

TYPE APPROVAL CERTIFICATE

This is to certify:

That the A-Frame

with type designation(s)
A-FRAME 1281-600F1-01

Issued to

Forum U.S. Inc, dba DYNACON
Bryan, TX, USA

is found to comply with

DNV GL standard DNVGL-ST-0378 – Standard for offshore and platform lifting appliances

Application :

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

Issued at **Houston** on **2020-09-03**

This Certificate is valid until **2025-09-02**.

DNV GL local station: **Houston, Approval CMC**

for **DNV GL**

Approval Engineer: **Bo Cui**

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Mark Miser
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 GL AS, its parent companies and subsidiaries as well as their officers, directors and employees ("DNV GL") 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.



Job Id: **262.1-034018-1**
Certificate No: **TAS00002KS**

Product description

Model 9966-1281 A-Frame for ROV lifting

Application/Limitation

Design Parameter	Value	(Equivalent)
Minimum design temperature	-20°C	(-4°F)
SWL for offboard hoisting	22,000 kg*g	(48,502 lbf)
Design dynamic factor for offboard hoisting	2.81	
SWL for luffing	12,000 kg*g	(26,455 lbf)
Design dynamic factor for luffing	1.25	
Maximum vertical acceleration from A-Frame foundation	2.0 g	
Maximum longitudinal/transverse acceleration from A-Frame foundation	1.0 g	
Maximum gross mass of A-Frame Assembly	27,216 kg	(60,000 lbs)
Number of lifting points for A-Frame lifting	4	
Maximum sling angle from vertical	30 degree	
Lifting pin diameter	42.2 mm	(1.66 in)

Type Approval documentation

Tests carried out

Proto-type test was carried out on 9th July, 2020, witnessed by DNVGL Surveyor reference to A0874084.

Marking of product

For the traceability to this Type Approval Certificate, the products marking shall include:

1. Serial Number.
2. Manufacturer's name or trademark.
3. Additional marking at the manufacturer's discretion
4. Be in accordance with DNVGL-ST-0378

Periodical assessment

In order to maintain the validity of the type approval certificate, periodical assessments should be carried out according to DNVGL-CP-0338. Periodical assessments will, when possible, be harmonised with other surveys and audits carried out.

END OF CERTIFICATE