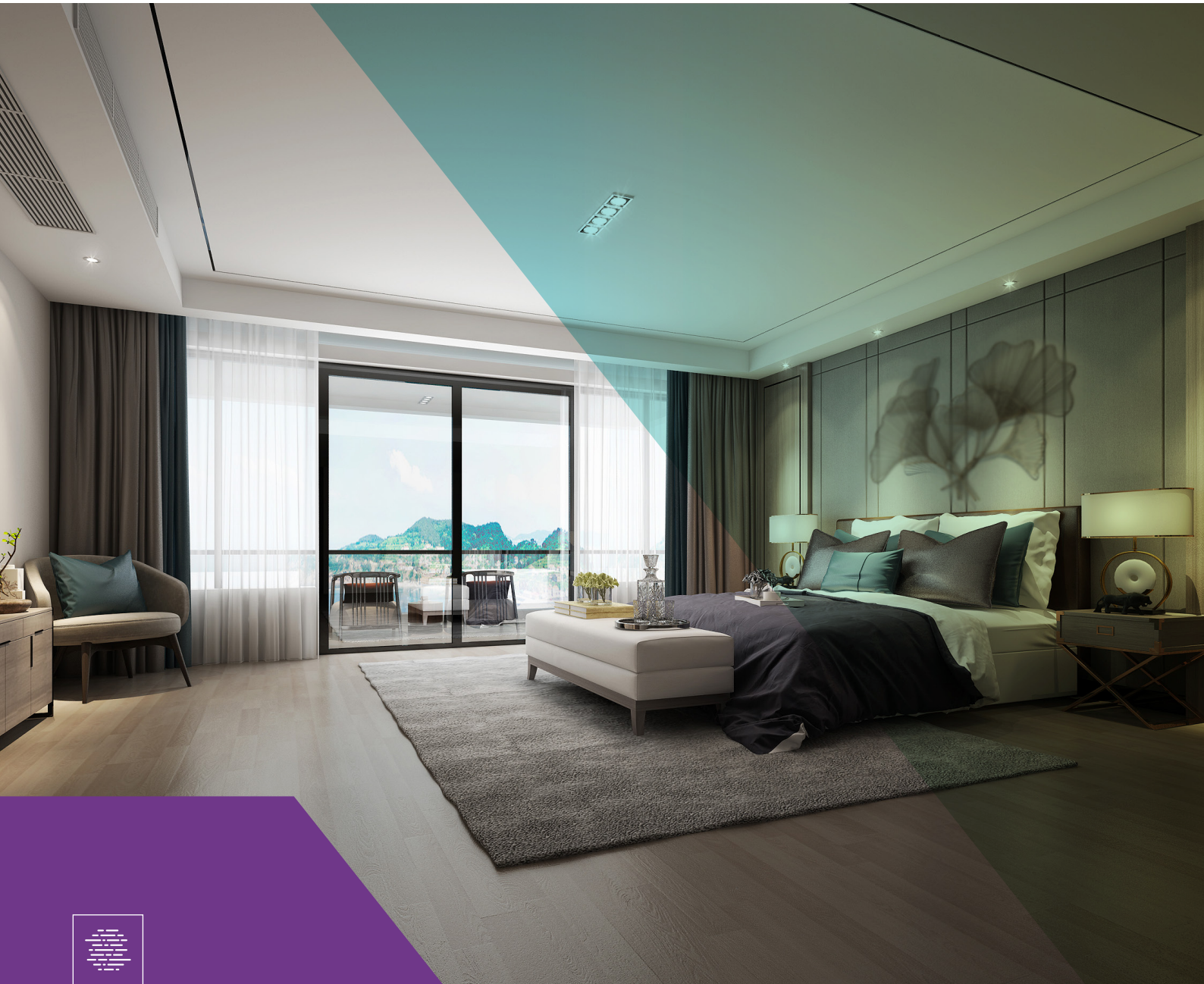




Trusted above all.



