



BOMAF[®]
Special Valve Solutions

www.bomafa.de



Axial - On-Off Valves

- Safe
- Designed for up- and downstream use
- Economic

BOMAF Valves



Power



Chemistry



Industry

BOMAF develops and produces high-quality valves for steam, gas and water. The valves are used in nearly all kinds of power plants, chemical and petrochemical plants and a range of various other industrial applications.

A proven design with great economic advantages



BOMAFA developed its axial on-off valves more than two decades ago to serve the special needs of natural gas and fertilizer plants in the Middle East. Since then, numerous axial on-off valves of all dimensions and pressure ratings are operating constantly under severe conditions.

A major factor of their success is the robust, yet light design and a very strong focus on safety. Together with our associated in-house design company – asfa Actuator System GmbH – it is our ambition to provide a safe and cost efficient technology to all of our clients.

Make use of the certified BOMAFA axial on-off safety valves and convince yourself of the advantages of a truly German product.

Design features

- Safe and complete shut-off in less than 2 seconds
- Design for both upstream and downstream use
- Opening against full differential pressure possible
- Weight reduction of up to 60% compared to ball and gate valves
- Fire safe

Technical Data

| | | |
|-------------------|---|---------------------------------------|
| Diameter nominal | Inlet DN 80-1200 / 3"-48" | Outlet DN 80-1200 / 3"-48" |
| Pressure nominal | PN 16 - PN 400 Class 150 - Class 2500 | PN 16 - 400 Class 150 - Class 2500 |
| Process media | Various gases | |
| Pipe connection | Flanged (DIN or ASME) | |
| Body material | Cast material | |
| Sealing | <ul style="list-style-type: none"> - Soft sealing with leakage class VI - Packings of pure graphite or PTFE (according to TA-Luft) - Hardfaced seat area | |
| Actuators | <ul style="list-style-type: none"> - Pneumatic piston actuator (air supply), spring to close - Hydraulic piston actuator, spring to close, external control unit | |
| Safety functions | <ul style="list-style-type: none"> - Quick opening / quick closing in less than two seconds - Spring support for opening or closing - SIL 2 - Redundant security system with multiple pressure testing devices or HIPPS | |
| Quality standards | BOMAFA valves are manufactured in accordance with the requirements of PED 97/23/EC and DIN ISO 9001. ASME upon request. | |

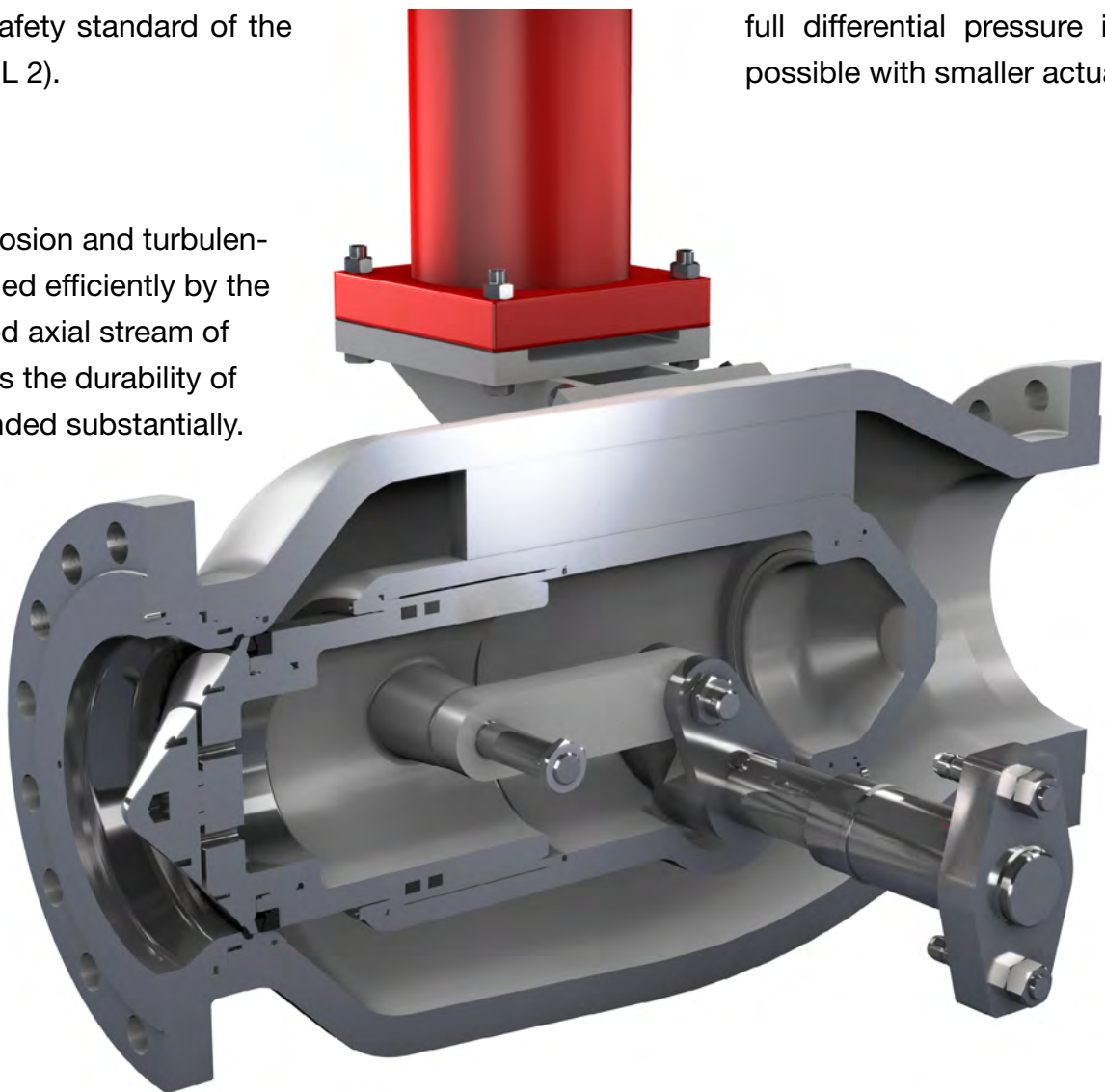
Safe and absolutely tight: Axial on-off valves from BOMAF

