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Low Pressure Connectors Europe
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Instructions for use for explosive areas (ATEX)

The following instructions for use must be observed when using quick connect couplings in explosive areas, according to EU directive 2014/34/EU (ATEX), in order to prevent explosion or combustion of leaked, transmitted or nearby fluids.

Validity:
Brass, steel and stainless steel quick connect couplings from Parker LPCE may – in proper usage - be used in zones 1 and 2 for gases, vapours and steams, and likewise in zones 21 and 22 for dusts (2014/34/EU).
Parker LPCE quick connect couplings which are produced entirely in aluminium or plastic may - in proper usage - be used in zone 2 for gases, vapours and steams, and likewise in zone 22 for dusts (2014/34/EU).

Proper Usage:
For proper usage of Parker LPCE quick connect couplings (hereafter referred to as components), the instructions given below must be observed.

Hot Surfaces:
The component surface temperature is determined by the temperature of the medium (fluid) and room temperature. There are no other hot surfaces. It is the responsibility of the operator to take this into consideration when operating the components in explosive areas, especially with respect to combustion temperatures of the surrounding explosive atmosphere. The operator is also responsible for observance of the relevant restrictions according to EN 1127-1, with respect to gases, dust layers, dust clouds and hot surfaces.
Heating caused by increased throughput speeds (throttle effect) must be avoided.

Static Electricity:
All metallic components are linked together by conductivity. In certain situations, the components could act as isolated metallic part, which takes on a charge as a result of liquid throughput and thus becomes live. When live, an electrical spark to an earthed object near the screw-connect coupling becomes a possibility. This is why it is necessary to earth the metallic components with the metallic environment.

Due to the charge separation in throughput of fluids, a dangerous charge is also to be expected. Note, conductive hoses with less than Rmax, cond.=103 Ω/m or at least divert conductive hoses with a resistance below Rmax, divert cond.=106 Ω/m should be used. In this context, please especially observe BGR 132 and norm DIN EN 12115. If the hoses used are short enough to guarantee maximum earthing resistance of Rdiv.,max.= 106Ω, then dangerous electrostatic effects, with respect to the components and hose, can be avoided; given that

the arising relaxation times are low enough at the usual charge power for industrial processes (Icharge,max.= 10-4 A).
The restrictions in EN 13463-1, with respect to maximum possible non-conductive plastic surfaces, are to be observed.

Mechanically Generated Sparks
Where aluminum is present, there can be a risk of sparks generated mechanically in connection with rust. Because of this, the components and surrounding area should be kept free of rust, as far as aluminum is concerned as a possible impact partner. Restrictions on authorized materials according to EN 13463-1, i.e. aluminum and magnesium content, must be observed.
Penetration of foreign materials into the interior of the components is to be avoided, as this could cause sparks.

Coupling/Uncoupling:
Parker LPCE quick connect couplings are only to be couple or uncoupled if the explosive atmosphere has been eliminated from the interior, i.e. if the composition of the mixture does not contain air or other oxidation medium at the time of coupling or uncoupling (e.g. coupling/uncoupling is possible with petrol, but not with explosive petrol/air mixture).
Other operation is in accordance with the respective product-specific operating instructions.

Installation:
Parker LPCE quick connect couplings are to be installed and tested by qualified and appropriately trained personnel only. The respective product-specific instructions for installation and maintenance must be observed.

Sparking Risk Analysis:
Parker (Rectus) and TÜV Automotive GmbH has carried out a risk analysis on representative samples, according to EN 1127-1.

Labelling:
When subjected to proper usage, Parker LPCE quick connect couplings have no active inflammable sources of their own. Thus, they are not covered by directive 2014/34/EU (ATEX) and require no special labelling.