



**ARTISAN**  
INDUSTRIES INC.

Since 1934 Artisan experts have led the way, providing integrated solutions to the most challenging separation problems.

We combine an innovative approach with an unparalleled depth of knowledge to develop cost effective, practical solutions.

Designed and built to exacting standards, our powerful technologies have enabled us to succeed where our competitors have failed.

The Artisan name is synonymous with unrivaled product quality and level of service.



## The Artisan Rototherm® Separation Technology & Solutions

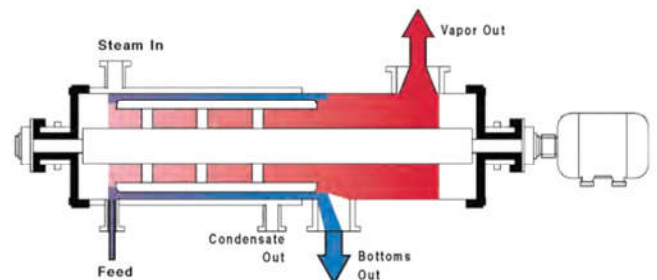


### Providing Unique Solutions for Your Most Difficult Process Challenges

The Artisan Rototherm® is a horizontal, mechanically-aided, thin-film processor designed to handle a wide range of difficult evaporation and drying applications.

As an evaporator, the rotor creates a centrifugal force that keeps the feed against the heated process wall. The turbulent thin-film between the rotor blade and the process wall, covers the entire heated section at all times, regardless of feed or evaporation rates. This film is constantly renewed, as the progressively, more concentrated material is displaced towards the bottom discharge nozzle, by the incoming feed. As the residence time is generally measured in seconds, the degradation of heat sensitive materials is minimized.

As a reactor, multiple feed points, multiple temperature zones, controlled residence time and simultaneous evaporation offer total flexibility for carrying out complex, continuous reactions. Even powders can be produced in a single step.





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## Industries

- Chemicals
- Alternate Fuels
- Food & Beverage
- Nuclear Power & Fuel
- Nutraceuticals
- Oleochemicals
- Petrochemical
- Oil
- Gas
- Pharmaceutical
- Polymers
- Power & Energy
- Waste Processing

## Successful Applications

- Concentration
  - Specialty Polymers, Resins & Flavors
- Purification
  - Herbicides & Pesticides
- Dehydration
  - Lecithin & Industrial Coatings
- Desolventizing
  - Photoresist & Photographic Chemicals
- Reaction
  - Esterification, Saponification & polymerization
- As a Reboiler
  - Antioxidants

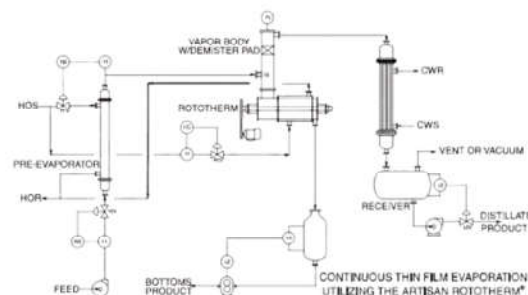
Specialized in Several Other Applications...



## Compared to Other Thin-Film Processors, the Artisan Rototherm Offers Numerous Advantages

### Eliminate Processing Steps, Reduce Waste, & Increase Profitability

- Reduced degradation of heat sensitive materials
- Improved product quality
- Higher yields
- High viscosity capability (up to 4x10<sup>6</sup> cP)
- Up to 99% evaporation in a single pass
- High turndown ratio (10:1)
- No dry spots or fouling
- Smaller heat transfer area required
- Easier installation
- Easier to maintain
- Co-current or counter-current operation
- Less solvent required for cleaning



Artisan selects the optimal design based on extensive experience and process-specific data, from our Pilot Plant facility, for each unique application. Rototherm® heat transfer areas range from ¼ sq. ft. to 200 sq. ft., with single unit capacities, from several pounds/hour, to 30,000 pounds/hour. Standard sizes include 1, 5, 10, 15, 20, 30, 40, 50, and 60 sq. ft. (Custom sizes are also available). The heating medium can be steam or hot oil and materials of construction include stainless steel (300 series and Duplex), carbon steel, nickel, Inconel®, Monel®, Hastelloy®, and titanium.

### Process Development, Engineering & Support

Artisan provides best-in-industry, experienced chemical engineers who will work with you to develop a customized solution for your application and provide support throughout the process.

### Custom Manufacturing

Artisan has a 110,000 sq. ft., fully integrated production facility with an extensive range of engineering, welding, manufacturing, machining, and assembly capabilities to support our customers in meeting their product and delivery requirements.

### Feasibility & Pilot Testing

We operate one of the most comprehensive pilot test facilities in the industry. Custom configured single or multi-staged systems are designed for your specific process. Whether you need to pilot a new process or improve an existing one, our experienced engineers will work with you to develop a cost effective solution to give you the competitive edge.