Fast and safe

The shut-off time is less than 2 seconds. A piston actuator with spring support and a redundant safety system following SAV or HIPPS requirements contributes to the high safety standard of the valve (min. SIL 2).

Axial flow

Vibrations, erosion and turbulences are avoided efficiently by the flow optimized axial stream of medium. Thus the durability of valve is extended substantially.



Neglectible pressure drop

Axial valves are designed for relatively large flow volumes. Together with the shape of the valve body, this leads only to neglectible pressure drops.

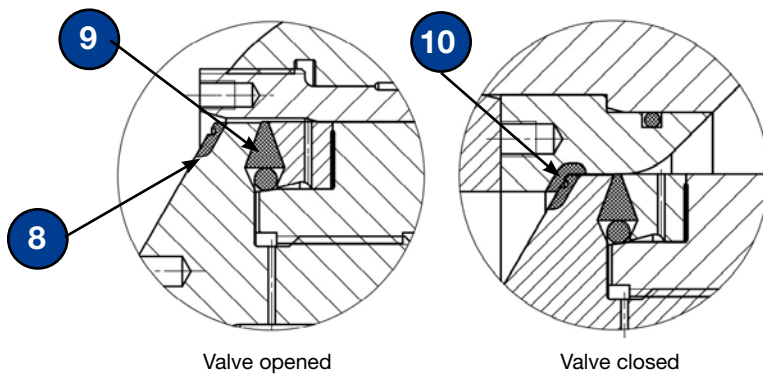
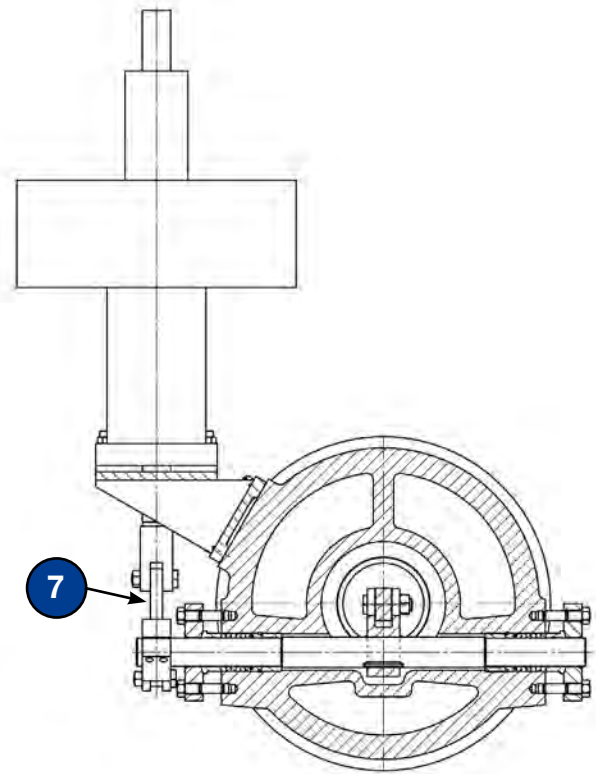
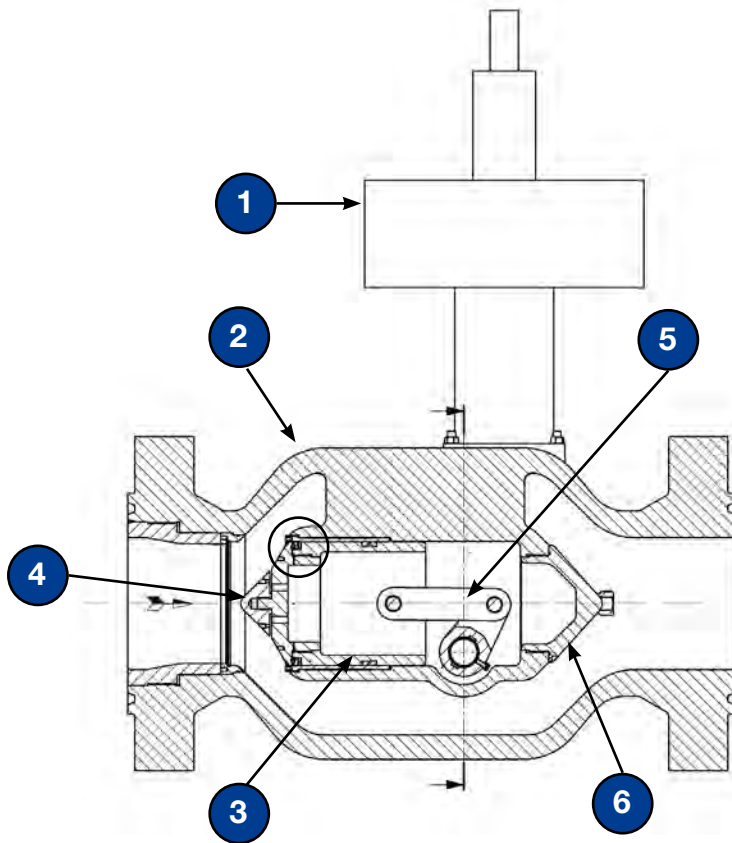
Smaller actuators due to complete pressure balance

