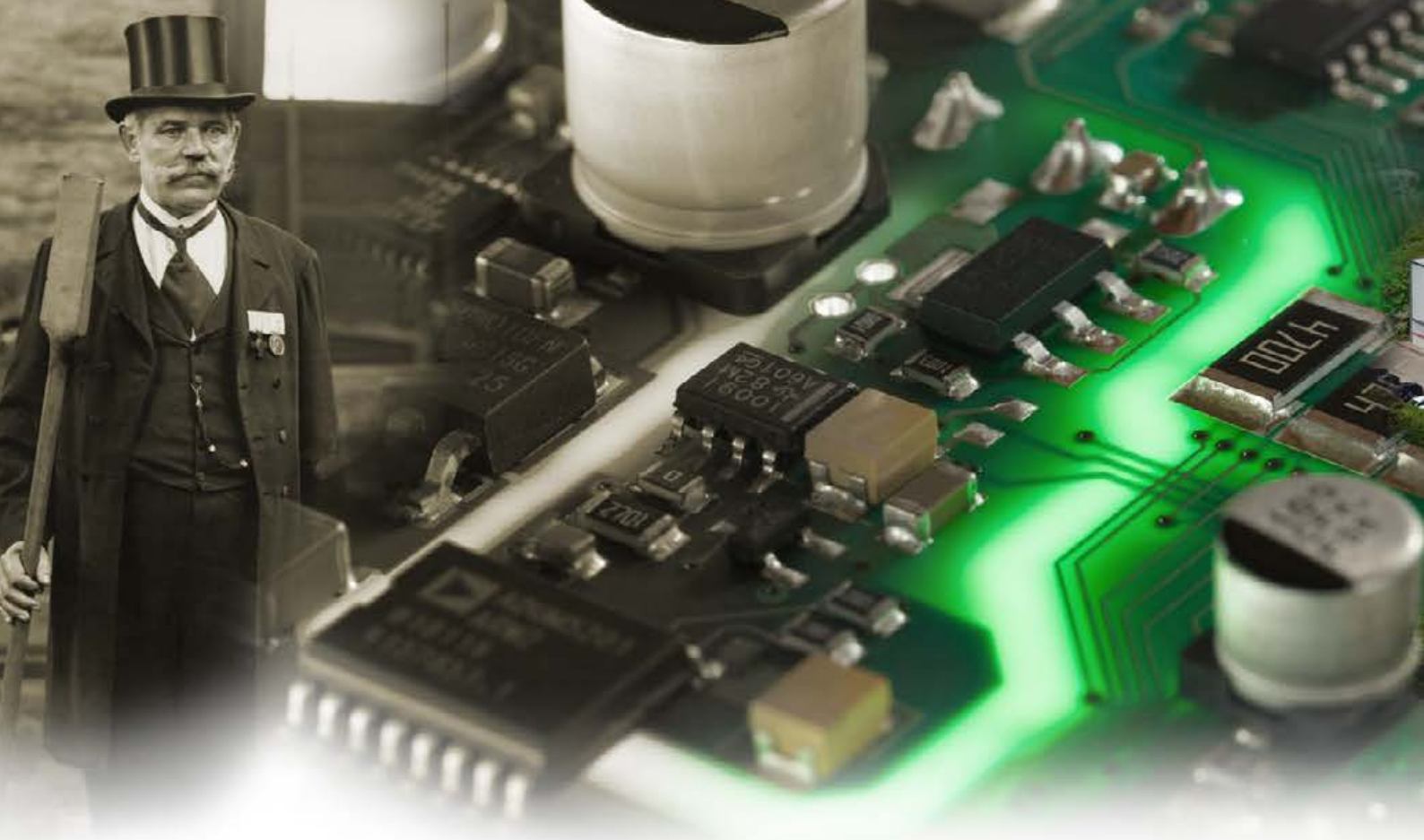
SCHUBERT SALZER

Product overview valve technology



Tradition since 1883

Precision – Made in Germany

As a fast growing high-tech company, Schubert & Salzer Control Systems GmbH develops, produces and distributes highly precise control and on/off valves which are applied in the process industry. Whether it is in the production of chemical or pharmaceutical products, food and beverage processing or the production of plastics, steel, paper or glass, as well as in the textile industry – in short, wherever liquid or gaseous flows need to be controlled or shut off, we will be there for you.

We are part of the Schubert & Salzer group of companies with 140 years of tradition and expertise in the manufacturing industry. Based in Ingolstadt, we offer Schubert & Salzer quality products “Made in Germany” through our subsidiaries in Benelux, England, France, India and the USA as well as more than 40 international partners.

Technology for tomorrow

Content

Seat valves by Schubert & Salzer

Seat valves are the extremely reliable all-rounders in the valve world. In a wide range of applications, they provide a number of benefits:

- Robust and compact
- High switching performance and wear resistance
- No water hammers when closing against the media flow
- High degree of tightness, low leakage
- Wide operating temperature range
- Simple insulation, low heat losses
- High K_{VS} value
- Easy to install and maintain

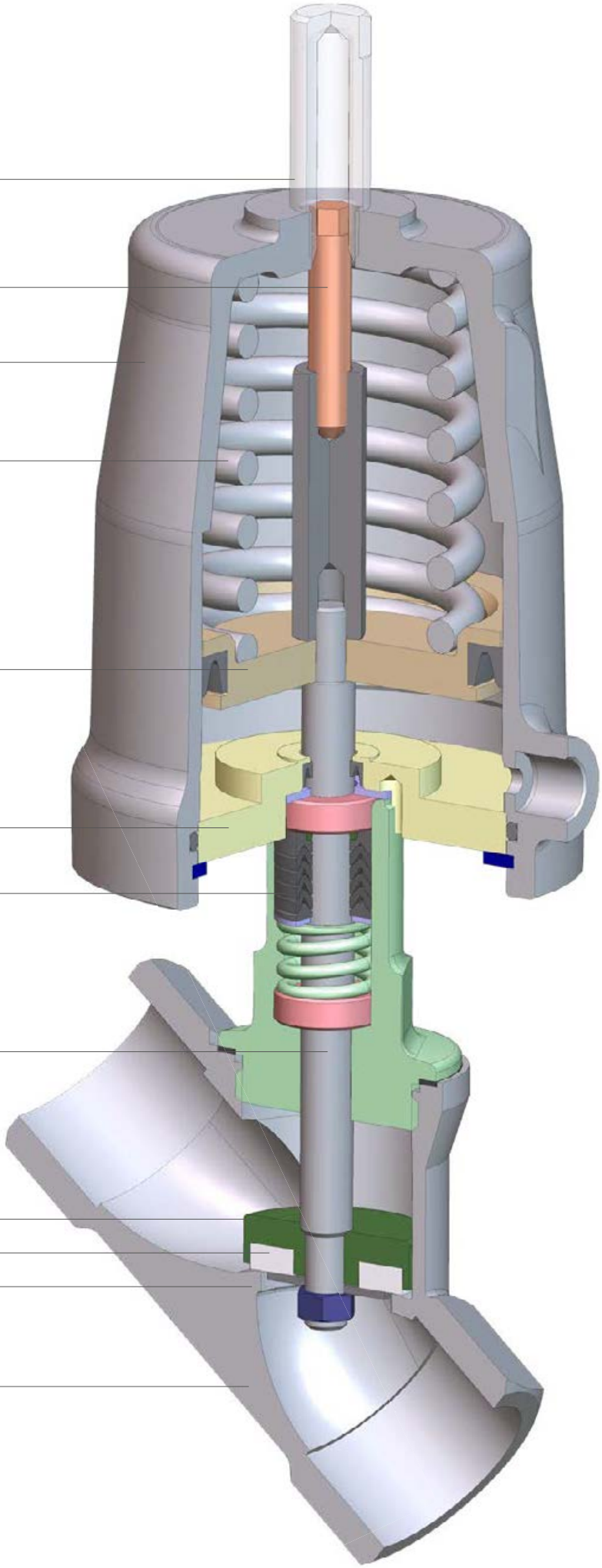
Our range includes shut-off and control valves as well as check valves and strainer in stainless steel or red brass. They are available with manual, electric or pneumatic actuators made of stainless steel, non-ferrous metal or polymer. To integrate them in pipeline systems, there is a selection of threaded fittings, welded connections, tri-clamps and flange joints.

reliable

consistent

high quality

Details

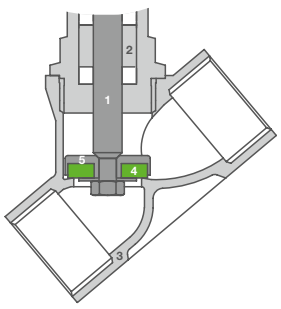

Spray water protection
Position indicator
Bonnet
Piston spring
Piston
Flange
Packing
Valve stem
Disc
Seat seal
Body seat
Body

Angle seat valves

The angle seat valves from Schubert & Salzer offer a long service life, reliable on-off and precise control performance. Due to the angled arrangement of the valve actuators in relation to the pipeline, the compact angle seat on-off and control valves can be installed and operated even in very confined spaces.

The Schubert & Salzer angle seat valves with optimised flow direction are characterised by particularly high flow coefficient (K_{VS}) values. The body provides various combinations with different actuator types for a wide range of applications in industrial piping systems.

