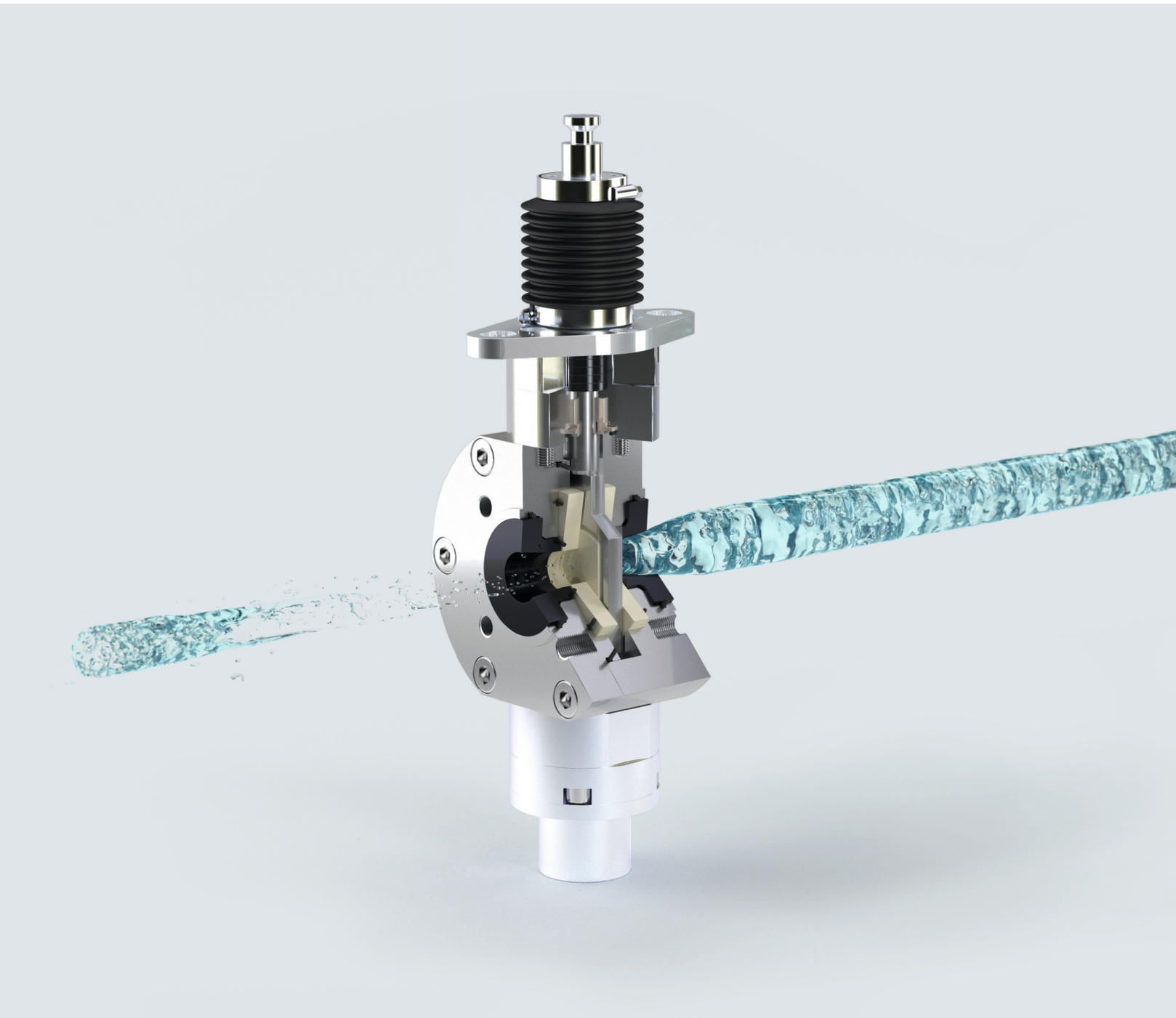
Wear and corrosion resistant sliding disc valves



Cera Valve

System solutions with ceramic components

SMART IN FLOW CONTROL.

Wear protection in the toughest operating conditions

Conventional materials in valves can reach their limits in many industrial applications. Entirely new results often arise when high-performance ceramic materials are used.
Ceramics can be used to an advantage everywhere wear and corrosion resistance and high temperature stability are needed.
Cera System has the most comprehensive range of tried and tested ceramic valve products available to our customers than does any other valve supplier worldwide. Many of our ceramic lined valves can be delivered in a relatively short lead time and are often the most cost effective valves for the most demanding applications.



As the technological market leader for ceramic lined industrial valves and pipeline components, we continually open up new areas of application together with our customers. Our range of services consists of the design engineering, testing, production and delivery of such systems. And, Cera System provides outstanding after sales customer service through factory trained application engineers and field service technicians. Our system solutions enable a great economic benefit in many applications.

Due to the fact that our products are used in almost all industrial sectors, our application engineers are aware of many different application problems and are usually already aware of a solution.

Our standard products are designed for use in extreme conditions. But we are also working closely with our customers to develop new solutions while relying on our vast knowledge and experience of applying engineered ceramics to critical service valves.

In the valve sector, this includes:
- Valves with multiple protective housings
- Valves with blocking media
- Valves with heating and cooling jackets
- Valves manufactured from exotic material
- Multi-ported valves
- Sampling systems

Cera System valves are used and trusted by well know companies from all over the world. Reference can be supplied as requested.

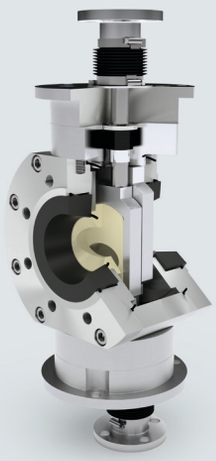
Typical applications



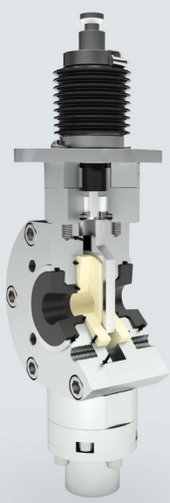
Steel works: Raw iron desulphurisation (supply of additives: CaC, Mg …), Rutilit injection at the blast furnace, individual lance control for the coal injection
Chemical industry: Flashing, dosing and expansion lines for aggressive media with solids
Pigments: TiO_2 suspension, Ti_3Cl_4, H_2SO_4 + TiO_2, $FeCl_2$ …
Polysilicon: Si_3Cl_4, TCS, raw silicon, splitting of silicon with acids, conveying of silicon powder …
Waste incineration plants: HCl-prewashers, limestone suspension for pH regeneration, corrosive washing water (HF loaded)

Paper & pulp/dye works: Kaolin, bentonite, fillers, dyes, bleachers, talcum …
Paper machine: Pulp residue, lime suspension, MgO_2, green liquor, wood particles in suspension …
Fertilizer: Ammonium nitrate slurry, phosphoric acid with solids (lime), dolomite, washing water with hydrofluoric acid content …
Biofuel: Mash dosage, XtL, …
Food: Toothpaste dosage, abrasive media with contamination risks, …

Sliding disc valves • Overview

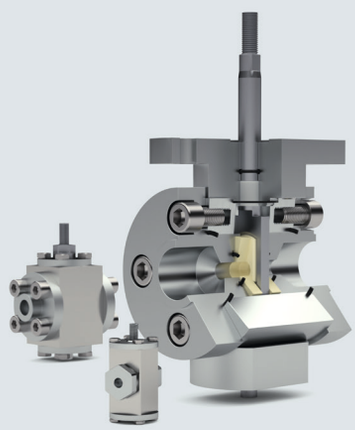


SVC The SVC-type valve is a sliding disc valve with a ceramic sealing system for open/close function and control tasks, for use in highly corrosive and extremely abrasive media. It is designed for extreme conditions, where either high switching frequencies and a long service life are required, or where severe abrasion occurs in the control position but dead space cannot be permitted inside the valve.
The functional principle is based on four floating ceramic discs that seal against each other. The 2 middle discs shift linearly against each other in opposite directions.
Different geometric shapes of disc apertures permit specific control characteristics. The two outer discs are stationary.
The medium only comes into contact with ceramic components and seals, so that special materials are normally not required for the housing.



