TAYLOR FORGE Engineered Systems
Traditionally Dependable

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HEAT EXCHANGER SPECIFICATION SHEET

Customer	KP Engineering	P.O. No.	J1422-B-007
Address	Tyler, TX	Job No.	1203-03
Plant Location	Holly Frontier- Tulsa, OK	Date	2/24/16
Service of Unit	Splitter Product Rundown / Tank 12 Product Preheat Exchanger	Item No	010-E-505

Size 26-240 Type AEU Horizontal Connected In 1 Parallel 1 Series

Surf/Unit (Eff), Sq Ft 1572 Shell/Unit 1 Surf/Shell (Eff) 1572 Sq Ft

PERFORMANCE OF ONE UNIT

Fluid Allocation		Shell Side		Tube Side	
Fluid Name		Tank 12 Product		Splitter OVHD Product	
Fluid Quantity, Total	lb/hr	179,628		179,628	
Vapor (In/Out)					
Liquid		179,628	179,628	179,628	179,628
Steam					
Water					
Noncondensable					
Temperature (In/Out)	F	75.70	98.90	121.10	98.9
Density		39.56	40.82	40.00	40.77
Viscosity	cP	0.285	0.285	0.252	0.252
Molecular Weight, Vapor					
Molecular Weight, Noncondensable					
Specific Heat	Btu/lb-F	0.505	0.505	0.523	0.523
Thermal Conductivity	Btu/hr-ft-F	0.063	0.063	0.061	0.061
Latent Heat	Btu/lb				
Inlet Pressure	psia	144.70		49.70	
Velocity	ft/sec			7.90	
Pressure Drop, Allow/Calc	psi	15.000	2.463	15.000	14.228
Fouling Resistance (min)	ft2-hr-F/Btu	0.00200		0.00200	

Heat Exchanged Btu/hr 2,095,224 MTD (Corrected) 17.8 F

Transfer Rate, Service 74.9 Btu/ft2-hr-F

CONSTRUCTION OF ONE SHELL

			Shell Side	Tube Side
Design Pressure		PSI	350/ F.V.	270 / F.V.
Test Pressure			CODE	CODE
Design Temperature / MDMT		F	150 / 300 / -20	200 / 300 / -20
No Passes per Shell			1	4
Corrosion Allowance		inch	0.1250	0.1250
Connections	In	inch	1 @ 6 " 300 # RFWN	1 @ 6 " 300 # RFWN
	Out	inch	1 @ 6 " 300 # RFWN	1 @ 6 " 300 # RFWN

Tube No 202U OD 0.7500 Thk(Min) 0.109 inch Length 20.0 feet Pitch 1.0000 inch Layout 45

Tube Type BARE Material SA-214

Shell	SA-516-70 ID 26.00 inch	Shell Cover	SA-516-70
Channel or Bonnet	SA-516-70	Channel Cover	SA-516-70
Tubesheet-Stationary	SA-516-70	Tubesheet-Floating	
Floating Head Cover		Impingement Plate	Circular plate

Baffles-Cross SA-36 Type Sing Seg - Vert %Cut (Diam) 31.70 Spacing(c/c) 10.375

Baffles-Long

Supports-Tube U-Bend SA-36 Type Full

Bypass Seal Arrangement Tube-Tubesheet Joint Rolled & Double Grooved

Gaskets - Shell D.J. N.A. Tube D.J. N.A.

-Floating Head

Code Requirements ASME Section VIII, Div. I TEMA Class R, API 660

Remarks: Unit is thermally, vibrationaly and mechanically guaranteed by Taylor Forge Engineered Systems. Two grounding lugs
Counter current flow. National Board registration included. 1" minimum bolting. Two sets of spare gaskets included.
PMI bolting. Spot X-ray. Stress relieve U-bends.

Revised: Corrected Design Pressures by K Duke