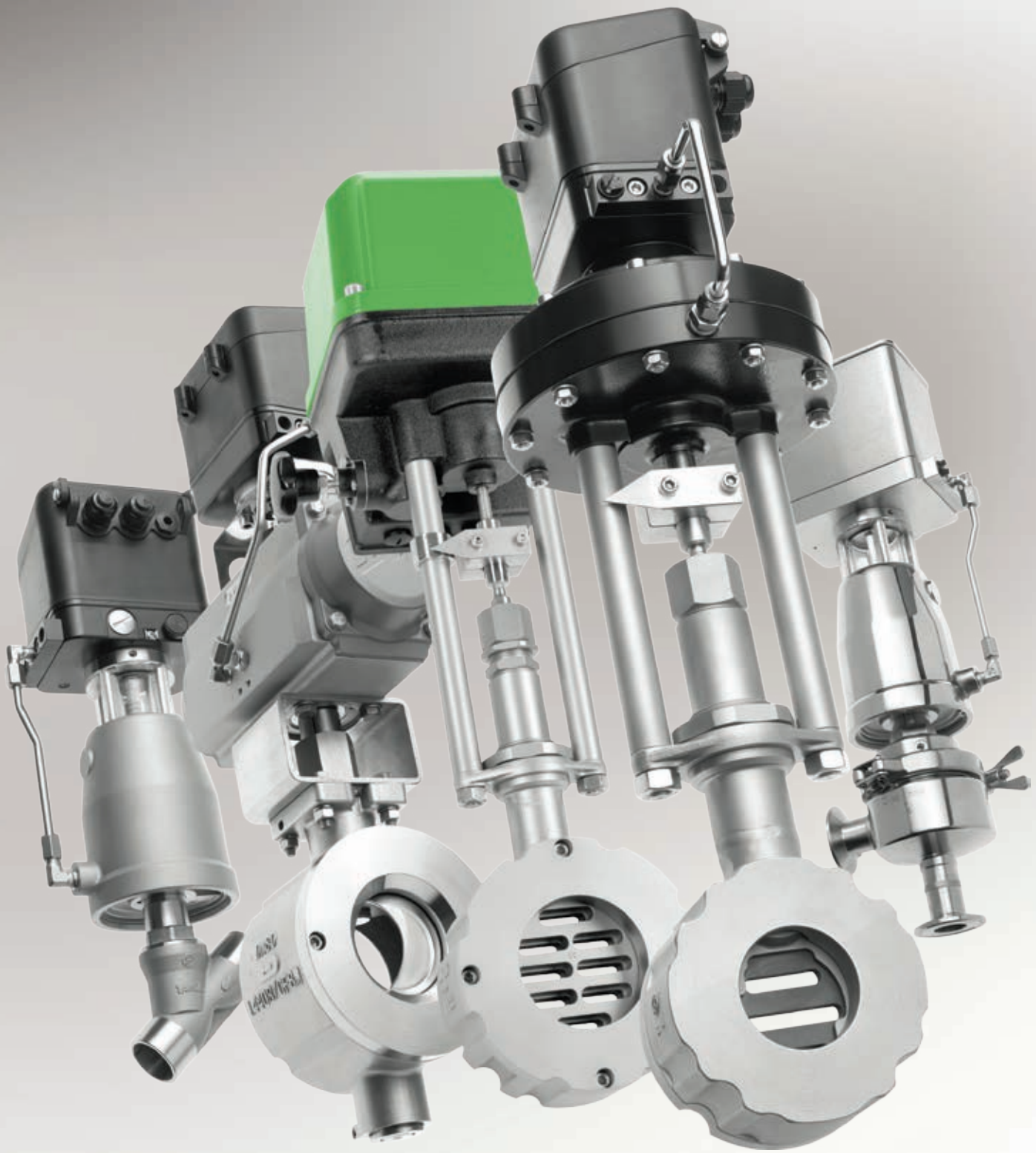
SCHUBERT SALZER



Product overview valve technology

The sliding gate valve principle by Schubert & Salzer

This is how easy control can be. Over 25 years ago, Schubert & Salzer Control Systems took a new approach in control valves. We developed the sliding gate control valve: a practical, 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.

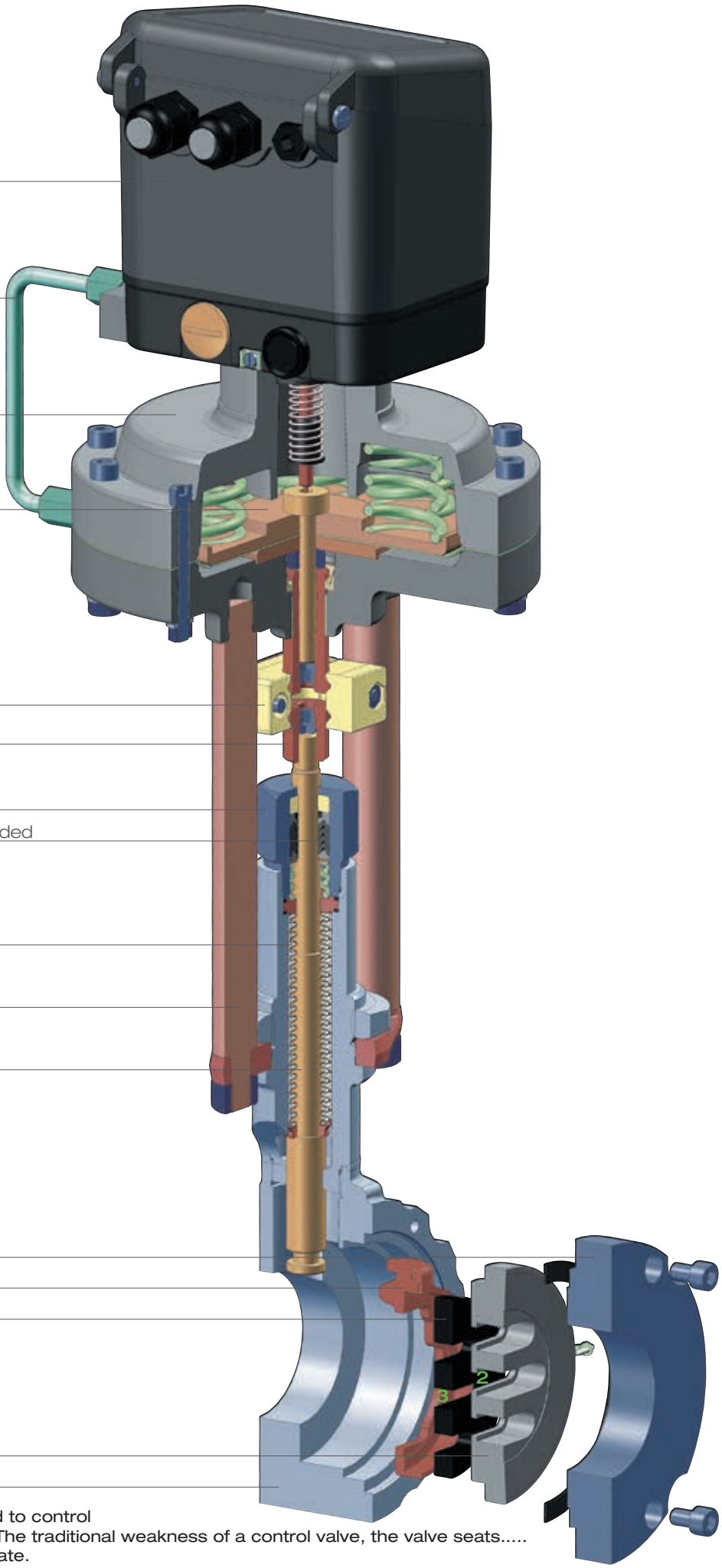
The alternative when the demands are high

The GS valve product line controls liquids, steam and gases with accuracy; quickly and efficiently. A stationary sealing plate (2) fixed in the body (1) perpendicular to the direction of flow has a number of slots or orifices (3) a moving disc of equal height across it's face with identical slot configuration and designed so it cannot rotate, slides vertically against it thereby changing the rate flow. The differential pressure presses the moving disc (3) against the fixed disc (2) and seals it.

Sliding gate valves are used to control gases, steam and liquids

- *Chemical and pharmaceutical industry*
- *Steel and aluminum plants*
- *Food and beverage industry*
- *Breweries*
- *Textile manufacturing*
- *Tire production*
- *Plastics and rubber*
- *Research and developement*
- *Gas and compressed air production and utilization*
- *& many more.*

Details



Sliding gate valves are used to control gases, steam and liquids. The traditional weakness of a control valve, the valve seats..... does not exist in a sliding gate.

The advantages of sliding gate valves

Fits into tight spaces
Compact construction for minimum use of space and ease of installation

Variable C_V values
A simple exchange of the fixed disc (plate) is all that's needed to change the C_V value at any time - possible range of C_V = 0.05 to 1056

Extremely low leakage rate
< 0.0001% of the C_V 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
Up to 160:1

Standard packing environmentally safe
Schubert & Salzer's standard packing is certified by the TUV to comply with the German TA-Luft-standard which limits valve packing emissions. The applied testing procedure verifies if the tested sealing design is equivalent to a bellows solution. The measured leakage rate (after 150,000 full valve cycles) was 8E-8 mbar l/s and is far below the allowale leakage standard of 4.7E-6 mbar l/s.

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

Easy to install and maintain
Thanks to the compact construction, the low weight and the innovative seal disc design makes easy work of installation and maintenance.

Minimal wear
Low turbulence means less erosion. The short stroke (1/4" to 1/2") insures greater packing life and also requires reduced actuation energy.

High differential pressures
Using its unique compact design and low energy consumption, the GS valve gives accurate control of high differential pressures up to 1450 psi

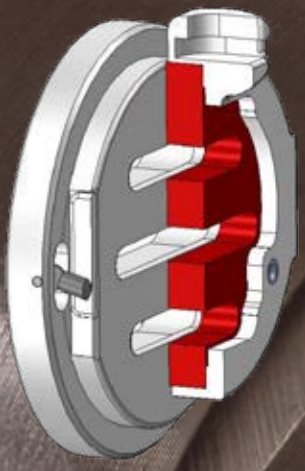
Size Comparison 10 inch GS vs Globe

Size comparison between a normal globe valve and a Schubert & Salzer sliding gate valve. In the example, the line size of both valves are identical.

