
AQUASUB



AQUASUB WITH SUBMERSIBLE PUMPS

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OVERVIEW

The new Aquasub range of variable speed cold water pressure booster incorporating mains water storage break tank 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 main storage break tank, twin variable speed pumps, arranged in operation as duty with standby or duty and assist configuration. 304 stainless steel delivery manifold and flow through vessel.

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
- 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 2.6 litre per second at 1.6 bar.
- Max pressures to 5 bar at 1 litre per second.
- 'REPRESS' controlled system refill, hydraulic shock protection

Pumps

Submersible multistage pumps

Pump casing

and covers = 304 ss

Impeller = PPE+PS glass fibre reinforced

Diffuser = PPE+PS glass fibre reinforced

Shaft seal = pump side: SIC/Carbon/NBR

= motor side: Carbon/Ceramic/NBR

Shaft = EN 1.4057 (AISI 431)

Control

Automatic control by pump motor external 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, parameter program 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 the discharge, with non-return valves on each pump.

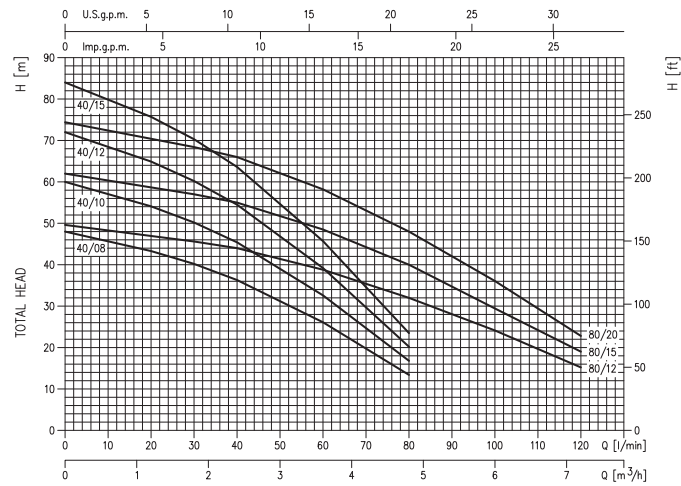
Control Accumulator

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.

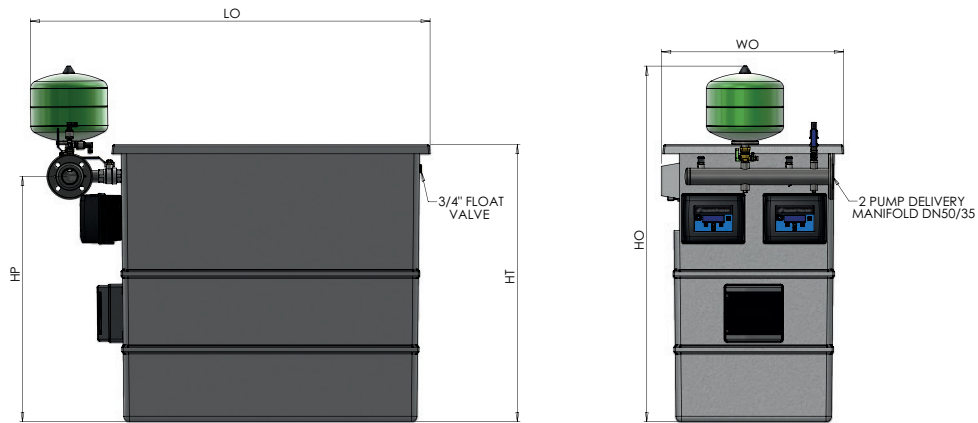
Slimline Design
To fit through a
standard doorway.



