



CONDENSER SPECIFICATION SHEET

Customer:		Desmet Ballestra North America Inc				Project:		WORPAR	
Service of Unit:		Precondenser (641A.1 / 641A.2)				Tag No:		641A.1-C1 / 19-X-763	
Size:	34" x 156"	Type:	BEM	Position:	Vertical			641A.2-C1 / 19-X-863	
Surf./Unit:	2685.3	ft ²		Shells/Unit:	1	Surf./Shell:	2685.3	ft ²	
No. of Units:	1		Shell Arrangement:		---		Engineer	SFB / CDP	
Performance of One Shell									
		(TUBE SIDE)				(SHELL SIDE)			
Fluid Allocation		Process Side				Coolant Side			
Fluid Circulated:		Air, Water Vapor, Fatty Acid				Water			
Total Fluid Entering:	lb/hr (gpm)	4765.1				(950.0)			
		IN		OUT		IN		OUT	
Vapor:	lb/hr	47.2		0.0					
Liquid:	lb/hr (gpm)	---		4544.9		(950.0)			
Steam:	lb/hr	4651.8		154.0					
Non Condensables:	lb/hr	66.1		66.1					
Vapor Condensed:	lb/hr	47.2							
Steam Condensed:	lb/hr	4497.7							
Molecular Weight - Vapors:		282.5		282.5					
Molecular Weight - NonCondensables:		29.0							
Temperature:	°F	255.2		95.0 ⁽¹⁾		86.0		96.6	
Inlet Pressure:	mmHgA (psiG)	56.2				(---)			
No.Passes per Shell:		1				1			
Velocity:	ft/sec	---				3.4			
Pressure Drop -Calc.:	mmHg (psi)	2.8				(6.2)			
Fouling Resistance : ft ² hr °F/BTU		0.0020				0.0020			
Heat Exchanged:		4998416		BTU/hr		LMTD (wtd)		11.4 °F	
Transfer Rate, Service:		162.8		BTU/ft ² hr °F					
Construction of One Shell									
		Process Side				Coolant Side			
Design / Hydro Pressure:	psiG	FV & 50.76 / 70				150 / 195			
Design Temp. / MDMT:	°F	400 / 0				212 / 0			
Corrosion Allowance:	in	0.0625				---			
Connections: ⁽⁴⁾	IN	18				10			
Size: & OUT	in	VO ⁽⁶⁾ :	4	CO ⁽⁶⁾ :	4	10			
Rating & Type:	ASME B16.5	150# RF				150# RF			
Tubes:	1052	OD: 0.750 in		Thk (avg) 0.035 in		Length:		13 ft	
Tube Material: (wld)	304 SS		Pitch:		0.9375 in		TRI		
Shell:	CS								
Channel:	304L SS								
Tubesheet - Stationary:	304L SS				Tubesheet - Floating:		---		
Floating Head Cover:	---				Impingement Protection:		---		
Baffles :	Cross	CS		Tube Supports:		---			
Bonnet Gaskets:	Grafoil GHR								
Bolting (External):	Alloy Steel (Zinc Plated)								
Code Requirements:	ASME Section VIII, Division 1, 2019 Edition / TEMA B								
Weights:	Shipping:	8150	lb	Flooded/Hydro:	14700	lb			
Remarks:									
1) Vapor / gas outlet temperature only									
2) See general arrangement drawing 70945-0100 for a complete list of condenser connections and a breakdown of materials used									
3) Inlet bonnet includes a spray nozzle sized to pass 45 gpm with a supply pressure of 14.5 psiG									