



NIPPON KAIJI KYOKAI

COPY

TYPE APPROVAL CERTIFICATE FOR AUTOMATIC DEVICES AND EQUIPMENT

Certificate No. TA15638M

This is to certify that the undernoted product(s) has/have been approved in accordance with the requirements specified in Chapter 1, Part 7 of "Guidance for the Approval and Type Approval of Materials and Equipment for Marine Use" and the relevant Society's Rules.

This certificate is issued to

Manufacturer: **ABB Oy Drives Finland**
Place of Manufacturing: **P. O. Box 184, Hiomotie13, FIN-00381 Helsinki, Finland**
Product description: **Frequency Converter**
Model: **ACS 880-04 Series**

Approval No.: **15A045**
Valid until: **23 December 2020**

This certificate is subject to the conditions specified in the attached sheet(s).

Issued at Tokyo on 24 December 2015.

Y. Shibata
General Manager
Machinery Department

Note: The manufacturer, if desired, is requested to apply to the Society for renewal prior to the expiration date.

Specification & documents:

1. Particulars:

Power range: 200kW to 710kW

Power supply: 380V to 415V (-3), 380 to 500V (-5) and 525V to 690V (-7)

2. Components and reference drawings:

Component	Drawing
3AXD10000313808, 3AXD10000313789, 3AXD0000313808, 3AXD100000313790,	3AUA0000128301 (Hardware manual)
	3AFE 001509 (Quality Manual)
	3AFE 002571 (Quality policy of testing)
	3AFE 002241 (Software Life Cycle Model Process Description)
	3AFE 002242 (Software Development Process Process description)

3. Documentation and Test Reports:

3AXD10000114570, 3AXD10000319393, 3AXD00000596052,
 SGS Fimko EMC Ltd. Report No. 233660, SGS Fimko EMC Ltd. Report No. 254363
 SGS Fimko EMC Ltd. Report No. 277447-1, SGS Fimko EMC Ltd. Report No. 277447-2
 3AXD100000319393, 3AXD00000596052, 3AXD10000241834, 3AXD10000106522,
 3AXD10000309964, 3AXD10000287077, 3AXD10000266957, 3AXD10000406983,
 ZVTT-S-03275-13, VTT-S-06084-12, ACS 880-07 R11, VTT-S-01320-13, 3AXD10000249676,
 3AXD10000242533, 3AXD1000351619, 3AXD10000315766, 3AXD10000413217,
 SGS Fimko EMC Ltd. Report No. 233660,
 3AXD10000248380, 3AXD10000089327, 3AXD10000331826, 3AXD10000281074,
 Nemko Test Report Number 224724, SGS Test Report Number 275996
 SGS Test Report Reference number 273473-1, Nemko Test Report Number 243333-1
 Nemko Test Report Number 252375, Nemko Test Report Number 276592-2
 Nemko Test Report Number 276592-1, 3AXD10000415632
 SGS Test Report Reference number 272110-1, SGS Test Report Number 275993-1

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Attached sheet -2/2 to the Certificate No. TA15638M

Test items & approval conditions:

1. Test items: (Applied testing items are marked with X.)

ENVIRONMENTAL TESTS		Mark
External examination		X
Operation test and performance test		X
Electric power supply failure test		X
Power supply fluctuation test	Electric	X
	Pneumatic and Hydraulic	--
Insulation resistance test		X
High voltage test		X
Pressure test (Pneumatic and Hydraulic)		--
Dry heat test (Temperature 40°C × 16 hours & 55°C × 16 hours)		X
Damp heat test		X
Vibration test (Acceleration ±0.7g)		X
Inclination test		--
Cold test (Temperature -40°C × 20 hours & -15°C × 16 hours)		X
Salt mist test		--
Electrostatic discharge immunity test		X
Radiated radio frequency immunity test		X
Conducted low frequency immunity test		X
Conducted high frequency immunity test		X
Burst / Fast transient immunity test		X
Surge immunity test		X
Radiated emission test		X
Conducted emission test		X
Flame retardant test		--

2. Approval condition:

- (1) The product is not allowed to be installed in the bridge and on open decks.
- (2) In case ambient temperature is more than 40°C, ambient temperature derating shall be considered.

- The End -