

IG-100 AGENT CALCULATION SHEET

Date	15/Sep/15	PROJECT:	Approved	Checked	Revision
					1

Design Standard **NFPA2001-2012**
Height Above Sea Level (m):

Protected Area Number	# 1	# 2	# 3	# 4	# 5	# 6	# 7
Protected Area Name	Room # 1	Room # 2	Room # 3	Room # 4	Room # 5	Room # 6	Room # 7
Fire class	Class A	Class A	Class B	Class B	Class C	Class C	Class C
Length (m)	8.07	8.07	8.07	8.07	8.07	8.07	8.07
Width (m)	1.65	1.65	1.65	1.65	1.65	1.65	1.65
Ambient Height (m)	4.20	4.20	4.20	4.20	4.20	4.20	4.20
False Ceiling Height (m)							
False Floor Height (m)							
① Area (m ²)	13.31	13.31	13.31	13.31	13.31	13.31	13.31
② Total Volume (m ³)	55.90	55.90	55.90	55.90	55.90	55.90	55.90
③ Design Concentration (%)	37.20	37.20	40.30	40.30	41.85	41.85	41.85
④ Flooding Factor (kg/m ³)	0.5421	0.5421	0.6011	0.6011	0.6317	0.6317	0.6317
⑤ Cylinder size	140lt 200bar	80lt 200bar	80lt 200bar	140lt 200bar	80lt 200bar	80lt 300bar	140lt 200bar
⑥ Amount of Agent (kg)	31.33	35.80	35.80	62.66	35.80	49.76	62.66
⑦ Number of Cylinders	1	2	2	2	2	2	2
Ambient Nozzle	⑧ Quantity	2	2	2	2	2	2
	⑨ Diameter	1/2"	1/2"	3/4"	3/4"	3/4"	3/4"
	⑩ Double Row	YES	YES	YES	YES	YES	YES
Ceiling Nozzle	⑧ Quantity						
	⑨ Diameter						
Floor Nozzle	⑧ Quantity						
	⑨ Diameter						
⑪ Discharge Time (s)	60	60	60	60	60	60	60
⑫ Mass flow (kg/s)	0.480	0.480	0.532	0.532	0.559	0.559	0.559
⑬ Manifold diameter	1"	1"	1"	1"	1"	1"	1"
⑭ Agent Concentration (%)	38.19	42.29	42.29	61.79	42.29	53.42	61.79
⑮ O ₂ Concentration (%)	12.98	12.12	12.12	8.02	12.12	9.78	8.02
⑯ Allowable Strength of the Protected Area (Pa)	1000	1000	1000	1000	1000	1000	1000
⑰ Area of the Pressure Relief Opening (m ²)	0.01194	0.01195	0.01325	0.01329	0.01392	0.01395	0.01397

Quick instructions:


Fill all the information available in the gaps with this colour


 The gaps with this colour is to manually introduce the design concentration or the number of nozzles.
 AIRFIRE WORLDWIDE, recommends not to fill these gaps, to avoid incorrect designs.

NOTE: These calculation results always have to be checked by hydraulic calculations.