



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	03

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

Code 2
M.Dalakeh

03	27-06-2024	Issued for Approval	S.K.	S.K.	J.J.
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VENDOR 		EQUIPMENT DATA SHEET		P.O. No. LIDCO-PO-NEC-278-6019	
CONTRACTOR / END USER 				Document No. N-278-VD-6019-ME-DS-0011-01	
				Sheet No. 3 of 5	
				Rev.No. 03	
Integrated Methanol and Ammonia Plant		Item Tag No. K-020			
		Service Compressed Instrument Air			
1 VENDOR (COMPRESSOR) : Airpack Netherlands B.V.		900 MTPD NH3 PROJECT			
2 TYPE / MODEL : High Pressure Air Compressor					
3 SERVICE : Compressed Air					
4 QUANTITY : 1					
5 OPERATING CONDITIONS		PACKAGE SCOPE OF SUPPLY			
6 GAS HANDLED : Instrument air					
7					
8					
9 INLET CONDITIONS		non lubricated, single acting, vertical piston			
10 PRESSURE OP bar(g) 9,5		V-belt			
11 PRESSURE DP bar(g) 12,5		N/A			
12 TEMPERATURE OT °C 46		CONFIGURATION: 1x100%			
13 TEMPERATURE DT °C 75		INTERCOOLING Water cooled shell/tube KE-020-001			
14 FLOW RATE Nm³/h 35		AFTERCOOLER Water cooled shell/tube KE-020-002			
15		LUBE-OIL HEATER Included, KH-020-001			
16		LUBE-OIL PU Shaft driven			
17 DISCHARGE CONDITIONS		AIR COOLER Motor driven fan KM-020-001			
18 PRESSURE OP bar(g) 30		CONTROL P Not included			
19 PRESSURE DP bar(g) 39		PANEL ON P JB and pushbutton station on package			
20 TEMPERATURE OT °C 60 max.		INTERCONN No piping and valves provided for outside package.			
21 TEMPERATURE DT °C 75		ACOUSTIC ENCLOSURE Not included			
22 FLOW RATE Nm³/h 35		RECEIVER VESSELS Not included			
23		UTILITY SUPPLIES			
24 COMP. PERFORMANCE		ELECTRICAL SUPPLY :			
25 SPEED rpm 410		V 400 Hz 50 ph 3			
26 POWER AT COUPLING kW 11		V 230 Hz 50 ph 1			
27 TYPE non lubricated, single acting, vertical piston		COOLING MEDIUM : Water			
28		TEMPERATURE INTER COOLER °C 36			
29 DRIVER PERFORMANCE		TEMPERATURE AFTER COOLER °C 46			
30 OPERATING SPEED rpm 1467		PRESSURE CWS bar(g) 4,50			
31 RATING kW 15		PRESSURE CWR bar(g) 2,50			
32 MANUFACTURER SIEMENS		WEIGHTS AND DIMENSIONS			
33		SKID DRY WEIGHT kg 2700			
34		SKID OPERATIONAL WEIGHT kg 2750			
35		SIZE mm L X W X H 2500X1500X2110			
36					
37 SITE CONDITIONS					
38 ELEVATION m 0					
39 AMB. TEMPERATURE °C 0 / 49					
40 AMB. PRESSURE bar(a) 1,01					
41 AMBIENT AIR HUMIDITY % 65 / 100					
42 LOCATION : Iran, onshore					
43 AREA CLASSIFICATION Safe area					
44 NOISE LIMITATION dBA < 85 dB(A)					
45					
46 NOTES :					
47 Measured, during running, at more than one point around the package at 1m distance from skid edge. Measuring points are shown in the document FAT					
48 procedure (N-278-VD-6019-GN-PRC-0015-01)					
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Since it is a two stage compressor, condition of each stage inlet and outlet to be reported separately.

No negative tolerance (NNT) for this flow is accepted.

VENDOR 	EQUIPMENT DATA SHEET	P.O. No.	LIDCO-PO-NEC-278-6019
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		Rev.No	03
CONTRACTOR / END USER 	Integrated Methanol and Ammonia Plant	Item Tag No.	K-020
		Service	