Angle seat valves



1 Piston rod
2 Packing
3 Body
4 Seat seal
5 Disc

Angle seat on/off valve 7010
Nominal size: DN 8 - 80
Nominal pressure: PN 16, PN 40
Media temperature: -30°C to +200°C,
optional -100°C to +220°C
Material: Bronze and stainless steel
Also available as a hygiene version

Angle seat manual valve 7011
Nominal size: DN 15 - 50
Nominal pressure: PN 40
Media temperature: -30°C to +200°C
Material: Stainless steel

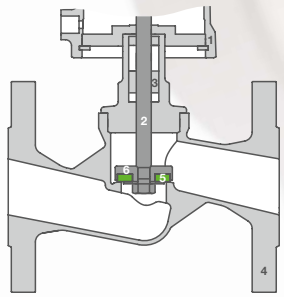
Angle seat control valve 7020
Nominal size: DN 8 - 80
Nominal pressure: PN 40
Media temperature: -30°C to +200°C,
optional -100°C to +220°C
Material: Stainless steel
Positioner: pneumatic,
analogue electro-pneumatic,
digital electro-pneumatic, Ex-i version

Strainer 4005
Nominal size: DN 10 - 80
Nominal pressure: PN 40
Media temperature: -40°C to +220°C
Material: Stainless steel

Angle seat motor valve 7210
Nominal size: DN 8 - 80
Nominal pressure: PN 16, PN 40
Media temperature: -30°C to +200°C,
optional -100°C to +220°C
Material: Bronze and stainless steel
Actuation: on/off and control actuation,
optional position control and
position feedback plus
limit switch

Check valve 4000
Nominal size: DN 10 - 80
Nominal pressure: PN 40
Media temperature: -40°C to +200°C,
optional up to +220°C
Material: Stainless steel

Seat valves (1)

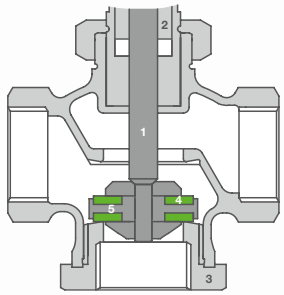


1 Bonnet
2 Piston rod
3 Packing
4 Flange body
5 Seat seal
6 Disc

Seat valves

For globe valves, the actuator orientation is at 90° to the flow direction. The rugged design with welding ends or flanged connections is in no way less competitive than the angle seat valves in terms of performance. The traditional flange design allows the axial disassembly and reassembly of the valves.

Three-way valves (2)

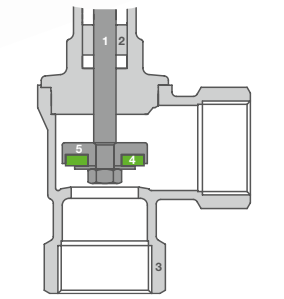


1 Piston rod
2 Packing
3 Body
4 Seat seal
5 Disc

Three-way valves

Depending on its design, the three-way valve with threaded connections can perform a variety of functions: it can mix and distribute media flows or charge and discharge an operating component.

Right-angled valves (3)



1 Piston rod
2 Packing
3 Body
4 Seat seal
5 Disc

Right-angled valves

Due to their extremely compact design, right angle valves with threaded connections are ideally suitable for space-saving installations.

(1) Seat Valve 7017
Nominal size: DN 15 - 50
Nominal pressure: PN 40
Media temperature: -30°C to +200°C,
optional -100°C to +220°C
Material: Stainless steel

(1) Globe valve 7032
Nominal size: DN 15 - 80
Nominal pressure: PN 40,
ANSI # 150
Media temperature: -30°C to +200°C,
optional -100°C to +220°C
Material: Stainless steel
Available with positioner as globe control valve 7037

(1) Seat Control Valve 7027
Nominal size: DN 15 - 50
Nominal pressure: PN 40,
Media temperature: -30°C to +200°C,
optional -100°C to +220°C
Material: Stainless steel
Positioner: pneumatic,
analogue electro-pneumatic,
digital electro-pneumatic, Ex-i version

(2) Three-way control valve 7082
Nominal size: DN 15 - 50
Nominal pressure: PN 40
Media temperature: -30°C to +200°C
Material: Stainless steel
Actuation: on/off and control actuation
Positioner:
digital electro-pneumatic, Ex-i version
Available with pneumatic actuator as 3/2-way on/off valve 7080/81 in stainless steel and bronze
Combinations with motor actuators available

(3) Right angle motor valve 7250
Nominal size: DN 15 - 50
Nominal pressure: PN 40
Media temperature: -30°C to +200°C
Material: Stainless steel
Actuation: on/off and control actuation, optional position control and position feedback plus limit switch
Available with pneumatic actuator as on/off valve 7050 and optionally with positioner as right angle control valve 7051

The sliding gate valve principle by Schubert & Salzer

This is how easy control can be. In the field of control valves, Schubert & Salzer has been breaking new ground for many years. We developed the sliding gate control valve: a handy, light and highly accurate valve. It operates based on a principle that had already excited Leonardo Da Vinci. Even today, it satisfies the most challenging requirements that are placed on a control valve.

The alternative when the demands are high

The sliding gate valve series controls liquid, vapour and gaseous media precisely, quickly and economically. A sealing disc (2) fixed in the body (1) at right angles to the flow direction has a certain number of crossways slots (3) . A moving disc (4) with the same arrangement of slots moves parallely to the fixed disc, thereby changing the flow cross section. The prevailing differential pressure presses the moving disc (4) against the fixed disc (2) and seals it.

Applications

Sliding gate valves are used to control and shut off gases, vapours and liquids

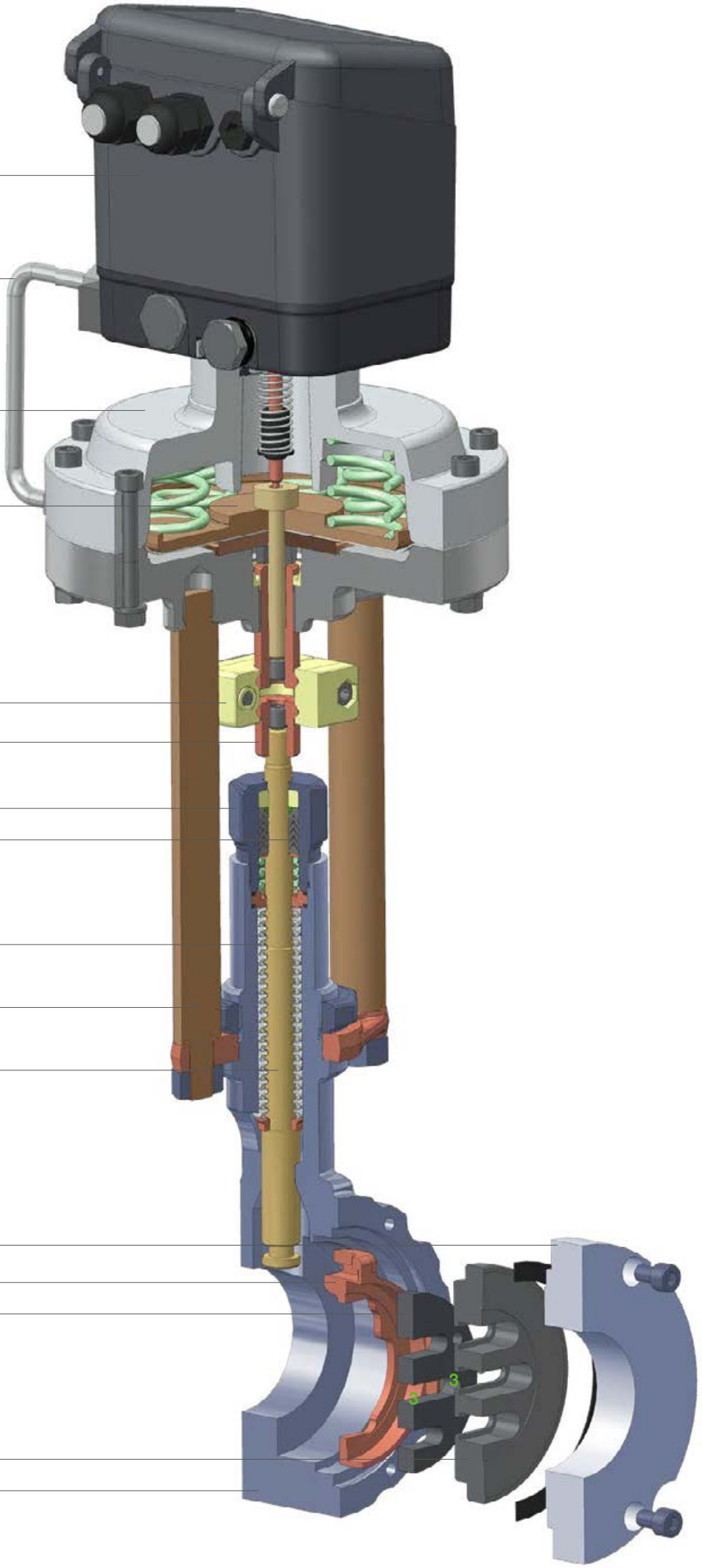
- Chemical and pharmaceutical industry
- Steel and aluminium plants
- Food and beverage industry
- Breweries
- Textile manufacturing
- Tyre production
- Plastics and rubber production
- Test bench technology
- Gas and compressed air production and utilisation
- etc.

fast

innovative

accurate

Details


Positioner
Pilot line
Diaphragm shell
Diaphragm disc
Coupling
Adjusting nut
Packing tube
Conical seal
Bellows
Column
Valve stem
Body cover (1)
Coupling ring
Moving disc (4)
3
3
Fixed disc (2)
Body (1)

The advantages of sliding gate valves

fast

Compact design
Short installation length and extremely small actuators minimize the required space.

Easy to install and maintain
Thanks to the compact construction, the low weight (e.g. DN 150 with actuation a mere of approximately 15 kg) and the clever disc design reduces the installation and maintenance effort to a minimum.

Low leakage rate
< 0.0001% of the K_{VS} value due to the self-lapping action of the moving disc and the pressure of the medium against the moving disc, using a surface seal instead of an annular seal.

Outstanding rangeability
from 30 : 1 to 160 : 1

Variable flow coefficient (K_{VS}) values and characteristic curves
By simply replacing the fixed sealing disc, it is possible to change the flow coefficient (K_{VS}) value and the characteristic curve at any time - from K_{VS} 0.018 to 910.

Size comparison between a normal seat valve and a Schubert & Salzer sliding gate valve. In the example, the nominal size of both valves is identical.

Minimal wear
Related to the effect of the force which is applied at 90° to the direction of flow and minimised by the highly effective pairing of the materials used for the moving and fixed discs.

Maximum differential pressures
Control and shut-off of high differential pressures pressures (up to 160 bar) with the smallest possible dimensions, compact length and low air consumption.

Variable flow coefficient (K_{VS}) values and characteristic curves – By simply replacing the fixed sealing disc:

100% linear | 16% reduced | 0,4% reduced | 100% equal percentage | SV100

Optimal flow control
Avoids cavitation problems in the valve and operates quietly by lowering turbulence.

