

FILTREX REGENERATIVE FILTRATION

Filtration technology that creates a higher standard

Filtrex 
INCORPORATED

In many industries, technology evolves as a reply to new concerns, higher performance needs, or economic issues.

Public swimming pool filtration has followed a similar course. Concern for the environment created the demand for a filtration system that among other things, conserves water, decreases filter-aid consumption, is energy efficient, and reduces the volume of filter waste.

Reducing Operating Costs, Conserving Resources, Increasing Water Clarity.

Conventional systems such as Hi-Rate, Vacuum Sand, and backwash-type Diatomite, all require large volumes of chemically treated pool water for filter maintenance. All use large amounts of electrical energy to pump pool water through the filter during reverse-flow backwash cycles; then apply thermal energy to reheat the makeup water to complete the process.

The Filtrex Regenerative Diatomaceous Earth Filter provides a resource conserving solution. Proven in public pool applications throughout the world, the Filtrex Regenerative Filter obsoletes conventional public pool filtration systems.

THE REGENERATIVE CYCLE

Utilizing a system of filter-aid regeneration and an innovative filter element called the Flex-Tube[®] provides unparalleled water clarity and remarkable operating efficiency.

FLEX-TUBE™ FILTER ELEMENTS

The patented, Flex-Tube filter element provides the basis for regenerative cycling. Its pore size is variable. During filtration, the pore is smallest, creating a retentive support for the diatomaceous earth filter-aid, called the precoat.

HERE ARE THE BASICS.

As the filter cycle matures, particulates are randomly trapped on the surface of the precoat. When it would normally be time to backwash a conventional filter, as signaled by a fall-off in filter flow, a Filtrex Regenerative Filter is briefly taken off-line for regeneration. A unique "DOWN-UP" bump stroke is applied to the entire element cluster. The element pores instantly respond by enlarging, thus

propelling the precoat from the surface of the filter elements and readying the media for continued filtration.

As flow through the filter is resumed, a reorganization of the precoat occurs on the filter elements, and filtration continues at the original rate of flow. The entire "regeneration" process takes less than five minutes and is accomplished without operator interaction or loss of any pool water.

There is never a need to backwash. The original precoat is reused until it can no longer efficiently hold dirt. This saves time, water, filter aid, chemicals, thermal and electrical energy. It also eliminates the need for continuous slurry feed and operator interaction for intervals of two to three months.

CLEARLY THE BETTER CHOICE

Regenerative Filtration is not only considerably more economical than conventional systems, it is also a much more effective filtration method. Regularly removing contaminants as small as 1 micron, swimming pools using Filtrex Regenerative systems are unquestionably cleaner and brighter than those using conventional systems.

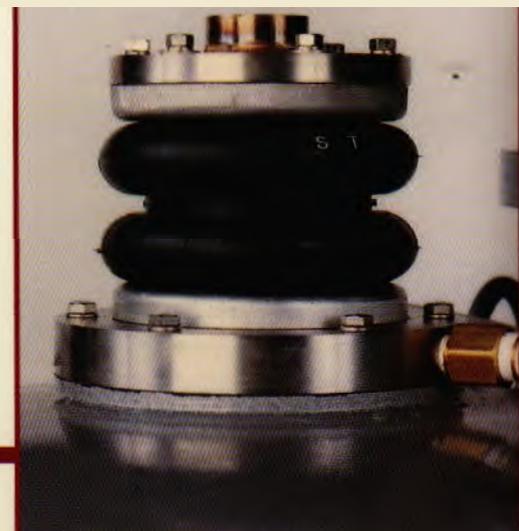


The patented Flex-Tube filter element.



Actual photo taken during "bump" phase of the regeneration cycle showing the filter cake being propelled from the element surface.

