



1 **TYPE EXAMINATION CERTIFICATE**

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

3 Type Examination Certificate Number: Sira 02ATEX4257X

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 are specified in the schedule to this certificate and the documents therein referred to.

8 Sira Certification Service certifies that this equipment has been found to comply with the Essential Health and Safety Requirements that relate to the design of Category 3 equipment, which is intended for use in potentially explosive atmospheres. These Essential Health and Safety Requirements are given in Annex II to European Union Directive 94/9/EC of 23 March 1994.

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 of this certificate, has been assessed by reference to:

EN 50021:1999

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 TYPE EXAMINATION CERTIFICATE relates only to the design of the specified equipment, and not to specific items of equipment subsequently manufactured.

12 The marking of the equipment shall include the following:



II 3G

II 3D(T70°C)

EEx nL IIC T6 (T<sub>a</sub> = -40°C to +60°C)

Project Number 52A8969  
Date 31 January 2003  
C. Index: 12

M D Shearman  
Certification Manager

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**SCHEDULE**

**TYPE EXAMINATION CERTIFICATE NUMBER:**

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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<sub>i</sub> = 28 V  
I<sub>i</sub> = 120 mA  
P<sub>i</sub> = -  
C<sub>i</sub> = 0  
L<sub>i</sub> = 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
	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

Date 31 January 2003

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## SCHEDULE

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#### 15 SPECIAL CONDITIONS FOR SAFE USE

- 15.1 The installer shall take steps to prevent the maximum supply voltage and current being exceeded in service.

#### 16 ESSENTIAL HEALTH AND SAFETY REQUIREMENTS (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 Type Examination Certificates are required to comply with the production control requirements defined in Article 8 of directive 94/9/EC.

Date 31 January 2003

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