

Sliding Gate Pressure Regulator 8011 SCHUBERT & SALZER

GS 3 series 1/2" up to 6" without supply energy



Self operated regulation of inlet and outlet pressures of neutral through to highly aggressive media in process engineering, chemical industries and for plant equipment.

- Space saving wafer type design
- Lowest possible weight
- High Kvs (Cv)-values
- Meets the requirements of TA-Luft 2021



Technical Information

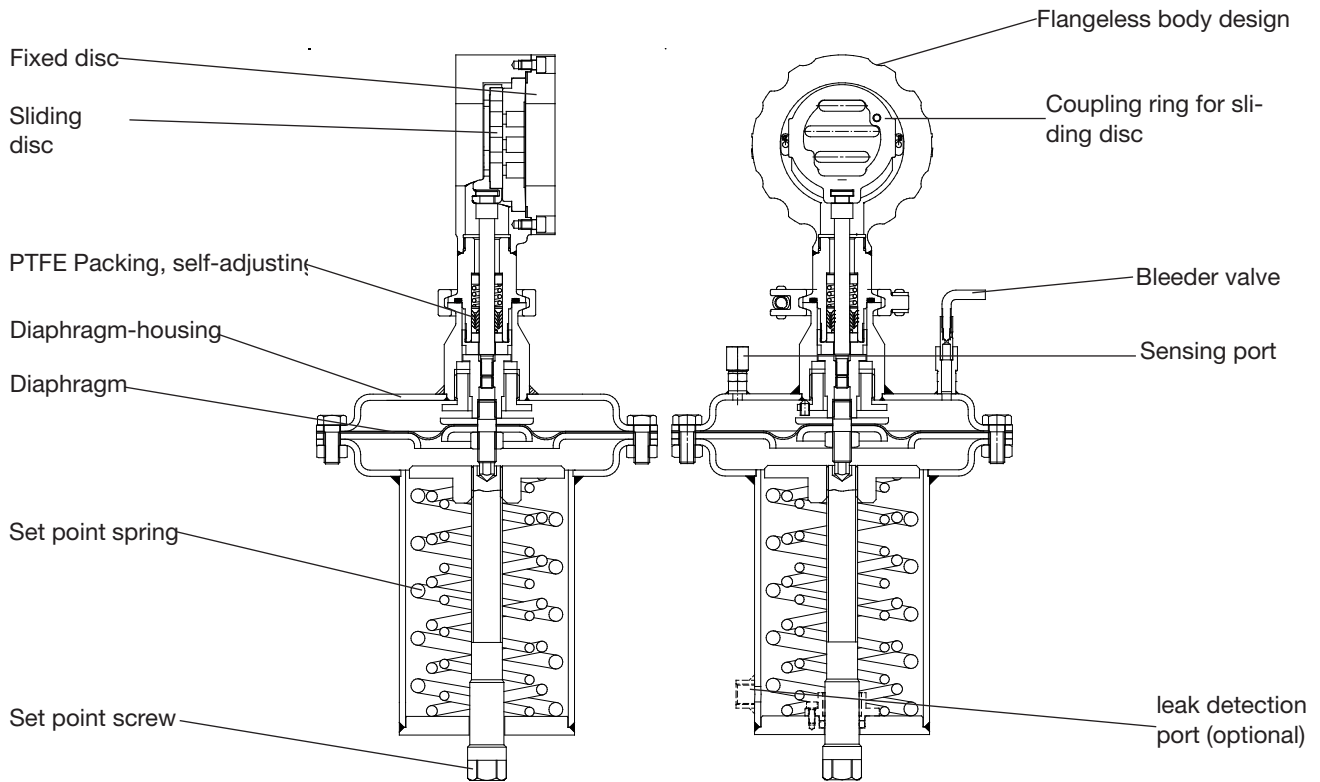
Body design	ANSI flange wafer (self-aligning) for flanges acc. ASME B16.5 RF or DIN EN 1092-1 Form B		
Nominal sizes	1/2" - 6"		
Nominal pressure acc. DIN 2401 for flanges with facing type B	580 psi (fits also to 145- 365 psi)	1/2" - 6"	
Nominal pressure acc. ANSI for flanges acc. ASME B16.5 RF	ANSI 150	1/2" - 6"	
	ANSI 300	1/2" - 6"	
Nominal pressure acc. JIS for „raised face“ flanges	10K	1/2" - 2"	
	20K	1/2" - 1 1/2"	
Pressure range	4.4 up to 145 psi (see table)		
Operating pressures	Limited to applications of category I of the Pressure Equipment Directive 2014/68/ EU		
Media temperature	-75°F up to +445°F at special versions up to 572°F		
Max. ambient temperature	-4°F up to +176°F		
Flange gaskets (customer side)	ANSI B16.21 or DIN EN 1514-1 in the respective nominal pressure rating		
Max. temperature for the actuator	Diaphragm material		
	CR:	-4°F up to +176°F	
	EPDM:	-22°F up to +266°F	
	EPDM (FDA):	-22°F up to +266°F	
	Viton:	-5°F up to +302°F	
Leakage % of Kvs IEC 60534-4 EN 12266-1	Disc pair	Disc pair	Disc pair
	Carbon-stainless steel	SFC	STN 2
	< 0,0001	< 0,0005	< 0,001
	IV-S1	IV-S1	IV
	E	F	F
Specific leakage rate shaft and body sealing	ISO FE-BH-CC3-SSA0-t(-40°C/+350°C)-PN40-ISO 15848-1		

