

Products + services

Mankenberg short catalogue



Competence and solutions for
self-acting control valves

PRESSURE CONTROL | LEVEL CONTROL | SERVICE



Dear Sir or Madam,

Change and renewal are constants in life – true to this principle, Mankenberg has been your experienced partner for industrial valves for nearly 140 years. Our valves are important components for machines and plants in which pressure or level are to be reliably controlled.

The secret to our success? Mankenberg is a family business with a great deal of specialized technological knowledge that has been increased and refined through many decades. Our team does not rest on its achievements, but reviews processes and procedures, building on existing strengths and further developing all that no longer fits.

We remain curious in the world of digital transformation - well aware that we are currently dealing with the most profound change in our private and business

world. But we do not want to simply react, we want to actively shape the digital progress.

It is you – our customers – who provide the inspiration. Digitization is enabling greater individualization towards tailored solutions. It supports our striving for sustainability and creates scope for the development of modular product families. Digitization shortens production cycles and contributes to optimized production control. This saves us valuable time – which also results in optimal delivery times for your valve.

In this new edition of our short catalog, you will find many classic products, but also our newly developed modular industrial valves. We wish you interesting reading.



DR. STEFAN NEHLESEN
Managing director



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Mankenberg online –

Information, clues and practical knowledge from our world of valves can be found on these pages:



Mankenberg control valves – Optimum customer-specific solutions

As a leading manufacturer of self-acting control valves, Mankenberg combines the tradition of an owner-managed industrial company with innovative spirit and entrepreneurial vision and decidedly boosts its own agile digital transformation. Mankenberg is a specialist for stainless steel and special materials in deep-drawing processes. The portfolio offers flexible standard valves and project-related special valves, from large series to small quantities and individual production, and is being further developed. In Luebeck, we set the course for the future.



Quality –
Made in Germany



Foundation
1885

Independent /
owner-managed

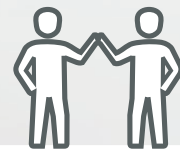


> 5.000
active customers

Customer-oriented
and based on partnership



Head office in
Luebeck
(Germany)



Excellent expertise
from practitioners to
practitioners



Also in
special material



CFD simulations
and 3D geometries



Represented in
49 countries



Short delivery times /
high on-time delivery



> 95 %
vertical range of manufacture



Technical acceptances
individual as per our
customers' requirements

**Development, production and
sale of industrial valves**

From standard to innovative

tailor-made special valves

Know-how in all industries and applications – From the oil production platform to the pharmaceutical industry

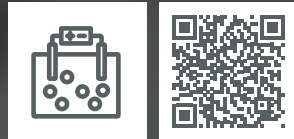
Chemical industry



Conventional power generation



Electrolyzers



Food and beverage



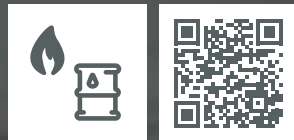
Mining



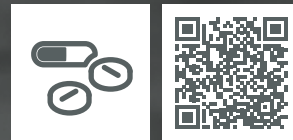
Offshore



Oil and gas



Pharmaceutical industry



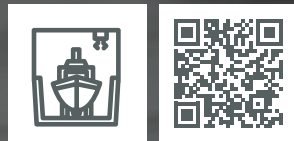
Pulp and paper



Renewable energies



Shipbuilding



Water supply



ATEX



Corrosion



High pressure



Industrial water



Tank blanketing



Our modular system – A world full of advantages

Every industry has individual requirements for its plant components. Material, surface quality, ATEX approval or corrosion resistance are just some of them. No matter whether for high pressure or hygienic applications: Valves from Mankenberg reliably control pressure or level in the plant. A flexible and worldwide unique modular system of deep-drawn stainless steel components forms the basis of this range of products. At Mankenberg, this system has a decades-long tradition and was also the first step towards modular design thinking.

The modular system is simple: A mass production method combined with individual connections provides the greatest possible flexibility ensuring that a standard valve is ready for shipment two working days after order confirmation. In addition, special solutions can be offered at an optimal price / performance ratio.

A glimpse into the
deep-drawing process



Keeping pace

This also means maintaining the overview. One and the same valve type, the same body part and a vast number of different connection types, such as sockets, flanges or clamps. They result in a large number of similar valves that are so different at the same time. One standard valve provides a tailor-made solution for the customer.





Modular design is our main principle

The basic components for our valves are the pots that we manufacture from deep-drawn stainless steel. The special feature of deep-drawing at Mankenberg is that a mass production procedure is used even for special designs with very small order quantities. The first step is always the manufacture (or the selection) of the suitable tool for the deep-drawing process.

The required form of the pot is shaped from high-quality stainless steel sheets through a multi-step manufacturing process. The multiple use of one pot type will yield a wide range of combinations. The same component can be used for various final products. Similar final products can be employed for a wide variety of applications by replacing single components such as the cone, diaphragm or bonnet and using welded-on standard parts and precision castings.

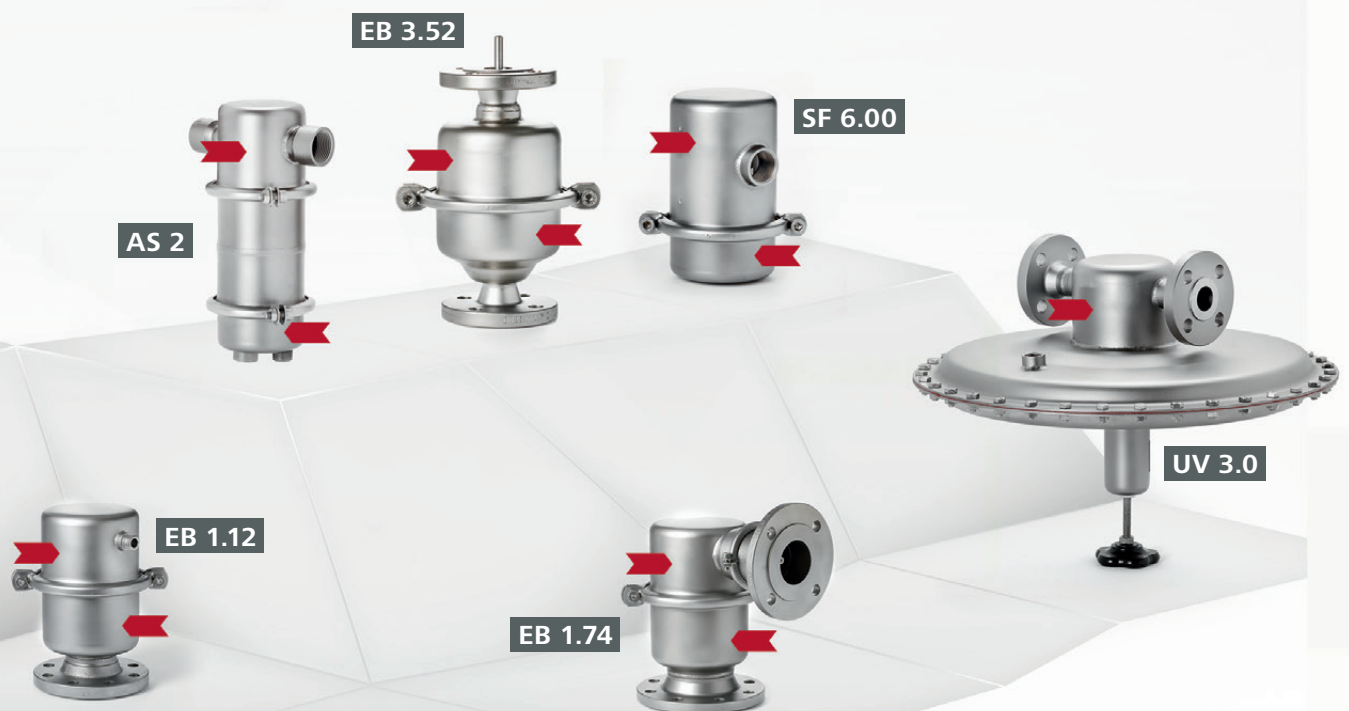
This is exactly what the modular design provides: a combination of flexibility, quality and performance.

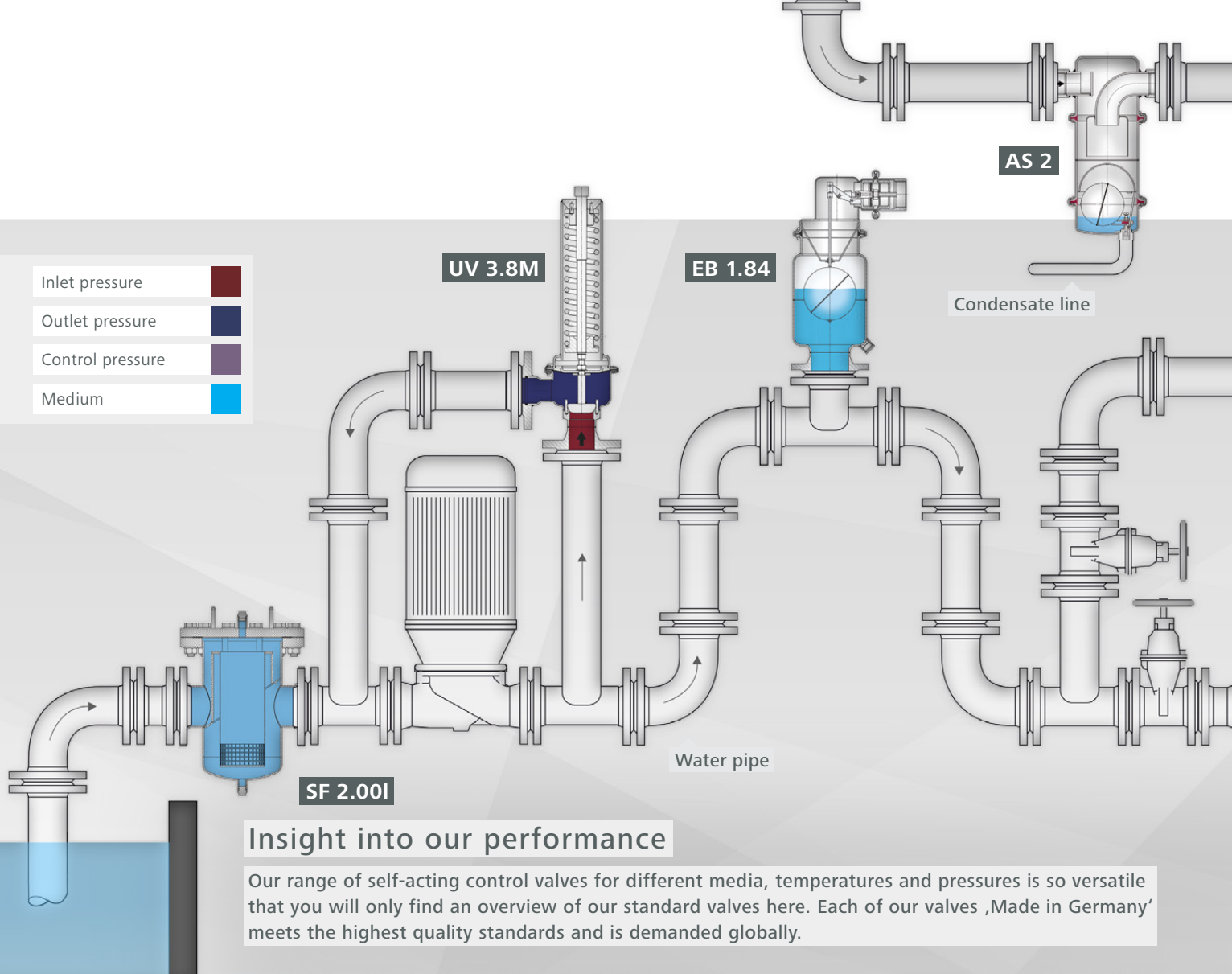


One pot and many applications

One simple pot is the best example to demonstrate our modular system. It is the basic body for separator AS 2 as well as for a pressure reducing valve DM 462, a strainer SF 6.00 and also for a bleeding and venting valve EB 1.74 or EB 1.12 or EB 3.52.

One and the same component can be used for various final products. It is the multiple use of a deep-drawn pot for various valves that allows applying a cost-effective mass production technique such as deep-drawing. At the same time the modular system provides a large number of possible combinations and flexibility for customer-specific solutions as well as fast delivery times.





Insight into our performance

Our range of self-acting control valves for different media, temperatures and pressures is so versatile that you will only find an overview of our standard valves here. Each of our valves 'Made in Germany' meets the highest quality standards and is demanded globally.

