



Design Report

Shell and Tube type heat exchanger design by improved Delaware method with MATLAB program

Shell outside Diameter = 336 mm

Tube inside diameter = 19 mm

Tube thermal conductivity = 111 W/ m² k

Tube inlet temp = 32.2 C

Tube outlet Temp = 37.4C

Shell inlet temp = 65.6 C

Shell outlet temp = 60.4 C

No of Baffles = 11

Central Baffle Distance = 279 mm

Heat Transfer Rate = 362627.1513 W

Overall Heat transfer Coefficient = 627.8438 W/ m² k

Pressura Drop across shell side = 92.0249 KPa

No of Tubes = 102

No of Passes =

Tube Layout Characteristics angle = 45

Tube side heat transfer coefficient = 7841.3514 W/ m² k

Shell side heat transfer coefficient = 794.1368 W/ m² k

Effectiveness = 0.14283

STHE Design Software Report