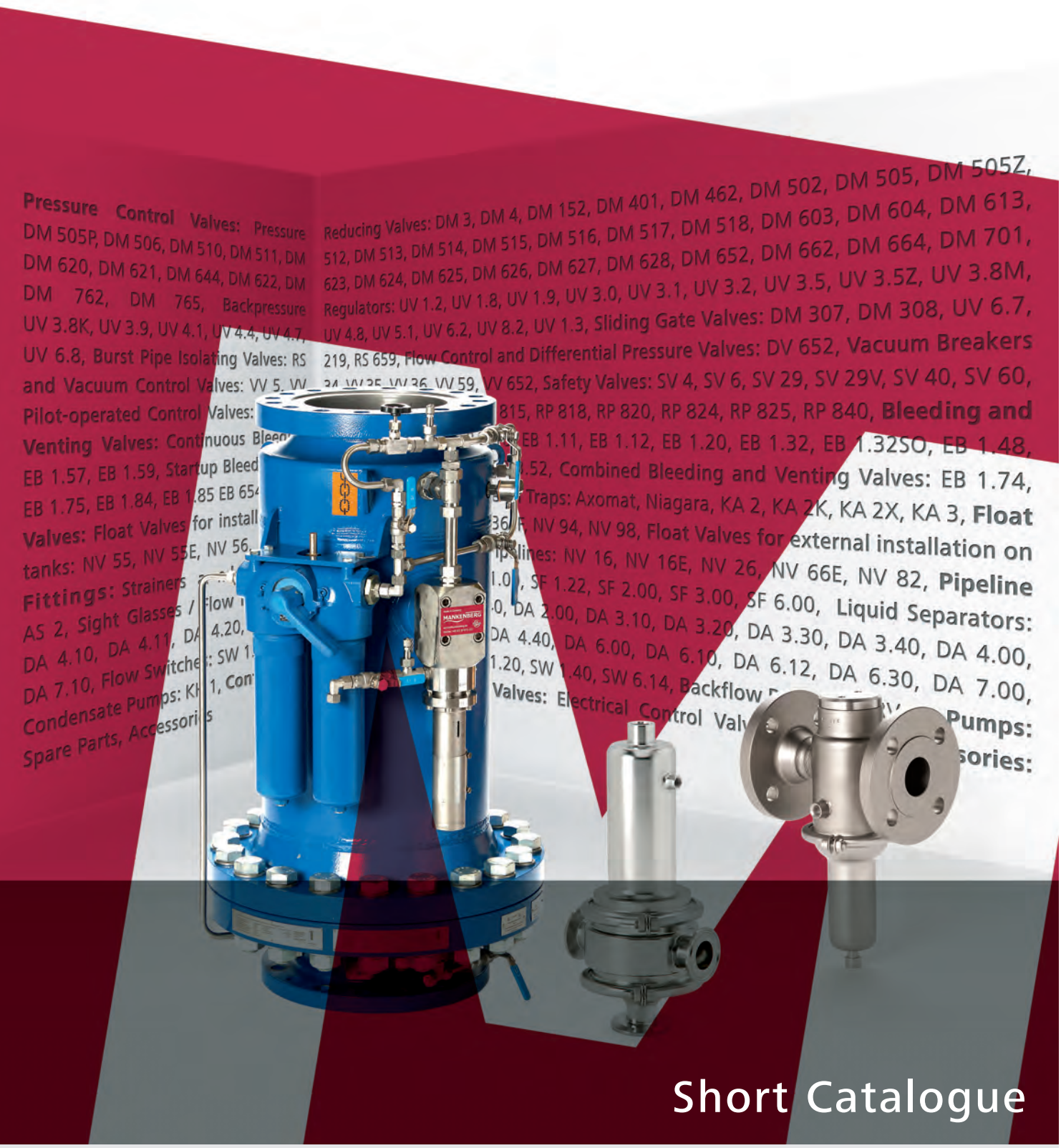
MANKENBERG

Industriearmaturen
Industrial Valves



Short Catalogue

"None of our company's products are designed for mass production but rather they require a high degree of expertise and understanding from each of our employees. In many cases special designs have to be conceived. Tasks of considerable difficulty have hitherto been mastered to the satisfaction of the buyers. Therefore, I should like to make this request of my friends and customers in Germany and abroad:
Please give me every opportunity to think and work for you."

Gustav Mankenberg (1858–1945)

Dear Sir or Madam,

This statement from my great-grandfather has accompanied our family firm for some generations now and is valid still today. The large variety of our production techniques and products, the know-how of our longtime employees and not least our enthusiasm for technology create ideas and solutions. We often manufacture an industrial valve only once for a single difficult application, but in many cases modular serial products may be the optimal solution for your requirement. See for yourself and enjoy reading our short catalogue.

A. Weidner

AXEL WEIDNER
Managing Director and Co-proprietor

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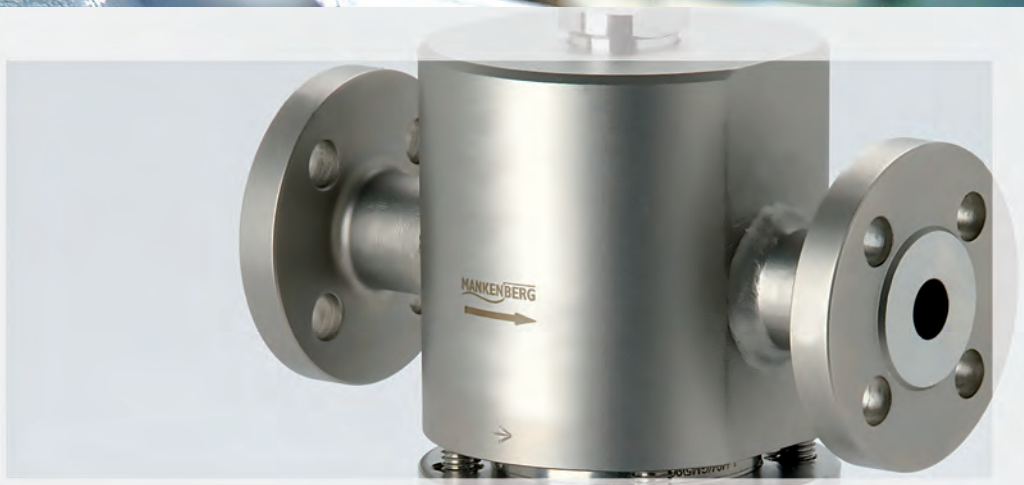

Mankenberg – Your Specialist in Valves and Flow Technology Design

Flexible standard valves or project-related, custom-made special valves since 1885: Mankenberg's creative brains combine experience, technological know-how and a well-trained eye for your special requirements. They develop your optimum solution in the domain of self-energised regulating valves that do not require any external energy.

More than 6,000 active customers appreciate the affidability, functional reliability and long operational lifespan of the Mankenberg valves. It is not unheard of for our valves to have a usage period of 25 years or longer. The long life expectancy of our products is the result of our individual advice, appropriate product selection and project-specific solution for your applications. The very high degree of vertical integration at our location in Lübeck subsequently ensures quality, flexibility and high on-time delivery performance for your order.

Mankenberg – Made in Germany

Mankenberg industrial valves rightly bear this title. For decades we have applied the appropriate modern production methods at our location and exclusively produced at our plant in Lübeck. Deep drawing of stainless steel and special materials is as much an important core competency as toolmaking, turning and milling, welding, surface treatment, assembly and testing methods.

Our Secret to Quality – Our Staff

Our staff are our greatest asset. We have been true to this principle every day and, of course, the same applies to our young-generation employees. In our region, Mankenberg ranks among the companies with a very high percentage of trainees. Our commitment has been rewarded: more than half of our current employees have been trained in our company. Periods of employment of several decades are not uncommon.

When designing and selecting our valves, our engineers, technicians and sales people will find the optimal solution for your application together with you. Mankenberg has a reputation for giving technical expertise and comprehensive advice – just take us at our word!

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On the inside pages: Pressure Regulating Valves can be so various!

Pressure Regulating Valves can be so Various!

Pilot-operated Pressure Reducing Valve	RP 814	1
Valve for Small Flow Rates	DM 505	2
Millibar Control Valve	DM 762	3
Standard Cast Valve	DM 613	4
Valve for High Pressures and High Temperature	DM 401	5
Universal Valve	DM 652	6
Pilot-operated Pressure Reducing Valve	DM 810	7
Valve for High Pressures for Control Ranges up to 160 bar	DM 510	8
Valve for Hygiene Applications / Ultrapure Media	DM 152	9
Pilot-operated Millibar Control Valve	RP 840	10

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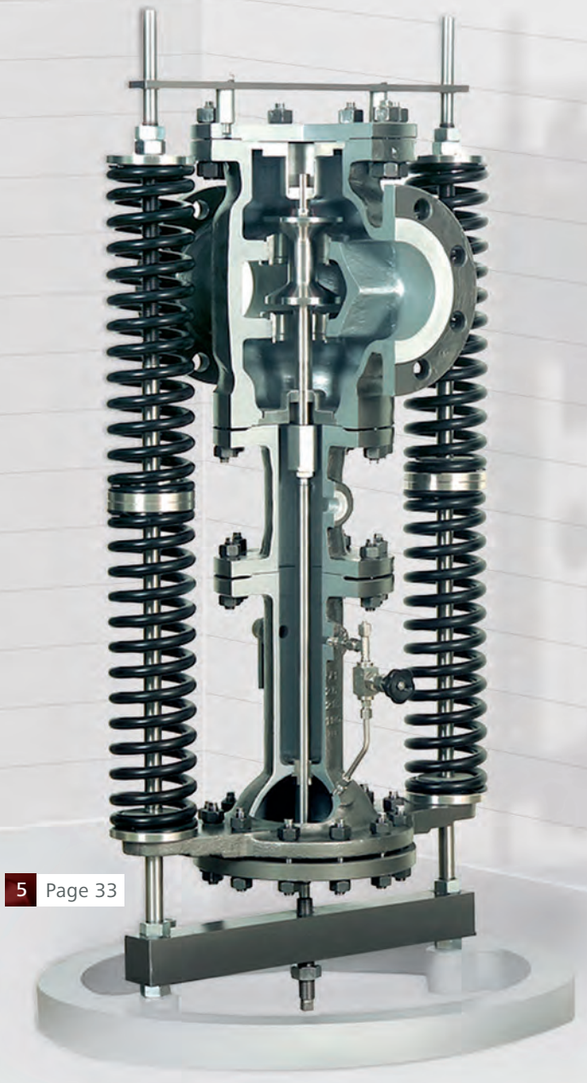

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1.400 mm
1.300 mm
1.200 mm
1.100 mm
1.000 mm
900 mm
800 mm
700 mm
600 mm
500 mm
400 mm
300 mm
200 mm
100 mm

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MANKENBERG

A Wide Variety of Products for an Optimum Solution – Deep-drawn Stainless Steel Valves, Valves made of Cast Steel and machined from Solid Material as well as Welded Constructions

Thanks to more than 30 years of experience we have become experts in the deep-drawing of stainless steel. The vast array and flexibility of deep-drawn stainless steel valves (High Grade) from Mankenberg are unique in the world.
Our high degree of vertical integration enables us to act flexibly in accordance with your specific needs. With our know-how and experience we also manufacture valves from deep-drawn titanium or seawater-resistant material.
Our product range is completed by valves from cast steel, from solid material or welded constructions. For this purpose special materials such as Duplex steel or Hastelloy® are also used. This wide range allows for full flexibility and tailor-made solutions for your needs and the use of our valves in your special plant or machine.

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High Grade – A World Full of Advantages

Products from our comprehensive range of deep-drawn stainless steel regulating valves carry the Mankenberg High Grade label. A flexible and worldwide unique modular system of deep-drawn stainless steel components forms the basis of this range of products. The diversity of combination possibilities creates our variety of standard products as well as special solutions. The modular system is simple:
A mass production method combined with individual connections provides the greatest possible flexibility and a delivery time of not more than three days for standard valves. In addition, special solutions can be offered at an optimal price / performance ratio.

Mankenberg's
High Grade label

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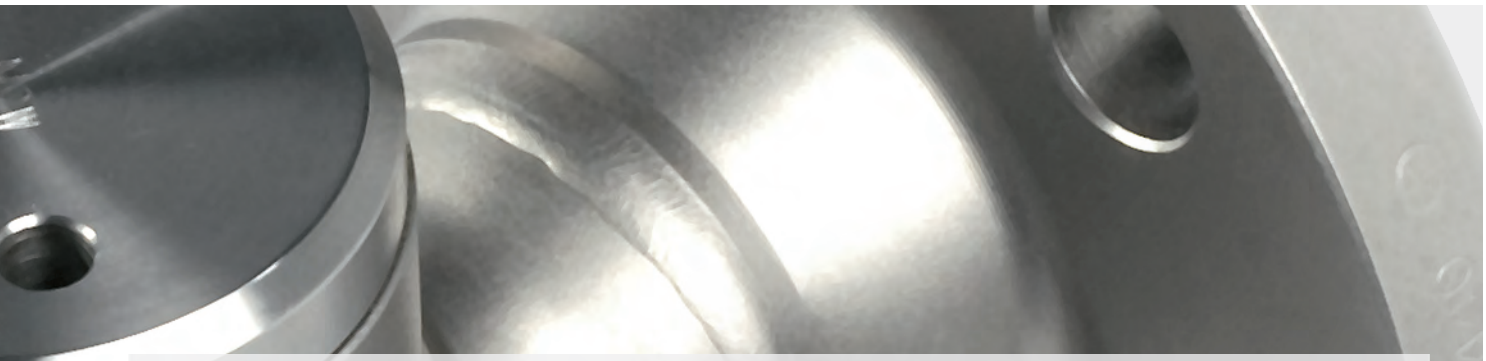


On the Safe Side

The proven properties of our High Grade valves enhance the operational availability of the plant and reduce the costs to the operators on a long-term basis. All this thanks to the smooth surface, ease of assembly and long lifespan as well as corrosion resistance of the high-quality stainless steel used. If an overpressure situation occurs, the Mankenberg clamp system of our deep-drawn stainless steel valves raises the operational safety by yielding slightly. Unlike with cast valves, possible bursting is excluded.

