

High Temperature Valve

GS3 series

8023
DN 15 up to DN 200

SCHUBERT & SALZER
**CONTROL
SYSTEMS**

Pneumatic control valve for the control of neutral through to highly aggressive media in process engineering, chemical industries and for plant equipment.

- Space-saving wafer-type design
- Lowest possible weight
- Quiet operation
- Fast response
- Control of high differential pressures with small actuators
- Greatly reduced energy consumption rates due to short strokes and low actuating forces on the throttle element
- High Kvs-values

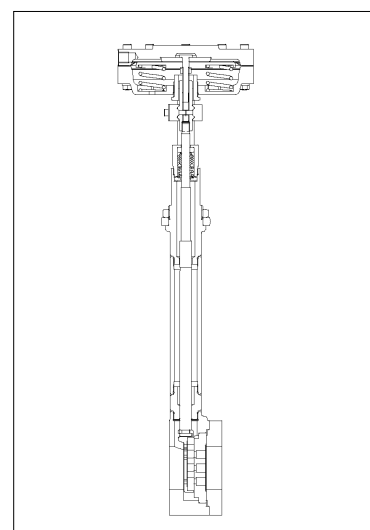
Technical Information

Design	wafer-type design other versions see data sheet 8023 - GS1	
Nominal sizes	DN 15 up to DN 200	
Nominal pressure acc. DIN	PN 40 (fits also to PN 10-25)	DN 15 - DN 150
	PN 100	DN 15 - DN 80
	PN 16	DN 200
Nominal pressure acc. ANSI	ANSI 150	DN15 - DN 200
	ANSI 300	DN 15 - DN 150
	ANSI 600	DN 15 - DN 80
Supply pressure	max. 6 bar	
Fluid temperature	-60°C up to +450°C for function unit carbon-stainle ss steel	
	-60°C up to +450°C for function unit STN2	
	up to +530°C with bellows from Inconel 625 and func tion unit STN2	
Ambient temperature	-30°C up to +80°C	
Rangeability	40 : 1	
Leakage rate (% of Kvs-value)	function unit carbon-stainless steel <0,0001	
	function unit STN2 <0,001	

K_{vs}-values see data sheet 8001.

Materials

Body	Stainless steel 1.4571	
Head section	Stainless steel 1.4571	
Diaphragm housing	Aluminium, KTL coated	
Packing	PTFE (Carbon filled), spring 1.4310	
Actuating stem	Stainless steel 1.4571, roller burnished	
Bellows	Stainless steel 1.4571	
Fixed disc	Stainless steel 1.4571, coated	STN2-disc
Sliding disc	Special carbon material	STN2-disc
Guide ring for sliding disc	Stainless steel 1.4581	



Options

- Metal bellows
- Positioner
 - pneumatic
 - electro-pneumatic
 - electro-pneumatic (Ex, intrinsically safe)
- Limit switches
- Position transmitter
- Manual override

По вопросам продаж и поддержки обращайтесь:
 Екатеринбург (343)384-55-89, Казань (843)206-01-48, Краснодар (861)203-40-90,
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High Temperature Valve 8023-GS3

Admissible Differential Pressures (for temperatures up to 120°C)

For temperatures exceeding 120°C:
apply operation limits

Disc pair: carbon - stainless steel coated

Actuator size	125 cm ²					250 cm ²				
Spring range (bar)	0.2 to 1,0	1.0 to 2,0	1.5 to 3,0	1.8 to 3,8	2.1 to 4,5	0.2 to 1,0	0.8 to 1,4	1.2 to 2,2	1.5 to 2,7	1.7 to 3,2
Supply air (bar)	1,2	2,8	4,2	5,2	6,0	1,2	2,1	3,2	4	4,6
DN	Admissible differential pressures in bar (see pressure diagram for GS-Valves)									
15	4,4	100	100	100	100	18,9	100	100	100	100
20	3,8	100	100	100	100	16,4	100	100	100	100
25	3,2	100	100	100	100	13,7	100	100	100	100
32	2,6	100	100	100	100	11,3	100	100	100	100
40	2,0	66	100	100	100	8,5	100	100	100	100
50	-	36	57	70	84	5,8	63	97	100	100
65	-	29	45	56	67	4,9	51	78	80	80
80	-	17	26	33	39	3,1	30	45	48	48
100	-	10	16	20	24	-	18	27	33	33
125	-	6,5	10	13	15	-	12	18	22	23
150	-	5	7,5	9	11	-	8,5	13	16	16
200	-	2,5	4,5	5,5	6,5	-	5	7,5	9	10
Springconfiguration	D	2	3	4	5	D	2	3	4	5

