



# Vortex-Fine-Filter WFF 150 and WFF 100



## INSTALLATION AND OPERATING INSTRUCTIONS

- For Rainwater or process water
- Self cleaning capability reduces maintenance
- Vehicle load-carrying capacity up to 30 t  
Standard vehicles



 made  
 in  
 Germany

**WISY**  
**Rainwater Harvesting**

# 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.

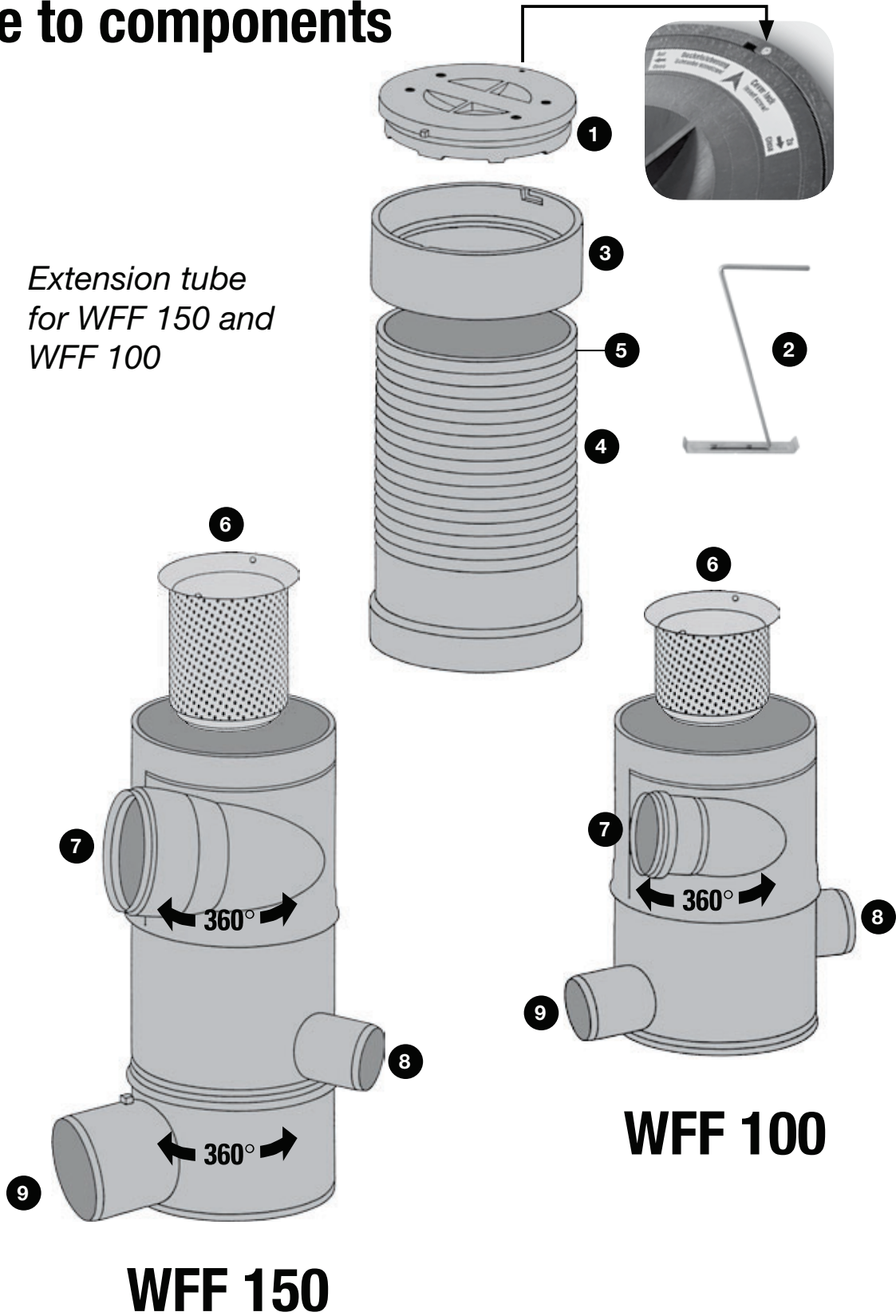
The best surfaces areas are pitched roofs of slate, clay tiles, concrete tiles or foil and sheet metal roofs.

