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ULTRA FOG[®]

FIRE EXTINGUISHING SYSTEM



Welcome to Ultra Fog

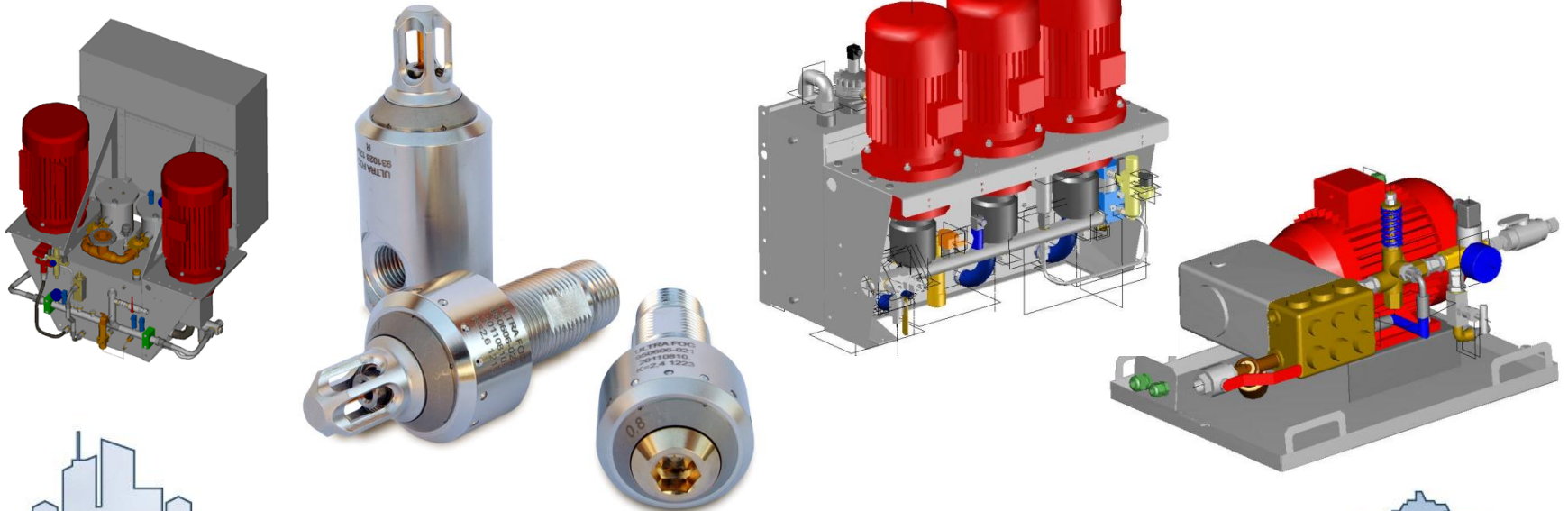


We are represented in Scandinavia, Europe, Asia and North America.



Ultra Fog – The company

- Ultra Fog was founded 1990 and has since then been working with high-pressure water mist sprinkling.
- Applications for Land, Marine, Off Shore, Navy, Trains & vehicles
- Our system is approved by; BV, DNV, Rina, MCA, ABS, GL, Lloyds and SMA
- Fire testing according to IMO, FM, ISO at SP, SINTEF, SWRI, TESI



