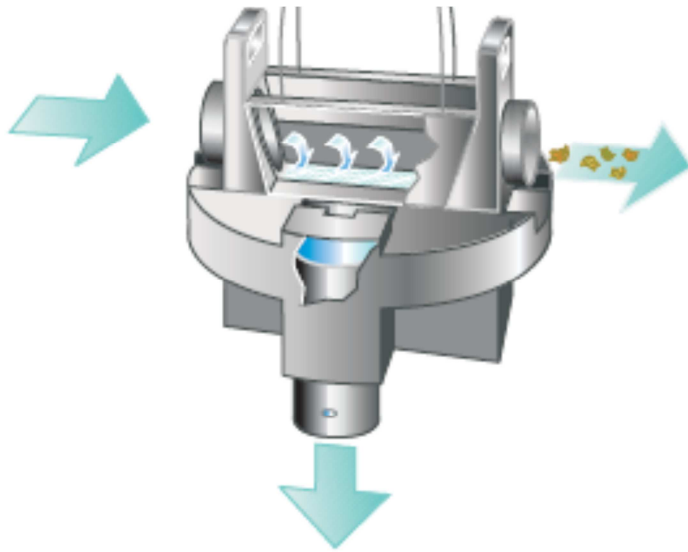


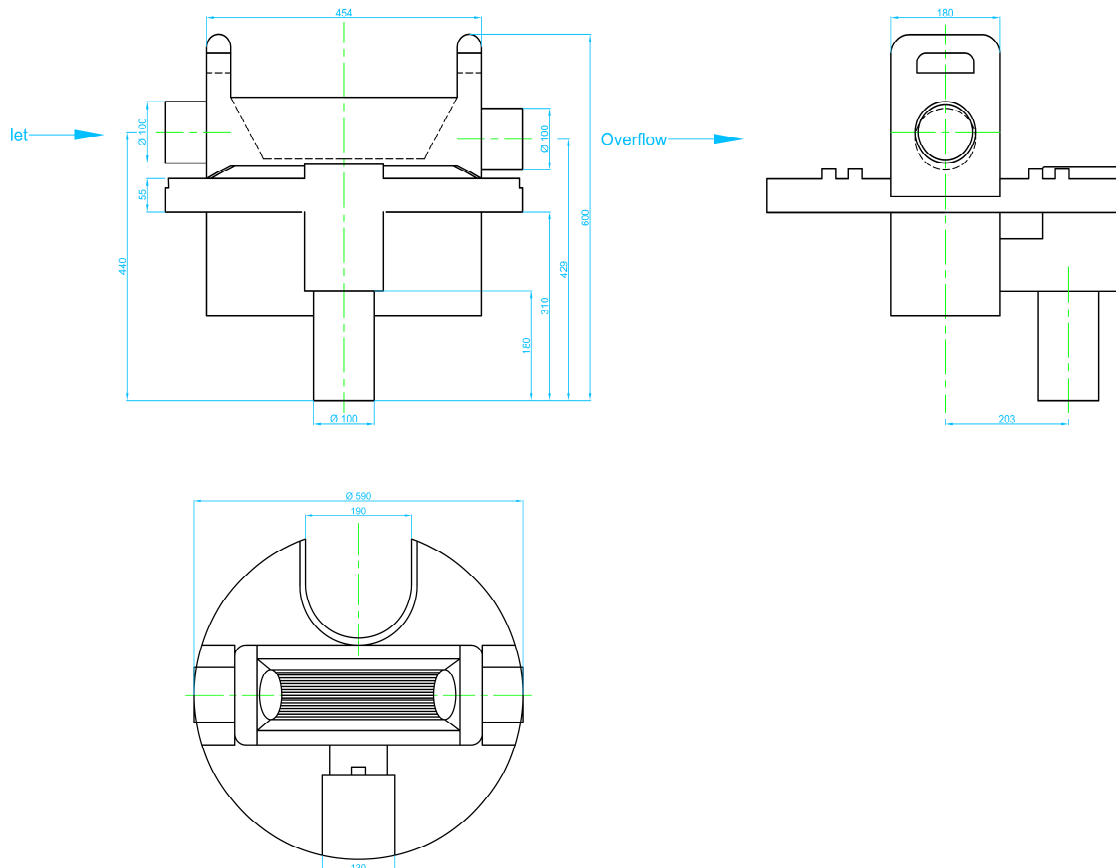
# Rainwater filter AWD

Item No: G11049, G1150 (incl. lid), G11052, G11054, G11055, G11056, G11057, G11058, G11059



## Typical applications

- Automatic rainwater diversion function.
- Installation aboveground indoor/outdoor or below ground within rainwater storage tank or separate filter manhole.

