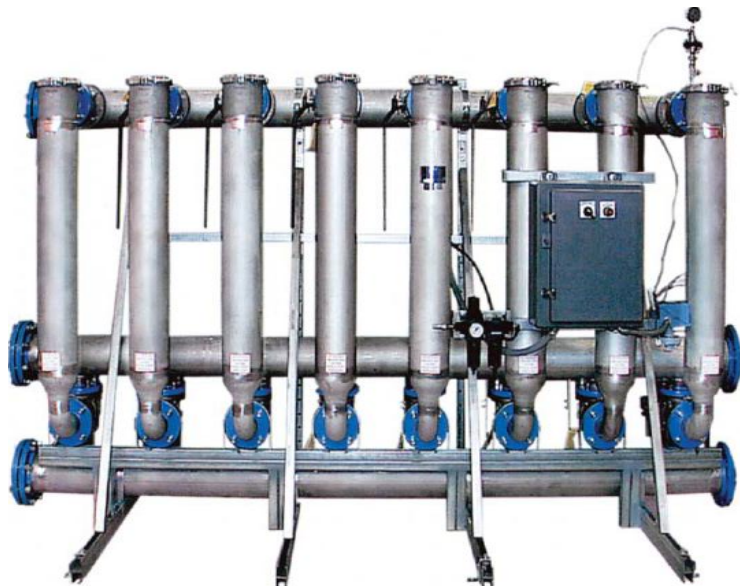


### ***Durco Automatic Backwash Tubular Filters Offer Optimized Continuous Prefiltration For Your Specific Reverse Osmosis System***



***Durco TE Self-Cleaning Continuous Tubular Filter Unit With Automatic Backwash  
Every Unit Is Specifically Custom Optimized For It's Unique RO Prefilter Application***

#### **Durco Tubular Filter Benefits:**

- **Superior Performance**  
custom designed units offer optimum performance in your unique application  
*flexible flow rates*  
*sub-micron particle retention available*
- **\$SAVE\$**  
Less expensive to buy than multimedia filter systems, and lower operating costs than any other RO Prefilter  
*Typical ROI in ~1 year for 500 GPM*  
*(changing from disposable media)*

#### **Reverse Osmosis Prefilter Applications**

**Reverse Osmosis (RO) Systems** produce ultra-pure water for a wide range of industrial and commercial applications, but must be protected by prefilters which trap large particulates. Many RO prefilters in use today still use disposable cartridge or bag media.

This incurs an unnecessary maintenance cost - annual prefilter media costs for even a small RO system can amount to \$1,000's, with change-out labor (once or twice each week) costing \$10,000's more.

#### **The Durco Tubular Filters Solution**

**Durco Tubular Filters** use permanent filter elements in a fully automatic, self-cleaning, prefilter system. This RO prefilter system,

allows continuous process operation and requires no operator involvement. A small portion of the clean fluid stream is used to sequentially **backwash** each tubular element, and no more than one element is ever off-line, permitting fully continuous operation.

#### **Proven RO Prefilter Expertise**

**Durco Filtration** offers 60+ years of filtration experience with modern design and controls to eliminate disposable media and operator costs associated with RO Prefiltration Systems. Major pharmaceutical companies, semiconductor manufacturers, and food & beverage producers throughout North America trust **Durco Tubular Backwash Prefilters** to protect their RO operations.

***Completely Eliminate Your RO Prefilter Cartridge & Operator Costs With A  
Durco Automatic Backwash Self-Cleaning Continuous Tubular Filter System***

## Tubular Backwash RO Prefilter Features



### No Tools Required For Element Inspection

Hand operated V-Band Closure allows easy opening of individual tubes. Handles on elements permit easy removal.

### No Prefilter Operator Required

**Full Automation** allows for continuous operation, even during cleaning cycle, without the need for an operator. The wide range of control options includes PLC and DCS compatibility.