IWMA Seminar, Intersec 2013

Agenda

1. Prison cell nozzle
2. Functional test of an automatic sprinkler nozzle
3. Protection of high voltage transformers

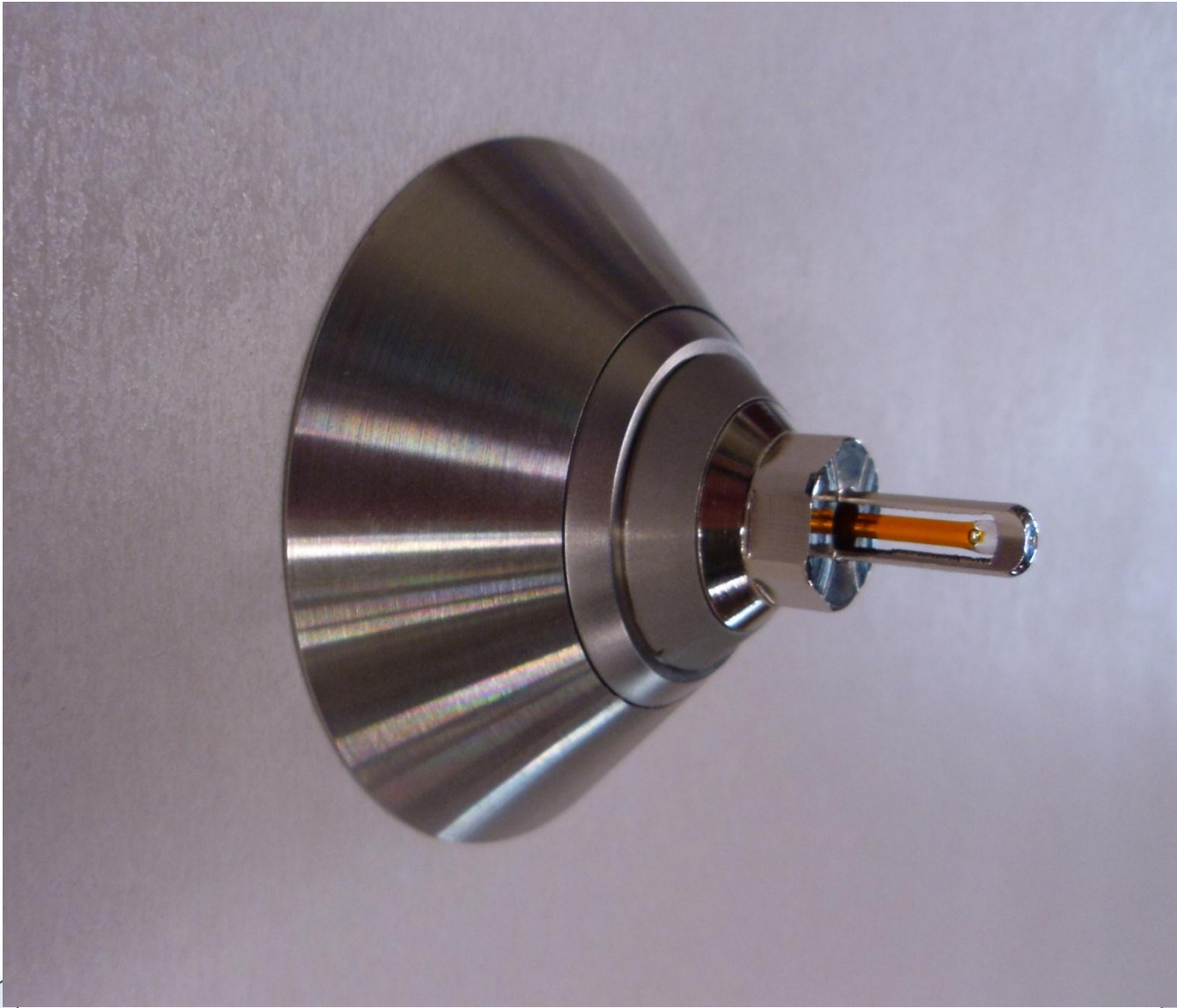


Prison cell protection

- Ministry of Justice, UK
- Fire test performance (1,5 MW fire load)
- Anti ligature design
- Break point (designed weak link) max 15 kg load

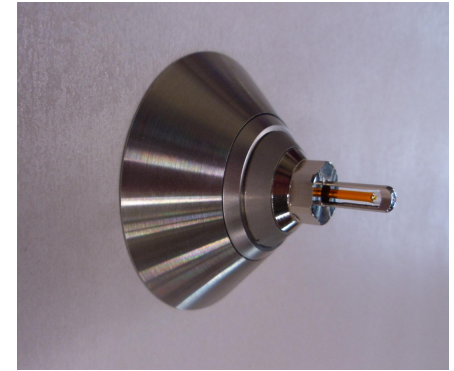


Prison cell protection



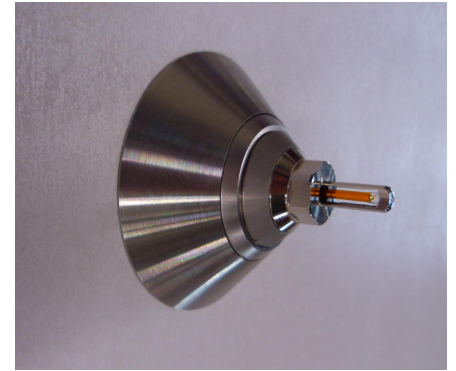
Prison cell protection

- Fire test performance (1,5 MW fire load)
- Fire test summary: Fire suppression and tenability within required targets.



