



ERTELALSOP

THE FIRST NAME IN LIQUID FILTRATION



ERTELALSOP.COM

LIFE SCIENCES

Prefiltration and Clarification of demanding biopharmaceuticals

Biological Cell Cultures

Vaccines

Plasma Fractionation

Active Pharmaceutical Ingredients

Bulk Culture Media

Oral and Topical Medications



COMMON APPLICATIONS:

- Clarification of Bacteria, Yeast and Insect Cell Lysates
- Cell Culture Harvest
- Post Centrifuge Clarification
- Host Cell Protein (HCP) Removal
- Protein Aggregate Removal
- Plasma Fraction Separations
- DNA Reduction
- Color Adsorption
- Lipid Reduction
- Endotoxin Reduction

TOTAL PROCESS FILTRATION

Today's challenging Life Science process streams require multiple filtration and purification steps to achieve a concentrated, clarified end product. Contaminant particle distribution can be very broad while unwanted solid concentrations can be extremely high. This broad range of process characteristics enables the benefits of ErtelAlsop's pharmaceutical grade depth filter products to be realized.

Able to remove such things as colloidal material, cell debris, host cell proteins and aggregates, ErtelAlsop's depth filter products can be employed at various stages of production. By doing so ensures the success of each subsequent process step down stream. The unique filter media structure, coupled with the various grades and formats available through ErtelAlsop, allow for implementation no matter the process size or condition.

Whether its an application for:

- Adsorption of Color
- Fine Clarification of Post Centrifuge Material
- Cell Culture Harvest

ErtelAlsop's Life Science filtration products are part of a sound manufacturing process design.

OUR MISSION IS CLEAR™

FILTER MEDIA CONFIGURATIONS:

FLAT SHEETS, FILTER PAPER & CUT DISCS

ErtelAlsop depth filter media is configurable for use in various shapes and virtually any size filter press. Whether your needs call for round or square sheets to accommodate a small bench top press, or large rectangular sheets to be used in floor mounted presses, ErtelAlsop has the ability to format our filter media to meet your needs.

This ability also provides ErtelAlsop the capability to make all of our various depth filter media families and grades in a diverse number of laboratory cut disc diameters. This allows for lab testing in filter grade determination, process development, and process scale-up and scale-down work.

ErtelAlsop also provides a variety of filter paper grades configurable in similar sizes as our depth filter media. Used either in place of, or in addition to our depth filter media, filter paper can often be a viable option for your application.

PAK® DEPTH FILTER CARTRIDGES

Available with any of ErtelAlsop's depth filter media grades, Pak® lenticular depth filter cartridges incorporate individual filter cells— each cell is constructed with at least two sheets of depth filter media. By increasing or decreasing the number of filter cells, a lenticular cartridge is formed.* By offering two distinct diameter sizes of lenticular cartridges, 12 inch and 16 inch, ErtelAlsop is able to provide a wide spectrum of available filter area to meet your exact process needs.

End-users can select from the following well defined cartridge construction formats:

- Stainless Steel band with flat end cap gaskets
- Polypropylene center cores and flat end cap gaskets
- Polypropylene center cores with double O-ring end caps

* Cartridges can be constructed with 5-16 cells per cartridge depending on filtration area needed.

SINGLE-USE DEPTH FILTER CAPSULES

ErtelAlsop has responded to the needs of the Life Science industry for small, single-use disposable capsules by now offering their array of depth filter media in small to mid-sized single-use capsules.

ErtelAlsop Micro-Caps™ are available with filter area ranging from 22.5 cm², 550 cm², 1,100 cm² and 2,200 cm². Micro-Cap™ capsules provide an easy method for use of depth filter technology without the inherent issues of stainless steel housings. ErtelAlsop capsule use is appropriate for process volumes ranging from 0.5 liters to 50+ liters depending upon process conditions which make them a clear choice for process development and filter media evaluations.

FILTER EQUIPMENT TO MEET YOUR NEEDS

ErtelAlsop filtration equipment is designed with scalability in mind. From Research and Development, to Pilot Plant, to full scale production, we provide solutions to your filtration needs.

LABORATORY FILTERS

- From 30 mm (4 inch) Square to 200 mm (7.75 inch) Diameter
- Filterability and Scale-Up Studies
- Product Testing
- Pilot Testing
- Jacketing Available on Many Units

PLATE & FRAME FILTERS

- 102 mm (4 inch) Square to 610 mm (24 inch) Square
- 12.5 mm (0.5 inch) to 50 mm (2 inch) Thick Frames
- Sanitary BioClean™ Designed Plates
- 316L Liquid Contact Surfaces
- Internally Ported

PAK® HOUSING FILTERS

- 12 inch & 16 inch Diameter
- Sanitary Design Available
- No Internal Threads
- 316L Liquid Contact Surfaces
- Can Hold up to 4 Cartridges
- High Polish Finishes- Including Electropolish
- Double O-Ring and Flat Gasket Designs Available

GLOBAL TECHNICAL SERVICE

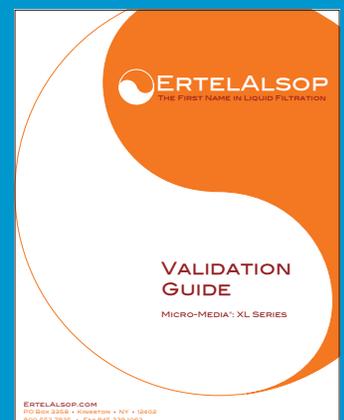
ErtelAlsop is uniquely positioned to provide the highest quality technical support to our customers. With an average of 20+ years in the filtration industry, each of our technical experts will assist you through proper media selection, testing, validation, system sizing, scale-up, applications support and more. We have the capability of providing many of these services in our own laboratories or at your facility.

