

TYPE APPROVAL CERTIFICATE

This is to certify:**That the control box for back-flushing filter**with type designation(s)
AUTOFilt®

Issued to

**RECO Gesellschaft für Industriefilter-Regelung mit
beschränkter Haftung
Troisdorf , Germany**

is found to comply with

DNV GL rules for classification – Ships, offshore units, and high speed and light craft**Application :****Product(s) approved by this certificate is/are accepted for installation on all vessels classed
by DNV GL.****Location classes:****Temperature D****Humidity B****Vibration B****EMC B****Enclosure B / IP56**Issued at **Hamburg** on **2017-06-26**This Certificate is valid until **2022-06-25**.DNV GL local station: **Essen**for **DNV GL**Approval Engineer: **Dariusz Lesniewski****Joannis Papanuskas**
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

The control box consists of the following main components:

- Wall cabinet (AE 1030.500)
- Filter control board (HYDAC)
- Display (RM-VISIO 80)
- Control transformer (TAM1896-0AA20-0CA)
- Main /Emergency stop switch (OT16F3)
- Motor overload switch MS166-0.25-HKF1-11)
- Power contactor (BC-30-10)
- Control software (Version: hydac26052017)

Power supply: 440V AC 50/60Hz

Degree of protection: IP65

Approval conditions

The Type Approval covers hardware listed under Product description. When the hardware is used in applications to be classed by DNV GL, documentation for the actual application is to be submitted for approval by the manufacturer of the application system in each case. Reference is made to DNV GL rules for classification of ships Pt.4 Ch.9 Control and monitoring systems.

Application/Limitation

For control of HYDAC back-flushing filters AutoFilt® RF9-1...9

Electrical connection with the back-flushing filters only by use of DNV GL type approved cables

Type Approval documentation

Tests carried out

Applicable tests according to class guideline DNVGL-CG-0339, November 2016.

Marking of product

The products to be marked with:

- manufacturer name
- model name
- serial number
- power supply ratings

Periodical assessment

The scope of the periodical assessment is to verify that the conditions stipulated for the type are complied with, and that no alterations are made to the product design or choice of systems, software versions, components and/or materials.

The main elements of the assessment are:

- Ensure that type approved documentation is available
- Inspection of factory samples, selected at random from the production line (where practicable)
- Review of production and inspection routines, including test records from product sample tests and control routines
- Ensuring that systems, software versions, components and/or materials used comply with type approved documents and/or referenced system, software, component and material specifications
- Review of possible changes in design of systems, software versions, components, materials and/or performance, and make sure that such changes do not affect the type approval given
- Ensuring traceability between manufacturer's product type marking and the type approval certificate

Periodical assessment is to be performed at least every second year and at renewal of this certificate.

END OF CERTIFICATE