

WISY Vortex fine filter (WFF 300)

For rainwater harvesting in industrial and public buildings. For roof areas up to 3.000 m² (32,250 sq.ft.)

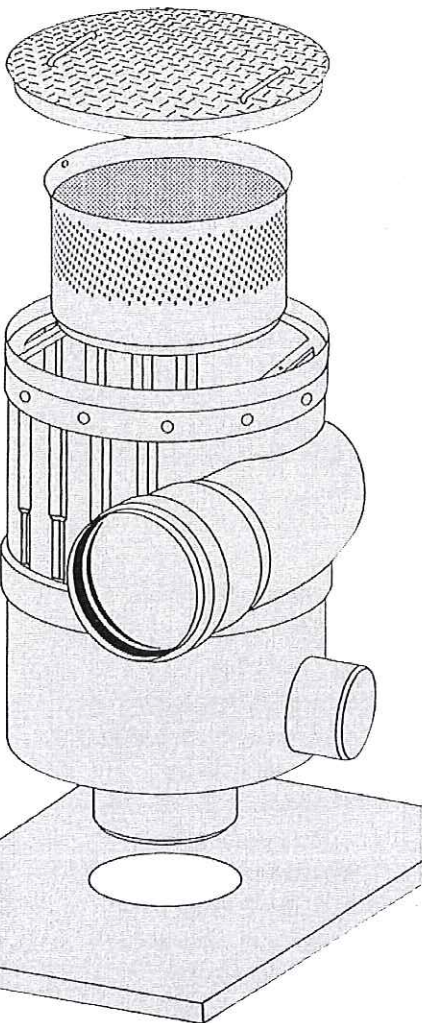
Please read these instructions carefully before installing the WISY Vortex fine filter!

Instructions for installation and use

Field of application

The WISY Vortex Fine Filter (WFF) for installation in horizontal rainwater pipes below ground or inside buildings. It filters the rainwater from the roof which is then led to a storage tank.

Roofs with slate, clay or concrete tiles are most suitable for collecting the rainwater. Planted roof areas are less suitable because of their low water output. Unsealed *asbestos cement roofs are not suitable*; the fibres washed out of these roofs coverings clog the fine filter mesh.



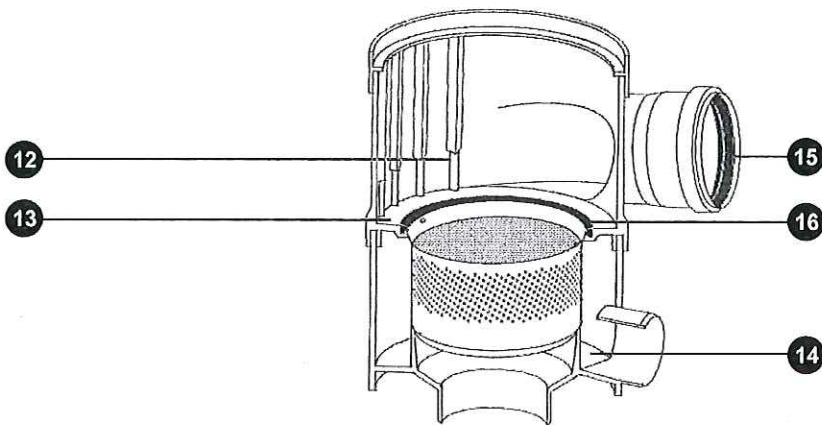
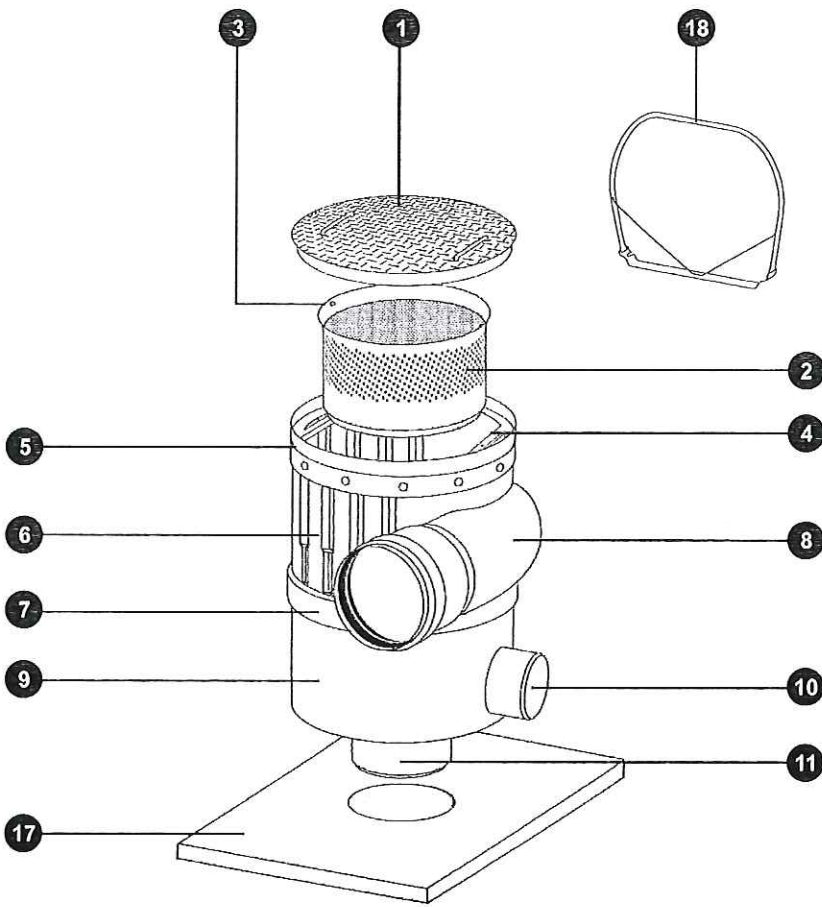
Construction and function

