Consideration of Conformity

in the sense of the directive 2014/34/EU

Preamble

A defining element of Directive 2014/34/EU is that equipment covered by the Directive must have its own potential ignition sources.
Potential ignition sources could be e.g. electric sparks, arcs and lightning, electrostatic discharges, electromagnetic waves, ionising radiation, hot surfaces, flames and hot gases, mechanically generated sparks, radiation in the optical range, chemical reactions or adiabatic compression.

Valves / Piping Components

Cit. 'ATEX Standing Committee' resp.
Confirmation by BAM (Federal Office for Material Research and Testing).

It was judged that an analogy for such 'simple' products could be made with pipes, with no own source of ignition intended for use in potentially explosive atmospheres where earthing is also required. Given that it is clear that the latter is outside of the scope of ATEX Directive 2014/34/EU it was accepted by the majority of members that such valves **do not** fall within scope.
This does not preclude the need for types of protection to avoid an effective ignition source given that these 'simple' products are intended for use in hazardous environments, and will therefore have to be safe for use as determined by the employer's risk assessment under the relevant 'use' Directive 1999/99/EC.

Test report IBExU, No. 14-8-073:

In the test report IBExU, No. 14-8-073 dated 04.07.2014 it was stated that valve components in contact with the medium cannot be charged with linings or sheaths made of conductive materials and therefore do not have an intrinsic ignition source.

Assessment of the Swiss Safety Center:

Article 2, 1:
"Equipment": Machines, equipment, stationary or mobile devices, control and equipment parts as well as warning and prevention systems, which, individually or in combination, are intended for the generation, transmission, storage, measurement, control and conversion of energies and/or for the processing of materials and which have their own potential ignition sources and can therefore cause an explosion;
In your case, a device that is subject to the ATEX Directive 2014/34/EU is combined with one that is not. The question is whether the said combination has created new ignition sources not previously considered, which would lead to the combination of both systems as a whole fulfilling the above equipment definition.
Information on how to proceed in such a case can be found in the Blue Guide to Directive 2014/34/EU in §44:
In the procedure described there in 2.a), which I would recommend at this point, the manufacturer comes to the conclusion that the combination of both devices has not resulted in a new and thus not yet considered ignition source, so that the two devices do not form a functional unit according to Article 2. In this case, the manufacturer must provide the two declarations of conformity of the individual devices.

Extract from the ATEX guidelines, 2nd edition 2017:

Section of guideline § 38 Examples of equipment not covered by Directive 2014/34/EU

The issue of hand-operated valves has also been discussed. Given that these will move slowly, with no possibility of forming hot surfaces (as discussed in section § 42 on non-electrical equipment) they are not in scope of the Directive. Some designs incorporate polymeric parts, which could become charged, but this is no different from plastic pipes. Given that it is clear that the latter is outside of the scope of Directive 2014/34/EU it has been accepted that such valves do not fall within scope.

Section of guideline § 42 Non-electrical equipment

If non-electrical equipment has a potential ignition source, in most cases this is due to moving parts able to create a potential ignition risk either from hot surfaces, or friction sparks. Examples are: gears, fans, pumps, compressors, mixers, brakes. Mechanical equipment of this type usually has to be connected to a power source, such as an electric motor. Together placed on the market in this form, it might be an assembly (see section § 44 on combined equipment (assemblies)).

Section of guideline § 44 Combined equipment (assemblies)

2. a) In some cases the pump and electric motor can be considered separately although they form a functional unit. If in this case there is no additional ignition hazard as a result of assembling the pump and motor, this functional unit as a whole does not constitute a single item of equipment which falls within the scope of Directive 2014/34/EU. It is then to be considered a combination of "individual items of equipment" in terms of explosion protection. In this case, therefore, the manufacturer of pump and electrical motor must supply an EU declaration of conformity for each of both items.

Assessment of the ignition hazard as a result of the assembly of the valve and assemblies:

An ignition hazard assessment according to EN ISO 80079-36:2016 has been carried out for Swissfluid valves and their assemblies (pneumatic and electrical). No additional potential ignition sources due to the assembly were determined, i.e. the valves and their components do not form a unit. This means that Swissfluid valves do not fall within the scope of Directive 2014/34/EU and must therefore not be labelled accordingly.
Pneumatic and electrical components of Swissfluid valves must be separately assessed and marked in accordance with Directive 2014/34/EU.
The field of application for Swissfluid valves and their components in potentially explosive atmospheres is therefore oriented towards the component with the highest restrictions.

The use of the valves in areas where explosive atmospheres may occur is therefore possible within the scope of the intended use.

CH-5600 Lenzburg, 29.10.2020 Q.A. Manager: Krizanec