CrNiMo-steel (316L), deep-drawn, corrosion-resistant, lightweight and compact

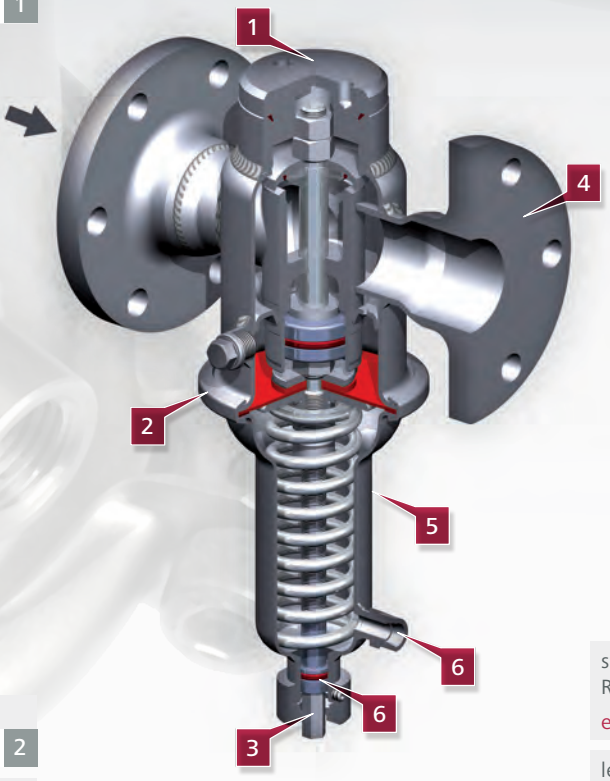
long lifespan, manageable installation, requires minimum space, low delta-ferrite content possible

1

a wide variety of connection types: DIN-, ANSI-, JIS- or aseptic flanges, weld-on ends and many others ...

no adapters or fitting pieces required

4



Mankenberg clamp system

easy-to-maintain

2

adjusting screw as a function of display, non-varying installation height

function externally visible

3

standard surface body
Ra ≤ 1.6 µm

easy-to-clean

5

leakage line connection and adjusting screw seal (option)

can be used for flammable and dangerous media according to UVV

6

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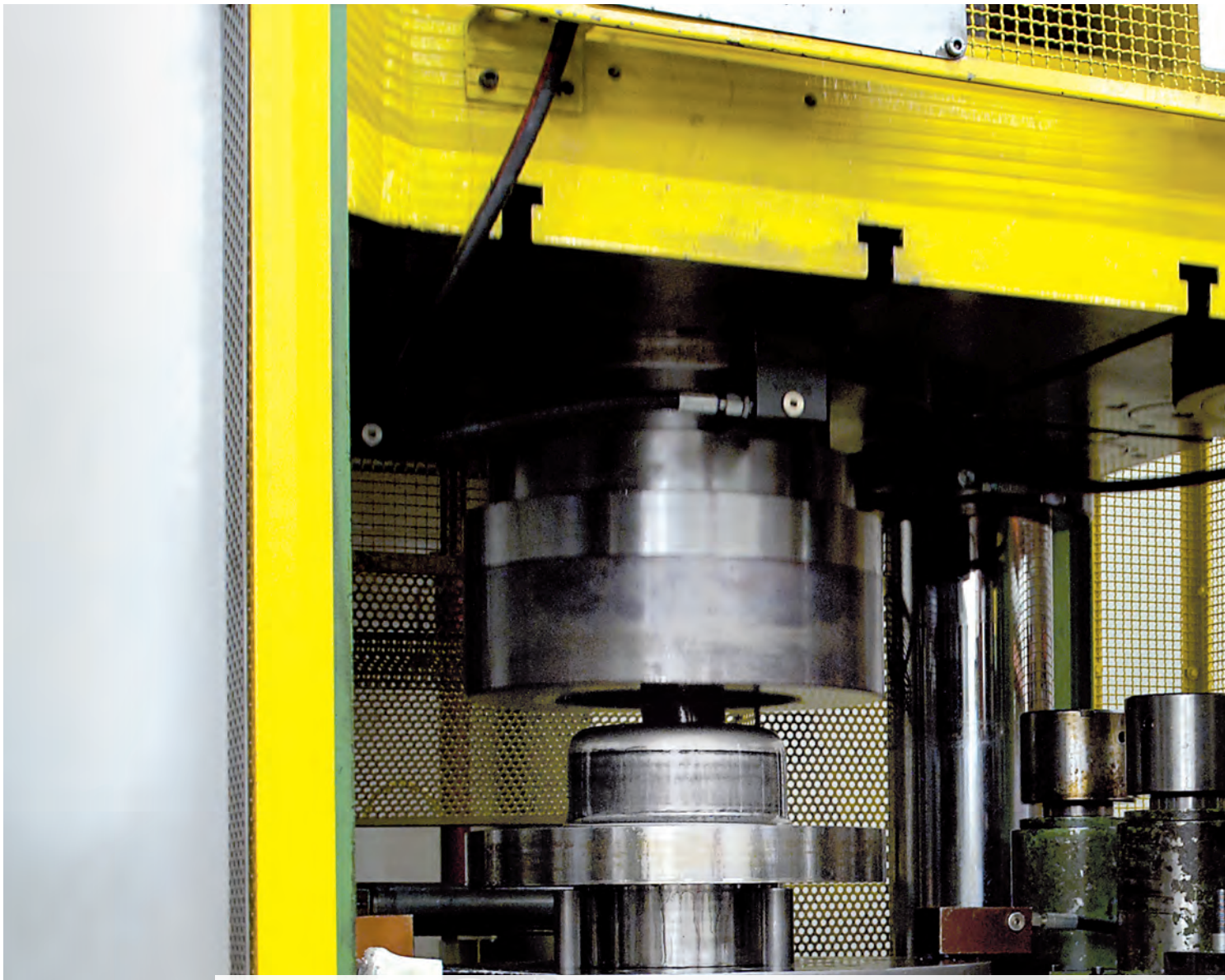

Modular Design is Our Main Principle

The basic components for our High Grade 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 spring cap and using welded-on standard parts and precision castings.

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

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On the inside pages:
One Pot and Many Applications

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One Pot and Many Applications

One simple pot is the best example to demonstrate our High Grade modular system. It is the basic body for a float valve NV 66 as well as for a pressure reducing valve DM 664, 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.

Level Regulating Valve	NV 66E	1
Combined Bleeding Valve	EB 1.84	2
Pressure Regulator Valve	UV 1.8SO	3
Level Regulating Valve	NV 67E	4
Continuous Bleeding Valve	EB 1.12	5
Startup Bleeding Valve	EB 3.52	6
Combined Bleeding Valve	EB 1.74	7
Pot Strainer Made of Stainless Steel	SF 6.00	8
Pressure Regulating Valve	UV 4.8	9

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.

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High Grade Pure

The High Grade Pure product range has been specifically developed for use in hygiene applications. Except for the mentioned advantages compared to High Grade valves, the High Grade Pure valves distinguish themselves in their once-again improved surface quality and their special construction form. The polished valves have been especially designed for use in hygiene applications, for example in the pharmaceutical industry, foodstuffs industry or for semiconductor production. The construction form, i.e. in particular the minimised dead pockets, as well as the low surface roughness, ensure that safety and purity requirements for the processes are fulfilled. Simultaneously, less energy is needed for CIP/SIP cleaning procedures thanks to comparatively thin wall thicknesses. Thus costs and down-time are reduced.

Mankenberg's
High Grade Pure label

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adjusting screw as a function of display

non-varying installation height, function externally visible 1

leakage line connection and adjusting screw seal (option)

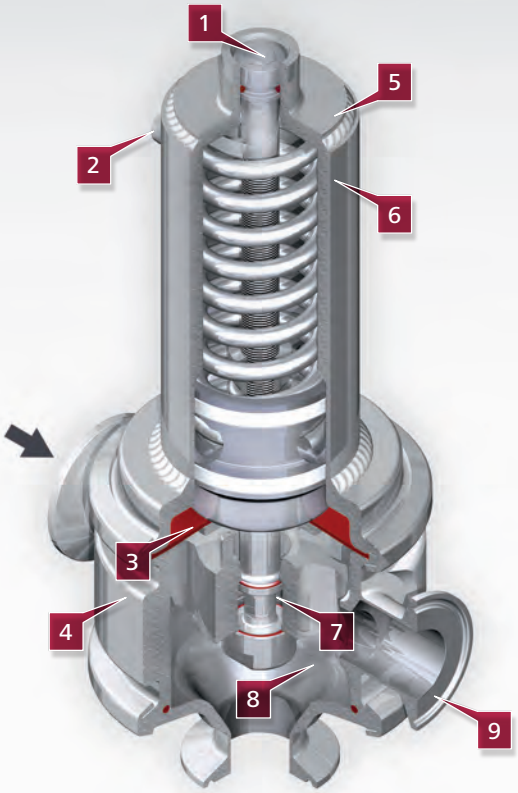
can be used for flammable and dangerous media according to UVV 2

protective PTFE foil

physiologically unobjectionable when exposed to steam in a temperature range of 180 °C 3

as angle valve virtually pocket-free

also suitable for highly viscous media 4



CrNiMo-steel (316L), deep-drawn, corrosion-resistant, lightweight and compact

long lifespan, manageable installation, requires minimum space, low delta-ferrite content 5

minimum weight

minimal heat losses for CIP/SIP applications 6

Mankenberg clamp system

easy-to-maintain 7

surface finish (internal) up to Ra ≤ 0.25 µm 8

a wide variety of connection types: clamp connections, milk pipe unions, DIN-, ANSI-, JIS- or aseptic flanges, weld-on ends and many others ...

no adapters or fitting pieces required 9

Illustration: three-connection version

Special Features

compliance with FDA

up to Hygienic Class HE5

approved for pharmaceutical and food processing plants

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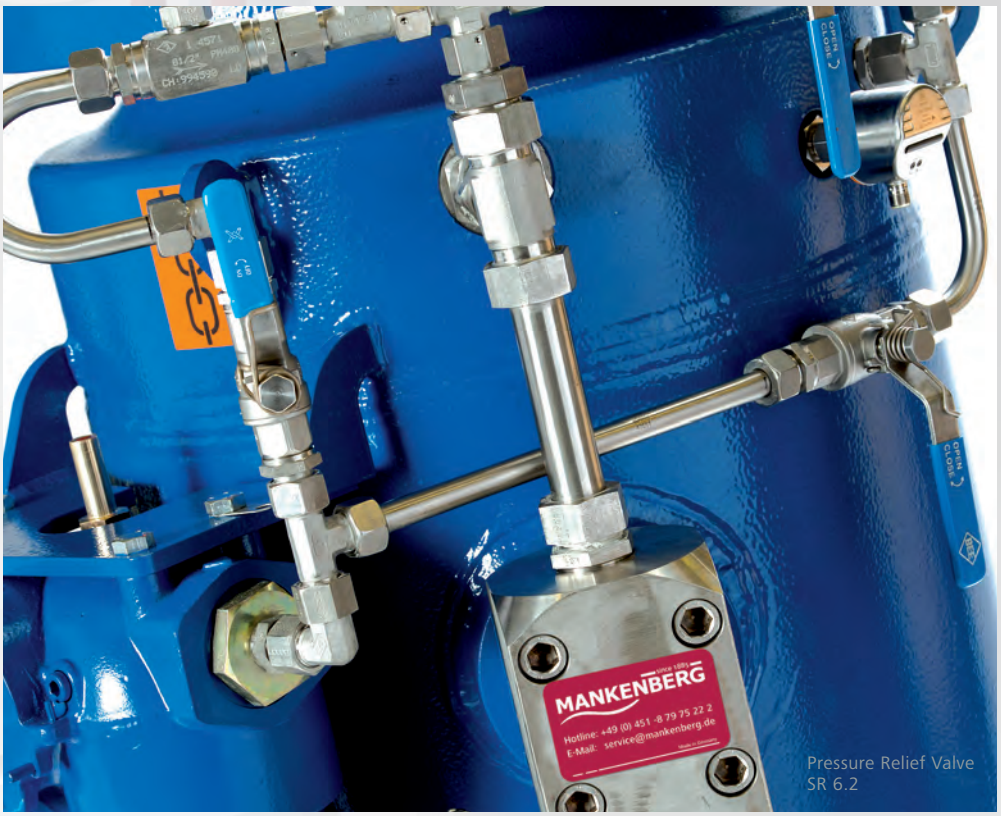

Pressure Relief Valve
SR 6.2

Welded Construction – A Flexible Solution for Large Nominal Diameters

Welded constructions are a flexible solution for valves with large nominal diameters. In addition, a combination of various materials and production techniques is possible. In so doing, steel elements can be reasonably completed with parts made of stainless steel and solid material. This process is very cost-effective for limited-lot or single-item productions and simultaneously offers a lot of flexibility with regard to your requirements.

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Customised Solutions

Customer-specific solutions are individually designed valves for your special requirements. Mankenberg checks with every enquiry the individual technical operating data and subsequently quotes the technical solution. If the operating data require valves which cannot be realised with Mankenberg standard valve type series, our engineers will be happy to develop special solutions for you. This may lead to either slightly modified valve type series or to a complex system.

1. Individual design specifically adapted to special needs

2. From standard valves made of cast steel, steel and stainless steel through to special materials such as Hastelloy®, titanium, Duplex steel

3. A wide variety of connection types: DIN-, ANSI-, JIS- or aseptic flanges, weld-on ends and many others ...

4. From single-item production through to serial production

5. Various possibilities for approvals, e.g. in accordance with NACE, NORSOK etc

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Valves Made Out of Solid Material – For Very Specific Requirements

In many cases valves that are turned, milled or drilled from solid material are used for special requirements. A particular advantage is that in addition to the individual design, a variety of possible special materials may be chosen. Valves made of Hastelloy®, titanium or of seawater-resistant material, approved by NACE or NORSOK, form part of our standard. Individual connections, as an example JIS (Japanese Industrial Standard), ANSI or DIN, complete the range of possible individual solutions.

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Corrosion-resistant Materials

The right selection of material makes the difference

Stainless steel is needed for numerous applications and industries. This material is used for a huge variety of purposes in essential sectors such as raw material extraction, pharmaceutical and chemical industries, plant construction, oil & gas, offshore applications etc. Mankenberg's product range of flexible standard valves or project-related special valves is correspondingly broad.

The operating conditions at the customer's site sometimes require ultraclean surfaces of the valves whilst other valves must be capable of sustaining the flow of dirty or highly corrosive media. Hence, the optimum solution is selected in close consultation with our engineers, technicians and sales staff. A particular challenge is to select the suitable material for applications in chemical-technical processes, in which caustic and / or corrosive fluids are used.

The same applies to the maritime domain or saline liquids, for which in general sea water-resistant material is needed. It requires special diligence and clarification of all the technical and chemical details in order to properly assess the loading conditions of the material and the interaction between the medium and the environmental conditions. Stainless steels, i. e. corrosion-resistant steels, become resistant to corrosion because a so-called passive layer forms on the surface. Such layer consists of chromium-rich metallic oxide or metallic oxide hydrate preventing the direct contact of the metal with the corroding medium. Even in the event of small lesions, a new layer builds up independently at the relevant area. If this is not the case, for example due to a lack of oxygen, either pitting corrosion (1) or crevice corrosion (2) may occur.

Stainless steels have a percentage by mass of the element chromium of not less than 12% and of the element carbon that should not exceed 0.12%. Hence, the percentage of the alloying element chromium is decisive for the corrosion resistance of stainless steel. In case the steel contains further alloying elements such as molybdenum or the like, the material becomes more resistant also to highly aggressive operating conditions.

The suitable valve from the right material for your application:

Our team competently provides comprehensive advice –
Take us at our word!

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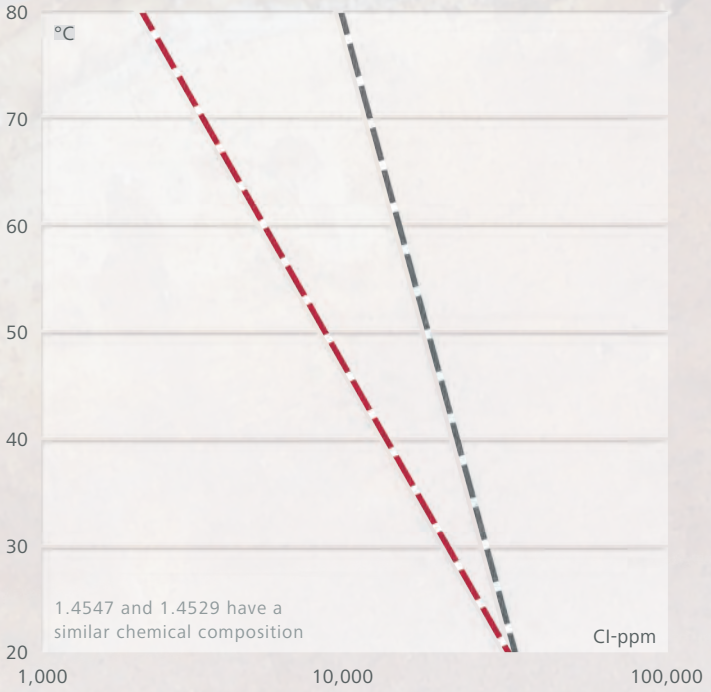
Behaviour of corrosion-resistant stainless steel 1.4529 / 1.4547

Excellent corrosion resistance owing to an increased percentage of chromium and molybdenum.



