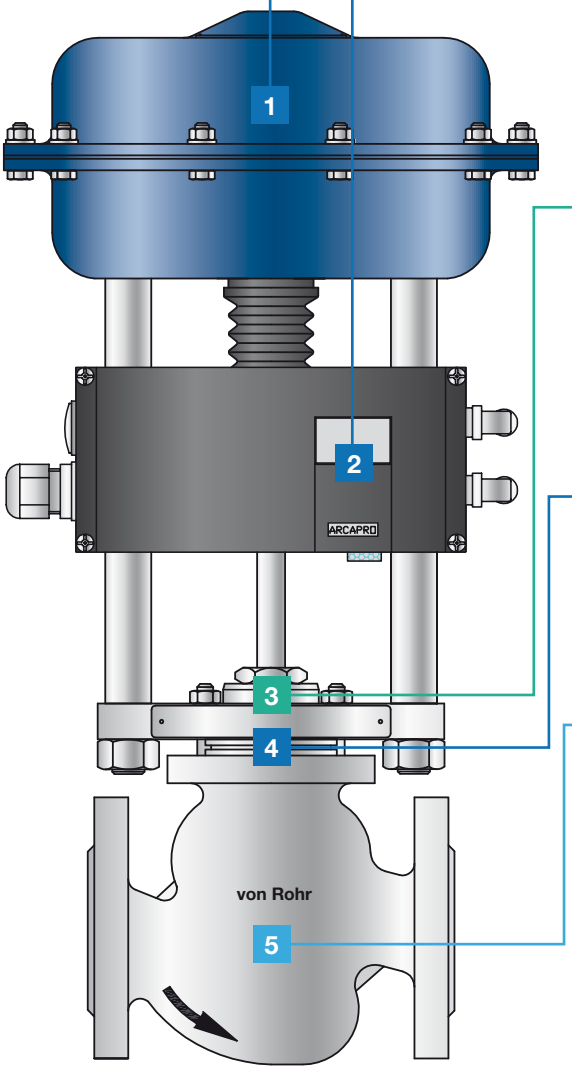
von Rohr
Armaturen AG

Series 8B

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 – from the stuffing box to the hermetically-tight bellows sealing – so that your system remains completely leak proof. Stem surface, packing material and design are finely matched so that neither friction, corrosion nor emission limit values will cause you any issues.

Variable bonnet

The recess in the bonnet enables an easy dismounting. The bonnet made of forged stainless steel prevents corrosion damages at a critical part of the valve and enables a long service life. The standard construction allows with a few working steps modification to bellows or extension bonnet.

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 replaceable seat and plug allow an easy exchange-service of the inner parts. So, seat, plug and bellows can be optimally adapted to changes in the operating data. The metal or compressible seal of the plug ensures with the metallic seat long-life seat tightness.

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

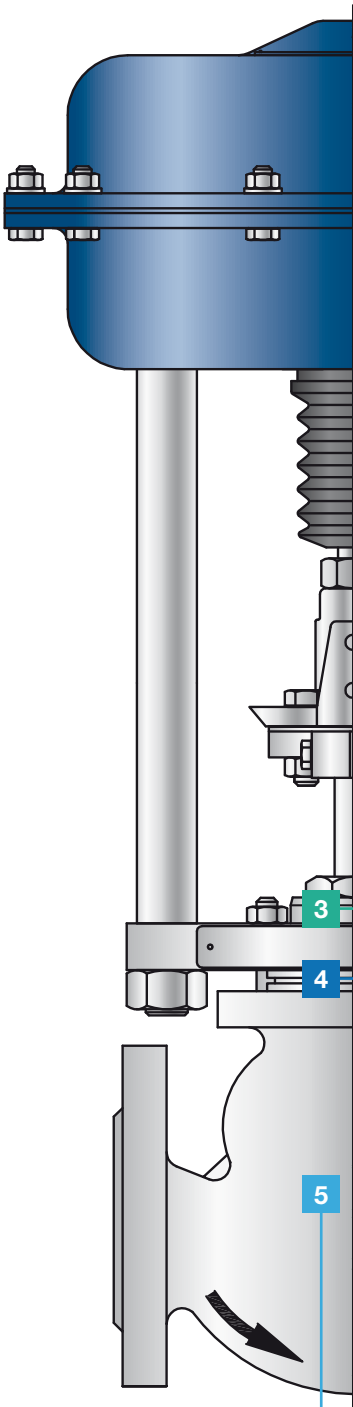
The type of valve stem seal depends on the fluid as well as the operating conditions such as temperature and pressure. It also, however, has decisive influence on the operational safety, the maintenance and, last not least, on the availability of the valve.

Valve trims

A number of different valve trims are available for series 8B in order to fulfill the specific valve requirements in terms of kvs-value, valve characteristic, Z-value, permissible leakage rate as well as allowed noise level.

