

datasheet



dolphin m-phin



Description

m-phin filters are manually-cleaned mesh filters with an adaptive suction pad cleaning system, allowing the filter cartridge to be easily cleaned in seconds without interrupting filtration.

These robust filters require minimal maintenance due to their stainless steel construction and nylon pads.

m-phin filters are available in three structural configurations, Y, L, and O, to suit various installation types.

They are ideal for treating water with suspended solids, including colloidal particles, and are used in numerous industrial processes such as evaporative towers, heat exchangers, aquaculture, spray nozzle protection, and pre-filtration for ultrafiltration (UF) and reverse osmosis (RO) systems.

A wide range of FILTERKIT options provide a filtration range from 3000 μm to 25 μm . Models in the "O" configuration also feature a coarse pre-filter.



Filtration

The liquid to be treated enters the filter through the inlet connection (IN). Suspended solids are retained inside the cartridge, and the filtered liquid exits through the outlet connection (OUT).

Cleaning

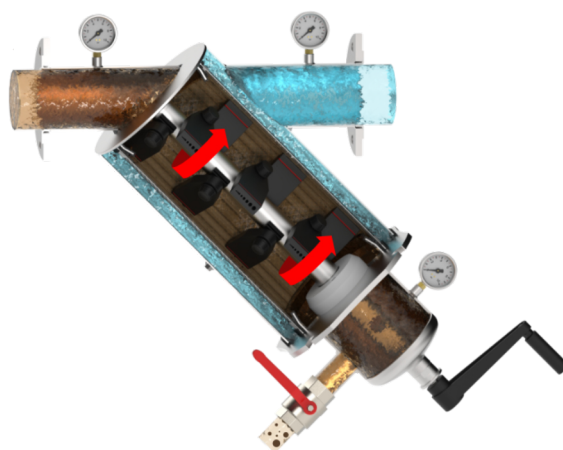
As solids accumulate inside the filter mesh, a pressure difference develops between the inlet and outlet, monitored by two pressure transmitters and two analog pressure gauges.

The cleaning process activates automatically when the preset pressure differential is reached or at set intervals, controlled by the controller.

During the wash cycle, the drain valve opens while the adaptive suction pads rotate, suctioning the accumulated dirt from the filter element due to the pressure difference between the filter and the drain chamber.

The captured particles are expelled through the drain valve.

Filtration continues uninterrupted if the inlet pressure is at least 3 bar.



Technical data

Maximum flow rate	400 m ³ /h
Nominal pressure [bar]	PN 10 - PN16 ⁽¹⁾
Maximum temperature	80°C
Construction shape	Y, L, O
Salinity	< 10000 ppm
pH range	3 - 9
Design standard	PED 2014/68/EU

Materials

Housing	AISI 304 - AISI 316
Gaskets	EPDM ⁽²⁾
Vent/drain valves	Nickel-plated brass - AISI 316
Pressure gauges	AISI 304 - AISI 316
Surface finishing	Micro shot peening and passivation

Cleaning cycle

	SIZE 6	SIZE 8	SIZE 18	SIZE 30
Minimum flow rate during cleaning cycle	9 m ³ /h	13 m ³ /h	13 m ³ /h	20 m ³ /h
Minimum pressure during cleaning cycle	3 bar	3 bar	3 bar	3 bar
Water consumption for a complete cycle	50 L	75 L	75 L	115 L
Duration of cleaning cycle	20-25 sec	20-25 sec	20-25 sec	20-25 sec

1. On request

2. Certified for contact with drinking water according to the following European regulations: UBA, DVGW standard W-270, WRAS, and ACS.

