



COVEY CASE STUDY

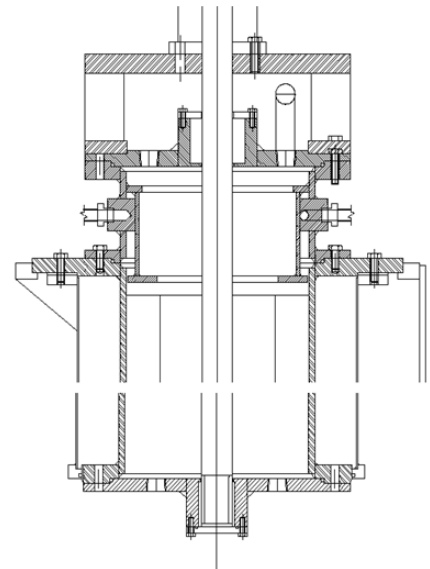
A client needed a wiped film evaporator for final concentration of product in a small plant. An existing unit had proved unreliable and gave only marginal performance.

We investigated alternative units and found several standard designs which should perform the task well. However, they were all much more expensive than the client's budget would allow for, and had inconveniently long delivery times.

Therefore we designed a unit for the client from scratch. This presented a number of difficulties as there was limited information on the properties of the process fluids under the operating conditions, and the design information for wiped film evaporators in the literature was limited and often contradictory. Mechanically the design also presented some interesting problems related to sealing at high vacuum, shaft support and manufacture for the required clearances.

A critical review of the information available allowed us to identify the most promising design methods and larger than usual safety margins were incorporated to allow for the uncertainty in the design data. A design was completed and manufactured and installed by local specialist fabricators.

Overall, the task was completed in about half the time and at one-quarter of the cost of buying from an established manufacturer.



The unit was commissioned without major difficulties and performed very well – those extra safety factors were not really needed, but permitted the client to take load off of an adjacent unit.

Performance was so good that within a few months the client ordered a second unit for a new plant.