Saves resources and climate-friendly
Sliding gate valves are more compact and weigh much less than standard seat valves. This results in conscious use being made of valuable resources and CO_2 being put to economical use in the production and during transportation. When in use, the GS valves benefit from a driving force that is reduced 10-fold. This reduces the energy consumption and is good for the climate and the environment.

precise

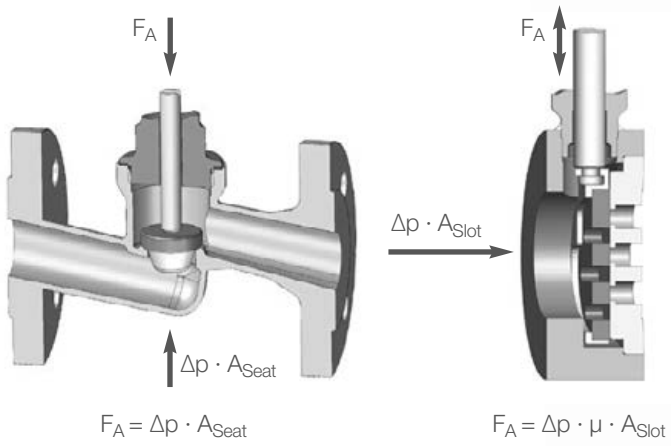
individual

Efficiency

The outstanding feature of the sliding gate valve is the actuating force which is about just 10% of that needed to actuate a globe valve of the same nominal size and the same differential pressure. This allows much smaller actuators with the same nominal size and almost the same flow capacity!

The decisive factor in this respect is the low actuation force required that results from the static or sliding friction of the disc pairing. Globe valves on the other hand have to overcome the force of the flowing medium.

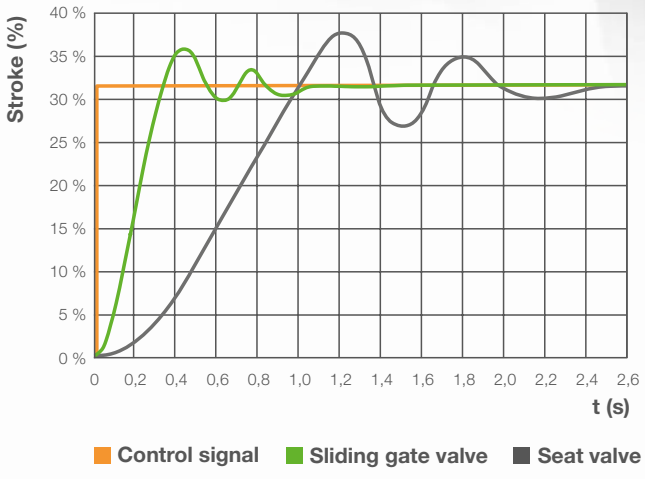
$$\frac{F_{a,\ \text{Sliding gate valve}}}{F_{a,\ \text{Seat valve}}} = \frac{\Delta p \cdot \mu \cdot A_{Slot}}{\Delta p \cdot A_{Seat}} \approx 10\%$$



$F_A = \Delta p \cdot A_{Seat}$ $\quad$ $F_A = \Delta p \cdot \mu \cdot A_{Slot}$

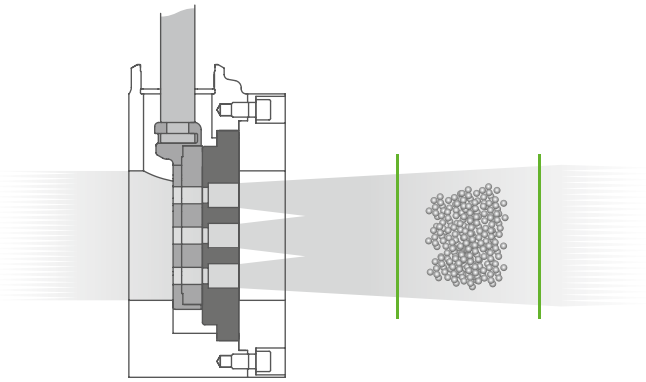
Vitality

Sliding gate control valves are considerably faster than conventional control valves. If you compare the stroke of two valves after a control signal step, it can be seen that the short stroke, the low actuating forces and the small actuator volume of the sliding gate control valves result in lower actuating times and a significantly smaller stroke amplitude in the transient condition. This high dynamism has a positive influence on the control quality of the whole control circuit.



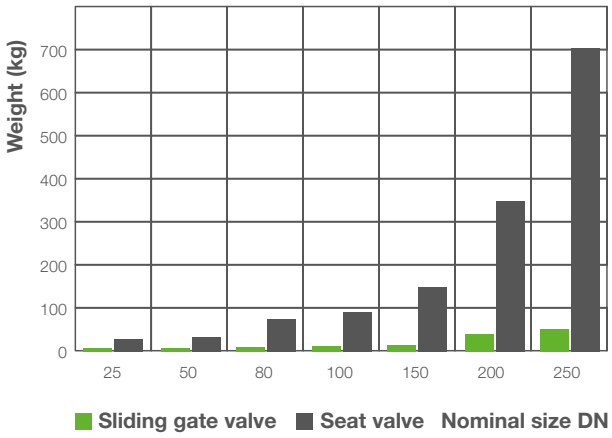
Cavitation

A high rate of flow through the narrowest cross section of a valve will lower the local pressure below the vapour pressure of the liquid. Vapour bubbles form which then collapse in the regions of higher pressure. When they come into contact with solid boundaries (valve body), the imploding bubbles can cause erosive damage. In the case of a sliding gate valve, these dangerous cavitation zones are external, or more accurately, they are located about **1 - 2 m** beyond the valve. The cavitation bubbles then collapse around the centre of the pipeline where they can cause no harm.



Weight

The low actuating force and short stroke allow the use of smaller actuator. Coupled with the space-saving wafer construction, weight and installation dimensions are minimised, particularly in the mid to large nominal sizes. This translates into about 150 kg for a seat globe valve in DN 150, whereas a sliding gate valve of the same nominal size weighs a mere 15 kg!



Sliding gate control valve 8021
Nominal size: DN 15 - 250
Nominal pressure: PN 10 - 160,
ANSI # 150 - 900
Media temperature: -60°C to +350°C,
optional -200°C to +530°C
Material: carbon steel, stainless steel,
Alloy C276
Positioner: pneumatic, analogue
electropneumatic, digital electro-
pneumatic, Ex-i version

Sliding gate control valve 8020
Nominal size: DN 15 - 250
Nominal pressure: PN 10 - 100,
ANSI # 150 - 600
Media temperature: -60°C to +350°C,
optional to +530°C
Material: carbon steel, stainless steel
Available with or without positioner
Positioner: pneumatic,
analogue electro-pneumatic,
digital electro-pneumatic, Ex-Version
Special versions available!

Sliding gate control valve 8028
Nominal size: DN 15 - 150
Nominal pressure: PN 10 - 40,
ANSI # 150 - 300
Media temperature: -60°C to +350°C,
Material: carbon steel, stainless steel
Positioner: pneumatic, analogue
electropneumatic, digital electro-
pneumatic, Ex-i version
Series GS1 also available as a short
version.

Flanged sliding gate
control valve 8621
Nominal size: DN 15 - 200
Nominal pressure: ANSI # 150 - 300
Media temperature: -60°C to +350°C
Material: carbon steel, stainless steel
Positioner: pneumatic, analogue
electropneumatic, digital electro-
pneumatic, Ex-i version

Sliding gate control valve 8043/44
Nominal size: DN 15 - 250
Nominal pressure: PN 10 - 40,
ANSI # 150 - 300
Media temperature: -60°C to +350°C
Material: carbon steel, stainless steel
Positioner: pneumatic,
analogue electro-pneumatic,
digital electro-pneumatic, Ex-i version

Sliding gate on/off valve 8040/41
Nominal size: DN 15 - 200
Nominal pressure: PN 10 - 40,
ANSI # 150 - 300
Media temperature: -60°C to +350°C
Material: carbon steel, stainless steel
Accessories: metal bellows, pilot valve,
limit switch, stroke limit

Sliding gate motor valve 8230
Nominal size: DN 15 - 250
Nominal pressure: PN 10 - 40,
ANSI # 150 - 300
Media temperature: -60°C to +350°C,
Material: carbon steel, stainless steel
Actuation: On/off and control actuation,
optional positioning control and
position feedback plus limit switch

Sliding gate motor valve 8038
Nominal size: DN 15 - 250
Nominal pressure: PN 10 - 100,
ANSI # 150 - 600
Media temperature: -60°C to +350°C
optional -200°C to 530°C
Material: carbon steel, stainless steel,
Alloy C276
Dead band: ± 0.2%
Repeatability: ± 0.1%
Stroking speed: adjustable between
4,7 and 35 seconds
Actuator: high resolution motor actuator
for control and switching with stroke
monitoring, limit switches and optional
fail safe unit

Sliding gate motor valve 8037
Nominal size: DN 15 - 250
Nominal pressure: PN 10 - 100,
ANSI # 150 - 600
Media temperature: -60°C to +350°C
Material: carbon steel, stainless steel,
Power supply: 24 ... 230 V AC/DC
(Multi-zone power pack)
Explosion-protected (gas version):
II 2G Ex de [ia] IIC T6/T5
Protection class: IP 66
Actuation optionally also with 3-point
control + position electronics obtainable

Sliding gate pressure regulator 8011
Nominal size: DN 15 - 150
Nominal pressure: PN 10 - 40,
ANSI # 150 - 300
Media temperature: -60°C to +230°C
optional to +300°C
Pressure ranges: 0.3 to 10 bar
Material: Stainless steel
Self-acting pressure controller
Enclosed spring housing

Sliding gate manual valve 8050
Nominal size: DN 15 - 250
Nominal pressure: PN 10 - 100,
ANSI # 150 - 600
Media temperature: -60°C to +350°C,
optional -200°C to +530°C
Material: carbon steel, stainless steel

Adjustable sliding gate orifice 8090
Nominal size: DN 15 - 250
Nominal pressure: PN 10 - 100,
ANSI # 150 - 600
Media temperature: -60°C to +350°C,
optional -200°C to +530°C
Material: carbon steel, stainless steel

