

ty guarantees safety



# AVIATION FUEL FILTRATION & SENSING TECHNOLOGY



es safety



Quality made in Germany



# QUALITY GUARANTEES SAFETY

*Market-based solutions*





■ Clean, dry aviation fuel is a basic prerequisite for aviation safety. Only the most highly specified products, manufactured to the highest quality by specialists in the field, provide the necessary assurances.

Typical contaminants that may be present in aviation fuels include free water, particulate, microbiological growth and surfactants. These contaminants can be introduced at any stage in the distribution system and can cause adverse effects on the fuel management and control systems on-board aircraft.

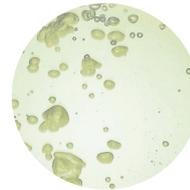
Free water can be considered the major contaminant as microbiological activity takes place at the interface between fuel and water and the resultant slime corrodes and effects aircraft fuel systems. Additionally, due to the low temperatures at high altitudes, ice crystals can form and block fuel lines. Particulate must also be filtered to the minimum, otherwise on-board filters may block resulting in bypassing and particulate reaching the aircraft fuel components and engines.



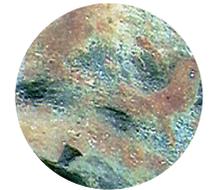
Sand



Rust



Free Water



Microbiological Growth

For decades, FAUDI Aviation has been researching innovative filtration solutions and pioneering sensor technologies. Our many years of experience and continuous improvement process set global standards for product and service quality. Our product range is perfectly coordinated with aviation fuel quality requirements and will help lower operating costs, reduce system downtimes and help ensure an efficient work process.

FAUDI Aviation is a company with international presence which above all offers the familiar quality standard: Made in Germany.



# SENSOR TECHNOLOGY

## *Precision and Innovation*

Whether a light sport or wide bodied aircraft is refuelled, fuel quality from refinery to aircraft is our top priority.



■ The distribution of aviation fuels from the refinery to the aircraft includes many stages where various contaminants enter the fuel distribution system. Continuous monitoring of fuel quality in all areas of use is necessary in order to meet the highest safety requirements.

As the pioneer in new developments and use of innovative technologies, FAUDI Aviation recognized early on that continuous monitoring, recording and evaluation technology make the handling of aviation fuel simpler, more economically efficient, and ultimately much safer.

Our product range comprises state-of-the-art sensor technology for the detection of free water in fuel, detection of bulk water such as in sumps of filter/water separators, as well as an electronic system for recognizing the maximum permitted differential pressures. Detection and monitoring take place in real time. Users are continuously informed of the quality of the fuel and can take action in good time if there are any deviations.

FAUDI Aviation sensor technology offers the right solution with a worldwide reach.



**AFGUARD®**  
 Electronic sensor for detection of free water in aviation fuel. The AFGUARD® sensor is qualified for use as an alternative to Chemical Water Detectors (CWD) by Joint Inspection Group (JIG). AFGUARD® is regarded as fail safe and fully hazardous-area (ATEX and IECEx) approved. The Sensor System conforms to ISO 13849 standard.



**SLUGGUARD®**  
 This sensor recognises different media in filter vessel sumps, pipes and filter heads. SLUGGUARD® fulfils the EI 1592 specification.



