





## TYPE EXAMINATION CERTIFICATE

- [1] **Equipment intended for use in potentially explosive atmospheres**  
**Directive 94/9/EC**
- [2] Type Examination Certificate number:  
**CESI 07 ATEX 049 X**
- [3] Equipment: **pneumatic actuators series GTX, GTK, GTV and GTW**
- [4] Manufacturer: **G.T. ATTUATORI S.r.l.**
- [5] Address: **corso Europa, 17  
20090 Cusago - MI**
- [6] This equipment and any acceptable variation thereto is specified in the schedule to this certificate and the documents therein referred to.
- [7] CESI certifies that this equipment has been found to comply with the Essential Health and Safety Requirements relating to the design of equipment intended for use in potentially explosive atmospheres given in Annex II to the European Union Directive 94/9/EC of 23 March 1994.  
  
The examination and test results are recorded in confidential report n. EX-A7024931.
- [8] Compliance with the Essential Health and Safety Requirements has been assured by compliance with:  
  
**EN 13463-1: 2001    EN 1127-1: 1997**
- [9] 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.
- [10] This TYPE EXAMINATION CERTIFICATE relates only to the design, examination and tests of the specified equipment in accordance to the Directive 94/9/EC. Further requirements of the Directive apply to the manufacturing process and supply of this equipment. These are not covered by this certificate.
- [11] The marking of the equipment shall include the following:

 II 2GD T5 T100°C  
 II 2G T3, T2

This certificate may only be reproduced in its entirety and without any change, schedule included.

Date 1st October 2007 - Translation issued the 1st October 2007

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Approved  
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**CESI** S.p.A.  
Divisione Energia  
"Area Tecnica Certificazione"  
Il Responsabile

[13]

## Schedule

[14] TYPE EXAMINATION CERTIFICATE n. CESI 07 ATEX 049 X

[15] **Description of equipment**

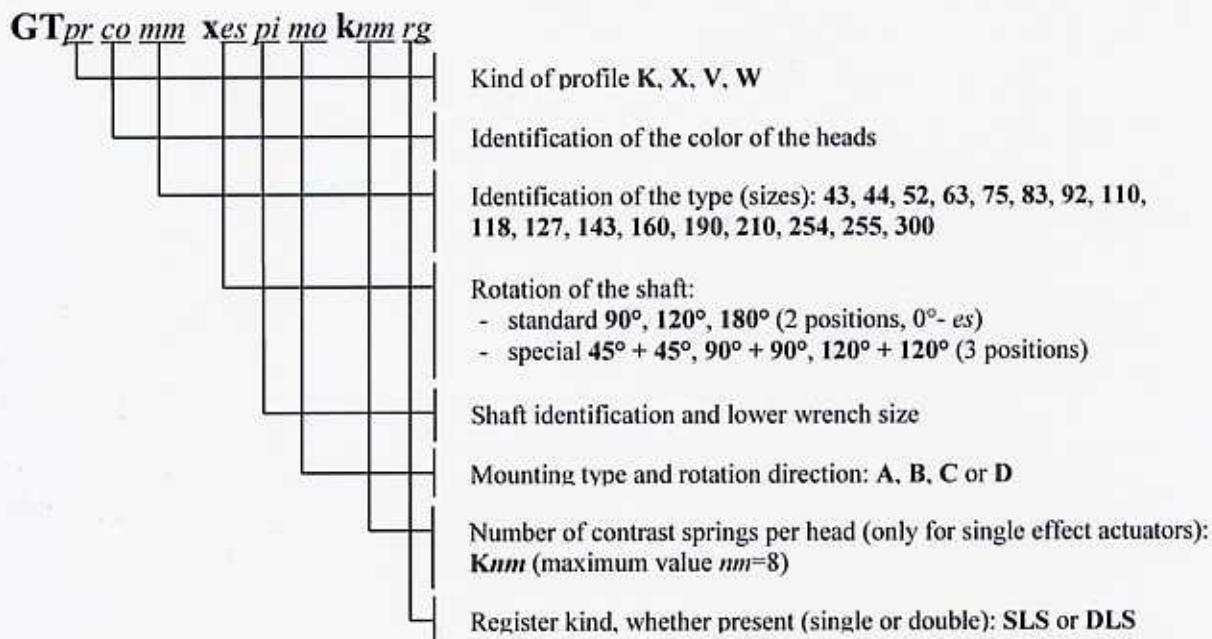
The actuators series GTK, GTV, GTX and GTW are pneumatic equipment for controlling the opening and closing, partial as well, of different kinds of valves, placed on ducts transporting different fluids.