SSC The SSC-type valve is a sliding disc valve with a ceramic sealing system for open/close function and control tasks, for use in highly corrosive and extremely abrasive media. It is designed for extreme conditions, where either high switching frequencies and a long service life are required, or where severe abrasion occurs in the control position but dead space cannot be permitted inside the valve.
The functional principle is based on three floating ceramic discs that seal against each other. The middle disc shifts linearly.
Different geometric shapes of disc apertures permit specific control characteristics. The two outer discs are stationary.
Springs are used to compress the sealing system.
The medium only comes into contact with ceramic components and seals, so that special materials are not normally required for the housing.

SDL The SDL-type valve is a sliding disc valve with a ceramic sealing system for open/close function, for use in highly corrosive and abrasive media.
The valve is designed for extreme conditions, where high switching frequencies and a long service life are required, but dead space cannot be permitted inside the valve.
Control functions can be realised using a switching frequency control system.
The medium comes into contact not only with the ceramic discs, but also with housing parts and seals. Alongside the standard solutions, other material combinations are possible, depending on operating conditions.
This slide valve type is designed for very small volume flow rates in the nominal width range from below 1 mm up to 10 mm. Pressures of up to 250 bar / 3600 psi are permitted here.



Design:

Wear-resistant, corrosion as well as high-temperature resistant design, modular construction, thus an optimum adjustment to the operating conditions.

Nominal size range:

Flange connections of DN 6 – DN 300 (NPS ¼ – NPS 12) other connections possible.
Free passage (module) 1 mm – 100 mm

Pressure range:

PN 10 to PN 40,
ANSI Class 150, Class 300
other nominal pressure stages on request

Temperature:

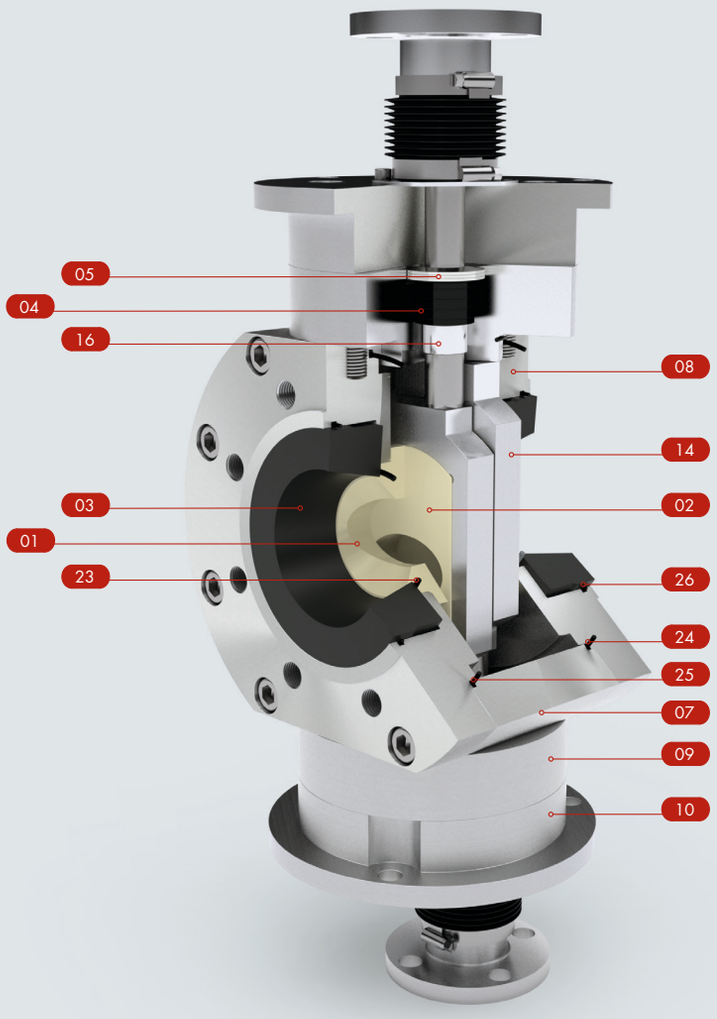
25 to +300 °C possible

Type coding

X	X	X	-	X	X	-	X	X	TYPE
S									Slide valve
	D								Dosing / Open / Closed
	S								Floating
	V								Four-plates
		L							Without wear protection (light)
		C							Chemistry design
		K							Short stroke
				H	**T**				High temperature
							T	**A**	German Technical Instructions on Air Quality Control (TA-Luft) package

Further versions with HT and TA-Luft modifications such as disarmed light modifications are possible in consultation with our sales engineers. We are happy to advise you.

Parallel 4-gate valve SVC



Item	Part description	Materials	Material options
01	Sealing disc	Al_2O_3	SSiC / ZrO_2
02	Stroke disc	Al_2O_3	SSiC / ZrO_2
03	Wear protection sleeve		SSiC
04	Packing	Graphite	
05	Disc spring	1.4568	
07	Housing	1.4301	1.4571
08	Connecting flange	1.4301	1.4571
09	Cover	1.4301	1.4571

Item	Part description	Materials	Material options
10	Attachment flange	1.4301	1.4571
14	Lift frame	1.4301	1.4571
16	Bearing bushing	DU bush bearing	
23	O-ring	Viton	Kalrez
24	Seal	Viton	Kalrez / graphite
25	Seal	Viton	Kalrez / graphite
26	O-ring	Viton	Kalrez

Function:

The SVC-type valve is a sliding disc valve with a ceramic sealing system for open/close function and control tasks, for use in highly corrosive and extremely abrasive media. It is designed for extreme conditions, where either high switching frequencies and a long service life are required, or where severe abrasion occurs in the control position but dead space cannot be permitted inside the valve.
The functional principle is based on four floating ceramic discs that seal against each other. The 2 middle discs shift linearly against each other in opposite directions.
Different geometric shapes of disc apertures permit specific control characteristics. The two outer discs are stationary.
The medium only comes into contact with ceramic components and seals, so that special materials are normally not required for the housing.

Nominal size range:

Flange connections: DN 50 (NPS 2)
up to DN 100 (NPS 4)
Sizes: SVC 40; 65; 80; 100

Pressure range:

up to PN 16
up to ANSI class 150

Overall length:

according to EN 558-1 Series 47
any other installation length is possible using supplementary sections

Options:

- With compression gland packing
- With sealing gas connection
- Various ceramics and sealing materials

Temperature Range:

with Viton O-rings: -10 °C to +180 °C / +14 °F to +356 °F
with Kalrez O-rings: up to 310 °C / 590 °F

