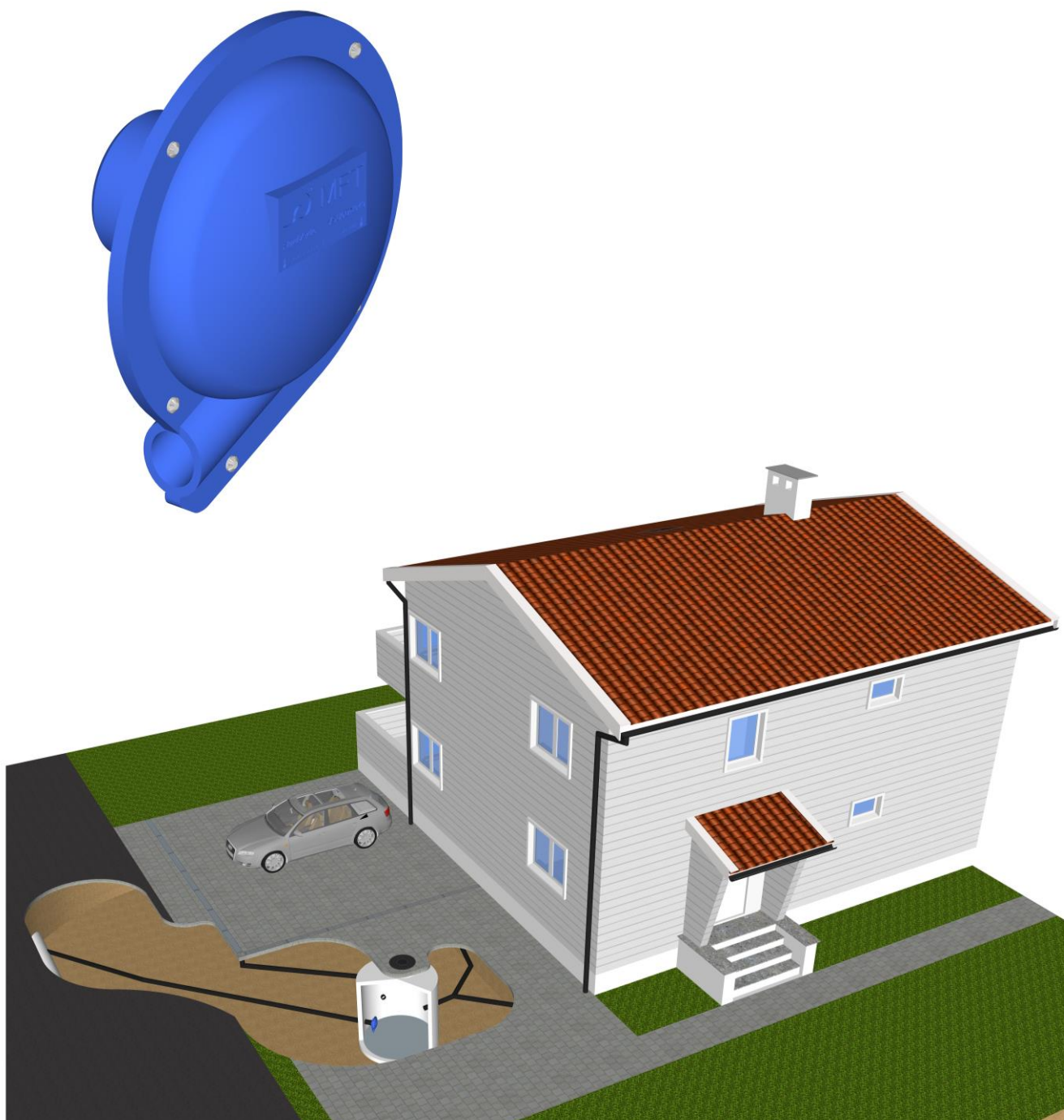


FluidVertic STD

Standardized Vortex Valve



Product-
information



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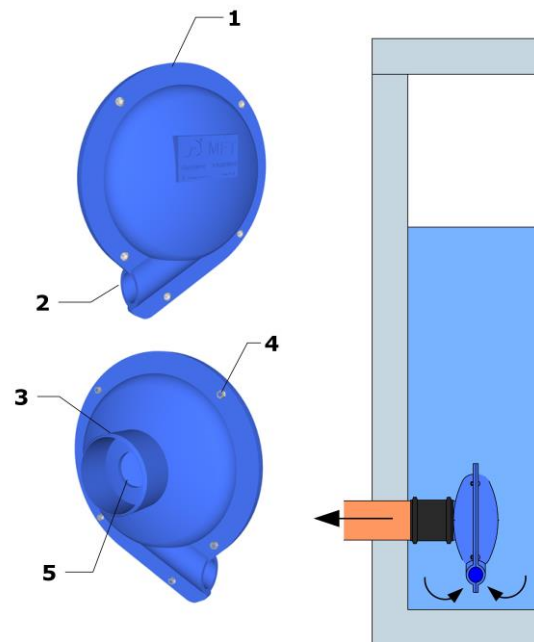
An overloaded storm water network may lead to basement flooding. A suitable flow regulator provides good control of surface water discharge to the drainage network and reduce the risk of overloads and flooding. The properties of the flow controller are crucial for the system's function and operation.

- Reliable (no moving parts, large flow cross section)
- Accurate (guaranteed +/- 5% flow at 1,2m pressure)
- Easy and quick installation

Characteristics

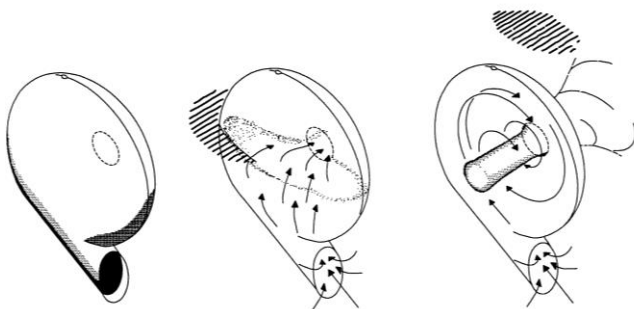
FluidVertic STD is a standardised vortex valve specifically developed for regulating small water flows. Standardized units and no need for customization