

1. SCOPE

This schedule specifies the requirements for the Hurricane Vortex Flow Control Valves as manufactured by Wavin Limited. It is applicable to surface water applications with design flows from 0.67 l/s to 60 l/s, and a hydrostatic head of up to 2 m.

2. PRODUCT DESCRIPTION

2.1 Introduction

The system is designed to control the rate of discharge of surface water from attenuation tanks or other storage. It does this by creating a vortex in the outlet once a defined head of water is reached.

The system is manufactured from stainless steel, each unit is comprised of:

- A vortex valve head with internal diameter of 80 – 900 mm;
- A location plate with guide rails to fasten the vortex valve head;
- A wedge-shaped location plate to simplify the removal process;
- A lifting rod to facilitate lifting of the vortex valve head to the surface;
- A mounting plate to fasten the chamber to the internal wall of a manhole, or;
- An outlet spigot to insert into the pipe and fixed lugs.

2.2 Applicable standards

Performance:

There are no standards applicable to this type of device.

Materials:

Materials shall comply with:

- BS EN 10088-1:2014⁽¹⁾
- BS EN 10088-2:2014⁽²⁾
- BS EN 10088-3:2014⁽³⁾
- BS EN ISO 3506-1:2020⁽⁴⁾.

2.3 Approval History

The Hurricane Vortex Flow Control Valve was originally awarded WRC Approved™ certification in April 2017.

- PT/403/0417

3. REQUIREMENTS AND TESTING

3.1 General

Flow characteristics

The Hurricane Vortex Flow Control Valves shall be designed using the manufacturer's design procedure.

3.2 Materials and components

Stainless steel shall be grade 1.4404 in accordance with BS EN 10088-1:2014 and shall comply with the requirements of BS EN 10088-2:201.

Stainless steel nuts and bolts shall be grade A4 and comply with the requirements of BS EN ISO 3506:2009.

Rubber sealing material shall comply with the manufacturers specified requirements.

3.3 Type Testing

Mechanical resistance

The centre of the upstream-facing side and the centre of the curved volute of the Hurricane Vortex Flow Control Valves

PT/510/0422-AS (April 2022)

**Assessment Schedule for Hurricane
Vortex Flow Control Valve as
manufactured by Wavin Limited**



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shall withstand the impact of a 6 kg test piece dropped directly onto its centre from a height of 2 m without causing permanent indentation greater than 10 mm.

Flow characteristics

The design procedure for the Hurricane Vortex Flow Control Valve shall be verified by testing with flows from 0.67 l/s to 60 l/s with a hydrostatic head of 2 m to achieve a specified discharge (+/- 5%) at the specified head.

3.4 Manufacture

To ensure the quality and performance of the Hurricane Vortex Flow Control Valve, the manufacturing process shall include appropriate systems for the:

- Specification of component materials;
- Verification component materials received are to specification;
- Handling and storage of all component materials and finished units;
- Detailed drawing / schedule for manufacture
- Manufacture / assembly of the Hurricane Vortex Flow Control Valve
- Fabrication and quality control of workmanship.

The production of the Hurricane Vortex Flow Control Valve and related quality control procedures shall comply with requirements to ensure the stated performance of the product is reliably achieved.

3.5 Installation

When installed in accordance with the installation documentation⁽⁵⁾, the Vortex

Flow Control Valve shall be reasonably expected to perform as described.

4. APPROVAL

The Hurricane Vortex Flow control valve has been audited and successfully met all the requirements stated within this assessment schedule

Signed:

A handwritten signature in black ink, appearing to read 'F. Lee'.

Valid until 26 April 2027

5. REFERENCES

1. BS EN 10088-1:2014 Stainless steels. List of stainless steels.
2. BS EN 10088-2:2014 Stainless steels. Technical delivery conditions for sheet/plate and strip of corrosion resisting steels for general purposes.
3. BS EN 10088 3:2014 Stainless steels. Technical delivery conditions for semi-finished products, bars, rods, wire, sections and bright products of corrosion resisting steels for general purposes.
4. BS EN ISO 3506-1:2020 Fasteners - mechanical properties of corrosion-resistant stainless steel fasteners. Bolts, screws and studs with specified grades and property classes.
5. Wavin + Mosbaek Vortex Flow Control Valves Product Overview