

Industriearmaturen Industrial Valves



# Mankenberg control valves – Optimum customer-specific solutions

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













(Germany)













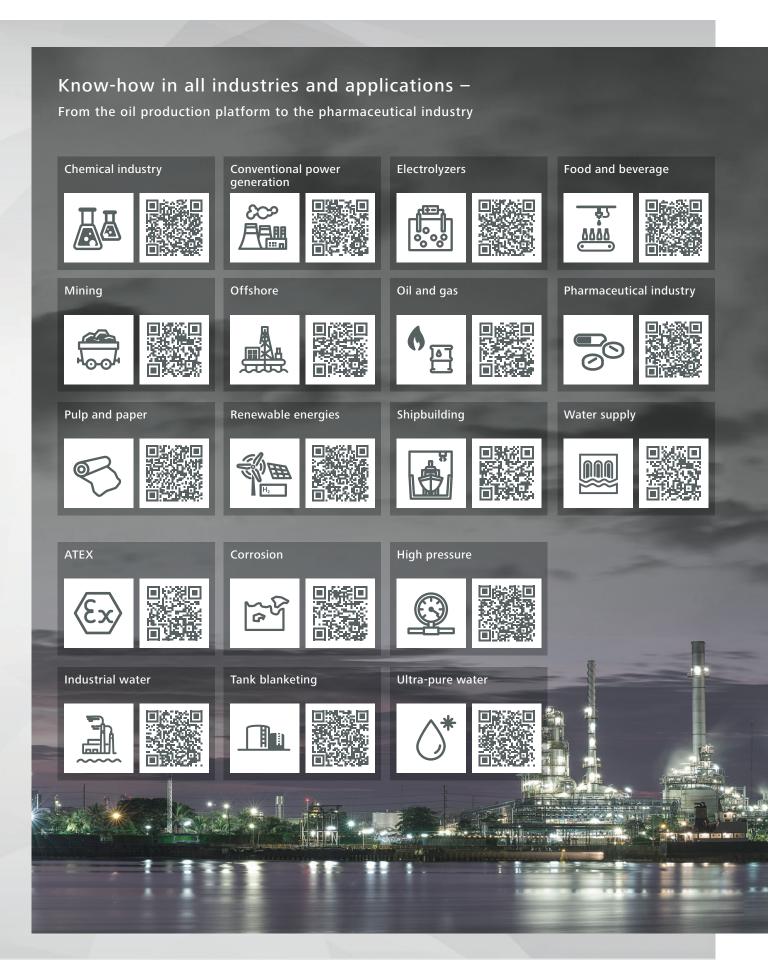


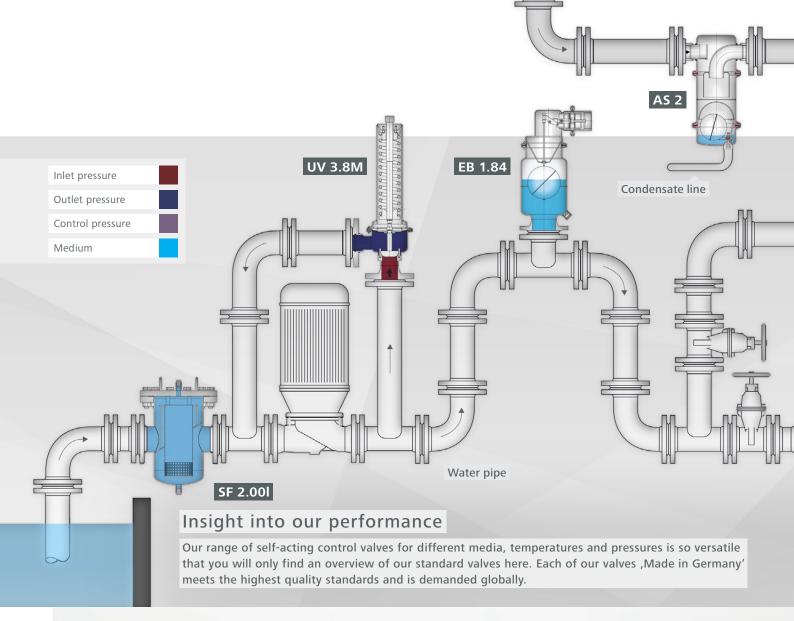
Development, production and sale of industrial valves

