

# Reverse Pulse Vacuum Filters

## RST Series 1" - 4"

### Overview

The reverse pulse RST Series incorporates split second bursts of pressurized air to create a powerful shock wave that cleans the filter element and extends its service life. Quick pulses cause particulate sitting on the element's pleated surface area to release and collect in the drop out area of the filter housing. Pulses can be repeated as required and can occur during a running process because the split second air bursts have minimal effect on the process pressure. (Optional pulse kit is available.)

### Benefits

- Superior level of filtration offers enhanced equipment protection (PTFE style elements)
- Extends the life of filter element, reducing overall cost
- See-through design allows for instant visual inspection

### Features

- See-through bucket made from shatter resistant polycarbonate material
- High tensile strength permits dimensional stability
- Integrated inlet baffle
- Tap on center of cast head for optional reverse pulse kit air pulse rod:  $\frac{3}{8}$ " tap on 1" sizes,  $\frac{3}{4}$ " tap on 2 - 4" sizes
- Sturdy hook clamps secure bucket to head

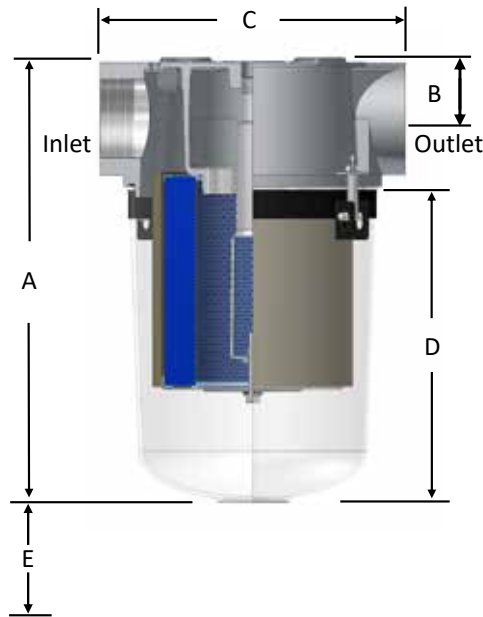
### Technical Specifications

- Vacuum rating: medium vacuum service
- PTFE media: 0.3 micron, 99.5% efficiency
- Temperature ratings:
  - Complete assembly: max 104°C (220°F)
  - See-through bucket only: max 125°C (257°F)



### Options

- Carbon steel bucket (RCT)
- Extended bucket (RSTD)
- Alternate media
- Taps for gauges and mounting brackets



Inlet/Outlet Size	Inlet/Outlet Type	Assembly m <sup>3</sup> /hr Rating	Assembly Part Number PTFE	Dimensions - mm				Suggested Service ht. E	Approx. Weight (kg)	Replacement Element Part No. PTFE	Element m <sup>3</sup> /hr Rating
				A	B	C	D				
1"	BSPP	68	RST-TF897-101C	336	298	177	260	228	5.4	TF897	68
1 ¼"	BSPP	68	RST-TF897-126C	336	298	177	260	228	5.4	TF897	68
1 ½"	BSPP	68	RST-TF897-151C	336	298	177	260	228	5.4	TF897	68
2"	BSPP	112	RST-TF851/1-201C	413	362	229	315	228	7.2	TF851/1	112
2 ½"	BSPP	112	RST-TF851/1-251C	413	362	229	315	228	6.8	TF851/1	112
3"	BSPP	261	RST-TF235-301C	502	432	343	356	228	13	TF235	261
4"	BSPP	261	RST-TF235-401C	502	432	343	356	228	11	TF235	261

6" option available upon request.

### Reverse Pulse Kit Option

The reverse pulse kit assembly is designed to hold an appropriate volume of pressurized air close to the housing which improves the effectiveness of the pulse. The compact assembly includes an accumulator vessel and solenoid valve that can be easily mounted to the RST filter series.

### Kit Features

- Typical accumulator capacity 5 liters
- Maximum working pressure of accumulator vessel: 6 barg\*
- CE marked vessel according to directive 2014/68/EU
- Solenoid valve: 24V DC, brass material with NBR seal

### Kit Benefits

- Easily mounts to RST series housings
- Compact space saving design
- Improved pulse effectiveness

\*6 barg rating only applies to accumulator tank. Internal housing pressure not to exceed 0,5 barg.