- The rainwater from the roof enters the rainwater inlet at the side of the WFF from a horizontal rainwater pipe and is widely spread over the vertical, cylinder-shaped filterinsert. There the rainwater is drawn through the meshes of the fine filter by adhesion and then collected and fed through the outlet to the storage tank. The separated dirt (particles are) washed into the drain by the rinsing water. Per year on average more than 90% of the rainwater entering the WFF are filtered and collected by this principle.
- Particles larger than 0.38 mm are directly rinsed away from the filter into the drain. The filter surface stays clean.
- The whole diameter of the rainwater drainage system stays completely open in the WFF system. There are no restrictions or obstructions in the system which can dam up rainwater. This is especially important in hail storms and torrential rainfall. In such cases 50% of the filtered water is still transferred to the storage tank. Rinsing water is led directly to the sewer or seep-away.
- The filter has its maximum efficiency, when its filter mesh is throughout wet. After a dry period this can take up to 2 minutes after the start of a rainfall.
- The rainwater inlet with its incorporated bushing can be turned 360° in relation to the filtered water outlet. The central rinsing water outlet is vertical so that pipes can be connected in any direction.
- The WFF meets the requirements of the DIN EN 12056 / EN 752 and DIN 1989 (secure drainage of buildings and building sites).

Scope of delivery

- The basic equipment contains: The complete housing with final-/intermediate ring, filter insert, steel cover 12 t, base plate, child safety device and 50 cm lifting handle.
- The WFF 300 is packed and delivered on a palette 1,20 m x 0,80 m (47.24 x 31.5 in.)

