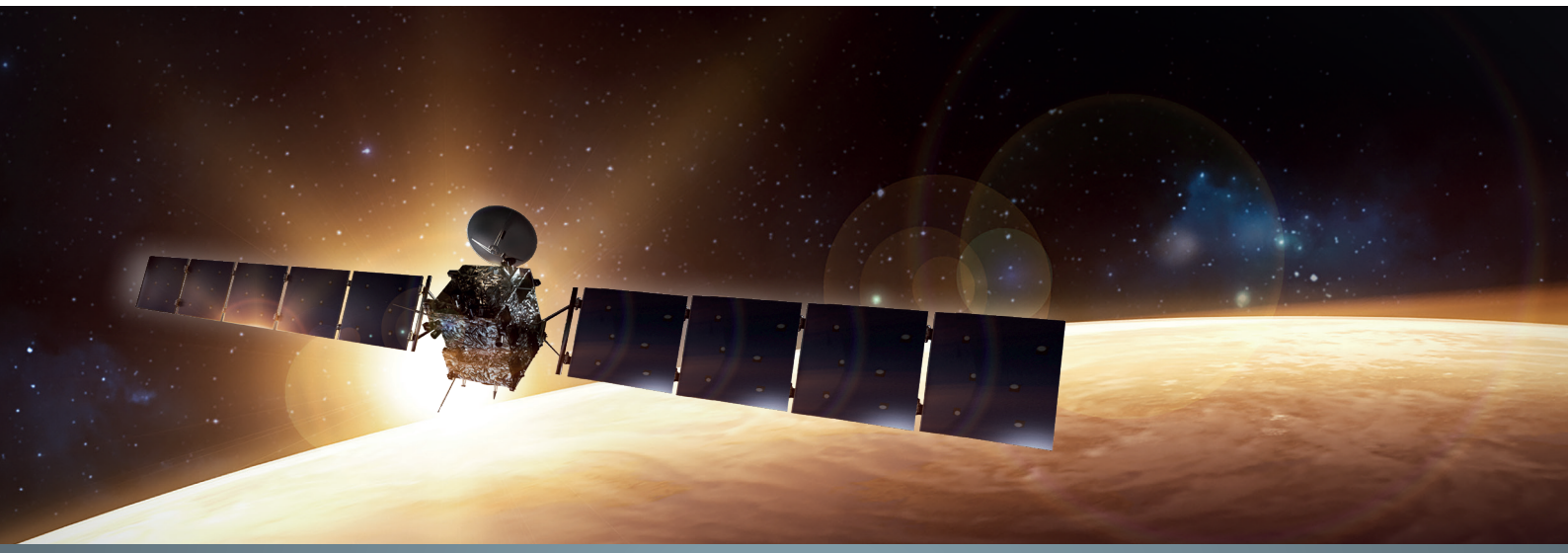
SUCCESS STORY

Vacuum chamber temperature control for the comet landing of the Philae space probe



Aviation and space travel

Inspired by **temperature**

Material test and temperature simulation in space research

The Philae space probe successfully landed on the surface of the comet Churyumov-Gerasimenko in November 2014. The lander from the German Aerospace Centre had travelled to comet 67P/Churyumov-Gerasimenko with the Rosetta spacecraft. This makes Philae the first space probe to have landed softly on a comet. "This is a great step for humankind," said ESA General Director Jean-Jacques Dordain in Darmstadt.

After the spectacular landing, the space probe completed the planned research work and then entered sleep mode, somewhat earlier than planned. However, the mission was a great success. In the roughly 60 hours that Philae was active, numerous measurements were taken. The history of the creation of our solar system is being investigated with the measurement results.

Space probe Rosetta with the lander robot Philae

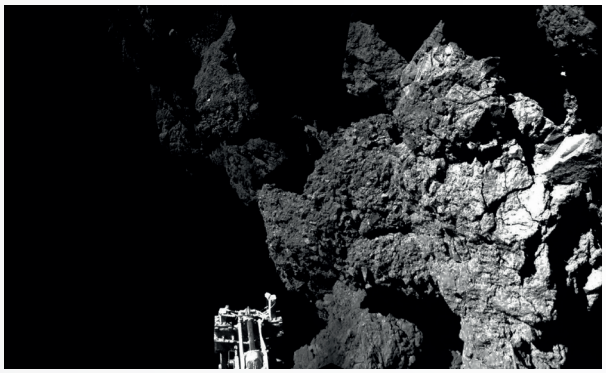
Commissioning the Unistats at the University of Bern

Success Story

Aviation and space travel

Temperature control technology from Huber Kältemaschinenbau was also involved in the development of the space probe. This included installing a high vacuum climate chamber at the Physics Institute at Bern University, which needed fast-changing and very low temperatures for the various tests. Unistat temperature control systems were used for the temperature control of the tests and the Philae components.

Huber customer Hanspeter Eichelberger (formerly Renggli AG) was responsible for realising the climate chamber. After the successful comet landing over ten years later, he is proud of what has been achieved: "Most of the tests and temperature simulations for the space probe 'Philae' were realised in the climate chambers at Bern University. Although we were only a small cog in this great experiment, I am nevertheless enormously pleased that it continued far away in space – also thanks to the innovative power and the cooling machines from Huber. I am proud to have participated in this important project!"



The destination was comet 67P/Churyumov-Gerasimenko

Unistats guarantee fast change in temperature

Requirements

- Fast change in temperature
- Low working temperatures
- Reproducible temperature behaviour
- High-precision control
- Efficient heat transfer

References

- Daimler
- Lufthansa
- Airbus
- Lockheed Martin
- EADS

Peter Huber Kältemaschinenbau SE
Werner-von-Siemens-Str. 1
77656 Offenburg
Germany

Phone +49 (0)781 9603-0
Fax +49 (0)781 57211
info@huber-online.com
www.huber-online.com