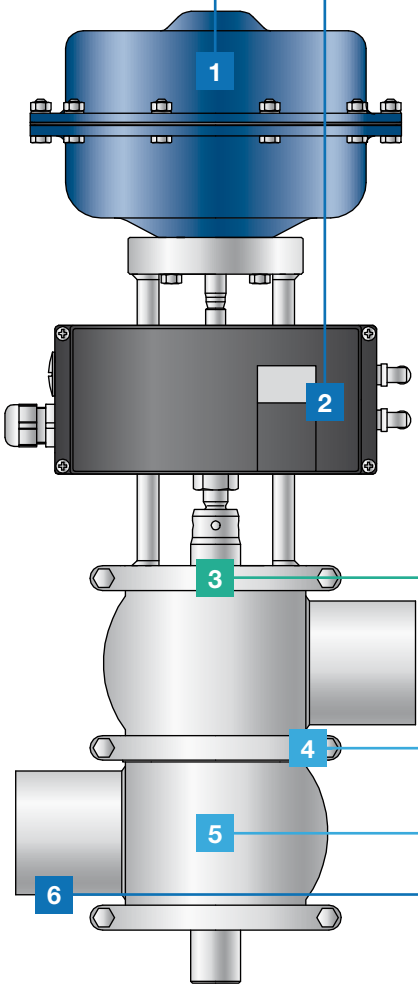
von Rohr
Armaturen AG

Series BIOVENT

Every component precisely matched



Powerful valve actuator

Most commonly used is the pneumatic multi-spring actuator series MA as shown here. It is robust, ex-proof, features low actuating times, provides a constant seating force and is cost effective. Different sizes, strokes and materials can be manufactured according to your requirements. von Rohr control valves are optional also available with electric actuators. For more details, see the von Rohr brochures MA actuators or SHE actuators.

Multi-functional positioner

The ARCAPRO® digital positioner is a multi-functional interface with the controller or process control system and operates as standard with 4 to 20 mA. HART, Profibus (PA), and Foundation Fieldbus (FF) communication are used to establish a digital interface with bidirectional data exchange (including status messages). It can be parameterized on site or via the communications system. An open mechanical interface concept that our mother company ARCA helped elaborate complies with VDI/VDE 3847 and is used for mounting and mechanically connecting the positioner to the actuator. For more details about this see the von Rohr brochure ARCAPRO® positioner.

Reliable stem seal

Depending on the process fluid, pressure and temperature, we can advise you on the most suitable stem seal. We make sure that you will not have to worry about the tightness. A special, combined sealing element with a wiper tightens the stem. The rinsing liquid and/or particles are wiped off before the sealing element and the bearing. Carryover or crushing of the particles between the spindle and bearing is thus avoided.

Hygienic body sealing

For FDA compliant sealing of the body parts, EPDM O-rings are used as standard, which are deformed in a defined form-locking fitting space. The pretension ensures a flush closure with the body wall and prevents penetration of the medium behind sealing. Best CIP (Cleaning in Place) and SIP (Sterilization in Place) conditions are given.

Robust, high-precision trims

The von Rohr control valves are equipped with inner parts specially designed for the prevailing flow conditions in your plant. The control is provided by an exchangeable stainless steel plug and a clamped seat.

Body

The spherical stainless steel body is flow-optimized and self-draining. The height of the body is equal to the inner diameter of the connection pipes. The modular design is suitable for CIP (Cleaning in Place) and SIP (Sterilization in Place). Stainless steel clamping rings connect the body parts. This simplifies the maintenance and modification on angle, straight-through or three-way valve. As standard, the Biovent comes with welding ends. Other connections such as clamp, flange or milk pipe connection are possible.

Valve design

In order to fulfill its function properly within an installation, the valve has to be designed to the particular operating conditions such as flow rate, operating pressure difference, tightness and noise requirements. This is realised thanks to the numerous combinations that the modular design allows.

Valve stem seals

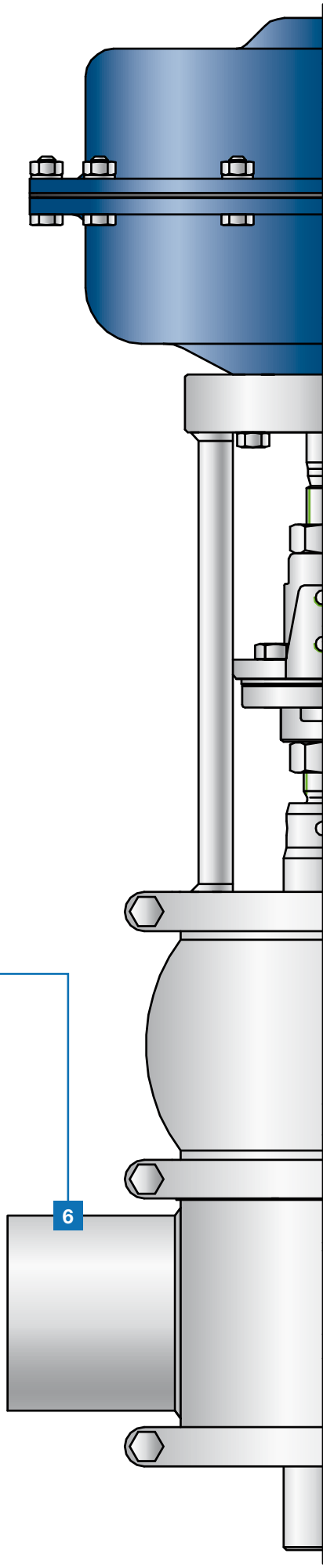
The type of valve stem seal depends on the fluid as well as the operating conditions such as temperature and pressure. It also, however, has decisive influence on the operational safety, the maintenance and, last not least, on the availability of the valve.