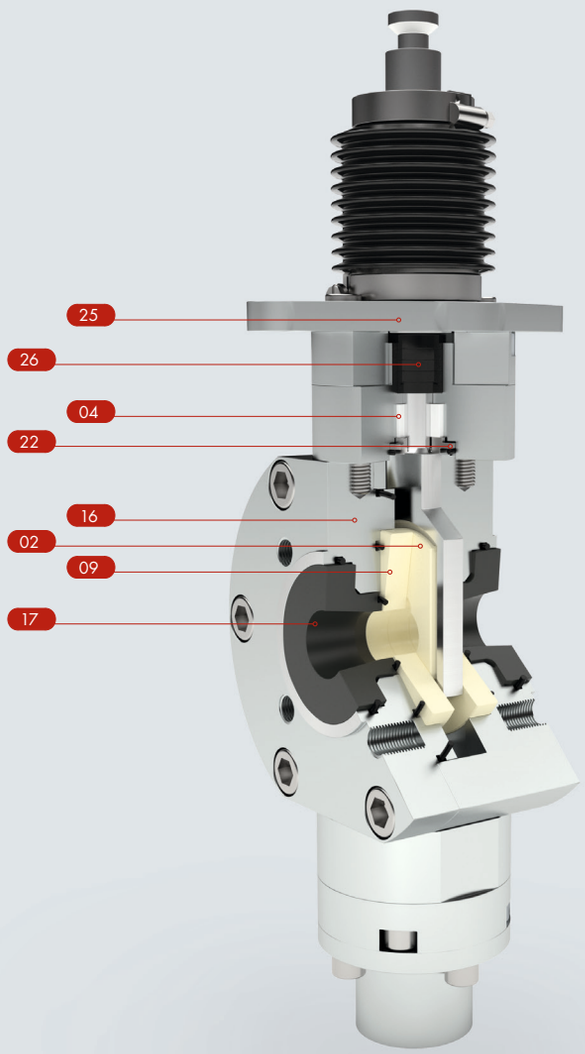
Typical application areas:

Waste incineration plants:
- Dosing of HCl washing water (prewasher)
- Dosed addition of lime milk to absorber (pH control, desulphurisation)

Silicon industry:
- Trichlorosilane sector (replacement for bellows valves)

Chemical industry:
- Alternative to PTFE/PFA-lined valves, where medium is abrasive and/or tends to diffusion.
- Alternatives to valves manufactured from special materials. (e.g. Hastelloy, titanium, etc.)

Sliding disc valves SSC



Item	Part description	Materials	Material options
02	Stroke disc	Al_2O_3	SSiC / ZrO_2
04	Bearing bushing	PTFE	Stellite
09	Sealing disc	Al_2O_3	SSiC / ZrO_2
16	Housing	1.4301	1.4571
17	Wear protection sleeve		SSiC

Item	Part description	Materials	Material options
22	Disc spring	1.4310	1.4462
25	Pressure spring	1.4310	1.8159
26	Graphite packing	Graphite	1.4571
	O-rings	Viton	Kalrez
	Screws	A2-70	A4-70

Function:

The SSC-type valve is a sliding disc valve with a ceramic sealing system for open/close function and control tasks, for use in highly corrosive and extremely abrasive media. It is designed for extreme conditions, where either high switching frequencies and a long service life are required, or where severe abrasion occurs in the control position but dead space cannot be permitted inside the valve.
The functional principle is based on three floating ceramic discs that seal against each other. The middle disc shifts linearly.
Different geometric shapes of disc apertures permit specific control characteristics. The two outer discs are stationary. Springs are used to compress the sealing system.
The medium only comes into contact with ceramic components and seals, so that special materials are not normally required for the housing.

Nominal size range:

Flange connections: DN 10 (NPS 3/8)
to DN 80 (NPS 3)
Sizes: SSC 15, 22 and 30
Maximum clear width: 27 mm (1 1/16″)
(k_{vs} = 50 / c_v = 58)

Pressure range:

up to PN 40
up to ANSI class 300

Overall length:

according to EN 558-1 Series 47
any other installation length is possible using supplementary sections

Options:

- With compression gland packing
- With sealing gas connection
- Various ceramics and sealing materials
- Approved for combustion plants with liquid fuels (DIN EN ISO 23553-1:2009-10)
- High temperature version (up to 450 °C / 842 °F)
- Light-Version (without sleeves, only for open/close function)

Temperature Range:

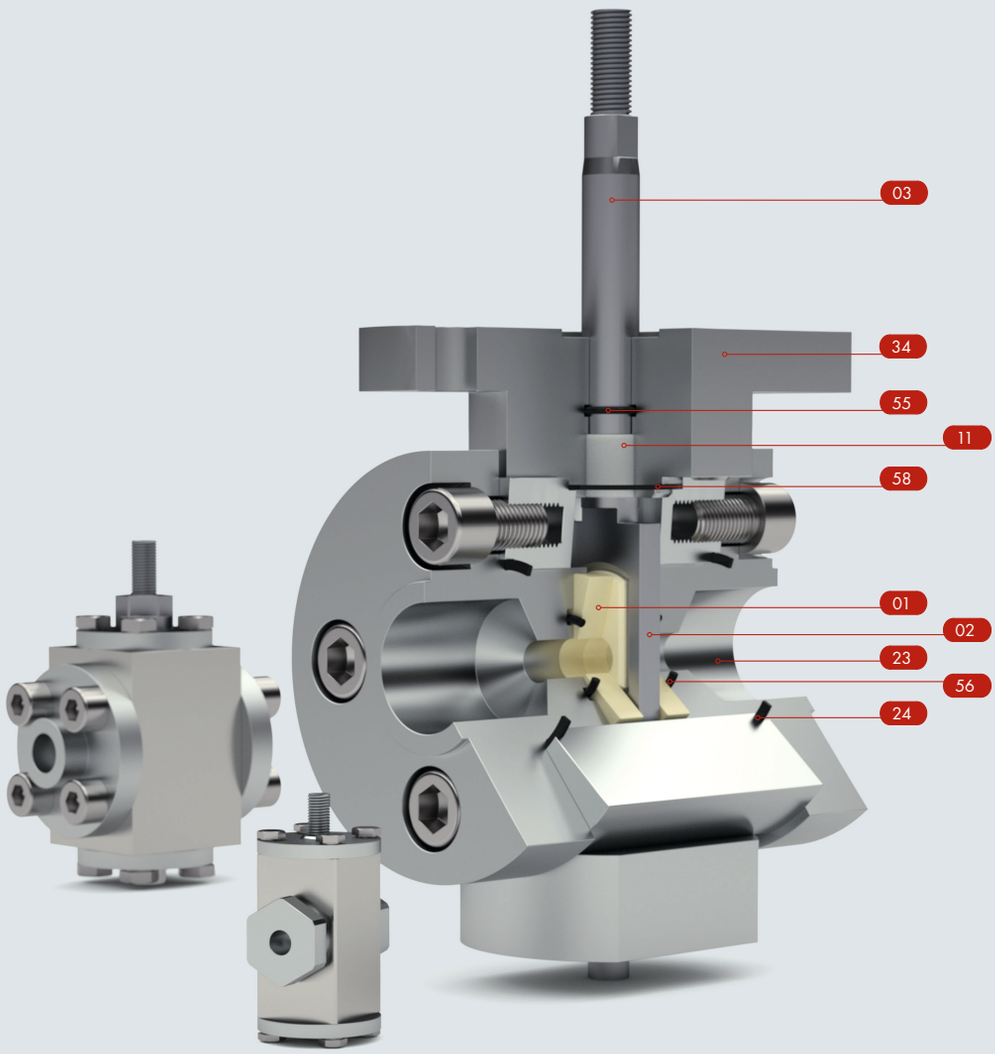
with Viton O-rings: -10 °C to +180 °C / -14 °F to +356 °F
with Kalrez O-rings: up to 310 °C / 590 °F

Typical application areas:

Waste incineration plants:
- Dosing of HCl washing water (prewasher)
- Dosed addition of lime milk to absorber (pH control, desulphurisation)

Chemical industry:
- Alternative to PTFE/PFA-lined valves, where medium is abrasive and/or tends to diffusion.
- Alternative to valves made from special materials. (e.g. Hastelloy, titanium, etc.)

