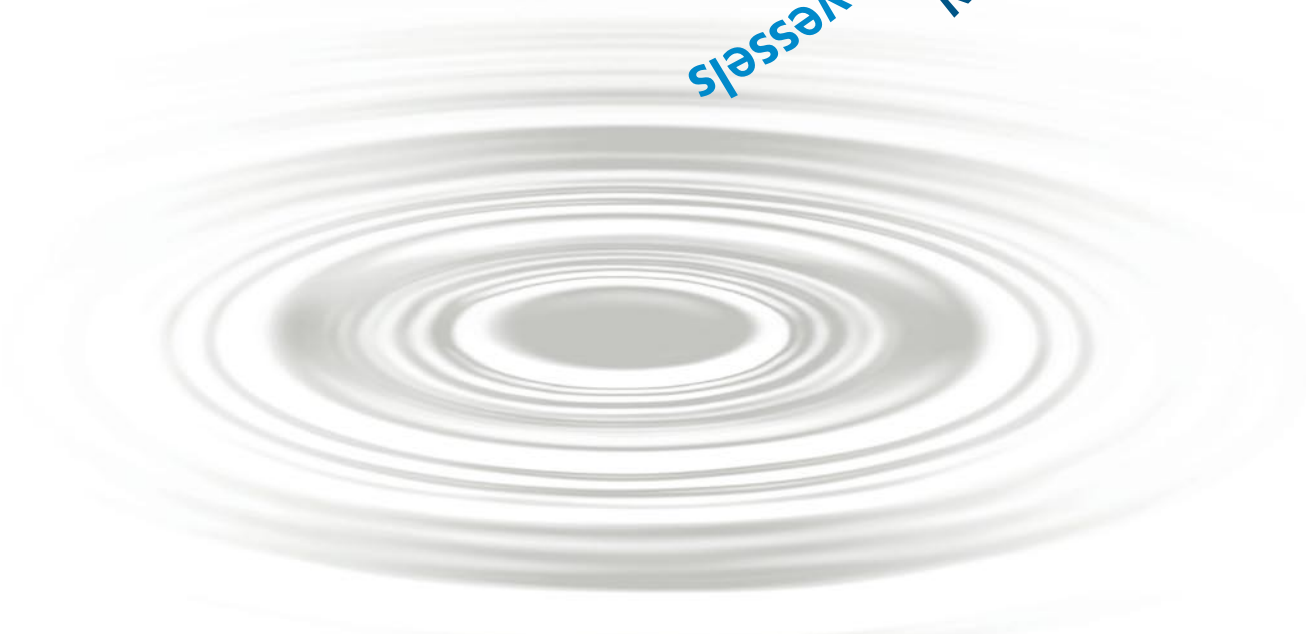


Pope Scientific, Inc.
wiped-film stills
fractional distillation systems
process vessel systems
pilot & processing plants
toll processing services
dewars & glass equipment
nutsche filter-dryers
portable pressure vessels
engineered systems for science & industry



Pope Scientific – Finding Solutions

Since 1963, Pope Scientific has been at the forefront of manufacturing chemical processing equipment, engineered systems and laboratory apparatus for science and industry. Today Pope is internationally known – with specialized technical expertise in design and manufacturing of chemical processing equipment as well as toll processing services.

Pope's products/services include:

- Wiped-Film Molecular Stills and Evaporators for Heat-Sensitive Materials
- Fractional Distillation Systems and Components for High-Purity Separations
- Portable Pressure Vessels, Process Systems and Nutsche Filter-Dryers
- Turnkey Pilot and Processing Plants
- Custom Toll Processing and Distillation/Evaporation Services
- Dewars and Glass Equipment

Pope Scientific's ability to work with a wide variety of customer applications and to provide off-the-shelf or customized products means you can get technology, equipment and services at one location. Consult with our experienced staff about your application. We will carefully assess your situation to determine the most appropriate solution.

Pope provides a full range of services including process development, engineering, installation, training and technical support.



Turnkey Pilot and Processing Plants

Systems ideally suited for pilot plants and production processing.

If your needs include a pilot/processing system, Pope's application experts will meet with you to discuss your project. We'll go over everything from feasibility and preliminary design through installation, training and after-sale consultations. Every system is designed, engineered, built and tested to meet all requirements of the application. Individual components are selected or fabricated for high reliability. Whether your project calls for Wiped-Film Stills, Fractional Distillation Systems or Process Vessel Systems, the result is an operation-ready, high performance, reliable processing system for producing high quality product.

Process-dedicated or versatile development units are available. Let Pope design a custom still system to fit your application, requirements and budget.





COMPLETE
DEWAR
PRODUCT
LINE



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engineered systems for science & industry

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Wiped-Film Stills

Preferred technology recognized worldwide for separation of heat sensitive compounds.

