# INERGEN IG901

## *General*

INERGEN is an odourless colourless gas with a density similar to air characterized by its intrinsic safety.

INERGEN works by displacing the oxygen in the protected space and the carbon dioxide level is increased to 2-4% in order to stimulate the respiratory functions and to ensure sufficient oxygen flow to the human brain.

During discharge of the INERGEN system there will be turbulence in the enclosure to ensure distribution of the INERGEN. A slight over pressurisation of the room will occur, calculated by the building structure and a sufficient pressure relief. There will be no reduction of visibility, hence escape routes will always be easy to find.

After discharge there will be no residue and ventilation of the enclosure is the only cleaning up necessary.

It is a clean agent for use in fire suppression applications. IG901 contains 92% nitrogen and 8% carbon dioxide and works by lowering the concentration of oxygen of the protected area to a point that cannot support combustion.

INERGEN is non toxic and no decomposition products are created from INERGEN when exposed to heat or fire.

INERGEN is a mixture of gases naturally occurring in the earth's atmosphere. It exhibits no ozone depleting potential and does not contribute to global warming, atmospheric breakdown, or PFAS related issues.

INERGEN systems should not be used below -56°C as the $CO_2$ will solidify. The gas has no temperature upper limit of use. Limitations will come from the hardware due to pressure increase with temperature.

Designation: INERGEN, IG901, 92/00/08

Please refer to the separate safety data sheet for INERGEN information in accordance with 91/58 EEC.

## *Pressures and temperature*

INERGEN is stored in gaseous phase (it is not dissolved or liquid), hence the pressure will change with the temperature.
The designated pressure, for example 150, 200 or 300 barg, is the gauge pressure in the cylinder at 15 °C.

## *Properties*

Composition (% volume)

| | |
|---|---|
| Nitrogen | 91.6 – 92.4 % |
| Carbon dioxide | 7.6 - 8.4% |

Molar mass 29.3 g/mol

Specific vapor volume 0.82 $m^3/kg$ (T = 20°C, p = 1.0132 bar)

INERGEN/Air (relative) $\rho_r$ = 1.01
(T = 20°C, p = 1.0132 bar)

Triple point of $CO_2$ at 5.2 atm and -56.4°C



FIRE EATER

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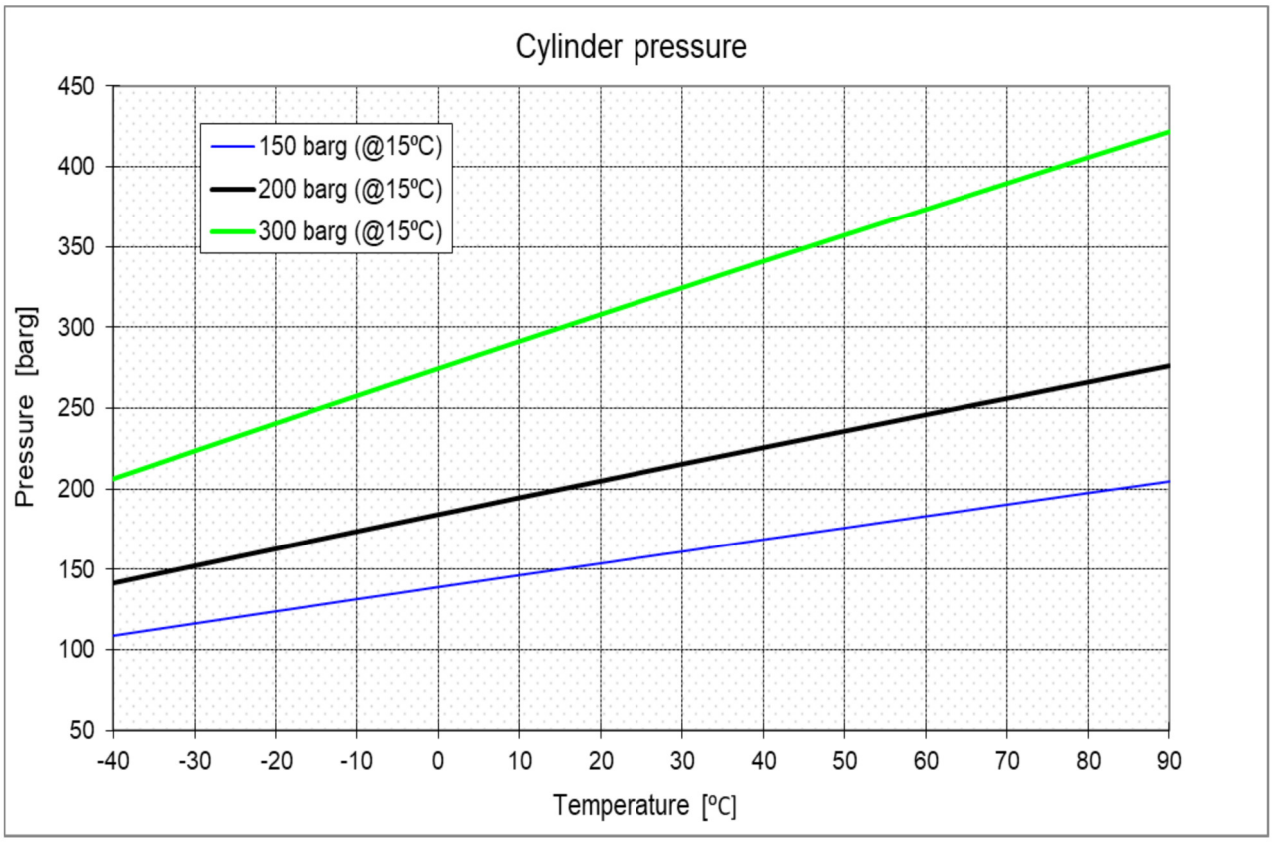


| Temperature [ºC] | Cylinder pressure [barg] | | |
|---|---|---|---|
| | 150 barg (@15ºC) | 200 barg (@15ºC) | 300 barg (@15ºC) |
| -40 | 108.7 | 141.6 | 206.6 |
| -35 | 112.5 | 147.0 | 215.2 |
| -30 | 116.3 | 152.4 | 223.9 |
| -25 | 120.1 | 157.8 | 232.5 |
| -20 | 123.9 | 163.1 | 241.0 |
| -15 | 127.6 | 168.4 | 249.5 |
| -10 | 131.4 | 173.7 | 258.0 |
| -5 | 135.1 | 179.0 | 266.5 |
| 0 | 138.9 | 184.3 | 274.9 |
| 5 | 142.6 | 189.5 | 283.3 |
| 10 | 146.3 | 194.8 | 291.7 |
| 15 | **150.0** | **200.0** | **300.0** |
| 21 | **154.4** | **206.2** | **310.0** |
| 25 | 157.4 | 210.4 | 316.6 |
| 30 | 161.0 | 215.6 | 324.8 |
| 35 | 164.7 | 220.7 | 333.1 |
| 40 | 168.4 | 225.9 | 341.3 |
| 45 | 172.0 | 231.0 | 349.4 |
| 50 | 175.6 | 236.1 | 357.6 |
| 55 | **179.3** | **241.2** | **365.7** |
| 60 | 182.9 | 246.3 | 373.8 |
| 65 | 186.5 | 251.4 | 381.9 |
| 70 | 190.1 | 256.4 | 389.9 |
| 75 | 193.7 | 261.5 | 398.0 |
| 80 | 197.3 | 266.5 | 406.0 |
| 85 | 200.8 | 271.6 | 414.0 |
| 90 | 204.4 | 276.6 | 421.9 |



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