



# DET NORSKE VERITAS

## TYPE APPROVAL CERTIFICATE

CERTIFICATE NO. **E-13543**

This is to certify that the  
**Frequency Converter**

with type designation(s)  
**Altivar 71**

Manufactured by  
**Schneider Toshiba Inverter**  
**PACY SUR EURE, France**

is found to comply with  
**Det Norske Veritas' Rules for Classification of Ships, High Speed & Light Craft and Det Norske Veritas' Offshore Standards**

Application  
**Frequency Converter for Asynchronous Motors Altivar 71 series.**

Range:  
**0,37 kW to 45 kW 200 - 240 V AC supply,**  
**0.75 kW to 500 kW 380 - 480 V AC supply,**  
**1.5 kW to 630 kW 500 - 690 V AC supply.**

This Certificate is valid until **2016-06-30**.

Issued at **Høvik** on **2014-07-21**

DNV local station: **Marseille**

Approval Engineer: **Nicolay Horn**

for **Det Norske Veritas AS**  
Digitally Signed By: Nguyen, Tin Huu  
Location: DNV GL Høvik, Norway  
Signing Date: 2014-07-22 on behalf of

**Marit Laumann**  
**Head of Section**

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.

## Name and place of manufacturer

Company Name	Address
SCHNEIDER TOSHIBA INVERTER EUROPE (STIE)	Rue Andre Blanchet 27120 Pacy Sur Eure FRANCE
SCHNEIDER (SUZHOU) DRIVES CO LTD (SSD)	7 LOUJIANG E RD SIP WEITING TOWN, SUZHOU JIANGSU 215121 CHINA
PT SCHNEIDER ELECTRIC MFG BATAM (SEMB)	BATAM INDUSTRIAL PARK BLK 4 MUKAKUNING, BATAM RIAU, 29433 INDONESIA

## Product description

Altivar 71. Variable speed controller for asynchronous motor. Constant torque applications.

Technical data for 200 - 240 V supply:

Type designation (On heatsink)	Mains supply (V)	Number of phases	Motor power output (kW) <sup>1)</sup>
ATV 71H075M2	200 - 240	1	0,37
ATV 71HU15M2	200 - 240	1	0,75
ATV 71HU22M2	200 - 240	1	1,5
ATV 71HU30M2	200 - 240	1	2,2
ATV 71HU40M2	200 - 240	1	3,0
ATV 71HU55M2	200 - 240	1	4,0
ATV 71HU75M2	200 - 240	1	5,5
ATV 71H037M3	200 - 240	3	0,37
ATV 71H075M3	200 - 240	3	0,75
ATV 71HU15M3	200 - 240	3	1,5
ATV 71HU22M3	200 - 240	3	2,2
ATV 71HU30M3	200 - 240	3	3,0
ATV 71HU40M3	200 - 240	3	4,0
ATV 71HU55M3	200 - 240	3	5,5
ATV 71HU75M3	200 - 240	3	7,5
ATV 71HD11M3X	200 - 240	3	11
ATV 71HD15M3X	200 - 240	3	15
ATV 71HD18M3X	200 - 240	3	18,5
ATV 71HD22M3X	200 - 240	3	22
ATV 71HD30M3X	200 - 240	3	30
ATV 71HD37M3X	200 - 240	3	37
ATV 71HD45M3X	200 - 240	3	45

Technical data for 380 - 480 V supply:

Type designation (On heatsink), IP20	Type designation (On heatsink), IP54	Mains supply (V)	Number of phases	Motor power output (kW) <sup>1)</sup>
ATV 71H075N4	ATV 61W075N4	380 - 480	3	0,75
ATV 71HU15N4	ATV 61WU15N4	380 - 480	3	1,5
ATV 71HU22N4	ATV 61WU22N4	380 - 480	3	2,2
ATV 71HU30N4	ATV 61WU30N4	380 - 480	3	3,0
ATV 71HU40N4	ATV 61WU40N4	380 - 480	3	4,0
ATV 71HU55N4	ATV 61WU55N4	380 - 480	3	5,5
ATV 71HU75N4	ATV 61WU75N4	380 - 480	3	7,5
ATV 71HD11N4	ATV 61WD11N4	380 - 480	3	11
ATV 71HD15N4	ATV 61WD15N4	380 - 480	3	15
ATV 71HD18N4	ATV 61WD18N4	380 - 480	3	18,5
ATV 71HD22N4	ATV 61WD22N4	380 - 480	3	22
ATV 71HD30N4	ATV 61WD30N4	380 - 480	3	30
ATV 71HD37N4	ATV 61WD37N4	380 - 480	3	37
ATV 71HD45N4	ATV 61WD45N4	380 - 480	3	45
ATV 71HD55N4	ATV 61WD55N4	380 - 480	3	55
ATV 71HD75N4	ATV 61WD75N4	380 - 480	3	75
ATV 71HD90N4		380 - 480	3	90
ATV 71HC11N4		380 - 480	3	110
ATV 71HC13N4		380 - 480	3	132
ATV 71HC16N4		380 - 480	3	160
ATV 71HC20N4		380 - 480	3	200
ATV 71HC22N4		380 - 480	3	220
ATV 71HC25N4		380 - 480	3	250
ATV 71HC28N4		380 - 480	3	280
ATV 71HC31N4		380 - 480	3	315
ATV 71HC40N4		380 - 480	3	400
ATV 71HC50N4		380 - 480	3	500

Technical data for 500 - 690 V supply:

Type designation (On heatsink)	Mains supply (V)	Number of phases	Motor power output (kW) <sup>1) 2)</sup>
ATV 71HU22Y	500 - 690	3	2,2
ATV 71HU30Y	500 - 690	3	3,0
ATV 71HU40Y	500 - 690	3	4,0
ATV 71HU55Y	500 - 690	3	5,5
ATV 71HU75Y	500 - 690	3	7,5
ATV 71HD11Y	500 - 690	3	11
ATV 71HD15Y	500 - 690	3	15
ATV 71HD18Y	500 - 690	3	18,5
ATV 71HD22Y	500 - 690	3	22
ATV 71HD30Y	500 - 690	3	30
ATV 71HD37Y	500 - 690	3	37
ATV 71HD45Y	500 - 690	3	45
ATV 71HD55Y	500 - 690	3	55
ATV 71HD75Y	500 - 690	3	75

Type designation (On heatsink)	Mains supply (V)	Number of phases	Motor power output (kW) <sup>1) 2)</sup>
ATV 71HD90Y	500 – 690	3	90
ATV 71HC11Y	500 – 690	3	110
ATV 71HC13Y	500 – 690	3	132
ATV 71HC16Y	500 – 690	3	160
ATV 71HC20Y	500 – 690	3	200
ATV 71HC25Y	500 - 690	3	250
ATV 71HC31Y	500 - 690	3	315
ATV 71HC40Y	500 - 690	3	400
ATV 71HC50Y	500 - 690	3	500
ATV 71HC63Y	500 - 690	3	630

- 1) Motor power at standard torque application (150% T<sub>n</sub> for 60 sec.). Values applicable for up to 50 °C ambient.  
2) Values applicable for 690 V motors.

## Application/Limitation

Supply voltage range:	200 - 240 / 380 - 480 V/ 500 - 690 V, 50/60 Hz
Voltage variation:	± 10 %
Frequency variation:	± 10 %
Output frequency:	0 - 599 Hz up to 37 kW ranges, 0 - 500 Hz for the other.
Temperature range in operation:	- 10 to +50 °C
Protection degree:	IP20
Temperature class:	A
Vibration class:	A
Humidity class:	A
EMC class:	IEC 61800-3. To be used on EMC class A locations (see below).

The Altivar 71 must be regarded as a component. The actual installation to be designed according to Schneider Users Manual and according to the applicable DNV Rules for the actual application. Documents for the actual application are to be submitted for approval in each case in accordance with DNV Rules Pt.4, Ch.8, Sec.1 Table B2. A Product certificate is required for sizes ≥ 100 kW.

To be installed in an enclosure with an IP degree in accordance with DNV Rules w.r.t. location.

Converters with conducted and radiated emission according to IEC 61800-3 can be installed in "special distribution zone" and "general power distribution zone" in accordance with IEC 60533 provided precautions are taken to attenuate these effects on the distribution system, so the safe operation is assured.

Use of mechanical adaptation required to reduce the Vibration level.

## Type Approval documentation

Technical info:

Part of catalogue, page19 "Variable speed drives Altivar 71.

Schneider booklet "ATV61 / ATV71 690 V manufacturer STIE" item1 (parts) issued 2007-10-23. Schneider booklet "ATV71-ATV61 400 V" items 1 – 3 issued 2007-05-19.

Telemecanique "Variable speed drives Altivar 71" Schneider catalogue, issued March 2006 (applicable parts).

Test reports:

Technical Construction File Part A, rev. 01 dated 2007-08-03. V&V Pacy Labs "Damp Heat for DNV" dated 2014-02-25. LCIE test report no. 600039806-539682 dated 2006-02-17. UL test reports nos. ATV61WD15N4c.doc, ATV61WD22N4c.doc, ATV61WD30N4c.doc, ATV61WD45N4c.doc, ATV61WD90N4c.doc

Schneider booklet "ATV61 / ATV71 690 V manufacturer STIE" items 12 – 22 issued 2007-10-23. Schneider booklet "ATV71-ATV61 400 V" items 3-3 to 3-16 issued 2007-05-19. Schneider Electric test reports nos. Plan 320 – test nos. 19-01 dated 2004-09-14, 45-17 dated 2005-01-31, 03-26 dated 2004-12-09, 34-32 dated 2005-03-03, DNV-01 dated 2005-11-03, DNV-02 dated 2005-11-24, Plan ATV71 – test nos. QTR166 & QTR167 dated 2006-03-06, 2.1.2 dated 2006-10-16, file ATV71 - test no. QTR163 dated 2006-03-06, file ATV71 test QTR165 dated 2006-03-23, file no. RQ-RSX-4040-19-00 – test no. 19 dated 2004-04-13 CNPP test report nos. LM 04 00 36 dated 2004-09-13 & LM 04 00 48 dated 2004-09-30, Sopema test reports EDL0788/1 dated 2006-04-04, EKL07881 dated 2006-05-05 & EHL08953 dated 2006-10-18. UL test reports nos. RSXs F8 75kW.doc & RQ320-4185.

## Tests carried out

Visual inspection, Performance, Power supply failure, Power supply variations, Voltage/frequency variation, Vibration, Dry heat, Damp heat, Insulation resistance, High voltage.

EMC: The following tests are in accordance with the DNV CN 2.4/ IEC 61800-3: Electrical fast transient (Burst), electrical slow transient (Surge), RF-common mode Voltage, radiated RF-electromagnetic fields, electric discharge (ESD), radiated and conducted emission.

## Marking of product

Altivar 71 – Type designation – Power – Voltage

## Periodical Assessment

The scope of the periodical assessment 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)
- Results from Production Sample Tests (PST) and Routines (RT) checked (if not available tests according to PST and RT to be carried out)
- 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