FirePro. Reinventing Fire Suppression

General Design Notes

FirePro Design & Installation Guidelines

Designing for FirePro is an engineering process where the **FirePro Design Calculation** must be used in the first instance. The second process in determining the appropriate solution is to look at the physical characteristics of the area to be protected (Risk) and consider:

- The layout of the Risk.
- Review any openings or ventilation in the Risk and assess the impact on Fire System Design.
- The configuration of objects within the Risk – giving special attention to the items or objects which would be the source of a fire.
- The use of the Risk – special consideration to whether the risk will be normally manned.
- Clearances which need to be observed for safe egress from the Risk.
- Clearances from objects for the FirePro units
- The methods selected for detection of a fire and activation of the Aerosol Generators.
- When selecting the particular FirePro units need to ensure that the aerosol will be able to be distributed throughout the Risk,
- Once FirePro units selected look at bracket selection and consider the use of Heavy Duty Brackets.
- When installing the units consider the strength of the wall or roof compared the weight of the FirePro unit being installed.
- If using electrical activation Shielded Fire Rated cable must be used to ensure that the system will not be affected by induced current from other devices.

FirePro Generator Models can be divided in 4 categories:

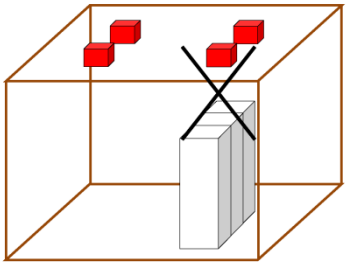
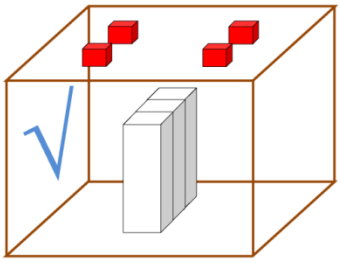
SMALL Volumetric Enclosures • Small Panels • Small electric cubicles	**Up to 0.8m^3**	**FP20, FP40, FP80**
MEDIUM Volumetric Enclosures • Large electrical panels	**Up to 10m^3**	**FP100, FP200, FP500**
LARGE Volumetric Enclosures • Computer Server rooms • Electrical rooms • Plant-rooms • Telecom rooms etc	**Up to 500m^3**	**FP1200, FP2000, FP3000**
VERY LARGE Volumetric Enclosures • Warehouses • Archive rooms • Large Plant-rooms etc	**Over 500m^3**	**FP5700**

Design & Installation Guidelines

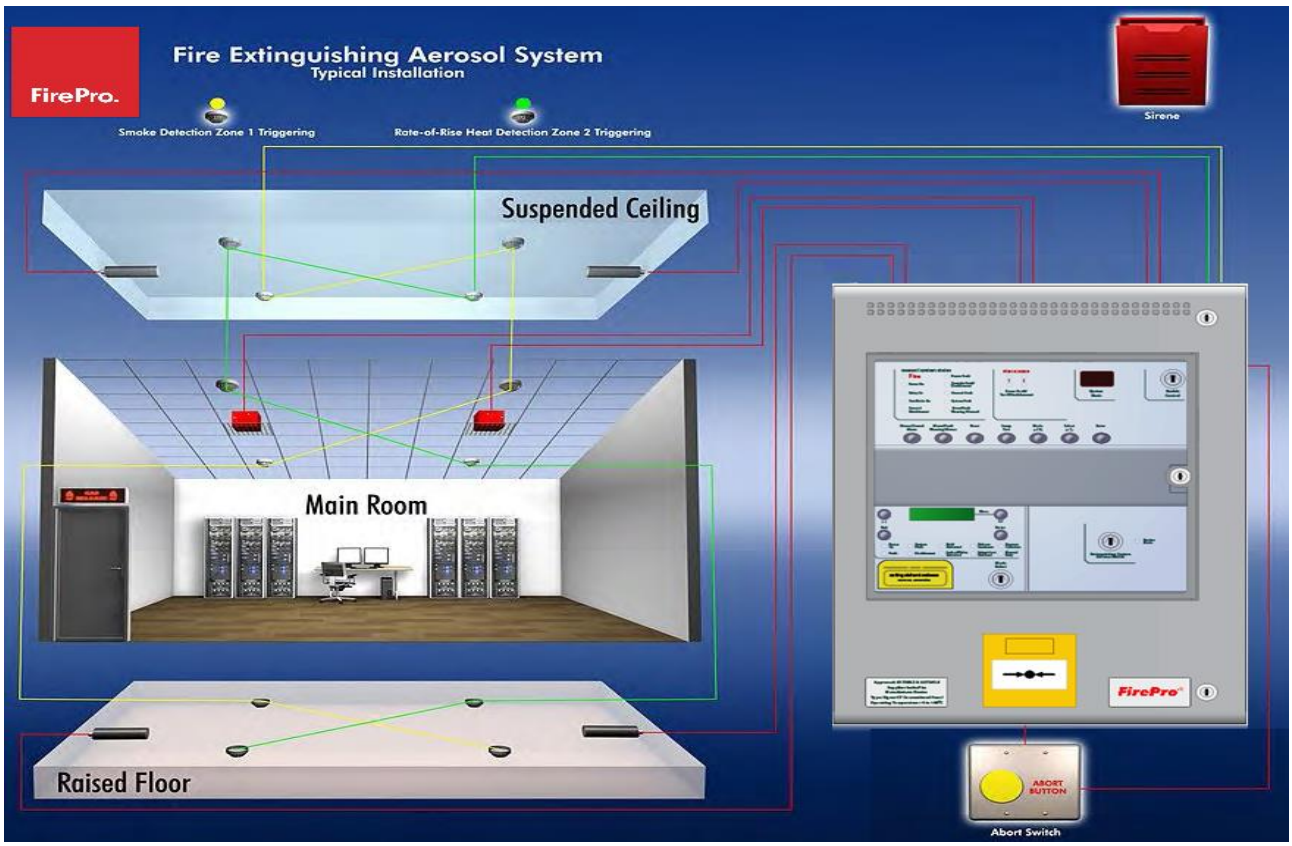
1. Follow installation temperature tables – Always allow for recommended clearance between generator discharge outlet and equipment installed within the subject room (especially sensitive equipment/electronics)
2. In case of cabinets, never direct the Aerosol Stream/flow on sensitive electronics.
3. Follow/consult Stream-Length capabilities table for each model