Spring-operated pressure control valves

Tasks / service areas

Pressure reducing valves

DM

Pressure reducing valves reduce a high and frequently fluctuating pressure to an adjustable constant pressure downstream of the valve. A spring keeps the valve open and this closes as the outlet pressure rises.

DN	15 - 800	PN	1 - 400
G	1/2 - 2	T	-60 - 400 °C
p_2	0.002 - 160 bar	K_{Vs}	0.05 - 2,100 m ³ /h

Vacuum breakers

VV

Vacuum breakers protect vessels and pipelines against vacuum. A vacuum can build up when a system is being drained, when it cools down or when a pump fails. Vacuum control valves are pressure reducing valves or back pressure regulators which control pressures below 1 bara.

DN	15 - 250	PN	16 - 40
G	1/2 - 2 1/2	T	-60 - 250 °C
p_2	0.05 - 0.95 bar (abs.)	K_{Vs}	0.2 - 388 m ³ /h

Back pressure regulators

UV

Back pressure regulators control an adjustable constant pressure upstream of the valve. A spring keeps the valve closed. As the inlet pressure rises, the valve opens.

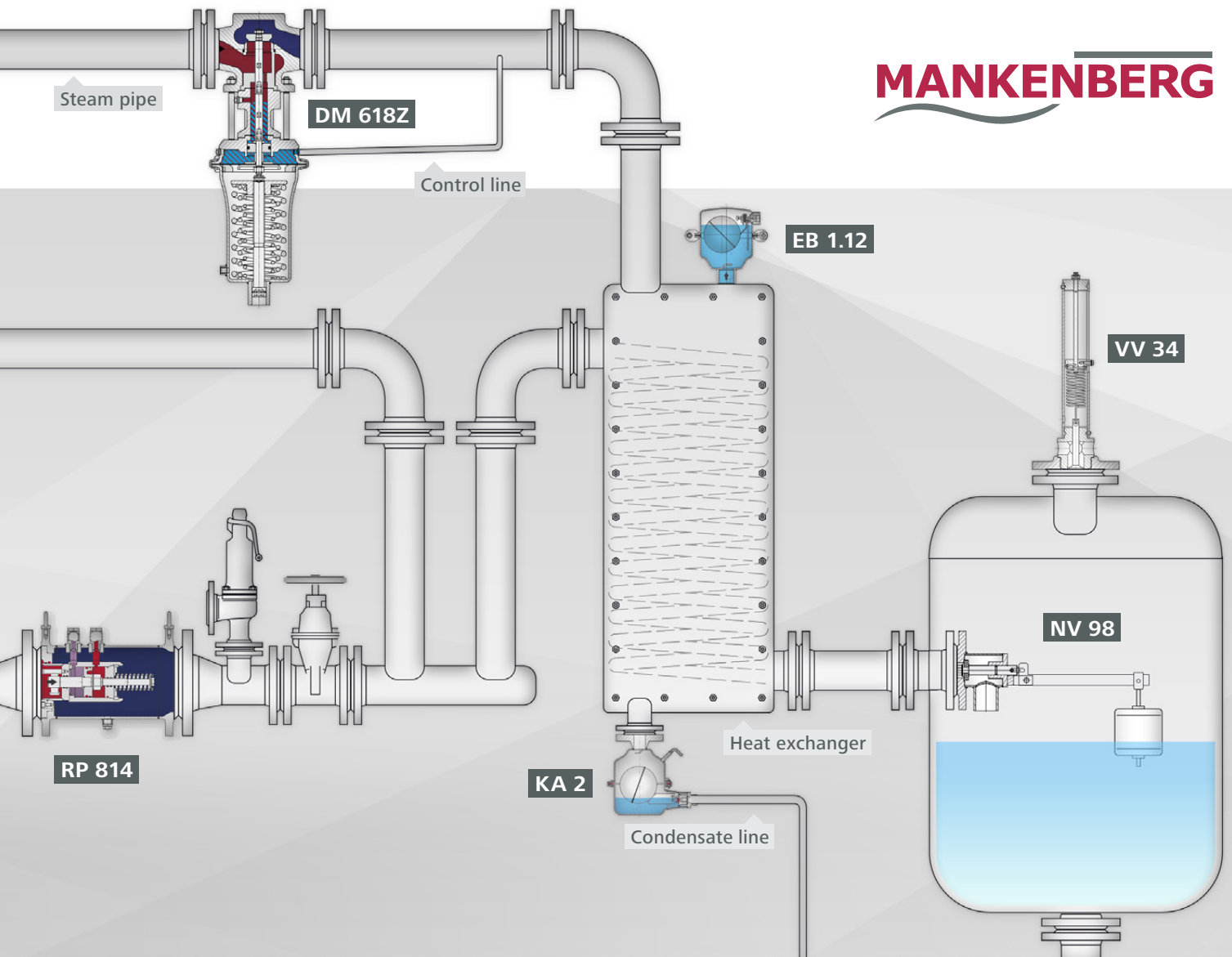
DN	15 - 800	PN	1 - 250
G	1/2 - 2	T	-60 - 400 °C
p_2	0.002 - 220 bar	K_{Vs}	0.05 - 2,100 m ³ /h

Differential pressure control valves

DV

Differential pressure control valves regulate a pressure depending on a second varying pressure without external measurement sensors.

DN	15 - 150	PN	1 - 400
G	1/2 - 2	T	-45 - 200 °C
Δp	0.002 - 25 bar	K_{Vs}	0.05 - 160 m ³ /h



Float-operated level control valves

Tasks / service areas

Bleeding and venting valves

EB

Bleeding and venting valves remove or admit air or gases automatically from/to tanks, vessels or pipelines. They are float-controlled valves which close as the liquid level rises and open as the level falls.

DN	15 - 200	PN	16 - 63
G	1/2 - 2	T	-60 - 400 °C
p ₁	0 - 63 bar	Q	up to 9,670 m ³ /h

Steam traps

KA

Steam traps automatically drain condensate without loss of steam or gas. They operate instantaneously and are not affected by back pressure or pressure fluctuations. They do not require an external energy input.

DN	15 - 50	PN	16 - 63
G	1/2 - 1	T	300 °C
p	0 - 60 bar	Q	3,700 m ³ /h

Float valves

NV

Float valves automatically control liquid levels in sealed or open (non-pressurised) tanks and vessels without requiring external energy. The float registers the liquid level and directly controls the valve via a lever. A change in the liquid level immediately results in a changed flow volume.

DN	15 - 150	PN	16 - 40
G	3/8 - 2	T	-60 - 300 °C
p	0 - 16 bar	K _{vs}	0.2 - 160 m ³ /h

Separators

AS

Separators separate media of different states of aggregation.

DN	15 - 50	PN	16
G	1/2	T	200 °C
p	0 - 16 bar	Q	up to 73 m ³ /h

Mankenberg product advantages

Our valves are true all-rounders. For our customers, however, it is the essence of all properties that counts so that they can choose the right valve for their application. Therefore, Mankenberg offers overviews with the product advantages of the most popular valves.

Example DM 555

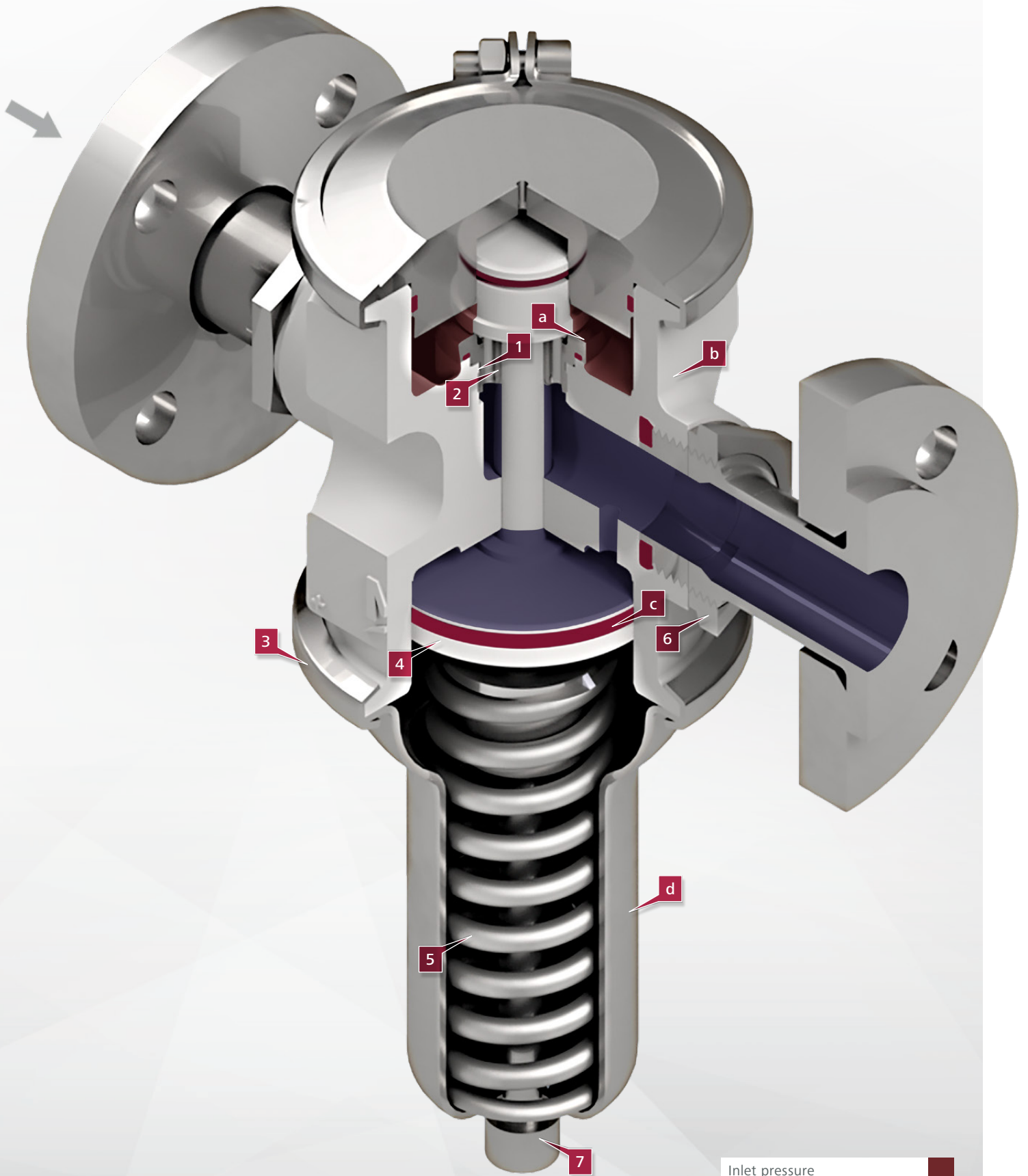
Mankenberg advantages at a glance

SPECIAL FEATURES	OPTIONS
Modular construction acc. to EN or ASME, excellent control characteristics, high reduction ratio	Hard-faced valve cone and seat Suitable for high pressure drops a
With soft or metallic seal Can also be used for abrasive media 1	Special material possible: Duplex, Super Duplex, Hastelloy® and titanium available b
Exchangeable seat Easy adjustment to changed flow rates 2	Elastomers made of FKM, NBR, PTFE or others, also FDA compliant c
Mankenberg clamp system Easy maintenance 3	Delivery in accordance with NACE d
Balanced cone Downstream pressure control independent from the upstream pressure 4	
Exchangeable control parts Easy change of pressure ranges 5	
EASY-ADAPT – Connection adapter 6	
EASY-CHECK – Non-rising adjusting screw Function externally visible, easy and exact setpoint adjustment, unchanged construction height 7	

140
since 1885 – nearly 140 Years

Experience and know-how

Guaranteed reliability
and ability to deliver.

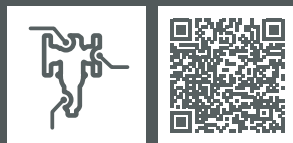


Inlet pressure ■
Outlet pressure ■

Our speciality – Custom-made valves

Custom-made special solutions are developed individually for the respective customer system. For each enquiry Mankenberg checks the requirements of the plant and then recommends the appropriate technical solution. Even for requirements such as **vacuum, volume or differential pressure control** our engineers will develop a tailor-made special solution. This can range from a slightly modified valve series to a complete system.