Ball sector valves by Schubert & Salzer

precise

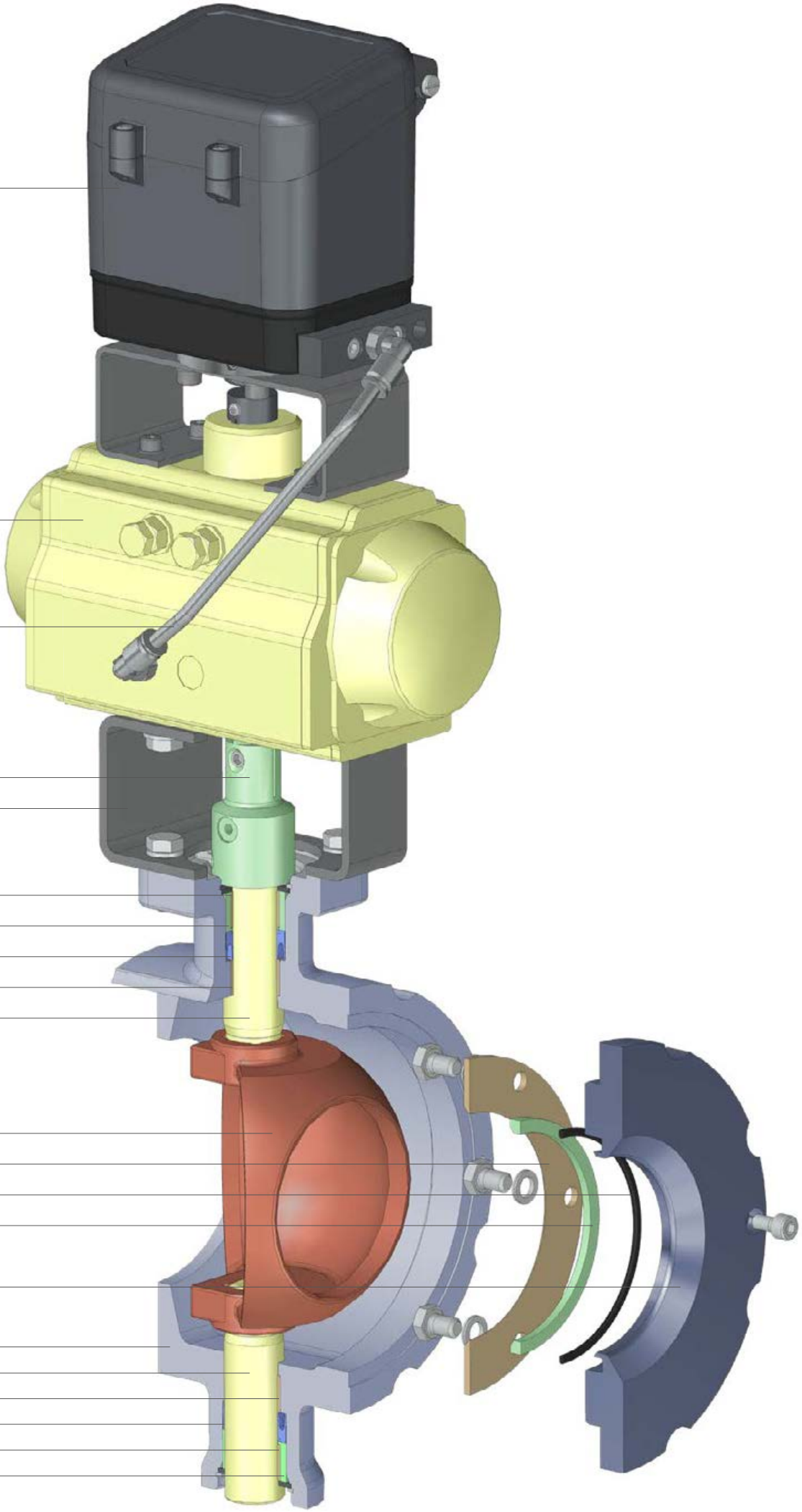
The ball sector valves are used in many demanding shut-off and control applications particularly with contaminated, abrasive and pasty media.

Their construction is characterised by an extremely large rangeability and a high flow capacity. Due to the special design of the ball sector valves, the whole force of the flowing media is absorbed by the journal bearings. In this way, the pneumatic and electric actuators need for very low actuating forces.

- Minimal wear even with contaminated, abrasive and pasty media
- Precise control over a large control range
- Very high rangeability 300:1
- Extremely high K_{VS}-values
- Robust and compact design
- Long service life, low operating costs
- No flow deflection
- No draining of paper stock due to elliptical flow geometry

efficient

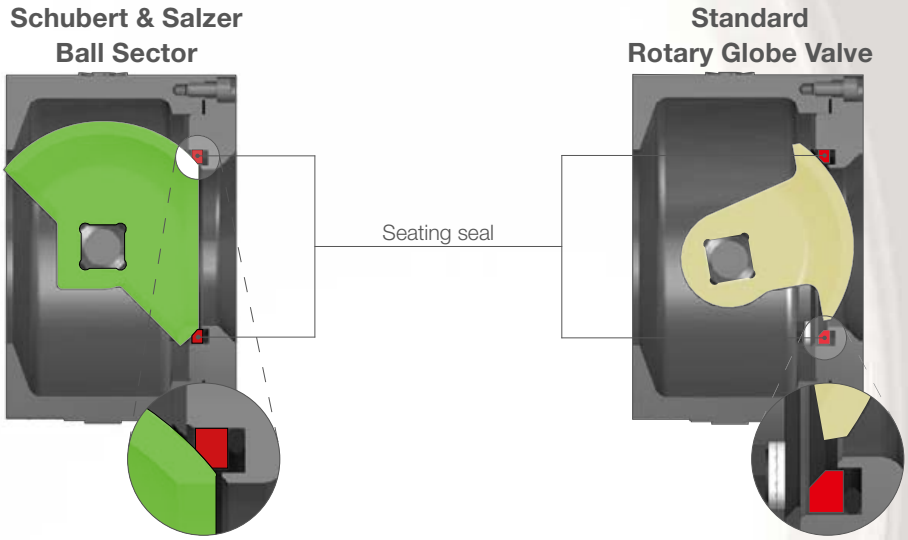
Details


Positioner
Actuator
Control pipe
Drive adapter
Bracket
Plain bearing
Plain bearing sleeve
Packing
Plain bearing
Bearing pin
Ball sector
Seat support ring
O-ring
Seat ring
Seat retaining ring
Body
Bearing pin
Plain bearing
Packing
Plain bearing
Plain bearing sleeve

The advantages of ball sector valves

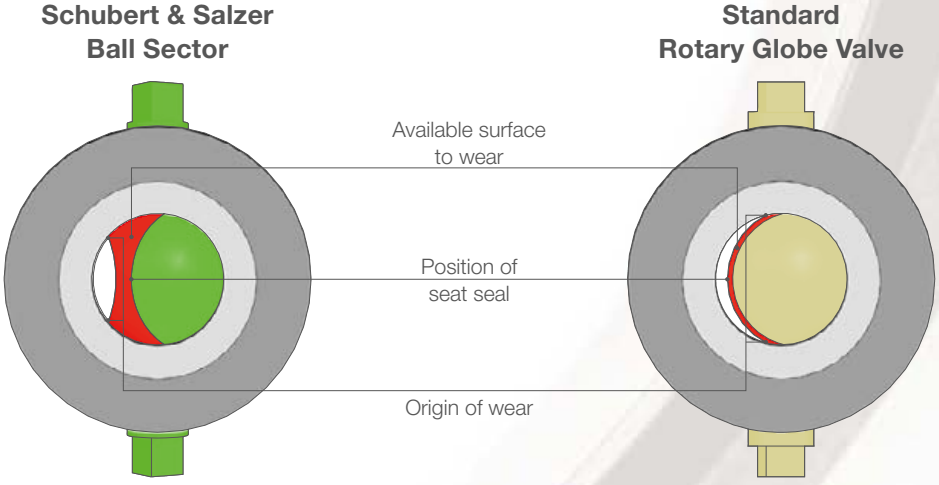
Wear resistance

Generally ball segment or rotary globe valves use excentric shaft, which cause the ball or plug to lift up from the valve seat when starting to open. This means that the sealing surfaces are exposed to constant attack from abrasive media when the valve is fully or partially open. In the case of suspensions containing solid particles, the medium can get between the rotary plug and the sealing ring, damage the surfaces and cause leaks. In contrast, ball sector valves have centric bearings, which means the ball sector does not lift up from the valve seat when rotating. Deposits on the surface of the ball sector are wiped off by the seat ring, and solids cannot get jammed between the valve seat ring and ball sector when the valve is closed.



Life span

This beneficial sealing concept, combined with different materials and surface treatments for the valve seat, is the basis for long service life and reliable operation, particularly in applications with abrasive, highly viscous or fibrous media.



Details

Compact top mount Schubert & Salzer digital positioner

Wide range of accessories available, mounting to NAMUR standard

Pneumatic actuator (double or single acting) or motor actuator mounting to DIN/ISO 5211

Mounting kit according to DIN/ISO 5211

Wafer body designed to suit ANSI or DIN standards up to DN 250 (DN 300 flanged)

Centric and maintenance-free, high temperature bearings

Visual position indication

Tubing

Adjustable travel stops

Close toleranced coupling to ensure precise positioning and repeatability

Ball sector optional with hardened surface treatments for demanding media and modified equal percentage flow characteristic with rangeability of 300:1

Seat retaining ring and valve seat available in various material combinations; easy to install and maintain

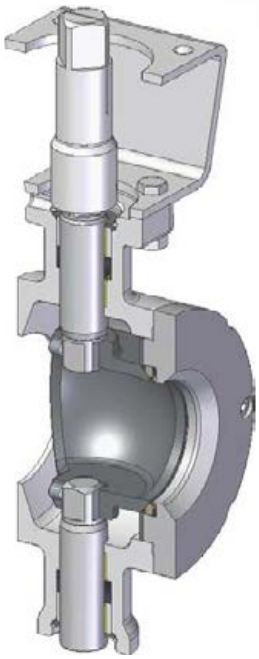
Construction

General Construction

Ball sector valves provide outstanding performance in challenging applications.

In a closed position conventional butterfly and ball segment valves expose their critical sealing components to the highest wear in the valve (see pictures on page 20). Due to the special design of the ball sector, the seal seals through a surface part of the sector less exposed to wear. In order to avoid abrasion caused leakage, the ball sector valve facilitates sealing through less exposed areas of the ball sector. The fact that the sealing surface is not exposed to high flow velocities increases the service life of the ball sector valves significantly.

Because of the various flow openings of the ball sectors, the flow coefficient (K_{VS}) value can be adjusted precisely to the requirements of the respective application. Combined with high-resolution actuators, the most demanding control tasks can thus be managed.



