



WFF 150 Vortex Filter

Operation & Maintenance

Overview

The Wisy WFF 150 Vortex Filter harvests up to 95% of the rooftop rainwater runoff from a roof area up to 5,500 sq.ft. Particulate is separated and diverted from the rainwater through the vortex action to protect the harvested water quality prior to entering the storage tank (cistern). The WFF 150 Vortex Filter can be used in above or below ground installations where multiple downspouts are connected

to a single trunk line. The trunk line feeds into to the centrally located Vortex Filter.

Components (see page 4 for illustration)

Housing: polypropylene

Lid: polypropylene

Filter insert: stainless steel 280 micron pore size

Handle: stainless steel 12' standard

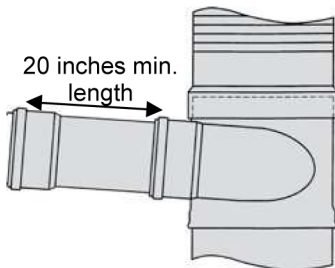
Extension (for below ground installation only): polypropylene

Mounting bracket (for above ground installation only): stainless steel (*sold separately*)

Installation

Above ground: Connect and divert all downspouts to a 6" trunk line to the vortex filter. Use 1/8" fall per linear foot of piping to ensure gravitational flow to the filter.

Securely attach mounting bracket to a solid, level wall area. Arrange provided hardware as shown in the picture. Align the hole on the bottom of the vortex filter with the bolt on the bottom of the mounting bracket. Attach bracket around vortex filter, ensuring filter is level.



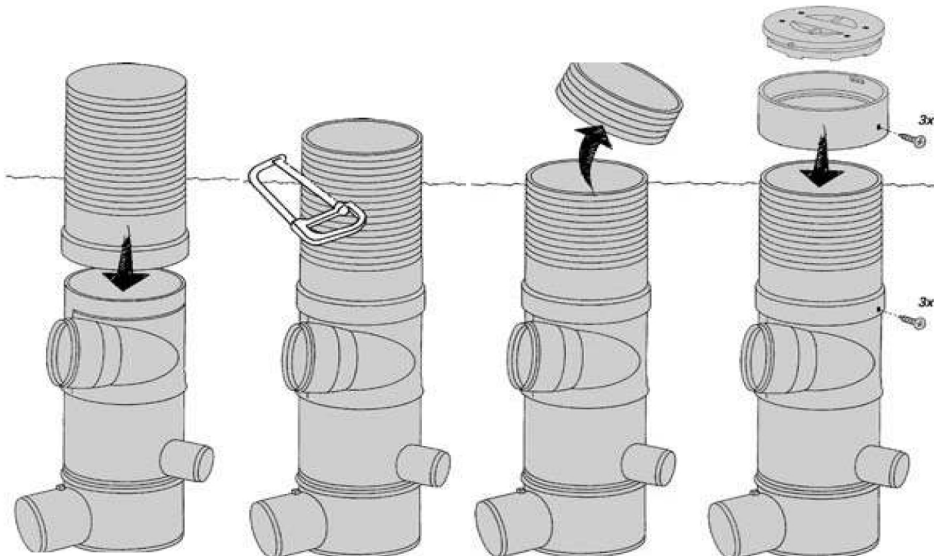
Connect 6" thin wall sewer and drain (S&D) piping* to the inlet of the filter. Plumbing lubrication may be necessary to insert the S&D pipe into the intake gasket of the filter. Ensure there is at least 20 inches of flat pipe to calm water before entering the filter. Failure to do so will decrease filter efficiency. Wisy filters are made in Germany, thus the filter connections are in millimeters and require a ferncoat fitting (not included, but available from RMS) to make the 4" connection to the tank. Connect the rubber ferncoat fitting to the 4" outlet to tank to ensure proper fitting of 4" thin wall sewer and drain pipe to filter. Connect the bell end of a 6" thin

wall S&D pipe over the stormwater outlet or use a 6" ferncoat fitting to connect the pipe. Make remaining connections to the tank and to storm drain area, preferably a pervious area on-site.

Below ground: Connect and divert all downspouts to the vortex filter in 6" pipe. Determine location of vortex filter to ensure gravitational flow will occur from piping to filter and finally to the tank.

