

# Water Mist in Care Homes & Hospitals in the Nordic Territory

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## •AquaSonic

### – Twin Fluid Technology

- 7 Bar
- Atomizer: a Super Sonic Generator creating droplets 20 – 50 times smaller than conventional systems and with 70 % lower water consumption than a HP Water Mist
- Special Hazard Applications, FM approved



## •AquaFog

### – High Pressure Water Mist Systems

- 50 - 70 bar
- Open and closed head nozzles
- Special Hazard applications, FM approval



## •ULF

### –Low Pressure Water Mist System

- 7 – 16 bar
- Standard sprinkler components, except for the nozzles
- FM/NFPA LH, EN-12845 OH 1, Residential



# Care Homes & Hospitals

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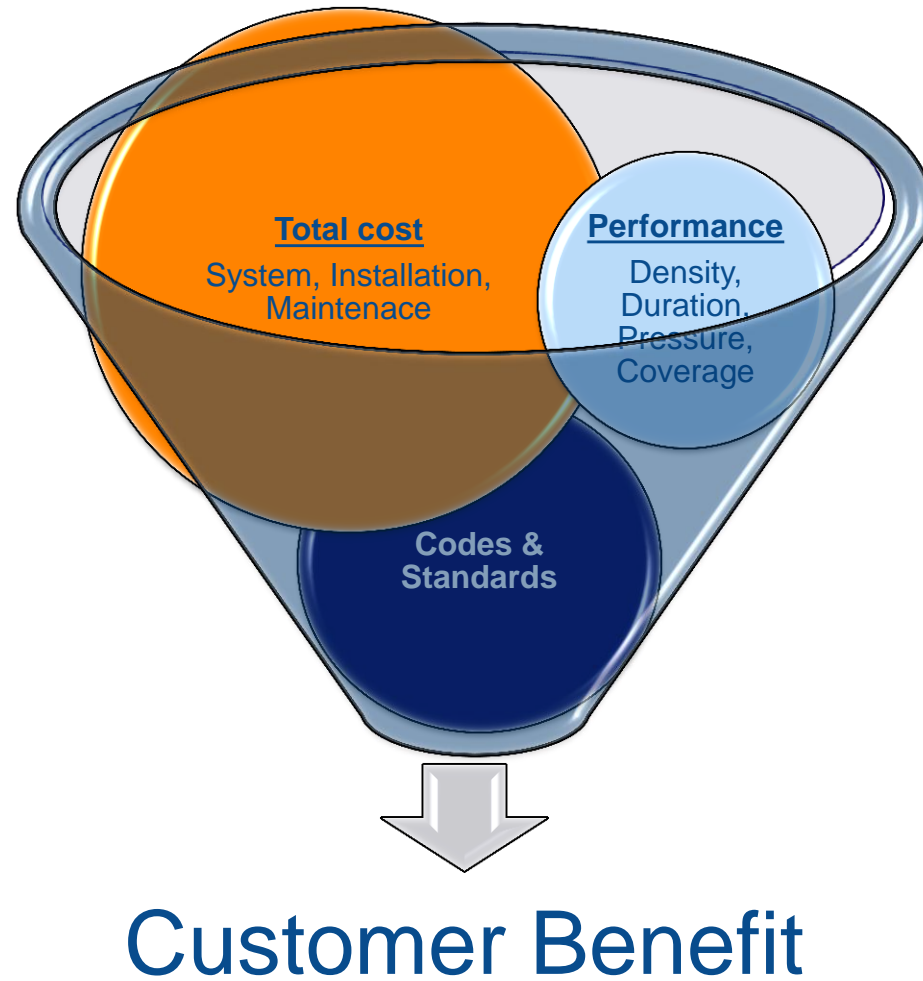
- Hospital - normally OH 1
- Care Homes - INSTA 900-1 and OH 1
- Adapted Housing for Disabled People - Insta 900-1 and OH 1
- Legislations drives the installation of Automatic Extinguishing systems in above applications
- New group of customers – New demand and requirements
- Fear of water, little experience and lack of knowledge influence the decisions and choice of solution