Sliding disc valves 2–10 SDL



Item	Part description	Materials	Material options
01	Sealing disc	Al_2O_3	SSiC
02	Stroke disc	Al_2O_3	SSiC
03	Stroke rod	1.4301	1.4571
11	Bearing bushing	PTFE	Stellite
23	Connecting flange	1.4301	1.4571

Item	Part description	Materials	Material options
24	Seal	Graphite	
34	Mounting flange	1.4301	1.4571
55	O-ring	Viton	Kalrez / silicone
56	O-ring	Viton	Kalrez / silicone
58	Seal	Graphite	

Function:

The SDL-type valve is a sliding disc valve with a ceramic sealing system for open/close function, for use in highly corrosive and abrasive media.
The valve is designed for extreme conditions, where high switching frequencies and a long service life are required, but dead space cannot be permitted inside the valve.
Control functions can be realised using a switching frequency control system.
The medium comes into contact not only with the ceramic discs, but also with housing parts and seals. Alongside the standard solutions, other material combinations are possible, depending on operating conditions.
This slide valve type is designed for very small volume flow rates in the nominal width range from below 1 mm up to 10 mm. Pressures of up to 250 bar / 3600 psi are permitted here.
The connections are designed with internal threads as standard. Other connection variants are possible.
The functional principle is based on three floating ceramic discs that seal against each other. The middle disc shifts linearly, while the two outer discs are stationary.
Opening and closing take place through the vertical displacement of the middle disc.
The valves are supplied both with a T-handle and prepared for attachment to a drive unit. All customary actuators can be used as drive units. As standard solution, the slide valves are offered with electromagnets, with linear stepping motors and with pneumatic cylinders.
The actuator is mounted by means of a yoke and adapter arrangement. Special connections are possible.

Nominal size range:

DN 1 (NPS 1/32) to DN 10 (NPS 3/8)
Sizes: SDL 2; SDL 5; SDL 10
Maximum clear width: 10 mm (3/8 ″)

Pressure range:

SDL 2 up to PS 250 / ANSI class 1500
SDL 5 up to PS 160 / ANSI class 1000
SDL 10 up to PS 100 / ANSI class 600

Overall length:

Valve length depends on connection type

Options:

- Various ceramics and sealing materials
- Various housing materials
- SDL 5 and SDL 10 as control valve

Temperature Range:

with Viton O-rings: -10 °C to +180 °C / -14 °F to +356 °F
with Kalrez O-rings: up to 310 °C / 590 °F

Typical application areas:

- Dosing systems
- Spraying systems (paints + varnishes)
- Analysis technology
- General mechanical engineering

Ceramic materials
Properties and distinctive features

Corrosion resistance:

Compared to other materials, the corrosion resistance of the ceramic materials is significantly more higher and can be used in broader range on corrosive applications. Ceramics are completely resistant against the majority of solvents. Aqueous brines are generally no problem. The ceramics used are highly resistant against the majority of acids up to relatively high temperatures. Nevertheless, there are large differences that are to be observed. All oxidic ceramic materials are not resistant against fluorides for example. Some materials (e.g. Y-PSZ) are sensitive to water vapour (not hydrothermally resistant). It must be observed that mixtures of reagents generally react differently than the individual components.

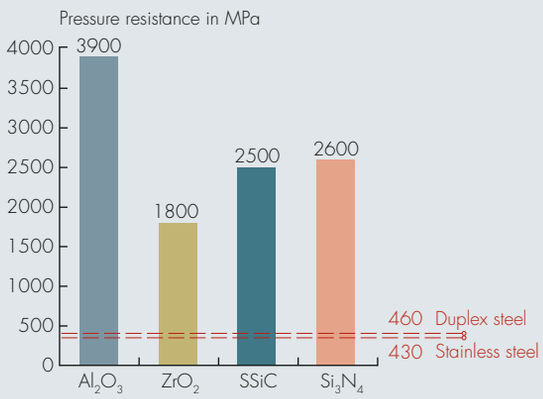
Pressure resistance and flexural strength:

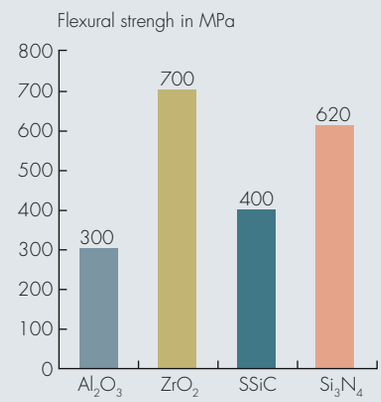
In contrast to metals, the mechanical strength properties of ceramic materials are different when bent, when under load and when under pressure. While the pressure resistance in almost all dense ceramics is many times higher than that of metals, the tensile and flexural strength must be closely observed.

Even if the comparison of the strength values of metals and ceramics is problematic, it does demonstrate the difference in size.

Ceramic materials:

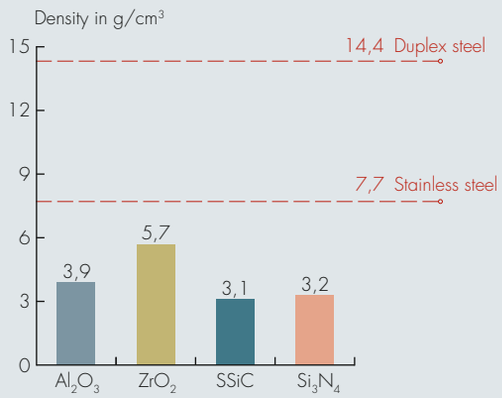
Al_2O_3	Aluminium oxide
ZrO_2	Zirconium dioxide
SSiC	Silicon carbide
Si_3N_4	Silicon nitride





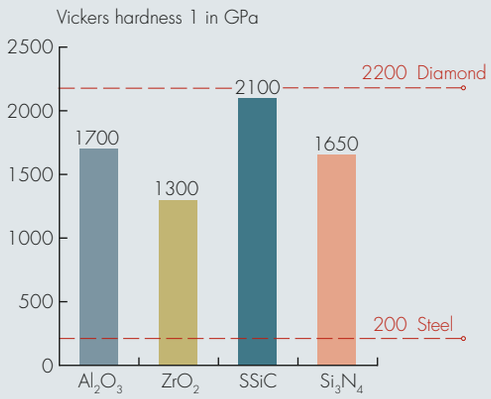
Density:

Weight is also generally saved when ceramics are used as these materials have a density up to 78 % less than that of hard metal / 60 % less than that of stainless steel.



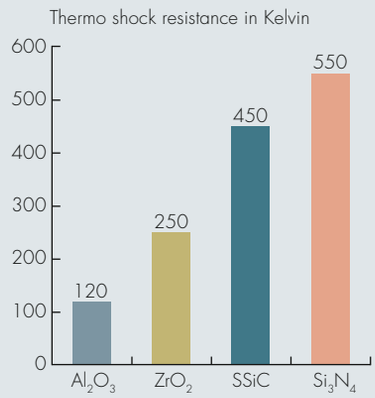
Hardness and wear resistance:

The wear resistance of components is significantly influenced by the respective type of load. Thanks to their extremely high hardness, ceramic materials have a wear resistance against friction that is many times higher than metals.
The mixture of loads that often occur in practice such as friction wear, radiation wear and impact wear as well as cavitations are generally absorbed better by ceramic components than metal components. All direct impact loads required closer observation.

