



# Leopold® Ultrascreen® Disk Filter

UNLEASH THE STRENGTH OF STEEL FOR YOUR TERTIARY TREATMENT  
AND REUSE REQUIREMENTS

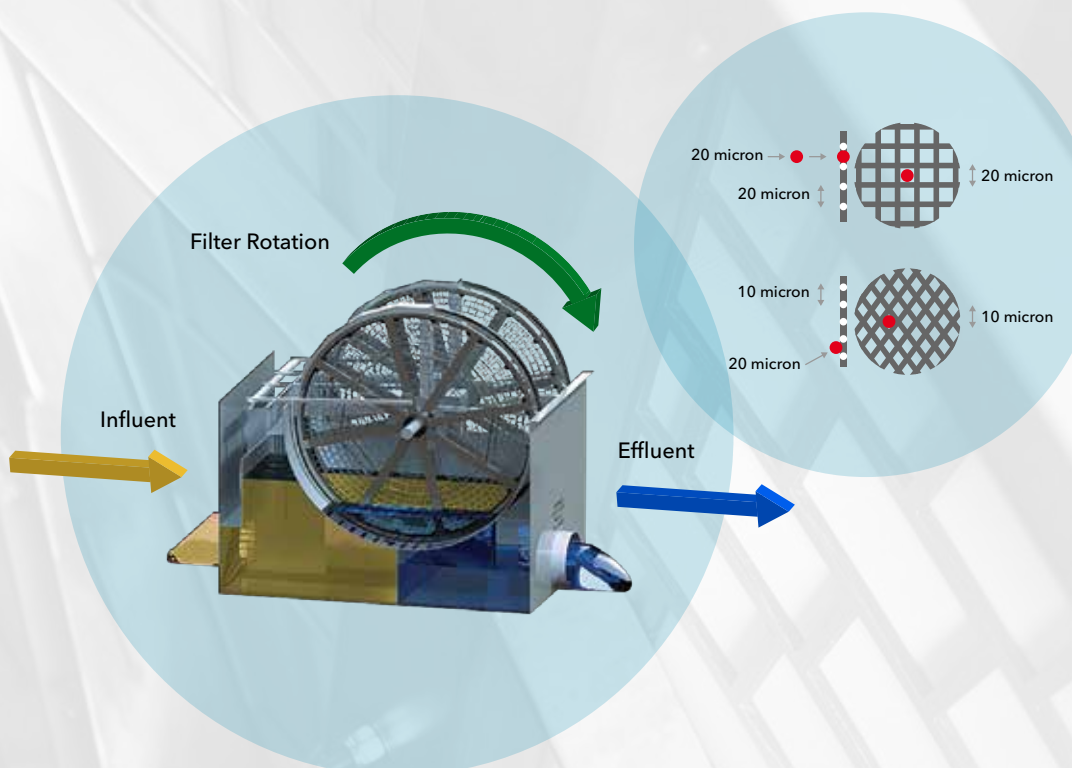


# Leopold® Ultrascreen® Disk Filter

Combines patented “Dynamic Tangential Filtration” with the unprecedented durability of stainless steel mesh construction to deliver exceptional performance at higher loading rates. This tertiary filter for discharge or reuse provides ease of operation at the lowest life cycle costs.

## How it works

- The filter media is precision woven AISI 316L stainless steel screens, crafted to exacting tolerances and mounted in circular disk sections. The steel weave is capable of handling high hydrostatic heads for higher hydraulic loadings.
- Dynamic Tangential Filtration both improves solids removal and increases the flow rate over conventional disk filtration systems. The water flow impacts the screen at an acute angle to the screen rotation. The water impacts the screen at an angle which causes the openings to function effectively as smaller orifices. This principle of the patented Dynamic Tangential Filtration enables the filter to remove particles down to 10 micron or less in size.
- The influent flows between each pair of disk screens, passing through the media and free falling into a collection well.
- The screens trap smaller particles while allowing higher hydraulic and solids loading rates than other disk filtration systems using polyester mesh or cloth media.
- The durable AISI 316L stainless steel screens are easy to clean, and can be chemically treated if necessary to remove colloidal materials that permanently foul other disk media.
- Certified under the California Code of Regulations Title 22 for agricultural and industrial reuse applications.



- Validated under California Title 22 protocols up to 16 gpm/ft<sup>2</sup>, the highest disk filter flow rate in the industry.
- Durable 316L stainless steel screen construction for ease of maintenance and long life durability.
- Compact and modular “plug-and-play” system reduces footprint and simplifies construction.