ensures fast delivery and lower costs. *FluidVertic* has a large flow cross-section, typically four times as large as a traditional orifice plate, which significantly reduces the risk of clogging. *FluidVertic STD* is hydraulically tested and comes with a capacity guarantee. The outlet is shaped as a spigot for easy installation against standard PVC sockets (socket is not included in the delivery)

Type:	vortex valve
Mode:	wet installation
Medium:	Separated Stormwater
Dimensions (outlet):	DN110-DN160 spigot
Capacity (at 1,2 [m] pressure head):	0.4 – 5.0 [l/s]



Function

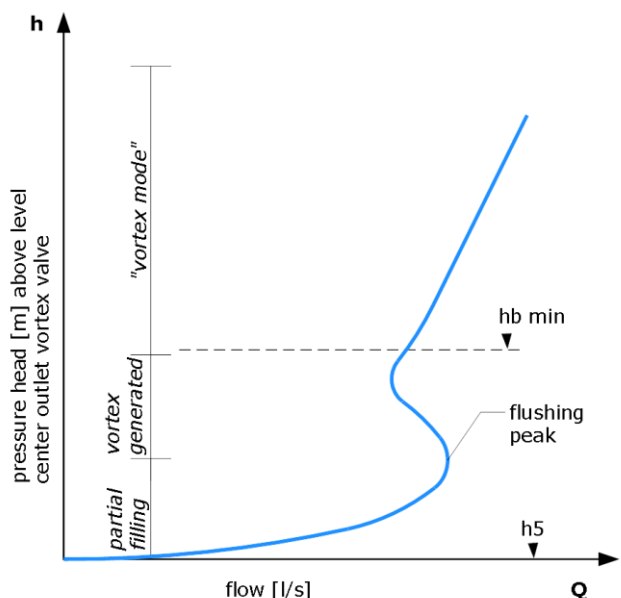
The vortex valve consists of a circular chamber with a tangential inlet. The outlet is horizontal and oriented normally to the housing. *FluidVertic STD* is mounted on the outlet of the manhole or stormwater detention tank.



