



Toase-e Park Sanati Gohar Ofogh  
Petrochemical Co.  
**CONCEPTUAL, BASIC and DETAIL DESIGN  
ENGINEERING OF STYRENE PARK OFFSITE**



Document Title: Chiller (Evaporator) Data Sheet

Document No.: EI027-HSE-VD –ME–DSH–007- R0

Rev. R0

Page 1 of 3

# STYRENE PARK OFFSITE

**Document Title:**  
**Chiller (Evaporator) Data Sheet**

Rev.	Issued Date	DESCRIPTION	PREPARED	CHECKED	APPROVED
R0	21-02-2024	IFA	F.sh	M.O	A.M



Toase-e Park Sanati Gohar Ofogh  
Petrochemical Co.  
**CONCEPTUAL, BASIC and DETAIL DESIGN  
ENGINEERING OF STYRENE PARK OFFSITE**



Document Title: Chiller (Evaporator) Data Sheet

Document No.: EI027-HSE-VD –ME–DSH–007- R0

Rev. R0

Page 2 of 3

**REVISION RECORD SHEET**

Page Page	Revisions							Page	Revisions						
	R0	R1	R2	R3	R4	R5	R6		R0	R1	R2	R3	R4	R5	R6
1	X							41							
2	X							42							
3	X							43							
4								44							
5								45							
6								46							
7								47							
8								48							
9								49							
10								50							
11								51							
12								52							
13								53							
14								54							
15								55							
16								56							
17								57							
18								58							
19								59							
20								60							
21								61							
22								62							
23								63							
24								64							
25								65							
26								66							
27								67							
28								68							
29								69							
30								70							
31								71							
32								72							
33								73							
34								74							
35								75							
36								76							
37								77							
38								78							
39								79							
40								80							



**Toase-eh Park Sanati Gohar Ofogh  
Petrochemical Co.  
CONCEPTUAL, BASIC and DETAIL DESIGN  
ENGINEERING OF STYRENE PARK OFFSITE**



Document Title: Chiller (Evaporator) Data Sheet

Document No.: EI027-HSE-VD –ME–DSH–007- R0

Rev. R0

Page 3 of 3

		<b>HEAT EXCHANGER SPECIFICATION SHEET</b>				Page 1
		Released to the following company:				SI Units
		SC		Job No.		
		SSD		Reference No.		
Customer		PAD JAM PETROCHEMICAL		Proposal No.		
Address				Date		
Plant Location		ASSALOUYEH		2/21/2024		
Service of Unit		Evaporator		Rev		
Size		600 - 924.32 x 2500 mm		0		
Surf/Unit (Gross/Eff)		61.76 / 58.884 m2		Item No.		
		Type BKU Horizontal		Connected In 1 Parallel 1 Series		
		Shell/Unit 1		Surf/Shell (Gross/Eff) 61.76 / 58.884 m2		
<b>PERFORMANCE OF ONE UNIT</b>						
Fluid Allocation		Shell Side		Tube Side		
Fluid Name		Propane		Styrene		
Fluid Quantity, Total		3104.1		40623		
Vapor (In/Out)		1346.2 / 3104.1				
Liquid		1757.8		40623 / 40623		
Steam						
Water						
Noncondensables						
Temperature (In/Out)		1.22 / 1.00		15.20 / 5.00		
Specific Gravity		0.5331		0.9100 / 0.9184		
Viscosity		0.0076 V/L 0.1295		0.8200 / 0.9600		
Molecular Weight, Vapor						
Molecular Weight, Noncondensables						
Specific Heat		1.7857 V/L 2.4337		1.6040 / 1.5780		
Thermal Conductivity		0.0161 V/L 0.1090		0.1500 / 0.1500		
Latent Heat		375.46		375.79		
Inlet Pressure		480.96		300.00		
Velocity		0.18		0.67		
Pressure Drop, Allow/Calc		5.000 / 3.429		50.000 / 11.847		
Fouling Resistance (min)		0.000170		0.000200		
Heat Exchanged		183233 W		MTD (Corrected) 7.9 C		
Transfer Rate, Service		391.85 W/m2-K		Clean 524.15 W/m2-K Actual 431.07 W/m2-K		
<b>CONSTRUCTION OF ONE SHELL</b>				Sketch (Bundle/Nozzle Orientation)		
		Shell Side		Tube Side		
Design/Test Pressure		2200.0 /		680.00 /		
Design Temperature		120.00		85.00		
No Passes per Shell		1		4		
Corrosion Allowance		3.000		3.000		
Connections		1 @ 154.05		1 @ 77.927		
Size & Rating		1 @ 102.26		1 @ 77.927		
		@		@		
Tube No.		188U		OD 19.050 mm Thk(Avg) 1.651 mm Length 2.500 m Pitch 23.813 mm		
Tube Type		Plain		Material SA-334 6 Tube pattern 30		
Shell		SA-516 70N		ID 600.00 OD mm Shell Cover SA-516 70N (Integ.)		
Channel or Bonnet		SA-516 70N		Channel Cover SA-516 70N		
Tubesheet-Stationary		SA-350 LF2 CL.1		Tubesheet-Floating		
Floating Head Cover					Impingement Plate Circular plate	
Baffles-Cross		Carbon steel		Type Support %Cut (Diam) Spacing(c/c) 611.90 Inlet mm		
Baffles-Long					Seal Type None	
Supports-Tube					U-Bend Type Full support	
Bypass Seal Arrangement		pairs seal strips		Tube-Tubesheet Joint Expanded (2 grooves)		
Expansion Joint					Type None	
Rho-V2-Inlet Nozzle		91.14 kg/m-s2		Bundle Entrance Bundle Exit kg/m-s2		
Gaskets-Shell Side		Mach. Mtl. (Kammprofile\Flex. Face)		Tube Side Mach. Mtl. (Kammprofile\Flex. Face)		
- Floating Head		Mach. Mtl. (Kammprofile\Flex. Face)				
Code Requirements					TEMA Class R	
Weight/Shell		2116.0 kg		Filled with Water 4073.4 kg Bundle 872.38 kg		
Remarks: Supports/baffle space = 3.						
Full Vacuum on Shell Side and Tube Side will be considered.						
Note: Reported duty and flow rates include a user-specified multiplier of 1.10.						
Reprinted with Permission (v8.0.0.1)						