Valve trims

To meet the specific requirements, such as kvs-value, basic characteristic, z-value, and maximum leak rate permissible noise levels this series has a variety of designs for seat and plug.

Special trim designs

In order to avoid cavitation related damages and noise, multistage plug variants have been proven for liquid and compressible media. This increases the service life and, in turn, the cost-effectiveness of control valves which are designed for high differential pressures and subject to harsh conditions. The noise emission levels are effectively reduced.

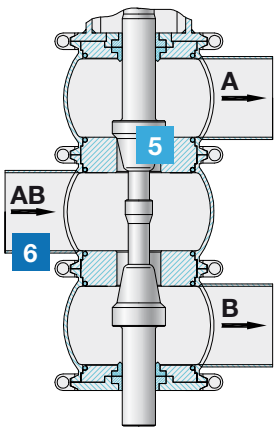


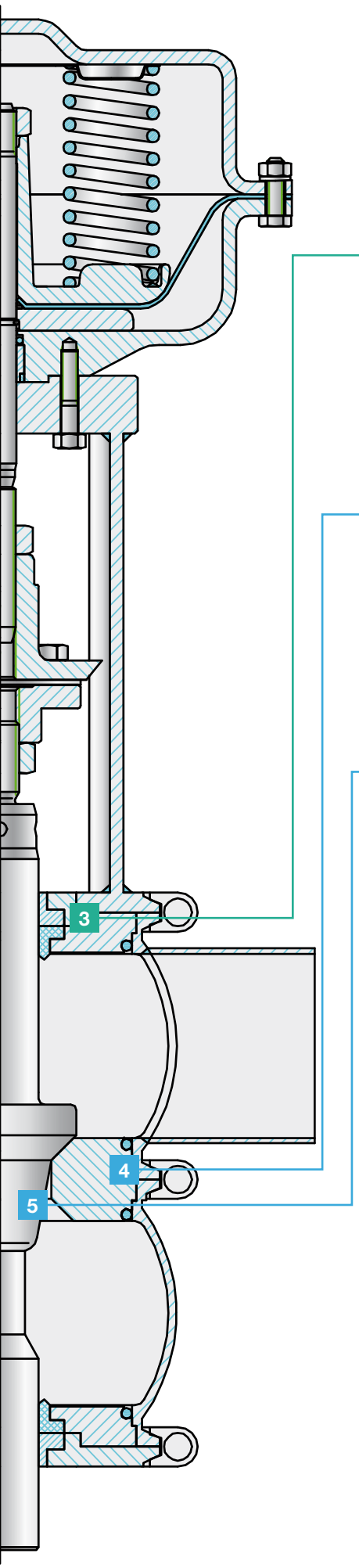
Body

- Stainless steel 1.4404
- Minimum dead-space construction
- As standard with welding ends, clamp, flange or milk pipe connections are possible.
- Modification to angle, straight-through or three-way valve possible

Flow dividing

The medium enters from the left (AB) into the valve, where it is divided in two separate streams (A) and (B). The two opposing plugs have the same seat diameter and are thus, from static point of view, pressure balanced. The von Rohr design always attaches importance to a double guiding in order to master even the most demanding applications. The actuator therefore has only to be dimensioned for the forces resulting from the pressure difference, the weight and friction of the packing.





Reliable stem sealing

- No stuffing box as a bacteria lift
- Combined sealing element with wiper prevents deposits on the stem

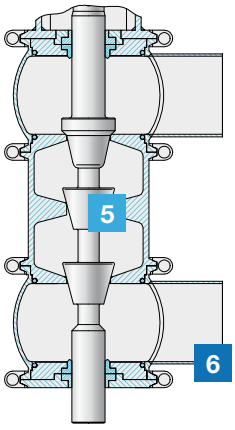
Hygienic body sealing

- Flush closure with the body wall
- CIP (Cleaning in Place) and SIP (Sterilization in Place)