Variable Cv Values

Ordering code		-	A	1	B	6	2	7	C	3	4	8	5	9
Size	Charact.	100 %	63 %	40 %	25 %	20%	16 %	12 %	10 %	6,3 %	2,5 %	2 %	1 %	0,4%
1/2"	(mod.) linear	4.6	3	2	1.6	-	0.82	0.57	0.51	0.3	0.16	0.09	0.05	-
	eq. perc.	2	-	1.3	-	0.4	-	-	-	0.12	-	-	-	-
3/4"	(mod.) lin.	7.4	-	-	-	-	1.16	-	-	-	-	0.15	-	-
	eq. perc.	3.5	-	1.7	-	-	-	-	-	-	-	-	-	-
1"	(mod.) linear	13	7.4	4.6	-	-	1.9	-	1.08	0.72	0.3	-	0.16	0.05
	eq. perc.	5.8	-	2.8	-	1.3	-	-	-	-	-	-	-	-
1 1/4"	(mod.) linear	19	12	-	-	-								
	eq. perc.	9.3	-	-	-	-								
1 1/2"	(mod.) lin.	30	19	13	8.1	-								
	eq. perc.	13	9.9	-	3.2	-								
2"	(mod.) linear	52	32	23	14	12								
	eq. perc.	22	14	-	-	-								
2 1/2"	(mod.) linear	60	41	-	17									
	eq. perc.	35	-	-	9.3									
3"	(mod.) linear	107	67	46										
	eq.perc.	56	41	-										
4"	(mod.) linear	179	110	72										
	eq.perc.	89	56	-										
5"	(mod.) linear	275	-	110										
	eq.perc.	135	-	-										
6"	(mod.) linear	392	246	-										
	eq.perc.	171	104	-										
8"	(mod.) linear	650	408	-										
	eq.perc.	-	-	-										
10"	(mod.) linear	1056												
	eq.perc.	-												

Seating Elements



		Function unit			
		Carbon - SST	SFC	STN2	STN3
Characteristics	Friction coefficient	⊕⊕	⊕⊕	⊖	⊖
	Actuator force	⊕⊕	⊕⊕	⊖	⊖
	Leakage rate	⊕⊕	⊕	⊖	⊖
	Chem. Ressistance	⊕⊕	⊕⊕	⊕	⊕
	Ability for high differential pressure	⊖	⊕	⊕	⊕⊕
	Edge stability	⊖⊖	⊕	⊕	⊕⊕
	Application during cavitation	⊖⊖	⊕	⊕	⊕⊕
	Application at low valve openning (liquids and steam)	⊖⊖	⊕	⊕	⊕⊕

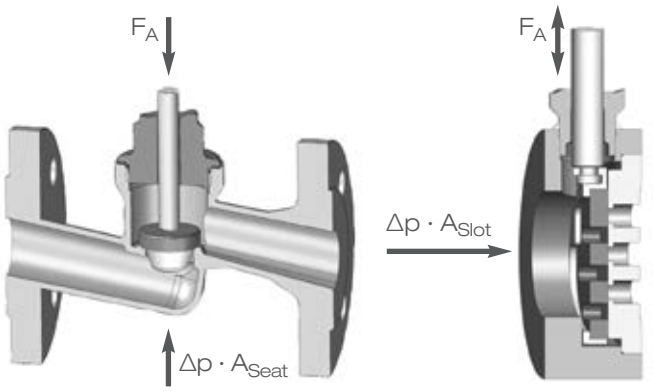
Applications	Range of use	Gases, fluids, steam without posibility for condensate hammer (continuous applications)	Reinforced alternative to carbon tribological pairing without influence to actuating forces. stability and rigidity of the STN2 pairing	Loaded fluids, like steam even at the danger of water hammers	Applications with very high differential pressures
	Fluid temperature	-328°F to 892°F	-76°F to 572°F	-76°F to 986°F	

Setup	Fixed disc	Stainless steel, coated with Stellite			Stellite
	Moving disc	Carbon	Stainless steel combined coating technique - SFC	Stainless steel coated with Tribaloy	Tribaloy

Availability	1/2"- 10"	1/2"-6"	1/2"-1"

Efficiency

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



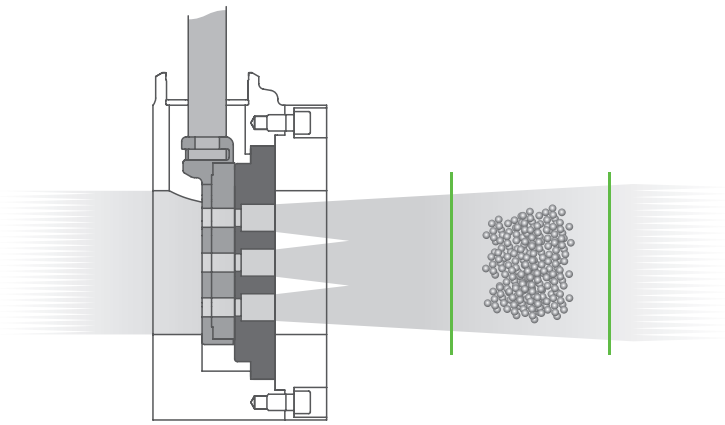
$F_A = \Delta p \cdot A_{Seat}$

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

The outstanding feature of the sliding gate valve is the actuating force which is approximately 10% of that needed to actuate a globe valve of the same size and differential pressure. This permits the use of much smaller actuators even though both designs of the same size have similar flow rates!

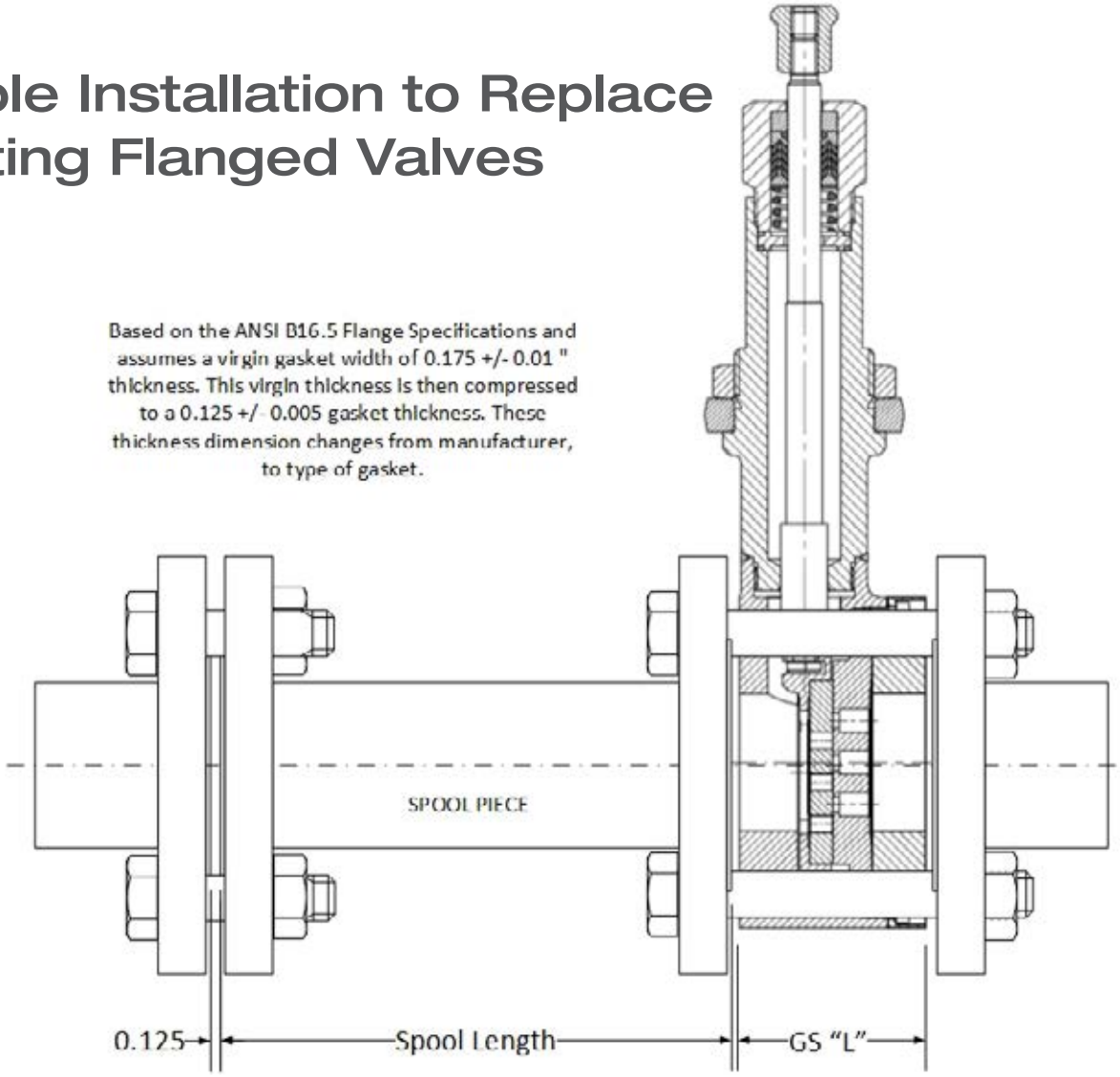
This beneficial feature stems from the fact that, in the sliding gate valve, closure is perpendicular to the direction of flow and not against it, as with the globe valve.

Cavitation



A high rate of flow through the narrowest cross section of a valve will lower the local pressure below the vapor pressure of the liquid. Vapor 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 damage. In the case of a sliding gate valve, these dangerous cavitation zones are external, or more accurately, they are located about **3 - 6 ft** beyond the valve. The cavitation bubbles then collapse around the center of the pipe-line without damaging consequences.

Simple Installation to Replace Existing Flanged Valves



Spool Piece Adapters for Retrofitting Schubert & Salzer GS Wafer Flanges

Nominal Size	150#	300#	600#	150#	300#	600#	S&S GS Valve L Dimension (in.)
	ANSI B16.5Standard Face to Face Dimension (in.)			Spool Piece Length (in.)			
1/2"	7.25	7.50	8.00	**4.93**	**5.18**	**5.68**	2.20
3/4"	7.25	7.63	8.13	**4.93**	**5.30**	**5.80**	2.20
1"	7.25	7.75	8.25	**4.93**	**5.43**	**5.93**	2.20
1-1/4"	NA	8.38	NA	NA	**6.06**	NA	2.20
1-1/2"	8.75	9.25	9.88	**6.43**	**6.93**	**7.55**	2.20
2"	10.00	10.50	11.25	**7.36**	**7.86**	**8.61**	2.52
2-1/2"	10.88	11.50	12.25	**8.07**	**8.70**	**9.45**	2.68
3"	11.75	12.50	13.25	**8.88**	**9.63**	**10.38**	2.75
4"	13.88	14.50	15.50	**10.80**	**11.43**	**12.43**	2.95
5"	Consult Factory						3.15
6"	17.75	18.63	Consult Factory	**14.48**	**15.35**	Consult Factory	3.15
8"	21.38	Consult Factory		**17.60**	Consult Factory		3.65
10"	26.50			**22.59**			3.78

Virgin Gasket Width in.	0.175	may vary
Nominal Gasket Compression Width in.	0.125	may vary

Based on the ANSI B16.5 Flange Specifications and assumes a virgin gasket width of 0.175 +/- 0.01 " thickness. This virgin thickness is then compressed to a 0.125 +/- 0.005 gasket thickness. These thickness dimension changes from manufacturer, to type of gasket used.