When the water level is lower than invert of the orifice, no water will pass through the vortex valve. The inlet is permanently submerged, which enables the withholding of floating particles and low-density fluids (like oil). When partially filled, the water flows through with little resistance. As the water level reaches the top of the chamber, a vortex with an air-filled core is established within the device. The flow resistance is now distinctly stable and predictable.

Note: The smallest models of FluidVertic STD are adapted to very small water flows with a relatively small flow cross-section area. To reduce the risk of clogging the vortex chamber due to floatables and particles, effective upstream measures should be taken to prevent floating particles from reaching the vortex valves's inlet (submerged outlet from upstream manhole, scum board or similar). Emergency overflows and flood roads are recommended in the event of a blockage and high loads.

Decription	Material
1 Vortex valve chamber,	Polyurethane PUR
2 Inlet	Polyurethane PUR
3 Outlet	Polyurethane PUR
4 Bolts	stainless 316 acid proof
5 Orifice's opening	



Dimensioning and planning

We offer more than 20 models with individual capacities. See the last page for a complete overview. Based on the desired dimensioning criterias (See below), the model that fits best is selected. No customization is required.

Dimensioning criterias

When choosing a vortex chamber, the dimensioning point is defined as follows:

- Design flow, Q_b (l/s)
- Design pressure head, h_b (mVs).

Normally, Q_b corresponds to the discharge permit given by the local authorities. The design water level, h_1 , equals to maximum water level above the submerged vortex valve. Note that at water level higher than h_1 , water flow will exceed Q_b .

Outlet pipe from vortex chamber

The capacity guarantee requires the outgoing pipe is dimensioned for "free flow". This corresponds to a maximum of approx. 60-70% filling of the pipe at design flow. If the outlet diameter of the vortex chamber deviates from the downstream pipe dimension, a transition piece can be installed minimum 1-2 m downstream of the vortex chamber, provided "free outlet" is obtained.

Design of manhole

FluidVertic has a submerged inlet, and requires a minimum distance to the manhole floor. In subsequent tables, the minimum distance, b , is specified.

If there are no upstream sand traps, further increment of b should be considered to obtain sufficient sedimentation volume.

Access to the vortex chamber must be ensured to allow for inspection and maintenance. Manhole and openings must be sufficient sized to allow removal of the vortex valve without this requiring removal of the surrounding structure. Ref mounting opening, D_m . In installations where it is necessary to easily relieve upstream pressure, in the event of a blockage, a by-pass with a valve should be considered.

Generally

The system should be designed so that the throttling of the water primarily takes place in the vortex chamber, and not in the upstream and downstream pipe system.

