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|  <p>شرکت توسعه صنایع لوان Lavan Industry Development Company</p> | <p>LIDCO, Pars SEE Zone, Assaluyeh, Integrated Methanol and Ammonia Plant 3000 MTPD MeOH / 900 MTPD NH3 PROJECT</p> |  | | | | | |
|  | <p>Line List</p> | | | | | | |
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**Airpack B.V. - Air Compressor –
Integrated Methanol and Ammonia Plant
17735-COM Line List (K020)**

| | | | | | |
|-------------|-------------|---------------------|--------------|----------------|-----------------|
| 05 | 26-04-2024 | Issued for Approval | S.K. | S.K. | J.J. |
| 04 | 08-04-2024 | Issued for Approval | S.K. | S.K. | J.J. |
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| 02 | 08-01-2024 | Issued for Approval | S.K. | S.K. | J.J. |
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Line List

Document No. 17735-61

Page

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|-------------|-------------|----------|------------|---------------|-----------|----------|-------------|
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| 1 | X | X | X | X | X | 26 | | | | | | 51 | | | | | | 76 | | | | | |
| 2 | X | X | X | X | X | 27 | | | | | | 52 | | | | | | 77 | | | | | |
| 3 | X | X | X | X | X | 28 | | | | | | 53 | | | | | | 78 | | | | | |
| 4 | X | | | | | 29 | | | | | | 54 | | | | | | 79 | | | | | |
| 5 | | | | | | 30 | | | | | | 55 | | | | | | 80 | | | | | |
| 6 | | | | | | 31 | | | | | | 56 | | | | | | 81 | | | | | |
| 7 | | | | | | 32 | | | | | | 57 | | | | | | 82 | | | | | |
| 8 | | | | | | 33 | | | | | | 58 | | | | | | 83 | | | | | |
| 9 | | | | | | 34 | | | | | | 59 | | | | | | 84 | | | | | |
| 10 | | | | | | 35 | | | | | | 60 | | | | | | 85 | | | | | |
| 11 | | | | | | 36 | | | | | | 61 | | | | | | 86 | | | | | |
| 12 | | | | | | 37 | | | | | | 62 | | | | | | 87 | | | | | |
| 13 | | | | | | 38 | | | | | | 63 | | | | | | 88 | | | | | |
| 14 | | | | | | 39 | | | | | | 64 | | | | | | 89 | | | | | |
| 15 | | | | | | 40 | | | | | | 65 | | | | | | 90 | | | | | |
| 16 | | | | | | 41 | | | | | | 66 | | | | | | 91 | | | | | |
| 17 | | | | | | 42 | | | | | | 67 | | | | | | 92 | | | | | |
| 18 | | | | | | 43 | | | | | | 68 | | | | | | ATTACHMENT | | | | | |
| 19 | | | | | | 44 | | | | | | 69 | | | | | | 1 | | | | | |
| 20 | | | | | | 45 | | | | | | 70 | | | | | | 2 | | | | | |
| 21 | | | | | | 46 | | | | | | 71 | | | | | | 3 | | | | | |
| 22 | | | | | | 47 | | | | | | 72 | | | | | | 4 | | | | | |
| 23 | | | | | | 48 | | | | | | 73 | | | | | | 5 | | | | | |
| 24 | | | | | | 49 | | | | | | 74 | | | | | | 6 | | | | | |
| 25 | | | | | | 50 | | | | | | 75 | | | | | | 7 | | | | | |

