

# PRODUCT INFORMATION

5000 Series

**VACLEEN™**  
Self-Cleaning Filter



## Olson Offers Automatic Cleaning with Minimal Pressure Drop

### EFFICIENT

- The reverse flow backwash is an effective method of cleaning a screen.
- Reciprocating flush nozzles allow use of a small flush valve creating greater differential pressure across the screen and through the nozzle.
- A minimal amount of water is used for a backwashing cycle.
- The flushing cycle uses only a small portion of the filter flow capacity during cleaning.
- Even during the backflush cycle, the filtration process is uninterrupted.
- The filter's cleaning process is fully automatic.
- The unit's AWWA Class D flanges simplify installation.
- Models are available which require no power.

### EFFECTIVE

- Offers filtration to 15 microns (800 mesh).
- Removes suspended solids, including organic materials such as algae.
- Available in models up to 4,000 gpm. Filters can be manifolded for greater requirements.
- The sintered stainless steel element assures mesh-size stability.
- Operates at temperatures to 180° F.

### ECONOMICAL

- Lower prices than expensive sand bed filters.
- Little or no maintenance.
- All working mechanisms can be removed from the filter for service.
- Filter can be serviced without removal from the pipeline.



10910 Wheatlands Avenue  
Santee, CA 92071 • USA  
(619) 562-3100 • FAX (619) 562-2724  
[www.vacleen.com](http://www.vacleen.com)

U.S. and Foreign Patents Pending

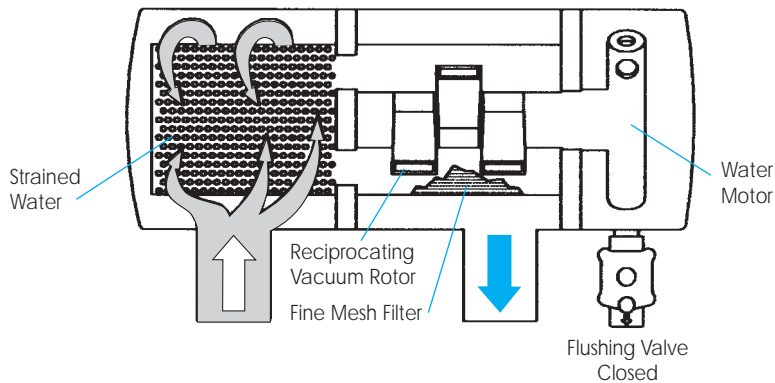
# 5000 Series

## VACLEEN™ Self-Cleaning Filter

The Olson 316 stainless steel VACLEEN™ filter is an automatic, state-of-the-art, self-cleaning filtration system providing excellent filtration for industrial and agricultural applications. The system's unique backflush cleaning cycle provides uninterrupted filtration due to the

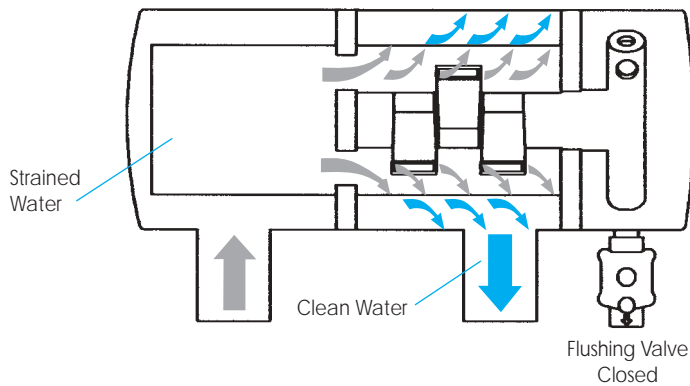
speed of the cleaning process and the minimal amount of system pressure drop. Sound engineering principles and modern technology, combined with user needs and experience, have produced the VACLEEN™ Self-Cleaning Filter.

### FILTERING AND FLUSHING SEQUENCE

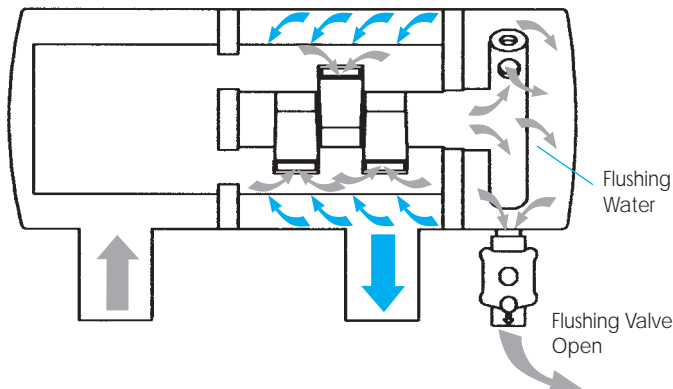


#### FILTERING MODE

Dirty water enters the strainer where large particles are removed and trapped on the exterior surface of the strainer.



Strained water enters the fine mesh filter and clean water flows out to the irrigation system.



#### FLUSHING MODE

Debris is removed from the interior of the filter by the reciprocating vacuum rotor and flows out the flushing valve.

