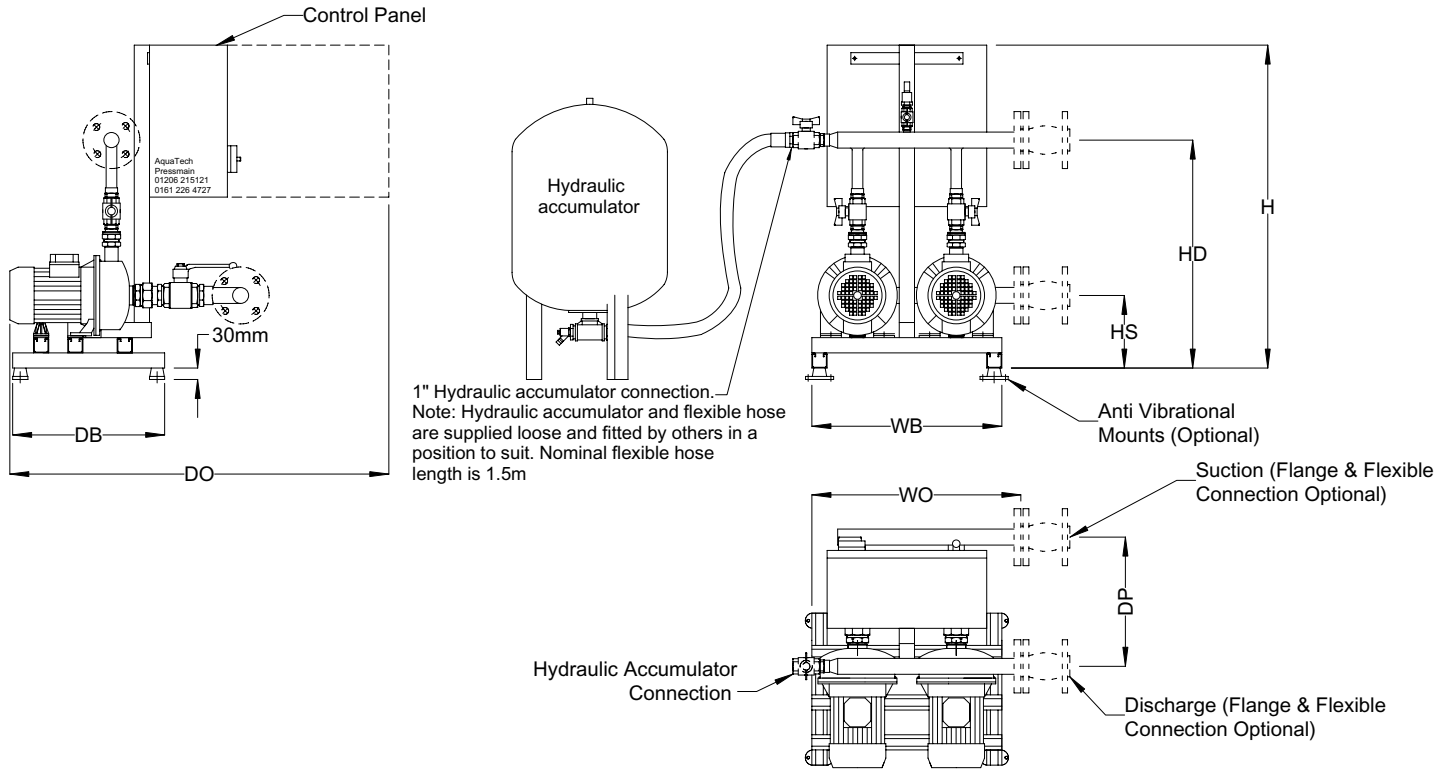
Prefabricated with our proven in-house copper extrusion method as used with the pressure booster set manifolds. Can be assembled with any number of individual stabbings and combination of isolating, non-return, double check valve & water meters to suit the building installation requirements.