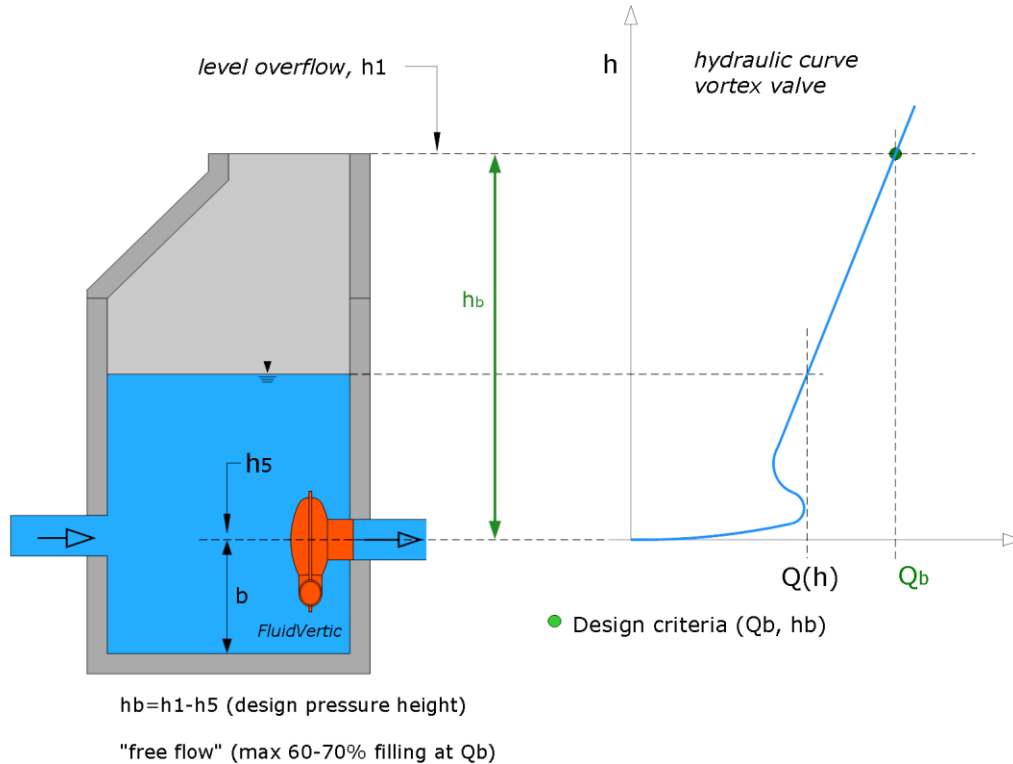
Specification text

Vertical wet-mounted vortex valve, with documented and standardized performance according to datasheet. Made in Polyurethane. Mounting on outlet against PVC socket.

Design flow, Q_b at 1,2m pressure: _____ l/s

Outlet dimension (according to datasheet): _____

PVC spigot



Accessories

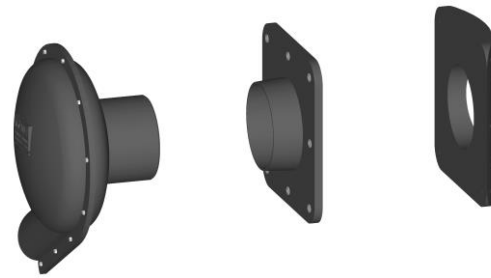
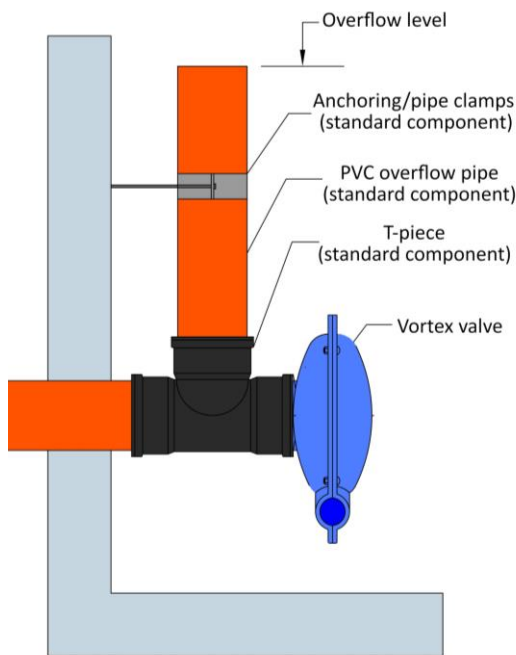
Mounting plate and filler piece

The vortex valve can be equipped with a mounting plate with gasket and expansion bolts for anchoring to the wall. The mounting plate can be supplied with a suitable filler piece, which allows mounting against a curved wall.

Integrated emergency overflow

An integrated emergency overflow can be set up by installing a T-piece on the vortex valve outlet. If the water level exceeds the overflow level, the water will bypass the throttle. Anchoring the vertical overflow onto the manhole's wall is recommended. Standard PVC pipe components are used.

