evoqua
WATER TECHNOLOGIES

VORTISAND®
CROSS-FLOW MICROSAND FILTRATION SYSTEMS

THE INDUSTRY LEADER IN HIGH EFFICIENCY SUBMICRON FILTRATION SYSTEMS

MARKETS

Cooling Towers

Pre Membrane/RO

Aquatics & Recreational

Oil & Gas

Water Reuse

Wastewater

Semiconductor & Electronics

Drinking Water

Food & Beverage

Data Centers

ABOUT VORTISAND® SYSTEMS

Vortisand systems are synonymous with water filtration, serving the industrial water markets since 1986. The award-winning Vortisand is a **High Efficiency Microsand Filtration System**. It is a high capacity media filter that combines cross-flow dynamics with microsand media to achieve submicron filtration performance. This technology allows the unit to operate at filtration rates of up to 5 times greater than those of traditional media filters, while filtering 10-50 times finer.

With over 2,500 installations worldwide, Vortisand has become a leader in high efficiency filtration systems.

D1200 (Stacked & Skid Mounted)

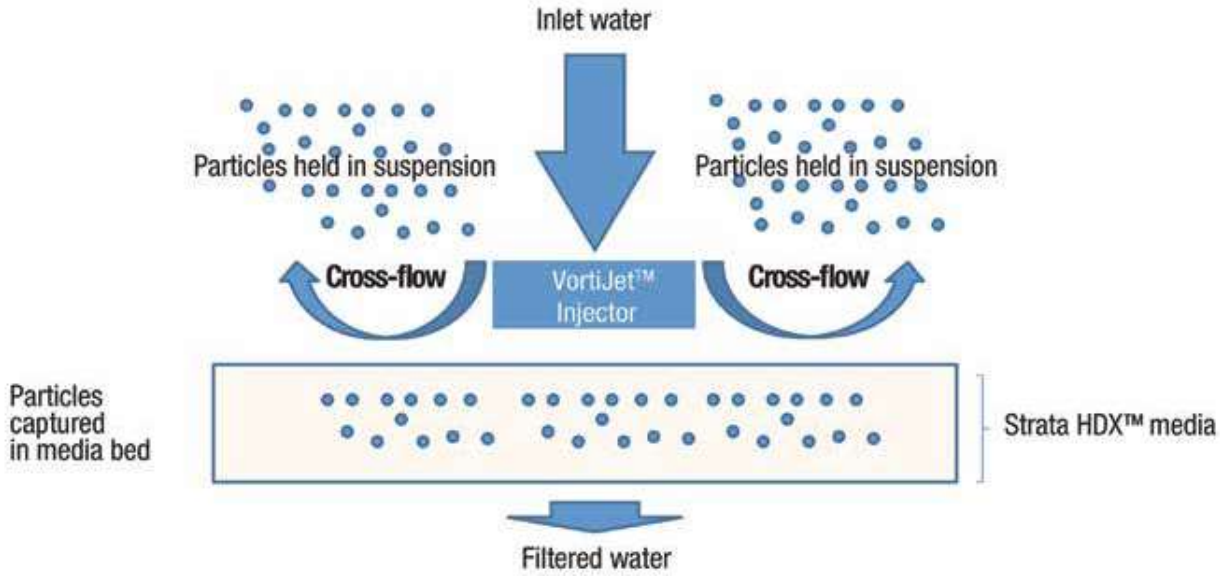
Classic S36 (Skid Mounted)

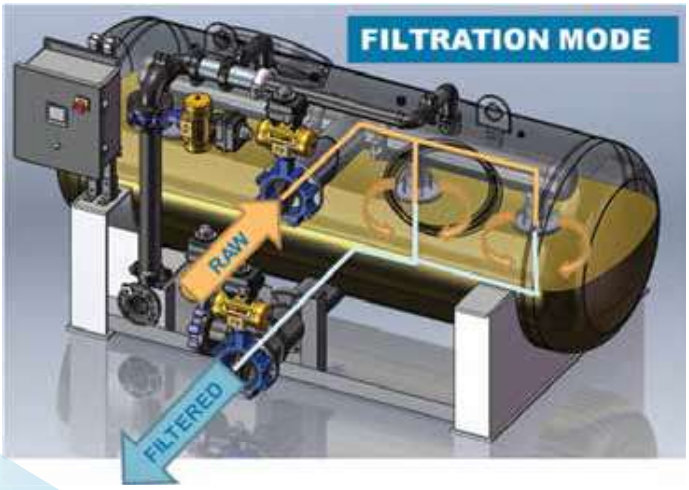
3 x D1200 (Stacked & Skid Mounted)

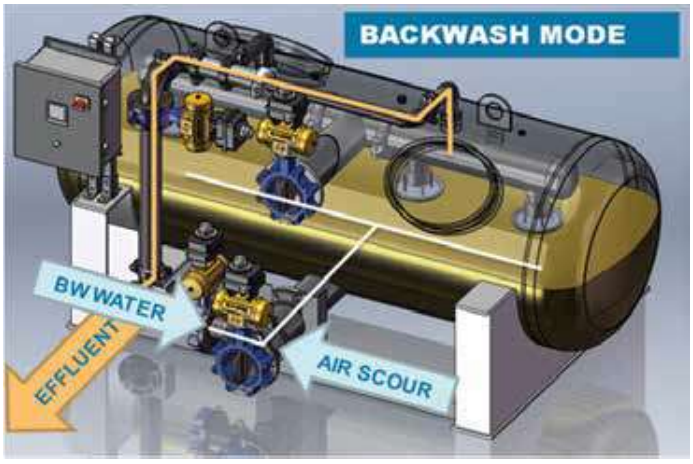
HOW IT WORKS

Vortisand® filtration systems use exclusive VortiJet™ diffusers to generate cross-flow patterns that sweep the surface of the media. This sweeping motion causes a portion of the water to flow parallel to the top media layer, allowing for high filtration rates while preventing fouling and channeling.

