

**API 661 Air-Cooled Heat Exchanger - Specification Sheet**

Job No. \_\_\_\_\_  
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Date 1/10/2023  
Proposal No. \_\_\_\_\_  
Inquiry No. \_\_\_\_\_

Item No. AE-2102 A/B/C  
By \_\_\_\_\_  
Revision \_\_\_\_\_  
Contract No. D05  
Order No. \_\_\_\_\_

Manufacturer	_____	Heat exchanged (MegaWatts)	0.5446
Model no.	_____	Surface/Item-Finned tube (m2)	896.01
Customer	_____	Bare tube (m2)	43.569
Plant location	<u>BINAK-GENAVEH</u>	MTD, Eff. (Deg. C)	28.4
Service	<u>BIKAK GCS</u>	Transfer rate-Finned (W/m2-K)	21.916
Type draft	<u>INDUCED</u>	Bare tube, service (W/m2-K)	450.70
Bay size (WxL) (m)	<u>2.095 x 3.000</u>	Bare tube, clean (W/m2-K)	511.03
No. of bays/Items	<u>1</u>		

**Basic design data**

Pressure design code	_____	Structural code	_____
Tube bundle code stamped	_____	Flammable service	_____
Heating coil code stamped	_____	Lethal/toxic service	_____

**Performance Data - Tube Side**

Fluid name	HC		In	Out
Total fluid entering (kg/hr)	<u>9530.4</u>	Total flow rate (Liq/Vap) (kg/hr)	<u>0.0000 / 9530.4</u>	<u>41.303 / 9489.1</u>
Dew/bubble point (Deg. C)	<u>/</u>	Water/Steam (kg/hr)	<u>0.0000 / 0.0000</u>	<u>0.0000 / 0.0000</u>
(Deg. C)	<u>/</u>	Noncondensables (kg/hr)	<u>0.0000</u>	<u>0.0000</u>
Latent heat (kJ/kg)	<u>/</u>	Molecular Wt. (Vap/Non-cond)	<u>/</u>	<u>/</u>
Inlet pressure (barG)	<u>54.800</u>	Density (Liq/Vap) (kg/m3)	<u>966.19 / 42.919</u>	<u>981.95 / 59.980</u>
Pressure drop (All/Calc) (bar)	<u>0.700 / 0.245</u>	Specific heat (Liq/Vap) (kJ/kg-C)	<u>4.3367 / 2.4162</u>	<u>4.3096 / 2.4053</u>
Velocity (Allow/Calc) (m/s)	<u>/ 5.30</u>	Thermal cond. (Liq/Vap) (W/m-C)	<u>0.6688 / 0.0467</u>	<u>0.6515 / 0.0371</u>
Inside fouling resistance (m2-K/W)	<u>0.000200</u>	Viscosity (Liq/Vap) (cP)	<u>0.3652 / 0.0163</u>	<u>0.4943 / 0.0142</u>
	In Out			
Temperature (Deg. C)	<u>142.30</u>			<u>60.00</u>

**Performance Data - Air Side**

Air inlet temperature (Deg. C)	<u>50.26</u>	Face velocity (m/s)	<u>3.50</u>
Air flow rate/item (m3/hr)	<u>68641</u>	Minimum design ambient temp. (Deg. C)	<u>5.00</u>
Mass velocity (kg/s-m2)	<u>/</u>	Altitude (m)	<u>12.500</u>
Air outlet temperature (Deg. C)	<u>73.85</u>	Static pressure (bar)	<u>3.23e-3</u>
Air flow rate/fan (m3/hr)	<u>40679</u>		

**Design, Material, and Construction**

Design pressure (barG)	<u>60.000</u>	<b>Heating Coil</b>	
Test pressure (barG)	_____	No. of tubes	_____
Design temperature (Deg. C)	<u>175.00</u>	Tube outside diameter (mm)	_____
Min. design metal temp. (Deg. C)	_____	Tube material	_____
<b>Tube bundle</b>		Fin material and type	_____
Size (WxL) (m)	<u>0.908 X 3.000</u>	Fin thickness (mm)	_____
No./Bay	<u>2</u>	ASME Code, Sec. VIII, Div. 1	_____
Number of tube rows	<u>7</u>	Heating fluid	_____
Bundles in parallel	<u>2</u>	Heating fluid flow rate (kg/hr)	_____
Bundles in series	_____	Temperature (In/Out) (Deg. C)	<u>/</u>
Structure mounting	_____	Inlet pressure (barG)	_____
Pipe rack beams	_____	Pressure drop (All/Calc) (kPa)	<u>/</u>
Ladders, walkways, platforms	_____	Design temperature (Deg. C)	_____
Structure surface prep.	_____	Design pressure (barG)	_____
Header surface prep.	_____	Inlet/Outlet nozzle	<u>/</u>
<b>Louver</b>		<b>Header</b>	
Material	_____	Type	_____
Action control	_____	Material	_____
Action type	_____	Corrosion Allowance (mm)	_____
		No. of passes	<u>7</u>