DNV·GL

Certificate No:
TAE00003NS

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Circuit Breaker

with type designation(s)
VD4-EL

Issued to
ABB S.p.A. Electrification Buisiness Distribution Solutions
Via Friuli, 4 Dalmine BG, Italy

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

Application :

Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV GL.
Rated voltage (V) 12 and 17.5
Rated current (A) 630 - 4000

Issued at **Hamburg** on **2019-10-25**
This Certificate is valid until **2024-10-24**.
DNV GL local station: **Italy/Malta CMC**

Approval Engineer: **Harald Amberger**

for **DNV GL**

Arne Schaarmann
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.

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Job Id: **262.1-017723-2**
Certificate No: **TAE00003NS**

Name and place of manufacturer

ABB S.p.A. Electrification Business Distribution Solutions, Via Friuli, 4 Dalmine BG, Italy

Product description

Type: VD4 – with EL oper. Mech.

Medium voltage vacuum circuit breakers.

VD4/P: Withdrawable version designed to be connected with the compartments of ABB UniSafe or UniGear switchboards.

Ratings			
Rated voltage	U_r	12kV	17,5kV
Rated normal current (40°C)	I_r	630A…4000A[1)]	630A…4000A[1)]
Rated lightning impulse withstands voltage	U_p	75kV	95kV
Rated power-frequency withstands voltage	U_d	28kV	38kV
Rated frequency		50/60Hz	
Rated short time withstand current (3 s)	I_k	31.5…50kA	31.5…50kA
Rated short-circuit making current	I_p	80…125kA	80…125kA
Rated operating sequence		O - 0.3 s - CO – 15 s - CO	
[1)] 4000A only with forced ventilation of the switchgear Further ratings and auxiliary equipment (e.g. smart coils) acc. manufacturer documentation.			

Application/Limitation

Location Classes:
Temperature: B, Humidity: B, Vibration: A

Related fans for forced ventilation (up to 4000A) are to be monitored.

Operating instruction of the manufacturer to be observed

Type Approval documentation

Tests carried out

Type tests in accordance with IEC 62271-1 & IEC 62271-100: Dielectric performances, temperature-rise, operation performances, mechanical endurance, and shorts-circuit making and breaking.

Environmental tests in accordance with DNVGL-CG-0339: Power supply variation, vibration, inclination, damp heat and dry heat.

Marking of product

Acc. IEC 62271-100 subclause 5.10

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 Routine Tests (RT) checked (if not available tests according to 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.

END OF CERTIFICATE