

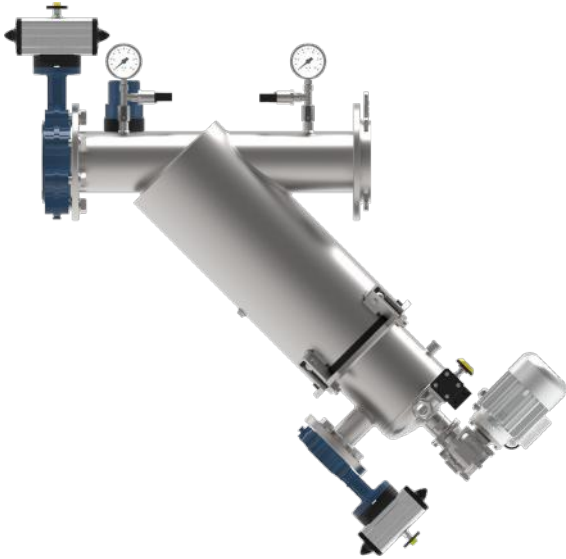
TerTech

WONDERJET

Self Cleaning Jet Filter



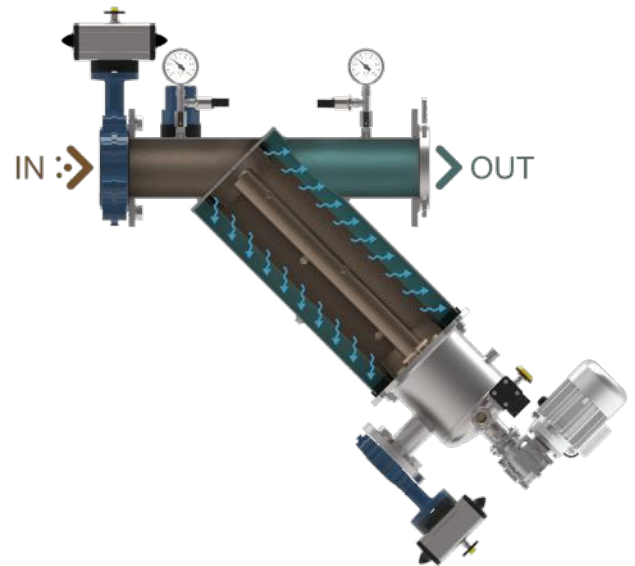
WONDERJET



WONDERJET is a self-cleaning mesh filter, suitable to treat fluids loaded with a medium-high amount of suspended solids, even colloidal. WONDERJET, thanks to powerful pressurised water jets, efficiently cleans the filtering element in a short time and with reduced water consumption.

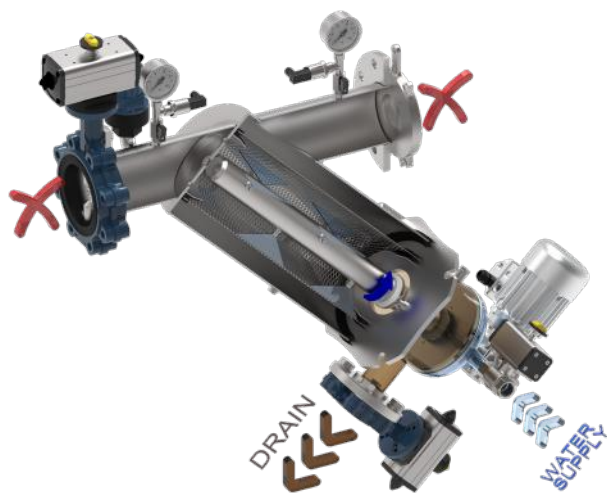
WONDERJET is manufactured in two different constructive shapes, Y and L, to adapt to different system layouts. The wide array of FILTERKIT screens, with PES filtering tissue or completely in Stainless Steel AISI 316 for the 2LAY INOX FILTERKIT version, allows the user to choose between different filtration degrees, ranging from 1000µm to 25µm.

WONDERJET is complete of valves, pressure gauges and electronic controller at the time of supply.



FILTRATION

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).

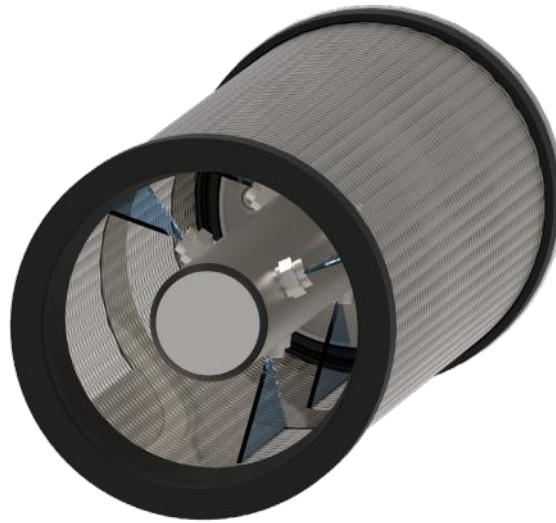


CLEANING

The continuous build-up of solids, trapped inside the filtering mesh, creates a differential pressure between the filter's Inlet and Outlet connections that can be read on the manometers. The cleaning of the filtering screen can be performed 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). In this phase, the inlet valve is closed and the drain valve (DRAIN) is opened. When the emptying is completed, the cleaning shaft is put in rotation and the nozzles' feed valve (WATER SUPPLY) is opened. Pressurised water-jets spray the internal walls of the filtering screen removing impurities which are then discharged through the drain (DRAIN).

