



Model no.		Heat exchanged (kW)	252.
Customer		Surface/Item-Finned tube (m2)	1579.2
Plant location		Bare tube (m2)	68.101
Service		MTD, Eff. (Deg. C)	6.8
Type draft	FORCED	Transfer rate-Finned (W/m2-K)	26.508
Bay size (WxL) (m)	2.65 X 6.4	Bare tube, service (W/m2-K)	614.71
No. of bays/Items	1	Bare tube, clean (W/m2-K)	708.13

**Basic design data**

Pressure design code	ASME VIII div 1	Structural code	UBC 97
Tube bundle code stamped	No.	Flammable service	Yes.
Heating coil code stamped	No.	Lethal/toxic service	No.

**Performance Data - Tube Side**

Fluid name		Propane		In		Out	
Total fluid entering (kg/hr)	3089.2	Total flow rate (Liq/Vap) (kg/hr)	0.0000 / 3089.2	3089.2 /	0.0000		
Dew/bubble point (Deg. C)	/	Water/Steam (kg/hr)	0.0000 /	0.0000	0.0000 /	0.0000	
Latent heat (kJ/kg)		Noncondensables (kg/hr)		0.0000		0.0000	
Inlet pressure (bar)	19.867	Molecular Wt. (Vap/Non-cond)	/	/			
Pressure drop (All/Calc) (bar)	0.200 / 0.016	Density (Liq/Vap) (kg/m3)	435.50 /	42.251	435.59 /	46.262	
Velocity (Allow/Calc) (m/s)	/	Specific heat (Liq/Vap) (kJ/kg-C)	3.6130 /	2.3072	3.6114 /	2.3962	
Inside fouling resistance (m2-K/W)	0.000170	Thermal cond. (Liq/Vap) (W/m-C)	0.0763 /	0.0248	0.0763 /	0.0239	
Temperature (Deg. C)	In: 67.94, Out: 56.66	Viscosity (Liq/Vap) (cP)	0.0728 /	0.0105	0.0729 /	0.0103	

**Performance Data - Air Side**

Air inlet temperature (Deg. C)	48.00	Face velocity (m/s)	3.25
Air flow rate/item (m3/s)	46.975	Minimum design ambient temp (Deg. C)	5.00
Mass velocity (kg/s-m2)		Altitude (m)	20.000
Air outlet temperature (Deg. C)	52.06	Static pressure (Pa)	108.40
Air flow rate/fan (m3/s)	27.733		

**Design, Material, and Construction**

Design pressure (barG)	22 + F.V	<b>Heating Coil</b>	NO.
Test pressure (barG)		No. of tubes	
Design temperature (Deg. C)	120.00	Tube outside diameter (mm)	
Min. design metal temp. (Deg. C)		Tube material	
<b>Tube bundle</b>		Fin material and type	
Size (WxL) (m)	2.5 X 6.4	Fin thickness (mm)	
No./Bay	1	ASME Code, Sec. VIII, Div. 1	
Number of tube rows	4	Heating fluid	
Bundles in parallel	1	Heating fluid flow rate (kg/hr)	
Bundles in series		Temperature (In/Out) (Deg. C)	/
Structure mounting	Grade	Inlet pressure (bar)	
Pipe rack beams		Pressure drop (All/Calc) (kPa)	/
Ladders, walkways, platforms		Design temperature (Deg. C)	
Structure surface prep.		Design pressure (bar)	
Header surface prep.		Inlet/Outlet nozzle	/
<b>Louver</b>	NO.	<b>Header</b>	
Material		Type	Plug
Action control		Material	SA-516 Gr70(N)
Action type		Corrosion Allowance (mm)	3
		No. of passes	4
		Tube / Tubesheet	Strength weld



**Design, Material, and Construction (continued)**

Header (continued)				No./Bundle	
Slope / Split	1% on last pass /	No			140
Plug material	SA 350 LF2 CL.1			Length (m)	6.096
Gasket material	Soft Iron			Pitch (mm)	69.850
<b>Nozzle</b>				Layout	Triangular
Inlet	No.	Size, (in)	Rating/Facing	<b>Fin</b>	
Outlet	1	4	#300	Type	Extruded
Vent				Material	Aluminum
Drain				Thickness (Base / Tip) (mm)	1 / 0.24
Chemical Cleaning				Selection temp. (C)	
Min. Wall Thk.				Outside diameter (mm)	57.150
<b>Tube</b>				Fin density (fin/meter)	433.1
Material	SA-334 6			ASME Code, Sec. VIII, Div. 1	
Tube outside diameter (mm)	25.400			Customer Specifications	
Min wall thickness (mm)	1.651				

**Mechanical Equipment**

<b>Fan</b>				RPM	1500
Manufacturer	Axial Fans Int Srl (or equivalent)			Service factor	
No./Bay	2			Enclosure	Exec / IP55
RPM	(Revs/min.)	404		Voltage	400
Diameter	(ft)	7		Phase	3
No. of blades				Cycle	50
Angle	(degrees)			Fan noise level (dB)	max 85
Pitch adjustment	100% Manual			<b>Speed Reducer</b>	
Blade material	Aluminium			Type	V- belt
Hub material	Manufacturer Standard			Manufacturer	
@design temp (kW)				No./Bay	2
@min. ambient temp				Service factor	
Tip speed				Speed ratio	
<b>Driver</b>				Support	
Type	Electrical			Vib. switch	YES
Manufacturer	OME ELECTRIC OR AVL			Enclosure	
No./Bay					
Driver (kW)	7.5				

**Controls - Air Side**

Air recirculation		Louvers	
Degree control of outlet process temp. (Max. Cooling), +/-	/	Positioner	
Action on control signal failure		Signal air pressure (bar)	
Fan pitch		From	To
Louvers		From	To
Actuator air supply		Supply air pressure (bar)	
Fan		From	To
		From	To

**Shipping**

Plot area (WxL) (m)	2.65 X 6.4	Total weight, Dry / Wet (Kg)	( Based On HTRI)	11,800 / 12,300
Bundle weight (kg)		Shipping (kg)		
Bay (kg)				

1) STD. nominated power.