The valves contain an integrated pressure balance system which does not require an external bypass. Opening or closing against full differential pressure is easily possible with smaller actuators.

Advanced sealing technology

State of the Art sealings and packings make the valve entirely safe. A seat leakage class VI and a sealing of piston according to TA-Luft ist matter of course.

A convincing BOMAFA technology



Part List

- 1: Actuator
- 2: Valve body
- 3: Piston
- 4: Cone
- 5: Lever
- 6: Inner valve body
- 7: Stem
- 8: Hardfaced surface of cone
- 9: Sealing of pressure balancing area
- 10: Hardfaced seat area

Flow optimized cone

Flow simulations are standard design tools for BOMAFA valves. The latest flow-optimized cone is a result of a continuous engineering process.

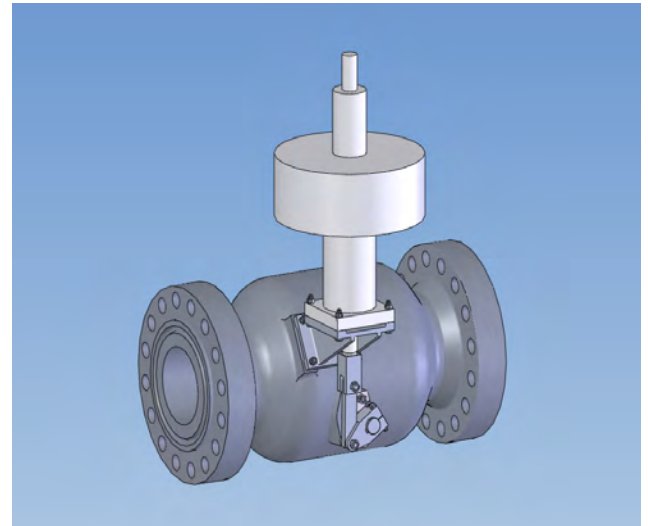
It guarantees the perfect avoidance of turbulences and unwanted pressure drops.

