

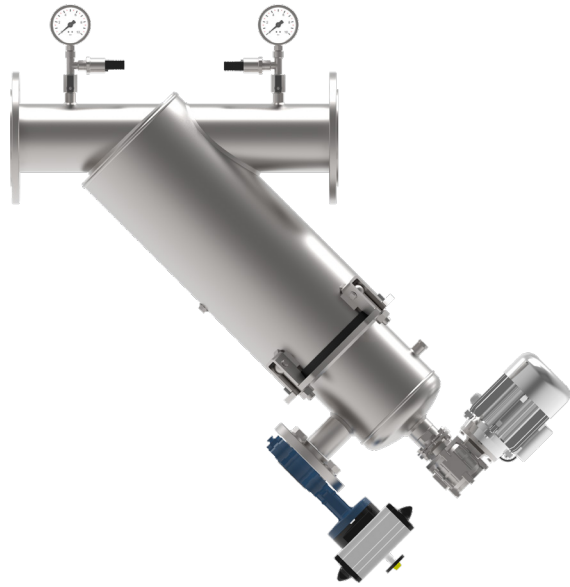
TerTech

WONDERBRUSH

Self-Cleaning Brush Filter



WONDERBRUSH



WONDERBRUSH is a self-cleaning mesh filter with a motorized brush cleaning system which easily regenerates the filtering element within a few seconds, without interrupting the flow. The filter's vessel and cleaning system are completely made of stainless steel supplemented with Nylon Brushes which makes the filter very robust and low-maintenance.

WONDERBRUSH is ideal to treat water loaded with non-colloidal suspended solids and is usually implemented in well-water, canals, rivers and industrial applications; it is available in 2 different constructive shapes, Y and L, in order to adapt to different installation layouts.

The wide array of filter screens, supplied with a PES or Stainless Steel AISI 316 filtering mesh, allows the user to choose between various filtration degrees, ranging from 3000µm to 80µm.

WONDERBRUSH is supplied complete of valves, pressure gauges and electronic controller.

FILTRATION PROCESS

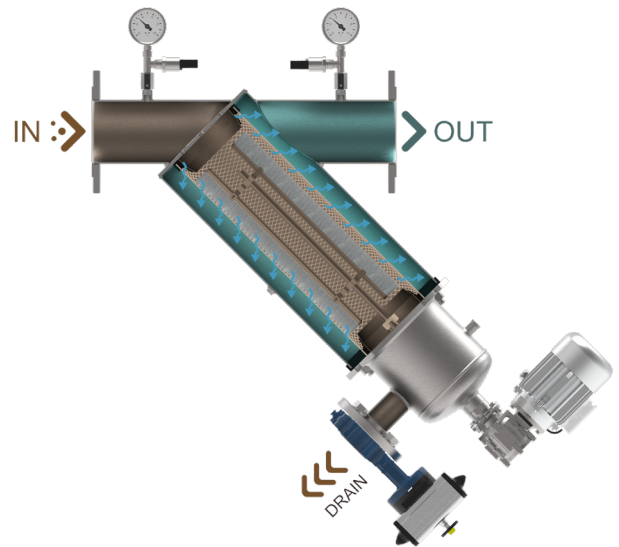
To-be-treated raw liquid enters the filter through the inlet connection (IN), suspended solids are retained inside the filtering element and purified liquid flow out of the outlet connection (OUT).

CLEANING

The continuous build-up of solids, trapped inside the filter mesh, creates a differential pressure between inlet and outlet that can be read on the filter's manometers.

The cleaning cycle 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). Both parameters can be set by the controller.

During the cleaning cycle the drain valve is opened to drain impurities while the brushes start rotating and removing the dirt accumulated on the filtering element, flushing it towards the drain (DRAIN). Filtration is not interrupted during this process.



