

# Atrium System Model APS

## The Model APS for Atriums.

*The water supply is determined by the most demanding area in the build. It often ends up being in atriums, these tends to be turning up more and more and their foot print is getting bigger. Given the height of these it is often very difficult to come up with a good solution that doesn't "blow" the water requirement for the whole fire protection system.*

*The solution is horizontally based fire extinguishing systems. These often requires a significant amount of water supply (5mm/min/m<sup>2</sup>) and 60 min.*



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The model APS is a atrium system which is developed and tested in accordance with the guidelines of CEN/TS 14972, annex B , which was used to develop test standard DFL TM 70111-04

The design of the system is very simple. A 6m Stainless Steel 316L pipe with integrated predrilled/threaded holes for nozzles, and four different micro-nozzles each with their own distinct coverage pattern.

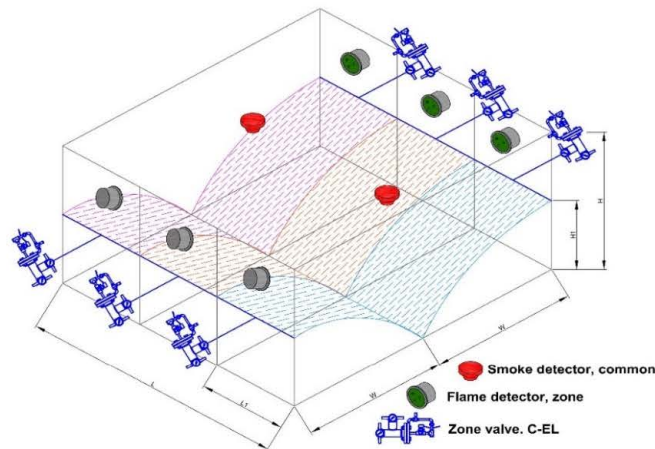


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General Description				
Atrium System Type	A	B	C	D
Minimum water pressure (bar)	5	6	10	6
Maximum working pressure (bar)	16	16	16	16
K-factor 6m pipe (metric (l/t/√bar))	37	52	62	26
Flow 6m pipe (L/min)	83	127	196	64
Drop size	DN <sub>90</sub> < 300 μm			

Hydraulic System				
Water density (mm/m <sup>2</sup> )	2	2,3	2,6	2,3
Design area and system operation time	As for sprinklers installed in similar hazard groups			

Length (L)	Unlimited		
Height (H)	Unlimited		
Width (W)	Type A	8 meter	
	Type B	10 meter	
	Type C	13 meter	
	Type D	5 meter	
Nozzle height (H1)	3 meter to 7 meter		
Zone length (L1)	Unlimited		



## Zone Design:

- Design for worst case scenario.
- Tradeoff between zone cost and zone water consumption.

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Lalandia, Indoor Amusement Park. Protected Width 20m.



M O R E   T H A N   J U S T   F I R E   P R O T E C T I O N

# *Atrium System Model APS*

Main Office of Arla, Danish Dairy Company. Protected Width 26m.



M O R E T H A N J U S T F I R E P R O T E C T I O N

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MORE THAN JUST FIRE PROTECTION

# Capitol Theater Singapore



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