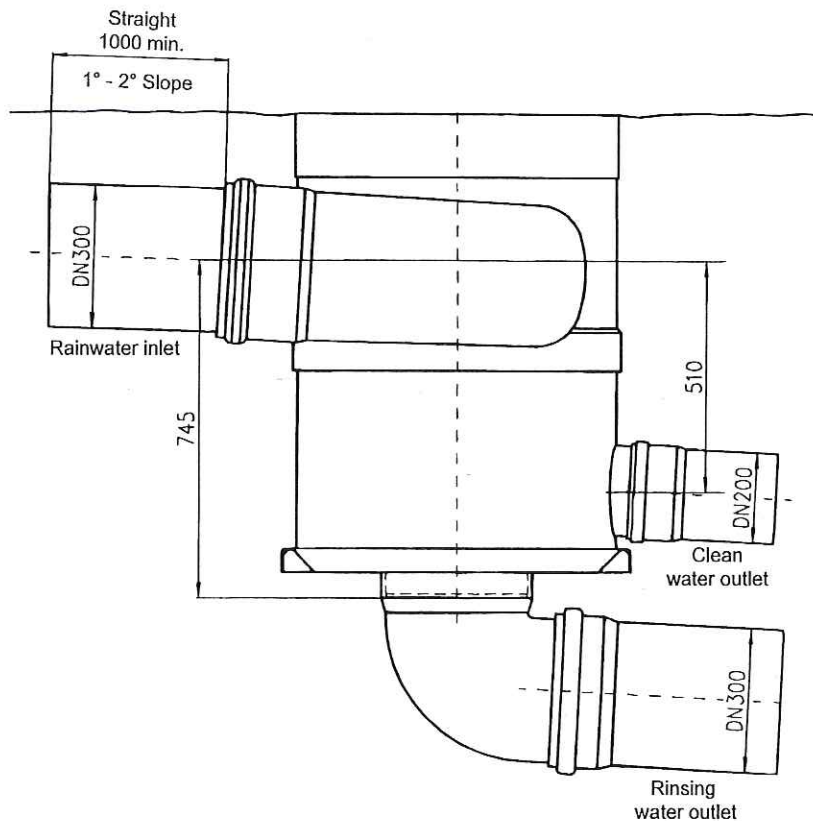
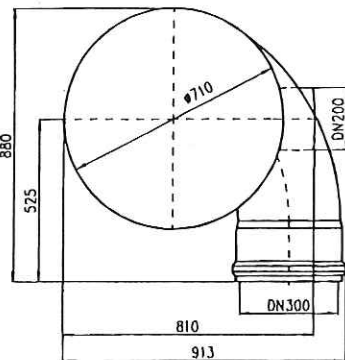
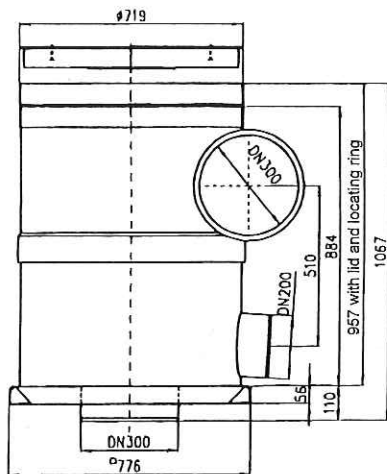
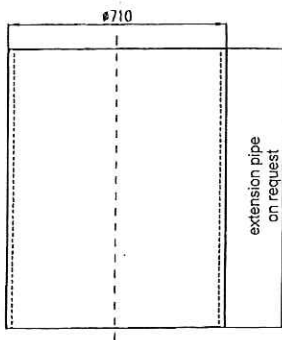
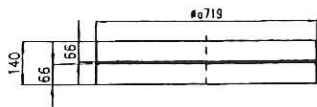
Components



- 1 Steel or aluminium cover
- 2 Filter insert
- 3 Lifting lugs
- 4 Inspection opening
- 5 Final or intermediate ring
- 6 Upper housing
- 7 Upper part - insert rebate
- 8 Rainwater inlet
- 9 Lower housing
- 10 Filtered water outlet
- 11 Rinsing water outlet
- 12 Deflecting ribs
- 13 Water inlet level
- 14 Collecting – and outlet space
- 15 Inlet socket with seal
- 16 Seal ring
- 17 Base plate
780 x 780mm (30.71 in.),
H = 50 mm (1.97 in.)
- 18 Filter element lifting handle
- 19 Extension tube (accessory)
- 20 Child safety device

Technical data

Drained area:	3.000 sq.m. (32,250 sq. ft)
Filter capacity:	max. 16 Litres/second
Housing parts:	Polypropylene
Seals:	Rubber
Filter insert and mesh:	Stainless-steel 1.4301
Filter mesh size:	0,38 mm (0.015 in.)
Rainwater inlet:	DN 300*
Tank outlet:	DN 200
Rinsing water outlet:	DN 300
Lifting handle:	Stainless-steel 1.4301
Weight:	95 kg
Cover load**:	carries vehicles of up to 60 t Vehicles according to DIN 1072/SLW60 carries vehicles of up to 12 t Vehicles according to DIN 1072/LKW12 Passable on feet according to DIN 1989-3
Acid-resistant:	Yes
Groundwater neutral:	Yes



* DN = Nominal diameter, abbreviation for nominal size = approx. internal diameter of a pipe