Custom-made special solutions



Standards and testing regulations

Special materials

Special inspections and certificates

Prote

Shaping

Product

Quantities: 1 or more

Prototype production

Connections

Particular function

Additional documentation

Labelling

Contact us,

we will advise you.

myvalve@mankenberg.com

Self-acting control valves – Guarantor of safety in plant and machinery operation

Industrial valves are vital components of plants and machines in that they perform necessary regulating and control tasks. When plants are planned and designed, their various elements are not considered in complete isolation from one another, but are instead selected to complement each other in their intended purpose. Therefore, the optimal valve selection is particularly important.

Self-acting control valves have special advantages with regards to the smooth interaction of all plant components.

Aspect No. 1 – Safety

- » Proper functioning, even in the event of a power failure
- » Proven functionality based on more than one hundred years of experience
- » No risk regarding maloperation
- » Quick response behaviour of self-acting control valves
- » Insusceptibility to computer viruses

Aspect No. 2 – Costs

- » Low assembly and maintenance costs
- » No external energy supply required
- » Long operational lifespan with the proper selection of the valve

Aspect No. 3 – Assembly and operation

- » Easy installation of the valves
- » Low net weight and compact design
- » Valves can be operated even with poor infrastructure
- » No cabling or updates required
- » Particularly sturdy and maintenance-friendly

Aspect No. 4 – Sustainability

- » Resource-saving thanks to independence from external energy
- » Long operational lifespan with the proper selection of the valve
- » Recyclability of the used materials



FAST
RELIABLE
AVAILABLE

The future of
valve configuration

DM152-40-
FA22-10-
D053-6-V1-
YU-
682



READY FOR DISPATCH WITHIN 2 WORKING DAYS
THE 48H PROMISE

- » Ready for dispatch within 48h after order confirmation, EXW Luebeck, Germany
- » For specified standard products
- » Valid from Monday to Thursday (public holiday in Germany excluded)
- » Material certificate EN 10204/3.1 are available upon request



READY FOR DISPATCH WITHIN 15 WORKING DAYS
ADAPTED TO YOUR APPLICATION

- » Assembled-to-the-order: delivery time within 15 working days, EXW, Luebeck, Germany
- » Modification of Mankenberg standard valves – adapted-to-purpose:
 - » Connections: flanges according to EN 1092 and ASME B16.5, BSP and NPT threads
 - » Sealings and diaphragms: EPDM, FKM, PTFE, FEPM
 - » Accessories available: leakage line connection, gauge connection, internal sensing
- » Specific documentation upon request:
 - » Material certificates EN 10204/2.1, EN 10204/3.1
 - » FDA (Food and Drug Administration)
 - » USP Class VI (United States Pharmacopeia)



CUSTOMIZED AND ENGINEERED SOLUTIONS
EXPERTISE AND RELIABILITY UPON REQUEST

- » Customized and engineered solutions – adapted to your application
- » Additional documentation and specification
- » Delivery time upon request



FOR EVEN FASTER SOLUTIONS
WHEN DELIVERY TIME IS MOST IMPORTANT

- » Express handling and shipment of any order upon request for the entire scope of supply

Quality, approvals and certificates



Our quality is your safety

Industrial valves perform key functions in plants and pipelines and therefore have a considerable influence on customers' own processes: accuracy of control, reliability and safety are paramount.

Quality control at Mankenberg is thus a central theme which runs through all aspects of the production process. At Mankenberg, quality control is a separate team whose members are directly answerable to the Managing Director. Everything that leaves our production halls has to be checked by the experienced hands of our quality control team.

But if we are honest, even these high standards are not enough to satisfy us when it comes to quality. All our suppliers are DIN EN 9001 certified and are subject to a strict evaluation system. It is included in the closed loop improvement process that we set up ourselves. When it comes to supplier relationships, feedback functions in both directions. This enables us to increase the degree of mutual transparency and confidence.

Approvals and certifications

- » AD2000-Merkblatt HPO
- » Production quality assurance (Module D + D1) according to directive 2014/68/EU
- » DIN EN ISO 3834-2
- » Certificate for the management system according to DIN EN ISO 9001 : 2015
- » Certificate for the management system according to DIN EN ISO 14001
- » Quality assurance according to nuclear standard KTA 1401
- » Certificate for the occupational health and safety management ISO 45001 (BS OHSAS 18001)

Inspection certificates and material certificates

- » EN 10204/2.1
- » EN 10204/3.1)
- » EN 10204/3.2

Acceptances

- » German Technical Monitoring Association (TÜV)
- » Lloyd's Register of Shipping (LRS)
- » Bureau Veritas (BV)
- » DNV • GL
- » Registro Italiano Navale (RINA)
- » American Bureau of Shipping (ABS)

Welding procedure tests

- » AD2000-HP2/1
- » DIN EN ISO 15614-1
- » DIN EN ISO 15614-5
- » Others on request

Qualified welders

- » AD2000-HP3
- » DIN EN ISO 9606-1
- » DIN EN ISO 9606-5
- » DIN EN ISO 14732

On request

- » Norsok (Norsk Søkkel Konkuransesjøsion)
- » NACE (National Association of Corrosion Engineers)
- » ANSI (American National Standards Institute)
- » ASME (American Society of Mechanical Engineers)
- » API (American Petroleum Institute)
- » JIS (Japan Industrial Standard)

Best products for

Chemical industry

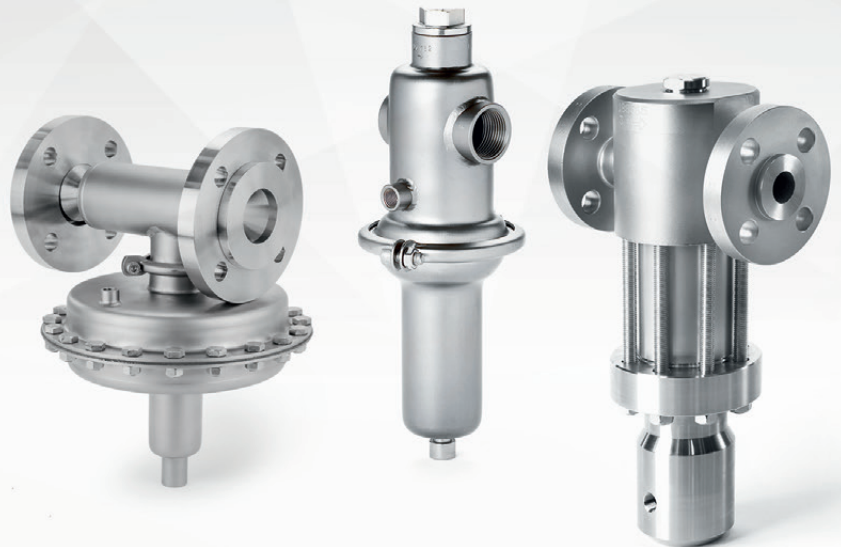
The chemical industry is an important supplier of basic and intermediate products for downstream sectors, e.g. automotive engineering or textile production. The valves in the plants must be resistant to chemicals and temperatures, explosion-proof, with a long operational lifespan and easy to clean.

Chemical industry



Available seal materials

- » EPDM
- » FPM, FKM, Viton®
- » FFKM / FFPM, Kalrez®, ISO-Last®
- » PTFE, Teflon®
- » VA, Graphite
- » Other seal materials upon request



Valve for small flow rates

DM 505

Page 41



Millibar control valve for small to medium flow rates

DM 755

Page 42



Valve for steam applications and small flow rates

DM 505Z

Page 41



Millibar control valve for medium to very high flow rates

RP 840

Page 42



High pressure valve for small to medium flow rates

DM 510

Page 41



Millibar control valve for small to medium flow rates

UV 3.0

Page 43



Valve for small to medium flow rates

DM 555

Page 41



Millibar control valve for medium to high flow rates

UV 3.9

Page 43



Millibar control valve for medium to high flow rates

DM 586

Page 41



Valve for medium to high flow rates

UV 5.1

Page 44



Valve for medium to high flow rates

DM 652

Page 42



Start-up bleeding valve for small to medium flow rates

EB 3.52

Page 47



Conventional power generation

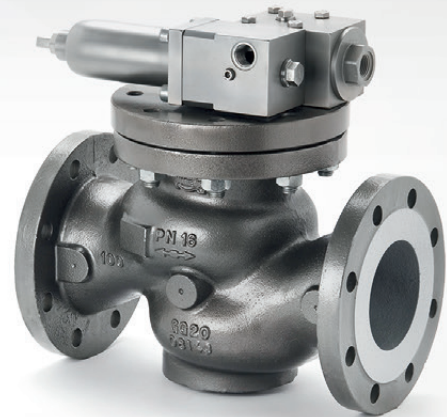
Conventional power generation produces electricity by converting primary energy, for ex. chemical energy from fossil fuels or nuclear energy, into usable electrical energy. Industrial valves are used peripherally, for ex. in flushing water or sealing gas systems.

Conventional power generation



Typical applications in the CCGT

- » Gas turbine supply (FGSR, FGPS, FOPS, DFM, PWS, WIPS)
- » Supply to the generator
- » Feed water circuit
- » District heating water
- » Lube oil supply
- » Degassing / filtration
- » Oil cooler



Valve for small flow rates

DM 505

Page 41



High pressure valve for high to very high flow rates

RP 810

Page 42



High pressure valve for high to very high flow rates

RP 810 ECK

Page 42



Valve for high to very high flow rates

RP 814

Page 42



Valve for small flow rates

UV 3.5

Page 43



Valve for medium to very high flow rates

UV 4.1

Page 23



Valve for medium to high flow rates

UV 5.1

Page 44



High pressure valve for small to medium flow rates

UV 8.2

Page 44



Vacuum breaker for medium to very high flow rates

VV 34

Page 44



Continuous bleeding valve with DVGW approval for small to high flow rates

EB 1.12

Page 46



Combined bleeding valve for medium flow rates

EB 1.74

Page 46



Best products for

Electrolyzers

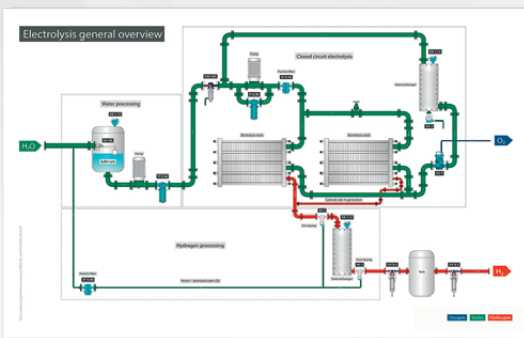
Electrolyzers consist of two electrodes, a direct current source and an electrolyte. They split chemical compounds by means of electric current, e.g. water into hydrogen and oxygen. The hydrogen obtained can be used as an energy carrier or alternative fuel.

Electrolyzers



Electrolysis general overview

You can find an overview on our electrolyzers industry page, which can also be easily accessed via the QR code.



Valve for small flow rates

DM 505

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Valve for small flow rates

KA 2

Page 48



High pressure valve for small to medium flow rates

UV 8.2

Page 44



High pressure valve for small flow rates

KA 6

Page 48



Continuous bleeding valve with DVGW approval for small to high flow rates

EB 1.12

Page 46



Pot strainer

SF 6.00

Page 50



Continuous bleeding valve with DVGW approval for small flow rates

EB 1.32

Page 46



Liquid separator with integrated trap

AS 2

Page 51



Continuous bleeding valve for high pressure

EB 6.32

Page 47



Gas separator with integrated bleeding/venting valve

AS 5

Page 51



Food and beverage

In industrial production, food and beverages are processed in closed systems using water, oils or steam as energy sources. Strict quality and hygiene regulations apply to these processes. Valves of high-quality stainless steel 1.4404 / 316L are suitable for this purpose.

Food and beverage



Typical applications in the secondary circuit

- » Filling (for ex. with CO₂)
- » CIP/SIP processes
- » Steam generation and distribution
- » Pasteurization
- » Tank blanketing
- » Water treatment



Valve for ultrapure media and medium flow rates

DM 152 Page 40



Valve for medium to high flow rates

DM 652 Page 42



Valve for ultrapure media and medium to high flow rates

DM 462 Page 40



Millibar control valve for small to medium flow rates

DM 762 Page 42



Valve for small flow rates

DM 505 Page 41



Valve for medium to high flow rates

UV 5.1 Page 44



Valve for steam applications and small flow rates

DM 505Z Page 41



Continuous bleeding valve with DVGW approval for small to high flow rates

EB 1.12 Page 46



Valve for small to medium flow rates

DM 555 Page 41



Liquid separator with integrated trap

AS 2 Page 51



Best products for

Mining

Fossil energy sources (coal, crude oil, natural gas) and rare earths are extracted in opencast mines or underground. Mining processes take place under extreme ambient conditions. The release of dusts or gases requires valves resistant to high temperature, safe to operate and of low maintenance.

