
AQUAMATIC AMV E-SPEED



WATER PRESSURE BOOSTER SET WITH E-SPEED INVERTER CONTROL

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OVERVIEW

The Aquamatic AMV E-Speed range of variable speed 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. Sets are fully packaged units with two, three and four variable speed pumps, arranged in operation as Duty with Standby, two pumps, or Duty with Assist configuration for up to 4 pumps. All assembled on a fabricated galvanised steel base frame complete with 304 stainless steel suction and delivery manifolds.

Features

- Automatic constant pressure control via integral variable E-speed motor controller
- Transducer pressure sensor per pump for long term reliability and accuracy
- Automatic duty change over of each pump
- Electronic low water cut-out Interface for pump dry running protection and outlet pipe burst alarm
- 2 individual BMS volt free contacts per pump for run and alarm condition
- Flow through control accumulator for HTM04 compliance
- Individual pump information via four line LED display for pressure, power consumption and alarm conditions
- Power, Run & Alarm LEDs, Stop and Auto Buttons
- Information logs for hours run & number of starts and last 20 alarms with Date & Time Stamp
- Start up wizard for easy initial set up
- Pump wetted parts and pipework manifolds in 304 stainless steel
- IE3 high efficiency pump motors
- Built to latest CE requirements and in accordance with ISO9001
- WRAS approved pumps and components
- Max flows to 26 litre per second at 4.5 bar
- Max pressures to 9.0 bar at 2.8 litre per second
- 'REPRESS' controlled system refill, hydraulic shock protection

Pumps

Vertical multistage centrifugal pumps in AISI 304 and WRAS approved.

Pump casing, impellers, intermediate stages, seal housing disc and shaft (parts in contact with water) EN 1.4301/AISI 304.

Mechanical seal in Ceramic/Carbon/EPDM.

Motors IE3 high energy efficiency, self-ventilated

2 pole asynchronous motor, class F insulation, IP55 protection degree.
Temperature range 15°C to 70°C and maximum working pressure 10 bar.

Control

Automatic control by pump motor mounted E-Speed variable speed frequency drive with accurate pressure measurement by transducer. Initial set up of the unit is via a simple configuration Start up Wizard, after which the control system provides automatic alternation of duty pump, electronic low water protection, motor overload protection. The controls has an Illuminated 4 line digital display for setup, output pressure, pump running speed frequency and motor current in amps, with time and faults alarm notification.

Other features include, pipe burst alarm, over current alarm, motor fault alarm, operational 7 day on/off schedule program, chronological date stamped alarm log, advanced parameter lock. LED's are also provided for power, pump run and alarm conditions, a key pad for set up and an auto/stop button and also provided. 2 programmable volt-free relay alarm outputs for remote BMS monitoring.

RE-PRESS power restoration electronic safety system, offering the end user a controlled system refill following electrical supply failure, protecting against hydraulic shock.

Pipework

Standard manifolds in 304 stainless steel, individual pump isolating valves on suction and discharge, with non-return valves on each pump. For flexibility of installation both ends of the manifolds have screwed connections to allow alternative and opposite inlet and outlet.

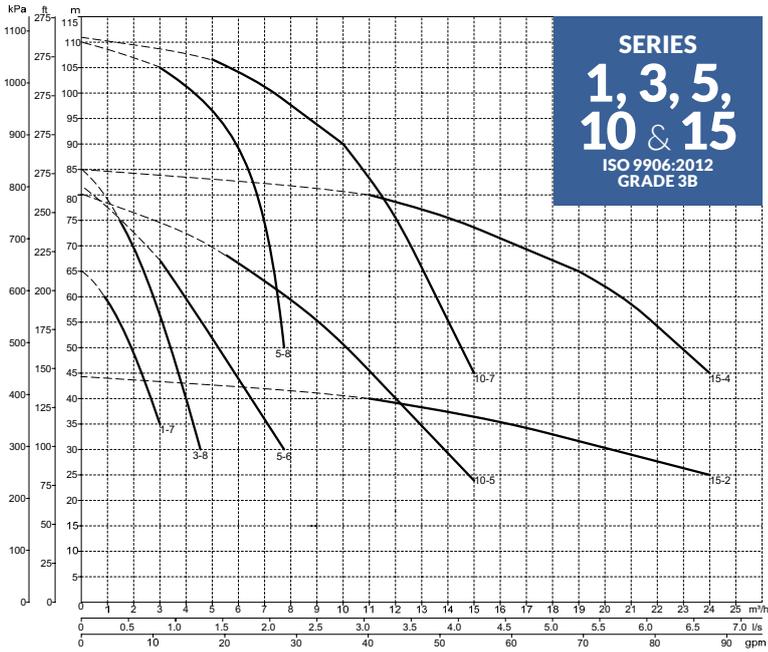
Control Accumulator

To assist with the constant pressure control a 12 litre inline flow-through design pressure vessel is provided complete with a flow jet combined isolating and drain valve and is WRAS approved. 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.

