

Hydro-Brake[®] Optimum and Hydro-Brake[®] PE

(Stormwater Management)

Technical Guide SW 19

Manage low, moderate and high flows to deliver sustainable drainage from single sites to large networks.



08.24 | STORMWATER | SW19 HYDROBRAKE

Applications

Flow control
Flood control
Sewer systems
Stormwater systems

Product Attributes

Every Hydro-Brake[®] is individually designed and sized
Reduce onsite storage
Limit flow control size

Approvals/Standards

NZS3109, Concrete Construction

Quality

ISO 9001:2008 Quality Management Standard

We are the supply partner of choice for New Zealand's stormwater management and treatment solutions.

HYNDS
STORMWATER

The Hydro-Brake® vortex flow control provides customised water quantity management for surface, foul or combined water across a wide range of flows and for a variety of applications.

Precision-engineered to meet site-specific flow, head and storage requirements, only the Hydro-Brake® leverages more than 30 years of vortex flow control expertise to deliver exceptional flood protection and sustainable drainage.

How it works

The device is simple by design, but uses complex fluid mechanics to effectively control water flows. The device is made up of an inlet, a volute (*main body*) and an outlet.

Water enters the unit tangentially through the side inlet to form a vortex. High peripheral velocities induce an air filled core with a resulting back pressure that reduces the discharge whilst maintaining large open clearances.

Features

- No moving parts.
- No power required.
- Self-activating and self-cleansing.
- Large cross sectional area to minimise risk of blockages.
- Reduces upstream storage requirement compared to conventional controls.



FIG. 1 Hydro-Brake® PE in chamber

Hydro-Brake® Optimum

Design and Sizing

Every Hydro-Brake® Optimum is individually designed, sized and precision-engineered to meet the specific requirements of the site, network and environment in which it is installed. This enables engineers to deliver tailored protection against upstream and downstream flooding.

With a maximum flow of up to 550 L/s and a maximum storage area of up to 275 ha* the Hydro-Brake® Optimum provides effective, reliable flow control across a wide range of environments and applications, from small individual plots to large sewer networks. This gives designers the flexibility to implement a range of sustainable drainage and green infrastructure projects.

Advantages of Hydro-Brake® Optimum

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.



FIG. 2 Hydro-Brake® Optimum

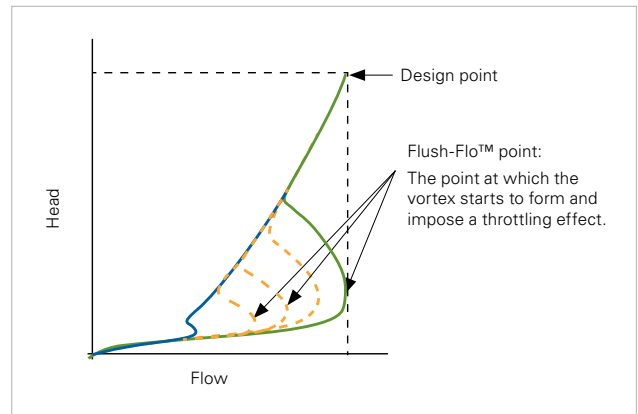


FIG. 3 Hydro-Brake® Flowgraph

Hydro-Brake® PE

Design and Sizing

The Hydro-Brake® PE has a maximum flow rate of 20 L/s and a head of 2 metres, making it an economical solution for smaller networks.

Advantages of Hydro-Brake® PE

- Removable from ground level for inspection and maintenance.
- Durable, lightweight construction.
- Specially designed mounts for fast installation into manholes from Ø1000mm through to Ø2100mm.
- Simple and quick installation.