100% K_{VS}-value

63% reduced K_{VS}-value

6.3% reduced K_{VS}-value

Technical Information

Design		Flangeless, wafertype (DN 300 flanged)
Nominal sizes		DN 25 up to DN 300
Body material	Cast parts Turned parts	1.4408 (CF8M) 1.4404 (316L)
Bearing material		High temperature plain bearing
Connection to the actuator		Mounting kit DIN/ISO 5211
Nominal pressure	DN 25 - DN 50 DN 80 - DN 100 DN 150 - DN 300	PN 40 (for flanges PN 10 - PN 40), ANSI 300, ANSI 150 PN 25 (for flanges PN 10 - PN 25), ANSI 150 PN 16 (for flanges PN 10 - PN 16), ANSI 150 Other pressure ranges on request
Fluid temperature		-40°C up to +220°C
Ambient temperature		-40°C up to +80°C
Characteristic		Modified equal percentage
Rangeability		300 : 1

Ball sector valve 4040
Nominal size: DN 25 - 300
Nominal pressure: PN 10 - 40,
ANSI # 150 - 300
Material: stainless steel 1.4408 (CF8M) and 1.4404 (316L)
Various seat material combinations
Single or double acting on/off actuators
Positioner: pneumatic, analogue electro-pneumatic, digital electro-pneumatic, Ex-i version
As an open/close valve, it is also available with an optional limit switch box and a manual actuator.

Motorized ball sector valve 4030
Nominal size: DN 25 - 300
Nominal pressure: PN 10 - 40,
ANSI # 150 - 300
Material: stainless steel 1.4408 (CF8M) and 1.4404 (316L)
Various seat material combinations
With an electric actuator for controlling and for the open/close function incl. a position feedback.
With an optional limit switch.
Other electrical actuators available.

Highly precise ball sector valve 4032
Nominal size: DN 25 - 250
Nominal pressure: PN 10 - 40,
ANSI # 150 - 300
Material: stainless steel 1.4408 (CF8M) and 1.4404 (316L)
Various seat material combinations
Actuator: electric actuator, highly precise (1500/8000 steps)

Ex-motorized ball sector valve 4037
Nominal size: DN 25 - 100 (others on request), DN 25 - 80 also available with spring return
Nominal pressure: PN 10 - 40,
ANSI # 150 - 300
Material: stainless steel 1.4408 (CF8M) and 1.4404 (316L)
Various seat material combinations
Actuator: Ex-certified motor actuator II2G/D EEx ia IIC T6/T5 and IEC Ex

Segmented disc valves by Schubert & Salzer

Perfect and variable control with high precision over a wide flow range, this is made possible up to a nominal size of DN 800 by the segmented disc valves by Schubert & Salzer.

Due to the robust design and the reciprocal flow direction, segmented disc valves are suitable for fluids as well as vapours, even if these are contaminated by particles. The wide range of applications includes areas such as building materials, chemical and power plants, pipelines, water supply and disposal, as well as shipbuilding. An ingeniously simple but effective valve design!

durable

back sealing

Functional principle

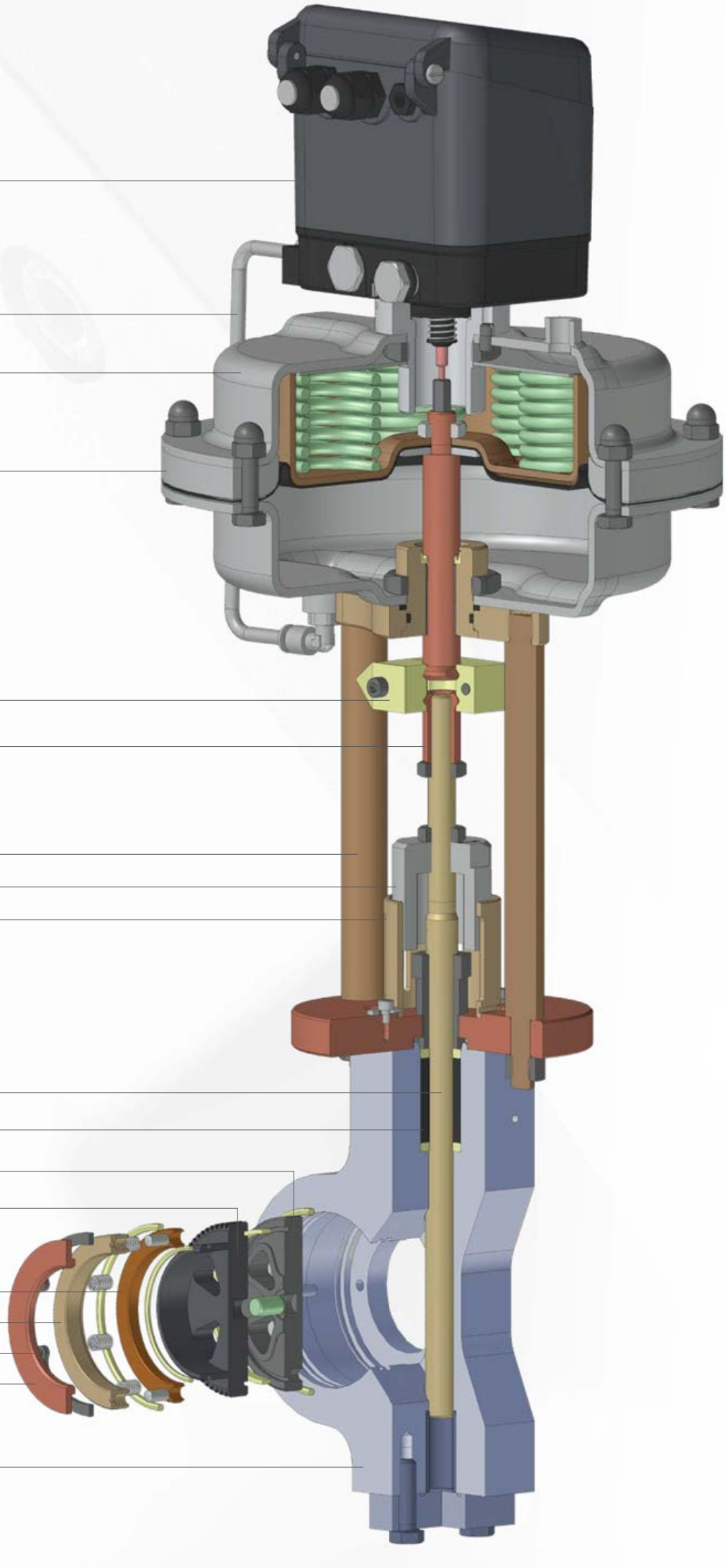
The central throttle is formed by two segmented discs that slide on top of each other and seal each other – one of them fixed, the other movable. The geometry of the fixed segmented disc determines the valve's flow capacity and characteristic. The moving disc is rotated on its fixed counterpart is such a way that the segmented flow openings continuously change.

Both discs are constantly pressed against each other by a spring assembly. This means that the flow direction is variable and the valve can be fitted in any position.

The special construction of the segmented disc valves combines control accuracy even in extreme operating conditions with a high seal tightness. Even with contaminated operating media, they hardly show any signs of wear.

robust

Details


Positioner
Pilot tube
Diaphragm shell
Diaphragm plate
Coupling
Adjusting nut
Column
End positions
Protection tube
Toothed rack
Packing
Fixed segmented disc
Moving segmented disc
Sliding ring
Spring retainer
Circlip
Retaining ring
Body

Segmented disc valve
with pneumatic actuator 5020
Nominal size: DN 25 - 800
Nominal pressure: PN 25 (PN 16 for DN 250 and larger)
Material: Stainless steel (also available in carbon steel for DN 150 and larger)
Available with and without positioner
Positioner: pneumatic, analogue electro-pneumatic, digital electro-pneumatic, Ex-i version

Segmented disc valve
with motor actuator 5030
Nominal size: DN 25 - 800
Nominal pressure: PN 25 (PN 16 for DN 250 and larger)
Material: Stainless steel (also available in carbon steel as for DN 150 and larger)
Actuator: Various electrical actuators available, on/off and control actuators, optional position control and position feedback plus limit switch

Segmented disc valve
with manual actuator 5050
Nominal size: DN 25 - 800
Nominal pressure: PN 25
Material: Stainless steel (also available in carbon steel for DN 150 and larger)
Actuator: Smooth-running ball-bearing manual actuation