From standard to innovative

tailor-made special valves







### **Spring-operated pressure control valves**

Tasks / service areas

### **Pressure reducing valves**

DI

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

| DN             | 15 - 800        | PN              | 1 - 400                        |
|----------------|-----------------|-----------------|--------------------------------|
| G              | 1/2 - 2         | Т               | -60 - 400 °C                   |
| p <sub>2</sub> | 0.002 - 160 bar | K <sub>vs</sub> | 0.05 - 2,100 m <sup>3</sup> /h |

### Vacuum breakers

\/\

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

| DN             | 15 - 250               | PN              | 16 - 40        |
|----------------|------------------------|-----------------|----------------|
| G              | 1/2 - 2 ½              | Т               | -60 - 250 °C   |
| p <sub>2</sub> | 0.05 - 0.95 bar (abs.) | K <sub>vs</sub> | 0.2 - 388 m³/h |

#### **Back pressure regulators**

UV

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

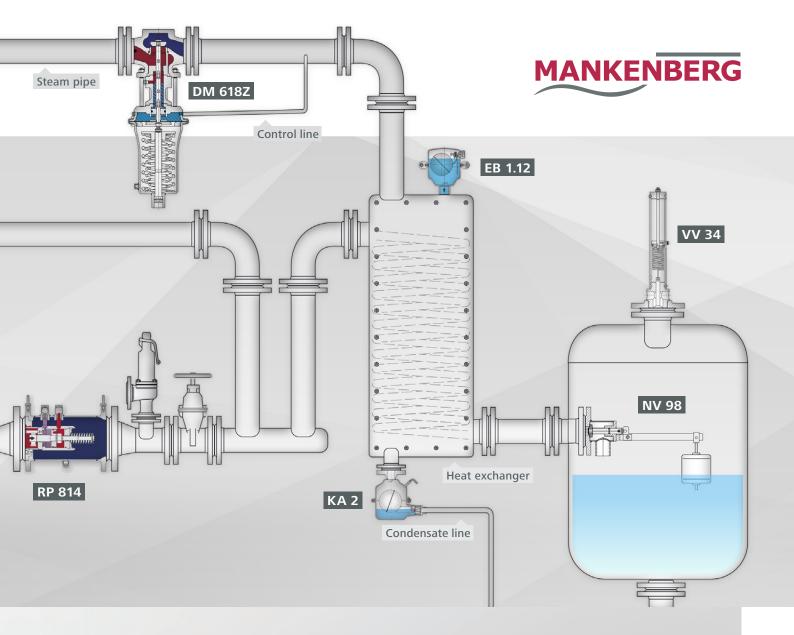
| DN             | 15 - 800        | PN              | 1 - 250                        |
|----------------|-----------------|-----------------|--------------------------------|
| G              | 1/2 - 2         | Т               | -60 - 400 °C                   |
| p <sub>2</sub> | 0.002 - 220 bar | K <sub>vs</sub> | 0.05 - 2,100 m <sup>3</sup> /h |

#### Differential pressure control valves

D١

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

| DN | 15 - 150       | PN       | 1 - 400                      |
|----|----------------|----------|------------------------------|
| G  | 1/2 - 2        | Т        | -45 - 200 °C                 |
| Δр | 0.002 - 25 bar | $K_{vs}$ | 0.05 - 160 m <sup>3</sup> /h |



# Float-operated level control valves Tasks / service areas

### **Bleeding and venting valves**

EB

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

| DN             | 15 - 200   | PN | 16 - 63                       |
|----------------|------------|----|-------------------------------|
| G              | 1/2 - 2    | Т  | -60 - 400 °C                  |
| p <sub>1</sub> | 0 - 63 bar | Q  | up to 9,670 m <sup>3</sup> /h |