1) Pitting Corrosion

Pitting is a particular type of corrosion in media containing chloride ions. In the event that the protective passive layer of the stainless steel is interrupted owing to small lesions, a local corrosion attack occurs. Pits or holes, that are often as small as pinholes, form more readily. As long as the exposure persists, the pits or holes will enlarge.

2) Crevice Corrosion

Crevice corrosion can be found in already existing gaps or fissures which are often generated by the overall design. The passive layer of the stainless steel cannot form there at all and aggressive media such as salt water accelerate the corrosion process. Heavy crevice corrosion may occur in the event that oxygen which is necessary to form the passive layer is not available.

Used corrosion-resistant materials

Material designation	Material number	Standard	Major alloying elements in mass-%				Pitting resistance equivalent (PREN)
		DIN EN	ASTM	Cr	Ni	Mo	
Stainless Steel	1.4404	X2CrNiMo17-12-2	316L	16.5 - 18.5	10.0 - 13.0	2.0 - 2.5	23.0 - 28.0
	1.4571	X6CrNiMoTi17-12-2	316Ti	16.5 - 18.5	10.5 - 13.5	2.0 - 2.5	25.0
Duplex	1.4462	X2CrNiMoN22-5-3	A182F51	21.0 - 23.0	4.5 - 6.5	2.5 - 3.5	30.0 - 38.0
	1.4539	X2NiCrMoCu25-20-5	N08904	19.0 - 21.0	24.0 - 26.0	4.0 - 5.0	34.0 - 40.0
Super Duplex	1.4410	X2CrNiMo25-7-4	S32750	24.0 - 26.0	6.0 - 8.0	3.0 - 4.5	35.0 - 42.0
Super Duplex	1.4501	X2CrNiMoCuWN25-7-4	S32760	24.0 - 26.0	6.0 - 8.0	3.0 - 4.0	37.0 - 44.0
Cronifer 1925hMo	1.4529	X1NiCrMoCu25-20-7	N08926	19.0 - 21.0	24.0 - 26.0	6.0 - 7.0	41.0 - 48.0
254 SMO®	1.4547	X1CrNiMoCuN20-18-7	S31254	19.5 - 20.5	17.5 - 18.5	6.0 - 7.0	42.0 - 48.0
Hastelloy® C-4	2.4610	NiMo16Cr15Fe6W4	N06455	14.5 - 17.5	66.0	14.0 - 17.0	
Titanium	3.703		R50400				

The higher the PREN (pitting resistance equivalent), the more resistant to pitting and crevice corrosion | alloys with a PREN of > 33 are classified as sea water resistant | Hastelloy® C-4 and Titanium are classified as being highly resistant to sea water | PREN of stainless steels = % Cr + 3.3*% Mo + 16*% N | a higher PREN is required for an increasing salt content and/or rising temperature

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Quality Assurance Team

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Control

Daniel Tesmer,
Control

Thorsten Vollstedt,
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Falk Jaquart,
Control

Christiane Broszinsky,
Quality Dept.

Oliver Studier,
Test Bench

Jasmina Gruhl,
Quality Dept.

Michael Bandholz,
Test Bench

Holmer Bastian,
Test Bench

Quality has Many Faces

Industrial valves play a key role in plants and pipelines, and for this reason they can be of significant influence to the customer's process: regulating accuracy, reliability and safety are of top priority. This is why quality assurance is a central topic at Mankenberg during each production step. As a staff office it reports directly to the managing director. Any item leaving our production hall has to go through the expert hands of our quality department.

Acceptance & Material Certificates

» EN 10204/2.1
» EN 10204/2.2
» EN 10204/3.1
» EN 10204/3.2

Acceptance

» TÜV
» Det Norske Veritas (DNV)
» Germanischer Lloyd
» Registro Italiano Navale
» Lloyd's Register of Shipping
» American Bureau of Shipping (ABS)
» Bureau Veritas (BV)

Supply on Request

» Norsok (Norsk Sokkels Konkuranseposisjon)
» ASME (American Society of Mechanical Engineers)
» NACE (National Association of Corrosion Engineers)
» API (American Petroleum Institute)
» ANSI (American National Standards Institute)
» JIS (Japanese Industrial Standard)
» FDA (Food and Drug Administration)
» USP Class VI (United States Pharmacopeia)

Approvals & Certificates

» ISO 9001 since 1994
» AD-2000 Leaflet HP0
» Areva Standard IAEA 50-C-Q
» Pressure Equipment Directive 97/23/EG
» VGB Certificates as per KTA 1401
» Gost-R and Rostechnadzor
» Environmental Management System EN 14001
» Penetration Testing Level 2 (PT) as per DIN 473
» Occupational Health and Safety Management BS OHSAS 18001

Certified Welding Processes

» AD2000-HP5/2
» DIN EN ISO 15614-5
» DIN EN ISO 15614-1
» Others on request

Qualified Welders

» AD2000-HP3
» DIN EN ISO 3834-2
» DIN EN 1418
» EN 9606-5
» EN 287-1
» ASME

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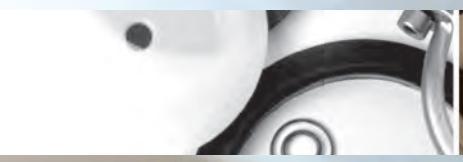
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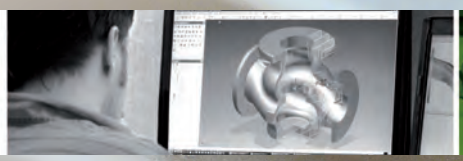
Sonderlösungen
Customised Solutions

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Pressure Control Valves

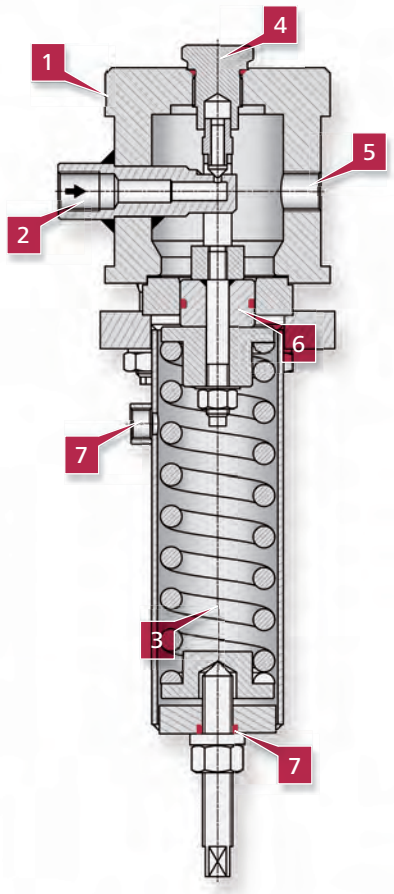
Pressure control valves comprise all spring-actuated valves which safely realise the required specific procedural parameters such as inlet or outlet pressure or differential pressure, flow rates or other setpoints.
Mankenberg pressure control valves are available with a wide spectrum of nominal pressure and setting ranges and are resistant to various media and temperatures. Mankenberg pressure control valves feature highest quality and regulation performance. Their independence from auxiliary energy combined with individual design and production of the valves is the basis for maximum operation safety.

Pressure Reducing Valves

Your Benefits — DM 510

body made of C-steel, CrNiMo-steel (316L), also available in special materials
long operational lifespan, requires minimum space — 1

inlet pressure up to 315 bar — 2



manometer connection (option) — 4

various connection alternatives: DIN-, ANSI- or JIS- flanges, welded ends ...
no adapters or fitting pieces required — 5

diaphragm-, piston- or bellows-controlled
applicable up to 400 °C — 6

many control modules available
most accurate regulation, also in millibar ranges — 3

leakage line connection and sealed adjusting screw (option)
suitable for inflammable and dangerous media in compliance with UVV rules — 7

Valve for Hygiene Applications / Ultrapure Media — DM 152

single-seat, angled design suitable for small and medium flow rates | usable for liquids, gases and steam | completely made of deep-drawn CrNiMo-steel (316L) – surface finish possible up to Ra ≤ 0.25 µm | virtually pocket-free, is corrosion-resistant, lightweight and compact | elastomers as per FDA and USP Class VI, hygienic class HE5 | reduced preheating time for CIP/SIP procedures, less energy needed | adjusting screw as a function of display, easy-to-maintain owing to the clamp system | TRI-CLAMP connections or DIN/ISO clamp connections | can be actuated pneumatically, spring cap available with leakage line connection and adjusting screw seal

DN	15 - 50	PN	2.5 - 10
		T	130 °C / 180 °C
p_2	0.3 - 5 bar	K_{VS}	2 - 7 m³/h

Pressure Reducing Valves

Valve for Large Flow Rates — DM 212

single-seat straight-way valve with balanced cone | usable for liquids and gases | body made of GS-C 25, CrNiMo-steel | seat-controlled, controlled by diaphragm, piston or bellow | spring cap available with leakage line connection and adjusting screw seal

DN	32 - 150	PN	16 - 160
		T	200 °C
p_2	4 - 35 bar	K_{VS}	8 - 160 m³/h

fig. similar

Valve for Large Flow Rates for Hygiene Applications — DM 212P

single-seat straight-way valve with balanced cone | usable for liquids and gases | body made of C-steel, CrNiMo-steel, special material such as Duplex, Superduplex, Hastelloy® or titanium | seat-controlled, controlled by diaphragm or piston | spring cap available with leakage line connection and adjusting screw seal

DN	25 - 100	PN	16 - 40
		T	130 °C
p_2	1 - 16 bar	K_{VS}	6 - 50 m³/h

Weight-loaded Pressure Reducing Valve — DM 3, 4

balanced straight-way valve for medium and very high flow rates | usable for liquids, gases and steam | body made of GGG-40 or GS-C 25 | high precision thanks to integral control behaviour | response time can be adjusted by damping

DN	50 - 400	PN	16 - 40
		T	280 °C
p_2	0.5 - 10 bar	K_{VS}	32 - 1,200 m³/h

Valve for High Pressures and High Temperature — DM 401

double-seat straight-way valve for high pressure and high temperature, high flow rates | usable for steam | body made of GS-C 25, GS 17 CrMo 55 | usable as soot blower with damping | especially sturdy, offers long maintenance intervals, a long operational lifespan

DN	25 - 250	PN	16 - 100
		T	500 °C
p_2	1.5 - 32 bar	K_{VS}	6 - 360 m³/h

Valve for Hygiene Applications / Ultrapure Media — DM 462

double-seat angled valve for large flow rate | usable for liquids, gases, steam | completely made of deep-drawn CrNiMo steel (316L), surface finish possible up to Ra ≤ 0.25 µm | virtually pocket-free, corrosion-resistant, lightweight and compact | elastomers as per FDA and USP Class VI, hygienic class HE4 | reduced preheating time for CIP/SIP procedures, less energy needed | adjusting screw as a function of display, easy-to-maintain owing to the clamp system | TRI-CLAMP connections or DIN/ISO clamp connections, any other available on request | spring cap available with leakage line connection and adjusting screw seal

DN	25 - 80	PN	2.5 - 10
		T	130 °C / 180 °C
p_2	0.3 - 5 bar	K_{VS}	4 - 70 m³/h

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Pressure Reducing Valves

Valve for Hygiene Applications / Ultrapure Media — DM 462V

double-seat straight-way or angled valve for medium flow rate | usable for liquids, gases and steam | completely made of deep-drawn CrNiMo-steel (316L), surface finish possible up to Ra ≤ 0.25 µm | virtually pocket-free, corrosion-resistant, lightweight and compact | elastomers as per FDA and USP Class VI, hygienic class HE5 | reduced preheating time for CIP / SIP procedures, less energy needed | adjusting screw as a function of display, easy-to-maintain owing to the clamp system | TRI-CLAMP connections or DIN / ISO clamp connections, PTFE protective foil for diaphragms | can be actuated pneumatically | spring cap available with leakage line connection and adjusting screw seal

DN	25	PN	2.5 - 16
		T	180 °C
p_2	0.8 - 5 bar	K_{VS}	4 m³/h

Standard Valve — DM 502

single-seat straight-way valve for medium flow rate | usable for liquids and gases, in particular CO_2 | body made of deep-drawn CrNiMo-steel (316L) – surface finish of the body Ra ≤ 1.6 µm, inner parts of brass | corrosion-resistant, very lightweight and compact | adjusting screw as a function of display, easy-to-maintain owing to the clamp system, many control ranges available | can be actuated pneumatically, spring cap available with leakage line connection and adjusting screw seal

		PN	100
G	1/2 - 2	T	130 °C / 180 °C
p_2	0.02 - 16 bar	K_{VS}	0.6 - 4.2 m³/h

Valve for Small Flow Rates — DM 505

single-seat straight-way valve, inlet pressure up to 250 bar, also controls millibar ranges | usable for liquids and gases | completely made of deep-drawn CrNiMo-steel (316L) – surface finish of the body Ra ≤ 1.6 µm | adjusting screw as a function of display, easy-to-maintain owing to the clamp system | corrosion-resistant, very lightweight and compact | long operational lifespan, manageable installation, various designs and connection types | can be actuated pneumatically, spring cap available with leakage line connection and adjusting screw seal

DN	15 - 25	PN	16 - 250
G	1/2	T	130 °C / 180 °C
p_2	0.005 - 20 bar	K_{VS}	0.2 - 1.4 m³/h

Valve for Small Flow Rates — DM 505Z

single-seat straight-way valve | inlet pressure up to 250 bar, also controls millibar ranges | usable for steam | completely made of deep-drawn CrNiMo-steel (316L) – surface finish of the body Ra ≤ 1.6 µm | adjusting screw as a function of display, easy-to-maintain owing to the clamp system | corrosion-resistant, very lightweight and compact | long operational lifespan, manageable installation, various designs and connection types | can be actuated pneumatically, spring cap available with leakage line connection and adjusting screw seal

DN	15 - 25	PN	16 - 250
G	1/2	T	200 °C / 250 °C
p_2	0.005 - 12 bar	K_{VS}	0.2 - 1.4 m³/h

Valve for High Pressures for Control Ranges up to 160 bar — DM 510 - 518

single-seat straight-way valve for small to medium flow rates | highest pressures, up to 315 bar inlet pressure, high temperatures, also controls millibar ranges | usable for liquids, gases and steam | body made of C-steel, CrNiMo-steel, special materials such as Duplex, Superduplex, Hastelloy® or titanium available | NACE-compatible | spring cap available with leakage line connection and adjusting screw seal | hard-faced valve cone and seat available for high pressure drops

DN	15 - 50	PN	16 - 315
G	3/8 - 2	T	130 °C / 180 °C / 400 °C
p_2	0.005 - 160 bar	K_{VS}	0.2 - 5.5 m³/h

Adjusting Screw as a Function of Display

Function Control after Installation

With the adjusting screw being flush with the cone spindle, 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

