

Forty-X™ Disc Filter Armor Lite Series

TECHNICAL SPECIFICATIONS

DESCRIPTION

The Forty-X™ Disc Filter Armor Lite series is a high-rate filtration device that utilizes an integrated pre-screen and stainless steel filter panel designed to accommodate high solids loading capacities and greater hydraulic throughput. The optimized tertiary mesh (OTM) filter panel from 316L stainless steel threads to create a weave that improves solids collection and rejection. The panel frame configuration includes a robust, pressure-assisted seal allowing the panels to sustain and operate at a higher headloss versus other woven polyester flat panel disc filter designs. Our disc filter panels are also housed in a trash tolerant filter panel housing, which assures the unhindered flow of water between panels and rejects plastics, algae clumps or other floatables.

Evoqua's Forty-X™ Disc Filter Armor Lite series combines the technology of outside-in and inside-out filtration into a single unit. Influent water flows through the pre-screen (outside-in) into the disc filter panels (inside-out). This innovative combination of two filtration into one unit provides an effective and robust option for those difficult applications.

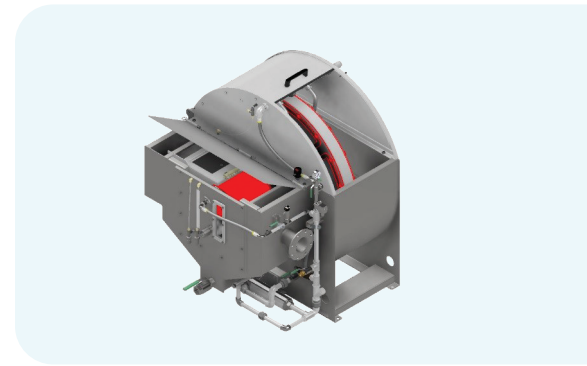
The Forty-X Disc Filter Armor Lite series uses one common backwash pump and level sensor for backwashing both the pre-screen and disc filter panels. The captured solids are backwashed into a reject trough using a positive pressure spray cleaning system. The level sensor is located in the influent channel and automatically controls the backwash cycle. Both the pre-screen and disc filter continue to filter during backwash. The weave pattern of the stainless filter panels allow greater loadings per square foot and as a result less backwash cycles.

MARKETS

- Municipal Water & Wastewater
- Food & Beverage
- General Manufacturing
- Oil & Gas
- Power Generation
- Healthcare

APPLICATIONS

- Water Pretreatment
- Tertiary Filtration
- Water Reuse & Recycle
- Process Water Filtration
- Phosphorus Removal
- Stormwater Filtration
- Aquaculture & Fish Hatcheries



The plug and play design of the Forty-X™ Disc Filter Armor Lite series is an ideal solution for Primary Filtration, StormFlows (CSO), and Tertiary Filtration applications.

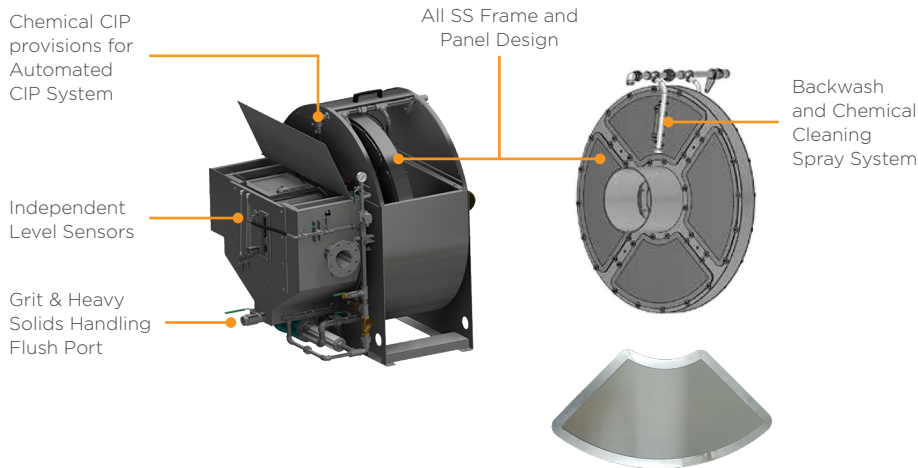
FEATURES

- Small footprint
- Integrated pre-screen designed to accommodate high solids loading capacities
- Easy to operate and 316L stainless steel optimum tertiary mesh (OTM) filter panels
- Trash tolerant filter panel housing
- Wind safe stainless-steel sliding arch covers for easy access and maintenance
- Superior solids capture and holding capacity
- Less frequent backwash cycles resulting in energy reduction
- Less routine chemical cleaning
- Flow rate per unit from 0.1 (mgd) to 2+ (mgd)
- Modular design offers flexibility and expandability
- Title 22 approved

OPTIONS

- PLC control with ethernet communication
- Chemical cart for chemical backwashing
- Maintenance platform/access platform
- Tank with MOC 316/others
- Common PLC with multiple units
- Additional spares to cover 3 to 5 years

System Capacity, Weight and Dimensions



The Forty-X™ Disc Filter Armor Lite offers a modular design that is flexibility and dependable for municipal and industrial filtration applications. The pre-screen is like “Armor” for the disc filter, providing initial filtration of large organic and inorganic materials.

The woven stainless steel media is ultrasonically bonded to the stainless steel flat bar frame. The OTM weave improves solids collection and rejection. The simple clamp in design makes changing filters quick and easy.

DESIGN BASIS

- Operating temp: 50-100°F
- Backwash flow: 1-2% reject typical
- Backwash pressure: 100 psi
- Indoor/outdoor installation
- 65% disc submerged
- Feed flow through gravity

CONSTRUCTION MATERIALS

- Tank/Frame 304SS
- Filter Media 316LSS
- Top Cover 304SS
- Inline Backwash Filter 304SS
- Control Panel SS
- 304SS Wedge-wire Pre-screen

TYPICAL FILTRATE QUALITY

- Filtrate TSS < 5 mg/l
- Filtrate turbidity < 2 NTU

UTILITY REQUIREMENT

- 220 VAC, single-phase, 60 Hz

Model	1401T	1402T	1403T	1404T
Size of Influent Nozzle (in)	4	4	4	4
Effluent Nozzle Size (in)	4	4	4	4
Influent Bypass Nozzle Size (in)	3	3	3	3
Number Filters per Disc/Unit (ea)	8	16	24	32
BW Motor (HP)	2	2	2	2
Drum Drive (HP)	0.16	0.16	0.16	0.16
Average Flow (mgd)	.035	.071	.106	.142
Peak Flow (mgd)	.071	0.142	0.213	0.283
*Single Unit Length (ft)	5'	6'	7'	8'
*Single Unit Width (ft)	4'6"	4'6"	4'6"	4'6"
*Single Unit Height (ft)	5'	5'	5'	5'
*Weight of Each Unit (dry)(lbs)	1,250	1,763	2,100	2,425
*Operating Weight (lbs)	2,900	3,562	4,225	4,850

*Approximate

The flow given above is for 1 filter, and will need to be adjusted if TSS > 30 mg/l. May be covered by the following patents under license: 7,597,805; 7,972,508; 8,118,175; 8,409,436; 8,801,929; 8,808,542; 8,961,785

Evoqua's DAVCO™ product line is dedicated to the advancement in disc filtration through ongoing research and development. Our industry leading expertise in wastewater filtration equipment design, steel fabrication, and field installation/construction services provide a single-source approach to municipal and industrial projects.



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