



1 **EC TYPE-EXAMINATION CERTIFICATE**

2 Equipment intended for use in Potentially Explosive Atmospheres Directive 94/9/EC

3 Certificate Number: Sira 02ATEX2256X

4 Equipment: NT 3000 Transducer Model NT300x-xx-xxxx

5 Applicant: Flowserve Corporation
Flow Control Division

6 Address: Utah Operations
1350 North Mountain Springs Parkway
Springville
Utah 84663
USA

7 This equipment and any acceptable variation thereto is specified in the schedule to this certificate and the documents therein referred to.

8 Sira Certification Service, notified body number 0518 in accordance with Article 9 of Directive 94/9/EC of 23 March 1994, certifies that this equipment has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment intended for use in potentially explosive atmospheres given in Annex II to the Directive.

The examination and test results are recorded in confidential report number R52A8969A.

9 Compliance with the Essential Health and Safety Requirements, with the exception of those listed in the schedule to this certificate, has been assured by compliance with the following documents:

EN 50014:1997 including amendments A1 & A2
EN 50020:2002
EN 50284:1999

The following document was also used for reference:

EN 50281-1-1:1998

10 If the sign 'X' is placed after the certificate number, it indicates that the equipment is subject to special conditions for safe use specified in the schedule to this certificate.

11 This EC type-examination certificate relates only to the design and construction of the specified equipment. If applicable, further requirements of this Directive apply to the manufacture and supply of this equipment.

12 The marking of the equipment shall include the following:



II 1G
II 1D (T90°C)
EEx ia IIC T4 (T_a = -40°C to +80°C)

M D Shearman
Certification Manager

Project Number 52A8969
Date 31 January 2003
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This certificate and its schedules may only be reproduced in its entirety and without change

Sira Certification Service

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SCHEDULE

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13 DESCRIPTION OF EQUIPMENT

The NT 3000-Series Transducer is an electro-pneumatic transducer contained in a metallic housing with a screwed cover. The equipment outputs a pressure signal proportional to the input current source command. The I/P transducer receives a 200-1000 kPa (30-150 psi) air supply and converts this to a 20-100 kPa (3-15 psi) output signal. The I/P input is 4-20 mA or 10-50 mA current source, which is linearly converted to the 20-100 kPa output signal.

The supply pressure to the NT 3000 is filtered as it passes through a replaceable coalescing filter element in the transducer. The air then passes through an internal pressure regulator that controls the pressure to approximately 160 kPa (23 psi). The supply pressure then goes through an orifice that restricts the flow and air consumption. The air is further controlled to 20-100 kPa using a diaphragm flapper that is attracted by an electromagnet to a nozzle. A piezo-resistive pressure sensor senses the output pressure and the electromagnet in the feedback loop varies the flapper-nozzle spacing, which regulates the output pressure.

The equipment has the following safety description:

U _i	=	28 V
I _i	=	120 mA
P _i	=	0.84 W
C _i	=	0
L _i	=	0

The model number is NT 3000 Transducer Model NT300X-04-XXXX

where - 'X' refers to the enclosure material
'XXXX' refers to mechanical variants

14 DESCRIPTIVE DOCUMENTS

14.1	Drawing No.	Sheet	Rev.	Date	Title
	82791	1 of 1	2	11 Sep 91	Coil assembly
	163455	1 of 1	0	19 Aug 98	Critical components
	164471	1 of 1	0	26 Oct 98	Schematic
	164374	2 of 9	0	03 Nov 98	Artwork – top silkscreen
	164374	3 of 9	0	03 Nov 98	Artwork – top copper
	164374	4 of 9	0	03 Nov 98	Artwork – bottom copper
	164374	5 of 9	0	03 Nov 98	Artwork – bottom silkscreen
	195084	1 of 1	0	12 Dec 02	General assembly
	192877	1 of 1	0	24 Oct 02	ATEX nameplate
	195917	1 of 1	0	02 Oct 02	Label, NT3000, Serial Number Format

14.2 Report No. R52A8969A

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15 **SPECIAL CONDITIONS FOR SAFE USE** (denoted by X after the certificate number)

15.1 Some versions of the enclosure are manufactured from aluminium alloy. In rare cases, ignition sources due to impact and friction sparks could occur. This shall be considered when the equipment is installed in locations that specifically require group II, category 1G equipment.

16 **ESSENTIAL HEALTH AND SAFETY REQUIREMENTS OF ANNEX II** (EHSRs)

The relevant EHSRs that are not addressed by the standards listed in this certificate have been identified and individually assessed in Report No. R52A8969A.

17 **CONDITIONS OF CERTIFICATION**

17.1 The use of this certificate is subject to the Regulations Applicable to Holders of Sira Certificates.

17.2 Holders of EC type-examination certificates are required to comply with the production control requirements defined in Article 8 of directive 94/9/EC.

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