

WATER CONTROLS



THE BETTER CHOICE!

Safety valves and fittings for water and building technology

WHAT SETS GOETZE AND THEIR BUILDING TECHNOLOGY PRODUCTS APART



GLOBAL TRADE

Goetze products – available worldwide, directly and quickly. No matter whether through Goetze or our trading partners. Our sales subsidiaries and local dealers will always provide the advice you need to find the product that suits you best. Discover our dealer network and find your local dealer.



AVAILABILITY

We offer reliable availability of our standard products for the building technology sector. Products with standard settings and specifications can be shipped from the factory within 3 - 5 working days. This ensures that you receive your order reliably and on time.



RELIABLE COMPETENCE

Technical consulting is not the only focus of our in-house team. We provide support for our customers throughout the entire life cycle of the valve and assist those persons who have to work with the fittings every day by providing them with the necessary information and instructions. It is the task of our field representatives to provide our customers with the very best technical advice at the customer's premises to support them in all aspects related to our products.



ONLINE SERVICES

BIM data, 3D models or product navigator – Goetze offers various services online, so you can ideally integrate the products into your process already at the planning stage. In our online portal, you can download single data sets for individual nominal widths or an exclusive product range file for the series 9000, for example.



EASY INSTALLATION AND MAINTENANCE

Goetze building technology products are extremely easy to install. Thanks to standardised threaded or flanged connections, they can be installed in all conventional lines. The pressure reducing valves can be maintained and the safety valves relieved effortlessly in an installed position. New features, such as the transparent filter cup on the 9000, make it easy to detect the degree of soiling and thus determine any maintenance necessary required.

HOW TO HANDLE PRESSURE

The competence of Goetze KG Armaturen has been in demand for more than 70 years. Our wealth of experience is as broad and varied as our areas of applications for our high-performance fittings.

Our products for building technology

CONVENIENT & ENVIRONMENTALLY-CONSCIOUS SAFETY

from a diverse product range – „Made in Germany“

YEARS OF EXPERIENCE

since being founded in 1949

UNCOMPROMISING PERFORMANCE

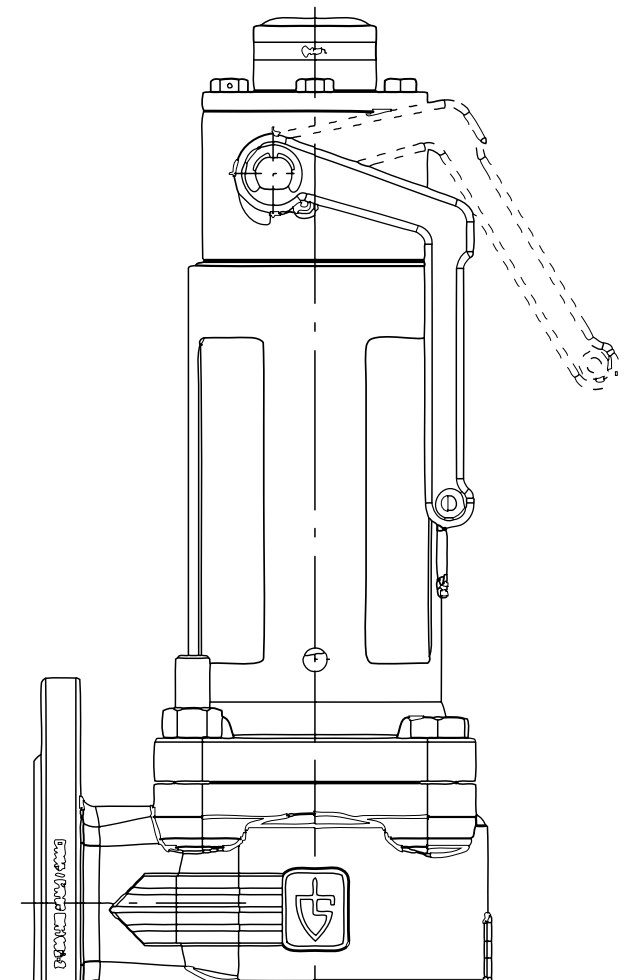
in the areas of water supply, heating, cooling, district heating and solar plants

0,5 BAR – 40 BAR

extensive pressure range, both for inlet pressure and outlet pressure

Goetze's comprehensive expertise

We support our customers with our many years of experience in this sector at the highest professional level. Thanks to the expertise of our qualified development team, we are able to continuously develop new and innovative products and are able to adapt these to individual customer requirements. Making use of skilled manual labour and precise manufacturing methods, we are able to realize the ideas and product innovations of our customers – customer-focused, solution-oriented, flexible and always in top branded quality „Made in Germany“.



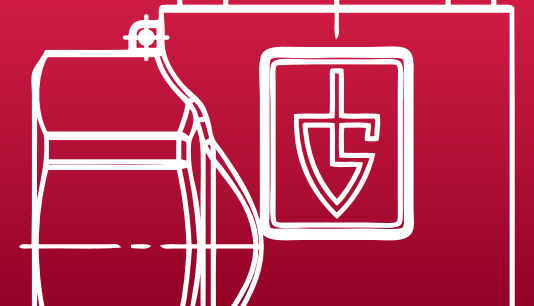
BUILDING TECHNOLOGY BY GOETZE

Tradition & innovation hand-in-hand

Driving new innovations and upholding tradition is never a contradiction in terms at Goetze KG. Since its founding in 1949, the fittings factory has manufactured heavy-duty gunmetal products for protecting plants using air, water and heating systems against overpressure or for reducing the inlet pressure to a required level. Gunmetal still plays a crucial role in products from Goetze KG – and is continuously optimised to ensure that market demands are ideally met. The development of the new pressure reducing valve, for example, focused on ensuring that the gunmetal used is environmentally compatible and compliant with potable water requirements. For this reason, the material used is lead-free to prevent lead from entering the recycling loop and therefore also fulfils requirements such as RoHS. For more than 70 years, the supply of valves for building technology applications has been a core area of Goetze KG's business. In addition to the building technology sector, under the leadership of Detlef Weimann, the

industrial valve business has been constantly developed and new solutions for customers and their plants have been found. In 2015, the product range was expanded to include safety fittings for cryogenic applications. Our aim is to perfectly fulfill customer requirements at all times. Despite our expanded business sectors, building technology is still one of our most important branches. No matter, whether valves for heating applications, pressure reducing valves, safety valves for solar applications or the safeguarding of fire extinguishing systems, Goetze products

can be found in many buildings today – from multi-storey buildings to single-family houses. Your safety is our top priority in every situation. Experience Goetze quality for yourself in our products and technical advice.



