

Krantz

Products and services
for the decommissioning and waste
management of nuclear facilities

www.krantz.de

Krantz



Drying system



Drying System

The drying system from Krantz safely dries dripping wet components and larger disassembled pieces, which are placed under water in storage magazines and insert baskets before being moved to interim and final storage containers. This applies, for example, to reactor pressure vessel internals. Krantz makes it possible to connect to a precisely fitting air distribution system as well – everything from a single source.

Krantz likewise offers additional air distribution systems for use in the dismantling process, such as while performing underwater plasma cutting, in which the cutting gases generated on the surface of the water are extracted, filtered, and returned to the air distribution system or the room air.

Features

- Outstanding protection for people and the environment
- Continuous monitoring of radioactivity
- Simple and exceedingly safe assembly, as well as intuitive operation via touch panel
- Space-saving solution
- Avoiding condensation through insulation





Safe Change Filter Housing SCF classic



Safe Change Filter Housing with Scanner SCF hightec Triple S

Filter & Damper Systems

Range of Services

Filter systems

For separating gaseous, aerosol and/or particulate pollutants from nuclear decommissioning projects. Our systems can also be used as recirculating air filter systems.

Damper systems

For shutting off air flow in air distribution systems with stringent demands on leak tightness, as well as for protecting equipment and air distribution systems against pressure surges.



Krantz
Overview brochure
Filter systems and dampers

We protect people and the environment

Krantz



Legend

- 1 Mobile re-cleanable filter system RHF hightec RH13 / H13-1500 m³/h
- 2 Adsorption filter CFH classic
- 3 Gastight rectangular damper GD-R
- 4 Non-return damper RK-E20
- 5 Pressure relief damper for high opening pressures, with control function KL-E or with switching function KL-EM

More information here: **Overview Brochure Filter and Damper Systems**
and on our website: www.krantz.de/filteranddampersystems



Moveable working platform

Loading stations, cranes, platforms, handling platforms

With our many years of experience, we have placed a special focus on the development of appropriate waste management concepts, the establishment of treatment and conditioning processes, the design of dismantling technologies, and the perfecting of storage logistics with appropriate facilities. Development and production are under the same roof and offer optimized infrastructure solutions through close cooperation between the departments in the group.

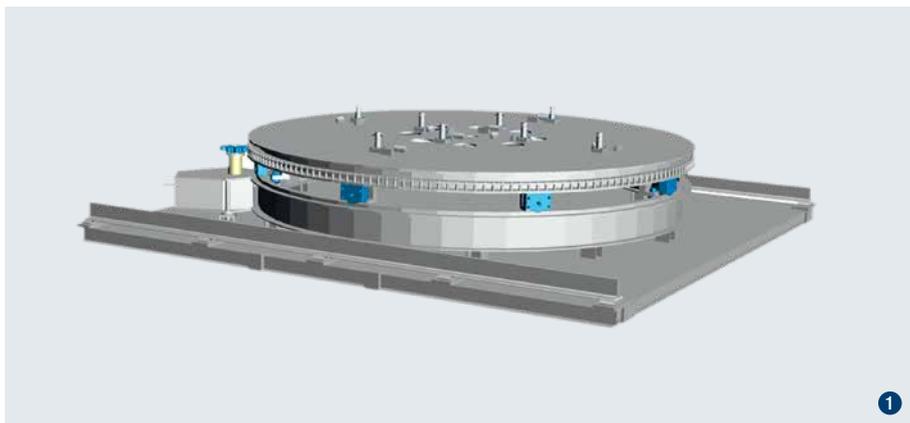
- Mobile working platforms over the reactor pool
- Local supplemental gantry crane systems
- Underwater racks for logistics and dismantling
- Containment and sealing bulkheads, complete with static effect
- Loading stations
- Rotary tables for the underwater dismantling of large components
- Mobile underwater loading racks for loading containers
- Loading stations for a wide variety of transport and storage containers

Advantages of gantry crane systems

- Separation of operations from the use of the reactor crane
- Robust, low-interference solution
- High flexibility

