

TYPE APPROVAL CERTIFICATE

This is to certify:**That the Pressure Switch**

with type designation(s)
DSF, DSB

Issued to

Fr. Sauter AG
Basel BS, Switzerland

is found to comply with
DNV GL rules for classification – Ships

Application :

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

Location class:

Temperature B

Humidity B

Vibration B

EMC -

Enclosure Required protection according to DNVGL Rules

Issued at **Hamburg** on **2017-04-12**

This Certificate is valid until **2022-03-08**.

for **DNV GL**

DNV GL local station: **Augsburg**

Approval Engineer: **Klaus-Peter Schröder**

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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

Type DSF: Sensor of stainless steel for aggressive media

Type DSB: Sensor of brass for non-aggressive media

Type	Range
DSF 125 F001	-1 ... 1.5 bar
DSF 127 F001	-1 ... 5 bar
DSF 135 F001	0 ... 0.6 bar
DSF 138 F001	0 ... 1.6 bar
DSF 140 F001	0 ... 2.5 bar
DSF 143 F001	0 ... 6 bar
DSF 146 F001	0 ... 10 bar
DSF 152 F001	0 ... 16 bar
DSF 158 F001	0 ... 25 bar
DSF 170 F001	15 ... 40 bar
DSB 138 F001	0 ... 1.6 bar
DSB 140 F001	0 ... 2.5 bar
DSB 143 F001	0 ... 6 bar
DSB 146 F001	0 ... 10 bar
DSB 152 F001	6 ... 16 bar
DSB 158 F001	0 ... 25 bar
DSB 170 F001	5 ... 40 bar

Output	1 c/o contact
Contact rating	Silver: 10(4) A, 250 V AC; 50 W, 250 V DC Gold: 400 mA, 24 V, 10 VA
Electrical connection	Plug and socket (DIN 43 650)
Housing	Halogen free, transparent thermoplastic cover, impact-proof
Screw-in thread	G ½ A

Application/Limitation

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 RU SHIP Pt.4 Ch.9 Sec. 1.

Type Approval documentation

Tests carried out

Applicable tests according to Class Guideline DNVGL-CG-0339, Edition November 2015.

Marking of product

The products to be marked with:

- manufacturer name
- type number
- temperature range
- electrical contact rating
- pressure measuring range scale

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

Job Id: **262.1-024594-1**
Certificate No: **TAA0000165**

- 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