Sliding gate control valve 8021

Nominal size: 1/2" - 10"
Nominal pressure: ANSI Class 150 - 600
Media temperature: -76°F to +662°F, optional -328°F to +986°F
Material: carbon steel, stainless steel, hastelloy, duplex, inconel & others upon request
Positioner: pneumatic, analog electropneumatic, digital electro-pneumatic, Ex-i version, AS-i bus connection

Sliding gate control valve 8020

Nominal size: 1/2" - 10"
Nominal pressure: ANSI Class 150 - 600
Media temperature: -76°F to +662°F, optional -328°F to +986°F
Material: carbon steel, stainless steel, hastelloy, duplex, inconel & others upon request
Side mount positioner: pneumatic, analog electro-pneumatic, digital electro-pneumatic, Ex-Version, Various communication protocols available, ex. Hart, Fieldbus Foundation, Profibus, etc.

Manual Sliding gate valve 8050

Nominal size: 1/2" - 10"
Nominal pressure: ANSI Class 150 - 600
Media temperature: -76°F to +662°F, optional -328°F to +986°F.
Gear operator available
Material: carbon steel, stainless steel, hastelloy, duplex, inconel & others upon request

Modular Design, 360° of Installation

Sliding gate motor valve 8230
Nominal size: 1/2"-2" (others on request)
Nominal pressure: ANSI class 150 - 300
Media temperature: -76°F to +662°F,
Material: carbon steel, stainless steel, hastelloy, duplex, inconel & others upon request
Actuation: On/off and control actuation, optional positioning control and position feedback plus limit switches

Sliding gate control valve 8043/44
Nominal size: 1/2"- 10"
Nominal pressure: ANSI Class 150 - 300
Media temperature: -76°F to +662°F
Material: carbon steel, stainless steel, hastelloy, duplex, inconel & others upon request
Positioner: pneumatic,
analog electro-pneumatic,
digital electro-pneumatic,
Ex-i version, AS-i bus connection

Sliding gate motor valve 8037
Nominal size: 1/2" - 10"
Nominal pressure: ANSI Class 150 - 600
Media temperature: -76°F to +662°F
optional -328°F to 986°F
Material: carbon steel, stainless steel, hastelloy, duplex, inconel & others upon request
Power supply: 24 ... 230 V AC/DC
(Multi-zone power pack)
Explosion-proof (gas version):
II 2G Ex de [ia] IIC T6/T5
Protection class: IP 66
Optional actuation with 3-point control + position electronics obtainable

Sliding gate motor valve 8038
Nominal size: 1/2" - 10"
Nominal pressure: ANSI Class 150 - 600
Media temperature: -76°F to +662°F
optional -328°F to 986°F
Material: carbon steel, stainless steel, hastelloy, duplex, inconel & others upon request
Dead band: +/- 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 pressure regulator 8011
Nominal size: 1/2" - 6"
Nominal pressure: ANSI Class 150 - 300
Media temperature: -76°F to +572°F
Pressure ranges: 7 psi to 145 psi
Material: Stainless steel
Self-operated pressure controller
Enclosed spring housing

Sliding gate stop valve 8040/41
Nominal size: 1/2" - 8"
Nominal pressure: ANSI Class 150 - 300
Media temperature: -76°F to +662°F
Material: carbon steel, stainless steel
Accessories: metal bellows, pilot valve, limit switches, stroke limiter

Seat valves by Schubert & Salzer

Seat valves are the extremely reliable all-rounders in the valve world. Our range includes stop valves and control valves in stainless steel or bronze, with actuators either made of stainless steel, non-ferrous metal or lightweight polymer. They are available in a variety of end connections, including threaded, weld ends, flanged versions and tri-clamps. Actuation is either pneumatic or electric motor-driven.

Angle seat valves

Angle seat valves in the form of stop and control units offer a particularly compact construction and perform a very high number of switch cycles. In its many versions, the construction of the valve gives a highly efficient flow rate and can even be used in lightly contaminated media.

Flange valves

In larger sizes, flange valves are easier to remove from pipelines than threaded valves. This range is supplied to various connection standards as angle and straight flanged seat valves.

Three-way valves

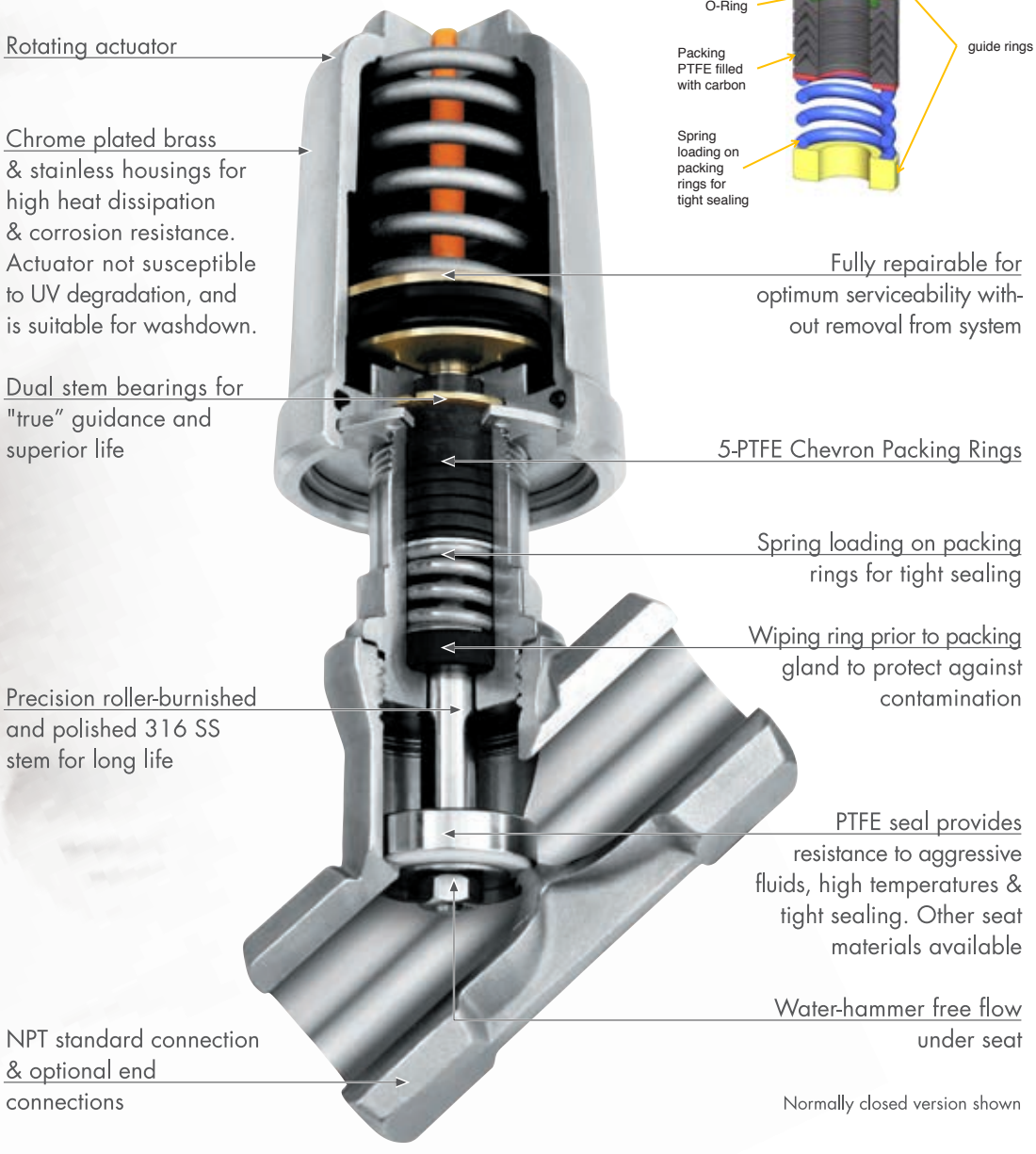
Depending on its design, the three-way valve can perform a variety of functions: it can mix and distribute media flows or charge and discharge an operating component (e.g. a pressure cylinder). It is installed in a pipeline by threaded connections.

Angle seat valve 7010

7010 Technical Data

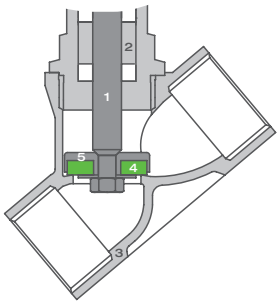
	Body Material		
	Brass	Bronze	SST 316
Nominal size	2 1/2" and 3"	1/2" - 2"	1/4" - 3"
Connections: NPT thread, Tri clamp Welding ends (ISO/SAE), Tube ends ANSI 150, ANSI 300	2 1/2" - 3"	1/2" - 2"	1/4" - 3"
Nominal pressure	235 psi	235 psi	580 psi
Max. fluid temperature ***Optional Type 220 HT-Version**	-22°F up to 338°F	-22°F up to 338°F up to +392°F	-22°F up to 338°F **up to +428°F***
Ambient temperature	-5 °F up to +140°F		
Viscosity of the fluid	maximum 600 mm^2/s (600cSt, 80°E)		
Vacuum	maximum 0.075 mm mercury (Hg)		
Working pressure for inverted packing	maximum 175 psi		
Seating seal	PTFE, Glass reinforced PTFE, PEEK, EPDM, Viton, Buna N, Vulkollan		

7010 Key Features



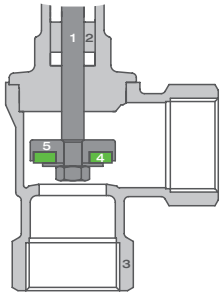
Normally closed version shown

Angle seat valves (1) (2) (3)



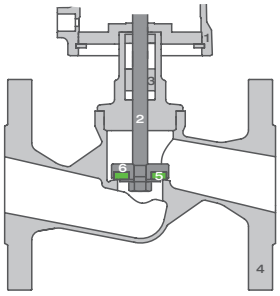
1 Piston rod
2 Packing
3 Body
4 Seating Seal
5 Disc

Right-angled valves (6)



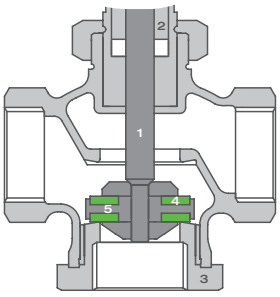
1 Piston rod
2 Packing
3 Body
4 Seating Seal
5 Disc

Flange valves (4)



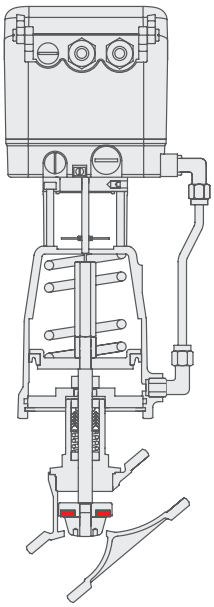
1 Bonnet
2 Piston rod
3 Packing
4 Flange body
5 Seating seal
6 Disc

Three-way valves (5)



1 Piston rod
2 Packing
3 Body
4 Seating Seal
5 Disc

(1) Angle seat stop valve 7010
Nominal size: 1/4" - 3"
Working pressure up to 580 psi
Media temperature:
-22°F up to +428°F,
optional to -74°F
Material: Bronze and 316 stainless steel