| Line no. | Line description | P&ID Number | Line size | Schedule | Ends Note 7 | Pipe material Note-2 | Flange as per ASME B16.5 | Flange Material Note-2 | Operating press. Max. | Design press. | Hydrotest pressure | Operating temp. | Design temp. | Insulation | Tie in Point | Paint system | Final colour | NDT |
|--|----------------------|--------------------------|-----------|----------|-------------|----------------------|--------------------------|------------------------|-----------------------|---------------|--------------------|-----------------|--------------|---------------------|--------------|--------------|---------------|-------------|
| P&ID for High Pressure Air Compressor K020 | | | | | | | | | | | | | | | | | | |
| 1"-IA-320-01-D42-N | Package inlet | N278-VD-6019-PR-PID-0002 | 1" | S-405 | BE | SS316L | 300# | ASTM A182 | 9.5 bar(g) | 12.5 bar(g) | 16.25 bar(g) | 46°C | 75°C | Not Insulated | TP-8201 | 1 | RAL-9006 | |
| 1"-IA-320-02-D42-N | 1st stage suction | N278-VD-6019-PR-PID-0002 | 1" | S-405 | BE | SS316L | 300# | ASTM A182 | 9.5 bar(g) | 12.5 bar(g) | 16.25 bar(g) | 46°C | 75°C | Not Insulated | N/A | 1 | RAL-9006 | |
| 3/4"-IA-320-03-F42-H | 1st stage discharge | N278-VD-6019-PR-PID-0002 | 3/4" | S-405 | BE | SS316L | 600# | ASTM A182 | 23.3 bar(g) | 30.5 bar(g) | 39.65 bar(g) | 157°C | 175°C | Personal protection | N/A | 3 | Metallic Gray | |
| 3/4"-IA-320-04-F42-H | 1st stage discharge | N278-VD-6019-PR-PID-0002 | 3/4" | S-405 | BE | SS316L | 600# | ASTM A182 | 23.3 bar(g) | 30.5 bar(g) | 39.65 bar(g) | 46°C | 185°C | Personal protection | N/A | 3 | Metallic Gray | 10% RT |
| 3/4"-IA-320-05-F42-N | 2nd stage suction | N278-VD-6019-PR-PID-0002 | 3/4" | S-405 | BE | SS316L | 600# | ASTM A182 | 23.3 bar(g) | 30.5 bar(g) | 39.65 bar(g) | 157°C | 175°C | Not Insulated | N/A | 1 | RAL-9006 | welds, Leak |
| 3/4"-IA-320-06-F42-H | 2nd stage discharge | N278-VD-6019-PR-PID-0002 | 3/4" | S-405 | BE | SS316L | 600# | ASTM A182 | 22.1 bar(g) | 39 bar(g) | 50.7 bar(g) | 60°C | 175°C | Personal protection | N/A | 3 | Metallic Gray | test & |
| 3/4"-IA-320-07-F42-H | 2nd stage discharge | N278-VD-6019-PR-PID-0002 | 3/4" | S-405 | BE | SS316L | 600# | ASTM A182 | 30 bar(g) | 39 bar(g) | 50.7 bar(g) | 60°C | 175°C | Personal protection | N/A | 3 | Metallic Gray | Hydrotest |
| 1 1/2"-IA-320-08-D42-N | Package outlet | N278-VD-6019-PR-PID-0002 | 1 1/2" | S-405 | BE | SS316L | 300# | ASTM A182 | 30 bar(g) | 39 bar(g) | 50.7 bar(g) | 60°C | 75°C | Not Insulated | N/A | 1 | RAL-9006 | with water |
| 3/4"-IA-320-09-D42-N | Package outlet | N278-VD-6019-PR-PID-0002 | 3/4" | S-405 | BE | SS316L | 300# | ASTM A182 | 30 bar(g) | 39 bar(g) | 50.7 bar(g) | 60°C | 75°C | Not Insulated | N/A | 1 | RAL-9006 | |
