

SandStorm+™ Media filter

Netafim



Netafims SandStorm+ media filter is a carbon steel filter with double-layer coating for protection against corrosion and harmful UV radiation. The filter is equipped with double chamber technology, where the nozzles are placed on a base plate. The media filter also contains an increased number of nozzles, resulting in a lower pressure loss. The nozzles have a smaller slot width.

SandStorm+ media filter is constructed from specially selected materials and has undergone specific treatments so the metal is optimally protected by the double-layer coating. Sandstorm + therefore contributes to long-term, reliable and uniform irrigation and is extremely suitable for Dutch greenhouse horticulture.

Media filters have proven themselves more than adequately in practice. The thick sand layer in the filter creates a unique depth filtration system in which the contaminant particles in the water are trapped by the sand bed. Contaminated water flows downwards through the sand bed, and the clean water runs via the filtration nozzles in the baseplate to the outlet from the filter.

In many cases the passage between the sand particles is larger than the contaminant to be trapped. The binding in particular of organic contaminants such as algae to the sand is caused by the attraction between the particles and not (only) because the passage is smaller than the contaminant particle. This means that the flow velocity has a great influence on the functioning of media filters. For standard filtration, a flow velocity of max. 50 - 55 m/h is maintained. For UV filtration requiring finer filtration, a flow velocity of ± 10 m/h is maintained. The ultimate filtration capacity and quality of the media filter is determined by the relationship between the flow velocity and the surface area of the sand bed.

The media filter is cleaned by back-flushing. Water is pumped in the opposite direction through the filter, loosening the sand bed. The contaminant particles are thereby separated from the sand bed and flushed away via the drain line. This back-flushing can be performed manually or automatically.

The back-flushing velocity for standard sand particle size is 35 - 40 m/h (for the exact back-flushing capacity, refer to the technical specifications).

Standard filter sand has a grain size of 0.63 - 1.0 mm. Adaptation of the sand fraction has less influence on the filtration degree than an adaptation of the flow velocity through the filter.

SandStorm+ media filters are equipped with sufficient inspection holes, so that an inspection or change of the sand layers can be carried out easily. With the exception of the 48" model, all SandStorm+ filters have a top cover that can be removed using a rotating handle.

APPLICATION

Media filters are used as main filters in drip irrigation systems, sprinkler irrigation and UV installations, or as pre-filter

CHARACTERISTICS

- ✓ Three media filter models
- ✓ Low head loss
- ✓ Depth filtration thanks by sand bed
- ✓ High quality carbon steel ST-37.2 en double-layer coating with UV and corrosion protection
- ✓ Diameters 16" to 48" with thread or flange connection
- ✓ High capacities of 5 - 80 m³/hour
- ✓ Easy manual or automatic back-flushing on the basis of pressure difference and/or time
- ✓ Standard grain size from 0.8 - 1.2 mm (not supplied)
- ✓ Easy maintenance through 7", 8" or 9" service holes

TECHNICAL DATA

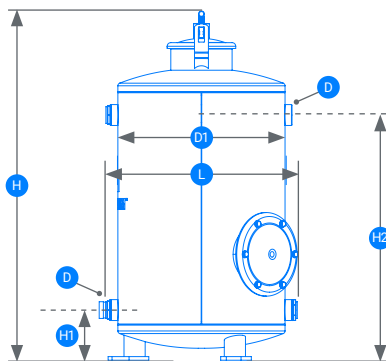
Diameter	: 16" - 48"
Connection	: flange or thread connection
Capacity	: see table
Min. pressure	: 2 bar (back-flushing)
Max. working pressure	: 10 bar (at 20°C)
Resistance	: see chart
Material	: epoxy coated steel ST-37.2
Color	: RAL 5010 (blue)
Nozzle slot width	: 0.35 mm
Standard sand grain	: 0.63 - 1.0 mm