In the case of green roofs, the retention and possible discolouration of rainwater must be taken into account. For this reason we recommend, that when connecting green roof areas to rainwater utilisation systems, the use of substrates that meet the increased demands on the cleanliness of the rainwater run-off. In bitumen roofs, tar and carbon leaching can discolour the water.

Asbestos-cement roofs are unsuitable and must be renovated before before connecting them to rainwater harvesting systems.

# Guide to components

*Extension tube  
for WFF 150 and  
WFF 100*



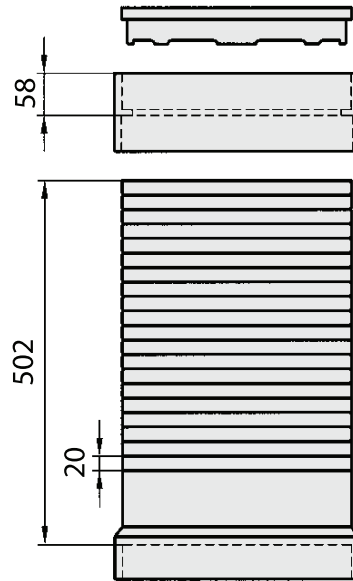
- 1 Housing cover**  
*with safety screw and Vent holes*
- 2 Lifting handle**  
*(standard length 30 cm)  
of stainless steel*
- 3 Final ring**  
*to support cover*
- 4 Extension tube**
- 5 Parallel cutting lines**  
*for shortening the extension  
tube to the the required length*
- 6 Filter insert**  
*of stainless steel,  
- for fine filtering, mesh  
size 0.28 mm, for coarse  
filtration meshsize 0.44 mm*
- 7 Rainwater inlet**  
*with socket and gasket*
- 8 Outlet to storage tank**  
*Filtered water*
- 9 Drain connection**  
*for infiltration or sewer*

*The filter insert is made of stainless steel.*

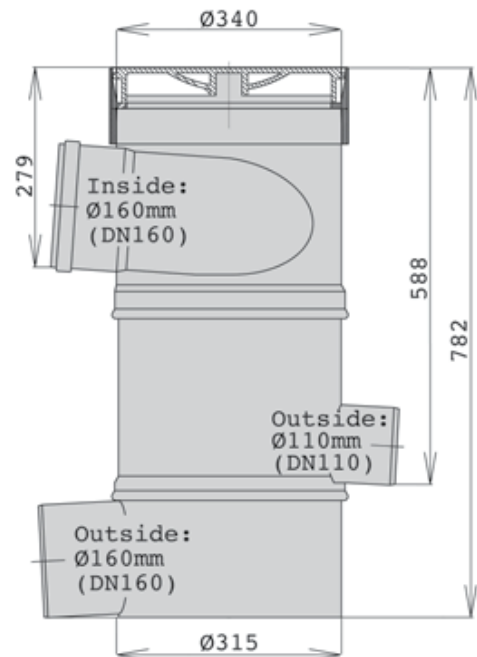
*Housing, housing cover and extension tube are made of polypropylene.*

DN= Diameter Nominal

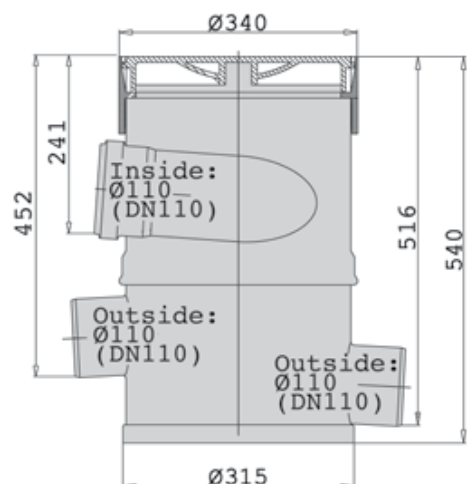
## Extension tube



## WFF 150



## WFF 100



# 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.

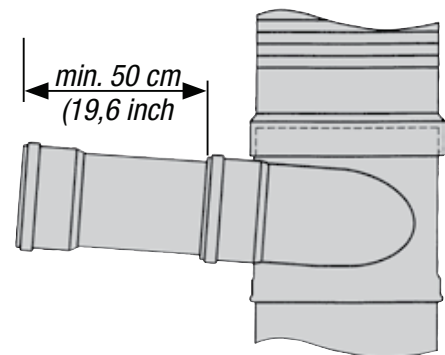
- The extension tube can be shortened to the required length along the saw grooves.