Contaminants trapped in suspension and within the microsand media (depth filtration) are easily removed using an automatic backwash cycle. The system's backwash cycle requires less flow and a shorter duration than traditional sand or multi-media filters. **The result is a technology that removes particles down to submicron levels at 4 to 5 times the hydraulic flow rate of other media filters, while requiring up to 50% less water for backwash.**







TECHNOLOGY BENEFITS

HIGH EFFICIENCY SUBMICRON FILTRATION

The system's high efficiency lies in the unique use of microsand and cross-flow filtration. Vortisand® systems can capture particles under 1 micron in size, 10 to 50 times smaller than particles retained by other media filters.

HIGHER FLOW

The cross-flow technology has allowed us to optimize the media bed depth and improve filtration capacity. By doing so, we were able to design a horizontal vessel that provides the ultimate in filter technology.

With a single 36-inch vessel the horizontal design is capable of treating a flow of up to 1,200 gpm, offering unparalleled performance and value. The speed is up to 5 times faster than traditional filters at 25 gpm/ft2 (60 m/h), while delivering higher water quality than traditional media filters.

AUTOMATED OPERATION

Vortisand systems provide a fully automated experience, along with maintenance reminders and a user friendly interface to make operating and maintaining the system an easy task.

LOWER COST OF OPERATION

An important consideration for any filtration system is the overall operating cost. The Vortisand filtration systems help reduce operating costs in several ways:

Reduced Water Consumption: Requires up to 50% less water during backwash when compared to traditional multi-media (MM) filtration systems.

Energy Savings: Significant energy savings is achieved in heat transfer applications by helping prevent the formation of sediment and bio-film, leading to greater heat-exchanger efficiency.

Reduced Chemical Costs: Significantly improve the effectiveness of chemical treatment by reducing the total suspended solids (TSS).

Low Maintenance Costs: Requires little to no human intervention, with minimal maintenance tasks.

With an array of design, instrumentation and control options, our team of engineers will develop a solution that will meet today's goals and tomorrow's challenges.

SMALLER FOOTPRINT

The effective use of the media bed ultimately results in requiring less media, allowing our customers to achieve high levels of efficiency with a smaller footprint (up to 80% smaller and lighter than traditional filters). The system can be customized to offer a vertically stacked design capable of doubling the filtration capacity within the same footprint.

This unique lightweight and compact design provides both shipping and on-site infrastructure savings.

Vortisand H2F® Series Stacked

SPECIFICATIONS

VORTISAND H2F® SERIES

The Vortisand H2F® horizontal series is designed for higher flow applications. With its stackable capabilities the H2F series is available in a variety of sizes and configurations, engineered to suit nearly any application.

Model Number	Max Filtration Capacity @ 25 gpm/sf		Shipping (Skid) Dimensions	Pump Feed	Inlet/ Outlet Diam.	Backwash Inlet/Outlet
	gpm	m3/h	(w x l x h)	hp/kw	in/mm	in/mm
S300	350	80	4.5′ x 8′ x 6′ (1.4m x 2.4m x 1.9m)	10/7.5	4″/100	3″/80
D300	700	160	4.5′ x 9.6′ x 8.4′ (1.4m x 2.9m x 2.6m)	15/11.2	6″/150	3″/80
S600	600	136	6.3′ x 10.2′ x 6′ (1.9m x 3.1m x 2m)	15/11.2	6″/150	4″ /100
D600	1200	272	6.3′ x 10.4′ x 8.4′ (1.9m x 3.2m x 2.6m)	20/14.9	8″/200	4″ /100
S1200	1090	248	7.7′ x 19′ x 6′ (2.4m x 5.8m x 1.9m)	20/14.9	8″/200	6″/150
D1200	2180	495	7.7′ x 20.4′ x 8.4′ (2.4m x 6.2m x 2.6m)	40/29.8	10″/250	6″/150

VORTISAND® CLASSIC SERIES

The Vortisand classic series is designed for lower flow applications. The classic vertical series is available in a variety of sizes and engineered to suit nearly any application.

Model Number	Max Filtration Capacity @ 20 gpm/sf		Shipping (Skid) Dimensions	Pump Feed	Inlet/ Outlet Diam.	Backwash Inlet/Outlet
	gpm	m3/h	(w x l x h)	hp/kw	in/mm	in/mm
S12	16	3.6	32″ x 38″ x 66″ (.81m x .97m x 1.7m)	0.5/0.4	1″/25.4	1″/25.4
S20	44	10	39″ x 44″ x 73″ (.99m x 1.1m x 1.9m)	1.5/1.1	1.5″/38	1.5″ /38
S24	65	15	43″ x 48″ x 74″ (1.1m x 1.2m x 1.9m)	1.5/1.1	2″/51	1.5″/38
S30	100	23	46″ x 51″ x 78″ (1.2m x 1.3m x 2m)	2/1.5	2″/51	2″/50
S36	140	32	53″ x 63″ x 80″ (1.3m x 1.6m x 2m)	3/2.2	3″/76	2″/50


LARGE OR SMALL,
THERE'S A VORTISAND®
SYSTEM FOR YOU.