RMS
RAINWATER MANAGEMENT SOLUTIONS

Vortex-Filter
WFF 100 & WFF 150

Installation, Operation, and Maintenance Manual

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

Content

WFF 100

WFF 150

1. 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 5. headed "Indoor installation" in these instructions.

The best surface 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 discoloration of rainwater must be taken into account. For this reason we recommend that when connecting green roof areas to rainwater utilization 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 discolor the water.

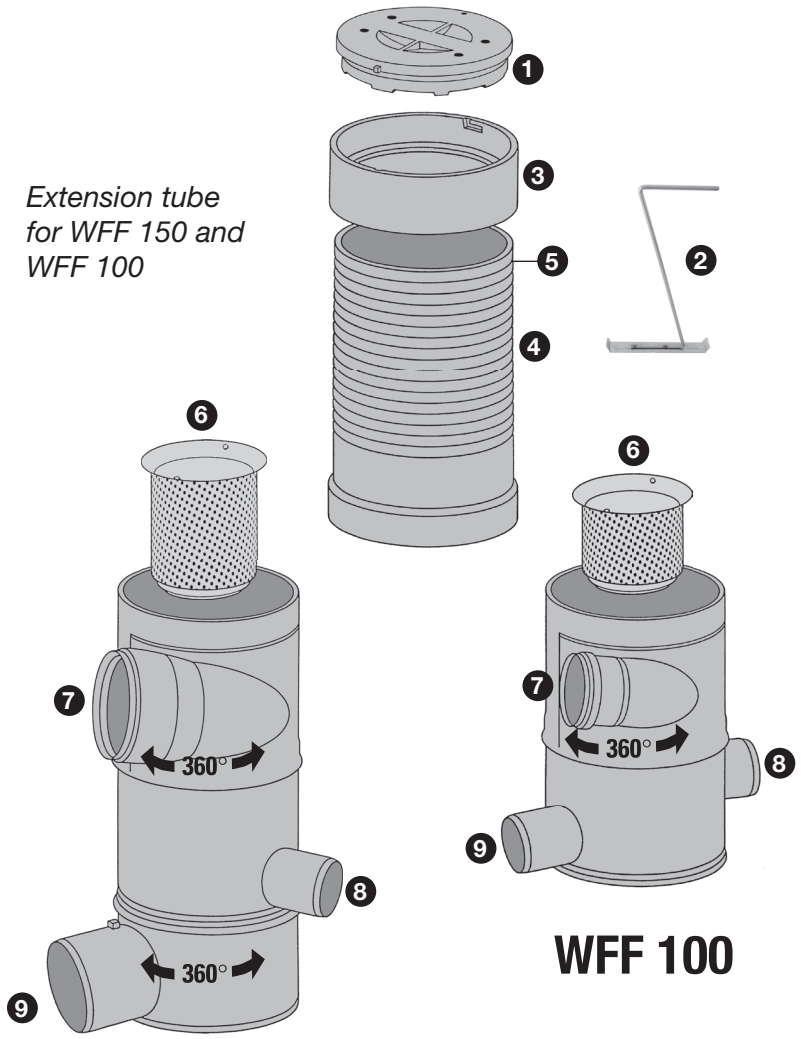
Asbestos-cement roofs are unsuitable and must be renovated before connecting them to rainwater harvesting systems.

The maximum possible inflow into the WFF is identical to the maximum capacity of the pipework.

These values can be used to determine the connectable roof area along with the local precipitation values. Guide values for the connectable roof area are:

Temperate Regions:		**Tropical regions:**	
WFF 150	5,500 sq ft	WFF 150	2,700 sq ft
WFF 100	2100 sq ft	WFF 100	1,000 sq ft

2. Guide to components



WFF 150

WFF 100

1 Housing cover (WN 1002) *with vent holes*

2 Lifting handle (WA 0301) *(standard length 11.8")*
of stainless steel

3 Final ring (ZW 1000) *to support cover*

4 Extension tube (WV 1010)

5 Parallel cutting lines *for shortening the extension tube to the required length*

6 Filter insert (15801) *of stainless steel,*
- *for fine filtration, mesh size 280 microns*
- *for coarse filtration, mesh size 440 microns*

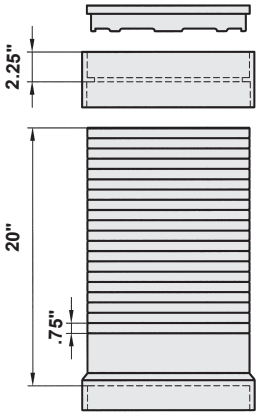
7 Rainwater inlet *with socket and gasket*

