

Binding operating instructions for tube silencers for use in conjunction with blower types ND, RD, HRD, HRD FU, explosion-protected version according to EC directive 94/9/EC (ATEX 95), categories 3G, 3D, 3GD, as well as temperature class T3, T4 or not lower than T125°C**1. Technical Data, Validity**

These binding operating instructions refer to tube silencers for use in conjunction with special explosion-protected ELEKTOROR blowers. They are a supplement to the operating instructions and supplemental operating instructions ATEX, the document structure relates to those documents.

Description of machines that may be used in conjunction with these tube silencers:

Low pressure blower, explosion-protected

Medium pressure blower, explosion-protected

High pressure blower, explosion-protected

High pressure blower for operation in conjunction with a frequency converter, explosion-protected

The frequency converter unit is meant for operation outside the area with the potentially explosive atmosphere.

Machine type:

D 0... -Ex

RD ... -Ex

HRD ... -Ex

HRD ... FU ... -Ex

These tube silencers may be used exclusively in conjunction with the above mentioned ELEKTOROR blowers; they shall be attached to these securely and permanently.

These operating notes, the operating instructions and the information on the nameplate refer to ELEKTOROR's scope of delivery as set forth in the order confirmation.

2. Safety

The owner of an installation or machine is required to operate the equipment in accordance with the EC directive 99/92/EC (ATEX 137) and the applicable national regulations enforcing the directive; for instance, the directive requires that the risks etc. are described in an explosion protection document.

Measures to be taken in the case of an ignition/explosion or any other incident:

If a fire, deflagration or explosion has occurred in the vicinity of or inside the product, the product must not be used further regardless of the cause of the explosion. In this case, as in the case of other incidents, the unit must be made accessible to/shipped to ELEKTOROR for thorough scrutiny.

2.1 Temperature

The tube silencers according to section 1.0 are approved for use in the temperature classes T3, T4 or not lower than T 125°C. The highest admissible surface temperature class indicated is applicable only if the product is used as intended (see 2.2).

2.2 Intended Use

The tube silencers are exclusively approved for intended use in conjunction with ELEKTOROR blowers for the following device categories:

Category 3G The equipment is so designed and constructed as to prevent ignition sources during normal operation in areas where an explosion hazard due to gases (G) exists.

Category 3D The equipment is so designed and constructed as to prevent ignition sources during normal operation in areas where an explosion hazard due to dust (D) exists.

Category 3GD The equipment is so designed and constructed as to prevent ignition sources during normal operation in areas where an explosion hazard due to gas (G) and dust (D) exists.

The tube silencers may be suitable for intended use in conjunction with ELEKTOROR blowers, which are suitable for the following areas with potentially explosive atmosphere (for exact definition see: EN 1127-1):

Zone 2 / 22 Areas in which an explosive atmosphere consisting of a mixture with air of flammable substances in the form of gas, vapour, mist or dust is not likely to occur in normal operation but, if it does occur, will persist for a short period only.

Explosion group II Electrical equipment intended for areas not endangered by firedamp (other than mining).

Installation type B Blower connected on one end only, (compare to DIN 24163).

Certain applications and operating conditions may increase the hazard potential and shall be communicated to ELEKTOR and agreed upon with ELEKTOR.

The intended use includes:

- The tube silencer is securely and permanently connected to the ELEKTOR blower.
- The tube silencer may only be used in conjunction with the suitable ELEKTOR blower.
- The maximum temperature of the medium is +40 °C.
- The minimum temperature of the medium is -20 °C.
- The medium and the area surrounding the blower do not contain substances which may corrode the materials, such as acids, alkaline or caustic solutions, solvents, airborne rust, iron oxides, aggressive or abrasive gases or liquids.
- The medium is free from adhesive or condensing components, as well as from airborne rust, iron oxides or other light metals such as aluminium or magnesium.
- The medium does not cause disintegration, chemical alteration or ignition of the silencing material or other components of the tube silencer.

The intended use excludes:

- Special ambient conditions, such as ambient temperature of more than +40 °C at the installation or operation site.
- Operation in/with flames, hot or ionising gases. The tube silencer must not be used as an ignition or flame arrester.
- Operation in conjunction with airborne rust, aluminium or magnesium dust, or media containing other light metals.
- Adiabatic compression and shock waves, lightning, electromagnetic waves, ionising radiation, ultrasound.

