



Industrial Process

Pall Septra[®] Backwash Filter Systems -

Automated Filtration Systems Technology

Filtration. Separation. Solution.SM

**PALL SEPTRA® BACKWASH FILTER SYSTEMS -
AUTOMATED FILTRATION SYSTEMS TECHNOLOGY**

Dedicated

to providing the total systems approach to filtration technology, Pall Corporation is making major contributions in today's global energy and waste water treatment markets. Pall separations solutions are providing customers all over the world with significant benefits in the areas of cost control and minimization of environmentally hazardous waste streams. A major driver in our total systems approach is the Septra® backwashable filter, which operates without filter aids or additives. The durability of these polymeric elements decreases the need for replacement, reducing waste volume even further. In addition, because they do not require filter aids, Septra filters facilitate recovery of catalyst, thus serving to reduce processing costs.

Septra filters have met the reliability, safety, and efficiency requirements in critical processes in nuclear power generation, metalworking, and refinery operations.

Construction

Septra filters are constructed of Pall's patented pleated filter medium and a high-tension mesh wrap. This pleat structure will not vary throughout the operating range of the elements, over thousands of automated, reverse-flow cleaning cycles. In addition, the high surface area of Septra elements means more compact systems can be used – significantly decreasing capital costs.

Septra filter elements have been developed to withstand the rigors of automated, high-flow, gas-assisted backwash systems, which involve varying influent conditions and repeated cleanings, while maintaining filtration efficiency.

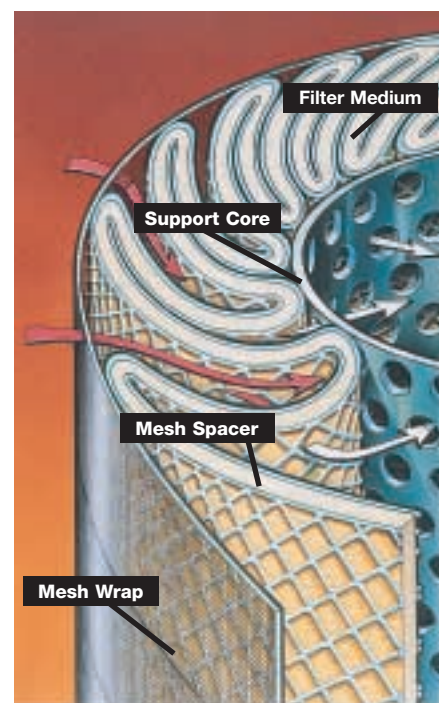
As with all Pall filter media, the manufacturing process is specifically designed to produce a very uniform, fixed-pore structure. When the pore size of the medium is controlled, suspended solids are collected without the use of a filter aid, such as a precoat or body feed. However, if a precoat is required for the process, e.g., to provide ion exchange, Septra elements can also be operated with a precoat.

Septra elements are generally chosen when the concentration of suspended solids in process fluids is relatively low, i.e., less than 50 ppm, as with condensate, brines, and waste waters. At higher solids loadings, Pall's DIA-FILTROPLAST™ porous metal, or porous ceramic filter elements are recommended.

Septra filters incorporate Pall's patented crescent-shaped pleat design, which increases filter area tenfold, as compared to simple cylinder constructions of the same length and diameter. This unique construction eliminates the pleat (crest/root) fatigue that can result from the folding/unfolding action of conventional pleats during forward and reverse pressure cycling. Also, the balanced flow resistance upstream and downstream provides perfectly uniform flow distribution in the forward and backwash directions. Because of the balanced flow distribution, the drag on the collected solids is uniform from pleat crest to root, providing uniform removal as well.

The uniformity of particulate capture over the whole pleat surface typically results in a doubled dirt-holding capacity, as compared with a filter with conventional pleat geometry. The surface orientation of the medium promotes ease of solids discharge during backwash to ensure consistent cycle-to-cycle performance.

The high-area pleated medium is available in polyolefin, aramid, or fluoropolymer construction for service at temperatures up to 150°F (65°C), with a broad array of organic and inorganic liquids in grades from 1 micrometer to 10 micrometers.

