LAMPIRAN

Simulation Report
DWSIM 4.0

Details

Title:

Comments:

Object: COOLLER

Type: Cooler

Property	Value	
Pressure Drop	0	Pa
Efficiency	100	
Outlet Temperature	298,15	K
Heat Removed	5,398377	kW
Outlet molar vapour fraction	0	
Delta-T	-0,412277	K.

Lampiran 5-1Annual Report Coller DWSIM Softwae

Simulation Report
DWSIM 4.0

Details

Title:

Comments:

Object: PUMP

Type: Pump

Property	Value	
Pressure Increase (Head)	200000	Pa
Efficiency	75	
Delta-T	21,9356763662876	K.
Power Required	19,8084245787204	kW

Lampiran 5-2 Annual Report Pump DWSIM Software

Object: EVAPORATOR

Type: Heat Exchanger

Property	Value	
Global Heat Transfer Coefficient (U)	1000	W/[m2.K]
Heat Exchange Area (A)	1	m2
Heat Load	7,27285093345224	kW
Cold fluid outlet temperature	337,377701544117	K
Hot fluid outlet temperature	340,794224269262	K
[Shell and Tube] Internal Shell Diameter	500	mm
[Shell and Tube] Shell Fouling Factor	0	K.m2/W
[Shell and Tube] Baffle Cut	20	%
[Shell and Tube] Shells in Series	1	
[Shell and Tube] Baffle Spacing	250	mm
[Shell and Tube] Internal Tube Diameter	50	mm
[Shell and Tube] External Tube Diameter	60	mm
[Shell and Tube] Tube Length	5	m
[Shell and Tube] Tube Fouling factor	0	K.m2/W
[Shell and Tube] Tube Passes Per Shell	2	
[Shell and Tube] Number of Tubes	160	
[Shell and Tube] Tube Pitch	40	mm
[Shell and Tube] Fouling Factor (Design)	0	K.m2/W
[Shell and Tube] LMTD Correction Factor (F)	1	
Logarithmic mean temperature difference LMTD	7,27285093345224	K.
[Shell and Tube] Resistance heat transfer pipes	0	K.m2/W
[Shell and Tube] Resistance thermal conductivity pipes	0	K.m2/W
[Shell and Tube] Resistance heat transfer shell	0	K.m2/W
[Shell and Tube] Reynolds number shell	0	
[Shell and Tube] Reynolds number tubes	0	
Thermal Efficiency	40,4067963394292	%
Maximum Theoretical Heat Exchange	17,9990783539435	kW
Minimum Temperature Difference	0	K.

Lampiran 5-3 Annual Report Evaporator DWSIM Software

Object: CONDENSOR

Type: Heat Exchanger

Property	Value	
Global Heat Transfer Coefficient (U)	1000	W/[m2.K]
Heat Exchange Area (A)	1	m2
Heat Load	38,9910163481290	kW
Cold fluid outlet temperature	310,521957860672	K
Hot fluid outlet temperature	316,934716791619	K
[Shell and Tube] Internal Shell Diameter	500	mm
[Shell and Tube] Shell Fouling Factor	0	K.m2/W
[Shell and Tube] Baffle Cut	20	%
[Shell and Tube] Shells in Series	1	
[Shell and Tube] Baffle Spacing	250	mm
[Shell and Tube] Internal Tube Diameter	50	mm
[Shell and Tube] External Tube Diameter	60	mm
[Shell and Tube] Tube Length	5	m
[Shell and Tube] Tube Fouling factor	0	K.m2/W
[Shell and Tube] Tube Passes Per Shell	2	
[Shell and Tube] Number of Tubes	160	
[Shell and Tube] Tube Pitch	40	mm
[Shell and Tube] Fouling Factor (Design)	0	K.m2/W
[Shell and Tube] LMTD Correction Factor (F)	1	
Logarithmic mean temperature difference LMTD	38,9910163481290	K.
[Shell and Tube] Resistance heat transfer pipes	0	K.m2/W
[Shell and Tube] Resistance thermal conductivity pipes	0	K.m2/W
[Shell and Tube] Resistance heat transfer shell	0	K.m2/W
[Shell and Tube] Reynolds number shell	0	
[Shell and Tube] Reynolds number tubes	0	
Thermal Efficiency	45,4740589627975	%
Maximum Theoretical Heat Exchange	85,7434265545279	kW
Minimum Temperature Difference	0	K.

Lampiran 5-4 Annual Report Condensor DWSIM Software

Type: Heater

Property	Value	
Pressure Drop	0	Pa
Efficiency	100	
Outlet Temperature	298,15	K
Heat Added	3	kW
Outlet molar vapour fraction	0	
Delta-T	1,16563836122713	K

Object: TURBINE

Type: Adiabatic Expander

Property	Value	
Pressure Drop	19425	Pa
Efficiency	80	
Delta-T	-	K
Power Generated	1,17921391394761	kW
Pressure	281900	Pa

Lampiran 5-5 Annual Report Turbine & Heater