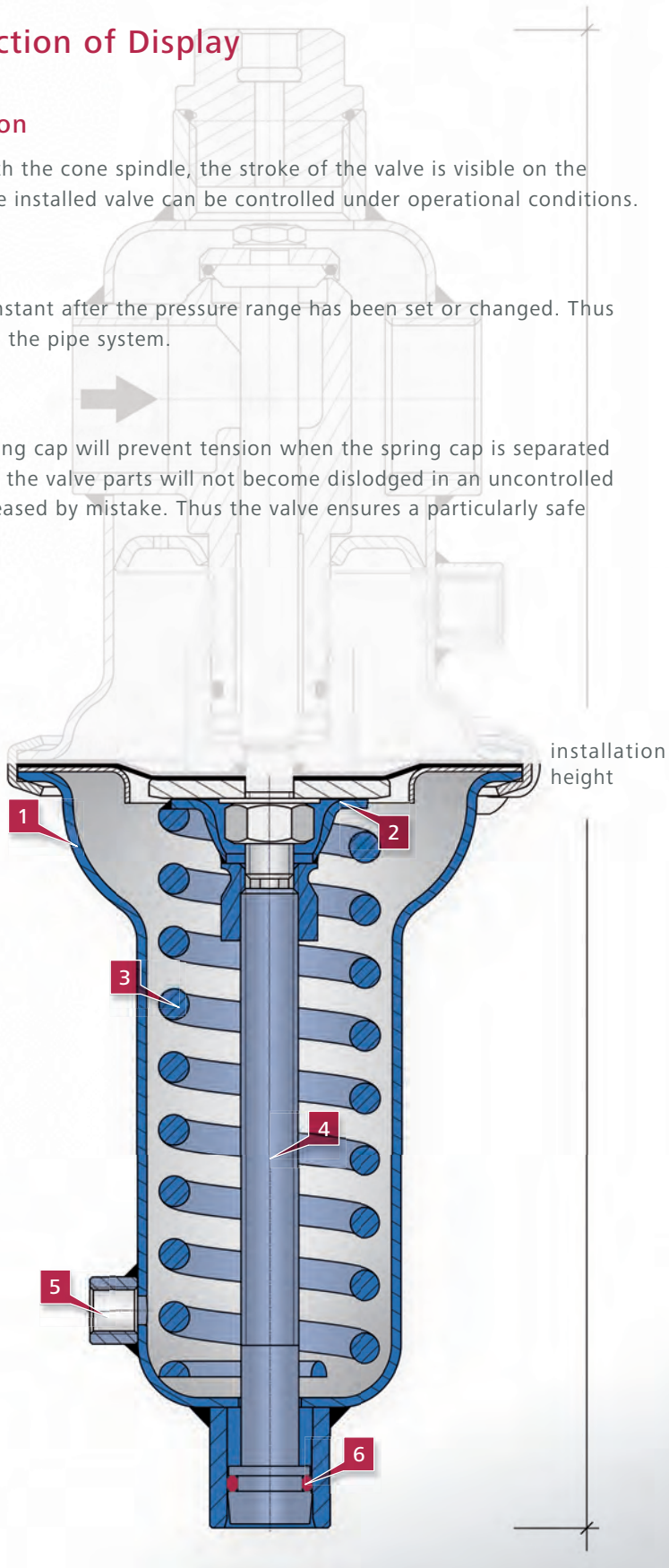
The valve installation height remains constant after the pressure range has been set or changed. Thus the valve can be easily incorporated into the pipe system.

Safety during Maintenance

Using a spring pack that rests at the spring cap will prevent tension when the spring cap 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

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

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Pressure Reducing Valves

Standard Cast Valve — DM 603, 604

single-seat straight-way valve for high flow rates with balanced cone | highest temperatures up to 350 °C, DM 604 up to 250 °C | usable for steam | body made of GS-C25, CrNiMo-steel | steel/stainless steel, stainless-steel-diaphragm body, very precise thanks to a large number of different control ranges

DN	15 - 150	PN	16 - 40
		T	350 °C
p_2	0.02 - 10 bar	K_{VS}	4 - 160 m³/h

fig. similar

Standard Cast Valve — DM 613

single-seat straight-way valve for high flow rates with balanced cone | for temperatures up to 130 °C | usable for liquids and gases | body made of GS-C25, CrNiMo-steel | steel/stainless steel, stainless-steel-diaphragm body, very precise thanks to a large number of different control ranges

DN	15 - 150	PN	16 - 40
		T	130 °C
p_2	0.02 - 10 bar	K_{VS}	4 - 160 m³/h

Valve for High Pressures for Control Ranges up to 160 bar — DM 620 - 628

single-seat straight-way valve for medium and high flow rates with balanced cone | highest pressures, up to 315 bar inlet pressure | usable for liquids and gases | body made of C-steel, CrNiMo-steel, special materials such as Duplex, Superduplex, Hastelloy® or titanium are available | NACE-compatible | spring cap available with leakage line connection and adjusting screw seal | hard-faced valve cone and seat available for high pressure drops | allows for the solution of most difficult procedural requirements with only one device

DN	15 - 50	PN	16 - 315
G	$^1/_2$ - 2	T	200 °C
p_2	2 - 160 bar	K_{VS}	0.4 - 10 m³/h

Epoxy-coated Cast Valve for Medium Flow Rates — DM 644

piston-controlled, single-seat straight-way valve with balanced cone | usable for water, especially suitable for potable water | body made of GGG-50 with KTW-compliant epoxy coating | closed spring cap

DN	50 - 150	PN	16 - 40
		T	70 °C
p_2	1.5 - 12 bar	K_{VS}	17 - 155 m³/h

Universal Valve — DM 652

single-seat straight-way valve with balanced cone for high flow rates | usable for liquids, gases and steam | completely made of deep-drawn CrNiMo-steel (316L) – surface finish of the body Ra ≤ 1.6 µm | adjusting screw as a function of display, easy-to-maintain owing to the clamp system | corrosion-resistant, very light-weight and compact | highest regulating accuracy thanks to a multitude of control ranges | various variants of convincing quality for your individual application | various connections and special versions available | can be actuated pneumatically, spring cap available with leakage line connection and adjusting screw seal

DN	15 - 50	PN	16 - 40
G	$^1/_2$ - 2	T	130 °C / 190 °C / 220 °C
p_2	0.02 - 12 bar	K_{VS}	5 - 22 m³/h

Pressure Reducing Valve in Action DM 652

The Allrounder

How does carbon dioxide (CO_2) get into the drink? Since CO_2 is not normally dissolved in drinks, it has to be brought in under pressure. In a pressure cylinder battery the process gas is generated from liquefied CO_2 process gas and is then fed to the drink production process. Different identical valves work in parallel downstream of several evaporators so that a continuous process is ensured in case one production line fails. The pressure reducing valves reduce the process pressure from 15–17 bar to 11–12 bar. Since particular hygiene requirements have to be observed in the foodstuffs sector, the stainless steel valve DM 652 is used in this case. This deep-drawn valve is highly corrosion-resistant and features a high surface finish. The compact design and the clamp system facilitate installation and maintenance.

Universal Valve for Medium Flow Rate DM 662

single-seat straight-way valve with balanced cone | usable for liquids and gases | completely made of deep-drawn CrNiMo-steel (316L) – surface finish of the body Ra ≤ 1.6 µm | adjusting screw as a function of display, easy-to-maintain owing to the clamp system | corrosion-resistant, very lightweight and compact | highest regulating accuracy thanks to a multitude of control ranges | can be actuated pneumatically, spring cap available with leakage line connection and adjusting screw seal

DN	15 - 25	PN	100
G	$^1/_2$ - 1	T	130 °C / 180 °C
p_2	0.02 - 12 bar	K_{VS}	3.2 - 3.6 m³/h

Valve for Large Flow Rates DM 664

single-seat straight-way valve with balanced cone | usable for liquids and gases | completely made of deep-drawn CrNiMo-steel (316L) – surface finish of the body Ra ≤ 1.6 µm | easy-to-maintain owing to the clamp system | corrosion-resistant, lightweight compared to its size, compact design | especially well-suited for use with deionised water

DN	50 - 100	PN	16
		T	130 °C / 150 °C
p_2	0.02 - 8 bar	K_{VS}	32 - 100 m³/h

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Pressure Reducing Valves

Piston-Controlled Mini Pressure Reducing Valve — DM 6901

single-seat straight-way valve for lowest flow rates, high pressures up to 300 bar | suitable for gases | medium wetted parts made of 316 stainless steel – surface quality Ra ≤ 0,8 µm | corrosion-resistant and compact, smallest dimensions | a wide variety of designs and connection configurations | also available with pneumatic actuation

		P_1	up to 300 bar
G/NPT	1/8	C_{VS}	0.06 US gal/min
p_2	0 - 100 bar	K_{VS}	0.05 m³/h

Diaphragm or Piston Controlled — DM 6902, DM 6904

single-seat straight-way valve for low flow rates, high pressures up to 300 bar | suitable for liquids and gases | body and spring cap made of 316 stainless steel – surface quality Ra ≤ 0,8 µm | corrosion-resistant and compact | diaphragm made of Inconel X750 for maximum durability | a wide variety of designs and connection configurations

G/NPT	1/4	P_1	up to 300 bar
p_2	0 - 35 (DM 6902)	C_{VS}	0.06 US gal/min
p_2	0 - 180 bar (DM 6904)	K_{VS}	0.05 m³/h

Piston Controlled „Low flow“ Pressure Reducer — DM 6914

single-seat straight-way valve for low flow rates, high pressures up to 550 bar | suitable for gases | body and spring cap made of 316 stainless steel – surface quality Ra ≤ 0,8 µm | corrosion-resistant and compact | a wide variety of designs and connection configurations | optional with segregated captured vent

		P_1	up to 550 bar
G/NPT	1/4 - 3/8	C_{VS}	0.1 or 0.2 US gal/min
p_2	0 - 414 bar	K_{VS}	0.09 or 0.17 m³/h

Piston Controlled, with Ceramic Seat and Cone — DM 6916

single-seat straight-way valve for low flow rates, highest pressures up to 1380 bar | suitable for liquids | body and spring cap made of 316 stainless steel – surface quality Ra ≤ 0,8 µm | corrosion-resistant and compact | with segregated captured vent | a wide variety of designs and connection configurations | also available with pneumatic actuation

		P_1	up to 1,380 bar
G/NPT	1/4 - 1/2	C_{VS}	0.05 - 0.1 US gal/min
p_2	0 - 1,380 bar	K_{VS}	0.04 - 0.09 m³/h

Piston Controlled High Pressure Valve for Gases — DM 6917

single-seat straight-way valve for low flow rates, high pressures up to 690 bar | suitable for gases | body and spring cap made of 316 stainless steel – surface quality Ra ≤ 0,8 µm | corrosion-resistant and compact | with segregated captured vent | a wide variety of designs and connection configurations | also available with pneumatic actuation

		P_1	up to 690 bar
G/NPT	1/4 - 1/2	C_{VS}	0.1 US gal/min
p_2	0 - 690 bar	K_{VS}	0.09 m³/h

Pressure Reducing Valves

Valve for High Pressures and High Temperatures — DM 701

double-seat straight-way valve for high pressures and temperatures, small flow rates | usable for steam | body made of GS-C 25, C 22 N, 10 CrMo 9-10 | especially sturdy with long service intervals, long operational lifespan | optionally: integrated extension on the outlet side

DN	15 - 50	PN	16 - 315
		T	500 °C
p_2	0.5 - 40 bar	K_{VS}	0.2 - 5.5 m³/h

Millibar Control Valve — DM 762

single-seat straight-way valve for medium flow rates, especially for the control of millibar ranges | usable for liquids and gases | completely made of deep-drawn CrNiMo-steel (316L) – surface finish of the body Ra ≤ 1.6 µm | corrosion-resistant, very lightweight and compact | very precise owing to large control surfaces and a large number of different control ranges, available in many different versions

DN	15 - 50	PN	16
G	1/2 - 2	T	130 °C
p_2	0.002 - 0.52 bar	K_{VS}	0.2 - 3.6 m³/h

Backpressure Regulators

Your Benefits — UV 3.8M

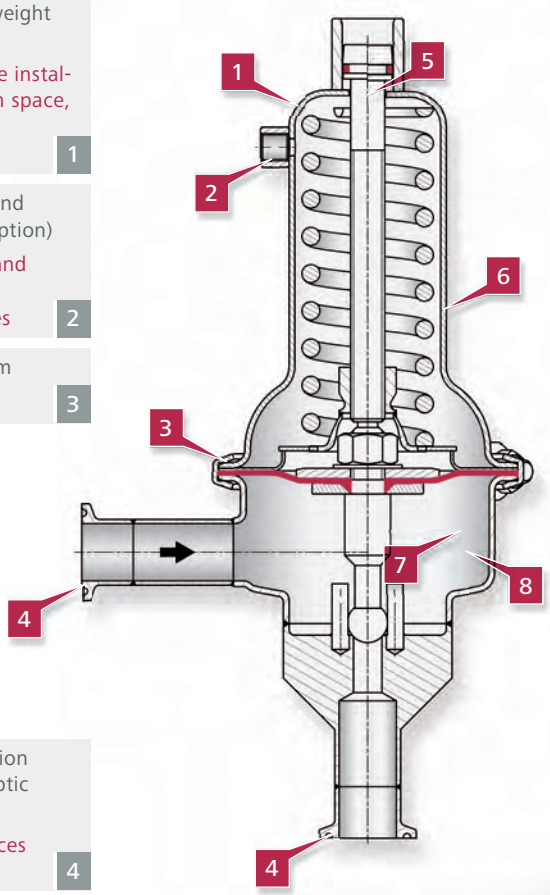
HIGH GRADE

CrNiMo-steel (316L), deep-drawn, corrosion-resistant, lightweight and compact
long lifespan, manageable installation, requiring minimum space, low delta-ferrite content possible — 1

leakage line connection and sealed adjusting screw (option)
suitable for inflammable and dangerous media in compliance with UVV rules — 2

Mankenberg clamp system
easy-to-maintain — 3

a wide variety of connection types: DIN-, ANSI- or aseptic flanges, weld-on ends ...
no adapters or fitting pieces required — 4



adjusting screw as a function of display (option)
non-varying installation height, function externally visible — 5

minimum weight
minimal heat losses for CIP / SIP applications — 6

Surface finish (internal) up to Ra ≤ 0.8 µm
easy-to-clean — 7

as angle valve virtually pocket-free
also suitable for highly viscous media — 8

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Backpressure Regulators

Valve for Large Flow Rates — UV 1.2

single-seat straight-way valve with balanced cone for temperatures up to 300 °C | usable for liquids and gases | body made of GS-C 25 or CrNiMo-steel | diaphragm-, piston- or bellows-controlled | suitable for higher pressures

DN	25 - 200	PN	16 - 40
		T	130 °C / 300 °C
p_2	2 - 40 bar	K_{VS}	6 - 125 m³/h

fig. similar

Weight-loaded Backpressure Regulator — UV 1.6, 2.6

balanced straight-way valve for medium up to very large flow rates | usable for liquids, gases and steam | body made of GGG-40 or GS-C 25 | high precision thanks to integral control behaviour | response time can be adjusted by damping

DN	50 - 400	PN	16 - 40
		T	280 °C
p_1	0.5 - 10 bar	K_{VS}	32 - 1,200 m³/h

Valve for Medium and Large Flow Rates — UV 1.8

seat-controlled, single-seat angle valve with balanced cone for temperatures up to 300 °C | usable for liquids and gases, also suitable for viscous media | body made of deep-drawn CrNiMo-steel (316L) – surface finish of the body Ra ≤ 1.6 µm | virtually pocket-free, corrosion-resistant, lightweight and compact | diaphragm-, piston- or bellows-relieved | can be actuated pneumatically, spring cap available with leakage line connection and adjusting screw seal

