

Description

air-phin is a self-cleaning suction mask filter equipped with a motorized adaptable suction piston cleaning system that easily regenerates the filtration element within a seconds, without interrupting the flow.

This filter is well-suited for treating water that contains suspended particles, and it can be used in a range of industrial settings such as treating process water, closed plumbing systems, fire prevention systems, and numerous others.

To accommodate various installation configurations, the filter is offered in two different design shapes, Y, L and O.



Self-cleaning system with adaptive suction pads

The self-cleaning system is composed of suction adaptive pads installed on a stainless steel shaft which rotates during the cleaning cycle.

The system is activated at regular time intervals or when the progressive build-up of suspended solids, trapped inside the filtering mesh, causes an excessive differential pressure between inlet and outlet (0,8 bar). During the cleaning cycle the drain valve is opened.

A suction force is created by the pressure differential between the filter and the drain chamber. Filtration is not interrupted if the inlet pressure is above 3 bar.

Design data

Flow rate	Up to 400 m3/h
Design pressure [bar]	PN10 (PN16 available)
Design temperature [°C]	80
Salinity [TDS]	<10.000 ppm
pH Range	3 - 9
Design Code	- PED 68/2014/EU - Machinery Directive 42/2006/CE - LVD Directive 35/2014/EU

Material data

Filter housing	AISI 304/316L
Gasket	EPDM*
Drain/Vent valve	Cast Iron body with AISI 316L lens
Pressure Gauges	AISI 304/316L
Surface finish	Micro shot Peening and Passivation

* Certified for the following European Drinking Water regulations: UBA, DVGW-standard W-270, WRAS och ACS.

Power Supply

Electric Voltage	230 VAC 50/60 Hz Single Phase
Compressed Air	6 bar

Actuation

Electric motor	230 VAC 0.11 kW
Solenoid Valve	Electropneumatic 24 VDC

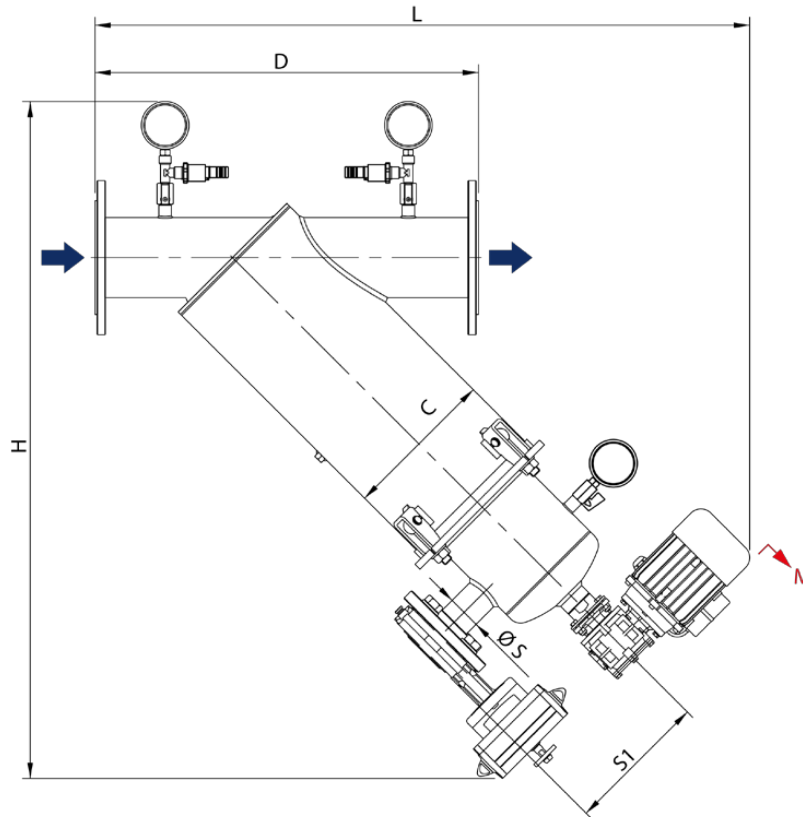
Controller

Power Supply	230 VAC 50/60 Hz Single Phase
Protection Class	IP65
Material	ABS
Input	2 digital (Pause, DP), 3 analogic (Pressure)
Output	4 SPDT 16A 250VAC, 4 SPST 1A 24VDC 4 SPST Status (On/Off, Filtration, Cleaning, Alarm)
Cleaning cycle management	Differential Pressure (0,6-0,8bar), Pre-set time intervals, Manual