TECHNICAL SPECIFICATIONS

Design Data

Flow rate	Up to 400 m³/h
Design Pressure (bar)	PN 10
Max Temperature (°C)	80
Salinity	< 10.000 ppm
pH range	3-9
Design Code	PED 68/2014/EU

Power Supply

Electric Voltage	230 Vac 50/60Hz single phase
Compressed Air	6 bar

Actuation*

Electric Motor	230Vac 0.11kW
Valves	Electropneumatic 24Vdc

*Filter's actuation is powered by the controller

Materials

Filter Housing	Stainless Steel AISI 304 - AISI 316L
Gaskets	EPDM*
Drain Valves	Cast iron Body with AISI 316L lens
Pressure Gauges	Stainless Steel AISI 304 - AISI 316L
Surface finishing	Microshot Peening and Passivation

*Certified to comply to the following European Drinking Water regulations: UBA, DVGW standard W-270, WRAS and ACS

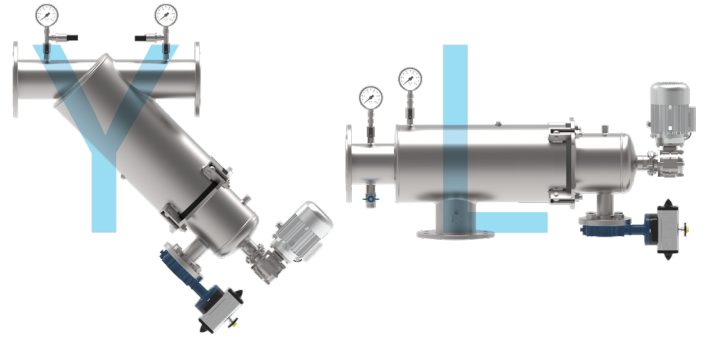
Controller

Power supply	230 Vac 50/60Hz single phase
Protection Class	IP65
Material	ABS
Input	2 digital (Pause, DP), 3 analogic (pressure)
Output	4 SPDT (16A 250Vac), 4 SPST (1A 24Vdc), 1 SPST (alarm)
Cleaning Cycle Management	Differential Pressure, Pre-set time intervals, Manual

FEATURES

WONDERBRUSH filters are manufactured with technical and constructive features suitable for industrial applications and are available in 2 different constructive shapes: Y and L with flanged connection.

The vessel is manufactured in Stainless Steel AISI 304 or in AISI 316 upon request and is available in Y and L constructive shapes. For each shape four different sizes are available: 6, 8, 18 and 30 which differ in the size of the filtering element inside them. After the welding procedure the vessel is subjected to two surface treatments, micro-shot peening and passivation: the first provides a greater surface resistance and removes any manufacturing impurities whereas the second one reconstructs the natural passive film which constitutes the absolute stainlessness of the filter.



CONNECTIONS

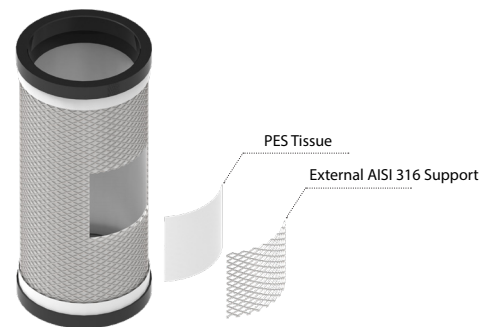


WONDERBRUSH's Inlet and Outlet connections can be BSPP Threaded up to 3" and are ISO PN16 lap-joint flanged from DN80 onwards.

FILTERING ELEMENTS

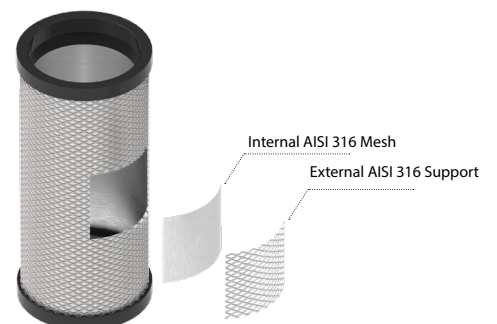
PES FILTERKIT

Composed of an AISI 316 Stainless Steel cylinder within which a polyester (PES) filter tissue is inserted, its wide array of available filtering tissues and allows the customer to choose from various filtration degrees starting from 80 μm up to 810 μm .