DN	25 - 100	PN	16
G	1 - 2	T	130 °C / 300 °C
p_1	2 - 16 bar	K_{VS}	6 - 50 m³/h

fig. similar

Pump Protection Valve — UV 1.9

seat-controlled, single-seat angle valve with balanced cone for medium flow rates | usable for all liquids | completely made of deep-drawn CrNiMo-steel (316L) – surface finish of the body Ra ≤ 1.6 µm | corrosion-resistant, frost-proof, free-draining | long operational lifespan, manageable installation, easy-to-maintain owing to the clamp system – highest effectiveness with compact design

DN	50	PN	40 / 16
G	2	T	130 °C / 180 °C
p_1	2 - 16 bar	K_{VS}	12 m³/h

Millibar Control Valve — UV 3.0

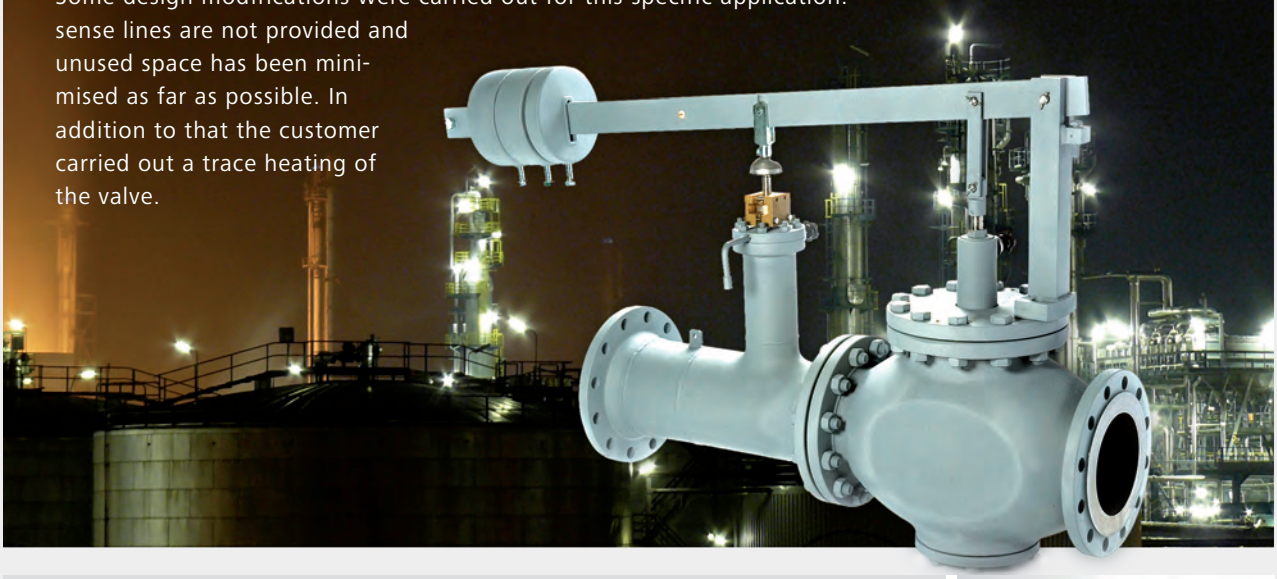
single-seat straight-way valve for medium flow rates | usable for liquids and gases | completely made of deep-drawn CrNiMo-steel (316L) – surface finish of the body Ra ≤ 1.6 µm | corrosion-resistant, very lightweight and compact | very precise owing to large control surfaces and a large number of different control ranges, available in many different versions

DN	15 - 50	PN	16 / 1
G	1/2 - 2	T	130 °C
p_1	0.002 - 0.52 bar	K_{VS}	0.2 - 3.6 m³/h

Backpressure Regulator in Action UV 2.6

Pump Protection for Heavy Crude Oil Loading Facilities in a German Refinery

The refinery – one of the most modern in Europe – has an annual capacity of over 10 million tonnes of crude oil. This oil is brought to the plant via large pipeline systems from Rotterdam, for instance.
Due to the high viscosity of the oil at the heavy crude oil loading facilities (up to 650 cSt at a temperature of 85 °C), two eccentric spiral pumps are in use. They have to be protected against excessive pressure, caused by fluctuations in system operations, by means of self-energised backpressure regulators.
Mankenberg`s UV 2.6 backpressure regulators are suitable for highly viscous media applications. These twin seat valves are designed for a flow capacity of 125 or 250 m^3/h and temperatures up to 200 °C.
Some design modifications were carried out for this specific application: sense lines are not provided and unused space has been minimised as far as possible. In addition to that the customer carried out a trace heating of the valve.



Backpressure Regulator for Small and Medium Flow Rates UV 3.2

single-seat straight-way valve for temperatures up to 300 °C | usable for liquids and gases | body made of GS-C 25 or CrNiMo-steel | diaphragm-, piston- or bellows-controlled

DN	15 - 50	PN	16 - 40
		T	300 °C
p_1	2 - 40 bar	K_{VS}	0.2 - 5.5 m^3/h

Compact Valve for Small Flow Rates UV 3.5

single-seat straight-way valve, also controls millibar ranges | usable for liquids and gases | completely made of deep-drawn CrNiMo-steel (316L) – surface finish of the body Ra ≤ 1.6 µm | adjusting screw as a functon of display, easy-to-maintain owing to the clamp system | corrosion-resistant, very lightweight and compact | long operational lifespan, manageable installation, various designs and connection types | can be actuated pneumatically, spring cap available with leakage line connection and adjusting screw seal

DN	15 - 25	PN	25
G	$^1/_2$	T	130 °C / 180 °C
p_1	0.005 - 20 bar	K_{VS}	0.2 - 1.4 m^3/h

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Backpressure Regulators

Valve for Small Flow Rates and High Temperatures — UV 3.5Z

single-seat straight-way valve, also controls millibar ranges | usable for steam | completely made of deep-drawn CrNiMo-steel (316L) – surface finish of the body Ra ≤ 1.6 µm | adjusting screw as a function of display, easy-to-maintain owing to the clamp system | corrosion-resistant, very lightweight and compact | long operational lifespan, manageable installation, various designs and connection types | can be actuated pneumatically, spring cap available with leakage line connection and adjusting screw seal

DN	15 - 25	PN	25
G	$^1/_2$	T	200 °C / 250 °C
p_1	0.005 - 12 bar	K_{VS}	0.2 - 1.4 m³/h

Valve for Hygiene Applications / Ultrapure Media — UV 3.8M

fig. similar

single-seat, angled design, straight-way valve for medium flow rates | usable for liquids and gases | completely made of deep-drawn CrNiMo-steel (316L) – surface finish possible up to Ra ≤ 0.8 µm | virtually pocket-free, corrosion-resistant, lightweight and compact | adjusting screw as a function of display, easy-to-maintain owing to the clamp system | elastomers as per FDA and USP Class VI, hygienic class HE5 | reduced preheating time for CIP/SIP procedures, less energy needed | can be actuated pneumatically, spring cap available with leakage line connection and adjusting screw seal

DN	15 - 100	PN	6 - 16
G	$^1/_2$ - 2	T	130 °C / 180 °C
p_1	0.8 - 10 bar	K_{VS}	3.5 - 9 m³/h

Valve for Viscous Media — UV 3.8K

single-seat angle valve for medium flow rates | usable for liquids and gases | completely made of deep-drawn CrNiMo-steel (316L) – surface finish of the body Ra ≤ 1.6 µm | corrosion-resistant, lightweight and compact | can be actuated pneumatically, spring cap available with leakage line connection and adjusting screw seal

DN	15 - 100	PN	10 - 16
G	$^1/_2$ - 2	T	130 °C / 180 °C
p_1	2 - 16 bar	K_{VS}	3.5 - 9 m³/h

Millibar Control Valve — UV 3.9

single-seat valve in the straightway, angle-type or U-shaped version for very small inlet pressures | usable for liquids and gases | completely made of deep-drawn CrNiMo-steel (316L) – surface finish of the body Ra ≤ 1.6 µm | highest regulating accuracy, lowest control ranges, good surface characteristics, various Kvs-values and versions possible

DN	15 - 50	PN	1 - 2,5
G	$^1/_2$ - 2	T	130 °C
p_1	0.01 - 1.1 bar	K_{VS}	0.2 - 28 m³/h

Standard Cast Valve — UV 4.1

single-seat straight-way valve with balanced cone for high flow rates | usable for liquids, gases and steam | body made of GS-C 25 or CrNiMo-steel | can be actuated pneumatically, spring cap available with leakage line connection and adjusting screw seal

DN	15 - 150	PN	16 - 40
		T	130 °C / 200 °C
p_1	0.02 - 10 bar	K_{VS}	4 - 160 m³/h

Backpressure Regulators

Epoxy-coated Cast Valve for Medium Flow Rates — UV 4.4

piston-controlled, single-seat straight-way valve with balanced cone | usable for water, especially suitable for potable water | body made of GGG-50 with KTW-compliant epoxy coating | closed spring cap

DN	50 - 150	PN	16 - 40
		T	70 °C
p_1	1.5 - 12 bar	K_{VS}	17 - 155 m³/h

Valve for Aggressive Media and Large Flow Rates — UV 4.7, 4.8

single-seat straight-way valve with balanced cone | UV 4.7 with open spring cap, UV 4.8 with closed spring cap | usable for liquids and gases | completely made of deep-drawn CrNiMo-steel (316L) – surface finish of the body Ra ≤ 1.6 µm | easy-to-maintain owing to the clamp system | corrosion-resistant, lightweight compared to its size, compact design | suitable for challenging environmental conditions and aggressive media

DN	50 - 100	PN	16
		T	130 °C / 150 °C
p_1	0.02 - 10 bar	K_{VS}	32 - 100 m³/h

Universal Valve — UV 5.1

single-seat straight-way valve with balanced cone for high flow rates | usable for liquids, gases and steam | completely made of deep-drawn CrNiMo-steel (316L) – surface finish of the body Ra ≤ 1.6 µm | corrosion-resistant, very lightweight and compact | adjusting screw as a function of display, easy-to-maintain owing to the clamp system | highest regulating accuracy thanks to a multitude of control ranges | various variants of convincing quality for your individual application | various connections and special versions available | can be actuated pneumatically, spring cap available with leakage line connection and adjusting screw seal

DN	15 - 50	PN	16
G	1/2 - 2	T	130 °C / 180 °C
p_1	0.02 - 12 bar	K_{VS}	3.5 - 22 m³/h

Diaphragm or Piston Controlled for „Low Flow" UV 6906, UV 6907

single-seat straight-way valve for low flow rates, high pressures up to 150 bar | suitable for liquids and gases | body and spring cap made of 316 stainless steel - surface quality Ra ≤ 0,8 µm | corrosion-resistant and compact | diaphragm made of Inconel X750 for maximum durability | a wide variety of designs and connection configurations

		P_{max}	up to 225 bar
G/NPT	1/4	C_{VS}	0.1 or 0.5 US gal/min
p_1	0 - 150 bar	K_{VS}	0.09 or 0.43 m³/h

Valve for High Pressures for Control Ranges up to 250 bar — UV 8.2

single-seat straight-way or angle valve for small and medium flow rates | highest pressures, high temperatures | usable for liquids, gases and steam | body made of C-steel, CrNiMo-steel, special material such as Duplex, Superduplex, Hastelloy® or titanium | NACE-compatible | spring cap available with leakage line connection and adjusting screw seal | hard-faced valve cone and seat available for high pressure drops | unique worldwide: valve for high pressures combined with medium flow rates

fig. similar

DN	15 - 50	PN	250
G	3/8 - 2	T	130 °C / 400 °C
p_1	2 - 250 bar	K_{VS}	0.2 - 5.5 m³/h

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Burst Pipe Isolating Valves

Burst Pipe Isolating Valve for Hazardous Media — RS 659

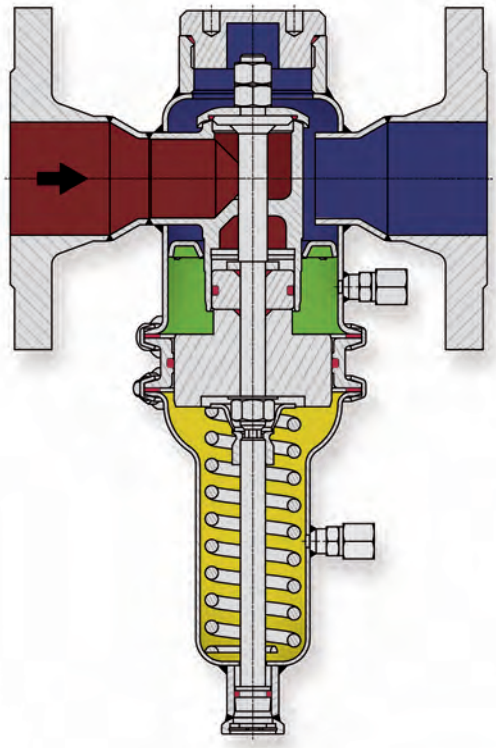
Shuts off pipelines in case of a leakage, automatic locking triggered after differential pressure evaluation, RS 219 available for high pressures and high volume flows | usable for liquids, gases and steam | completely made of deep-drawn CrNiMo-steel (316L) – surface finish of the body Ra ≤ 1.6 µm | universal, saves costs

DN	15 - 50	PN	16 - 40
G	$^1/_2$ - 2	T	130 °C
K_{VS}	5 - 22 m³/h	K_{VS}	65 m³/h (RS 219)

Flow Control and Differential Pressure Valves

Your Benefits — DV 652F

In principle, any balanced pressure regulating valve may serve as differential pressure, vacuum or flow control valve. The special advantages of these valves are obvious: to a large extent, they can be adapted to any procedural requirement and process. Flow control and differential pressure valves are suitable for all media, all pressures and any required volume flow. In addition, the valves are self-energised. They require no external energy sources and are thus particularly safe in function.