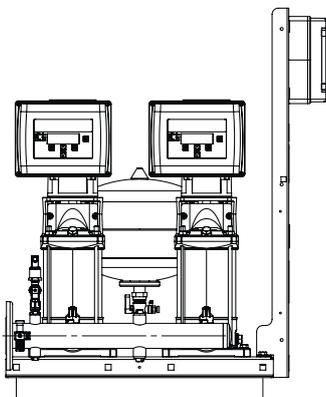
Finish

Pump motors are finished in electrophoresis coating, pump bodies in stainless steel and pipework manifolds are left unpainted for effect.

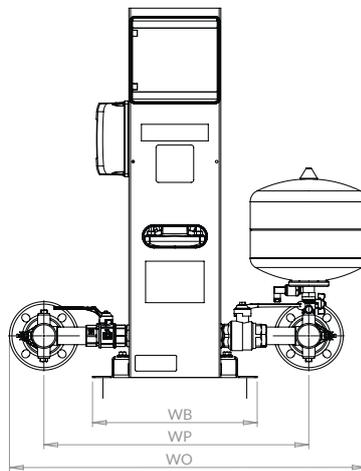
AQUAMATIC AMV E-SPEED PUMP CURVES



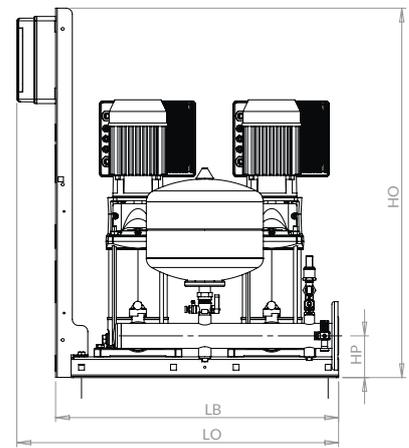
AQUAMATIC AMV2 E-SPEED PUMP DIMENSIONS



LEFT VIEW



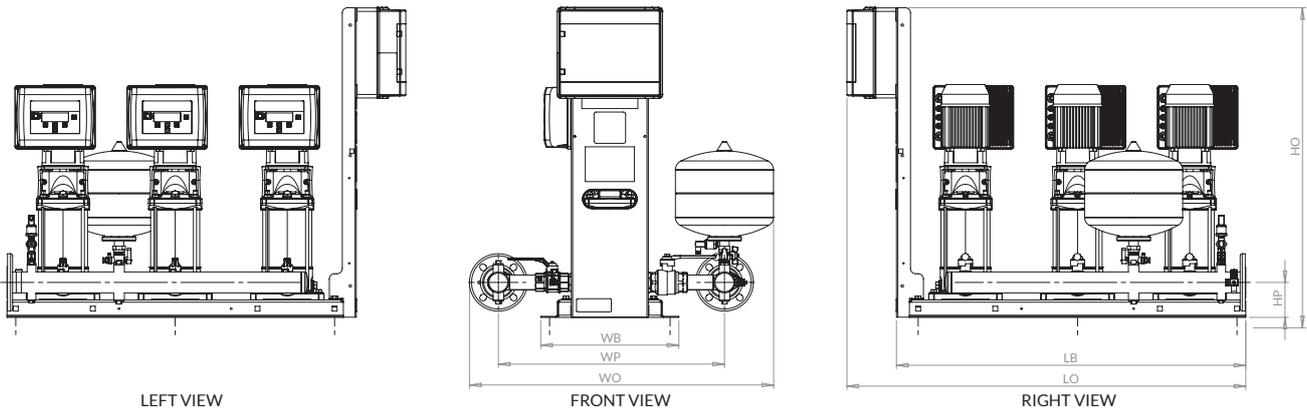
FRONT VIEW



RIGHT VIEW

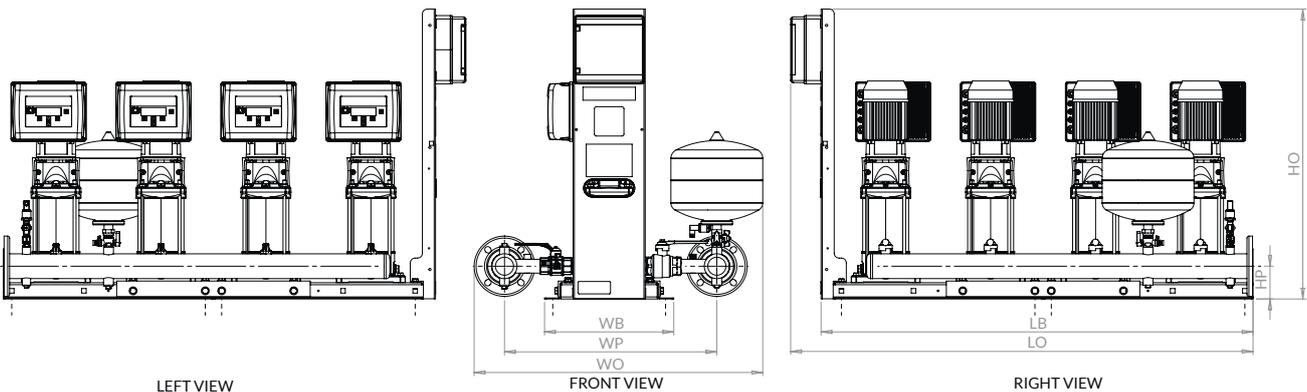
PUMP TYPE	kW PER PUMP	VOLTS/ PHASES/Hz	PUMP SET SUPPLY CURRENT (Amps)	APPROX DRY WEIGHT OF UNIT (kg)	SOUND LEVEL PER PUMP dB(A)	BOOSTER SET DIMENSIONS [+/- 10mm]						CONNECTION SIZE FLANGED PN16	VESSEL	STOCKCODE	
						LO	WO	HO	HP	LB	WB				WP
1-7	0.37	230/1/50	25	95	<70	840	870	920	100	690	400	562	DN50 PN16	1X 12 LTR	BWN-220107
1-7	0.37	400/3/50	20	95	<70	840	870	920	100	690	400	562	DN50 PN16	1X 12 LTR	BWN-240107
3-8	1.5	230/1/50	25	95	65	840	870	920	100	690	400	562	DN50 PN16	1X 12 LTR	BWN-220307
