

Benefit from our experience to increase your success!

In the mining sector, nothing works without the right valve in the right place. The applications are as varied as the requirements placed on the valve: reliable functionality, a long life span, maintenance-friendliness and exact control quality are just a few examples.

With valves from Schubert & Salzer, you make exactly the right choice. We have been a reliable partner to successful companies in the mining sector for many years. The range of applications is very broad. Schubert & Salzer valves control e.g. air in **flotation cells**, gases in coals seam gas extraction or MIBC (methyl isobutyl carbinol) on **concentrators**.

They are used with abrasive media such as coal dust or ore slurry as well as for washing water in gold and copper mining.

No matter what problem you are confronted with: with us you have a competent partner at your side. You do not simply get a product off the shelf: instead we offer you a solution that is adapted to your individual application.

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Ball sector valves



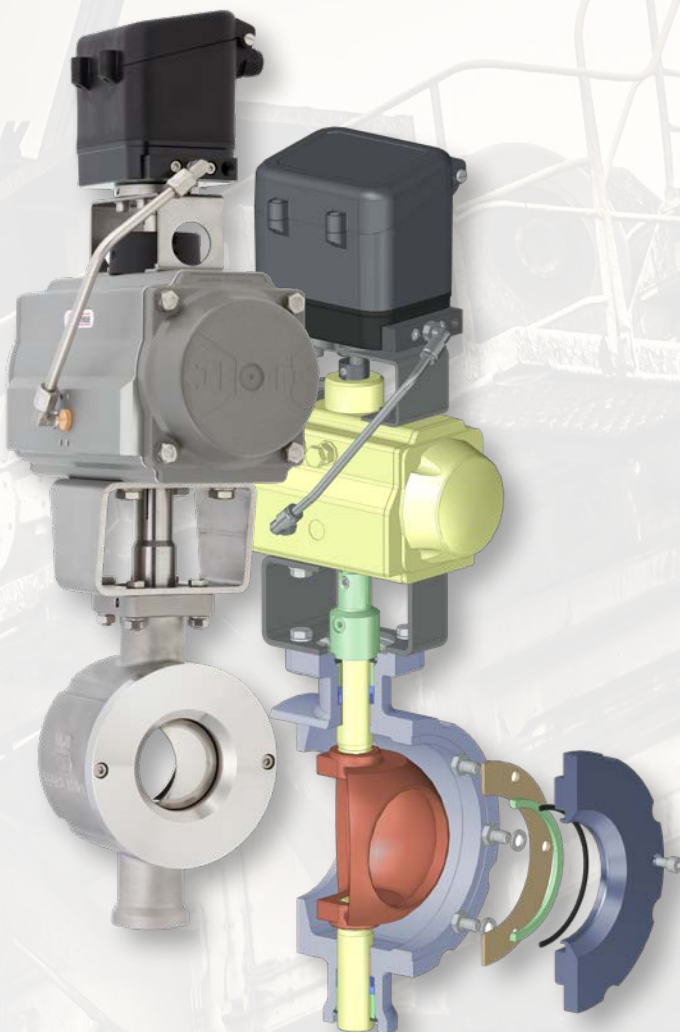
The ball sector valve and its applications – See the movie at:
controlsyste.ms.schubert-salzer.com/en/bsvt-film

Schubert & Salzer's ball sector valves have proved themselves particularly as control valves for abrasive, particle-loaded, dusty, viscous and crystallising media.

Summary of your benefits:

- Compact construction, simple installation.
- Elliptical flow geometry for minimal wear, seal area of the ball sector lies outside control edge.
- Central bearing of the ball sector causes particles to be wiped off and ensures a perfect seal in the valve seat.
- The special sealing principle has a self-cleaning effect, crystallisation and build-ups occur in the flow.
- Highest control quality with a rangeability of 300:1.
- Bi-directional flow.
- Material combination tailored to the application.
- TA Luft-certified (Technical Instructions on Air Quality Control) shaft seal.
- Low actuating forces.
- Modular design of pneumatic and electric actuators, also available in Ex-version.

