

DET NORSKE VERITAS

TYPE APPROVAL CERTIFICATE

CERTIFICATE NO. E-10352
This Certificate consists of 3 pages

This is to certify that the
Accommodation Heater
with type designation(s)
Fan Heater EVN 3, 6 & 9 kW


Holder of certificate
Thermo Byggvarme A/S
NESTTUN, Norway

is found to comply with
Det Norske Veritas' Rules for Classification of Ships and Mobile Offshore Units

Application
For use in dry accommodation areas and offshore units.

Rated power	3 - 9 kW
Rated voltage	230 - 440 V
Enclosure	IP 44

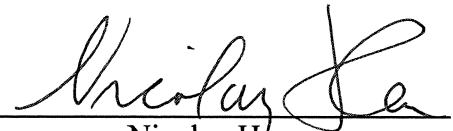
Place and date
Høvik, 2010-06-11
for DET NORSKE VERITAS AS


Marit Laumann
Head of Section



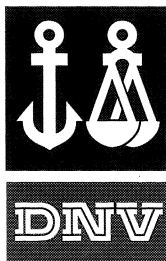
Local Office
Bergen

This Certificate is valid until
2014-06-30


Nicolay Horn
Surveyor
Greeni

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.: E-10352
File No.: 826.20
Job Id: 262.1-008885

Product description

Electrical fan heater for fixed installation with brand name EVN.

Type/sizes: 3, 6 or 9 kW; 230, 400 or 440 volt, 50/60 Hz, IP 44. Built-in safety release in case of fan failure or other overtemperature effects.

Technical info:

Type	Supply voltage	Effect (kilowatts)	Heating element voltage	Fan supply voltage
EVN 3 – 23	230 (3ph)	3	230	230
EVN 6 – 23	230 (3ph)	6	230	230
EVN 9 – 23	230 (3ph)	9	230	230
EVN 3 – 40	400 (3ph)	3	230 (1ph + n)*	230 (1ph + n)
EVN 6 – 40	400 (3ph)	6	230 (1ph + n)*	230 (1ph + n)
EVN 9 – 40	400 (3ph)	9	230 (1ph + n)*	230 (1ph + n)
EVN 3 – 44	440 (3ph)	3	254 (1ph + n)	230 via trafo
EVN 6 – 44	440 (3ph)	6	254 (1ph + n)	230 via trafo
EVN 9 – 44	440 (3ph)	9	254 (1ph + n)	230 via trafo

* can also be ordered with 400 volt elements

Application/Limitation

For use onboard ships and offshore units.

Type Approval documentation

Nemko "Letter of confirmation" dated 10.06.2010.

Nemko Test report no. 131278/Vib01, rev 01 issued 15.02.2010. Nemko letter "Measuring temperature of heating elements dated 24.02.2010.

Witness testing 18.09.1998.

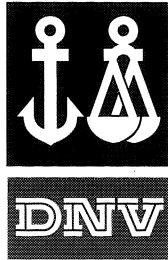
NEMKO statement no. 199551121/02 of 16.04.1996. NEMKO sertifikat A97155.

DNV report 55021084, of 15.04.1998

Construction layout details and schematic diagram.

Tests carried out

Type tests in accordance with IEC 60335-2-30, Failure simulation, temperature increase, vibration test, design inspection, EN 55014 (EMC emission), EN60555-2/ -3 (supply harmonics), EN 50082-1 (EMC immunity).



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Marking of product

Manufacturers label with information regarding type number, kilowatts, voltage and more.

Certificate retention/renewal survey

The scope of the retention/renewal survey is to verify that the conditions stipulated for the Type approval is complied with and that no alterations are made to the product design or choice of materials.

The main elements of the survey are:

- Inspection on factory samples, selected at random from the production line (where practicable)
- Review of type approval documentation
- Review of possible change in design, materials and performance
- Ensuring traceability between manufacturer's product type marking and Type Approval Certificate.

Survey to be performed at least every second year.

END OF CERTIFICATE