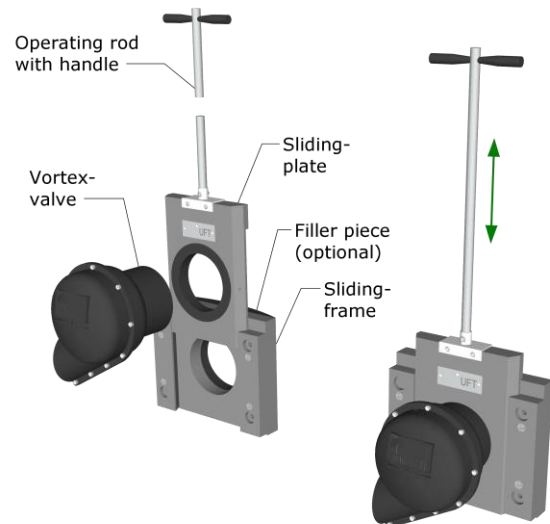
Note: During overflow, the vortex valve will not reduce the total flow rate discharged downstream. Make sure this is accepted by the local Authorities, prior to installation.



Mounting plate and filler piece

Slide plate / By-pass

MFT can supply the vortex valve with a sliding frame and sliding plate. This solution permits the valve to be easily elevated to ground level for inspection and maintenance, and to by-pass the vortex valve if required. The sliding frame can be equipped with a filling piece, which allows mounting directly against a curved wall.



Installation

With spigot (standard delivery)

FluidVertic STD has a standard PVC sized spigot on the outlet (dimension DN110 or DN160 depending on model). The vortex valve is easily mounted against the corresponding PVC socket. For details, reference is made to Installation and Maintenance Instructions.

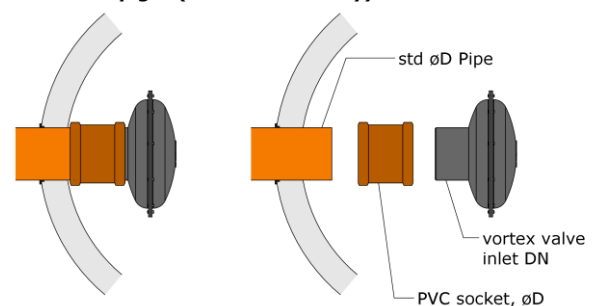
With mounting plate and filler piece (accessory)

The outlet pipe is terminated edge-to-edge with the internal manhole wall. The mounting plate with gasket surrounds the outlet pipe. A filler piece enables anchoring directly to a curved wall.

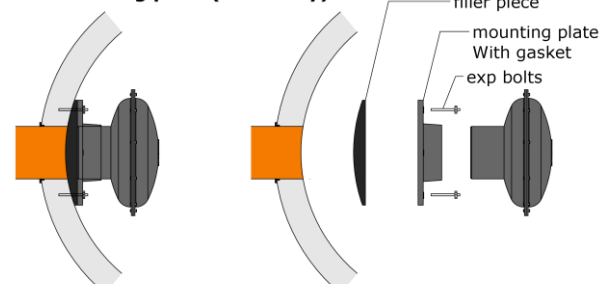
Operation and maintenance.

FluidVertic has no moving parts and requires little maintenance. The required maintenance interval depends on local conditions and the water quality (content of particles, sediments etc.). Well established routines for emptying sand/mud in the manhole and removal of floating particles are essential to reduce risk of clogging. See also Installation and Maintenance Instructions.