| 3/4"-IA-320-10-D42-N | Package outlet | N278-VD-6019-PR-PID-0002 | 3/4" | S-405 | BE | SS316L | 300# | ASTM A182 | 30 bar(g) | 39 bar(g) | 50.7 bar(g) | 60°C | 75°C | Not Insulated | TP-8202 | 1 | RAL-9006 | |
| 3/4"-IA-320-11-D42-N | Bypass | N278-VD-6019-PR-PID-0002 | 3/4" | S-405 | BE | SS316L | 300# | ASTM A182 | 30 bar(g) | 39 bar(g) | 50.7 bar(g) | 60°C | 75°C | Not Insulated | N/A | 1 | RAL-9006 | |
| P&ID for High Pressure Air Compressor K020 water system | | | | | | | | | | | | | | | | | | |
| 3/4"-CWS-320-20-B24C-N | Cooling water inlet | N278-VD-6019-PR-PID-0002 | 3/4" | S-405 | BE | CS | 150# | ASTM A 105 | 4.5 bar(g) | 7 bar(g) | 9.1 bar(g) | 36°C | 75°C | Not Insulated | TP-8203 | 1 | RAL-9006 | |
| 3/4"-CWS-320-21-B24C-N | Cooling water inlet | N278-VD-6019-PR-PID-0002 | 3/4" | S-405 | BE | CS | 150# | ASTM A 105 | 4.5 bar(g) | 7 bar(g) | 9.1 bar(g) | 36°C | 75°C | Not Insulated | N/A | 1 | RAL-9006 | 10% RT |
| 1 1/2"-CWR-320-22-B24C-N | Cooling water outlet | N278-VD-6019-PR-PID-0002 | 1 1/2" | S-105 | BE | CS | 150# | ASTM A 105 | 5 bar(g) | 7 bar(g) | 9.1 bar(g) | 46°C | 75°C | Not Insulated | N/A | 1 | RAL-9006 | welds, Leak |
| 3/4"-CWS-320-23-B24C-N | Cooling water inlet | N278-VD-6019-PR-PID-0002 | 3/4" | S-405 | BE | CS | 150# | ASTM A 105 | 4.5 bar(g) | 7 bar(g) | 9.1 bar(g) | 36°C | 75°C | Not Insulated | N/A | 1 | RAL-9006 | test & |
| 1 1/2"-CWR-320-24-B24C-N | Cooling water outlet | N278-VD-6019-PR-PID-0002 | 1 1/2" | S-105 | BE | CS | 150# | ASTM A 105 | 5 bar(g) | 7 bar(g) | 9.1 bar(g) | 46°C | 75°C | Not Insulated | N/A | 1 | RAL-9006 | Hydrotest |
| 3/4"-CWR-320-25-B24C-N | Cooling water outlet | N278-VD-6019-PR-PID-0002 | 3/4" | S-405 | BE | CS | 150# | ASTM A 105 | 5 bar(g) | 7 bar(g) | 9.1 bar(g) | 46°C | 75°C | Not Insulated | N/A | 1 | RAL-9006 | with water |
| 3/4"-CWR-320-26-B24C-N | Cooling water outlet | N278-VD-6019-PR-PID-0002 | 3/4" | S-405 | BE | CS | 150# | ASTM A 105 | 5 bar(g) | 7 bar(g) | 9.1 bar(g) | 46°C | 75°C | Not Insulated | TP-8204 | 1 | RAL-9006 | |

Notes:

- 1) pipe class will be followed for all component mentioned like, tem NPS, Rating, Schedule, Type, Specification Notes, NIPPLES, FITTINGS - threaded & Butt Welded /Caps, elbows, Tees, Couplings, Plug Unions, Swaged Nipples, Boss, Blinds, spectacle blinds, GASKETS, bolts / Fasteners, valves, etc.
- 2) All Components in water system are CS material and will externally painted (except for the valves which will be carbon steel and externally painted)
- 3) Corrosion allowance = 0 mm, Corrosion allowance watersystem= 3,2mm
- 4) Design code = ASME B31.3
- 5) Stress Relieving = Not applicable
- 6) Welding Spec : N278-000-Pi-JSS-1300-009
- 7) BE = Beveled Ends (for pipe)
- 8) Valve body material with ASTM A105 shall be supplied in Normalized condition