TECHNICAL BASICS

Materials

STAINLESS STEEL



- high-quality material
- corrosion-resistant
- for plants with particularly aggressive media

GUNMETAL



- robust and of high quality
- wide range of applications
- also available in a lead-free design

SPHEROIDAL GRAPHITE CAST IRON



- robust material
- cost-effective material for standard applications

Media

LIQUIDS



Temperatures:
-200°C to +400°C

- Pump protection
- Pressure boosters (water-side)
- Sprinkler systems
- Cooling circuits

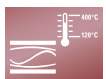
AIR, GASES AND VAPOURS



Temperatures:
-200°C to +400°C

- Compressors
- Pressure vessels
- Pressure boosters (air-side)
- Silo container

STEAM



Temperatures:
+120°C to +400°C

- Steam
- Steam plants
- Sterilizers
- Autoclaves
- Boilers

HOT WATER



Temperatures:
up to +120°C

- Heating systems
- Intrinsically safe solar plants
- Heating, ventilation
- Co-generation plants (CHP)

POTABLE WATER COLD



Temperatures:
up to +40°C

- Domestic water supply
- Machines/systems with connection to potable water line
- Water utilities

POTABLE WATER HOT



Temperatures:
up to +85°C / +95°C

- Central potable water heater
- Process water heater
- Potable water tank

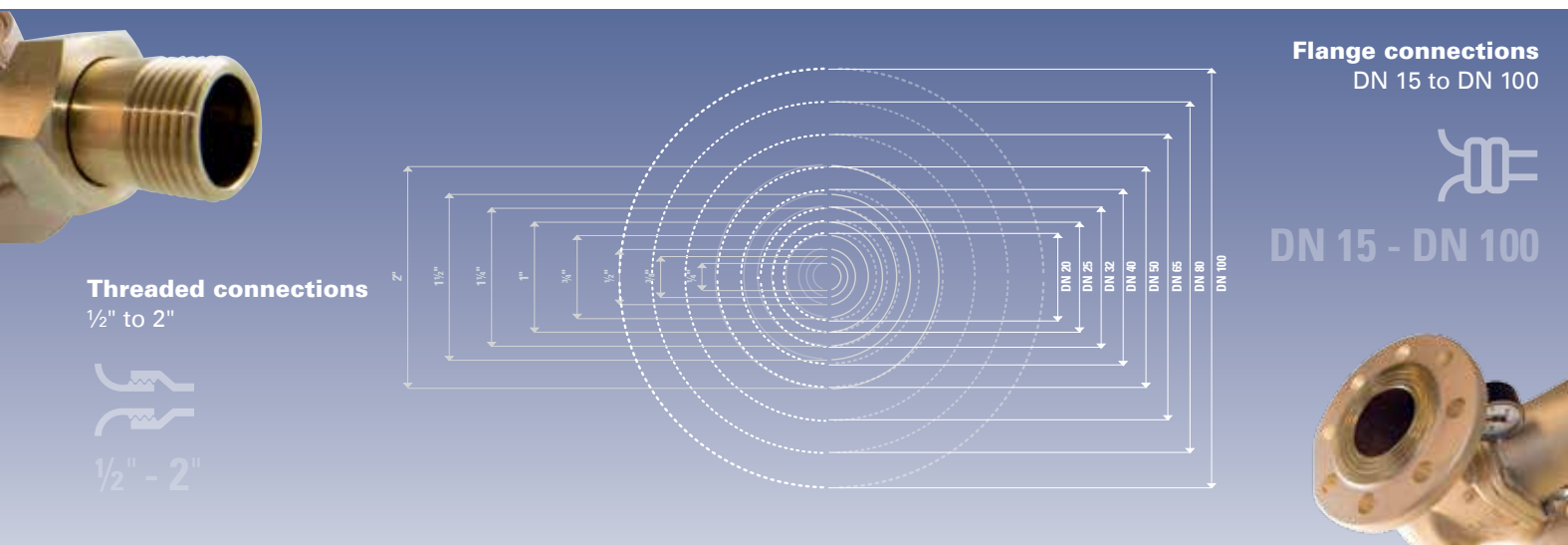
SOLAR PLANTS



Temperatures:
up to +160°C

- Steam
- Steam plants
- Solar plants

Connections



OUR CERTIFICATES

We rely on quality – nationally and internationally

PROOF OF THE SAFETY AND RELIABILITY WE OFFER FOR THE BUILDING TECHNOLOGY

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, DVGW, WRAS, ACS, EAC, 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



National
Type Test
(TÜV)

EU type
examination



➤ EUROPEAN
PED

➤ NATIONAL
TYPE TEST
(TÜV)

➤ EU TYPE
EXAMINATION

➤ TR ZU 032/2013
(RU)

➤ MANUFACTURE
LICENSE (CHINA)
TSG ZF001-2006

APPLICATIONS: POTABLE WATER AND BUILDING TECHNOLOGY



➤ TYPE
APPROVAL (DE)



➤ TYPE
APPROVAL (FR)



➤ TYPE
APPROVAL (EN)



➤ TYPE
APPROVAL (PL)

SINTEF

➤ TYPE
APPROVAL (NO)

ADDITIONAL APPROVALS



➤ TYPE
APPROVAL



➤ TYPE
APPROVAL



➤ TYPE
APPROVAL



➤ TYPE
APPROVAL



➤ TYPE
APPROVAL (RU)

Registro
Italiano Navale
(RINA)

➤ TYPE
APPROVAL (IT)



➤ ENVIRONMENTAL MANAGEMENT
DIN EN ISO 14001

➤ PRESSURE EQUIPMENT DIRECTIVE
2014/68/EU

➤ QUALITY MANAGEMENT
DIN EN ISO 9001

QUICKFINDER CERTIFICATES

■ SAFETY VALVES

Series	National Type Test (TÜV)	CE 2014/68/EU	EU type examination	EAC	TS	ACS Potable water approval	DNV-GL	LR Lloyd's Register	ABS	Shipbuilding	Registro Italiano Navale (RINA)
651mHNK	■	■	■	■	■		■	■	■	■	■
651mHIK		■	■	■	■		■	■	■	■	■
451bH	■	■	■	■	■		■	■	■	■	■
851bH	■	■	■	■	■		■	■	■	■	■
852bHL	■	■	■	■			■	■	■	■	■
455bHL	■	■	■	■							
355bHL	■	■	■	■							
451bHF	■	■	■	■	■		■	■	■	■	■
851bHF	■	■	■	■	■		■	■	■	■	■
651mSK	■	■	■	■	■		■	■	■	■	■
451bG	■	■	■	■	■		■	■	■	■	■
851bG	■	■	■	■	■		■	■	■	■	■
852bGL	■	■	■	■			■	■	■	■	■
455bGFL	■	■	■	■					■	■	■
355bGFL	■	■	■	■							
651mWNK	■	■		■	■	■	■	■	■	■	■
651mWIK		■		■	■	■	■	■	■	■	■