ERTELALSOP VALIDATION GUIDES

ErtelAlsop pharmaceutical products are supported by individual Validation Guides for each grade of pharmaceutical depth filter media as well as associated formats and are available upon request.

Every Lot of Pharmaceutical grade product is tested for quality to assure compliance to our Validation Guides as well as ErtelAlsop's internal product specifications. This assures consistent performance, quality and Lot-to-lot uniformity from your first evaluation through the life of your production process.

Each shipment of ErtelAlsop pharmaceutical grade products include a Certificate of Conformance to confirm compliance to lot release specifications.





Micro-Media®

Micro-Media® high-performance filter sheets contain cellulose, filter-aid, and resin binders. They have very high solids-loading capacity and are available in nominal retention ratings from 10µm to 0.25µm.

ErtelAlsop offers 17 grades of Micro-Media®:

- 8 Grades with Cellulose and Perlite
- 9 Grades with Cellulose and DE



Alpha Media™

Alpha-Media™ filters are manufactured from 100% cellulose. They contain no resins, binders, fillers or synthetic micro fibers. Three standard nominal retention ratings, from 10µm to 1.0µm are available.



Micro-Media®: XL Series

XL Series Depth Filter Media, formulated with cellulose, resin binders and an ultra-pure form of Diatomaceous Earth (DE) is specifically designed for use in critical applications requiring extremely low extractable and leachable levels for metal ions.



Micro-Clear™

This unique adsorptive media is designed to remove color and odor from process fluids to provide colorless and odorless process streams.

Through a blending of powdered activated carbon, cellulose fibers and resin binders we are able to provide 7 different grades of this filter media to choose from.



Micro-Media®: L Series

L Series Micro-Media is designed for Life Science applications where 1,3 B D glucan interference may falsely indicate elevated endotoxin levels with some LAL test kits. Manufactured with a combination of specially treated cellulose fibers, filter aids and resin, L series filter media provides significant advantages for use in sensitive process conditions.



Bio-Pak®

ErtelAlsop Pak® filters are designed to take advantage of all grades of Alpha, Micro, XL, L, LXL and Micro-Clear depth filter media. They are available in both 12" and 16" diameter cartridge formats as well as both flat gasket and double O-ring style end-fittings.



Micro-Media®: LXL Series

The 9 grades of LXL media offer the combined advantages of the XL series ultra pure Diatomaceous Earth with the L series Beta glucan poor cellulose fibers to produce this superior depth filter media and making it the leading choice for Biopharm applications .



Micro-Media®: Filter Paper

Due to a basic formulation of cellulose fibers combined with or without resin binders, it is highly compatible with any number of applications. It provides an economical solution where low solids retention or cake building is required.



Micro-Caps™

Available in four sizes, these single-use capsules provide fast, efficient use of ErtelAlsop's depth filter media and eliminate the necessity of stainless steel housings as well as timely cleaning and cleaning validation.

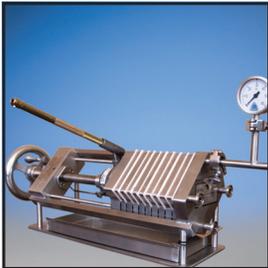
- Lot to lot traceability
- Self-contained
- Completely disposable



Laboratory Filters

ErtelAlsop offer six cylinder-type filters for small batch filtration and for use in laboratories to simulate the results of our full scale filter equipment.

Laboratory Cylinder Filters are available with capacities up to 8000 ml.



Pilot Scale Filter Press

AccuScale™ filter presses are the perfect tool for R&D, pilot, or small batch processing. Small enough to fit on your bench or cart, AccuScale™ filter presses are an efficient tool to scale up or down your process filtration needs.



Plate and Frame Filter Presses

ErtelAlsop plate and frame filter presses are designed to accommodate varying amounts of sludge accumulation depending upon the thickness of sludge frames used. Whether 12.5 mm (0.5 inch) to as large as 50 mm (2 inch) thicknesses, we can provide weld free plate and frame construction for the highest degree of surface integrity and ease of cleaning.

With many options, sizes and surface finishes available, we are able to meet your process needs including multi-step (serial) filtration in a single press through the use of dividing heads.



Pak® Filter Housings

ErtelAlsop's 12 inch or 16 inch Lenticular Filter Cartridge Housings provide an easy to clean enclosed system, which allows for quick change out and easy cleaning.

Available with many options such as:

- 304 or 316L stainless steel construction
- < 20Ra electropolished surface finish
- ASME Code

Our commitment to customer service and capability to meet customer design requirements continues to make ErtelAlsop stand apart from our competitors.

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