3-8	1.5	400/3/50	20	101	65	840	870	920	100	690	400	562	DN50 PN16	1X 12 LTR	BWN-240308
5-6	1.5	230/1/50	25	111	65	840	870	920	100	690	400	562	DN50 PN16	1X 12 LTR	BWN-220506
5-6	1.5	400/3/50	20	111	65	840	870	920	100	690	400	562	DN50 PN16	1X 12 LTR	BWN-240506
5-8	2.2	230/1/50	40	111	65	840	870	920	100	690	400	562	DN50 PN16	1X 12 LTR	BWN-220508
5-8	2.2	400/3/50	20	111	65	840	870	920	100	690	400	562	DN50 PN16	1X 12 LTR	BWN-240508
10-5	2.2	230/1/50	40	135	65	840	980	920	130	690	400	737	DN80 PN16	1X 12 LTR	BWN-221005
10-5	2.2	400/3/50	20	135	65	840	980	920	130	690	400	737	DN80 PN16	1X 12 LTR	BWN-241005
10-7	3.0	400/3/50	20	153	65	840	980	920	130	690	400	737	DN80 PN16	1X 12 LTR	BWN-241007
15-2	2.2	230/1/50	40	133	65	840	980	920	130	690	400	737	DN80 PN16	1X 12 LTR	BWN-221502
15-2	2.2	400/3/50	20	133	65	840	980	920	130	690	400	737	DN80 PN16	1X 12 LTR	BWN-241502
15-4	4.0	400/3/50	20	165	71	840	980	920	130	690	400	737	DN80 PN16	1X 12 LTR	BWN-241504