- inlet pressure p_1
- outlet pressure p_2
- control pressure p_{st+}
- control pressure p_{st-}

- » Can be specifically adapted to all special needs
- » Can be used for all media
- » Suitable for any kind of pressure (normal compressor pressure, millibar and high pressure ranges)
- » Any requested flow rate can be designed

Valves Fabricated to Meet Your Needs — DV 652

Please let us have your operating data (medium, volume flow, pressure range, temperature, requested function and any further requirements) and a description of the application.

fig. similar

DN	according to your specification	PN	according to your specification
G	according to your specification	T	according to your specification
p_2	according to your specification	K_{VS}	according to your specification

Vacuum Breakers and Vacuum Control Valves

Vacuum Breaker with Setting Scale — VV 34, 35

with spring cap (CrNiMo-steel (316L)) and setting scale, VV 35 screw-in version | suitable for liquids and gases | completely made of CrNiMo-steel (316L), optionally body and flange made of steel | available in special materials, e.g. seawater-resistant material, NACE-compatible | nearly universally usable

DN	20 - 250	PN	6 - 40
G	$^1/_2$ A - 2 $^1/_2$ A	T	300 °C
p_2	0.05 - 0.95 bar	K_{VS}	1.2 - 388 m³/h

Safety Valves

Normal or Full Lift Flanged Valve — SV 4, SV 6

spring-loaded | SV 4 normal and proportional valve, SV 6 full lift safety valve | closed spring cap suitable for liquids and gases | body made of GG-25, GS-C 25, CrNiMo-steel | also available with open spring cap for steam (SV 40, SV 60)

DN	15 - 150	PN	16 - 40
p_1	0.2 - 40 bar	T	200 °C / 300 °C

Normal or Full Lift Threaded Valve — SV 29, SV 29L, SV 29V

spring-loaded, SV 29 normal safety valve for pressures up to 93 bar, SV 29L normal safety valve for pressures up to 350 bar , SV 29V full lift safety valve for pressures up to 200 bar | suitable for liquids, gases and steam | body made of 1.4104, 1.4404

		PN	40 - 400
G	$^1/_2$ - 2	T	200 °C / 400 °C
p_1	0.1 - 350 bar		

Pilot-operated Control Valves

Pilot-operated Pressure Reducing Valve for Water — RP 115

pilot-operated pressure reducing valve for large flow rates | especially designed for potable water | body made of GGG-40 with epoxy coating according to KTW recommendation | adjustable closing, opening and reaction speed

DN	50 - 400	PN	16
		T	70 °C
p_2	1.5 - 15 bar	K_{VS}	40 - 1,400 m³/h

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Pilot-operated Control Valves

Pilot-operated Backpressure Regulator for Water RP 116

pilot-operated backpressure regulator for large flow rates | especially designed for potable water | body made of GGG-40 with epoxy coating according to KTW recommendation | adjustable closing, opening and reaction speed

DN	50 - 400	PN	16
		T	70 °C
p_1	1.5 - 15 bar	K_{VS}	40 - 1,400 m³/h

Pilot-operated Regulating Valve in Action RP 810

Cleaning under High Pressure

To clean the inner walls of carbon-fired boilers so-called soot blowers are used. Sootblowing can be done by means of high pressure steam, with the plants being exposed to very high temperatures, as well as by means of water. Both procedures serve the purpose of maintaining the optimal effectiveness for the heat transfer from the boiler to the boiler feed water and to avoid sedimentation of agglomerates.
In the water-blowing systems water with an inlet pressure of 35 to 45 bar is fed to the lances that are arranged around the boiler at various heights. However, lances work at a very restricted pressure range of abt. 18.6 bar. The pilot-operated Mankenberg pressure reducing valve of the RP 810 type with a nominal width of DN 100 reduces the inlet pressure correspondingly so that the inner boiler wall is continuously cleaned and a malfunction of the entire plant is avoided. Steam sootblowing can be regulated using pressure reducing valves of the DM 401 / DM 701 type.

Pilot-operated Pressure Reducing Valve RP 810

pilot-operated pressure reducing valve made of cast steel for large flow rates at high pressure | usable for liquids and gas | body made of GGG-40, GS-C 25, CrNiMo-steel | maintenance work can be done from above at the installed valve, special versions available

DN	40 - 400	PN	16 - 160
		T	130 °C
p_2	1 - 80 bar	K_{VS}	20 - 900 m³/h

Pilot-operated Control Valves

Pilot-operated Pressure Reducing Valve — RP 810ECK

single-seat, angled design suitable for high flow rates and high pressures | usable for liquids | body made of C-steel, CrNiMo-steel, special materials such as Duplex, Superduplex or Hastelloy® available | NACE-compatible | pilot valve and throttle block with integrated strainer and throttle valves completely of CrNiMo-steel | hardfaced valve cone and seat available for high pressure drops | special version with damping for gas applications available

DN	40 - 150	PN	16 - 160
		T	130 °C
p_2	1 - 80 bar	K_{VS}	20 - 250 m³/h

Pilot-operated Pressure Reducing Valve — RP 814

pressure reducing valve of the inline design in welded construction for large flow rates | RP 815 with extended casing for maximum K_{VS}-values, high pressure at large flow rates | body made of steel, CrNiMo-steel, welded, internal parts made of CrNiMo-steel | special versions available

DN	100 - 800	PN	16 - 100
		T	130 °C / 200 °C
p_2	1 - 40 bar	K_{VS}	60 - 2,100 m³/h

Pilot-operated Backpressure Regulator — RP 820

pilot-operated backpressure regulator made of cast steel for large flow rates at high pressure | usable for liquids and gases | body made of GGG-40, GS-C 25, CrNiMo-steel | maintenance work can be done from above at the installed valve, special versions available

DN	40 - 400	PN	10 - 160
		T	130 °C
p_1	2 - 80 bar	K_{VS}	20 - 900 m³/h

Pilot-operated Backpressure Regulator — RP 820ECK

single-seat, angled design suitable for high flow rates and high pressures | usable for liquids | body made of C-steel, CrNiMo-steel, special materials such as Duplex, Superduplex or Hastelloy® available | NACE-compatible | pilot valve and throttle block with integrated strainer and throttle valves completely of CrNiMo-steel | hardfaced valve cone and seat available for high pressure drops | special version with damping for gas applications available

DN	40 - 150	PN	10 - 100
		T	130 °C
p_1	2 - 63 bar	K_{VS}	20 - 250 m³/h

Pilot-operated Backpressure Regulator — RP 824

backpressure regulator of the inline design in welded construction for large flow rates | RP 825 with extended casing for maximum K_{VS}-values, high pressure at large flow rates | body made of steel, CrNiMo-steel, welded, internal parts made of CrNiMo-steel | special versions available

DN	100 - 800	PN	10 - 25
		T	130 °C / 200 °C
p_1	2 - 20 bar	K_{VS}	60 - 2,100 m³/h

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Pilot-operated Control Valves

Pilot-operated Millibar Control Valve — RP 840

pilot-operated pressure reducing valve consisting of a differential pressure regulator for large flow rates combined with a High Grade millibar valve serving as a pilot valve, available as prefabricated unit in a rack

DN	25 - 150	PN	16 / 1
		T	130 °C
p_2	0.002 - 0.52 bar	K_{VS}	4 - 160 m³/h

Pilot-operated Control Valve in Action — RP 840

Protection of Tank Systems and Products by Tank Blanketing with Nitrogen

Since the entry into force of the Kyoto protocol the demand for tank blanketing systems has continuously increased. This is due to the rising demand for fuel with bioethanol. Although such fuels featuring a bio-ethanol percentage of up to 10% are a good contribution to climate protection, they introduce new challenges to the tank system operators. When reacting with water (atmospheric humidity), bioethanol can be converted to methyl esters. These are very aggressive and can severely damage the tank foundations made of concrete. In addition, of course, the fuel loses quality during storage. To solve this problem technically, the tanks are blanketed with inert gas (N_2). For this purpose large quantities of nitrogen at small excess pressures in the lower millibar range are needed. Mankenberg has developed the pressure reducing valve RP 840 in close cooperation with its customers. A millibar reducing valve proven for decades controls a main valve adapted to the plant, which has to cope with large gas quantities. Thus the high regulating accuracy at very low pressures (~5 mbar(g)) combines with the high volume flow of nitrogen necessary for big tanks and pumps. The customer thereby obtains a very economic solution for his plant.

Pressure Relief Valves

Pressure Relief Valve (Peak Load) — SR 6.2

self-energised for extremely high flow rates | straight-way valve with optimised design and minimum flow losses | directly acting or pilot-operated | short response times | usable for any liquid | valve made of welded steel, CrNiMo-steel or special stainless steels | can be designed for any application, any problem regarding pressure relief can be solved | for vertical or horizontal installation

DN	150 - 400	PN	16 - 160
		T	130 °C
p_1	max. 160 bar	K_{VS}	400 - 2,400 m³/h

Your Benefits SR 6.2

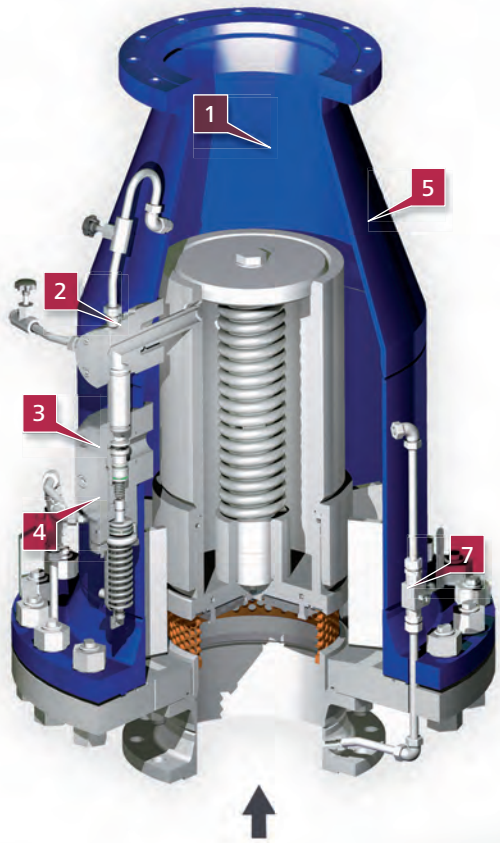
straight-way valve with CFD-optimised design
minimum flow losses 1

MOD (manual opening device)
function control, bleeding, rinsing, filling of the valve 2

pilot system, pipework, operating elements made of CrNiMo-steel
corrosion-resistant 3

pilot control, adjustable set pressure possible
optimal response behaviour, adjustable closing time and response pressure 4

fine adjustment of the set pressure SR 6.2K
very precise setting possible



valve in welded construction
low weight, adapted overall length, special materials and individual flange standards possible 5

spin-on filter in the pilot system
filter replacement is possible during ongoing operation 6

flow monitor (option)
recording possible

Pressure Relief Valve in Action SR 6.2

Pipeline Protection at Port Loading Facilities in Russia

At various Russian Black Sea and Baltic ports loading facilities called seaports are operated where large oil tankers are loaded. Movable marine loading arms establish a connection between the pipeline systems on land and the vessel. Should the vessel unexpectedly drift away from the pier, the pipeline connection could be torn apart. In that case an emergency disconnection will be carried out: the connection will be separated with a quick-release coupling and the loading system will be shut down. This emergency disconnection can cause a serious pressure peak due to the kinetic energy within the liquid column. Mankenberg´s SR 6.2P, a quick-opening pilot-operated pressure relief valve, disposes the liquid which caused the pressure peak into a slop tank. As soon as the pressure has dropped below the set pressure, the pressure relief valve shuts down automatically and without external energy. Despite the extreme ambient temperature fluctuations, the pressure relief valve SR 6.2P effectively regulates the medium within a temperature range from -30°C to +80°C.

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Bleeding and Venting Valves

Bleeding and venting valves separate air or other gases from a liquid depending on the level of such liquid. Thus bleeding and venting valves contribute to the efficiency and enhance the safety of the plant. This emphasises the importance and necessity of a professional design for such valves to enhance the safety of your plant. Mankenberg bleeding and venting valves for continuous operation or startup as well as combined devices are available in various materials (cast steel, deep-drawn stainless steel (High Grade), special materials such as titanium or Hastelloy®).

Continuous Bleeding and Venting Valves

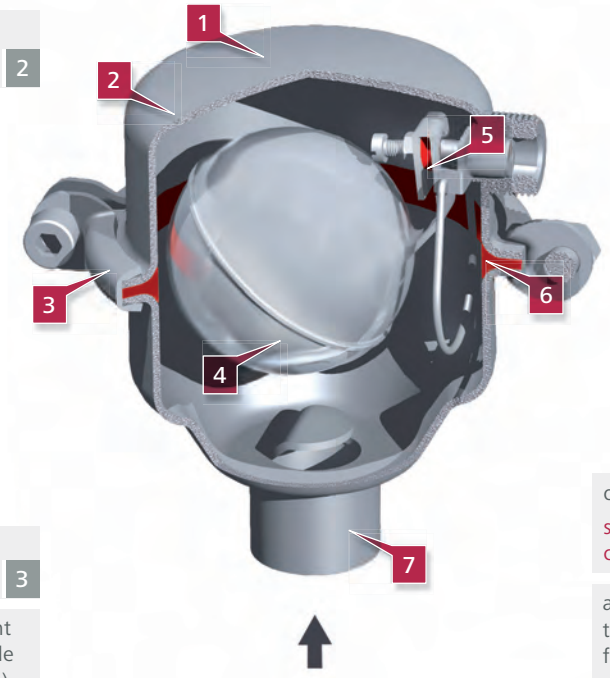
Your Benefits — EB 1.12

deep-drawn CrNiMo-steel (316L), corrosion-resistant, lightweight and compact
long operational lifespan, manageable installation, requiring minimum space — 1

standard surface Ra ≤ 1.6 µm
easy-to-clean — 2

Mankenberg clamp system
easy-to-maintain — 3

internal parts and float resistant to corrosion and pressure, made of CrNiMo-stainless steel (316L)
long operational lifespan — 4



sturdy valve mechanism
low maintenance — 5

optional elastomers
suitable for ozone, FDA-compatible — 6

a wide variety of connection types: DIN-, ANSI- or aseptic flanges, weld-on ends ...
no adapters or fitting pieces required — 7

Valves of Cast Steel — EB 1.10, EB 1.11

float-controlled operational bleeding valve with lever control for larger air volumes, e.g. on sand filters | EB 1.11 with external float for contaminated and foaming media, EB 1.20 for maximum air volumes | valve cone with soft or metallic seal for temperatures up to 200 °C | body made of GGG-40 or GS-C25, internal parts made of CrNiMo-steel | rubber coating or synthetic material coating available for aggressive media, also available with non-return valve as pure bleeding valve

DN	32 / 15 - 100 / 50	PN	16 - 40
		T	200 °C
p_1	0 - 40 bar	Q	2,440 Nm³/h

Continuous Bleeding and Venting Valves

Bleeding and Venting Valve in Action EB 1.10

Reliable Bleeding and Venting for Our Elixir of Life

Each of us will know his local waterworks that reliably supplies potable water to our homes. The waterworks have the task of purifying various types of untreated water and converting them to pure potable water. In many cases wells are used, in which submerged pumps convey the raw water to the surface. Being a natural product, this water would be drinkable, however a high content of iron and manganese compounds spoil the enjoyment of drinking. These compounds are removed in the oxidising tank. The filters (in most cases gravel filters) remove suspended matter and other foreign bodies from the untreated water. Compressed air floods the filter in order to supply large amounts of oxygen, which is able to bind manganese and iron, to the gravel filter. However, the air has to be transferred out of the system under pressure and without any loss of water. For decades Mankenberg bleeding and venting valves of the EB 1.10 type have been employed on the top of the tanks. The angle design of the valve is very advantageous considering the simple pipe layout. The valves of coated cast iron have been used without any change in design in many waterworks since the middle of the 1960s. When used for oxidising tanks, polyamide-coated bleeding valves are preferred in order to protect the metallic surface.

Compact Standard Bleeding Valve (small-sized design) EB 1.12

float-controlled operational bleeding valve for all types of pipelines, tanks etc., thanks to soft seal especially tight-closing | EB 1.12 outlet at the side, EB 1.32 outlet to the top | usable for nearly all liquids (petrol, oil ...), available in the ozone-resistant version | completely made of deep-drawn CrNiMo-steel (316L) – surface finish of the body Ra ≤ 1.6 µm | easy-to-maintain owing to the clamp system | corrosion-resistant, very lightweight and compact | available in special materials, such as seawater-resistant stainless steel, titanium, Hastelloy® etc. | EB 1.32 also available with non-return valve as pure bleeding valve

		PN	16
G	$^{3}/_{4}$ x G $^{1}/_{2}$ A	T	190 °C
p	0 - 16 bar	Q	12 Nm³/h

Compact Standard Bleeding Valve (medium-sized design) EB 1.12

float-controlled operational bleeding valve for all types of pipelines, tanks etc., thanks to soft seal especially tight-closing, outlet at the side | usable for nearly all liquids (petrol, oil ...), available in the ozone-resistant version | completely made of deep-drawn CrNiMo-steel (316L) – surface finish of the body Ra ≤ 1.6 µm | easy-to-maintain owing to the clamp system | corrosion-resistant, very lightweight and compact | available in special materials, such as seawater-resistant stainless steel, titanium, Hastelloy® etc.

