

Flow control

Water level control

Backflow prevention

Coarse Filtering devices

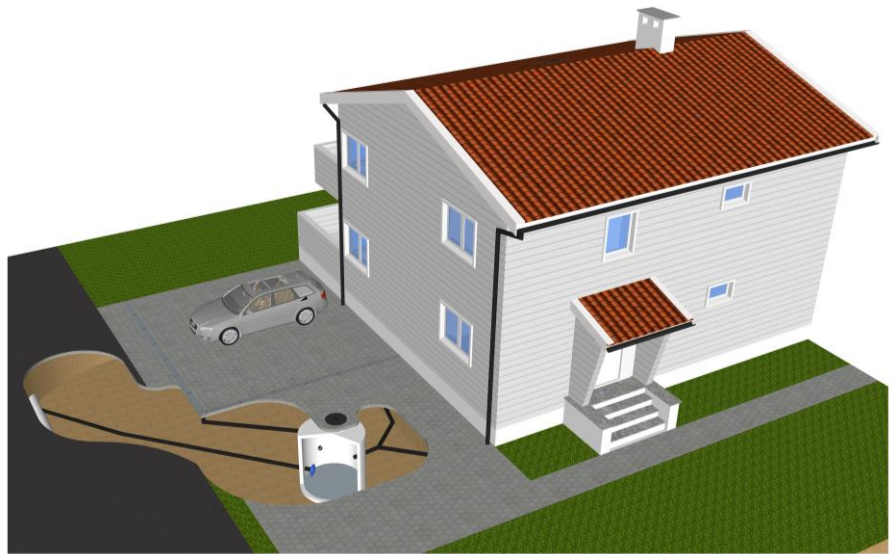
Monitoring devices

FluidVertic STD

Standardised Vortex Valve



**Installation and
Maintenance**



Introduction

The vortex chamber shall only be used for the purpose it is intended or agreed upon when ordering. The customer cannot file a complaint if:

- Installation and maintenance instructions are not followed
- The product is used for purposes other than agreed
- If repairs, modifications or other actions are performed on the product without consulting with MFT.

Receiving control

When receiving the vortex chamber, the receiver should look for transport damage. If some damage is detected, report this to MFT as soon as possible.

Documentation

The following documentation normally accompanies the delivery of the FluidVertic STD, and should be available during installation:

- Installation and maintenance instructions.
- Datasheet

The project drawing should show an interface to the existing plant and the correct level for the vortex chamber's installation and location (not provided by MFT).

Safety

All intervention must be carried out following current safety and HSE regulations.

Special attention must be given to the following:

- **NB Danger of poisoning.** Before entering the sump, ensure that there is sufficient oxygen in the sump and that no toxic/flammable gases are present.
- In the event of large amounts of water, the risk of **drowning** should be considered separately. Great care must be taken in the event of a blockage upstream. Any upstream water pressure must be relieved before staying in the basin.
- Necessary safety and **protective** equipment must be used.
- There should always be a **minimum of 2 people** present during stays and work in the sump.
- Implements, tools and equipment should never be placed on the edge of manhole openings/descent necks. They can pose a danger to those staying in the basin/overflow.