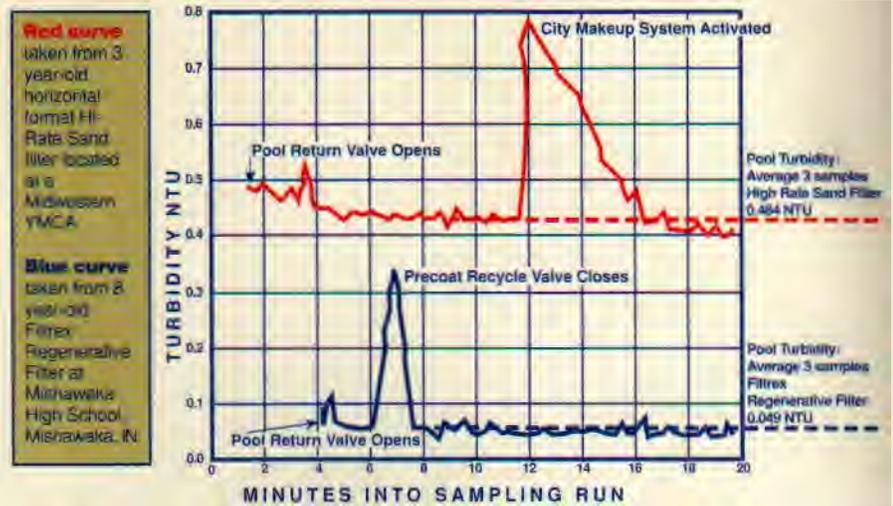
Pneumatic "bump" mechanism.



We Put It To The Test.

Using nephelometric turbidity instrumentation, we compared the filtration efficacy of a three-year-old Hi-Rate Sand filter and an eight-year-old Filtrex Regenerative System. The results were enlightening.

Turbidity measurements clearly demonstrated that Filtrex was able to reduce suspended matter in the pool to a value of under 0.049 NTU. While the sand filter's best result was measured at 0.484 NTU...10 times poorer. What does this mean to you? That a Filtrex Regenerative Filter can give you crystal clear water day-in-day-out, while it speeds the pool recovery cycle...especially important during heavy, long-hour pool usage.



In its most "contaminated" state at the start of a precoat cycle, Filtrex still demonstrates considerably less turbidity than the sand filter's best reading. Furthermore, during qualification tests for NSF Standard 50, Filtrex proved 99.3% effective in removing particulates.

Savings Never Before Possible.. Environmental Solutions Never Before Available.

The automated regenerative process, with its elimination of both backwash and continuous slurry feed, provides savings across the board, including water, chemicals, pumping and thermal energy, and operating hours. Combined, these savings amount to substantial reductions in yearly operating budgets.

WASTE DISPOSAL...

Backwash type filters not only consume large volumes of water, chemicals and energy, but create disposal problems as well. On the other hand, a Filtrex Regenerative Filter never needs backwashing. Filter waste-products are reduced to a fraction of conventional systems.

SPACE...

Filtrex Regenerative Filters provide the smallest possible footprint. Construction costs are reduced, valuable facility space is freed for other productive purposes.

FILTER AID ECONOMY..

A 1,300 gpm Conventional Vacuum DE system uses in excess of 10 tons of diatomaceous earth annually. A comparable Filtrex Regenerative Filter uses only 840 lbs. during the same 365-day operating period. A substantial savings.

ENERGY...

Pumping costs to meet the backwashing needs of conventional filters can be high. Add to this the cost of fuel to reheat the makeup water and you have a considerable combination of energy costs. Filtrex, on the other hand, never needs back-washing so there's no makeup water to warm. Pumps are selected for the recirculation flow only.

Filter room at the University of Toledo Student Recreation Center Toledo, OH



Compare the numbers-Based on equivalent 1,300 gpm filters

Filter Type	Floor Space Required	Backwash/Cleaning Water/365 Days	BTU's to Reheat Makeup @ 35 Deg. Rise	Filter Effluent NTU's
Conventional Rate Sand	793.5 SQ. FT.	1.65 Million Gals.	482.6 Million	0.1
Vacuum Sand	228.0 SQ. FT.	234,000 Gals.	68.3 Million	0.5
Hi-Rate Sand	144.5 SQ. FT.	827,000 Gals.	241.4 Million	0.5
Vacuum D.E.	66.9 SQ. FT.	76,960 Gals.	22.5 Million	0.06
Filtrex	33.1 SQ. FT.	3,162 Gals.	0.92 Million	0.06

We've Taken Swimming Pool Automation Into The Future.

Using the latest microprocessor technology, Filtrex designed an advanced, Integrated Filter Controller. It manages your filter 'round the clock, through the most demanding workloads, without operator supervision.

This unique, software driven controller doesn't use an off-the-shelf programmable logic controller (PLC). Instead, ours is a specially created, solid state, automated controller designed to precisely match regenerative filtration technology and adapt to your specific needs.

