

# Vortex-Fine-Filter WFF 150 and WFF 100

## INSTALLATION AND OPERATING INSTRUCTIONS

- For Rainwater or process water
- Self cleaning capability reduces maintenance
- Pedestrian Load Rated
- Stainless Steel Filter Screen
- Mesh sizes available:  
280 micron (standard)  
440 micron (upon request)
- Square Footage:  
WFF100: up to 2,150 ft<sup>2</sup>  
WFF150: up to 5,500 ft<sup>2</sup>
- Suitable for installation above or below ground



# WISY Vortex Fine Filter

## WFF 150 and WFF 100

Read these instructions carefully before commencing assembly and installation work and store them in a safe place for future reference.

### Content

These installation instructions include the following information relating to:

- Area of application
- Guide to components
- General installation hints
- Outdoor installation
- Indoor installation
- Cleaning the filter insert
- Accessories



# Area of application

The WISY Vortex Fine Filter (hereafter referred to as “WFF”) is primarily designed for installation below ground. However, it is also suitable for indoor installation.

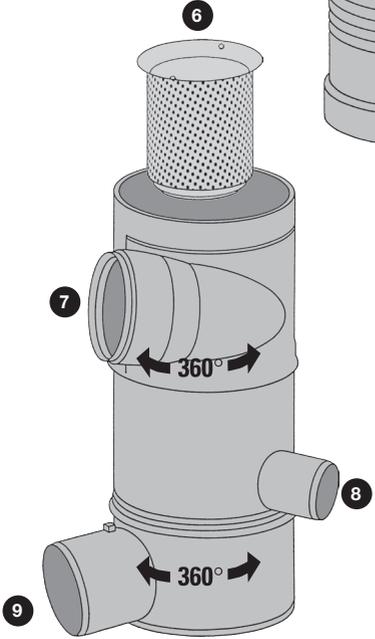
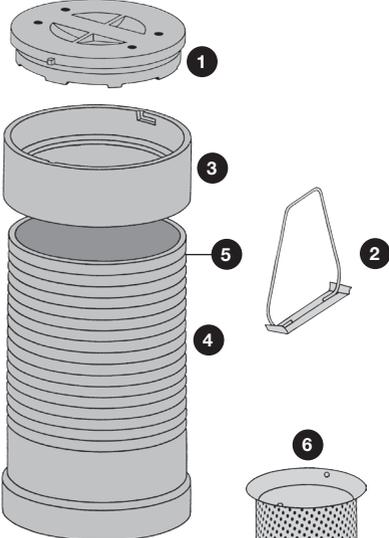
Please observe the information and warning notices pertaining to indoor installation in the section headed “Indoor installation” in these instructions.

The best roof areas are pitched roofs of slate, clay tiles, concrete tiles or membrane and sheet metal roofs.

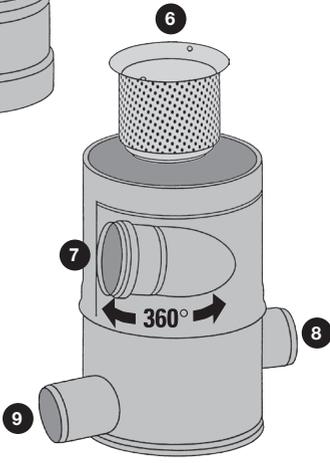
It must be taken into account that “green roofs” retain rainwater. We recommend that a pure, mineral-based substrate is installed beneath the growing medium layer of green roofs connected to a rainwater harvesting system. Substances washed out of roofs covered with bitumen felt can discolour the harvested rainwater. Asbestos-cement roofs are not suitable and must be decontaminated before a rainwater harvesting system is connected.

