



Forty-X™ Disc Filter

High Quality, High Volume Filtration In Less Space

Water Technologies

SIEMENS



Real World Performance and Low Cost Operation Maximizes Benefits of Disc-Type Filtration,

The Forty-X™ disc filter uses pleated, woven media in a unique inside-out configuration, which provides maximum disc filter performance, while easily rejecting troublesome inorganic material.

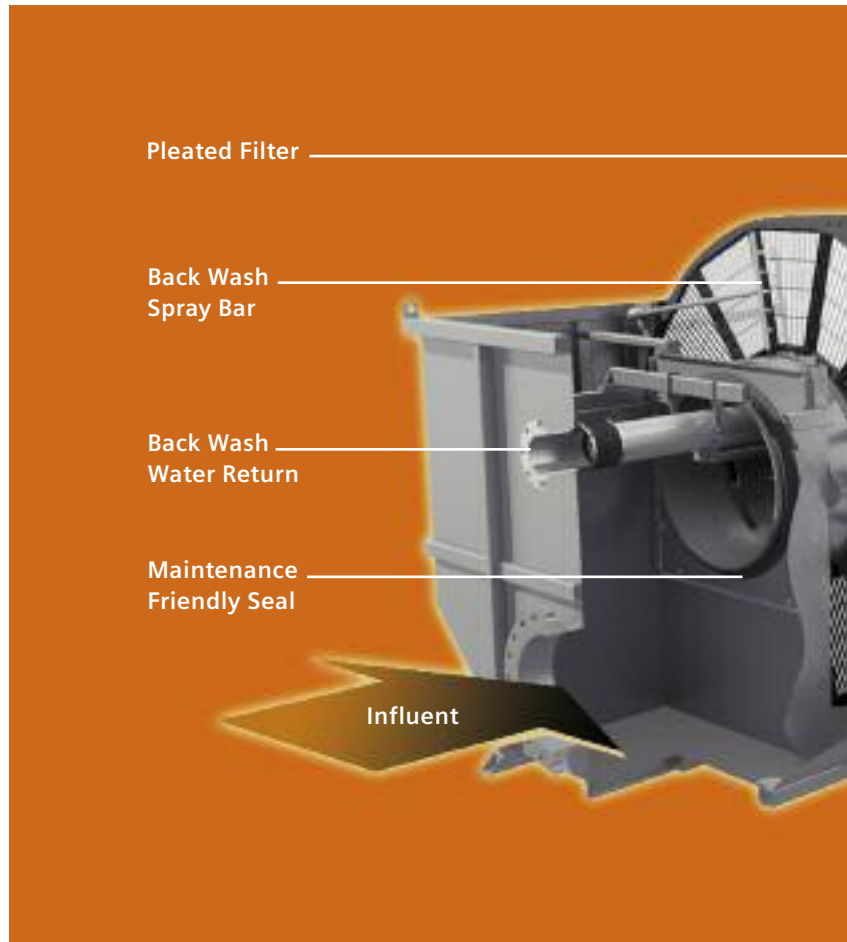
The inside-out flow of the Forty-X™ disc filter panels effectively captures suspended solids and adds to backwashing efficiency.



The pleated surface of the Forty-X™ disc filter panels dramatically multiplies the filtration surface area.

Drawing on more than three decades of experience in woven media filtration technology, the Forty-X™ disc filter provides a simple and highly reliable filtration system.

At the heart of each Forty-X™ disc filter, individual media panels—with integral frames—support the woven media and ensure the geometry of the pleated surface. The media panels are a molded one piece construction with structural stiffeners through the center of the panel area. This unique pleated design reduces the opportunity for fabric tear-out and effluent contamination. The pleated media design increases the true cloth area available for filtration by 40% over flat panel designs. This assures a more sustainable operation in terms of throughput, better feed distribution, and fewer backwash cycles.



