



Certificate No:
TAP00002J4

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Hydraulic Accumulator

with type designation(s)
PA 30L 300BAR 200-C-N, PA 50L 300BAR 200-C-N

Issued to
Servi AS
RISSA, Norway

is found to comply with
DNV-OS-D101 – Marine and machinery systems and equipment, Edition July 2021
DNV rules for classification – Ships Pt.4 Ch.7 Pressure equipment
DNV standard DNV-ST-0378 – Offshore and platform lifting appliances

Application :

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

Type:	Temperature range:	Operating media:	Design pressure:	Sizes:
PA 30L 300BAR 200-C-N	-10° to 70°C	Mineral oil / Nitrogen gas	300 bar	30 L
PA 50L 300BAR 200-C-N	-10° to 70°C	Mineral oil / Nitrogen gas	300 bar	50 L

Issued at **Høvik** on **2022-05-02**

This Certificate is valid until **2027-05-01**.

for **DNV**

DNV local station: **Mid-North Norway CMC**

Approval Engineer: **Vegard Skaug Hjelmeland**

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Zeinab Sharifi
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

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Product description

Hydraulic piston accumulator with inner diameter of 200 mm and volume of 30 L or 50 L. Designed according to EN 14359.

Materials:

Barrel	End cap, fluid side	End cap, gas side	Piston
E355+SR (EN10305-1)* HC520+SR* HC520-M+SR*	S355J2+N (EN 10025-2)* S355J2G3 (EN 10250-2)* S355G10+N (EN 10225-1)*	S355J2+N (EN 10025-2)* S355J2G3 (EN 10250-2)* S355G10+N (EN 10225-1)*	Aluminium 6082-T6

*Material shall be according to Particular Material Appraisal (PMA).

Application/Limitation

The accumulators covered by this certificate are approved for unlimited number of cycles between 0 to 280 bar.

Each accumulator shall be protected on both gas and hydraulic fluid side by a safety device such as relief valve, fuse plug or rupture disc to prevent excess pressure if overheated. When the accumulator is an integral part of a system with such a safety device, the accumulator itself need not be supplied with a safety device.

All manufacturing, workmanship and testing shall be done in accordance with EN 14359.

Production testing and Certification

Production Testing and Certification for the actual intended application shall follow EN 14359 and the latest applicable edition of the Rules (as mentioned on the front page of this certificate).

Type Approval documentation

Marking of product

Each hydraulic accumulator is to be permanently and legibly marked with following information:

- Date of manufacture, (month/year)
- Manufacturer's serial number
- Manufacturer's name/symbol
- Total shell volume in litres
- Allowable temperature range in degrees Celsius
- Maximum allowable pressure
- Test pressure

The location and process of stamping of the accumulators shall not be detrimental to its strength.

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.