

TYPE APPROVAL CERTIFICATE

This is to certify:**That the Fuel-, Lubricating- and Hydraulic Oil Filters**with type designation(s)
DFBO, SFBO

Issued to

PARKER HANNIFIN MANUFACTURING FINLAND OY
Urjala As., Finland

is found to comply with

DNV GL rules for classification – Ships Pt.4 Ch.6 Piping systems**Application :****Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV GL.**

Type:	Max. working temp.:	Max. working press.:	Sizes:
DFBO	0°C to +60°C	7 bar	10" and 14" (lengths)
SFBO	0°C to +60°C	7 bar	10" and 14" (lengths)

Issued at **Høvik** on **2017-05-15**This Certificate is valid until **2021-12-31**.for **DNV GL**DNV GL local station: **Turku**Approval Engineer: **Adel Samiei**

Marianne Spæren Marveng
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

Two types of double filter for fuel, lube and hydraulic oil.

Material of housing: EN-GJS-400-15, S355J0 or CR03.
Material of bowl: AISI 1008 Carbon Steel (UNS G10080)
threaded adaptors: 11L14 steel
Volume: DFBO: 16 litres - bowl lengths 10" 20 litres - bowl lengths 14"
SFBO: 5.5 litres - bowl lengths 10" 7.5 litres - bowl lengths 14"

Application/Limitation

The approval is related to the strength of the parts subjected to pressure and not the filter function.

The inlet and outlet of the filter are to be fitted with connections where the sealing is not made on the threads.

Installation shall be in accordance with DNV GL Ship Rules Pt.4 Ch.6 Sec.5.

Each filter delivered to DNV GL Class is to be pressure tested to 1.5 x maximum working pressure.

Each filter unit shall be certified by DNV GL's surveyor when required by Rules or the Purchaser.

Type Approval documentation

Drawings numbers:

- | | |
|--|--------------------------------|
| - 8202 rev. L DFBO Housing dated 2016-09-07 | - 8210 rev.B dated 2010-01-08 |
| - 8203 rev. I DFBO Dimensions dated 2012-08-02 | - 72610 rev.G dated 2015-04-15 |
| - 8483 rev. C DFBO Assembly dated 2012-09-18 | - 72419 rev.G dated 2012-09-18 |
| - 8900 rev.K dated 2016-09-07 | - 72608 rev.J dated 2015-04-29 |
| - 8901 rev.F dated 2016-05-25 | - 72609 rev.F dated 2015-04-29 |
| - 8483 rev.C dated 2012-09-18 | - 72610 rev.G dated 2015-04-15 |

Structural Analysis Report of BOWL – DFBO dated 2009-10-23

Structural Analysis Report – SFBO Frame 8900 dated 2015-10-02

DFBO Operation and maintenance Instructions rev.A dated 2015-01-08

Burst test report no 4748/MSi/VK dated 02.06.2010

SFBO OPERATION AND MAINTENANCE INSTRUCTIONS - omSFBO-B Rev.D dated 2016-03-14

SFBO Brochure with designation FDHB819UK 03/2014

Tests carried out

Burst test of filter housing

Marking of product

For traceability to this type approval the filters are to be marked with:

- Manufacturer's name or trade mark
- Type designation
- Size

Periodical assessment

For retention of the Type Approval a DNV GL Surveyor shall perform a periodical assessment every second Year. The objective of the periodical assessment is to verify that the conditions for the TA are not altered since the TAC was issued.