Mining



Advantages

- » Long operational lifespan
- » Sturdy valve mechanism
- » Low maintenance
- » Stainless steel (1.4404 / 316L), corrosion-resistant
- » Self-acting, no external energy supply required
- » High pressure differences possible in one step



High pressure valve for small to medium flow rates

DM 510

Page 41



Valve for high to very high flow rates

RP 814

Page 42



High pressure valve for medium to high flow rates

DM 620

Page 41



High pressure valve for small to medium flow rates

UV 8.2

Page 44



High pressure valve for high to very high flow rates

RP 810

Page 42



Surge anticipation valve for high to very high flow rates

SAV 820E

Page 45



High pressure valve for high to very high flow rates

RP 810 ECK

Page 42



Combined bleeding valve for dirty water and sewage

EB 1.84

Page 47



Offshore

Offshore structures are drilling rigs or platforms for oil and gas production or wind turbines for power generation. They are exposed to severe weather in corrosive maritime atmospheres. The materials of the valves used are selected with corresponding attention to detail.

Offshore



Available corrosion-resistant metals

- » Stainless steel (1.4404, 1.4571)
- » Duplex (1.4462)
- » Super Duplex (1.4410, 1.4501)
- » Cronifer 1925hMo (1.4529)
- » Alloy 904L (1.4539)
- » 254 SMO® (1.4547)
- » Hastelloy® (2.4610)
- » Titanium (3.703)



Valve for small flow rates

DM 505

Page 41



Valve for medium to high flow rates

UV 5.1

Page 44



Valve for medium to high flow rates

DM 652

Page 42



Vacuum breaker for medium to very high flow rates

VV 34

Page 44



Millibar control valve for small to medium flow rates

DM 762

Page 42



Continuous bleeding valve with DVGW approval for small to high flow rates

EB 1.12

Page 46



Millibar control valve for medium to high flow rates

UV 3.9

Page 43



Start-up bleeding valve for small to medium flow rates

EB 3.52

Page 47



Best products for

Oil and gas

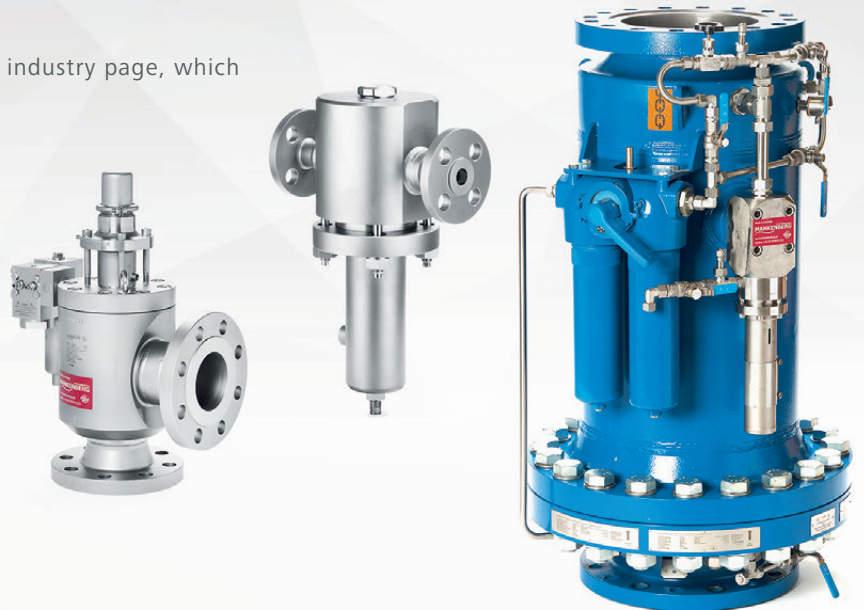
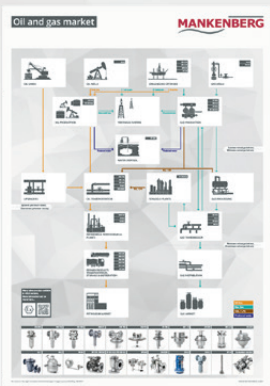
As fossil fuels such as oil and gas have become increasingly scarce, extraction technologies are more complex. In the three main oil extraction processes, upstream, midstream and downstream, self-acting valves ensure efficient operation, e.g. in pump protection or tank blanketing.

Oil and gas



Typical application areas

You can find an overview on our Oil and gas industry page, which can also be easily accessed via the QR code.



High pressure valve for small to medium flow rates

DM 510

Page 41



Millibar control valve for medium to very high flow rates

RP 840

Page 42



Millibar control valve for medium to high flow rates

DM 586

Page 41



Surge relief valve (peak load) for very high flow rates

SR 6.2

Page 45



Millibar control valve for small to medium flow rates

DM 755

Page 42



Millibar control valve for small to medium flow rates

UV 3.0

Page 43



High pressure valve for high to very high flow rates

RP 810

Page 42



Millibar control valve for medium to high flow rates

UV 3.9

Page 43



High pressure valve for high to very high flow rates

RP 810 ECK

Page 42



Valve for medium to high flow rates

UV 5.1

Page 44



Valve for high to very high flow rates

RP 814

Page 42



Combined bleeding valve for small to very high flow rates

EB 6.54

Page 47



Pharmaceutical industry

In the pharmaceutical industry, strict hygiene, safety and corrosion resistance requirements apply in order to exclude microbiological contamination. Equipment components must be easy to clean and sterilizable between production runs (CIP/SIP capable).

Pharmaceutical industry



Benefits

- » Self-draining
- » Installation in descending pipes possible
- » Electro-pneumatic control
- » External stem guide
- » Vacuum-tight
- » Different surface finishes
- » Pharma certificates (FDA, USP etc.)
- » Various connections: clamp connections, dairy pipe unions, DIN-, ANSI- or aseptic flanges, welding ends ...



Valve for ultrapure media and medium flow rates

DM 152

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Hygienic valve for ultrapure media and medium flow rates

DM 462V

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Hygienic valve for ultrapure media and medium flow rates

DM 152V

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Valve for small flow rates

DM 505

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Valve for ultrapure media and medium to high flow rates

DM 462

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Liquid separator with integrated trap

AS 2

Page 51



Best products for

Pulp and paper

The paper and pulp industry uses water mixed with chemicals as a solvent to dissolve the pulp out of the wood. The contaminated water is treated and returned to the process cycle. Bleeding/venting valves protect against vacuum and provide effective degassing.

Pulp and paper



Typical areas of application

- » Steam generation and distribution
- » Cooling units
- » Condensate discharge
- » Water supply (for ex. cooling water, DI water, decarbonization)
- » Pump protection
- » Heat exchanger



Valve for small flow rates			
DM 505		Page 41	
High pressure valve for small to medium flow rates			
DM 510		Page 41	
Valve for small to medium flow rates			
DM 555		Page 41	
Millibar control valve for medium to high flow rates			
DM 586		Page 41	
Standard valve for steam application and medium to high flow rates			
DM 618Z		Page 41	
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Valve for small flow rates			
UV 3.5		Page 43	
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Vacuum breaker for medium to very high flow rates			
VV 34		Page 44	
Continuous bleeding valve with DVGW approval for small to high flow rates			
EB 1.12		Page 46	
Continuous bleeding valve with DVGW approval for small flow rates			
EB 1.32		Page 46	
Combined bleeding valve for dirty water and sewage			
EB 1.84		Page 47	
Valve for small flow rates			
KA 2		Page 48	

Renewable energies

Renewable energy generation produces electricity and heat from sunlight, rain, wind, water or geothermal energy. These sources have the ability of constant regeneration and make a great contribution to climate protection. The requirements for the valves used are correspondingly wide ranging.

Renewable energies



Areas of application

- » Cooling circuits for converters (platforms)
- » Electrolyzers (see page 24)
- » Biogas plants
- » Condensate separation in fuel cells
- » Hydropower and geothermal power plants
- » District heating networks



Valve for small flow rates

DM 505

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High pressure valve for small to medium flow rates

DM 510

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Valve for medium to high flow rates

DM 652

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Millibar control valve for small to medium flow rates

UV 3.0

Page 43



Valve for small flow rates

UV 3.5

Page 43



Valve for medium to high flow rates

UV 5.1

Page 44



Valve for small to medium flow rates

UV 5.5

Page 44



Continuous bleeding valve with DVGW approval for small to high flow rates

EB 1.12

Page 46



Start-up bleeding valve for small to medium flow rates

EB 3.52

Page 47



Valve for small flow rates

KA 2

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High pressure valve for small flow rates

KA 6

Page 48



Liquid separator with integrated trap

AS 2

Page 51



Gas separator with integrated bleeding/venting valve

AS 5

Page 51



Best products for

Shipbuilding

A newly built ship combines a large number of components that must comply with the strict technical guidelines of the classification societies. The valves used are made of corrosion- and seawater-resistant materials and must fit into working areas that are difficult to access.

Shipbuilding



Ship classification companies

- » German Technical Monitoring Association (TÜV)
- » Lloyd's Register of Shipping (LR)
- » Bureau Veritas (BV)
- » DNV•GL
- » Registro Italiano Navale (RINa)
- » American Bureau of Shipping (ABS)



Valve for small flow rates



DM 505

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Valve for medium to high flow rates



DM 652

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Millibar control valve for small to medium flow rates



DM 762

Page 42

Valve for small flow rates



UV 3.5

Page 43

Millibar control valve for medium to high flow rates



UV 3.9

Page 43

Valve for medium to high flow rates



UV 5.1

Page 44

Continuous bleeding valve with DVGW approval for small to high flow rates



EB 1.12

Page 46

Start-up bleeding valve for small to medium flow rates



EB 3.52

Page 47

Valve for small flow rates



KA 2

Page 48

Water supply

Water management includes drinking water supply, wastewater treatment and the irrigation/drainage of areas with varying amounts of precipitation. Valves used here must be resistant to ozone or seawater and are made of stainless steel or, if required, with epoxy coating in accordance with DVGW.

Water supply

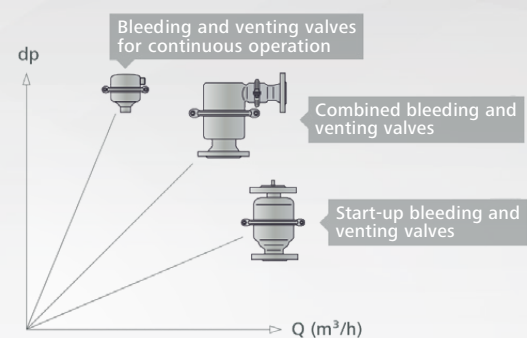


Selection of bleeding and venting valves

Types and sizes of the bleeding and venting valves must be chosen in accordance with the air quantity to be discharged under working pressure. The working pressure range must be within the limits of the maximum operating pressure of the plant, otherwise the bleeding valve cannot open.

