ErtelAlsop

The First Name in Liquid Filtration™

Pak® Lenticular Filters

From Development to Production Scale, There is a Product to Meet the Application

ErtelAlsop developed the lenticular depth filter cartridge format in 1942 to meet a particular customer need – an enclosed system design with fast changeout, neither requirement being possible with a filter press. Continuous improvement in product design leads to today's Pak® filter.

Many filter types are available in the market and each serves a particular need. Depth filters are used in a wide variety of applications when liquid clarification, product cleanliness and cost effective removal of particulates are primary concerns. Commonly, depth filters also serve to protect downstream membrane filters and other equipment.

An important aspect of many of our products is the enhanced Zeta potential imparted to the filter media by a wet strength resin. This charge modification results in excellent haze removal capability separate from the micron rating of the filter.

Depth filtration is often best utilized when high solids need to be removed to protect downstream filters and equipment.

Media Types

Micro-Media® XL – The XL series incorporates Celpure® DE for greatly enhanced filter performance. In addition, its high purity, low extractables and rigorous QC make it the leading product for depth filtration in critical applications such as pharmaceuticals and biologicals. The higher percentage of SiO2 and increased permeability as compared to conventional diatomaceous earth (DE) contribute to its purity and usability as a filter for products that must meet the highest standards.

Micro-Media® – High-performance filter media containing cellulose, filter aid, and a wet strength resin. Two types of filter aid are available in this series, either perlite or diamtomaceous earth (DE). Perlite is derived from volcanic ash and has a consistent shape that results in a denser filter media. Diatomaceous earth is derived from marine diatoms. Its varied shapes offer improved efficiency for the removal of fines and hazes.

Micro-Clear™ – Activated Carbon impregnated media that utilizes the filtration capacity of cellulose (some grades are available with DE or perlite), while providing the chemical removal capability of carbon. Certain organics and colors that are not desired in the final product can be removed by this filter combination. Some halogenated compounds are also removed. Avoid problems associated with loose powder.

Alpha-Media™ – Composed of 100% cellulose, it contains no resins, binders, filter aids, or synthetics. Useful when simple filtration is all that is needed.

Zeta-Dri Pak™ – A filter version designed to remove free and emulsified water from oil based liquids. A 16-cell Micro-Media version can hold up to 148 ounces of water. The Zeta-Dri option is available with any grade of Micro-Media® for combined depth filtration and water removal.

Aqua-Kv Pak™ – This media formulation is specifically designed to remove water from transformer and turbine lube oils. Available with Alpha-Media™, it provides particulate removal and water retention. When fully saturated, the filter demonstrates mechanical shutoff for complete assurance that water will not reenter the system.

Cartridge Styles

ErtelAlsop manufactures a wide range of lenticular cartridge configurations to meet your needs. The Disc-Pak®, Zeta-Pak®, and Bio-Pak® cartridges can be made in two diameters, 12" and 16", with a varied number of cells and center core designs. Surface areas range from 3ft2 to 40ft2.

Center cores are available in two styles, the flat gasket compression seal type, and the double O-ring type. The flat gasket style has either stainless steel straps or an innovative all polypropylene structure for improved cartridge integrity. The double O-ring style is for critical applications where the prevention of filter bypass is crucial.

Filter Media

132 Flatbush Avenue • Kingston • NY • 12401 • ErtelAlsop.com • 845.331.4552 • Fax 845.853.1526

ErtelAlsop

THE FIRST NAME IN LIQUID FILTRATION™

Applications

Chemical Industry

For the filtration of silicones, coatings, stabilizers, chemical intermediates and the like. Oils and Lubricants – For particulate removal and water removal to improve product cleanliness and life.

Power Industry

Especially for the removal of particulates and water contamination from turbine lube and transformer insulating oil.

Food and Beverage

For particulate and haze removal from syrups, flavorings, wine, beer, and spirits. Where appropriate, activated carbon filters can be used to remove color.

Pharmaceutical

General filtration and clarification in plasma processing, APIs, culture media, and cell culture harvests. Clarification and decolorization of oral products, LVPs, SVPs, and topical products.

Materials of Construction

Materials of construction are kept to a minimum to enhance chemical compatibility and product safety. As described elsewhere, the filters contain media (cellulose, DE or Perlite, and wet strength resin), and plastic support components. Gasket materials are selected for the application and are described in the Selection Guide above.

Filter Media

Laboratory filtration plays an important role in the testing of ErtelAlsop filters as well as finding general use in small scale applications. We make all of our products in disc format from 47 mm to 200 mm diameters and sheet format up to 8" square to fit our laboratory product range of filter holders. Capsule filters are also available for use with small volumes and for scale-up and scale-down testing.

Filtration Equipment

ErtelAlsop also manufactures in house a complete line of filter housings for lenticular cartridges. From the portable utility cart model to the horizontal Pak® design to the sanitary Pharma-Pak®, there is a housing to fit your application. Available materials include carbon steel, 304, 316, or 316L stainless steel, Hastelloy®, and polypropylene or fiberglass reinforced polypropylene.

