



BINA EPC Contractor Co.  
(Executor of Oil, Gas, Petrochemical & Power Industries)

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



Document Title: Package / Compressor Data Sheet

Document No.: EI027-HSE-VD –ME–DSH–001- R0

Rev. R0

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## STYRENE PARK OFFSITE

**Document Title:**  
**Package / Compressor Data Sheet**

Rev.	Issued Date	DESCRIPTION	PREPARED	CHECKED	APPROVED
R0	09-09-2023	IFA	N.B	F.SH	A.M

REVISION RECORD SHEET



**B** BINA EPC Contractor Co.  
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1	X						41							
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3	X						43							
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Customer	<b>PETRO ELECTRIC</b>		
Plant Name/Project Name	<b>RU-0001 A/B</b>		
Item No./Name	<b>CHILLER UNIT</b>	No.of Required	1 Unit(s)

**OPERATING CONDITION ( PROCESS) – BASED ON CUSTOMER DS / PER EACH COMP. UNIT**

	Design	IN	OUT	Main & side flow Composition
Fluid (degC)	Strene	15.2	5	
Capacity kW	165			
Evaporating Temp. (degC)	1			
Condensing Temp. (degC)	55			
Side Temp. (degC)				

**COMPRESSOR DESIGN CONDITION ( BASED ON MAYEKAWA CALCULATIONS) / PER EACH COMP. UNIT**

Design	Design		Note
Compressor Model			
Motor Speed (rpm)	2950		※Motor Speed = Compressor Speed
Comp Load (%)	100		
Quantity	1	Per unit	
Capacity/unit kW	165		
Power/unit (kW)	85		* Compressor BkW
Driver	Motor		
Stating Method	Direct		
Capacity Control	Control Source	***	
	Range of Control	30-100	
	Control Method	Slide Valve	

**SITE CONDITION**

Location	<input type="checkbox"/> Indoor (heated) <input checked="" type="checkbox"/> Outdoor under Shelter (Provided by Client) <input checked="" type="checkbox"/> Hazardous Area : Zone 2 IIB T3 <input checked="" type="checkbox"/> Normal weather condition (Temp. +5°C TO +48°C)
Noise	<input checked="" type="checkbox"/> Noise Level 85dB(A) at 1m from Unit
Oil Separation	1st Separation

**MATERIAL DESIGN**

Code & Standard	Item	Material	Design	Remarks
	Unit System	<input type="checkbox"/> JIS	<input checked="" type="checkbox"/> MYK Standard	JIS = Japanese Industrial Standards
	Compressor	<input checked="" type="checkbox"/> JIS	<input checked="" type="checkbox"/> MYK Standard	
	Press Vessel	<input checked="" type="checkbox"/> AD/MYCOM STD <input type="checkbox"/> ISO	<input type="checkbox"/> PED <input checked="" type="checkbox"/> MYK Standard	
	Heat Exchanger	<input checked="" type="checkbox"/> AD/MYCOM STD <input type="checkbox"/> ISO	<input type="checkbox"/> PED <input checked="" type="checkbox"/> MYK Standard	
	Valve	<input checked="" type="checkbox"/> DIN <input checked="" type="checkbox"/> ASME <input type="checkbox"/> ISO	<input type="checkbox"/> PED <input checked="" type="checkbox"/> Manufacture's Std. <input type="checkbox"/> ISO	DIN = Germany Industrial Standards
	Safety Valve	<input type="checkbox"/> DIN <input type="checkbox"/> ASME <input type="checkbox"/> ISO	<input checked="" type="checkbox"/> Manufacture's Std. <input type="checkbox"/> ASRAE	Single Type
	Piping	<input checked="" type="checkbox"/> DIN <input checked="" type="checkbox"/> ASME <input type="checkbox"/> ISO	<input checked="" type="checkbox"/> Manufacture's Std.	Piping inside the Compressor Skid is as per MYCOM STD, Tie in as per Project specification
	Flange	<input checked="" type="checkbox"/> DIN <input checked="" type="checkbox"/> ASME <input type="checkbox"/> ISO	<input checked="" type="checkbox"/> Manufacture's Std. <input type="checkbox"/> JIS	Piping inside the Compressor Skid is as per MYCOM STD, Tie in as per Project specification
	Thread Connection	<input type="checkbox"/> DIN <input type="checkbox"/> ASME <input type="checkbox"/> ISO	<input type="checkbox"/> PT <input type="checkbox"/> NPT	
	MOTOR	<input type="checkbox"/> DIN <input type="checkbox"/> ASME <input type="checkbox"/> ISO	<input type="checkbox"/> JIS <input checked="" type="checkbox"/> IEC <input checked="" type="checkbox"/> Manufacture's Std. <input type="checkbox"/> ISO	
	Instrumentation	<input type="checkbox"/> DIN <input type="checkbox"/> ASME <input type="checkbox"/> ISO	<input type="checkbox"/> JIS <input checked="" type="checkbox"/> IEC <input checked="" type="checkbox"/> Manufacture's Std. <input type="checkbox"/> ISO	
	Control Panel	<input type="checkbox"/> DIN <input type="checkbox"/> ASME <input type="checkbox"/> ISO	<input type="checkbox"/> JIS <input type="checkbox"/> IEC <input type="checkbox"/> Manufacture's Std. <input type="checkbox"/> ISO	1 set of S7 1200 Common for the Unit
	Cable & wiring	<input type="checkbox"/> DIN <input type="checkbox"/> ASME <input type="checkbox"/> ISO	<input type="checkbox"/> JIS <input checked="" type="checkbox"/> IEC <input checked="" type="checkbox"/> Manufacture's Std. <input type="checkbox"/> ISO	