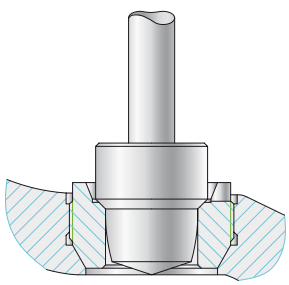
Special trim designs

For liquid and compressible media, perforated plugs and cages have proved to be the ideal solution for preventing noise and cavitation damage. Cavitation downstream of the perforation caused by gas bubbles imploding occurs in the center of the perforated plug without damaging the trim or housing. 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. This also results in lower noise emissions, which can be reduced even further by means of a low noise perforated cage.



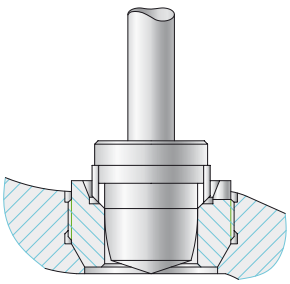
Parabolic plug metal sealing

- Valve characteristic equal percentage or linear
- Leakage rate ≤ 0.01% of the kvs-value up to kvs ≤ 63, above 0.05 %



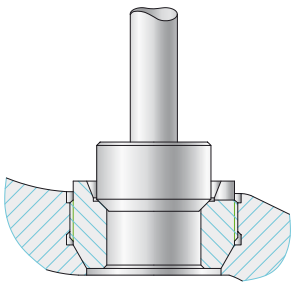
Parabolic plug soft sealing

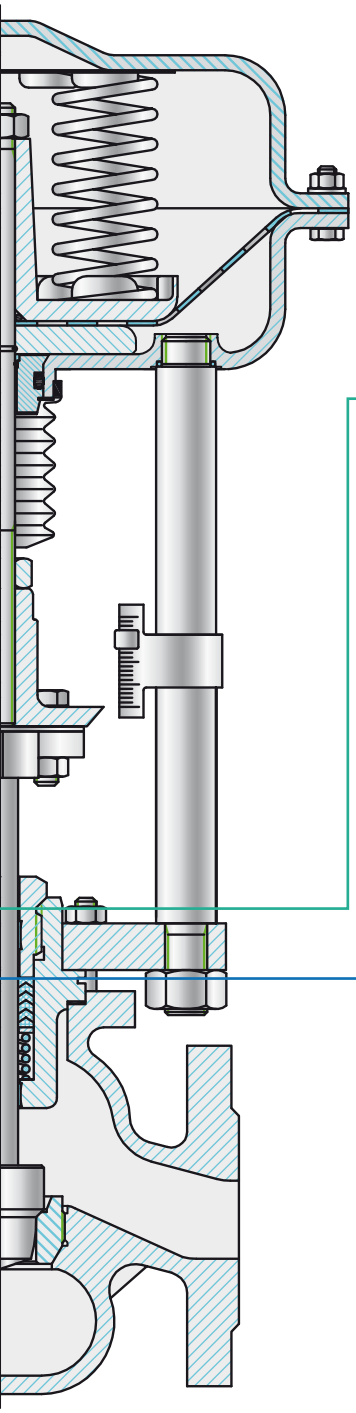
- Valve characteristic equal percentage or linear
- Leakage rate bubble-tight
- Temperature range –196° C to +200° C



On/Off plug metal sealing

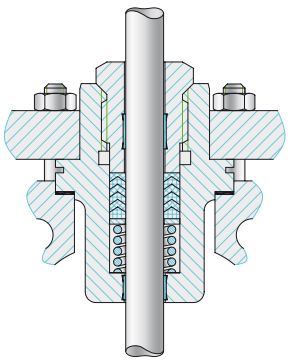
- On/Off function
- Leakage rate ≤ 0.01% of the kvs-value up to kvs ≤ 45, above 0.05 %





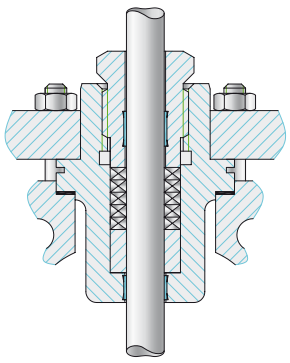
Maintenance-free stuffing box

- Standard version with PTFE V-ring
- Temperature range –200° C to +200° C



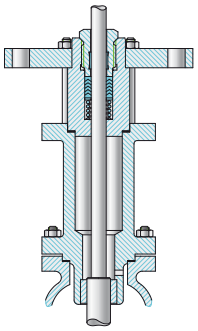
Adjustable stuffing box

- Standard version with graphite packing
- Temperature range –200° C to +450° C



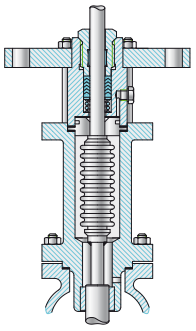
Extension bonnet

- Stuffing box maintenance-free or adjustable
- Temperature range –200° C to +450° C