- » Bleeding and venting valves for continuous operation discharge from pipelines, vessels or systems small quantities of air or gas accruing during plant operation
- » Combined bleeding and venting valves discharge from pipelines, vessels and systems large air quantities during filling and small quantities of air or gas during continuous operation
- » Start-up bleeding and venting valves discharge large air quantities when pipelines, vessels or systems are filled

Working pressure range



Continuous bleeding valve for high to very high flow rates



EB 1.10

Page 48

Start-up bleeding valve for small to medium flow rates



EB 3.52

Page 47

Continuous bleeding valve with DVGW approval for small to high flow rates



EB 1.12

Page 46

Vacuum breaker for medium to very high flow rates



VV 34

Page 44

Continuous bleeding valve with DVGW approval for small flow rates



EB 1.32

Page 46

Valve for small to high flow rates



NV 98

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Combined bleeding valve for medium flow rates



EB 1.74

Page 46

Pot strainer



SF 6.00

Page 50

Best products for

ATEX

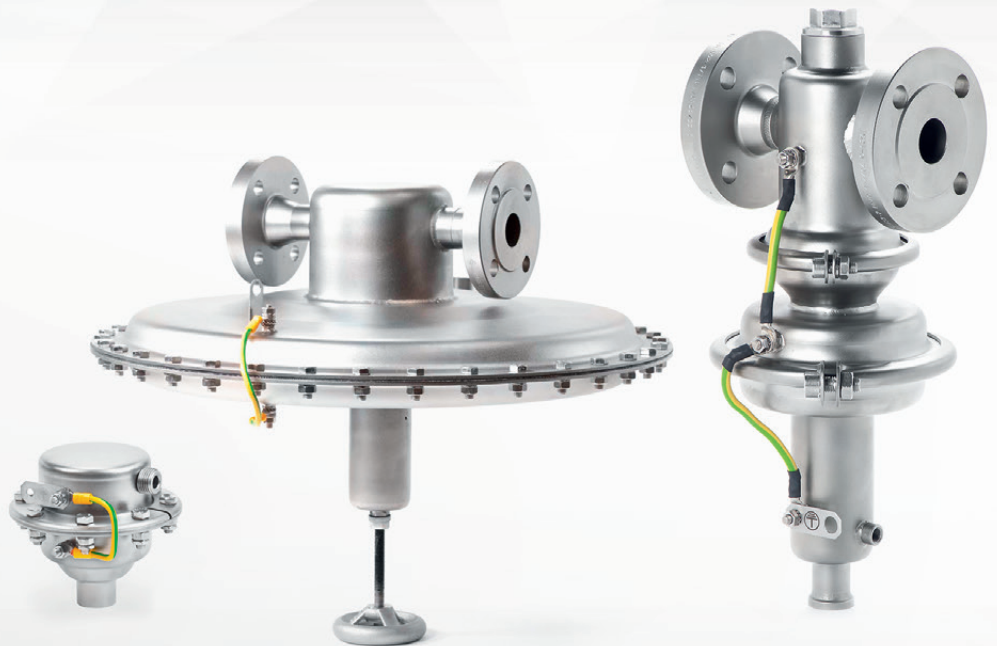
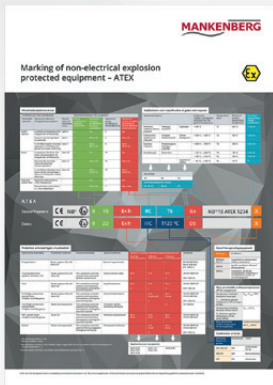
The production, transport and storage of flammable substances may generate gases, vapors or dusts which form an explosive atmosphere with atmospheric oxygen. In this case, equipment and protective systems must be selected to match the equipment group and the EPL in accordance with ATEX Directive 2014/34/EU.

ATEX



Marking of non-electrical explosion-proof devices

You can find an overview on our ATEX application page, which can also be easily accessed via the QR code.



Valve for small flow rates

DM 505

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Millibar control valve for small to medium flow rates

DM 762

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High pressure valve for small to medium flow rates

DM 510

Page 41



Continuous bleeding valve with DVGW approval for small to high flow rates

EB 1.12

Page 46



Valve for small to medium flow rates

DM 555

Page 41



Start-up bleeding valve for small to medium flow rates

EB 3.52

Page 47



Valve for medium to high flow rates

DM 652

Page 42



Valve for small flow rates

KA 2

Page 48



Corrosion

The interaction between fluid and environmental conditions, e.g. a saline atmosphere, determines the stress on the material used. Stainless steels with a high chromium or molybdenum content are particularly resistant to highly corrosive operating conditions.

Corrosion



Available corrosion-resistant metals

- » Stainless steel (1.4404, 1.4571)
- » Duplex (1.4462)
- » Super Duplex (1.4410, 1.4501)
- » Cronifer 1925hMo (1.4529)
- » Alloy 904L (1.4539)
- » 254 SMO® (1.4547)
- » Hastelloy® (2.4610)
- » Titanium (3.703)



High pressure valve for small to medium flow rates

DM 510

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Valve for small to medium flow rates

DM 555

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High pressure valve for medium to high flow rates

DM 620

Page 41



High pressure valve for high to very high flow rates

RP 810 ECK

Page 42



High pressure valve for small to medium flow rates

UV 8.2

Page 44



Surge anticipation valve for high to very high flow rates

SAV 820E

Page 45



Continuous bleeding valve with DVGW approval for small to high flow rates

EB 1.12 adv

Page 46



Start-up bleeding valve for small to medium flow rates

EB 3.52

Page 47



Continuous bleeding valve for high pressure

EB 6.32

Page 47



Best products for

High pressure

High-pressure applications pose extreme conditions for plant components, whether in the petrochemical industry, power generation, or water and wastewater treatment. Strict requirements are placed on the materials in terms of strength, leak tightness and corrosion resistance.

High pressure



Large pressure reduction possible in one step

- » Up to 320 bar inlet pressure
- » Seat and cone hard-faced for liquids
- » Max. reduction ratio 1:160
 - » For ex. reduction ratio 1:100 DM 510 in DN 25, K_{VS} 0,25 m³/h, from 320 bar to 3,2 bar



High pressure valve for small to medium flow rates

DM 510

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High pressure valve for high to very high flow rates

RP 810 ECK

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High pressure valve for medium to high flow rates

DM 620

Page 41



Continuous bleeding valve for high pressure

EB 6.32

Page 47



High pressure valve for small to medium flow rates

UV 8.2

Page 44



High pressure strainer

SF 3.00

Page 50



Industrial water

Industrial water is used in many processes, e.g. for surface cleaning, for preparing active baths or mixed with lubricants for cooling in metal processing.

Reliable valves made of high-quality materials such as stainless steel ensure safe plant operation.

Industrial water



Typical areas of application

- » Cooling and heating water supply
- » Water treatment
- » Thermal tanks
- » Heat exchangers
- » Vacuum protection of pipelines and tanks



Standard valve for medium to high flow rates

DM 618

Page 41



Vacuum breaker for medium to very high flow rates

VV 34

Page 44



High pressure valve for medium to high flow rates

DM 620

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Continuous bleeding valve with DVGW approval for small to high flow rates

EB 1.12

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Valve for medium to high flow rates

DM 652

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Combined bleeding valve for dirty water and sewage

EB 1.84

Page 47



High pressure valve for high to very high flow rates

RP 810

Page 42



Start-up bleeding valve for small to medium flow rates

EB 3.52

Page 47



Tank blanketing

Storage tanks often contain media whose combination with atmospheric oxygen or other gases leads to undesirable mixtures or microbiological contamination. To avoid this, the empty volume in the headspace of the tank is pressurized with an inert blanketing agent.

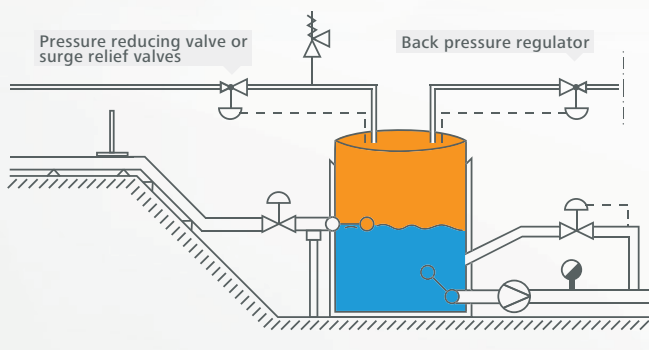
Tank blanketing



Two types of valves –

Pressure reducing valve (PRV/DM) and back pressure regulating valve (BPRV/UV)

- » PRV (Pressure reducing valve) keep a constant low pressure of blanketing gas (e.g. nitrogen)
- » BPRV (Back pressure regulator valve) allow blanketing gas to be released during the filling process of the tank
- » Emergency relief valve to protect against pressure rise caused by external or safety valves
- » PRV and BPRV in combination can safely and effectively compensate fluctuating vapours in tanks and maintain a constant pressure in the tank's vapour space above the stored fluid
- » These valves always hold a constant pressure in the tank during pumping operations or when the temperature changes



Valve for small flow rates

DM 505

Page 41



Millibar control valve for medium to very high flow rates

RP 840

Page 42



Millibar control valve for medium to high flow rates

DM 586

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Millibar control valve for small to medium flow rates

UV 3.0

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Valve for medium to high flow rates

DM 652

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Millibar control valve for medium to high flow rates

UV 3.9

Page 43



Millibar control valve for small to medium flow rates

DM 755

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Valve for medium to high flow rates

UV 5.1

Page 44



Millibar control valve for small to medium flow rates

DM 762

Page 42



Millibar control valve for small to medium flow rates

UV 7.5

Page 44



EASY-CHECK – Adjusting screw as a function of display

- » Function control
- » Constant installation height
- » Particularly safe disassembly

Function control

With the adjusting screw being flush with the cone stem, the stroke of the valve is visible on the adjusting screw. Thus the function of the installed valve can be controlled under operational conditions.

Compact design

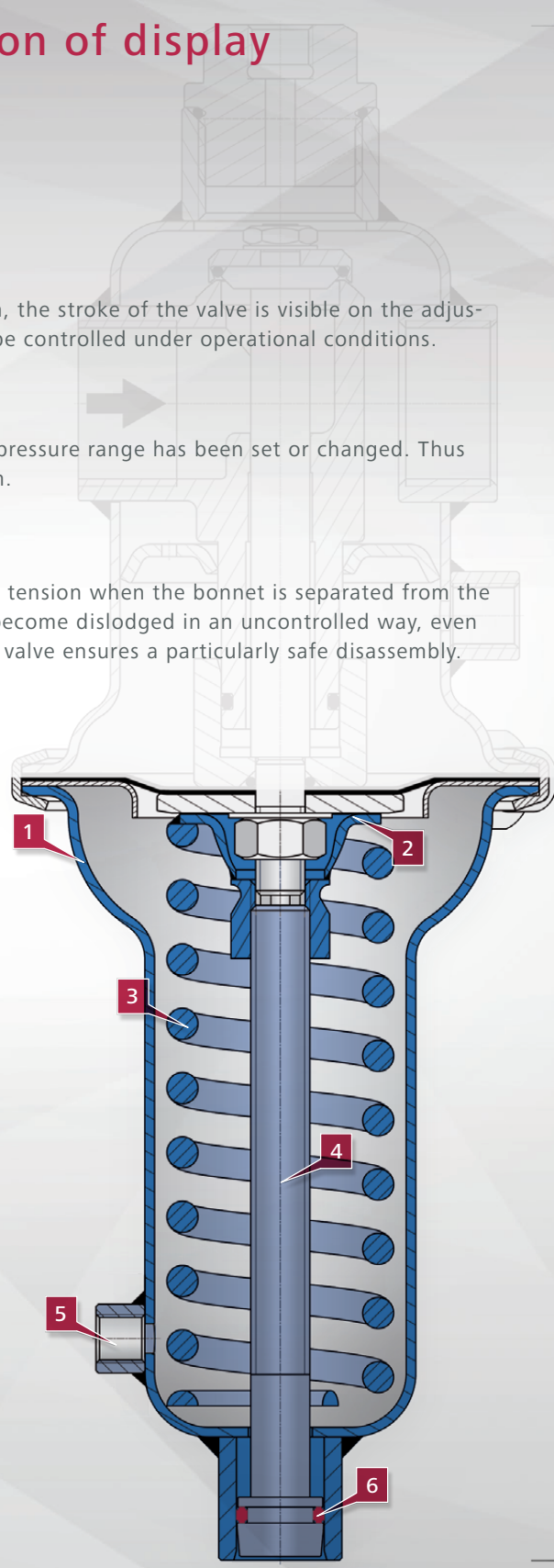
The valve installation height remains constant after the pressure range has been set or changed. Thus the valve can be easily incorporated into the pipe system.

Safety during maintenance

Using a spring pack that rests at the bonnet will prevent tension when the bonnet is separated from the valve body. During disassembly the valve parts will not become dislodged in an uncontrolled way, even if the spring has not been released by mistake. Thus the valve ensures a particularly safe disassembly.

Additional safety in case of leakage hazard

Thanks to the O-ring seal of the adjusting screw and the connection of a so-called leakage line the valve is always hermetically sealed also in case of damage to the control element (diaphragm, piston or bellows). Thus the German rules for prevention of accidents (UVV) and the rules of the trade association BG for the handling of hazardous media are complied with. In addition, the connection of a manometer enables an easy function control.



Spring pack	
Bonnet	1
Spring plate	2
Spring	3
Adjusting screw	4
Leakage line connection	5
Adjusting screw seal	6

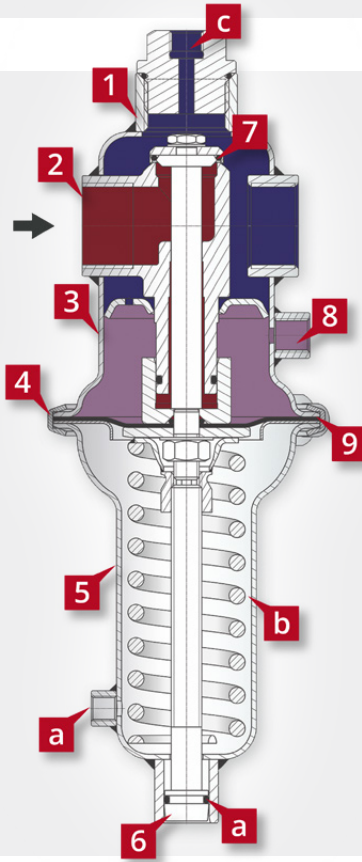


Pressure reducing valves

Pressure reducing valves reduce a high and frequently fluctuating pressure to an adjustable constant pressure downstream of the valve. A spring keeps the valve open and this closes as the outlet pressure rises.