* With DN15 with reduction of less than 25%, different leakage rates possible.
K_{vs}-values see data sheet 8001.

Sliding Gate Pressure Regulator 8011-GS3



without supply energy



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Admissible Pressures

For temperatures exceeding 100°F (ANSI) or 250°F (PN): consider operation limits

Carbon-stainless steel coated SFC-stainless steel coated

Maximum pressures for pressure reducing valve (downstream pressure control)

Pressure range (psi) output pressure P2	60 to 145	30 to 75	15 to 35	4,4 to 17
Diaphragm: Diameter (inch)	8,65	8,65	8,65	8,65
Surface area (in ²)	6,2	12,4	27,3	27,3
1/2"	580	580	580	580
3/4"	580	580	580	550
1"	580	580	580	350
1 1/4"	450	450	450	230
1 1/2"	290	290	320	145
2"	160	160	175	80
2 1/2"	130	130	145	65
3"	75	75	85	40
4"	45	45	50	25
5"	30	30	35	15
6"	20	20	25	12

back pressure (upstream pressure control)

Pressure range (psi) inlet pressure P1	60 to 145	30 to 75	15 to 35	4,4 to 17
Diaphragm: Diameter (inch)	8,65	8,65	8,65	8,65
Surface area (in ²)	6,2	12,4	27,3	27,3
1/2"	145	75	35	15
3/4"	145	75	35	15
1"	145	75	35	15
1 1/4"	145	75	35	15
1 1/2"	145	75	35	15
2"	145	75	35	15
2 1/2"	130	75	35	15
3"	75	75	35	15
4"	45	45	35	15
5"	30	30	35	15
6"	20	20	25	12

STN 2

Maximum pressures for pressure reducing valve (downstream pressure control)

Pressure range (psi) output pressure P2	60 to 145	30 to 75	15 to 35	4,4 to 17
Diaphragm: Diameter (inch)	8,65	8,65	8,65	8,65
Surface area (in ²)	6,2	12,4	27,3	27,3
1/2"	580	580	580	305
3/4"	435	435	480	175
1"	275	275	305	115
1 1/4"	160	160	190	75
1 1/2"	100	100	115	50
2"	60	60	65	25
2 1/2"	45	45	50	20
3"	25	25	30	12
4"	15	15	17	7
5"	10	10	12	4
6"	7	7	7	4

back pressure (upstream pressure control)

Pressure range (psi) inlet pressure P1	60 to 145	30 to 75	15 to 35	4,4 to 17
Diaphragm: Diameter (inch)	8,65	8,65	8,65	8,65
Surface area (in ²)	6,2	12,4	27,3	27,3
1/2"	145	75	35	17
3/4"	145	75	35	17
1"	145	75	35	17
1 1/4"	145	75	35	17
1 1/2"	100	75	35	17
2"	60	60	35	17
2 1/2"	45	45	35	17
3"	25	25	30	12
4"	15	15	17	7
5"	10	10	12	4
6"	7	7	7	4

For best the best control characteristics, the lowest spring range that contains the pressure setpoint should be selected.

application limits according to Category I of the Pressure Equipment Directive 2014/68/EU