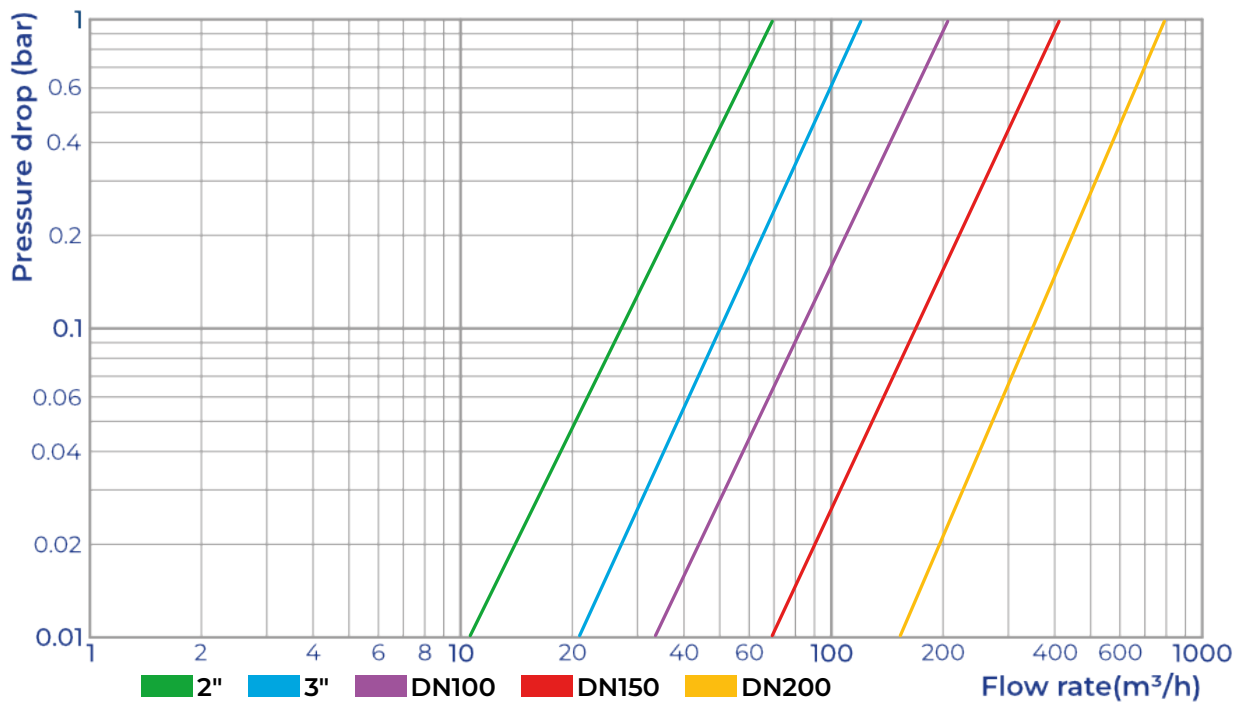
3. Flow rates calculated with a filtration degree of 120µm and clean water (NTU < 1) at a temperature of 20°C.

Models and flow rates

Model	Construction shape	Size	In/Out	Max flow rate ⁽³⁾ [m ³ /h]	Filtering surface [cm ²]	
MPH 2" S6	Y, L	6	2" BSPP	30	1'500	Threaded
MPH 3" S6	Y, L	6	3" BSPP	60	1'500	
MPH 3" S8	Y, L	8	3" BSPP	70	2'200	
MPH DN50 S6	Y, L	6	DN 50	30	1'500	Flanged
MPH DN80 S6	Y, L, O	6	DN 80	60	1'500	
MPH DN100 S6	Y, L, O	6	DN 100	100	1'500	
MPH DN80 S8	Y, L, O	8	DN 80	70	2'200	
MPH DN100 S8	Y, L, O	8	DN 100	110	2'200	
MPH DN100 S18	Y, L, O	18	DN 100	120	3'300	
MPH DN150 S18	Y, L, O	18	DN 150	240	3'300	
MPH DN100 S30	Y, L, O	30	DN 100	120	5'400	
MPH DN150 S30	Y, L, O	30	DN 150	260	5'400	
MPH DN200 S30	L, O	30	DN 200	400	5'400	

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 3. Flow rates calculated with a filtration degree of 120µm and clean water (NTU < 1) at a temperature of 20°C.