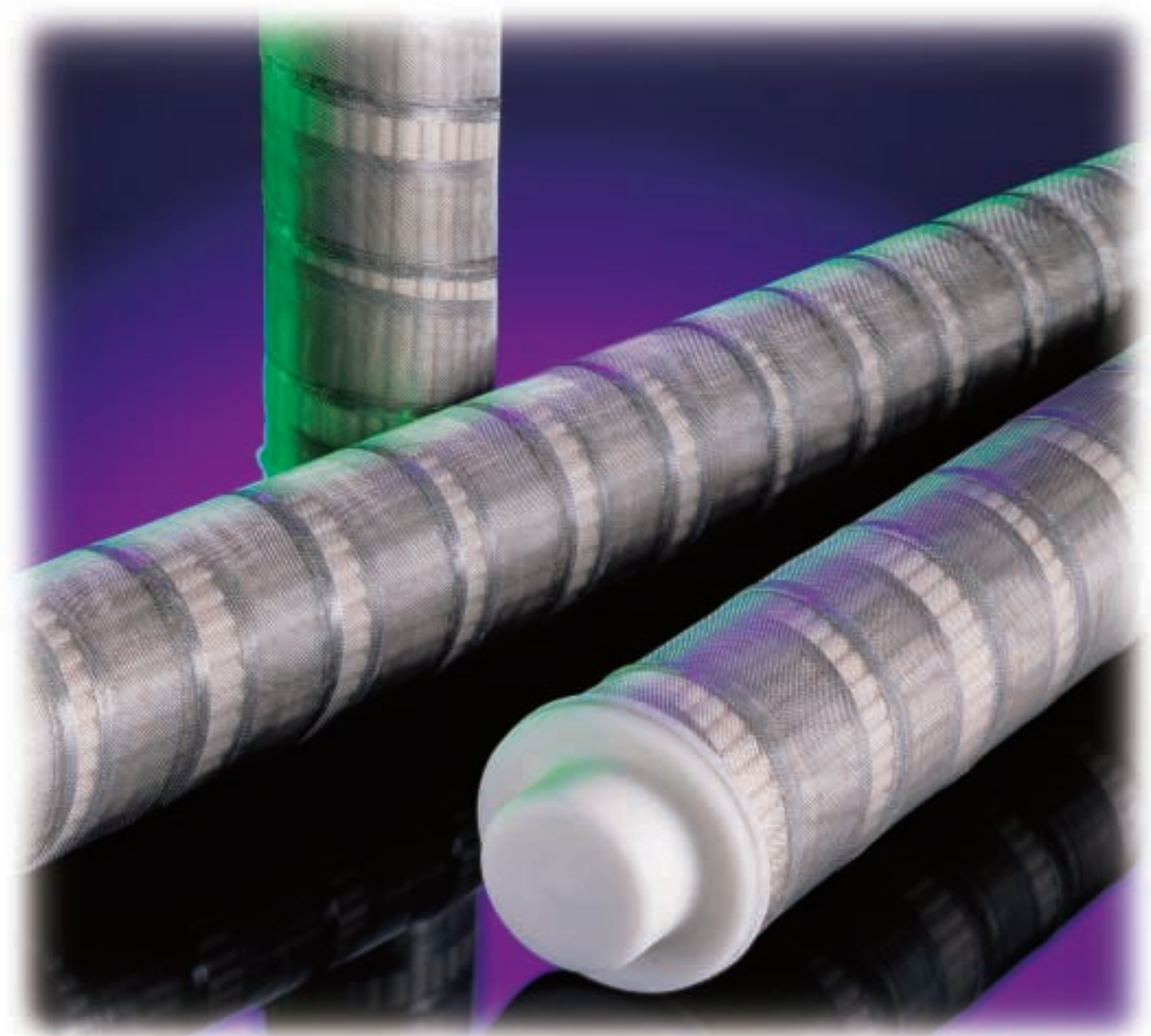


Cut-away illustration of Septra filter construction

Compatibility

To provide compatibility in a broad range of applications, Septra elements are available with metallic and/or polymeric hardware. Most commonly, 300 series stainless steel perforated cores and outer-diameter mesh wraps are utilized.

Septra Filters



SEPTRA FILTER GRADES AND CHARACTERISTICS

Style OD	Grade	Medium	Removal Rating Liquid Service in Microns at 99.9%	Clean Pressure Drop in Water at 70°F/21°C per 10" Element		Maximum Allowable Pressure Drop at Temperature		
				psi/gpm	mbar/lpm	Outside/Inside (psi/bar)	Inside/Outside (psi/bar)	Temperature (°F/°C)
(in/cm)			(µm)					
2.5/6.4	D010H	Polyolefin	1.0	0.10	1.81	15/1.02	45/3.06	150/65
2.5/6.4	K014L	Aramid / Cellulose	1.4	0.24	4.35	10/0.69	40/2.76	135/57
2.5/6.4	K014N	Aramid / Polyester	1.4	0.24	4.35	20/1.38	40/2.76	135/57
2.5/6.4	Y060L	Polypropylene	6.0	0.11	1.99	20/1.38	40/2.76	135/57
2.5/6.4	Y100L	Polypropylene	10.0	0.07	1.27	20/1.38	40/2.76	135/57
2.5/6.4	Y200L	Polypropylene	20.0	0.12	2.18	20/1.38	40/2.76	135/57
2.5/6.4	F010L	PTFE	1.0	0.03	0.55	15/1.02	35/2.38	140/60

Applications

Septra filters are in service for municipal water treatment, condensate, waste water treatment, clarification of coolants, and a host of other process applications.



