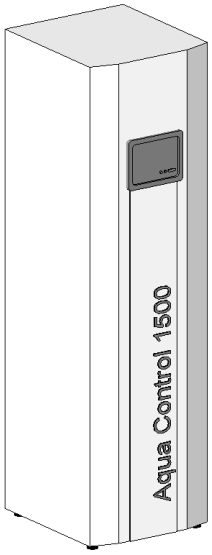
Aqua-Control 1100 S / 1500 Eco

Item Nos: G13320-G13324 (1100s), G13325-G13329 (1500s)



Typical applications

- Central electronic control unit for **rainwater harvesting** or **greywater recycling** systems with pressurised distribution and fully automatic water management
- For use with internal, external, above or below ground storage tanks for non-potable water use (e.g. toilets, washing machine, irrigation or other)

Features

- Integrated self-priming double booster pump set with multiple-staged, horizontal centrifugal pumps, max. flow rate up to 14m^3/h
- Demand activated, alternating booster pump control (cascade principle)
- Automatic, demand activated and water efficient mains water back-up via integrated break tank and AA-type air gap (BS 8515 / BS 8525)
- Integrated **touch screen** (AC 1500 Eco) or **4-line LCD display** (AC 1100 S) for indication of operation status, system pressure, level in non-potable water storage tank, run time meter per pump, settings and detailed failure indication etc.
- Automatic and manual changeover to mains water supply
- Integrated dry run protection, mains water back-up fault alarm, switchable **pipe burst and leakage alarm** function
- Fully adjustable **stagnation prevention** for mains water pipe
- Volt free contact (3A @ 30VDC) for alarm signal or general fault message to building management systems.
- Pressure and water level sensors included, control and all internal components pre-wired and pre-installed in a compact powder coated steel housing with isolation switch
- Pre-wired for connection to monitoring unit “Educational Panel”

Aqua-Control 1500 Eco only:

- Leading pump with **variable speed control**
- Integrated **UV-synchronizer** control for low energy use of UV treatment system

Customized Versions

- For applications in greywater or combined rainwater/greywater systems the Aqua-Control is available with integrated or external controls and equipment for these applications.
- Further functionalities, customized features and recommended ancillaries are available on request (e.g. pipe connection sets, expansion vessel, mains water filter).

Optional control features (add-ons)

- Basement tank package c/w safety valve (G13338)
- Automatic tank drain down package c/w drain valve (G13341)
- Water meter readout on display / meter set (G13352 / G15032)
- Control package for second storage tank – basic (G13342)
- Control package for second storage tank – advanced (AC 1500 Eco only, G13343)
- Automated rainwater filter cleaning (TF rainwater filter range via AC1100S or AC1500Eco, G13349)
- Additional input (G13353) / output (G13351) for control unit (max. 2 for AC1100S)
- Dual supply tank control (G13342 basic, G13343 advanced)
- UV-synchronizer control for low energy use of UV treatment system and switchover to mains water operation in case of UV system failure (AC 1500 Eco only)
- Variable speed control for 2nd booster pump (AC 1500 Eco only, G13379)
- Monitoring rainwater filter grid (AWD rainwater filter range via AC 1500 Eco only, G13348)
- BMS data interface (Ethernet via OPC server, AC 1500 Eco only, G13345)
- Remote control modem (Ethernet with OPC server or landline, AC 1500 Eco only, G13344)
- Data logging (AC 1500 Eco only, G13346)
- Control for wafer type butterfly valve DN 100 (AC 1500 Eco only, G13355)
- Control for wafer type butterfly valve DN 100 with self-test (AC 1500 Eco only, G13356)

Functioning principles

The Aqua-Control is a fully equipped control unit with integrated break tank, double booster pump set and electronic control. The control unit monitors the water level in the rainwater holding tank as well as in the mains back up break tank. The self-priming double booster pump set lifts the rainwater from the rainwater storage tank and supplies it directly to the applications.

In cases were the distance between tank and control unit exceeds the maximum suction distance, one or two supply pumps can be installed in the storage tank to lift the rainwater from the tank to the control unit (see diagram below). Up to two supply pumps can be fully controlled and monitored by the Aqua-Control.

In case of rainwater shortage or manual setting, the Aqua-Control feeds mains water automatically and according to demand into the intermediate tank (in compliance with BS 8515 / BS 8525 / WRAS). As an automatic maintenance feature the solenoid valve of the mains water back-up system is regularly opened. If mains water has not been used for a certain time period the unit will flush the mains water pipe and thereby avoid stagnation. Pre-set standard settings can be adjusted to meet project specific needs.

Recommended accessories

- Pressure vessel, capacity 100l – 500l (G15021-G15024)
- Pipe connection set for suction, pressure and mains water pipes (G13337)
- Floating extraction for underground or indoor tanks (G13336 or G13339),
- Single or double supply pump sets. Different supply pump versions and connection set for second supply pump available, see separate spec sheet (G13330-G13405).
- Y - mains backwash water filter (WRAS-approved, 1¼" – G11114)

Technical data

1) Aqua-Control 1100 S

Power supply (1~230 V / 50 Hz)	A	B	C	D	E
Max. flow rate [m³/h @ minimum head]	8	8	8	14	14
Max. head [m @ minimum flow rate]	42.2	57.7	72	47.3	59
Motor output [kW]	2 x 0.880	2 x 1.200	2 x 1.480	2 x 1.200	2 x 1.480
Max input current [A]	7.8	10.6	12.6	10.6	13
IP rating control housing	54				
Item No	**G 13320**	**G 13321**	**G 13322**	**G 13323**	**G 13324**