# Technical Data

## Inlet Vacuum Filters

### Applications & Equipment

- Industrial & Severe Duty
- Vacuum Pumps & Systems: Roots, Rotary Vane, Screw, Piston
- Vacuum Packaging Equipment
- Vacuum Furnace
- Blowers: Side Channel & P.D.
- Vacuum Lifters
- Intake Suction Filters
- Food Industry
- Woodworking/Routers
- Ash Handling
- Printing Industry
- Medical/Hospital
- Sterilization
- Remote Installations for Piston & Screw Compressors
- Paper Processing
- Waste Water Aeration
- Cement Processing
- Bag House Systems
- Vacuum Vent Breathers
- Chemical Processing
- Factory Automation Equipment
- Leak Detection Systems
- Semiconductor / Solar

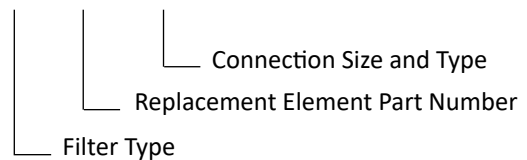
### Identification

Standard Solberg assemblies should have an identification label/nameplate that gives the following information:

- Assembly Model #
- Replacement Element #

The part number designates the filter type, the element configuration and housing connection size. For example, the following part number identifies the filter as being a “CSL” design filter with a “235™” element, “P” prefilter and DN100 flange connection size.

#### CSL-235P-DN100



### Vacuum Service Rating Chart

Threaded vacuum filter connections must be free of defect and properly sealed to achieve deeper vacuum levels. Vacuum service levels are given for reference only and serve as a guideline for product selection. Product certification and alternative designs are available for applications requiring deeper vacuum levels and specific leak rates. Please contact factory for details.

Vacuum Level	Pressure (mbar)	Pressure (Torr)	Pressure (Pa)
Atmospheric Pressure	1013	760	1.013x10 <sup>+5</sup>
Rough Vacuum	1013 to 33	760 to 25	1x10 <sup>+5</sup> to 3x10 <sup>+3</sup>
Medium Vacuum	33 to 1.3x10 <sup>-3</sup>	25 to 1x10 <sup>-3</sup>	3x10 <sup>+3</sup> to 1x10 <sup>-1</sup>
High Vacuum	1.3x10 <sup>-3</sup> to 1.3x10 <sup>-9</sup>	1x10 <sup>-3</sup> to 1x10 <sup>-9</sup>	1x10 <sup>-1</sup> to 1x10 <sup>-7</sup>

## Choosing the Best Filter for Your Equipment

A. When the connection & airflow is known:

1. Select the appropriate connection style. (i.e.: BSPT, Flange, BSPP, etc.)
  - a. Verify assembly m<sup>3</sup>/hr (flow) rating. Compare with your required airflow.  
(Note: Assembly flow ratings are based on 6,000 FPM or 30m/sec for a given connection size to achieve low pressure drop performance. When required flow exceeds assembly flow rating, the pressure drop through the outlet connection will increase. In such cases select by element m<sup>3</sup>/hr (flow) rating.)
  - b. Verify that the flow rating matches connection size; skip to “C. Selecting Elements”.

B. When the connection size is unknown, flexible, or the required flow rating exceeds assembly flow rating:

1. Match required flow rating with the element flow rating.
2. Choose related connection size.

C. Selecting Elements: The filter performance is influenced by the actual application duty and the equipment it is installed on. Regular maintenance checks and proper servicing is required.

### **Application Duty Descriptions:**

Industrial Duty: clean workshop or clean outdoor environment - small element sizing is sufficient.

Severe Duty: dirty workshop, wastewater – medium to large element is recommended.

Extreme Duty: cement, steel making, plastics or dusty material conveying – largest element sizing is recommended.

1. Select media required by your application. Options include:
  - a. Standard media
    1. Polyester: all purpose; withstands pulses, moisture, and oily air
    2. Paper: mostly dry, smooth flow applications
  - b. Special Media: for a variety of micron levels and media types, see the “Filter Media Specifications” in the Replacement Element Section or contact Solberg.
2. Select element size by matching the element with the anticipated duty and upsize accordingly.

## Filter Assembly Maintenance

Request the appropriate maintenance manual for more in-depth information from your Solberg representative or on our website: [www.solbergmfg.com](http://www.solbergmfg.com).

## Element Maintenance

Solberg elements should be replaced once the pressure drop reaches 37-50 mbar above the initial pressure drop of the installation. Cleaning the element is also an option.

Solberg recommends replacing dirty elements for optimal performance. Any damage which results from by-pass or additional pressure drop created by element cleaning is the sole responsibility of the operator.

Note: The overall performance of a filter element is altered once cleaned. The initial pressure drop after subsequent cleanings will be greater than the original, clean pressure drop of the element. After each cleaning, the pressure drop will continue to increase. Under all circumstances, the initial pressure drop of the element needs to be maintained at less than 37 mbar.

If the pressure drop exceeds 50 mbar at start-up; it should be replaced with a new element. With many types of equipment, the maximum pressure drop allowed will be dictated by the ability of the equipment to perform to its rated capacity. Under all circumstances, the operator should avoid exceeding the manufacturer’s recommended maximum pressure drop for their specific equipment.