(2) Angle seat control valve 7020
Nominal size: 1/4" - 3"
Working pressure up to 250 psi
Media temperature: -22°F to +428°F,
optional to -74°F
Material: Stainless steel
Positioner: pneumatic,
analog electro-pneumatic,
digital electro-pneumatic,
Ex-i version, AS-i bus connection
Direct acting 3-15 psi, 6-30 psi

(6) Right angle valve 7050
Nominal size: 1/2" - 2"
Working pressure: Up to 580 psi
Media temperature: -22°F to +428°F
Material: Stainless steel
Actuation: stop and control actuation

(3) Angle seat motor valve 7210
Nominal size: 1/4" - 2"
Working pressure: Up to 580 psi
Media temperature: -22°F to +428°F
Material: Bronze and stainless steel
Actuation: stop and control actuation,
optional position control and
position feedback plus limit switches

1) Check valve 4000
Nominal size: 3/8" - 2 1/2"
Working pressure: up to 580 psi, ANSI #
150, DIN flanged versions
Media temperature: -4°F to +392°F
Material: Stainless steel

Line strainer 4005
Nominal size: 3/8" - 2 1/2"
Material: Stainless steel, multiple end
connections

(5) Three-way control valve 7082
Nominal size: 1/2" - 2"
Working pressure: Up to 232 psi
Media temperature: -22°F to +428°F
Material: Stainless steel
Positioner: digital electro-pneumatic,
Ex-i version, AS-i bus connection
Available with pneumatic actuator as
3/2-way stop valve 7080 in corrosion-
resistant bronze, Motor actuators
available as well

4) Integrally flanged valve 7032/7037
Nominal size: 1/2" - 2"
On/Off or Modulating
Nominal pressure: ANSI # 150, DIN
Media temperature: -22°F to +428°F,
optional to -74°F
Material: Stainless steel
Positioner: pneumatic,
analog electro-pneumatic,
digital electro-pneumatic,
Ex-i version, AS-i bus connection
Direct acting 3-15 psi, 6-30 psi

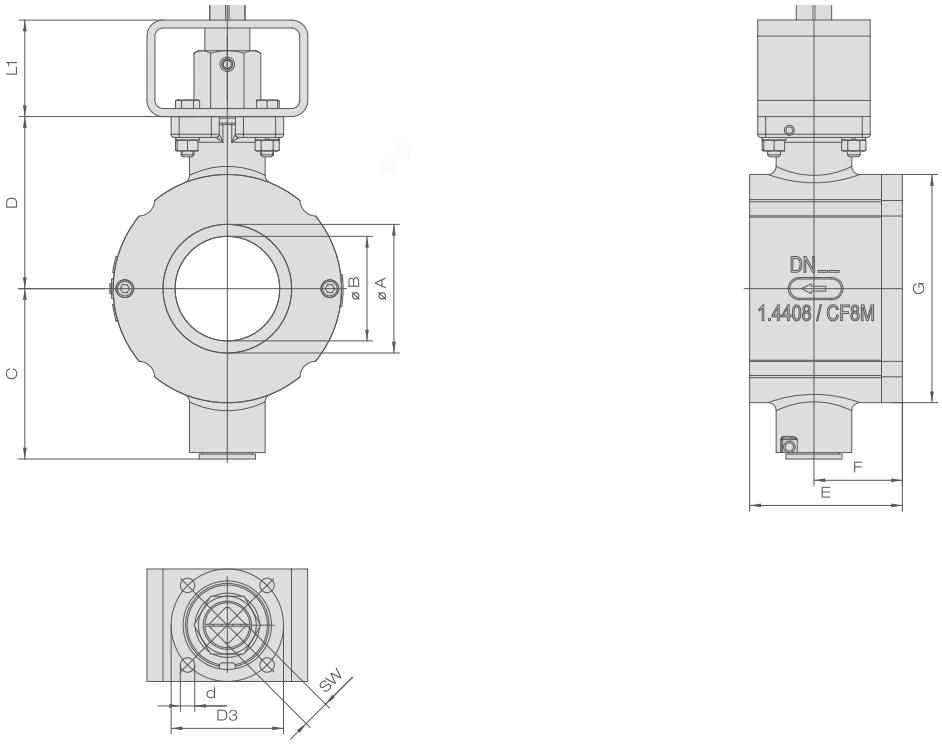
Ball sector valves by Schubert & Salzer

The ball sector valve is designed to succeed in harsh applications; slurries, dry media and fluids with suspended solids or fibers. It is suitable for control and isolation.

With pneumatic and electrical actuators, it is the best choice for very precise control within a broad range of industries and a variety of process applications.

Pulp fiber & Digestive liquors, Mining Slurries, Dry Powders, Oils, Coal & Carbon, Steam, Molasses, Sugar Slurries, Limestone & Fly Ash Suspensions, Miscellanious Fluids, Combustion Gases, Coke Gases and more.

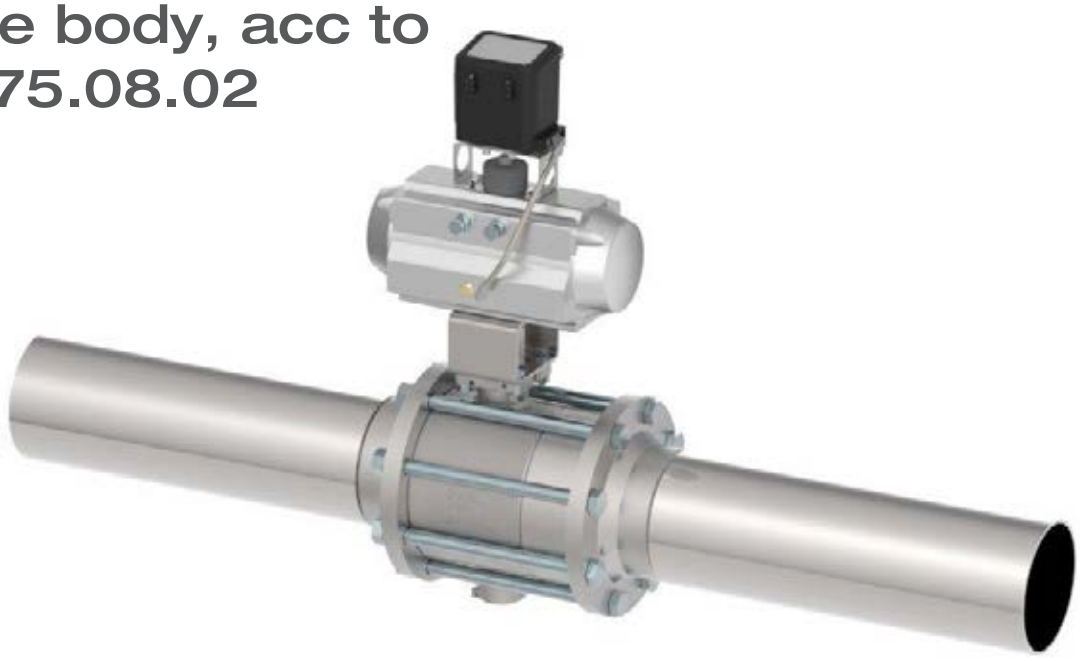
Standard Demensions without Actuator (with Mounting Kit ISO 5211)



Size	A	B	C	D	E	F	G	L1	d	D3	SW	DIN/ISO 5211
1"	0.98	0.79(0.59)	2.87	2.91	1.97	1.02	2.87	2.36	0.26	1.97	0.55	F 05
1 1/2"	1.61	1.26(0.98)	3.11	3.15	2.28	1.22	3.7	2.36	0.26	1.97	0.55	F 05
2"	2.09	1.57	3.23	3.27	2.8	1.5	4.41	2.36	0.26	1.97	0.55	F 05
3"	3.15	2.56	4.17	4.21	3.74	2.17	5.59	2.36	0.35	2.76	0.67	F 07
4"	3.94	3.15	4.61	4.65	4.41	2.44	6.85	2.36	0.35	2.76	0.67	F 07
6"	5.91	4.72	6.1	6.14	6.69	3.74	8.66	3.15	0.43	4.02	0.87	F 10
8"	7.87	6.1	7.24	7.28	8.27	4.72	11.02	3.15	0.53	4.92	1.06	F 12
10"	9.84	7.68	8.98	9.02	10.63	5.71	13.31	3.15	0.53	4.92	1.06	F 12
Dimensions for 12" on request												