Legend

- 1 Rotary table
- 2 Gantry crane system



1



2



Research & Development Center in Aachen

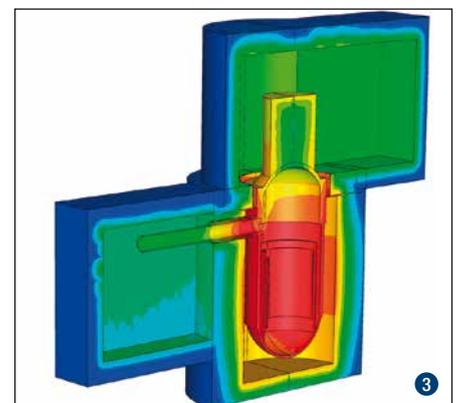
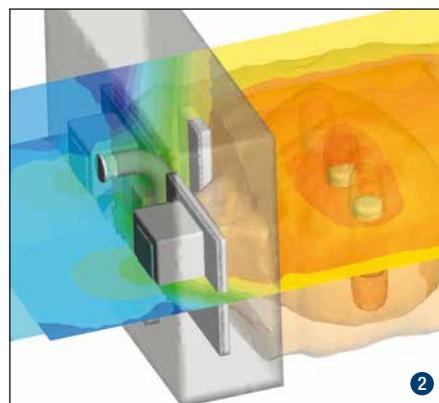
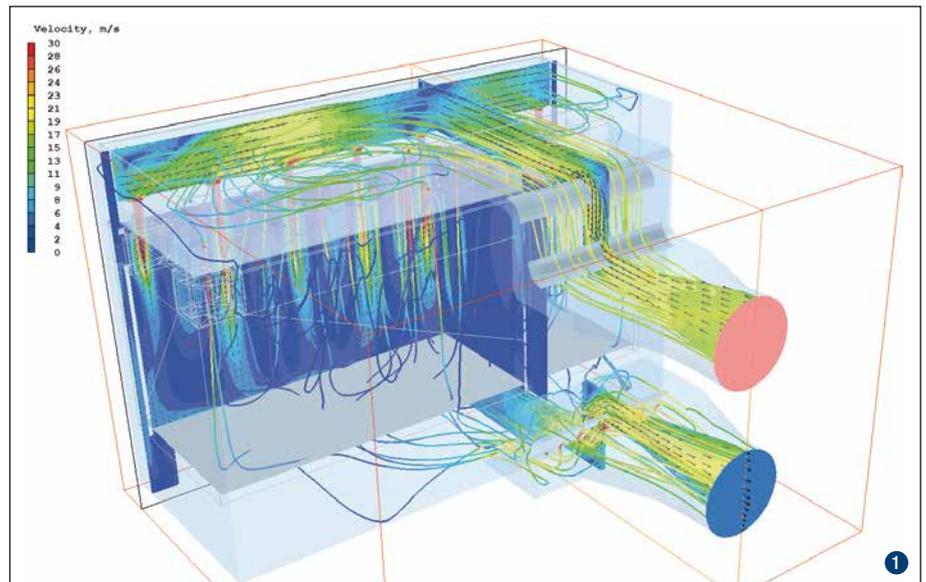
Competency overview

Thanks to over 50 years of experience in designing, installing, servicing, and repairing air distribution systems in, among others, nuclear power plants and research facilities, Krantz is able to serve the entire life cycle of your systems, while observing the highest certification standards and quality requirements.

With our in-house Research & Development Center, we offer our customers a high degree of flexibility, as well as requirement-oriented systems of the highest quality and operational reliability.

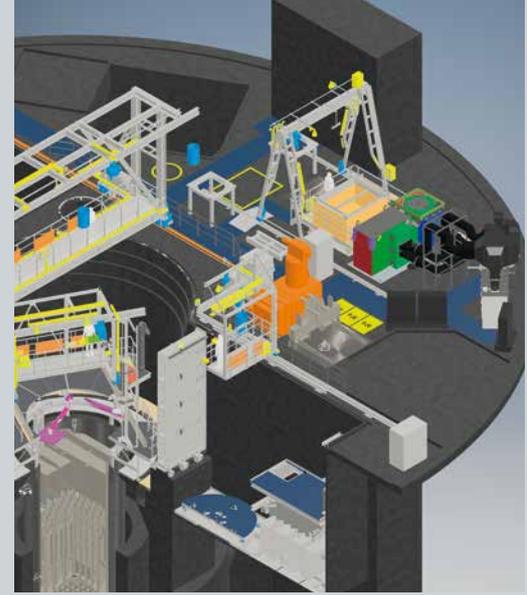
This service also includes:

- CFD calculations
- Laboratory tests
- Flow simulations
- Containment calculations



Legend

- 1 Area and flow lines
- 2 Numerical fluid mechanics
- 3 Isotope concentration of ^{60}Co after 40 years of operation



Insertion magazine and insert basket for holding and drying dismantled components, can be operated remotely

Arrangement of dismantling equipment and auxiliary dismantling equipment on the pool floor

Dismantling tables, sealing bulkheads, containers and baskets

Individual components go hand in hand and align with one another.

Containment bulkhead

- Consists of guide rails for precisely-fitting installation and for sealing against the existing building/pool, in addition to several bulkhead elements
- Individual bulkhead elements can be set or removed depending on water levels and other requirements, even if the pool is flooded
- Complete water technology-based separation of a flooded pool or pool area
- Radiation protection design of bulkhead elements as containment, depending on the application
- Static design of the containment bulkhead, even with dynamic water movement, such as in an earthquake

Post-dismantling tables or dismantling tables

- Steel construction for use under water
- Serves as a basis for various dismantling/sorting/storage tasks in that machines/equipment can be mounted on it and put into operation
- Equipped with various slots for temporary storage of individual dismantled parts or entire large components below the actual work surface (table-top), as required
- Individual parts or sections of the dismantling table, for example the table-top, can be remotely removed and reassembled under water
- Equipped with buffer magazines for space-optimized interim storage of (filled) insert baskets



Legend

- 1 Dismantling table
- 2 Containment and sealing bulkhead



Construction of housing

Further key competencies for holistic decommissioning projects

Within the group of companies, design and calculation services are carried out on an interdisciplinary basis for our customers.

Decommissioning procedure

- Preparation of documents for decommissioning measures
- Description of tasks, detailed descriptions of dismantling packages, result reports on freeable components

Campaign qualifications

- Qualification of waste campaigns
- Concept reports, workflow plans, container logs, operating instructions, storage concept, radiological characterization, measurement logs

Sampling concepts

Storage planning

- Planning of concrete cutting and loading for pieces generated in the dismantling process
- Optimization of storage design, including radiological evaluation and optimization of container utilization
- Consideration of adjustment aids and load securing



Documentation

- Creation of records for container documentation, such as waste data sheets, test reports, operating and processing instructions
- Approval documents and VPU creation

Radiation protection planning

- Design and creation of operational radiation protection planning, including radiological calculations and verification
- Calculation of workplace-related and overall local dose rates



Legend

- 1 Approval documents and VPU creation
- 2 Safety and radiation protection: Dose rate distributions in a storage building for radioactive waste



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