Pope's Wiped-Film Stills are recognized around the world in a wide range of industries – from pharmaceuticals to foods to oils to polymers and specialties – for superior processing efficiency. Why? Pope's exceptional design and construction and the technology behind it provides consistently positive results.

Versatility. Pope stills are available in a broad range of variations, to most efficiently accomplish the following types of separations:

- Concentration/Evaporation
- Molecular Distillation
- Solvent Stripping/Degassing
- Deodorization/Decolorization

Efficiency. The combination of high vacuum capability, short (seconds) residence time and quality materials provides highly efficient processing. Variable speed control of the diagonally slotted wipers allows a wide variation of film thickness and holdup time for process fluids. The result: minimum product decomposition with maximum product quality and yield.

Flexibility. Pope offers laboratory, pilot plant, and production processing equipment in a wide range of sizes, with straightforward scaleup throughout. Choice of materials includes 316L stainless steel, Hastelloy, Titanium, glass, Viton, Kalrez and many others. Several configurations are possible, including Molecular Distillation, Wiped-Film Evaporation and Fractional Distillation with incorporation of columns (Hybrid configuration). These configurations may be combined in multistage skid-mounted systems.



Fractional Distillation Systems and Components

Engineered for performance and purity. Ideal for critical applications.

Designed for purification, fractionation, and solvent recovery, Pope's line of mid-sized fractional distillation systems is ideal for your pilot plant or small production applications – when a small laboratory bench scale unit or large production system isn't a good fit. Precision design and fabrication as well as attention to exacting standards make these systems particularly well suited to critical applications such as fine chemicals, pharmaceuticals, foods, flavors, cosmetics, extracts and more.

Pope Fractional Distillation Systems are available:

- In throughput capacities from 0.01 to more than 100 gal/hr
- With 1-12 inch column diameters (special larger sizes also available)
- In glass or 316-L stainless steel (Hastelloy and other materials and alloys available)
- With a wide variety of column packings and internals (Pro-Pak® protruded metal is standard)
- In Batch Mode configurations – for smaller feed quantities or critical multi-component separations
- In Continuous Mode configurations – for larger feed quantities or long-run processing
- To meet your special requirements and applications – from simple individual components to complete turnkey systems



Autocol™ Distillation Systems

A packaged approach to small batch, high purity distillations.

Distill pure solvents for studies, critical fine chemical production or recycling with Autocol. Pope's programmable controller conveniently automates the process from start to finish. Glass, Teflon and stainless steel (or other packing materials) ensure purity. Available in cabinet or rack style versions. Special vacuum options are offered.



Process Vessel Systems, Portable Pressure Vessels and Nutsche Filter-Dryers

Made to meet your critical requirements.

Pope's ASME stainless steel portable pressure vessels can handle a wide range of sanitary, high purity or hazardous substances safely and conveniently in sizes from 1 to 100 gallons.

Pope has custom designs for:

- Storage and shipping
- Reactors and fermenters
- Blending, dispensing
- Scaleup from lab glassware
- Heavy industrial use
- Many more applications



Vessels and Vessel Systems

Whether you require a system to handle high purity materials and pharmaceuticals or toxic, corrosive chemicals, Pope is your source for all turnkey vessel projects. You tell us what you want – an off-the-shelf container or a complex system that can handle 2 liters to 200 gallons. We have what you need, from basic vessels to custom process systems with mixers, heaters, valves, instrumentation and more. Our application engineers are on hand to address all equipment design and processing issues – and we take responsibility for the *entire* system.

Pope Portable Nutsche Filter-Dryers

The Nutsche is the optimal next step in scale up of laboratory filter purification operations. Convenient, portable ASME pressurizable units and systems are offered in sizes from 2 to 200 liters and various diameters. Nutsche Filter-Dryers are ideal for critical high purity and pharmaceutical applications. Fabrication materials include 316L stainless steel, Hastelloy and coatings such as Teflon. You can filter solids, wash, mix, re-slurry and dry in a single unit. Many standard and customized designs are available.



Toll Processing Services

Minimizing process development cost, risk and time-to-market.

Pope Scientific is recognized worldwide as a leader in difficult thermal separations. We have a long history of proven success helping clients solve their processing problems while curtailing development costs, risk and time investments. Our new 44,000 square-foot, fully equipped facility was specifically designed to accommodate a dedicated toll processing area – complete with technicians and toll processing operators – and adjacent areas for lab testing, process development and equipment fabrication.

Pope Toll Processing is your solution for:

- Fine chemical purification
- Edible oil deodorization and deacidification
- Vitamin and pharmaceutical purification
- Extract and Biomaterial concentration
- Food, flavors and fragrance isolation
- Polymer devolatilization
- Wax and silicones fractionation
- Decolorization
- Moisture removal
- Solvent recovery...
- ... And more

Consult Pope regarding your tolling application – complete confidentiality is guaranteed.





Pope Scientific, Inc.

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