Twice the Headloss Tolerance of Other Disc Filters

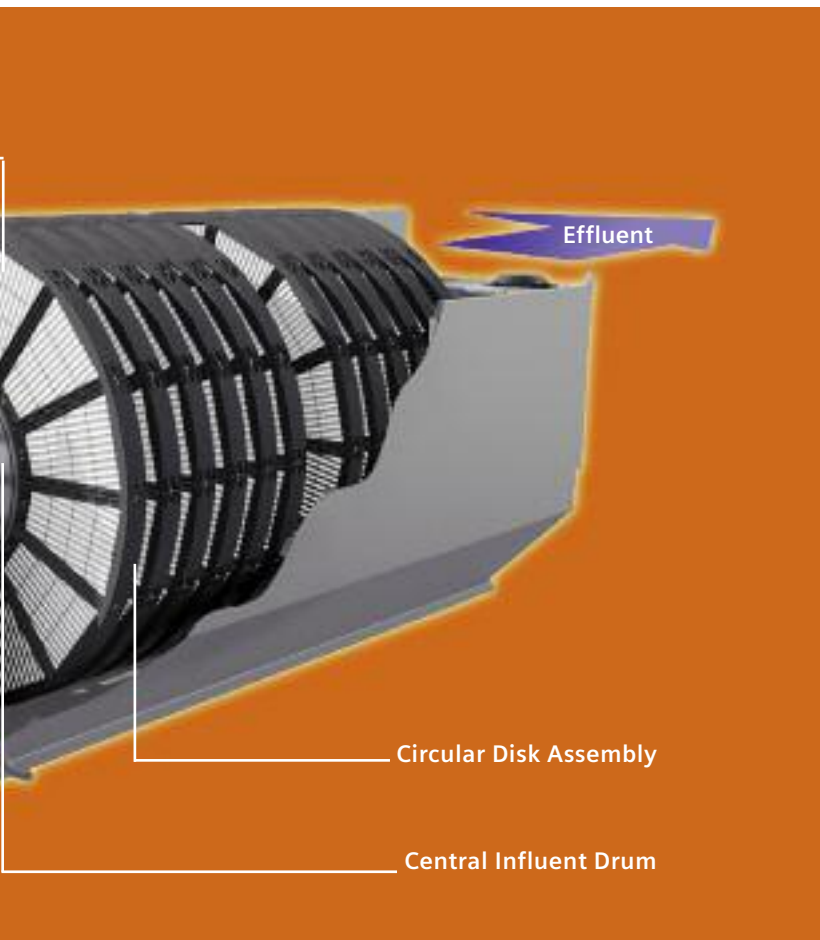
Each circular disc assembly is made up of 28 media panels. The media panels are mounted on the central influent drum to form the individual circular discs. The number of circular disc assemblies mounted on the central influent drum range from 1 to 24, depending on the scale of the installation.

In operation, influent flows through openings in the central drum, into the center of each media panel and then flows out through the filter media as high quality filtrate. This provides an inside-out flow, which captures solids on the inside of the filter panel and makes these solids far easier to remove during backwashing cycles.

The inside-out filtration flow, combined with the dynamics of the central influent drum adds further to the simplicity of the Forty-X™ disc filter by eliminating the need for a separate system for handling floating and sinking material. The Forty-X™ disc filter effectively isolates trash so it is easily and quickly transferred to the reject flow.

Solids are Captured on the Inside of the Media Panels

The Forty-X™ disc filter configuration minimizes lifetime costs with fewer moving parts and lower energy demands for backwashing. Wind-safe sliding covers provide easy access to the interior, making inspection of the media panels, quick release spray nozzles and the centralized lubrication block simple. With the Forty-X™ disc filter, the filtrate is always accessible and in plain view.



More Filtration In Less Space

The Forty-X™ disc filter frame-only design is an ideal drop-in retrofit for existing traveling bridge filters and provides an easy retrofit for most other conventional filtration systems. This is because of the exceptionally small footprint relative to the high volume filtration capacity of the Forty-X™ disc filter. Also, the micron-rated media panels can be changed-out when filtration requirements change. Designed, engineered, and constructed by the skilled Siemens Water Technologies team, the Forty-X™ disc filter represents world-class quality in every respect.

The Forty-X™ disc filter is Title 22 approved.



The modular design of the Forty-X™ disc filter offers flexibility for a broad range of flows and applications including: municipal tertiary filtration, water reuse and process water filtration.

High quality, high volume filtration is becoming increasingly important to all industry professionals. Quality tertiary filtration is now necessary to meet many effluent requirements and the need for water reuse is well documented for most areas. In addition, the advantages of industrial process water filtration have become more widely recognized.

For decades, deep-bed sand filtration was one of the few effective options, however this method had the distinct disadvantage of requiring a large area of physical space. Today, there are a number of other filtration options, many of which pack a tremendous amount of filtration capacity into an extremely small physical space. Among the most practical and efficient are disc-type filtration units.

Woven Media Provides Absolute Filtration Results

Typically, disc-type filtration units employ rotating, unitized screened-panels as the filtration media. Each specific manufacturer of these now popular disc-type filtration units is unique relative to the form of filtration media used and in the engineering of their individual units.

Some disc filters depend on a pile-type media for filtration, which has the disadvantage of highly variable filtration capabilities owing to the random variability of the pile media.

Disc filter units that incorporate woven-type media provide the most consistent effluent for most filtration applications as the result of their absolute cloth media rating.

Pleated Woven Media Multiplies the Filtration Surface Area

Among disc filter units using woven-type media there are two options, flat media and pleated media. The obvious advantage of pleated media is that it increases the true cloth area available for filtration by 40% over flat panel designs. Plus, pleated media is structurally more durable and can easily withstand much higher headloss conditions than other media configurations.

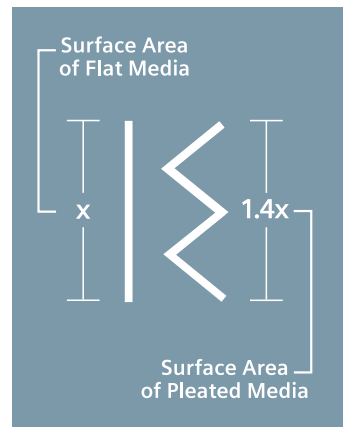
For these reasons, the Forty-X™ disc filter is engineered around pleated, woven-type media, which allows high volume, high quality absolute filtration as well as long term, trouble-free operation.



An absolute media rating is provided with woven media. (10-micron openings shown.)



Rating is nearly impossible with pile media.



The pleated surface increases the true cloth area available for filtration by 40% over flat panel designs.

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