Technical specifications

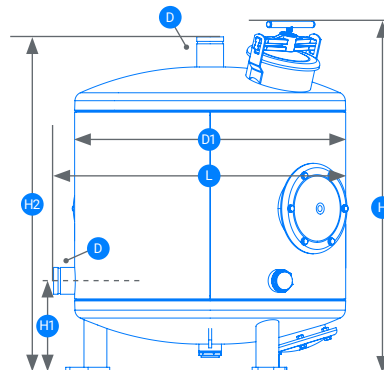
Diameter		16"	20"	30"	36"	43"	48"
Max. filtration capacity	m ³ /h	8	11	24	36	48	60
Back-flushing capacity	m ³ /h	4-5	7-8	16-17	22-25	30/34	39-45
Inlet / outlet	inch	1½"	2"	3"	3"	3"	4"
Connection (D1)	type	thread	thread	flange 90	flange 90	flange 110	flange 110
Total height (H)	mm	1204	1272	1167	1162	1168	1083
Height of outlet (H1)	mm	180	180	300	300	300	330
Height of inlet (H2)	mm	870	880	1071	1110	1150	1110
Filter diameter (D)	mm	390	480	750	900	1100	1200
Filter bed area	m ²	0,12	0,20	0,45	0,65	0,95	1,13
Filter bed depth	mm	500	500	400	400	400	400
Filter bed volume	litre	65	100	175	260	375	450
No. of nozzles	pieces	14	16	37	49	69	88
Weight filter (empty)	kg	60	76	144	190	285	306
Weight sand	kg	100	125	250	400	550	650
Number of sand bags 25kg	pieces	4	5	10	16	22	26

Type overview and dimensions

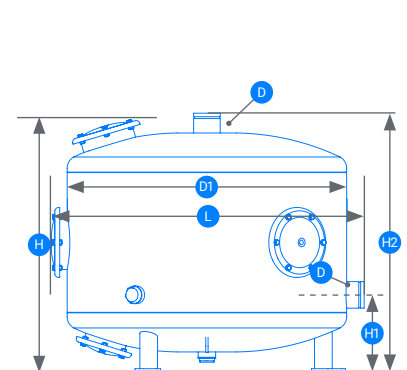
FILTERS 16-20"



FILTERS 30-43"

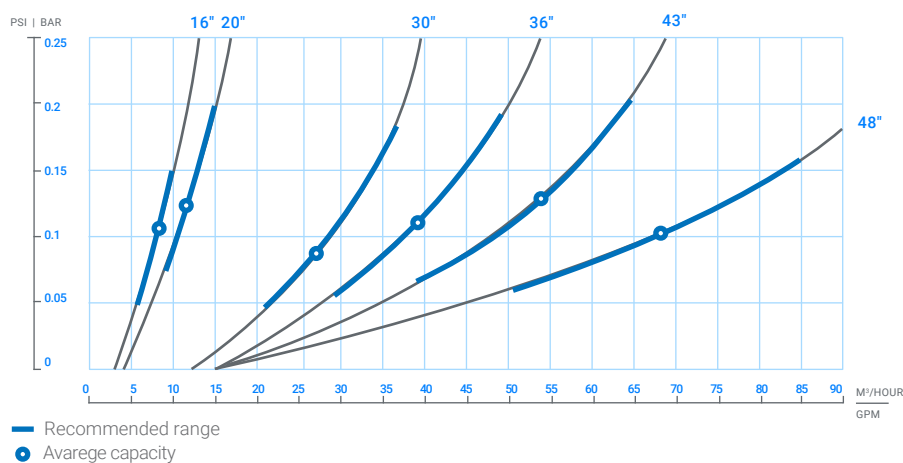


FILTERS 48"



Head loss

Based on empty media filter (without medium)