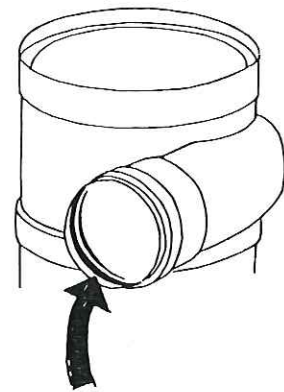
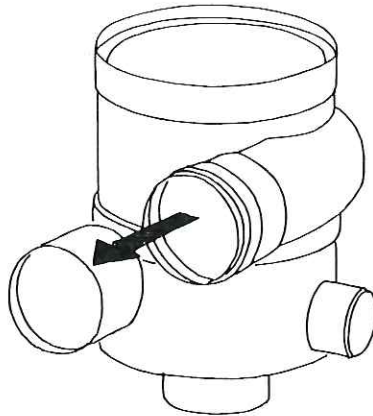
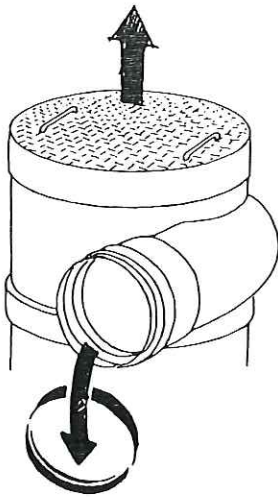
**The cover load is also valid in case of installation of an extension tube if this is an original WISY extension tube.

To consider before installation below ground

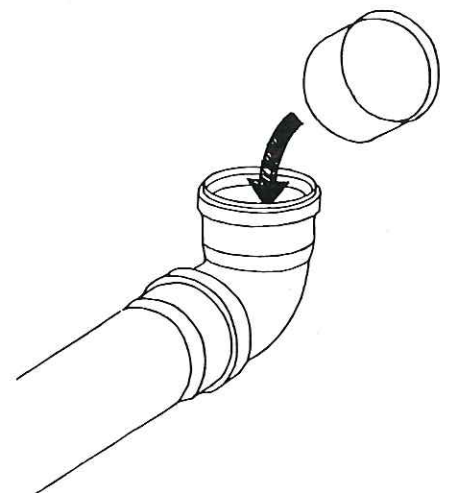
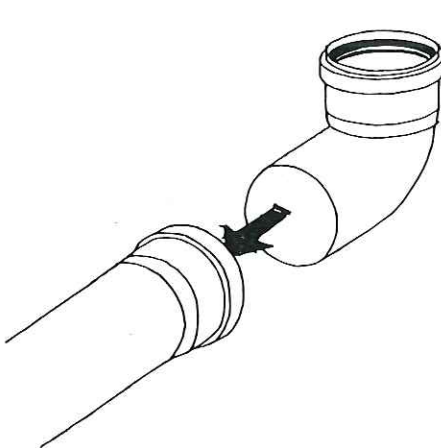
- The installation of the WFF 300 must be planned. The tube connections which are defined by the product must fit to the high of the existing or planned drain pipes. Installation and connection sizes can be seen in the following illustrations and descriptions.
- The possible installation of an extension tube to raise the inspection opening to ground level has to be considered.
- Please consider that in front of the rainwater inlet a straight DN 300 inlet tube of a length of at least 1 m (recommended 3 m) with a slope difference of 1° (up to 2° max.) is needed for to calm down the influx.
- The final ring enables to fit a paving around it. According to the expected cover load the enclosed lid might be different.
- To avoid restrictions or obstructions, the rinsing water tube to the drain should not have a smaller nominal diameter then the rainwater inlet tube.
- In case of special industrial use the retaining safety must be removed if necessary.

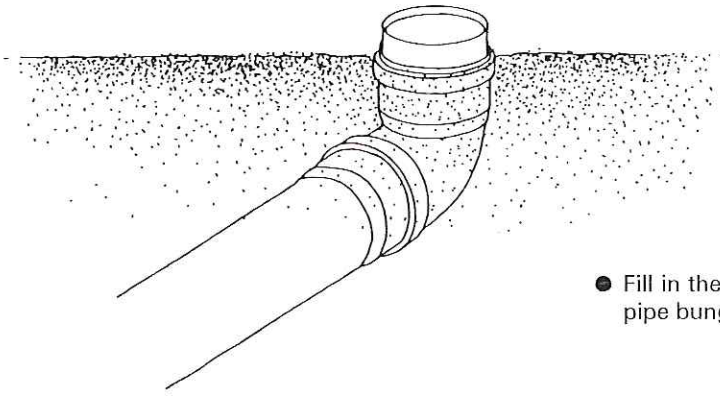
The installation in the ground

- Remove the steel or aluminium cover.
- Remove the (transport protection devices) internal packing materials.

