

A detailed photograph of a paper mill. In the upper left, a large roll of white paper is being processed. Below it, a wide sheet of paper moves through various rollers and machinery. The foreground shows a dark, textured surface, possibly a conveyor belt or a finished paper roll. The background features industrial structures, including pipes and metal frames, under warm lighting.

CELLULOSE & PAPER

Customized **solutions**
for your business.



SAFE PLANT OPERATION IN PAPER AND CELLULOSE PRODUCTION

The paper and pulp industry places special demands on the equipment used, as the processes often take place under high pressure and at varying temperatures. To ensure the safety, efficiency and reliability of the plants, high-quality valve solutions are essential. Goetze offers a range of products designed specifically for the demanding conditions in paper and pulp production.

The reliable function and high quality of Goetze valves make a significant contribution to efficiency and safety in paper and cellulose production. By using flanged safety valves, angle safety valves, pressure reducing valves and air valves, the requirements of this demanding industry can be optimally met. Goetze offers customised solutions that meet the specific needs of the industry, thus making an important contribution to maintaining a smooth production process.

Goetze **flanged safety valves** are ideal for preventing overpressure situations in paper and cellulose plants. These valves play a crucial role in protecting pressure vessels, pipework and machinery from unacceptable overpressure. They are particularly resistant to aggressive media, which often occur in pulp production, such as alkalis and acids. Due to their robust construction and high reliability, the flanged safety valves ensure a safe and uninterrupted operation of the plants.

Goetze's **angle safety valves** are specially designed for applications where easy maintenance is important. Their compact design allows them to be used in confined spaces. These valves provide reliable protection against overpressure. Due to their special geometry and the possibility of connecting the valve directly to pipes, they are particularly suitable for protecting pumps and heat exchangers.

Goetze's **pressure reducers** play a central role in controlling and stabilising the pressure within the process plants. In paper and pulp production, pressure reducers are essential to ensure the constant pressure flow necessary for the operation of the various machines and apparatus. Goetze's pressure reducers are designed for use with gases and liquids, and provide precise control of the pressure level. This is particularly important in drying processes, where precise control of the steam pressure supply is crucial.

Goetze's **air valves** are used to vent and aerate containers and pipelines. They prevent the occurrence of negative pressure and ensure the necessary air circulation in the systems. In paper and pulp production, this is important to maximise process efficiency and avoid corrosion. The air valves are resistant to the chemically aggressive environment and help to extend the service life of plant components.

AREAS OF APPLICATION

Boiler protection

Pressure vessel protection

Pipeline protection

Pump protection

Heat exchanger protection

Pipeline pressure relief

Steam pressure control

Water supply pressure regulation

Storage tank ventilation

Pipeline vacuum protection

Venting of steam and condensate systems

TECHNICAL DETAILS

Materials



Media



Temperatures
from - 85 °C to + 400 °C

Pressures
from 0,4 bar to 40 bar

Threaded connections
from DN 8 to DN 50

Flange connections
from DN 15 to DN 100





SERIES 355

Flange safety valve

made of spheroidal graphite cast iron, angle-type with flange connections

The series of flanged safety valve 355 captivates with its consistent concept of capacity, function and design. The high capacity of the entire series from DN 15 up to DN 100 is unique in the sector of flanged safety valves. Using spheroidal graphite cast iron for the housing allows a particularly inexpensive variant to be produced. This is of particular interest for applications with heating water and steam as well as lower requirements with regard to high corrosion resistance.

This series can be supplied either with open or closed cap. The range of variants is further extended by offering bellows in either elastomer or stainless steel and either a metal or soft-sealing valve seal.