## ***Types of Automatic Extinguishing Solutions and when they can be installed:***

- Standard Sprinkler - *Always*
- Residential Sprinkler - *When the type of occupancy allows*
- Easily mountable automatic extinguishing systems – *For use in single family dwellings and apartments with high risk people - not standards are applicable*
- Water mist – *When the specification or AHJ allows the system as an equivalent to Standard Sprinklers*

# Cost, Benefit & Value

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# Standard Sprinkler

- Standard Sprinkler (CEN 12845)

- OH 1; 5 mm/min/m<sup>2</sup>

- Advantages:

- Robust and proven technology
    - Various of design options
    - Easy to combine with other Hazard Classifications
    - Low cost solution - when water reservoir is not needed
    - Low pressure
    - Low maintenance cost

- Disadvantages:

- High water demand and flux density
    - Higher cost when water reservoir is needed





# Residential Sprinkler

## • Residential Sprinkler (INSTA 900-1)

### - Building Type 1: 2.04 mm ; 1 - 2 spk; 10 min duration

- ❑ One and two family dwellings
- ❑ Row houses having three levels above the ground level, one attic, and one basement level; or
- ❑ Residential buildings with sleeping units up to a maximum of three stories in height and one basement level, excluding any building arranged to permanently house people who need assistance exiting the building

### - Building Type 2: 2.29 mm ; 3 - 4 Spk; 30 min duration

- ❑ Buildings arranged to house residential occupancies up to a maximum of four stories in height and one basement level, excluding any building arranged to permanently house people who need assistance exiting the building

### - Building Type 3: 4 mm; 4 Spk; 30 min duration

- ❑ Buildings, or parts of buildings, arranged to house people who need assistance exiting the building
- ❑ Buildings of 5 stories in height or more, arranged as residential occupancies.

**Buildings that do not permanently house people who need assistance exiting the building**

# Residential Sprinkler

- Residential Sprinkler (INSTA 900-1)

- Building type 3; 4 mm/min/m<sup>2</sup>

- Advantages:

- Designed to save life

- Various of design options

- Easy to combine with other Hazard Classifications

- Low cost solution - when water reservoir is not needed

- Very low pressure

- Low maintenance cost

- Disadvantages:

- High water demand and flux density

- Higher cost when water reservoir is needed



# Water Mist

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- High Pressure Water mist

- OH 1; 1,5 – 2 mm/min/m<sup>2</sup>

- Advantages:

- Low water demand and flux density

- Smaller piping offers esthetical exposed pipe installations

- Disadvantages:

- High cost solution

- High maintenance cost

- Limited design variations

- Hard to combine with other Hazard classifications

# Water Mist

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- Low Pressure Water mist

- OH 1; 1,5 – 2,5 mm/min/m<sup>2</sup>

- Advantages:

- Low water demand and flux density

- Often a cost effective solution when a sprinkler solution requires a water reservoir or pump

- Maintenance cost equal to standard sprinkler

- Standard "off the shelf" material, except for the nozzles

- Disadvantages:

- Almost always need of a pump

- Limited design variations

- Limitations to combine with other

# Kolding Sygehus (Hospital) - Denmark



- OH 1
- 500 pcs Aquamist nozzles ULF AM 27 & AM 29
- Value for the customer
  - New Technology
  - Environmental friendly profile – low water consumption & energy consumption

# Home for Elderly People, Lahti - Finland

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- OH 1
- 400 pcs Aquamist nozzles ULF AM 27 & AM 29
- Value for the end user
  - Limited water resource (City main), no water reservoir needed

# Vasa Sjukhus (Hospital) – Finland

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- OH 1 (small areas OH 2)
- 2500 pcs nozzles
- New installation and retrofit
- OH 2 protected with deluge sprinkler system
- Value for the end user
  - Limited water resource (City main), no water reservoir needed

# Why water mist

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- When the water source is below what a Standard Sprinkler system require – depending on which Water Mist system – a Water Mist solution may be an cost effective solution
- When a water reservoir is required – depending on which Water Mist system – a Water Mist system may be cost effective solution
- In occasions when the water density from a Standard Sprinkler system may give significantly more water damage than a Water Mist system. These occasion are lot less than the perception of what many people believe.





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Thank You

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