DN	25 - 50 x G $^{3}/_{4}$ A	PN	16
G	1 - 2 x G $^{3}/_{4}$ A	T	190 °C
p	0 - 16 bar	Q	73 Nm³/h

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Continuous Bleeding and Venting Valves

Compact Standard Bleeding Valve (large-sized design) EB 1.12

float-controlled operational bleeding valve for all types of pipelines, tanks etc., thanks to soft seal especially tight-closing, outlet at the side | usable for nearly all liquids (petrol, oil ....), available in the ozone-resistant version | completely made of deep-drawn CrNiMo-steel (316L) – surface finish of the body Ra ≤ 1.6 µm | easy-to-maintain owing to the clamp system | corrosion-resistant, very lightweight and compact | available in special materials, such as seawater-resistant stainless steel, titanium, Hastelloy® etc.

DN	65 - 100 x G $^3/_4$ A	PN	16
		T	190 °C
p	0 - 16 bar	Q	248 Nm³/h

Valve for High Pressures EB 1.32SO

float-controlled operational bleeding valve, float and lever made of stainless steel, flanged body halves, also available as pure bleeding valve | usable for nearly all liquids | completely made of deep-drawn CrNiMo-steel (316L) – surface finish of the body Ra ≤ 1.6 µm | corrosion-resistant, very lightweight and compact | long operational lifespan, manageable installation, easy-to-maintain – highest effectiveness with compact design

DN	15 - 50	PN	25 - 63
G	$^1/_2$ - 1	T	200 °C
p	0 - 63 bar	Q	30 Nm³/h

Bleeding and Venting Valve with Sight Glass for Visual Checking EB 1.48

float-controlled operational bleeding valve for all types of pipelines, tanks etc., thanks to soft seal especially tight-closing | usable for nearly all liquids (petrol, oil ...), available in the ozone-resistant version | completely made of deep-drawn CrNiMo-steel (316L) – surface finish of the body Ra ≤ 1.6 µm | corrosion-resistant, very lightweight and compact

		PN	16
G	$^1/_2$	T	130 °C
p	0 - 16 bar	Q	28 Nm³/h

Startup Bleeding and Venting Valves

Valve for Very Large Air Volumes EB 3.50

float-controlled startup bleeding valve for high operating pressures, special designs available with adapted continuous bleeding and venting valve (EB 6.54) | usable for nearly all liquids | body made of steel, CrNiMo-steel | high-pressure-resistant welded construction | long operational lifespan, extremely sturdy, available in special materials

DN	100 - 300	PN	6 - 40
		T	200 °C
p	0.3 - 40 bar	Q_{max}	18,550 Nm³/h

Valve for Minimal Closing Pressure EB 3.51

float-controlled startup venting valve, also closes with minimal system pressure | for higher air volumes use EB 3.52 (up to 1935 Nm³/h) | suitable for nearly all liquids | completely made of deep-drawn CrNiMo-steel, surface finish of the body Ra ≤ 1,6 µm | easy-to-maintain owing to the clamp system | corrosion-resistant, very lightweight and compact | long operational lifespan, manageable installation, available in special materials such as seawater-resistant stainless steels – highest effectiveness with compact design

DN	25 - 100	PN	16
		T	80 °C
p	0.05 - 16 bar	Q	1,070 Nm³/h

Combined Bleeding and Venting Valves

Bleeding and Venting Valve with Integrated Vacuum Breaker EB 1.57

for plants subject to severe vacuum hazards and systems particularly requiring ventilation | float and lever ensure the discharge of large gas quantities for constant ventilation at maximum operating pressure | the adjustable vacuum breaker with large nominal diameter ensures maximum ventilation performance during draining of systems and means optimal dual functionality | completely made of deep-drawn CrNiMo-steel (316L) – surface finish of the body Ra ≤ 1.6 µm | easy-to-maintain owing to the clamp system | corrosion-resistant, very lightweight and compact

DN	100	PN	10
		T	130 °C
p	0 - 10 bar	Q	190 Nm³/h

Bleeding and Venting Valve with Integrated Vacuum Breaker EB 1.59

for plants subject to vacuum hazards, float and lever control the valve shut-off to discharge gas with the additional vacuum breaker function by means of a spring-controlled rubber ball in the large valve seat | usable for water and fuel | completely made of deep-drawn CrNiMo-steel (316L) – surface finish of the body Ra ≤ 1.6 µm | corrosion-resistant, very lightweight and compact owing to the clamp system

DN	100	PN	10
		T	60 °C
p	0 - 10 bar	Q	62 Nm³/h

Combined Valve Especially Designed for Water EB 1.74

for large air volumes at startup, continuous bleeding or venting under pressure, opens with large ventilation capacity if a vacuum is present | suitable for nearly all liquids | completely made of deep-drawn CrNiMo-steel (316L) – surface finish of the body Ra ≤ 1.6 µm | corrosion-resistant, very lightweight and compact | long operational lifespan, manageable installation, easy-to-maintain owing to the clamp system – highest effectiveness with compact design

DN	50 - 150	PN	16
		T	130 °C
p	0 - 8 bar	Q	1,783 Nm³/h

Epoxy-coated Cast Valve for Water EB 1.75

large bleeding or ventilation quantities owing to ventilation cross sections and connection flange dimensions of the same size | body made of GGG-50 with KTW-compliant epoxy coating | bleeding under operating pressure, max. bleeding performance in the start-up mode and max. ventilation performance during draining of systems means optimal triple functionality | optionally with anti-shock device for suppression of water hammers

DN	50 - 200	PN	16 - 40
G	1 + 2	T	60 °C
p	0.3 - 40 bar	Q	7,600 Nm³/h

Combined Valve Especially Designed for Dirty or Waste Water EB 1.84

for large air volumes at startup, continuous bleeding or venting under pressure, opens immediately if a vacuum is present | usable for nearly all liquids | completely made of deep-drawn CrNiMo-steel (316L) – surface finish of the body Ra ≤ 1.6 µm | easy-to-maintain owing to the clamp system | corrosion-resistant, very lightweight and compact | long operational lifespan, manageable installation, extremely reliable – highest effectiveness with compact design | optimal triple functionality

DN	50 - 150	PN	16
		T	130 °C
p	0 - 16 bar	Q	1,100 Nm³/h

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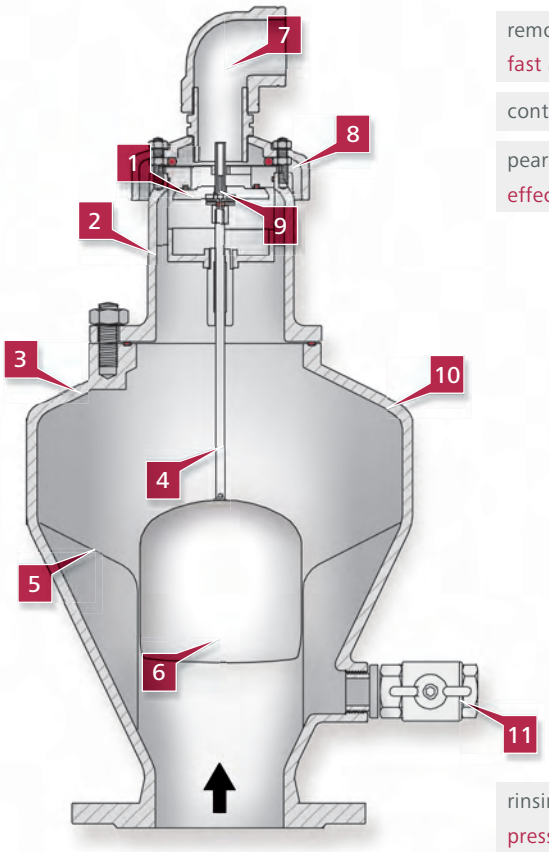
Combined Bleeding and Venting Valves

Your Benefits EB 1.85

main valve seat
maximum volume flow 1

removable top part
fast and easy maintenance 2

body epoxy-coated
high corrosion protection
min. 250 µm 3



degassing bend 7

removable cap
fast and easy maintenance 8

continuous bleeding seat 9

pear-shaped valve body
effective against deposits 10

long float rod
safe function for bleeding
and venting 4

float guide 5

float made of CrNiMo-steel
long operational lifespan 6

rinsing and draining tap
pressure relief prior to main-
tenance work 11

Epoxy-coated Cast Valve Especially Designed for Waste Water EB 1.85

optimised body design with guided float to ensure maximal protection of the bleeding and venting device | large bleeding or ventilation quantities owing to ventilation cross sections and connection flange dimensions of the same size | body made of GGG-50 with KTW-compliant epoxy coating | bleeding at operating pressure, max. bleeding performance in the startup mode and max. ventilation performance during draining of systems | optionally with anti-shock device for suppression of water hammers

DN	50 - 200	PN	10 - 16
G	2	T	70 °C
p	0.3 - 16 bar	Q	4,200 Nm³/h

Bleeding and Venting Valves for Highest Flow Rates EB 6.54

suitable for high operational pressures | for large air volumes during startup, large air volumes during bleeding | bleeding under pressure owing to adapted continuous venting valve | avoids cavitation peaks | suitable for all liquid media, also for petrol, oil and chemicals | body made of steel, CrNiMo-steel, massive welded construction, extremely sturdy, also available in seawater-resistant materials | optimal triple functionality

DN	25 - 300	PN	6 - 40
G	1 - 2	T	130 °C
p	0.3 - 40 bar	Q	18,550 Nm³/h

Steam Traps

Steam traps are valves that separate liquids from steam, air or other gases. Mankenberg steam traps are available in various materials and designs. There are small-sized and compact valves of deep-drawn stainless steel (High Grade), but also other versions of cast steel which have been invariably used for more than 100 years without changing material and design.

Float-controlled Steam Traps

Your Benefits

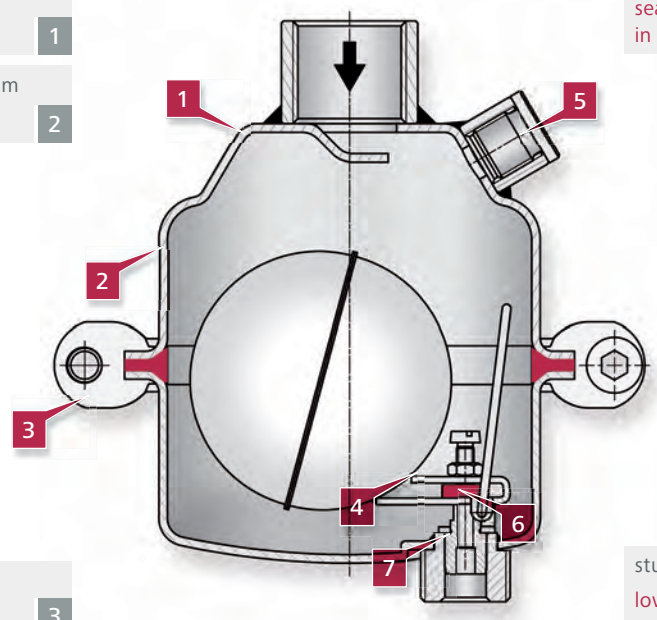
KA 2K

deep-drawn CrNiMo-steel (316L), corrosion-resistant, lightweight and compact
long operational lifespan, manageable installation, minimum space required, low delta-ferrite content possible **1**

standard surface Ra ≤ 1.6 µm
easy-to-clean **2**

Mankenberg clamp system
easy-to-maintain **3**

internal parts and float made of CrNiMo-steel (316L) resistant to pressure and corrosion
long operational lifespan **4**



compensation line connection
optimal pressure compensation **5**

soft seal
sealed valve closure already in depressurised condition **6**

sturdy valve mechanism
low maintenance **7**

Special Features

ATEX-certificated
suitable for the use in explosion-risk areas

High-performance and Sturdy Steam Trap — Niagara

with manual or thermal bleeding or fixed continuous bleeding | usable for steam | body made of GGG-40, GS-C 25, internal parts of CrNiMo-steel | solid, well-proven, sturdy, for very high temperatures | extended service intervals, extremely long operational lifespan, reliable | well-known as a high-performance valve

DN	15 - 150	PN	16 - 40
		T	200 °C / 400 °C
p	0 - 40 bar	Q	193 m³/h

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Float-controlled Steam Traps

Universal Valve for Small Flow Rates — KA 2

float-controlled, soft seal valve closure, fully developed lever mechanism, with manual bleeding for steam | usable for steam, compressed air, aerosols | completely made of deep-drawn CrNiMo-steel (316L) – surface finish of the body Ra ≤ 1.6 µm | easy-to-maintain owing to the clamp system | very lightweight and compact, corrosion-resistant to aggressive media, especially gastight | easy installation, long operational lifespan

		PN	16
G	$^{3}/_{4}$ x G $^{1}/_{2}$ A	T	190 °C
p	0 - 12 bar	Q	350 l/h

Universal Valve for Larger Flow Rates — KA 2X

metallic seal, for steam with manual bleeding | usable for steam, compressed air, aerosols | completely made of deep-drawn CrNiMo-steel (316L) – surface finish of the body Ra ≤ 1.6 µm | easy-to-maintain owing to the clamp system | very lightweight, corrosion-resistant to aggressive media | easy installation, long operational lifespan

DN	25 x G $^{3}/_{4}$ A	PN	16
G	1 x G $^{3}/_{4}$ A	T	190 °C
p	0 - 13 bar	Q	1,200 l/h

Steam Trap in Action — KA 2

Discharge of Condensate for Drainage of a Charge-air Cooler

A large Diesel engine has to be equipped with a charge-air cooler that reduces the temperature of the compressed air supplied to the engine. With the temperature dropping, the density of the charge air is further increased. This will enhance the output and the efficiency of the Diesel engine.
The Mankenberg steam trap KA 2 is used for draining the charge-air cooler. When the compressed air is cooled down, a varying quantity of condensate is generated that will be safely drained via the steam trap. The float-controlled KA 2 has an especially tight soft seal and prevents the intrusion of water into the engine cylinder which would lead to unwanted pressure peaks.

Float-controlled Steam Traps

Steam Trap Especially Designed for Cold Condensates — KA 2K

particularly gastight also without fluid content owing to the soft seal valve closure and the fully developed lever mechanism | certified in accordance with ATEX | operating pressures down to millibar range | completely made of deep-drawn CrNiMo-steel (316L) – surface finish of the body Ra ≤ 1.6 µm | easy-to-maintain owing to clamp system | very lightweight and compact, corrosion-resistant to aggressive media, especially gastight | manageable installation, long operational lifespan

		PN	16
G	$^1/_2$ - 1	T	80 °C
p	0 - 12 bar	Q	1,570 l/h

Float Valves

Depending on the design and the liquid level in a tank, float valves control the inflow and outflow of liquid media. Float valves are available in various versions and materials or material combinations (cast steel, steel and stainless steel) according to requirements.