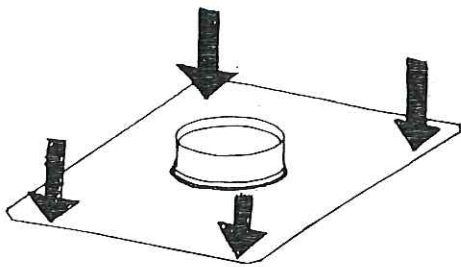


- Remove the pipe bung which is placed in the rainwater inlet. For this remove the rubber seal ring from the rainwater inlet bushing. Push the bung out from inside and then replace the rubber seal ring in the inlet bushing.
- Do not remove the lid from the pipe bung as this protects the inside of the filter when the building pit is filled in with sand.
- Insert the 90° elbow pipe into the waste pipe.
- Remove the rubber seal ring from the elbow pipe and insert the pipe bung. The bung will prevent debris from falling into the sewage pipe during the installation process.

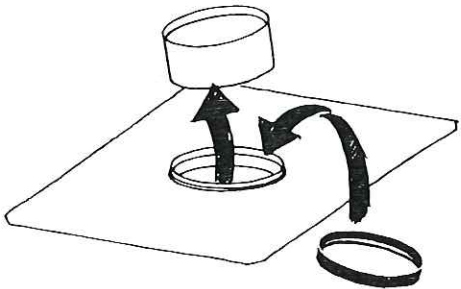




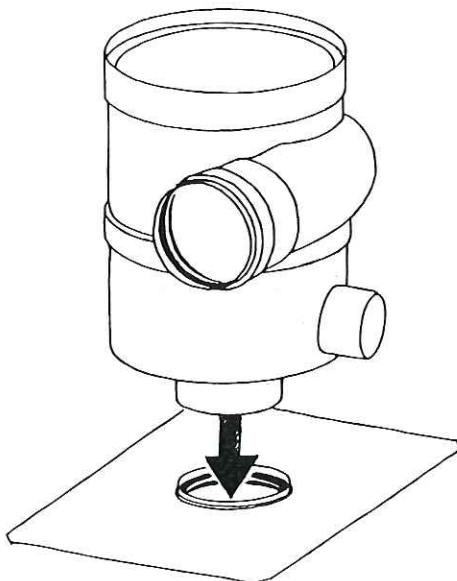
- Fill in the waste pipe trench with sand, compact and flatten it. The waste pipe bung is now visible above the sand surface.



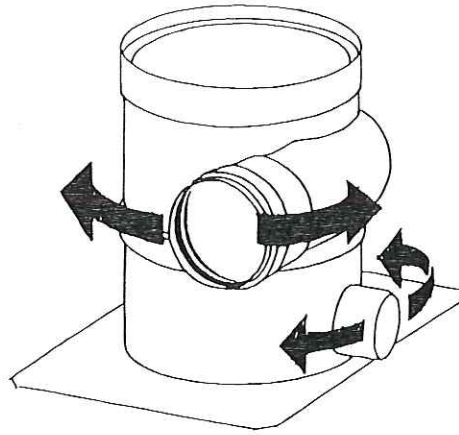
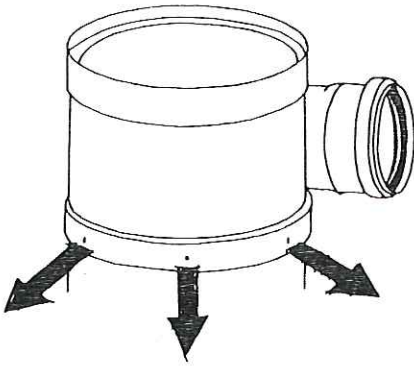
- Put the steel base plate over the sewage pipe bung and arrange it horizontally. Ensure that the base plate rests properly flat on the sand and that there are no cavities beneath it.



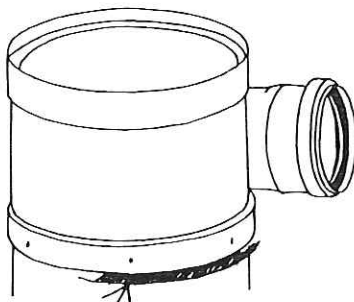
- Remove the waste pipe bung and reinsert the rubber seal ring into the bushing of the elbow pipe.



- Insert the housing of the WFF 300 into the open elbow pipe-bushing, so that all vertical pressure onto the WFF 300 housing is properly absorbed by the base plate.

