Certificate No:
TAS00002YX

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Brakes

with type designation(s)
MDA 5, MDA 7, MDA 10

Issued to
Bosch Rexroth AB
Mellansel, **Sweden**

is found to comply with
DNV GL standard DNVGL-ST-0378 – Standard for offshore and platform lifting appliances

Application :

Brakes for offshore and platform cranes

Issued at **Høvik** on **2021-05-04**
This Certificate is valid until **2026-05-03**.
DNV local station: **Sweden CMC**

Approval Engineer: **Harald Jensen**

for **DNV**

Aldo Matteucci
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

Parking and emergency brakes. The brakes are spring activated with hydraulic release. The braking momentum is added up of frictional forces acting on several discs connected to the rotating shaft.

Type	Inner discs	Outer discs	Braking surfaces	Permitted motor drive torque	Dynamic braking capacity	Static braking capacity
MDA 5-16	3	4	6	9100 Nm	13600 Nm	15800 Nm
MDA 5-26	5	6	10	14250 Nm	22600 Nm	26400 Nm
MDA 7-34	7	8	14	20000 Nm	30400 Nm	35500 Nm
MDA 10-48	10	11	20	28500 Nm	41500 Nm	48400 Nm

Categorization: Offshore and platform cranes

Required brake release pressure is 20-25 bar.

Design temperature: -20°C

Application/Limitation

This approval is based on the Type Approval Certificate TAS000004X
The brake is not intended for dynamic use
All load-carrying materials are to be delivered with 3.1 certificates, documenting mechanical properties and chemical composition in accordance with the DNVGL-ST-0378 Sec. 3
Support and fixation of the brakes are not covered by this type approval and are to be separately considered/ approved in each case.

Type Approval documentation

Tests carried out

The prototype test is not relevant. In order to obtain a DNV GL Product Certificate, each brake shall be tested according to DNVGL-ST-0378 Sec. 14

Marking of product

Each brake is to be marked according to DNVGL-ST-0378 Sec.14.5.

Periodical assessment

For retention of the Type Approval, a DNV GL 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 DNVGL-CP-0338.

END OF CERTIFICATE