Smith & Loveless Inc.

FIBROTEX® Filtration System for Turbidity

Helping Cities Meet IEWTR Rules

Many small- to medium-sized cities now face tightened turbidity performance criteria and individual filter monitoring requirements with the Environmental Protection Agency's Interim Enhanced Surface Water Treatment Rule. The IESWTR strengthens microbial protection and addresses risk trade-offs with disinfection byproducts. The IESWTR states that cities with the population of 10,000 or more must filter water down to 0.3 NTU 95 percent of the time. Turbidity can shield viruses and bacteria from disinfectants, and is an indicator of the potential presence of *cryptosporidium* and other species that are resistant to normal disnfection methods.

Benefits

- Does not suffer from individual filter failure.
- Excluded from the IESWTR's individual turbidity monitoring requirement, **FIBROTEX®**'s PLC provides controlled filtration performance.
- Meet or exceed the IESWTR requirement of <0.3 NTU with the **FIBROTEX®**; see page 2 for test results.
- Tested and certified to NSF/ANSI International Standard 61, all of the **FIBROTEX®**'s system components also meet the 61 standards.
- Save with a small footprint of the **AX50** (3.5'W x 3.5'L x 11'H) often allows the **FIBROTEX®** to be installed into an existing facility, minimizing construction costs.

FIBROTEX® for Turbidity Removal

Turbidity is a crucial parameter in drinking water since waterborne bacteria and viruses can be embedded in, or can adhere to, the particles, which can impede disinfection by shielding microorganisms from the effects of the disinfecting agent. The **FIBROTEX®** is an indicator of the potential presence of *cryptosporidium* and other species that are resistant to normal disinfection methods. The charts below list the **FIBROTEX®**'s ability to meet IESWTR and its effectiveness in polishing water for turbidity reduction.

Typical Minimum Performance

Cryptosporidium Removal: Secondary Filtration				
Maximum Turbidity NTU		Flow Rate AX-50	Average Run Time	Backwash Volume
Feed	Filtrate	gpm (m^3/hr)	(hrs)	(%)
<0.25	<0.15	30 m^3/hr (132gpm)	6	0.50%
0.25-0.5	<0.20	27 m^3/hr (119gpm)	5	0.75%
0.5-1	<0.25	25 m^3/hr (110 gpm)	4	1.00%

***Cryptosporidium* Removal Rates for Secondary Filtration** *(Seen Above)*

Flocculated Feed	*99.5%*
Unflocculated Feed	*99.0%*

Actual Data

Post Clarifier Polishing				
Unit	Flowrate	Turbidity NTU		
	mgd (mld)	Feed	Filtrate	% Reduction
AX 400	1.58 mgd (6 mld)	2.0	0.2	90%
AX 600	2.64 mgd (10 mld)	0.5	0.1	80%

The Advantages

- **FIBROTEX®** filtration is a cost-effective way to meet the new IESWTR for small- to medium-sized towns and cities because it can often fit into the building of an existing system.
- Single **FIBROTEX® AX50** can treat up to 150 gpm (9.5 lps) of clean water and 125 gpm (7.9lps) on well water.
- The PLC allows for minimal operator attention, because all filter functions are automated.

Design Parameters

Sizing: **4" & 6" pumps/piping**
Hp: **1.5 - 50 per pump**
Flow: **Up to 1,300 GPM**
TDH: **Up to 158' TDH**