Advantages

- 1 Stainless steel (1.4404 / 316L), deep-drawn, corrosion-resistant, light and compact
Long operational lifespan, manageable installation, minimum space required
- 2 Versatile connection options: Aseptic flanges, clamp connections, DIN or ANSI flanges, welding ends ...
No adapters or fitting pieces required
- 3 Excellent standard surface quality
Easy to clean
- 4 Mankenberg clamp system
Easy maintenance
- 5 Many control modules available
Most precise control, also millibar ranges
- 6 EASY-CHECK – Non-rising adjusting screw
Function visible from outside, simple and precise setpoint adjustment, unchanged overall height



DM 652

- Balanced cone
Downstream pressure control independent from the upstream pressure 7
 - Sense line connection
High control accuracy 8
 - PTFE protection film
Physiologically harmless when exposed to steam up to 180 °C 9
- Options**
- Leakage line connection and sealed adjusting screw
Suitable for flammable and hazardous media a
 - Electro-pneumatic control b
 - Pressure gauge connection c
- Inlet pressure ■
 Outlet pressure ■
 Control pressure ■

Valve for ultrapure media and medium flow rates DM 152



DN	15 - 50
PN	2.5 - 10
p ₁	up to 8 bar
p ₂	0.3 - 5
K _{VS}	2 - 7 m ³ /h
T	130 °C / 180 °C

Liquids, gases up to 130 °C, steam up to 180 °C | single-seated, non-balanced | soft and metallic seal | diaphragm controlled | completely made of stainless steel (316L) | suitable for CIP/SIP

Hygienic valve for ultrapure media and medium flow rates DM 152V



DN	15 - 25; ½" - 1"
PN	16/6 - 16
p ₁	up to 15 bar
p ₂	0.3 - 8 bar
K _{VS}	2 - 5.8 m ³ /h
T	130 °C / 180 °C

Liquids, gases up to 130 °C, steam up to 180 °C | single-seated, non-balanced | soft seal | diaphragm controlled | completely made of stainless steel (316L) | suitable for CIP/SIP | ATEX version optional

Valve for ultrapure media and medium to high flow rates DM 462



DN	25 - 80
PN	2.5 - 10
p ₁	up to 8 bar
p ₂	0.3 - 5 bar
K _{VS}	4 - 70 m ³ /h
T	130 °C / 180 °C

Liquids, gases up to 130 °C, steam up to 180 °C | double-seated, non-balanced | soft seal | diaphragm controlled | completely made of stainless steel (316L) | suitable for CIP/SIP

Hygienic valve for ultrapure media and medium flow rates DM 462V



DN	25
PN	2.5 - 16
p ₁	8 bar
p ₂	0.8 - 5 bar
K _{VS}	4 m ³ /h
T	130 °C / 180 °C

Liquids, gases up to 130 °C, steam up to 180 °C | double-seated, non-balanced | soft seal | diaphragm controlled | completely made of stainless steel | suitable for CIP/SIP | straight way design

Valve for small flow rates

DM 505



DN	15 - 25
G	1/2
PN	250
p ₁	up to 250 bar
p ₂	0.005 - 20 bar
K _{V5}	0.05 - 1.4 m ³ /h
T	130 °C



Liquids, gases up to 130 °C | single-seated, non-balanced | soft seal | diaphragm controlled | completely made of stainless steel | ATEX version optional

Valve for steam applications and small flow rates

DM 505Z



DN	15 - 25
G	1/2
PN	250
p ₁	up to 250 bar
p ₂	0.005 - 12 bar
K _{V5}	0.05 - 1.4 m ³ /h
T	250 °C

Steam up to 250 °C | single-seated, non-balanced | metallic seal | diaphragm controlled | completely made of stainless steel

High pressure valve for small to medium flow rates

DM 510, DM 514



DN	15 - 50
G	3/8 - 2
PN	16 - 320
p ₁	up to 320 bar
p ₂	2 - 160 bar
K _{V5}	0.2 - 5.5 m ³ /h
T	130 °C / 400 °C



Liquids, gases up to 130 °C, steam up to 400 °C | single-seated, non-balanced | soft or metallic seal | diaphragm, piston or bellows-controlled | NACE-compatible | ATEX version optional

Valve for small to medium flow rates

DM 555



DN	15 - 50
G	1/2 - 2
PN	40
p ₁	up to 40 bar
p ₂	0.5 - 20 bar
K _{V5}	1.3 - 7.5 m ³ /h
T	130 °C / 200 °C



Liquids, gases up to 130 °C, steam up to 200 °C | single-seated, balanced | soft or metallic cone | piston controlled | completely made of stainless steel | ATEX version optional

Millibar control valve for medium to high flow rates

DM 586



DN	20 - 50
G	3/4 - 2
PN	16
p ₁	up to 16 bar
p ₂	0.003 - 0.95 bar
K _{V5}	7 - 22 m ³ /h
T	130 °C



Liquids, gases up to 130 °C | single-seated, balanced | soft seal | diaphragm controlled | completely made of stainless steel | ATEX version optional

Standard valve for medium to high flow rates

DM 618



DN	15 - 100
PN	16 - 40
p ₁	up to 40 bar
p ₂	0.3 - 10 bar
K _{V5}	3.6 - 100 m ³ /h
T	130 °C

Liquids, gases up to 130 °C | single-seated, balanced | soft seal | diaphragm controlled | body made of GS-C25, diaphragm housing, bonnet and internal parts made of stainless steel | leakage line connection

Standard valve for steam application and medium to high flow rates

DM 618Z



DN	15 - 100
PN	16 - 40
p ₁	up to 40 bar
p ₂	0.3 - 10 bar
K _{V5}	3.6 - 100 m ³ /h
T	250 °C

Steam up to 250 °C | single-seated, balanced | metallic seal | diaphragm controlled | body made of GS-C25, diaphragm housing, bonnet and internal parts made of stainless steel | leakage line connection

High pressure valve for medium to high flow rates

DM 620



DN	15 - 50
G	1/2 - 2
PN	16 - 315
p ₁	up to 315 bar
p ₂	2 - 160 bar
K _{V5}	0.4 - 10 m ³ /h
T	200 °C

Liquids, gases up to 200 °C | single-seated, balanced | soft seal | diaphragm, piston or bellows-controlled | body made of C-steel, stainless steel, Duplex, Super Duplex or Hastelloy® | NACE-compatible



Pressure reducing valves

Pressure reducing valves reduce a high and frequently fluctuating pressure to an adjustable constant pressure downstream of the valve. A spring keeps the valve open and this closes as the outlet pressure rises.

Valve for medium to high flow rates

DM 652



DN	15 - 50
G	1/2 - 2
PN	16 - 40
p ₁	up to 40 bar
p ₂	0.02 - 12 bar
K _{V5}	5 - 22 m ³ /h
T	130 °C / 190 °C



Liquids, gases up to 130 °C, steam up to 190 °C | single-seated, balanced | soft seal | diaphragm controlled | completely made of stainless steel | ATEX version optional

Millibar control valve for small to medium flow rates

DM 755



DN	15 - 50
G	1/2 - 2
PN	16
p ₁	up to 16 bar
p ₂	0.002 - 0.65 bar
K _{V5}	0.2 - 4.5 m ³ /h
T	130 °C

Liquids, gases up to 130 °C | single-seated, non-balanced | soft seal | diaphragm-controlled | completely made of stainless steel

Millibar control valve for small to medium flow rates

DM 762



DN	15 - 50
G	1/2 - 2
PN	16
p ₁	up to 16 bar
p ₂	0.002 - 0.52 bar
K _{V5}	0.2 - 3.6 m ³ /h
T	130 °C



Liquids, gases up to 130 °C | single-seated, non-balanced | soft seal | diaphragm-controlled | completely made of stainless steel | ATEX version optional

High pressure valve for high to very high flow rates

RP 810

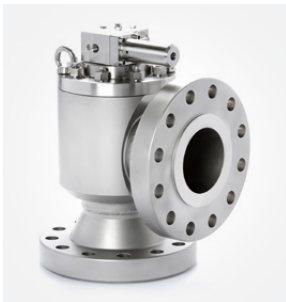


DN	40 - 400
PN	16 - 160
p ₁	up to 160 bar
p ₂	1 - 40 bar
K _{V5}	20 - 900 m ³ /h
T	130 °C

Liquids and gases up to 130 °C | soft or metallic seal | body made of GS-C 25, stainless steel

High pressure valve for high to very high flow rates

RP 810ECK



DN	40 - 150
PN	16 - 160
p ₁	up to 160 bar
p ₂	1 - 40 bar
K _{V5}	20 - 250 m ³ /h
T	130 °C

Liquids, gases up to 130 °C | soft or metallic seal | body made of C-steel, stainless steel, special materials such as Duplex, Super Duplex or Hastelloy® available | NACE-compatible

Valve for high to very high flow rates

RP 814



DN	100 - 800
PN	16 - 25
p ₁	up to 25 bar
p ₂	1 - 20 bar
K _{V5}	60 - 2,100 m ³ /h
T	130 °C

Liquids up to 130 °C | metallic seal | body made of welded steel, stainless steel

Millibar control valve for medium to very high flow rates

RP 840



DN	25 - 150
PN	16
p ₁	up to 16 bar
p ₂	0.002 - 0.52 bar
K _{V5}	4 - 160 m ³ /h
T	130 °C

Liquids, gases up to 130 °C | soft seal | completely made of stainless steel



Back pressure regulators

Back pressure regulators control an adjustable constant pressure upstream of the valve. A spring keeps the valve close. As the inlet pressure rises the valve opens.

Advantages

Stainless steel (1.4404 / 316L), deep-drawn, corrosion-resistant, light and compact

Long operational lifespan, manageable installation, minimum space required

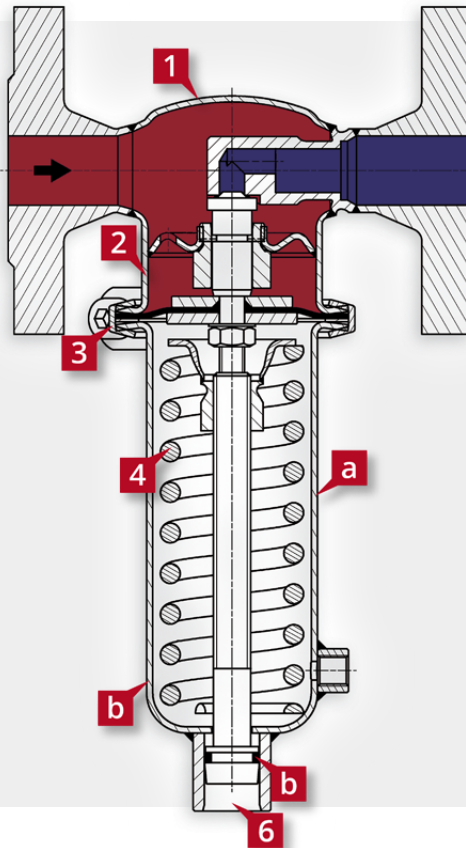
Excellent standard surface quality
Easy to clean

Mankenberg clamp system

Easy maintenance

Many control modules available

Most precise control, also millibar ranges



UV 3.5, UV 3.5S, UV 3.5Z

Various connection alternatives: DIN-, ANSI- or JIS flanges, welding ends ...