Cleaning Cycle

		Size 6	Size 8	Size 18	Size 30
Min. cleaning flow rate	m3/h	9	13	13	20
Min pressure	bar	1,5	1,5	1,5	1,5
Water consumption	L	50	75	75	115
Cleaning cycle time	s	25	25	25	25

Dimensions Y shape



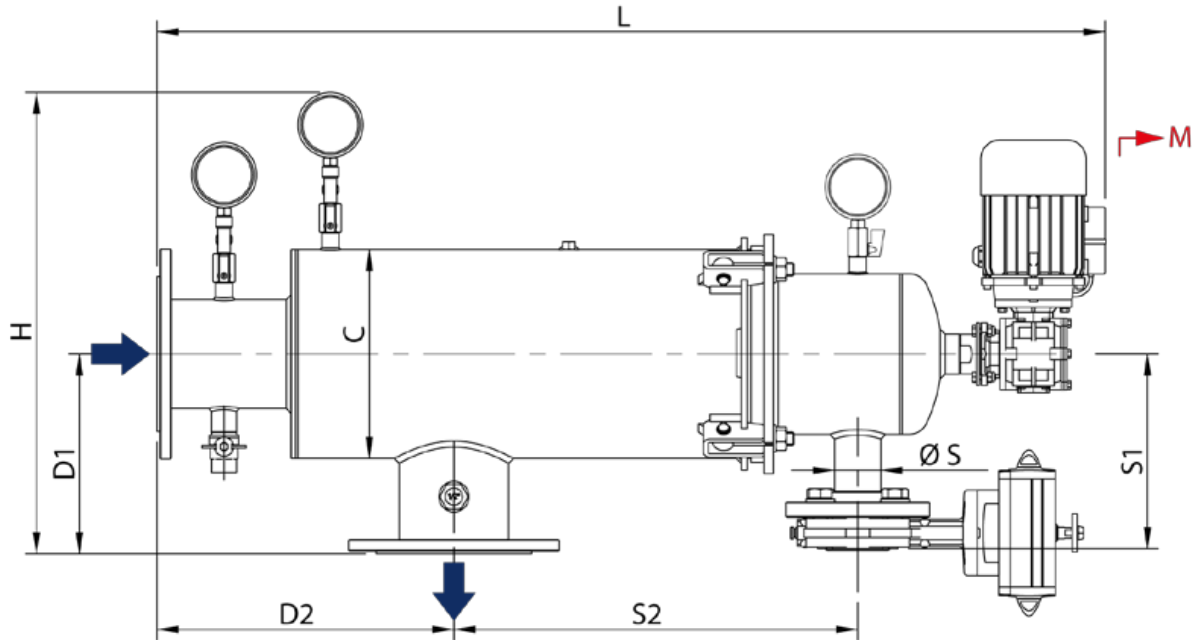
Model	Size	In/Out	Max Flow rate* [m3/h]	F.S.** [cm2]	D [mm]	L [mm]	H [mm]	C [mm]	S1 [mm]	ØS [mm]	M*** [mm]	W [Kg]
AIPH 2" Y 6	6	2"BSPP	30	1,500	412	757	830	219	204	DN 40	500	31
AIPH 3" Y 6	6	3"BSPP	60	1,500	464	783	844	219	204	DN 40	500	32
AIPH 80 Y 6	6	DN 80	60	1,500	487	782	844	219	204	DN 40	500	36
AIPH 100 Y 6	6	DN 100	100	1,500	547	824	857	219	204	DN 40	500	37
AIPH 3" Y 8	8	3" BSPP	70	2,200	464	892	953	219	204	DN 40	700	35
AIPH 80 Y 8	8	DN 80	70	2,200	487	891	953	219	204	DN 40	700	39
AIPH 100 Y 8	8	DN 100	110	2,200	547	933	966	219	204	DN 40	700	41
AIPH 100 Y 18	18	DN 100	120	3,300	585	933	966	273	204	DN 40	700	47
AIPH 150 Y 18	18	DN 150	240	3,300	660	959	993	273	204	DN 40	700	53
AIPH 100 Y 30	30	DN 100	120	5,400	585	1,150	1,194	273	216	DN 50	1,000	57
AIPH 150 Y 30	30	DN 150	260	5,400	660	1,173	1,221	273	216	DN 50	1,000	63

*Max flow rates are calculated based on clean water with a filtration degree of 120µm. With the same In/Out connection and the same MAX flow rate, the larger filter will require less cleaning than the smaller one.

