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|  | LIDCO, Pars SEE Zone, Assaluyeh, Integrated Methanol and Ammonia Plant 3000 MTPD MeOH / 900 MTPD NH3 PROJECT | | | | | |  |
| | PSV Data Sheets | | | | | | |
|  | Document No. 17735-46 | | | | | | Page |
| | Project No. | Vendor Doc. | P.O. No. | Department | Document Type | Serial No | Revision |
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**Airpack B.V. - Air Compressor –
Integrated Methanol and Ammonia Plant
17735-COM PSV Data Sheets (K020)**

Code 1
M.Dalakeh

| | | | | | |
|-------------|-------------|---------------------|--------------|----------------|-----------------|
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PSV Data Sheets

Document No. 17735-46

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Note

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| 06 | LK | 25-6-2024 | Issue for Approval | INSTRUMENT AND VALVE DATASHEET Index |  |
| 05 | LK | 8-5-2024 | Issue for Approval | | |
| 04 | LK | 17-4-2024 | Issue for Approval | | |
| 03 | LK | 26-3-2024 | Issue for Approval | | |
| 02 | LK | 11-3-2024 | Issue for Approval | | |
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| Rev | By | Date | Description |  | Sheet 3 of 7 Based on P&ID Rev.08 |

| | | | | | |
|---------------------|--------------------------------------|---------------------------------|---------------|------------------------------|-------------|
| GENERAL | 1 | Tag Number | | 320PSV-8201 | |
| | 2 | Service | | Pressure Safety Valve | |
| | 3 | P&ID No. | | N278-VD-6019-PR-PID-0002 | |
| | 4 | Location | | Package inlet | |
| | 5 | Line number | | DAMPENER KV-020-001 | |
| | 6 | Area classification | | Safe area | |
| | 7 | Nozzle | | Full nozzle | |
| | 8 | Design type | | Safety | |
| | 9 | Conv., Bellows, Pilot op. | | Conventional type | |
| | 10 | Bonnet Type | | Closed | |
| | 11 | Bonnet connection | | Bolted | |
| PROCESS CONDITIONS | 12 | Fluid | State | Air | Vapor |
| | 13 | Pressure | Inlet Max. | 9,5 bar(g) | 12,5 bar(g) |
| | 14 | Temperature | Norm. Max. | 46 °C | - |
| | 15 | Design | Press. Temp. | 12,5 bar(g) | 75 °C |
| | 16 | Ambient Temp. | Min. Max. | - | - |
| | 17 | Flow | | 35 Nm ³ /hr | |
| BASIS AND SELECTION | 18 | Set Pressure | | 12,5 bar(g) | |
| | 19 | Molecular Weight | Oper. Sp. Gr. | - | - |
| | 20 | Back Pres. (bar(g)) | | ATM | |
| | 21 | Allowable Overpressure (%) | | 10% | |
| | 22 | Compressibility Factor (Z) | | 1 | |
| | 23 | Ratio of Specific Heat (Cp/Cv) | | - | |
| | 24 | Operating Viscosity (cP) | | - | |
| | 25 | Barometric Pressure | | 1,013 bar(a) | |
| | 26 | Max. Allowable Relief Pressure | | 14,7 bar(a) | |
| | 27 | Design Code | | API 520, 521, 526 | |
| | 28 | Size Basis | | Blocked discharge | |
| | 29 | Required discharge Area (sq.mm) | | 4,03 mm ² | |
| | 30 | Selected Area (sq.mm) | | 70,97 mm ² | |
| | 31 | Orifice Designation | | D | |
| 32 | Noise level at 1m (from calculation) | | 101.74 dB | | |
| 33 | Blow-down | | 5-7% | | |
| CONNECTIONS | 34 | Inlet Size | Outlet Size | 1" | 2" |
| | 35 | Inlet Connection | Outlet Conn. | RF | RF |
| | 36 | Inlet Rating | Outlet Rating | 300# | 150# |
| | 37 | | | | |
| MATERIAL | 39 | Body and Bonnet | | SS316 | |
| | 40 | Seat and Disc | | SS316 | |
| | 41 | Guide and Rings | | SS316 | |
| | 42 | Spring | | SS316 | |
| | 43 | Nozzle | | SS316 | |
| OPTIONS | 44 | Tag plate | | SS316, Plate with steel wire | |
| | 45 | Test gag | | Yes, with stamped tag number | |
| | 46 | Lever | | Packed | |
| | 47 | Cap | | Screwed | |
| CERTIFICATES | 48 | 3.1 Material certificate | | Yes | |
| | 49 | Calibration certificate | | Yes | |
| | 50 | Leakage test acc to API STD 527 | | Yes | |
| | 51 | Functional test | | No | |
| CALCULATIONS | 52 | Sizing calculation | | Yes | |
| | 53 | | | | |
| | 54 | | | | |
| PURCHASE | 55 | Manufacturer | | Broady | |
| | 56 | Model | | 3531D-SN-021A0 | |
| | 57 | | | | |