+ ADVANTAGES OF THIS SERIES

- Full-lift safety valve, after only 5% pressure increase already full opening of the valve*)
- Highest performance, even in the subcritical flow range (<3.0bar)
- Lowest overall height
- Orientation of the lifting variable
- Exchangeable seat
- Spheroidal cast iron - for efficient steam and neutral media applications
- Optional elastomer bellows to protect the sliding parts, e.g. for heating applications
- Optionally with counterpressure compensating stainless steel bellows already from <1.0bar

*) for compressible media



Temperatures
from -10 °C to +350 °C



Pressures
from 0,2 bar to 40 bar



Flange connections
from DN 15 to DN 100



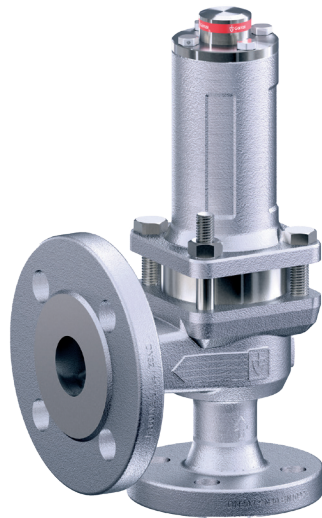
SERIES 455

Flange safety valve

made of stainless steel, angle-type with flange connections

The series of flanged safety valve 455 captivates with its consistent concept of capacity, function and design.

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 secure the tightness towards the atmosphere on a high level with a backpressure compensating bellows, this safety valve is suitable for nearly all applications. The pressure range extends from 0.2 to 40 bar and also extremely high temperatures can be applied up to a limit of 400 °C.



+ ADVANTAGES OF THIS SERIES

- Full-lift safety valve, after only 5% pressure increase already full opening of the valve*)
- Highest performance, even in the subcritical flow range (<3.0bar)
- Lowest overall height
- Orientation of lifting can be varied
- Exchangeable seat
- Optional elastomer bellows to protect sliding parts, e.g. for heating applications
- Optionally with counterpressure compensating stainless steel bellows already from <1.0bar

*) for compressible media



Temperatures
from -60 °C* to +400 °C



Pressures
from 0,2 bar to 40 bar



Flange connections
from DN 15 to DN 100

*Possible for applications to -270°C on request

Additional benefits for service workshops

- **Easy maintenance**
 - Detailed, step-by-step explained revision and adjustment instructions
 - Documentation:
 - Spring tables
 - Marking tables
 - Assembly tools
- **Individual parts and assemblies available as spare parts**
- **For pressure changes:**
 - Only one pressure screw for the entire pressure range
 - Simple spring replacement
 - During pressure adjustment: no need to hold the spindle to secure the cone against rotation



+ ADVANTAGES OF THIS SERIES

Made by robust cast steel

Easy installation and maintenance

Flexible installation position - vertical or horizontal

ANSI version possible

SERIES 255

Flange safety valve

made of cast steel, angle-type, with flange connections

The 255 series is characterised by robust cast steel and a wide range of variants for a variety of industrial applications. These safety valves cover nominal diameters from DN 15 to DN 100 and offer a consistent performance, function and design concept that enables both vertical and horizontal installation. The series is particularly easy to maintain thanks to its low overall height and the option of using a full-nozzle design. Ideal for fast-reacting processes in chemical plants.

For US standards, the ANSI version is available with ASME B16.5 flanges and API 526 valve stem lengths, which facilitates integration into corresponding systems.

 **Temperatures**
from -85 °C to +400 °C

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

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



+ ADVANTAGES OF THIS SERIES

Various connection types

Optional back-pressure compensating stainless steel bellows

surface roughness Ra < 0.4 µm

High blow-off capacity


SERIES 451

Safety valve angle-type


made of stainless steel, angle-type with threaded connections

The benefits and applications of this series made of high-alloyed stainless steel begin, where versions made of gunmetal are at their limits. The flexibility of the various versions offer the 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"

SERIES 4420

Safety valve angle-type

made of stainless steel, with threaded connection

The new stainless steel valves in the 4420/4450 series are designed for use in pressure vessels and systems for the protection of neutral and non-neutral gases, vapours and liquids. The single-trim design of the series, which includes a uniform spindle assembly over the entire pressure range, facilitates maintenance and makes the valves ideal for service workshops. In addition to the standard threaded connections (male/female thread ISO/NPT), aseptic and special connections are also possible. This flexibility also makes the valves suitable for sensitive areas such as food, beverage, pharmaceutical and biotechnology applications.

