

## Equipment intended for use in potential explosive atmospheres



Explosion protection is designed to ensure the safety and health of persons as well as the safety of plants and products. Potentially explosive atmospheres are defined as areas where an explosive atmosphere can arise from the mixture with air, under atmospheric conditions, of flammable substances in the form of gases, vapours, mists, and dusts.

Today two directives apply throughout the European Union:

- Directive 99/92/EC on minimum requirements for improving the safety and health protection of workers potentially at risk from explosive atmospheres, also known as "ATEX 137", has been written for the employer in his capacity as plant user. The commonly used abbreviation "ATEX" derives from the French term "**A**tmosphère **E**xplosible".

- Directive 94/9/EC on the approximation of the laws ... concerning equipment and protective systems intended for use in potentially explosive atmospheres, also known as "ATEX 100", has been written for the equipment manufacturer.

The present harmonization removed the barriers to trade within the European Union in the area of protection against explosions. To users of potentially explosive plants outside the EU, the respective local regulations apply. Concerning deliveries to countries outside the EU, the suppliers respect the regulations contractually agreed with the customer. A novel feature of explosion protection in accordance with ATEX is the inclusion of the mechanical equipment and the assignment of equipment categories to hazardous zones.

### I - EU Directive 99/92/EC, ATEX 137, directed to the user

Essential features of the directive laying down the minimum requirements:



#### **Explosion protection priorities**

1. Prevention of the formation of explosive atmospheres
2. Avoidance of ignition sources
3. Mitigation of the detrimental effects of an explosion



#### **Classification into zones**

The employer classifies the areas where explosive atmospheres may occur into zones. The different zones are assigned to defined equipment categories.



#### **Explosion risk assessment and explosion protection document**

The risks of explosion shall be assessed overall and documented. Also the protective measures must be documented.



#### **Coordination duty**

The employer coordinates the explosion protective measures if workers from several undertakings are present at the same workplace.

## II - EU Directive 94/9/EC, ATEX 100, directed to the manufacturer

New plants in potentially explosive atmospheres may exclusively use equipment complying with the minimum requirements of Directive 94/9/EC.

Important novel features:

- ⚠ Every piece of equipment is marked with the CE label.
- ⚠ For every type of equipment, the manufacturer issues a declaration of conformity.
- ⚠ The regulations are now also applicable to non-electrical (mechanical) equipment.
- ⚠ The explosion protected equipment is classified into groups and categories.

Group I:	mines (not further considered).	Category 1 : very high level of protection
Group II:	Surface industries	Category 2 : high level of protection Category 3 : normal level of protection

In addition, the equipment destined for use in Gas-Ex and Dust-Ex atmospheres is identified by G and D respectively.

- ⚠ For every piece of equipment, the manufacturer prepares instructions including, i.a., instructions for safe putting into service, use, assembling/dismantling, maintenance (servicing and emergency repair), installation and adjustment. For commissioning, the original instruction in one of the languages of the European community plus a translation into the language of the user country must be supplied.



## III – HASLER International & ATEX :

Most of all HASLER equipments are designed to be used in explosive atmosphere.  
Our products belong to the Group II (surface industries) Category 2 (high level of protection).  
They can only be used in **dust explosive atmosphere** and are intended to the zone 21 (or 22).

HASLER equipment identification is : II 2 D T.