



LIDCO, Pars SEE Zone, Assaluyeh,
Integrated Methanol and Ammonia
Plant 3000 MTPD MeOH / 900 MTPD NH3 PROJECT



Equipment Data Sheet

Document No. 17735-11A

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N278	VD	6019	ME	DS	0011	01

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**Airpack B.V. - Air Compressor –
Integrated Methanol and Ammonia Plant
17735-COM Equipment Data Sheet (K020)**

code-3
M. Vakili

Vendor shall clarify why purchaser datasheet
is not filled.
Please fill purchaser datasheet.

REV.	DATE	DESCRIPTION	DRAWN	CHECKED	APPROVED
01	08-04-2024	Issued for Approval	S.K.	S.K.	J.J.

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VENDOR		Airpack Netherlands		P.O. No.	LIDCO-PO-NEC-278-6019	
CONTRACTOR / END USER		شرکت توسعه صنایع لایان Lavan Industry Development Company		Document No.	N-278-VD-6019-ME-DS-0011-01	
				No.	3 of 6	
				Page No.	1	
				Tag No.	K-020	
				Compre	this is NA	
1	VENDOR (COMPRESSOR) :	Airpack Netherlands B.V.		REFERENCE :	17735-COM	
2	TYPE / MODEL :	High Pressure Air Compressor		SERIAL NO. :	3000 MTPD MeOH/900 MTPD NH3 PROJECT	
3	SERVICE :	Compressed Air		OPERATION :	Duty	
4	QUANTITY :	1				
OPERATING CONDITIONS				PACKAGE SCOPE OF SUPPLY		
6	GAS HANDLED :	Instrument air		COMPRESSOR TYPE :	non lubricated, single acting, vertical piston	
7				DRIVER TYPE :	V-belt	
8				COUPLING / GUARD :	Direct	
INLET CONDITIONS				CONFIGURATION:		
10	PRESSURE OP	bar(g)	9.5	INTERCOOLING	Water cooled shell/tube KE-020-001	
11	PRESSURE DP	bar(g)	12.5	AFTERCOOLER	Water cooled shell/tube KE-020-002	
12	TEMPERATURE OT	°C	46	LUBE-OIL HEATER	included, KH-020-001	
13	TEMPERATURE DT	°C	75	LUBE-OIL PUMP	shaft driven	
14	FLOW RATE	Nm³/h	35	AIR COOLER	Motor driven fan KM-020-001	
15				CONTROL PANEL	Not included	
DISCHARGE CONDITIONS				INTERCONNECTING PIPEWORK & VALVES :		
17	PRESSURE OP	bar(g)	30	ACOUSTIC ENCLOSURE	Not included	
19	PRESSURE DP	bar(g)	39	FOUNDATION BOLTS :	T.EN/ISO 8.8 19 MnB4.16.80.305	
20	TEMPERATURE OT	°C	60 max.	RECEIVER VESSELS	Not included	
21	TEMPERATURE DT	°C	75			
22	FLOW RATE	Nm³/h	35			
COMP. PERFORMANCE				UTILITY SUPPLIES		
25	SPEED	rpm	410	Hz	50	ph 3
		kW	11	Hz	50	ph 1
DRIVER PERFORMANCE				COOLING MEDIUM :		
29		non lubricated, single acting, vertical piston		Water		
30	OPERATING SPEED	rpm	410	TEMPERATURE INTER COOLER	°C	36
31	RATING	kW	11	TEMPERATURE AFTER COOLER	°C	36
32	MANUFACTURER	MEHRER		PRESSURE	bar(g)	4.50
				PRESSURE	bar(g)	4.50
				WEIGHTS AND DIMENSIONS		
				SKID DRY WEIGHT	kg	2700
				SKID OPERATIONAL WEIGHT	kg	2750
				SIZE	mm L X W X H	2500X1500X2110
SITE CONDITIONS						
38	ELEVATION	m	< 1000			
39	AMB. TEMPERATURE	°C	0 / 49			
40	AMB. PRESSURE	bar(g)	0			
41	AMBIENT AIR HUMIDITY	%	65 / 100			
42	LOCATION :	Iran, onshore				
43	AREA CLASSIFICATION	Safe area				
44	NOISE LIMITATION	dBA	< 85 dB(A) at 1m distance from skid			
45						
46	NOTES :					
47						
48						

Please confirmed pressure drop from package BL to compressor nozzle is considered in reported pressure. These pressure are exactly the same as pressure at package BL.

Since there is no coupling, this is NA

Please remove from datasheet. It shall be reported in GAD and it will be discussed in that document

Please add a note that this is required/rated capacity with no negative tolerance)

Discrepancy with motor datasheet. (Driver power same as compressor power is not acceptable and margin is required which it seems it is considered by data in motor datasheet)

Discrepancy with motor datasheet

max=46°C


0

1.01bara

cooling water supply= 4.5 barg
cooling water return=2.5 barg

please add below note:
including driver at full load condition from each noisy part and whole package.

