



Certificate no.:
TAS00004EV

TYPE APPROVAL CERTIFICATE

This is to certify:

that the Cranes, gen.

with type designation(s)
Tracks for tensioner

issued to

MacArtney A/S
Esbjerg V, Syddanmark, Denmark

is found to comply with

DNV standard DNV-ST-0378 – Offshore and platform lifting appliances

Application:

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

Issued at **Høvik** on **2025-12-16**

This Certificate is valid until **2030-12-15**.

for **DNV**

DNV local unit: **Esbjerg Verification**

Approval Engineer: **Fredrik Per Olof Höglund**

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 USD 300 000.



Form code: TA 251

Revision: 2023-09

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Product description

Product: Track for tensioner. To be used in pairs.

Design codes/standards used as references

DNV-RP-0232 – Pipeline and cable laying equipment

Application/Limitation

Category: Active equipment – high risk

Self-weight top track: 4.6 mT

Self-weight bottom track: 4.3 mT

Operating mode: bi-directional, per pair	Operational*
Maximum operational line load (MOLL)	200 kN
Maximum emergency line load (MELL)	250 kN
Maximum brake load	300 kN
Maximum squeeze force, operational	667 kN/track
Maximum squeeze force, braking	1000 kN/track
Contact length between track pads and cable	4000 mm
Maximum product fleet angle, from centreline	0 deg.
Minimum friction coefficient between track pads and cable	0.15**

* During transit, the tracks will not be subjected to any line loads.

** The minimum friction coefficient has been provided by MacArtney, data and procedures adopted for estimating have not formed part of DNV scope.

Minimum design temperature: -20°C

Approval limitations

The following have not formed part of this approval:

- The overall tensioner system
- Motors, brakes and gearboxes
- The track pads; it is the end user's responsibility to ensure that track pads are appropriate to the product (e.g. cable) dimensional, physical and mechanical characteristics are used.
- Corrosion and functionality in marine environment

Type Approval documentation

Certification

This Type Approval covers design(s) only. i.e. the Type Approval is not valid for the final product, but may be used as basis for obtaining a product certificate.

If a DNV Product Certificate is required, the following shall apply:

- The manufacturing survey shall be followed-up by a DNV Surveyor
- Subcomponents such as gears, brakes, chains and hydraulic cylinder for idler wheel shall be delivered with certificate in accordance with DNV-RP-0232 Table 2-3.
- Testing as part of assembled tensioner as per DNV approved test procedures. The testing shall be witnessed by a DNV surveyor.
- Each pair of tracks shall be marked in accordance with DNV-ST-0378 Sec.14 and include the following information:
 - Item number
 - MOLL, MELL, break line load
 - Maximum squeeze pressure/force
 - Contact length

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.

This certificate is only valid if required periodical assessments are carried out with satisfactory results. To check the validity of this certificate, please look it up in <https://approvalfinder.dnv.com>.

End of certificate