Create a level and stable platform for which the filter can sit. A level concrete stepping stone is a recommended option. Connect 6" thin wall sewer and drain (S&D) piping* to the inlet of the filter. Plumbing lubrication may be necessary to insert the S&D pipe into the intake gasket of the filter. Ensure there is at least 20 inches of flat pipe to calm water before entering the filter. Failure to do so will decrease filter efficiency. Wisy filters are made in Germany, thus the filter connections are in millimeters and require a ferncoat fitting (not included, but available from RMS) to make the 4" connection to the tank. Connect the rubber ferncoat fitting to the 4" outlet to tank to ensure proper fitting of 4" thin wall sewer and drain pipe to filter. Connect the bell end of a 6" thin wall S&D pipe over the stormwater outlet or use a 6" ferncoat fitting to connect the pipe. Make remaining connections to the tank and to storm drain area, preferably a pervious area on-site.

Use the provided polyethylene extension to bring the filter lid to just above grade to prevent surface water from entering. Trim off excess with a hand saw. Screw lid on to the extension with the provided stainless steel screws. For deeper depths, a maximum of three (3) extensions can be used.



Note: ensure lid is never obstructed or buried. Access is necessary for maintenance.

Note: vortex filter inlet and outlets rotate to fit installation needs.

Notes: longer filter handles are available from RMS for deeper installations.

Inside Installation: Inside warm rooms, **condensation** from moist air may appear on the surfaces of the WFF. Insulate these parts against condensation or provide a safe method for drainage of the condensation.

In some installations, extremely heavy rainfall may cause some rainwater to whirl upwards against the WFF lid and splash out. **To prevent this, the WISY-extension tube should be installed and sealed watertight.** If space above the vortex filters is limited, the air-holes in the lid should be sealed water-tight and the lid itself should be mounted with a waterproofed sealing and should be fixed with sideward screws to the housing of the WFF.

Safety Tips for Inside Installation: The following **safety tips** should be followed when installing the medium capacity vortex filter (WFF150, Jay R Smith RH9520-06) inside buildings.

The **maximum rainwater flow rate** into the WFF150 must not be higher than 202 gpm (0.45 cfs). The maximum collection area that can be directed to the filter must be calculated based on local rainfall data and the design requirements for the roof drainage system.

The system must be designed to prevent water from backing up into the vortex filter. If the outlet of the rinsing water from the vortex filter (the lower outlet pipe) is connected to a storm sewer system, the vortex filter must be installed above the **maximum water level** of the storm sewer. If the outlet of the rinsing water of the vortex filter is connected to an infiltration system, the vortex filter must be installed above the **maximum water level** of the infiltration system. If a backflow prevention device is installed downstream of the vortex filter, an overflow must be provided between the vortex filter and the backflow prevention device to prevent a backup of water into the vortex filter.

The vortex filter should be installed **exactly vertical and securely**. The vortex filter should be mounted with the original WISY-Wall bracket. If other parts are used to mount the vortex filter, clamps, which surround the WFF-housing, must be installed free of tension and must not distort the WFF-housing.

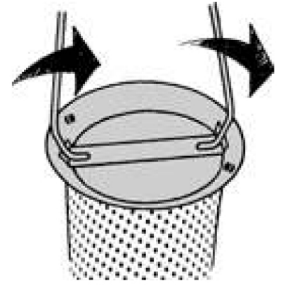
Straight pipe with a minimum length of 0.5 m (20") must be installed upstream of the filter inlet. This section of a pipe is a **'settling length'** and serves to calm down the incoming water. The nominal size and the slope of this straight pipe must match the nominal size and slope of the WFF-rainwater inlet.

All **pipe connections** to the WFF must be watertight. After installation, the water-tightness of the connections should be tested with maximum water flow. Because the entering rainwater can cause impulses of mechanical stress on the connections, the pipe connections have to be protected from slipping (e.g. by clamps). In addition, the filtered water outlet (4") should have a 90 degree pipe bend installed to create a vertical drop adjacent to the filter.

Maintenance

Inspect stainless steel filter insert every six months. If needed, remove filter with included handle and wash with a garden hose or in a dishwasher. The stainless steel filter insert will never need replacing, if maintained as directed.

New construction: check filter more often as building material debris may accumulate in the filter.



* If S&D pipe is not available, schedule 40 pipe can be used with a ferncoat. If schedule 40 pipe is used for the filter inlet, the gasket must be removed to allow water to flow smoothly into the filter.



WFF 150 Vortex Filter Components



Housing lid



Upper lid



**Extension tube
(for below ground application)**



Stainless steel filter lifting handle



Stainless steel filter insert

