




TYPE APPROVAL CERTIFICATE
No. **ELE198519XG**

This is to certify that the product below is found to be in compliance with the applicable requirement of the RINA type approval system.

| | |
|-----------------------------|--|
| <i>Description</i> | Electrical protection |
| <i>Type</i> | VLТ Active Filter |
| | TYPE AAF006 |
| <i>Applicant</i> | DANFOSS POWER ELECTRONICS A/S |
| | ULSNAES 1 DK-6300 GRAASTEN |
| | DENMARK |
| <i>Manufacturer</i> | DANFOSS, LLC |
| <i>Place of manufacture</i> | 4401 N. BELL SCHOOL RD., 61111 LOVES PARK (IL), U.S.A |
| | ULSNAES 1, DK-6300 GRAASTEN, DENMARK |
| <i>Reference standards</i> | Rules for the classification of ships.- Part C - Machinery, systems and fire protection. - Ch.3, Sect. 6, Table 1 |

Issued in **HAMBURG** on **July 18, 2019**. This Certificate is valid until **July 17, 2024**


RINA Services S.p.A.
Giuseppe Russo

This certificate consists of this page and 1 enclosure



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Enclosure - Page 1 of 1

VLT Active Filter

Model: AAF006

For details, see attachment: Marine Annex - Danfoss Global.pdf

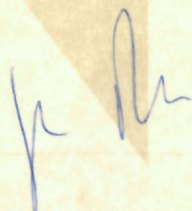
Places of manufactory:

DANFOSS, LLC
4401 N. BELL SCHOOL RD.
61111 LOVES PARK (IL)
U.S.A.

DANFOSS DRIVES A/S
ULSNAES 1
6300 GRAASTEN
DANMARK

This certificate replaces and annuls the previous certificate ELE030414XG/004.

HAMBURG July 18, 2019



Product: Advanced Active Filter

Model: VLT® Advanced Active Filter series AAF006

| AAF006: 380-480V | | | | |
|--------------------------|----------------|-----------|----------------|------------|
| Current rating [Amps] | Enclosure type | | | RFI filter |
| | IP20 (*1) | IP00 (*1) | IP21/IP54 (*2) | Type (*3) |
| 190 | NA | NA | D14 | HX or H4 |
| 250 | | | E1 | |
| 310 | | | | |
| 400 | | | | |

Table 6

(*1) IP00/IP20 Panel mount.

(*2) IP21/NEMA Type 1; IP54/NEMA Type 12

(*3) HX: No RFI for Maritime complies with IACS E10 requirements except radiated and conducted emissions.
 H4: Active Filter RFI for Maritime complies with IACS E10 requirements except radiated and conducted emissions.

Limitations: Filters which exceed the limits for radiated and conducted emissions of IACS E10 can be installed in "special distribution zone" according to IEC 60533. For installations in "general power distribution zone" measures must be taken to attenuate the effects on the distribution system. Planned EMC measures according to IEC 60533 shall be assessed prior to installation on board.

Selection types for Type Codes for AAF006 Active Filters

____ _ (character 24 – 39 software + options)

1 4 7 11 13 16 23

Basic string definitions:

Product Group (character 1-3)

AAF: Active Filters

VLT series (character 4-6)

006: VLT Active Filter – Series 6

Current Rating (character 7-10)

A190: 190 Amp

Voltage: (character 11-12)

T4: Three phase 380-480 VAC

Enclosure (character 13-15)

E21: IP21 / Type 1

E54: IP54/ Type 12

E2M: IP21 / Type 1 with mains shield

E5M: IP54 / Type 12 with mains shield

Hardware (character 16-23)

Hardware, RFI filter (character 16-17)

HX: Active Filter complies with IACS E10 requirements except radiated and conducted emissions

Hardware, Not Used X (character 18)

Hardware, Display (character 19)

Hardware, Coating and Ruggedized (character 20)

Hardware, Mains options (character 21)

Hardware, Reserved for Future (character 22)

Hardware, Reserved for Future (character 23)

Software (character 24-28)

Options – A (character 29-30)

Options – B (character 31-32)

Options – C (character 33-37)

Options – D (character 38-39)