

TYPE APPROVAL CERTIFICATE

This is to certify:**That the Oil/Water Separator**with type designation(s)
Separator WZ-50

Issued to

Heckmann Maschinenbau und Verfahrenstechnik GmbH
Dörverden, Niedersachsen, Germanyis found to comply with
DNV GL rules for classification – Ships Pt.4 Ch.7 Pressure equipment**Application :****Separator(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV GL.****Max. working temp.:** 100°C**Working media:** Air, steam, oil, water**Design pressure:** 30 barIssued at **Hamburg** on **2019-04-25**This Certificate is valid until **2024-02-24**.DNV GL local station: **Hamburg CMC**for **DNV GL**Approval Engineer: **Stefan Wiemer**

Harald Pauli
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.



Product description

- Welded pressure vessel with cylindrical shell and dished ends. Outer diameter 168.3mm, length 540mm,
- For details of the separator (e. g. design data, materials or dimensions) see Approved Drawing (listed below in "Type Approval documentation").

Application/Limitation

- The separator is approved according to DNV GL rules Pt.4 Ch.7 'Pressure Equipment' (Edition January 2018), and graded as pressure equipment class I (Pt.4 Ch.7 Sec.1 Table 2). The joint efficiency is $v=0.85$, the corrosion allowance 1 mm (carbon steel),
- All material used for pressurized parts shall be delivered with material certificates according to DNV GL rules Pt.4 Ch.7 Sec.1 Table 5,
- Manufacturing, workmanship and testing shall be done according to DNV GL rules Pt.4 Ch.7 Sec.7,
- The manufacturer of the separator shall hold a valid certificate according to DNVGL CP-0261 'approval of manufacturers – pressure equipment' (DNVGL rules Pt.4 Ch.7 Sec. 7 [1.1.1]),
- each separator manufactured to this type approval is to be:
 - Constructionally checked and hydraulic pressure tested to minimum 1.5 x design pressure,
 - Certified by DNV GL and to be delivered with a product certificate.

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 GL'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 bi-yearly.

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