Head loss

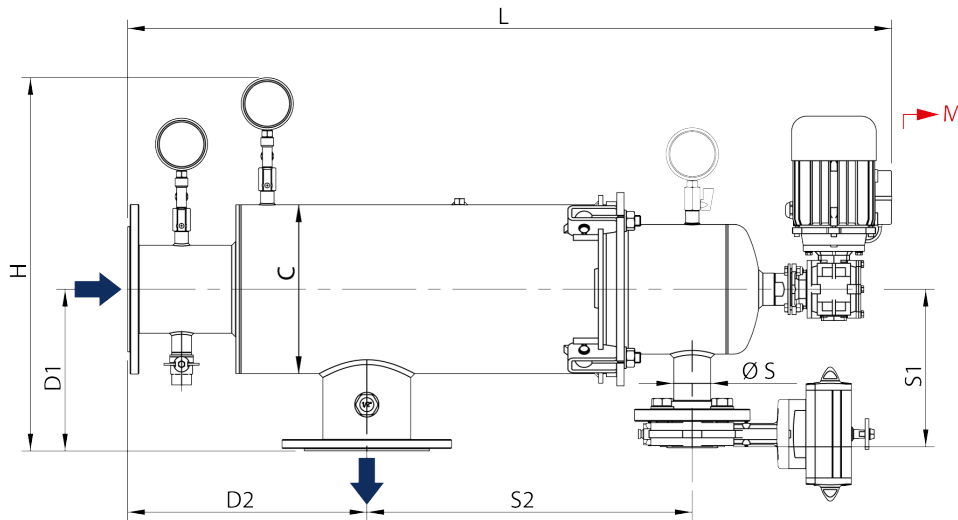


Dimensions

L Shape

Model	D1 [mm]	D2 [mm]	L [mm]	H [mm]	C [mm]	S1 [mm]	S2 [mm]	Ø S	M* [mm]	Weight [Kg]
MPH 2" L 6	190	310	836	471	219	202	268	DN40	500	31
MPH 3" L 6	190	310	836	471	219	202	268	DN40	500	32
MPH DN50 L 6	195	315	841	471	219	202	268	DN40	500	36
MPH DN80 L 6	210	310	836	491	219	202	268	DN40	500	36
MPH DN100 L 6	210	310	836	491	219	202	268	DN40	500	37
MPH 3" L 8	197	310	990	471	219	202	422	DN40	700	35
MPH DN80 L 8	210	310	990	491	219	202	422	DN40	700	41
MPH DN100 L 8	210	310	990	491	219	202	422	DN40	700	42
MPH DN100 L 18	247	350	1063	555	273	202	423	DN40	700	51
MPH DN150 L 18	247	350	1063	555	273	202	423	DN40	700	56
MPH DN100 L 30	247	350	1369	555	273	212	729	DN50	1000	60
MPH DN150 L 30	247	350	1369	555	273	212	729	DN50	1000	66
MPH DN200 L 30	267	350	1370	575	273	212	729	DN50	1000	70

