The areas are 0.260 sq.ft and 0.287 sq.ft

The raw water flows through the tubes

The equivalent diameter is 0.0444 ft

The Reynolds Number for raw water is 1.66e+04

The Reynolds Number for distilled water is 1.29e+04

The Nusselt number for raw water is 97.4

The Nusselt number for distilled water is 123.1

The convective coefficient for raw water based on inner diameter is 618 BTU/(hr.sq.ft.degree R)

The convective coefficient for raw water based on outer diameter is 537 BTU/(hr.sq.ft.degree R)

The convective coefficient for distilled water is 1005 BTU/(hr.sq.ft.degree R)

The overall exchanger coefficient is 350 BTU/(hr.sq.ft.degree R)

The ratio is 0.883 and area is 703.7 sq.ft

(UoAo)/(McCpc)=1.65

t2=91.1 degree F

T2=87.0 degree F

Friction factor for raw water fom figure 6.14 corresponding to Reynolds Number calculated above is 0.029

Friction factor for distilled water fom figure 6.14 corresponding to Reynolds Number calculated above is 0.281

The velocity of raw water is 2.57 ft/s

The velocity of distilled water is 2.65 ft/s

The pressure drop for tube side is 160.7 lbf/sq.ft = 1.1 psi

The pressure drop for shell side is 982.4 lbf/sq.ft = 6.7 psi

Summary of Requested Information

Outlet Temperatures:

Raw Water: 91.1 degree F

Distilled Water: 87.0 degree F

Pressure Drops:

Raw Water: 1.1 ddegree F

Distilled Water: 6.7 degree F