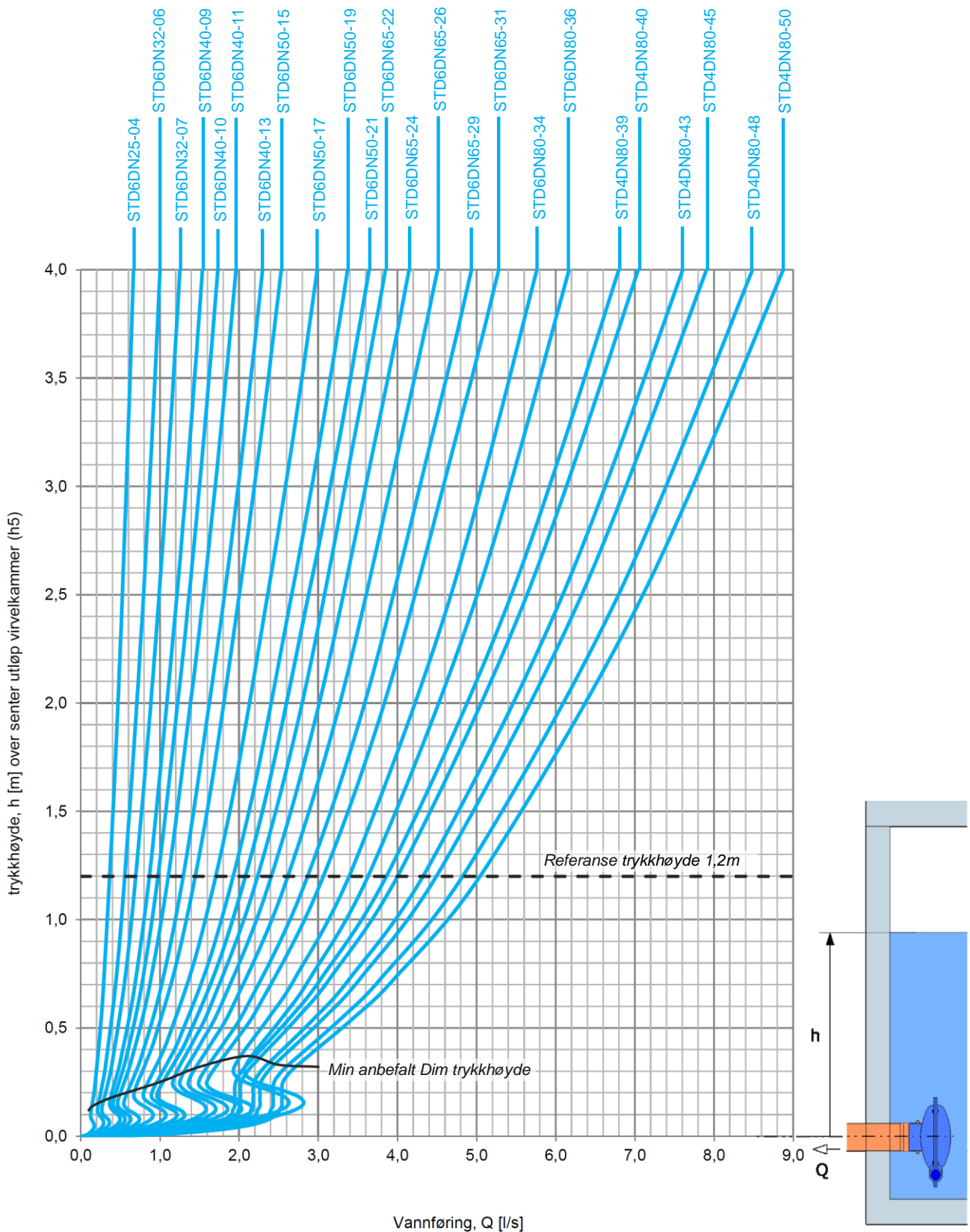
With Spigot (standard delivery)



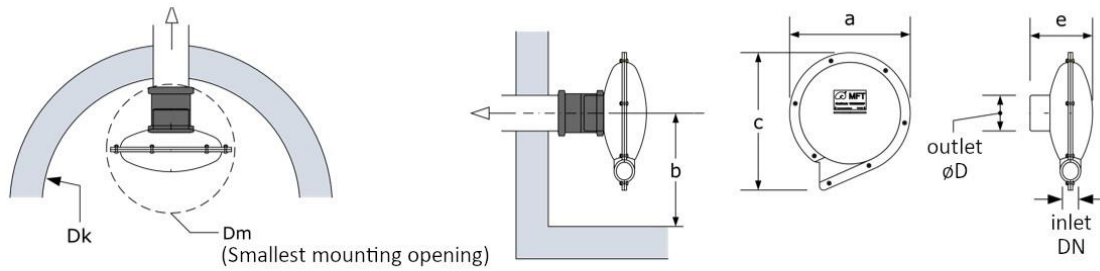
Mounting plate (accessory)