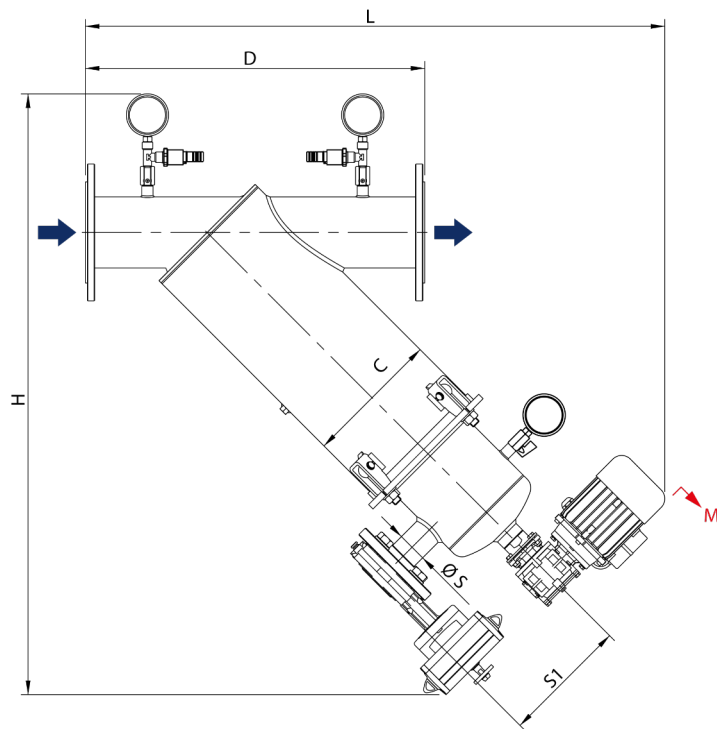
* M = minimum space required for maintenance



Y Shape

Model	D [mm]	L [mm]	H [mm]	C [mm]	S1 [mm]	Ø S	M* [mm]	Weight [Kg]
MPH 2" Y 6	411	757	805	219	202	DN40	500	31
MPH 3" Y 6	463	783	820	219	202	DN40	500	32
MPH DN50 Y 6	436	769	798	219	202	DN40	500	36
MPH DN80 Y 6	487	783	820	219	202	DN40	500	36
MPH DN100 Y 6	547	825	832	219	202	DN40	500	37
MPH 3" Y 8	463	892	930	219	202	DN40	700	35
MPH DN80 Y 8	487	891	930	219	202	DN40	700	41
MPH DN100 Y 8	547	934	942	219	202	DN40	700	42
MPH DN100 Y 18	585	934	943	273	202	DN40	700	51
MPH DN150 Y 18	661	957	969	273	202	DN40	700	56
MPH DN100 Y 30	585	1151	1173	273	212	DN50	1000	61
MPH DN150 Y 30	661	1174	1200	273	212	DN50	1000	67

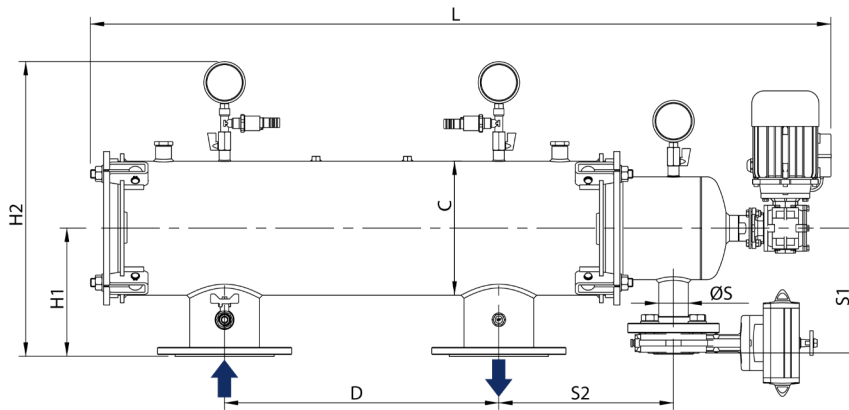
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O Shape