### **Steam traps**

KA

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

| DN | 15 - 50    | PN | 16 - 63    |
|----|------------|----|------------|
| G  | 1/2 - 1    | Т  | 300 °C     |
| р  | 0 - 60 bar | Q  | 3,700 m³/h |

### Float valves

NV

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

| DN | 15 - 150   | PN              | 16 - 40                     |
|----|------------|-----------------|-----------------------------|
| G  | 3/8 - 2    | Т               | -60 - 300 °C                |
| р  | 0 - 16 bar | K <sub>vs</sub> | 0.2 - 160 m <sup>3</sup> /h |

### **Separators**

AS

Separators separate media of different states of aggregation.

| DN | 15 - 50    | PN | 16            |
|----|------------|----|---------------|
| G  | 1/2        | Т  | 200 °C        |
| р  | 0 - 16 bar | Q  | up to 73 m³/h |

# Mankenberg top sellers

We consistently develop further our range of products. But our customers also remain loyal to our proven valves. These top sellers have been leading the list of the best selling valves for years.

| Valve for | small to | medium | flow rates |
|-----------|----------|--------|------------|
|           |          |        | DM 555     |

| DN             | 15 - 50      | PN              | 40             |
|----------------|--------------|-----------------|----------------|
| G              | 1/2 - 2      | Т               | -40 - 200 °C   |
| p <sub>1</sub> | up to 40 bar | K <sub>vs</sub> | 1.3 - 7.5 m³/h |
| p <sub>2</sub> | 0.5 - 20 bar |                 |                |

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



## High pressure valve for small to medium flow rates

| DN             | 15 - 50       | PN              | 16 - 320                    |
|----------------|---------------|-----------------|-----------------------------|
| G              | 3/8 - 2       | Т               | 400°C                       |
| p <sub>1</sub> | up to 320 bar | K <sub>vs</sub> | 0.2 - 5.5 m <sup>3</sup> /h |
| p <sub>2</sub> | 2 - 160 bar   |                 |                             |

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











M EB 1.12

| Valve for | <sup>r</sup> medium | to | high | flow | rates |
|-----------|---------------------|----|------|------|-------|
|           |                     |    |      | DIV  | 1 652 |

| DN             | 15 - 50       | PN              | 16 - 40     |
|----------------|---------------|-----------------|-------------|
| G              | 1/2 - 2       | Т               | 190°C       |
| p <sub>1</sub> | 40 bar        | K <sub>vs</sub> | 5 - 22 m³/h |
| p <sub>2</sub> | 0.02 - 12 bar |                 |             |

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



### Millibar control valve for small to medium flow rates DM 755

| DN             | 15 - 50          | PN              | 16                          |
|----------------|------------------|-----------------|-----------------------------|
| G              | 1/2 - 2          | Т               | 130 °C                      |
| p <sub>2</sub> | 0.002 - 0.52 bar | K <sub>vs</sub> | 0.2 - 4.5 m <sup>3</sup> /h |

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

ATEX version optional

## Continuous bleeding valve with DVGW approval for small to high flow rates EB 1.12

| DN | 25 - 100   | PN | 16       |
|----|------------|----|----------|
| G  | 1/2 - 2    | Т  | 130 °C   |
| р  | 0 - 16 bar | Q  | 248 m³/h |

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

ATEX version optional

DVGW



# Our speciality – Custom-made valves

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



Special materials

**Product labelling** 

Shaping

Standards and testing regulations

Special inspections and certificates





# Mankenberg product advantages

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

### Example DM 555

Mankenberg advantages at a glance

| SPECIAL FEATURES   |   |
|--|---|
| Modular construction acc. to EN or ASME, excellent control characteristics, high reduction ratio   |   |
| With soft or metallic seal  Can also be used for abrasive media  | 1 |
| Exchangeable seat  Easy adjustment to changed flow rates   | 2 |
| Mankenberg clamp system  Easy maintenance  | 3 |
| Balanced cone  Downstream pressure control independent from the upstream pressure  | 4 |
| Exchangeable control parts  Easy change of pressure ranges   | 5 |
| EASY-ADAPT – Connection adapter  | 6 |
| EASY-CHECK – Non-rising adjusting screw<br>Function externally visible, easy and exact setpoint<br>adjustment, unchanged construction height | 7 |