Model overview



Trykkehøyde = høyde over senter utløp virvelkammer. Kurven viser opp til 4,0m trykkehøyde. Se www.mft.no for detaljer og datablader. For kapasitet over 4,0m, kontakt MFT. Se mft.no for mer informasjon og datablader.

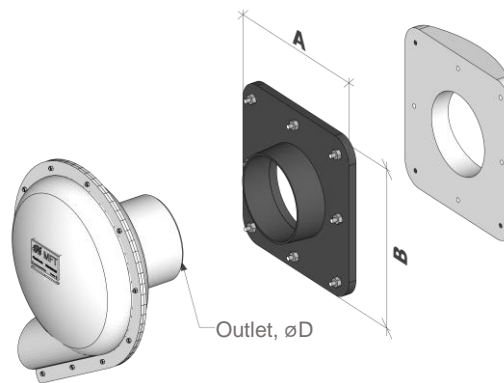


Note: mounting sleeve is not included in the delivery. The dimension in the table below is given in [mm].

Product no.	Capacity, Q at 1,2m Pressure	Outlet dim (spigot) øD	b min	Dk min	Dm min	Inlet DN	a	c	e	Weight [kg]
STD6DN25-04	0,4 l/s	110 pvc	300	600	400	25	175	210	110	0,5
STD6DN32-06	0,6 l/s	110 pvc	300	600	400	30	225	265	135	0,7
STD6DN32-07	0,7 l/s	110 pvc	300	600	400	30	225	265	135	0,7
STD6DN40-09	0,9 l/s	110 pvc	300	1000	400	40	320	360	170	1,3
STD6DN40-10	1,0 l/s	110 pvc	300	1000	400	40	320	360	170	1,3
STD6DN40-11	1,1 l/s	110 pvc	300	1000	400	40	320	360	170	1,3
STD6DN40-13	1,3 l/s	110 pvc	300	1000	400	40	320	360	170	1,3
STD6DN50-15	1,5 l/s	110 pvc	350	1000	500	50	375	425	195	1,3
STD6DN50-17	1,7 l/s	110 pvc	350	1000	500	50	375	425	195	1,3
STD6DN50-19	1,9 l/s	110 pvc	350	1000	500	50	375	425	195	1,3
STD6DN50-21	2,1 l/s	110 pvc	350	1000	500	50	375	425	195	1,3
STD6DN65-22	2,2 l/s	110 pvc	400	1000	500	65	460	545	220	3,3
STD6DN65-24	2,4 l/s	110 pvc	400	1000	500	65	460	545	220	3,3
STD6DN65-26	2,6 l/s	160 pvc	400	1000	500	65	460	545	260	3,5
STD6DN65-29	2,9 l/s	160 pvc	400	1000	500	65	460	545	260	3,5
STD6DN65-31	3,1 l/s	160 pvc	400	1000	500	65	460	545	260	3,5
STD6DN80-34	3,4 l/s	160 pvc	500	1000	600	80	550	625	310	3,3
STD6DN80-36	3,6 l/s	160 pvc	500	1000	600	80	550	625	310	3,3
STD4DN80-39	3,9 l/s	160 pvc	420	1000	500	80	400	485	240	1,7
STD4DN80-40	4,0 l/s	160 pvc	420	1000	500	80	400	485	240	1,7
STD4DN80-43	4,3 l/s	160 pvc	420	1000	500	80	400	485	240	1,7
STD4DN80-45	4,5 l/s	160 pvc	420	1000	500	80	400	485	240	1,7
STD4DN80-48	4,8 l/s	160 pvc	420	1000	500	80	400	485	240	1,7
STD4DN80-50	5,0 l/s	160 pvc	420	1000	500	80	400	485	240	1,7

