



## Ex p special solutions

### Pressurization by IEC 60079 - 3 EN 60079 - 2

The function of purged Ex proof is explained as follows:

Accumulation of an explosive atmosphere is prevented by a low overpressure from inside to outside the housing.

The housing is filled and purged with any inert gas or dry clean air, nitrogen. The certified electronic control unit is responsible for power cut off if the pressure difference becomes too small, also for start after power on. In cases when Ex d will be to go to a great extent, or when the space is too poor, could a purged cabinet be an attractive solution. Complete switchgears with power supply, control units, PLC, switches, pilot lamps, displays in standard version will be built in special purged cabinets with a high ingredient protection class.

During operation the inside of the airtight Ex p enclosure must have a minimum 0.5hpa overpressure to prevent penetration of the hazardous gas. If the pressure difference falls below this, the controller automatically disconnects power from the equipment inside the enclosure via a contactor. This contactor may be mounted outside the hazardous area, or in an Ex d enclosure close to the Ex p enclosure. At start-up, before the controller applies power to the equipment inside the Ex p enclosure, the enclosure is automatically purged with at least five times the volume of the housing to remove all remnants of the hazardous gas.

When the purge is complete, the controller applies power to the equipment inside the Ex p enclosure. Afterwards the main power supply will be switched on. If the pressure difference between housing and environment falls below the critical value of 0,5 Hpa, or the free flow of inert gas is disturbed, the main lines will be cut off.

The Ex system controls all of this functions and controls the main supply i. E. via an airbrake contactor. This contactor can be mounted outside of the hazardous area or in an Ex d housing near or in the Ex p cabinet.

### Main functions of Ex p systems:

- a) Small control unit with a digital display for remain purging time.
- b) Ex-valve for control of gas or air
- c) For purge gas can be used clean air or any non inflammable gas.

## Technical specifications

### Explosion protection

Ex de [ib] IIC T4

### Certificate

TÜV 02 ATEX 1801

### Voltage

230 V 50 Hz, 115 V oder 24 V

### Current

0.03 A at 230 V

### Contact load

230 V, 4 A, cos = 1

This purged cabinets are special customer made in IP 55 up to IP 65 with special seals to hold the leakage small.

The size can be 6000 liters and more. Complete control houses are available, for the staff they need personal door locks.

The Ex p control unit can be used in two various ways:

1. – Only refill of leakage quantity.
2. – Steady purging with high flow for cooling.