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|-----|----|-----------|--------------------|---|--------------------------------------|
| 06 | LK | 25-6-2024 | Issue for Approval | INSTRUMENT AND VALVE DATASHEET Pressure Safety Valve  | Sheet 4 of 7 Based on P&ID Rev.08 |
| 05 | LK | 8-5-2024 | Issue for Approval | | |
| 04 | LK | 17-4-2024 | Issue for Approval | | |
| 03 | LK | 26-3-2024 | Issue for Approval | | |
| 02 | LK | 11-3-2024 | Issue for Approval | | |
| 01 | SK | 8-11-2023 | Issue for Approval | | |
| Rev | By | Date | Description | | |


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|---------------------|--------------------------------------|---------------------------------|---------------|------------------------------|-------------|
| GENERAL | 1 | Tag Number | | 320PSV-8202 | |
| | 2 | Service | | Pressure Safety Valve | |
| | 3 | P&ID No. | | N278-VD-6019-PR-PID-0002 | |
| | 4 | Location | | 1st stage discharge | |
| | 5 | Line number | | DAMPENER KV-020-002 | |
| | 6 | Area classification | | Safe area | |
| | 7 | Nozzle | | Full nozzle | |
| | 8 | Design type | | Safety | |
| | 9 | Conv., Bellows, Pilot op. | | Conventional type | |
| | 10 | Bonnet Type | | Closed | |
| | 11 | Bonnet connection | | Bolted | |
| PROCESS CONDITIONS | 12 | Fluid | State | Air | Vapor |
| | 13 | Pressure | Inlet Max. | 23,3 bar(g) | 30,5 bar(g) |
| | 14 | Temperature | Norm. Max. | 157 °C | - |
| | 15 | Design | Press. Temp. | 30,5 bar(g) | 175 °C |
| | 16 | Ambient Temp. | Min. Max. | - | - |
| | 17 | Flow | | 35 Nm ³ /hr | |
| BASIS AND SELECTION | 18 | Set Pressure | | 30,5 bar(g) | |
| | 19 | Molecular Weight | Oper. Sp. Gr. | - | - |
| | 20 | Back Pres. (bar(g)) | | ATM | |
| | 21 | Allowable Overpressure (%) | | 10% | |
| | 22 | Compressibility Factor (Z) | | 1 | |
| | 23 | Ratio of Specific Heat (Cp/Cv) | | - | |
| | 24 | Operating Viscosity (cP) | | - | |
| | 25 | Barometric Pressure | | 1,013 bar(a) | |
| | 26 | Max. Allowable Relief Pressure | | 34,5 bar(a) | |
| | 27 | Design Code | | API 520, 521, 526 | |
| | 28 | Size Basis | | Blocked discharge | |
| | 29 | Required discharge Area (sq.mm) | | 1,95 mm ² | |
| | 30 | Selected Area (sq.mm) | | 70,97 mm ² | |
| | 31 | Orifice Designation | | D | |
| 32 | Noise level at 1m (from calculation) | | 113,4 dB | | |
| 33 | Blow-down | | 5-7% | | |
| CONNECTIONS | 34 | Inlet Size | Outlet Size | 1" | 2" |
| | 35 | Inlet Connection | Outlet Conn. | RF | RF |
| | 36 | Inlet Rating | Outlet Rating | 600# | 150# |
| MATERIAL | 37 | Body and Bonnet | | SS316 | |
| | 38 | Seat and Disc | | SS316 | |
| | 39 | Guide and Rings | | SS316 | |
| | 40 | Spring | | SS316 | |
| | 41 | Nozzle | | SS316 | |
| | 42 | | | | |
| OPTIONS | 44 | Tag plate | | SS316, Plate with steel wire | |
| | 45 | Test gag | | Yes, with stamped tag number | |
| | 46 | Lever | | Packed | |
| | 47 | Cap | | Screwed | |
| CERTIFICATES | 48 | 3.1 Material certificate | | Yes | |
| | 49 | Calibration certificate | | Yes | |
| | 50 | Leakage test acc to API STD 527 | | Yes | |
| | 51 | Functional test | | No | |
| CALCULATIONS | 52 | Sizing calculation | | Yes | |
| | 53 | | | | |
| | 54 | | | | |
| PURCHASE | 55 | Manufacturer | | Broady | |
| | 56 | Model | | 3551D-SN-021A0 | |
| | 57 | | | | |