### Individual Filter Tube Isolation

Optional valve configuration allows individual tubes to be isolated for inspection without interrupting flow. Other tubes maintain flow while one tube is out of service.

### Reusable Filter Elements

**Environmentally friendly**, fabric covered filter elements are reusable and feature an o-ring seal for leak-free operation.

### Expandable Platform

Unistrut frame permits easy expansion by adding tubes.

### Efficient Filter Tube Design

Pulled headers, long radius elbows and tapered, concentric reducers to reduce pressure drop and clogging.

### Ultra-Reliable Valves

Heavy-duty, Teflon sleeved 3-way plug valves provide trouble-free operation. Optional - Ball Valves Available.

### Sequential Backwashing For Continuous Process Flow

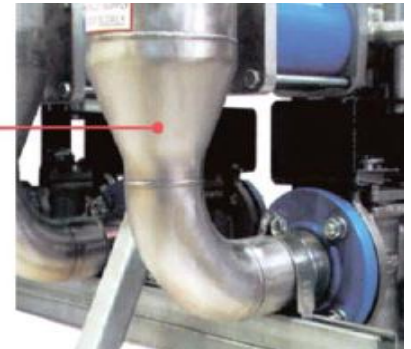
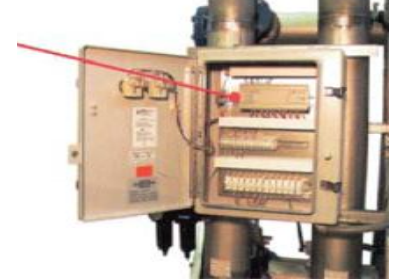
Tubular filter elements are cleaned one at a time so that process flow is always maintained. A portion of the filtered water is backwashed through the tube being cleaned. Waste goes to a separate drain header.

### Compact RO Prefilter Unit Design

Small footprint and efficient design accommodate tight space restrictions. Can be sited inside or outside.

### Durco Filter Durability & Design Excellence

With over 60 years of experience in the design and manufacture of quality industrial filtration systems, **Durco Filtration** has installed 1000's of filter systems in the most demanding applications all around the world.



**To Talk With An Engineer About Durco Automatic Backwash Tubular Filter Technology For Your RO Prefiltering System**

**Call 716-693-9381 ext 217 Or e-mail [filtersales@asmfab.com](mailto:filtersales@asmfab.com)**

## Continuous RO Prefilters Custom Optimized For Your Unique Process

Every **Durco Tubular Backwash System For Reverse Osmosis Prefiltering** is custom engineered for optimum performance in it's specific intended application.

A **Durco Technician** assigned to your project will conduct a laboratory analysis of your feed water.

Your assigned **Durco Application Engineer** will then work with you to determine every specification for your optimum RO Prefilter system, including:

- Your Optimum Filter Array
- Your Optimum Filter Elements (Media)
- Required Automation Options.
- Any Special Configuration Details



**Durco TE Filter**  
Optional Back to Back Configuration Saves Space

### Typical RO Prefilter Specification

Application .....	Reverse Osmosis Prefiltration
Equipment.....	Durco Self-Cleaning Automated Tubular Backwash Filter System
Materials of Construction.....	Stainless Steel Filter Housings & Elements, Fabric Filter Media

### Typical RO Prefiltration Data

Liquid .....	Water
Suspended Solids.....	Various - sand, rust, colloids
Solids Removal.....	>5 microns (sub-micron available)*
Flow Rate.....	Up to 10,000 GPM per station
Cycle Length.....	Continuous operation

\* Most RO application requirements are particle retention >25 microns

## RO Prefilter Elements



Environmentally friendly permanent, reusable, self-cleaning RO Prefilter elements are available in a wide variety of configurations to meet the challenges your specific application.

