Certificate no.:
TAE000053N

TYPE APPROVAL CERTIFICATE

This is to certify:

that the Electrical Equipment

with type designation(s)
KK940 Size C1, C2

issued to
Cavotec Specimas S.p.A.
Nova Milanese, MB, Italy

is found to comply with
DNV rules for classification – Ships, offshore units, and high speed and light craft

Application:

Products approved by this certificate are accepted for installation on all vessels classed by DNV.

Temperature	**A**
Humidity	**B**
Vibration	**A**

Issued at **Høvik** on **2025-06-30**
This Certificate is valid until **2030-06-29**.
DNV local unit: **Italy/Malta CMC**

for **DNV**

Approval Engineer: **Georgy Abramenko**

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.

LEGAL DISCLAIMER: Unless otherwise stated in the applicable contract with the holder of this document, or following from mandatory law, the liability of DNV AS, its parent companies and their subsidiaries as well as their officers, directors and employees ("DNV") arising from or in connection with the services rendered for the purpose of the issuance of this document or reliance thereon, whether in contract or in tort (including negligence), shall be limited to direct losses and under any circumstance be limited to USD 300 000.

Product description

Electro-mechanical slip ring unit facilitating the transmission of power and electrical signals from stationary power source to movable/ rotating machine.

	Size C1	Size C2
Power rating (kW)	6100	7500
Maximum rated current (A)	2870	3530
Maximum rated voltage (V)	690	
Input frequency (Hz)	0 - 60	
Peak short circuit withstand current (kA)	30,8	38,1
RMS short circuit withstand current for 1 sec (kA)	10,9	13,2
Rotational speed (rpm)	2	
Duty cycle	S1	
Ingress Protection	IP 44	
Method of cooling	Forced ventilation with 4 fans (2 controlled via thermostat)	

Application/Limitation

1. This Type Approval Certificate does not replace the requirement to DNV Product Certificate.
   A Product Certificate is required for slip ring units with rated power exceeding 100kW.
2. Vibration/ Resonance dampers applied on slip ring unit fans to maintain the level of vibrations in permitted limits.

Type Approval documentation

Tests carried out

Tests according to DNV Rules for Ships Pt.4 Ch.8 Sec.8 (edition July 2024), DNV Class Guidance CG-0339, IEC 60092-501 section 13.6 (edition 2013).

Marking of product

Slipring Description – Product ID -Serial Number – Production Date – Voltage/Current – IP Rating – Unit Weight (data taken from nameplate).

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.

Periodical assessment is to be performed after 2 years and after 3.5 years.
A renewal assessment will be performed at renewal of the certificate.

Manufactured by:

Cavotec Specimas S.p.A.
Italy 20834 Nova Milanese via Gaetana Agnesi, 3.

END OF CERTIFICATE