AIGNEP	INSTRUCTIONS AND ADDITIONAL INFORMATION FOR **CYLINDERS and VALVES**	CE Ex

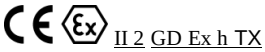
Introduction

These instructions and additional information complement the standard instruction and service manual for CYLINDERS and VALVES intended for use in areas with potentially explosive atmospheres in compliance with Directive 2014/34/EU (ATEX).

1. Equipment features

1.1 Marking and explanations

Below is a general and specific explanation of the type of protection adopted according to Directive 2014/34/EU:



Protection marking "Ex h" (ex "c") = the equipment is structurally safe.);

gas/dust group (IIC and IIIC); temperature class, maximum surface T, ambient temperature and additional marking "X" depending on the specific conditions given (e.g. low Tamb value with dry air conditions), reference to EPL Gb-Db (equipment protection level)

G= gas or vapours; D=dust

Equipment group (II = equipment not to be used in mines).

Category 2 = equipment with a high level of safety can be used in areas with the probability of the presence of explosive atmospheres classified as zones 1-2 and 21-22

ATEX Equipment Symbol

CE marking symbol

2. Warnings



Danger of explosion!

Failure to follow the instructions may result in serious injury or property damage! These instructions do not prescind from appropriate use of the equipment and the manufacturer's instructions. All personnel responsible for putting the cylinder/valve into operation are prohibited from:

- making any type of modification to the products, in particular covering the equipment with paint or other substances that reduce heat dissipation and electrical conductivity;
- follow working methods that compromise the safety of the products;
- dismantle and/or disable any safety and protection device;
- use accessories not authorized by the manufacturer.

Note: refer to the specific instructions for accessories or other connected components.

3. General information

The equipment does not present sources of ignition under normal operating conditions and foreseen malfunctions provided that the following measures are adopted:

- Use of ATEX certified accessories suitable for the area of use;
- Adoption of these additional instructions;
- Adoption of the measures already foreseen by the manufacturer.

4. Temperature class

The surface temperature depends on the external temperature and/or the temperature generated by any friction, as well as that of the fluid (Ts). Solar radiation or other sources can affect the surface temperature. Make sure that the temperature is not higher than the ignition temperature. Respect the safety margins provided by UNI EN 1127-1.

ATTENTION: for use in areas with dust clouds, the surface Tmax must be 2/3 of the ignition temperature, while on surfaces on which dust can deposit, the maximum temperature must be less than 75K of the minimum ignition temperature of the dust layer (UNI EN 1127-1).

Temperature classes and maximum surface temperature:

T1: 450 °C	**T2: 300 °C**	**T3: 200 °C**	**T4: 135 °C**	**T5: 100 °C**	**T6: 85 °C**

Ambient temperature marking:

Device	**Ambient temperature in service**	**Additional marking**
Particular	Minimum ambient Temp. ≥ Tamb MIN declared Maximum ambient Temp. ≥ Tamb MAX declared	Temperature range or X and temperature indication in the operating instructions.

Where appropriate, provide adequate protection.

NB: Ambient temperature and solar radiation or other heat sources can cause an increase in surface temperature.

5. Installazione e messa in funzione

Incorrect assembly can cause damage and danger to people or things. It is recommended to assemble the cylinder so that the connections are connected and any unused orifices are closed with the appropriate protective caps to prevent combustible dust from entering the internal chambers of the cylinder.

Furthermore, all personnel responsible for assembly must:

• check before installation that the pipes and sealing surfaces are free from dust and impurities;

• fix the components correctly, using the appropriate anchors depending on the use, and check that the fixing remains effective even when the actuator operates at high cycles or in the presence of strong vibrations.

• in the case of fixings that allow the rotation or oscillation of the cylinder, check that the sliding speed is not such as to create excessive surface temperatures;

• fix the cylinder without distortions, check that the load is correct with the product (see catalogue) and that it does not create interference; • check that all control and connection elements are reachable;

• ensure that earthing is carried out in accordance with the applicable mandatory requirements in order to guarantee electrical continuity; • check that the ATEX marking label is legible.

• appropriately convey the compressed air in exhaust so that it is not discharged into an explosive atmosphere.

• adjust the front and rear shock absorbers (where applicable) using a hex wrench to avoid violent impacts.

• if connected to the power supply, ensure that the installation is carried out by a technician trained in setting up electrical systems in environments at risk of explosion;

• ensure that fresh air always circulates in the cylinder and that shields are fitted near external heat sources to avoid the risk of overheating due to external sources.

• check that the fluids are compatible with those envisaged

After assembling the products, do not carry out welding operations on the machine or the system as the sealing system could be damaged. Before starting up, check that all connections have been made correctly and that the cylinder has been assembled and fixed correctly, then convey the compressed air into the appropriate chamber using a distributor.

6. Cleaning and maintenance

The equipment and all equipment connected to it must be properly stored, handled and maintained to prevent the entry of material and the deposition of dust. Maintenance activities must be carried out exclusively by specialized personnel and as indicated by the manufacturer and with tools compliant with that defined in Appendix A of the UNI EN 1127-1 standard or ensuring that there is no explosive atmosphere. Do not make any modifications (painting, etc.) to the products without the manufacturer's approval. Clean the external surfaces exclusively with a damp and antistatic cloth; no flammable or pyrophoric material must be deposited on the surface of the cylinder, therefore the cleaning interval must be adequate for the conditions of the environment in which the cylinder and/or valves are mounted.

7. Dismantling and disposal

Carry out disassembly operations exclusively with:

• machine switched off,

• compressed air supply blocked,

• compressed air circuit around the cylinder discharged to atmospheric pressure,

• cylinder in stable position.

When disposing of materials, strictly follow local laws and regulations.

ATTENTION: AIGNEP S.p.A. guarantees the products only if used in compliance and according to the intended use indicated by the manufacturer

The manufacturer declines all liability for damages resulting from "improper use".

If the Customer does not communicate any additional requirements on the contractual documents, only the requirements expressed by the manufacturer and/or in the catalogue are considered satisfied.