

TYPE APPROVAL CERTIFICATE

This is to certify:**That the Constant Voltage Charger**with type designation(s)
JOVYTEC

Issued to

Wärtsilä JOVYATLAS EUROATLAS GmbH
Jemgum Niedersachsen, Germanyis found to comply with
DNV GL rules for classification – Ships and offshore units**Application :****Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV GL.**

Voltage output	230 V AC
Power	up to 2000 VA
Temperature class	A
Vibration class	A
Humidity class	B
Enclosure class	A

This Certificate is valid until **2021-06-30**.Issued at **Hamburg** on **2016-08-24**DNV GL local station: **Leer**Approval Engineer: **Harald Amberger**for **DNV GL**

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Duy Nam Le
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.

Product description

UPS for computer and navigation equipment. Including batteries of 36 V (1000 VA / 1500 VA) 72 V (2000 VA) vented lead acid type. Equiped with manual by-pass.

Type	Input Voltage	Input Current	Output	Enclosure
1000-NT	1 ph 168 - 276 V AC, 50/60 Hz, ± 10 %	3.6 A at 230 V AC	1000 VA	IP 21
1500-NT	1 ph 187 - 264 V AC, 50/60 Hz, ± 10 %	5.7 A at 230 V AC	1500 VA	IP 21
2000-NT	1 ph 187 - 264 V AC, 50/60 Hz, ± 10 %	7.7 A at 230 V AC	2000 VA	IP 21

Application/Limitation

The output current will be decreased if operating at 45 °C for longer period or with restricted ventilation. Derating with 2.5 % / °C > 40 °C.

Applicable for bridge installation in accordance with Class requirements. Use together with equipment that requires MED certificate /wheelmark is not reviewed and may require additional tests.

Mounting on shock-absorber at the bottom.

Battery: VRLA 7.5 Ah/ 36 V in an intergrated battery box. Backup times according to manufacturer's datasheet.

End user responsible for correct enclosure protection (IP) wrt. to location.

Type Approval documentation

Technical info: Operating Manuals for the UPS units JOVYTEC P doc. no. BAX 3313 rev /index 5 dated 2008-01-24.

Drawings: UPS DEVICE JOVYTEC P-NT, drawing numbers U71 420 00, U71 42 00 & U71 422 00 dated 2008-04-28.

Test reports: Paconsult test report nos. 1121-06 dated 2006-09-05, 1317-06 dated 2006-04-05 & 07-1679 dated 2007-10-18. Jovytec test reports "Acceptance tests for 1000-NT, 1500-NT & 2000-NT issued 2008 and 2008-05-04/06/07. MeßTechnic test reports nos. 05329.167.06 dated 2006-09-25, 05384.003.07 dated 2007-01-18, 05384.004.07 dated 2007-01-22, 05458.041.07 dated 2007-03-15, 05475.063.07 & 05475.065.07 dated 2007-05-07; 05744.090.08, 05744.091.07 & 05744.092.08 dated 2008-05-21

Tests carried out

Type tests in accordance with IEC /EN 62040-3, Low temperature, Dry heat & Vibration tests in accordance to CN No. 2.4 Class A, Humidity/ Damp heat and EMC tests in accordance with CN No. 2.4 Class B, Compass Safe Distance.

Marking of product

JOVYTEC P – UPS model no. – UPS input – UPS output.



Job Id: **262.1-023076-1**
Certificate No: **TAE0000194**

Periodical assessment

The scope of the periodical assessment is to verify that the conditions stipulated for the Type approval are complied with and that no alterations are made to the product design or choice of materials.

The main elements of the assessment 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.
- Assessment to be performed at least every 2 year.

END OF CERTIFICATE