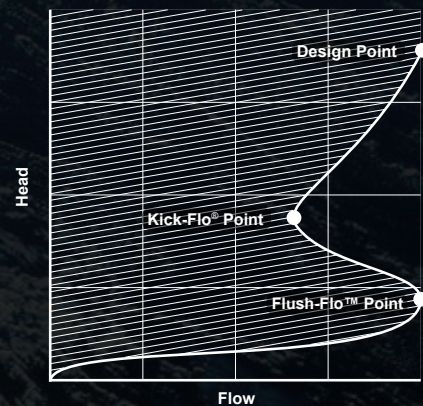




# Nature's Perfect Curve

Hydro-Brake Optimum®. There is no equivalent.



**Hydro**   
International®

A close-up, low-angle shot of a massive ocean wave curling over. The water is a deep, vibrant blue-green, and the crest is white with foam. The wave's shape is a near-perfect barrel, creating a tunnel-like effect. The background shows a sandy beach and the ocean extending to the horizon under a bright sky.

**Inspired by  
nature and  
engineered  
with a perfect  
curve.**



# Nature's Perfect Curve



**There is no equivalent to the Hydro-Brake Optimum® when it comes to getting the best possible hydraulic performance.**

Versatile and flexible, it offers designers and specifiers an absolute fit without compromise for every project. That's because Hydro-Brake Optimum® is the only vortex flow control for which the head and discharge relationship can be fine-tuned to optimise your surface water drainage design.

## No Compromises

Rather than having to choose from pre-determined sizes with fixed head/discharge ratios, designers can size a Hydro-Brake Optimum® to achieve the perfect hydraulic performance curve – and therefore best possible design.

## Versatile and Flexible

Only the Hydro-Brake Optimum® offers designers the option to precision-engineer a vortex flow control to:

- **Minimise upstream surface water storage volumes**
- **Make outlet clearances larger to prevent blockages**
- **Build-in a climate change factor to adjust the flow rate post-installation**



# Optimum Performance: Optimum Value

**Choosing the superior performance of Hydro-Brake Optimum® does not mean building higher cost into your project. On the contrary, you can fine-tune your design to reduce development cost and maximise through-life performance.**

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The increased hydraulic efficiency of the Hydro-Brake Optimum® means you can reduce on-site storage requirements by up to 15% more than when using competitor vortex flow controls.

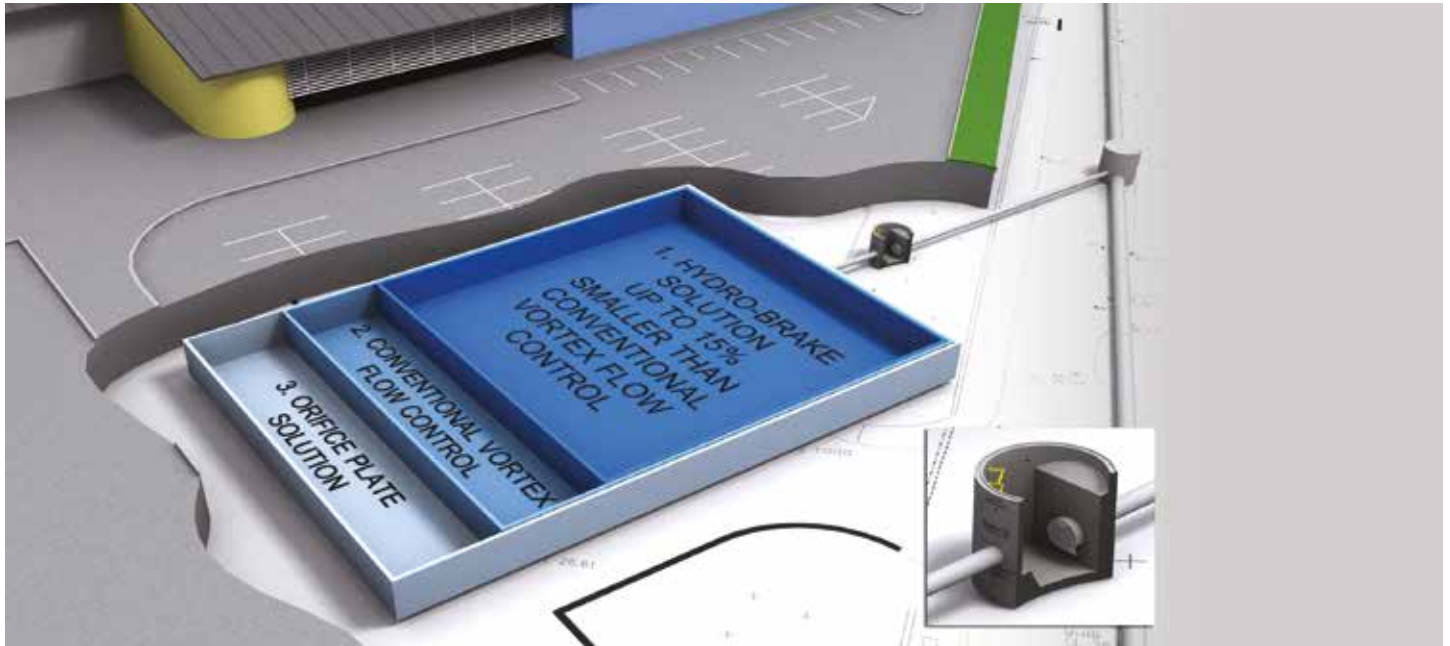
With reduced storage, you can lower construction and excavation costs for your client, as well as saving project time and overall land-use. You can protect your specification against potential switching out to inferior products.