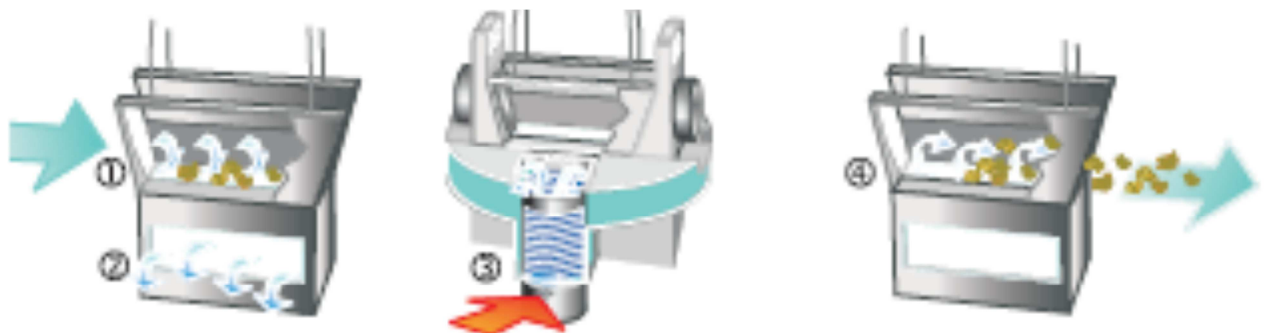


## Functioning principle:

The patented rainwater filtration system with Automatic Water Diversion Feature (AWD) has been specially developed for systems where an overflow at the storage tank is not the preferred solution. It provides a unique and cost effective solution for rainwater harvesting systems where the storage tank is located below the public drainage level or for non potable water storages in combined rainwater harvesting and greywater recycling systems.

The highly efficient 2-step filtration process via horizontal stainless steel filter grid with optimized profile ensures maximum rainwater collection rate and filter efficiency, passive self-cleaning and optimal non-potable water quality in the rainwater storage tank. This produces precious, hygienic and soft rainwater for gardens, washing machines, toilet supply as well as for numerous industrial and commercial applications, e.g. water for cooling towers, car/lorry washing or other process water where rainwater usage is clearly of advantage.

- 1) **Rainwater main filtration:** Leaves and the majority of particles are retained on the sieve until the self-cleaning process start. The construction and the dimensions of the sieve make a high collection rate of up to 100% possible.
- 2) **Rainwater fine filtration:** In the second filtration stage the water runs through a finer vertical filter sieve, so that natural mineralization and sedimentation can take place and harmful particles are neutralized. (only for rainwater filter AWD 2 or larger):
- 3) **Automatic water diversion:** Once the storage tank is full, the rainwater is directly diverted to the filter overflow. For this an air tight 25 mm pipe, installed with constant gradient between the calmed inlet of the storage tank and the vertical outlet connection at the filter is required.
- 4) **Self cleaning:** Due to the filter design the filter grid is passively cleaned to a very high degree every time when the storage tank is full. The water level inside the filter cage rises as the route into the rainwater storage tank is blocked via automatic rainwater diversion. Floatable dirt or dirt that has been retained on the filter grid are so removed and transferred into the public drainage system.



- Filter basket can be easily taken out for maintenance by pulling the handle
- Filter housing can be easily taken out for maintenance after opening the cup seal connectors

## Features:

- 2 stage rainwater filtration: via horizontal and vertical stainless steel filter grids (only rainwater filter AWD 2 or larger)
- Passive self-cleaning via horizontal filter grid and air cushion effect (filter monitoring and active fully automatic filter cleaning available as optional add-on)

## Technical data:

- Connectable roof areas 200 – 10,000 m<sup>2</sup>
- Maximum collection rate 6 – 300 l/s
- Minimum height-difference between inlet and overflow connection (0 - 50mm)
- Filter efficiency - up to 100%

Item	Item no.	Design flow rate	Maximum collection flow rate	Roof area )*	Lid for internal installation	Rainwater supply for self-cleaning version (optional add-on)	Filtration process
		(l/s)	(l/s)	m <sup>2</sup>		Connection – flow rate - pressure	No of stages
Rainwater filter AWD 1	G11049/ G11050	6	10	200	optional add-on	3/4" - 1 l/s - 3 bar	1
Rainwater filter AWD 3	G11052	30	60	1,000	included	1" - 1.5 l/s - 4 bar	2
Rainwater filter AWD 5	G11054	60	120	2,000	included	1 1/4" - 2.5 l/s - 5 bar	2
Rainwater filter AWD 6	G11055	90	240	3,000	included	1 1/2" - 5 l/s, - 5 bar	2
Rainwater filter AWD 7	G11056	180	360	6,000	included	Available on demand	2
Rainwater filter AWD 8	G11057	240	480	8,000	included	Available on demand	2
Rainwater filter AWD 9	G11058	300	600	10,000	included	Available on demand	2

