



MARINE DIVISION

Certificate number: 19393/A1 BV

File number: AP 3808

Product code: 3891H

This certificate is not valid when presented without the full attached schedule composed of 7 sections

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TYPE APPROVAL CERTIFICATE

This certificate is issued to

TRAFAG AG
Männedorf ZH - SWITZERLAND

for the type of product

PRESSURE TRANSMITTERS / TRANSDUCERS

8264 PICOTRANS NPN Series and 8298 EPN Series.

Requirements:

BUREAU VERITAS Rules for the Classification of Steel Ships.

This certificate is issued to attest that BUREAU VERITAS did undertake the relevant approval procedures for the product identified above which was found to comply with the relevant requirements mentioned above.

This certificate will expire on: 20 Jun 2012

For BUREAU VERITAS,

At BV HAMBURG, on 16 Aug 2010,

Dirk Hoepfner



This certificate remains valid until the date stated above, unless cancelled or revoked, provided the conditions indicated in the subsequent page(s) are complied with and the product remains satisfactory in service. This certificate will not be valid if the applicant makes any changes or modifications to the approved product, which have not been notified to, and agreed in writing with BUREAU VERITAS. Should the specified regulations or standards be amended during the validity of this certificate, the product(s) is/are to be re-approved prior to it/they being placed on board vessels to which the amended regulations or standards apply. This certificate is issued within the scope of the General Conditions of BUREAU VERITAS Marine Division available on the internet site www.veristar.com. Any Person not a party to the contract pursuant to which this document is delivered may not assert a claim against BUREAU VERITAS for any liability arising out of errors or omissions which may be contained in said document, or for errors of judgement, fault or negligence committed by personnel of the Society or of its Agents in establishment or issuance of this document, and in connection with any activities for which it may provide.

THE SCHEDULE OF APPROVAL

1. PRODUCT DESCRIPTION :

TRAFAG 8264 PICOTRANS NPN Series and 8298 EPN Series are Stainless Steel / Thin Film on Steel Pressure Transmitters for Marine Applications.

Main Characteristics:

	8264 Series	8298 Series
Pressure Range (bar):	0 - 2.5 to 0 - 400 (Gauge)	0 - 2.5 to 0 - 2500 (Gauge), customized ranges: +/-70mbar to +/-1bar
Supply Voltage (Vdc):	9 to 32, 24 Nominal	9 to 32, 24 Nominal
Output :	4 - 20 mA / 2 wires	4 - 20 mA / 2 wires 0.5 to 4.5V DC ratiometric
Operating Temperature (°C):	-40 to 100	-40 to 125, media temp. 135
Electrical Connection:	Plug (DIN 43650)	Plug (DIN 43650)
Pressure Connection:	G1/4", G1/8", M10x1.0	G1/4", R1/4"
Sensor / Body Materials:	AISI630 / AISI304	AISI630 / AISI304
Ingress Protection Index:	IP 65 (without Plug-in) / IP69K	IP 65 (without Plug-in) / IP69K

2. DOCUMENTS AND DRAWINGS :

TRAFAG:

Data Sheet: 8264 PICOTRANS NPN No. 2.3.1.29, ref. H72313e dd.: 09/2008

Data Sheet: 8298 EPN No. 2.3.1.28, ref. H72312e dd.: 09/2008

Drawing Nos.: B62120i (1 to 13), B62300d (1 to 13), B62440c (1 to 13), B63590a (1 to 13),

3. TEST REPORTS :

TRAFAG:

Environmental Test Report V-0605 for GL Qualification dd.: 12.04.2006

Vibration / Shock Test Report V-0554 dd.: 19.07.05

Transmitter 8298: IPX5 Test Report V-0647 dd.: 17.05.06

Test reports V-07109 dd.: 07.03.2008, V-08055 dd.: 01.04.2008, V-08101 dd.: 04.08.2008,

V-08102 dd.: 13.08.2008 and V-10015 dd.: 09.04.2010

EMC-TEST CENTER ZÜRICH AG: EMC Test Report Ref. EMCKP689A dd.: 10.01.2006

ENL Testing Laboratory:

Climatic / Environmental Simulation; IP 65 Test, No: 20051228.A02.03 dd.: 2005-December-19th

Climatic / Environmental Simulation; Damp Heat, cyclic and Salt Mist Test, No: 20061027.A05.01 dd.: 2006-April-10th.

SEV Association:

Transmitter 8298: IP69K Test Report 09-IK-0248.01 dd.: 27.08.2008

SPEKTRA Schwingungstechnik und Akustik GmbH:

Transmitter 8298: Test Report 80430.A.1.1 dd.: 29.07.2008 and 80430.C.1.1 dd.: 29.07.2008

4. APPLICATION / LIMITATION :

4.1 - BUREAU VERITAS Rules for the Classification of Steel Ships.

4.2 - Approval valid for ships intended to be granted with the following additional class notations: **AUT-UMS, AUT-CCS, AUT-PORT and AUT-IMS.**

4.3 - BUREAU VERITAS Environmental Category, **EC Code: 33S/43S.**

4.4 - The equipment does not fulfil the EMC requirements for installation in Bridge Zone.

5. PRODUCTION SURVEY REQUIREMENTS :

5.1 - The **TRAFAG 8264 Series and 8298 Series** Pressure Transmitters are to be manufactured, examined and tested by **TRAFAG AG** in accordance with the type described in this certificate and Bureau Veritas Rules for the Classification of Steel Ships.

5.2 - Production sites are to be recognized by Bureau Veritas as per NR320 for HBV products. To this end **TRAFAG AG** has to make the necessary arrangements for a Society's Surveyor to perform visits and product audits at the production sites.

5.3 - **TRAFAG AG** has declared to Bureau Veritas that the type of product described in this certificate are manufactured at the following production site:

TRAFAG AG
Emil-Staub-Strasse 1
CH-8708 Männedorf ZH
SWITZERLAND

5.4 - Each equipment is to be supplied with manual(s) for installation, use and maintenance.

6. MARKING OF PRODUCT :

- Trade name,
- Date of manufacture and serial number,
- Equipment type number or model identification under which it was type-tested.

7. OTHERS :

7.1 - This approval is given with the understanding that:

TRAFAG AG
Emil-Staub-Strasse 1
CH-8708 Männedorf ZH
SWITZERLAND

will accept full responsibility for informing shipbuilders, ship-owners or their sub-contractors of the proper methods of use and general maintenance of the transmitters and the conditions of this approval.

7.2 - This certificate supersedes the Type Approval Certificate N° 19393/A0 BV issued on 20/07/2007 by the Society.

***** END OF CERTIFICATE *****