

VORTISAND[®]

T H E P O R T A B L E F I L T E R

A 0.45 MICRON HIGH-EFFICIENCY
SIDE STREAM FILTRATION SYSTEM FOR
COOLING TOWER APPLICATIONS



**TYPICAL PAYBACK
UNDER 12 MONTHS!**

**QUICK AND EASY
CONNECTIONS**

**CAN BE USED
ALTERNATELY
ON HOT AND CHILLED
WATER LOOPS**

**IDEAL FOR
SITE TO SITE
INSTALLATION
AND OPERATION**

**AN ECONOMICAL
CHOICE (\$)**

Purchasing a filter for each closed loop can become very expensive. Sonitec Inc. has designed and developed a portable side stream unit especially suited to clean the water of various loops, whether used for chilled water or hot water heating services.

The portable Vortisand works in conjunction with the chemical treatment program. The two treatments, one mechanical and the other chemical, offer longer equipment life and maximum efficiency. Particular conditions such as nature of the contamination, thickness of the fouling on metal surface, recirculation flow, chemicals used, etc. can affect the time required for cleaning the water. The time of cleaning will vary based on the size of the filter installed. As a minimum design, we recommend to install a Vortisand that will filter the volume of water once a day. This means that, as a rule of thumb, a filter sized for one turnover a day of the system volume should clean the water in a period of 30 to 40 days.

OPTIMUM PERFORMANCE

- **No fouling** on heat exchangers, piping and control valves
- **No abrasion** of pump bearings due to particles
- **Improved** heat transfer efficiency
- **Optimization** of chemical treatment
- **Control** of corrosion and deterioration of equipment

HOW IT WORKS

The dirty water from the closed loop is easily and quickly introduced into the filter. A pump is then used to give the raw water a spin as it enters the cylindrical stainless steel tank and to overcome the pressure drop across the media. This creates a cyclonic swirl over the media bed, thrusting heavier contaminants against the perimeter of the vessel and storing them in suspension over the filter medium (sand). The smaller and lighter contaminants are carried onto the sand, which is compacted by the centrifugal action. The water is then released through this constricted media leaving particles behind without disrupting the cooling water flow .

Backwash is started automatically when the differential pressure across the filter bed reaches the preset point. Clean water is then introduced at a very low and regulated rate from the bottom of the tank and released to the drain carrying with it the particles and cleaning the media. The control panel includes a Plan and Operator Interface, differential pressure switch, 24-hour timer, backwash counter and pump starter. Electrical connection is quick and easy.

Finally, a skid with wheel allows you to easily move the filter from site to site.

PROFITABLE INVESTMENT

- **Avoid** cost of piping replacements
- **Reduced** maintenance
- Energy **savings**

EASY INSTALLATION

- **Easy** to install and to connect
- **Easy** to move from one location to another

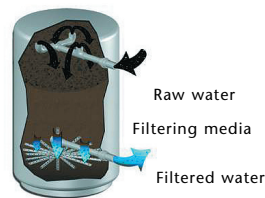
SIMPLE, EFFICIENT OPERATING PRINCIPLE

Vortisand filters have proven themselves for more than 25 years and are the results of many years of research and development. These filters provide a filtration that is 10 to 20 times finer than that of the conventional sand filters. Vortisand filters are very compact and require 75% to 90% less water for backwashing than other filters available on the market.

Designed for 0.45 micron filtration, their high performance results from a unique concept that combines centrifugal separation and sand filtration

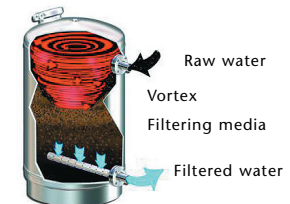
SAND FILTRATION METHODS

Conventional filter



Down to 10 microns

Vortisand® filter



Down to 0.45 micron

A PORTABLE VORTISAND FILTER SUITABLE FOR MOST APPLICATIONS

Model	Vessel Dimension (inches)	Flow rate (gpm)	Flow required for backwash (gpm)	Motor (HP)	Connections (inches)	Installation space required (L x H x D)	Weight Approx. (lbs)
AWC1-12-SI	12	20	12	3/4	1	2' 3" x 5' 3" x 2' 2"	500
AWC1-20-SI	20	60	35	1	1 1/2	2' 3" x 5' 8" x 2' 10"	1000
AWC1-24-SI	24	75	40	1 1/2	2	3' 0" x 6' 0" x 3' 8"	1600

This table is intended for information purposes only - The most suitable system can be selected by determining the volume of water in the cooling/heating system and the number of turnovers required for rapid cleaning

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