## Water Mist Systems for Commercial and Industrial Applications

Efficient low pressure technology to  
protect people, assets and the environment







Viking low pressure water mist:  
Reliable fire protection with water  
and space efficiency

Low pressure water mist systems produce much smaller droplets of water than a traditional sprinkler system. These smaller droplets are still able to cool down the fire and control its growth. Low pressure water mist can bring **financial, environmental and operational benefits** to building owners and fire protection specifiers.

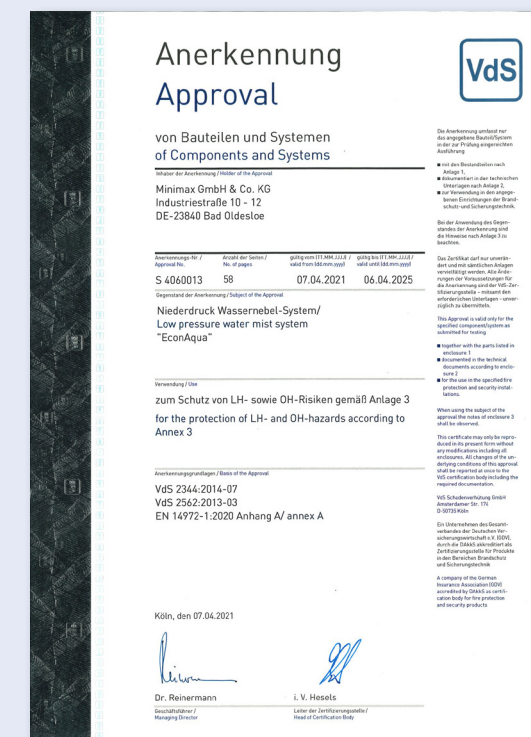
Water mist technology utilizes the physical properties of water more efficiently than classic water fire suppression systems. The water is emitted through special nozzles and sprinklers as a very fine spray under increased operating pressures. The result is a larger total surface of the water, allowing it to absorb heat and to evaporate more quickly. The cooling and smothering effect allows for particularly effective firefighting using a minimum amount of water.

Viking provides two types of low pressure water mist systems: EconAqua for commercial buildings and ProCon for industrial risks.

The **EconAqua** series uses innovative low pressure water mist technology to offer a very efficient way of firefighting in office buildings, hotels, underground car parks and in buildings with similar fire hazard profiles. People, assets and the environment are protected 24/7.

The **ProCon** series also adopts low pressure technology. The systems are flexible enough to tackle many severe fire risks, including conveyor belts, diesel emergency power generators, machinery spaces, non enclosed equipment such as steam turbines and generators, cable trays, ducts and cable distribution rooms.

- **Third-Party Testing and Approvals:** The system is tested and approved by recognized ISO17025 laboratories, including VdS, ensuring it meets high standards for safety and performance.
- **Compliance:** Meets EN14972 standards and the requirements of NFPA 750, ensuring compatibility with European and international fire protection regulations.
- **Low Pressure Operation:** Features market-leading low-pressure operation, which results in more economical pipe sizing, reducing installation costs.
- **Aesthetic Flexibility:** The system can be equipped with concealed nozzles and is available in nearly any colour, providing aesthetic flexibility for integration into various building designs.
- **Operating Pressure:** Designed for a maximum operating pressure of 16 bar, ensuring compatibility with many standard industry components.
- **Ease of Use:** The system's components and design allow engineers experienced with traditional sprinkler systems to adopt it with minimal additional training
- **Versatile Nozzle Options:** The system features different types of water mist nozzles to cater to specific needs. These can include:
  - **Concealed Nozzles:** Ideal for aesthetic areas where the system is discreet but still offers maximum protection.
  - **Standard and High-Performance Nozzles:** For areas with higher fire risks, providing efficient suppression with minimal water usage.
  - **Customizable Coverage:** Each nozzle is chosen based on room size, ceiling height, and specific risk assessments to ensure optimal coverage and suppression.



EconAqua system pump room





## EconAqua and ProCon water mist - ideal fire protection solutions



Viking's low pressure water mist systems are most beneficial when limited water is available and when there is a concern about potential water damage in sensitive or high-value areas.

