



# DET NORSKE VERITAS

## TYPE APPROVAL CERTIFICATE

CERTIFICATE NO. F-17669  
This Certificate consists of 2 pages

*This is to certify that the*  
**High Expansion Foam generator**

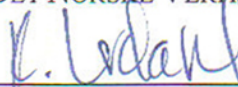
*with type designation(s)*  
**GT2 and GT4**

*Manufactured by*  
**CACCIALANZA & C. S.p.A.**  
Segrate Mi, Italy

*is found to comply with*  
Det Norske Veritas' Offshore Standards  
Det Norske Veritas' Rules for Classification of Ships  
Det Norske Veritas' Interpretation of SOLAS 1974 Convention as Amended

*Application*  
Approved for use as high expansion foam generator as part of a fixed high expansion foam fire extinguishing systems.

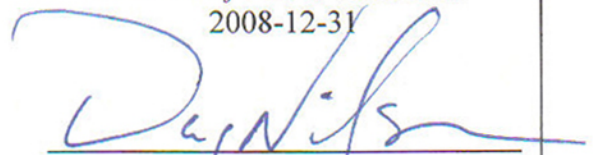
*Place and date*  
Høvik, 2004-11-22  
for DET NORSKE VERITAS AS

  
Kristin Urdahl  
Head of Section



Local Office  
DNV Genoa

*This Certificate is valid until*  
2008-12-31

  
Dag Nilsen  
Surveyor

Notice: This Certificate is subject to terms and conditions overleaf. Any significant change in design or construction may render this Certificate invalid.  
The validity date relates to the Type Approval Certificate and not to the approval of equipment/systems installed.

If any person suffers loss or damage which is proved to have been caused by any negligent act or omission of Det Norske Veritas, then Det Norske Veritas shall pay compensation to such person for his proved direct loss or damage. However, the compensation shall not exceed an amount equal to ten times the fee charged for the service in question, provided that the maximum compensation shall never exceed USD 2 million. In this provision "Det Norske Veritas" shall mean the Foundation Det Norske Veritas as well as all its subsidiaries, directors, officers, employees, agents and any other acting on behalf of Det Norske Veritas.



Cert. No.: F-17669  
File No.: 474.68

### Product description

High expansion foam generators:

"GT2": Foam capacity 200 m<sup>3</sup>/min at 5 bar, expansion ratio approximately 900:1

"GT4": Foam capacity 190 m<sup>3</sup>/min at 5 bar, expansion ratio approximately 400:1

### Application/Limitation

Only the foam production capacity of the generators is approved in this certificate.

Fire dampers, ducting, operation of fire dampers etc. to be approved case-by-case.

Any fixed foam fire-extinguishing system shall comply with the requirements of IMO FSS Code Ch.6 and DNV Rules for Ships Pt.4 Ch.10 Appendix C for conventional high expansion foam systems (not inside air systems).

Each product is to be supplied with a manual for installation and use.

### Type Approval documentation

Certification in accordance with Certification Note No. 1.2, Type Approval, December 1996.

Test report no. 2004-20 dated 13 August 2004 from Minimax, Germany. Test witnessed and report verified by DNV Hamburg.

Drawing no. 04900208 rev.0 dated 2004-09-03 and drawing no. 04910003 rev.0 dated 2004-09-03 from Caccialanza & C. S.p.A.

### Marking of product

The product is to be marked with name of manufacturer and type designation.

### Certificate retention survey

Det Norske Veritas' surveyor is to be given permission to perform Periodical Product Audits at any time during the validity period of this certificate. The arrangement is to be in accordance with procedure described in item 4.3, certification Note No. 1.2.

END OF CERTIFICATE



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