

Indus Engineering
Heat Exchanger Design Case Study
Dish Washer

Customer Requirement

- ❑ Customer had requirement of heat exchanger coil development for single rinse dishwasher



Challenges

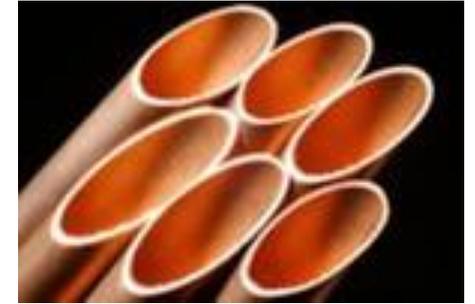
- ❑ **Special application of heat exchanger coil for single rinse dish washer**
- ❑ **Customer requirement of reaching water outlet temperature equal to air inlet temperature**
- ❑ **Limited space for mounting of heat exchanger coil**
- ❑ **Pressure drop of both air side and water side within target limit**

Solution

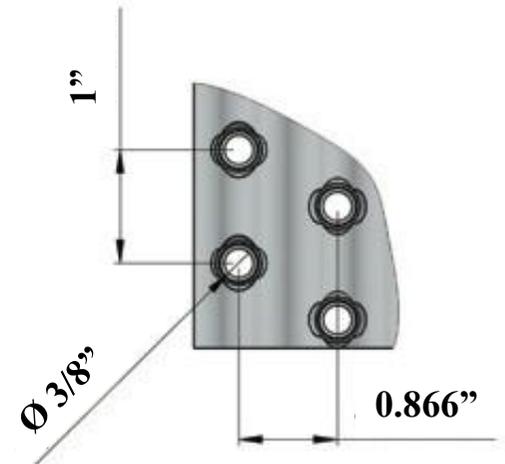
- ❑ **Indus studied details of customer application requirement**
- ❑ **Indus Engineering team took up the challenge and with its software simulation program coupled with its HVAC and Refrigeration system knowledge, evaporator simulation were carried out with different tube diameter and fin geometry at different water flow rates and air flow rate**

Solution

- A complete matrix of simulation results was prepared with various options and after deliberation, optimum performance options were selected
- We choose our 3/8" tube and fin geometry pattern 1" x 0.866" and sine wave type fin, which gave better performance at different water flow and air flow rate



9.52MM DIA TUBES



Solution

- ❑ **Sampling and testing were carried out at customer end and coils performed as per desired target**

Benefits

- ❑ **The designed coil meet space constraint of coil**
- ❑ **At 35°C air inlet temperature, we able to achieve water temperature to 34.5°C as per customer requirement**
- ❑ **The customer was able to launch its new models with enhanced performance ratings**