Typical applications, for example, are controlling lime stone, **ilmenite or ore slurries**, contaminated water with a high lime content when **washing metal ores** (e.g. gold/copper), as well as groundwater preservation in mining. Ball sector valves used as **dump valves** in separation processes achieve long service lives. In the shale gas environment (**coal seam gas**) but also in the case **GOAF gas**, customers appreciate the high level of precision along with maximum K_{vs} values for regulating



the pressure in gas extraction and compressor systems. The critical difference here is the extremely high **rangeability** of the ball sector valves.



Sliding gate control valves



The GS-Valve and its applications – See the movie at:
controlsyste.ms.schubert-salzer.com/en/gs-film

When it comes to the precise control of liquid and gaseous media, sliding gate valves are particularly suitable. They prove to be a superior alternative to globe valves – even at very high or low temperatures, high pressures, if rapid switching actions, a high degree of control accuracy or rangeability are needed. Users appreciate the significantly lower consumption of energy due to the smaller actuating forces and the extremely short valve stroke of just 6 - 9 mm.

Typical applications are, for example, the dosing of air in **flotation cells**, or the dosing of the smallest amounts of additives such as methyl isobutyl carbinol (MIBC), diesel or hydrogen peroxide as a foaming agent on concentrators. Highly precise regulation with the smallest volumes is critical for the process. Sliding gate control valves provide this precision and their small dimensions also allow them to be installed in **compact control cabinets**.

They control water and air on **fogging systems** for the prevention of dust explosions or for the manufacture of **limewash** in different concentrations.

Sliding gate valves prove their worth on **jet mills** for the precise control of milling air from e.g. lithium ores used for battery production.

When it comes to the **production of salt**, sliding gate control valves regulate e.g. steam to heat up brine.



Principle of the sliding gate control valve:

A sealing plate (2) fixed in the body (1) at right angles to the flow direction has a certain number of crossways slots (3) of equal height. A rotationally fixed disc (4) with the same arrangement of slots is moved at right angles to this, thereby changing the flow cross section. The prevailing differential pressure presses the moving disc (4) against the fixed disc (2) and seals it.



Summary of your benefits:

- Compact construction and simple installation (ideal for container/cabinet installation)
- Highest control quality and response sensitivity due to digital positioner and fast reaction times because of the short stroke.
- When used as an on/off valve, valve openings times of less than 2 milliseconds.
- Very simple servicing by exchanging the easily accessible pair of discs.
- Minimum stocking of spare parts.
- Compact, integrated positioner without permanent pilot air consumption.
- It is easy to optimise or adjust the regulation by simply changing the K_{vs} value and the characteristic curve with the replacement of the fixed disc.
- Short travel distances of 6 - 9 mm reduce wear in the spindle sealing and the actuator.
- Minimised wear and tear in cavitation applications due to optimised flow control.
- Maintenance-friendly replacement of the integrated positioner. The practical diagnostics tool in the positioner provides valuable help here.

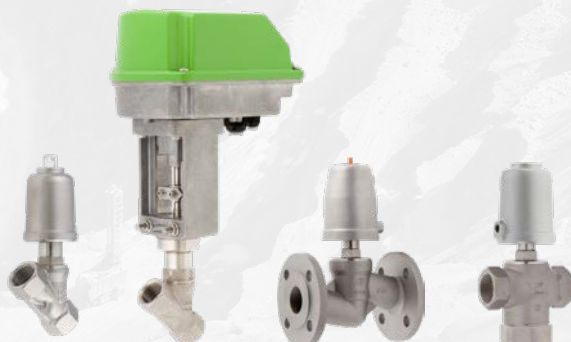
Size comparison between a normal seat valve and a Schubert & Salzer sliding gate valve.

In the example, the nominal size of both is identical.



On-off valves

Seat valves from the 7010 series are used when liquid and gaseous media have to be shut off safely and without hydraulic shock. In the mining sector, besides air used for pneumatic transport, these are above all gases such as O_2 , H_2 , natural gas but also steam, water, diesel, emulsions and chemicals. A special application case is the introduction of **ammonium nitrate** for boring and blasting processes.



Pinch valves

The type 7078/7079 pinch valves have proven themselves admirably for years under extreme application conditions also with difficult media. Using these valves in the nominal sizes DN 15 - 50, even liquids with grainy and abrasive particles as well as viscous and pasty media can be reliably shut off and regulated. Typical applications are e.g. the control of lime-wash or barium sulphate.



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