No adapters or fitting pieces required

EASY-CHECK –
Non-rising adjusting screw

Function visible from outside, simple and precise setpoint adjustment, unchanged overall height

Options

Electro-pneumatic control

Leakage line connection and sealed adjusting screw

Suitable for flammable and hazardous media

Inlet pressure

Outlet pressure

Millibar control valve for small to medium flow rates

UV 3.0



DN	15 - 50
G	1/2 - 2
PN	1
p_1	0.002 - 0.52 bar
K_{vs}	0.2 - 3.6 m ³ /h
T	130 °C

Liquids, gases up to 130 °C | single-seated, non-balanced | soft seal | diaphragm controlled | completely made of stainless steel | ATEX version optional

Valve for small flow rates

UV 3.5, UV 3.5S, UV 3.5Z



DN	15 - 25
G	1/2
PN	25
p_1	0.005 - 20 bar
K_{vs}	0.2 - 0.90 m ³ /h
T	130 °C / 200 °C

Liquids, gases up to 130 °C, steam up to 200 °C | single-seated, non-balanced | soft or metallic seal (soft sealed version has a sense line connection) | diaphragm controlled | completely made of stainless steel | ATEX version optional

Millibar control valve for medium to high flow rates

UV 3.9



DN	15 - 50
G	1/2 - 2
PN	1 - 2.5
p_1	0.01 - 1.1 bar
K_{vs}	5 - 22 m ³ /h
T	130 °C

Liquids, gases up to 130 °C | single-seated, non-balanced | soft seal | diaphragm controlled | completely made of stainless steel | ATEX version optional

Valve for medium to very high flow rates

UV 4.1



DN	15 - 150
PN	16 - 40
p_1	0.02 - 10 bar
K_{vs}	4 - 160 m ³ /h
T	130 °C / 200 °C

Liquids, gases up to 130 °C, steam up to 200 °C | single-seated, balanced | soft seal | diaphragm controlled | GS-C 25 or stainless steel



Back pressure regulators

Back pressure regulators control an adjustable constant pressure upstream of the valve. A spring keeps the valve closed. As the inlet pressure rises the valve opens.

Standard valve for medium to high flow rates

UV 4.5



DN	15 - 100
PN	40
p_1	0.3 - 10 bar
K_{VS}	5 - 65 m ³ /h
T	130 °C / 150 °C

Liquids, gases up to 130 °C, steam up to 150 °C | single-seated, balanced | soft seal | diaphragm controlled | body made of GS-C25, diaphragm housing, bonnet and internal parts made of stainless steel | leakage line connection

Valve for medium to high flow rates

UV 5.1



DN	15 - 50
G	1/2 - 2
PN	16
p_1	0.02 - 12 bar
K_{VS}	3.5 - 22 m ³ /h
T	130 °C

Liquids, gases, steam up to 130 °C | single-seated, balanced | soft seal | diaphragm controlled | completely made of stainless steel | ATEX version optional

Valve for small to medium flow rates

UV 5.5



DN	15 - 50
G	1/2 - 2
PS_{max}	20 bar
p_1	0.5 - 20 bar
K_{VS}	1.3 - 7.5 m ³ /h
T	130 °C / 200 °C

Liquids, gases up to 130 °C, steam up to 200 °C | single-seated, balanced | soft or metallic cone | piston controlled | completely made of stainless steel | ATEX version optional

Millibar control valve for small to medium flow rates

UV 7.5



DN	15 - 50
G	1/2 - 2
PN	16
p_1	0.002 - 0.65 bar
K_{VS}	0.2 - 4.5 m ³ /h
T	130 °C

Liquids, gases up to 130 °C | single-seated, non-balanced | soft seal | diaphragm-controlled | completely made of stainless steel

High pressure valve for small to medium flow rates

UV 8.2



DN	15 - 50
G	3/8 - 2
PN	100
p_1	2 - 100 bar
K_{VS}	0.2 - 5.5 m ³ /h
T	130 °C / 400 °C

Liquids, gases up to 130 °C, steam up to 400 °C | single-seated, non-balanced | soft or metallic seal | diaphragm, piston or bellows-controlled | body made of C-steel, stainless steel, Duplex, Super Duplex or Hastelloy® | NACE-compatible | ATEX version optional



Vacuum breakers

Vacuum breakers protect vessels and pipelines against vacuum. A vacuum can build up when a system is being drained, when it cools down or when a pump fails. Vacuum control valves are pressure reducing valves or back pressure regulators which control pressures below 1 bara.

Vacuum breaker for medium to very high flow rates

VV 34



DN	20 - 250
G	1/2A - 2 1/2A
PN	6 - 40
p_2	0.05 - 0.95 bar
K_{VS}	1.2 - 388 m ³ /h
T	250 °C

Liquids, gases up to 250 °C | soft or metallic seal | spring controlled | completely made of stainless steel | NACE-compatible | ATEX version optional



Surge relief valves

Surge relief valves are used for the decay of pressure surges and of permanent overpressures within pipeline systems.

Advantages

Flow-optimized construction (CFD)

Higher flow rate at lower differential pressure

1

Valve in welded construction

Low weight compared with others, adapted overall length, special materials and individual flange standards possible, short delivery times

2

Internal parts, pilot valve, piping and operating elements made of CrNiMo steel, painting as per DIN ISO 12944 Teil 5 C5-M

High corrosion protection

3

Earthquake-proof

Can be used worldwide

4

Vacuum-tight

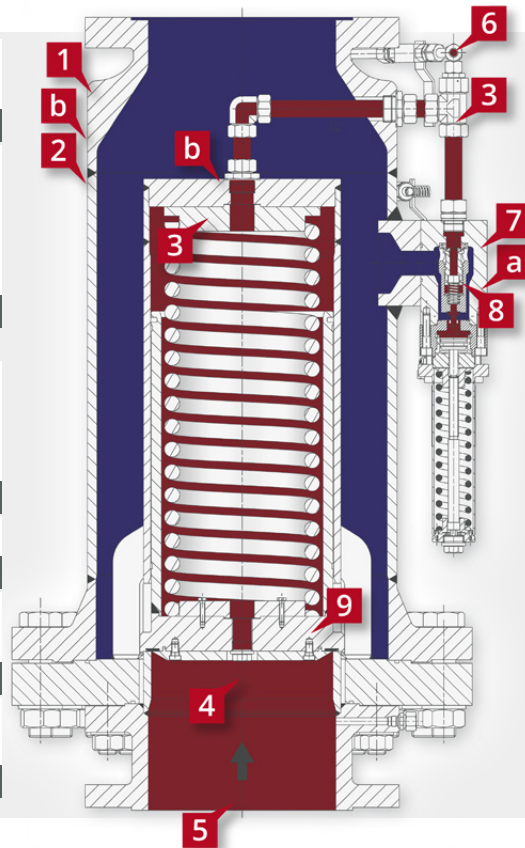
Suitable for operation in the vacuum range

5

MOD Manual Opening Device

Function control, bleeding, flushing, filling of the valve

6



SR 6.2

Pilot control, closing time and response pressure can be adjusted

Optimal response behaviour, gentle closure protecting the plant

7

Spin-on filter in the pilot system

Filter replacement is possible during ongoing operation, trouble-free function

8

Balanced cone, customer-specific K_{vs} value

High seat tightness up to response pressure, smaller slop tanks possible, independent from counterpressure

9

Options

Second pilot valve

Switchable response pressure

a

Flow indicator and / or stroke sensor

Function monitoring, logging

b

Inlet pressure

Outlet pressure

Surge anticipation valve for high to very high flow rates

SAV 820E



DN	40 - 150
PN	up to 160
p_1	10 - 70 bar
K_{vs}	20 - 250 m ³ /h
T	-30 up to 130 °C

Liquids up to 130 °C | soft or metallic seal | body made of C-steel, stainless steel, special materials such as Duplex, Super Duplex or Hastelloy® available | NACE-compatible

Surge relief valve (peak load) for very high flow rates

SR 6.2



DN	100 - 400
PN	16 - 100
p_1	max. 160 bar
K_{vs}	400 - 2,400 m ³ /h
T	-30 up to +130 °C

Liquids up to 130 °C | soft seal | body made of steel, stainless steel



Bleeding and venting valves

Bleeding and venting valves remove or admit air or gases automatically from/to tanks, vessels or pipelines. They are float-controlled valves which close as the liquid level rises and open as the level falls.

Advantages

EB 1.74

Stainless steel (1.4404 / 316L), deep-drawn, corrosion-resistant, light and compact

Long operational lifespan, manageable installation, minimum space required

1

Excellent standard surface quality
Easy to clean

2

Mankenberg clamp system

Easy maintenance

3

Internal parts and float of stainless steel (1.4404 / 316L)

Resistant to pressure and corrosion, max. operational lifespan, long service intervals

4

Sturdy valve mechanism

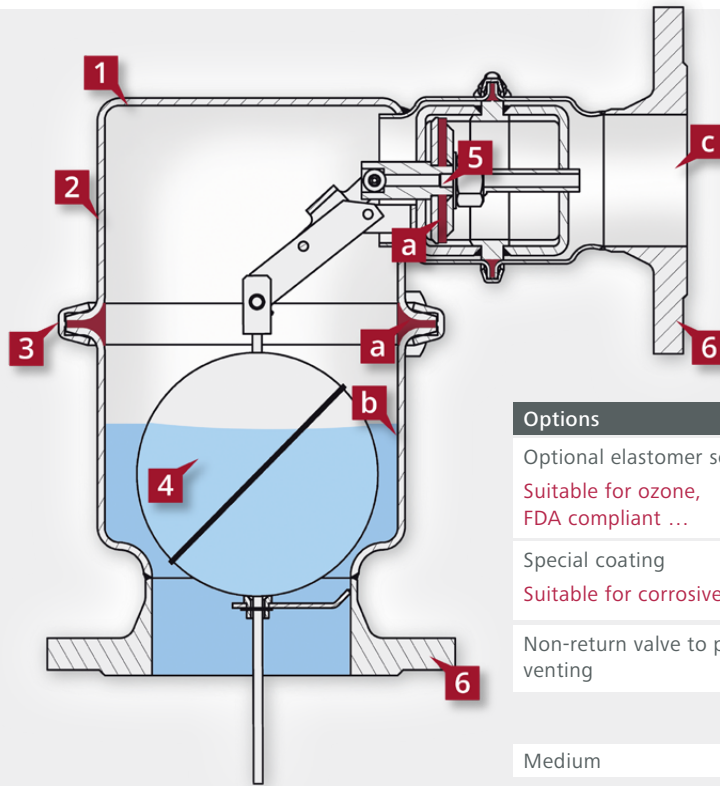
Low maintenance

5

Various connection alternatives: DIN-, ANSI- or JIS flanges, welding ends ...

No adapters or fitting pieces required

6



Options

Optional elastomer selection

Suitable for ozone, FDA compliant ...

a

Special coating

Suitable for corrosive fluids

b

Non-return valve to prevent venting

c

Medium

Continuous bleeding valve for high to very high flow rates

EB 1.10



DN	32/15 - 100/50
PN	40
p	0 - 40 bar
Q	2,440 Nm ³ /h
T	200 °C

Liquids, especially suitable for contaminated and foaming media up to 200 °C | soft or metallic seal | body made of GGG-40, GS-C25

Continuous bleeding valve with DVGW approval for small to high flow rates

EB 1.12



DN	25 - 100
G	1/2 - 2
PN	16
p	0 - 16
Q	248 Nm ³ /h
T	130 °C

Liquids up to 130 °C | soft or metallic seal | completely made of stainless steel | standard design with a BSP male connection G 3/4 on the outlet | DVGW certificate | ATEX version optional

Continuous bleeding valve with DVGW approval for small flow rates

EB 1.32



G	3/4 x 1/2A
PN	16
p	0 - 16
Q	5.9 m ³ /h
T	130 °C

Liquids up to 130 °C | soft or metallic seal | completely made of stainless steel | standard design with a BSP male connection G 1/2 on the outlet | DVGW certificate

Combined bleeding valve for medium flow rates

EB 1.74



DN	50 - 150
PN	16
p	0.2 - 8 bar
Q	1,783 Nm ³ /h
T	130 °C

Liquids up to 130 °C | soft and metallic seal | completely made of stainless steel | KTW compatible

Combined bleeding valve for dirty water and sewage EB 1.84



DN	50 - 150
PN	10 - 16
p	0.2 - 16 bar
Q	1,100 Nm ³ /h
T	60 °C

Liquids up to 60 °C | soft and metallic seal | completely made of stainless steel

Start-up bleeding valve for small to medium flow rates EB 3.52



DN	25 - 100
PN	16
p	0.3 up to 12 bar
Q	1,935 Nm ³ /h
T	130 °C

Liquids up to 130 °C | soft seal | completely made of stainless steel | ATEX version optional

Combined bleeding valve for sea water and small to very high flow rates EB 3.54



DN	25 - 100
PN	40
p	0.2 - 40 bar
Q	3,300 Nm ³ /h
T	90 °C

Water, aggressive liquids up to 90 °C and seawater up to 40 °C | soft seal | body made of stainless steel, special materials such as Duplex, Super Duplex available

Continuous bleeding valve for high pressure EB 6.32



DN	15 - 50
G	1/2 - 2
PN	63
p	0 - 63 bar
Q	36 Nm ³ /h
T	200 °C

Liquids up to 200 °C | soft seal | completely made of stainless steel

Combined bleeding valve for small to very high flow rates EB 6.54



DN	25 - 300
PN	6 - 40
p	0.3 - 40 bar
Q	18,550 Nm ³ /h

Liquids up to 130 °C | soft seal | completely made of stainless steel



Steam traps

Steam traps automatically drain condensate without loss of steam or gas. They operate instantaneously and are not affected by backpressure or pressure fluctuations. They do not require an external energy input.