**F.S. = Filtering surface

***M = Minimum free space required for maintenance.

Dimensions L shape



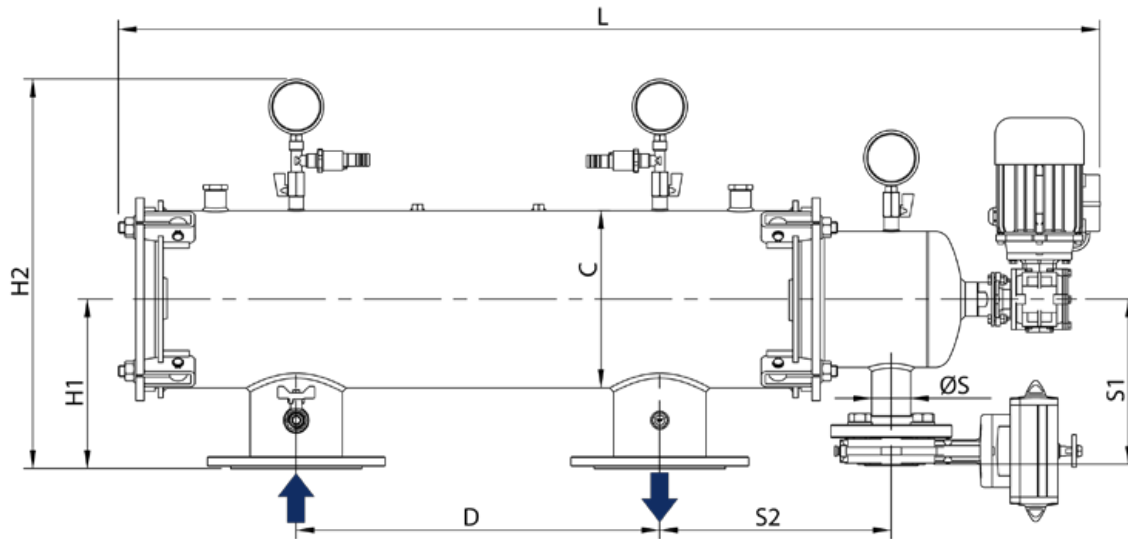
Model	Size	In/Out	Max Flow rate* [m3/h]	F.S.** [cm2]	D1 [mm]	D2 [mm]	L [mm]	H [mm]	C [mm]	S1 [mm]	S2 [mm]	ØS [mm]	M*** [mm]	W [Kg]
AIPH 2" L 6	6	2"BSPP	30	1,500	190	310	836	549	219	204	268	DN 40	500	31
AIPH 3" L 6	6	3"BSPP	60	1,500	190	310	836	549	219	204	268	DN 40	500	32
AIPH 80 L 6	6	DN 80	60	1,500	210	310	836	549	219	204	268	DN 40	500	36
AIPH 100 L 6	6	DN 100	100	1,500	210	310	836	549	219	204	268	DN 40	500	37
AIPH 3" L 8	8	3" BSPP	70	2,200	190	310	990	549	219	204	422	DN 40	700	35
AIPH 80 L 8	8	DN 80	70	2,200	210	310	990	549	219	204	422	DN 40	700	39
AIPH 100 L 8	8	DN 100	110	2,200	210	310	990	549	219	204	422	DN 40	700	40
AIPH 100 L 18	18	DN 100	120	3,300	246	350	1061	576	273	204	422	DN 40	700	48
AIPH 150 L 18	18	DN 150	240	3,300	246	350	1061	576	273	204	422	DN 40	700	52
AIPH 100 L 30	30	DN 100	120	5,400	246	350	1367	576	273	216	728	DN 50	1000	57
AIPH 150 L 30	30	DN 150	260	5,400	246	350	1367	576	273	216	728	DN 50	1000	61
AIPH 200 L 30	30	DN200	400	5,400	266	350	1367	576	273	216	728	DN 50	1000	67