▲ CONDENSATE APPLICATION

Because lowering the suspended solids content of feedwater in nuclear power generating stations bears on both the control of radiation levels and the service life of critical system components, Septra filters have been installed for treating total condensate flow (to 30,000 gpm) without the use of a filter aid to remove particulate matter such that the suspended solids content is held to less than 0.5 ppb iron.



▲ COOLANT APPLICATION

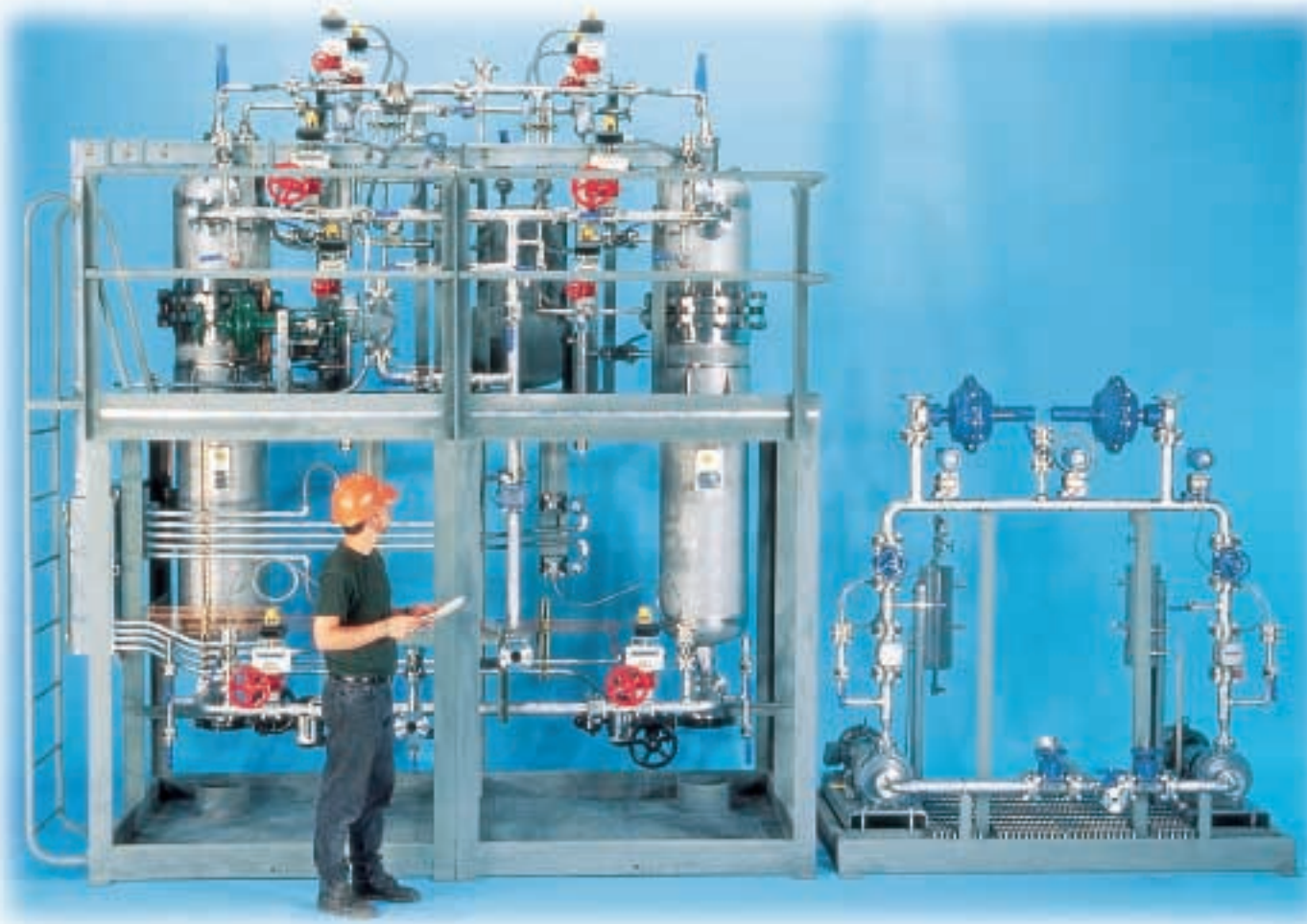
To extend the useful life of coolants employed in metal-working applications (rolling, grinding, etching, machining), Septra filters are installed on coolant recycle flows to reduce the particle counts per milliliter at five (5) microns and larger to within manufacturing plant specifications, again without the use of a filter aid.