# Vaclean™ Stainless Steel Self-Cleaning Filters

## Specifications

MODEL/PART NUMBER	125/5002	250-R/5003	500-R/5004	1000-R/5006	1500-R/5008
Maximum Flow Rate* GPM	132	250	500	975	1450
Minimum Working Pressure PSI	35	35	35	35	35
Maximum Working Pressure PSI	125	125	125	150	150
Screen Area IN <sup>2</sup>	118	224	448	867	1300
US GPM per IN <sup>2</sup> of Screen, Max Flow	**1.12	**1.12	**1.12	**1.12	**1.12
Maximum Temperature, F°	180	180	180	180	180
Filter Housing Diameter	Ø 10"	Ø 10"	Ø 10"	Ø 15"	Ø 15"
Inlet/Outlet Diameter					
Standard	2"	3"	4"	6"	8"
Optional		2" or 4"	3" or 6"	4" or 8"	8" or 10"
Weight, LBS.	30	2" - 51 3" - 55 4" - 60	3" - 74 4" - 80 6" - 92	4" - 382 6" - 395 8" - 410	6" - 420 8" - 435 10" - 450

\*Maximum flow rate can vary depending on dirt load and screen micron size.

\*\*When comparing manufacturers' flow rates, divide flow rate by screen square inches. Then, compare each manufacturer's gallons per square inch of screen to evaluate equivalent capacities.

## Filter Materials

MODEL/PART NUMBER	125/5002	250-R/5003	500-R/5004	1000-R/5006	1500-R/5008
Tank, Complete	STAINLESS STEEL				
Screens	3-LAYER SINTERED STAINLESS STEEL				
Flush Mechanism	STAINLESS STEEL AND ENGINEERING GRADE POLYMER				
Flush Valve	30% GLASS FILLED NYLON				
Seals	NITRILE, VITON, SILICONE				

## Automation

MODEL/PART NUMBER	125/5002	250-R/5003	500-R/5004	1000-R/5006	1500-R/5008
All Models	HYDRAULIC, BATTERY-OPERATED OR ELECTRIC CONTROLLERS ARE AVAILABLE				

## Flushing Data (at 35 psi)

MODEL/PART NUMBER	125/5002	250-R/5003	500-R/5004	1000-R/5006	1500-R/5008
Exhaust Valves, Inches	1	1	1	1-1/2	1-1/2
Flush Cycle Time, Seconds	20	20	20	20	20
Flush Water Per Cycle, Gallons	4	6	9	12	15
Min. Flow For Flush, GPM	16	20	28	35	45

## Screen Sizes

MICRON	500	300	200*	130*	100*	80*	50	25	10
mm	0.5	0.03	0.02*	0.13*	0.1*	0.08*	0.05	0.02	0.01
Mesh	30	50	75*	120*	155*	200*	300	450	600

\*Standard Sizes

## 5000 Series

### VACLEEN™ Self-Cleaning Filter

#### 316 Stainless Steel and Non-Corrosive Material Construction

- provides longer equipment life;
- minimizes maintenance;
- has resistance to damage from most chemicals.

#### Stainless Steel Sintered Screen

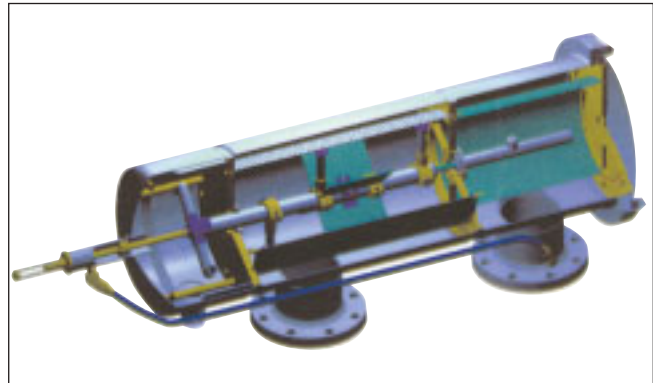
- tolerates temperatures up to 180°F;
- is available for filtration to 15 microns;
- ensures mesh size stability because of the sintering process;
- features positive “go/no go” construction, minimizing screen breakage;
- avoids danger of mixing contaminant into filtration media and discharging back into the system as can happen with sand media filters.

#### Reverse-flow Reciprocating Flush Nozzles

- provide an effective method of cleaning a filter screen;
- allow the use of a smaller flush valve, thereby providing less pressure drop and greater differential pressure across the screen and through the nozzle for a more-efficient cleaning system;
- utilize a reversing screw that causes the nozzles to traverse back and forth across the screen ensuring 100% cleaning of the screen;
- remove suspended solids and organic materials including algae;
- use a minimal amount of water per cleaning cycle;
- use less than 10% of the filter flow capacity during the brief cleaning cycle;
- allow the system to operate uninterrupted during the cleaning cycle.

#### Fully Automatic Cleaning

- with hydraulic, electronic or battery-operated controller;
- saves labor, time and scheduling problems;
- can be set for low pressure differential.



The VACLEEN™ filter features a new nozzle system which is a vast improvement over previous technology. Using older technology, the filter flush nozzles were large enough to cover 100% of the screen in one revolution. This required a relatively large flush valve. The VACLEEN™ system uses small flush nozzles that reciprocate across the filter screen allowing the use of a small flush valve. A reversing screw causes the traversing of the nozzles back and forth across the element ensuring 100% screen coverage.

An important advantage of the smaller flush valve versus the larger one is that the system pressure drop is less, thereby creating a greater differential pressure across the screen and through the nozzle, for more efficient cleaning.

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