



## **ATEX-Compliant In-Line Inspection Services**

With the introduction of the CE device Directive ATEX 94/4/EC (ATEX 95) and the Occupational Health and Safety Directive ATEX 1999/92/EC (ATEX 137), a uniform legal basis was established for explosion protection within the European Union. The CE directives were completely harmonized and transposed into national law without any modifications. Whereas the occupational health and safety directives lay down minimum standards, regulations within individual countries may be more stringent. These discrepancies must always be borne in mind when applying directives and taking explosion protection measures. It is the responsibility of the operator to coordinate all activities in potentially explosive areas of their facilities (Ex zones), a task of fundamental importance that includes identifying and defining hazardous zones in the first place. Devices and protection systems for the operator's own employees and external services providers are selected in accordance with ATEX 95. Similarly, ATEX 137 and / or the applicable national laws provide the framework for determining threats and risks as well as specific protection and monitoring measures, for coordinating all employees in the Ex zones and, finally, for drawing up an explosion protection document.

In-line inspection tools are brought into the pipeline and out again through launcher- and receiver facilities. These installations are typically situated in an Ex zone, meaning that the ATEX directives are fully applicable here. Nevertheless, according to ATEX 137, operators are at liberty in their risk assessments to define the most suitable measures for an in-line inspection and to use, for example through zone shifting, special inspection tools which do not comply with ATEX 95. Successful inspections in conformity with the explosion protection regulations are not achieved merely by providing the relevant certified equipment, however. Rather, they require the concerted action of all those involved.

How can the operationally necessary flexibility be reconciled with the regulatory requirements of ATEX 95? ROSEN's response is an ATEX safety concept comprising the entire tool fleet from 6" to 56" which makes possible a high degree of flexibility through individual configurations. A modular system is separating the active elements required in the EX zone from the inactive modules (figure). When the tool is in the Ex zone during launching and / or receiving, the entire electronic inspection measurement technology is turned off. The power supply from batteries and the

tool status transmitter continue to be electronically active devices and are therefore Ex-protected by a type of ignition protection which complies with a harmonized ATEX standard. This concept can be applied both in small multi-body and large single-body tools.

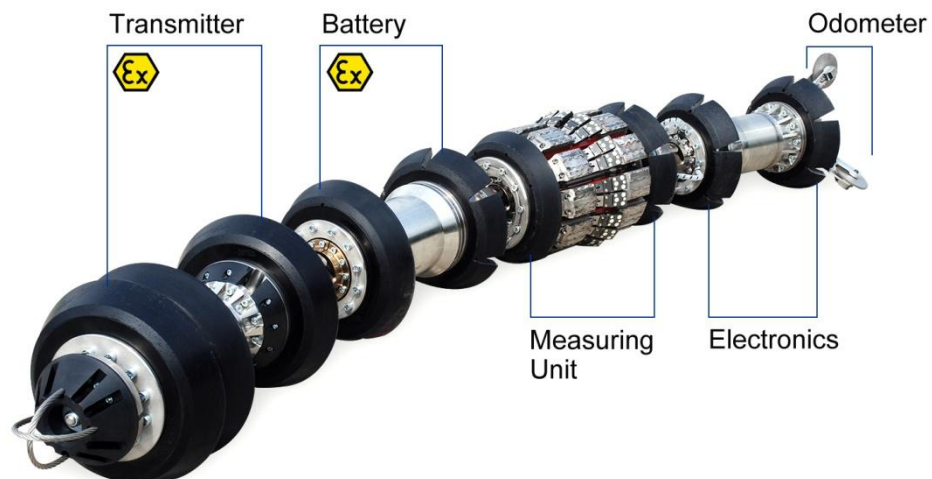


Figure: Ex-protected segments of a multipart inspection tool

The ROSEN safety concept also complies with the requirement of the POF specifications which lay down that the non-atmospheric conditions must be taken into account when launching and receiving tools. Since explosion protection transcends mere compliance with the ATEX directives, operators must take a holistic view of asset integrity. Operation of equipment in potentially explosive environment requires adequate personnel training, judicious selection of devices and work tools, consistent implementation of specific procedural steps in launching and receiving tools and, last but not least, transparent communication between all parties involved.