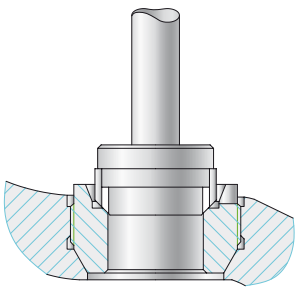
Bellows seal bonnet

- Stuffing box maintenance-free or adjustable
- Temperature range –200° C to +450° C
- Bellows seal gives a hermetic sealing
- The stainless steel bellows is welded on the bottom with the valve stem and helium tested

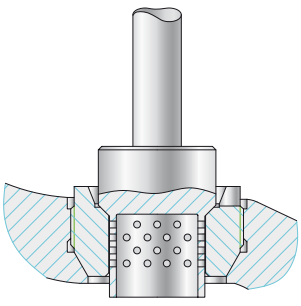


On/Off plug soft sealing

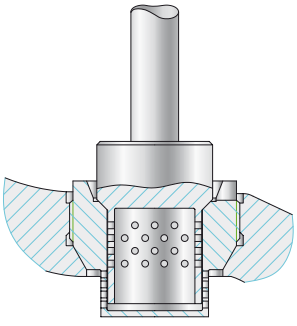
- On/Off function
- Bubble-tight
- Temperature range –196° C to +200° C



Single step perforated plug



2 step perforated plug



Series 8B

Standard version	Bellows seal bonnet/ Extension bonnet	Heating jacket version

Features	Advantages
Body designed to meet flow path criteria	● Less noise ● Less wear ● Less maintenance
Modular design	● Many different combinations of valves and actuators possible ● Plug/seat combinations – Metallic sealing – Soft sealing – Stellite or nitride hardened – Grinded-in ● Stem/seal combinations – Maintenance-free PTFE glands – Adjustable stuffing box – Complying with TA-air according to VDI2441
Highly accurate stem guiding	● Precise plug guiding ● Guided stuffing box ● Minimum wear of packing
Compact and robust design	● Saves installation space
Easy interchangeability of components	● Low operating expenses
Stainless steel internal parts	● No corrosion
Optionally available with manual, pneumatic or electric actuator	● Wide range of choice
Pillars comply with NAMUR	● Simple mounting of positioners, limit switches etc.
Integrated pipeless mounting of position regulators possible	● High availability ● Retrofitting possible
Interchangeable trim	● Changes in kv-value possible

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Series 8B

General data

Series	8B
Nominal bore DN/NPS	15 to 100 / ½“ to 4“
Nominal pressure PN/ANSI	16 to 40 / class 150 to 300
Characteristics	equal percentage, linear, On/Off
Rangeability	50:1 (kvs-values > 4 to ≤ 63), 30:1 (kvs-values ≤ 4 and > 63)
Plug guide	stem guided, optional: seat guided (grooved plug, perforated plug)
Leakage rate	metallic sealing: IEC 50534-4 leakage rate class IV (0.01% kvs-value); soft sealing: IEC 50534-4 leakage rate class VI, others on request
Flanges	according to DIN EN 1092-1 (2), form A to H, ANSI
Extension bonnet	up to +450° C
Bellows seal bonnet	seamless, double walled, made of 1.4571 or equivalent optional Hastelloy and other materials
Heating jacket	inside thread and flange connections on request possible
Low temperature execution	up to –196° C
Minimal kvs-values	0.04 to 0.0016 with LK plug, linear characteristic
Perforated plug	single (S) or 2 step perforated plug (SS)

Materials

Body material	**EN**	**for temperatures**	**ASTM**	**for temperatures**
	0.7043 EN-GJS-400-18-LT	– 10 to 300° C	–	–
	1.0619 GP240GH	– 10 to 400° C	A216WCB	– 29 to 400° C
	1.4408 G-X5CrNiMo 19–11–2	–196 to 400° C	A351CF8M	–196 to 400° C
	1.4581 GX5CrNiMoNb 19–11–2	– 10 to 500° C	–	–
	1.7357 G17CrMo5-5	– 10 to 500° C	A217WC6	– 29 to 500° C
Bonnet material	≤ DN 65 made of 1.4305/1.4404 ≥ DN 80 to 100 made of the same material as the body but with a stuffing box bush made of 1.4404			

Trim materials

Var	**Contoured plug**	**Perforated plug (S/SS)**	**LK plug**	**Seat**	**Seat seal**	**Max. permissible medium temperature °C**
1	1.4404	–	–	1.4404	metallic	acc. stem sealing
2	1.4404	–	–	1.4404	soft	–196 to 200° C
3	1.4404 nitrided	–	–	1.4404 nitrided	metallic	acc. stem sealing
4	1.4404 hardened	–	–	1.4404 hardened	metallic	acc. stem sealing
5	–	1.4404	–	1.4404 nitrided	metallic	acc. stem sealing
6	–	–	1.4404	1.4404 nitrided	metallic	acc. stem sealing

Hastelloy and other materials possible on request

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