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| 06 | LK | 25-6-2024 | Issue for Approval | INSTRUMENT AND VALVE DATASHEET Pressure Safety Valve  | Sheet 3 of 7 Based on P&ID Rev.08 |
| 05 | LK | 8-5-2024 | Issue for Approval | | |
| 04 | LK | 17-4-2024 | Issue for Approval | | |
| 03 | LK | 26-3-2024 | Issue for Approval | | |
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| 01 | SK | 8-11-2023 | Issue for Approval | | |
| Rev | By | Date | Description | | |


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|---------------------|--------------------------------------|---------------------------------|---------------|------------------------------|-----------|
| GENERAL | 1 | Tag Number | | 320PSV-8203 | |
| | 2 | Service | | Pressure Safety Valve | |
| | 3 | P&ID No. | | N278-VD-6019-PR-PID-0002 | |
| | 4 | Location | | 2nd stage discharge | |
| | 5 | Line number | | DAMPENER KV-020-004 | |
| | 6 | Area classification | | Safe area | |
| | 7 | Nozzle | | Full nozzle | |
| | 8 | Design type | | Safety | |
| | 9 | Conv., Bellows, Pilot op. | | Conventional type | |
| | 10 | Bonnet Type | | Closed | |
| | 11 | Bonnet connection | | Bolted | |
| PROCESS CONDITIONS | 12 | Fluid | State | Air | Vapor |
| | 13 | Pressure | Inlet Max. | 30 bar (g) | 39 bar(g) |
| | 14 | Temperature | Norm. Max. | 116°C | - |
| | 15 | Design | Press. Temp. | 39 bar (g) | 135 °C |
| | 16 | Ambient Temp. | Min. Max. | - | - |
| | 17 | Flow | | 35 Nm ³ /hr | |
| BASIS AND SELECTION | 18 | Set Pressure | | 39 bar(g) | |
| | 19 | Molecular Weight | Oper. Sp. Gr. | - | - |
| | 20 | Back Pres. (bar(g)) | | ATM | |
| | 21 | Allowable Overpressure (%) | | 10% | |
| | 22 | Compressibility Factor (Z) | | 1 | |
| | 23 | Ratio of Specific Heat (Cp/Cv) | | - | |
| | 24 | Operating Viscosity (cP) | | - | |
| | 25 | Barometric Pressure | | 1,013 bar(a) | |
| | 26 | Max. Allowable Relief Pressure | | 43,9 bar(a) | |
| | 27 | Design Code | | API 520, 521, 526 | |
| | 28 | Size Basis | | Blocked discharge | |
| | 29 | Required discharge Area (sq.mm) | | 1,47 mm ² | |
| | 30 | Selected Area (sq.mm) | | 70,97 mm ² | |
| | 31 | Orifice Designation | | D | |
| 32 | Noise level at 1m (from calculation) | | 113,36 dB | | |
| 33 | Blow-down | | 5-7% | | |
| CONNECTIONS | 34 | Inlet Size | Outlet Size | 1" | 2" |
| | 35 | Inlet Connection | Outlet Conn. | RF | RF |
| | 36 | Inlet Rating | Outlet Rating | 600# | 150# |
| MATERIAL | 37 | Body and Bonnet | | SS316 | |
| | 38 | Seat and Disc | | SS316 | |
| | 39 | Guide and Rings | | SS316 | |
| | 40 | Spring | | SS316 | |
| | 41 | Nozzle | | SS316 | |
| | 42 | | | | |
| OPTIONS | 44 | Tag plate | | SS316, Plate with steel wire | |
| | 45 | Test gag | | Yes, with stamped tag number | |
| | 46 | Lever | | Packed | |
| | 47 | Cap | | Screwed | |
| CERTIFICATES | 48 | 3.1 Material certificate | | Yes | |
| | 49 | Calibration certificate | | Yes | |
| | 50 | Leakage test acc to API STD 527 | | Yes | |
| | 51 | Functional test | | No | |
| CALCULATIONS | 52 | Sizing calculation | | Yes | |
| | 53 | | | | |
| | 54 | | | | |
| PURCHASE | 55 | Manufacturer | | Broady | |
| | 56 | Model | | 3551D-SN-021A0 | |
| 57 | | | | | |