FIG. 4 Hydro-Brake® PE

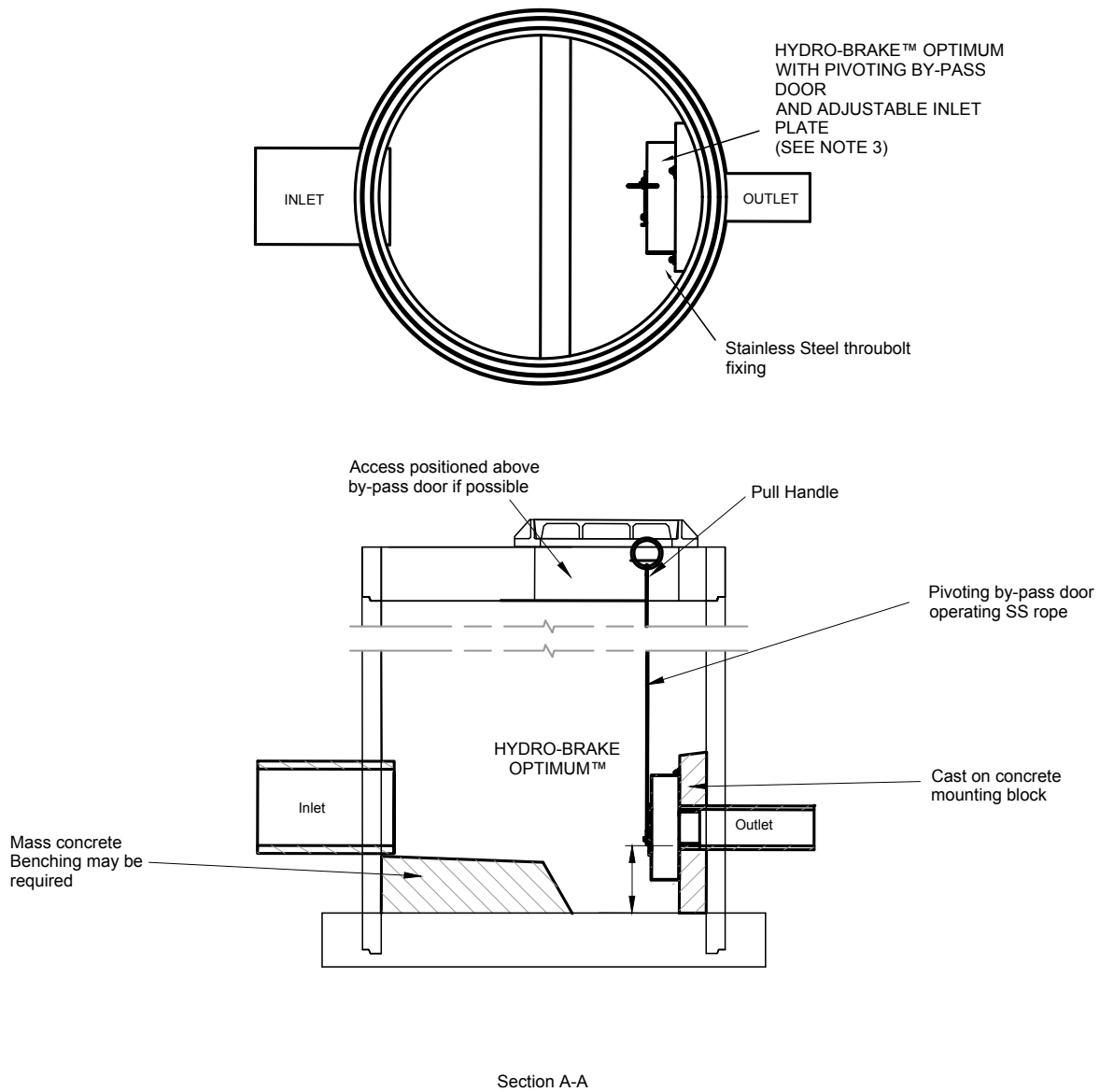


FIG. 5 General arrangement drawing

Note: Above is subject to design requirements. Please enquire at www.hynds.co.nz

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