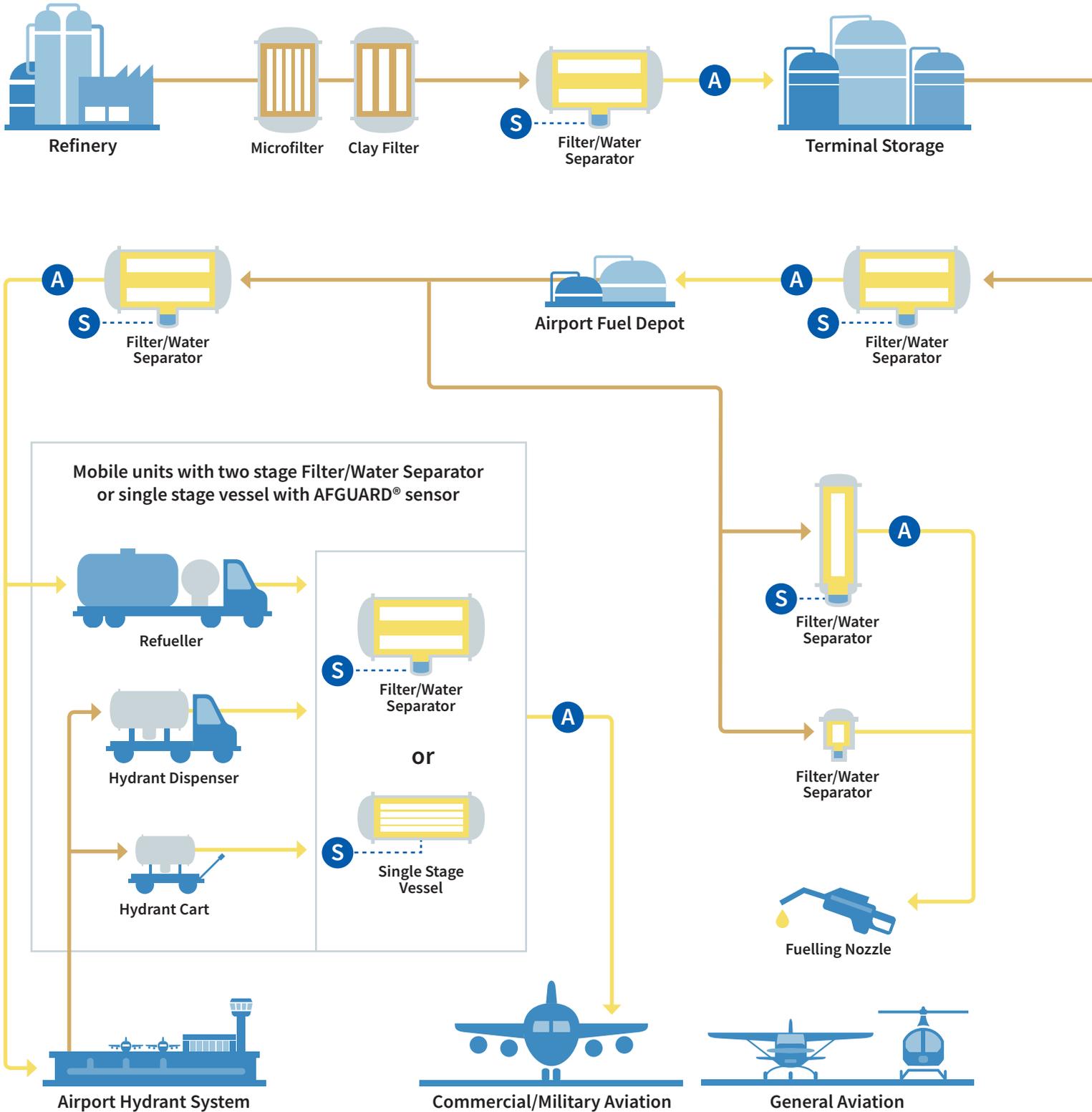
**Contamination Control System (CCS)**  
 Fully automated controller. The CCS is developed to process data from FAUDI sensors, like AFGUARD® and SLUGGUARD®.

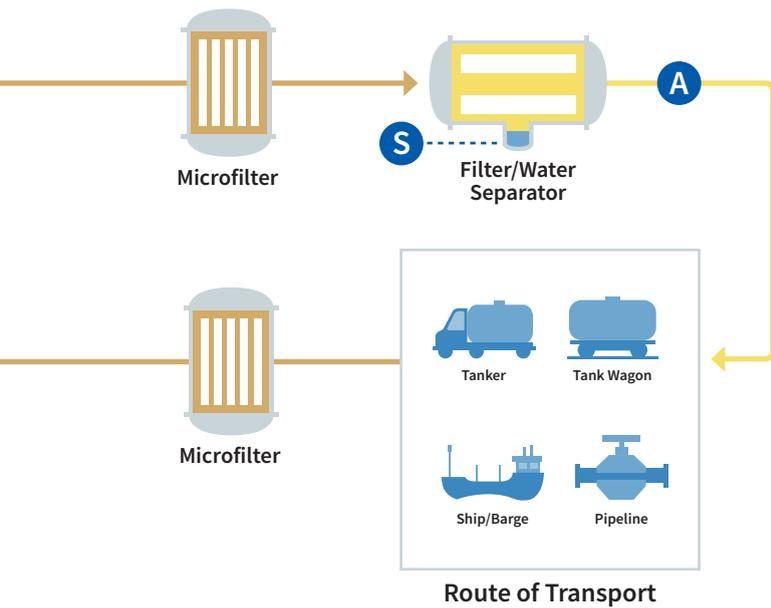


**DPGUARD®**  
 Automatic calculation of corrected differential pressure measurement considering flow rate effects.

# YOUR AVIATION INDUSTRY PARTNER

Since 1938





- A** AFGUARD®      Clean and Dry Fuel
- S** SLUGGUARD®      Risk of Contaminated Fuel

Starting out with small, hand-operated fuelling units back in 1938, our offering has over the last decades developed into complex and high quality filter units that can be monitored and controlled with state-of-the-art sensor technology. Whether refineries, fuel storages, terminals or fuelling vehicles, our products are used anywhere where the highest safety standards and professional know-how are needed.