Standard	Upper limits for admissible pressures in bar					
	PN16	PN40	PN100	ANSI 150	ANSI 300	ANSI 600
P max.	16	40	100	16	40	80

Disc pair: STN2

Actuator size	125 cm ²					250 cm ²				
Spring range (bar)	0.2 to 1,0	1.0 to 2,0	1.5 to 3,0	1.8 to 3,8	2.1 to 4,5	0.2 to 1,0	0.8 to 1,4	1.2 to 2,2	1.5 to 2,7	1.7 to 3,7
Supply air (bar)	1,2	2,8	4,2	5,2	6,0	1,2	2,1	3,2	4	4,6
DN	Admissible differential pressures in bar (see pressure diagram for GS-Valves)									
15	3,1	100	100	100	100	13,4	100	100	100	100
20	2,4	57	100	100	100	10,3	100	100	100	100
25	1,8	57	88	100	100	7,7	100	100	100	100
32	1,3	38	59	73	87	5,7	66	100	100	100
40	0,9	23	37	45	54	3,9	41	63	72	72
50	-	13	20	25	30	2,4	23	35	42	49
65	-	10	16	20	24	2	18	28	34	40
80	-	6	9	11	14	1,2	10	16	19	23
100	-	3,5	5,5	7	8,5	-	6,5	10	12	14
125	-	2,5	3,5	4,5	5,5	-	4	6,5	8	9
150	-	1,5	2,5	3,5	4	-	3	4,5	5,5	6,5
Springconfiguration	D	2	3	4	5	D	2	3	4	5

Standard	Upper limits for admissible pressures in bar					
	PN16	PN40	PN100	ANSI 150	ANSI 300	ANSI 600
P max.	16	40	100	16	40	80

Supply pressure values in the tables are minimum values. They are valid if no positioner is used. When using a positioner the required supply pressure is fixed by its adjustment values. As a standard this value is 4 barg. The spring configuration "D" allows direct operation without positioner and reduced performance concerning the differential pressures. The valve then can be controlled directly by a process controller using a standard 0,2 to 1 bar signal.

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8	0	2	3	/				1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
V	Q							M												Z			S

Type: 8 0 2 3 /
 Size: 4 5 6
 Symbol: "V": Valve
 "R": Repair kit (sealings)

6 - 16: Quote only if required.

9. Sliding disc		10. Fixed disc		11. Kvs-values		12. Flow characteristic		13. Accessories		14. Positioner		15. Signalling equipment		16. Special version	
-	Carbon material	-	stainless steel 1.4571 coated	-	100 % (Stand.) A red. to 63 %	-	linear	Z	To state, if in sections 14 and 15 accessories are quoted	-	w without 1 p/p - w without gauges	-	w without 2 limit sw itches inductive, M12x1 10-30 V DC PNP	S	Other special versions have to be quoted in letters
B	Carbon material fibre enforced			1	red. to 40 % B red. to 25 % 2 red. to 16 % C red. to 10 % 3 red. to 6,3 % 4 red. to 2,5 % 5 red. to 1 % 6 red. to 20 % 7 red. to 12 % 8 red. to 2 % 9 red. to 0,4 %	1	Equal percentage			2	p/p - w ith gauges	1	2 limit sw itches inductive, integrated in positioner		
9	STN2	1	STN 2-plate (only in combination with the position "9" STN2-disc)							3	i/p- w without gauges				
										4	dto. w ith gauges	2	i/p-converter		
										6	i/p- intrinsically safe, w without gauges	5	2 limit sw itches inductive, M12x1 10-55 V DC PNP/NPN		
										7	dto. w ithout gauges				

GS3-Control Valve with pneumatic actuator, DN 80, PN 10/40, stainless steel, spring closes, actuator area 125 cm², 8 springs, PTFE-V-shaped sealings, function unit carbon-stainless steel 1.4571 coated, linear characteristic, i/p-positioner ex-proof

High Temperature Valve 8023-GS3

Application limitations for GS3 valves in stainless steel

These pressure must not be exceeded for GS-valves from the GS3-series made of stainless steel, even though the actuator power might allow it.