PRESSURISED WATER JETS SELF-CLEANING SYSTEM

WONDERJET's self-cleaning Jet cleaning system is composed of several water jet nozzles installed on a stainless steel shaft which rotates during the cleaning cycle started by the electronic controller. The system does not require external intervention but requires an external source of clean water. The outlet flow is interrupted during the cleaning cycle to ensure maximum removal efficiency.



TECHNICAL SPECIFICATIONS

Design Data

Flow rate	Up to 260 m ³ /h
Design Pressure (bar)	PN 10
Max Temperature (°C)	80
Salinity	< 10.000 ppm
pH range	3-9
Design Code	PED Directive 2014/68/EU - Machinery Directive 2006/42/CE - LVD Directive 2014/35/EU

Power Supply

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

Actuation*

Electric Motor	230Vac 0.11kW
Valves	Electropneumatic 24Vac

*Filter's actuation is powered by the controller

Materials

Filter Housing	Stainless Steel AISI 304 - AISI 316L
Gaskets	EPDM*
Valves	Cast iron Body with AISI 316L lens Nickel-Plated Brass - AISI 316L
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

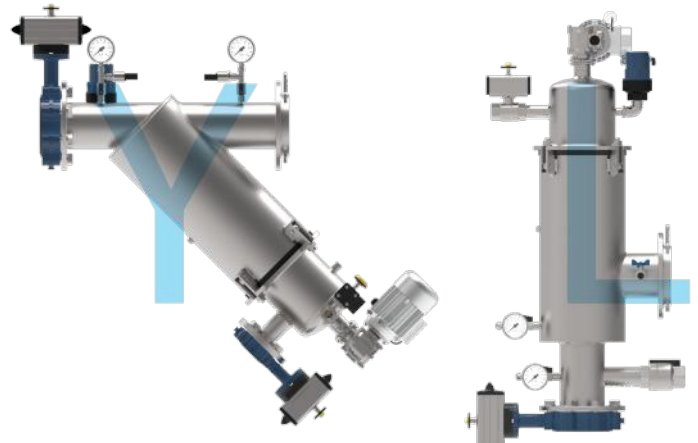
Controller

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 24Vac), 1 SPST (alarm)
Cleaning Cycle Management	Differential Pressure, Pre-set time intervals, Manual

FEATURES

WONDERJET 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

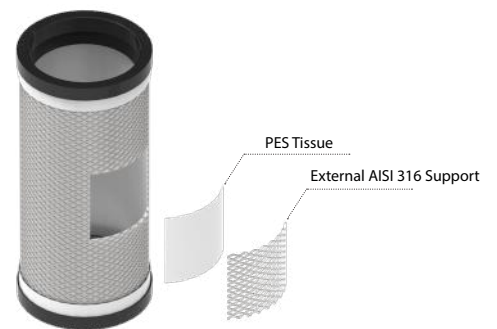


WONDERJET's Inlet and Outlet connections are UNI-EN 1092-1 PN10/16 lap-joint flanged.

FILTERING ELEMENTS

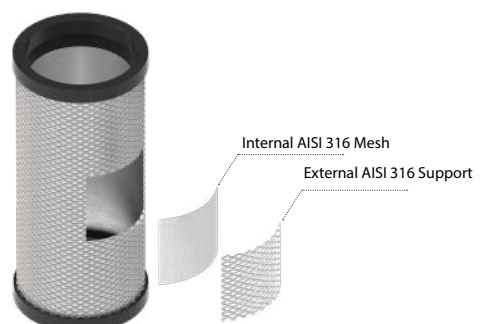
PES FILTERKIT

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 25µm up to 810µm.



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.



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.