■ PRESSURE REDUCING VALVES

Series	CE 2014/68/EU	EAC	EN 12286 DVGW	ACS	WRAS	SINTEF	DNV-GL	LR Lloyd's Register	ABS	Shipbuilding	Registro Italiano Navale (RINA)
9000	■	■	■	■	■						
9040	■	■	■	■	■						
481	■	■	■	■	■	■	■	■	■	■	■
681	■	■	■	■	■	■	■	■	■	■	■
482	■	■	■	■	■	■	■	■	■	■	■
682	■	■	■	■	■	■	■	■	■	■	■

*Approval pending

QUICKFINDER VALVES

■ PRESSURE REDUCING VALVES

Series	Materials	Connection type	Media								Temperature in °C	Set pressure bar
			neutral				non-neutral				-50 -25 0 25 50 75 100 125	0 0.5 1 5 10 15 20 30 50
			liquid	air/gases	potable water cold	potable water hot	liquid	air/gases	potable water cold	potable water hot		
9000												
9040												
481												
681												
482												
682												

■ TÜV/CE SAFETY VALVES FOR HEATING AND COOLING

Series	Materials	Connection type	Media				Temperature in °C	Set pressure bar
			neutral		non-neutral		-100 -50 0 50 100 150 200	0 0.5 1 5 10 15 20 30
			hot water	liquid	hot water	liquid		
651mHNK								
651mHIK								
451bH								
851bH								
852bHL								
455bHL								
355bHL								
451bHF								
851bHF								
652mFK								

■ TÜV/CE SAFETY VALVES FOR SOLAR PLANTS AND DISTRICT HEATING

Series	Materials	Connection type	Media										Temperature in °C	Set pressure bar
			neutral					non-neutral					-100 -50 0 50 100 150 200 250 300 350 400	0 0.5 1 5 10 15 20 30 50 70
			solar	hot water	steam	air/gases	liquid	solar	hot water	steam	air/gases	liquid		
651mSK														
451bG														
851bG														
852bGL														
455bGFL														
355bGFL														
451bH														
851bH														

■ FITTINGS FOR WATER SUPPLY IN THE BUILDING TECHNOLOGY SECTOR

Series	Materials	Connection type	Media		Temperature in °C	Set pressure bar
					-50 0 50 100 150	0 0.5 1 5 10 15 20
			potable water cold	potable water hot		
651mWNK						
651mWIK						
669						

WATER SUPPLY FITTINGS FOR THE BUILDING TECHNOLOGY SECTOR

Materials



Temperatures
from -20°C to +120°C



Pressures
from 3 bar to 10 bar
Inlet pressure up to 40 bar
Outlet pressures adjustable

Media



Threaded connections
from ½" to 2"



Flange connections
from DN 15 to DN 100

Our pressure reducing valves with potable water approvals, both with threaded or flange connections do not only cover all classic areas of the water supply sector: They are often used for applications in sprinkler systems, in water-treatment or desalination plants. The materials of all wetted parts do not only fulfill the stringent national DVGW regulations but also those in France (ACS), the UK (WRAS) and Norway (SINTEF).

FITTINGS FOR BUILDING TECHNOLOGY ARE USED HERE:



Buildings



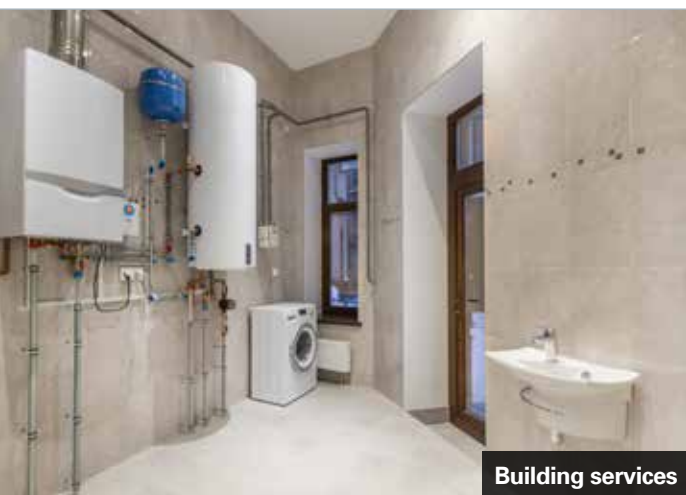
Potable water purification



Water systems



Sprinkler systems



Building services



Construction machinery



Safety showers



Irrigation systems


Series 9000

PRESSURE REDUCING VALVES SERIES 9000


made of lead-free gunmetal
with threaded connections



The first Goetze fitting with functional parts made of plastic has been developed for the environmentally-aware and health-conscious user. The lead-free pressure reducing valve housing does not release any harmful substances into the potable water and is corrosion-resistant for all water qualities. At the same time, the avoidance of heavy metals protects the environment. The valve insert is made of a high-quality plastic from the medical technology sector, and offers convincing cavitation-, temperature- and media-resistance. The flow rate of the pressure reducing valve has also been rated for maximum output - flow optimisation permits a higher maximum flow rate and physical effects in the valve can create a higher flow rate with the same pressure drop. The integrated 160 µm fine screen insert protects the fitting and downstream installation from dirt particles and is easy to clean without the valve insert having to be removed and the output pressure reset. The degree of contamination can be seen through the transparent filter cup. Another feature is the setting scale visible from 2 angles. This makes the setting process even more convenient by displaying the current set pressure in every position. This means that the setting can also be made without a pressure gauge, special tool or operating pressure.