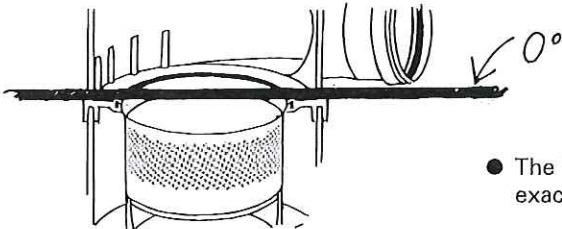


- Turn the rainwater inlet and the clean water outlet into the required directions to meet the relevant pipes. To achieve this, unscrew the retaining screws from the insert rebate of the upper housing

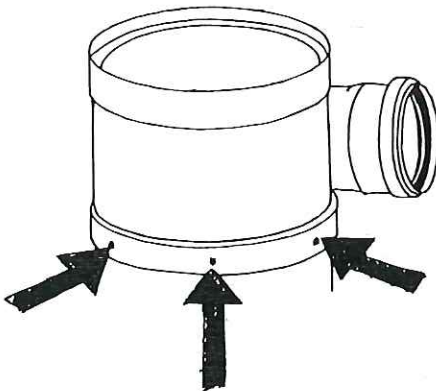


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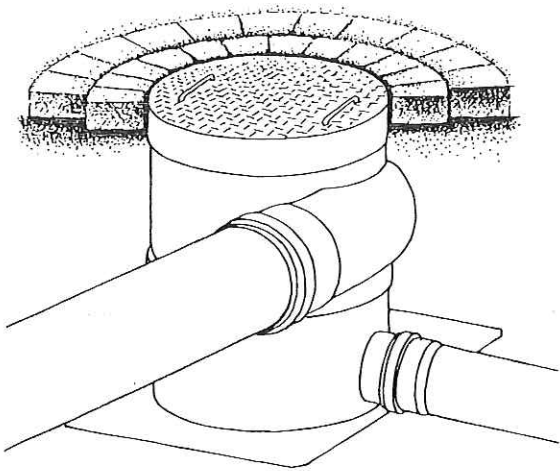
- After the adjustment of the rainwater inlet and the rinsing water outlet, the upper and the lower housing of the unit must be assembled exactly. This fits if the marked ring of the lower housing is visible to exactly the same extent all the way around the unit below the upper housing ring.



- The inlet level with rim of the filter insert and the lid must be positioned exactly horizontal.



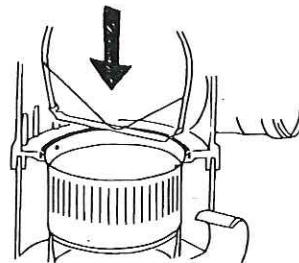
- Refit the retaining screws into the insert rebate and fix them. Then connect the rainwater inlet pipe and the clean water outlet pipe (see installation dimensioning).



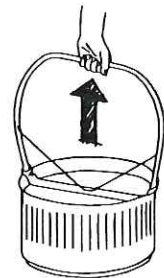
- After connecting the pipes fix the position of the filter by filling in the pit around the WFF 300 with a cover of at least 20 cm (diameter) of fine, wet backing sand. The construction of the inspection opening enables to fit a paving around without any problems.

Maintenance

- The housing of the WFF consists of non-corrosive plastic. The stainless steel filter insert is virtually self-cleaning by the flow of rinsing water over the vertical mesh. Nevertheless a thin film will build up on the mesh over a period of time by environmental influences. This film decreases the filtration efficiency and causes for the filter insert a recommended cleaning of two times per year. In unfavourable situations with highly polluted roofs cleaning may be required more frequently, perhaps even once per month.
- Removing the filter insert for cleaning:



Lower the lifting handle
on the filter insert
...turn it clockwise under
the lugs...



... and lift to remove
the insert

- For cleaning the stainless steel insert use a high pressure cleaner. Cleaning can also be done by hand with the help of a small brush and normal washing up liquid.

Accessories / additions

Extension tubes

- Extension tubes are available for the installation of WFF 300, which are positioned deeper in the ground. They raise the inspection opening to ground level. They are to insert into the final ring of the housing, which then acts as an intermediate ring. The extension tubes are equipped on top with another final ring for the insertion of the housing lid and which enables easy paving around the lid .

Lifting handle

- The lifting handle, that is supplied with the filter unit, is sufficient to lift the filter element out from a filter 50 cm (19.69 in.) below ground. For those WFF that are installed at a deeper level, longer handles are available for the respective lengths.

Guarantee

The WFF is carefully manufactured and subjected to strict quality controls. Should faults be found, we will provide a replacement. This does not apply to damage caused during incorrect installation, transport, no normal use or use of force. We give a 2 year guarantee as from the date of purchase.



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