

QUALITY BULLETIN

Number 002/2012

Product	HI-FOG® sprinkler
Subject	Potential failure to activate
NOTE	HI-FOG systems are in place for the suppression of fire. Please ensure that all safety personnel are made aware of the contents of this bulletin, as well as the referenced service bulletins, and that training is provided as necessary.
Summary	<p>HI-FOG sprinklers may, if exposed to certain conditions, fail to activate at stand-by pressure (~25 bar) when exposed to heat. Some failures to activate, detected during routine testing and maintenance, have recently been brought to our attention.</p> <p>The purpose of this Bulletin and the referenced Service Bulletins is to:</p> <ul style="list-style-type: none"> • provide information on the potential risk of a sprinkler failing to operate • emphasize the importance of testing to ensure the operability of a HI-FOG system • give guidance on testing, examination of sprinklers in general and detection of affected sprinklers in particular • provide recommendations on corrective action, if required
Date	20 June 2012

Background

It has recently been reported that a number of sprinklers tested in a small number of installations have failed to activate when the glass bulb is broken. This activation failure has been detected in installations in use for about 10 years or more, or in areas where the sprinklers are exposed to aggressive environments (such as outer decks, spas, pool areas, pool equipment rooms, etc.). Only the HI-FOG 1000 type sprinkler has been found to be affected.



HI-FOG 1000 type



HI-FOG 2000 type

Reasons for failure and current status

Reasons for failure to activate may be internal or external contamination or exposure to aggressive environments. The recently reported cases are mainly caused by internal contamination. Marioff is currently carrying out extensive research to establish the root cause and develop appropriate corrective action procedures for installations where sprinklers failing to activate are found, working in close collaboration with Class Societies and ship operators. More information will follow as it becomes available.



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Recommended actions

Regular testing and examination is to be performed as described in instructions, manuals and as required by authorities, to enable identification of possible failures to activate. See also Service Bulletins 001/2012 on sprinkler contamination (or previous versions 002 & 003/2005), 002/2012 on sprinkler testing and 001/2010 on glass bulbs.

The importance of good water quality is also emphasised, see Technical Data Sheet "Specification for water in HI-FOG systems".

If sprinklers are found to fail to activate the actions described below are to be taken.

Mitigation actions in case sprinklers are found not to activate

If a significant amount of sprinklers are found to fail to activate during testing (and the reason is not clear and obvious, like mechanical damage, external contamination or empty glass bulb) further testing is to be done to establish the extent of the issue. The following actions are recommended to mitigate the risk of a sprinkler failing to activate in a fire situation (pending full corrective action):

- The HI-FOG pump is to be started manually (see manual for start procedure) in case of a fire alarm. This increases the system pressure from stand-by pressure (~25 bar) to nominal operation pressure (~140 bar), which ensures that sprinklers needing increased release pressure are activated
- Increase fire patrol activities in the section(s) concerned

As part of type approval tests the HI-FOG sprinklers have passed the disabled sprinkler tests, where the most critical sprinkler in the test set-up is prevented from activating. As the fire develops adjacent sprinklers are activated controlling the fire. Those tests verify that the fire fighting performance of the HI-FOG system is sufficient (as defined by the test criteria) even if one sprinkler fails to activate in an area.

See also Service Bulletin 001/2012.

For additional information and assistance (including product supplies) please contact Marioff's After Sales and Service Department or the Quality Department.

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