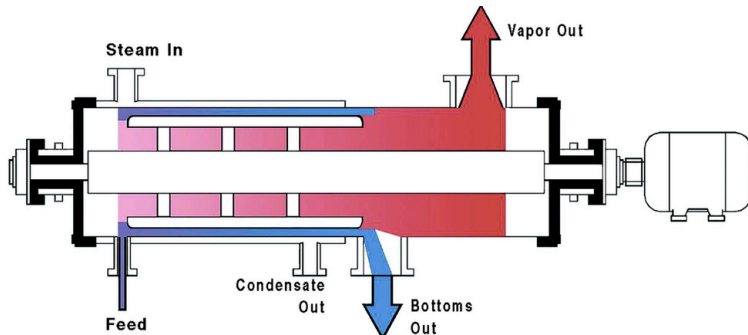


THE ARTISAN ROTOTHERM®

Thin-Film Evaporator

The Artisan ROTOTHERM® is a horizontal, mechanically-aided, thin-film processor designed to handle a wide range of difficult evaporation and reaction applications. As an evaporator, the rotor creates 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 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.

Applications

- Concentration
- Purification
- Dehydration
- Solvent Recovery
- Reaction
- Drying

Industries

- Chemical
- Food & Beverage
- Pharmaceutical
- Edible Oils
- Polymer
- Renewables



Advantages

- ★ Processes heat sensitive materials
- ★ Improves product quality
- ★ Higher yields
- ★ High viscosity capability (up to 4×10^6 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/clean
- ★ Cocurrent or countercurrent operation

THE ARTISAN ROTOTHERM®

Technical Specifications

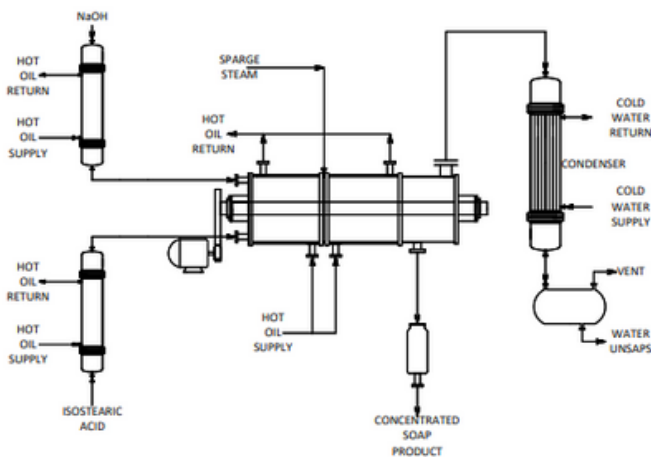
Artisan Industries designs each ROTOTHERM® for optimal performance based on data specific to the user's process. The size of the ROTOTHERM® will largely depend on factors including the design feed rate, evaporation rate, operating temperature, pressure, and final product specifications. Liquid-to-powder drying is possible for many materials. The ROTOTHERM® may be designed for pharmaceutical, food, or chemical service, and for any specific location requirements (geographic and/or hazardous area classification). Other specific design details including pressure vessel code, temperature and pressure rating, polish, elastomers, seal type, electrical connections, etc. are all confirmed with the user during the design phase.

Size Range: 1/8 to 225 sq. ft. of heated surface area.

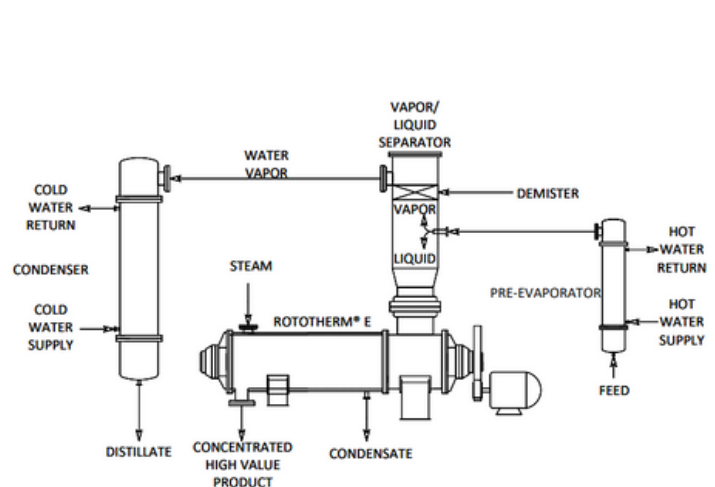
Capacity: 5 mL/min to 4,500 lb/hr of material, based on size and application.

Construction Materials: Stainless steel (300 series and Duplex), carbon steel, nickel, Inconel®, Monel®, Hastelloy®, and titanium.

Operating Conditions: Jackets can be designed for hot water, steam, or hot oil heating, depending on the operating temperature and site utilities. Operating pressure can range from below 1 mmHg to over 100 PSIG and operating temperature can range from below 100 °F to over 700 °F.



Continuous Chemical Reactions with Product Purification



Concentrating High Value Liquids or Slurries