Model	D [mm]	L [mm]	H1 [mm]	H2 [mm]	C [mm]	S1 [mm]	S2 [mm]	Ø S	M* [mm]	Weight [Kg]
MPH DN80 O 6	450	1215	210	482	219	204	287	DN40	700	54
MPH DN100 O 6	450	1215	210	482	219	204	287	DN40	700	55
MPH DN80 O 8	450	1215	210	482	219	204	287	DN40	1000	55
MPH DN100 O 8	450	1215	210	482	219	204	287	DN40	1000	56
MPH DN100 O 18	640	1720	246	546	273	204	423	DN40	1000	81
MPH DN150 O 18	640	1720	246	546	273	204	423	DN40	1000	86
MPH DN100 O 30	640	1720	246	546	273	216	423	DN50	1000	84
MPH DN150 O 30	640	1720	246	546	273	216	423	DN50	1000	88
MPH DN200 O 30	640	1720	266	566	273	216	423	DN50	1000	93

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Filtering elements

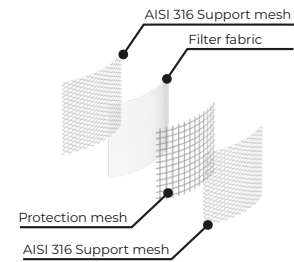
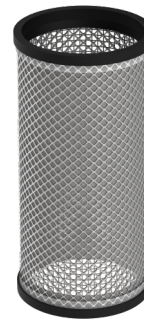
MLE filter kit

Featuring a robust four-layer design, this filter element includes two AISI 316 stainless steel mesh supports, a protective layer of polypropylene mesh, and a precision polyester (PES) fabric that determines the filtration grade.

This configuration allows for easy adjustment of the filtration grade by replacing the filter fabric, eliminating the need to replace the entire filter element.

Available filtration degrees:

700 - 500* - 400 - 200 - 120 - 80 - 53 - 25 microns



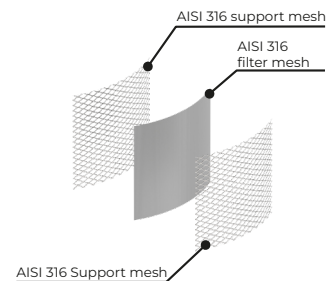
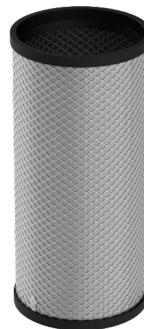
3LE filter kit

Composed of three layers of AISI 316 stainless steel, this filter element ensures exceptional strength and durability.

The AISI 316 micro-perforated sheet filter fabric is welded between two outer mesh supports, offering superior resistance compared to PES fabric.

This is the ideal choice for challenging conditions, including extreme temperatures, abrasive particles, and exposure to chemicals.

Available only on request with filtration grades of 200 or 110 microns.

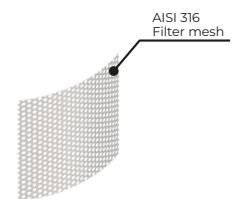


1LE filter kit

Made entirely of AISI 316 perforated stainless steel, this single-layer filter element offers exceptional resistance to the most challenging operating conditions, including extremely low or high temperatures, abrasive materials, and exposure to chemicals.

Available filtration degrees:

3000 - 2000* - 1000* microns



* On request

Configurations/Availability

Filtration degree [µm]	MLE filter kit	3LE filter kit	1LE filter kit
25	✓	X	X
40	X	✓ (only available for size 1 and 6)	X
53	✓	X	X
80	✓	X	X
110	X	✓	X
120	✓	X	X
200	✓	✓ (not available for size 1)	X
400	✓	X	X
580	✓	X	X
810	✓	X	X
1000	X	X	✓
2000	X	X	✓
3000	X	X	✓

Accessories

Differential pressure kit

Detects the pressure difference between the inlet and outlet and activates an electrical contact upon reaching a pre-set ΔP value.

Max pressure	17 bar
ΔP range	0.3 - 2 bar
Max. temperature	60°C

Eyebolts kit

Standard nuts can be replaced with stainless steel eyebolts, which are more practical as they do not require special wrenches for rotation.

Eyebolts	4
Material	A4
Compatibility	All models

Spare Parts

Description	Material	Compatibility
Body gasket Ø219.1	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



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