

 <p>شرکت توسعه صنایع لوان Lavan Industry Development Company</p>	<p><b>LIDCO, Pars SEE Zone, Assaluyeh, Integrated Methanol and Ammonia Plant 3000 MTPD MeOH / 900 MTPD NH3 PROJECT</b></p>						
	<p><b>Equipment Data Sheet</b></p>						
<p>Document No. 17735-11A</p>		<p>Page</p>					
<p>Project No.</p>	<p>Vendor Doc.</p>	<p>P.O. No.</p>	<p>Department</p>	<p>Document Type</p>	<p>Serial No</p>	<p>Revision</p>	<p>Page 1 of 5</p>
<p>N278</p>	<p>VD</p>	<p>6019</p>	<p>ME</p>	<p>DS</p>	<p>0011</p>	<p>04</p>	

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

Code 2  
M.Dalakeh

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Equipment Data Sheet



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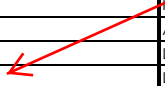
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4	X	X	X	X		29						54						79					
5	X	X	X	X		30						55						80					
6	X					31						56						81					
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VENDOR		EQUIPMENT DATA SHEET		P.O. No.		LIDCO-PO-NEC-278-6019	
		<b>Integrated Methanol and Ammonia Plant</b>		Document No.		N-278-VD-6019-ME-DS-0011-01	
				Sheet No.		3 of 5	
				Rev.No		04	
				Item Tag No.		K-020	
CONTRACTOR / END USER				Service		Compressed Instrument Air	
							
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 :	N/A		
INLET CONDITIONS				CONFIGURATION :	1x100%		
10	PRESSURE OP	bar(g)	9,5	INTERCOOLER :	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 :	Included, KH-020-001		
13	TEMPERATURE DT	°C	75	LUBE-OIL :	Shaft driven		
14	FLOW RATE	Nm³/h	35	AIR COOLER :	Motor driven fan KM-020-001		
15				CONTROL PANEL :	Not included		
DISCHARGE CONDITIONS				PANEL ON PACKAGE :	JB and pushbutton station on package		
18	PRESSURE OP	bar(g)	30	INTERCONNECTING PIPEWORK & VALVES :	No piping and valves provided for outside package.		
19	PRESSURE DP	bar(g)	39	ACOUSTIC ENCLOSURE :	Not included		
20	TEMPERATURE OT	°C	60 max.	RECEIVER VESSELS :	Not included		
21	TEMPERATURE DT	°C	75				
22	FLOW RATE	Nm³/h	35*				
23	*NNT during full capacity			UTILITY SUPPLIES			
COMP. PERFORMANCE				ELECTRICAL SUPPLY :			
25	SPEED	rpm	410	V	400	Hz	50
26	POWER AT COUPLING	kW	11	V	230	Hz	50
27	TYPE	non lubricated, single acting, vertical piston		ph	3		
28				COOLING MEDIUM :	Water		
DRIVER PERFORMANCE				TEMPERATURE INTER COOLER	°C	36	
30	OPERATING SPEED	rpm	1467	TEMPERATURE AFTER COOLER	°C	46	
31	RATING	kW	15	PRESSURE CWS	bar(g)	4,50	
32	MANUFACTURER	SIEMENS		PRESSURE CWR	bar(g)	2,50	
				WEIGHTS AND DIMENSIONS			
34				SKID DRY WEIGHT	kg	2700	
35				SKID OPERATIONAL WEIGHT	kg	2750	
36				SIZE	mm	L X W X H	
						2500X1500X2110	
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	<b>NOTES :</b>						
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.



