



IKTS field test filtration system.



Gas separation system, for external use.



Multifunctional gas phase system (operation at up to 650 °C), under construction, for external use.

CE-compliant membrane filtration plants for applied research

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In applied research, it is necessary to develop, build and operate devices or systems. Fraunhofer IKTS often implements complex technical solutions that go beyond standard solutions. It is then a particular challenge to meet the existing legal rules for product and operational safety.

Legal background

When devices or systems are developed and built for own use and for use in a research project, the builder is initially considered the manufacturer. Looking at the applicable legal framework, the Product Safety Act (ProdSG) and its ordinances apply in such cases. According to the Machine Ordinance (9th ProdSV), the researcher, now deemed a manufacturer, must accept what is known as the responsibility for conformity. Operation of these systems requires compliance with the Occupational Health and Safety Act and the Ordinance on Industrial Safety and Health (BetrSichV).

Consequences for the researchers

Research projects and corresponding system developments usually take place continuously and over longer periods of time. The safety of the research operation is ensured at all times in accordance with the occupational safety and accident prevention regulations or by observing the operational safety regulations; a declaration of conformity within the meaning of the ProdSG is therefore not initially required.

However, if the developed technology is used either for routine tasks, or as part of research activities over more than three years, or if it is handed over to an external project partner, a conformity assessment procedure (CE) is necessary to ensure the minimum safety of the

product placed on the market. In the field of devices and systems for research purposes, this can only be achieved if everyone involved has this topic in mind and acts responsibly along tried and tested procedures (risk assessment) before the build, i.e. right at the start of development of a prototype.

Established CE conformity at IKTS

Against this background, Fraunhofer IKTS has established a system for carrying out a CE conformity assessment procedure and has successfully applied it several times to sophisticated plant technology, including the characterization of and process development with filtration membranes. Consistent and prudent implementation of the process allows for the safe use of the developed systems, e.g. in the field of membrane-supported liquid and gas filtration, pervaporation, vapor and gas permeation. With this important competence, IKTS continues to establish itself as a reliable partner for prototype systems for solving practical research tasks in the academic environment and in industry.