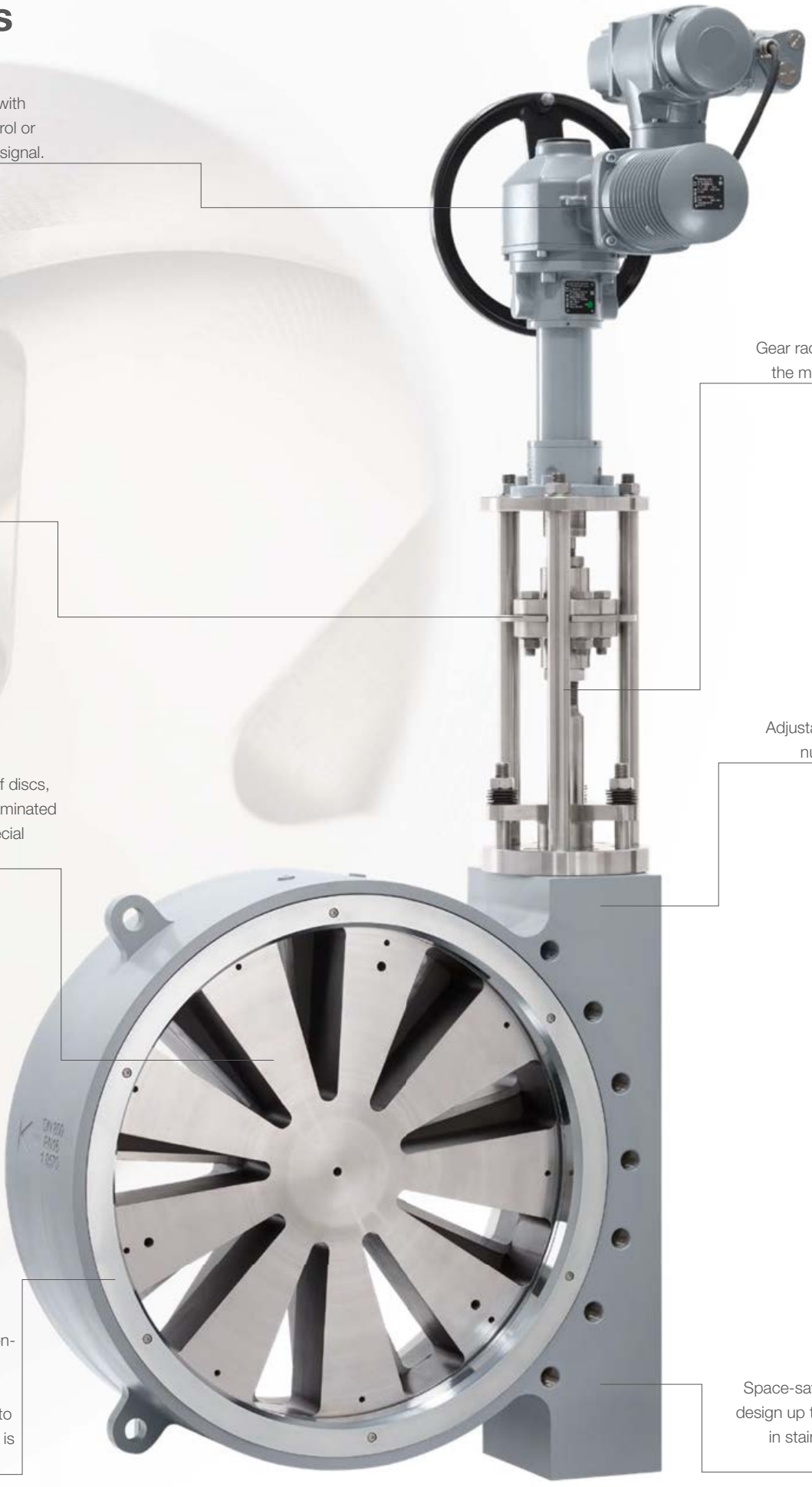
Desuperheater 5090
Nominal size: DN 50
Nominal pressure: PN 40 - High rangeability due to 4-nozzle system
Material: Stainless steel
Positioner: pneumatic, analogue electro-pneumatic, digital electro-pneumatic, Ex-i version

Technical Information

Design		Wafer design for flanges according to DIN EN 1092-1 type B
Nominal sizes		DN 25 to DN 800
Nominal pressure	DN 25 - DN 150 DN 200 DN 250 - DN 300	PN 25 according to DIN 2401 (also suitable for flanges PN 10 - PN 25) PN 25 according to DIN 2401 PN 16 according to DIN 2401
Media temperature		-60°C to +220°C (higher temperatures on request)
Ambient temperature*		-30°C to +100°C
Characteristic		Modified linear
Rangeability		60 : 1
Leakage rate % of K_{VS}		< 0.001

* Note limits of the positioner!

Details



Electric actuator with 3-point step control or analogue control signal.

Gear rack rotating the moving disc

Optical position indication

Adjustable gland nut packing

Hardened pairs of discs, resistant to contaminated media due to special profile

Spring pre-tensioning of the sealing disc, this means control opposite to the flow direction is possible as well

Space-saving wafer design up to DN 800 in stainless steel or C-steel

sterile

reliable

Sterile valves by Schubert & Salzer

In many industries, purity is the highest priority. Sterile valves from Schubert & Salzer meet the highest cleanliness requirements along with maximum performance. Particular attention is paid to eliminating dead spaces across the entire stroke range and to avoiding residue.

Hygienic Angle Seat Valves

The hygienic angle seat valves from Schubert & Salzer are particularly robust and are suitable for high temperatures. With Ra < 0.8 µm, all wetted surfaces of the body construction optimised to avoid dead spaces are ideally suitable for applications in the food and beverage manufacturing sector. They are particularly used when controlling and shutting off process water, sterile steam and sterile air.

Aseptic right angle valves

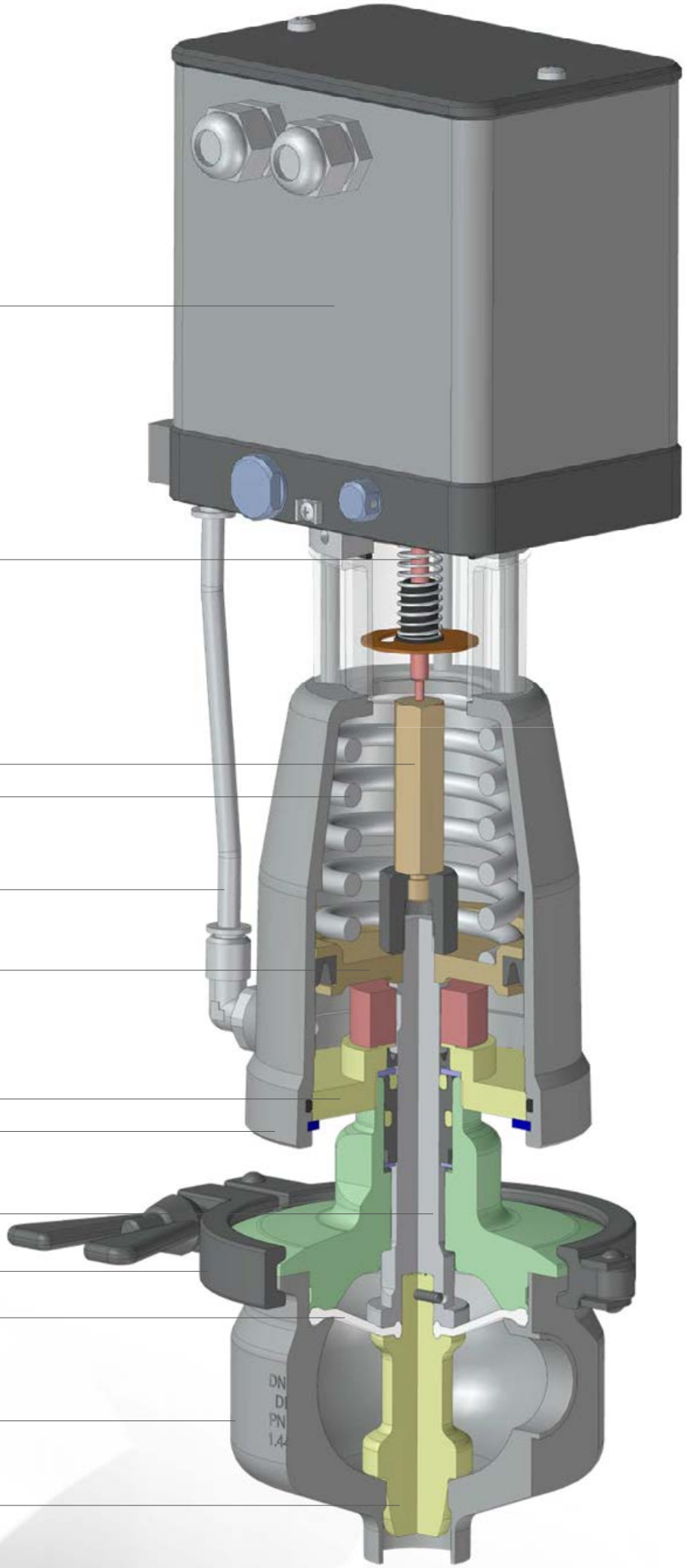
The aseptic right angle valves from Schubert & Salzer with integrated positioner combine high control quality with the highest aseptic requirements. They guarantee ultimate rangeability, tremendous chemical resistance and can be used over a wide temperature range. Flow analyses have been used to optimise all wetted areas with regard to maximum wall shear stresses.

The EHEDG-certified type 6051 aseptic right angle valves meet almost every requirement in the pharmaceutical and cosmetics industry, but also in the biotechnology sector as well as the food and beverage technology sector. The components used are FDA-compliant, meet USP class VI and the directives (EC) 1935/2004 and (EU) 10/2011.

The 3A-compliant type 6052 right angle valve provides high safety in production processes for food and dairy products.

efficient

Details

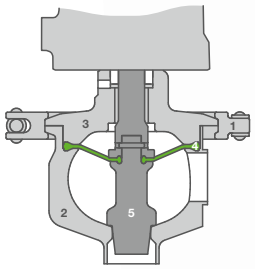

Positioner
Sensing pin
Bolt
Spring for piston
Pilot line
Piston
Flange
Bonnet
Valve stem
Tri-Clamp
Diaphragm
Body
Control cone

ultra-clean

aseptic

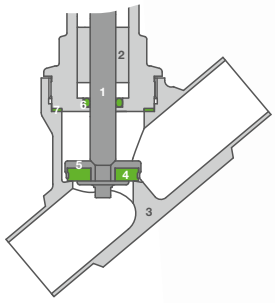
precise

Aseptic right angle valves



1 Clamp connection
2 Body
3 Head section
4 Diaphragm
5 Control cone

Hygienic Angle Seat Valves



1 Piston rod
2 Packing
3 Body
4 Seat seal
5 Disc
6 Stem seal
7 Head section seal

From 2023

Hygienic Angle Seat Valve 7015
Nominal size: DN 15 - 50
Nominal pressure: PN 40
Maximum operating pressure: 25bar
Media temperature: -30°C to +135°C,
optional -100°C to +220°C
Material: Stainless steel 1.4408,
wetted surface Ra < 0.8µm

From 2023

Hygienic Angle Seat
Control Valve 7025
Nominal size: DN 15 - 50
Nominal pressure: PN 40
Maximum operating pressure: 25bar
Media temperature: -30°C to +135°C,
optional -100°C to +220°C
Material: Stainless steel 1.4408,
wetted surface Ra < 0.8µm
Positioner: pneumatic,
analogue electro-pneumatic,
digital electro-pneumatic, Ex-i version

Aseptic Right Angle Valve 6051
Nominal size: DN 15 - 50
Nominal pressure: PN 16
Media temperature: -20°C bis +140°C
Material: Stainless steel 1.4435
Diaphragm material:
EPDM with PTFE-Foil
Positioner: pneumatic,
analogue electro-pneumatic,
digital electro-pneumatic, Ex-i version
Available with pneumatic on/off actuator

Hygiene right angle valve 6052
Nominal size: DN 15 - 50
Nominal pressure: PN 16
Media temperature: -20°C bis +140°C
Material: Stainless steel 1.4435
Diaphragm material:
EPDM with PTFE-Foil
Positioner: pneumatic,
analogue electro-pneumatic,
digital electro-pneumatic, Ex-i version
Available with pneumatic on/off actuator

53-07

versatile

resilient

straight

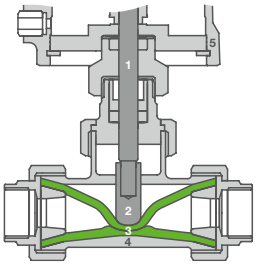
Pinch valves by Schubert & Salzer

On Schubert & Salzer pinch valves, only the tube itself, or a few components, come into contact with the operating medium. They are suitable for safely shutting off and controlling in a wide variety of processes and applications.