3. Installation, Commissioning and Operation

For installation and commissioning of ELEKTOR tube silencers in a potentially explosive atmosphere observe the following in addition to the operating instructions of the respective blower:

- Prior to first operation and prior to later start-up, check the product carefully to ensure it is in perfect condition. Tube silencers that are found defective upon delivery or during installation must not be operated.
- Only qualified specialists who are periodically trained may set up, install, operate, and service the units. Operation after faulty installation or maintenance constitutes unintended use.
- Have a trained electrician ensure complete potential equalisation by sufficient proper earthing of all electrically conductive parts.
- Connect the tube silencer and the ELEKTOR blower used in conjunction with it exclusively by stainless, non-rusting connecting elements.
- Accessibility for regular maintenance must be ensured.

4. Cleaning and Repair

- During cleaning or repair an explosion hazard may not be present or come up.
- **The owner of the equipment shall at his own discretion be responsible to determine the required cleaning and maintenance intervals based on the operating hours, loads and operation conditions.**
- The tube silencer is cleansed at the sole responsibility of the owner. At the outset of the operation of the tube silencer, we recommend checking and protocoling the degree of contamination daily and to determine the intervals on the basis of the findings.
- Repairs may exclusively be performed by trained specialists of ELEKTOR. Any deviation from this requirement may void the guarantee and rule out liability by ELEKTOR.

Immediate cleaning: If the air capacity is reduced

- For cleaning do not use agents/tools that may lead to electrostatic charge or may give rise to other risks. Cleaning must not lead to damage of or changes in the unit and its components.
- We recommend checking the condition of the potential equalisation at the tube silencer upon cleaning; after its completion it shall be in perfect condition.

5. Liability

The owner bears the responsibility for intended use of the product.

ELEKTOROR will not accept any liability for use of products and components which goes contrary to the intended use.

This especially applies to use in applications and under operating conditions that have not been specifically agreed to by ELEKTOROR.

Furthermore, ELEKTOROR does not accept any liability for alterations or remodelling of the product or its accessories, especially if such alterations are capable of influencing the explosion protection.

Furthermore, ELEKTOROR does not accept any liability for improper, delayed or neglected maintenance or repair work as well as for maintenance and repair work not performed by qualified specialists of ELEKTOROR and the consequences of such work.

6. Declaration in Place of a Manufacturer's Declaration according to the EC Machinery Directive 98/37/EC, Annex IIB

ELEKTOROR Airsystems GmbH
Richard-Hirschmann-Strasse 12
D-73728 Esslingen am Neckar

We declare at our sole responsibility that the product to which this declaration relates does NOT conform to the standards or standardisation documents listed below.

However, an ignition hazard assessment according to EN 1127-1 and EN 13463-1 has been performed by ELEKTOROR. On the basis of the findings of this ignition hazard assessment we have come to the conclusion that this product is suitable for use in conjunction with explosion-protected ELEKTOROR blowers conforming to certain categories according to EC directive 94/9/EC.

These categories are: II 3G, II 3D, II 3GD

Temperature classes: T3, T4, and not below T125°C

The standards or normative documents listed as examples below are not applicable to this product.

Description of the product:

Tube silencer

For machine type:

D0 ...-Ex
RD ...-Ex
HRD...-Ex
HRD...FU...-Ex

Exclusively suitable for use in conjunction with our explosion-protected machines listed under "For machine type" acc. to category II 3G, II 3GD, or II 3D and temperature classes T3, T4 or not lower than T125°C, as well as only when the specifications for intended use are adhered to.

This product is NOT a device and NOT a machine, as well as NO component of machinery, for instance, in the sense of the following directives:

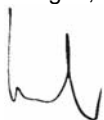
EC machinery directive 98/37/EC
EC low voltage directive 2006/95/EC
EC directive 94/9/EC (ATEX 95)

During intended use the product does not entail an ignition hazard.

If a modification of the product is made without our consent, this declaration becomes invalid.

This product may not be put into service until the required safety measures have been taken in the main machine into which it is incorporated and such equipment has been declared to be in conformity with the provisions for health and safety set forth in the applicable EC directives.

Esslingen, 06-01-2007



Ulrich Kreher (Managing Director)