



# BIRO KLASIFIKASI INDONESIA

## SERTIFIKAT PERSETUJUAN TIPE Type Approval Certificate

ACS  Non ACS

No. 00156.24.SP00703

No. Persetujuan : 00337TA19  
No. of Approval

Tanggal Persetujuan : 03 Oktober 2019  
Date of Approval

Dengan ini dinyatakan bahwa produk dibawah ini telah memenuhi dan disetujui berdasarkan persyaratan dari  
*This is to certify that the following products has been complied and approved in accordance with requirements of the*  
Peraturan dan/atau Standard yang tercantum dibawah ini :  
*Rules and / or Standards listed below :*

Produk : **Frequency Converter**  
*Product*

Pembuat : **DANFOSS DRIVES OY**  
*Manufacturer* Runsorintie 7, 65380 Vaasa, Finland

Tipe Produk : **NX Series**  
*Type Designation*

Standard Persetujuan : Rules for Electrical Installations (Pt.1, Vol.IV)  
*Approval Standards* Rules for Approval of Manufacturers and Service Suppliers (Pt.1, Vol.XI)  
Guidance for The Approval and Type Approval of Materials and Equipment for Marine Use  
(Pt.1, Vol.W)

Sertifikat ini berlaku hingga tanggal yang ditetapkan di bawah dengan syarat pemeriksaan periodik  
*This certificate remains valid until the date set below provided that periodical surveillances*  
dilakukan tepat waktu dan setiap perubahan atau modifikasi pada produk diberitahukan ke BKI.  
*are carried out on time and any alterations or modifications to the approved product notified to BKI*

Sertifikat ini berlaku sampai dengan : **02 Oktober 2029**  
*This certificate is valid until*



Jakarta, 01 November 2024

a.n. Direktur Operasi  
SVP Operasi Bisnis Klasifikasi  
a.b. Operation Director  
SVP of Classification Business Operation

J A K A R T A **ARIEF NURTJAHJO**  
NUP:42996-KI

Catatan : Sertifikat ini terdiri dari 3 halaman  
*Note This certificate is consist of 3 pages*

Jika Peraturan atau Standard yang digunakan dalam proses persetujuan mengalami perubahan pada saat sertifikat ini masih berlaku, maka produk harus dilakukan persetujuan ulang sebelum dapat dipasang dikapal dimana Peraturan atau Standard tersebut berlaku.  
*Should the specified Rules or Standards be amended during the validity of this certificate, the product is to be reaproved prior to it being placed on board vessels to which the amended Rules or Standards apply.*

## Lembar Pengukuhan Endorsement Sheet

Harus dikukuhkan oleh Surveyor BKI  
To be endorsed by BKI Surveyor

<p>Pemeriksaan Periodik (02 Oktober 2026 s.d. 02 Oktober 2027) <i>Periodical Surveillance (02 October 2026 until 02 October 2027)</i></p> <p>No. Laporan: Report No.</p>	<p>Tanggal : <i>Date</i></p> <p>Surveyor :</p>
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Catatan : Sertifikat akan ditangguhkan secara otomatis jika tidak dikukuhkan dalam rentang waktu yang telah ditetapkan diatas.  
*Note The certificate will be automatically suspended if not endorsed within the specified time period above.*



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# Lampiran

## Annex to

# Sertifikat Persetujuan Tipe

## Type Approval Certificate

No. Sertifikat : **00156.24.SP00703**  
 No of certificate

No. Persetujuan : **00337TA19**  
 Approval no.

**Deskripsi Produk**  
 Product Description

**Frequency Converter**

No	Type	Main Voltage (V)	Motor Shaft Power (kW)	Enclosure Size
1	<b>NXS Air Cooled</b> AC Drives; Frequency (Input 45-66 Hz, Output 0-320 Hz); U output : 0-Uin; IP 21, IP 54, IP 00 (only FR10 and over)	208 - 240	0.55 - 90	FR4 - FR9
		380 - 500	0.75 - 400	FR4 - FR11
		500 - 690	2.2 - 560	FR6 - FR11
2	<b>NXP Air Cooled</b> AC Drives; Frequency (Input 45-66 Hz, Output 0-320 Hz); U output : 0-Uin; IP 21, IP 54, IP 00 (only FR10 and over)	208 - 240	0.37 - 90	FR4 - FR9
		380 - 500	0.75 - 1200	FR4 - FR14
		525 - 690	2.2 - 2000	FR6 - FR14
	<b>NXP Liquid Cooled</b> AC Drives; Frequency (Input 45-66 Hz, Output 0-320 Hz); U output : 0-Uin; IP 00	400 - 500	7.5 - 5150	CH3-CH5, CH61, CH62/72, CH63, CH64/74, 2 x CH64/74, 4 x CH64/74
		525 - 690	110 - 5300	CH61, CH62/72, CH63, CH64/74, 2 x CH64/74, 4 x CH64/74

**Features :**

- NXP type can be replaced by NXI (Inverter), NXA (Active Front End), NXN (Non Regenerative Front End), NXB (Brake Chopper Unit), with various enclosure size FR4-FR8 ; FI9-FI14 and CH3-CH5, CH61-64, CH72, CH74, depend on application.
- All drive can be accompanied with external components as follows: brake resistors, AC chokes,(SIN-, RFI-, DUT-, LCL-) filters.

**Kondisi Persetujuan**

*Condition of Approval*

- The certificate issued base on approval documents, testing reports and assessment report.
- The type approval is limited for products and manufacturer as describe in this certificate.
- Individual Product Certification is required for frequency converter when used for motor controller which drive essential equipment as specified in BKI Rules Part. 1, Volume IV from 100 kW upwards.

**Dokumentasi Persetujuan**

*Approval Documentation*

- Assessment report no. 00703-SP/C1/2024

**Penandaan Produk**

*Marking of Product*

The product is to be marked with manufacturer's name or trademark, serial number, the last date of examination and the BKI's identification no. and stamp.

**Pemeriksaan Periodik**

*Periodical Surveillance*

For retention of the approval, a BKI Surveyor shall conduct periodical surveillance to verify that approved quality system, etc. of the manufacturing works are maintained satisfactorily.

The main scope of the periodical surveillance will normally include:

- Verification of the manufacturer's production and quality system with regard to ensure continued consistent production of the Type Approved products at the manufacturer's premises.
- Review of the approval documentation and that this is still used as basis for the production
- Review of possible changes to the properties of the product
- Verification of the product marking.





# Lampiran Annex to Sertifikat Persetujuan Tipe Type Approval Certificate

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