 **Temperatures**
from -50 °C to +205 °C

 **Pressures**
from 0,5 bar to 25 bar

 **Threaded connections**
from ½" to 1 ¼"

SERIES 6420

Safety valve angle-type


made of gunmetal, angle-type with threaded connections

The technical features of the 642 and 645 valve series form the basis of the product extension, which emphasises connection flexibility and corrosion resistance. The two-part design of the valve body offers the option of numerous connection types at the valve inlet.

The inlet connections or the valve inlet housing and the valve areas directly exposed to the medium are made of highly corrosion-resistant stainless steel. This allows the valves to be used in an even wider range of applications.

 **Temperatures**
from -50 °C to +205 °C

 **Pressures**
from 0,5 bar to 16 bar

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



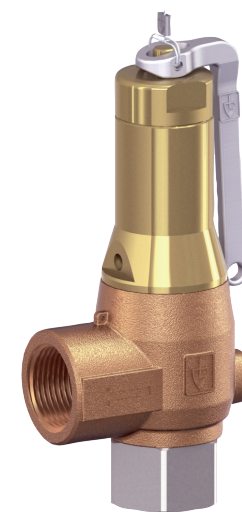
+ ADVANTAGES OF THIS SERIES

High flexibility and performance with diaphragm

Easy to maintenance

ASME-approved

Multiple applications



+ ADVANTAGES OF THIS SERIES

Wide range of connection types

Corrosion-resistant

Internal parts made of highly corrosion-resistant stainless steel



+ ADVANTAGES OF THIS SERIES

Full stainless steel design

Wide range of applications even with aggressive media

Wide portfolio threaded connection, flange, EPDM and FKM diaphragm

High-quality stainless steel

SERIES 481

Pressure reducing valves

made of stainless steel,
with threaded connections

The proven, robust pressure reducing valves in full-metal-version with threaded connectors have not only proven themselves in drinking water application, but especially also in rough industrial operating conditions with many different, also aggressive substances and at fluctuating environmental temperatures. The materials used are optimised for water of different qualities and for warm water applications.

Besides the standard range of adjustment of 1 to 8 bar the additional outlet pressure ranges of 0,5 bar to 2 bar and 5 bar to 15 bar cover a wide application range. Optionally available with female thread.

 **Temperatures**
from -20 °C to +120 °C

 **Inlet pressure** up to 40 bar,
Outlet pressure adjustable
from 0,5 bar to 15 bar

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



+ ADVANTAGES OF THIS SERIES

Full stainless steel design

Wide range of applications even with aggressive media

Wide portfolio threaded connection, flange, EPDM and FKM diaphragm

High-quality stainless steel

SERIES 482

Pressure reducing valves

made of stainless steel,
with flange connections

Fittings often require flange connections. This is the exact reason for our series in the nominal diameter ranges of DN 15 up to DN 100. Besides the standard versions of these pressure reducing valves made of stainless steel and gunmetal, the valves are also available in nominal diameters from DN 15 to DN 50 in high-pressure and a low-pressure version. Upon request we can also equip the stainless steel pressure reducing valves for various pressure ranges with stainless steel pressure gauges.

For highest service-friendliness also in the case of the flange versions, a replacement internal cartridge with integrated dirt trap is available.

 **Temperatures**
from -20 °C to +120 °C

 **Inlet pressure** up to 40 bar,
Outlet pressure adjustable
from 0,5 bar to 15 bar

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

SERIES 484

Pressure reducing valves


made of stainless steel,
with female threaded connections

These diaphragm and piston pressure reducing valves made of stainless steel and with female threaded connections for pneumatic and hydraulic applications are distinguished particularly by high flow rates and low pressure losses even in situations of high performance demands.

Their extremely precise control characteristics, the inlet pressure of up to 60 bar and the wide outlet pressure range make these pressure reducing valves the optimal solution for almost all technically demanding applications.