Axial on-off: An easily understandable concept

Frontal view

A pneumatic piston actuator is mounted at the side of the valve body. It drives a short stem which is directly connected to a lever. This lever easily transforms the vertical movement of stem to an axial movement of the inner components (piston and cone) of the valve.

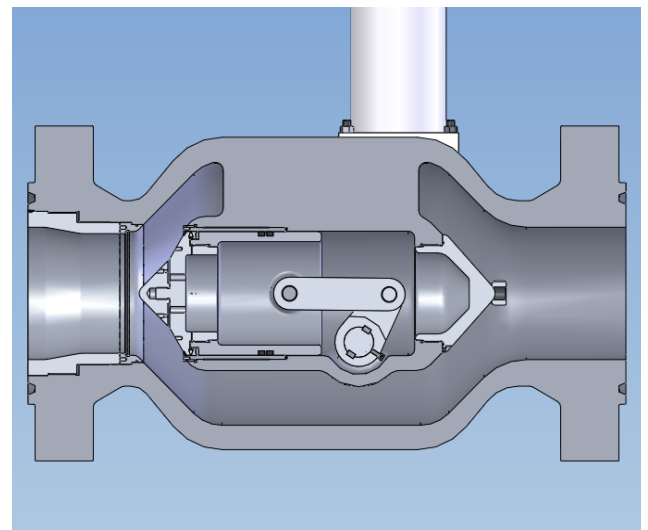
Actuating forces are transmitted efficiently to the valve components and in consequence only short strokes become necessary.



Valve opened

While opened, the internal parts of the valves - namely the piston and cone - are held distant from the seat area by the lever.

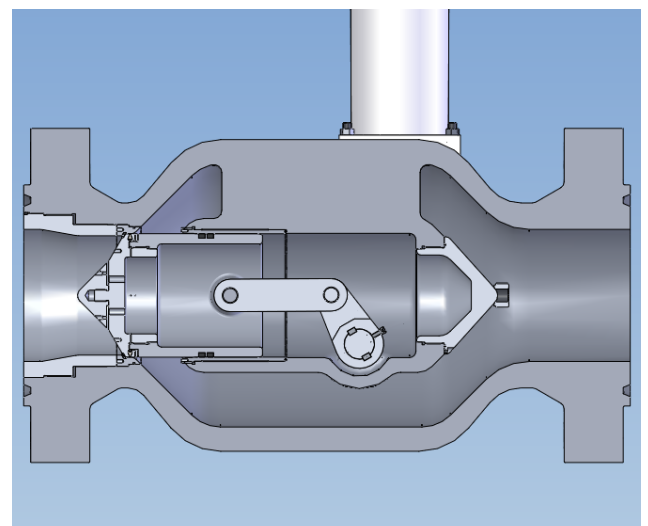
The medium can flow freely around these parts through the valve. Special drills in the cone lead to a pressure balance between the valve body and the inner body. The sealing lip at the cone is covered by the guiding of the piston and efficiently protected against erosion.



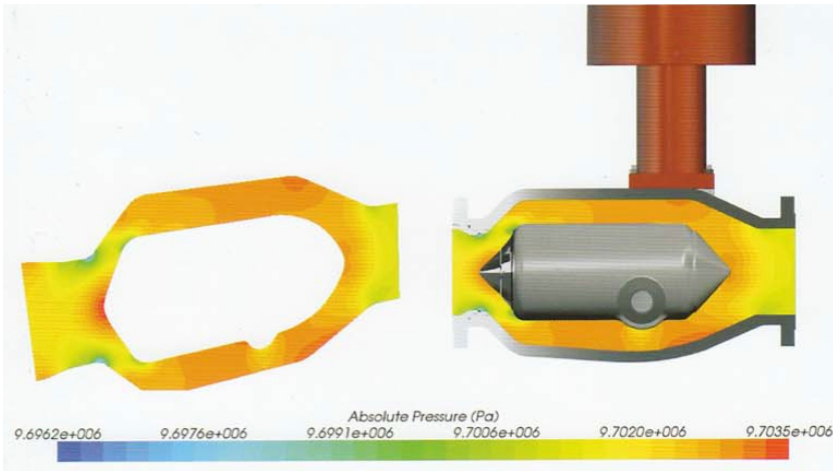
Valve closed

When the valve is closed, the lever presses the piston and the cone tightly against the seat area. Soft sealings guarantee for a leakage free shut-off.