AQUASUB PUMP CURVES



AQUASUB PUMP DIMENSIONS



UNIT TYPE	NUMBER OF PUMPS	kW PER PUMP	230/1/50 V/Ph/Hz Electrical Supply Current (Amps)	400/3/50 V/Ph/Hz Electrical Supply Current (Amps)	APPROX DRY WEIGHT OF UNIT (kg)	SOUND LEVEL PER PUMP dB(A)	BOOSTER SET DIMENSIONS [± 10mm]					FLANGE SIZE	VESSEL	230/1/50 V/Ph/Hz STOCKCODE	400/3/50 V/Ph/Hz STOCKCODE
							LO	WO	HO	HT	HP				
ASUB-1-4008-500	1	0.6	25	15	81	<70	1357	665	1293	1293	905	DN50	1X 12 LTR	BST-124085	BST-144085
ASUB-1-4010-500	1	0.75	25	15	83	<70	1357	665	1293	1293	905	DN50	1X 12 LTR	BST-124105	BST-144105
ASUB-1-4012-500	1	0.9	25	15	84	<70	1357	665	1293	1293	905	DN50	1X 12 LTR	BST-124125	BST-144125
ASUB-1-4015-500	1	1.1	25	15	85	<70	1357	665	1293	1293	905	DN50	1X 12 LTR	BST-124155	BST-144155
ASUB-1-8012-500	1	0.9	25	15	83	<70	1357	665	1293	1293	905	DN50	1X 12 LTR	BST-128125	BST-148125
ASUB-1-8015-500	1	1.1	25	15	84	<70	1357	665	1293	1293	905	DN50	1X 12 LTR	BST-128155	BST-148155
ASUB-1-8020-500	1	1.5	25	15	84	<70	1357	665	1293	1293	905	DN50	1X 12 LTR	BST-128205	BST-148205
ASUB-2-4008-500	2	0.6	25	15	96	<70	1453	665	1293	1293	892	DN50	1X 12 LTR	BST-224085	BST-244085
ASUB-2-4010-500	2	0.75	25	15	99	<70	1453	665	1293	1293	892	DN50	1X 12 LTR	BST-224105	BST-244105
ASUB-2-4012-500	2	0.9	25	15	102	<70	1453	665	1293	1293	892	DN50	1X 12 LTR	BST-224125	BST-244125
ASUB-2-4015-500	2	1.1	25	15	103	<70	1453	665	1293	1293	892	DN50	1X 12 LTR	BST-224155	BST-244155
ASUB-2-8012-500	2	0.9	25	15	100	<70	1453	665	1293	1293	892	DN50	1X 12 LTR	BST-228125	BST-248125
ASUB-2-8015-500	2	1.1	25	15	102	<70	1453	665	1293	1293	892	DN50	1X 12 LTR	BST-228155	BST-248155
ASUB-2-8020-500	2	1.5	25	15	103	<70	1453	665	1293	1293	892	DN50	1X 12 LTR	BST-228205	BST-248205
ASUB-1-4008-1125	1	0.6	25	15	124	<70	1843	640	1781	1577	1393	DN50	1X 12 LTR	BST-12408B	BST-14408B
ASUB-1-4010-1125	1	0.75	25	15	126	<70	1843	640	1781	1577	1393	DN50	1X 12 LTR	BST-12410B	BST-14410B
ASUB-1-4012-1125	1	0.9	25	15	127	<70	1843	640	1781	1577	1393	DN50	1X 12 LTR	BST-12412B	BST-14412B
ASUB-1-4015-1125	1	1.1	25	15	128	<70	1843	640	1781	1577	1393	DN50	1X 12 LTR	BST-12415B	BST-14415B
ASUB-1-8012-1125	1	0.9	25	15	126	<70	1843	640	1781	1577	1393	DN50	1X 12 LTR	BST-12812B	BST-14812B
ASUB-1-8015-1125	1	1.1	25	15	127	<70	1843	640	1781	1577	1393	DN50	1X 12 LTR	BST-12815B	BST-14815B
ASUB-1-8020-1125	1	1.5	25	15	127	<70	1843	640	1781	1577	1393	DN50	1X 12 LTR	BST-12820B	BST-14820B
ASUB-2-4008-1125	2	0.6	25	15	139	<70	1939	640	1781	1577	1380	DN50	1X 12 LTR	BST-22408B	BST-24408B
ASUB-2-4010-1125	2	0.75	25	15	142	<70	1939	640	1781	1577	1380	DN50	1X 12 LTR	BST-22410B	BST-24410B
ASUB-2-4012-1125	2	0.9	25	15	145	<70	1939	640	1781	1577	1380	DN50	1X 12 LTR	BST-22412B	BST-24412B
ASUB-2-4015-1125	2	1.1	25	15	146	<70	1939	640	1781	1577	1380	DN50	1X 12 LTR	BST-22415B	BST-24415B
ASUB-2-8012-1125	2	0.9	25	15	143	<70	1939	640	1781	1577	1380	DN50	1X 12 LTR	BST-22812B	BST-24812B
ASUB-2-8015-1125	2	1.1	25	15	145	<70	1939	640	1781	1577	1380	DN50	1X 12 LTR	BST-22815B	BST-24815B
ASUB-2-8020-1125	2	1.5	25	15	146	<70	1939	640	1781	1577	1380	DN50	1X 12 LTR	BST-22820B	BST-24820B