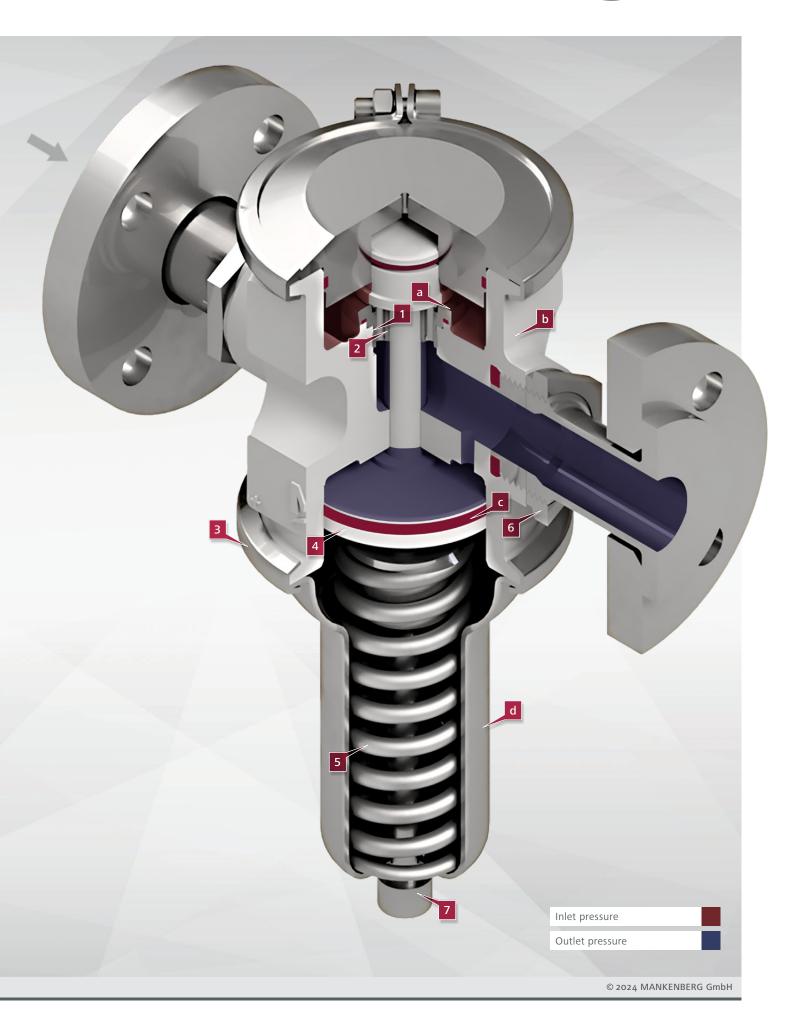
| OPTIONS   |   |
|---|---|
| Hard-faced valve cone and seat Suitable for high pressure drops                       | а |
| Special material possible: Duplex, Super Duplex,<br>Hastelloy® and titanium available | b |
| Elastomers made of FKM, NBR, PTFE or others, also FDA compliant                       | С |
| Delivery in accordance with NACE  | d |



Experience and know-how

Guaranteed reliability and ability to deliver.







### FAST, RELIABLE, DELIVERABLE

Our answer to these increasingly important requirements is **ETIME**, the continuously optimised Mankenberg storage and logistics system.

See for yourself.



## CALCULATION AND DESIGN SOFTWARE — VALVEPILOT EASY VALVE SELECTION

### COMFORTABLE TO CALCULATE THE $K_v$ AND $K_{vs}$ VALUE

ValvePilot also provides warnings about potential hazards such as cavitation, flashing or excessive noise pressure levels. You will also receive an alert if a pipe expansion is required owing to your operational data. This calculation tool works entirely online.

These values are essential for the optimal selection of valves. In addition, the programme determines the following values / parameters:

- » Noise pressure level
- » Nominal diameter
- » Reduction ratio
- » Inflow and outflow velocity
- » Phase changeover





valvepilot.com







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



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