For 100 years the name Viking has represented global leadership in fire protection. We lead the industry in quality and innovation because fire protection is all we do, and our single focus is to support and enhance the efforts of independent fire sprinkler contractors. We

believe that protecting people and property from fire transcends the bottom line, and we never stop asking "what do our customers need to be successful?" Our water mist EconAqua and ProCon series keep within that company ethos.

### Commercial applications

#### Education Facilities



Fires in educational institutions are a serious threat, causing significant harm to students, staff, and the local community. A low-pressure EconAqua water mist system offers an advanced, reliable solution for safeguarding such critical environments. The system can be designed with concealed nozzles that blend seamlessly into the building's architecture, **maintaining the aesthetic appeal of the learning environment** while offering maximum protection.

#### Hospitals



Fires in hospitals are a serious threat, causing significant harm to patients, staff, and the local community. A low-pressure EconAqua water mist system offers an advanced, reliable solution for safeguarding such critical environments. The system can be designed with concealed nozzles that blend seamlessly into the building's architecture, while offering maximum protection.

## Commercial applications

### Commercial applications

#### Offices



Offices need to be equipped to properly contain a fire situation. High rise buildings pose unique problems for fire fighters. EconAqua systems **control fire growth to assist with occupant exit** and the safety of the rescue services attending the fire. EconAqua concealed nozzles offer architects aesthetically pleasing solutions to the more conventional exposed water mist nozzles. **Smaller pipe diameters ensure space in ceiling voids is kept to a minimum.**

#### Car Parks



More and more car parks are being built under sleeping areas, An EconAqua system tested to the latest car park protocol offers the best security needed to ensure these high risk areas are protected. **EconAqua dry systems ensure that freezing pipe in unheated areas is never a problem. Moreover, EconAqua products reduce electricity and water consumption, optimize space and enhance safety.**

#### Hotels



Owners and operators of hotels need to ensure that the safety of their guests is paramount at all times. EconAqua sidewall sprinklers are specially designed with hotel rooms in mind, **they offer discreet protection to sleeping areas.** Different nozzle types provide comprehensive fire protection throughout the hotel, such as pendent sprinklers, which ensure that corridors and other public areas are well-covered in the event of a fire

#### Data Centers



With the growing reliance on processing data, reliability and operational continuity has taken center stage. Water mist is an essential element of risk mitigation. Viking EconAqua is available as a preaction system or preaction sprinkler for added safety in the unlikely event of a system release. **Dry pipework and closed nozzles result in only the activated heads discharging over the fire. Water mist systems minimize damage to sensitive equipment.**

#### Museums & Heritage




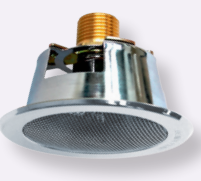

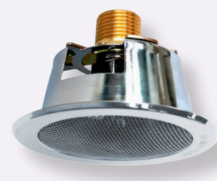









Museums and heritage buildings can pose complicated fire risks due to occupants unfamiliar with their surroundings. Installing a water mist system can ensure owners and operators can comply with building regulations and ensure a compliant and safe structure for visitors and employees alike. Water mist systems minimize damage to valuable and sensitive equipment.

**Note regarding applications:** Always consult the technical documentation and approvals for your project-specific usage requirements.