# Superior Performance and Operational Flexibility

- **Treats highest hydraulic flow rates.** Validated and accepted by Title 22 California Code of Regulations to treat flows up to 16 gpm/ft<sup>2</sup> of filter area. This is up to 2.5 times higher than the flow rates tolerated by other media disk filter.
- **Handles spikes in TSS loading rates,** up to 150 mg/L of TSS without clogging, as compared to 50-70 mg/L for cloth disk filters. No need to worry about down time due to clarifier upsets or the occasional solids spike.
- **Provides maximum operational flexibility,** with multiple adjustable parameters including disk rotational speed, wash cycle timing, and influent level in the feed zone. Adjustable to meet a variety of operational conditions with maximum effectiveness.
- **Meets Title 22 effluent requirements of 2 NTU,** even when treating influent with turbidity of up to 20 NTU.
- **Backwash while unit remains in service.** The unique backwash system backwashes the filter disks while the unit continues to filter. Additional units are not necessary to maintain treatment while units are taken off line for backwash. Influent is continuously presented with a fresh filtration surface with each rotation, ensuring consistent effluent quality.
- **Enhances disinfection.** The continuous disk rotation produces a very stable forward flow rate, even during backwashing, enabling maximum UV efficiency. In addition, the Ultrascreen® disk filter improves water transmittance, further enhancing UV disinfection performance. It also lowers chlorine or ozone demand, reducing costs.
- **Easily integrated with upstream biological treatment and downstream disinfection** to provide the most efficient and reliable multiple barrier solution for wastewater discharge or reuse.