8 Outlet to storage tank *filtered water*

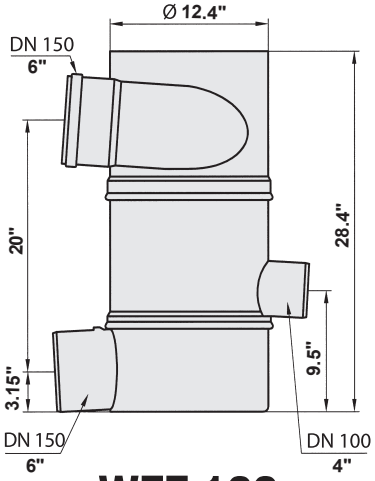
9 Drain connection *for infiltration or sewer*

The filter insert is made of stainless steel.
Housing, housing cover and extension tube are made of polypropylene.

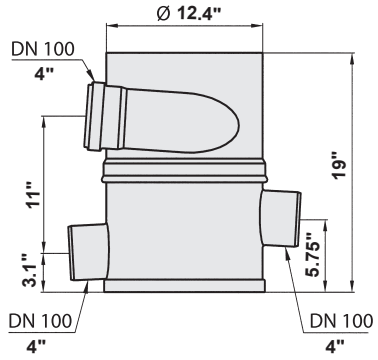
Extension tube



WFF 150



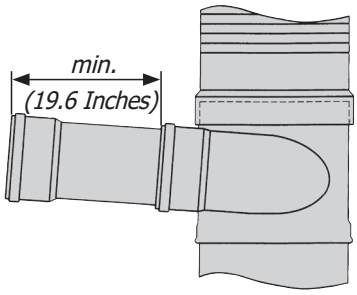
WFF 100



DN= Diameter Nominal, internal diameter of a tube

3. General installation hints

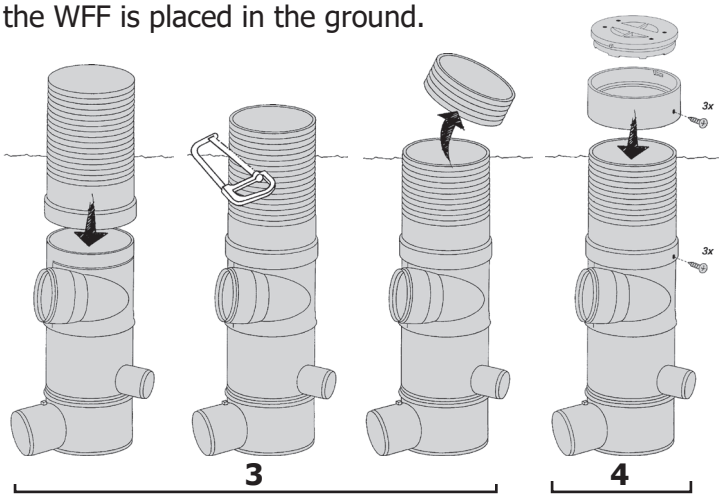
- Installation and connection sizes can be seen in the dimension drawings. The inspection opening can be raised with max. two extension tubes.
- The extension tube can be shortened to the required length along the saw grooves. ***IMPORTANT: The extension tube and the end ring are to be connected by the supplied stainless steel screws to ensure a proper connection.***
- 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: 19.6 inches*** ***WFF 100: 10.6 inches***



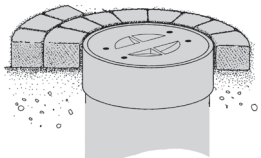
- The vertical distance between the rainwater inlet tube and the connection to the storage tank must be: ***WFF 150: 12.2 inches*** ***WFF 100: 8.3 inches***
- If the installation is completely new, the required installation depths of incoming and outgoing tubes must be calculated. A ***"settling length"*** of at least 19.6" 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 30t 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.

4. Outdoor installation

1. Remove the transport packing cardboard from inside the housing. 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.
2. Dig a hole of suitable size in the ground. Compress the soil under the filter.
3. Insert WFF, align connections and connect pipes. The saw slits in the extension tube can be cut to make the inspection opening flush with ground level.
   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.
4. 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.



