

# Hydro-Brake® Agile

The Hydro-Brake® Agile flow control delivers precision engineering with best value for even the most constrained sites.

The Hydro-Brake® Agile flow control is a float-activated flow control that maintains a constant discharge to deliver precise performance over a wide range of heads. It is ideally suited to applications with constrained discharge requirements or where the flood storage area available through attenuation is very limited.



Surface water management and SuDS



Combined drainage systems and CSOs



Watercourse flood prevention



Sewer network optimisation



Wastewater treatment plants



- ✓ No external energy source.
- ✓ Rapid drain-down provides resilience to subsequent rainfall events.
- ✓ Future-proof – simple adjustments possible for future changes in operating conditions.
- ✓ Repeatable, predictable maintenance regime.

## Meet Stringent Discharge Consents

Designing flood storage, whether above or below ground, is dependent on the rate at which excess water can be controlled and discharged. The Hydro-Brake® Agile flow control is the only flow control design that achieves a constant rate of discharge and therefore the minimum possible upstream storage.

Whether controlling surface water on a housing development, or regulating flows in a wastewater treatment works, investment in a precision-engineered device can result in considerable savings in total project costs.

## Sustainable Solution

The Hydro-Brake® Agile flow control provides sustainable control of flood storage without the need for external power sources or control circuits. Simple adjustments can be made to future-proof the device to allow for climate change.

## Quality Manufacture

The Hydro-Brake® Agile flow control is precision-engineered using high-grade stainless steel with long-life, durable components and CE marked in accordance with the EU Machinery Directive (2006/42/EC). Manufactured in the UK, the flow control can be transported quickly to site to meet project timescales.

## Easy to Install and Maintain

During dry weather periods, and especially during the first flush of a storm, the outlet area is at its largest, reducing the risk of blockages.

In the event of a blockage, an integrated release mechanism can be operated from surface level, enabling the gate to be fully opened and returned to its operating position.

## Hydro-Brake® Agile Flow Control Chamber

The Hydro-Brake® Agile flow control can be supplied pre-fitted in a precast reinforced concrete chamber for quick and easy installation on site.

A range of outlet pipe sizes is also available to suit site requirements. Once lifted into position, the connecting pipework can be connected and a cover slab installed. To suit the location and invert required, the chamber depth can be easily varied with concrete rings.

## Example Solutions

### Constrained Space

For an urban in-fill housing project in a heavily-developed inner city area, the design team were keen to deliver an effective drainage strategy. However, there was limited space available, conflicting demands from new and existing services, and an existing drainage infrastructure with very limited capacity to accept additional flows.

Using a flow control that provided a near-constant discharge rate within the parameters of the available downstream capacity, the surface water was moved off-site as quickly and effectively as possible, enabling the on-site storage to be reduced to a level that could be accommodated in the heavily constrained space available.

### Constant Discharge

Providing temporary flood storage through attenuation was the solution to a known surface water flooding problem. A flow control was needed to limit flow to the existing drainage network, with the excess rainwater overflowing into an off-line attenuation tank. Implementation costs had to be kept to an absolute minimum or the project may not have been feasible. In addition, any surcharge to the upstream drainage network would have moved flooding to a different part of the catchment.

A constant discharge flow control was therefore used to pass forward an appropriate amount of flow at all times, minimising pressure on the upstream network and only putting floodwater into the attenuation structure when absolutely necessary.

## Hydro-Brake® Agile Selection Criteria

|                  |                                                     |                                            |                                   |
|------------------|-----------------------------------------------------|--------------------------------------------|-----------------------------------|
| Suitability:     | Constrained sites with stringent discharge consents |                                            |                                   |
| Flow Range (l/s) | Head Range (m)                                      | Ability to match greenfield discharge rate | On-site water storage requirement |
| 4.5 – 100        | 0.4 – 2.4                                           | Good                                       | Very low                          |
| Moving Parts?    | External Power?                                     | Risk of blockage?                          |                                   |
| Yes              | No                                                  | Not suited to all sites                    |                                   |