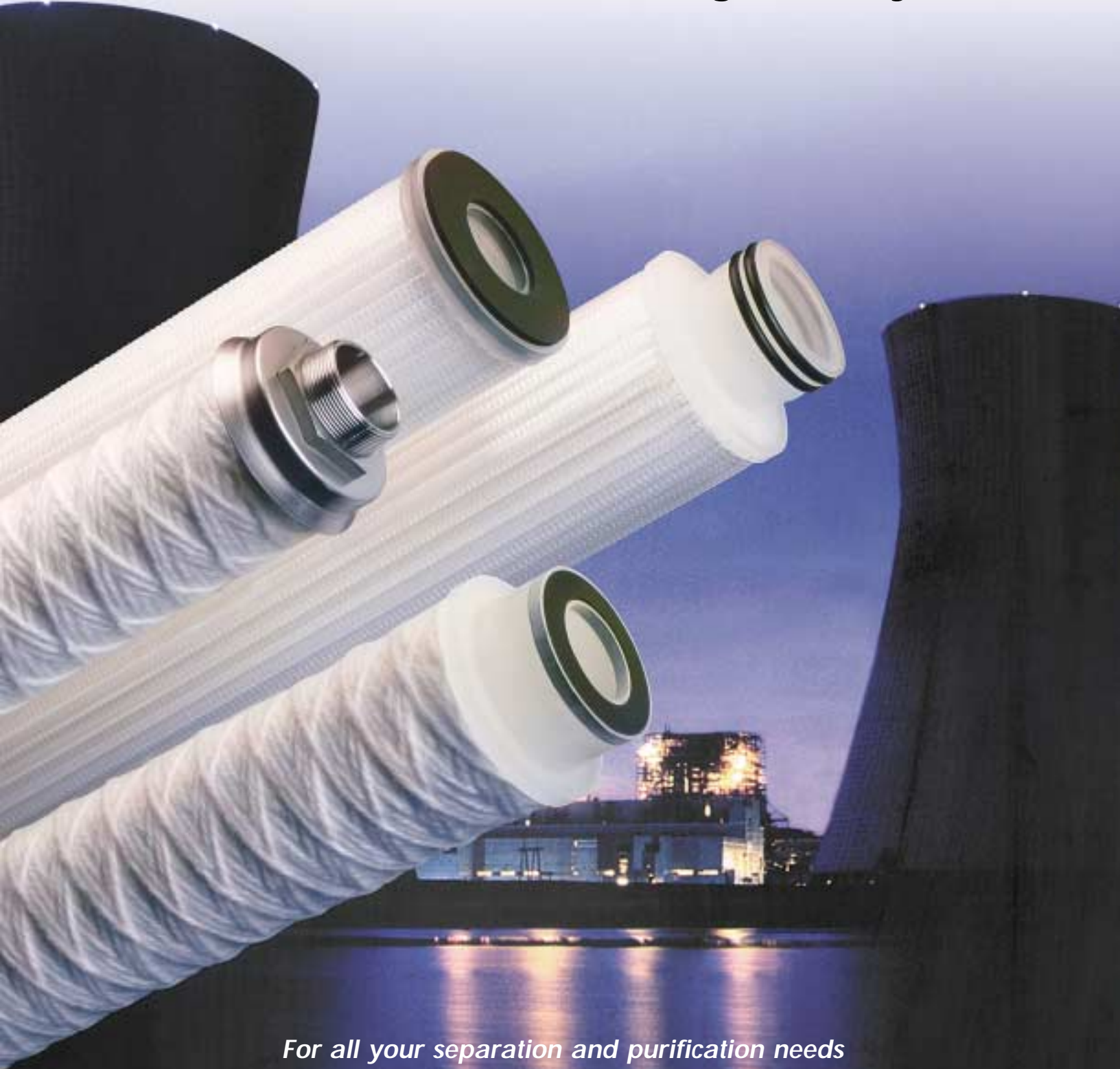




Graver Technologies

## Filter Elements for the Power Generating Industry



*For all your separation and purification needs*

## Condensate Polishing



### Aegis® Classic Wound Elements Stainless Steel Hardware

The original wound Powdex filter elements are constructed of polypropylene, nylon, or carbon fiber yarn wound around a stainless steel core with stainless steel end fittings. To insure product consistency the elements are manufactured with computer controlled winding machines. These elements are available in a variety of end fittings for Powdex® systems - Flanged double open ended, Sealfast™, or Ecoloc™ designs.



### Aegis Classic Wound Elements Polypropylene Hardware

The original wound Powdex filter elements are also available with polypropylene core and end fittings. Constructed with all polypropylene hardware, the elements can be crushed, incinerated or shredded for easy disposability. For 100% product consistency the elements are manufactured utilizing a computer controlled winding machine. These elements are available with a choice of polypropylene, nylon or carbon fiber outer windings and the variety of end fitting designs to fit the different Powdex systems.