# Guide to components

*Extension tube  
for WFF 150 and  
WFF 100*



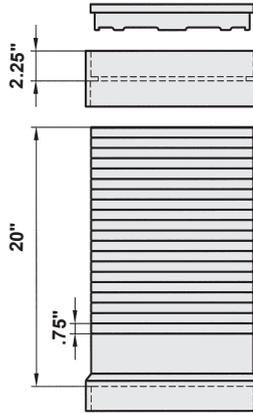
**WFF 150**



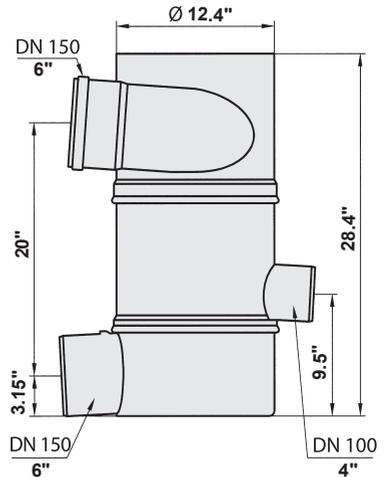
**WFF 100**

- 1 Housing cover**  
*with ventilation holes*
- 2 Lifting handle**  
*(standard length 30 cm)  
of stainless steel*
- 3 Final ring**  
*to support cover*
- 4 Extension tube**
- 5 Parallel cutting lines**
- 6 Filter insert**  
*of stainless steel,  
- for fine filtering, mesh  
size 280 micron (0.28 mm)  
or 440 micron (0.44 mm)*
- 7 Rainwater inlet**  
*with bush and seal*
- 8 Outlet to storage tank**  
*Filtered water*
- 9 Drain connection**  
*Dirty water*

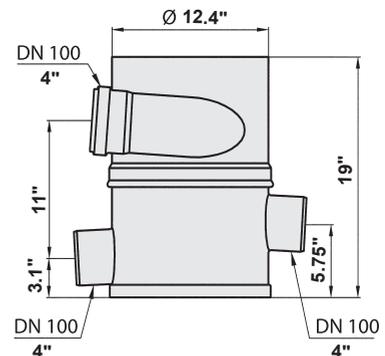
## Extension tube



## WFF 150



## WFF 100



*The filter insert is made of stainless steel.*

*Housing, housing cover and extension tube are made of polypropylene.*

DN= Diameter Nominal, internal diameter of a tube

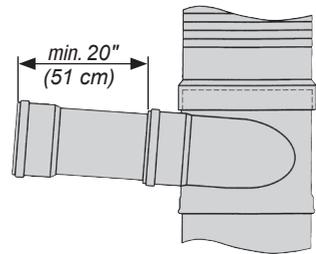
# General installation hints

- Installation and connection sizes can be seen in the dimension drawings. When the inspection opening is raised by use of an extension tube, the additional length must be included in the calculation.
- When an extension tube is installed, it can be cut along the grooves to shorten it to the required length.  
**IMPORTANT: The final ring (at top) must be firmly bolted to the extension tube in order to provide secure support for the cover.**

- Before installing the filter in existing pipework, make sure that there is room to install the rainwater inlet tube at the following vertical distance from the drain connection:  
**WFF 150: 20" (51 cm)**  
**WFF 100: 11" (28 cm)**

● The vertical distance between the rainwater inlet tube and the connection to the storage tank must be:  
**WFF 150: 12.5" (32 cm)**  
**WFF 100: 8.5" (22 cm)**