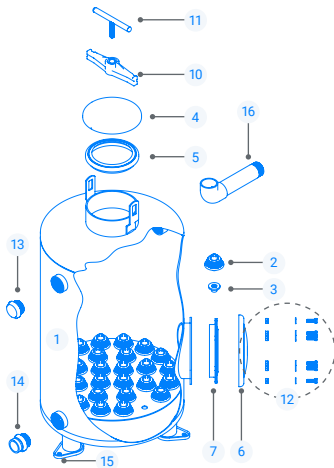
Parts overview and -drawing

#	Description	Diameter type	Article number	
1	Filter housing	Not available separately		
2	Nozzle 0.35mm	All types	71915-000102	
3	Nozzle seal	All types	71915-000103	
4	Top side service lid	8"	16" to 36"	71915-000231
		9"	48"	71915-000233
5	Top side service lid seal	8"	16" to 36"	71915-000230
		9"	48"	71915-000232
6	Side service lid	7"	16" en 20"	71915-000235
		9"	30" to 48"	71915-000233
7	Side serviced lid seal	7"	16" en 20"	71915-000234
		9"	24" to 48"	71915-000232
8	Bottom side service lid	7"	30" to 48"	71915-000235
9	Bottom side service lid seal	7"	30" to 48"	71915-000234

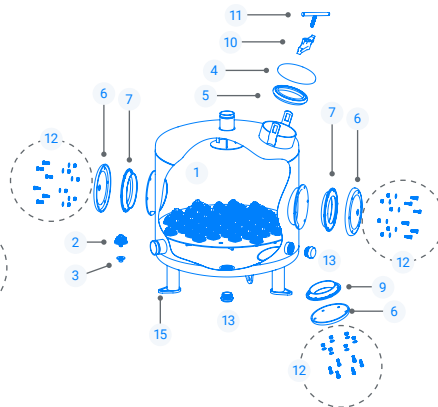
#	Description	Diameter type	Article number
10	Bridge for closure	16" to 36"	71915-000104
11	T-handle for closure	16" to 36"	71915-000105
12	Bolts and nuts set*	All types	71915-000137
13	2" out. thread plug BSP	All types	71915-000101
14	2" bout. thread adapter BSP	16" to 20"	71915-000103
15	Leg rubber	All types	71915-000136
16	PVC nipple and knee	12"	71915-000116
		16"	71915-000117
		20"	71915-000118

The set contains: 6 pieces M12x35 bolts and 6 pieces M12 nuts (galv.)

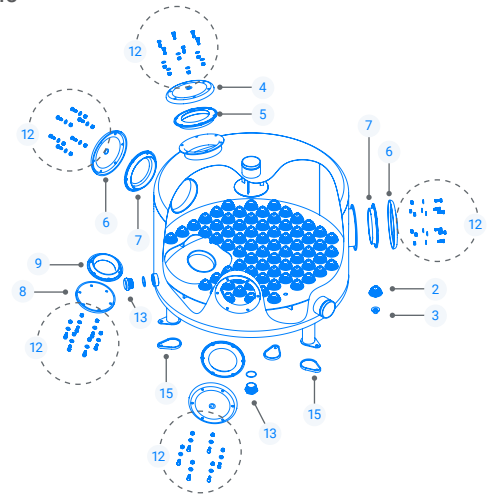
FILTERS 16-20"



FILTERS 30-43"



FILTERS 48"



Overview lids/blind flanges of service holes

Diameter	16"	20"	30"	36"	43"	48"
SandStorm+ blind flange 7" (246mm)	side	side	bottom	bottom	bottom	bottom
SandStorm+ lid 8" (246mm)	top	top	top	top	top	n/a
SandStorm+ blind flange 9" (300mm)	n/a	n/a	side	side	side	side/top

INSTALLATION & MAINTENANCE

- ✔ SandStorm+ media filters can be easily installed using flanges.
- ✔ Always install a subsequent filter with a filter screen of 100 - 300 micron behind the media filter. A finer screen also gives an indication of whether the filter is 'leaking' (channel formation).
- ✔ Ensure sufficient back-flushing capacity and back-flushing in good time (max. 0.5 bar pressure difference) to avoid channel formation in the sand bed. Flush until contaminant is no longer washed out with the flushing water (min. 5 minutes).
- ✔ Check at least twice a year whether the sand is loose enough and that no channels have formed in the sand bed. In any case, replace the sand every 3 years.
- ✔ When filling the filter with sand, pay attention to the indication: "maximum level".

Inspection and replacement of sand filling

Do not open the SandStorm+ filter until the following actions have been performed:

- ✔ Close all valves up- and downstream of the media filter.
- ✔ Open the flushing valve and ensure that the filter has been completely drained and de-pressurised.
- ✔ The filter lids can now be carefully opened.