

THERMOSHOCK TESTING

FROM CRYOGENIC COLD TO EXTREME HEAT

- EXPERIENCE OF TESTING OF SPACE AND INDUSTRY COMPONENTS
- A WIDE RANGE OF TEMPERATURE CONDITIONS
- VARIOUS LEAKAGE MEASUREMENT METHODOLOGIES
- TESTING UNDER VARIOUS THERMAL CONDITIONS
- HIGH REPRODUCIBILITY AND QUALITY WITH CERTIFIED OPERATORS OR AUTOMATED SYSTEMS

Thermoshock Testing

ArianeGroup offers a **comprehensive portfolio of thermoshock testing services** at its Ottobrunn facilities. These include a wide range of environmental conditions from 4 K (-269 °C) up to 453 K (+180 °C)

Extreme cold or hot temperatures

- ▶ **Extreme cold temperatures** by immersing into liquid phase of nitrogen (77 K / -196 °C) or helium (4 K / -269 °C) or in damp phase of helium (e.g. hydrogen temperature simulation at 20 K / -253 °C)
- ▶ **Hot temperature** in oven up to 453 K / +180 °C in air circulation or vacuum oven

Rapid tests

- ▶ **Rapid testing mode from hot to cold temperature** by taking test specimen out of oven at max 453 K / + 180 °C and immersing it into liquid nitrogen at 77 K / -196 °C

Long duration

- ▶ Long duration tests **over several days or weeks** in oven (hot) or immersed into liquid nitrogen (cold)



Impact

- ▶ **Temperature impact** from outside (immersed) or inside (flushed)

Safety first!

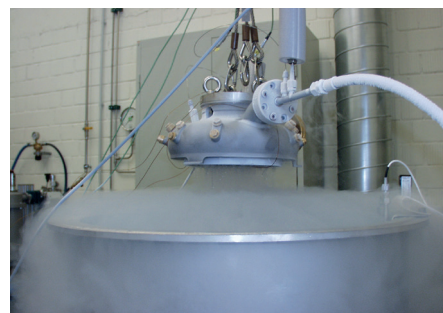
- ▶ Oxygen deficiency **warning system for safe operation**

Trained operators

- ▶ **Trained operators in safe handling** of cryogenic gases

Automated systems

- ▶ **Efficiency and reproducibility** due to automated cycle testing



A UNIQUE EXPERTISE TO MEET OUR CUSTOMERS' NEEDS

On top of mastering complex programmes in space and defence industry, ArianeGroup offers reliable solutions to its customers thanks to unique competencies in testing in wide range of environmental condition and requirements under safe condition.

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INFORMATION

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