

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Pressure Switch

with type designation(s)
Picostat 9M4, Picostat 9K4

Issued to
Trafag AG
Bubikon, ZH, Switzerland

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:

Type	Temperature	Humidity	Vibration	EMC	Enclosure
Picostat 9M4	B	B	B	n/a	B
Picostat 9K4	D	B	B	n/a	B

Issued at **Hamburg** on **2019-04-15**

for **DNV GL**

This Certificate is valid until **2024-04-14**.

DNV GL local station: **Augsburg**

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.



Job Id: **262.1-030033-1**
Certificate No: **TAA00002AB**

Product description

Type Picostat 9K4 (PST4K) piston pressure switch and 9M4 (PST4M) membrane pressure switch, including the following options:

	Type	Microswitch	Range	Sensor	Pressure Connection
Ordering No.	9K4	42, 84	78-86	756-759	02, 04, 03
	9M4	42, 84	78-83	761-763	02, 04, 03

Pressure ranges:

Order code	Pressure range (bar)
78	1..10
79	1..16
80	2..25
81	4..40
82	6..60
83	10..100
84	16..160
85	25..250
86	40..400

Pressure connection:

Order code	Pressure connection
02	G1/8" female
04	G1/4" female
03	M10x1 female

Microswitch rating:

Type	Features	Rating: Resistive load (inductive load)	
		AC	DC
42	Silver Contacts	250 V / 6(1) A	220 V / 0.25(0.1) A 110 V / 0.5(0.25) A 60 V / 1(0.5) A 24 V / 3(2) A 12 V / 6(6) A
84	Gold Contacts	Max 30V 0.1 (0.1) A Min 5V 5mA	

Female electrical connector: EN175301-803-A (DIN43650-A)

Degree of Protection: IP 65

Place of manufacture

Trafag spol. S.r.o
CZ-34701 Tachov

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.

Type Approval documentation

Data Sheets: H72369h dated 2013-08, 9K4 PICOSTAT PST4K
H72368h dated 2013-08, 9M4 PICOSTAT PST4M
E00930d

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Drawings: C22668 Rev. i, 9K4 family overview drawing
C22667 Rev. h, 9M4 family overview drawing
Test Reports: V-13075 dated 2013-09-19, 13075 9K4 Vibration Witnessstest LRS
V-12072 dated 2013-05-21, 12072 Typetest 9X4
V-13092 dated 2014-01-10
20081211.A02.01 dated 2008-11-28
Type approval assessment report issued at Prague on 2019-03-28

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 after 2 years and after 3.5 years. A renewal assessment will be performed at renewal of the certificate.

END OF CERTIFICATE