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Danfoss
SEMCO
FIRE PROTECTION



The Isala Hospital

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Unica:

- Installer; Family business for > 80 years
- Several establishments all over the country
- Some specialized business units < incl. high pressure water mist >
- 2000 employees
- Most national and some international projects



High pressure watermist installer

For fire alarm- and watermist systems
in one hand:

- Design
- Engineering
- Prefabrication
- Erection
- Commissioning

The Isala Hospital



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The Isala Hospital, some facts.....

- Building period: 2009 – 2013
- Area: 108.000 m²
- Architect: Alberts & Van Huut, The Netherlands
- Advisor fire safety: Deerns, The Netherlands
- Inspection body: R2B, The Netherlands



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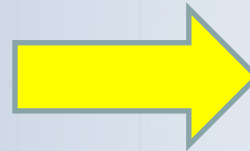


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Challenges:



Several different hazard classifications:

- Lh / OH1: high rooms and atria
- Storage of clothes and nursing materials
- OH3: supermarket

Extra costs?
€ versus benefits...

ISALA Hospital Zwolle

- Initial plan: conventional sprinkler systems



If you can't beat the fire, than drown it



Arguments for watermist as alternative

- No large water buffer
- No big pipes
- Pipes are easier to bow
- Small installation space
- Less and smaller feed through passages in walls and floors
- In case of fire: less water damage (very expensive equipment)
- Sustainability
- Less chance of injury
- No separate system needed for computer rooms

Total costs of ownership

- [TCO English IWMA.xlsx](#)

Technical data

- Risk classification
 - Ordinary Hazard 1 for most areas
 - Ordinary Hazard 1 with 8m ceiling
 - Ordinary Hazard 3 for shopping areas
 - Ordinary Hazard 3 pre-action with automatic fire detection for special rooms
 - Deluge system with open nozzles and automatic fire detection for atria

Technical data

- Water supply;
- 2 Diesel driven pump sets ,each delivering 700L/min (2x100% capacity)
- Each set consisting of 4 pumps (175L/min/pump gives 700l/min)

Technical challenges.....

- OH3 shopping area with ST5 storage



OH3 test programme: Before the test



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After the test



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Technical challenges.....

- OH1 8 mtr high



OH1- 8m test

- Trondheim Norway



Technical challenges.....

- Cold storage area >> freezing conditions



Solution:

- Non toxic, non flammable anti freeze solution upto – 50 Celcius

Technical challenges.....

- MRI Room : Faraday cage with high stray currents



Solution:

- High current resistance, 240 bar tested hose connection



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**Thanks for your
attention!**

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