



TYPE APPROVAL CERTIFICATE
No. MAC139910XG

This is to certify that the product identified below is in compliance with the regulations herewith specified.

<i>Description</i>	Filters
<i>Type</i>	Internormen Druckfilters
	TYPE:
	DU 101
	DU 251
	DU 401
	DU 631
	DU 635
	DU 1001
	DU 1050
	DU 1950
	DU 2050
<i>Applicant</i>	INTERNORMEN - TECHNOLOGY GMBH
	FRIEDENSSTRASSE 41
	D-68804 ALTLUSSHEIM
	GERMANY
<i>Manufacturer</i>	INTERNORMEN - TECHNOLOGY GMBH
<i>Place of manufacture</i>	FRIEDENSSTRASSE 41
	D-68804 ALTLUSSHEIM
	GERMANY
<i>Reference standards</i>	Part C, Chapter 1, Section 10 of RINA Rules

Issued in **Hamburg** on November 17, 2010. *This Certificate is valid until* **November 16, 2015**



RINA
Daniele Chirulli

This certificate consists of this page and 1 enclosure

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Internormen Druckfilters

Product Description

Duplex filters with manually operated changeover 3-way valve.
Filter bodies and changeover valve body cast in one piece for type DU 101, 251, 401, 631, 1001 and 1950 and separate switching housing for type DU 635, 1050 and 2050.

Reference Documents

Approved drawings as follows:

- Type DU101: No. 4316643 up to 4316649 issued on 11 August 1995
- Type DU251: No. 4315795 up to 4315802 issued on 11 July 1995
- Type DU401: No. PPVT-4478 up to PPVT-4481 issued on 11 November 2008
- Type DU631: No. 4329364 up to 4329371 issued on 5 November 1996
- Type DU635: No. PPVT-6670 issued on 3 July 2009
- Type DU1001 / DU1950: No. 4360691 up to 4360698 issued on 13 August 1999
- Type DU1050 / DU2050: Letter No. MAC/004543/VBC issued on 6 March 2000
- Casing extension: No. HMMC-1640 issued on 17 November 2010
- Filed data sheets of all filters: No. HMMC-1639 issued on 17 November 2010

Materials

As listed in the above mentioned approved drawings.

Technical characteristics

Type	DN	Max. Working Pressure (bar)	Content (l)
DU101	25/32	32	2 x 0.90
DU251	40/50	32	2 x 2.5
DU401	50	32	2 x 3.7
DU631	65	32	2 x 5.7
DU635	65	32	2 x 5.7
DU1001	80	32	2 x 13.0
DU1050	80/100	32	2 x 13.7
DU1950	80	32	2 x 23.3
DU2050	80/100	32	2 x 23.9

Temperature range: -10°C up to 80°C

Medium: Fuel Oil, Hydraulic Oil, Lubricating Oil and Mineral Oil.



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Internormen Filters

Fields of Application

Fuel oil systems, hydraulic oil systems and lubricating oil systems on ships and off-shore installations classed with RINA.

Remarks

The selection of the filters for the corresponding application and proper installation and maintenance are to be in accordance with the instructions of Internormen.

Materials for pressure parts having a design temperature below the ambient temperature are to have notch toughness properties suitable for the design temperature.

A suitable set of spare parts, in order to grant oil filtration in case of single component failure, is to be kept onboard.

The acceptance of the above mentioned products on board ships and other units classed with RINA is subject to the satisfactory outcome of testing as per RINA Rules.

Hamburg November 17, 2010



A handwritten signature in blue ink, appearing to read 'Roberto Phillips', is written to the right of the RINA logo.