Prison cell protection

- Fire test performance (1,5 MW fire load)
- Nozzle k-factor 0,93
- 57°C (RTI=19, F2-bulb)
- System pressure 100 Bar
- Breaking load of bulb cover **9 kg**.
- Reference: Scottish prison service >700 nozzles, 2 buildings.
- Pump unit P-35 (frequency controlled)
- Nozzle reference for IMO 12m² cabins



Testing of sprinkler heads

Questions:

- Can the system be more accurate on activation?
- Can you test an automatic sprinkler head?
- How do you verify the function of an automatic sprinkler nozzle?

- Answers: YES!



Testing of sprinkler heads

With a test tool designed for bleed out air you will receive following benefits:

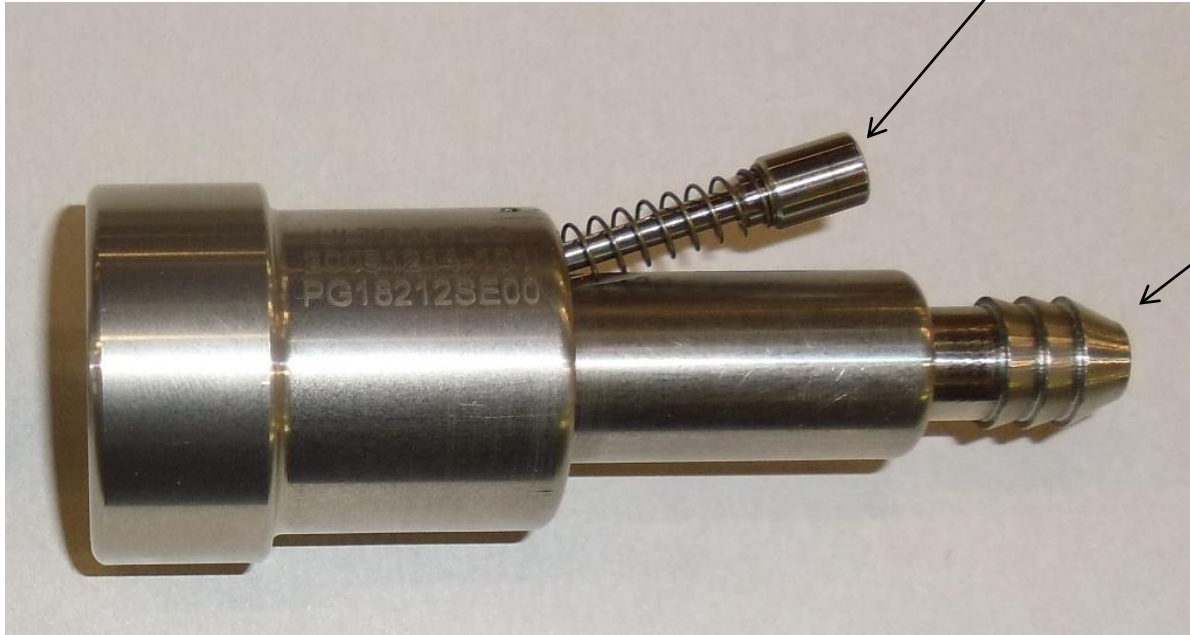
- Precise commissioning in large or complex pipe systems
- Verify k-factor (audits)
- Control of accurate water flow
- Robust and instant activation of water mist
- Possibility to check water quality (smell / legionella / anti freeze etc.)



