Certificate No:
TAS00003KW

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Mooring and Towing Equipment

with type designation(s)
Double Bollard 500A

Issued to
Vulkan-Nova d.o.o.
Rijeka, **Croatia**

is found to comply with
DNV rules for classification – Ships

Application :

Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV.

Issued at **Hamburg** on **2022-10-28**
This Certificate is valid until **2027-10-27**.
DNV local unit: **Rijeka**

Approval Engineer: **Mark-Oliver Wobig**

for **DNV**

Andree Orth
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.

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 300,000 USD.

Product description

Double Bollard produced with the following specifications.

Nominal size 500A
Mooring Load One rope use 992 kN
Mooring Load Two rope use 757 kN
Towing load 1510 kN

Responsibility:
The Holder of the Certificate (the manufacturer mentioned on page 1) takes responsibility that both design and production are in compliance with the Rules listed on page 1 of this Type Approval Certificate, in particular DNV GL Pt.3, Ch.11.

Application/Limitation

- This certificate (design assessment) is a verification of the design towards the listed rules/requirements. This certificate does not waive certification requirements for application of this equipment which are outside the scope of this TA.

Type Approval documentation

190.552 Double Bollard 500A welded assembly

Drawing Approval: 262.1-037606-1, dated 2022-10-28
Report: Design Calculation Double Bollard ND500, dated 2022-10-27

Marking of product

For traceability purposes the bollards are to be marked with the manufacturer's name or trademark and type number identification. The stated SWL should not exceed the value for which this type approval certificate is issued.

Periodical assessment

For retention of the Type Approval, a DNV Surveyor shall perform periodical assessment after two years (+/- 90 days) and after 3.5 years (+/- 90 days) to verify that the conditions for the approval are complied with. Reference is made to DNV-CP-0338.

END OF CERTIFICATE