

# Small-parts conveyor drives and bowl feeder drives for potentially explosive atmospheres

Products for potentially explosive areas governed by new legal position since 01.07.2003

Directive 94/9/EC - also known as the ATEX Directive - which governs the marketing and use of operating materials for potentially explosive atmospheres has been applicable within the European Union since the 1<sup>st</sup> of July 2003. Directive 94/9/EC affects both the manufacturer of products for potentially explosive atmospheres and the operating company of systems used in potentially explosive atmospheres.

This new legal position classifies products into two equipment groups. Equipment group I includes all products used for underground operations in mines as well as their bank-head installations that could be at risk from mine gas and/or flammable dusts. Equipment group II includes all products that can be used in all other areas at risk from a potentially explosive atmosphere. Each equipment group has different categories to which an appropriate safety level is assigned. Further zones are assigned to these categories. The three-level zone division creates two distinct zones - the gas zone (G) and the dust zone (D) - for equipment group II. The new Directive 94/9/EC replaced the two-level zone division in the dust zone (as defined by the old legal position) by a three-level zone division. The operating company is responsible for the zone classification.

The table below shows an overview of the new division.

| Equipment group  | Group I   |      | Group II          |                     |                   |                     |                   |                     |
|------------------|-----------|------|-------------------|---------------------|-------------------|---------------------|-------------------|---------------------|
| Category         | M1        | M2   | 1                 |                     | 2                 |                     | 3                 |                     |
| Safety level     | very high | high | very high         |                     | high              |                     | standard          |                     |
| Zone assignement | -         | -    | G (Gas)<br>Zone 0 | D (Dust)<br>Zone 20 | G (Gas)<br>Zone 1 | D (Dust)<br>Zone 21 | G (Gas)<br>Zone 2 | D (Dust)<br>Zone 22 |

## Requirements for the manufacturer:

|                                                                                                                                                                                                                     |                                                                                                             |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------|
| <p>Manufacturer must operate an ATEX-compliant and certified Quality Assurance System.</p> <p>This category of products must be covered by an EC Type Examination Certification from an external Notified Body.</p> | <p>Manufacturers must present a Declaration of Conformity to demonstrate compliance with the directive.</p> |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------|

AVITEQ Vibrationstechnik GmbH offers small-parts conveyor drives backed by the required Type Examination Certifications for both the dust (D) and gas (G) zones in the dosing and feed technology sector. AVITEQ Vibrationstechnik operates an ATEX-compliant Quality Assurance System. All stated products are backed by the required Type Examination Certifications presented in both German and English.

## Small-parts conveyor drives



|       |                 |                                                                            |
|-------|-----------------|----------------------------------------------------------------------------|
| Type: | eKF 1-... (Ex)  | 105...115 V – 50/60 Hz<br>220...240 V – 50/60 Hz                           |
|       | eKF 6-... (Ex)  | 105...115 V – 50/60 Hz<br>220...240 V – 50/60 Hz                           |
|       | eKF 12-... (Ex) | 105...115 V – 50/60 Hz<br>220...240 V – 50/60 Hz<br>380...420 V – 50/60 Hz |

|                                                                                                |       |                       |                                    |
|------------------------------------------------------------------------------------------------|-------|-----------------------|------------------------------------|
| <b>AVITEQ</b> AVITEQ Vibrationstechnik GmbH<br>D-65795 Hattersheim-Eddersheim<br>www.aviteq.de |       |                       |                                    |
| <b>Ex</b> BVS ... ATEX ...<br>II 2 G Ex e IIB T4<br>II 2 D Ex tD A21 IP65 T 115°C              |       | Year 2009             | <b>CE</b> 0158                     |
| Type eKF...                                                                                    | (Ex)  | ... min <sup>-1</sup> | I <sub>A</sub> /I <sub>N</sub> ... |
| Serial no. ...                                                                                 |       | ... kW <sub>out</sub> | t <sub>E</sub> > ... min           |
| ... V                                                                                          | ... A | G <sub>n</sub> ... kg |                                    |
| DIN VDE 0580                                                                                   | 50 Hz | Made in Germany       |                                    |

II ..... Equipment group II  
 2 ..... Category 2  
 G, D .... Gas (G), Dust (D)  
 Ex ..... Explosion-proof electrical apparatus  
 according to EN 60079-.. and  
 EN 61241-..  
 e ..... Type of protection „increased safety“  
 IIB ..... Affiliation to the relative gas group  
 T4 ..... Temperature class  
 tD ..... Type of protection for areas with  
 the presence of combustible dust  
 “tD”, protection by enclosures  
 A21 ..... Approval in accordance with the  
 procedure A for zone 21 (dust)  
 IP65 .... Degree of protection  
 T 115°C Maximum surface temperature at  
 the equipment