

PHARMACEUTICAL SOLVENT DEHYDRATION

THE CUSTOMER

A contractor for a major pharmaceutical company.

THE PROBLEM

Upstream process generated a stream containing tert-butyl hydroperoxide (TBHP) in nonane. TBHP is a thermally sensitive peroxide. High water loadings in the stream were negatively affecting the efficacy of the TBHP in downstream processing. Customer required a low temperature drying method with low hold-up volume of the process material for safety reasons.

THE CMS SOLUTION

CMS proved feasibility of the membrane-based separation through initial lab demonstrations. Afterwards, CMS designed and built a custom multi-membrane unit that minimized the amount of peroxide in the system. The cart-mounted unit, containing four membranes, was designed to remove water at slightly elevated temperatures in batch or continuous operation.

THE OUTCOME

The system was shipped to the customer's site. Upon arrival the system was operating at full capacity within a week. The membrane unit was able to reduce the water loading in the TBHP/nonane stream by nearly ten-fold.

