framatome

KOPRA Test Facility

Multifunction Components Test Facility

Extensive experience in qualifying and testing components at full scale

Challenge

Full-scale functional tests at appropriate temperature, pressure, and mass flow conditions are necessary for developing and qualifying components such as:

- Valves
- Safety valves
- Safety valve pilots
- Control rod drive mechanisms
- Fuel assemblies.

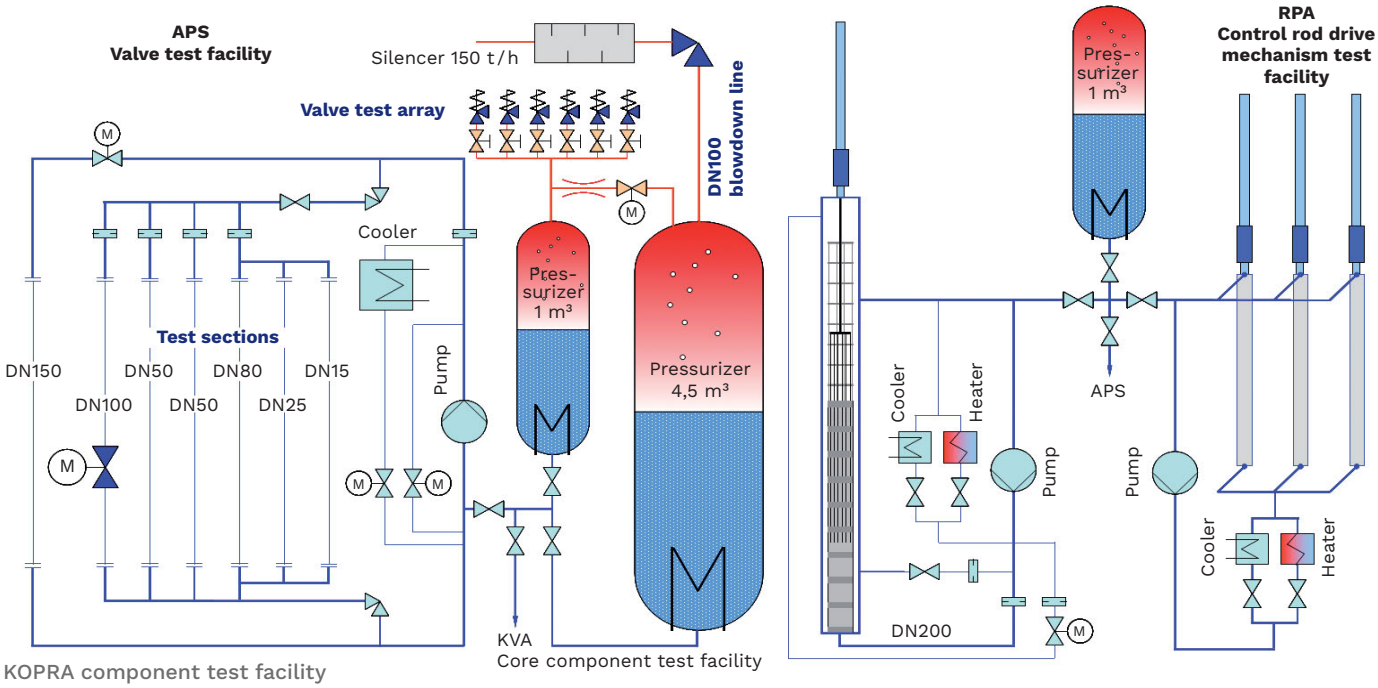
For endurance tests investigating long-term behavior and wear effects, water chemistry must be adjusted to match the reactor coolant conditions.

Customer benefits

- Powerful and flexible infrastructure to meet all your testing needs
- Extended possibilities with access to the Framatome thermal-hydraulic worldwide platform
- Reliable test results through accreditation as test and inspection body in accordance with ISO 17025 and 17020, accepted by ILAC

Solution

We have developed a comprehensive test facility in order to offer full-scale testing capabilities for boiling water reactor and pressurized water reactor nuclear components.



KOPRA component test facility

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

Technical information

KOPRA is a multifunctional test facility consisting of four test loops, three pressurizers and three circulation pumps for full-scale flow tests.

The operating parameters meet the boundary conditions of nuclear reactors:

- Pressure up to 194 bar
- Temperature up to 360°C
- Mass flows of water up to 400 kg/s, steam up to 40 kg/s
- Stationary/transient flow tests
- Blowdown tests with one-phase or two-phases, with and without subcooling
- Adjustment of water chemistry (e.g. $pH_{320°C}$ = 7.6).

The KOPRA test facility gives access to further supporting resources, e.g. electrical and mechanical workshops for manufacturing of standard products and special equipment. The extensive infrastructure of the test facility includes state-of-the-art measuring systems, various power supplies and control equipment. Access is available to other specialized workshops and laboratories nearby: chemical and material testing labs, calibration labs, vibration laboratory, and instruments and tools center.

Key figures

4 test loops

3 pressurizers

More than **40** years of experience

Component qualification and testing laboratory in Erlangen: KOPRA test facility

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