



HYDROGEN

ENERGY GENERATION FOR THE FUTURE.

Customised **solutions**
for your business.





HYDROGEN FILLING STATION IN STUTTART



PIPES ON A HYDROGEN TANK



HYDROGEN RESEARCH CENTRE



HYDROGEN FUEL PUMPS



ELECTROLYSIS SYSTEM

HYDROGEN

Multiple energy source for the future

The industry for electricity generation is facing challenges to find green and sustainable resources and ways to produce electricity. And so are engineers and companies for sustainable and green mobility concepts.

The production of hydrogen is already possible by using fossil fuels. But recently innovative processes are becoming more common, like electrolysis. In this case water is split into hydrogen and oxygen. If the required electricity for this process comes from renewable sources, the hydrogen is defined as green. This process for gaining a power source of energy and a potential storage method for electricity (as the process can be reversed) makes it innovative in general and also for future mobility. One thing is clear: green energy is the future.

In this field Goetze is your partner regarding safety (valves). We assure the handling of hydrogen from the retrieval to the application – either in the electric part of the process or at the hydrogen filling station for vehicles. We protect filling processes, which are under high pressure or the storage of liquid hydrogen in tanks. This has a major impact on a safe handling and makes hydrogen appealing to human and nature in general.



SERIES 492

Atmospheric discharge safety valve

made of stainless steel,
angle-type with threaded connection

The Series 492 atmospheric discharge safety valve is used in the field of high-pressure compressors and process plants, high-pressure air systems and to protect refuelling systems. It convinces through its compactness and design. This an optionally be ordered with a gas-tight swivel outlet for guided blow-off or for connecting a discharge pipe. Due to its special technical construction and design the series covers a pressure range that has not been catered for up to now. The valve is particularly suitable for hydrogen, as the PAI seal guarantees a very high level of tightness even after repeated response. Tightness for helium 10-6 mbar l/s.



Temperatures
from -60 °C to +200 °C



Pressures
from 50 bar to 630 bar



Threaded connections
from 1/4" to 3/4"



SERIES 2400

Safety valve

made of stainless steel,
angle-type with threaded connection

Cryogenic valves must meet special requirements to provide reliable protection, for example in tanks and filling systems for liquid gases.

The Series 2400 safety valve therefore got fully approved for vapours and gases as well as for liquids according to ISO 4126-1 and ASME Code Sec. VIII Div. 1. All components of the valve are specially cleaned during the production process and are thus oil- and grease free in accordance with DIN EN 12300. Because of this, every valve is suitable for use in systems using oxygen and is marked accordingly. The use of 1.4404 and 1.4408 high-grade stainless steels render the safety valves particularly resistant to extremely cold temperatures. For use with gases that are in contact with food an FDA-compliant sealing material is used. The valve setting and seat insert are separately sealable which makes unauthorised adjustments easily noticeable. Overpressure from 0,2 bar up to 70 bar is relieved safely with a consistently high level of performance.



Temperatures
from -200 °C to +200 °C



Pressures
from 0,2 bar to 70 bar



Threaded connections
from 1/4" to 1 1/2"




SERIES 455

Flanged safety valve

made of stainless steel,
angle-type with flange connections

The protection of tanks and filling systems in the liquid gas sector often requires flanged terminations for installation in existing pipe systems. High pressures are reached and even cryogenic media are protected. For this reason, Goetze has paid special attention to the performance in all nominal sizes of the Series 455, which is unique in the field of flanged safety valves. The high capacity of the entire series from DN 15 up to DN 100 is unique in the sector of flanged safety valves. By using exclusively high-quality materials with outstanding media resistance and the option to protect the tightness towards the atmosphere on a high level with backpressure compensating bellows, this safety valve is suitable for nearly any applications. The set pressure ranges from 0,2 to 40 bar and by using special sealing material such as sealing; even very low temperatures of down to -270 °C can be achieved. Also extremely high temperatures can be applied up to a limit of 400 °C.

 **Temperatures**
from -270 °C to +400 °C

 **Pressures**
from 0,2 bar to 40 bar

 **Flange connections**
from DN 15 to DN 100



SERIES 420

Safety valve


made of stainless steel,
angle-type with threaded connection

For supporting the hydrogen production and electrolysis processes, reliable safety valves are required which can also handle low flow-volumes and pressures. Thanks to TÜV and European approvals, the miniature safety valve series 420 allow use in applications for neutral and non-neutral gaseous and liquid media.

The cutting ring threaded connections available as an option make this valve quick and easy to install for use in small pipelines.

 **Temperatures**
from -40 °C to +260 °C

 **Pressures**
from 0,5 bar to 50 bar

 **Threaded connections**
from ¼" to ¾"




SERIES 451

Safety valve


made of stainless steel,
angle-type with threaded connection

In processes with lower volumes and low pressures, such as hydrogen production or the electrolysis process, the protection must still be reliable. The advantages and applications of Series 451 made of high-grade stainless steel begin, where versions made of gunmetal are at their limits.

The flexibility of the various versions guarantee an optimal configuration for every application. In addition to the basic version the numerous sealing possibilities and materials, back-pressure compensating metal bellows and/or a gastight cap offer the necessary optional extras required to fulfill the highest safety requirements.

 **Temperatures**
from -60 °C to +400 °C

 **Pressures**
from 0,5 bar to 70 bar

 **Threaded connections**
from ½" to 2"

THE GOETZE KG

Individuality for more safety

The competence of Goetze KG Armaturen has been in demand for 70 years. Our wealth of experience is as broad and varied as our areas of application for our high-performance fittings. Our well thought-out family of products covers every industrial application: Liquids of all kinds, gases, technical vapours and steam. Goetze valves are used with temperatures ranging from -270 °C up to +400 °C and the greatest possible safety is a priority.

At any time, you can reach a competent contact partner as part of our in-house team at Goetze. Whether it is for the product selection, the configuration of the right valve, urgent requests, whether per telephone call or per mail, there is a personal multilingual consultant at your disposal. With over 400.000 valves per year „Made in Germany“, we are your competent partner for all matters relating to the handling of pressure.



Goetze KG Armaturen
Robert-Mayer-Straße 21
71636 Ludwigsburg

Fon: +49 (0) 7141 / 488 94 60
Fax: +49 (0) 7141 / 488 94 88

info@goetze-armaturen.de
www.goetze-armaturen.com