Virtually eliminating operator error, the system keeps your filter operating at peak efficiency 365-days-a-year. In just five minutes this integrated controller automatically completes scheduled regenerations by controlling valves and pumping cycles. And it does all of this while consuming only 7 watts. Yet for all it accomplishes, there are no complicated sequences to learn. Just three pushbuttons and a user friendly annunciator panel to walk you through the steps. This is the most advanced, time-saving controller offered in the industry, and is available only with Filtrex Regenerative Filters.

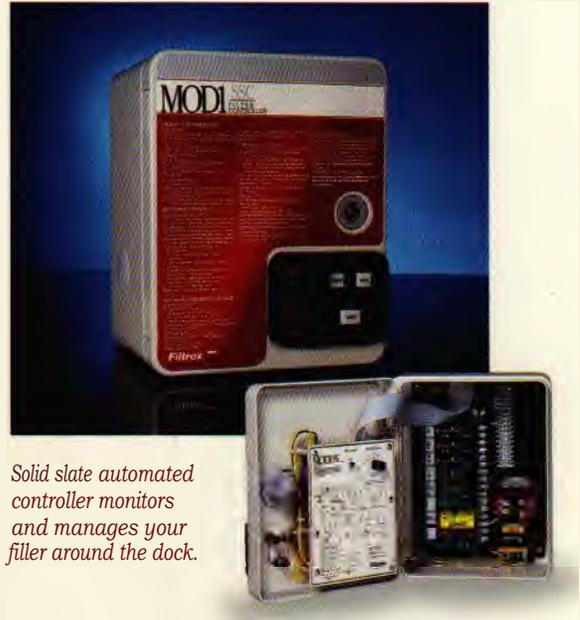
THE FILTREX PEAK PERFORMANCE PROGRAM

To help you get the most out of your filter, we've designed the PEAK PERFORMANCE PROGRAM. This 10-point, factory-supported plan includes a filter inspection, customized on-line turbidity evaluation, operator training, a TOLL-FREE support phone number and discounts on genuine Filtrex factory service parts and carefully selected maintenance supplies.

SUPPORT FOR THE DESIGN PROFESSIONAL

If you're retrofitting an existing public swimming pool or installing a new one, step into the future with a Filtrex Regenerative Filter and an Integrated Filter Controller.

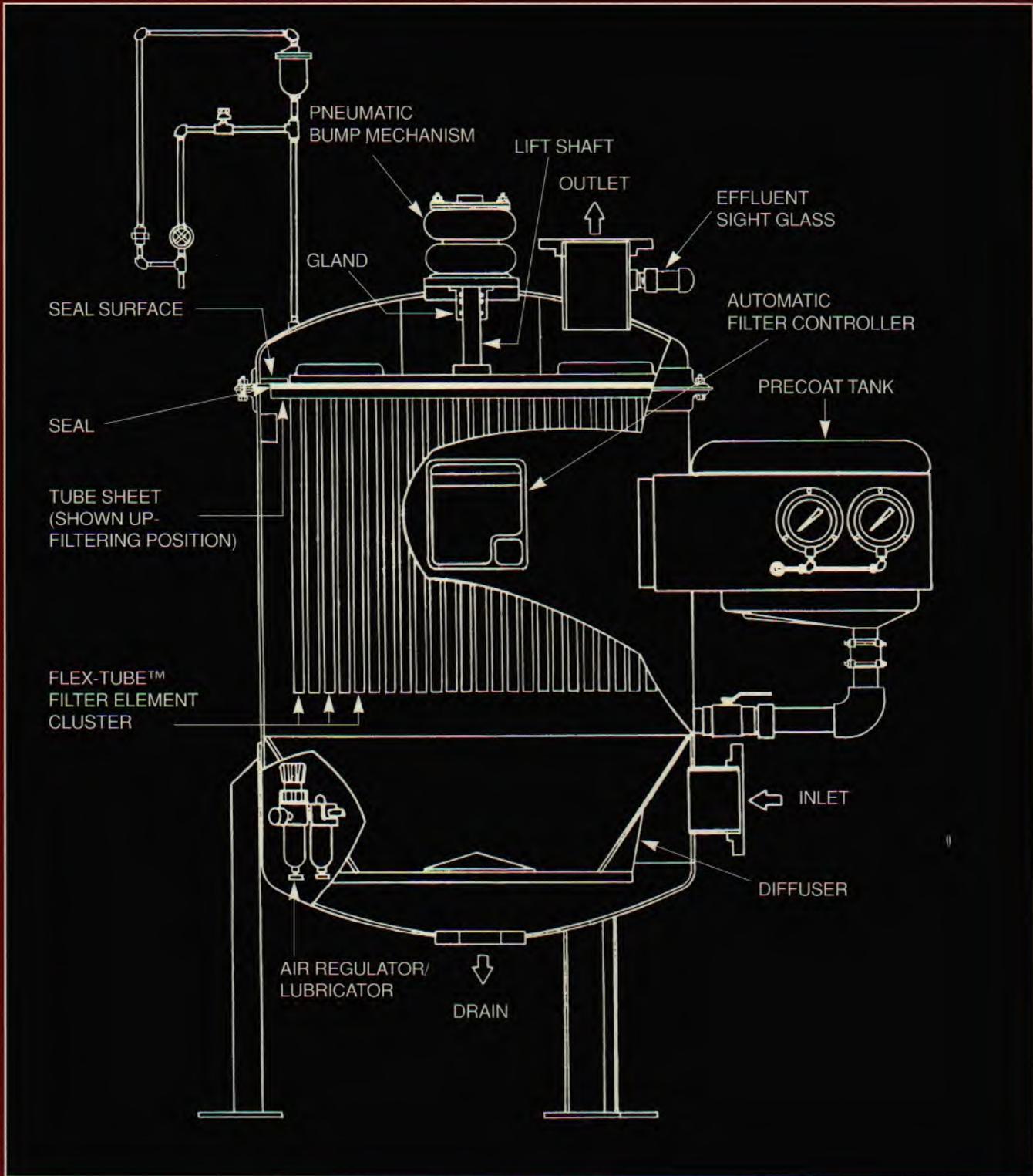
For complete details, a cost-saving analysis, a budget proposal, and a list of installations, phone, fax or write. Engineering binder with detailed specifications and drawings is available to registered professionals on request.