Float Valves for Installation in Tanks

Standard Valve of Cast Steel — NV 12

single-seat feed valve of angle design | body made of GG-25, GGG-40 | incl. lever and float made of CrNiMo-steel, proven technology that requires no external energy | parallel guidance available

DN	20 - 150	PN	16
p	0 - 8 bar	T	110 °C
K_{VS}	2.8 - 195 m³/h		

Compact Stainless Steel Valve — NV 94

single-seat feed or drain valve | suitable for nearly all liquids, also aggressive ones | completely made of CrNiMo-steel (316L) | incl. lever and ball float made of CrNiMo-steel | sturdy technology, smooth surfaces

		PN	16
G	$^3/_8$ A - 1 $^1/_2$ A	T	300 °C
p	0 - 8 bar	K_{VS}	0.5 - 21 m³/h

Epoxy-coated Valve for Potable Water — NV 95E

angle-type single-seat feed valve | suitable for water, especially for potable water | body made of GGG-50 with epoxy coating in accordance with the KTW Plastics and Drinking Water Guidelines | stainless steel rod, float made of polyethylene

		PN	16
G	1 - 1 $^1/_4$	T	70 °C
p	0 - 16 bar	K_{VS}	13 m³/h

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Float Valves for Installation in Tanks

Universal Valve — NV 98

single-seat feed valve of angle design | usable for nearly all liquids, also aggressive ones / completely made of deep-drawn CrNiMo-steel (316L) – surface finish of the body Ra ≤ 1.6 µm | incl. lever and ball float made of CrNiMo-steel | parallel guidance available

DN	40 - 80	PN	16
G	$^{3}/_{8}$ A - 1 $^{1}/_{2}$ A	T	130 °C
p	0 - 8 bar	K_{VS}	0.5 - 82 m³/h

Float Valves for External Installation on Tanks

Level Regulating Valve — NV 55 - 56

NV 55 single seat, NV 55E balanced single seat, NV 56 double seat, straight-way valve for feeding or draining, for large flow rates and nominal diameters | body made of GS-C25, CrNiMo-steel | incl. float rod and shell-type float made of CrNiMo-steel | rubber coating or synthetic material coating available for aggressive media

DN	15 - 400	PN	16 - 40
		T	130 °C
p	0 - 16 bar	K_{VS}	2.6 - 1,800 m³/h

Level Regulating Valve — NV 67E

single-seat, balanced straight-way valve for feeding or draining, for large flow rates | completely made of deep-drawn CrNiMo-steel (316L) – surface finish of the body Ra ≤ 1.6 µm | easy-to-maintain owing to clamp system | incl. float rod and shell-type float made of CrNiMo-steel

DN	15 - 100	PN	16
		T	130 °C
p	0 - 16 bar	K_{VS}	4 - 100 m³/h

Direct Feed or Drain Valve — NV 71

single-seat angle valve for feeding or draining, the tank is filled and drained via the mounting flange on the tank | usable for nearly all liquids | body made of steel, optionally CrNiMo-steel | incl. level and ball float made of CrNiMo steel | rubber coating or synthetic material coating for aggressive media

DN	25 - 150	PN	10
		T	300 °C
p	0 - 8 bar	K_{VS}	1.6 - 81 m³/h

Float Valves for Pipelines

Cast Steel Valve for High Flow Rates — NV 15E

NV 16 single seat, NV 16E balanced single seat, NV 26 double seat | straight-way valve for feeding or draining | body made of GS-C25, CrNiMo-steel | incl. float rod and shell-type float made of CrNiMo-steel | rubber coating or synthetic material coating available for aggressive media

DN	40 - 300	PN	16
		T	70 °C
p	0 - 16 bar	K_{VS}	18 - 900 m³/h

Cast Steel Valve for High Flow Rates — NV 16 - 26

NV 16 single seat, NV 16E balanced single seat, NV 26 double seat | straight-way valve for feeding or draining | body made of GS-C25, CrNiMo-steel | incl. float rod and shell-type float made of CrNiMo-steel | rubber coating or synthetic material coating available for aggressive media

DN	15 - 400	PN	10 - 40
		T	130 °C
p	0 - 4 bar / 0 - 16 bar	K_{VS}	2.6 - 1,800 m³/h

Level Regulating Valve — NV 66E

single-seat, balanced straight-way valve for feeding or draining, large flow rates | usable for nearly all liquids | completely made of deep-drawn CrNiMo-steel (316L) – surface finish of the body Ra ≤ 1.6 µm | easy-to-maintain owing to the clamp system | incl. float rod and shell-type float made of CrNiMo-steel

DN	15 - 100	PN	16
		T	130 °C
p	0 - 16 bar	K_{VS}	4 - 100 m³/h

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Pipeline Ancillaries

Pipeline ancillaries comprise active or passive components for pipeline construction as well as for measuring and control technology.
Various devices and components are available in the proven quality that Mankenberg offers, from filters and liquid separators through to sight glasses for high pressures for high temperature applications.

Strainers and Filters

Pot Strainer for Large Nominal Diameters — SF 2.00I

body welded of steel or stainless steel | stainless steel sieve basket of CrNi-steel with screen mesh of CrNiMo-steel, mesh size 1 mm | cover with bleeding plug, bottom with draining plug | specific customised versions available

DN	50 - 1,000	PN	6 - 40
		T	400 °C

Strainer for Very High Pressures — SF 3.00

strainer made of forged steel in block design, low pressure drop, different sieve finenesses, clear mesh width 0.25–2.5 mm | usable for liquids, gases and steam | body made of C-steel, CrNiMo-steel, special material such as Duplex, Superduplex, Hastelloy® or titanium available | optionally with manometer connection

DN	15 - 100	PN	160 - 500
G	1/2 - 4	T	550 °C

Stainless Steel Pot Strainer — SF 6.00

flat sieve with low pressure drop, different sieve finenesses, clear mesh width 0.25–2.5 mm | usable for liquids, gases and steam | completely made of CrNiMo-steel (316L) – surface finish of the body Ra ≤ 1.6 µm | easy-to-maintain owing to the clamp system | corrosion-resistant, very lightweight and compact | long operational lifespan, manageable installation – highest effectiveness with compact design

DN	15 - 100	PN	16
G	1/2 - 2	T	200 °C

Stainless Steel Gas Filter — FI 6.01

low pressure drop, filter medium made of polyester foam, pore size 0.15–0.58 mm | usable for gases | completely made of deep-drawn CrNiMo-steel (316L) – surface finish of the body Ra ≤ 1.6 µm | easy-to-maintain owing to the clamp system | corrosion-resistant, very lightweight and compact | long operational lifespan, manageable installation – highest effectiveness with compact design

DN	15 - 100	PN	16
G	1/2 - 2	T	80 °C

Stainless Steel Filter — FI 6.06

especially suitable for sterile steam, filter insert of sintered steel or pleated stainless steel mesh, filter fineness 5, 20 or 25 µm | usable for gases, steam, compressed air | completely made of deep-drawn CrNiMo-steel (316L) – surface finish of the body Ra ≤ 1.6 µm | easy-to-maintain owing to the clamp system | corrosion-resistant, very lightweight and compact | long operational lifespan, manageable installation – highest effectiveness with compact design

DN	15 - 50	PN	16
G	$^1/_2$ - 2	T	190 °C

Filter in Action — FI 6.06

HIGH GRADE

Cleaning of Control Air in Compressed Air Systems

Owing to their size, Diesel engines used on ships or in power plants can only be started by means of compressed air. Given this size, the nominal pressure may amount to up to 30 bar. The compressed air systems of the engine unit take in air that is often heavily contaminated with particles. The control air is needed to push open the injection valves during the start of the engines and must be filtered prior to entering the system. Without air filtering the injection valves may be damaged and cause the engine to become blocked. The compressed air filter FI 6.06 is installed upstream of the compressed air system cleaning the control air. The very lightweight and compact FI 6.06 is made of deep-drawn stainless steel and has a high dirt-holding capacity at low pressure loss.

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Liquid Separators

Combined Valve with Integrated Liquid Separator — AS 2

spin separator of straight design | usable for liquids, gases, steam | completely made of deep-drawn CrNiMo-steel (316L) – surface finish of the body Ra ≤ 1.6 µm | easy-to-maintain owing to the clamp system | corrosion-resistant, very lightweight and compact | long operational lifespan, manageable installation – highest effectiveness with compact design

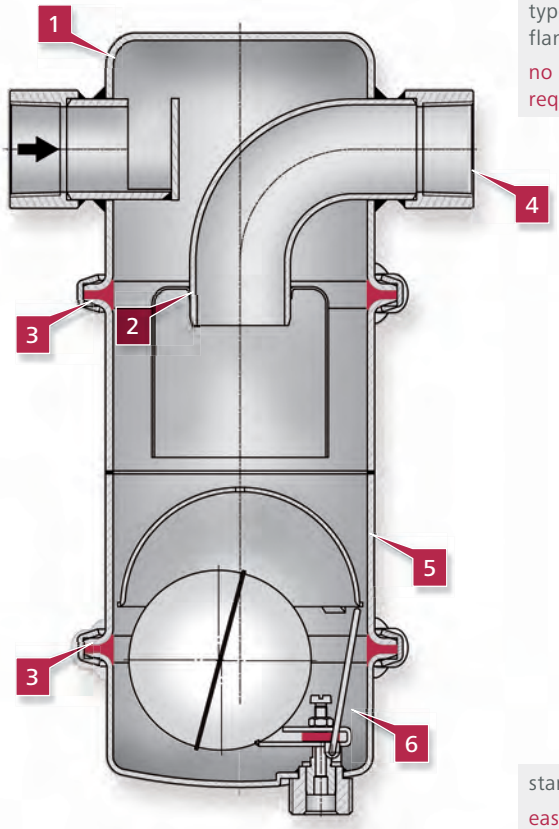
DN	25 + 40	PN	16
G	1 + $1^1/_2$	T	190 °C
p	0 - 13 bar	Q	1,900 Nm³/h

Your Benefits — AS 2

deep-drawn CrNiMo-steel (316L), corrosion-resistant, lightweight and compact
long operational lifespan, manageable installation, minimum space required, low delta-ferrite content possible — 1

optimised flow geometry
up to 99 % separating performance — 2

Mankenberg clamp system
easy-to-maintain — 3



a wide variety of connection types: DIN-, ANSI- or aseptic flanges, weld-on ends ...
no adapters or fitting pieces required — 4

standard surface Ra ≤ 1.6 µm
easy-to-clean — 5

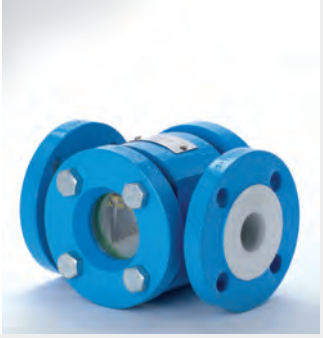
integrated steam trap — 6

Sight Glasses / Flow Indicators

Flow Indicator with Two Glasses — DA 4.00 - 4.40

DA 4.00 without internal parts | DA 4.10 with flag, DA 4.30 with vane, DA 4.40 with ball | usable for liquids, gases, steam | body made of steel, CrNiMo-steel | available in various variants, also in special materials (e.g. Hastelloy®) | individually customised to your requirements

DN	15 - 250	PN	16 - 40
G	$^3/_8$ - 2	T	280 °C



Sight Glasses / Flow Indicators

Flow Monitor with Single Glass — DA 6.00 - 6.30

DA 6.00 without internal parts, DA 6.10 with flag, DA 6.12 with external display for opaque liquids, DA 6.30 with vane | usable for liquids, gases, steam | body made of deep-drawn CrNiMo-steel (316L) – surface finish of the body Ra ≤ 1.6 µm | easy-to-maintain owing to the clamp system | long operational lifespan, manageable installation – well-priced stainless steel sight glasses

DN	15 - 50	PN	16
G	G $^1/_2$ - 2	T	130 °C

Flow Indicator with Two Glasses — DA 7.00, 7.10

DA 7.00 without internal parts, DA 7.10 with flag | usable for liquids, gases, steam | body made of deep-drawn CrNiMo-steel (316L) – surface finish of the body Ra ≤ 1.6 µm | easy-to-maintain owing to the clamp system | long operational lifespan, manageable installation – well-priced stainless steel sight glasses

DN	15 - 50	PN	16
G	$^1/_2$ - 2	T	130 °C

Accessories and Spare Parts

Our accessories, such as manometers or float balls, complete the need for components for the construction of process plants.

Accessories

Diaphragm Compensation Vessel — AKM 200

completely made of deep-drawn CrNiMo-steel (316L) – surface finish of the body Ra ≤ 1.6 µm | diaphragm optionally made of EPDM or FPM | easy-to-maintain owing to the clamp system

		PN	10
G	$^1/_2$	T	130 °C
p	0 - 10 bar		

Float made of CrNiMo-steel (316L) — SC

float designed in various forms, sizes and wall thicknesses | attached to the lever by means of a fork or rod passing through it | SC 3 and SC 4 for pressure vessels, SC 7 and SC 8 for pressureless vessels

Spare Parts

Any further information you require can be found on page 68.

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After Sales

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 knowhow is just one call away.

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

Monday through Thursday	7.30 a.m. – 5.00 p.m.
Friday	7.30 a.m. – 4.00 p.m.

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

On-the-spot Service

Always and Everywhere

Experienced Mankenberg specialists are available for your needs. You carry out the commissioning or setting of the valves in your plant. Benefit from our know-how and get an optimal cost / benefit ratio.

» Longer service life due to optimally set valves

Call our Service Team on: +49 (0) 451-8 79 75 222
or send a query by email: service@mankenberg.de

Spare Parts Service

Rapidly Ensure Safety in the Long Term

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.

» Availability of parts for at least 25 years in the long term
» Vast assortment
» Permanent availability of relevant spare parts
» Express delivery

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

Maintenance

Smartly Avoid Failures

Continuous maintenance of the valves by experts prevents long downtimes and expensive failures. In case of need our repair service will be immediately on the spot and will ensure that your processes are up and running again as quickly as possible.

» Service contracts (minimise downtimes)
» Monitoring the maintenance schedules

Any further information on maintenance can be found in the Internet:
www.mankenberg.com or email: service@mankenberg.de

MANKENBERG

Service and Maintenance Training Courses

Know-how to its very Essence

Comprehensive service and maintenance training courses as well as individual seminars regarding any technical and process-optimising subject with regards to our valves will continuously increase the existing potential of your staff and machines. Experts from the field will transmit the necessary knowledge on selection and application of our valves. Thus you and your staff will always be updated.

Further information and current schedules can be found in the Internet:
www.mankenberg.com or let us have your enquiry by email: service@mankenberg.de

After Sales Team

Henning Tietz,
Service

Christian Peine,
Service Team Leader

Janina Pflaum,
Service

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Customer Seminars

Seminars

Control Valves are our World

With competence and experience we regularly hold training courses and seminars on various subjects. Experts from the field will teach the fundamentals of in-depth knowledge regarding selection and application of our comprehensive product range of control valves during a one-day seminar, which can be held at Mankenberg in Lübeck, at various venues in Germany or on-site in your company.

Subjects

Example from our Mankenberg Basic Seminar

- Mankenberg – Valves made of deep-drawn stainless steel
- Our delivery programme – an overview
  - Pressure regulating valves
  - Float-controlled valves
  - Other valves
- Application technology (practical examples)
  - Valves in different processes
  - Valves in various industries
  - Specially designed valves
- Guided tour of the factory (only for seminars held in Lübeck!)
- Test bench (only for seminars held in Lübeck!)
  - Pressure regulating valve with large nominal diameters
  - High-performance bleeding and venting valves
- Technical terms – what does ... mean?
  - Definition of the technical terms used
  - Components of control valves
  - Selection criteria
- Design of pressure regulating valves
  - Calculation basis, operating data
  - K_{VS}-value, flow velocity, nominal diameter
- Special valves for special applications
- Events of damage – how and why

Further information and current schedules can be found in the Internet: www.mankenberg.com
or let us have your enquiry by email: kundenschulung@mankenberg.de

...or simply scan the QR Code with your smartphone!

MANKENBERG

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Made in Germany

Our enthusiasm about what we do can be seen in the quality of our products, in our love of detail and in the challenge to find the suitable solution for every application. We do all we can to make sure that our customers are as convinced by our products as we are – find out for yourself, let us have your enquiry.

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since 1885
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Please send us your enquiry and allow us to advise you.

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