

- VALVES AND COMPONENTS FOR GAS
- CRYOGENIC AND HIGH-PRESSURE ENGINEERING
- AEROSPACE, MARINE AND ENERGY INDUSTRY



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PRESS RELEASE
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STÖHR ARMATUREN specializes in the design and manufacture of valves for industrial gases, chemical and pharmaceutical industry, for applications in aerospace, marine engineering and energy engineering as well as in research institutes. Temperatures from +250 °C to - 271 °C, pressure up to 420 bar, leak-tightness, corrosive or toxic media and fast shutter and opening times are exemplary for the extreme demands of our customers for STÖHR products. The actuator of our fittings can be operated manually as well as pneumatic, hydraulic, magnetic or electric driven.

Our standard product range comprises a variety of globe or control valves, check valves, pressure relief valves and filters in different body types with diameters up to DN250. Our valve bodies are made from a single piece of stainless or special steel and are sealed with bellows. There are variations available for the connections as well as for surface treatment. Additionally, there are special designs for specific customer requirements in terms of temperature range, pressure range, life cycle extension, or relating to the use of special materials.

More information can be found on our website www.stoehr-valves.de. Please send us your questions by email to info@stoehr-valves.de or call us!

STÖHR ARMATUREN – VALVES FOR THE EXTREMES



STICKS



UNIVERS



BALANS



AXIUS



ELLIPS



BLASTS

Europe prepares for new technologies on future missiles: high-thrust rocket engine equipped with STÖHR valves

The European Space Agency (ESA) and the German Aerospace Center (DLR) work together on new ways of dealing with fuel delivery systems for Europe's future launcher systems. For this, the TEXUS-48 launcher was sent to a thirteen-minute test flight from Kiruna (Sweden). For the complete simulation of a full-fledged space flight two new components, so-called Propellant Management Devices, were tested during the six-minute phase of weightlessness for use in hydrogen and oxygen tanks.

Both experimental modules of the TEXUS 48 test vehicle developed by ASTRIUM were each equipped with three axial flow valves of the STÖHR AXIUS series. The experimental testbed TEXUS 48 is used to study functions under μ -g conditions and the development of the Propellant Management Device. Simply put, the behavior of the liquid fuels hydrogen and oxygen in zero gravity and the valve design for new ignitions are being investigated. This was tested successfully using valves from the AXIUS series of STÖHR.

The Propellant Management Devices placed in the upper grades and at the tank outlet are designed to provide optimal supply and bubble-free dispensing of liquid oxygen and liquid hydrogen to the turbo pump of the engine, so that a counter-ignition is guaranteed during the flight phase at any time.

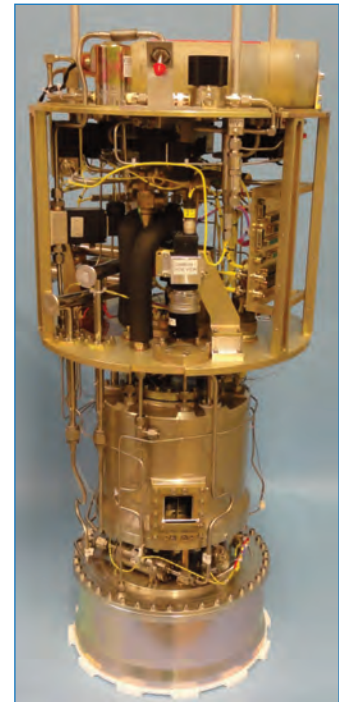


Fig. 1

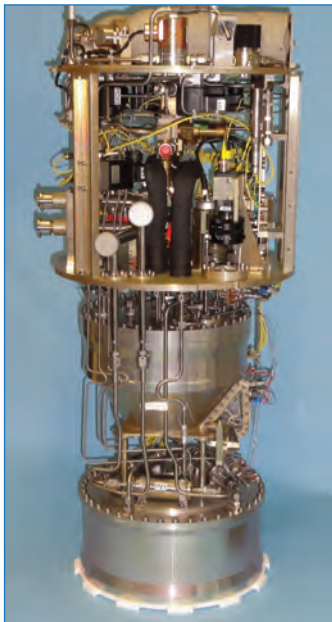


Fig. 2

Liquid nitrogen was used during the TEXUS 48 mission as test fluid. The STÖHR AXIUS valves were installed within the deep cold tank of the space rocket and have proven their reliability even under extreme conditions. The special requirements of ASTRIUM on weight, size and the bellow sealing were fulfilled to 100 percent.

STÖHR AXIUS valves can be used at operating temperatures between 4K and 323K. The nominal pressure ranges up to 420 bar with a control pressure of 6 to 8 bar, optional up to 40 bar. They are suitable for all media and are available in various sizes from DN4 to DN40.

Fig. 1: Experimental module for LOX
Fig. 2: Experimental module for LH2
[pictures were released by courtesy of
ASTRIUM GmbH]
Fig. 3: AXIUS valve as used during
the TEXUS 48 mission



Fig. 3

COMPANY INFORMATION

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Note on Safety

The STÖHR product catalogue, checklists, our sales staff and our sales representatives will assist in identifying and selecting valves for your requirements. The selection of a specific valve type as well as its proper installation, commissioning, operation and maintenance is, however, in the responsibility of the system designer and the user. Valve function, type of sealing, material compatibility, operating pressure, operating temperature and the system environment must be taken into account.

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GASES



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