HI-FOG®
water mist fire protection

Technical Data Sheet

Specification for water in HI-FOG® systems

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If the water requirements below cannot be reached, the water used for the HI-FOG® system may be treated, as described below in *Water treatment*, to enhance the HI-FOG® system lifetime.

A. Water requirements

- Equivalent of a potable supply
- Colourless and odourless
- Non corrosive
- Chloride concentration < 50 ppm (= 50 mg/l)
- pH value 7.0 – 9.0
- Iron (Fe) and Manganese (Mn); sum < 0.3 mg/l
- No free chlorine
- The fill line is routed through a < 100 µm filter (normally supplied with the unit). Suspended solids to be as low as possible.

B. Water recommendations

- Conductivity < 400 µS/cm
- Total hardness 1 – 3 mmol/l (5 – 16 °dH)
- Suspended solids, TSS < 10 mg/l
- Sulphate < 50 mg/l
- TOC < 2 mg/l (Total organic carbon)

If pH < 7.0 then alkalinity should be 1 – 4 mmol/l, pH shall never be below 6.5.

The amount of organic material shall be kept to a minimum. The biological and bacterial growth should be regularly monitored.

Distilled, demineralised, de-ionised or reverse osmosis water should not be used without adjustment of the alkalinity (or pH-value to ~8).

C. Water treatment

Fire suppression additives shall not be applied. The HI-FOG® system is not to be shock chlorinated.

Bacteriological growth

If bacteriological growth is found the water should be either changed through thorough flushing, or treated. The treatment may not be corrosive. Chlorine dioxide treatment may be used. Vernagroup's Purogene or Sanogene are possible treatment alternatives. The manufacturer's instructions and recommendations and applicable authorities' requirements are to be complied with.

Shock chlorinated water may be used only after ensuring that there is no free chlorine and the other parameters are within the specification (note: chlorination increases chloride content).

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Corrosion

If the water is found corrosive an inhibitor may be used. The inhibitor may not contain nitrates or sulphates. It is also to be ensured the inhibitor complies with applicable authorities' health and other regulations. Nalco's Silazur 100 is a recommended alternative. Other inhibitors may also be used provided they are suitable for the materials used and not dangerous to people if they are exposed to the water mist.

D. Other aspects

If sea water or other water not complying with the specifications has entered the system (for example, in an emergency situation), the HI-FOG® system including all affected branch piping, is to be thoroughly flushed. The use of an inhibitor should be considered.

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