2) Aqua-Control 1500 Eco

Power supply (3~400 V / 50 Hz)	A	B	C	D	E
Max. flow rate [m³/h @ minimum head]	8	8	8	14	14
Max. head [m @ minimum flow rate]	42.2	57.7	72	47.3	59
Motor output [kW]	2 x 0.880	2 x 1.200	2 x 1.400	2 x 1.200	2 x 1.440
Max input current [A]	3.2	4.4	5	4.4	5
IP rating control housing	54				
Item No	**G 13325**	**G 13326**	**G 13327**	**G 13328**	**G 13329**

Dimensions

Width [mm]	570
Depth [mm]	650
Height [mm] AC 1100 AC 1500	1,200 2,030
Weight empty [kg]	95 / 105
Weight max. [kg]	135 / 145
Integrated break tank [L]	40
Emergency overflow [mm]	110 OD
Pressure pipe connection	1½"
Suction pipe connection	1½"
Mains water connection	1¼"
Mains water pressure	1.5 – 4 bar

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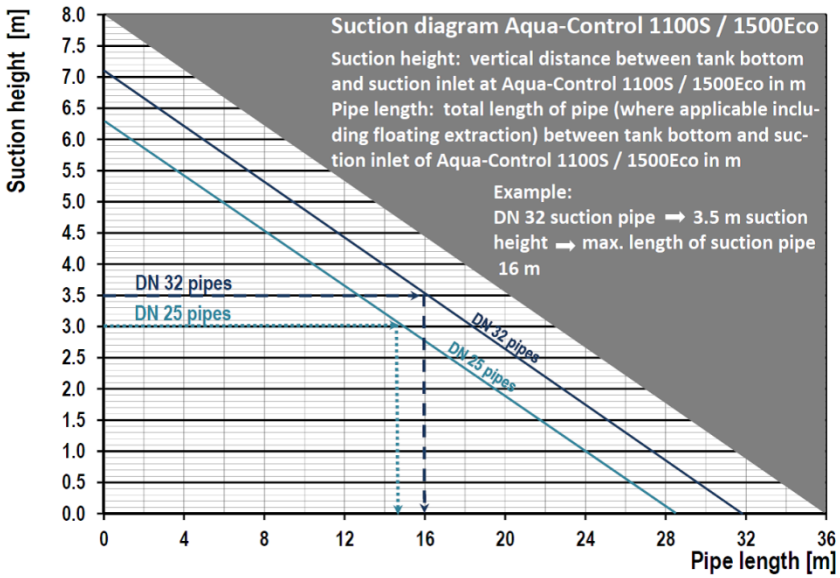
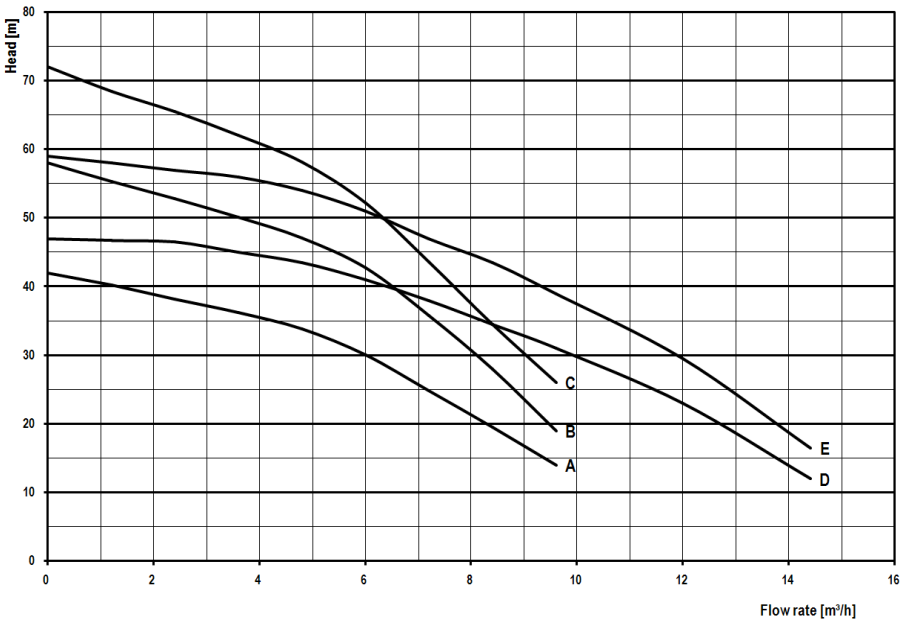
Suction pipe diagram



When installing the suction pipe keep the height-difference and length of the pipe as small as possible. The above diagram provides the maximum length of the suction pipe depending on the height difference between the bottom of the tank and the suction pipe connection on the AQUA-Control unit. Operation beyond the curves may damage the booster pumps and therefore requires a supply pump which is to be ordered separately.

Pressure curves diagram



Note:
Pump curves are valid for duty/assist pump operation (which is recommended for most rainwater harvesting systems as it provides sufficient operational safety for standard applications as WC cisterns).
For duty/standby pump operation the factor 0.5 must be applied for flow rate values.
The maximum operating pressure (design pump duty) should be at least 0.5-1 bar below the maximum head provided by the booster pump set.

Aquality Trading and Consulting Ltd reserves the right to make technical changes.

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