PN 40

	Sliding unit: carbon - stainless steel, coated					
	max. admissible diff. pressures for GS3-valves					
DN	200°C	250°C	300°C	350°C	400°C	450°C
15 - 65	34	32	31	29	27	25
80	34	32	31	29	27	25
100	29	27	25	24	24	23
125	20	19	18	17	16	16
150	14	13	12	12	11	11
200 (PN16 only)	14	13	12	11	10	9

	Sliding unit: STN2							
	max. admissible diff. pressures for GS3-valves							
DN	200°C	250°C	300°C	350°C	400°C	450°C	500°C	530°C
15 - 65	34	32	31	29	27	25	15	5
80	33	26	22	19	16	14	13	5
100	26	24	20	17	15	13	12	5
125	17	16	13	11	10	9	8	5
150	13	11	9	8	7	6	6	5

PN 100

	Sliding unit: carbon - stainless steel, coated					
	max. admissible diff. pressures for GS3-valves					
DN	200°C	250°C	300°C	350°C	400°C	450°C
15	87	82	77	72	67	64
20	87	82	77	72	67	64
25	87	82	77	72	67	64
32	87	82	77	72	67	64
40	87	82	77	72	67	64
50	87	82	77	72	67	64
65	72	67	62	60	58	56
80	43	40	37	36	35	33

	Sliding unit: STN2							
	max. admissible diff. pressures for GS3-valves							
DN	200°C	250°C	300°C	350°C	400°C	450°C	500°C	530°C
15	87	82	77	72	67	64	37	13
25	87	82	77	72	67	64	37	13
40	65	53	43	37	32	29	26	13
50	70	56	46	40	35	31	28	13
65	56	45	37	32	28	25	22	13
80	33	26	22	19	16	14	13	12

High Temperature Valve 8023-GS3

ANSI #150

	Sliding unit: carbon - stainless steel, coated					
	max. admissible diff. pressures for GS3-valves					
DN	200°C	250°C	300°C	350°C	400°C	450°C
15 - 125	13	12	10	8	6,5	4,5
150	13	12	10	8	6,5	4,5
200	13	12	10	8	6,5	4,5

	Sliding unit: STN2							
	max. admissible diff. pressures for GS3-valves							
DN	200°C	250°C	300°C	350°C	400°C	450°C	500°C	530°C
15 - 125	13	12	10	8	6,5	4,5	1,5	0,3
150	13	11	9,5	8	6,5	4,5	1,5	0,3

ANSI #300

	Sliding unit: carbon - stainless steel, coated					
	max. admissible diff. pressures for GS3-valves					
DN	200°C	250°C	300°C	350°C	400°C	450°C
15 - 65	35	33	31	30	29	28
80	35	33	31	30	29	28
100	29	27	25	24	24	23
125	20	19	18	17	16	16
150	14	13	12	12	11	11
200 (PN16 only)	14	13	12	11	10	9

	Sliding unit: STN2							
	max. admissible diff. pressures for GS3-valves							
DN	200°C	250°C	300°C	350°C	400°C	450°C	500°C	530°C
15 - 65	35	32	31	29	27	25	16	5
80	33	26	22	19	16	14	13	5
100	26	24	20	17	15	13	12	5
125	17	16	13	11	10	8,5	8	5
150	13	11	9	8	7	6	5,5	5