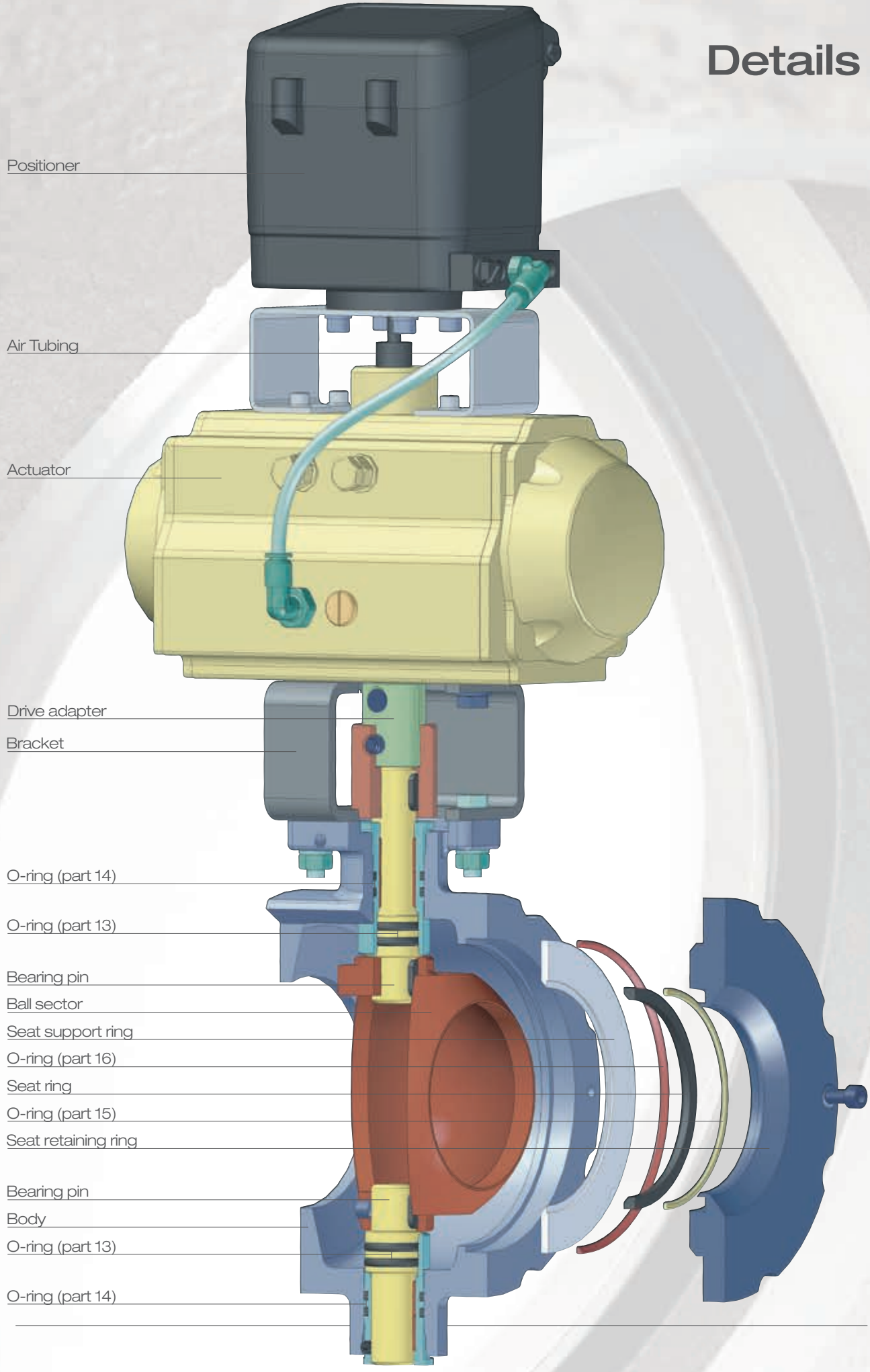
Dimension in inch

4040 valve body, acc to ANSI ISA-75.08.02

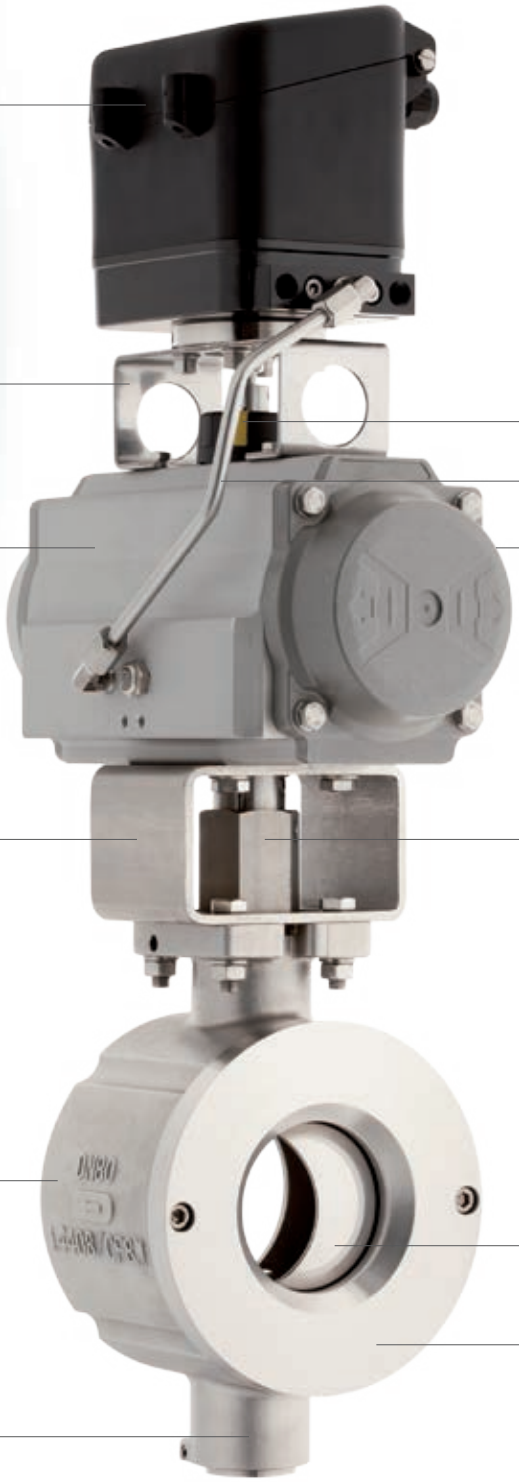


*consult factory for dimensions

Details that



matter...



Compact top mount Schubert & Salzer digital positioner

Visual position indication

Wide range of accessories available, mounting to NAMUR standard

Tubing

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

Adjustable travel stops

Mounting kit according to DIN/ISO 5211

Close toleranced coupling to ensure precise positioning and repeatability

Wafer body designed to suit ANSI or DIN standards up to 10" (DN 300 flanged)

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

Centric and maintenance-free, high temperature bearings

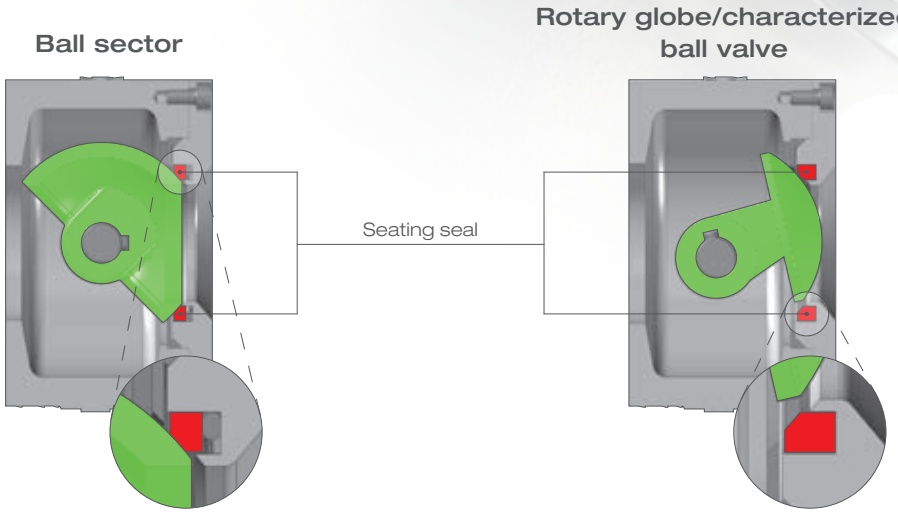
Seat retaining ring and valve seat available in various material combinations; easy to install and maintain

The advantages of ball sector valves

Wear resistance

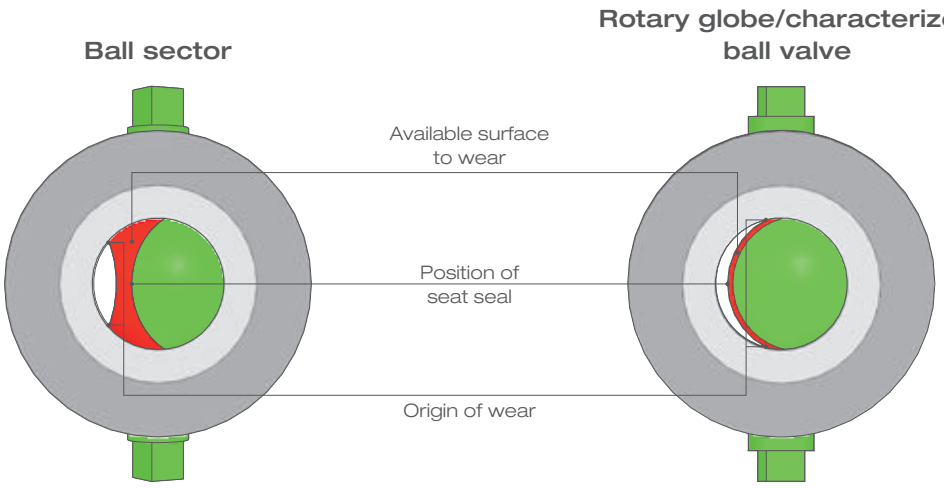
Generally segmented ball or rotary globe valves use excentric shafts, which cause the ball or plug to lift up from the valve seat when starting to open. Thus, sealing areas are instantly exposed to permanent wear. More-over, particulate can migrate between the seal ring and ball/plug, causing damage leading to leakage.

The ball sector valve has centric and robust trunnions which allows the ball sector to maintain constant contact with the valve seat, eliminating contamination by the media. The permanent actuation torque is not affected by changes in the differential pressure.



Life span

This smart seal design, combined with a variety of materials, precision radius ball sector and valve seat increases the life span of the valve substantially over butterfly valves or alike. It is therefore particularly suitable for abrasive, high viscosity or fiber containing media.



Technical Information

Design		Flangeless, wafertype (size 12" flanged)
Nominal sizes		1" up to 12"
Body material	Cast parts Turned parts	CF8M (1.4408) 316 L (1.4404)
Bearing material		High temperature plain bearing (Iglidur Z)
Actuator Mount		Mounting kit DIN/ISO 5211
Nominal pressure	1" - 2" 3" - 4" 6" - 12"	ANSI150, ANSI300, 580 psi (for flanges 145 psi - 580 psi) ANSI150, ANSI300, 365 psi ANSI150, 235 psi Other pressure ranges on request
Fluid temperature		-76°F up to +446°F
Ambient temperature		-40°F up to +176°F (special version on request)
Characteristic		Almost equal percentage
Rangeability		300:1

Valve Sizes, C_V-Values, Torques

Nominal size	C_V	Orifice inch	Rotation angle nominal (1)	Max. pressure nominal	Max. pressure nominal ANSI	Req. torque (lbf ft) on/off-operation	Req. torque (lbf ft) control operation	Standard mounting kit DIN/ISO
1" (50%)	14.5	0.59	65°	580 psi	ANSI 300	11	18	F05/SW14
1"	24.4	0.75	90°	580 psi	ANSI 300	11	18	F05/SW14
1 1/2" (50%)	39.4	0.98	60°	580 psi	ANSI 300	22	37	F05/SW14
1 1/2"	74.2	1.26	90°	580 psi	ANSI 300	22	37	F05/SW14
2"	109	1.57	90°	580 psi	ANSI 300	22	37	F05/SW14
3"	295.8	2.52	90°	365 psi	ANSI 150	44	74	F07/SW17
4"	452.4	3.15	90°	365 psi	ANSI 150	66	111	F07/SW17
6"	939.6	4.72	90°	235 psi	ANSI 150	111	184	F10/SW22
8"	1583.4	6.1	90°	235 psi	ANSI 150	155	258	F10/SW27
10"	2575.2	7.68	90°	235 psi	ANSI 150	266	443	F12/SW27
12"	4454.4	9.84	90°	235 psi	ANSI 150	664	1106	F14/SW36

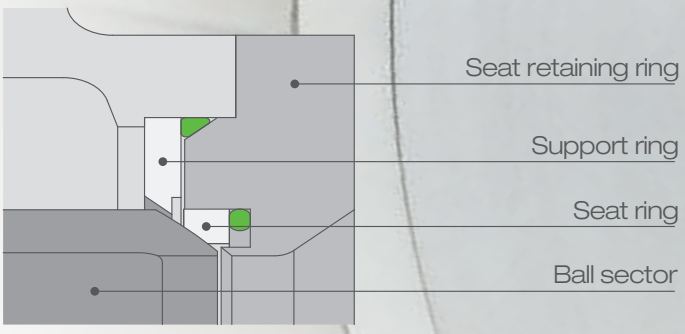
Maximum Working Pressure

Nominal size	Maximum differential pressure (Δp)									
	Seat ring PTFE			Seat ring PEEK				Seat ring Stellite		
	up to 176°F psi	248°F psi	338°F psi	up to 176°F psi	248°F psi	338°F psi	428°F psi	up to 176°F psi	338°F psi	428°F psi
1" - 2"	365	230	85	580	580	365	230	580	580	365
3" - 4"	230	175	75	365	365	230	145	365	365	230
6" - 12"	230	175	60	230	230	175	115	230	230	175