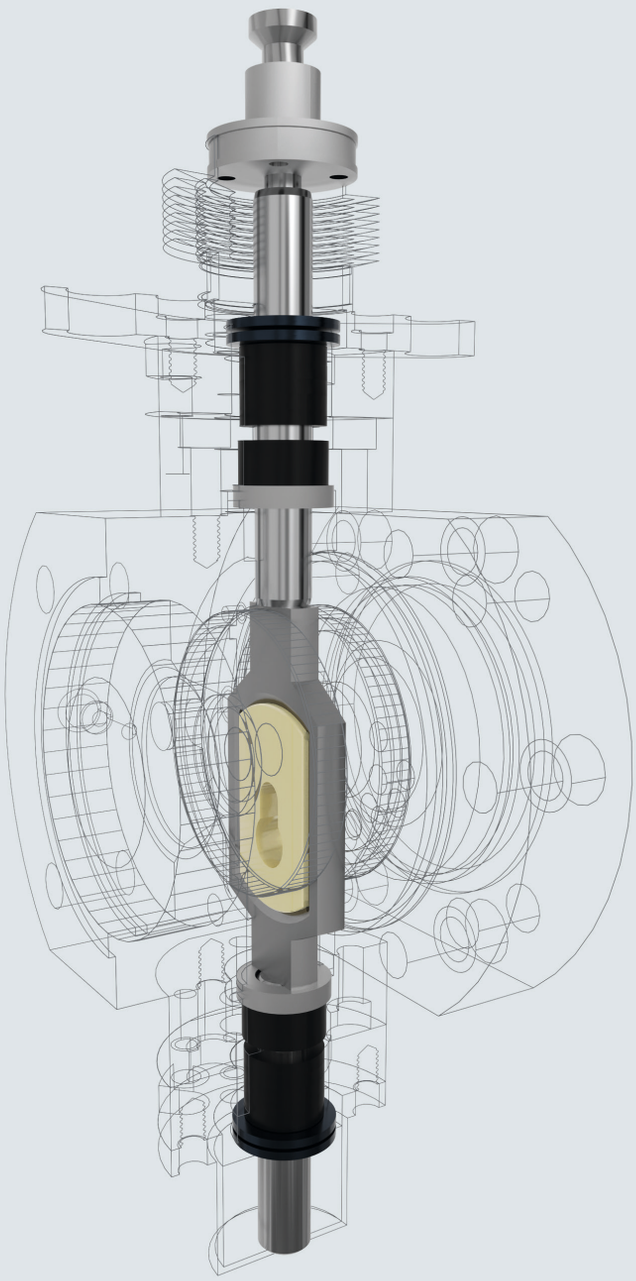


Thermo shock resistance:

Ceramic components maintain their shape and strength as well as their further physical characteristics up to extremely high temperatures. In contrast to the maximum operating temperature, the thermo shock resistance must be closely observed. In addition to the material dependency, the thermo shock resistance is also highly dependent upon the geometry. Simple geometric shapes such as pipes are less sensitive than such parts that have highly differing wall thicknesses for example.



TA-Luft Sealing



Function:

The strict regulations of the current TA-Luft place the highest of demands on the shaft seals of valves, especially with regard to fugitive emissions. The TA-Luft sealing kits cover the majority of applications, especially in the chemical and petrochemical sector and are suitable for use in new valves or to retrofit existing valves.

Available TA-Luft sealing kits:

BuraTAL® T3 9650/T3	
Application limits	
Temperature:	-10 °C to +250 °C / +14 °F to +482 °F
Pressure:	63 bar / 914 psi
Chemical resistance:	pH value 1-13

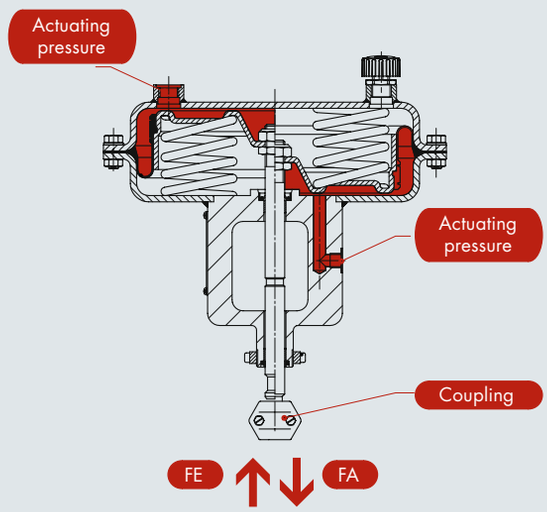
BuraTAL® T3 9650/T1	
Application limits	
Temperature:	-40 °C to +280 °C/ -40 °F to +536 °F
Pressure:	40 bar / 580 psi
Chemical resistance:	pH value 1-14

BuraTAL® HT 9650/HT	
Application limits	
Temperature:	-200 °C to +400 °C/ -328 °F to +752 °F
Pressure:	300 bar / 4350 psi
Chemical resistance:	pH value 1-13

Typical application areas:

These sealing kits cover the required leakage values according to the VDI directives across the whole temperature range.
This means that the leakage values of $10^{-4} \frac{mbar\ l}{s\ \ m}$ are not reached at temperatures below 250 °C / 482 °F and $10^{-2} \frac{mbar\ l}{s\ \ m}$ are not reached at temperatures above 250 °C / 482 °F on the seal. The checking of this is assumed by a spring application system designed especially for this application. This so-called live loading system ensures the constant surface pressure on the sealing kits that consists of a combination of diverse packing rings as a chamber, sealing rings and flat seal as intermediate layers. The live loading system is designed according to the operating temperature and operating pressure (spring package) and set according to the assembly directive (checking gap between the spring sleeve and the stuffing box gland).

Pneumatic Actuators
Samson Type 3277 for integrated positioner attachment





1) Starting with the initial value of the bench range. The zero stroke has not been taken into account.
2) Zero stroke depends on the fail-safe position

Properties:

- Low overall height
- High regulating forces at a high setting speed
- Low friction
- Various bench ranges
- Reversal of the effective direction without special tools
- Permitted operating temperature -60 to +120 °C
- Direct attachment of accessories
- Type 3277 with a protected travel linkage

Designs

Actuator areas 175, 240, 350, 355, 700 or 750 cm² for the direct attachment of accessories, optional corrosion-resistant design in 1.4301

Principle of operation

At the actuator area, the actuating pressure generates a force balanced by the springs. The nominal stroke is determined by the number of springs and their preload. The stroke is proportional to the actuating pressure.
Its effective direction depends on the mounting position of the springs, and the actuating pressure connection.
A coupling connects the drive rod with the stroke rod of the slide valve.

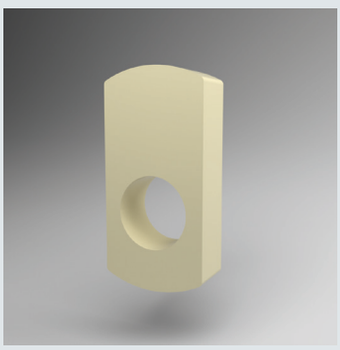
Wirkrichtung

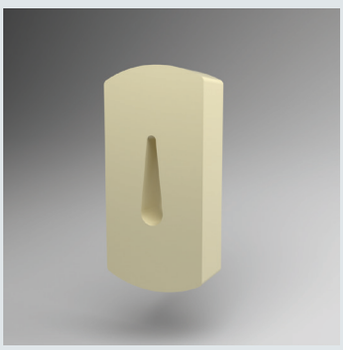
- Drive rod extending by spring force (FA)
- Drive rod retracting by spring force (FE)

Actuator area [cm2]	Nominal stroke [mm]	Piston displacement at the nominal stroke [dm3]	Dead volume [dm3]	max. stroke [mm] 1) 2)	Bench range [bar] (Signal pressure range at the nominal stroke)	Additionally possible spring preload [%]	Operative range at spring preload [bar]	Number of springs	Spring force at 0 mm stroke [kN] 1)	Spring force at nominal stroke [kN]	Regulating force [kN] at nominal stroke and supply pressure [bar] of					
											1,4	2,0	3,0	4,0	5,0	6,0
355	30	1,06	0,8	38	0,2…1,0	25	0,4…1,2	3	0,7	3,55	1,4	3,55	7,1	10,6	14,2	17,7
					0,4…2,0		0,8…2,4	6	1,4	7,1			3,55	7,1	10,6	14,2
					0,6…3,0		1,2…3,6	12	2,1	10,6				3,55	7,1	10,6
					0,9…1,7		1,1…1,9	4	3,2	6,0		1,1	4,6	8,2	11,7	15,3
					1,4…2,6		1,75…2,95	8	5,0	9,2			1,4	5,0	8,5	12,1
					1,9…3,3		2,25…3,65	10	6,5	11,7				2,5	6,0	9,6