Commercial Applications													
System	EconAqua K14 Series Nozzles								K40+ Series Nozzles		EconAqua K16 Series Nozzles		
Nozzle type	SP	SU	SU	Concealed	SP-EN-3	CCP-EN-3	Dry	Preaction	Sidewall	EC <sup>1</sup> Sidewall	SP	SU	Dry
Image													
K-factor	14	14	14	14	14	14	14	14	40	57	16	16	16
Nozzle pressure (bar)	5	5	5	5	5.0	5.0	5	5	5	5 / 6	5	5	5
Maximum working pressure (bar) <sup>3</sup>	16	16	16	16	16.0	16.0	16	16	16	16	16	16	16
Nozzle coverage (m <sup>2</sup> )	16	16	16	12	16	13	12	12	15	21	12.25	12.25	12.25
Maximum spacing (m)	4.6	4	4.6	4	4.0	3.6	4	4	5	6.5	3.5	3.5	3.5
Maximum ceiling height (m)	5	2.7	0.8	5	5	5	5	5	2.8	2.8 / 4.1	-	3.6	3.6
System types <sup>2</sup>	Wet / Dry / Preaction								Wet / Dry / Preaction				
EN14972:1 & Protocol No.			EN-6		EN-2* & EN-3	EN-3			EN-3	EN-3	EN-5	EN-5	EN-5
Approval/Certification**	VdS	VdS	VdS	VdS	BFL**	BFL**	VdS	VdS	VdS	VdS	VdS	VdS	VdS
Apartments													
Archives (>50 m <sup>2</sup> +30 min FR <sup>4</sup> )													
Banks													
Offices													
Car park areas (enclosed) up to 2.7 m high													
Car park areas (enclosed) up to 3.6 m high													
Corridors and means of escape													
Cycle storage (above & below ground)													
Data processing & data centers													
Exhibition areas													
Heritage buildings													
Hospitals & care homes													
Hotels general areas													
Hotel rooms EN-3 risk													
Libraries (reading room & similar)													
Libraries (storage <50 m <sup>2</sup> )													
Enclosed multi-storey car parks up to 3.6 m high													
Museums													
Penal institutions & prisons													
Railway stations (excl. shops)													
Restaurants													
Schools & universities													
Suspended ceilings													
Technical areas (<50 m <sup>2</sup> + 30 min FR <sup>4</sup> )													
Underground car parks up to 2.7 m high													
Underground car parks up to 3.6 m high													

Notes: <sup>1</sup> EC = Extended Coverage; <sup>2</sup> CPVC for wet systems only; <sup>3</sup> CPVC MWP 12 bar; <sup>4</sup> FR = Fire Resistant; \* Selected EN -2 risks without storage refer to DIOM manual for further information; \*\* ISO 17025 Certificated testing Laboratory



## Industrial applications

### Cement factories



Cement factories present complicated fire dangers due to the large buildings and infrastructure associated with a complex manufacturing process. Operators can comply with building regulations, and ensure a compliant, safe working environment. Asset protection, employee safety and business continuity are maintained.

### Cable tunnels



Cable tunnels give rise to a variety of fire hazards due to the nature of electrical fires. Slow burning and often in non-occupied areas. They can be difficult to control and extinguish if left to propagate. Operators can comply with building regulations, and ensure a compliant, safe working environment. Asset protection, employee safety and business continuity are maintained.

### Water treatment



Water treatment plants can carry tricky fire risks. The building layouts are complex due to requirements for power generation, pumps and associated cable infrastructure. Operators can comply with building regulations, and ensure a compliant, safe working environment. Asset protection, employee safety and business continuity are maintained.

### Steelworks



Steelworks can lead to challenging fire dangers. The building layouts are complicated due to requirements for power generation, pumps and associated cable infrastructure. Operators can comply with building regulations, and ensure a compliant, safe working environment. Asset protection, employee safety and business continuity are maintained.

**Note regarding applications:** Always consult the technical documentation and approvals for your project-specific usage requirements.

### Did you know?

EconAqua systems use up to 85 % less water than a classic sprinkler system.  
ProCon systems operate with up to 60 % less water compared to classical deluge systems.



