INERGEN

General

INERGEN is an odourless colourless gas with a density similar to air. It is a clean agent for use in fire suppression applications. It contains 52% nitrogen, 40% argon 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.

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, IG541, 52/40/08

Pressures and temperature

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

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. An over pressurisation of the room will occur depending on the installed 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.

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

Properties

Composition (% volume)

Nitrogen	48.8 - 55.2 %
Argon	37.2 - 42.8 %
Carbon dioxide	7.6 - 8.4%

Molar mass 34.08 g/mol

Specific vapour volume 0.706 m^3/kg (t = 20°C, p = 1.0132 bar)

INERGEN/Air (relative) ρr = 1.18
(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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Fax +45 7023 2769

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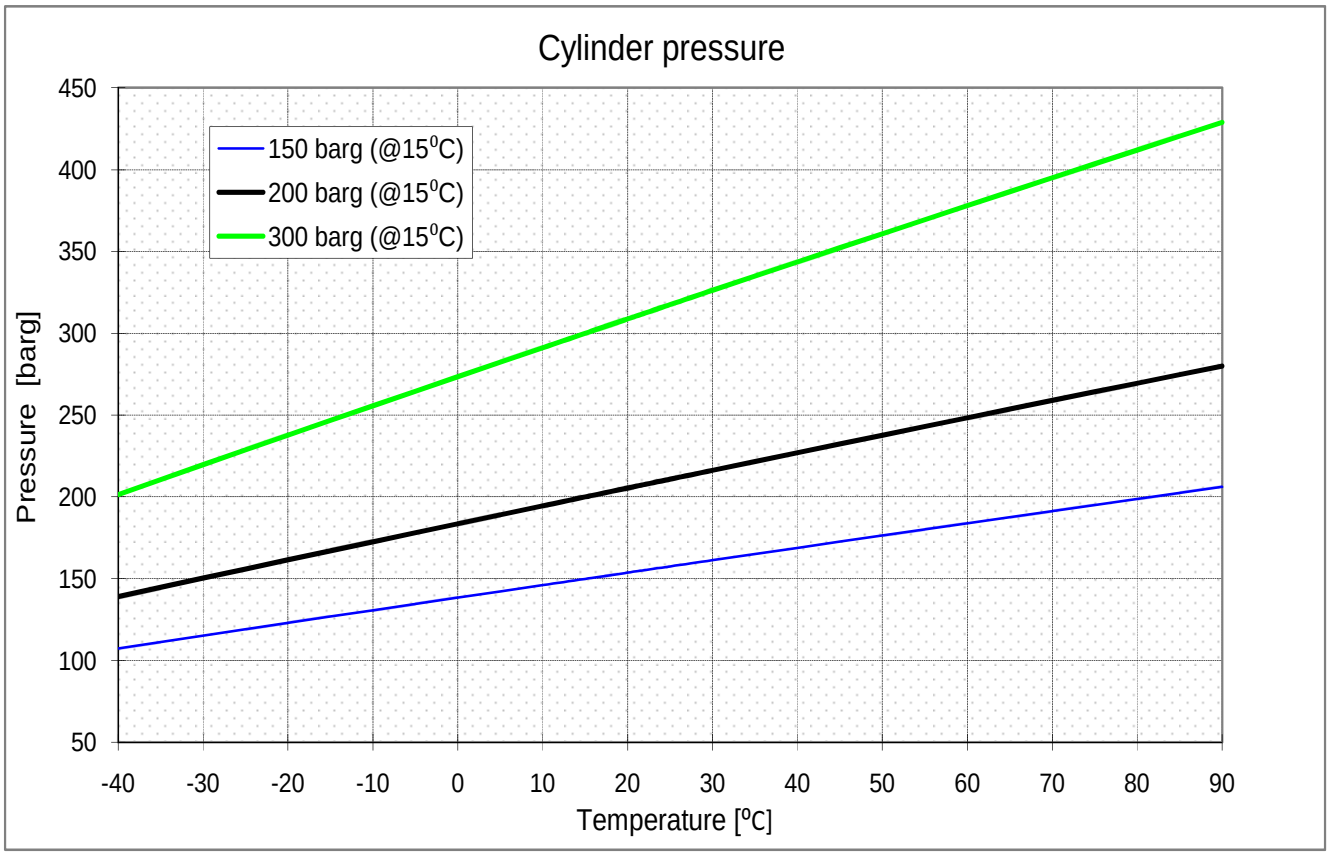

Temperature [°C]	Cylinder pressure [barg]		
	150 barg (@15°C)	200 barg (@15°C)	300 barg (@15°C)
-40	107.4	139.2	201.4
-35	111.4	144.8	210.5
-30	115.3	150.4	219.6
-25	119.2	156.0	228.7
-20	123.1	161.6	237.7
-15	126.9	167.1	246.7
-10	130.8	172.6	255.7
-5	134.7	178.1	264.6
0	138.5	183.6	273.5
5	142.4	189.1	282.4
10	146.2	194.6	291.2
15	**150.0**	**200.0**	**300.0**
21	**154.6**	**206.5**	**310.5**
25	157.6	210.8	317.5
30	161.4	216.3	326.3
35	165.2	221.6	335.0
40	169.0	227.0	343.7
45	172.7	232.4	352.3
50	176.5	237.7	360.9
55	**180.2**	**243.0**	**369.5**
60	184.0	248.3	378.0
65	187.7	253.6	386.6
70	191.4	258.9	395.1
75	195.1	264.2	403.6
80	198.8	269.4	412.1
85	202.5	274.7	420.5
90	206.2	279.9	428.9

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