PACKAGE DATASHEET

Purchaser: **Zanjan Petrochemical Co.**

Owner: **Zanjan Petrochemical Co.**

Project: **UREA & AMMONIA**

Plant: **Zanjan City**

Location: **IRAN**

As per MYCOM STD Compressor Skid Option

Purchaser		**Zanjan Petrochemical Co.**
Owner		**Zanjan Petrochemical Co.**
Plant Name/Project		UREA
No.of Required units:		1 Refrigeration Package(2 Compressor Skids and Common Condensing Unit)
Item No. /Name		

Design Operating Condition

		Design Case	
Refrigerant		**Ammonia**	
Capacity	kg/hr	**500.0**	**For Each Compressor**
Evaporating temp	°C	**-37.5**	
Condensing temp	°C	**50**	

Basic Specification

Package Type	Refrigeration			Q'ty:1 Unit	
Ref. Compressor Type/Model		Screw			
No.of Compressors: Two compressor Per					
Operating Condition (1 unit)		**Max**			
Comp. Capacity		**207.0**		**Given capacities are ±5% per each compressor**	
Break kW		**150.0**		**Given capacities are ±5% per each compressor**	
Speed		**2950**			
Driver	☑ Electric motor		☐ Soft starter		
Starting Method	☑ Direct on line		☐ VFD		
Capacity Control	Control Source	☐ Inlet Pressure			
	Range of Control	☑ 30	to 100 %		
	Control Method	☑ Slide valve			
Oil Separation	1 stage (Direction Change, Gravity and Coal				
Location	☑ Outdoor/underroof			☑ Hazardous Zone 2,IIB,T3	
	☑ Ambient (-5 /+48)°C				
Noise Limitation	☑ Specification (85 dBa @ 1 Meter from Skid Edge)				
Code & Standard	☑ JIS	☑ ASME VIII div 1	☑ IEC, IECEX (No mechanical Atex)		

please specify motor rated power too.
- For motors, please confirm that ratings are according to the maximum ambient temperature (+48°C) and altitude 1846m above see level.
- API factor shall be considered for motors.

Conclusion meeting(2024/02/17):
Noted.

IIC

Conclusion meeting (2024/02/17):

IIB or IIC is accepted

-30 °C

Conclusion meeting (2024/02/17):
noted

Utility (Design capacit

	Service		V)	Frequency (Hz	Note
Electricity	Main Electric Moto	**150**	6000	50	
	Oil Pump Motors	5	400	50	
	Heater/ Heat tracing	2 (approx.)	400	50	
	Control Panel	2	230	50	IP55
	Air Cooler	N/A			
Cooling water	Temperature (°C.)	in	return	Flow Rate m³/h	
	Pressure (bar G)	in	return		
Steam	Pressure (kg:cm²G)		Temp. (deg.°C.)		
Instrument Air	Pressure (bar G)	4 - 6	Temp. (deg.°C.)		

please specify clearly that 150KW is brake horse power or rated power.

Conclusion Meeting(2024/02/17):
150 kw is for motor rated power.

Screw Compressor Unit Components(per Compressor Unit)

400V or 6KV? there is discrepancy with previous page.

Conclusion meeting(2024/02/17):
According to motor LV & MV specification, the motors over 150 kw to be considered 6KV and for motors up to and including 150 kw to be considered 400 V.

☑ ***Compressor*** Make Mayekawa Mfr.

Type:	Oil Injected Screw Compressor	Model N2016	
Material :	Casing: Cast Iron FC300	Rotor: Nodular	
Shaft Seal:	Singel Mechanica		

electrical MV motor shall be Exd-IIC-T3 suitable for zone2.

Conclusion meeting(2024/02/17):
Exd-IIC/IIB-T3 is accepted for MV motors.
For LV motors Exec is accepted.

JIS

☑ ***Electric motor for compress*** Q'TY: 1

Type:	Squirrel Cage Induction motor	Type of Explosion pr	Exec
Enclosure	TEFC	Ingress protection:	IP56
Rated Power:	**150**	Voltage:	400 V
Poles:	2	Drive Speed:	2950 rpm
Frequency :	50		

☑ ***Oil pump*** Make MYCOM/ Mayekawa Mfr. Q'TY: 1

Type:	Screw type Gear Pump		
Material :	Casing CI	Rotor:	CI

☑ ***Electric motor for oil pump*** Q'TY: 1

Type:	Squirrel Cage Induction motor	Type of Explosion proof:	Exec
Enclosure:	TEFC	Ingress protection:	IP56
Rated Power:	5	Voltage:	400 V
Poles:	4	Drive Speed:	1495 rpm
Frequency :	50		

☑ ***Oil Separator*** Q'TY: 1

Type:	Horizontal drum type (Mycom design)	Code:	MYCOM STD
Material:	CS	Element	coalescers

☑ ***Oil cooler*** Q'TY: 1

Type: MYCOM STD
Water Cooled

☑ ***Oil Filter*** Q'TY: 1

Code: MYCOM STD

☑ ***Suction gas strainer*** Q'TY: 1

Type: Cone type

☐ ***Noise Enclosure(If required)*** Q'TY: 0

Unit Components (Common part)