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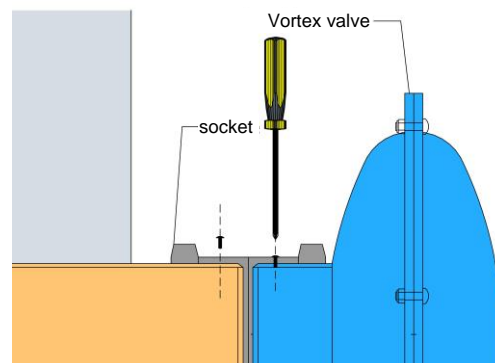
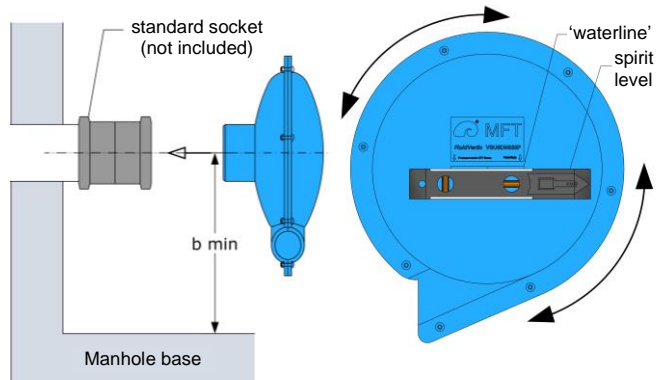
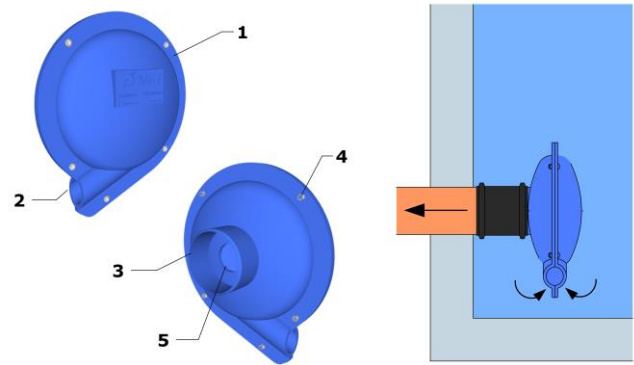
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Mounting

Description	Material
1 Vortex valve chamber,	Polyurethane PUR
2 Inlet	Polyurethane PUR
3 Outlet	Polyurethane PUR
4 Bolts	316 acid-proof
5 Orifice's diameter	

FluidVertic STD is mounted on an outlet in a sump/detention tank and comes with a PVC tip for easy installation against the corresponding socket.

1. The PVC tip of the vortex chamber is mounted on the socket / double socket of the outlet pipe.
2. Check that the minimum distance from the manhole base to the vortex chamber's centre line, b_{min} , is maintained (see datasheet/product information).
3. Rotate the vortex chamber about the outlet so that the tangential inlet is directed obliquely downwards. The 'waterline' of the vortex chamber must be horizontal. Check with a spirit level. The 'waterline' can be found under the product sign on the front of the vortex chamber.
4. To prevent rotation of the vortex chamber, screw self-tapping screws through the socket. Make sure that the screw penetrates the outlet pipework and the vortex chamber.



Note:

The smallest models of FluidVertic STD are adapted to small water flows and have a relatively small flow cross-section. To reduce the risk of clogging the vortex chamber with leaves or particles from the surface water; effective upstream measures should be taken to prevent floating particles from reaching the vortex chamber's inlet (submerged outlet from reservoir, foam screen or similar). Well planned emergency overflows and flood roads are recommended in the event of a blockage.

Final inspection

After installation, a visual inspection must be performed:

- Check that the tangential inlet faces obliquely downwards (level line in level)
- Check that no damage has occurred during installation
- Check the inlet and inside the vortex chamber and remove any foreign objects.

Operation and maintenance.

FluidVertic has no moving parts so requires little or no maintenance. The stormwater characteristics (liquids, fouling, suspended solids) and variation of the inflow determine inspection requirements. Good routines related to emptying sand traps and removing floating particles are essential to reduce clogging risk. If necessary, the vortex valve's housing can be opened by loosening the flange bolts.

Recommended maintenance plan

What	When/How often
1 Visual inspection of vortex chamber and manhole. Remove any external material.	After the first rainfall episode after the installation is operational
2 Visual inspection of vortex chamber and manhole. Check for clogging. Remove any external material. Sand trap/sludge volume is emptied.	After heavy rainfall. Min 1 time per year.
3 Loosen the vortex chamber, check for internal overgrowth and flush the inside if necessary.	Every 5 years