 **Temperatures**
from -40 °C to +120 °C

 **Inlet pressure** up to 60 bar,
Outlet pressure adjustable
from 0,5 bar to 50 bar

 **Threaded connections**
from ¼" to 2"



+ ADVANTAGES OF THIS SERIES

High performance

Handwheel lockable by hand for easiest adjustment security

Optionally fixed and sealed

Available with and without secondary ventilation

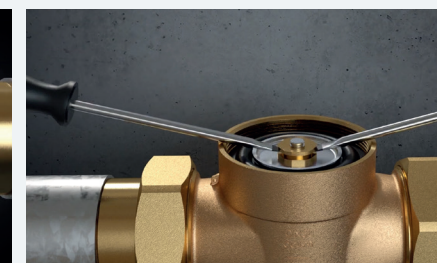
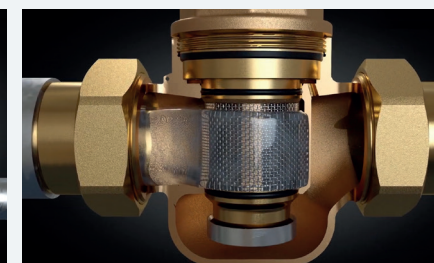
Pressure reducing valve – simply explained

Assembly instructions are also available as a video

Pressure reducing valve – Installation, maintenance and function simply explained with our assembly video.

See how the pressure reducing valve is fitted in a line with threaded connections and how it then works. With a fascinating view into the valve itself and flow graphics.

Watch the pressure reducing valve video now!





SERIES 1945

Aeration valves

made of stainless steel,
with threaded connection

The valve is used as a venting valve for pipelines, pipework systems, tanks and heat exchangers in which the pressure should not fall below atmospheric pressure.

The valve is used for emptying containers and protecting against vacuum formation in tanks, pipelines, heat exchangers and containers in vapour systems.

+ ADVANTAGES OF THIS SERIES

Stainless steel - corrosion-resistant
for liquids with PTFE seal

Up to -600 mbar to protect against
negative pressure in pipes with
pressure ratings of up to 40 bar

Low weight and high flow rate with
compact design (for cost savings)



Temperatures
from -60 °C to +225 °C



Pressures
from -6 mbar to -800 mbar



Threaded connections
from 1/2" to 2"

Individuality and reliable competence

**With expertise, we implement new and customised further developments
in a short space of time**

All fittings are manufactured under the premise of „individuality for more safety“. In development, individual customer solutions and our own new developments go hand in hand. In the meantime, this mixture has resulted in a comprehensive and high-quality product range that leaves nothing to be desired and is continuously being expanded.


Technical advice is not only the focus of our in-house team. We offer our customers support throughout the entire life cycle of the valve and support the people who have to work with the valves on a daily basis by explaining and introducing them. Our external sales force also aims to provide the customer with the best possible advice and support on site for all questions relating to our products - reliably and close to the customer.



OUR CERTIFICATES

Proof of the safety and reliability: We offer CE Certification according to the European Pressure Equipment Directive is mandatory for many products and markets. Additional certificates are however proof of our individual quality, such as: TÜV, DVG W, WRA S, ACS, EA C, SINTEF . Last but not least, DIN ISO 9001 stands for the internal quality management process, with its comprehensive functionality and performance assessment. The particularly strict regulations of the national rules guarantee the highest possible degree of safety – especially when it comes to the reliability of your plant.

GENERAL TYPE TEST APPROVALS




➤ **EUROPEAN PED**


National Type Test (TÜV)