Also in closed position, the pressure between inner body and streaming medium remains balanced. The BOMAFAs designs allows a flow direction from both sides.



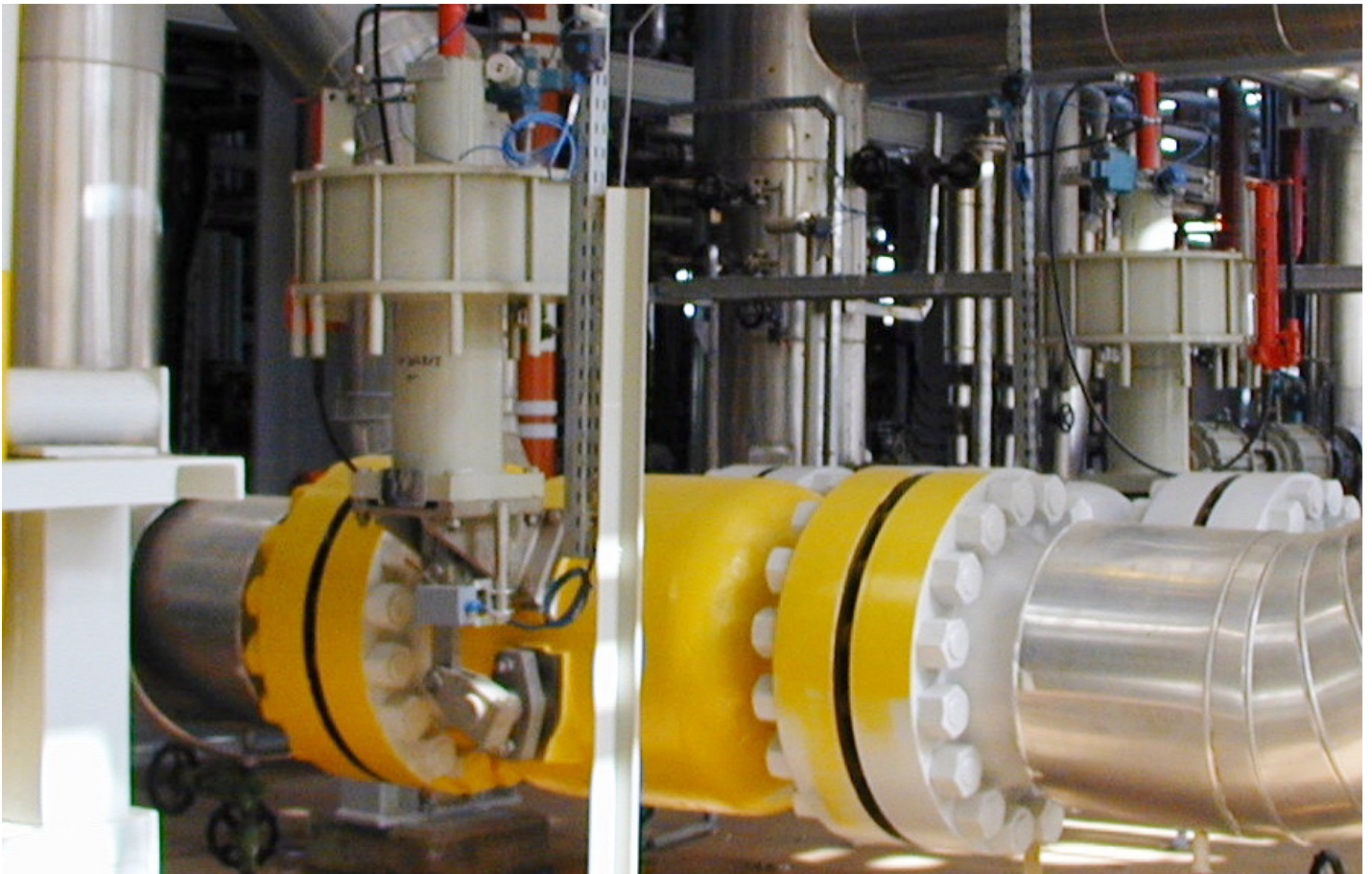
Highest performance - lowest pressure drop