	XL Series	Micro-Media		Micro-Clear	L Series	Alpha	Aqua KV
Retention	Celpure®	Perlite	DE	Carbon			
15 µm	M-053	M-05			M-05L	140	140
10 µm	M-103	M-10	M-104		M-10L/M-104L		
5.0 µm	M-403	M-40	M-404	MC-30/ MC-35*	M-40L/M-404L	160	160
2.5 µm	M-453	M-45	M-454		M-45L/M-454L		
1.0 µm	M-503	M-50	M-504	MC-50/ MC-55*	M-50L/M-504L	175	175
0.8 µm	M-503T	M-50T	M-504T		M-50TL/M-504TL		
0.45 µm	M-703	M-70	M-704	MC-70	M-70L/M-704L		
0.3 µm	M-853		M-854				
0.25 µm	M-953		M-954				

Product Testing

The most accurate way to optimize your process is through laboratory scale testing. Samples of Micro-Media®, Micro-Media® XL Series™, or Micro-Clear™ Media are available at no charge. Authorized ErtelAlsop representatives are equipped to run trials on-site, or product samples may be sent directly to ErtelAlsop for testing with prior approval.

Table above is for reference only.
* High Carbon Content

132 Flatbush Avenue • Kingston • NY • 12401 • ErtelAlsop.com • 845.331.4552 • Fax 845.853.1526

ErtelAlsop

THE FIRST NAME IN LIQUID FILTRATION™

1	2	3	4	5	6	XX
12	PO	Y	3	M-50	16	XX

Diameter	Core	Height	Gasket	Grade	# of Cells	Features
12=12 inch	PO=Polypropylene Core Double O-Ring End Cap Double O-Ring	X=7-9/16" Flat Gasket 8-9/16" Double O-Ring	2=Neoprene	M-50 (Example)	3-18	ZD = ZetaDri-Pak
16=16 inch			3=Viton			KV = AquaKv-Pak
	PF=Polypropylene Core Flat Gasket End Cap	Y=10-7/8" Flat Gasket 11-7/8" Double O-Ring	4=EPDM			
			5=Buna-N			
			6=Silicone			
			7=Teflon Encapsulated Silicone			
			8=Other			

132 Flatbush Avenue • Kingston • NY • 12401 • ErtelAlsop.com • 845.331.4552 • Fax 845.853.1526

The Format to Fit Your Needs

All ErtelAlsop media formulations can be manufactured in formats to fit your application. Filter sheets, discs and Pak® Lenticular Cartridges are all available to provide you with product to optimize your application. ErtelAlsop also manufactures a complete line of filter machinery, from Small Batch and Pilot Scale Lab Filters to Plate and Frame Filters, Sealed Disc Filters and Pak® Lenticular Cartridge Housings.

For over 80 years, ErtelAlsop has been proactively solving the depth filtration problems of industry. We originated and patented the Pak® Lenticular Cartridge concept. We created the BioClean™ Sanitary Filter Plate Assembly to accommodate the stringent cleaning standards of the pharmaceutical industry. We designed the 1S PharmaScale™ Filter at the request of a customer who needed to duplicate results at the one-inch square level. Most recently, we took the traditional plate and frame concept and literally turned it on its ear. The Diamond Series™ line of Plate and Frame Filter Presses combines weld-free technology for the ultimate in cleanliness with a diamond shape, which allows for complete drainage and venting. Constant innovation has positioned us at the forefront of the industry.

For more detailed information on the products we manufacture, contact us by phone at 800.533.7835 or visit our web site www.ertelalsop.com.

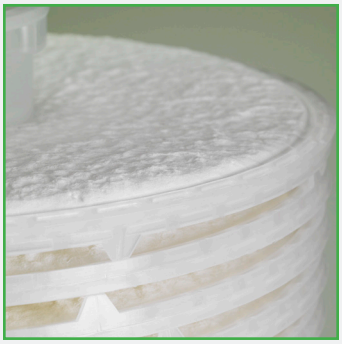
Celpure® is a registered trademark of Advanced Minerals, Inc.

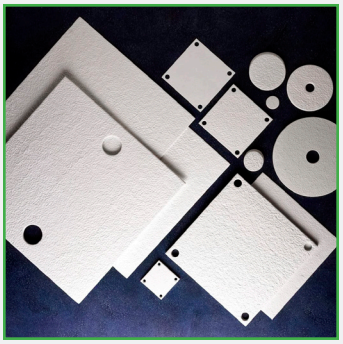
Filter Media

ErtelAlsop filter media is available for any application and/or operating condition, and is chosen based on your specific operating conditions, the performance required by the filtering media, and criteria given to us by you and/or by sample processing we do in our lab.

ErtelAlsop offers the widest varieties of filter media including 100% cellulose pads, cellulose and diatomaceous earth pads, cellulose and Celpure® diatomaceous earth pads, cellulose and perlite pads, and cellulose and activated carbon pads.

All filter pads are manufactured to very high standards for a wide range of applications in the pharmaceutical, chemical, cosmetic, electric utility and food and beverage markets. ErtelAlsop also offers a Validation Guide to assist in the validation of its filter pads in your process. The Validation Guide contains information regarding raw materials, extractables, and general information about the product. The combination of ErtelAlsop “P” grade filter pads and ErtelAlsop’s BioClean™ plate and frame filter press design, can help to simplify your depth filtration validation now more than ever.





For additional product information visit **ErtelAlsop.com**

Technical Bulletin PAK-14

ErtelAlsop
132 Flatbush Avenue
Kingston, NY 12401 US

ErtelAlsop.com
800.553.7835 Telephone
845.853.1526 Fax

Keep in touch.

Visit us at ErtelAlsop.com

Your Local Distributor