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



1			CONSTRUCTION						
2			INSTRUMENTATION						
3			REFER TO:						
4			P&ID [N-278-VD-6019-PR-PID-0002-01]						
5			INSTRUMENT DATASHEET [N-278-VD-6019-IN-DS-0013-01]						
6			CONTROL VALVE DATASHEETS [N-278-VD-6019-IN-DS-0041]						
7			PSV DATASHEET [N-278-VD-6019-IN-DS-0039]						
8									
9									
10			SKID CONNECTIONS						
11			MODEL	TRZ 400	NOZZLE	SIZE	RATING	FACING	POSITION
12			WORKING PRESSURE 1ST/2ND STAGE	bar(g) 23.3/30	PACKAGE INLET	1"	#300	RF	TP-8201
13			MAWP	bar(g) 30.5/39	PACKAGE OUTLET	3/4"	#300	RF	TP-8202
14			MAXIMUM OPERATING TEMP 1ST/2ND	°C 157/116	WATER INLET	3/4"	#150	RF	TP-8203
15			NO. OF CYLINDERS	2	WATER OUTLET	3/4"	#150	RF	TP-8204
16			CYLINDER BORE 1ST/2ND STAGE	M 0.055/0.035					
17			CYLINDER STROKE 1ST/2ND STAGE	M 0.13/0.13					
18			COOLING MEDIUM BLOCK/CYLINDERS	AIR-COOLED					
19			MATERIAL PISTON/VALVES	STAINLESS STEEL					
20			HYDROTEST PRESSURE CYLINDERS	bar(g) 58.5					
21									
22			BEARING HOUSING			CONTROLS			
23			TYPE	Anti friction	CAPACITY CONTROL METHOD :		Compressor PCV		
24			BALL / ROLLER	Roller	STOP/START ON PRESSURE SIGNALS		Yes from 300LP-820		
25									
26			LUBRICATION						
27			LUBE SYSTEM :	Oil sump					
28			LUBE OIL PUMP DRIVE :	Shaft driven					
29			SYSTEM OIL CAPACITY	Liter 18					
30			LUBE OIL HEATER	230V, 80 W					
31			HEATING CARTRIDGE	mm L=180					
32			CONNECTION OIL HEATER	G 1/2					
33									

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

34	NOTES :			
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Below data of compressor shall be added:

- 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 (material and diameter of each pulley)
- Compressor suction and discharge valve (type/material)
- cylinders/packing cooling (water/air)
- Barring device (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

VENDOR 	EQUIPMENT DATA SHEET	LIDCO-PO-NEC-278-6019
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Service		K-020
		Compressed Instrument Air

information regarding to volume and weight to be added.

PULSTATION DAMPER INLET												
1												
2	EQUIPMENT NO.	KV-020-001		LOCATION :	INLET		LIQUID / AIR COOLED	AIR				
3	NO. REQD	1		MFR / SUPPLIED BY:	Locati Impianti							
4	CAPACITY	Nm3/hr	35	MATERIAL :	SA106 Gr.B							
5	MAWP	bar(g)	12,5	MAIN IN/OUTLET	1" 300#							
6	HYDROSTATIC PRESSURE	bar(g)	16,25									
7	CONNECTIONS	TG	1 1/2" 300#	TT	1 1/2" 300#	PSV	1" 300#	DRAIN	1/2" NPT			
8	COMPRESSED AIR	O	D	Bar(g)	9,5	12,5	TEMP	O	D	°C	46	75
9	PULSTATION DAMPER 1ST STAGE DISCHARGE											
10	EQUIPMENT NO.	KV-020-002		LOCATION :	1ST STAGE DISCHARGE		LIQUID / AIR COOLED	AIR				
11	NO. REQD	1		MFR / SUPPLIED BY:	Locati Impianti							
12	CAPACITY	Nm3/hr	35	MATERIAL :	SA106 Gr.B							
13	MAWP	bar(g)	30,5	MAIN IN/OUTLET	3/4" 600#							
14	HYDROSTATIC PRESSURE	bar(g)	39,65									
15	CONNECTIONS	TG	1 1/2" 600#	TT	1 1/2" 600#	PSV	1" 600#	DRAIN	1/2" NPT			
16	COMPRESSED AIR	O	D	Bar(g)	23,3	30,5	TEMP	O	D	°C	157	175
17	PULSTATION DAMPER 2nd STAGE SUCTION											
18	EQUIPMENT NO.	KV-020-003		LOCATION :	2nd STAGE SUCTION		LIQUID / AIR COOLED	AIR				
19	NO. REQD	1		MFR / SUPPLIED BY:	Locati Impianti							
20	CAPACITY	Nm3/hr	35	MATERIAL :	SA106 Gr.B							
21	MAWP	bar(g)	39	MAIN IN/OUTLET	3/4" 600#							
22	HYDROSTATIC PRESSURE	bar(g)	50,7									
23	CONNECTIONS	TG	N/A	TT	1 1/2" 600#	PSV	N/A	DRAIN	1/2" NPT			
24	COMPRESSED AIR	O	D	Bar(g)	22,1	39,0	TEMP	O	D	°C	60	157
25	PULSTATION DAMPER 2nd STAGE DISCHARGE											
26	EQUIPMENT NO.	KV-020-004		LOCATION :	2nd STAGE DISCHARGE		LIQUID / AIR COOLED	AIR				
27	NO. REQD	1		MFR / SUPPLIED BY:	Locati Impianti							
28	CAPACITY	Nm3/hr	35	MATERIAL :	SA106 Gr.B							
29	MAWP	bar(g)	39	MAIN IN/OUTLET	3/4" 600#							
30	HYDROSTATIC PRESSURE	bar(g)	50,7									
31	CONNECTIONS	TG	1 1/2" 600#	TT	1 1/2" 600#	PSV	1" 600#	DRAIN	1/2" NPT			
32	COMPRESSED AIR	O	D	Bar(g)	30,0	39,0	TEMP	O	D	°C	116	135

33	NOTES :									
34	Paint system is specified in document: N-278-VD-6019-GN-PRC-0019-01									
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