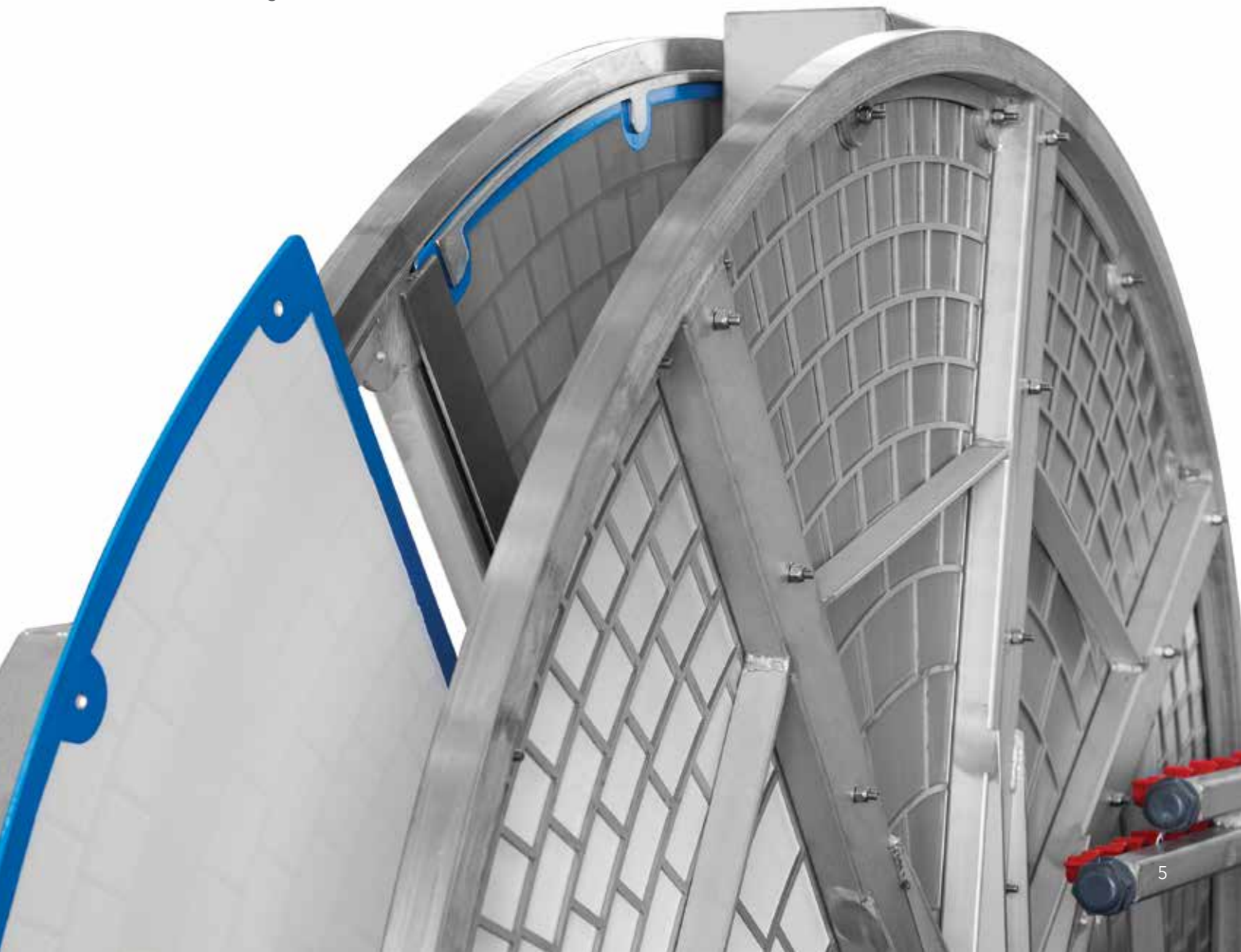


## Ease of Maintenance by Design

- **Durable stainless steel inside and out**, including filter meshes, rotating disks, tank and cover, make for a clean look that is easy to maintain with maximum equipment life.
- **Easy to access disks require no special tools.** Access is as easy as removing a few simple bolts. Disks are divided into eight light weight sections that can be removed for thorough cleaning or replacement easily.
- **Retractable backwash nozzle arms can be manually rotated out with ease**, allowing greater access to the disks for servicing. Additionally, the nozzles can be changed out with a simple twist.
- **Access is easier and safer with above ground installation.** No confined space entry as required for tank designs.
- **Extends the life of important components**, like the shaft bearings and drive chain, by keeping them out of the process water.

# Lower Operational Costs Means Lowest Life Cycle Costs Compared to Static Disk Systems

- **Lowest reject backwash water in class**, using only 0.5 to 2% of treated water for backwash compared with 3 to 4% for static disk filter systems and 10 to 15% for continuous backwash tertiary sand filtration systems. Saves money on backwash pumping and treatment. More water for reuse, less to retreat!
- **Energy efficient variable speed disk drives** adjust to meet the treatment requirements, saving on energy.
- **Low pressure backwash of only 60 psi** saves on backwash energy and puts less strain on the filter mesh, for longer life.
- **Durable 316L stainless steel mesh** lasts up to 10 years, over twice as long as polyester mesh or felt media, which require replacement in 4 to 5 years. With higher hydraulic loading requiring fewer filter disks, the annual cost for filter media replacement alone can be a third of that for other disk systems.
- **Fewer disks require less operator time.** Ease of access and fewer disks (due to high hydraulic capacity) means your operators spend less time maintaining the filters, and are free to optimize your operation in other areas.



# Lower Construction Costs

- **Compact units lower civil site construction costs.** Higher hydraulic loading rates allow for fewer units to meet treatment goals - requiring a smaller footprint, less piping, smaller building or slab - lowering overall construction costs.
- **Above ground installation** requires only a forklift or crane to maneuver the units into position, reducing costs.
- **Modular, “plug and play” make for easy start up.** Set units into position, connect the piping and the electrical to the units and you are ready for commissioning.



# Unmatched Sustainability

- **Restore or recycle filter sections.** Filter sections can be removed and restored by chemical or ultrasonic cleaning, extending their life. Once restoration is no longer possible, the entire filter section is recyclable.
- **Highly energy efficient.** The simple variable speed drives and low backwash pressure pumps require little energy to operate. No high horsepower or high pressures required.
- **Water efficiency second to none.** With the lowest in class reject rate, the UltraScreen® disk filter saves energy on backwash water pumping and retreatment, maximizing water efficiency and reducing costs.





Backed by Leopold, the industry leader in filtration, the Ultrascreen® disk filter is supported by Xylem's network of treatment experts and legendary customer service.



# Xylem |'zīləm|

- 1) The tissue in plants that brings water upward from the roots;
- 2) a leading global water technology company.

We're a global team unified in a common purpose: creating innovative solutions to meet our world's water needs. Developing new technologies that will improve the way water is used, conserved, and re-used in the future is central to our work. We move, treat, analyze, and return water to the environment, and we help people use water efficiently, in their homes, buildings, factories and farms. In more than 150 countries, we have strong, long-standing relationships with customers who know us for our powerful combination of leading product brands and applications expertise, backed by a legacy of innovation.

For more information on how Xylem can help you, go to [www.xyleminc.com](http://www.xyleminc.com)



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