AQUAMATIC AMV3 E-SPEED PUMP DIMENSIONS



PUMP TYPE	kW PER PUMP	VOLTS/ PHASES/Hz	PUMP SET SUPPLY CURRENT (Amps)	APPROX DRY WEIGHT OF UNIT (kg)	SOUND LEVEL PER PUMP dB(A)	BOOSTER SET DIMENSIONS [+/- 10mm]						CONNECTION SIZE FLANGED PN16	VESSEL	STOCKCODE	
						LO	WO	HO	HP	LB	WB				WP
1-7	0.37	230/1/50	25	126	<70	1160	870	920	100	1010	400	562	DN50 PN16	1X 12 LTR	BWN-320107
1-7	0.37	400/3/50	20	126	<70	1160	870	920	100	1010	400	562	DN50 PN16	1X 12 LTR	BWN-340107
3-8	1.5	230/1/50	25	135	65	1160	870	920	100	1010	400	562	DN50 PN16	1X 12 LTR	BWN-320308
3-8	1.5	400/3/50	20	135	65	1160	870	920	100	1010	400	562	DN50 PN16	1X 12 LTR	BWN-340308
5-6	1.5	230/1/50	25	150	65	1160	870	920	100	1010	400	562	DN50 PN16	1X 12 LTR	BWN-320506
5-6	1.5	400/3/50	20	150	65	1160	870	920	100	1010	400	562	DN50 PN16	1X 12 LTR	BWN-340506
5-8	2.2	230/1/50	40	150	65	1160	870	920	100	1010	400	562	DN50 PN16	1X 12 LTR	BWN-320508
5-8	2.2	400/3/50	20	150	65	1160	870	920	100	1010	400	562	DN50 PN16	1X 12 LTR	BWN-340508
10-5	2.2	230/1/50	40	200	65	1160	1014	920	130	1010	400	761	DN100 PN16	2X 12 LTR	BWN-321005
10-5	2.2	400/3/50	20	200	65	1160	1014	920	130	1010	400	761	DN100 PN16	2X 12 LTR	BWN-341005
10-7	3.0	400/3/50	20	227	65	1160	1014	920	130	1010	400	761	DN100 PN16	2X 12 LTR	BWN-341007
15-2	2.2	230/1/50	40	197	65	1160	1014	920	130	1010	400	761	DN100 PN16	2X 12 LTR	BWN-321502
15-2	2.2	400/3/50	20	197	65	1160	1014	920	130	1010	400	761	DN100 PN16	2X 12 LTR	BWN-341502
15-4	4.0	400/3/50	20	245	71	1160	1014	920	130	1010	400	761	DN100 PN16	2X 12 LTR	BWN-341504

AQUAMATIC AMV4 E-SPEED PUMP DIMENSIONS



PUMP TYPE	kW PER PUMP	VOLTS/ PHASES/Hz	PUMP SET SUPPLY CURRENT (Amps)	APPROX DRY WEIGHT OF UNIT (kg)	SOUND LEVEL PER PUMP dB(A)	BOOSTER SET DIMENSIONS [+/- 10mm]						CONNECTION SIZE FLANGED PN16	VESSEL	STOCKCODE	
						LO	WO	HO	HP	LB	WB				WP
1-7	0.37	230/1/50	25	158	<70	1480	896	920	100	1330	400	663	DN50 PN16	1X 12 LTR	BWN-420107
1-7	0.37	400/3/50	20	158	<70	1480	896	920	100	1330	400	663	DN50 PN16	1X 12 LTR	BWN-440107
3-8	1.5	230/1/50	25	158	65	1480	896	920	100	1330	400	663	DN50 PN16	1X 12 LTR	BWN-440308
3-8	1.5	400/3/50	20	170	65	1480	896	920	100	1330	400	663	DN50 PN16	1X 12 LTR	BWN-440308
5-6	1.5	230/1/50	25	190	65	1480	896	920	100	1330	400	663	DN50 PN16	1X 12 LTR	BWN-420506
5-6	1.5	400/3/50	20	190	65	1480	896	920	100	1330	400	663	DN50 PN16	1X 12 LTR	BWN-440506
5-8	2.2	230/1/50	40	190	65	1480	896	920	100	1330	400	663	DN50 PN16	1X 12 LTR	BWN-420508
5-8	2.2	400/3/50	20	190	65	1480	896	920	100	1330	400	663	DN50 PN16	1X 12 LTR	BWN-440508
10-5	2.2	230/1/50	40	251	65	1480	1014	920	130	1330	400	761	DN100 PN16	2X 12 LTR	BWN-421005
10-5	2.2	400/3/50	20	251	65	1480	1014	920	130	1330	400	761	DN100 PN16	2X 12 LTR	BWN-441005
10-7	3.0	400/3/50	20	251	65	1480	1014	920	130	1330	400	761	DN100 PN16	2X 12 LTR	BWN-441007
15-2	2.2	230/1/50	40	247	65	1480	1014	920	130	1330	400	761	DN100 PN16	2X 12 LTR	BWN-421502
15-2	2.2	400/3/50	20	247	65	1480	1014	920	130	1330	400	761	DN100 PN16	2X 12 LTR	BWN-441502
15-4	4.0	400/3/50	20	311	71	1480	1014	920	130	1330	400	761	DN100 PN16	2X 12 LTR	BWN-441504

AMV E-SPEED PUMP FASCIA & INSTALLATION GUIDANCE NOTES

Electrical

Electrical design and equipment conforms to BSEN 60204-1 regulations, it is important that all subsequent wiring and protection equipment reflects this.