		Maximum permissible operating pressure in bar for applications of category I of the Pressure Equipment Directive 2014/68/EU										
		1/2"	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"	4"	5"	6"
Fluid group 1	gaseous	X	X	X	450,0	360,0	290,0	220,0	180,0	145,0	Not permissible	Not permissible
	liquid	X	X	X	905,0	725,0	580,0	445,0	360,0	290,0	230,0	190,0
Fluid group 2	gaseous	X	X	X	X	X	X	X	X	X	405,0	335,0
	liquid	X	X	X	X	X	X	X	X	X	X	X

X = No limit

without supply energy

Materials

Body	Stainless steel CF8M		
Bodycover	Stainless steel 316 Ti or 316 L		
Diaphragm housing	Stainless steel 316 Ti		
Diaphragm	CR, EPDM, FKM, PTFE-foil		
Spring	Stainless steel 301		
Stem	Stainless steel 316 Ti, roller burnished		
Fixed disc	Stainless steel 316 Ti, coated	SFC-disc	STN2-disc
Sliding disc	Special carbon material	SFC-disc	STN2-disc
Guide ring for sliding disc	Stainless steel 318		

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.

ANSI150

Size	Sliding unit: carbon/SFC - stainless steel, coated								Sliding unit: STN2							
	max. admissible pressures for GS3-valves in stainless steel								max. admissible pressures for GS3-valves in stainless steel							
	100°F	120°F	210°F	300°F	390°F	480°F	570°F	660°F	100°F	120°F	210°F	300°F	390°F	480°F	570°F	660°F
1/2" - 5"	275	265	235	215	200	175	150	120	275	265	235	215	200	175	150	120
6"	230	230	230	215	200	175	150	120	235	235	235	215	200	170	140	120
8"	230	230	230	215	200	175	150	120	-	-	-	-	-	-	-	-
10"	150	150	150	145	135	120	105	100	-	-	-	-	-	-	-	-

Limitation for SFC-sliding discs: 570°F

ANSI300

Size	Sliding unit: carbon/SFC - stainless steel, coated								Sliding unit: STN2							
	max. admissible pressures for GS3-valves in stainless steel								max. admissible pressures for GS3-valves in stainless steel							
	100°F	120°F	210°F	300°F	390°F	480°F	570°F	660°F	100°F	120°F	210°F	300°F	390°F	480°F	570°F	660°F
1/2" - 2 1/2"	720	695	610	560	520	485	460	440	720	695	610	560	520	485	460	440
3"	695	695	610	560	520	485	460	440	530	530	530	505	480	390	320	275
4"	480	480	480	480	480	480	460	440	480	480	480	460	435	355	290	250
5"	335	335	335	335	335	335	335	335	320	320	320	305	290	235	190	165
6"	230	230	230	230	230	230	230	230	230	230	230	225	210	170	140	120
8"	230	230	230	145	135	120	105	100	-	-	-	-	-	-	-	-

Limitation for SFC-sliding discs: 570°F

PN40

Size	Sliding unit: carbon/SFC - stainless steel, coated						Paarung: STN 2					
	maximum pressures for GS3-valves in stainless steel						maximum pressures for GS3-valves in stainless steel					
	210°F	300°F	390°F	480°F	570°F	660°F	210°F	300°F	390°F	480°F	570°F	660°F
1/2"-1 1/4"	580	580	580	580	580	580	580	580	580	580	580	580
1 1/2"	580	580	580	580	580	580	580	580	580	580	580	535
2"	580	580	580	580	580	580	580	580	580	580	580	580
2 1/2"	580	580	580	580	580	580	580	580	580	580	535	465
3"	580	580	580	580	580	580	520	495	480	375	320	275
4"	480	480	480	480	480	480	465	450	435	350	290	245
5"	335	335	335	335	335	335	305	305	275	230	190	160
6"	230	230	230	230	230	230	220	220	205	160	130	115
8" (only PN16)	230	230	220	190	175	160	-	-	-	-	-	-
10" (only PN16)	145	130	130	115	100	85	-	-	-	-	-	-

