

CONTINUOUS API CONCENTRATION



Pharmaceutical |

Country: United States

Key Benefits: Heat sensitive product – high concentration

Products: LCI Horizontal Thin-Film Evaporator

Background:

Client needed to scale up from batch R&D lab equipment to production scale evaporation for a new facility.



1m² LCI Horizontal Thin Film Evaporator Skid System – Evaporator Model LHSE-0100

Problem:

Upstream processing purified an active pharmaceutical ingredient (API) via a continuous chromatography system. Evaporation needs were two-fold:

- 1) concentration of the highly dilute, temperature & oxygen sensitive
- 2) maximize solvent recovery for recycle

LCI Solution:

The Client tested at LCI Corporation's Charlotte, NC test facility. Based on the data, LCI was able to prove thermal history, concentration of the product & scale up to a production size evaporator.

The Client attended these testings; further aiding in the generation of product qualification samples, commercial design scale up data, as well as confirmed operating conditions.

LCI Corporation's horizontal thin film evaporator design allows for high overhead split; a specially designed condenser minimizes solvent losses to the vacuum system, reducing raw material use.

A 3D image of the skid design was provided for incorporation into the entire facility 3D design; ensuring proper fit of connection points & expediting the installation process.

End Results:

Qualification trials were successful. Evaporators are able to distill more than 99.5% overhead. Client is looking at other applications where thin film or short path evaporation may be a solution to their processing needs in the future.