

# RVT Series

SELF-CLEANING FILTERS  
CUSTOM MADE



## MAIN APPLICATIONS:

- DESALINATION
- WATER TREATMENT
- FINE CHEMICAL
- PETROCHEMICAL
- OIL & GAS
- POWER GENERATION
- DISTRICT HEATING
- STEEL MILL
- FOOD & BEVERAGE
- GENERAL INDUSTRIES

## CHARACTERISTICS:

- Body construction materials:
  - Carbon steel
  - Stainless steel
  - (other materials as option).*
- Internals construction materials:
  - 304-SS or 316L-SS
  - Duplex SS or Super Duplex
  - (other materials as option).*
- Conform to the codes:
  - ASME Sect. VIII Div. 1
  - EN 13445
  - (other design code as option).*
- Suitable for liquids Gr. 1 and 2 filtration.
- Conform to 2014/68/EU PED Directive.
- Conform to 2014/34/EU ATEX Directive.
- Conform to 2006/42/UE Machinery Directive.
- Available with U-Stamp certification.
- In/out connection up to 44".
- Flow-rate up to 10.700 m<sup>3</sup>/h
- Suitable for continuous operation without maintenance.
- Full automatic operation.
- Minimal water loss during back-wash.
- Sea water and brackish water design including:
  - Double flanged body
  - Internal lining for corrosion protection in neoprene, ebonite, glass-flake, Abcrite. *(other materials as option)*
- Wedge-wire type filter elements

# ASCO FILTRI

a **mott** company

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## TECHNICAL DATA

### CONSTRUCTION MATERIALS

#### BODY:

- Carbon steel
- 304/L-SS
- 316/L-SS
- Duplex SS
- Super Duplex
- (other materials available)

#### INTERNALS:

- 304-SS
- 316L-SS
- Duplex SS
- Super Duplex
- (other materials available)

### GASKETS

- SPIRAL WOUND
- KLINGERSIL
- REINFORCED EPDM

### IN/OUT

- Up to 44"

### FLOW-RATE

- Up to 10.700 m<sup>3</sup>/h

### FILTRATION RATING

- From 50 to 2000 µm

## Working principle:

Fluid is filtered across slotted filter elements from inside to outside.

When pressure drop reaches the set point, detected by a differential pressure switch or transmitter, the back-washing is automatically initiated starting the geared motor and opening the actuated discharge valve for two minutes approximately.

During back-wash, only one, two or three (depending on the filter model) filter elements at time, through the cleaning arm, are in communication with the drain at atmospheric pressure. Due to the differential pressure between the filter and atmosphere, part of the already filtered water flushes these elements in the reverse way (outside to inside).



This action provide to remove the dirty particles from the elements and discharge them through the drain connection.

Internal cleaning arms provide to back-wash only a small portion of the total filtering area at time. This design minimize the water discharge and maintain the filter in operation when the back-wash is in progress.

## Accessories:

The RVT series filters are always supplied with the accessories that allow automatic operation:

- Geared electric motor
- Differential pressure switch
- Automatic drain valve
- Control panel
- Safety micro-switch for inspection door
- Others upon request



## Customs solutions:

In order to meet the increasingly growing requests for the supply of turn-key pre-assembled packages, the RVT series filters can be supplied, on request, installed on skids and equipped with shut-off valves, manifolds, pressure safety valves, etc.



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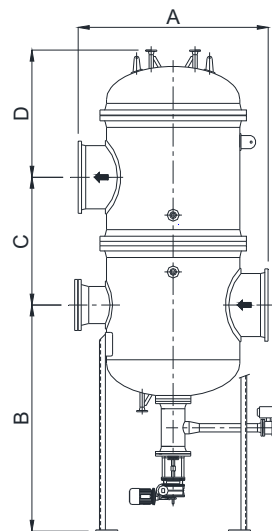
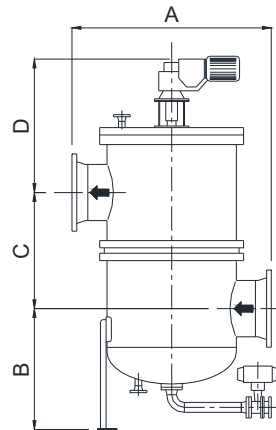
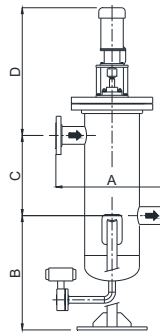
## Dimensions:

Mod.	Dimensions [mm]					Flow-rate [m <sup>3</sup> /h]	Weight [kg]
	A	B	C	D	In/out max.		
308L	500	540	300	630	4"	51	150
311L	560	570	400	630	4"	82	190
604L	500	540	300	630	4"	74	150
608L	560	570	400	630	6"	148	190
706L	620	820	550	730	6"	201	210

Mod.	Dimensions [mm]					Flow-rate [m <sup>3</sup> /h]	Weight [kg]
	A	B	C	D	In/out max.		
312	600	450	350	400	3"	74	250
315	650	500	450	500	6"	94	350
610	700	700	400	1000	8"	223	400
616	800	800	350	1050	10"	372	450
627	900	850	550	900	12"	645	600
715	950	850	800	900	14"	642	900
724	1000	900	750	1000	16"	1009	1000
730	1150	1000	700	1000	18"	1330	1300
736	1250	1050	650	1050	20"	1605	1600
750	1600	1200	900	1100	24"	2201	2700
764	1600	1200	900	1100	24"	2844	2800
776	1800	1200	1100	1100	26"	3394	3500

Mod.	Dimensions [mm]					Flow-rate [m <sup>3</sup> /h]	Weight [kg]
	A	B	C	D	In/out max.		
1060	2140	3000	1700	1600	32"	5654	5000
990	2600	3100	1750	1740	36"	6682	8000
9113	2750	3210	1930	1870	40"	8372	9000
10112	2750	3230	1980	1900	44"	10712	9200

Recommended water flow-rates, clean Delta-P < 0.15 bar.  
Flow-rate must be adjusted according to application and water quality.  
Flow-rates are related to 500 µm filtration rating; for different filtration ratings contact ASCO Filtri.



## Filtering candle:

The RVT series filters are equipped with "wedge-wire" type filtering candles; these filtering elements are made with a with a trapezoidal shape wire spirally wounded, the distance between two wires defines the filtration rating.

The filter candles thus produced guarantee a series of advantages including:

- The collected solids are easily removed during the backwash as they have only two contact points with the wires of the candles;
- Completely welded construction and therefore free from too short last in service due to aging or chemical attack to bonding resins;
- High mechanical strength;
- Capability to successfully withstand periodical off-line chemical or mechanical washing of the candles;
- Availability of a wide range of filtration ratings and materials.

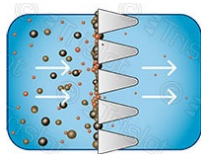


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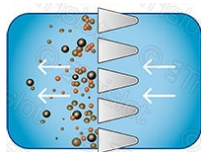
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## Filtering candles:



### Filtration phase

The water passes through the filtering candles from the inside towards the outside and the solids are collected on the smooth surface of the filtering candle. The finer solids pass through the openings and do not remain blocked thanks to the conical shape of the slots.



### Back-wash phase

The reverse flow easily removes the solids that have been collected on the surface of the filtering candle.

## Available materials and filtration rating:

The wedge-wire filtering candles are available in several materials to satisfy the different application requirements.

Fluid	Available materials				
	316L-SS	U-45N Duplex-SS	U-52N Super-Duplex	UNS-S32750 Super-Duplex	SMO 254 Super-Duplex
Industrial water	X				
Well water	X				
River water	X				
Sea water	X	X	X	X	X
Brackish water	X	X	X	X	X
Produced water	X	X			
Acid water		X	X	X	X

If using 316L-SS candles with sea or brackish water, always verify their suitability on salinity and water temperature bases. In these cases it is always recommended to install a sacrificial anode to prevent galvanic corrosion.

The wedge-wire filtering candles are available in a wide range of filtration rating from 100 to 2000  $\mu\text{m}$ .

In case of 50 to 75  $\mu\text{m}$  rating candles check with ASCO Filtri technicians the suitability.

**Contact us for any further information.**

We reserve the right to change the specifications of this specification without notice.