EU type test


➤ **NATIONAL TYPE TEST (TÜV)**




➤ **TYPE TEST (USA)**




➤ **CANADIAN REGISTRATION NUMBER (CRN)**




➤ **TR ZU 032/2013 (RU)**




➤ **MANUFACTURE LICENSE (CHINA) TSG ZF001-2006**



➤ **KOREA GAS SAFETY (KR)**



➤ **KOSHA**



➤ **TYPE APPROVAL (UK)**

APPLICATIONS: POTABLE WATER AND BUILDING TECHNOLOGY



➤ **TYPE APPROVAL (DE)**



➤ **TYPE APPROVAL (FR)**



➤ **TYPE APPROVAL (EN)**



➤ **TYPE APPROVAL**



➤ **TYPE APPROVAL (PL)**



➤ **TYPE APPROVAL (NO)**

APPLICATIONS: SHIPBUILDING AND RAILWAY



➤ **TYPE APPROVAL**



➤ **TYPE APPROVAL**



➤ **TYPE APPROVAL**



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➤ **TYPE APPROVAL**



➤ **DEUTSCHE BAHN**

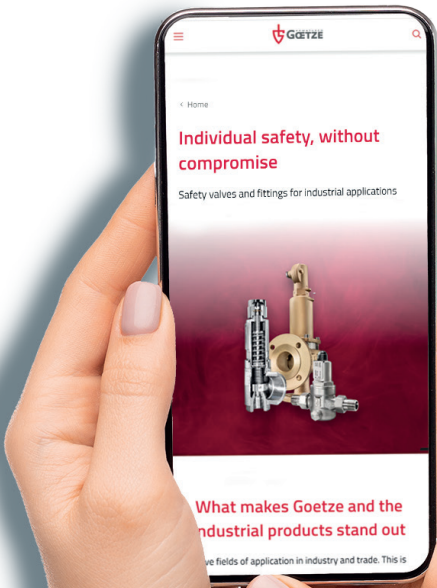
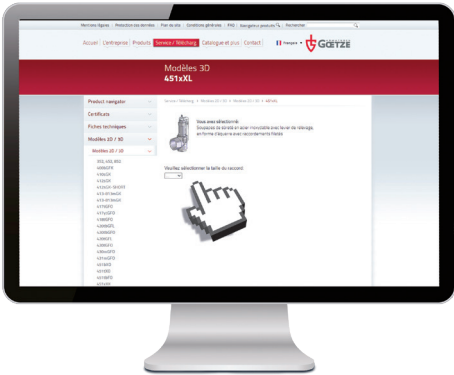
INTERNET SERVICE OF GOETZE

DESIGN AND CALCULATION OF SAFETY VALVES

With the help of our design programme and with the certified discharge number as well as the narrowest flow diameter of our safety valves, the valve suitable for discharging the required volume can be determined according to AD regulation A2-2000, in accordance with the international and European standard DIN EN ISO 4126, API 520 and ASME BPVC-VIII. Our experts offer you competent advice on the optimal and economical sizing of your valve.

3D MODELS AND TENDER DOCUMENTS

We provide free-of-charge our 3D models in various and common formats. On our website you will find them under the section „Download-Service“



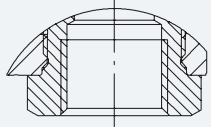
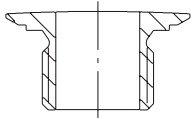
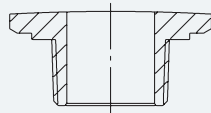
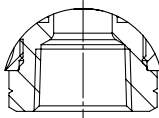
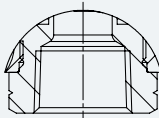
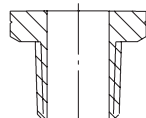
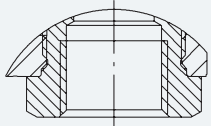
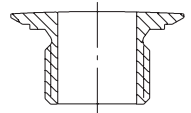
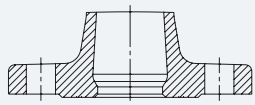
MOBILE WEBSITE

Our website is also available in a version optimised for smart phones. As usual, you may find your products simply and easily – also when you are out and about.

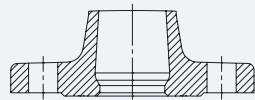
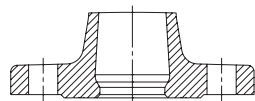
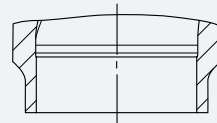
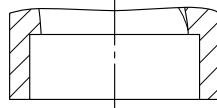

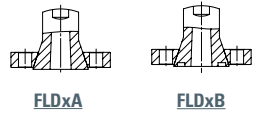
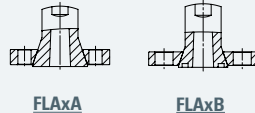
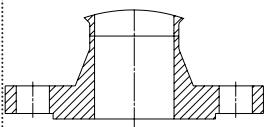
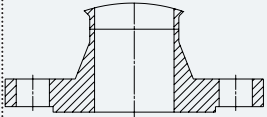
Curious? Just take a look!

