

Pope Toll Processing Services for Heat Sensitive Materials

Specializing in High Vacuum Molecular Distillation, Evaporation and Fractionation

Capabilities Include the Following Operations:

- Molecular Distillation (Short-Path)
- Wiped Film Evaporation (WFE)
- Fractional Column Distillation
- Combination of these operations

Pope Wiped-Film process equipment handles the separation and purification of difficult materials which are high in boiling point, melting point, viscosity or reactivity, with **excellent results**. The high vacuum and short residence time ensures that your finished product is of the **highest possible quality and yield** with the lowest possible thermal degradation.

The Pope process has been **proven** in critical and high purity applications. It has also been **validated** for GMP processing in food, biomaterial and pharmaceutical operations including products for ingestion, injection and implantation.

Toll Processing Equipment

Pope's tolling equipment currently handles throughputs ranging from 50 ml/hr to 500 l/hr for processing feedlots of **1 liter to many tons**. All Wiped Film Still units can operate to extremes of 0.001 mm Hg vacuum level, and to beyond 350°C. All are configurable as molecular stills, evaporators or hybrid evaporator/fractionators, in single or multiple stages.

- 20"** Wiped-Film Still Plant: 100 - 400 l/hr feed throughput capacity. Includes Passive Degasser stage and a 25 sq. ft. Molecular Still. Vacuum capability to 0.001 Torr. Stainless Steel construction.
- 18"** Batch Fractional Distillation System for operation from atmospheric pressure to 0.1 Torr vacuum. Up to 90 theoretical plates. 240 gallon boiling vessel. Stainless Steel construction.
- 12"** Two-Stage Wiped-Film Still Plant: 20 - 200 l/hr feed throughput capacity. Includes Passive Degasser stage and 2 each 10.5 sq. ft. Molecular Stills. Vacuum capability to 0.001 Torr. 316L Stainless Steel construction. Unit may also be configured as Wiped Film Evaporator, and as a Hybrid Distillation System, combining a Wiped Film Evaporator with a 10" diameter Fractional Column for fractional distillation of temperature sensitive materials.
- 6"** Wiped-Film Still Plant, Single- and Multi-Stage systems: 5 - 40 l/hr feed throughput capacity. Glass and Stainless Steel versions available. Vacuum capability to 0.001 Torr. May be configured as Molecular Still, Wiped Film Evaporator, Hybrid Still or combinations of these configurations.
- 3"** Continuous Fractional Distillation System. Kettle reboiler continuous distillation system. Pressure range of 0.1 Torr to 50 psi. Approximately 40 theoretical plates.
- 2"** Wiped-Film Still: 50 ml/hr - 2 l/hr feed throughput capacity. May be configured as Molecular Still, Wiped Film Evaporator or Hybrid Still. Vacuum capability to 0.001 Torr. Glass system used for feasibility testing and process development.



A Section of Pope's Wiped Film Still Toll Processing Area

POPE TOLL PROCESSING IS YOUR SOLUTION FOR:

- ▲ Edible oil DEODORIZATION and DEACIDIFICATION
- ▲ Vitamin and Pharmaceutical PURIFICATION
- ▲ Extract and Biomaterial CONCENTRATION
- ▲ Food, Flavors and Fragrance ISOLATION
- ▲ Polymer DEVOLATILIZATION
- ▲ Wax and Silicone FRACTIONATION
- ▲ DECOLORIZATION
- ▲ Moisture REMOVAL
- ▲ Solvent RECOVERY
- ▲ Many others



Pope Toll Processing — Minimizing Process Development Cost, Risk and Time-to-Market

Additional Services

- Assistance with upstream or downstream process development and scale-up
- Feasibility testing prior to toll processing
- Custom manufacturing
- Processing to GMP requirements
- Complete turnkey processing, pilot plant and laboratory equipment manufacturing, sales and service

Founded in 1963, Pope has become a world wide leader in difficult thermal separations of liquid compounds. In 1998, a new 44,000 sq. ft. manufacturing facility was specifically designed and built to accommodate a dedicated toll processing area. Supporting the tolling department, there are adjacent areas for laboratory testing, process development and equipment fabrication. Pope's tolling operation is staffed by experienced processing applications personnel. Contact Pope's Toll Services Group for consultation on your tolling application.

Pope, a World Leader in Difficult Thermal Separations, Offers:

- ▲ A long history of success in helping clients solve process problems and optimize processes
- ▲ Staffed by highly trained, experienced Chemical Engineers, Chemists, Technicians and Toll Process Operators
- ▲ Over 30 years experience in the design and manufacture of Wiped Film Still Systems
- ▲ An expanding range of production equipment including the new 20" Series Wiped-Film Stills
- ▲ Versatile Fractional Column Distillation Systems - batch, continuous, or combined with Wiped-Film Evaporators as Hybrid Still systems
- ▲ Complete confidentiality



Pope's new facility is conveniently located just north of Milwaukee, Wisconsin via Interstate 43



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