

Forty-X™ Disc Filter Armor Series

TECHNICAL SPECIFICATIONS

The Forty-X™ Disc Filter is a high-rate filtration device that utilizes an integrated pre-screen and stainless steel filter panels that are designed to accommodate high solids loading capacities and greater hydraulic throughput. The optimized tertiary mesh (OTM) filter panel woven from 316L stainless steel threads to create a weave to improve solids collection and rejection. The panel's frame configuration includes a robust, pressure-assisted seal allowing the panels to sustain and operate at a higher headloss versus other 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 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 technologies into one unit provide an effective and robust option for those difficult applications

The Forty-X Disc Filter Armor 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 steel filter panels allow for greater loading per square foot resulting in fewer 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 Forty-X™ Disc Filter Armor series includes an integrated pre-screen designed to protect the disc filter by removing large organic and inorganic materials.

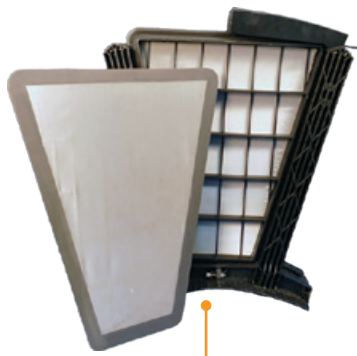
FEATURES

- Small footprint
- Integrated pre-screen designed to accommodate high solids loading capacities.
- Woven 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 0.4 (mgd) to 10+ (mgd)
- Suitable for retrofit of existing conventional filters
- Title 22 approved

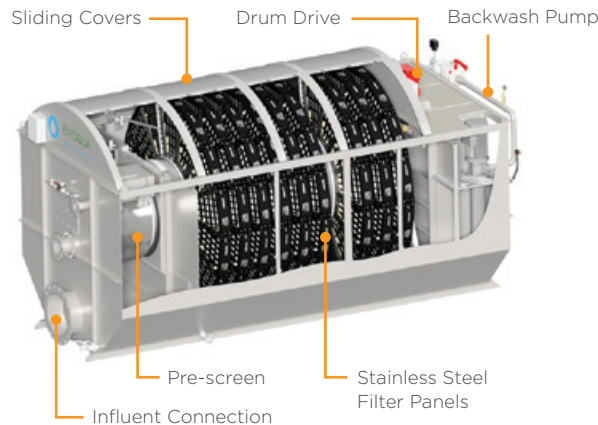
OPTIONS

- 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



Durable stainless steel disc filter panel improves solids retention



The Forty-X™ Disc Filter Armor series offers a modular design that is flexible 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.

DESIGN BASIS

- Operating temp: 50-100°F
- Backwash flow: 1-2% reject typical
- Backwash pressure: 110 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

- 460 VAC, three-phase, 60 Hz

Model	1402T	1403T	1406T	1409T	1412T	1415T
Size of Influent Nozzle (in)	8	10	14	18	20	20
Effluent Nozzle Size (in)	8	10	14	18	20	20
Influent Bypass Nozzle Size (in)	8	10	10	14	18	18
Number Filters per Disc/Unit (ea)	56	84	168	252	336	420
BW Motor (HP)	5	5	10	10	15	25
Drum Drive (HP)	2	2	2	2	2	2
Average Flow (mgd)	0.4	0.6	1.2	1.8	2.4	3
Peak Flow (mgd)	1	1.5	3	4.5	6	7.5
*Single Unit Length (ft)	7'9"	10'10"	13'2"	16'2"	18'4"	22'5"
*Single Unit Width (ft)	7'6"	7'6"	7'6"	7'6"	7'6"	7'6"
*Single Unit Height (ft)	8'4"	8'4"	8'4"	8'4"	8'4"	8'4"
*Weight of Each Unit (dry)(lbs)	6,700	7,500	9,000	10,750	12,500	14,500
*Operating Weight (lbs)	13,000	16,000	20,000	25,000	29,000	45,500

*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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