DNV·GL

Certificate No:
TAP0000215

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Pressure Vessel

with type designation(s)
Filters 01A, 02A, 03A, 05A, 08A, 011A, 014A, 019A

Issued to
MASKINSPECIALISTEN AS
OSLO, Norway

is found to comply with
DNV GL rules for classification – Ships Pt.4 Ch.7 Pressure equipment
DNVGL-OS-D101 – Marine and machinery systems and equipment, Edition January 2018

Application :

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

Max. working temp.:	**100 °C**
Design pressure:	**16 bar**
Operating Medium	**Air and inert gases**

Issued at **Høvik** on **2020-02-03**

This Certificate is valid until **2021-06-29**.

for **DNV GL**

DNV GL local station: **Oslo Maritime and CAP**

Approval Engineer: **Maheshraja Venkatesan**

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.

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Product description

8 types of filter vessels with a bolted bottom cover:

Model	01A	02A	03A	05A	08A	011A	014A	019A
Shell OD (mm)	168.3	219.1	273.1	323.9	400	500	550	600
Shell thickness (mm)	4.5	6.3	6.3	7.1	6	6	6	8
Height (mm)	1037	1055	1084	1111	1184	1219	1242	1336

Materials:

Shell	Models 01A, 02A, 03A, 05A	P235GH EN 10028-2
	Models 08A, 011A, 014A, 019A	P265GH EN 10028-2
Dished end	All models	P265GH EN 10028-2
PN16 flanges	All models	P250GH EN 10273
Bottom flange and bolted cover	All models	P355NL1/NL2 EN 10028-3

Application/Limitation

Filters covered byt this certificate are approved for use with compressed air and inert gas applications with the following design limitations:

Design data	For all Filter types
Design pressure (bar)	16
Test pressure (bar)	24
Design temperature (°C)	-10/100
Pressure vessel class	II
Joint efficiency	1
Corrosion allowance (mm)	1

Type Approval documentation

Production testing

Each filter shall be subjected to hydrostatic pressure test upon completion to at least 1.5 times the design pressure in the presence of a DNV GL Surveyor.

Certification

Materials for pressure retaining parts are to be delivered with material certificates according to DNVGL-RU-SHIP Pt. 4 Ch. 7 Sec. 1 Table 6. Also, relevant requirements in DNVGL-RU-SHIP Pt. 2 Ch. 2 shall be fulfilled.

Approval of manufactuer is required for VL and W material certificates.

Each filter shall be certified by a DNV GL surveyor and to be delivered with a DNV GL product certificate.

Marking of product

Each filter shall be permanently and legibly marked on the pressure part or on a nameplate permanently attached to a principal pressure part to show its identity and origin.

The marking of the filter shall show at least the following particulars:

- manufacturer's name and address
- type designation and serial number
- year of manufacture
- maximum allowable working pressure
- hydrostatic test pressure
- design temperature range.

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 approval are complied with. Reference is made to DNVGL-CP-0338.