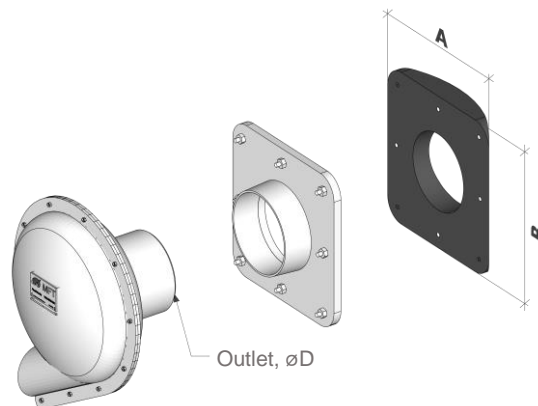
Accessories

Monting plates (PUR)



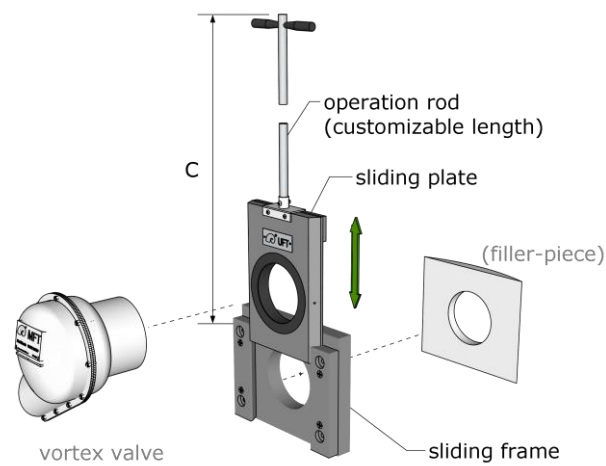
Product no	Dimension (øD) [mm]	A [mm]	B [mm]	Weight [kg]
MP-PUR110	110	300	300	0,9
MP-PUR160	160	350	350	1,1

Filler pieces - flexible (PUR)



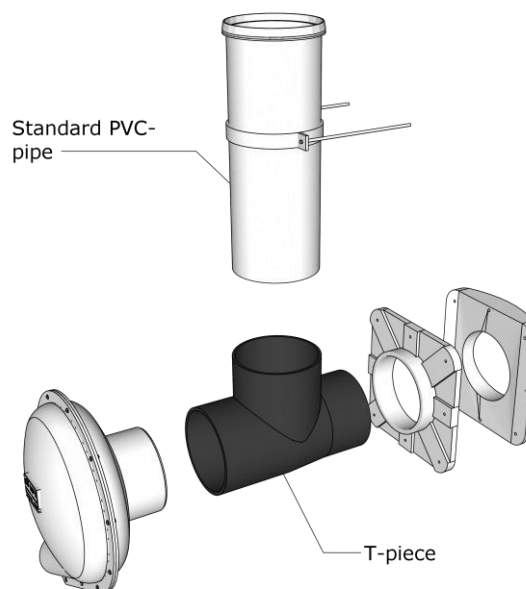
Product no	Dimension (outlet, øD) [mm]	Manhole diameter (min – max) [mm]	A [mm]	B [mm]	Weight [kg]
FS-PUR110-8/24	110	800-2400	300	300	1,4
FS-PUR160-8/24	160	800-2400	350	350	2,3

Sliding system



Product no	Dimension (outlet, $\varnothing D$) [mm]	C
VGD-110	110	customizable
VGD-160	160	customizable

Integrated overflow



Product no	Description	Dimension (outlet, $\varnothing D$) [mm]	Material	Weight [kg]
T-MR110	T-piece	110	PVC	0,5
T-MR160	Tpiece	160	PUR	1,1
IO-P110	Vertical pipe, PVC, incl mounting clamps	110	PVC	
IO-P160	Vertical pipe, PVC, incl mounting clamps	160	PVC	