

## Wiped Film Evaporator

Ablaze's Thin Film Evaporator is designed for use in concentration, distillation, dehydration and deodorisation of heat sensitive or viscous products. Also known as the wiped film evaporator, it works on the principle of the thermal separation of products in a mechanically generated, thin and highly turbulent liquid film along the outer surface of the evaporator.

### Salient Features

- Contact parts of only PTFE and Borosilicate 3.3 glass
- Glass evaporators ensure visual observation of process
- Magnetic Seal/Mechanical Seal for leak-free operation
- PTFE Rotating Roller Wiper System
- Short residence time
- High vacuum operation
- Optimum design for safe and easy operation
- Automated operation with PLC control available on request

### Technical Specifications

**Feed capacity:** 0.1 L/hr to 50 L/hr

**Evaporation area:** 0.02 m<sup>2</sup> to 0.5 m<sup>2</sup>

#### Evaporation Rates:

Water : 0.1 L/hr to 5 L/hr

Organic Solvents : 0.2 L/hr to 10 L/hr

**Operating temperature:** up to 200 °C  
(Higher temp. can be achieved up to 250 °C)

**Operating pressure:** 0.01 bar to 1 bar

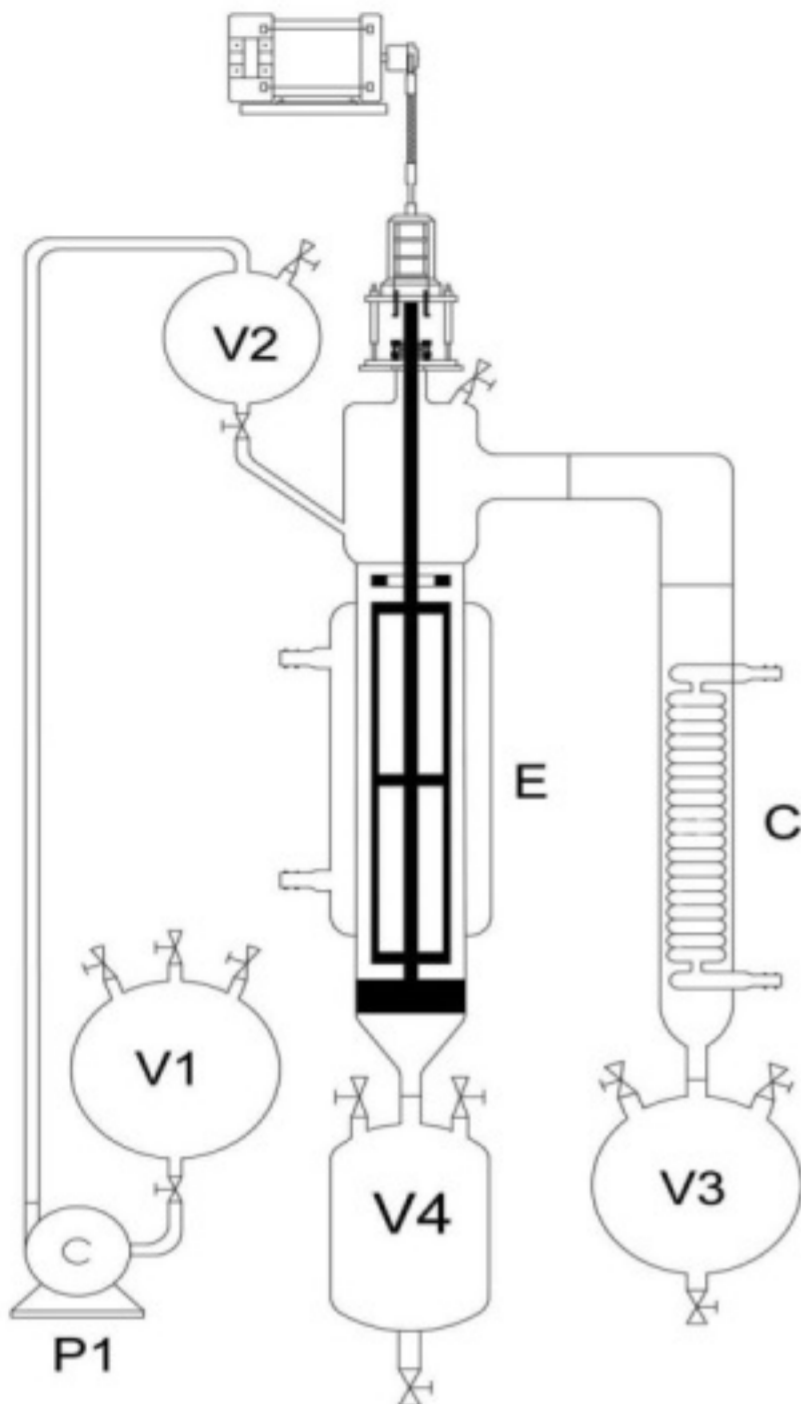
**Seal:** Mechanical seal / Magnetic seal