The actuators in subject are made of a cylindrical aluminium chamber where two opposing pistons, aluminium made, tooth in a cogwheel joined to the shaft which transfers the rotation to the external user.

The intake of pressurized driving fluid in the inner or outer chamber (only in double effect actuators) causes the movement of the pistons and the rotation of the shaft which controls the external device.

Driving fluid (for the pistons controlling) can be filtered compressed air, free of flammable components, or the process fluid: natural gas, methane, ethane, propane or butane having the characteristics stated in the annexed documents.

The four types of actuator differentiate one from each other through the kind of profile and are identified by means of a code as follows:



The full identification of all the types is reported in a table put into the annexed documentation.

Driving fluid pressure      2 ÷ 10 bar (only in case of compressed air)  
    2 ÷ 5 bar (when the process fluid is used: methane, ethane, propane, butane or natural gas)

Marking: - *only protected against gas, vapor, and fog*  
    II 2G T3  
    T<sub>amb</sub> = (-15°C ÷ +160°C) or (-57°C ÷ +160°C)  
    II 2G T2  
    T<sub>amb</sub> = (-30°C ÷ +200°C)  
    - *protected against combustible dust as well*  
    II 2GD T5 T100°C  
    T<sub>amb</sub> = (-60°C ÷ +70°C) or (-20°C ÷ +70°C)

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[13]

[14] TYPE EXAMINATION CERTIFICATE n. CESI 07 ATEX 049 X

[15] Description of equipment (continue)

The ambient temperature shown on the marking plate may depend on both the temperature of the area where the actuators are installed and the heat exchange with the process fluid and/or the driving fluid.  
The gasket which guarantees the sealing of the pistons inside the cylinder, the sliding blocks and the grease which reduce the friction of the pistons are chosen according to the maximum and minimum temperature reached by the equipment which depends on the ambient temperature written on the marking plate and on the temperature increase generated by the equipment itself, in the hardest condition, including the failures foreseen by the manufacturer.

[16] Report n. EX-A7024931

### *Descriptive documents (prot. EX-A7024933)*

Technical note rev. 00 (11 sheets)	dated	04-09-2007
Safety instructions rev. 00 (5 sheets)	dated	04-09-2007
Manufacturer declaration	dated	15-06-2007
Facsimile EC declaration of conformity	dated	15-06-2007
Drawing actuators functioning n. 90-0962 and 90-0963 (2 sheets)	dated	11-04-2007
Drawings marking plates n. 37-0051 ...37-0054 and 37-0058 (5 sheets)	dated	07-09-2007
Drawing body types n. TAB-207	dated	10-04-2007
<i>Drawings model GTW</i>		
n. 90-0187	dated	09-05-2007
n. 90-0189	dated	09-05-2007
n. 90-0315	dated	09-05-2007
n. 90-0314	dated	09-05-2007
n. 90-0637	dated	09-05-2007
n. 90-0632	dated	10-05-2007
n. 90-0620	dated	10-05-2007
n. 90-0710	dated	10-05-2007
n. 90-0692	dated	01-12-2006
<i>Drawings model GTK</i>		
n. 90-0792	dated	20-05-2005
n. 90-0788	dated	17-05-2005
n. 90-0790	dated	18-05-2005
n. 90-0796	dated	24-05-2005
n. 90-0798	dated	25-05-2005
n. 90-0800	dated	27-05-2005
<i>Drawings model GTV-63 n. 90-0953</i>	dated	05-04-2007
<i>Drawings model GTX-110 n. 90-0110</i>	dated	18-04-2007
Safety data natural gas, methane, ethane, propane, butane (13 sheets)		
Data sheets O-ring NBR, VMQ, FKM, FVMQ (4 sheets)		
Data sheets sliding boxes PTFE, IXEF, DATEDRIN (12 sheets)		
Data sheets grease Mobilux, Dowcorning, Krytox and Molycote (11 sheets)		

One copy of all documents is kept in CESI files.

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## Schedule

[14] **TYPE EXAMINATION CERTIFICATE n. CESI 07 ATEX 049 X**

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[17] **Special conditions for safe use**

- At first run and at restarting of the equipment after emptying of the pneumatic circuit, a purging of the cylinders must be carried out using a volume of driving fluid at least 5 times the inner free volume of the cylinders, in order to replace the internal residual air;
- The equipment must be installed making an equipotential connection with the metallic parts of the plant connected to earth;
- Follow the safety instructions supplied with the equipment.

[18] **Essential Health and Safety Requirements**

Covered by standards and the manufacturer's risk evaluation.