

hex

Tube inside diameter (in):.....	0.512
Tube outside diameter (in):.....	0.630
Tube total length (ft):.....	39.370
Total number of tubes (-):.....	1580.000
Tube mass flow rate (lbm/h):.....	0.873E+06
Shell mass flow rate (lbm/h):.....	0.992E+06
Tube inlet temperature (F):.....	194.000
Shell inlet temperature (F):.....	86.000
Tube outlet temperature (F):.....	141.865
Shell outlet temperature (F):.....	132.041
Tube fouling factor (h.ft ² .F/Btu):....	0.00568
Shell fouling factor (h.ft ² .F/Btu):...	0.00000
Log mean temp. difference (F):.....	58.859
Tube-side Reynolds Number:.....	18345.436
Shell-side Reynolds Number:.....	10106.746
Tube-side HTC (Btu/ft ² .h.F):.....	691.184
Shell-side HTC (Btu/ft ² .h.F):.....	451.787
Rate of heat transfer (Btu/h):.....	0.456E+08
Overall HTC (Btu/ft ² .h.F):.....	86.672
F (Multi-path correction factor):.....	0.871
Number of transfer units (-):.....	1.017
Heat exchanger effectiveness:.....	0.483

The data are saved in:

Input data: HEX.IN
Results: HEX.OUT

Tube inside diameter (in):.....	0.680
Tube outside diameter (in):.....	0.750
Tube total length (ft):.....	35.000
Total number of tubes (-):.....	600.000
Tube mass flow rate (lbm/h):.....	0.150E+07
Shell mass flow rate (lbm/h):.....	0.150E+07
Tube inlet temperature (F):.....	180.000
Shell inlet temperature (F):.....	70.000
Tube outlet temperature (F):.....	129.927
Shell outlet temperature (F):.....	120.204
Tube fouling factor (h.ft ² .F/Btu):....	0.00030
Shell fouling factor (h.ft ² .F/Btu):...	0.00030
Log mean temp. difference (F):.....	59.862
Tube-side Reynolds Number:.....	56530.675
Shell-side Reynolds Number:.....	28995.814
Tube-side HTC (Btu/ft ² .h.F):.....	1310.703
Shell-side HTC (Btu/ft ² .h.F):.....	928.257
Rate of heat transfer (Btu/h):.....	0.752E+08
Overall HTC (Btu/ft ² .h.F):.....	350.159
F (Multi-path correction factor):.....	0.870
Number of transfer units (-):.....	0.965
Heat exchanger effectiveness:.....	0.456

The data are saved in:

Input data: HEX.IN
Results: HEX.OUT

	hex
Tube inside diameter (in):.....	0.625
Tube outside diameter (in):.....	0.527
Tube total length (ft):.....	15.000
Total number of tubes (-):.....	650.000
Tube mass flow rate (lbm/h):.....	0.212E+07
Shell mass flow rate (lbm/h):.....	0.250E+07
Tube inlet temperature (F):.....	195.000
Shell inlet temperature (F):.....	75.000
Tube outlet temperature (F):.....	156.974
Shell outlet temperature (F):.....	107.396
Tube fouling factor (h.ft ² .F/Btu):....	0.00050
Shell fouling factor (h.ft ² .F/Btu):...	0.00050
Log mean temp. difference (F):.....	84.758
Tube-side Reynolds Number:.....	93773.739
Shell-side Reynolds Number:.....	60921.061
Tube-side HTC (Btu/ft ² .h.F):.....	2057.478
Shell-side HTC (Btu/ft ² .h.F):.....	2424.627
Rate of heat transfer (Btu/h):.....	0.808E+08
Overall HTC (Btu/ft ² .h.F):.....	730.271
F (Multi-path correction factor):.....	0.971
Number of transfer units (-):.....	0.462
Heat exchanger effectiveness:.....	0.317

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Input data: HEX.IN

Results: HEX.OUT