



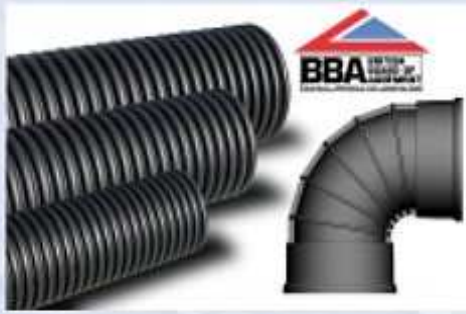
Hydro-Valve Vortex Flow Control



Advantages

- Customised Specification
- No external power source
- Self-Activating and Self-Cleansing
- Minimal maintenance
- The outlet opening is 3-6 times larger than conventional controls
- Reduces storage requirements by up to 30% compared to an orifice plate
- Ease of installation compared with conventional vortex valves

**VORTEX
FLOW CONTROL**



CorriPipe™

JFC CorriPipe™ is a twin wall high density polyethylene pipe with a corrugated outer profile and a smooth inner core. CorriPipe™ is used for surface and stormwater drainage and is available from Ø150mm to Ø600mm.

JFC CorriPipe™ is complemented by a full range of fittings including 30°, 45° and 90° bends, tees, wyes, adaptors etc.

HydroCell

JFC offer a range of storm water management solutions used in conjunction with sustainable urban drainage systems (SuDS). HydroCell is a modular polypropylene block used to build an underground attenuation or infiltration tank.

A full design / supply / installation service is available.



Other JFC Civils Products

- **Oil/Petrol Interceptors**
- **Pumping Stations**
- **Grease Traps**
- **Radon Sumps**
- **Road Gulleys**
- **Bio Media**

Sewage Treatment Plants

JFC have a range of CASFLO sewage treatment plants for 6 person-600 person.

The 'CASFLO' treatment plant is of unitank design and incorporates Primary Settlement (PST), Biological Treatment (Biozone), and Final Settlement (FS) within the same tank. Pumping Stations and contract fabrications are also available.





Operation

JFC's HYDRO-WAVE is a device for controlling fluid flow by hydraulic effect without requiring moving parts.

At low flow rates, water entering through the inlet aperture passes through the chamber to the outlet aperture with no restriction.

As flow rate increases water enters through the inlet with enough energy to create a vortex in the vortex chamber which results in a considerable pressure drop between the inlet and the outlet restricting the flow to the allowable discharge.

The Hydro-Wave therefore operates automatically with no moving parts and no external power source.

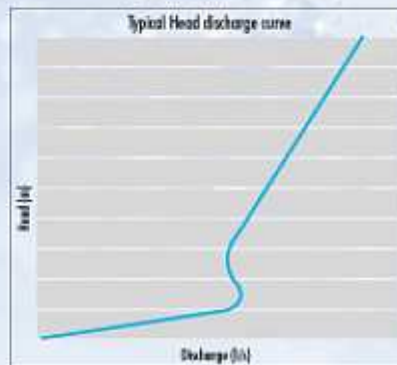
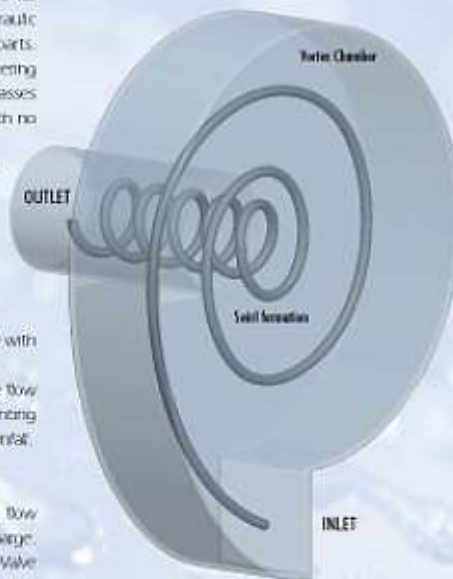
A typical application of this valve is to control the flow from storm water attenuation tanks preventing downstream flooding during periods of heavy rainfall.

Performance

Design Point – this is generally the maximum flow that is required i.e. maximum allowable discharge. This point is different for each individual Hydro-Wave depending on specific site specifications.

Flush Flow – this is the point at which the vortex begins to initiate and has a throttling effect which starts to restrict the flow, sending the performance graph in the opposite direction.

Kick-Back Flow – this is the point at which the vortex has fully initiated and at which point the curve begins to return back to follow that of a more conventional flow control device.



Design and Manufacture

- JFC HYDRO-VALVES are individually built to customer specifications. The cross sectional area of the orifice in the valve is 4-6 times that of conventional controls. This large opening coupled with increased internal velocities greatly reduce the risk of blockages.
- JFC Hydro-Valves are manufactured from specially modified polyethylene which changes the molecular structure resulting in excellent strength/durability and chemical resistance ensuring a long service life.
- JFC Hydro-Valves are manufactured to ISO 9001:2000 quality assurance system.



Required Information

- Design Flow - Required Flow Rate in litres/second (l/s).
- Design Head - Distance from outlet invert to highest fluid level (m).
- Details of proposed manhole (e.g. 1200mm Concrete Ring).

Installation

- The Hydro-Valve unit is attached to the inside of a standard \varnothing 1200mm manhole with six steel anchors (supplied).
- Available to suit rectangular manholes upon request.
- The outlet invert level is marked on the unit for alignment.
- The manual by-pass cord is installed vertically (bracket and screws are supplied).
- Full installation drawings are supplied with Hydro-Valve.

Research and Development

JFC is a global organisation which is renowned for its innovative, quality plastic products. Investment in people, R&D, leading edge technology including the Ansys finite element analysis and Pro Engineer computer-aided design. JFC's unerring commitment to quality and customer's ensure our position as a market leader in the plastics industry.

