Tubular Back-Pulse Filters

Most Cost-Effective Filtration Technology
The new GORE™ Tube Assembly product is available, if membrane grade filtration is not essential. It has over twice the filtration area of the GORE® Filter Socks in a given volume. This leads to smaller and more economical filter vessels. They consist of a filter media and support element in one. It is a simple “drop in place” making installation very easy.

These filter socks are installed over fluted support elements, which have a patented ribbed construction that enhances the overall performance of the filter. This unique geometry reduces creasing of the filter sock when it is in service by accommodating excess sock material between the ridges. This configuration not only allows for slightly higher throughput and longer membrane life, but also allows the filter sock to be sized for quick and easy installation.

The liquid slurry is pumped feed solids are captured the GORE® Filter Socks. The filter cycle continues for time or volume until a at which time a back-pulse

Tubular Back-Pulse Filter - Filter Mode

The back-pulse step is a fraction of the filtrate begins at very low pressure. The filtrate from the membrane surface but rather stays agglomerates at the bottom of the filter. At this time, the filter cycle starts again and the filter is discharged as a high density slurry.

Tubular Back-Pulse Filter - Back-Pulse Mode
Most Cost-Effective Filtration Technology

Means of separating fine solids

Design and Operation

A tubular back-pulse filter operates like a “liquid baghouse.” Operating at low differential pressures with short filter cycles yields thin cakes, thereby maximizing the flux rate through the filter. Since cake removal is achieved by a flow reversal (pulsing) of only 1-3 seconds, filter cycle time can be as short as 3-4 minutes and for all practical purposes the operation is continuous. The filter vessel is not completely drained of liquid during or after pulsing. The filter operates as both a thickener and polishing filter in one.

GORE® Membrane Filter Socks

The filter elements of the tubular back-pulse filters are outfitted with GORE® Membrane Filter Socks. It is the GORE™ membrane that makes back-pulse filtration possible, because it gives immediate clarity, high flow rates and complete cake release with minimum back-pulse pressures. The filter socks consist of a GORE™ membrane laminated to a variety of different felts depending on the application. The all ePTFE laminate is inert to practically all chemicals and can be used at temperatures up to 500°F. The laminate products combine the filtration efficiency of membranes with the durability of needled felts. The porosity and particle retention of the membrane can be controlled to fit specific filtration applications. The filter socks are constructed with either welded seams or sewn seams that are seam taped to make them leak-proof.

Applications

GORE® Tubular Back-Pulse filtration technology has been successfully used in numerous applications across a wide range of industries. The technology has been effective both as a concentrator and polish filter for both process and wastewater streams. These applications can be summarized in four principle categories:

- Replaces clarifier/sand filter/polish filter combo
- Precoat Elimination
- Preconcentrator prior to Dewatering filter
- Product Recovery

Features

- Versatility
- Thin cake/high rates
- Low filtration & backpulse pressures
- Immediate cake formation
- Short cake removal time
- Dense, high solids underflow
- Fully automated

Benefits

- Membrane quality separation at high industrial flow rates
- Low capital costs
- Low operating costs
- Thickener & polish filter combination
- Small (footprint)

For more information call: 1.800.638.5300
The optimal performance of any Gore product is dependent upon how it is incorporated into the final device. Please contact a technical sales associate at Gore for application assistance.

GORE and designs are trademarks of W. L. Gore & Associates, Inc. ©2007 W. L. Gore & Associates, Inc.

gore.com/liquid filtration