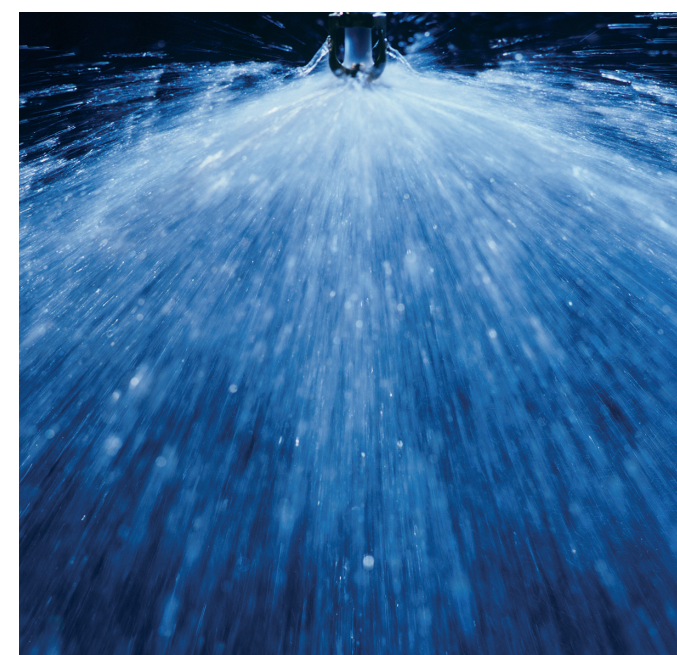
**ProCon PC-C systems** use innovative low pressure water mist technology.

Thanks to their special nozzle design, ProCon PC-C nozzles dissipate the water so finely that, even at the lowest operating pressure of 4 bar, they produce water droplets with a fine distribution to take full advantage of the benefits of water mist technology.

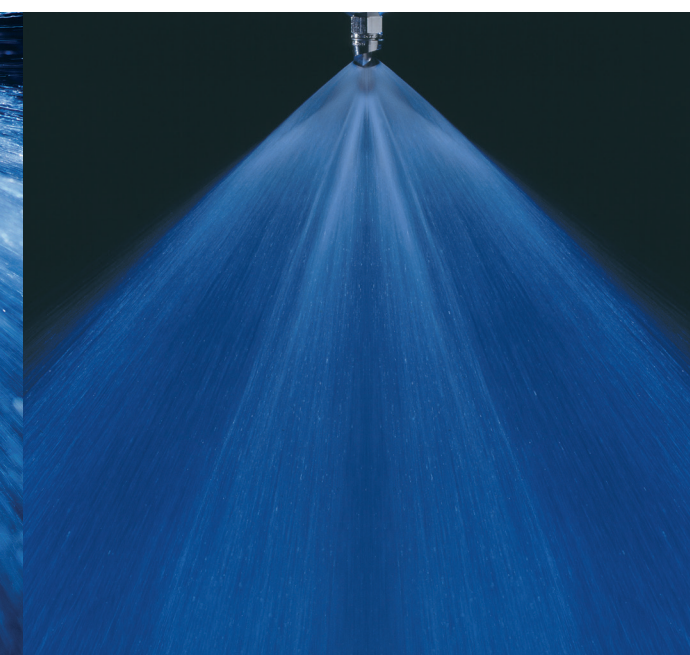
As part of the full system approval from VdS Schadenverhütung, the ProCon PC-C nozzles have been subjected to rigorous component tests and full scale cable tray fires to prove their capabilities

**ProCon PC-M systems** can protect sensitive machinery with low volumes of water by benefitting from the increased heat capacity of smaller water droplets. In addition, ProCon PC-M systems can also be used for cooling, e.g. of glass cladding or steel structures.

Numerous fire tests have proven that ProCon low pressure water mist systems are suitable for myriad applications.





Classic sprinkler



Water mist nozzle





Industrial Applications			
System	ProCon PC-C	ProCon PC-M	
Nozzle type	MXZD	MXID2	MXID2
Image			
K-factor	10	6	9
Nozzle pressure (bar)	4	4	4
Maximum working pressure (bar)	16	16	16
Nozzle coverage (m²)	-	-	-
Maximum spacing (m)	2.5	1.6	1.6
Maximum ceiling height (m)	-	-	-
System types	Deluge		
EN14972 <sup>1</sup>	All nozzles listed for use with EN14972-1. Refer to relevant DIOM for individual Test Protocol Approval.		
Approval	VdS		
Cable trays & tunnels			
Compressors			
Conveyor belts			
Desalination plants			
Generators			
Machinery			
Motor test benches			
Presses			
Stamping machines			
Steelworks			
Structural cooling			
Transformers			
Turbines			
Water treatment plants			
Note: <sup>1</sup> EN 14972-1 and relevant test protocols part 2 to 17			

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