

Alpheus AA Regulator

Key Features & Benefits:

- Provides sewer flow control in foul sewers.
- Automatic blockage release function available.
- Maintains flow rate during head variation.
- Reduces downstream flood risk.
- Robust construction in either grade 304 or 316L stainless steel.

How We Create Value:

- Reduces downstream flood risk.
- Optimises capacity of system.
- Minimises upstream storage.
- Enables attenuation systems to be ready for next storm quickly.
- Utilisation of upstream sewer volumes.
- Reduces cost of upstream attenuation.
- Reduces 'drain down time' of attenuation systems.



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This model is commonly used for regulating flows within foul sewer systems. The unit features an automatic blockage release function, which is desirable for apertures below 250 mm in foul systems. The operation of this unit is identical to the AS Standard unit, however, the AS requires manual intervention to release blockages; whereas this unit is fully automatic and carries out this function as required.

Operation:

The AA regulator is fitted over the outlet pipe of the chamber (semi-wet installation). During dry weather the aperture is open and the internal control float is at rest inside the unit.

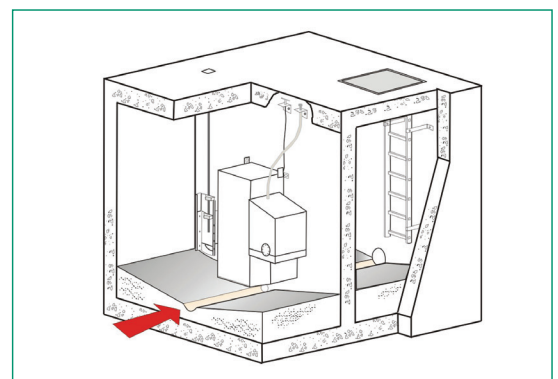
During storm conditions, the water level rises causing the internal float to rise, this in turn transmits this movement to the aperture shutter, which reduces the area of orifice limiting the pass forward flow (PFF) to the designed rate.

The mechanism that transfers the upward movement of the float to downward operation of the orifice plate is located above the internal water level of the unit and is; therefore, free from ragging.

Nominal Size DN	Maximum Head m Standard	Maximum Head m Low Head Unit	Flow		S.W.	Foul	Min water head to activate Auto blockage release function.
			From l/s	To l/s			
100	4	1.38	2	10	Yes	No	850 mm
150	4	1.68	7	26	Yes	No	950 mm
200	4	1.98	10	48	Yes	Yes	1050 mm
250	4	2.28	20	82	Yes	Yes	1150 mm
300	4	2.5	35	128	Yes	Yes	1250 mm
350	4	2.5	60	185	Yes	Yes	1350 mm

Automatic Blockage Release Operation:

The AA regulator has been designed to incorporate an automatic blockage release function. A small bore pipe generates a vacuum when the flow is passing through the unit. If the unit becomes blocked, the vacuum is released, which in turn permits the side box to drain, and replaced with air making the box buoyant. The box rises, and via cable opens the control shutter plate to its full opening aperture, releasing the debris. Once the blockage is released, the unit returns to regulation mode.



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Model Range:

The model size is selected to suit the required design flow, the standard unit is manufactured and calibrated for the flow required at that site. It is recommended that the minimum flow for mechanical control in foul sewers is 10 l/s permitting a DN 200 unit to be used.

The specific design point is factory set; however, the unit can be adjusted by $\pm 20\%$ by adjusting the connecting rod. Beyond this point a new control cam will need to be installed, provided the aperture of the unit is within its flow range ability. If a new control cam is required, the following information is required:

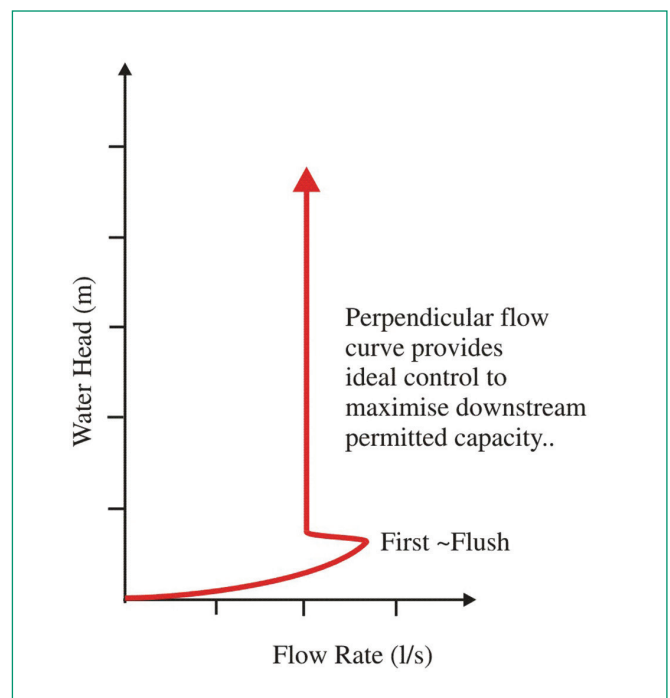
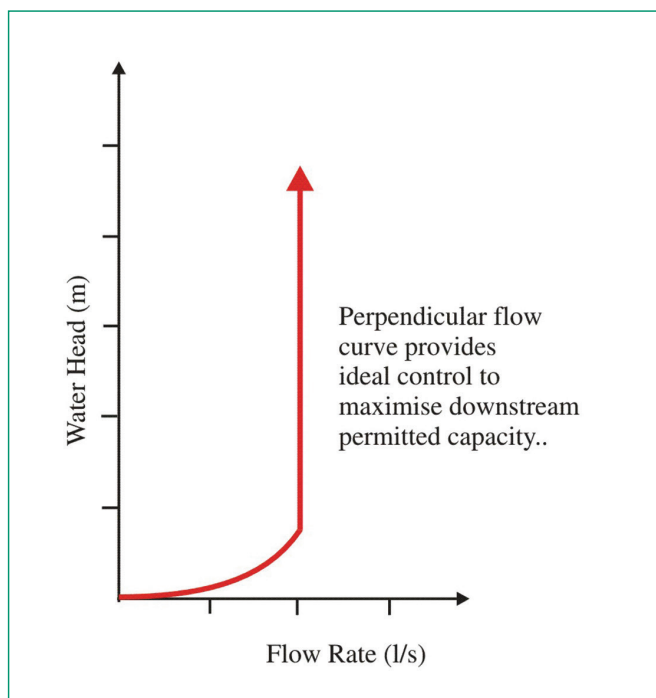
1. Serial Number
2. New Design Flow
3. Maximum Water Head.

Flow Characteristics:

The Alpheus AA unit is mostly supplied to provide a constant Pass Forward Flow (PFF) downstream. This maximises the downstream permissible capacity and minimises upstream retention; both volume and retention time.

Note: A smaller 'Low Head' variant is available for shallow systems.

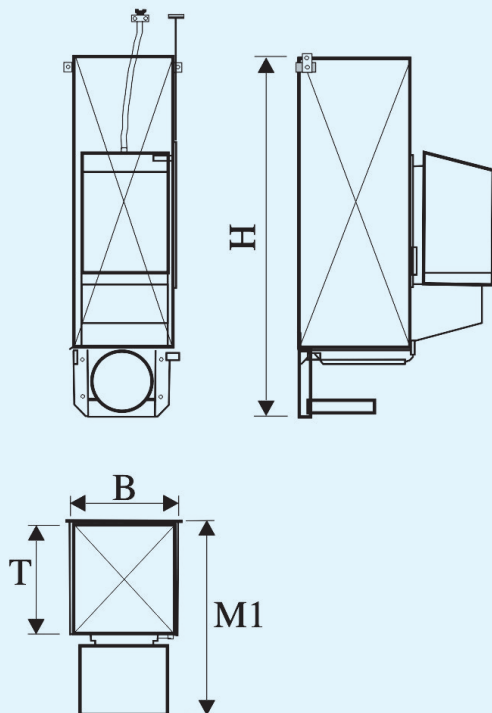
First Flush ability allows the immediate rush of debris to pass forward before the regulator takes over control. This can be particularly useful at CSO chambers to enable gross solids to pass forward before the system surcharges and overflows.



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Nominal Size DN	H Standard Model mm	H Low Head Model mm	B mm	T mm	K mm	M mm	M1 mm	L mm	Weight Kg
100	1230	690	482	434	500	877	829	420	99
150	1280	840	482	434	500	877	829	420	99
200	1330	990	482	434	500	877	829	420	102
250	1580	1140	532	508	555	927	903	420	133
300	1830	1290	582	583	620	1027	1028	470	154
350	2080	1440	632	657	736	1077	1102	470	185

Release Mechanism Front



Release Mechanism Side