The below comment has been already confirmed on TCL by vendor so please consider it and implement it as a note and consider it on your design.
- With considering this area has been considered as fire potential zone all fireproofing requirement shall be considered for equipment support, structures, valves, actuators, junction boxes and associated cable trays according to JOB SPECIFICATION FOR PASSIVE FIRE PROTECTION [N-278-000-HS-JSD-1740-00. and also the valve body shall be fire safe.
also please note according to IEC-60331, actuators, junction box and glands shall be considered as explosion proof and cables shall be supplied as fire resistant.

VENDOR				P.O. No. LIDCO-PO-NEC-278-6019 Document No. N-278-VD-6019-ME-DS-0011-01 Sheet No. 4 OF 6 Rev.No. 1	
CONTRACTOR / END USER		Integrated Methanol and Ammonia Plant		Item Tag No. K-020 Service Compressed Instrument Air	
CONSTRUCTION					
PEEDS					
3	MAXIMUM ALLOWABLE	RPM	410		
4	ROTATION VIEWED FROM DRIVEN END		CW		
CASING					
7	MODEL		TRZ 400	REFER TO:	
8	MAXIMUM WORKING PRESSURE	bar(g)	30		P&ID (N-278-VD-6019-PR-PID-0002-01)
9	MAXIMUM DESIGN PRESSURE	bar(g)	37		INSTRUMENT DATASHEET (N-278-VD-6019-IN-DS-0013-01)
10	MAXIMUM OPERATING TEMP	°C	157		Control valve data sheets (N-278-VD-6019-IN-DS-0041)
11	MINIMUM OPERATING TEMP	°C	46		PSV Data Sheet (N-278-VD-6019-IN-DS-0039)
BEARING HOUSING					
16	TYPE	Anti friction			
17	BALL / ROLLER	Roller			
LUBRICATION					
20	LUBE SYSTEM :	Oil sump			
21	LUBE OIL PUMP DRIVE :	W	80		
22	SYSTEM OIL CAPACITY	Liter	18		
23	LUBE OIL HEATER				
CONTROLS					
31	CAPACITY CONTROL METHOD :	Compressor FCV			
32	STOP/START ON PRESSURE SIGNALS	Yes from 300LP-820			
SKID / COMPRESSOR CONNECTIONS					
36	NOZZLE	SIZE	RATING	FACING	POSITION
37	INLET	1"	#300	RF	TP-8201
38	OUTLET	3/4"	#300	RF	TP-8202
39	WATER INLET	3/4"	#150	RF	TP-8203
40	WATER OUTLET	3/4"	#150	RF	TP-8204

Please add a note that 39 barg is related to both stage casings. Otherwise, the value for first stage shall be reported.

Please change this to MAWP. (In rotating equipment, normally MAWP is reported.)

Please also add hydro-test values for compressor cylinders

Please mention the model.

Please mention for both stages (In P&ID, discharge of first stage design is 175DegC)

This shall be clarified since compressor is on/off type.

Should be added


Data of oil pump (material of all parts, sealing, coupling, etc.) shall be added.

Data of oil heater (material of parts, immersed length, elements temperature, etc.) shall be added.

Please add the data for both stages of compressor casing. (please note that the rating shall be compatible with MAWP/design pressure)

Below data of compressor shall be added:


- No. of cylinders
- existence of unloader (yes/No)
- volumetric efficiency
- Material of all parts for both stages (cylinders, liners, pistons, piston rings/ wear bands, pressure packing rings/ case/spring, wiper packings, main bearings, crank pin, crank bearing, bushing of connecting rod, crankshaft, crankcase, connecting rod, valve materials (disc, seat, guard, springs), cross head shoes, etc.)
- combined rod load
- maximum allowable rod load
- Acoustic simulation Analysis : approach 1
- Data related to V-belt
- cylinders/packing cooling (water/air)
- Barring device (required/not required)
- cylinder bore, stroke, piston speed, liner thickness, valves inlet/discharge quantity per cylinder, type of valves, valves velocity/lift, rod diameter, rod reversal degree,
- piston rod hardness, piston rod coating hardness
- insulation/personal protection

VENDOR 	EQUIPMENT DATA SHEET	P.O. No.	LIDCO-PO-NEC-278-6019
		Document No.	N-278-VD-6019-ME-DS-0011-01
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		Rev.No	1
CONTRACTOR / END USER	Integrated Methanol and Ammonia Plant	Item Tag No.	K-020
		Service	Compressed Instrument Air

