

1. SCOPE

This schedule specifies the requirements for the Typhoon Vortex Flow Control Valve system 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.

It is not applicable to the PVC up-stand pipe which is not supplied with the Typhoon device.

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 mounting plate to fasten the chamber to the internal wall of a manhole, or;
- Or an outlet spigot to insert into the pipe and fixing lugs;
- An upstand pipe (not supplied) provides an overflow and draindown capability.

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 Typhoon Vortex Flow Control Valve was originally awarded WRc Approved™ certification in April 2017.

- PT/404/0417

3. REQUIREMENTS AND TESTING

3.1 General

Flow characteristics

The Typhoon 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 10088-2:2014.

Stainless steel nuts and bolts shall be grade A4 and comply with the requirements of BS EN ISO 3506-1:2020.

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 Typhoon Vortex Flow Control Valve shall

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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 Typhoon 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 Typhoon 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 Typhoon Vortex Flow Control Valve
- Fabrication and quality control of workmanship.

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

Dimensional requirements

The vortex chamber of the Typhoon device shall be manufactured to dimensional tolerances of +/- 2%

Appearance

The internal and external surfaces of the vortex chamber and the mounting plate outlet pipe/spigot shall be smooth, clean, and free from scoring, cavities and other surface defects.

3.5 Installation

When installed in accordance with the installation documentation⁽⁵⁾, the Typhoon Vortex Flow Control Valve shall be reasonably expected to perform as described.

4. APPROVAL

The Typhoon 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 'J. 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

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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