AQUASUB PUMP FASCIA & INSTALLATION GUIDANCE NOTES

Electrical

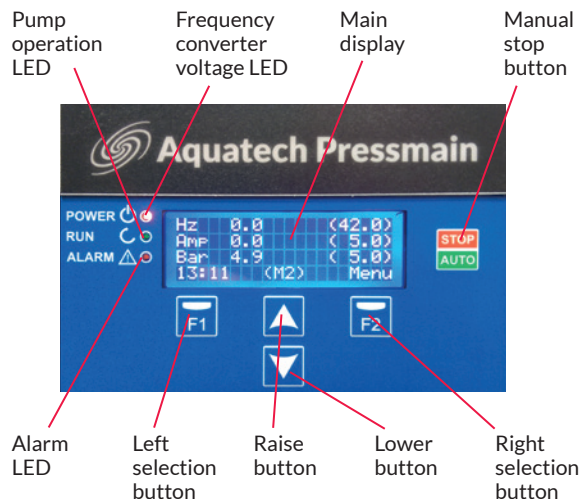
Electrical design and equipment conforms to BSEN 60204-1 regulations, it is important that all subsequent wiring and protection equipment reflects this.

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

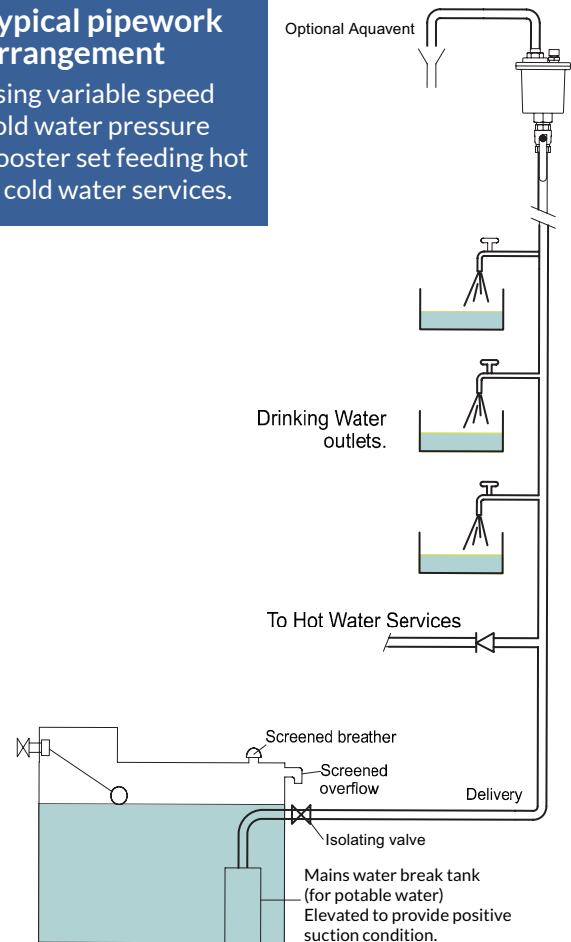
The unit should be mounted on a flat, slightly raised plinth and bolted down. The selected pumps are designed for quiet operation and are virtually vibration free. Where silent operation is essential, the possibility of using a combination of some of the optional extras may be considered.



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.



AQUASUB TECHNICAL DETAILS

COMPONENT	MODEL	STANDARD	REMARKS
Pumps	Idrogo 40/10	Multistage Submersible	WRAS Approved
Pump Mechanical Seal	Ceramic/Carbon/EPDM	40°C	WRAS Approved
Pump Motor	Self-ventilated 2 Pole Asynchronous	Class F Insulation, IP68 Protection	IE3 HIGH ENERGY EFFICIENCY
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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