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## Make SuDS Schemes Feasible

As a passive flow control with no power or moving parts, Hydro-Brake Optimum® can help meet regulatory Sustainable Drainage Systems (SuDS) objectives for a site.

By reducing land take, the “kerb appeal” of natural SuDS features can be exploited with minimal commercial impact for developers.



Reduce on-site storage requirements by an additional 15%



Hydro-Brake Optimum® can enable natural SuDS features



# Design Support

**Hydro's professional engineers work with you to provide expert technical and aftersales support to ensure your projects meet exacting design requirements and deliver the very best hydraulic efficiency.**

Our design support team is available to advise on any aspect of stormwater and wastewater flow management, including vortex flow modelling. Technical manuals and information sheets are also available to assist engineers to develop the very best solutions.



# Optimum Software Tools

**Hydro has developed a unique flow control software engine so that designers can fully explore and visualise design options for Hydro-Brake Optimum®.**

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Engineers have the flexibility to try out any number of flow control iterations and explore their impact on hydraulic performance.

## Hydro-Brake Optimum® Design Tool

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The Hydro-Brake Optimum® Design Tool is available on the Hydro website and free to use for engineers. The Tool makes it quicker and easier to size each Hydro-Brake Optimum®, according to design priorities, then validate and output detailed design drawings.

Using the Tool, engineers have greater flexibility to explore an unlimited range of design choices. The results are calculated in real time, without needing to contact the Hydro design office.



[www.hydrobrakeoptimum.com](http://www.hydrobrakeoptimum.com)

## Full MicroDrainage® Compatibility

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Engineers can carry out sizing and flow rate calculations and conduct hydraulic modelling of drainage networks containing Hydro-Brake Optimum® units using the industry-standard MicroDrainage® modelling software.

**XP**solutions



# Setting the Standard

**As a brand leader for more than 30 years, Hydro International continues to set the standard in stormwater management technologies. It's no secret that the Hydro-Brake® has become a name synonymous with vortex flow controls.**

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At Hydro, we pride ourselves on our engineering excellence and in developing the Hydro-Brake Optimum® we have invested in significant R&D to validate its performance. Hydro-Brake Optimum® is the only vortex flow control to be independently certified by BBA and WRc.

## Clearance

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Hydro-Brake Optimum® has outlets (clearances) up to 20% larger than competitor products to minimise the risk of blockages. Choosing an alternative flow control with smaller openings and outlets will lead to an increased risk of plugging.

## Future-Proofing

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All Hydro-Brake Optimum® units can also be supplied with an adjustable inlet to future-proof the device, allowing flows to be altered post-installation, to account for site expansion or climate change.

## Robust and Easy to Install

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Hydro-Brake Optimum® comes with a range of installation options and accessories to make construction and installation as simple as possible for your client.