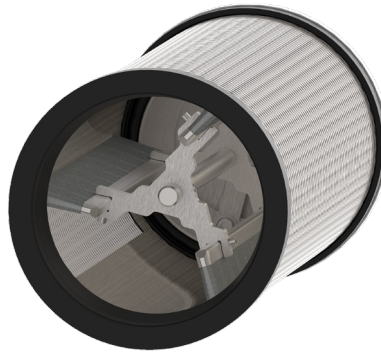
2LAY INOX FILTERKIT

Composed of a double layer stainless steel AISI 316 mesh, this type of filtering element is very resistant and proves to be an extremely valid alternative to PES FILTERKIT when it comes to harsh exercise conditions, especially when sharp or cutting suspended solids might be present inside the liquid.



ROTATING BRUSHES SELF-CLEANING SYSTEM

WONDERBRUSH's self-cleaning Brush cleaning system is composed of 3 nylon brushes installed on a stainless steel shaft which rotates during the cleaning cycle started by the electronic controller. The system does not require external intervention and works independently without interrupting the outlet flow.



FLOW RATE & SIZE

You can select the product you need by identifying the IN/OUT connections and MAX flowrate first, then choosing one of the available constructive shapes and finally the relative size of the filtering element.

IN/OUT Ø	MAX FLOW RATE*		SHAPE		FILTERING SURFACE		
	[m³/h]	[l/min]	Y	L	SIZE	[cm²]	[in²]
2" BSPP	30	500	✓	✓	6	1500	233
3" BSPP	60	1000	✓	✓			
DN 80	60	1000	✓	✓			
DN100	100	1666	✓	✓			
3" BSPP	70	1166	✓	✓	8	2200	341
DN 80	70	1166	✓	✓			
DN100	110	1833	✓	✓			
DN100	120	2000	✓	✓	18	3300	512
DN150	240	4000	✓	✓			
DN100	120	2000	✓	✓	30	5400	837
DN150	260	4333	✓	✓			
DN200	400	6666	-	✓			

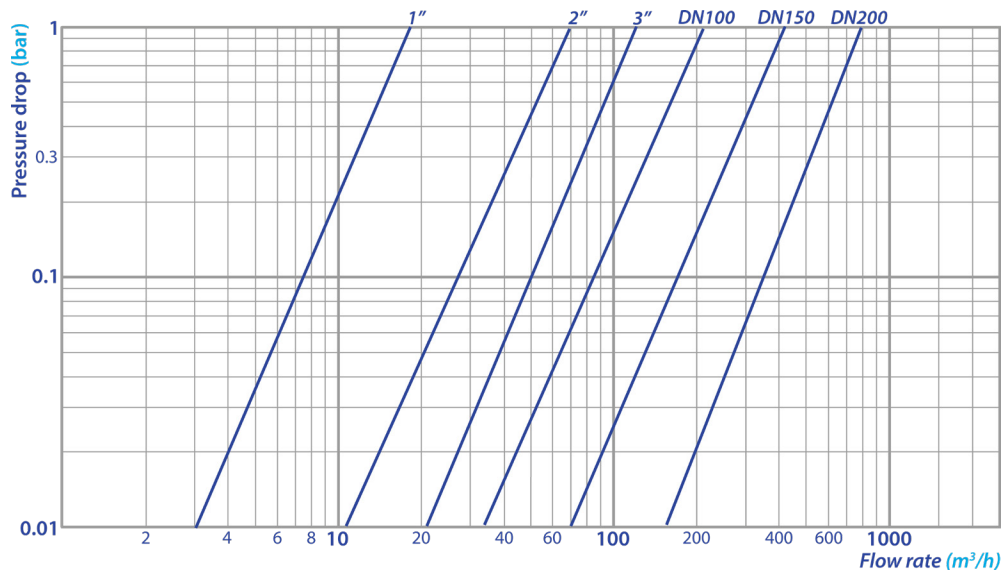
*Max flow rates are calculated based on clean water with a filtration degree of 120µm
With the same IN/OUT connection and the same MAX flowrate, the larger filter will require less cleaning than the smaller one.