**IMPORTANT: The extension tube and the end ring are to be connected by the supplied screws to ensure a proper connection. After closing the housing cover insert the safety screw by hand!**

- 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: 50 cm (19,6 inch)**  
**WFF 100: 27 cm (10,6 inch)**

- The vertical distance between the rainwater inlet tube and the connection to the storage tank must be: **WFF 150: 34 cm (12,4 inch)**  
**WFF 100: 21 cm (8,3 inch)**

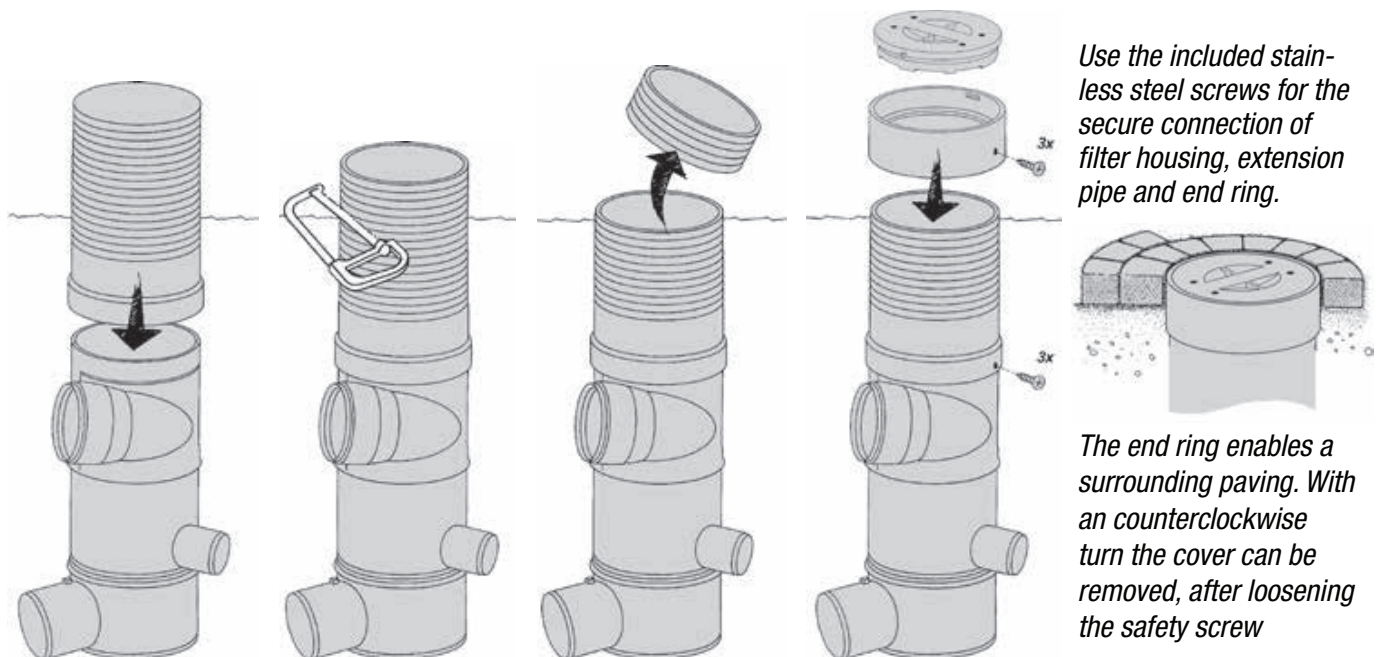
- If the installation is completely new, the required installation depths of incoming and outgoing tubes must be calculated. A **'settling length'** of at least 50 cm in front of the rainwater inlet must be included in the calculation.