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| 06 | LK | 25-6-2024 | Issue for Approval | INSTRUMENT AND VALVE DATASHEET Pressure Safety Valve  | Sheet 6 of 7 Based on P&ID Rev.08 |
| 05 | LK | 8-5-2024 | Issue for Approval | | |
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| 03 | LK | 26-3-2024 | Issue for Approval | | |
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| 01 | SK | 8-11-2023 | Issue for Approval | | |
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|---------------------|-------------|---------------------------------|--------------------------------------|----------------------------------|------------|
| GENERAL | 1 | Tag Number | | 320PSV-8204 | |
| | 2 | Service | | Pressure Safety Valve | |
| | 3 | P&ID No. | | N278-VD-6019-PR-PID-0002 | |
| | 4 | Location | | Water system | |
| | 5 | Line number | | 3/4"-CWR-320-26-B24C-N | |
| | 6 | Area classification | | Safe area | |
| | 7 | Nozzle | | Full nozzle | |
| | 8 | Design type | | Safety | |
| | 9 | Conv., Bellows, Pilot op. | | Conventional type | |
| | 10 | Bonnet Type | | Closed | |
| | 11 | Bonnet connection | | Bolted | |
| PROCESS CONDITIONS | 12 | Fluid | State | Water | Liquid |
| | 13 | Pressure | Inlet Max. | 4,4 bar(g) | |
| | 14 | Temperature | Norm. Max. | | 46 °C |
| | 15 | Design | Press. Temp. | 7 bar(g) | 75 °C |
| | 16 | Ambient Temp. | Min. Max. | - | - |
| TUBE RUPTURE CASE | 17 | Flow | | 1 Nm ³ /h | |
| | 18 | Fluid | State | Water/Air | Liquid/Gas |
| | 19 | Pressure | Temperature | max. 39 bar(g) | 135 °C |
| | 20 | Flow on air side | | 35 Nm ³ /h | |
| BASIS AND SELECTION | 21 | Set Pressure | | 7 bar(g) | |
| | 22 | Molecular Weight | Oper. Sp. Gr. | - | - |
| | 23 | Back Pres. (bar(g)) | | ATM | |
| | 24 | Allowable Overpressure (%) | | 10% | |
| | 25 | Compressibility Factor (Z) | | 1 | |
| | 26 | Ratio of Specific Heat (Cp/Cv) | | - | |
| | 27 | Operating Viscosity (cP) | | - | |
| | 28 | Barometric Pressure | | 1,013 bar(a) | |
| | 29 | Max. Allowable Relief Pressure | | 8,7 bar(a) | |
| | 30 | Design Code | | API 520, 521 | |
| | 31 | Size Basis | | Tube rupture & thermal expansion | |
| | 32 | Required discharge Area (sq.mm) | | 7,4 mm ² | |
| | 33 | Selected Area (sq.mm) | | 25,81 mm ² | |
| | 34 | Orifice Designation | | N/A | |
| | CONNECTIONS | 35 | Noise level at 1m (from calculation) | | 97,85 dB |
| 36 | | Blow-down | | 10-20% | |
| 37 | | Inlet Size | Outlet Size | 3/4" | 1" |
| MATERIAL | 38 | Inlet Connection | Outlet Conn. | NPT | NPT |
| | 39 | Inlet Rating | Outlet Rating | 6000# | 6000# |
| | 40 | Body and Bonnet | | CS | |
| | 41 | Seat and Disc | | SS316 | |
| | 42 | Guide and Rings | | SS316 | |
| OPTIONS | 43 | Spring | | SS316 | |
| | 44 | Nozzle | | SS316 | |
| | 45 | | | | |
| CERTIFICATES | 46 | Tag plate | | SS316, Plate with steel wire | |
| | 47 | Test gag | | Yes, with stamped tag number | |
| | 48 | Lever | | Packed | |
| | 49 | Cap | | Screwed | |
| CALCULATIONS | 50 | 3.1 Material certificate | | Yes | |
| | 51 | Calibration certificate | | Yes | |
| | 52 | Leakage test acc to API STD 527 | | Yes | |
| PURCHASE | 53 | Functional test | | No | |
| | 54 | Sizing calculation | | Yes | |
| NOTES : | 55 | Manufacturer | | Broady | |
| | 56 | Model | | 26002-CN-021A1 | |
| 57 | | | | | |

NOTES :

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| 06 | LK | 25-6-2024 | Issue for Approval | INSTRUMENT AND VALVE DATASHEET Pressure Safety Valve  | Sheet 7 of 7 Based on P&ID Rev.08 |
| 05 | LK | 8-5-2024 | Issue for Approval | | |
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