Shaft Seals (O-Ring)

	Min. temp (°F)	Max. temp (°F)
Viton (standard)	5	392
EPDM	-40	284
NBR	-40	212
FFKM	5	428

Special material on request

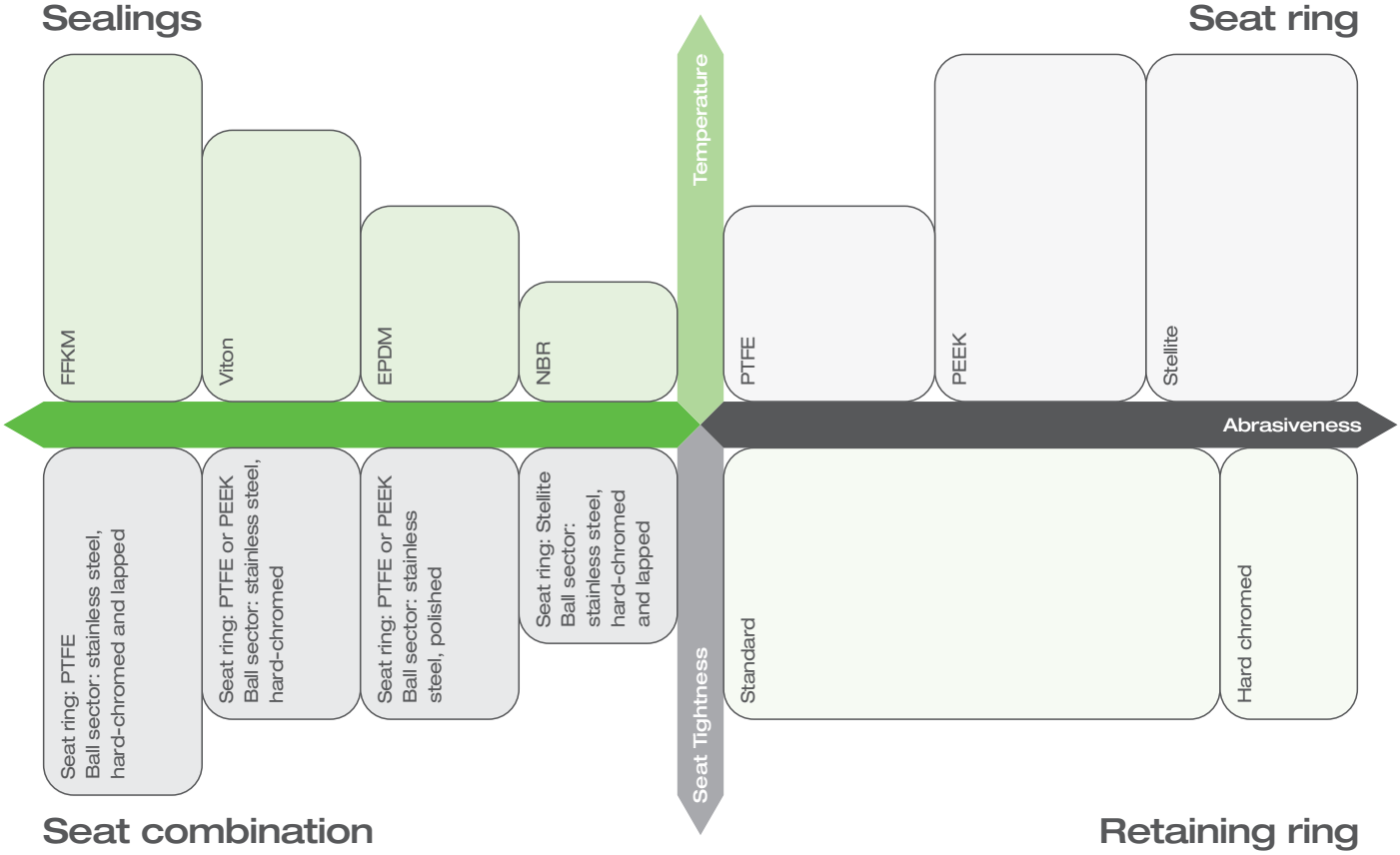


Valve Seat Combinations

Seat ring	Ball sector	Leakage	Min. temp (°F)*
PTFE	Stainless steel polished	5 x 10^{-7} from max. C_V	-40 up to +338°F
PEEK	Stainless steel polished	5 x 10^{-7} from max. C_V	-40 up to +428°F
PTFE	Stainless steel, hard chrome plated	5 x 10^{-7} from max. C_V	-40 up to +338°F
PEEK	Stainless steel, hard chrome plated	5 x 10^{-7} from max. C_V	-40 up to +428°F
Stellite	Stainless steel, hard chrome plated and lapped	Class IV-S1 acc. EN 1349 (IEC 534-4) 5 x 10^{-6} from max. C_V	-40 up to +446°F
PTFE	Stainless steel, hard chrome plated and lapped	Class VI acc. EN 1349 (IEC 534-4)	-40 up to +338°F

* Please note the restrictions of the o-ring material!

Material Selection Matrix



Ball sector valve 4040
Nominal size: 1” - 12”
Nominal pressure: PN 10 - 40,
ANSI # 150 - 300
Material: stainless steel 1.4408 (CF8M)
and 1.4404 (316L)
Various seat material combinations
Positioner: pneumatic, analogue electro-
pneumatic, digital electro-pneumatic,
Ex-i version

On/off ball sector valve 4040
Nominal size: 1” - 12”
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
Various switch boxes available
Other versions: manual actuation

Motorized ball sector valve 4030
Nominal size: 1” - 12”
Nominal pressure: PN 10 - 40,
ANSI # 150 - 300
Material: stainless steel 1.4408 (CF8M)
and 1.4404 (316L)
Various seat material combinations
Actuator: various electric actuators

Highly precise
ball sector valve 4032
Nominal size: 3” - 10”
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
(8000 steps) incl. control cabinet

Ex-motorized
ball sector valve 4037
Nominal size: 1” - 4” (others on
request), 1” - 3” 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

Sanitary valves by Schubert & Salzer

In many industries, purity commands top priority. Sanitary valves from Schubert & Salzer operate to the highest requirements for purity with maximum efficiency: The bodies are CIP and SIP capable, to avoid contamination by bacteria as these valves have no dead zones.

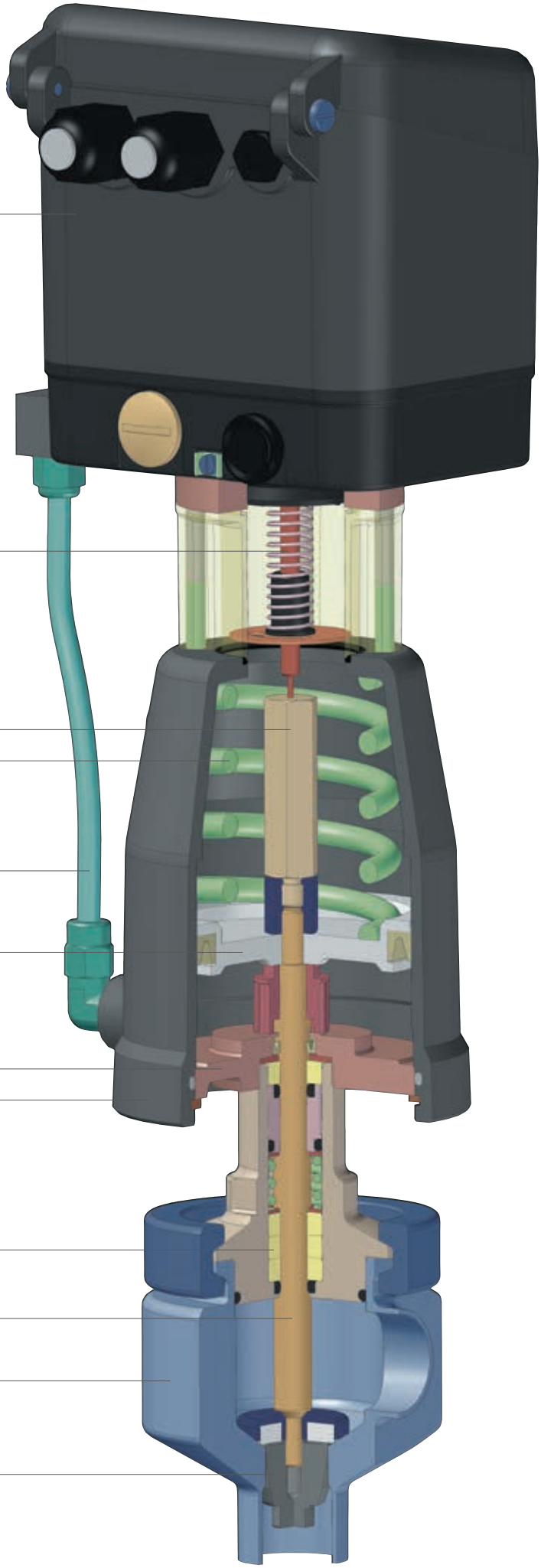
Right angle valves

Very good control and ideal sanitary conditions are often a contradiction in terms. 6020 and 6021 asceptic control valves from Schubert & Salzer Control Systems satisfy both tasks perfectly. These right angle valves offer ideal prerequisites for the food and beverage industries. Elastomers available for FDA and USP Class VI.

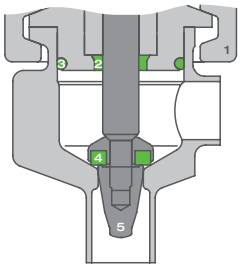
Pinch valves

The 7077 control valve for endless tubes offers a modern alternative to conventional pinch or diaphragm valves. The pinch valve can be used at any position on an endless tube for on/off and control operations. With no dead space, the highest sanitary demands can be met. For those applications where flexibility is not a priority, the 7079 pinch control valve offers an alternative and is integrated permanently in pipelines. As well, the entire design can be used in food-related and sterile processes. Pinch valves can also be operated as control valves with a positioner retrofit.