		<b>EQUIPMENT DATA SHEET</b>		P.O. No.	LIDCO-PO-NEC-278-6019			
CONTRACTOR / END USER 				Document No.	N-278-VD-6019-ME-DS-0011-01			
				Sheet No.	4 OF 5			
				Rev.No	04			
		Integrated Methanol and Ammonia Plant		Item Tag No.	K-020			
				Service	Compressed Instrument Air			
<b>CONSTRUCTION</b>								
<b>SPEEDS</b>				<b>INSTRUMENTATION</b>				
3	MAXIMUM ALLOWABLE	RPM	410	REFER TO:				
4	ROTATION VIEWED FROM DRIVEN END		CW					
5				P&ID [N-278-VD-6019-PR-PID-0002-01]				
6				INSTRUMENT DATASHEET [N-278-VD-6019-IN-DS-0013-01]				
7				CONTROL VALVE DATASHEETS [N-278-VD-6019-IN-DS-0041]				
8				PSV DATASHEET [N-278-VD-6019-IN-DS-0039]				
9								
<b>CASING</b>				<b>SKID CONNECTIONS</b>				
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"	#600	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	CYLINDERS COOLING		AIR COOLED					
22	BEARING TYPE		ANTI FRICTION					
23	BEARING BALL / ROLLER		ROLLER					
24	VALVE, INLET / DISCHARGE		CONCENTRIC VALVES					
				<b>CONTROLS</b>				
25	TYPES OF VALVES		PLATE	CAPACITY CONTROL METHOD :		Compressor PCV		
26	V-BELT DIMENSION		SPC160X2	STOP/START ON PRESSURE SIGNALS		Yes from 300LP-820		
27								
<b>MATERIALS OF CONSTRUCTION</b>				<b>LUBRICATION</b>				
29	CYLINDER(S)		ASTM A 249 (TP 316L) / EN 1.4404	LUBE SYSTEM :		Oil sump		
30	CYLINDER LINER(S)		ASTM A 249 (TP 316L) / EN 1.4404	LUBE OIL PUMP DRIVE :		Shaft driven		
31	PISTON(S)		ASTM A 420 / EN 1.4021	SYSTEM OIL CAPACITY		Liter	18	
32	PISTON RINGS		PTFE compound	LUBE OIL HEATER		230V, 80 W		
33	WEAR BANDS		PTFE compound	HEATING CARTRIDGE		mm	L=180	
34	PISTON RODS(S); / MATERIAL YIELD:		AISI 422 / EN 1.2316 / 1010 N/mm <sup>2</sup>	CONNECTION OIL HEATER		G	1/2	
35	PISTON ROD HARDNESS (BASE MATL.)		125 - 160 HB Rc					
36	PISTON ROD COATING / HARDNESS		Plasma nitrided / 1000HV 1 Rc					
37	ROD PRESSURE RINGS		PTFE compound					
38	ROD PRESSURE PACKING CASE		ASTM A 249 (TP 316L) / EN 1.4404					
39	WIPER PACKING RINGS		PTFE compound					
40	MAIN JOURNAL BEARING, CRANKSHAFT		ASTM 80/60/03					
41	CONNECTING ROD BEARING, CRANKPIN		Si52 / PbSb15Sn10					
42	CONN. ROD BUSHING, X-HD END		GC-Sn8z12					
43	CROSSHEAD (X-HD) PIN BUSHING		GC-Sn8z12					
44	CROSSHEAD PIN		AISI 430F / EN 1.4104					
45	CROSSHEAD		ASTM 60/40/18					
46								
47	<b>NOTES :</b>							
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Below data of compressor shall be added:  
 -volumetric efficiency  
 -combined rod load  
 -maximum allowable rod load  
 -Data related to V-belt (material and diameter of each pulley)  
 - Compressor suction and discharge valve (material)  
 -Barring device (not required)  
 -cylinder bore, stroke, piston speed, liner thickness, valves inlet/discharge quantity per cylinder, valves velocity/lift, rod diameter, rod reversal degree,  
 -piston rod hardness, piston rod coating hardness

VENDOR 	EQUIPMENT DATA SHEET		P.O. No.	LIDCO-PO-NEC-278-6019
			Document No.	N-278-VD-6019-ME-DS-0011-01
			Sheet No.	5 OF 5
			Rev.No	04

CONTRACTOR / END USER 	Integrated Methanol and Ammonia Plant		Item Tag No.	K-020
			Service	Compressed Instrument Air

The reported data are in discrepancy with pulsation damper drawing. Check and revise.

PULSTATION DAMPER INLET				
2	EQUIPMENT NO.	KV-020-002	LOCATION :	INLET
3	NO. REQD	1	MFR / SUPPLIED BY:	Locati Impianti
4	CAPACITY	Nm3/hr 35	MATERIAL :	SA106 Gr.B
5	MAWP	bar(g) 30,5	MAIN IN/OUTLET	1" 600#
6	HYDROSTATIC PRESSURE	bar(g) 39,65	VOLUME:	39 dm3
7	CONNECTIONS	TG 1 1/2" 300#	TT 1 1/2" 300#	PSV 1"
8	COMPRESSED AIR	O D Bar(g) 9,5 12,5	TEMP O D °C	46

Add weight

PULSTATION DAMPER 1ST STAGE DISCHARGE				
10	EQUIPMENT NO.	KV-020-002	LOCATION :	1ST STAGE DISCHARGE
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	VOLUME:	33 dm3
15	CONNECTIONS	TG 1 1/2" 600#	TT 1 1/2" 600#	PSV 1" 600#
16	COMPRESSED AIR	O D Bar(g) 23,3 30,5	TEMP O D °C	157 175

Discrepancy with instrument datasheet document, Please clarify

PULSTATION DAMPER 2nd STAGE SUCTION				
18	EQUIPMENT NO.	KV-020-003	LOCATION :	2nd STAGE SUCTION
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	VOLUME:	30 dm3
23	CONNECTIONS	TG N/A	TT 1 1/2" 600#	PSV N/A
24	COMPRESSED AIR	O D Bar(g) 22,1 39,0	TEMP O D °C	60 157

PULSTATION DAMPER 2nd STAGE DISCHARGE				
26	EQUIPMENT NO.	KV-020-004	LOCATION :	2nd STAGE DISCHARGE
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	VOLUME:	30 dm3
31	CONNECTIONS	TG 1 1/2" 600#	TT 1 1/2" 600#	PSV 1" 600#
32	COMPRESSED AIR	O D Bar(g) 30,0 39,0	TEMP O D °C	116 135

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