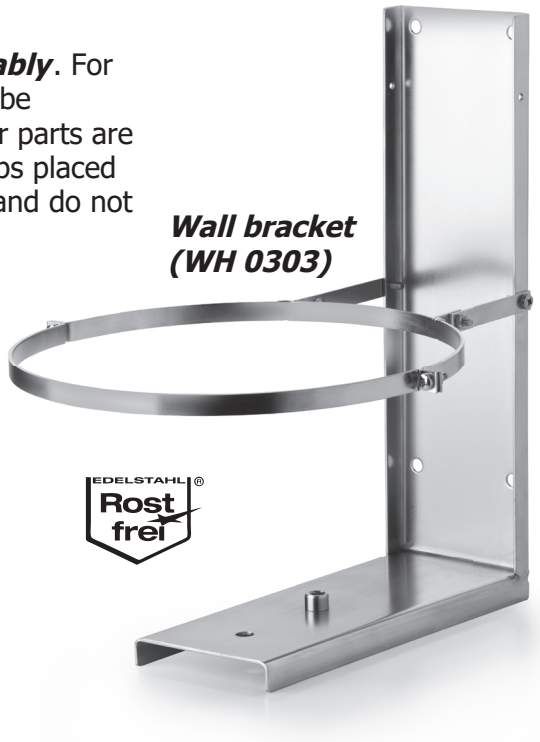
Use the included stainless steel screws for the secure connection of filter housing, extension pipe and end ring.



The end ring enables a surrounding paving. With an counterclockwise turn, the cover can be removed.

5. 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.
- 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 stably***. 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.



Wall bracket (WH 0303)

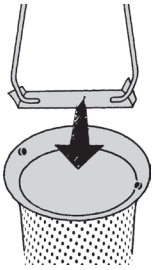
- The straight tube in front of the rainwater inlet (***'settling length'*** in order to calm down the incoming water) must have a minimum length of 19.6". The nominal size and the gradient of this straight tube have to correspond to the nominal size and gradient of the WFF rainwater inlet.
- All ***tube 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 indoors may only be operated without the infiltration sieve. The lifting handle must never remain inside the filter.
- Air humidity 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 watertight.
  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 watertight seal.

WARNING NOTICE:

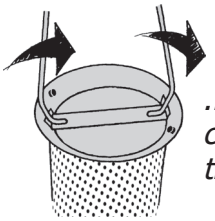
The vortex fine filter is not a closed system. In the event of exceptionally heavy rainfall, a defect in the drainage pipes, a blockage in the drainage system, etc., it is possible that water flowing into the filter will escape through the filter inspection opening. Therefore, a floor drain in the installation room is mandatory.

6. Cleaning the filter insert

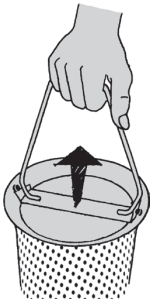
- Turn the housing cover counterclockwise and remove it.
  Danger notice: Do not leave the open inspection opening unattended to prevent objects, animals or small children from falling in, in order to prevent serious damage or injury.
- Remove the filter insert using the lifting handle supplied (standard length 11.8").



Set down the lifting handle ...



... turn it clockwise under the lugs, ...

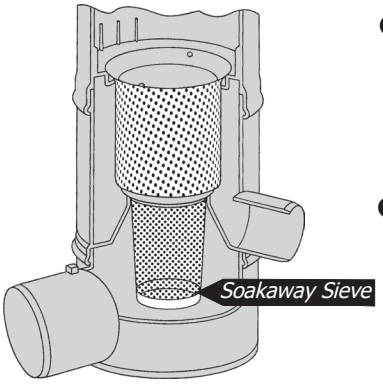


... and remove the fi lter insert.

- We recommend to clean the filter insert regularly.
- Cleaning the filter insert in the dishwasher is very effective. 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. Proceed with caution, the distance between the nozzle and the filter fabric should be approx. 20" to avoid damage to the filter fabric.
- 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 infl ow and reduce the efficiency of the filter.
- Insert housing cover and lock it clockwise.

7. Accessories

- **Extension tube (WV 1010)**
  An extension tube is available to raise the inspection opening by up to 22" (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 (WA 0301)**
  The lifting handle supplied with the standard version is 11.8" in length. Lifting handles of 2 feet and 3.25 feet in length are also available.
- **Wall bracket for flat wall (WH 0303)**
  A stainless steel wall bracket is available to mount the WFF to a wall or to fix it inside a shaft. Please be aware that the filter on a wall bracket cannot carry any load.
- **Wall bracket for curved wall (WH 0400)**
  WISY supplies a stainless steel wall bracket for attaching the WFF to concrete rainwater storage tanks. Additional measures must be taken to ensure the load rating of the filter.



- **Soakaway sieve (maintenance part) (VS 0304)**
  If the rinsing water is to be drained into a soakaway system instead of the storm drain, this sieve (mesh size 3,000 microns) is added to the filter insert. It collects coarse dirt particles and as a result it must be inspected, emptied and cleaned regularly.
- **Blind insert (15802)**
  The blind insert ensures that rainwater flows directly to the drain. It is inserted instead 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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