Testing of sprinkler heads

The tool

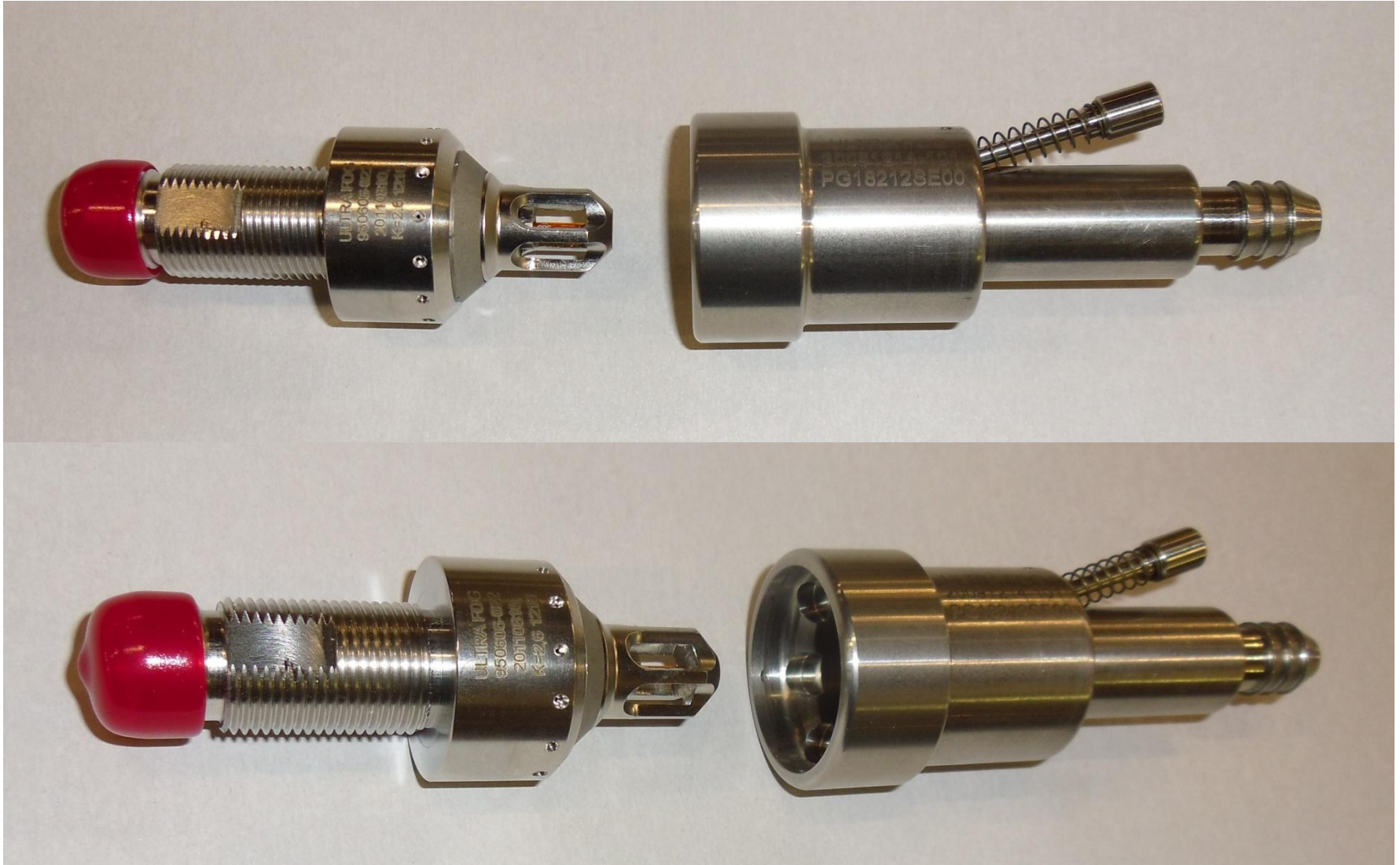
Push-rod to open nozzle



Connection
point for hose
to drain/bucket



Testing of sprinkler heads



Testing of sprinkler heads



Protection of high voltage transformers

High pressure water mist present efficient cooling and fire fighting and also very low conductivity = Good conditions for high voltage transformers.

Clearance is taken from NFPA 750.

Oil filled transformers and semi conductors creates often pool fires and rapid growth of fire = early detection and fast activation of fire suppression is critical.

Cooling under hot conditions (transformer under 100% load) is possible.



Protection of high voltage transformers

- Fire test done for open and semi closed transformers gives evidence of good performance with low water consumption.
- Test for open 30 MW oil filled transformer, preheated paraffin oil leaking out from top set to ignition.
- HRR 30-40 MW
- 12pcs open nozzles
- Water flow capacity ?
- Extinguishing time ?



Thank you for your attention



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