**Filter/Water Separators (acc. to EI 1581)**  
 Filter/water separators intended for use in commercial aviation fuel (defined as Category C), military aviation fuel (defined as Category M) and military aviation fuel containing a thermal stability additive (defined as Category M100). A filter/water separator is a two-stage system designed to remove free water and particulate from fuel at refineries, terminals, fuel depots, refuellers and hydrant dispensers.



**Microfilters (acc. to EI 1590)**  
 Microfilters are designed to be used as pre-filters protecting downstream elements in filter/water separators. Microfilters remove particulate in aviation fuel handling systems.



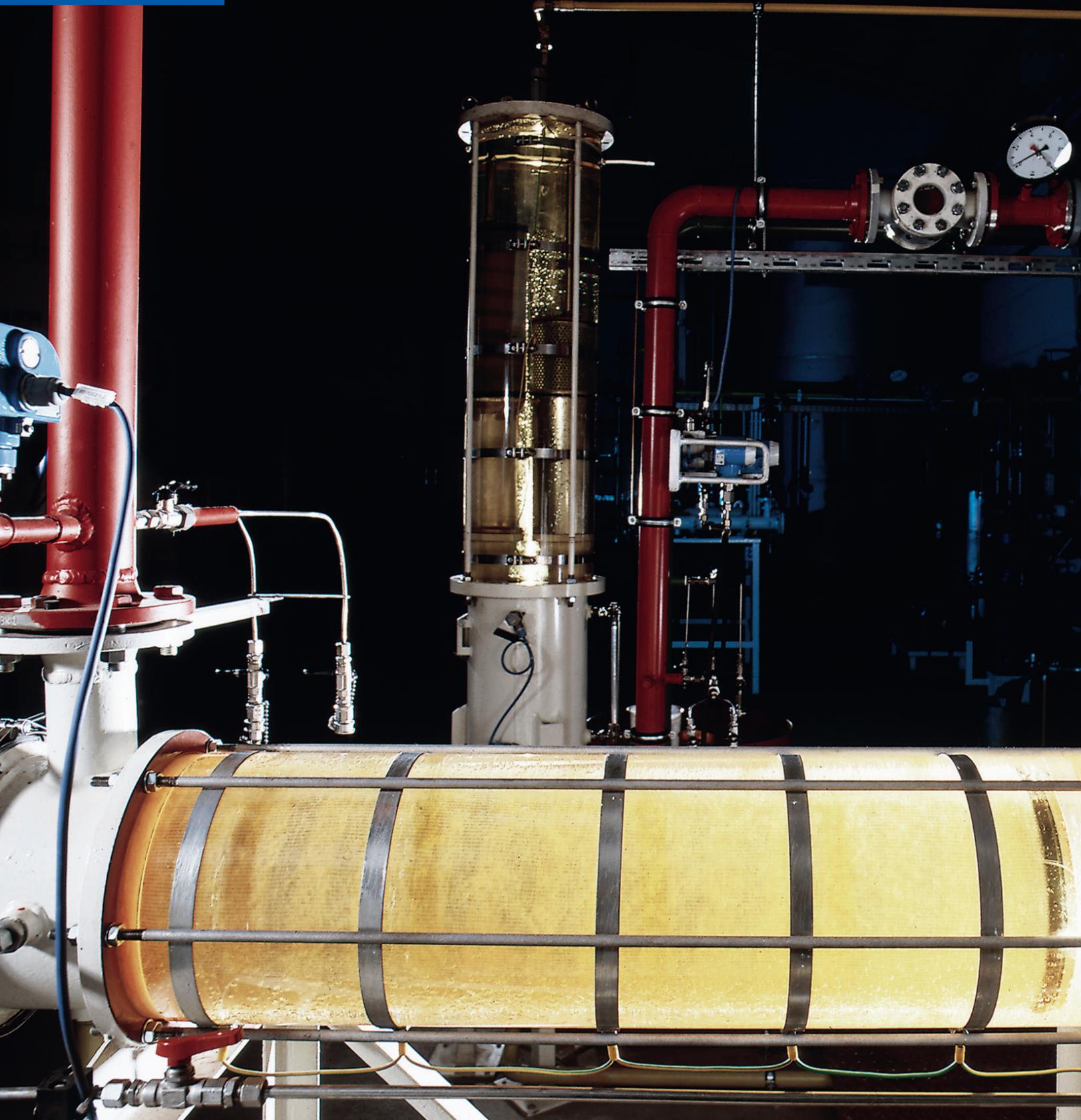
**Filter Monitors (acc. to EI 1583)**  
 Filter Monitors were designed to remove low levels of dirt and absorb low levels of free water from aviation fuels. The specification EI 1583 will be withdrawn by no later than 31 December 2020. The FAUDI Aviation drop-in solution is the Dirt Defence filter (acc. to EI 1599) designed to filter particulate from aviation fuels. Must be used in conjunction with water sensing technology to EI 1598 and consider EI 1592 electronic bulk detection water.