 **Temperatures**
from +5 °C to +85 °C

 **Inlet pressure** up to 25 bar,
Outlet pressure adjustable from 0,5 bar to 12 bar

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

Series 9040

PRESSURE REDUCING VALVES SERIES 9040

made of stainless steel
with threaded connections



The 9000 series is as the 9040 series, made of stainless steel. The V4A stainless steel housing does not release any harmful substances into the potable water and is corrosion-resistant for all water qualities. The corrosion-resistant material is also suitable for aggressive media. The stainless steel version is used, for example, in systems for processing foodstuffs, cosmetics, beverages or other complex media. The pressure reducing valve also has an easy-to-clean filter screen with a transparent filter cup to protect the downstream system, the high-performance plastic valve insert and the setting scale visible from 2 angles.

A filter cup made of V4A is also available as an alternative for hot water and PN25 applications.

Also in this case, the valve insert is made entirely of plastic and the user enjoys all the benefits from all the advantages of the 9000 series in combination with those of V4A stainless steel.

 **Temperatures**
from +5 °C to +85 °C

 **Inlet pressure** up to 25 bar,
Outlet pressure adjustable from 0,5 bar to 12 bar

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



Washing facilities



Water systems



Industrial kitchens



Bottling plants

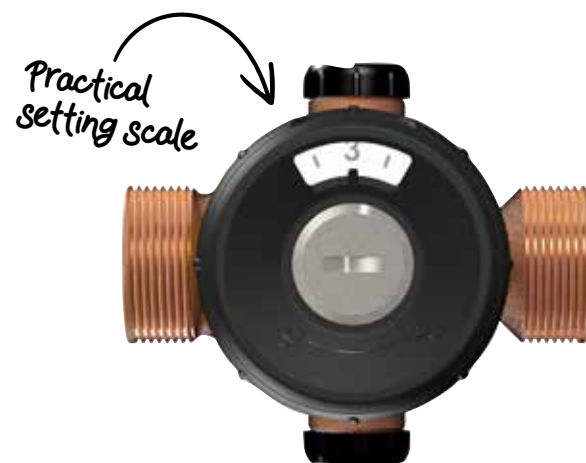
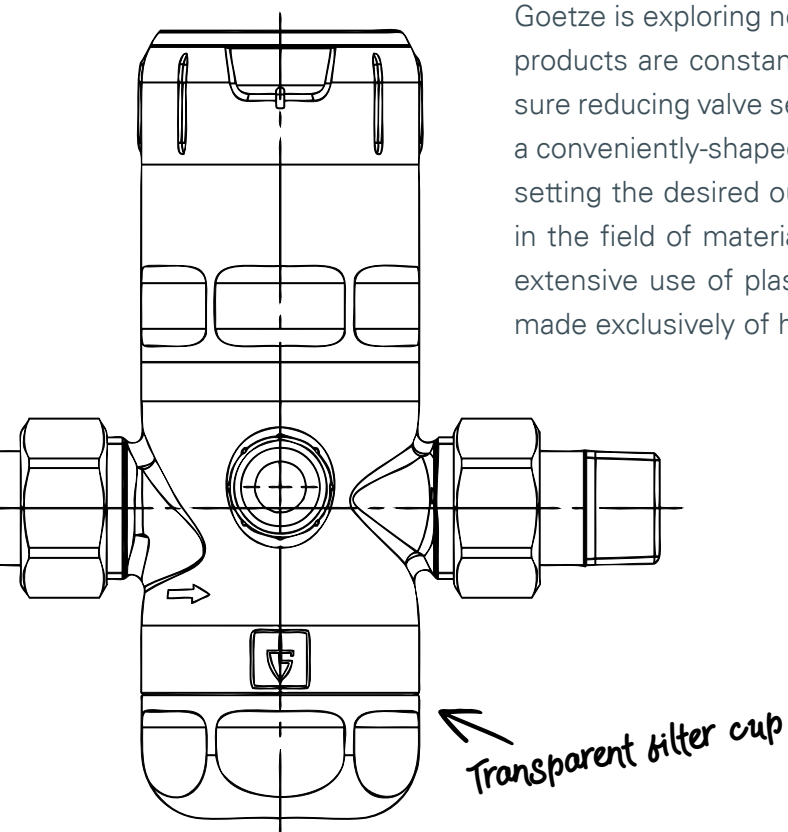
Two years, four heads and a great deal of expertise

New developments always involve a lot of time, patience and attention to detail. This of course is true in the case of our new pressure reducing valve series 9000. A team of experts from our water control division has been working meticulously on this innovation for two years. 58 tools for the production of cast-, plastic- and elastomer parts and many man-hours later, Goetze is able to present an innovative product in its range to protect the potable water supply. This requires compliance with special standards in order to guarantee clean and safe potable water at all times. The development was characterised by various project phases. Firstly, concepts were developed optimised and validated using modern simulation software. Once the parts had been designed, the very latest technology was employed to create the prototypes. The first parts, which were directly subjected to flow and strength tests, were manufactured using the metal 3D printing technique. This means that right from the start maximum resistance can be verified and guaranteed. After fatigue- and production part tests, we now have a new product that stands for maximum operational safety, simple maintenance and a high degree of convenience.



Functions ideally supported by an innovative design

Goetze is exploring new avenues not only in product development but its products are constantly advancing in terms of design as well. The pressure reducing valve sets itself apart, above all, through an integrated filter, a conveniently-shaped adjustment handle and a clearly arranged scale for setting the desired outlet pressure. Goetze is also breaking new ground in the field of materials. For the very first time, the company is making extensive use of plastics, the transparent filter cup, for example, being made exclusively of high-quality plastic.



Offering even more benefits through plastic

The new pressure reducing valve consists of a combination of materials unique for Goetze. As with numerous other products, the housing is made of gunmetal. Which is lead-free and offers the highest possible corrosion resistance.

The elimination of lead offers further benefits: The environment is sustainably protected by the avoidance of heavy metals and future-proof recyclability is possible.

The use of selected plastics from medical technology, however, is new: for such components as the spring housing, the adjustment handle as well as in the filter cup and associated filter. The valve insert is even made of a plastic that is mainly used in medical technology.

The materials used set themselves apart in particular through high strength, hardness and rigidity even at high temperatures. In addition, plastics suffer little

to no cavitation at all. But there is also enormous creative leeway in terms of the design itself. You benefit, for example, from the high degree of transparency that allows soiling to be detected quickly and the pressure reducing valve to be maintained accordingly.

By expanding the material combination, the user benefits from the positive properties of the plastic without having to forego the usual quality for which Goetze KG is known.