4. When protecting spaces, install generators with their discharging outlet facing the likely source of fire e.g. the floor and ensure the homogeneous distribution of Aerosol within the protected space
5. Use proper concentrations according to the subject room highest Hazard classification
6. Use suitable model for the application intended
7. Select small units for small volumetric enclosures and ensure that their capabilities/properties are suitable for the purpose intended – use nozzles when protecting sensitive electronics. Do not use the FP8 model for the protection of sensitive electronics. Again, never direct the Aerosol stream on sensitive electronics
8. **FP1200, FP2000 & FP3000** - Good for almost all applications – Exceptionally suitable for computer, IT rooms and similar type of applications.
9. **FP5700** use for the protection of very large volumes and for installations of 4m+ in height.
10. Aerosol designed concentration must be calculated properly and additional Aerosol concentration / Safety Factor must be provided in case of infiltration to other areas.
11. Always ensure air-tightening of room protected.

Installation Clearance - the Do's & Don'ts

Wrong Installation	Proper Installation
	
Aerosol *cannot* reach unobstructed the likely source of fire, e.g. the floor	Aerosol easily reaches the likely source of fire and good even distribution is achieved.

Typical FirePro Installation



Specifications for the Aerosol Generators

Model	No of Outlets	Stream Length (mm)	Discharge Temperature L1 (mm)	L2 (mm)	L3 (mm)	Discharge Time Min	Max
FP-0020	2	300	-	-	100	3	6
FP-0040	2	1200	-	-	100	5	10
FP-0080	2	2000	-	-	100	4	8
FP-0100	1	1000	-	-	100	5	10
FP-0200	1	1500	-	100	300	5	10
FP-0500	1	2500	-	200	500	5	10
FP-1200	1	3500	-	200	1200	10	15
FP-2000	1	3500	-	200	1200	10	15
FP-3000	1	4000	-	700	1700	15	20
FP-5700	1	8000	-	800	1800	15	20

L1 = Distance in mm between the outlet and the point where the temperature is > 300°C
L2 = Distance in mm between the outlet and the point where the temperature is < 200°C
L3 = Distance in mm between the outlet and the point where the temperature is < 75°C

AS 4487 (2013) Requirements FOR System Installation and Commissioning

The requirements for fixed aerosol systems are the same as for all Fixed System Installation

- **Time Delay Device** – a pre-discharge alarm sufficient to all evacuation prior to discharge.
- **Automatic/Manual Switch** required to allow system to be placed in manual mode when protected area is occupied.
- **System Isolate Switch** required to prevent discharge during maintenance.
- **All these functions are standard on AS approved panels**

AS 1851 Maintenance

- FirePro® Aerosol Generators are to be maintained in accordance with AS 1851.
- Periodic - visual Inspections of all major components. Monthly / Quarterly / Bi-annual. This period is determined by an evaluation of the environment for the installation.
- Annual - Testing, cleaning of all components and detailed review of system. (1 Hour)
- Log Book required for each system.
- System test equipment is required to perform annual testing.