☑ ***Refrigerant Condenser*** Q'TY: 1

Type: Water Cooled Code: ASME VIII without U-stamp

Material: Carbon Steel

☑ ***Receiver*** Q'TY: 1

Type: Pressure vessel Code: ASME VIII without U-stamp

☑ ***Economizer***

Q'TY: 1

Material: Shell Carbon Steel Code: MYCOM STD

☑ ***Suction K.O Drum*** Q'TY: 1

☑ ***Gas Purger*** Q'TY: 1

Code: MFR STD

☑ ***Piping for Skid and Interconnecting piping as Loose Spools*** Q'TY: 1

☑ ***Base Frame***

Type Carbon steel

☑ ***Local Push buttons and junction boxes***

Material : SS 304 or AL

Control Panel and Instruments Q'ty: 1

☑ Control panel

Scope ☑ Vendor

Location ☑ Indoor ☑ Non-hazardous

Type ☑ Transmitters

☑ PLC Siemens S7-400

Manufacturer ☑ Siemens or Equivalent Allen Bradly

Instrumentation as per MYCOM STD PID.Number and Type of Instruments will be as per MYCOM design

Package Design and manufacturing will be Only as per PARDIS project with following changes:

1) Motors will be Exec instead of Safe Area
2) Instruments will be Exd Inside Package
3) Two Compressor is selected based on MR while Pardis has one compressor Skid
4) Documents for Compressor Skid will be PID, Compressor Package Data sheet, Compressor Skid drawing
5) No Specification can be applied on this offer except agreed specified items in this quote

Test & Inspection

Items	Compressor	Pressure Vessel		Piping*				Panel	Skid (Unit)	Remarks
		a	b	c	d	e				
Performance Test	S	-	-	-	-	-		-	-	
Mechanical Running Tes	S	-	-	-	-	-		-	-	
Noise & Vibration Test	S	-	-	-	-	-		-	-	
Functional test	-	-	-	-	-	-		-	-	
Material Inspection	S	S	-	-	S	-		-	-	See note 3
Non-destructive Test (if applicable)	-	-	-	-	-	-		-	-	
Hydrostatic Test	S	S	-	S	-	-		-	-	See note 4
Pneumatic Leak Test	-		-		S	-		-	W	
Visual Inspection	-	W	-	S	S	-		W	W	
Dimensional Inspection	S	W	-	S	S	-		W	W	
Painting Inspection	-	-	-	-	-	-		-	W	
Shipping Inspection	-	-	-	-	-	-		-		
	-									

Abbreviations)

a ASME VIII Div.1 pressure vessel
b No code pressure vessel.
c Gas and lube oil piping
d Coolant, CW, IA piping and tubing
e Pre-fabricated piping

* Pneumatic leak test for piping will be performed as whole packaged unit after assembly, but before painting.
** SW is for tubing for gas and lube oil line.
W Witness Inspection by customer
S Report or certificate issue (see note 4)
V Manufacture's test/inspection (Report and certificate is not issued)

Notes)

1) Third party's inspection for local standard, regulation and code shall be provided by customer.
2) Compressor testrun will be done using air as compressed fluid with shop motor and lube oil system.
Tests will be performed at our workshop in Japan.
3) Hydrostatic Pressure Test might be replaced by Pneumatic Testing according to the Code.
4) Test reports shall be provided acc. To supplier format.

Code and Standard

General:	MYCOM Standard, IEC, JIS, ASME-Div.1
Compressor:	MYCOM Standard, JIS
Pressure Vessel / Heat Exchanger:	ASME VIII, DIV 1.
Piping:	MYCOM STD for Compressor Skid, ASME B16.5 & B31.3 for others
Valve:	MYCOM STD for Compressor Skid, Carbon steel
Flange:	MYCOM STD for Compressor Skid, ANSI, Carbon steel, JIS
Tubing :	Double ferrule compression type (SS 316) / SS 1/2"
Electric:	IEC, EX-proof
Cable	Armoured cable
Cable glands	
Material:	MYCOM STD for Compressor Skid, ANSI,JIS,ASTM,ASME, DIN
Painting :	Vendor offshort painting

Note :

Scope of Supply

No.	Item	Scope	Remarks
1	Refrigeration Unit	Vendor	
2	Motors	Vendor	
3	PLC Control Panel for safe area	Vendor	
4	Motor starter (MCC)	N/A	Direct Feeder for Users
5	Foundation Work	Customer	
6	Installation Work, Assembly	Customer	
7	Piping Work		
	Piping within skid (Shop Work)	VENDOR	(Skids to be considered together)
	All piping till Reciever	VENDOR	
	Piping to others	Customer	
8	Electric Wiring Work (for power)	Customer	
	Instrun (Shop Work)	VENDOR	
	Wiring (Field Work)	Customer	
9	Instrumentation Work (Wiring/Tubing)		
	Wiring (Shop Work)	VENDOR	
	Wiring between skids	VENDOR	Connections between skids will be unplugged for transport
	Wiring (Field Work)	Customer	
10	Insulation within skid		Insulation by customer
	Design	Customer	
	Material & Work	Customer	
11	Heat Tracing		
	Material	Customer	
	Work	Customer	
12	Transportation	Vendor	Till Ex-Work Local Factory
13	Supervising		
	Installation, Re-assembly	Optional	
	Pre-commissioning	Optional	
	Start-up	Optional	
14	Schrinked Packing	VENDOR	

electrical heat tracing is vendor scope of work / supply.

Conclusion meeting(2024/02/17):
Noted.

No.	Item	Scope	Remarks
15	Lube Oil for initial charge	Optional	
16	Refrigerant	Customer	
17	Ocean Freight	Vendor	
18	Capital/two years operational spare par	Optional	
	Commissioning spare parts	Vendor	a) As per commercial offer
19	Structures(Inside Skid)	VENDOR	Within the skid
20	Anchor bolts and nuts	VENDOR	
21	Lifting Lugs for unit	VENDOR STD	
22	Special tools	VENDOR	For compressor only
23	Main motor cable gland	Customer	
24	Molecular Sleeve, Fitler dryer	N/A	

Notes

1 Guarantee period.
Twelve (12) months after start-up or eighteen (18) months after notification of readiness for shipment, whichever occurs first.