Endless pinch valves have absolutely no dead spaces and therefore provide a modern solution for applications with the highest hygienic requirements e.g. in the pharmaceutical industry, cosmetics and biotechnology.

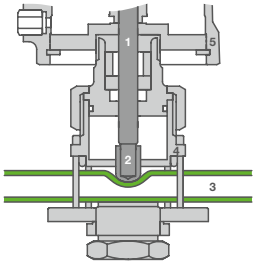
Pinch valves with an enclosed metal housing are used for lower hygienic requirements such as in food and beverage applications, environmental technology and water treatment, as well as in electroplating. Their straight valve passage is particularly advantageous for contaminated, abrasive and viscous media.

Pinch valves



1 Piston rod
2 Actuating pin
3 Tube
4 Body
5 Bonnet

Endless tube pinch valves



1 Body
2 Actuating pin
3 Tube
4 Body
5 Bonnet

Pinch shut off valve 7078
Nominal size: DN 15 - 50
Operating pressure: to 6 bar
Media temperature: -40°C to +160°C
(depending on tube)
Tube material: NBR and
EPDM (conforming to FDA),
FKM, and more

Pinch control valve 7079
Nominal size: DN 15 - 50
Operating pressure: to 6 bar
Media temperature: -40°C to +160°C
(depending on tube)
Tube material: NBR and
EPDM (conforming to FDA),
FKM, and more
Positioner: pneumatic,
analogue electro-pneumatic,
digital electro-pneumatic, Ex-i version

Endless tube shut off valve 7072
Tube external diameter: 10 - 18 mm
Operating pressure: to 4 bar
(depending on tube)
Media temperature: -30°C to +170°C
(depending on tube)
Material: Stainless steel

Endless tube control valve 7077
Tube external diameter: 10 - 18 mm
Operating pressure: to 4 bar
(depending on tube)
Media temperature: -30°C to +170°C
(depending on tube)
Material: Stainless steel
Positioner: pneumatic,
analogue electro-pneumatic,
digital electro-pneumatic, Ex-i version

Positioners by Schubert & Salzer

Compact positioners in analogue and digital versions mounted on pneumatic control valves.

- **High precision and minimum hysteresis**
  Because the positioner is integrated in the valve actuator, no moving parts (return stroke) are accessible from the outside. The operational safety and particularly the control accuracy are thus significantly increased.
- **Low compressed air consumption**
  Through the use of piezo and solenoid valves, the consumption of compressed air is minimized significantly compared to standard positioners.
- **Self-adaptation and diagnostics**
  Configuration and diagnostics function by means of “DeviceConfig” software.

precise

DeviceConfig by Schubert & Salzer

Maximum efficiency and performance – with the configuration and diagnosis software, “DeviceConfig“, you have control over all of the digital positioners and motor actuators from Schubert & Salzer.

- Calibration and optimisation of the positioners and motors to the used valve with just a few clicks.
- Numerous diagnosis functions provide for a fast and simple fault analysis.
- Configuration of individual maintenance settings.
- Connections is possible via Bluetooth or USB using a connector
- At least compatible with the following types: 8049, 2040, 2030, 2032.

digital

Digital Positioner 8049
Connections: G 1/8“, NPT 1/8“
Input signal: 0/4 - 20 mA,
optional 0/2 - 10 V
Adaptation to actuator: self-learning
Adaptability: 3 - 28 mm (sliding stem),
optional to 50mm (sliding stem),
max. 270° (rotary stem)
Versions: 2- and 4-wire
Ambient temperature: -20°C to +75°C
Also in ATEX version
Optional feedback module available

Digital Positioner 8049 (stainless steel)
Entirely in stainless steel
Connections: G 1/8“, NPT 1/8“
Input signal: 0/4 - 20 mA, optional
0/2 - 10 V
Adaptation to actuator: self-learning
Stroke range: 3 - 28 mm
Versions: 2- and 4-wire
Ambient temperature: -20°C to +75°C
Also in ATEX version

Digital Positioner 8049 IPC
Positioner with integrated
process controller
Input signal: 0/4 - 20 mA, PT-100
Sampling rate: ca. 50 ms
Set point setting: external/internal
Ambient temperature:
-20°C to +75°C

Positioner 8047 i/p + p/p
Input signal range:
electro-pneumatic 0/4 - 20 mA
pneumatic 0.2 - 1 bar
Stroke range: 5 - 22 mm
(depending on stroke return spring)
Pilot energy: 3 - 6 bar
Hysteresis: < ± 1%
Air consumption: 400 - 600 Nl/h
(depending on air supply)
Also in ATEX version

innovative

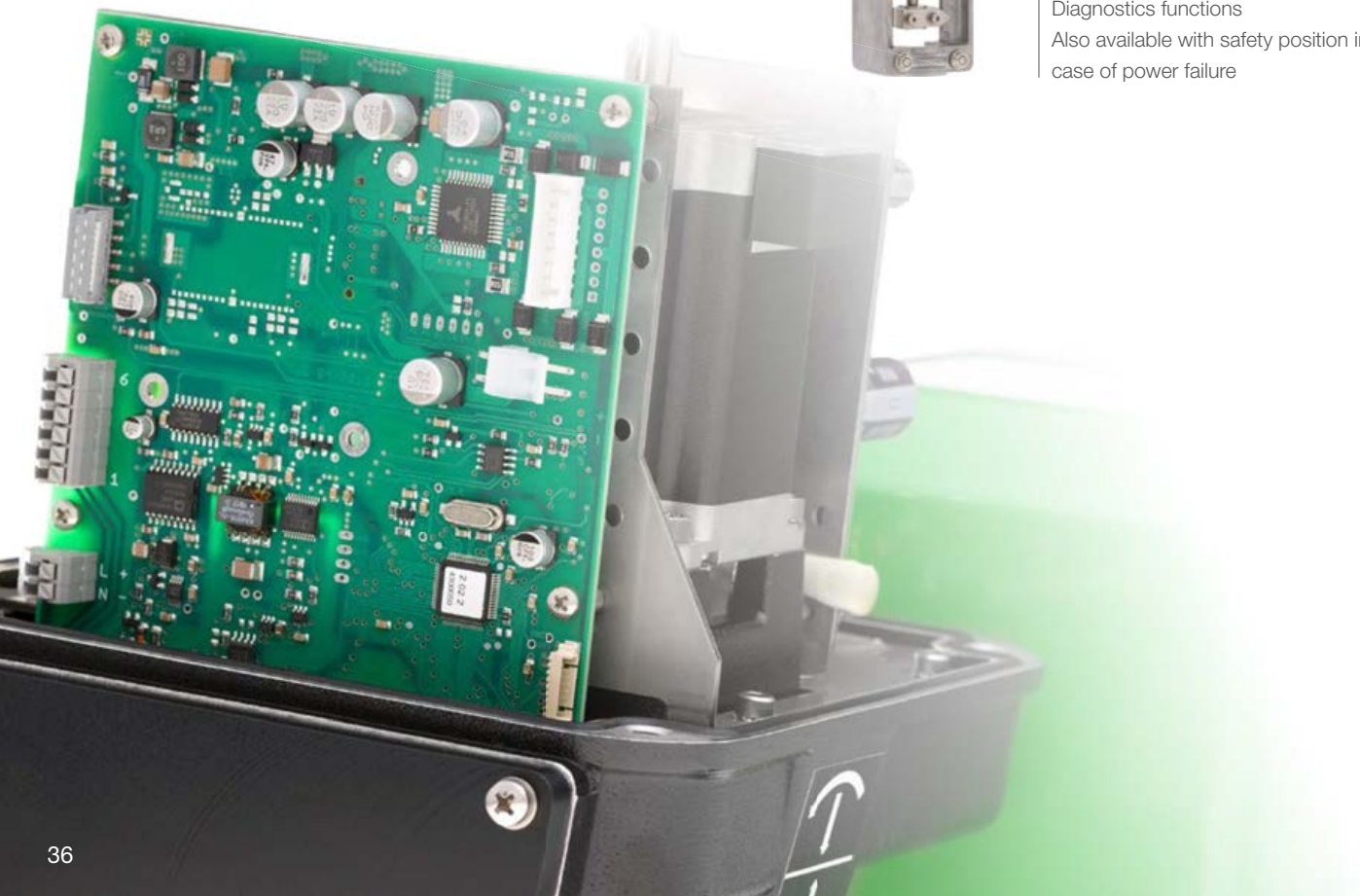
Electric actuators

Besides a precise throttling element, a precise actuator is also required for solving complex control tasks.

This requirement is met in full by the two electrical Schubert & Salzer actuators type 2030 and type 2032. The development particularly focused on control accuracy, high positioning speed and reliability. As with all electronic components by Schubert & Salzer, communication and settings of all parameters are handled via the configuration software DeviceConfig.

