



**TYPE APPROVAL CERTIFICATE**  
**No. ELE042725XP**

**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>	<b>FREQUENCY CONVERTERS</b>
<i>Type</i>	<b>VACON NX Series</b>
<i>Applicant</i>	<b>Danfoss Drives Oy</b>
	<b>Runsorintie 7</b>
	<b>65380 Vaasa</b>
	<b>FINLAND</b>
<i>Manufacturer</i>	<b>Danfoss Drives Oy</b>
<i>Place of manufacture</i>	<b>Runsorintie 7</b>
	<b>65380 Vaasa</b>
	<b>FINLAND</b>
<i>Reference standards</i>	<b>Rules for the Classification of Naval Ship - Machinery, Systems and Fire Protection Pt C, Ch 3, Sec 6, Table 1</b>

*Issued in* **Gdańsk** on **March 28, 2025**. *This Certificate is valid until* **March 27, 2030**



*Pavoniske*  
RINA Services S.p.A.

This certificate consists of this page and 1 enclosure





## TYPE APPROVAL CERTIFICATE

No. ELE042725XP

Enclosure - Page 1 of 2

VACON NX Series

### Product Description:

Multiple purpose frequency converters for AC applications.

### Models/Versions:

VACON NXS Air Cooled FR4 -FR12

VACON NXP Air Cooled FR4 to FR14, FI9-FI13

VACON NXP Liquid Cooled, CH3, CH4, CH5, CH60, CH61, CH62, CH63, CH64, CH72, CH74

VACON NXA, NXI, NXF, NXB, NXN

### Technical Documentation:

- Vacon NX Liquid Cooled Drives Non-Regenerative Fron End Unit
- Vacon NX Inverters FI4-FI8
- Vacon NXI Inverters FI9-FI14
- Vacon-NX Liquid Cooled Drives User Manual
- Vacon NXP IP00 Drive Modules
- Vacon NX AC Drives Marine APplication (APFIF09) Application Manual
- Vacon NXS/NXP Air-cooled Wall-mounted and Standalone operating guide

### Approval Conditions:

See test reports

### Test Reports:

- NXP0031 (FR5)Electromagnetic Compatibility Test Report no.:295115-1-1, dated.: 30.01.2019
- FR9, NXP02086-A2L1BSG-A1A2000000 Electromagnetic Compatibility Test Report no.: 300477-2-1, dated 28.10.2020
- FR 6 (IP54) NXP series Electromagnetic Compatibility Test Report no.: 228338-1, dated: 16.05.2003
- FR 8 NXP 0124 6-690 Electromagnetic Compatibility Test Report no.: 231330-1, dated: 11.2.2004
- NXS Electromagnetic Compatibility Test Report no.: 234713-1, dated: 23.09.2004
- Environmental tests for Vacon NXP-FR8 Research Report no.: VTT-S-00992-09, dated 13.02.2009
- FR6 Damp Heat Test Report, dated 17-21.08.2006
- FR8 Cold test report, dated 09.12.2009
- FR8 Power Supply Failure test report, dated 10.12.2009
- FR8 Power Supply Variation, dated 09.12.2009
- FR6 500V Heat Test
- FR6 690V Heat Test
- FR6 Damp Heat Test report, dated 17-21.08.2006
- FR8 690V Heat Test, dated 15.08.2006
- FR8 Damp Heat Test report, dated 11-15.08.2006
- Vacon NXP-FR8 Environmental Tests report no.: VTT-S-00992-09, dated 13.02.2009
- Vacon NX FR6 Vibration Test Report, dated: 30.10.2006
- Vacon NXP Grid Converter Short Circuit Tets Test Report, dated 07.02.2019





## TYPE APPROVAL CERTIFICATE

No. ELE042725XP

Enclosure - Page 2 of 2

VACON NX Series

### Reference Documents:

- NX CH3 500V documentation
- NX CH4 500V documentation
- NX CH5 500V documentation
- NX CH6 500V/690V documentation
- NX CH7 500V/690V documentation
- NX FI9 500V/690V documentation
- NX FI10 500V/690V documentation
- NX FI12 500V/690V documentation
- NXS FR4 230V/500V documentation
- NX FI4 230V/500V documentation
- NX FI5 230V/500V documentation
- NX FR5 230V/500V documentation
- NX FI6 230V/500V documentation
- NX FR6 230V/500V/690V documentation
- NX FI7 500V/690V documentation
- NX FR7 500V/690V documentation
- NX FI8 500V/690V documentation
- NX FR8 230V/500V/690V documentation
- NX FR9 230V/40V/500V/690V documentation
- NX FR10 500V/690V documentation
- NX FR11 500V/690V documentation
- NX FR13 500V/690V documentation
- NX FI14 500V/690V documentation
- NX FR14 500V/690V documentation

### Quality Certificates:

- Danfoss Power Electronics A/S, ISO 9001:2015 certificate no.: DK014774, dated 11.08.2021
- Vacon Ltd., ISO 45001:2018 certificate no.: DK013222 dated 19.11.2020
- Vacon Ltd., ISO 9001:2015 certificate no.: DK014774-108, dated: 11.08.2021
- Vacon Ltd., ISO 14001:2015 certificate no.: DK013221, dated 19.11.2020

### Place of Manufacture:

Danfoss Drives Oy  
Runsorintie 7  
65380 Vaasa  
Finland

Danfoss (China) Drives  
No. 339 North Xinqiao Road  
Wuyuan Street  
Haiyan County  
Jiaxing City  
Zhejiang Province,  
P.R. China Haiyan Jiaxing  
314300 China

### Remarks:

- This approval is granted only on the basis of positive outcome of verifications on board to be carried out according to the all above mentioned remarks and to all other applicable RINA Rules.
- Any modification / upgrade of the firmware installed in the system is to be communicated; functional test and spot check are to be carried out and witnessed by a RINA Surveyor, to give evidence of the correct function of the system.

*The certificate annuls previous certificate no. ELE081624XP and is valid in conjunction with Plan Approval Letter PLEL/2024/291/BKU01*

**Gdańsk March 28, 2025**

RINA Services S.p.A.  
Via Corsica, 12 - 16128 Genova  
Tel +39 010 53851  
Fax +39 010 5351000

