# NITROSource Plus - NSP-090

## PSA Nitrogen Gas Generator

### Nitrogen Outlet Flow Rates

| Inlet Pressure | | Purity (Remaining Oxygen Content) vs Nitrogen Outlet Flow ($m^3$/hr)* | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| bar(g) | psi(g) | 5ppm | 10ppm | 50ppm | 100ppm | 250ppm | 500ppm | 0.1% | 0.5% | 1.0% | 2.0% | 3.0% |
| 5.0 | 72.5 | 16.6 | 19.1 | 27.8 | 31.7 | 38.0 | 43.2 | 48.7 | 68.4 | 80.6 | 95.9 | 118.9 |
| 6.0 | 87.0 | 22.2 | 25.5 | 35.6 | 40.5 | 48.5 | 55.2 | 62.2 | 84.8 | 99.9 | 118.7 | 142.1 |
| 7.0 | 101.5 | 28.1 | 32.3 | 42.8 | 48.8 | 58.4 | 66.4 | 75.0 | 102.1 | 120.3 | 143.1 | 165.2 |
| 8.0 | 116.0 | 32.4 | 37.2 | 48.0 | 54.7 | 65.4 | 74.4 | 84.0 | 113.4 | 131.1 | 155.9 | 180.1 |
| 9.0 | 130.5 | 36.6 | 42.0 | 53.1 | 60.5 | 72.4 | 82.4 | 93.0 | 124.6 | 143.2 | 170.3 | 196.6 |
| 10.0 | 145.0 | 40.8 | 46.9 | 58.7 | 66.9 | 80.0 | 91.0 | 102.7 | 134.8 | 154.0 | 183.1 | 211.5 |
| 11.0 | 159.5 | 43.3 | 49.8 | 60.8 | 69.3 | 83.0 | 94.4 | 106.5 | 140.9 | 160.0 | 190.3 | 219.7 |
| 12.0 | 174.0 | 45.9 | 52.7 | 63.4 | 72.2 | 86.5 | 98.3 | 111.0 | 146.1 | 166.0 | 197.4 | 228.0 |
| 13.0 | 188.5 | 48.4 | 55.6 | 65.6 | 74.7 | 89.4 | 101.7 | 114.7 | 152.2 | 170.8 | 203.2 | 234.6 |

Performance data is based on 7.0 bar(g) (101.5 psi(g)) inlet and 20°C (68°F) ambient temperature.

*$m^3$ reference to standard conditions, 20°C, 1013 mbar(a) and 0% relative water vapour pressure.

### Part Number Breakdown

| N | S | P | - | 0 | 9 | 0 | - | □ | □ | □ | □ | □ | - | 0 | 0 | A |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|

| Purity | Prefix |
|---|---|
| 5ppm / 10ppm / 50ppm | U |
| 100ppm / 250ppm / 500ppm / 0.1% | H |
| 0.5% / 1.0% / 2.0% / 3.0% | L |

| Oxygen Analyser Technology | Prefix |
|---|---|
| Electrochemical | E |
| Zirconia | Z |

| Energy Saving Technology [1] | Prefix |
|---|---|
| Not Fitted | N |
| Fitted | Y |

| Nitrogen Outlet Flow Range [2] | Prefix |
|---|---|
| High Flow | H |
| Low Flow | L |

| Dew point Monitoring | Prefix |
|---|---|
| Not Fitted | N |
| Inlet PDP Monitoring | I |
| Outlet PDP Monitoring | O |
| Both Inlet & Outlet Monitoring | B |

[1] Energy Saving Technology not available on 50ppm, 10ppm or 5ppm generators.

[2] See 'Mass Flow Controller Flow Breaks' chart for sizing information.

### Mass Flow Controller Flow Breaks

| Outlet Pressure | bar(g) | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 |
|---|---|---|---|---|---|---|---|---|---|---|
| | psi(g) | 72.5 | 87 | 101.5 | 116 | 130.5 | 145 | 159.5 | 174 | 188.5 |
| High Flow | $m^3$/hr* | 190.0 | 205.0 | 219.0 | 232.0 | 245.0 | 257.0 | 268.0 | 279.0 | 290.0 |
| Low Flow | | 61.0 | 66.0 | 70.0 | 74.0 | 78.0 | 82.0 | 86.0 | 89.0 | 93.0 |

*$m^3$ reference to standard conditions, 20°C, 1013 mbar(a) and 0% relative water vapour pressure.

## Operation Parameters

| | | |
|---|---|---|
| **Minimum Inlet Air Quality** | ISO 8573-1: 2010 Class 2.4.1 | |
| **Minimum Operating Pressure** | 5.0 bar(g) | 72.5 psi(g) |
| **Maximum Operating Pressure** | 13.0 bar(g) | 188.5 psi(g) |
| **Design Pressure** | 15.0 bar(g) | 217.5 psi(g) |
| **Minimum Operating Temperature** | 5.0˚C | 41.0˚F |
| **Maximum Operating Temperature** | 50.0˚C | 122.0˚F |
| **Recommended Operating Temperature** | 20.0˚C | 68.0˚F |
| **Supply Voltage** | 100-240V AC (±10%) 50/60Hz | |
| **Power Consumption** | 100W | |
| **IP Rating** | IP32 | NEMA 2 |
| **Noise** | <75 dB (A) | |

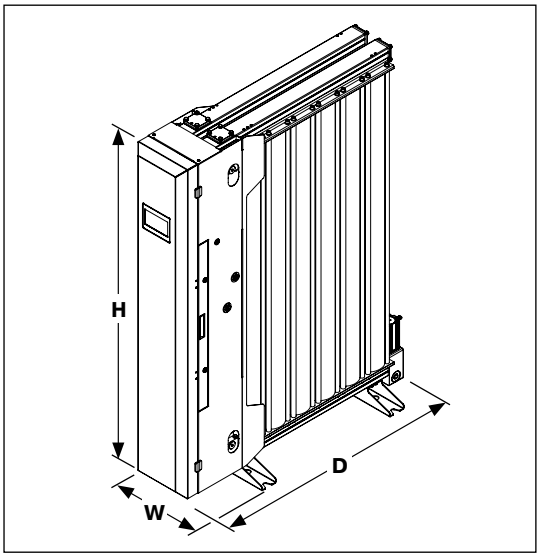
## Pipe Connections & Buffer Vessel Sizes

| Model | Pipe Connections | | | | Buffer Vessel | |
|---|---|---|---|---|---|---|
| | Compressed Air Inlet | Nitrogen Outlet | To Buffer | From Buffer | Minimum* Capacity | |
| **NSP-090** | 1" BSPP | 1" BSPP | 1" BSPP | 1" BSPP | 1500 Litres | 396 Gallon |

***Important Note:**
Recommended minimum buffer vessel size to guarantee maximum outlet pressure.
Utilisation of smaller buffer vessels may result in lower outlet pressures and fluctuations in purity.

## Weights & Dimensions

| | | |
|---|---|---|
| **Height (H)** | 2063mm | 81.2" |
| **Width (W)** | 550mm | 21.7" |
| **Depth (D)** | 2028mm | 79.8" |
| **Weight** | 988 kg | 2178 lbs |





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