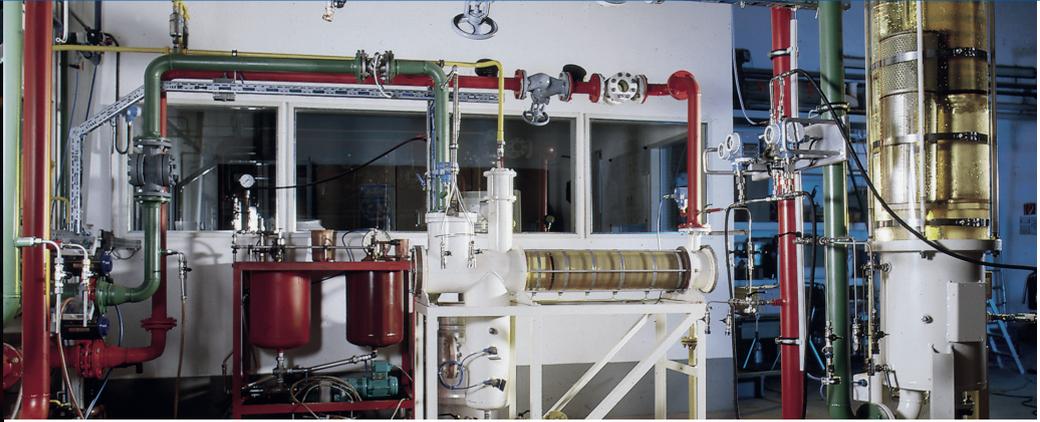
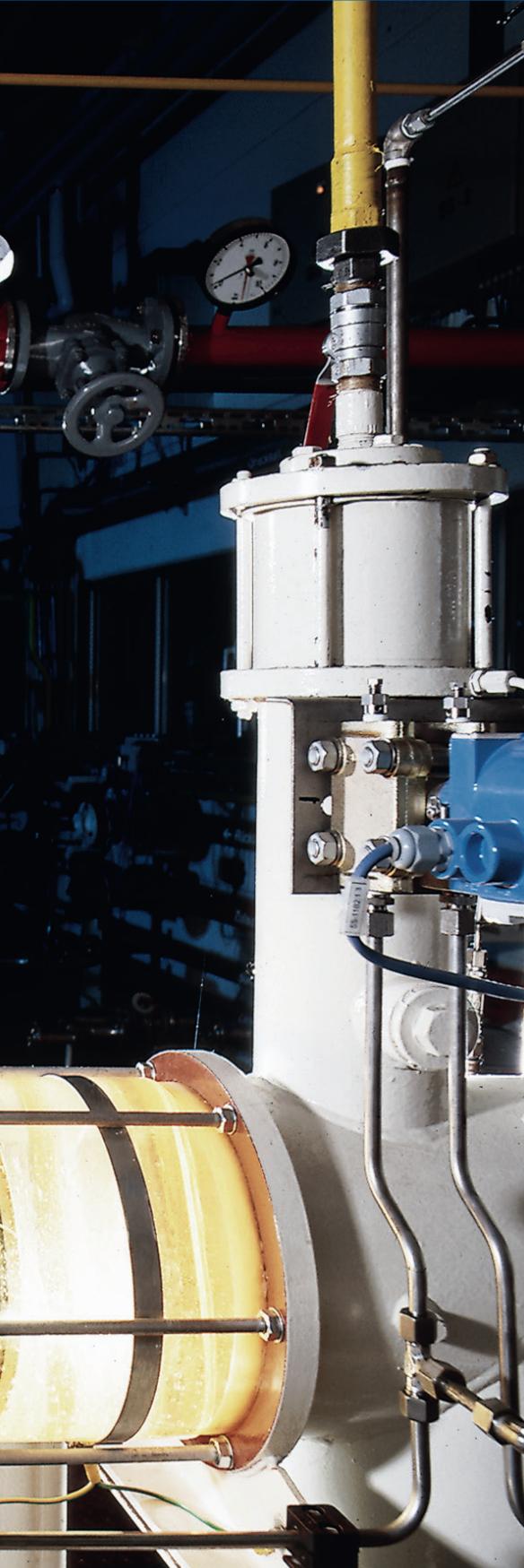


**Clay Treater and Screen Basket Filter**  
 Clay Treaters are designed to remove surfactants from aviation fuels.  
 Screen basket filters are intended for use in aviation fuels for bulk filtration upstream of microfilters.