Sliding disc geometry

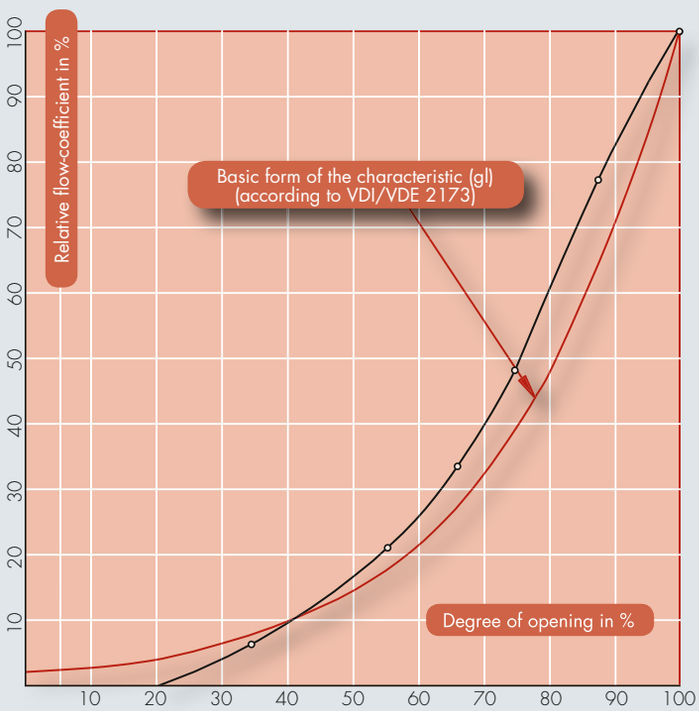
The requested control behaviour of the slide valve is determined by the bore geometry of the stroke disc. The opening cross-section is changed by the linear movement of the stroke disc affecting the flow. The control behaviours are possible linearly and with equal percentage.

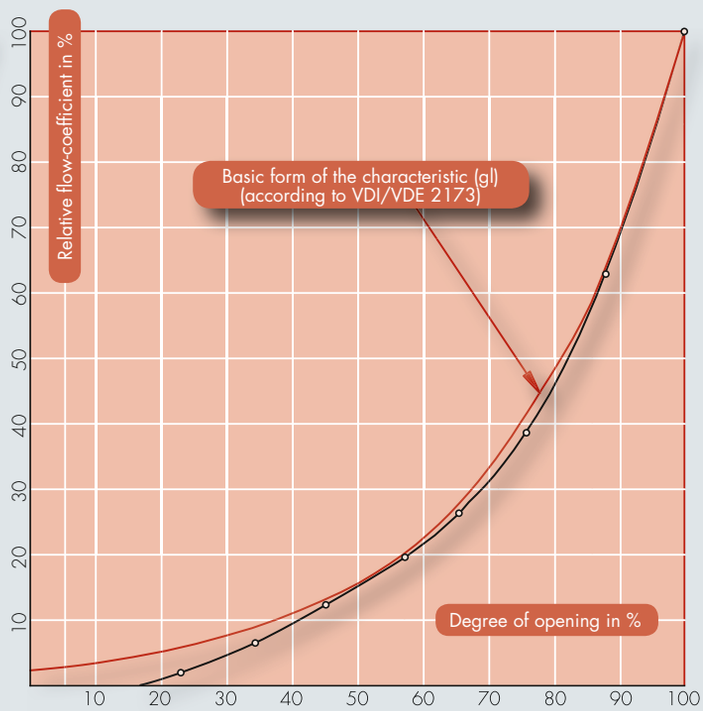




Characteristics

Nominal diameter:	DN 15 – 200 · NPS ½ – NPS 8	Nominal diameter:	DN 15 – 200 · NPS ½ – NPS 8
Ball bore:	round	Ball bore:	triangle
Characteristic:	equal percentage	Characteristic:	equal percentage





Parameter · Flow coefficient / Operating forces

Kvs values / Cv values

Type SVC										
Nominal diameter		**Scheibenbohrung**	**40**		**65**		**80**		**100**	
DN	NPS	**Disc bore shape**	K_{vs}	C_v	K_{vs}	C_v	K_{vs}	C_v	K_{vs}	C_v
50	2.00	Dreieck / tringular	-	-	-	-	-	-	-	-
		Rund / full bore	141							
65	2.50	Dreieck / tringular	-	-	-	-	-	-	-	-
		Rund / full bore	144	168						
80	3.00	Dreieck / tringular	-	-	-	-	-	-	-	-
		Rund / full bore	140	163	368	429				
100	4.00	Dreieck / tringular	-	-	-	-	-	-	-	-
		Rund / full bore	115	134	385	449	569	664		
125	5.00	Dreieck / tringular	-	-	-	-	-	-	-	-
		Rund / full bore	98	114	285	333	575	671	783	914
150	6.00	Dreieck / tringular	-	-	-	-	-	-	-	-
		Rund / full bore			258	301	565	659	775	904
200	8.00	Dreieck / tringular	-	-	-	-	-	-	-	-
		Rund / full bore					438	511	532	621
250	10.0	Dreieck / tringular	-	-	-	-	-	-	-	-
		Rund / full bore							425	496
300	12.0	Dreieck / tringular	-	-	-	-	-	-	-	-
		Rund / full bore							354	413
Operating forces										
		Force required for slide valve (kN)	10		20		32		43	

Type SSC 15 stroke 20 mm										
Nominal diameter		**Scheibenbohrung**	**5**		**7**		**10**		**13**	
DN	NPS	**Disc bore shape**	K_{vs}	C_v	K_{vs}	C_v	K_{vs}	C_v	K_{vs}	C_v
10	0.375	Dreieck / tringular	1,3	1,5	3,2	3,7	5,4	6,3		
		Rund / full bore	1,3	1,5	3,2	3,7	5,4	6,3		
15	0.50	Dreieck / tringular	1,1	1,3	2,5	2,9	6,6	7,7	11,7	13,7
		Rund / full bore	1,1	1,3	2,5	2,9	6,6	7,7	11,7	13,7
20	0.75	Dreieck / tringular	0,9	1,1	2,3	2,7	5,9	6,9	10,3	12,0
		Rund / full bore	0,9	1,1	2,3	2,7	5,9	6,9	10,3	12,0
25	1.00	Dreieck / tringular	1,0	1,2	2,2	2,6	5,2	6,1	9,0	10,5
		Rund / full bore	1,0	1,2	2,2	2,6	5,2	6,1	9,0	10,5
32	1.25	Dreieck / tringular	0,7	0,8	1,8	2,1	4,9	5,7	7,9	9,2
		Rund / full bore	0,7	0,8	1,8	2,1	4,9	5,7	7,9	9,2
40	1.50	Dreieck / tringular			1,6	1,9	4,8	5,6	7,7	9,0
		Rund / full bore			1,6	1,9	4,8	5,6	7,7	9,0
Operating forces										
Actuator Samson		Force required for slide valve (kN)	5,4		4,0		4,0		4,0	
Type: 3277 - 355 cm²		Lifting force (kN) actuator	9,6 - 17,7		9,6 - 17,7		9,6 - 17,7		9,6 - 17,7	