INTERCOOLER						
37	EQUIPMENT NO.	KE-020-001	LOCATION :	1st stage discharge	LIQUID / AIR COOLED	LIQUID
38	NO. REQD	1	MFR / SUPPLIED BY:	IWS MONJE		
39	CAPACITY	Nm3/hr 0.5				
40	SHELL MATERIAL :	SS			DESIGN CODE / SPEC	AD2000
41	TUBES MATERIAL :	1.4404 AD-W2 (3.1)				
42	COOLING MEDIUM	WATER	TEMP °C	36	PRESSURE	Bar(g) 4,5
43	NOZZLE SIZE (TUBE)	INLET G3/4"	OUTLET	G3/4"	VENT/DRAIN SLEEVE	2x G1/2"
44	COMPRESSED AIR	Bar(g) 23,3	TEMP °C	157		
46	NOZZLE SIZE (SHELL)	INLET 3/4" 600RF	OUTLET	3/4" 600RF	VENT/DRAIN SLEEVE	G1/2"

AFTERCOOLER						
37	EQUIPMENT NO.	KE-020-002	LOCATION :	2nd stage discharge	LIQUID / AIR COOLED	LIQUID
38	NO. REQD	1	MFR / SUPPLIED BY:	IWS MONJE		
39	CAPACITY	Nm3/hr 0.5				
40	SHELL MATERIAL :	SS			DESIGN CODE / SPEC	AD2000
41	TUBES MATERIAL :	1.4404 AD-W2 (3.1)				
42	COOLING MEDIUM	WATER	TEMP °C	36	PRESSURE	Bar(g) 4,5
43	NOZZLE SIZE (TUBE)	INLET G3/4"	OUTLET	G3/4"	VENT/DRAIN SLEEVE	2x G1/2"
44	COMPRESSED AIR	Bar(g) 30,0	TEMP °C	116		
45	NOZZLE SIZE (SHELL)	INLET 3/4" 600RF	OUTLET	3/4" 600RF		G1/2"

48 **NOTES :**
49
50



Since there exist inter/after cooler datasheet, please remove this section.

For all dampers, please also add design pressure/temperature to this table.

Please mention ASTM No. and grade for material. (just mentioning CS is not acceptable)

Please remove any paint data from this datasheet. Just please note that refer to painting procedure at row 49 is adequate and the matter shall be included/discussed in painting procedure.

VEN	EQUIPMENT DATA SHEET		C-278-6019
			ME-DS-0011-01
			6
CONTRACTOR / END USER	Med Methanol and Ammonia Plant		0
	Service	Compressed Instrument Air	

PULSTATION DAMPER INLET								
EQUIPMENT NO.	KV-020-001		LOCATION :	INLET		LIQUID / AIR COOLED	AIR	
NO. REQD	1		MFR / SUPPLIED BY:	Locati Impianti				
CAPACITY	Nm3/hr	35						
MATERIAL :	CS					PAINT SYSTEM	1 (COLD)	
MAIN IN/OUTLET	1" 300#							
CONNECTIONS	TG	1 1/2" 300#	IT	1 1/2" 300#	PSV	1" 300#	DRAIN	1/2" NPT
COMPRESSED AIR	Bar(g)	9.5	TEMP	°C	46			

PULSTATION DAMPER 1ST STAGE DISCHARGE								
EQUIPMENT NO.	KV-020-002		LOCATION :	1ST STAGE DISCHARGE		LIQUID / AIR COOLED	AIR	
NO. REQD	1		MFR / SUPPLIED BY:	Locati Impianti				
CAPACITY	Nm3/hr	35						
MATERIAL :	CS					PAINT SYSTEM	3 (HOT)	
MAIN IN/OUTLET	3/4" 600#							
CONNECTIONS	TG	1 1/2" 600#	IT	1 1/2" 600#	PSV	1" 600#	DRAIN	1/2" NPT
COMPRESSED AIR	Bar(g)	23.3	TEMP	°C	157			

PULSTATION DAMPER 2nd STAGE SUCTION								
EQUIPMENT NO.	KV-020-003		LOCATION :	2nd STAGE SUCTION		LIQUID / AIR COOLED	AIR	
NO. REQD	1		MFR / SUPPLIED BY:	Locati Impianti				
CAPACITY	Nm3/hr	35						
MATERIAL :	CS					PAINT SYSTEM	1 (COLD)	
MAIN IN/OUTLET	3/4" 600#							
CONNECTIONS	TG	N/A	IT	1 1/2" 600#	PSV	N/A	DRAIN	1/2" NPT
COMPRESSED AIR	Bar(g)	22.1	TEMP	°C	60			

PULSTATION DAMPER 2nd STAGE DISCHARGE								
EQUIPMENT NO.	KV-020-004		LOCATION :	2nd STAGE DISCHARGE		LIQUID / AIR COOLED	AIR	
NO. REQD	1		MFR / SUPPLIED BY:	Locati Impianti				
CAPACITY	Nm3/hr	35						
MATERIAL :	CS					PAINT SYSTEM	1 (HOT)	
MAIN IN/OUTLET	3/4" 600#							
CONNECTIONS	TG	1 1/2" 600#	IT	1 1/2" 600#	PSV	1" 600#	DRAIN	1/2" NPT
COMPRESSED AIR	Bar(g)	30.0	TEMP	°C	116			

48 NOTES :
 49 Paint system is specified in document: N-278-VD-6019-GN-PRC-0019-01
 50