



Toase-ehe 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

Evaporator capacity shall be compatible with project documents and submitted compressors capacity.

Vendor Reply: It is confirmed that evaporator is completely match with project documents. just we have considered 10% margin on duty as the safety margin of heat exchanger. this 10% margin has been considered on each chiller.

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



Toase-ehe 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

HTRI		HEAT EXCHANGER SPECIFICATION SHEET		Page 1	
Released to the following company:		Related duty spec. shall be filled out or totally confirm		SI Units	
SC		Vendor Reply: Please kindly be informed that we have confirmed and reconfirm		Job No.	
SSD		duty spec. Additional we have considered 10% margin on flowrate of each		Reference No.	
Customer PAD JAM PETROCHEMICAL		evaporator.		Proposal No.	
Address		Date 2/21/2024		Rev 0	
Plant Location ASSALOUYEH		Item No.		Connected In 1 Parallel 1 Series	
Service of Unit Evaporator		Size 600 - 924.32 x 2500 mm Type BKU Horizontal		Surf/Unit (Gross/Eff) 61.76 / 58.884 m2	
Shell/Unit 1		76 / 58.884 m2			
PERFORMANCE OF ONE UNIT					
Fluid Allocation		Shell Side		Side	
Fluid Name		Propane		Propane	
Fluid Quantity, Total kg/hr		3104.1		3104.1	
Vapor (In/Out)		1346.2		1346.2	
Liquid		1757.9		1757.9	
Steam					
Water					
Noncondensables					
Temperature (In/Out) C		1.00		15.20 5.00	
Specific Gravity		0.5331		0.9100 0.9184	
Viscosity mN-s/m2		0.0076 V/L 0.1295		0.8200 0.9600	
Molecular Weight Vapor					
Molecular Weight Noncondensables					
Specific Heat kJ/kg-C		1.7857 V/L 2.4337		1.6040 1.5780	
Thermal Conductivity W/m-C		0.0161 V/L 0.1090		0.0160 0.1500	
Latent Heat kJ/kg		375.46		375.79	
Inlet Pressure kPa		480.96		300.00	
Velocity m/s		0.18			
Pressure Drop, Allow/Calc kPa		5.000 3.429			
Fouling Resistance (min) m2-K/W		0.000170			
Heat Exchanged		183233 W			
Transfer Rate, Service		391.85 W/m2-K		Clean 524.15 W/m2	
CONSTRUCTION OF ONE SHELL					
Pressure kPaG		Shell Side 2200.0 /		Tube Side 680.00 /	
Temperature C		120.00		85.00	
Thickness mm		1		4	
Inlet mm		3.000		3.000	
Outlet mm		1 @ 154.05		1 @ 77.927	
Intermediate mm		1 @ 102.26		1 @ 77.927	
Tube No. 188U		OD 19.050 mm		Thk(Avg) 1.651 mm	
Tube Type Plain		Material SA-334 6		Length 2.500 m	
Shell SA-516 70N		ID 600.00 OD		Pitch 23.813 mm	
Channel or Bonnet SA-516 70N		Shell Cover SA-516 70N		Tube pattern 30	
Tubesheet-Stationary SA-350 LF2 CL.1		Channel Cover SA-516 70N		(Integ.)	
Floating Head Cover		Tubesheet-Floating			
Baffles-Cross Carbon steel		Impingement Plate Circular plate			
Type Support		Spacing(c/c) 611.90		Inlet mm	
%Cut (Diam)		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.					
Material guarantee is in vendor scope.					
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)					