CLEANING CYCLE

	SIZE 6	SIZE 8	SIZE 18	SIZE 30
Min. cleaning flowrate	10m³/h	15m³/h	15m³/h	20m³/h
Min. pressure during the cleaning cycle	1.5 bar	1.5 bar	1.5 bar	1.5 bar
Water consumption full cleaning cycle	55lt	84lt	84lt	110lt
Cleaning cycle's length	20-25sec	20-25sec	20-25sec	20-25sec

*For inferior flowrates and/or pressures please contact WONDERFIL Srl for more information

HEAD LOSS



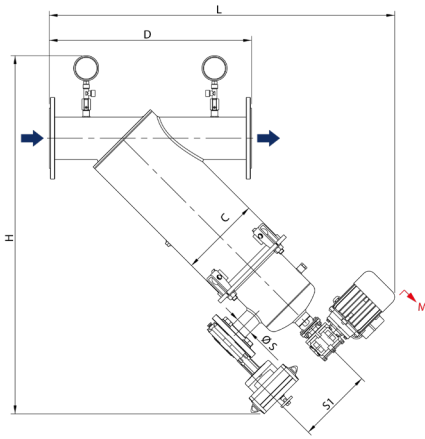
MODEL COMPOSITION

The model that identifies the filter is composed as follows:

WBRS Filter acronym	2" Connections	Y Vessel Shape	6 Size
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DIMENSIONS

Y Shape - Dimensions

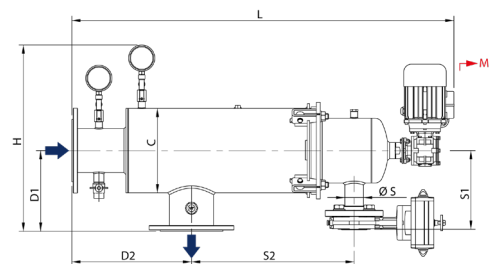


*M = Minimum free space required for maintenance

MODEL	IN/OUT	D [mm]	L [mm]	H [mm]	C [mm]	S1 [mm]	S2 [mm]	Ø S [mm]	M min [mm]	WEIGHT [Kg]
WBRS 2" Y 6	2" BSPP	412	757	830	219	204	-	DN40	500	31
WBRS 3" Y 6	3" BSPP	464	783	844	219	204	-	DN40	500	32
WBRS 80 Y 6	DN 80	487	782	844	219	204	-	DN40	500	36
WBRS 100 Y 6	DN100	547	824	857	219	204	-	DN40	500	37
WBRS 3" Y 8	3" BSPP	464	892	953	219	204	-	DN40	700	35
WBRS 80 Y 8	DN 80	487	891	953	219	204	-	DN40	700	39
WBRS 100 Y 8	DN100	547	933	966	219	204	-	DN40	700	41
WBRS 100 Y 18	DN100	585	933	966	273	204	-	DN40	700	47
WBRS 150 Y 18	DN150	660	956	993	273	204	-	DN40	700	53
WBRS 100 Y 30	DN100	585	1150	1194	273	216	-	DN50	1000	57
WBRS 150 Y 30	DN150	660	1173	1221	273	216	-	DN50	1000	63

L Shape - Dimensions

MODEL	IN/OUT	D1 [mm]	D2 [mm]	L [mm]	H [mm]	C [mm]	S1 [mm]	S2 [mm]	Ø S [mm]	M min [mm]	WEIGHT [Kg]
WBRS 2" L 6	2" BSPP	190	310	836	549	219	204	268	DN40	500	31
WBRS 3" L 6	3" BSPP	190	310	836	549	219	204	268	DN40	500	32
WBRS 80 L 6	DN 80	210	310	836	549	219	204	268	DN40	500	36
WBRS 100 L 6	DN100	210	310	836	549	219	204	268	DN40	500	37
WBRS 3" L 8	3" BSPP	190	310	990	549	219	204	422	DN40	700	35
WBRS 80 L 8	DN 80	210	310	990	549	219	204	422	DN40	700	39
WBRS 100 L 8	DN100	210	310	990	549	219	204	422	DN40	700	40
WBRS 100 L 18	DN100	246	350	1061	576	273	204	422	DN40	700	48
WBRS 150 L 18	DN150	246	350	1061	576	273	204	422	DN40	700	52
WBRS 100 L 30	DN100	246	350	1367	576	273	216	728	DN50	1000	57
WBRS 150 L 30	DN150	246	350	1367	576	273	216	728	DN50	1000	61
WBRS 200 L 30	DN200	266	350	1367	576	273	216	728	DN50	1000	67



*M = Minimum free space required for maintenance