Solid slate automated controller monitors and manages your filler around the dock.

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The Filtrex Regenerative Filter



Clarity You Can See.

For almost 25 years, Filtrex has been recognized as the leader in public swimming pool filtration. From our patented Flex-Tube filter elements, through our unique "bump" cycle and advanced automation technology, Filtrex has set the pace for efficient, economical filtration and extraordinary water clarity.

This partial list of installations demonstrates the success and broad-based capabilities of the Filtrex Regenerative Filter.

City of San Jose, CA Parks & Recreation
Bierbrach Swim Center
Mayfair Swim Center

City of Virginia Beach, VA
Great Neck Recreation Center
Princess Anne Recreation Center

Elk Grove Village, IL Park District
Disney Park (Indoor/Outdoor)
Rainbow Falls Water Theme Park
South Sea Lagoon

Gary, IN Community School Corporation
Calumet High School
Horace Mann High School
Lew Wallace High School
Roosevelt High School
Westside High School

Indiana University of Pennsylvania, Indiana, PA
Memorial Field House
Zink Hall

Janesville, WI School District
Craig High School
Edison Middle School
Franklin Middle School
Marshall Middle School
Parker High School

Minneapolis, MN Public Schools
Franklin School
Olsen Middle School
Southwest High School

South Bend, IN
Community School Corporation
Adams High School
Clay High school
Edison Middle School
Jackson Middle School
La Salle High School
McKinley School
Riley High School
Washington High School

Airborne-Physical Training School, Saudi Arabia
Ball State University, Muncie, IN
Clarion University, Clarion, PA
Cottonwood Hts. Rec. Ctr., Salt Lake City, UT
Department of the Army-Fort Detrick, Frederick, MD
F. Eugene Dixon Swimming Pool, Winter Harbor, ME
Lafayette College, Easton, PA
Mack Park Swimming Pool, Indiana, PA
Morningside College-HPER, Sioux City, IA
Morton Grove Park District Morton Grove, IL
Norristown State Hospital, Norristown, PA
North Texas State University, Denton, TX
Penn-Harris High School, Mishawaka, IN
Richard Hutchings Psychiatric Center, Syracuse, NY
Salisbury State University, Salisbury, MD
U.S. Geological Survey Mission, Saudi Arabia
The Olympic Club, San Francisco, CA
V.I.P Complex, Tabuk, Saudi Arabia
West Chester University, West Chester, PA
Wood River Aquatic Center, Wood River, IL



Hartwick College, Oneonta, NY



Rainbow Falls Water Theme Park, Elk Grove Village, IL



University of Toledo Student Recreation Center, Toledo, OH



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