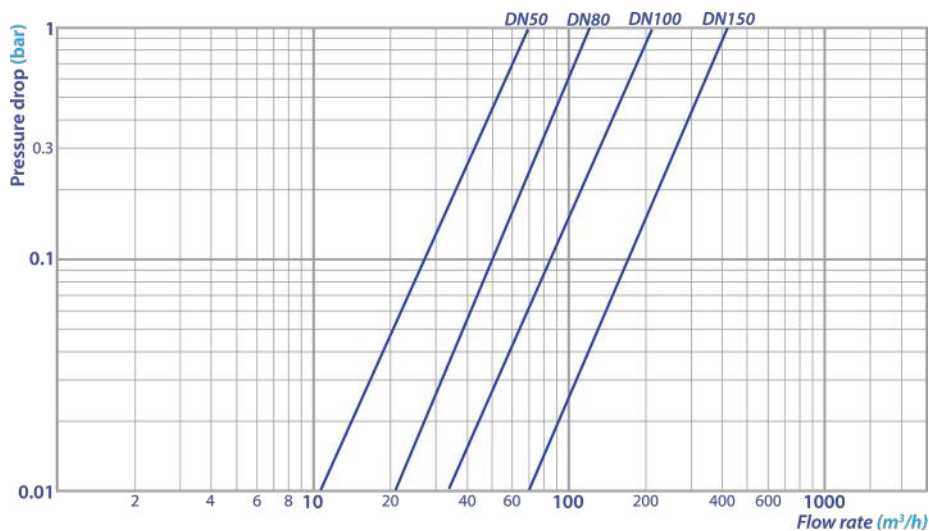
IN/OUT Ø	MAX FLOW RATE*		SHAPE		FILTERING SURFACE		
	[m³/h]	[l/min]	Y	L	SIZE	[cm²]	[in²]
DN 50	30	500	✓	✓	6	1500	233
DN 80	70	1166	✓	✓	8	2200	341
DN100	110	1833	✓	✓			
DN100	120	2000	✓	✓	18	3300	512
DN 100	120	2000	✓	✓	30	5400	837
DN 150	260	4333	✓	✓			

*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
Wash-water flow rate	3 m³/h	4.5m³/h	4.5m³/h	8.5m³/h
Wash-water min. pressure	5 bar	5 bar	5 bar	5 bar
Water consumption full cleaning cycle	30 L	44 L	52 L	94 L
Cleaning cycle's length	60 sec	60 sec	60 sec	60 sec

HEAD LOSS



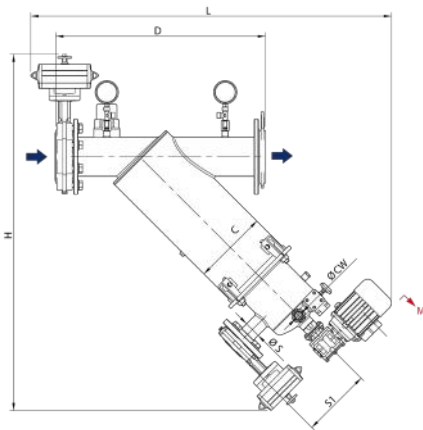
Head losses are referred to filters with 120 µm clean filtering mesh

MODEL COMPOSITION

The model that identifies the filter is composed as follows:

WJET Filter Acronym	50 Connections	Y Vessel Shape	6 Size
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DIMENSIONS



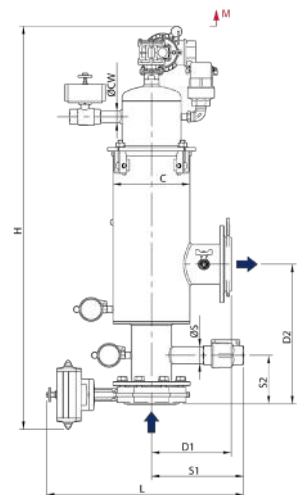
Y SHAPE

MODEL	IN/OUT	D [mm]	L [mm]	H [mm]	C [mm]	S1 [mm]	Ø S [mm]	Ø CW [mm]	M min [mm]	Weight [Kg]
WJET 50 Y 6	DN 50	540	900	887	219	204	1" ½ BSPP	¾ BSPP	500	45
WJET 80 Y 8	DN 80	548	1009	953	219	204	1" ½ BSPP	¾ BSPP	700	51
WJET 100 Y 8	DN100	617	1056	1043	219	204	1" ½ BSPP	¾ BSPP	700	55
WJET 100 Y 18	DN100	655	1056	1043	273	204	1" ½ BSPP	¾ BSPP	700	61
WJET 100 Y 30	DN100	655	1272	1259	273	204	1" ½ BSPP	¾ BSPP	1000	70
WJET 150 Y 30	DN150	737	1329	1300	273	204	1" ½ BSPP	¾ BSPP	1000	82

*M = Minimum free space required for maintenance

L SHAPE

MODEL	IN/OUT	D1 [mm]	D2 [mm]	L [mm]	H [mm]	C [mm]	S1 [mm]	S2 [mm]	Ø S [mm]	Ø CW [mm]	M min [mm]	PESO [Kg]
WJET 50 L 6	DN 50	210	358	497	949	219	230	118	1" BSPP	1" BSPP	500	39
WJET 80 L 8	DN 80	225	356	523	1107	219	234	116	1" BSPP	1" BSPP	700	45
WJET 100 L 8	DN100	228	402	562	1152	219	228	142	1" ½ BSPP	1" BSPP	700	50
WJET 100 L 18	DN100	264	402	564	1152	273	262	142	1" ½ BSPP	1" BSPP	7000	57
WJET 100 L 30	DN100	264	402	564	1458	273	262	142	1" ½ BSPP	1" BSPP	1000	66
WJET 150 L 30	DN150	266	406	621	1492	273	279	146	1" ½ BSPP	1" BSPP	1000	77



*M = Minimum free space required for maintenance