DNV·GL

Certificate No:
TAP000024R

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Filter

with type designation(s)
HDPD / HDMD 1800 UC, HDPD / HDMD 2200 UC

Issued to
HYDAC Filtertechnik GmbH
Sulzbach, Saarland, Germany

is found to comply with
DNV GL rules for classification – Ships Pt.4 Ch.6 Piping systems
DNV GL rules for classification – Ships Pt.4 Ch.7 Pressure equipment

Application :

Products approved by this certificate are accepted for installation on all vessels classed by DNV GL.

Type:	Max. working temp.:	Working media:	Design pressure:
HDPD / HDMD 1800 UC	-20°C to +70°C	Diesel fuel	18,5 bar
HDPD / HDMD 2200 UC	-20°C to +70°C	Diesel fuel	18,5 bar

Issued at **Hamburg** on **2020-10-08**
This Certificate is valid until **2025-10-07**.
DNV GL local station: **Essen**

Approval Engineer: **Guido Friederich**

for **DNV GL**

Olaf Drews
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.

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Product description

Marine Diesel fuel filter designed as duplex filter with an integrated ball valve. The integrated ball valve may be used to switch the oil volume flow between each of the two filter housings in case for any required maintenance of the integrated filter cartridges. The filter may be installed either as main filter in the fuel line between the fuel tank and the engine or as an intermediate filter to provide extra protection against fuel containments.

Design pressure:	18,5 bar
Design temperature:	-20°C to + 70 °C
Filter volume flow rate:	up to 6000 l/hr
Filter volumes:	
HDPD / HDMD 1800 UC:	2 x 5,3 Liter
HDPD / HDMD 2200 UC:	2 x 5,9 Liter
Materials filter casing:	Ductile cast iron, EN-GJS-400-18LT acc. DIN EN 1563
Inlet-/Outlet connections:	M 33 x 2 acc. to ISO 6149-1

Application/Limitation

Diesel-fuel main filter for ship and offshore applications

Type HDPD:	Diesel Precare Duplex fuel filter for applications on the suction site
Type HDMD:	Diesel Maincare Duplex fuel filter for applications on the pressure site
Diesel-fuel types [1]:	Diesel fuel according to EN 590 / ASTMD975 No. 1D + 2D incl. B7 fuel Diesel fuel B10 (10% Bio-Diesel Marine destilate fuel DMA acc. to ISO 8217

Note 1:
Diesel, fuel oil, lubrication oil, hydraulic oil and thermal oil are in this context regarded as "Flammable liquids".
See DNV GL Rules, Pt. 4 Ch. 1, Section 3 – Design principles

Limitation

HYDAC HDPD and HDMD filter types are not suitable for liquefied gases.

Tests carried out

Test standards:	DNV GL Rules Pt.4 Ch.7 – Pressure equipment DNV GL Rules Pt.4 Ch.6 – Piping systems ISO 4020 - Fuel filters for diesel engines — Test methods
Type of test	Purpose / Test condition
Visual inspection	Inspection of complete assembled filters on accordance with design drawings
Functional test	Test of HYDAC HDPD / HDMD filter types on correct operation according to design drawings and filter performance data sheets
Pressure test / Tightness test	Test pressure: 1,5 times the design pressure in amount of 27,75 bar Duration of test: 5 minutes Test fluid: ISO 4113 Fuel Pump Test Fluid.
Burst pressure test	Burst pressure test in alignment to ISO 4020 up to 200 bar Test fluid: Oil Burst pressure: 4,8 x design pressure of 18,5 bar = 88,8 bar

Type Approval documentation

Marking of product

For traceability to this type approval the filter is to be marked with:

- Manufacturers name or trademark
- Filter type designation
- Capacity
- Working pressure and temperature range
- Test pressure
- Serial no.
- TA No.

Periodical assessment

For retention of the Type Approval, a DNV GL Surveyor shall perform periodical assessment after two years (+/- 90 days) and after 3.5 years (+/- 90 days) to verify that the conditions for the Type Approval are complied with. Refer to DNVGL-CP-0338, Sec.4.

END OF CERTIFICATE