*)\* Standard values based on a maximum rainfall of 300 l per second and hectare. The actual connectable roof area depends on the local rainfall and is site-specific.*

Item	Item no.	Inlet and overflow	Level difference	Calmed inlets	Filter dimensions			Operational weight
					Length	Width	Height	
		mm	mm	No x dia	mm	mm	mm	kg
Rainwater filter AWD 1	G11040/ G11050	100	11	1 x DN 100	590	590	600	25
Rainwater filter AWD 3	G11052	200	20	2 x DN 100	570	470	600	60
Rainwater filter AWD 5	G11054	250	20	3 x DN 100	770	520	750	100
Rainwater filter AWD 6	G11055	<=300	20	3 x DN 150	1,340	570	800	200
Rainwater filter AWD 7	G11056	<=400	50	4 x DN 150	1,850	670	850	280
Rainwater filter AWD 8	G11057	<=400	50	5 x DN 150	2,360	700	850	380
Rainwater filter AWD 9	G11058	<=500	50	6 x DN 150	2,870	800	950	500

Note: Design and maximum collection flow rates are calculated values. They have been proved right in practical installations for all listed standard sizes, but are not experimentally tested and thereby cannot be guaranteed for all applications. The maximum collection flow rate is only applicable if the filter grid is absolutely clean.

2 no CV-connectors (DN adapters) are required for the in- and outlet; a calmed inlet at above mentioned quantity and diameter, or an alternatively device (e.g. inlet tub) as well as the connecting pipe from the filter to the calmed inlet. The pipe connections at the filter are stub-ends.

Automatic active self-cleaning in combination with Aqua-Control Rainmanager: The double booster set of the Aqua-Control needs to provide the required flow rate at the pressure as outlined in above table. For large roof areas it may be required to adapt the power range of the proposed Aqua-Control Rainmanager.

Automatic water diversion: In all cases where the automatic water diversion feature is used, further measures to prevent flooding damage by an overflowing tank are not in place (e.g. drainage pumps below tank level) or one or more of the following situations are present, please contact us to discuss the project in detail:

- Maximum water level in storage tank smaller than 0.8 m or larger than 3m
- Vertical distance between AWD Filter and maximum water level in storage tank is larger than 1 m
- Horizontal distance between AWD Filter and inlet connection at storage tank is larger than 20 m

Design criteria:

- The following data are required: location, design rainfall-event, connected collection surface, roof type and gradient, maximum water level in storage tank, vertical and horizontal distance between AWD Filter and storage tank, pipe layout with diameter and gradient.
- The design flow rates of the filter must not be exceeded (see spec sheet).
- Diameter and gradient of the rainwater pipe work between filter and tank must be designed so that the maximum flow depth of the rainwater pipe is not more than 50%.
- The 1" pipe between AWD Filter and calmed inlet must be installed air tight and with constant gradient.

## Materials

Filter grid	Stainless steel (1.4301)
Filter housing	Polyethylene

## Product advantages:

- Automatic rainwater diversion to surface water drainage via filter overflow if storage tank is full
- The standard range covers the requirements for roof areas between 200 and 10,000m<sup>2</sup>. Larger or bespoke design filters are available on request.
- Minimum level loss between inlet and overflow, therefore filter installation inline with existing horizontal rainwater pipes possible
- Various locations for filter installation possible:
  - aboveground – indoor or outdoor for wall or tank mounting (no filter chamber required) or
  - below ground within the rainwater storage tank or separate filter manhole
- Maximum rainwater collection rate and filter efficiency - up to 100%, even during intense rain events
- Only low maintenance required: due to the self-cleaning horizontal stainless steel filter grid and air cushion effect it is only 2-3 times per year required to remove the filter basket and clean the filter grids (average - actual maintenance requirements depend on site specific conditions)

## Optional add-on (G11059):

Filter grid monitoring and active fully automatic filter cleaning via rainmanager or separate control panel (wall mounted). This feature provides fully automatic filter cleaning on demand and is recommended for filters that are installed at locations with limited access. Further information and prices are available on request; please contact our office.