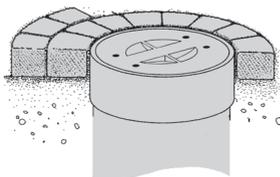
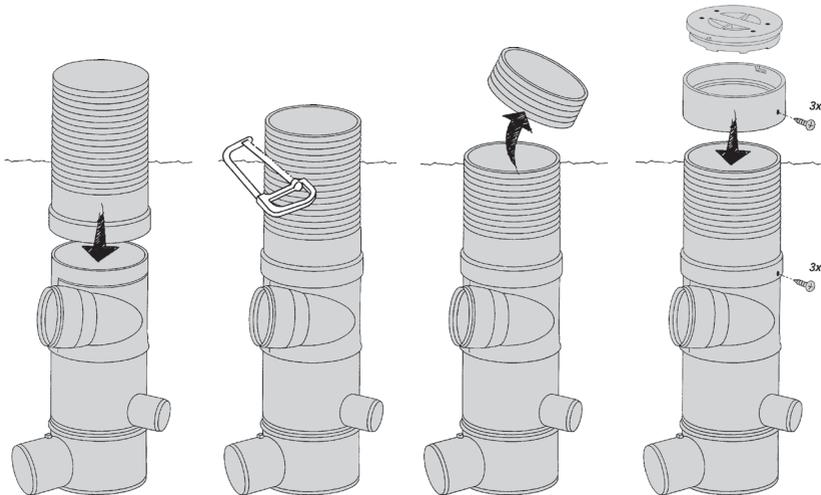
- If the installation is completely new, the required installation depths of incoming and outgoing tubes must be calculated. A '**set-tling length**' of at least 20" (51 cm) in front of the rainwater inlet must be included in the calculation.



- The nominal size of the drain tube must not be smaller than the nominal size of the rainwater inlet tube in order to avoid any constriction to the WFF cross-section.
- If these installation conditions cannot be fulfilled, the WFF cannot be installed. In this case we recommend the WISY standpipe filter collector for installing into the rainwater downpipe.
- To ensure that the WFF can withstand the pedestrian load rating, appropriately compacted subsoil or concrete slab is required.

# Outdoor installation

- Remove the transport packing cardboard from inside the housing.
- Dig a hole of suitable size in the ground.
- Insert the WFF and make the tube connections. Turn the rainwater inlet connection to the required position for this.  
***The WFF must be installed exactly vertical and level (use a spirit level).*** An extension tube can be installed if necessary to make the inspection opening flush with ground level.
- The end of the extension tube with the moulded collar is placed directly on the WFF housing and fastened securely by inserting the stainless steel bolts supplied through the pre-drilled holes before the WFF is placed in the ground.
- The saw slits in the extension tube can be cut (with a jig saw) to make the inspection opening flush with ground level.



*The final ring enables the paving to be fitted. To remove the cover resting inside the ring, turn it counterclockwise to unlock and then lift out.*

# Indoor installation

- Please observe the **safety guidelines** below regarding the indoor installation of the WFF.
- The **maximum rainwater inflow** must not exceed 203 gpm (12.8 l/s) for the WFF 150 or 67 gpm (4.2 l/s) for the WFF 100. Use the local rainwater data applicable to your area as a basis for calculating the maximum size of connectable collection surface for your region.
- If the WFF rinsing water outlet is connected to a storm drain, the WFF must always be installed above the **maximum backwash level** of the storm drain. If the WFF rinsing water outlet is connected to a soakaway, the WFF must always be installed above the maximum backwash level of the soakaway.
- The WFF must be installed **exactly vertical, stable, and level**. For this reason, it is strongly recommended that the WFF be mounted using the original WISY wall bracket. If other parts are used to secure the WFF, it must be ensured that clamps placed around the WFF housing are installed free of tension and do not subject the WFF housing to deformation pressure.
- The straight tube in front of the rainwater inlet (**'settling length'** in order to calm down the incoming water) must have a minimum length of 20" (50 cm). The nominal size and the gradient of this straight tube have to correspond to the nominal size and gradient of the WFF rainwater inlet.
- All **tube connections** to WFF must be made watertight. After installation, the tightness of the connections should be tested with maximum water flow. As the inflow of rainwater can cause impulses of mechanical stress on the connections, the tube connections have to be secured against slippage (e.g. Fernco rubber couplings are recommended).

- Air moisture can condense on the surfaces of the WFF and the tubes at warm indoor temperatures. It is recommended that these parts be insulated against condensation or alternatively that measures be taken to safely drain off the condensate.