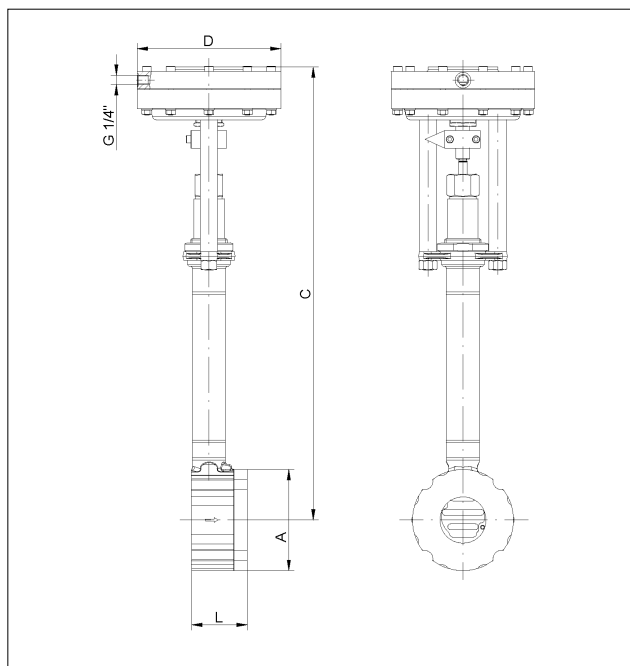
ANSI #600

	Sliding unit: carbon - stainless steel, coated					
	max. admissible diff. pressures for GS3-valves					
DN	200°C	250°C	300°C	350°C	400°C	450°C
15 - 32	71	66	63	60	58	56
40	71	66	63	60	58	56
50	71	66	63	60	58	56
65	71	66	62	60	58	56
80	43	40	37	36	35	33

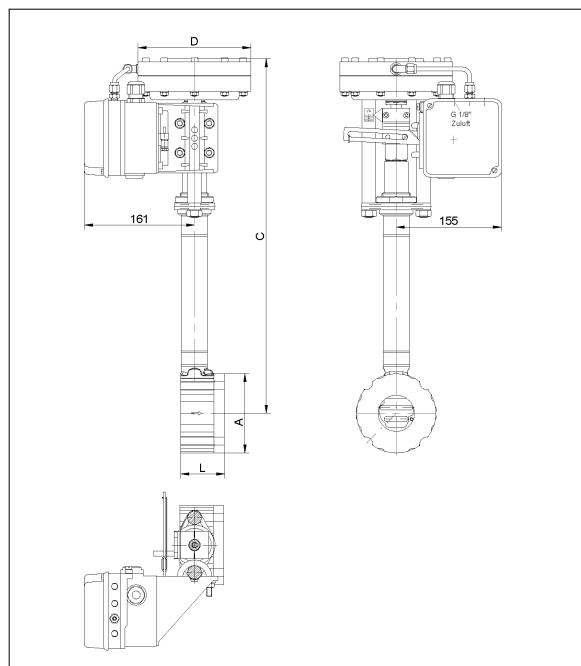
	Sliding unit: STN2							
	max. admissible diff. pressures for GS3-valves							
DN	200°C	250°C	300°C	350°C	400°C	450°C	500°C	530°C
15 - 32	71	66	63	60	52	46	33	11
40	65	53	43	37	32	29	26	11
50	70	56	46	40	35	31	28	11
65	56	45	37	32	28	25	22	11
80	33	26	22	19	16	14	13	11

High Temperature Valve 8023-GS3

Dimensions and Weights



without positioner



with electropneumatic positioner

DN	A mm	C mm	Ø D actuator size		L mm	Weight kg actuator size		Stroke mm
			125	250		125	250	
15	64	495	165	222	56	7,5	9,7	6
20	72	500	165	222	56	7,7	9,9	6
25	82	505	165	222	56	8,2	10,4	6
32	89	510	165	222	56	8,5	10,7	6
40	99	515	165	222	56	9	11	6
50	116	525	165	222	64	10,5	13	8
65	138	535	165	222	68	12,5	15	8
80	153	545	165	222	70	13,5	16	8
100	184	555	165	222	75	16,5	19	8,5
125	212	570	165	222	80	19,5	22	8,5
150	242	585	165	222	80	23	25	8,5
200	302	615	165	222	95,5	40	42	8,5

Dimensions in mm

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