



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



Equipment Data Sheet

Document No. 17735-11A

Page

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N278	VD	6019	ME	DS	0011	02

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

Code 3
M.Dalakeh

Project data sheet
as per attached file
to be filled.

REV.	DATE	DESCRIPTION	DRAWN	CHECKED	APPROVED
02	10-06-2024	Issued for Approval	S.K.	S.K.	J.J.
01	08-04-2024	Issued for Approval	S.K.	S.K.	J.J.

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25						50						75						7					

Repetitive comment:
 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.

PO-NEC-278-6019
D-6019-ME-DS-0011-01
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2
K-020
essed Instrument Air

VENDOR



CONTRACTOR / END USER



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							
5	OPERATING CONDITIONS		PACKAGE SCOPE OF SUPPLY						
6	GAS HANDLED :	Instrument a		non lubricated, single acting, vertical piston					
7				V-belt					
8			D :	N/A					
9	INLET COND			1x100%					
10	PRESSURE OP	bar(g)		Water cooled shell/tube KE-020-001					
11	PRESSURE DP	bar(g)		Water cooled shell/tube KE-020-002					
12	TEMPERATURE OT	°C		Included, KH-020-001					
13	TEMPERATURE DT	°C	75	LUBE-OIL PUMP					
14	FLOW RATE	Nm³/h	35	AIR COOLER					
15				CONTROL PANEL					
16				Not included					
17	DISCHARGE CONDITIONS			JB and pushbutton station on package					
18	PRESSURE OP	bar(g)	30	AS :					
19	PRESSURE DP	bar(g)	39	No piping and valves provided for outside package.					
20	TEMPERATURE OT	°C	60 max.	Not included					
21	TEMPERATURE DT	°C	75	Not included					
22	FLOW RATE	Nm³/h	35						
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								
28									
29	DRIV								
30	OPERATING SPEED	rpm	1467	COOLING MEDIUM :					Water
31	RATING	kW	15	TEMPERATURE INTER COOLER	°C	36			
32	MANUFACTURER		SIEMENS	TEMPERATURE AFTER COOLER	°C	46			
33				PRESSURE	bar(g)	4.50			
34				PRESSURE	bar(g)	2.50			
35				WEIGHTS AND DIMENSIONS					
36				SKID DRY WEIGHT	kg	2700			
37				SKID OPERATIONAL WEIGHT	kg	2750			
38				SIZE	mm	L X W X H	2500X1500X2110		
39	SITE CONDITIONS								
40	ELEVATION	m	0						
41	AMB. TEMPERATURE	°C	0 / 49						
42	AMB. PRESSURE	bar(g)	0						
43	AMBIENT AIR HUMIDITY	%	65 / 100						
44	LOCATION :		Iran, onshore						
45	AREA CLASSIFICATION		Safe area						
46	NOISE LIMITATION	dBA	< 85 dBA(A) at 1m distance from skid						
47	NOTES :								
48									

please add capacity of compressor with NNT. If you want you can report actual m3/h to avoid misunderstanding.


Please be noted that compressor driver shall be suitable for all condition including PSV set pressure.

Repeated Comment: cooling water supply

Repeated Comment: cooling water return

Repeated Comment: Ambient pressure must be reported in bara unit =1.01bara

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

VENDOR		EQUIPMENT DATA SHEET			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		2	
CONTRACTOR / END USER		Integrated Methanol and Ammonia Plant			Item Tag No.		K-020	
					Service		Compressed Instrument Air	
1								
2								
3	MAXIMUM	PM	410					
4	ROTATION VIEWED FROM DRIVEN END		CW					
5								
6								
7	CASING			INSTRUMENTATION				
8	MODEL		TRZ 400	REFER TO:				
9	WORKING PRESSURE 1ST/2ND STAGE	bar(g)	23.3/30	P&ID (N-278-VD-6019-PR-PID-0002-01)				
10	DESIGN PRESSURE	bar(g)	30.5/39	INSTRUMENT DATASHEET (N-278-VD-6019-IN-DS-0013-01)				
11	MAXIMUM OPERATING TEMP 1ST/2ND	°C	157/116	CONTROL VALVE DATASHEETS (N-278-VD-6019-IN-DS-0041)				
12	NO. OF CYLINDERS		2	PSV DATASHEET (N-278-VD-6019-IN-DS-0039)				
13	CYLINDER BORE 1ST/2ND STAGE	M	0.055/0.035					
14	CYLINDER STROKE 1ST/2ND STAGE	M	0.13/0.13					
15	COOLING MEDIUM BLOCK/CYLINDERS		AIR-COOLED					
16	MATERIAL PISTON/VALVES		STAINLESS STEEL					
17								
18								
19								
20								
21	BEARING HOUSING							
22	TYPE	Anti friction						
23	BALL / ROLLER	Roller						
24								
25	LUBRICATION							
26	LUBE SYSTEM :	Oil sump						
27	LUBE OIL PUMP DRIVE :	Shaft driven						
28	SYSTEM OIL CAPACITY	Liter	18					
29	LUBE OIL HEATER		80 W					
30	CONTROLS							
31	CAPACITY CONTROL METHOD :	Compressor PCV						
32	STOP/START ON PRESSURE SIGNALS	Yes from 300LP-820						
33								
34								
35	SKID CONNECTIONS							
36	NOZZLE	SIZE	RATING	FACING	POSITION			
37	PACKAGE INLET	1"	#300	RF	TP-8201			
38	PACKAGE 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			
41								
42								
43								

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.


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

	EQUIP	P.O. No.	LIDCO-PO-NEC-278-6019
		Document No.	N-278-VD-6019-ME-DS-0011-01
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		Item Tag No.	K-020
		Service	Compressed Instrument Air

MAWP and hydrostatic test pressure for all of them to be specified.

SA106 Gr.B as per drawing.

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										
MAIN IN/OUTLET	1" 300#										
CONNECTIONS	TG	1 1/2" 300#	TT	1 1/2" 300#	PSV	1" 300#	DRAIN	1/2" NPT			
COMPRESSED AIR	O	D	Bar(g)	9.5	12.5	TEMP	O	D	°C	46	75
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										
MAIN IN/OUTLET	3/4" 600#										
CONNECTIONS	TG	1 1/2" 600#	TT	1 1/2" 600#	PSV	1" 600#	DRAIN	1/2" NPT			
COMPRESSED AIR	O	D	Bar(g)	23.3	30.5	TEMP	O	D	°C	157	175
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										
MAIN IN/OUTLET	3/4" 600#										
CONNECTIONS	TG	N/A	TT	1 1/2" 600#	PSV	N/A	DRAIN	1/2" NPT			
COMPRESSED AIR	O	D	Bar(g)	22.1	39.0	TEMP	O	D	°C	60	157
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										
MAIN IN/OUTLET	3/4" 600#										
CONNECTIONS	TG	1 1/2" 600#	TT	1 1/2" 600#	PSV	1" 600#	DRAIN	1/2" NPT			
COMPRESSED AIR	O	D	Bar(g)	30.0	39.0	TEMP	O	D	°C	116	135

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