

Agitated Thin-Film evaporation is very successful with difficult-to-handle products. Agitated Thin-Film evaporators quickly separate the volatile from the less volatile components using indirect heat transfer, vacuum, and mechanical agitation of the flowing product film under controlled conditions.

The chart below compares LCI's Agitated Thin-Film evaporator technology with conventional evaporator types for various processing challenges.

Process Difficulty	Batch	Natural Circulation	Falling Film	Rising Film	Forced Circulation	Plate & Frame	Steam Stripping	Agitated Thin-Film	Extruder
Clean	✓	✓	✓	✓	✓	✓	✓	✓	✓
Capacity			✓	✓	✓	✓	✓	✓	✓
Slurries or Solids					✓			✓	✓
Fouling					✓	✓		✓	✓
Foaming				✓				✓	✓
Heat Sensitive			✓					✓	
Continuous			✓	✓	✓	✓	✓	✓	✓
High Turndown	✓				✓			✓	
PPM Residual	✓						✓	✓	✓
Low Viscosity*	✓	✓	✓	✓	✓	✓	✓	✓	✓
High Viscosity**	✓							✓	✓
Multiple Effect			✓	✓	✓	✓			

*0-1,000 cP

**1,000 – 10,000,000 cP

LCI's Agitated Thin-Film evaporation systems are widely used in the distillation of high boiling and temperature sensitive organics. The combination of short residence time, narrow residence time distribution, high turbulence and rapid surface renewal permits the Agitated Thin-Film evaporator to successfully handle heat-sensitive, viscous and fouling streams. Specially designed rotors make it possible to transport materials with viscosities of up to 10 million cP through the evaporator.

Please contact LCI's Thermal Separations Team at 704-394-8341 to discuss how an Agitated Thin-Film evaporator can solve your process needs.

