ARTEC SRL
Via B. Zallone, 24
44042 Cento (FE) - Italia
T +39 051.683.62.20
F +39 051.683.08.82
info@artec-pneumatic.com
www.artec-pneumatic.com

C.F. e P.I. 00761670389
EU VAT n° IT00761670389
Mecc. Export FE 003185
Reg. Impr. FE 00761670389
R.E.A. FE n. 113208
Cap. Soc. € 20.000,00 i.v.

ISO 9001:2015
Certificato n° 50 100 13722

ATEX SAFETY INSTRUCTIONS

GENERAL SAFETY INSTRUCTIONS

Installation, inspection, maintenance, cleaning and disassembly of pneumatic cylinders must be done by qualified personnel only; the personnel must be trained to operate in areas with explosion risk.

Before installing pneumatic cylinders, it is mandatory for the technician to check whether the process specifications comply with the features indicated in the label and in the instruction manual.

The user will have to make sure that the equipment where the pneumatic cylinder will be installed has been duly secured in terms of explosion risk before being started up; the user will have also to make sure that the "Explosion protection document" has been drawn up according to ATEX Directive 1999/92/EC (DLgs 81 - 2008).

INTENDED USE AND SCOPE OF USE

Pneumatic cylinders can be used in dangerous areas where a potentially explosive atmosphere can develop; these areas are classified as zone 1 or zone 21 or as zone 2 or zone 22. It is forbidden to use the equipment in zone 0 or in zone 20. The zone classification is given here for your ready reference (Dir. 1999/92/EC):

Zone 0: An area in which an explosive mixture is continuously present or present for long periods; explosive mixture means a mixture of air and flammable substances in form of gas, vapor or mist.

Zone 1: An area in which an explosive mixture is likely to occur in normal operation; explosive mixture means a mixture of air and flammable substances in form of gas, vapor or mist.

Zone 2: An area in which an explosive mixture is not likely to occur in normal operation and if it occurs it will exist only for a short time; explosive mixture means a mixture of air and flammable substances in form of gas, vapor or mist.

Zone 20: An area in which an explosive mixture is continuously present or present for long periods; explosive mixture means a mixture of combustible dust and air.

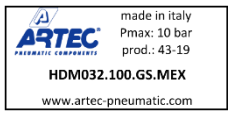
Zone 21: An area in which an explosive mixture is likely to occur in normal operation; explosive mixture means a mixture of combustible dust and air.

Zone 22: An area in which an explosive mixture is not likely to occur in normal operation and if it occurs it will exist only for a short time; explosive mixture means a mixture of combustible dust and air.

RANGES OF PNEUMATIC CYLINDERS

ISO 6432 micro cylinders **SERIE O** (Ø8÷25), Round cylinders **SERIE O** (Ø32÷63), ISO 6432 micro cylinders **SERIE Z** (Ø16÷25), Round cylinders **SERIE V** (Ø32÷63), ISO 15552 cylinders **SERIE H** (Ø32÷125), ISO 15552 cylinders **SERIE U** (Ø32÷320), ISO 15552 cylinders **SERIE Y** (Ø32÷125), ISO 21287 cylinders **SERIE P** (Ø16÷125), ISO 21287 cylinders **SERIE X** (Ø20÷200), Unitop cylinders **SERIE A** (Ø12÷100), compact cylinders **SERIE K** (Ø125÷250), Guided compact cylinder (Ø16÷63), Stopper cylinders **SERIE ST** (Ø20÷80).

LABELLING EXAMPLE



prod. : production week – production year

CE : CE mark for 2014/34/EU Directive;

Ex : Ex hexagon, it proves the compliance with the ATEX 2014/34/EU Directive;

II : Group II, i.e. surface equipment;

2G : Category 2G, for zone 1 and zone 2;

2D : Category 2D, for zone 21 and zone 22;

Ex h : reference to EN80079-36 standard;

IIB : group of Gas;

IIIC : group of Dusts (all dusts, including conductive dusts);

T4 : max. surface temperature = 135°C for Gas;

T120°C : max. surface temperature = 120°C for Dusts;

Gb : EPL Gb, i.e. equipment for zone 1 and zone 2;

Db : EPL Db, i.e. equipment for zone 21 and zone 22;

Ta : ambient temperature between -20°C and +80°C.

STORAG

Storage must be done in dry areas, possibly without dust; these are the proper storage conditions: temperature 0°C ÷ 40 °C, relative humidity 80 % without possibility of condensation.

COMPRESSED AIR

The compressed air must be taken from a safe area and not from a classified zone; only clean air can be present inside the pneumatic cylinder, i.e. the air inside the cylinder cannot contain flammable gas or combustible dust (compressed air must be filtered according to min. Class 5 of ISO 8573-1:2010). Max. pressure allowed for compressed air is 10 bar.

INSTALLATION

Do not apply radial or diagonal forces/loads directly on the piston rod. To avoid electrostatic loads the cylinder and the piston rod must be grounded. Before starting up the equipment make sure that all metallic parts are duly connected with the ground system ($R<10^6\Omega$).

In single acting cylinders the chamber with the spring must be connected with a not classified zone: air with gas or dust must not enter the cylinder.

Make sure that there is no friction or impact between the cylinder and the surrounding metallic parts.

Max speed: 1 m/s

The parameters of standard EN ISO 4414:2012 on pneumatic cylinders must be fully complied with.

MAINTENANCE

Check regularly that the mobile parts and the fixed parts are equipotential, especially after maintenance.

CLEANING

Cleaning must ensure that dust layer on the equipment is not higher than 5 mm, and must avoid overheating due to dust presence of dust in gaps between fixed and moving parts.