

## Qualification of active mechanical equipment

Reliable qualification services for successful projects

We qualify your equipment using our broad expertise, test facilities and worldwide experience on active mechanical equipment

### Challenge

The activities related to the nuclear qualification of active mechanical equipment, such as valves or pumps including their instrumentation, mechanical interfaces, motors and actuators, is a significant investment and can put a project at risk if not managed with a high expertise.

The equipment qualification must take into account a wide range of parameters and regulatory requirements such as:

- Operational conditions, like temperatures, pressures, debris, thermal shocks
- Environmental conditions like temperature, humidity, air pressure
- Hazards like earthquakes, airplane crash, explosion pressure waves, flooding
- Internal events like Loss of Coolant Accidents (LOCA), leakages, pipe breaks, severe accidents
- International and national guidelines rules and standards (IAEA, RCC-M, KTA, YVL, etc.)

### Solution

We offer numerous solutions to cope with the challenges of qualifying active mechanical equipment. Our qualification experts define the right qualification strategy in accordance with the applicable standards and manage the full equipment qualification process:

- Select already qualified equipment from our Equipment Qualification Data Base where applicable and fitting
- Set-up and manage qualification program
- Perform equipment analyses
- Specify and supervise tests
- Perform tests in-house at own unique test facilities
- Support potentially required design changes during the qualification campaign
- Provide qualification summary report and reference files
- Take care of qualification preservation



Qualification test of a valve



Qualification test of a pump

### Customer benefits

- Rely on our worldwide network and experience in qualification methods
- Reduce project risks and cost
- Optimize qualification thanks to list of pre-qualified devices from our Equipment Qualification Data Base
- Rely on our unique in-house test facilities
- Reduce interfaces through comprehensive management of qualification and in-house testing

**Your performance**  
is our everyday **commitment**

## Technical information

We contribute to successfully achieving your qualification project building upon our high level of expertise, proven methods and unique test facilities:

- Thorough risk assessment before starting equipment qualification
- Use of our Equipment Qualification Data Base containing thousands of already qualified components
- Best practice in qualification methods based on our worldwide experience
- Execution of tests and analysis by professional and skilled personnel
- Performance of delta analyses and dedicated equipment upgrades to reduce cost and time consuming qualification campaigns.
- In-house test facilities:
  - For valves : cycling tests , thermal shocks tests, debris test, flow capacity tests, end load tests,...
  - For pumps: performance, test, endurance test, thermal shock tests, debris tests,...
  - Certified as test laboratory according to ISO 17025 (valid only for the scope as listed in appendix of certificates D-PL-21039-02-00; see also <https://www.dakks.de/en/content/directory-accredited-bodies-0>)
  - Pressures, temperatures and flow rates identical or closed to actual PWR and BWR conditions



Large Valve Test Facility

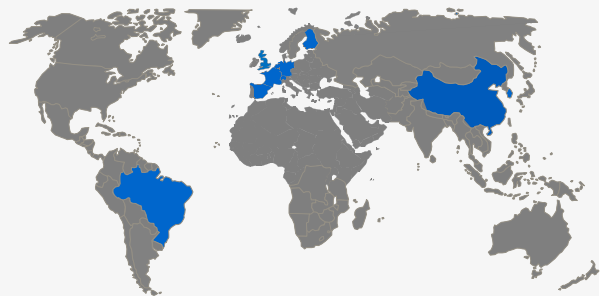
## References

New build projects:

- UK
- Finland
- France
- China

Modernization of existing nuclear power plants:

- Belgium
- Brazil
- China
- Germany
- Netherlands
- Spain
- Sweden
- Switzerland



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