Advantages

Stainless steel (1.4404 / 316L), deep-drawn, corrosion-resistant, light and compact

Long operational lifespan, manageable installation, minimum space required

Excellent standard surface quality

Easy to clean

Grounding lug

Easy installation

Mankenberg clamp system

Easy maintenance

Internal parts and float of stainless steel (1.4404 / 316L)

Resistant to pressure and corrosion, max. operational lifespan, long service intervals

KA 2 ATEX

Connection for transfer line

Optimal pressure compensation

Soft gasket

Tight valve closure already in depressurised condition

Sturdy valve mechanism

Low maintenance

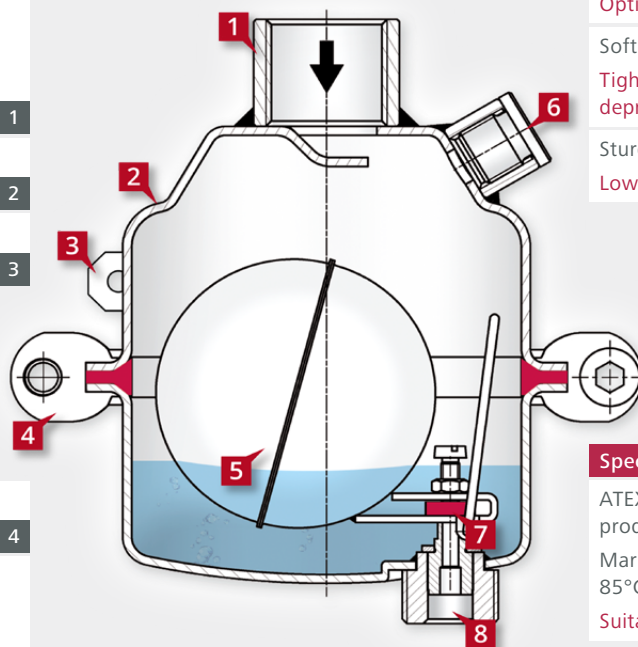
Special feature

ATEX-compliant in accordance with product directive 2014/34/EU

Marking: Ex II 2 G Ex h IIB
85°C...130°C Gb X

Suitable for use in explosive areas

Condensate



Valve for very high flow rates

KA 1 (Niagara)



DN	15 - 25
PN	16
p	0 - 16 bar
Q	3.7 m³/h
T	200 °C

Steam up to 200 °C | metallic seal | body made of GGG-40, inner parts of stainless steel

Valve for small flow rates

KA 2



G	1/2 x 1/2A, 3/4 x 1/2A, G 1 x 3/4A
DN	DN 25 x 3/4A
PN	16
p	0 - 13 bar
Q	2 - 1,570 l/h
T	190 °C

Steam up to 190 °C | soft seal | completely made of stainless steel | standard design up to DN 20 with a BSP male connection G 1/2 on the outlet, DN 25 male connection BSP G 3/4 | ATEX version optional

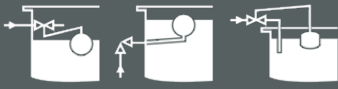
High pressure valve for small flow rates

KA 6



DN	1/2
PN	60
p	0 - 60 bar
Q	224 l/h
T	-30 up to 100 °C

Gases up to 100 °C | metallic seal | completely made of stainless steel | ATEX version optional



Float valves

Float valves automatically control liquid levels in sealed or open (non-pressurised) tanks and vessels without requiring external energy. The float registers the liquid level and directly controls the valve via a lever. A change in the liquid level immediately results in a changed flow volume.

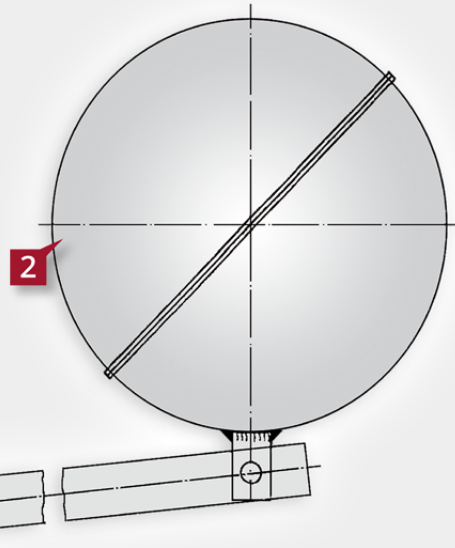
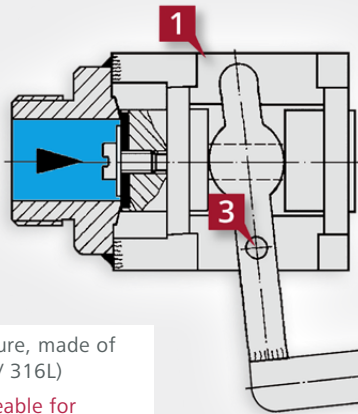
Advantages

NV 94

Completely made of stainless steel (1.4404 / 316L)

Long operational lifespan, corrosion resistant

1



Float resistant to pressure, made of stainless steel (1.4404 / 316L)

Corrosion resistant, useable for closed tanks

2

Sturdy and simple valve mechanism

Reliable function, easy maintenance, can be disassembled without any specialist knowledge

3

Medium

Valve for medium to high flow rates

NV 93



DN	15 - 80
PN	16
p	0 - 8 bar
K _{vs}	1.6 - 81 m ³ /h
T	300 °C

Liquids up to 300 °C, also suitable for aggressive media | soft or metallic seal | body made of steel, stainless steel

Valve for small to high flow rates

NV 94



G	3/8A - 1 1/2A
PN	16
p	0 - 8 bar
K _{vs}	0.5 - 21 m ³ /h
T	300 °C

Liquids up to 300 °C, also suitable for aggressive media | soft or metallic seal | completely made of stainless steel

Valve for small to high flow rates

NV 98



DN	40 - 80
G	3/8A - 1 1/2A
PN	16
p	0 - 8 bar
K _{vs}	0.5 - 82 m ³ /h
T	130 °C

Liquids up to 130 °C, also suitable for aggressive media | soft seal | completely made of stainless steel



Strainers and filters

Strainers and filters protect plant, plant components and equipment against damage and malfunctioning caused by contamination.

Advantages

Versatile connection options: Aseptic flanges, clamp connections, DIN or ANSI flanges, welding ends ...

No adapters or fitting pieces required

1

Mankenberg clamp system

Easy maintenance

2

Excellent standard surface quality

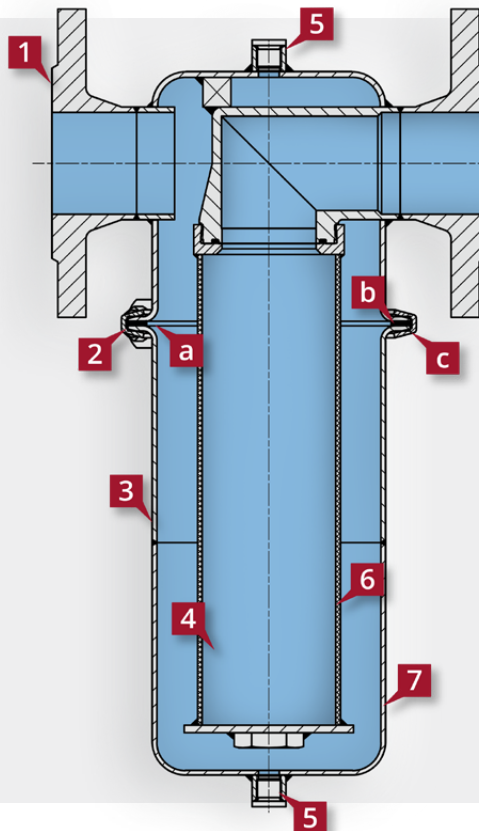
Easy to clean

3

Filter cartridge

Large filter surface thanks to candle shape

4



FI 6.06

Vent and drain plug

Easy cleaning

5

Various filter types and mesh sizes

6

Stainless steel (1.4404 / 316L), deep-drawn, corrosion-resistant, light and compact

Long operational lifespan, manageable installation, minimum space required

7

Options

Various elastomers

Can be adapted to different media

a

USP Class VI 121 °C

Approved for pharma-ceutical and food processing plants

b

FDA conformity

c

Medium

Fine filter

FI 6.06



DN	15 - 50
G	1/2 - 2
PN	16
T	190 °C

Gases and steam up to 190 °C | retained particle size 5, 20 or 25 µm | completely made of stainless steel

High pressure strainer

SF 3.00



DN	15 - 100
PN	160 - 500
T	550 °C

Liquids, gases and steam up to 550 °C | mesh size 0,25 - 2,5 mm | body made of forged steel, stainless steel or special material such as Duplex, Superduplex, Hastelloy® or titanium

Pot strainer

SF 6.00



DN	15 - 100
G	1/2 - 2
PN	16
T	130 °C

Liquids, gases up to 130 °C | mesh size 0.25-2.5 mm | completely made of stainless steel



Separators

Separators separate media of different states of aggregation.

Advantages

Stainless steel (1.4404 / 316L), deep-drawn, corrosion-resistant, light and compact

Long operational lifespan, manageable installation, minimum space required

Optimised flow geometry

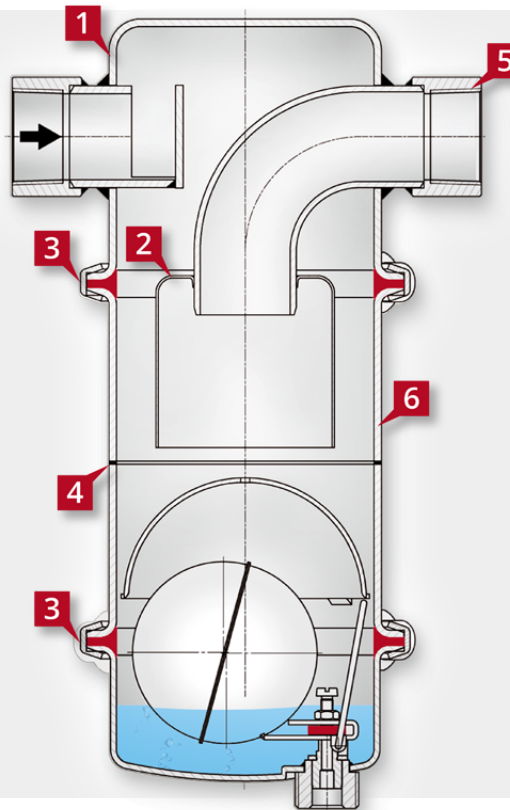
Up to 99 % separation performance

Mankenberg clamp system

Easy maintenance

Vacuum-tight

Suitable for operation in the vacuum range



AS 2

Versatile connection options: Aseptic flanges, clamp connections, DIN or ANSI flanges, welding ends ...

No adapters or fitting pieces required

Excellent standard surface quality

Easy to clean

Special feature

Integrated liquid trap

Condensate

Liquid separator with integrated trap

AS 2



DN	15 - 50
G	1/2 - 2
PN	16
p	0 - 13 bar
Q	max. 1200 l/h
T	190 °C

Liquids, gases and steam up to 190 °C | completely made of stainless steel | integrated soft sealed liquid trap

Gas separator with integrated bleeding/venting valve

AS 5



DN	50
PN	16
p	0 - 16 bar
T	130 °C

Liquids up to 130 °C | completely made of stainless steel | integrated soft sealed bleeding valve

Telephone support

Competent and fast



Our competent and friendly staff are happy to provide you with comprehensive telephone support and a speedy solution to any problems you may encounter. Our know-how is just one call away.

Service phone: +49 (0) 451- 8 79 75 222

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- » Quick troubleshooting
- » Practical experience
- » Instructions for troubleshooting on the phone

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As well as customised spare part packages, our extensive spare parts depot guarantees high availability of spare parts. Our express delivery service will despatch available spare parts on the same day with express delivery, provided the order is placed by 3:00 p.m. This ensures that the valves are back in operation as quickly as possible to guarantee maximum productivity of your plant.

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Spare parts may be ordered online via our online shop: www.mankenberg.shop. Alternatively you can send a query by email: service@mankenberg.de

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Know-how to its very essence



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Smartly avoid failures



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- » Flexibility through valve modification and rebuild
- » Speed through the Mankenberg express repair service
- » Valve cleaning, also in the event of hazardous substances

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