**UTILITY**

Electricity	Rated Power (kW)		Volte (V)	Frequency (Hz)	Phase	Note
	Value	Q'ty				
Compressor Power	85	1	LV	50	3	Compressor shaft power Rpm, 2950
Oil Pump Motor for CP	1.5	1	LV	50	3	CP = Compressor Pump
SB Oil Pump Motor for CP	n/a				3	SB = Stand-by
Control Panel			DC24V		1	
Oil Heater	1.5kW				3	
Cooling Water	Temp. (degC)	in NA		return NA		
	Press. (barG)	in				
	Flow Rate (m3/hr)	× 1		Fouling Factor	TBA	m2h°C/kcal
Instrument	Press. (barG)	***	Temp. (degC)	***	Flow Rate (Nm3/hr)	Approx. ***



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**Scope of Supply and Work (1/3) – for Each compressor unit (Totally 2 Compressor Unit, One Common Condenser and Evaporator)**

No	Item	Scope	Q'ty	Remarks
1	MYCOM Compressor		2	Compressor Skid 2 Working
	MY Compressor	■	1	model P125-M
	Compressor			Casing / Rotor : Cast iron / Ductile Iron, O-rings Viton
	Electric motor for compressor	■	1	Rated power 85k , LV, 50 Hz IP55 Exec Suitable for Zone 2
	Oil Pump	■	1	For Each Compressor
	Electric motor for Oil Pump	■	1	1.5 kW IP55 / Class F or B
	1st Oil separator	■	1	Horizontal drum type primary fine oil separator Shell : Carbon Steel / Design Cord : PED
	Oil cooler	■	1	MYCOM STD Refrigerant Cooled
	Oil filter	■	1	Shell : Carbon Steel For Each Compressor
	Oil heater	■	1	1.5 kW For Each Compressor
	Condenser Air Cooler	■		
	Evaporator	■		
	Expansion Valve of Evaporator	■		
	Oil Recovery	■		
	Ko drum	□		
	Dryer Filter	■		
	Suction Filter	■	1	Suction strainer
	Control panel	■	1	Siemens S7-1200 PLC for safe area for complete system
	Instruments IP65, Ex execution	■	1set	1) Suction/Discharge check valves ( SC) 2) Single Safety valve for compressor on oil separators ( CS) 3) ATEX coupling ( main coupling and oil pump) , non sparking 4) Instrumentation Exd and will be As per MYCOM STD 5) Instruments to be mounted locally
	Junction Box Exe	■		Per Mfr Std, qty: 1 pce, Exe
				Direct feeder for Package Electrical users to be provided by client







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SINGLE STAGE SCREW COMPRESSOR :

DATE :

MODEL :

**P125L-M**

REFRIGERANT :

PROPANE

RECOMMENDED PORT :

M

**BOOSTER :**

**N**

Design	-	165 kW
Normal	-	kW
Min.	-	kW

Vi :	[-]	3.48
COMPRESSION RATIO :	[-]	4.14
CAPACITY :	[kW]	170
CAPACITY :	[TR]	48.3
ABSORBED POWER :	[kW]	73
DRIVE SHAFT SPEED :	[min-1]	2950
COMPRESSOR SPEED :	[min-1]	2950
INDICATOR POSITION :	[%]	100
CONDENSING TEMP. :	[degC]	55
EVAPORATIVE TEMP. :	[degC]	1
SUCTION SUPERHEAT :	[degC]	0
LIQUID SUBCOOLING :	[degC]	0
SUCTION TEMP. :	[degC]	1
OIL SUPPLY TEMP. :	[degC]	50
SUCTION PRESS. :	[MPaA]	0.475
DISCHARGE PRESS. :	[MPaA]	1.97
OIL SUPPLY PRESS. :	[MPaA]	2.17
SUCTION PRES. DROP :	[MPa]	0.01
DISCHARGE PRES. DROP :	[MPa]	0.03
SWEPT VOLUME :	[m3/h]	295
LOAD(SUCTION VOL. FLOW RA	[%]	100
DISCHARGE TEMP. :	[degC]	66.4
REFRIG. FLOW RATE SUC. :	[m3/h]	254
REFRIG. FLOW RATE DIS. :	[m3/h]	70.2
REFRIG. FLOW RATE SUC. :	[kg/h]	2623
REFRIG. FLOW RATE DIS. :	[kg/h]	2623
INJECT. OIL FLOW RATE :	[L/min]	21.3
LUB. OIL FLOW RATE :	[L/min]	26
*TOTAL* OIL FLOW RATE :	[L/min]	47.3
OIL HEAT REJECTION :	[kW]	21.9
OIL SPEC HT :	[J/kgK]	1930
OIL DENSITY :	[kg/m3]	880
COP :	[-]	2.33

--- SUPER HEAT is NOT counted in refrigeration capacity ---

--- WITH THERMO-SIPHON OIL COOLER ---