Details

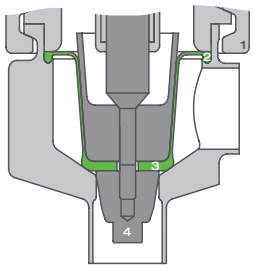

Positioner
Sensing pin
Support bolt
Piston spring
Pilot line
Piston
Flange
Actuator
Guide rings
Valve stem
Body
Control plug

Hygienic right angle valves (1)



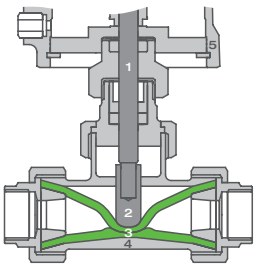
1 Clamp connection
2 Stem seal
3 Body seal
4 Seating seal
5 Control plug

Aseptic right angle valves (2)



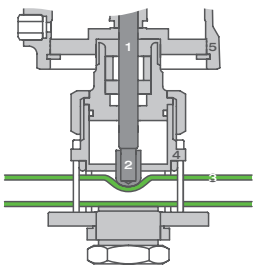
1 Clamp connection
2 Body seal with diaphragm
3 Seating seal with diaphragm
4 Control plug

Pinch valves (3)



1 Valve stem
2 Actuating pin
3 Pinch tube
4 Body
5 Actuator

Endless tube pinch valve (4)



1 Body
2 Actuating pin
3 Pinch tube
4 Body
5 Actuator

(1) Hygienic right angle control valve 6020
Nominal size: 1/2" - 1 1/2"(2" tri-clamps)
Nominal pressure: 232 psi
Media temperature: -4°F to +392°F
Material: 316L Stainless steel
Positioner: pneumatic,
analog electro-pneumatic,
digital electro-pneumatic,
Ex-i version, AS-i bus connection

2) Aseptic right angle control valve 6021
Nominal size: 1/2" - 1 1/2"(2" tri-clamps)
Nominal pressure: 160 psi
Media temperature: -4°F to +275°F optional to +160°C
Material: 316L Stainless steel
Positioner: pneumatic,
analog electro-pneumatic,
digital electro-pneumatic,
Ex-i version, AS-i bus connection

(3) Pinch control valve 7079
Nominal size: 1/2" - 2"
Operating pressure: to 88 psi
Media temperature: -22°F to +266°F
Tube material: NBR and
EPDM (conforming to FDA), Viton
Positioner: pneumatic,
analog electro-pneumatic,
digital electro-pneumatic,
Ex-i version, AS-i bus connection

4) Endless tube control valve 7077
Tube diameter: 10 - 18 mm, 3/8"-5/8"
Operating pressure: to 58 psi
(depending on tube)
Media temperature: -22°F to +338°F
(depending on pinched tube)
Material: Stainless steel
Positioner: pneumatic,
analog electro-pneumatic,
digital electro-pneumatic,
Ex-i version, AS-i bus connection

All control valves on this page are also available with pneumatic on/off actuator (types of 6010, 6011, 7078, 7072).

Positioners by Schubert & Salzer

- Mounting the positioner on top of the valve actuation, no external moving parts. This increases operating efficiency, provides better control and less hysterisis
- Extremely compact, space saving design when integrating into systems
- Suitable for linear & rotary actuation
- Visual and electronic display of valve position

Compact positioners in analogue and digital versions for adaptaion to pneumatic control valves

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),
max. 270° (rotary stem)
Versions: 2 and 4-wire
Configuration: via PC software
Ambient temperature: -20°C to +75°C /
-4°F to +167°F
Also in ATEX version
Optional feedback module available
Version for rotational actuation
available
Accessories: Set point signal
AS-i profile, Bluetooth, remote mount
Electrical connections: M12 or 1/2"
conduit
Communication Software with interface
Dongle or Bluetooth: logs Maintenance
Data and allows easy change of valve
characteristics

Digital Positioner 8049
(stainless steel)

Entirely in stainless steel
Connections: G 1/8", NPT 1/8"
Accessories: Set point signal
AS-i profile
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
Configuration: via PC software
Ambient temperature:
-20°C to +75°C / -4°F to +167°F
Also in ATEX version

Digital Positioner 8049 IPC

Positioner with process controller with
integrated process controller
Input signal: 0/4 - 20 mA, PT-100
Sampling rate: ca. 50 ms
Set point setting: external/internal
Configuration: via PC software
Ambient temperature:
-20°C to +75°C / -4°F to +167°F

Digital position indicator 2040

Optical and electronic position
indicator for mounting on pneumatic
valves with linear or quarter turn actuator
Valve position output via switching contacts
Display of error messages
Display of maintenance intervals
Supply voltage: 24 V DC
Temperature range: -20°C to +75°C /
-4°F to +167°F
Configuration: via PC software

Positioner 8047 p/p

Input signal range:
pneumatic 3 - 15 psi
Stroke range: 5 - 22 mm / 0.2"- .87"
(depending on stroke return spring)
Pilot energy: 43 - 87 psi
Hysteresis: < +/- 1%
Air consumption: 400 - 600 Nl/h
(depending on air supply)

Positioner 8047 i/p

Input signal range:
electro-pneumatic 0/4 - 20 mA
Stroke range: 5 - 22 mm / 0.2"- .87"
(depending on stroke return spring)
Pilot energy: 43 - 87 psi
Hysteresis: < +/- 1%
Air consumption: 400 - 600 Nl/h
(depending on air supply)
Also in ATEX version
M12 connection

Electric actuators

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

This requirement is achieved by electrical Schubert & Salzer actuators, model 2030 and 2032. These actuators are focused on control accuracy, high positioning speed and reliability. These actuators are field configurable through Schubert & Salzer‘s device config communications software, complete with diagnostics capabilitiy. All motors are interchangeable with existing actuators (including Belimo).

Actuator 2030
Fast and high-resolution actuator
Regulating speed up to 0.75 mm/s (.03 ”/s)
Dead band: ±0.2% of the valve stroke
Repeatability: approx. ±0.1%
Actuating force: 2.0 kN
Protection class: IP67
Ambient temperature: -10 °C to +60 °C / 14°F to 140°F
Low temperature version to -40° C/ F
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 mm/s (.06 ”/s)
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 / 14°F to 140°F
Automatic valve adaption
Diagnostics functions
Also available with safety position in case of power failure

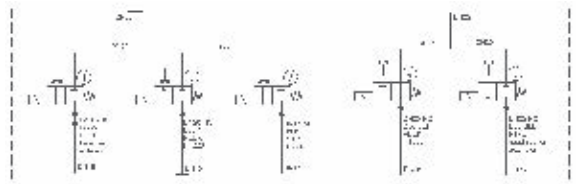
Customized valve manifolds

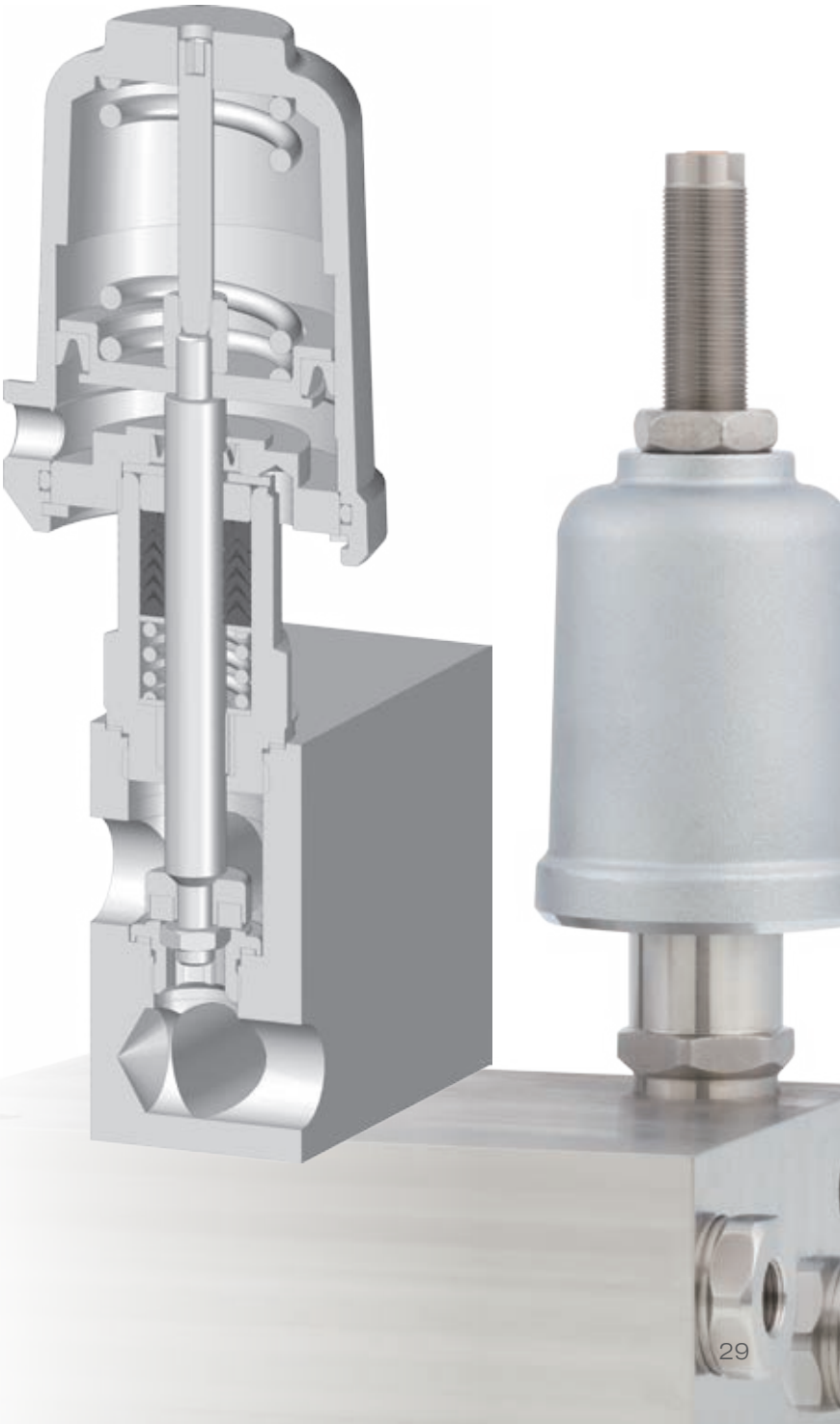
Compact valve manifolds by Schubert & Salzer reduce piping, maintenance time and ultimately minimize investment costs.

In many systems, processes require 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 process media 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 threaded 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.

Applications include:
Tire Presses
Food & Beverage
Multiple Pipe Racks
Specialty Chemicals
bioPharm
Electronics
more...





Segmented disc valves by Schubert & Salzer

Perfect and variable control with high precision over a wide flow range, this is made possible 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, gases and steam, even those carrying a high degree of particulate. The wide range of applications includes areas such as building materials, chemical and power plants, pipelines, water and waste water treatment, and shipbuilding. A simple yet effective valve design!

Details

Analogue actuation (such as 4-20 mA or 3-point actuation)

Electric actuator (customised specifications possible)

Actuators available in various voltages and accessories

Gear rack rotating the moving disc

Optical position indication

Adjustable gland nut packing

Body with space-saving wafer design according to DIN (special designs according to ANSI)

Body in stainless steel or carbon steel (other materials on request)

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

Fixed disc, protected against rotation

The special contour of the sealing disc provides durability in case of contaminated media

Hardened or coated disc pairings

Functional principle of segmented disc valves

Segmented disc valves work on a very simple but effective principle.

The central throttling element - the segmented discs that rotate and seal against each other - are positioned in the valve body perpendicular to the flow direction. The fixed disc is a non-rotating element whose geometry determines the Cv and flow characteristic. The moving disc having the same number of segments is driven by a linear stem which opens and closes the segments in precise segments to regulate superior control.

