

TYPE APPROVAL DESIGN CERTIFICATE

This is to certify:

That the Air Separator

with type designation(s)
SFH 089N/OW

Issued to

Parker Hannifin Manufacturing S.r.l.
Sant'Angelo di Piove di Sacco, Italy

is found to comply with

DNV rules for classification – Ships Pt.4 Ch.7 Pressure equipment

Application :

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

Max. working temp.: 65 °C

Working media: Air

Design pressure: 16 bar

Issued at **Hamburg** on **2021-11-03**

This Certificate is valid until **2026-11-02** .

DNV local unit: **Italy/Malta CMC**

Approval Engineer: **Le Loi Nguyen**

for **DNV**

Jonathan Struwe
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

Moisture separator of Type **SFH 089N/OW** operating with air. For details of the separator (e.g. dimensions and material particulars) see approved technical documentation.

Application/Limitation

Design data:

- P_d (design pressure): 16 bar
- P_t (test pressure): 24 bar
- D (shell outside diameter): 323.9 mm x 6 mm
- Ellipsoidal head with 5 mm minimum thickness
- Corrosion allowance: 1 mm
- Overall length: 1060 mm
- Capacity: 78 L

Applied rule is DNVGL-RU-SHIP Pt.4 Ch.7 'Pressure Equipment' (Edition July 2020). The Moisture Separator is graded in pressure equipment class II according to DNVGL-RU-SHIP Pt.4 Ch.7 Sec.1 [Table 2].

The materials used for pressurised parts have to comply with DNVGL-Rules for material (DNVGL-RU-SHIP Pt.4 Ch.7 Sec.1 Tab. 6 (Edition July 2020)).

Used material shall be delivered with DNV certificate, made by works approved by society (AOM) (Reference is made to DNV GL ship rules Pt.4 Ch.7 Sec.1 [Table 6]).

This type approval covers the design of the Moisture separator of Type SFH 089N/OW only. Manufacturing, workmanship, and testing shall be done acc. to DNVGL-RU-SHIP Pt.4 Ch.7 Sec.7. Each filter assembly is to be:

- Constructional tested and hydraulic pressure tested to 1.5 times design pressure.
- Certified by DNV and delivered with a product certificate.

The manufacturer shall maintain a valid certificate as approved manufacturer for welded pressure equipment in accordance with DNVGL-CP-0261 (Edition December 2018).

Type Approval documentation

Marking of product

For traceability to this type approval the products are at least to be marked with:

- the name and domicile of the manufacturer,
- the manufacturer's type designation and serial number,
- the year of manufacture,
- the design pressure,
- the design temperature in °C,
- the hydraulic test pressure, and
- DNV's identifying mark.

Periodical assessment

The objective of the periodical assessment is to verify that the conditions for the type approval (TA) have not been altered.

The main scope of the periodical assessment will normally include:

- verification of the TA applicant's production and quality system w.r.t. ensuring continued consistent production of the TA products at the TA applicant's own premises and at other companies that are given the responsibility for manufacturing of the products,
- review of TA documentation and that this is still used as basis for the production,
- review of possible changes in the design, the materials, and the performance of the product, and
- verification of the product marking.

For retention of the TA certificate in its validity period the periodical assessments will be carried out every two years.



Job Id: **262.1-036454-1**
Certificate No: **TAP00002EW**

Unscheduled assessments for retention of the certificate may be carried out when there is reason to believe that the type approval applicant has not adhered to the obligations stipulated in the type approval certificate.

END OF CERTIFICATE