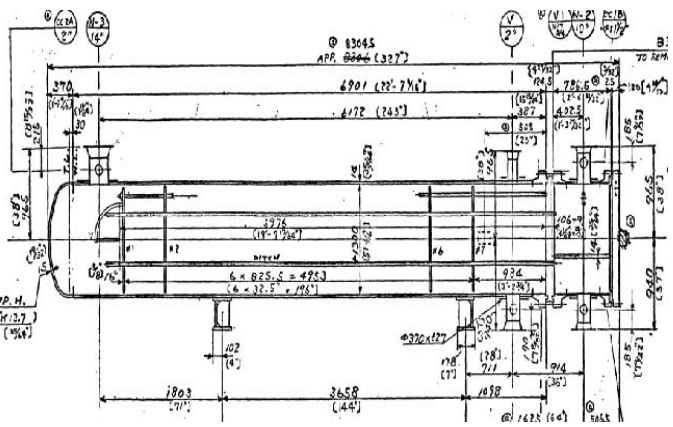


Customer	FLUOR / LAGOVEN				Rev.	made by	checked by	approved by	Date				
Project	MPRA-AMUAY UPGRADING PROJECT				0				25-02-2011				
Location													
Service													
Item No.	E-2706 Stripper Condenser												
Shell/Unit 1 Shells, Connected in 1 Parallel 1 Series				Install Horizontal			Size 1300						
Code	ASME Sec. VIII Div.1		TEMA Type AEU		TEMA Class		R	Effective Area	487.8 m ² / Shell				
CONSTRUCTION OF ONE SHELL													
Design Pressure Mpa (g)				1.69 SHELL SIDE				1.13 TUBE SIDE					
Design Temperature °C				121.2 SHELL SIDE				76.7 TUBE SIDE					
Minimum Design Metal Temperature °C													
No. of Passes				1				6					
Corrosion Allowance mm				3.2				0.76					
Insulation mm				NONE				NONE					
Tubes No. 1044 / Shell, Size OD 25.40				Thickness 2.11 (BWG 14),				Tube Length 6,641 mm					
Shell 1300 mm ID				Pitch 31.8 Lay out angle 30				Straight Length 6,091 mm					
Baffles Cross Baffle 7 Cross Baffle Type SUPPORT %Cut (Diam)													
Seal Strips / Rails 4				Impingement Rectangular plate									
Material	Tube B 111 C 71500 CuNi 70/30			Tube to Tube Sheet Joint :			Strength Weld with Light Expanding						
	Shell & Cover SA 515 Gr. 60			NOZZLE		SHELL SIDE		TUBE SIDE					
	Channel & Cover SA 515 Gr. 60+B402-71500					NPS	No.	Class	Remarks	NPS	No.	Class	Remarks
	Tube Sheet A105+B171-71500			Inlet	14	1	# 300		10	1	# 150		
	Baffle SA 515 Gr. 60			Outlet	10	1	# 300		10	1	# 150		
	Expansion Joint N / A			Intermed.	2	2	# 300		1 1/2	2	# 150		
MEAN METAL TEMPERATURE	Temperature, °C		Pressure, kg/cm ² G		Vent	2	1	# 300	3/4	1	# 150		
	Shell	Tube	Shell side	Tube Side	Drain			# 300	3/4	1	# 150		
	Normal Operating	86.7 - 77.8	29/5 - 51.7	12.444	3.867								
Startup													
				RATING									
Estimated Weight / Shell		Empty Weight 20,753 kg, Bundle Weight 2992.62 kg, Full Water Weight 25700.0 kg											
REMARKS													



Customer	FLUOR / LAGOVEN		Rev .	made by	checked by	approved by	Date				
Project	MPRA-AMUAY UPGRADING PROJECT		0				25-02-2011				
Location											
Service											
Item No.	E-2713 Depropanizer Condenser										
Shell/Unit 1 Shells, Connected in 1 Parallel 1 Series			Install Horizontal		Size 1320						
Code	ASME Sec. VIII Div.1	TEMA Ty pe AEU	TEMA Class	R	Effectiv e Area m2 / Shell 777.2						
CONSTRUCTION OF ONE SHELL											
Design Pressure Mpa (g)		2.62 SHELL SIDE			1.79 TUBE SIDE						
Design Temperature °C		121.2 SHELL SIDE			76.7 TUBE SIDE						
Minimum Design Metal Temperature °C											
No. of Passes		1			6						
Corrosion Allowance mm		3.2			0.76						
Insulation mm		NONE			NONE						
Tubes No. 1108 / Shell, Size OD 25.40 Thickness 2.11 (BWG 14) , Tube Length 9,641 mm											
Shell 1300 mm ID				Pitch 31.8 mm Lay out angle 30 Straight Length 9,141 mm							
Baffles Cross Baffle 16 Cross Baffle Ty pe SUPPORT %Cut (Diam)											
4 Seal Strips / Rails					Impingement Rectangular plate						
Tube B 111 C 71500 CuNi 70/30			Tube to Tube Sheet Joint :		Strength Weld with Light Expanding						
Shell & Cov er SA 515 Gr. 60			NOZZLE	SHELL SIDE			TUBE SIDE				
Channel & Cov er SA 515 Gr. 60+B402-71500				NPS	No.	Class	Remarks	NP S	No.	Class	Remarks
Tube Sheet A105+B171-71500				Inlet	12	1	# 300	12	1	# 150	
Baffle SA 515 Gr. 60				Outlet	8	1	# 300	12	1	# 150	
Ex pansion Joint				Intermed.	10	1	# 300	12	1	# 150	
MEAN METAL TEMPERATURE	Temperature, °C		Pressure, kg/cm ² G		Vent	2	1	# 300	3/4	1	# 150
	Shell	Tube	Shell side	Tube Side	Drain			# 300	3/4	1	# 150
	61.1 - 40	43.9 - 46.7	20.951	3.164							
Normal Operating											
Startup											
					RATING						
Estimated Weight / Shell	Empty Weight 32,593 kg, Bundle Weight 2992.62 kg kg, Full Water Weight 25700.0 kg										
REMARKS											