When it comes to mining or the production and processing of steel, having the right valve in the right place is essential if things are to run smoothly. Of course it is important to consider whether the valve comes into direct contact with the medium or whether it is more indirectly concerned with the process. But while the requirements may vary depending on where a valve is used, they are always high: process-stability, long-lasting life time, easy maintenance and precise control are just a few examples.

With Schubert & Salzer Control Systems valves, you can be sure you have made the right choice. We have many years of experience as the trusted partners of a broad range of companies working in your industry. For example, our valves control very precisely gases in burner installations for smelting furnaces or in alloying and galvanising processes as well as cooling water in continuous casting plants. They are used for abrasive media such as coal powder or ore slag, just as in galvanising plants and in hot or cold rolling processes.

Typical applications in mining include controlling gas in coal seam gas mines, slags and waste water, as well as supplying barium sulphate as a release agent for core blowers in foundries.

Whatever the challenges in your process might be, you can rely on us to be a competent partner at your side. We don’t just sell you an off-the-shelf product; we offer you a solution which is designed to fit your individual requirements.

Benefit from our experience to increase your success!
Sliding gate control valves

When it comes to precise control of liquid and gaseous media, sliding gate valves are particularly suitable as the superior alternative to globe valves, even at very high or low temperatures, high pressures or if rapid switching actions, a high degree of control precision or rangeability are needed. Users appreciate the significantly lower consumption of energy due to the smaller actuator and extremely short valve stroke of 6-9 mm. A typical application is the control of O₂/natural gas in smelting furnaces, also cooling water control in the continuous casting process; the control of N₂ for inerting, argon in alloying, handling of emulsions at cold rolling, air regulation for galvanizing processes or ammonia control for denoxification. The extremely rapid opening times of sliding gate valves enabling very high switching frequencies are ideal for the pulsed injection of oxygen in cupola furnaces.

Summary of your benefits:

• Compact construction and simple installation.
• Highest quality control performance and high rangeability thanks to the smart positioner; fast reaction times due to the short stroke also if motor actuated!
• When used as stop valve, valve opening times of less than 0.002 seconds can be reached! (e.g. for O₂ pulsing)
• Very simple servicing by exchanging the easily accessible disc pair.
• Minimal spare parts requirements.
• Compact, integrated positioner without permanent pilot air consumption.
• It is easy to optimise or adjust the regulation as the Cv values can be altered simply by exchanging the fixed disc.
• Short strokes reduce internal wear and tear and extend the life of the part.
• Minimised wear and tear in cavitation applications due to optimised flow guidance.
• Maintenance-friendly exchange of the integrated positioner; practical diagnostic software in the positioner offers valuable assistance to any fault analysis in the control cycle.
• Low heat or cooling loss due to a reduced body surface.
• Reduced noise emissions.
• A complete stainless-steel version is available.

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.

Size comparison between a normal seat valve and a Schübert & Salzer sliding gate valve, at identical nominal sizes.
Shut off valves

The seat valves are ideal when liquid and gaseous media need to be shut off securely and without closing impact. Gases principally used in metallurgy include O₂, H₂, natural gas, argon and N₂. Also water, oils, fuels, emulsions, chemicals or even steam are used. A special application is the control of compressed air in core blowing equipment.

Pinch valves

Over the years, our pinch valves have proved themselves under extreme operating conditions, even with difficult media. In nominal sizes from DN 15 to DN 50, these valves reliably shut off and control fluids even with granular and abrasive particles, as well as viscous, pasty and chemically aggressive media.

Typical applications of pinch valve are the control of lime slurry (used as a release agent) or barium sulphate.

Summary of your benefits:

• Long lasting and highly leakproof (especially compared to ball valves, which are typically with a floating ball and which wear the seal with every stroke) up to leakage class VI.
• Very simple to maintain: when servicing the valve, the body can remain in the pipe. The actuator with valve plug can easily be unscrewed.
• This uncomplicated method of servicing also enables an advantageous and space-saving construction with welding ends, ensuring no leaking at the connections.
• Flexible pilot air connection thanks to an actuator bonnet which can rotate 360°.
• Every part of the valve is available as a replacement part.
• A temperature range of -100 °C to 220 °C is possible. Oil- and grease-free versions are available.
• Available in nominal sizes DN 8 to DN 80, up to pressure rating PN40.
• Wide variety of material combinations including a complete stainless-steel option.
• Line strainers, check valves, manual valves, pneumatic actuators and control actuators can be built onto the same body.
• Schubert & Salzer seat valves are non-sensitive to slightly contaminated media.
• Large variety of special solutions available.

Summary of your benefits:

• Highly compact construction with 360° rotating piston actuator.
• All wetted metal parts are 1.4435.
• Body made of stainless steel 1.4408.
• Working pressure up to 6 bar.
• Tubing materials with reinforced fibers made of NBR, Viton or EPDM guarantee long-term operating times.
• An innovative connecting component (insert) with collet and screw cap ensuring a quick, secure and lasting tight seal between the pinch valve and the optional connections with inner threads, welding ends, tri-clamp or to bonded socket joints.
• The cutting-edge body design ensures best possible Cᵥₐ values.
• Quick exchange of tubing (wear and tear part) through the axial removal of the valve body.
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 cross section of the ball guarantees minimal wear, seal area lies outside control edge.
- The combination of central bearing and seat ring/O-ring wipes particles off the seat and prevents their accumulation between ball and valve seat.
- The special ball design provides self-cleaning when crystallisation and build-ups in the valve body occur.
- Highest control level with a rangeability of 300:1.
- Bi-directional flow possible.
- Material combination tailored to the application.
- Hard chrome plating and stellite seats for highly abrasive applications.
- TA Luft-certified shaft seal possible by double O-ring design.
- Low actuation forces.
- Modular design of pneumatic and electric actuators, also available in Ex-version.

Typical applications include controlling the supply of coal powder to furnaces, and the control of gases, sludges and slurries in mining.