Units can be delivered already pre-fitted within concrete chambers to simplify the construction process. In addition to our ready-to-fit units, we are able to provide custom options integral to the flow control, including high level emergency bypass, rodding pipe and removable units.

## Strong

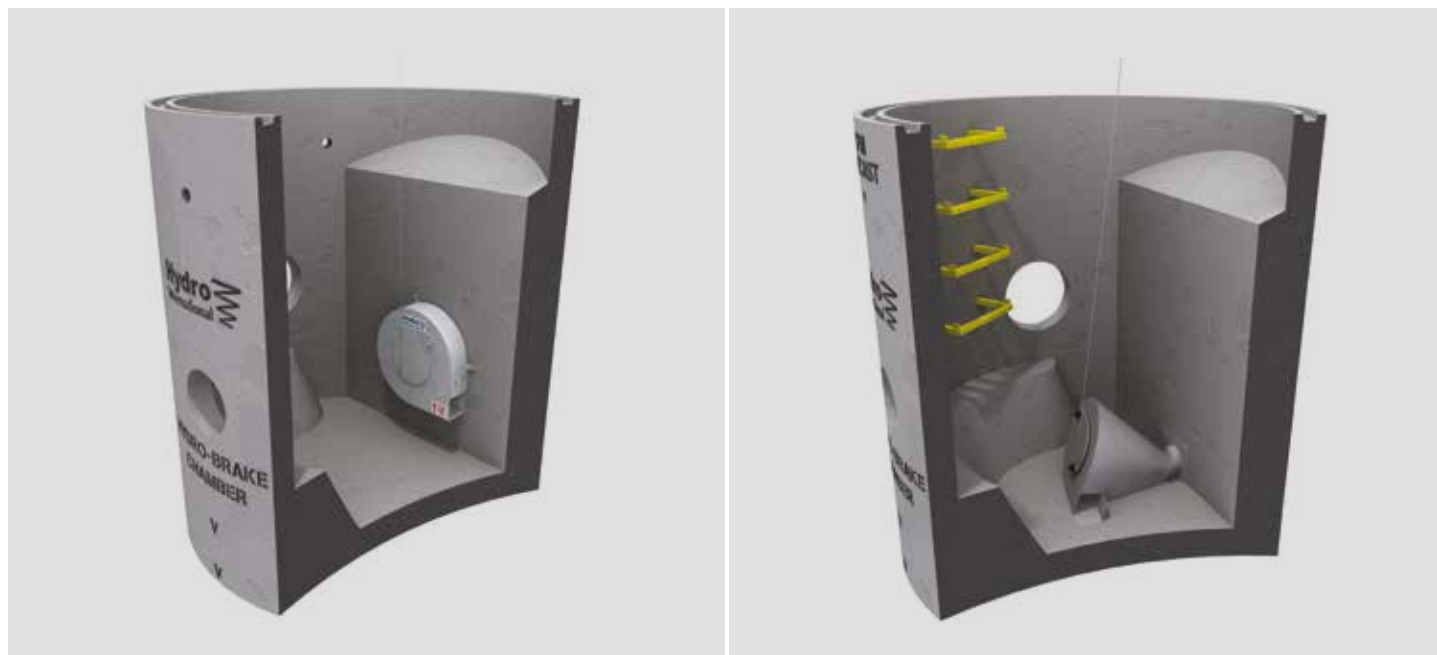
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A product required to withstand a deluge in the worst wet weather incidents needs to be robust, and the Hydro-Brake Optimum® is unmatched in its physical strength. Made from high grade stainless steel, the Hydro-Brake Optimum® has been independently verified to ensure it is capable of withstanding the potential high pressures you specify it for.






Greater clearance and adjustable inlet



The Hydro-Brake® Chamber



**Sized to perfect  
the all-important  
hydraulic curve  
and therefore  
give you absolute  
reassurance of  
flood protection.**







## What is HX?

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**HX is Hydro Experience. It is the essence of Hydro. It's interwoven into every strand of Hydro's story, from our products to our people, our engineering pedigree to our approach to business and problem-solving.**

HX is a stamp of quality and a mark of our commitment to optimum process performance. A Hydro solution is tried, tested and proven.

There is no equivalent to HX.

## Hydro International

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