

ARTISAN

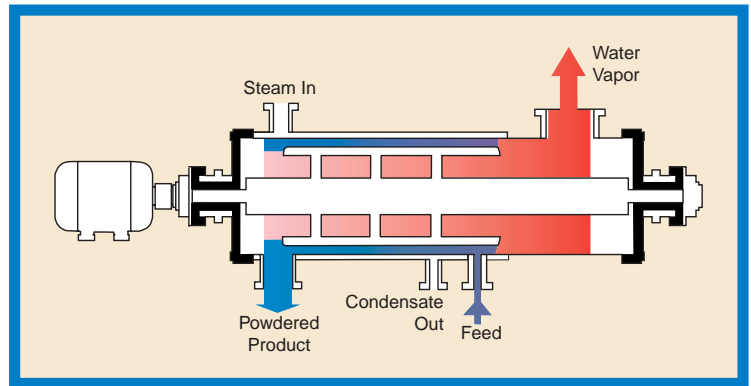


# Free Flowing Powder in a Single Step!

## Rototherm®

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

A specially designed 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 bottoms discharge nozzle. When operated under vacuum, the Rototherm evaporates and dries at reduced temperature. The residence time of material in the Rototherm is very short, usually less than several minutes.

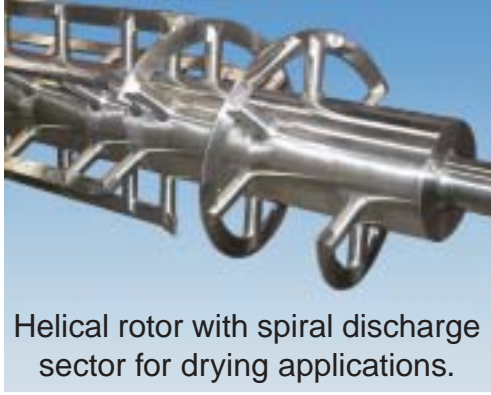


Above left, a 20 sq. ft. Rototherm producing a free flowing powder in a food application. Above right, a Jet-Vac® hybrid vacuum system.

Compared to other thin film or wiped film processors, the Rototherm offers numerous advantages, including:

- Free flowing powder in a single pass for many materials
- Up to 99% evaporation in a single pass
- Reduced degradation of heat sensitive materials
- Improved product quality
- Higher yields
- High viscosity capability (up to  $4 \times 10^6$  cP)
- High turndown ratio ( $> 10:1$ )
- No dry spots or fouling
- Smaller heat transfer area required
- Easier installation
- Easy maintenance
- Cocurrent or countercurrent operation
- Less solvent required for cleaning

Over 500 Rototherms are evaporating and drying a wide variety of products in the chemical, pharmaceutical, food and related industries.

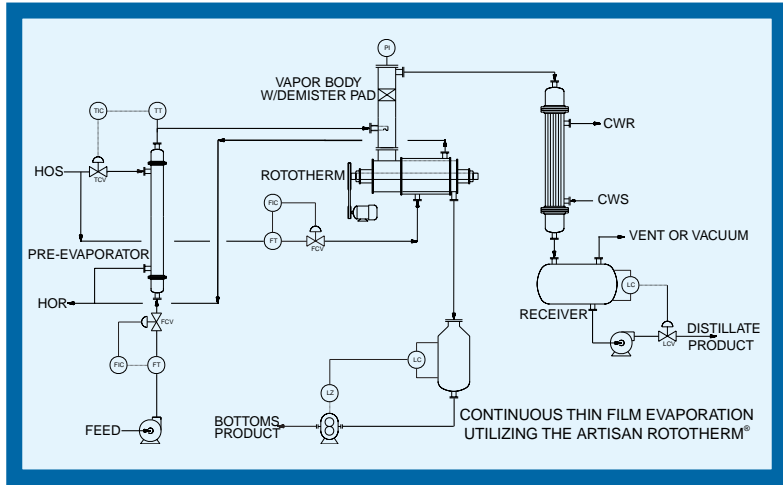


Helical rotor with spiral discharge sector for drying applications.



200 sq ft Rototherm horizontal thin film evaporator.

Because each application is unique, Artisan selects the optimal design based on extensive experience and process-specific data from our pilot facility. Artisan also has pilot scale rental Rototherms available when the application or customer preference requires testing at the customer's site. Rototherm heat transfer areas range from 1/4 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 available. The heating medium can be steam or hot oil. Materials of construction include stainless steel (300 series and Duplex), carbon steel, nickel, Inconel®, Monel®, Hastelloy® and titanium.

- problem definition ❖ technology selection ❖ process design and optimization
- bench scale testing ❖ pilot scale testing-in house or at site
- equipment design and specification ❖ complete system manufacture
- start-up assistance ❖ operator training ❖ after sales support

**For further information call our sales team at:**

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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. That is why the Artisan name is synonymous with unrivaled product quality and level of service.