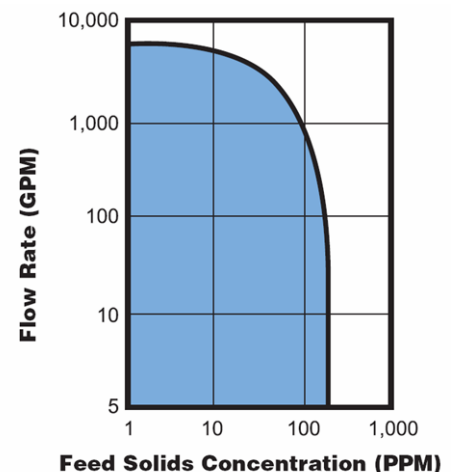
Quick change clamps hold synthetic media securely over a perforated mesh element. Leak-free operation is ensured by a positive O-ring seal.

>1 micron solids removal may be achieved by selecting the optimum media for your installation.

Sub micron solids removal is available with special elements and configurations.

## Flexible Operating Range

Your **Durco Application Engineer** can provide you with a wide range of process flow rates by carefully optimizing the specific combination of tube length, tube diameter, and number of tubes in your custom RO Prefilter array.



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# Tubular Backwash Filters Versus Multimedia Filters

## Multimedia Filters

Like cartridge and bag filters, **Multimedia Filters** have been applied in Reverse Osmosis Prefiltration systems. These multimedia filter systems have high purchase costs, use excessive amounts of backwash water, and are expensive to maintain and operate over time.

## **Durco Tubular Backwash Filters Easily Outperform Multimedia Filters**

<b>300GPM System Comparison:</b>	<b>Multimedia Filter</b>	<b>Durco Tubular Filter System</b>
Flow (GPM)	300	<b>300</b>
Hydraulic Loading (GPM/Sq.Ft.)	4.7	<b>11.1</b>
Filter Area Required (Sq.Ft.)	<b>64</b>	<b>21</b>

<b>Backwash Procedures:</b>	<b>Multimedia Filter</b>	<b>Durco Tubular Filter System</b>
Mode	<b>Off-line</b>	<b>On-line</b>
Backwash Flow (GPM)	<b>780</b>	<b>100</b>
Backwash Duration (Min)	<b>30</b>	<b>1.25</b>
Rinse To Drain Flow (GPM)	<b>300</b>	<b>None</b>
Rinse To Drain Duration (Min)	<b>240</b>	<b>0</b>
Total Duration per Cycle (Min)	<b>270</b>	<b>1.25</b>
Total Water per Cycle (Gal)	<b>95,400</b>	<b>125</b>
Frequency (Cycles/Week)	<b>0.25</b>	<b>21</b>
TOTAL Water Used (Gal/Year)	<b>1,240,000</b>	<b>136,000</b>
<b>Reduction in Water Used</b>		<b>89%</b>
Can be Chemically Sterilized	<b>No</b>	<b>Yes</b>
Can be Expanded	<b>No</b>	<b>Yes</b>
Typical Solids Removal (microns)	<b>&gt;10 to &gt;25</b>	<b>&gt;5 or better</b>

**Durco Tubular Backwash Filters** are less expensive to purchase:

- The Multimedia Filter requires 2 units (one on, one off) in order to remain on-stream during regeneration, so they must be “oversized” by 100%.
- The Tubular Backwash Filter only cleans one tube at a time, so the overall system size is smaller.

**Durco Tubular Backwash Filters** are less expensive to operate:

- The Multimedia Filter wastes vast amounts of water in regeneration.
- The Tubular Backwash Filter uses 89% less water for cleaning – also producing 89% less waste for disposal.

**Durco Tubular Backwash Filters** are smaller and lighter (up to 75% smaller and weighing up to 60% less) than equivalent multimedia filters.

*\* Based on a 6” diameter Durco TE Tubular RO Prefilter System consisting of 5 tubes.*

**A Durco Filtration Engineer Can Quickly Show You How Much You Can Save With A Durco Tubular Backwash Prefilter For Your Reverse Osmosis System  
Call 716-693-9381 ext 217 Or e-mail [filtersales@asmfab.com](mailto:filtersales@asmfab.com)**

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[Filter Presses](#)

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