- The diameter of the drain tube must not be smaller than the diameter of the rainwater inlet tube in order to avoid any constriction to the WFF cross-section.
- If these installation conditions cannot be met, the WFF cannot be installed. In this case we recommend the WISY standpipe filter collector for installation in the downpipe or the WISY LineAr-Filter 100 for installation in the cistern.
- To ensure that the WFF can withstand the weight of vehicles of up to 30 t (according to ATV test) an appropriately compacted subsoil or concrete slab is required. If the installation is too deep or the load is too high, the WFF must be placed in a concrete shaft.

# Outdoor installation

- Remove the safety screw
- Remove the transport packing cardboard from inside the housing.
- Dig a hole of suitable size in the ground. Compress the soil under the filter.
- Insert WFF, align connections and connect pipes.  
Important: the required slope of the pipes is given by the Rainwater Inlet and must be observed. Install the WFF housing exactly vertically. If necessary, an extension tube can be used 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 screws supplied through the pre-drilled holes before the WFF is placed in the ground.
- The saw slits in the extension tube can be cut to make the inspection opening flush with ground level.



- The vortex filter is not a closed system, it must not be flooded for a longer period of time. In loamy soil, provide drainage underneath the filter, or seal the joints of the filter housing from the outside with a suitable sealant before installation. In case of non-observance seepage water may enter the filter from the outside.

# Indoor installation

- Please observe the **safety guidelines** below regarding the indoor installation of the WFF.
- The **maximum rainwater inflow** must not exceed 12.8 l/s for the WFF 150 or 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 and stable**. 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 0.5 m. 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** of the 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. by clips).
- The filter insert may only be operated without the infiltration sieve. The lifting handle must never remain on the filter insert.
- 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:**

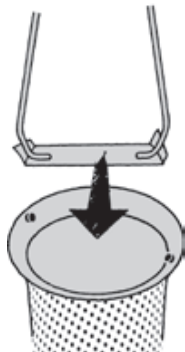
***The vortex fine filter is not a closed system. In the event of exceptionally heavy rainfall, a defect in the drainage pipes, a blockage in the drainage system, etc., it is possible that water flowing into the filter will escape through the filter inspection opening. We do not accept responsibility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

# Cleaning the filter insert

- After loosening the safety screw, turn the housing cover counter-clockwise and remove it.

**Danger notice: Do not leave the open inspection opening unattended to prevent objects, animals or small children from falling in, otherwise damage or injuries cannot be ruled out.**

- Remove the filter insert using the lifting handle supplied (standard length 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.
- 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.
- Cleaning the filter insert in the dishwasher is very effective. Remove the deposits on the stainless steel mesh with a brush, warm water and a little washing liquid. Place the filter in the same position in the dishwasher as it is in the WFF. For stubborn deposits in the stainless steel mesh or during longer maintenance intervals, a high-pressure cleaner can be used. It is essential to observe the warnings for working with the high-pressure cleaner! Proceed with caution, the distance between the nozzle and the filter fabric should be approx. 0.5 m to avoid damage to the filter fabric.
- Insert housing cover, lock clockwise and screw in the safety screw by hand. Check the locking function.

# 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 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

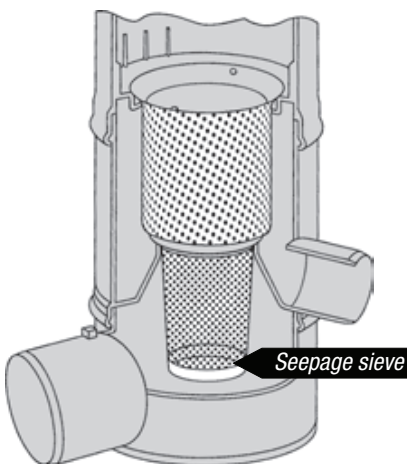
The lifting handle supplied with the standard version is 30 cm in length. Lifting handles of 60 cm or 1 m in length are also available.

## ● 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

WISY supplies a stainless steel wall bracket for attaching the WFF to concrete rainwater storage tanks. A suitable concrete support must be provided to ensure the vehicle loading 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 1.6 mm) is added to the filter insert. It collects coarse dirt particles and as a result it must be inspected, emptied and cleaned regularly.

**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.



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