High-quality plastics
For conveying media in the medical technology sector



Transparent filter cup
In transparent for detecting the degree of soiling

Lead-free gunmetal RG+

The lead-free gunmetal RG+ is the result of consistent development from the lead-containing gunmetal RG 5 lead-reduced CuSn5Zn5Pb2-C, which has proven itself for years. It is the preferred material for drinking water installations.

Inside the microstructure, lead has been substituted by sulphur, however it has no effect on the basic properties such as excellent corrosion resistance, tensile strength, elongation, hardness and machinability.

The new RG+ material was extensively tested in the laboratory and over several years in the field. The alloy is standardised by DIN SPEC 2701 and part of the Federal Environment Agency's positive list of metallic materials suitable for drinking water hygiene since 2018.

As well as for the conventional gunmetal, a high tin content in the new alloy ensures the optimum coating structure. In addition to high corrosion resistance it also guarantees long-term safety.

Therefore, the lead-free gunmetal RG+ can be used in all water qualities according to the drinking water ordinance and according to all drinking water-related standards in Europe without any restrictions.

The material has excellent hygienic properties. With a maximum lead content of 0.10% the requirements of national and international legislation, such as for the US are met and is also compliant to the REACH regulation, and will certainly meet future material requirements as well.



Lead-free gunmetal housing



Lead-free gunmetal
Safe, environmentally-friendly, corrosion resistant

Fittings for water supply and building technology sector

SAFETY VALVES WITH DIAPHRAGM SERIES 651MW

made of gunmetal, angle type with threaded connections



651mWNK enlarged outlet (TÜV/CE)
651mWIK with inlet and outlet diameter equal

Particularly in the case of valves which are employed in potable water installations, we do not accept any compromises regarding the materials used. Only the highest quality materials suitable and approved for potable water applications are used in these valves. These types of safety valves with diaphragm are installed in the cold water pipe before the hot water heater to protect it from inadmissible overpressure.



Temperatures
from -10°C to +95°C



Pressures
from 3 bar to 10 bar



Threaded connections
from ½" to 1 ¼"

SAFETY VALVE ASSEMBLY SERIES 669

made of gunmetal, straight way form with threaded connections



The combination of shut-off valve, strainer, dirt trap and diaphragm safety valve the 669sWK version, as well as the additional pressure reducing valve in the 669pWK, in a space-saving body guarantees adherence to the mandatory order for all valves required in a drinking water circuit heaters. This eliminates the necessity for time-consuming individual installation. The body made of gunmetal guarantees an excellent resistance to the most varying qualities of potable water.



Temperatures
from -10°C to +95°C



Pressures
from 3 bar to 10 bar



Threaded connections
from ½" to ¾"

PRESSURE REDUCING VALVES SERIES 482 AND 682

made of stainless steel and gunmetal 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 20 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

PRESSURE REDUCING VALVES SERIES 481 AND 681

made of stainless steel and gunmetal with threaded connections



An all-metal construction with no plastic parts, the highest level of corrosion resistance and special approvals for potable water applications characterize these products. The pressure reducing valves can also be used for warm water applications. The control unit is fully relieved, meaning that the set outlet pressure is always held constant even in the case of greatly fluctuating inlet pressures. An additional advantage: The complete valve insert can be serviced or replaced without having to remove the valve itself. As an accessory, we recommend fitting a pressure gauge on the outlet side, only then is it possible to check beyond doubt the actual outlet pressure and correct functioning of the pressure reducing valve.

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

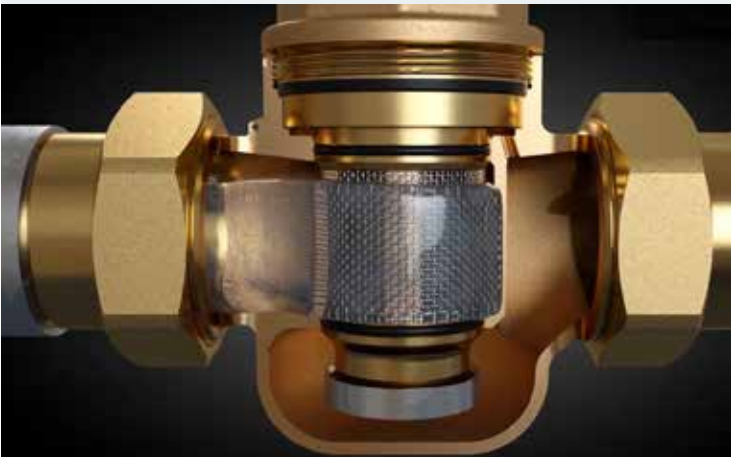


Threaded connections
from ½" to 2"

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!





TÜV/CE SAFETY VALVES FOR HEATING AND COOLING

Materials



Temperatures
from -50°C to +150°C



Pressures
from 0,5 bar to 25 bar

Media



Threaded connections
from ½" to 2"



Flange connections
from DN 15 to DN 100

The product range is designed for hot water and heating systems as well as for cooling and air conditioning systems in single homes and multidwelling buildings and large building complexes. As an example, the safety valves for such installations are fitted with special sealing materials, which are suitable for glycol concentrations of up to 100%. A maximum degree of safety is of paramount importance when we develop new products. Even for combined plants, so-called „Combined Heating and Cooling Systems“, safety valves with the necessary approvals are available from our product range.

TÜV/CE SAFETY VALVES FOR HEATING AND COOLING ARE USED HERE:



Heating systems



Combined heat and power plant modules



Building cooling systems



Large-scale heating systems

TÜV/CE safety valves for heating and cooling

SAFETY VALVES SERIES 651mH


made of gunmetal, all-metal construction,
angle type with threaded connections




651mHNK with enlarged outlet (TÜV/CE) 651mHIK with inlet and outlet diameter equal

Robust safety valve with diaphragm with an all-metal construction. Designed to protect hot-water- and heating-systems. This unmatched design, which does not have any plastic parts, means that these valves are also suitable for very high external temperatures.

 **Temperatures**
from - 10°C to + 120°C

 **Pressures**
from 2,5 bar to 3 bar

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

SAFETY VALVES WITH BELLOWS SERIES 451bH

made of stainless steel, angle type
with threaded connections



For demanding requirements in hot-water and heating-systems, there is also a version available made of high-quality corrosion- and acid-resistant stainless steel. This valve is suitable for all hot- water systems, where protection cannot be achieved by using a standard safety valve with diaphragm with the standard set pressures of 2,5 or 3 bar, for example in the case of all large building complexes.