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Dimensions O shape



Model	Size	In/Out	Max Flow rate* [m ³ /h]	F.S.** [cm ²]	D [mm]	L [mm]	H1 [mm]	H2 [mm]	C [mm]	S1 [mm]	S2 [mm]	ØS [mm]	M*** [mm]	W [Kg]
AIPH 80 O 6	6	DN 80	60	1,500	450	1215	210	482	219	204	287	DN40	500	54
AIPH 100 O 6	8	DN 100	100	1,500	450	1215	210	482	219	204	287	DN40	500	55
AIPH 80 O 8	8	DN 80	70	2,200	450	1215	210	482	219	204	287	DN40	700	55
AIPH 100 O 8	8	DN 100	110	2,200	450	1215	210	482	219	204	287	DN40	700	56
AIPH 100 O 18	18	DN 100	120	3,300	640	1720	246	546	273	204	422	DN40	700	81
AIPH 150 O 18	18	DN 150	240	3,300	640	1720	246	546	273	204	422	DN40	700	86
AIPH 100 O 30	30	DN 100	120	5,400	640	1720	246	546	273	216	422	DN50	1000	84
AIPH 150 O 30	30	DN 150	260	5,400	640	1720	246	546	273	216	422	DN50	1000	88
AIPH 200 O 30	30	DN 200	400	5,400	640	1720	266	566	273	216	422	DN50	1000	93

*Max flow rates are calculated based on clean water with a filtration degree of 120µm. With the same In/Out connection and the same MAX flow rate, the larger filter will require less cleaning than the smaller one.

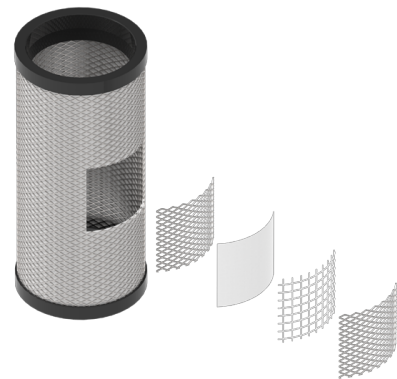
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Filtering Elements

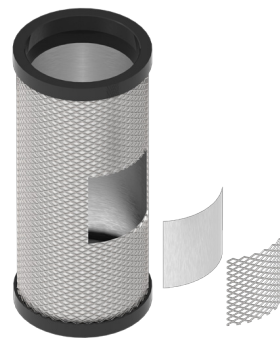
M-LAY PES Filterkit:

Consisting of four distinct layers, this filtration system offers a diverse selection of filter materials, allowing customers to select their desired filtration level ranging from 25µm to 810µm. The layers, from the inside out, are as follows: an internal support made of AISI 316, a PES tissue layer, a protective polyethylene mesh, and an external support made of AISI 316.



2LAY Filterkit:

This filter features a double layer AISI 316 stainless steel mesh and shows exceptional resistance which makes it an excellent alternative to PES Filterkit in harsh operating conditions, particularly when dealing with liquids containing sharp suspended solids.



Filtration degree [µm]	M-LAY PES Filterkit	2LAY Filterkit
25 µm	✓	X
40 µm	X	✓ (only available for size 1 and 6)
53 µm	✓	X
80 µm	✓	X
110 µm	X	✓
120 µm	✓	X
200 µm	✓	✓ (not available for size 1)
400 µm	✓	X
580 µm	✓	X
810 µm	✓	X

Accessories

Automation Unit

Filter's automation system consists of:

- Electronic Controller 4EV 230VAC
- Pneumatic Drain Valve
- Pressure transmitters
- Namur Solenoid Valve



Threaded Pneumatic Ball Valve

When installed on the filter's outlet, this product can effectively enhance the cleaning performance even under harsh operating conditions. It is compatible with models that have BSP threaded connections.

- Material: AISI 316
- Nominal Pressure: PN10 - PN16
- Max temperature: 180°C
- Power supply: 24VAC
- Requires compressed air 6 bar
- Namur Solenoid Valve included



Flanged Pneumatic Butterfly Valve

When installed on the filter's outlet, this product can effectively enhance the cleaning performance even under harsh operating conditions. It is compatible with models that have flanged connections.

- Valve body: ductile iron
- Disc: AISI 316
- Liner: EPDM
- Power Supply: 230VAC
- Requires compressed air 6 bar
- Namur Solenoid Valve included



Spare Parts

Description	Material	Compatibility
Body gasket Ø 219.1	EPDM	Size 6 - Size 8
Filterkit Gasket Kit Ø145, (2pcs)	EPDM	Size 6 - Size 8
Body Gasket Ø273	EPDM	Size 18 - Size 30
Filterkit Gasket Kit Ø218, (2pcs)	EPDM	Size 18 - Size 30
Pressure gauge 0-10 bar G1/4" Ø63	AISI 304	All models
Pressure gauge 0-10 bar G1/4" Ø63	AISI 316	All models
Size 6 Suction Pads Kit	-	Size 6
Size 8 Suction Pads Kit	-	Size 8
Size 18 Suction Pads Kit	-	Size 18
Size 30 Suction Pads Kit	-	Size 30