### Aegis ADDvantage™

The Aegis ADDvantage™ filter element is uniquely constructed with 100% polypropylene multi layer media that is absolute rated on the outer surface to prevent resin entrapment in the media matrix. The under layers are of an open pore construction. This permits free flow of purified condensate with minimum pressure drop and permits maximum backwash efficiency. A choice of polypropylene end fittings is available for easy installation into Powdex systems.



### Aegis AFA®

For condensate systems that do not require resin precoat or systems that are precoat, the AFA or AFA 2000 filter elements will meet the demands of multi-backwashing without the loss of the filter's ability to retain its integrity for retaining iron oxide particles. As with the DualGuard filters, the filter media is available in absolute ratings ranging from below 1.0 to over 20 microns. Like all Graver Technologies condensate filters, a variety of end fittings can be added to retrofit the elements in existing Powdex® systems or other condensate filter systems.



### Aegis DualGuard™ I & II Filters

The DualGuard filter provides the advantage of pleated absolute rated filtration media for retaining iron particles and the outer retaining wrap allowing resin to coat evenly on the surface of the element without being lodged in-between the pleats. A selection of absolute rated filter media is available ranging from below 1.0 microns to over 20 microns. They exhibit excellent mechanical strength for backwashing. The 100% plastic construction allows disposal by crushing, incineration or shredding.

### Filter Features

- Prevents both resin and corrosion products from passing downstream
- Longest life condensate polishing filters available up to 20 years
- Withstands hundreds of backwashes
- Patented continuous computer controlled winding technology developed specifically for backwashable condensate type service
- >99% crud removal efficiency
- Elements support smooth, even precoat application
- Ultra-low operating pressure differential
- All inert construction, easily disposable
- Efficient for use in start-up, load flexing, or continuous operations
- Elements adapt easily to existing vessels

## Fuel Pool, RC letdown, Seal Water Injection, CVCS & Rad-waste

### Vessel Hardware

Several types of stainless steel hardware are available to secure filter elements in vessels. Full flow™ guide rods provide a rigid secure support for filter elements during operation or backwashing. In some vessel designs element installation or removal can be difficult. Graver Technologies' engineers have solved this problem by designing a Full Flow Tilting Guide Rod which has made element replacement easier. A Quick Detach™ or Path Assembly™ seals the filter elements to the center support post. These assemblies are designed so that the spring seat cups and extension nut are one integral unit. Change out of filters, therefore, is quick and easy.



### Engineering Designs

Graver Technologies engineering department will meet the design needs of your projects. As in the filter bundle assembly pictured, modifications to filters or filter assemblies can be undertaken by our well trained and skilled engineering staff.



### Captive Hitch Pin™

The loss or dropping of hitch pins during the installation of filter assemblies has been a concern for many utility operators. Graver Technologies' innovative Captive Hitch Pin design eliminates these concerns by permanently attaching the pin to the extension nut. The loss or dropping of pins during installation is thereby eliminated.



### PowerGuard® Disposable Filter Elements

Graver Technologies also offers a complete line of pleated and molded disposable filter elements made of 100% polypropylene or polyester material. The filter elements are available in both absolute and nominal ratings from 0.2 to 100 microns. A variety of end fittings will allow the filter elements to fit into all major brands of filter vessels.

### Filter Replacements

A marketing agreement with Framatome Technologies enables Graver Technologies to provide direct replacement filters for products originally manufactured by Pall, Cuno, US Filter (Filterite) and others. Each of these retrofit disposable elements are available in a variety of lengths - up to 40" and a variety of diameters - 2 1/2", 6", 10" and 12". Both polypropylene and glass fiber media are rated at Beta 5000 by an independent testing laboratory. Media ratings are available between 0.1 and 40 microns.





## Superior Products & Global Reach

Whether your business is around the corner or around the world, Graver Technologies can support you with superior products and services. Our products are used worldwide. In fact, we export over 35% of the products we manufacture. Our Aegis® and PowerGuard® filter elements are delivering exceptional performance in some of the harshest process filtration environments in North America, Europe, Asia, the Pacific Rim and South America.

Graver Technologies is a member of the Marmon Group of companies, an international group with over \$6 billion in annual sales. Graver Technologies delivers products that facilitate and enhance separation, purification, and process filtration. Graver Technologies has the technical resources and financial strength that make us the perfect partner for your business, whether it's around the corner or around the world.

All information and recommendations appearing in this bulletin concerning the use of products described herein are based on tests believed to be reliable. However, it is the user's responsibility to determine the suitability for his own use of such products. Since the actual use by others is beyond our control, no guarantee, expressed or implied, is made by Graver Technologies as to the effects of such use or the results to be obtained. Graver Technologies assumes no liability arising out of the use by others of such products. Nor is the information herein to be construed as absolutely complete, since additional information may be necessary or desirable when particular or exceptional conditions or circumstances exist or because of applicable laws or government regulations.

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