 **Temperatures**
from -10°C to + 120°C

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

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


SAFETY VALVES WITH BELLOWS SERIES 851bH


made of gunmetal, angle type
with threaded connections



High performance safety valve with bellows, made of high quality, corrosion-resistant gunmetal. Heating systems with set pressures other than 2,5 or 3 bar are required to be protected by such safety valves. Apart from indirectly heated plants, the sizing of the valves is based on the heating output of the boiler.

 **Temperatures**
from - 10°C to + 120°C

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

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

SAFETY VALVES WITH BELLOWS SERIES 852bHL

made of gunmetal, angle type
with flange connections



This safety valve series consists entirely of corrosion-resistant materials. The gunmetal housing, the stainless steel spring and all internal parts made of stainless steel are difficult to beat in terms of resistance, especially in aggressive waters, salt water or saline atmospheres. Whether metallically sealing or, to meet the most stringent tightness requirements, with metallically supported O-ring seal in a diverse range of materials or with counter-pressure compensating metal bellows, there is an ideal design for every application.

 **Temperatures**
from -10°C to + 120°C

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

 **Flange connections**
DN 40 and DN 50

TÜV/CE safety valves for heating and cooling


SAFETY VALVES WITH BELLOWS SERIES 455bHL

made of stainless steel,
angle type with flange connections



The high performance of the entire series, from DN 15 to DN 100, is unique for flanged safety valves. Thanks to the use of only high-quality materials with a high chemical resistance and a reliable tightness to atmosphere and an elastomer bellows, mean that the highest level of product requirements can be met. This means that this safety valve can be configured to meet demanding plant specifications.

The set pressure available ranges from 0,5 to 25 bar. According to the regulations hot water systems with temperatures of maximum 120°C can be protected. The valve has a special TÜV approval for heating plants (S/G/H approval)

 **Temperatures**
from -10°C to +120°C

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

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

SAFETY VALVES WITH BELLOWS SERIES 355bHL

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




The 355 series flanged safety valve impresses with its consistent concept in terms of performance, function and design. The use of cast iron as the housing material creates an especially cost-effective variant. This is particularly beneficial for heating applications and steam, as well as lower requirements for corrosion resistance.

The metallically supported, moulded elastomer seal offers safety in the temperature range from -10°C to 120°C.

 **Temperatures**
from -10°C to +120°C

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

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

SAFETY VALVES WITH BELLOWS SERIES 451BHF / 851bHF


made of stainless steel / gunmetal,
angle type with threaded connections




Universal high performance safety valve made of extremely corrosion resistant stainless steel or gunmetal with metal bellows, to meet the highest demands. Suitable and approved for heating plants and cooling- and chilling plants and their combinations.

The sizing of the valve is based on the heating output of the boiler. In the case of indirectly heated heating generators and closed chilling circuits this is based on the flow volume of the expansion water.

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

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

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

SAFETY VALVES WITH DIAPHRAGM SERIES 652mFK


made of gunmetal, all-metal construction,
angle type with threaded connections



The safety valve with diaphragm version 652mFK-EPDM is especially designed for the protection of closed cooling circuits. This valve, made of corrosion-resistant gunmetal, with an all-metal construction, is resistant for plants and cooling media with a cooling media containing up to 100% glycol.

It's unbeatable value for money makes this a standard valve specified in tenders for cooling and air-conditioning plants.

 **Temperatures**
from -50°C to +150°C

 **Pressures**
from 1 bar to 16 bar

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



TÜV/CE SAFETY VALVES FOR SOLAR PLANTS AND DISTRICT HEATING

Materials

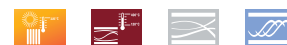


Temperatures
from -60 °C to +400 °C



Pressures
from 0,5 bar to 50bar

Media



Threaded connections
from ½" to 2"



Flange connections
from DN 15 to DN 100

The safety valves for solar plants are designed and tested for high media temperatures. Even for the SOL-valves for intrinsically safe plants, the materials have been tested up to 160 °C.

TÜV/CE SAFETY VALVES FOR SOLAR PLANTS AND DISTRICT HEATING ARE USED HERE:



Solar power plants (collectors)



District heating supply



District heating generation



Solar heating systems (collectors)

TÜV/CE safety valves for solar plants and district heating


SAFETY VALVES WITH DIAPHRAGM SERIES 651mSK


made of gunmetal, angle type with threaded connections



Diaphragm safety valve for the protection of small and medium-sized, intrinsically safe solar plants. The valve is characterized by a number of special features: Temperature resistance tested up to 160 °C, 100% metal design and available with different connection types up to a size of one inch. The valve is type tested according to TÜV standards for closed, intrinsically safe solar heating systems with a flow temperatures of up to 120 °C. Depending on the connection size, it is suitable for a heating output of up to 200 kW.

 **Temperatures**
from -10 °C to +120 °C

 **Pressures**
from 2 bar to 10 bar

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

SAFETY VALVES WITH BELLOWS SERIES 851bG / 852BGL

made of gunmetal, angle type with threaded or flange connections




High performance safety valves with bellows to protect non-intrinsically safe solar plants with temperatures above 200 °C as well as district heating systems, boilers and pressure vessels.

The metal bellows protects sliding and moving parts from the medium and thus from dangerous soiling.

The spring housing and spring are protected against the ingress of steam and high temperatures.

 **Temperatures**
from -60 °C to +225 °C

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

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

 **Flange connections**
DN40 and DN50

SAFETY VALVES WITH BELLOWS SERIES 451bG / 455bGFL

made of stainless steel, angle type with threaded or flange connections




For highest demands and requirements completely made of highly corrosion and temperature resistant stainless steel for the protection of non-intrinsically safe solar systems with temperatures above 200 °C, of district heating supply systems and steam systems. The stainless steel bellows also protects sliding and moving components as well as the spring chamber against medium deposits and high temperatures.

As it is approved for both liquid and gaseous media, the safety valve offers a high degree of functional safety, regardless of the phase of the medium.

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

 **Pressures**
from 0,2 bar to 70 bar

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

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

SAFETY VALVES WITH BELLOWS SERIES 355bGFL

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



The safety valve with flanged connections made of spheroidal graphite iron offers ideal protection for non-intrinsically safe solar heating systems with temperatures up to 200 °C and above as well as for district heating supply systems, steam boilers and pressure vessels.

The metal bellows protects sliding and moving parts from the medium and thus from dangerous deposits.

