Certificate No:
TAS00003FH

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Crane Pedestal

with type designation(s)
Trolley, Pedestal

Issued to
SMST Designers & Constructors B.V.
Drachten, Friesland, Netherlands

is found to comply with
DNV standard DNV-ST-0358 – Offshore gangways
DNV standard DNV-ST-0378 – Offshore and platform lifting appliances

Application :

Support structure for offshore gangway

Issued at **Høvik** on **2022-07-04**
This Certificate is valid until **2027-07-03**.
DNV local station: **Netherlands VMC**

Approval Engineer: **Florian Teica**

for **DNV**

Per Esvall
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

Equipment type: Trolley
Equipment use: Height adjustable support structure for offshore gangway pedestal

Equipment type: Pedestal
Equipment use:
- Pedestal for offshore gangway that allows gangway rotation in the horizontal plane (slewing).
- It is attached to the trolley through a welded connection

Application/Limitation

Self-weight: as per DC-D00009539 rev A *Weight overview*
- Trolley and pedestal: 20 tonnes
- TAB-L2: 30 tonnes (offshore gangway above the pedestal slewing bearing, covered by TAS000034U)

Wire MBL: 830 kN

Operational limitations

Operating condition		Operational	Transit/parked
Live Load (LL) trolley (at gangway waiting platform)		3.0 tonnes	-
Load due to lift door frame		1.0 tonne	-
Working parameters (at gangway slewing bearing)	Axial force	30 tonnes*	30 tonnes
	Radial force (including wind)	120 kN*	178 kN
	Overturning moment	3550 kN x m*	1500 kN x m
	Slewing moment	1000 kN x m*	0 kN x m
Gangway operating angle		-115 to +125 deg (relative to ship centreline) (ref DC-D00006989 Rev A figure 3)	
Vessel accelerations**	Vertical (in addition to gravity)	±2,5 m/s^2	±9 m/s^2
	Longitudinal	±3,0 m/s^2	±5 / 10 m/s^2
	Transverse	±3,0 m/s^2	±10 / 5 m/s^2
Wind speed (at gangway location)		25 m/s	63 m/s

*) When a dual-purpose equipment is used (i.e. capable of performing both gangway and offshore crane functions), the above defined values, except the axial force, already include the offshore safety factor SF1 = 1.3; consequently, the equipment's nominal working parameters, except the axial load, shall be decreased accordingly
**) relative to the vessel axis

Design temperature: -20°C

The operational limitations defined above have been provided by SMST, data and procedures adopted for estimating which have not formed part of this review. It is the end user's responsibility to ensure that these are never exceeded during service.

The control system drawings and documents are Type approved, ref. TAS00001UG.

The Type Approval is not covering the following components:
- Slewing system (slewing bearing and drives)
- Winch
- Wire
- Sheave block

For certification requirements for components see DNV-ST-0358 Section 2 and below:
- The winch shall be delivered with DNV PC, category offshore for personnel lifting
- The wire shall be delivered with CG4 or ILO form 4
- The sheave block shall be delivered with DNV design/type approval and manufacturing survey report
- The slewing bearing shall be delivered with DNV PC

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
- Each trolley and pedestal shall be tested as per DNV-ST-0358 Sec 7, TAS00001UG, TAS000034U and DNV approved test procedures in the presence of a DNV Surveyor.

Marking of product

Marking shall be in accordance with DNV-ST-0358 Section 7.4.

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