BRINE APPLICATION

To maximize membrane life, minimize electrical consumption and reduce ion exchange column regeneration, brine with low suspended solids is filtered through Septra elements at chlor alkali plants. Pall Septra, non precoated elements remove more than 95% of calcium, magnesium, iron, strontium and other solid contaminants contained in the brine.

If the brine is more heavily contaminated, Pall's DIA-FILTROPLAST™ cylindrical, backwashable elements are recommended.

Benefits of Septra Backwash Filter Systems



Pall backwash filter system

REDUCED SYSTEM SIZE RESULTS

IN LOWER SYSTEM COST: Pall's patented high-area laid-over pleat geometry reduces the number of elements and diameter of the vessel needed to process a given flow. This reduces capital expenditures and operating costs as well as space requirements. Increased surface area allows economical operation at low flow densities to extend cycle times and increase throughput-to-backwash volume, providing a more concentrated backwash. This saves valuable process fluid and increases system availability.

HIGH REMOVAL EFFICIENCY

FILTER MEDIA: Septra filters are available in a variety of efficiencies to provide superior particulate removal. This increases recovery of product or catalyst, and can improve process fluid quality to increase yield and reduce operating costs.

BROAD FLUID COMPATIBILITY:

Septra filters are available in a wide variety of media/hardware materials, compatible with acids, caustics, and solvents.

LOWER DISPOSAL AND

MAINTENANCE COSTS: The long useful life of the Septra filter obtained from Pall's use of durable media in a rugged construction results in reduced maintenance, and associated changeout and element disposal costs.

QUICK RECOVERY FROM

PROCESS UPSETS: Pall's special pleat design is very forgiving when it comes to changes in process conditions. Use of the correct combination of medium and support layers provides superior backwashability and the ability to shrug off process upsets.

PALL CORPORATION WORLDWIDE

The Pall philosophy

can be summed up in two words: Absolute Performance. As a company with a record of significant earnings growth, Pall achieves Absolute Performance through its worldwide commitment to Total Quality Management. Simply put, this means that every Pall product will meet its stated performance criteria every single time.

SLS backwash test facility



SLS filter assembly audit

Pall's Scientific and Laboratory Services (SLS) Department is charged with making this philosophy a fact of life for our customers all over the world. Made up of highly qualified scientists and engineers, supported by professional laboratory personnel and extensive, specialized laboratory facilities, SLS works in partnership with customers to identify particular problems and develop efficient, economical, and ecologically sound solutions, whether a plant is up and running, under construction, or still in the planning stage. Available upon request, SLS support is provided as a service to our existing or potential customers.

As further evidence of the company's commitment to excellence, Pall Corporation's Process Group (Pall Trinity Micro Corporation) has been granted International Standard Organization (ISO) certification. The ISO 9001 Quality Management System certification means that Pall has been independently evaluated and unified to consistently design, manufacture, and deliver product conforming to specific requirements. This certification allows Pall to meet diverse requirements of international markets. In addition, the uniform Quality Management Systems are helping to make Pall an even more effective partner with distributors, suppliers, and, most importantly, our customers.

For more information on Pall Septra filters or any other Pall filtration product or system, please contact your local Pall sales representative or Pall Corporation directly at 516.484.5400. Outside New York state, call 888.873.7255.

Septura® Filter Brochure

Please complete
this card and mail
it to receive more
information on
Septura filters

YES! I WOULD LIKE THE FOLLOWING:

- Send me information on Septura® filter in-plant installations.
- Send me information on filtration systems.
- I'd like to set up a technical consultation.
- Please have a salesperson call me.
- I'd like to subscribe to your electronic newsletter - *Process Solutions*

My application is (please provide description):

Name: _____ Title: _____
Company: _____ Division: _____
Address: _____
City: _____ State: _____ Zip: _____ Country: _____
Telephone: () _____ Fax: () _____
Best time to be reached: _____ (AM/PM): _____
E-Mail Address: _____



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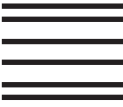
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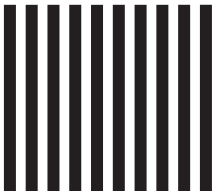


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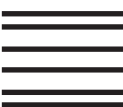
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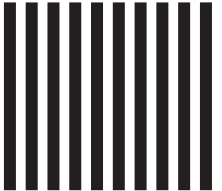


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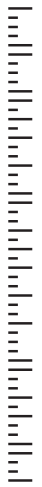
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