In addition, the compression spring and spring chamber are protected against steam penetration and high temperatures. By using spheroidal graphite iron as the body material, this series can be an economical alternative, depending on the application.

 **Temperatures**
from -10 °C to +350 °C

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

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

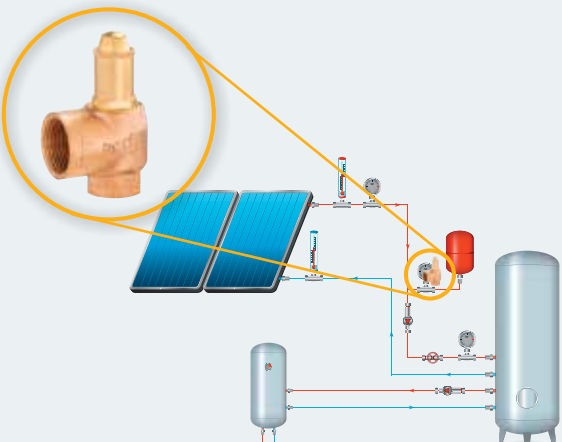
Thermal solar systems



Thermal solar systems are technical installations that absorb sunrays, and with the aid of the carrier medium, transport the energy to heating systems or hot water boilers and emit this in a usable form.

Medium temperatures of well over 160 °C are usual in larger systems. We talk about an inherently-safe solar heating system when the expansion tank absorbs a thermal volume dilation and compensates for this change in volume by generating steam.

In this process, there is no automatic feed of the heat carrier (medium) and, accordingly, this includes the typical small system located on the roofs of many residential properties.

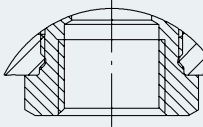
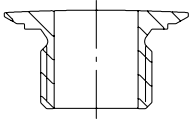
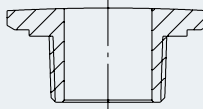
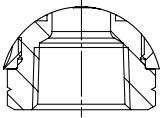
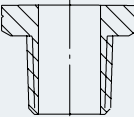
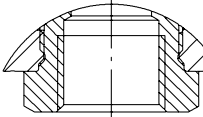
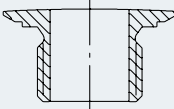


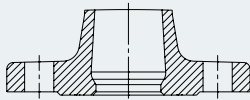

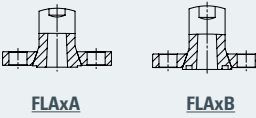
Type 651mSK with identification code SOL for closed, intrinsically safe solar heating systems with initial temperatures of up to 120 °C.

FOR HIGHER TEMPERATURES

Type 851/451bG and 852bGL/355/455bGFL with EPDM up to 170 °C (↗ glycol mixture) or with PTFE up to 225 °C or for stainless steel versions with a metallic seal up to 400 °C.

CONNECTION POSSIBILITIES

Connection type	Drawing	Description
f		Whitworth threaded cylindrical pipe connection – female – seal not made on thread BSP-P according to DIN ISO 228
m		Whitworth threaded cylindrical pipe connection – male – seal not made on thread BSP-P according to DIN ISO 228
BSP-Tm		Whitworth threaded tapered pipe connection – male – seal made on thread male connection BSP-T according to DIN EN 10226
NPTf		US standard tapered pipe thread NPT threaded pipe connection NPT – female – according to ANSI / ASME B 1.20.1 seal made on thread
NPTm		US standard tapered pipe thread NPT threaded pipe connection NPT – male – 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

Connection type	Drawing	Description
FL		Cast flange connection according to DIN EN 1092
FLDxA, FLDxB		Loose flange connection according to DIN EN 1092 up to max. PN 100 x = Pressure rating A = Without sealing groove B = With sealing groove
FLAxA, FLaXB		Loose flange connection according to ASME B 16.5 up to max. 600 lbs x = Pressure rating A = Without sealing groove B = With sealing groove

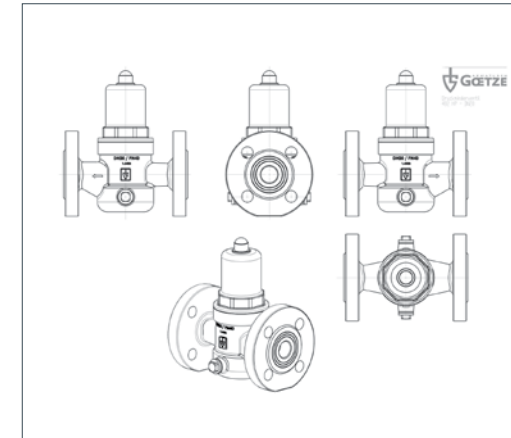
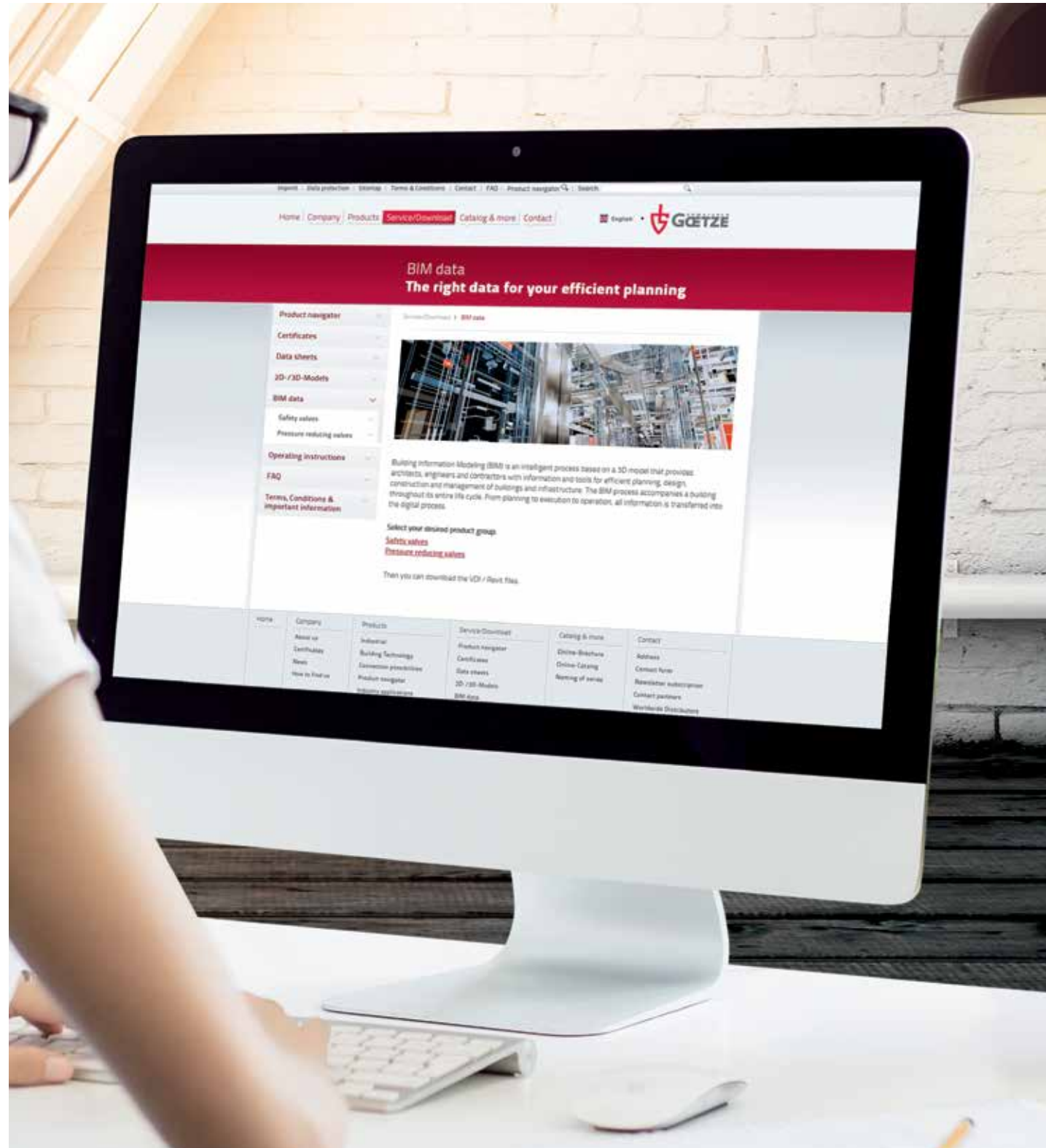
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Beside the 3D models, we offer prefabricated tender documents that you may simply integrate in your offers.

