



Certificate No:
TAM00001A2

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Reduction Gear for Propulsion

with type designation(s)
MM W 3100

Issued to

Masson Marine S.A.S.
Saint-Denis-les-Sens, France

is found to comply with

DNV rules for classification – Ships

DNV rules for classification – High speed and light craft

Application :

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

Input torque 3018 Nm

Input speed 2300 rpm

Reduction ratio 4.034:1, 4.444:1, 5.074:1, 5.56:1, 6.0:1

Issued at **Høvik** on **2022-09-20**

This Certificate is valid until **2027-09-19**.

for **DNV**

DNV local station: **France CMC**

Approval Engineer: **Geir Olav Moen**

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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.



Form code: TA 251

Revision: 2021-03

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Product description

- Input-output vertical offset
- One stage reduction gear
- Reversible (two clutches) or single direction (one clutch = NR version)
- The gearbox can be fitted with PTI

Three different commercial versions:

MM W 3100	Standard as given in product description
MM W 3100 NR EW	Non-reversible, engine wise
MM W 3100 NR CEW	Non-reversible, counter engine wise

Application/Limitation

Approved for rating as stated on page 1 with application factor (K_A): 1.3

Type Approval documentation

Marking of product

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

Periodical assessment

For retention of the type approval, a DNV 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.

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. Furthermore, periodical assessment shall be carried out randomly at these companies.

Other conditions

For gearbox intended for use in single propulsion plants the following shall be fulfilled:

- The gearbox shall be supplied with the twin filter option provided by the maker.
- A standby pump with immediate activation shall be provided (ref DNV-RU-SHIP Pt.4 Ch.4 Sec.2 [2.9.4])

Monitoring provided for gear box shall in addition to the standard also include the following optionals (ref to 428889 2/2 rev.C) shall be included in the delivery:

- lubricating pressure low alarm PA3bis (request engine stop)
- lubricating local pressure gauge PI3
- local visual temperature indicator TI5 (at outlet cooler)
- lubricating oil temperature alarm TA5 (at outlet cooler)
- visual temperature indicator TI4 (at inlet of oil cooler)
- oil level alarm CN
- clogged filter alarm IC

Clutch oil pressure:

- accumulator pressure transmitter PT2,
- accumulator pressure alarm PA2 (request declutching)
- accumulator local gauge PI2

For gearbox intended for use in single propulsion plants the following shall be included:

- main pump low pressure alarm PA1 (request starting of stand-by pump)

The approval does not cover:

- Connections to external shafts
- Fastening and foundation of the gearbox including chocking calculations.

END OF CERTIFICATE