www.goetze-group.com

CONNECTION POSSIBILITIES

Connection type	Drawing	Description
f		Whitworth male threaded pipe connection cylindrical; seal not made on thread BSP-P according to DIN ISO 228
m		Whitworth male threaded pipe connection cylindrical; seal not made on thread BSP-P according to DIN ISO 228
BSP-Tm		Whitworth male threaded pipe connection tapered; seal made on thread male connection BSP-T according to DIN EN 10226
NPTf		US standard tapered pipe thread NPT female threaded pipe connection NPT according to ANSI / ASME B 1.20.1 seal made on thread
NPTfF		US tapered pipe thread for dry closure NPTF female threaded pipe connection NPTF according to ANSI / ASME B1.20.3 seal made on thread
NPTm		US standard tapered pipe thread NPT male threaded pipe connection NPT according to ANSI / ASME B 1.20.1 seal made on thread
METf		Metric ISO female connection according to DIN 13 seal not made on thread
METm		Metric ISO male connection according to DIN 13 seal not made on thread
FCDxA		FCD = Flange connection moulded to DIN EN 1092 x = Pressure rating PN 1 = PN10; 2 = PN16; 3= PN25; 4 = PN40 A = Standard with sealing strip form B ¹

¹ Other versions of the sealing strip on request.

Connection type	Drawing	Description
FCAxA		FCA = flange connections moulded according to ASME B 16.5 x = Pressure rating / class 1 = Class 150; 2= Class 300 A = Standard with sealing strip raised face ¹
FCBxA		FCB = Cast flange connections according to ASME B 16.24 x = Pressure rating / class 1 = Class 150; 2= Class 300 A = Standard with raised face sealing strip ¹
SE		Welding end SE1 for pipes according to DIN EN ISO 1127 SE2 for pipes according to ASTM A312 S10 SE3 for pipes according to ASTM A312 S40 SE4 for pipes according to DIN 11850 row 2; DIN 11866-A; DIN EN 10357 series A SE5 for pipes according to DIN EN ISO 1127; DIN 11866-B; DIN EN 10357 series C SE6 for pipes according to BS 4825-1; DIN 11866-C
SM		Welding socket SM1 for pipes according to DIN EN ISO 1127 SM2 for pipes according to ASTM A312 S10 SM3 for pipes according to ASTM A312 S40
LM		Soldering socket LM1 for pipes according to DIN EN ISO 1127 LM2 for pipes according to ASTM A312 S10 LM3 for pipes according to ASTM A312 S40 LM4 for pipes according to DIN EN 12449
FLDxA, FLDxB		FLD = loose flange to DIN EN 1092 up to max. PN100 x = Pressure class PN 1 = PN10; 2 = PN16; 3= PN25; 4 = PN40; 5 = PN63; 6= PN100 A = Standard with raised face form B ¹ B = Sealing strip with groove form D ¹
FLAxA, FLAxB		FLA = loose flange according to ASME B 16.5 up to max. 600 lbs x = Pressure rating / class 1 = Class 150; 2= Class 300; 3 = Class 400; 4 = Class 600 A = Standard with sealing strip raised face ¹ B = Sealing strip with ring joint face ¹
FWDxA		FWD = Welding neck flange according to DIN EN 1092 x = Pressure class PN 1 = PN10; 2 = PN16; 3= PN25; 4 = PN40; 5 = PN63; 6= PN100 A = Standard with sealing strip form B ¹
FWAxA		FWA = Welding neck flange according to ASME B 16.5 x = Pressure rating / class 1 = Class 150; 2= Class 300; 3 = Class 400; 4 = Class 600 A = Standard with sealing strip raised face ¹

¹ Other versions of the sealing strip on request.

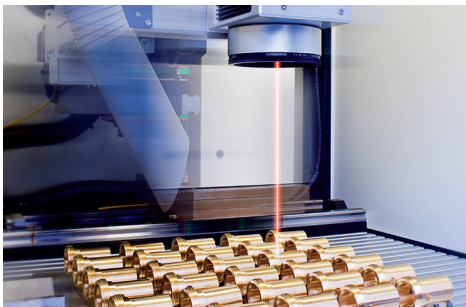
THE GOETZE KG

Individuality for more safety

The competence of Goetze KG Armaturen has been in demand for 75 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.

We are your competent partner for all matters relating to the handling of pressure – „Made in Germany“



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