Kvs values / Cv values

Type SSC 22 stroke 27 mm							Type SSC 30 stroke 35 mm			
Nominal diameter		**Scheibenbohrung**	**15**		**20**			**25**		**27**	
DN	NPS	**Disc bore shape**	K_{vs}	C_v	K_{vs}	C_v		K_{vs}	C_v	K_{vs}	C_v
15	0.50	Dreieck / tringular	14,6	17,0							
		Rund / full bore	14,6	17,0							
20	0.75	Dreieck / tringular	15,4	18,0	28,0	32,7					
		Rund / full bore	15,4	18,0	28,0	32,7					
25	1.00	Dreieck / tringular	14,5	16,9	34,7	40,5		54,2	63,3	38,0	44,3
		Rund / full bore	14,5	16,9	34,7	40,5		54,2	63,3	38,0	44,3
32	1.25	Dreieck / tringular	13,0	15,2	27,3	31,9		42,7	49,8	66,5	77,6
		Rund / full bore	13,0	15,2	27,3	31,9		42,7	49,8	66,5	77,6
40	1.50	Dreieck / tringular	11,9	13,9	22,8	26,6		35,6	41,6	56,5	65,9
		Rund / full bore	11,9	13,9	22,8	26,6		35,6	41,6	56,5	65,9
50	2.00	Dreieck / tringular	10,7	12,5	19,7	23,0		30,8	35,9	50,8	59,3
		Rund / full bore	10,7	12,5	19,7	23,0		30,8	35,9	50,8	59,3
65	2.50	Dreieck / tringular	8,0	9,3	19,0	22,2		29,7	34,6	49,0	57,3
		Rund / full bore	8,0	9,3	19,0	22,2		29,7	34,6	49,0	57,3
Operating forces											
Actuator Samson		Force required for slide valve (kN)	5,4		3,8			4,4		4,4	
Type: 3277 · 355 cm²		Lifting force (kN) actuator	9,6 - 17,7		9,6 - 17,7			9,6 - 17,7		9,6 - 17,7	

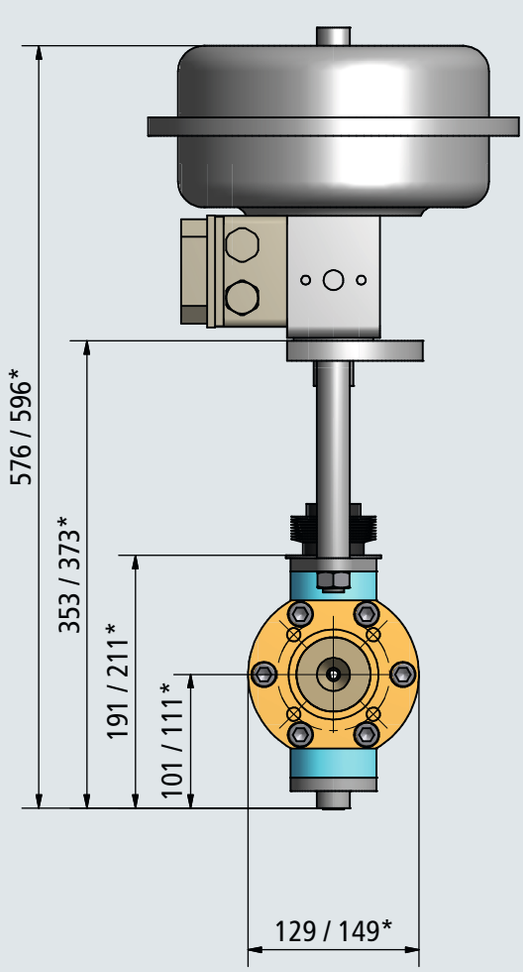
Type SDL 5 / stroke 7,5 mm												
Nominal diameter		**Scheibenbohrung**	**1,0**		**1,6**		**2,0**		**2,8**		**3,6**	
DN	NPS	**Disc bore shape**	K_{vs}	C_v	K_{vs}	C_v	K_{vs}	C_v	K_{vs}	C_v	K_{vs}	C_v
10	0.375	Dreieck / tringular	0,02	0,02	0,07	0,08	0,1	0,1	0,2	0,3	0,4	0,5
		Rund / full bore	0,02	0,02	0,07	0,08	0,1	0,1	0,2	0,3	0,4	0,5
Operating forces												
Actuator Samson		Force required for slide valve (kN)	5,4		4,0		4,0		4,0		5,4	
Type: 3277 · 355 cm²		Lifting force (kN) actuator	9,6 - 17,7		9,6 - 17,7		9,6 - 17,7		9,6 - 17,7		9,6 - 17,7	

Type SDL 10 / stroke 13 mm							
Nominal diameter		**Scheibenbohrung**	**5**		**6**		
DN	NPS	**Disc bore shape**	K_{vs}	C_v	K_{vs}	C_v	
10	0.375	Dreieck / tringular	0,90	1,05	2,10	2,45	
		Rund / full bore	0,90	1,05	2,45	2,86	
Operating forces							
Actuator Samson		Force required for slide valve (kN)	3,8		4,4		
Type: 3277 · 355 cm²		Lifting force (kN) actuator	9,6 - 17,7		9,6 - 17,7		

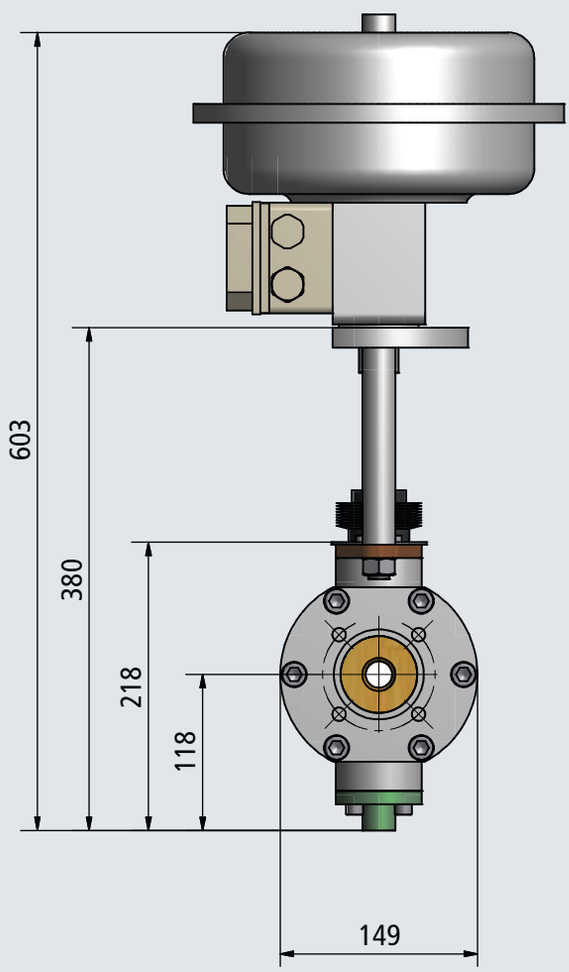
We reserve the right to make changes within the context of technical development. Status: June 2017

