

Heater Package #112757

Heater Model	16010-40	
Coil Duty	20,380,687	Btu/hr
Economizer Duty	1,759,313	Btu/hr
Heater Duty	22,140,000	Btu/hr
Required Burner Input (HHV)	30,555,370	Btu/hr
Heater Efficiency (LHV)	80	%
Max Tube Metal Temp (AICHE)	727	F
Max Fluid Film Temp (AICHE)	698	F
Turnaround Temp	1863	F
Stack Temperature	755	F
Stack Diameter	36	in
Top Gap	2.625	in
Bottom Gap	3.625	in
Heater Thermal Fluid Pressure Drop	5.164	PSID
Heater Flue Gas Pressure Drop	0.957	in w.c.

Process Fluid	LIQ CUS	
Process Fluid Volume Flow Rate (Inlet)	1,404	gpm
Process Fluid Mass Flow Rate	339,355	lb/hr
Process Fluid Inlet Temperature	584.61	F
Process Fluid Outlet Temperature	670.10	F

Coil Pipe OD	4.5	in
Coil Pipe ID	4.03	in
Coil Mean Diameter	105.75	in
Coil # of Loops	69.75	
Coil # of Flow Circuits	4	
Coil Heating Surface	2275	sq. ft.
Coil Volume	1277	gal
Coil Pressure Drop	5	PSID
2Pass Flue Gas Pressure Drop	0.57	in w.c.
Combustion Chamber Diameter	101.25	in
Combustion Chamber Length	27.28	ft
2nd Pass Velocity	60.41	ft/sec

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Economizer # of Rows	4	
Economizer Tubes/Row	6	
Economizer # of Flow Circuits	6	
Economizer Branch Tube Size	4	
Economizer Manifold Tube Size	8	
Economizer Transverse Pitch	8	in
Economizer Longitudinal Pitch	6.928	in
Economizer Fin Height	1	in
Economizer Fin Spacing	5	#/in
Economizer Effective Finned Length	6	ft
Economizer Total Surface Area	2169.8	sq ft
Economizer Total Volume	162.7	gal
Economizer Fluid Pressure Drop	0.44	PSID
Economizer Flue Gas Pressure Drop	0.38	in w.c.
Economizer Flue Gas Inlet Temperature	972.17	F







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