

AQUASYS HIGH PRESSURE WATER MIST SYSTEM

Case Study: Semi-stationary and fixed systems for Industrial estate



AQUASYS
firefighting is responsibility



Ing. Lukas Greiner
Project Engineer
AQUASYS Technik GmbH

Lukas Greiner works since 2016 as project engineer at AQUASYS and is responsible for design and cost calculations of High Pressure Water Mist Systems during the tendering stage. Lukas has diplomas in mechanical engineering and business management, more than 7 years experience in different industry fields and several company-based training certificates in high pressure water mist technology.

Typical applications and challenges

**Successful installed AQUASYS systems
shown on examples**

**Fixed systems and
semi stationary systems**



Specific applications in focus

- △ Machine- and hydraulic rooms
- △ Cable tunnels & Switch rooms
- △ Selected production areas
- △ Exhaust gas and filter systems



What are the biggest risks?

- △ Cables and electronic systems
- △ Hydraulic fluids, lubricants or fuels
- △ Vapours and dust mixtures, dust deposits
- △ Nested fires (under the hood, etc.)



Requirements of the operator

- △ Clean and efficient systems
- △ Savings in the service and maintenance
- △ Fast return to operation after activation
- △ Frequent and easy extensions of new areas



Water Mist in the industry

- ▲ Water Mist systems successfully deal with solid or liquid fires.
- ▲ Electric, diesel- or gas-powered Power Pack solutions available
- ▲ Smart system design allows to fit into the existing environment

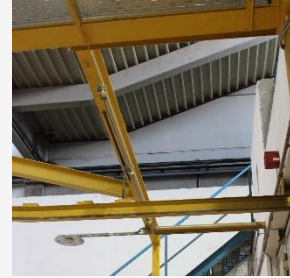


Typical complexity factors

Factory premises	Special machine protection	Roof and room geometry
Protected areas distributed in different places in the factory	Pipes and nozzles placed near heat vapours, liquids, dust	Interfering contours in the ceiling area (dome lights, fans, ventilation, lighting, beams)
Several extensions of the building	Spray obstructions to be taken into account	Defining sections (size directly affects the water amount)
Components to be installed in remote areas	Consideration of the min/max distance to the objects to be protected	Considering obstacles in the room, pit or false ceiling

Example: production areas

Success factor: individual system design and special mounting kits for piping



Example: remote areas

Success factor: pre fabricated piping kits and inline nozzle heads for direct integration into the pipe



Example: electrolyte plant

Success factor: precise spraying of water droplet for sensitive processes and use of high-purity water



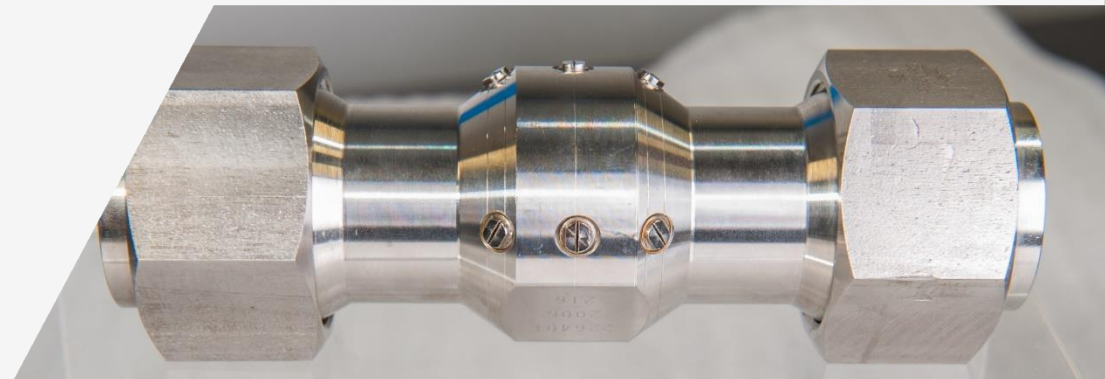
Example: exhaust & filter systems

Success factor: small and light piping, easy to integrate into the filter system or exhaust air ducts



Smart design allows flexibility

- △ Compact and modular designed components easy to integrate
- △ Lower overall weight than sprinkler system
- △ Innovative spray technology
- △ High grade stainless steel



The use of mobile power packs

- △ Semi stationary systems for large industrial estate
- △ Supply unit integrated into emergency vehicles
- △ Connection points to be placed in easy accessible locations
- △ Fix installed piping system easy to extend



No place for pump equipment?

- △ Customized container solutions based on environmental situation
- △ Heated, isolated, high secure version, etc
- △ Plug and play solutions
- △ Use of standard sizes 10ft, 20ft or 40ft



Nozzle placement options

- △ Application-based adapted spray concepts
- △ Ideal distribution or exact and local cooling effect
- △ Nozzles resistant against heat radiation, vapours, liquids, dust
- △ Protection caps available



Integrated solutions - WMG

- △ Initial fire fighting tool – WMG
- △ Weight of only 3,1 kg
- △ Hose reel up to 50m length
- △ Tailored accessories allowing individual solutions



Conclusion

- △ Customized concepts allow to adapt system perfectly to the client environment
- △ Future extensions of the systems easy made
- △ Ideal for complex fire scenarios
- △ Easy retrofitting





IWMA
International Water Mist Association

AQUASYS
firefighting is responsibility

Thank you!

www.aquasys.at

