Certificate No:
TAM000018J

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Reduction Gear for Propulsion

with type designation(s)
MG-5126A and MGX-5126A

Issued to
Twin Disc International S.A.
NIVELLES, Brabant Wallon, Belgium

is found to comply with
DNV GL rules for classification – High speed and light craft

Application :

Product approved by this certificate is accepted for installation on all vessels with multiple propulsion lines and notation; Barge, LC Naval, Patrol, Yacht and Crew classed by DNV.

Input torque	**2748 Nm**
Input speed	**2300 rpm**
Reduction ratio	**1,03**

Issued at **Høvik** on **2021-05-18**

This Certificate is valid until **2026-05-18**.

for **DNV**

DNV local station: **Belgium CMC**

Approval Engineer: **Svein-Olav Hannevik**

Oddvar Deinboll
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
Single stage reduction gear with reversing gear and built-in clutch.

Application/Limitation
The reduction gears are approved for a maximum application factor, K_A of 1,15 and the following ratings:

Lifetime:	10 years	Rating [kW]	Input speed [rpm]
Annual operation:	1200 hours/year		
Load case 1	8% of time	662	2300
Load case 2	92% of time	536	2070

Type Approval documentation

Marking of product
The product to be marked with manufacturer's name or trademark and type number identification.

Periodical assessment
For retention of the Type Approval, a DNV GL surveyor shall perform an assessment after 2 years and after 3.5 years to verify that the conditions of the type approval are complied with. A renewal assessment will be performed at renewal of the certificate.

The objective of the Periodical Assessment is to verify that the conditions for the Type Approval are not altered since the Type Approval Certificate was issued.

In cases where the Type Approved product is manufactured at other companies, the Periodical Assessment shall verify that the Type Approval applicant has a quality control system for consistent production at their licensees/subcontractors.