Please feel free to discuss any special requirements with our sales team

PUMP PERFORMANCE CURVES



DIMENSIONS



The Hydraulic Accumulator must be fitted for correct operation.
For Hydraulic Accumulator Dimensions please see table on Page 3

Micromatic HM2ET																	
Pump Model	Kw per pump ≤4Kw DOL	Full load current per pump 1Ph 240V amps	Full load current per pump 3Ph 415V amps	Wt kg	Min Vessel Size	Sound level db(A)	All Dimensions in mm unless stated otherwise										
							Base		Overall max			Pipework			Suction	Discharge	Connection
							WB	DB	WO	DO	H	HS +/-10	HD +/-10	DP +/-10			
17-C05	0.4	3.1	1.4	60	100	<70	500	500	600	980	875	191	575	340	40	32	Threaded
17-C07	0.5	4.6	1.9	60	100	<70	500	500	600	980	875	191	575	340	40	32	Threaded
27-C10	0.75		2.3	60	100	<70	500	500	600	980	875	191	575	380	40	32	Threaded
27-C12	0.9		2.9	60	100	<70	500	500	600	980	875	191	575	380	40	32	Threaded
27-C15	1.1		3.4	70	200	<70	500	500	600	1005	875	203	595	380	40	32	Threaded
27-C20	1.5		4.3	70	200	<70	500	500	600	1010	875	203	595	380	40	32	Threaded
112-C07	0.5	4.6	1.8	60	100	<70	500	500	600	980	875	191	575	340	40	32	Threaded
112-C12	0.9		2.8	60	100	<70	500	500	600	980	875	191	575	340	40	32	Threaded
112-C20	1.5		4.1	60	100	<70	500	500	600	1005	875	203	595	340	40	32	Threaded
212-C15	1.1		3.4	60	100	<70	500	500	600	1005	875	191	575	380	40	32	Threaded
212-C20	1.5		4.4	60	200	<70	500	500	600	1005	875	191	575	380	40	32	Threaded
212-C30	2.2		5	70	200	73	500	500	600	1000	875	203	595	380	40	32	Threaded
212-C40	3		6.2	70	200	73	500	500	600	1027	875	203	595	380	40	32	Threaded
120-C12	0.9		2.7	75	200	<70	500	500	600	980	875	191	575	350	50	40	Threaded
120-C20	1.5		4.1	75	200	<70	500	500	600	1005	875	191	575	350	50	40	Threaded
120-C25	1.85		5	80	200	<70	500	500	600	1005	875	203	595	390	50	40	Threaded
220-C30	2.2		6	90	300	73	500	500	600	1040	875	191	575	390	50	40	Threaded
220-C40	3		6.6	90	300	76	500	500	600	1030	875	203	595	390	50	40	Threaded
220-C50	3.7		8.7	100	300	78	500	500	600	1055	875	203	595	390	50	40	Threaded
3212-C11	1.1		2.8	100	200	<70	600	500	700	1040	875	197	600	370	65	50	Flanges
3216-C15	1.5		3.4	100	200	<70	600	500	700	1040	875	217	640	370	65	50	Flanges
3216-C22	2.2		4.8	100	200	73	600	500	700	1040	875	217	640	370	65	50	Flanges
3220-C30	3		6.8	110	300	76	700	500	800	1065	875	245	690	370	65	50	Flanges
3220-C40	4		9	110	300	78	700	500	800	1090	875	245	690	370	65	50	Flanges

INSTALLATION GUIDANCE NOTES

ELECTRICAL INSTALLATION:

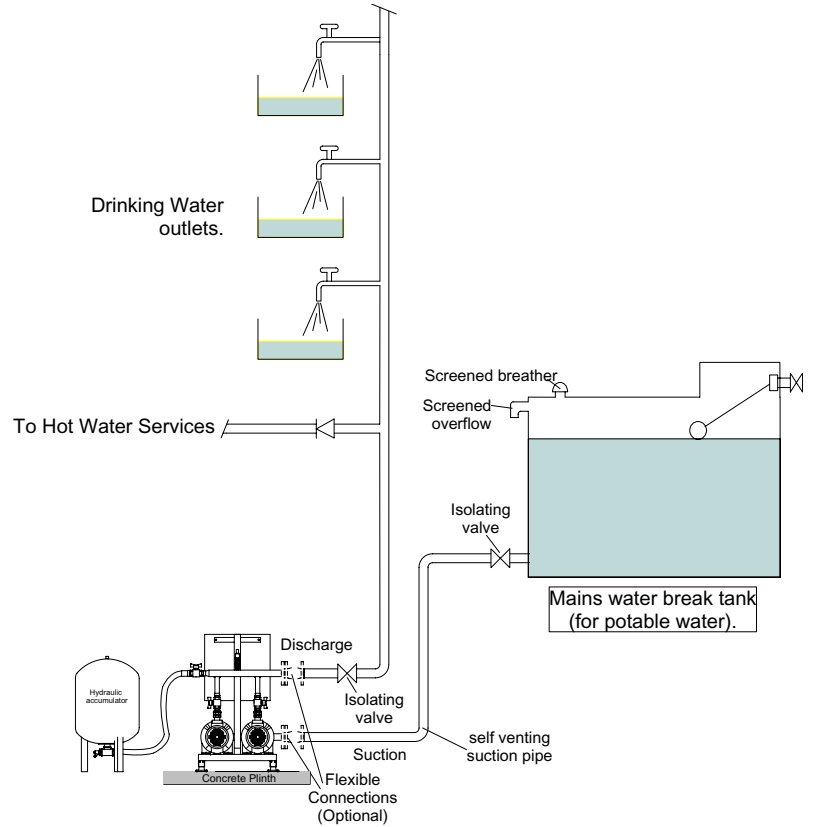
1. Our standard unit is designed for 415VAC 3 phase N&E 50Hz electrical supply.
2. Electrical design of equipment conforms to BSEN 60204 pt.1 and IEE regulations 16th edition, it is important that all subsequent wiring and protection reflects this.

HYDRAULIC INSTALLATION:

1. The design of the unit enables it to be located in any position in the plantroom with a minimum of inconvenience to pipework layout.
 2. Installer to fit isolating valves on the break tank supply and riser to system.
- NOTE: swing check valve/s must not be fitted on the discharge pipework.

MECHANICAL INSTALLATION:

1. This unit should be mounted on a flat, slightly raised plinth and bolted down.
2. The selected pumps are designed for quiet operation and are virtually vibration free. Where lower noise operation is essential the possibility of using anti-vibration mounts and flexible pipe connections may be considered.



Typical pipework arrangement using fixed speed cold water pressure booster set feeding hot & cold water services.

CONSTRUCTION STANDARDS HM-ET PRESSURE BOOSTER SETS

COMPONENT	MODEL SERIES	STANDARD/CLASS	REMARKS
Centrifugal Single & Two stage pumps	17,27,112,212,120,220,32,40,50	DIN 24255	Aisi 304 Stainless Steel Pump, WRAS Approved
Mechanical Seal	Carbon / Ceramic	DIN 24960	WRAS Approved
Motor for Pumps	TEFC	IP55, Class F Insulation	Typically EFF2
Isolating & Non Return Valves	Ball Valve	PTFE Ball Seat	WRAS Approved
Pipework Assembly	Copper EN 1057 and EN 1254	Entire Unit WRAS Approved	Approval Number 0710086
Control Panels	AQ-HM-S	IP54, 89/3366/eec:1992	CE Marked
Microprocessor	MPC-Bo		Designed In House
Hydraulic Accumulators	60-500VR	DIN 4087 BS6144:1990	Replaceable Diaphragm
Quality System	ISO 9001	BSI Registered	CERT No. FM33090

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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