- Depending on the size of the connected collection surface and on specific attributes of individual installations, an excessive volume of rainwater can flow into the filter in the event of extremely heavy rainfall. As a result, rainwater might flow upwards against the WFF cover and escape through the cover.

***If this problem occurs, it is urgently recommended that the housing cover be raised through the installation of a WISY extension tube which is sealed water-tight.*** If there is insufficient space available above the WFF, the vent holes in the cover must be sealed and the cover must be assembled with a water-tight seal.

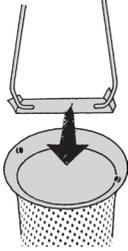
**WARNING NOTICE:**

***The vortex fine filter is not a closed system. In the event of exceptionally heavy rainfall, a defect in the drainage pipes, a blockage in the drainage system, etc., it is possible that water flowing into the filter will escape through the filter inspection opening. We do not accept responsibility for any consequential damage.***



# Cleaning the filter insert

- Remove the filter insert using the lifting handle supplied (standard length 12" (30 cm)).



*Set down the  
lifting handle ...*



*... turn clockwise  
under the lugs ...*



*... and remove*

- We recommend that the filter insert be cleaned every three months. Depending on local conditions, it may be necessary to clean the filter insert at shorter intervals, but it may also be possible to extend the cleaning interval to six months. However, the filter insert must always be cleaned at intervals of six months.
- After cleaning the filter insert, make sure that you remove the lifting handle and store it in a safe place outside the filter. The handle will otherwise obstruct the rainwater inflow and reduce the efficiency of the filter.

**Experience has shown that cleaning in a dishwasher is always successful, provided that the filter insert is placed in the same position in the dishwasher as it is in the WFF. Cleaning by hand is also possible with a small brush, hot water and a normal dishwashing liquid. For stubborn soiling of the filter mesh (e.g. through industrial pollution in the neighborhood) we recommend the use of a high-pressure cleaner.**

# Accessories

## ● Extension tube

The scope of supply of the standard version includes an extension tube. An extension tube is available to raise the inspection opening by up to 22" (56 cm) (top edge of final ring). Another tube can easily be attached, but no more than two tubes should be assembled above each other.

## ● Lifting handle

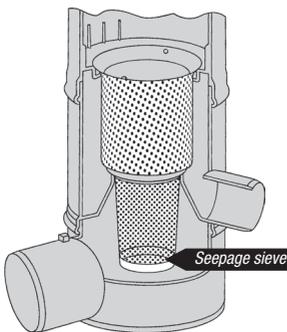
The lifting handle supplied with the standard version is 12" (30 cm) in length. Lifting handles of 24" (60 cm) or 39" (1 m) in length are also available.

## ● Wall bracket

WISY provide a stainless steel wall bracket for internal roof drainage pipes in industrial buildings, or for fixing in shafts. This bracket allows the WFF to be safely secured to a vertical internal wall.

## ● Concrete rainwater storage tanks

A suitable concrete support must be provided to ensure the 5 t load capacity of the filter.



## ● Soakaway sieve (maintenance part)

If the rinsing water is to be drained into a soakaway system instead of the storm drain, this sieve (mesh size 1,600 micron (1.6 mm)) is added to the filter insert. It collects coarse dirt particles and as a result it must be inspected, emptied and cleaned more often.

**If this essential maintenance is not carried out and water damage occurs as a result of a blocked seepage sieve, we cannot accept any liability.**

## ● Blind insert

The blind insert ensures that rainwater flows directly through to the drain. It is inserted in place of the filter insert whenever the storage tank needs to be put out of operation for the purpose of maintenance or cleaning work.



## Guarantee

The WFF is carefully manufactured and is subjected to strict quality controls designed to ensure that you receive a premium-quality product.

If defects do arise despite this conscientious quality testing regime, then we will provide you with a replacement. However, this does not apply in cases of damage arising from improper installation or use of force.

The product has been purchased from RMS, a specialist retailer authorized by WISY. RMS provides a 5 year guarantee from the date of purchase from the retailer. RMS will replace defective materials within this period.



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