Actuator 2030
Fast and high-resolution actuator
Regulating speed up to 0.75 s/mm
Dead band: ±0.2% of the valve stroke
Repeatability: approx. ±0.1%
Actuating force: 2.0 kN and 5.0 kN
Protection class: IP67
Ambient temperature: -10°C to +60°C
Low temperature version up to -40°C
Automatic valve adaption
Diagnostics functions
Also available with safety position in case of power failure

Actuator 2032
Compact and precise actuator
Regulating speed up to 1.5 s/mm
Dead band: ±0.6% of the valve stroke
Repeatability: approx. ±0.3%
Actuating force: 0.8 kN
Protection class: IP65
Ambient temperature: -10°C to +60°C
Automatic valve adaption
Diagnostics functions
Also available with safety position in case of power failure

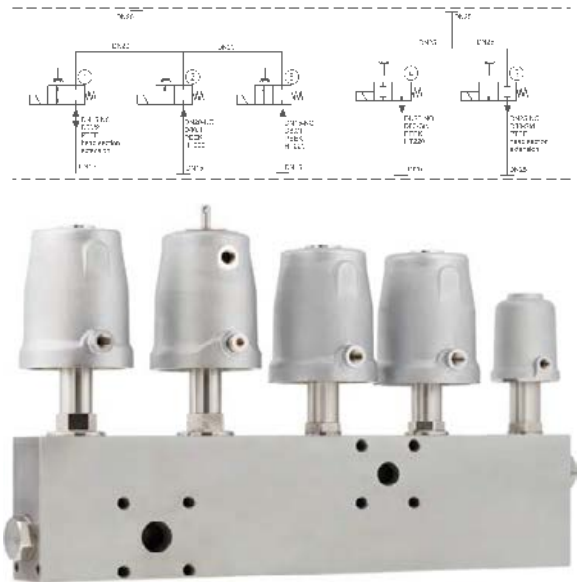


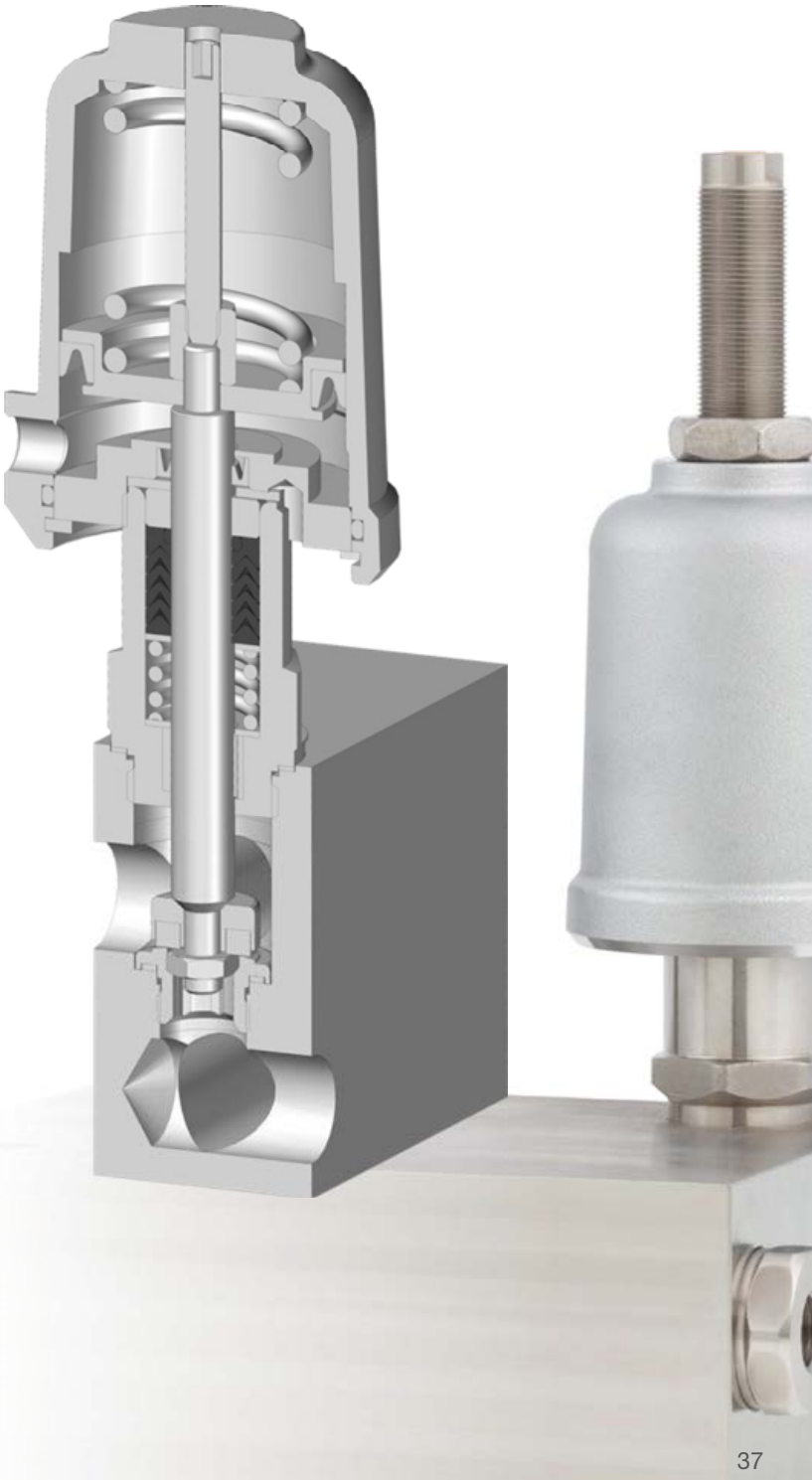
Customised solutions

Compact valve manifolds

Less piping effort, reduced maintenance time and minimized investment costs.

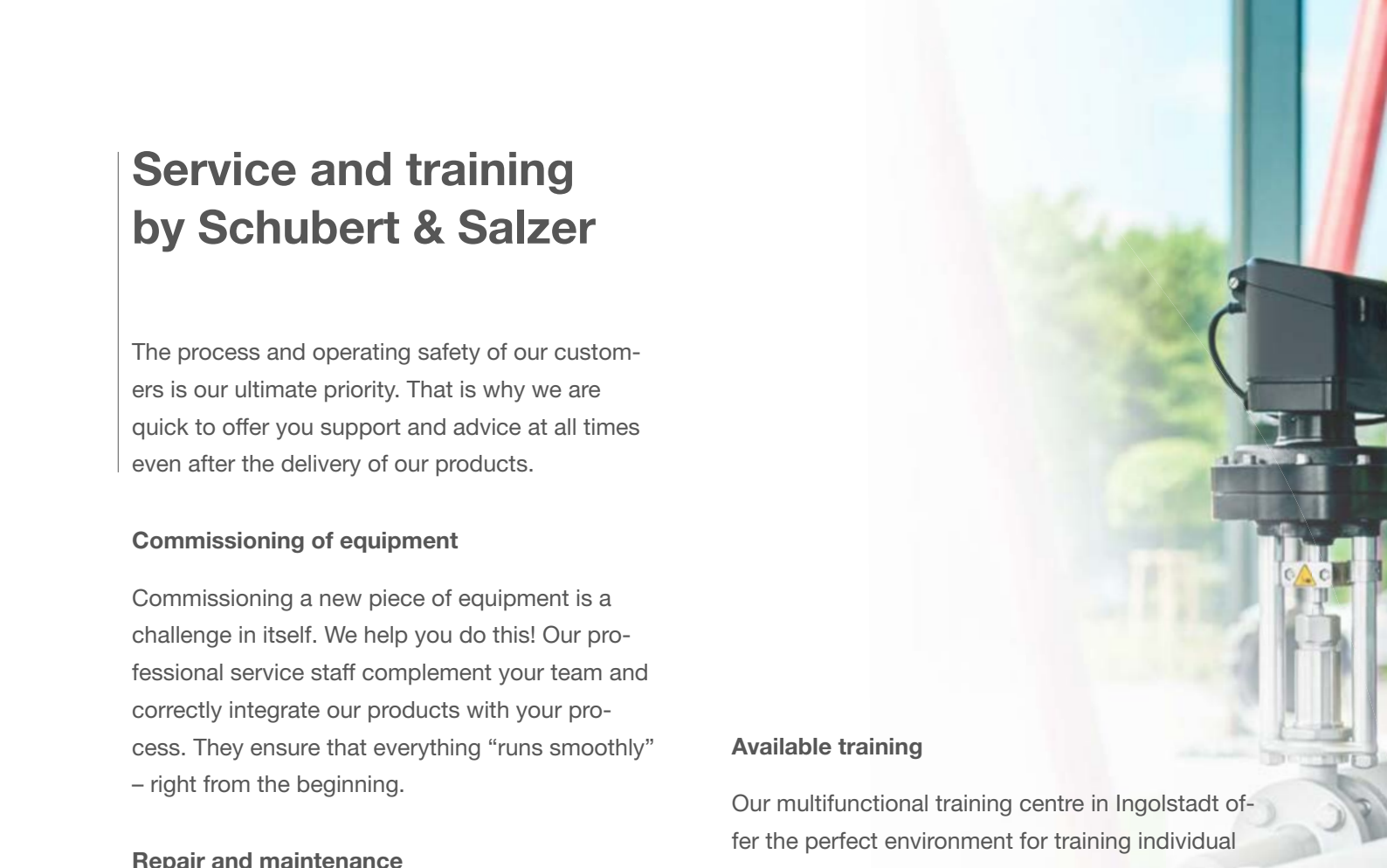
In many systems, processes demand connecting multiple valves for different media so that they can together carry out a special process function. A connection system well-known from the field of hydraulics and adapted to the respective application, allows for the intelligent combination of several valves in a customer-specific manifold. All necessary connections between the individual process valves are integrated in the manifold. On the customer side, connections for hydraulic fluid input and output in the desired number are available depending on the requirement. Manifolds can be manufactured either completely from stainless steel or solid carbon steel with screwed valve seats. Additional pressure and temperature sensors can be integrated at any time. The manifolds are developed and manufactured individually according to your P&I diagrams.





Service and training by Schubert & Salzer

The process and operating safety of our customers is our ultimate priority. That is why we are quick to offer you support and advice at all times even after the delivery of our products.



Commissioning of equipment

Commissioning a new piece of equipment is a challenge in itself. We help you do this! Our professional service staff complement your team and correctly integrate our products with your process. They ensure that everything “runs smoothly” – right from the beginning.

Repair and maintenance

We support you by maintaining our products on site or carry this out for you completely at our premises. Keeping stock of common spare parts enables us to react quickly and carry out the work at short notice.

Available training

Our multifunctional training centre in Ingolstadt offer the perfect environment for training individual employees or entire teams from the maintenance and engineering departments. A modern water and steam test station that meets the latest state of the art is available for this purpose.

In talks with our experts, you will gain valuable practical knowledge surrounding maintenance and repair measures for our products. You will be given tips about the individual configuration and optimisation of the valves for your applications. We are also happy to conduct training sessions at your site.

Added value from training:

Valves from Schubert & Salzer are particularly easy to maintain and service. With a few simple steps, it is possible, for example, to replace the positioner, main wear parts or the actuator.

The diagnostic data extracted from positioners and electrical actuators can be evaluated after a short tutorial in order to to derive optimization measures for your application.

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