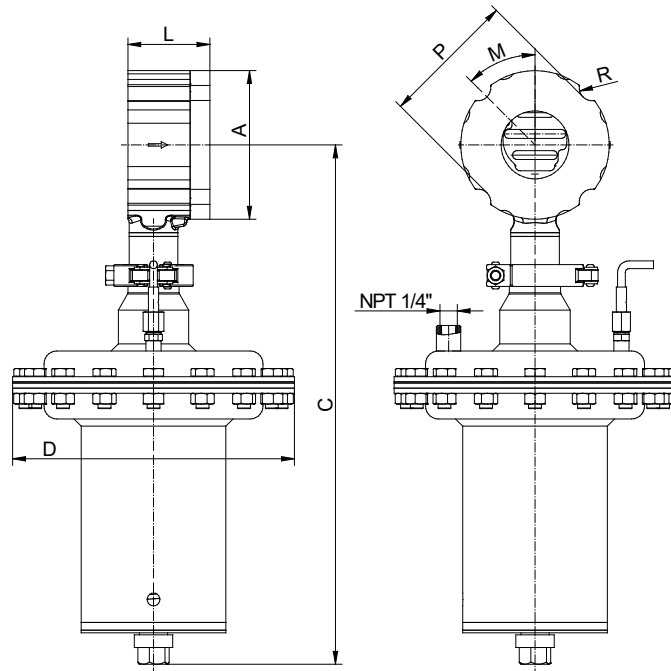
Limitation for SFC-sliding discs: 570°F

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Dimensions and Weights



Size	Weight in lb for pressure range (psi)			
	60 - 145	30 - 75	15 - 35	4.4 - 17
1/2"	24.5	24.5	22	20.5
3/4"	25	25	22.5	21
1"	27	27	24.5	23
1 1/4"	28	28	25.5	24
1 1/2"	29	29	26.5	24.5
2"	33.5	33.5	31	29.5
2 1/2"	37.5	37.5	35	33
3"	40	40	37.5	35.5
4"	48.5	48.5	46	44.5
5"	58	58	55.5	53.5
6"	66	66	63.5	62

Size	Ø	A	D	C max.	Stroke	PN40			ANSI150			ANSI300			R	L
						P	M	Number „R“	P	M	Number „R“	P	M	Number „R“		
1/2"	2.5	8.65	15.3	0.25	2.1	1.75	0.15	1.9	1.75	4	2.1	1.75	4	0.3	2.2	
3/4"	2.85	8.65	15.45	0.25	2.5	1.75	0.15	2.3	1.75	4	2.7	1.75	4	0.4	2.2	
1"	3.25	8.65	15.65	0.25	2.85	1.75	0.15	2.65	1.75	4	2.85	1.75	4	0.4	2.2	
1 1/4"	3.5	8.65	15.8	0.25	3.25	1.75	0.15	3.05	1.75	4	3.25	1.75	4	0.4	2.2	
1 1/2"	3.9	8.65	16	0.25	3.7	1.75	0.15	3.45	1.75	4	3.7	1.75	4	0.4	2.2	
2"	4.55	8.65	16.4	0.3	4.55	1.75	0.15	4.15	1.75	4	4.4	0.9	8	0.4	2.5	
2 1/2"	5.45	8.65	16.75	0.3	5.1	0.9	0.3	4.9	1.75	4	5.1	0.9	8	0.4	2.7	
3"	6	8.65	17.1	0.3	5.65	0.9	0.3	5.45	1.75	4	5.9	0.9	8	0.4	2.75	
4"	7.25	8.65	17.95	0.35	6.45	0.9	0.3	6.95	0.9	8	7.15	0.9	8	0.4	2.95	
5"	8.35	8.65	18.5	0.35	7.65	0.9	0.3	7.65	0.9	8	8.35	---	0	0	3.15	
6"	9.55	8.65	19	0.35	8.65	0.9	0.3	8.65	0.9	8	9.55	---	0	0	3.15	

Dimensions in inch

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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	0.021
	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	-	-	-	0.41	-	-	-	-
1 1/4"	(mod.) linear	19	12	-	-	-	-	-	-	-	-	-	-	-
	eq. perc.	9.3	5.45	-	-	-	-	-	-	-	-	-	-	-
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	-	-	-	-	3.5	-	-	-	-	-	-
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.	329	-	-	-	-	-	-	-	-	-	-	-	-
10"	(mod.) linear	1056	667	-	-	-	-	-	-	-	-	-	-	-
	eq.perc.	-	-	-	-	-	-	-	-	-	-	-	-	-