The movable segmented disc is constantly pressed onto the fixed disc by a spring assembly regardless of the prevailing differential pressure. As a result, the flow can be bi-directional and the valve can be installed in any position.

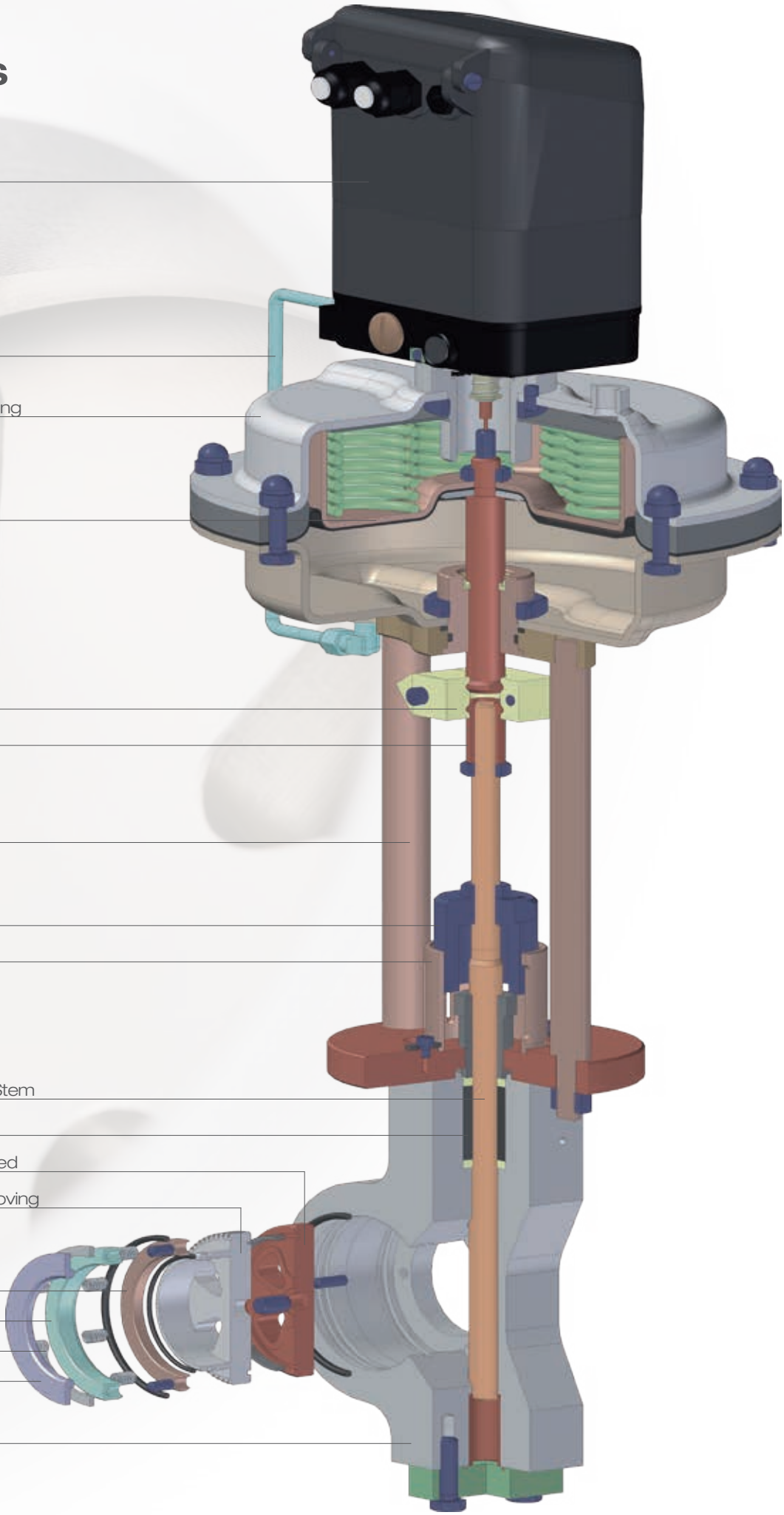
This special design makes segmented disc valves one of the few valves that combine control precision even in extreme operating conditions with a high seal tightness and very low exposure to wear.

Technical information

Design		Wafer design for flanges according to DIN EN 1092-1 type B
Nominal sizes		DN 25 to DN 300/ 1“-12“ (on request up to DN 800, 32“)
Nominal pressure *	DN 25 - DN 150	PN 25 according to DIN 2401 (also suitable for flanges PN 10 - PN 25)
*Consult Factory	DN 200	PN 25 according to DIN 2401
for ANSI ratings	DN 250 - DN 300	PN 16 according to DIN 2401
Media temperature		-60°C to +220°C, -76°F to 428°F (higher temperatures on request)
Ambient temperature*		-30°C to +100°C , -22°F to 212°F
Rangeability		60 : 1
Characteristic		Modified linear
Leak rate % of C_{VS}		< 0.001, 10 X > ANSI Class IV

* Note Limits of the positioner!

Details


Positioner
Pilot line
Diaphragm housing
Diaphragm plate
Coupling
Adjusting nut
Column
End positions
Protection tube
Serrated Linear Stem
Packing
Segment disc fixed
Segment disc moving
Sliding ring
Spring retainer
Circlip
Retaining ring
Body

Segment disc valve
with pneumatic actuator 5020
Nominal size: DN 25 - 300 (on request up to DN 800) 1“ to 12“, up to 32“
Nominal pressure: PN 25 (PN 16 for DN 250 and larger)
Material: Stainless steel (also available in carbon steel for 6 inch and larger)
Available with and without positioner
Positioner: pneumatic, analog electro-pneumatic, digital electro-pneumatic, Ex-i version

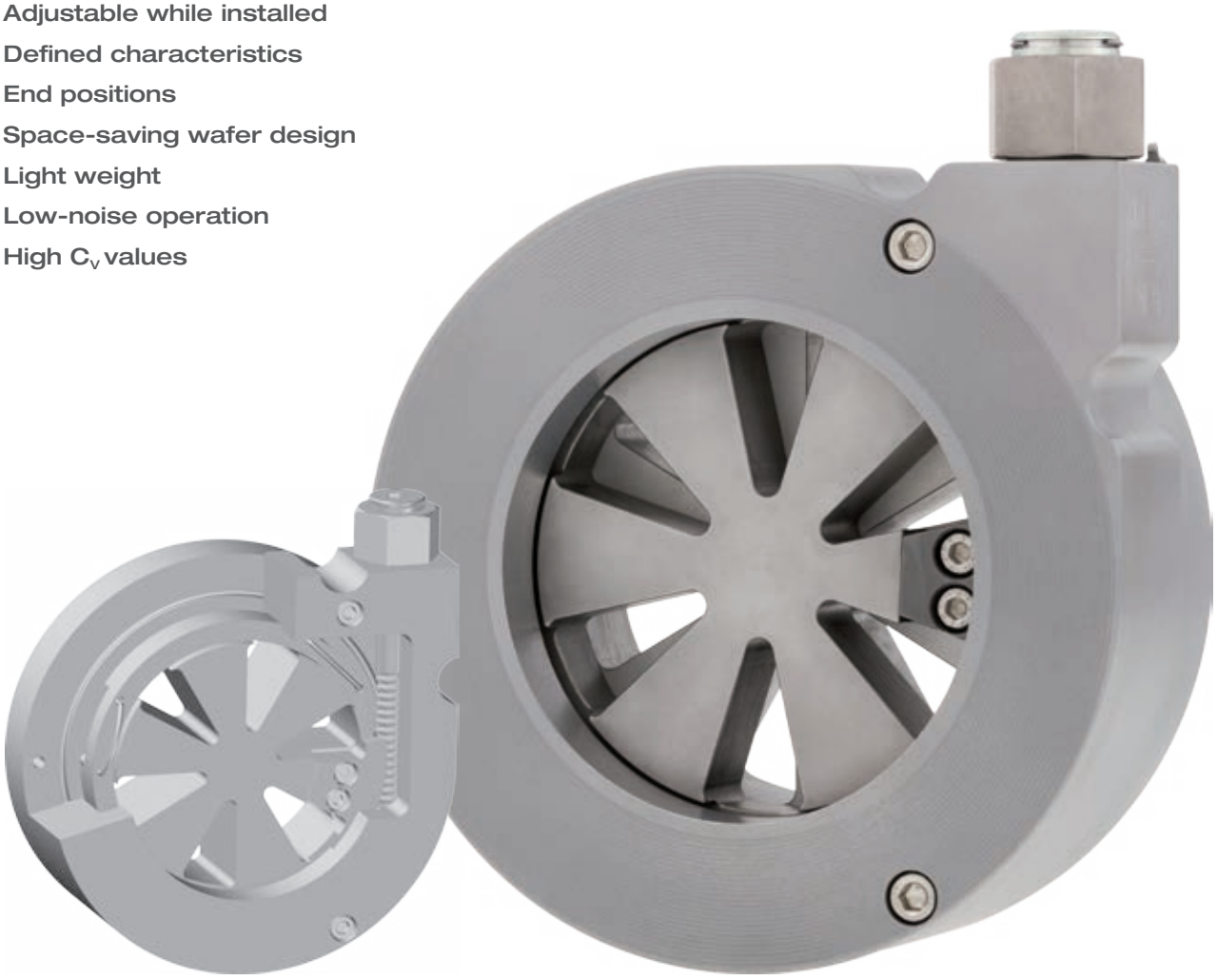
Segment disc valve
with motor actuator 5030
Nominal size: DN 25 - 300 (on request up to DN 800) 1” to 12”, up to 32”
Nominal pressure: PN 25 (PN 16 for DN 250 and larger) ANSI
Material: Stainless steel (also available in carbon steel for 6 inches and larger)
Actuator: Various electrical actuators available, stop and control actuators, optional position control and position feedback plus limit switch

Segment disc valve
with manual actuator 5050
Nominal size: DN 25 - 200 (on request up to DN 800) 1“ to 12“, up to 32“
Nominal pressure: PN 25, ANSI
Material: Stainless steel (also available in carbon steel for 6 inch and larger)
Actuator: Smooth-running ball-bearing manual actuation

Segmented disc orifices

Adjustable orifice for the precise adjustment of a defined flow.

- **Adjustable while installed**
- **Defined characteristics**
- **End positions**
- **Space-saving wafer design**
- **Light weight**
- **Low-noise operation**
- **High C_V values**



Technical Information

Design		Wafer design for flanges according to DIN EN 1092-1 type B (ANSI connections upon request)
Nominal sizes		DN 15 up to DN 300, 1“ to 12“
Nominal pressure		PN 16 according to DIN 2401 (also suitable for flanges PN 10), ANSI
Media temperature	Carbon steel body	-10°C to +220°C, +14°F to 428°F
	Red bronze body	-30°C to +170°C, -22°F to 338°F
Seals	NBR	-30°C to +100°C, -22°F to 212°F
	EPDM	-30°C to +140°C, -22°F to 284°F
	VITON	-15°C to +180°C, -5°F to 212°F
	PTFE	-30°C to +220°C, -22°F to 428°F

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