# RESEARCH & DEVELOPMENT

*Test Rig*





■ Filters and sensors that are used in the handling of aviation fuels are subject to strict international controls and must be approved for their application.

Therefore, before market introduction, all FAUDI Aviation products are tested under industry expert witnessing with comprehensive qualification runs based on the respective specification. For this purpose, FAUDI Aviation has a test rig in its research and development department that is one of the most technologically advanced of its kind. The interconnected labs review raw materials whilst new products are being developed and test the products under controlled conditions, before qualifying them for production and application.

Manufacturers from similar industries and military facilities use the FAUDI Aviation test rig to test their own products under realistic conditions for qualification tests.

The expertise of our Research & Development Department comes from many years of experience analysing used filter elements and the continuous development of our product range. End user focused analysis and evaluation methods ensure economic and effective solutions across the product range.

Continuously developing test methods and application-oriented research characterise the power of innovation at FAUDI Aviation GmbH.



# CONSTRUCTION & PRODUCTION

## Engineered in Germany

■ Choose FAUDI Aviation to ensure the greatest innovation and highest quality standards. FAUDI Aviation offers complete and individualised solutions that meet the most complex of demands in today's aviation fuel handling industry. All queries regarding retrofitting or requirements for spare parts are dealt with individually and in a timely manner.

Whether dealing with filter vessels or the associated filter elements, FAUDI Aviation places the greatest value on meticulous production and high quality products. All stages of production, from the purchasing of raw materials to delivery of the end product, are subject to the strictest quality controls according to internal factory standards and ISO 9001.

Rely on the technical expertise and the high personal commitment of our employees, from simple queries to projects large and small. Our archive holds design solutions and product developments from several decades trust on the specialist knowledge only at FAUDI Aviation.



Our experience in the development and construction of various filtration systems and elements will help reduce fuel quality issues and maintenance times. We also offer retrofit solutions and supply spare parts for existing installations.





## Safety

Commercial aviation fuel filtration follows the specifications of the Energy Institute (EI). FAUDI Aviation was one of the first manufacturers to perform test and to qualify against the specifications of the American Petroleum Institute (API) back in 1973. Since then, the company became recognised as a respected contributor to those responsible at the API and later at the EI. We are and will remain a proud partner of the EI with our committed and expert team contributing to providing the best solutions in the aviation fuel industry.

FAUDI Aviation has all the licenses required to manufacture and supply filter vessels and filter elements to the aviation market. Our products comply with the latest industry filtration specifications.

- EI 1581 Specifications and laboratory qualification procedures for aviation fuel filter/water separators
- EI 1582 Specification for similarity for EI 1581 aviation jet fuel filter/separators
- EI 1583 Laboratory tests and minimum performance levels for aviation fuel filter monitors
- EI 1589 Materials compatibility testing for aviation fuel filter elements and fuel sensing devices
- EI 1590 Specifications and qualification procedures for aviation fuel microfilters
- EI 1592 Design, functional requirements and laboratory testing protocols for electronic bulk water detectors for use in aviation fuelling
- EI 1596 Design and construction of aviation fuel filter vessels
- EI 1598 Design, functional requirements and laboratory testing protocols for electronic sensors to monitor free water and/or particulate matter in aviation fuel
- EI 1599 Laboratory tests and minimum performance levels for aviation fuel dirt defence filters

FAUDI Aviation also holds the important certifications required for military aviation fuels.





FAUDI Aviation head office in Stadtlendorf, Germany

## FAUDI Aviation worldwide

■ Attentive customer support and all-round service have been key to FAUDI Aviation's corporate success. A broad distributor network ensures that users have a local contact with whom they can communicate in their native language. In countries where there is no local office or distributor, Area Sales Managers from the headquarters will be there for you in person. A trusting and long-term relationship is the basis for successful cooperation at FAUDI Aviation. Members of our sales team therefore regularly make trips to visit users around the world to ensure we understand the issues where we may help. The FAUDI Aviation sales team has maintained good relationships around the world, in many cases for decades.

Please call us if you are planning a project or have questions about our products or any additional information not available in this brochure.

The FAUDI Aviation Team looks forward to meeting you!

