

11/25/2024// Forchtenberg

Valves from müller co-ax gmbh ensure Safe and Leak-free Hydrogen Production

- **Customer acquisition:** Hydrogen producer switches to coax® solenoid valves due to high reliability and safety.
- **Maximum safety:** müller coax prevents leaks at the valve seat and to the outside thanks to an innovative valve design and high-quality materials.
- **Leakage class ANSI Class VI:** 100% tested valves guarantee maximum leak-tightness.
- **Efficient:** Electrically controlled valves without compressed air system—ideal for hydrogen production.
- **Compact:** Pressure-balanced design ensures a high flow rate at high pressure and very small size.
- **Flexibility:** Adaptable valves for variable pressure and temperature ranges.
- **Real-world solutions:** Individual integration and training for optimal customer support.

Safety is paramount in hydrogen production. With this highly flammable gas, even the smallest leaks can have devastating consequences. coax valves inc., a subsidiary of müller co-ax gmbh, has established itself in the US with its reliable hydrogen valves and gained a new customer that has replaced its previous valve technology with coax's innovative solutions.

A hydrogen production company in the USA was repeatedly experiencing valve leakage issues with a valve from a particular manufacturer. The leakage of hydrogen into the atmosphere not only posed significant safety risks, but also resulted in high costs. Expensive repairs as well as production stoppages and downtime during maintenance proved costly.

As the smallest atomic element, hydrogen can diffuse in metals, which renders the metal brittle and prone to leaks. This is particularly the case with high-strength steels. By contrast, austenitic steels such as AISI 316L (1.4404) are very durable and therefore preferred in the hydrogen industry. This is why we carefully evaluate the valve materials used, especially the parts that come into contact with the medium.

The solution for this customer was to install coax® solenoid valves, which have been specially developed for demanding applications such as hydrogen production. These valves have a proven track record of high reliability and safety. A 100% quality inspection according to the highest industry standards guarantees that the ANSI Class VI leakage class is met and exceeded, ensuring maximum tightness at the seat and to the outside.

Thanks to their innovative design, solenoid valves from müller co-ax gmbh provide maximum safety, reliability, and efficiency. Thanks to the pressure-equalized design, the solenoid power required remains low, which means that the valve solenoid only consumes minimal energy. Despite of this, high flow rates can be reliably achieved at high pressures and with nominal widths. The coaxial arrangement of the magnets around the valve makes the valve extremely compact.

A particular advantage of coaxial valves is that they allow bi-directional flow. This means that a single valve can be used to both fill and empty a system. This simplifies the system architecture and reduces space requirements and costs. The valves are sealed against leakage to the outside, which means that even if the seals wear down, the medium will not escape. This makes them ideal for use with explosive or toxic media and plays an important role in protecting people and the environment. Thanks to their compact design and omission of a compressed air system, the valves can also be easily integrated into modules or panels. This reduces assembly and piping costs by up to 50% and minimizes potential leakage points, making it a reliable and economical solution for demanding applications.

Working closely with the customer, the valves were seamlessly integrated into the existing infrastructure. In addition, customer training was provided to ensure safe operation and efficient maintenance of the valves.

The flexible use of coax® valves—for gas or liquid media—makes them the ideal solution for hydrogen production systems in which pressure and temperature can vary. Offering a wide range of options, such as terminal boxes, end switches, mounting brackets, and special connections, coax provides maximum adaptability for specific customer requirements.



coax valves cover the entire hydrogen value chain: production, storage, distribution



coax® valves integrated into a flow control system

Company profile:

müller co-ax gmbh is a leading international valve manufacturer. Since its founding in 1960, the company, which now has over 300 employees, has specialized in the development and production of coaxial valves. Innovative solutions for a wide range of media and applications are developed at the company headquarters in Forchtenberg. coax technology sets standards in demanding applications in the mechanical engineering, marine, chemical, energy, oil and gas, aerospace, and construction industries.

<http://www.co-ax.com/en/>

Press contact:

müller co-ax gmbh
Katja Krämer
Marketing & PR
Phone: +49 7947 828-614
E-mail: katja.kraemer@co-ax.com