Hydraulic

The design of this unit enables it to be located in any position in a plantroom with the minimum of inconvenience to pipework layout.

Installer to fit isolating valves on break tank supply and riser to system. Note: No further check/non return valve should be fitted on suction or delivery pipework.

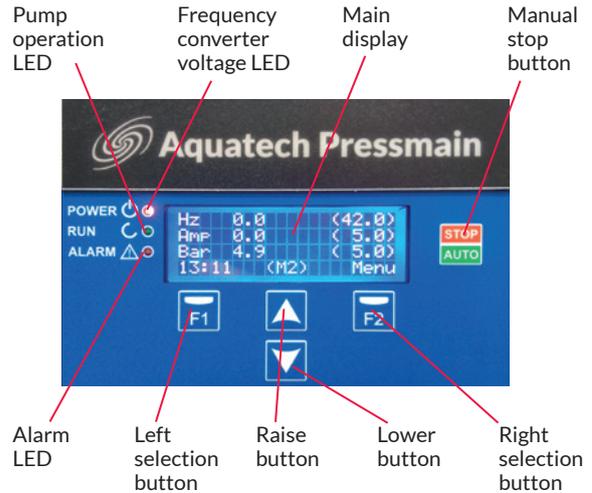
Mechanical

The unit should be mounted on a flat, slightly raised plinth and bolted down.

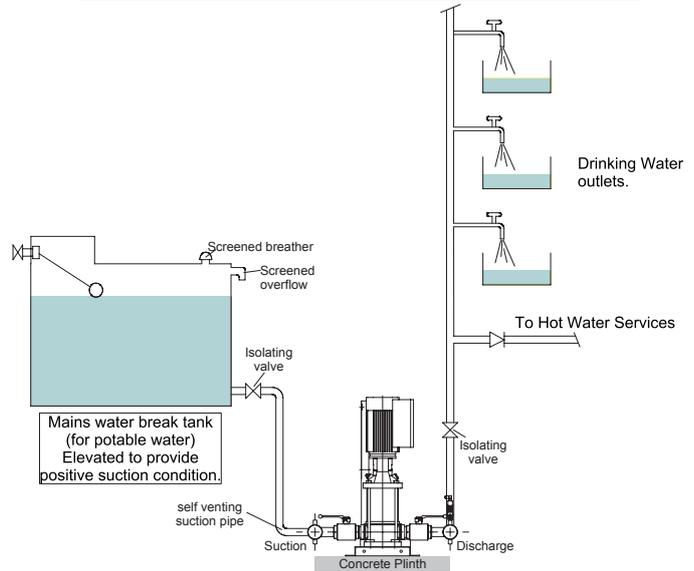
The selected pumps are designed for quiet operation and are virtually vibration free. Where silent operation is essential, the possibility of using a combination of some of the optional extras may be considered.

Commissioning

Following electrical, hydraulic and mechanical installations as above, all units should be commissioned by Aquatech Pressmain.



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



AQUAMATIC AMV E-SPEED TECHNICAL DETAILS

COMPONENT	MODEL	STANDARD	REMARKS
Pumps	EUMS	Vertical Multistage	WRAS Approved
Pump Mechanical Seal	Ceramic/Carbon/EPDM -15°C to +85°C	EN12756	WRAS Approved
Pump Motor	Self-ventilated 2 Pole Asynchronous	Class F Insulation, IP55 Protection	IE3 HIGH ENERGY EFFICIENCY EUP/ERP
Pump Wet End	Stainless Steel	EN 1.4301 (AISI 304)	Case, Impellers, Stages, Seal Housing & Shaft
Manifolds	Stainless Steel	EN 1.4301 (AISI 304)	Threaded Connections
Isolating Valves	Brass	EN 1.4301 (AISI 304)	WRAS Approved
Non-Return Valve	Stainless Steel	EN 1.4301 (AISI 304)	WRAS Approved
Controller	E-Speed with Transducer	CE	Inverter/Variable Speed
Control Vessel	12 litre with Flow Jet Valve	97/23/EC 10 Bar Rated	WRAS Approved



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