**Feed Pump:** Centrifugal pump / Gear pump / Dosing pump

**Motor:** Flame Proof / Non-Flame Proof, Three Phase / Single Phase

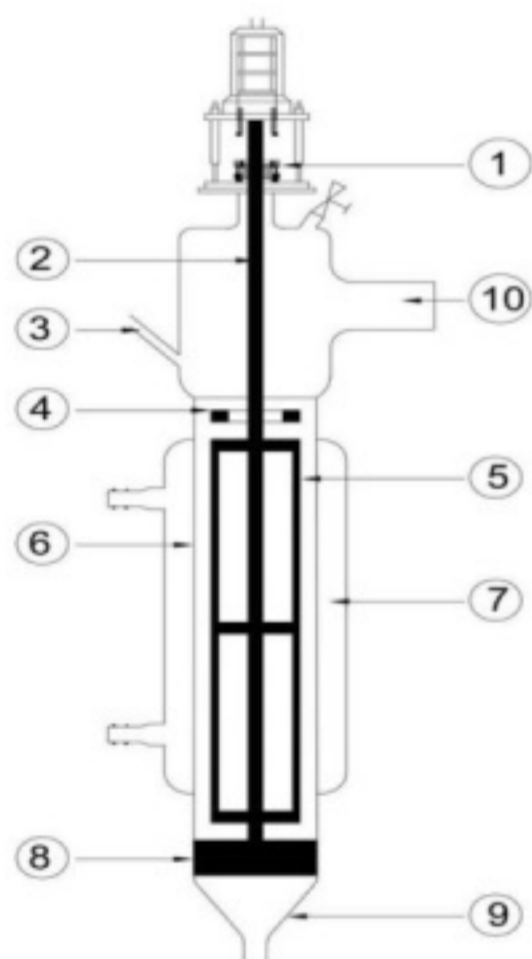
**Power:** 230/400 V AC, 50Hz





## Process Description

- Liquid feed solution from vessel V1 is added in vessel V2 by pump P1.
- From vessel V2 feed is added into wiped film evaporator E.
- Liquid Distributor Disk spreads liquid on evaporation surface, wipers maintains uniform liquid film and evaporation takes place from entire evaporation surface.
- Concentrated solute liquid is collected in vessel V4 from bottom of evaporator.
- Solvent vapors rises up in evaporation chamber and goes into condenser C.
- Vapors gets condensed and cooled in condenser C and collected in vessel V3.



## Components

- |                             |                           |
|-----------------------------|---------------------------|
| (1) Mechanical seal         | (6) Evaporation Chamber   |
| (2) Stirrer Shaft for Wiper | (7) Heating Jacket        |
| (3) Liquid Inlet            | (8) Stirrer Shaft Support |
| (4) Liquid Distributor Disk | (9) Conical bottom        |
| (5) Roller wiper system     | (10) Vapor outlet         |

## Optional Features

- Flame Proof Electricals
- Electrical Heating System
- Product Cooler
- Insulation
- PLC Controller