Neglectible pressure drop

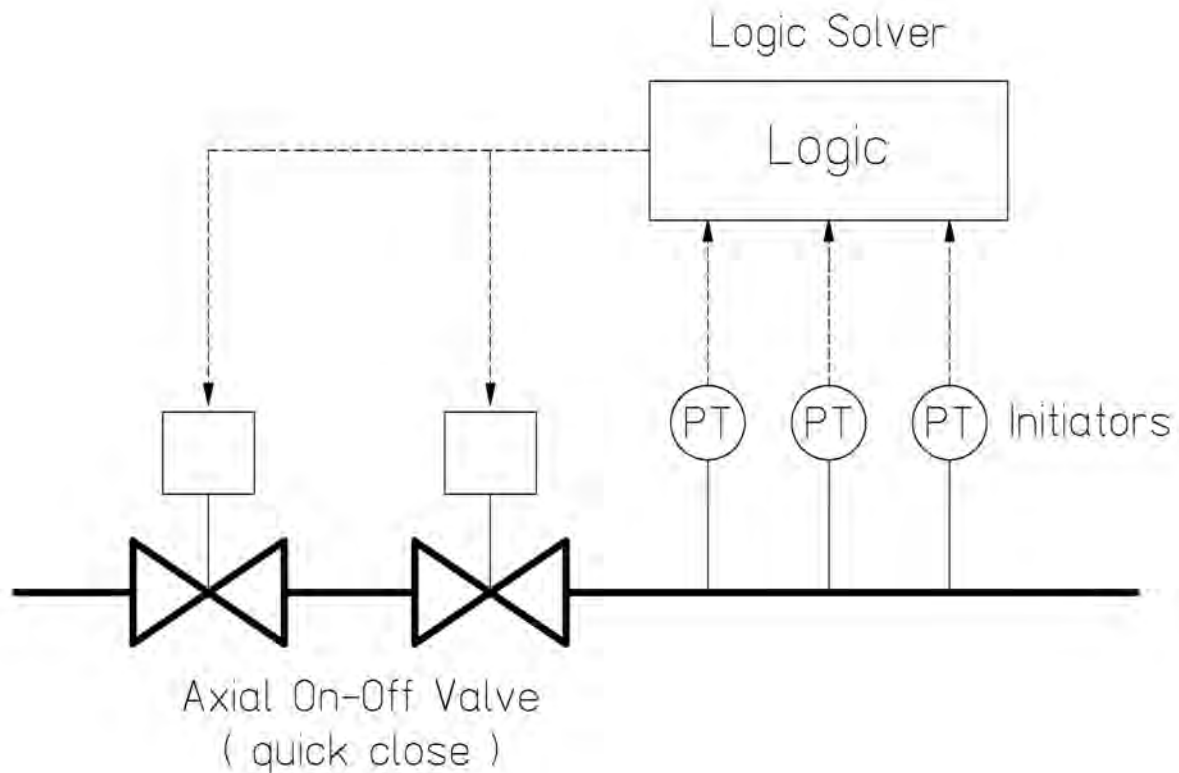
The great advantage of axial on-off valves is the neglectible pressure drop.

The flow simulation demonstrates the concept: Up and downstream pressure are nearly equal.



A typical BOMAFA axial valve, running in an Qatar Fertilizer plant since 2003

Fail-safe actuation



Safety matters (SIL)

A quick response time of the actuator and the valve is a mandatory requirement for critical applications. Together with our associated company, asfa Actuator Systems, BOMAFAs has great experience in the field of actuation. Actuators with reaction times of **less than 2 sec.** with safety backup systems or individually designed actuator systems are among our core products.

BOMAFAs axial on-off valves strictly follow the requirements for safety valves with redundant control devices. Per standard, three independent pressure transmitters supply a signal to the logic solver, which activates the actuators. Support for a quick-closing is provided by springs.

The minimum safety standard is SIL 2. A compatibility with all major operating systems is ensured. Upon request, special customized solutions for the actuation system can be developed.

A truly German product



Made in Germany

All BOMAF A axial valves are made in Germany. Use the opportunity to visit our two workshops in Bochum and Gelsenkirchen to witness the design, manufacturing and testing of your valves.

You are very welcome to contact us!



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