Here is the link to download all available documents and 3D models:

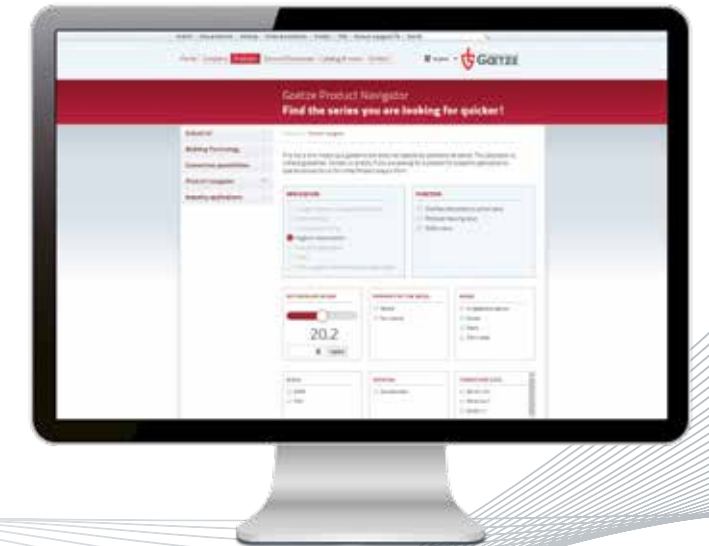
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GOETZE PRODUCT NAVIGATOR

You want to find the series you are looking for quicker? Using the Goetze configurator, you can select the desired specifications and characteristics and will be shown a list of matching products.

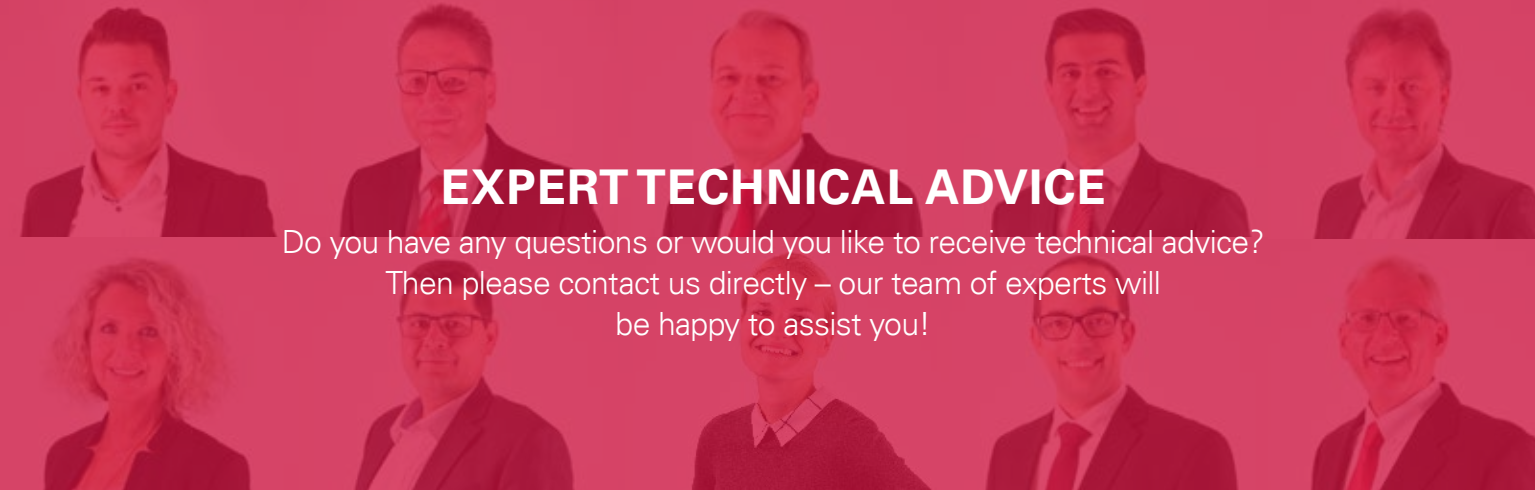
The navigator is for orientation purposes only and does not replace consultation with a technical expert. Give it a try and find the right product for your applications.

www.goetze-armaturen.com/navigator-en



EXPERT TECHNICAL ADVICE

Do you have any questions or would you like to receive technical advice? Then please contact us directly – our team of experts will be happy to assist you!





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