Robust, high-precision trims

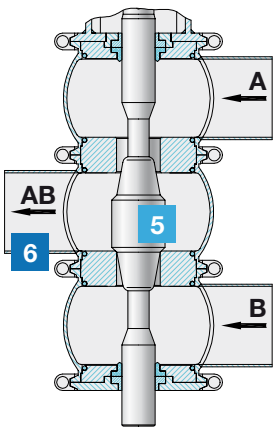
- Basic characteristic equal percentage or linear
- Leakage rate ≤0.01% of kvs value

Multi-stage taper design

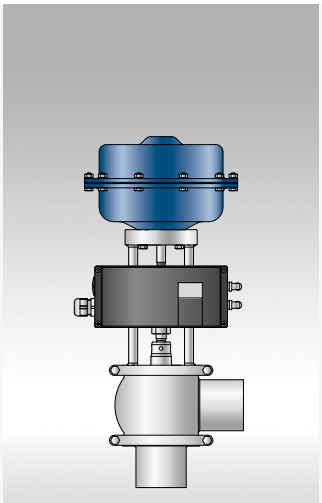
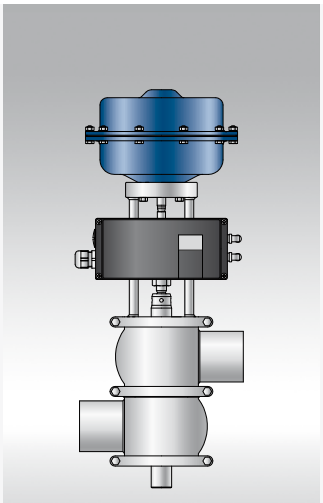
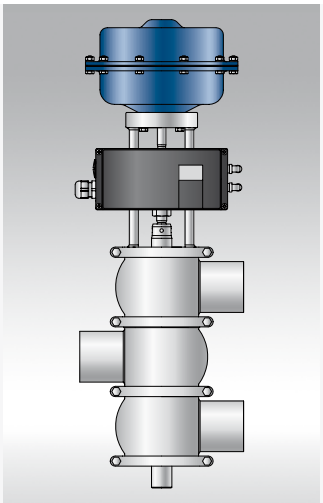
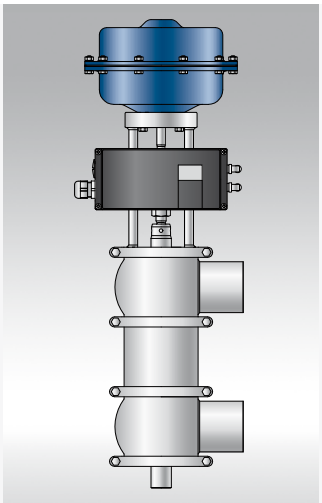


Flow mixing

The medium enters laterally from right (A) and (B) into the valve and is mixed before it leaves sideways (AB) again. This is a typical application for temperature control.



Series BIOVENT

Angle version	Straight through version	Three-way version	Multi stage version
			

Features	Advantages
Body designed to meet flow path criteria	● When draining the system, the valve empties ● Well sterilizable with steam (135°C)
Minimum dead-space construction	● Minimized purification cycle ● Suitable for CIP and SIP
Flexible modular compound with clamping rings	● Modification to angle, straight-through or three-way valve possible ● Maintenance without any special tools ● Quick and easy disassembly
Stem with special sealing element and an additional wiper ring	● Long-term reliability ● Low maintenance
As standard with welding ends	● Wide range of options
Body and the inner part made of W 1.4435 (316L)	● By electrolytic polishing Ra ≤ 0.8 µm
High level of control accuracy	● By a high rangeability, the process is continuously controlled and doesn't need to be clocked On/Off
Optionally available with manual, pneumatic or electric actuator	● Wide range of choice
Interchangeable trim	● Exchange of seat and cone possible

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General data

Series	BIOVENT
Nominal bore DN	15 to 150
Nominal pressure PN	10 to 25
Characteristics	equal percentage or linear
Rangeability	40:1
Plug guide	stem guided
Leakage rate	metallic sealing: leakage rate class IV (0.01% kvs-value); soft sealing: leakage rate class VI
Body shape	angle, straight trough or three-way
Connection types	welding ends, clamp, flange or milk pipe connections
Stem sealing	sealing rings made of EPDM, temperature range: –30 to +135°C, FDA, 3A Sanitary and EHEDG compliant
Range of application	maximum operating temperature of 135°C

Materials

Body material	**EN**	**for temperatures**	**ASTM**	**for temperatures**
	1.4404 X2CrNiMo17-12-2	–196 to 400° C	–	–

Trim materials

Var.	**Parabolic plug**	**Seat**	**Sealing**	**Max. permissible medium temperature ° C**
1	1.4571	1.4404	metallic	acc. stem sealing
2	1.4571	1.4404	soft	acc. stem sealing

von Rohr Armaturen AG • Member of the ARCA FLOW Group
Fichtenhagstrasse 4 • CH-4132 Muttenz • Tel. +41 (0)61 467 91 20 • Fax +41 (0)61 467 91 21 • info@von-rohr.ch • www.von-rohr.ch