Standard dimensions

SSC 15
23 kg

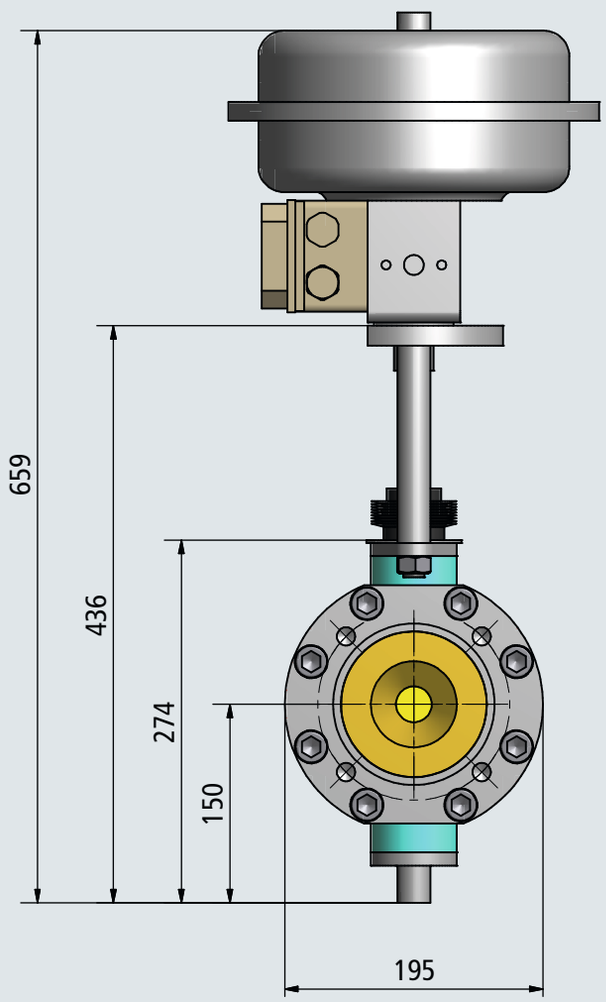


SSC 22
35 kg



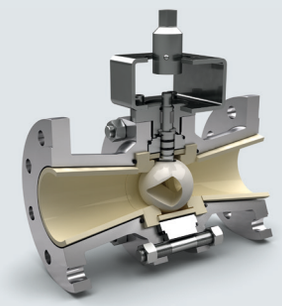
SSC 30

46 kg

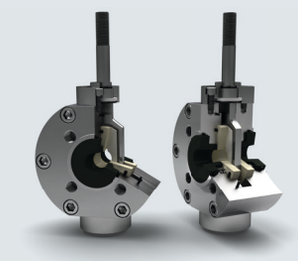


Dimensions applicable starting at DN32
General tolerances: ISO 2768-mk
Copyright acc. to DIN 34, para., 2.1 reserved

Products and services



Ball valves
Cera System offers wear and corrosion resistant ball valves for open / close and control function. The use of ceramic lined valves is sensible in all cases where standard valves reach their limits (abrasion, corrosion, temperature and pressure). A large range of metallic and ceramic materials permits solutions for almost all industrial sectors. Special applications are solved in close cooperation with our customers.

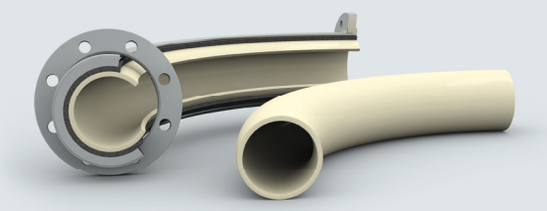


Sliding disc valve
Cera System offers wear and corrosion resistant disc slide valves for open / close and control function. With this type of construction just the ceramic are wetted by the fluid. It is therefore suitable for highly corrosive media. Further advantages: Excellent control of small amounts containing solids – completely cavity free. The slide valve is available from DN 2 (5/6″) up to DN 50 (2″).

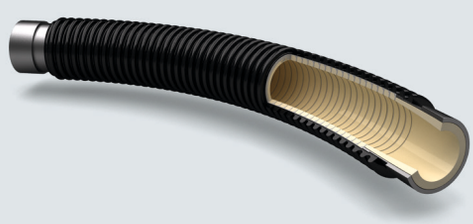


Ceramic components
Cera System develops and produces customer-specific ceramic precision components in small batch sizes through to series production for the most diverse areas of application. Focal points are sealing and control discs for air conditioning, sanitary fittings as well as many other applications. Ceramic components for the sensor, food engineering and building services sectors round off our portfolio.

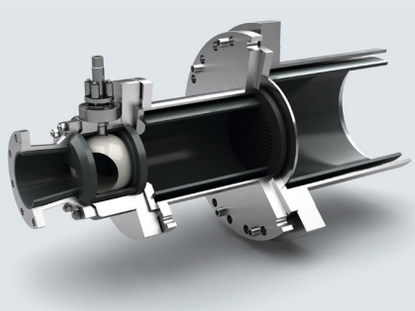
Pipe waer protection
Cera System offers wear resistant pipe elbows, Y and T parts as well as other shaped pieces. The most diverse of ceramics are used. The ceramic is solid (wall thickness approx. 6 mm (¼″)). All solutions are nominal size conformant, they can be assembled problem-free without having to adjust the pipelines. The clear width corresponds to the flange connection. Our speciality: the ceramic pipe elbows are actually curved (no apposition of straight sections).



Ceramic hoses
Cera System supplies wear resistant flexible solutions. Ceramic hoses manufactured by Cera System can be used everywhere where hoses regularly wear and must be replaced. The hose consists of ceramic rings that are vulcanised together with special reinforced rubber materials. Pressures of up to 10 bar / 145 psi are permitted.



Ceramic system solutions
Cera System offers system solutions with ceramic components. In-house development and sales engineers ensure for the complete design of ceramic systems and create economical, customer-specific complete solutions all over the world. Product developments in the coal gasification and photovoltaic sector are only examples of numerous other industry-specific applications.



SAMSON AT A GLANCE

EMPLOYEES

- Worldwide 4.300
- Europe 3.300
- Asia 500
- America 200
- Frankfurt am Main, Germany, 1.800

MARKETS

- Chemicals and petrochemicals
- Power and energy
- District energy and building automation
- General industry
- Industrial gases
- Food and beverages
- Metallurgy and mining
- Oil and gas
- Pharmaceuticals and biotechnology
- Marine equipment
- Water and wastewater
- Pulp and paper

PRODUCTS

- Valves
- Self-operated regulators
- Actuators
- Accessories
- Signal converters
- Automation systems
- Sensors and thermostats
- Digital solutions

SALES LOCATIONS

- More than 50 subsidiaries in over 40 countries
- More than 200 agencies

PRODUCTION SITES

- SAMSON Germany, Frankfurt, established 1916
  Total plot and production area: 150.000 m²
- SAMSON France, Lyon, established 1962
  Total plot and production area: 23.400 m²
- SAMSON Turkey, Istanbul, established 1984
  Total plot and production area: 11.053 m²
- SAMSON USA, Baytown, TX, established 1992
  Total plot and production area: 9.200 m²
- SAMSON China, Beijing, established 1998
  Total plot and production area: 10.138 m²
- SAMSON India, Pune district, established 1999
  Total plot and production area: 18.000 m²
- SAMSON Russia, Rostov-on-Don, established 2015
  Total plot and production area: 5.000 m²
- SAMSON AIR TORQUE, Bergamo, Italy
  Total plot and production area: 27.684 m²
- SAMSON CERA SYSTEM, Hermsdorf, Germany
  Total plot and production area: 14.700 m²
- SAMSON KT-ELEKTRONIK, Berlin, Germany
  Total plot and production area: 1.060 m²
- SAMSON LEUSCH, Neuss, Germany
  Total plot and production area: 18.400 m²
- SAMSON PFEIFFER, Kempen, Germany
  Total plot and production area: 35.400 m²
- SAMSON RINGO, Zaragoza, Spain
  Total plot and production area: 18.270 m²
- SAMSON SED, Bad Rappenau, Germany
  Total plot and production area: 10.370 m²
- SAMSON STARLINE, Bergamo, Italy
  Total plot and production area: 26.409 m²
- SAMSON VDH PRODUCTS, Netherlands
- SAMSON VETEC, Speyer, Germany
  Total plot and production area: 27.090 m²

CERA SYSTEM Verschleißschutz GmbH
Am Globus 2 · 07629 Hermsdorf
Phone: +49 36601 919-0
Fax: +49 36601 919-90
E-mail: sales-cera-de@samsongroup.com
Internet: www.cerasystem.de