

# Pressure Regulator compact 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



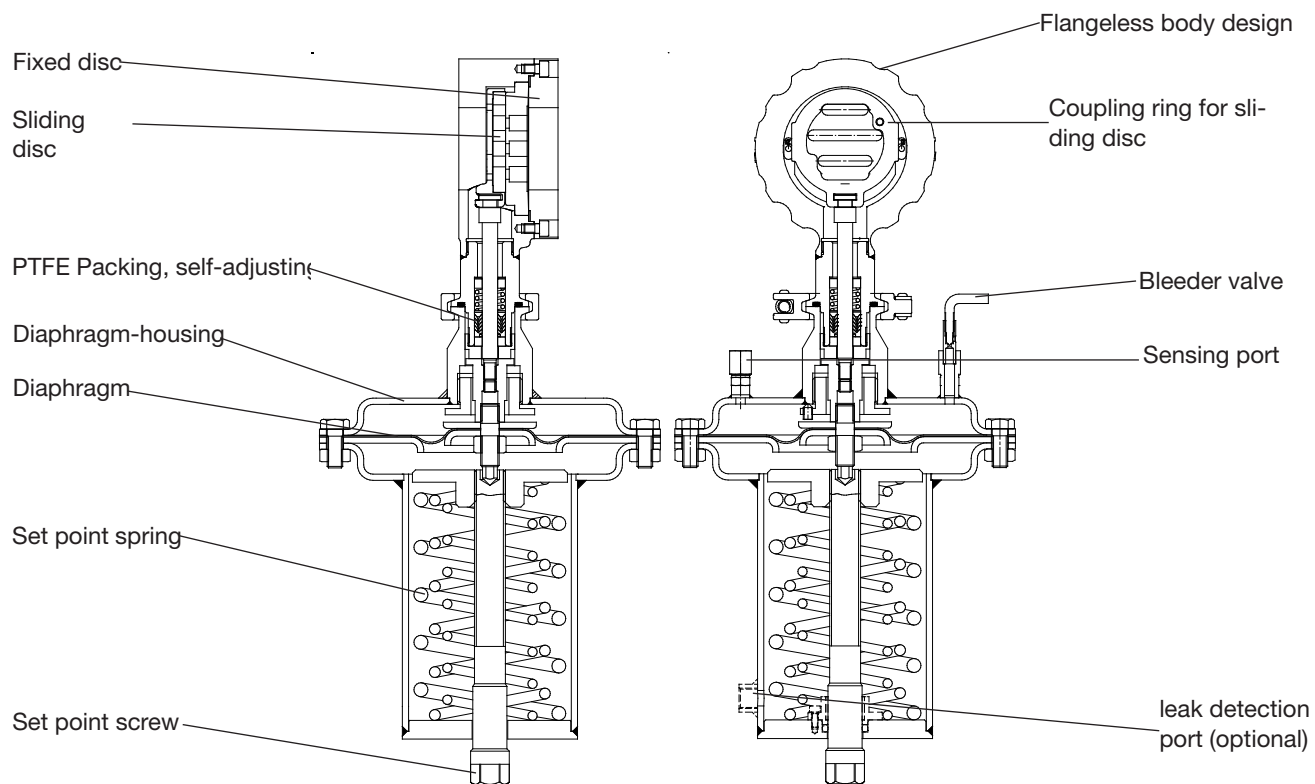
### Technical Information

Body design	ANSI flange wafer (self-aligning)		
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 ANSI 300	1/2" - 6" 1/2" - 6"	
Nominal pressure acc. JIS for „raised face“ flanges	10K 20K	1/2" - 2" 1/2" - 1 1/2"	
Pressure range	4,4 up to 145 psi (see table)		
Media temperature	-75°F up to +445°F at special versions up to 572°F		
Max. ambient temperature	+176°F		
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	Disc pair Carbon-stainless steel	Disc pair SFC	Disc pair STN 2
% of Kvs IEC 60534-4 EN 12266-1	< 0,0001 IV-S1 D	< 0,0005 IV-S1 E	< 0,001 IV E
Spezific leakage rate shaft and body sealing	ISO FE-BH-CC3-SSA0-t(-40°C/+350°C)-PN40- <b>ISO 15848-1</b>		

\* With DN15 with reduction of less than 25%, different leakage rates possible.  
K<sub>vs</sub>-values see data sheet 8001.

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## Admissible Pressures

(For temperatures of up to 100°F for ANSI-classes and up to 250°F for PN-classes)

**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 <sup>2</sup> )	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"	465	465	520	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 <sup>2</sup> )	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

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

## 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 <sup>2</sup> )	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 <sup>2</sup> )	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

	Pressure limits ANSI and DIN in psi			
	ANSI150	ANSI 300	PN16	PN40
P max. carbon steel	284	741	232	580
P max. stainless steel	276	719		

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

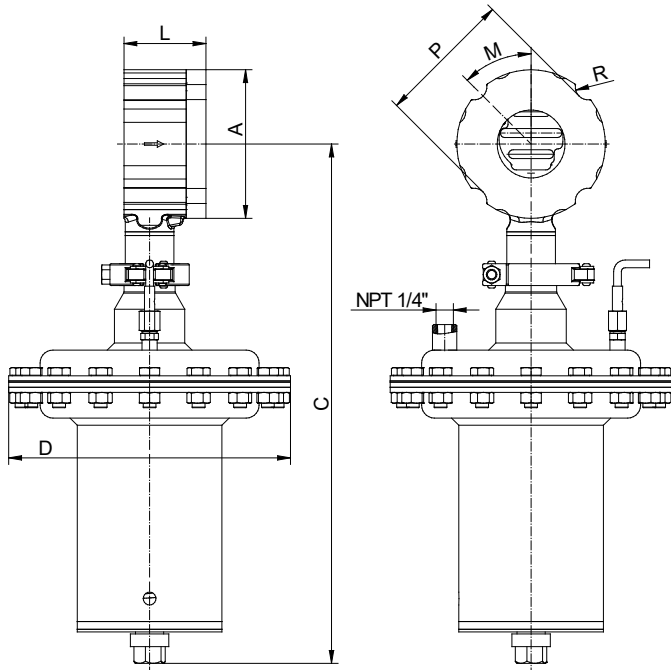


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## Dimensions and Weights



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

without supply energy

## 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.

### PN40

Size	Sliding unit: carbon/SFC - stainless steel, coated							
	max. admissible pressures for GS3-valves in carbon steel							
	210°F	300°F	390°F	480°F	570°F	660°F	750°F	840°F
1/2"-1 1/4"	580	580	580	580	580	580	580	580
1 1/2"	580	580	580	580	580	580	580	580
2"	580	580	580	580	580	580	580	580
2 1/2"	580	580	580	580	580	580	580	580
3"	580	580	580	580	580	580	580	550
4"	480	480	480	480	480	475	475	475
5"	335	335	335	335	335	330	330	330
6"	230	230	230	230	230	230	230	230
8" (only PN16)	230	230	220	190	175	155	145	140
10" (only PN16)	145	130	130	115	100	85	85	75

Limitation for SFC-sliding discs: 570°F

### ANSI 150

Size	Sliding unit: carbon/SFC - stainless steel, coated									
	max. admissible pressures for GS3-valves in carbon steel									
	100°F	120°F	210°F	300°F	390°F	480°F	570°F	660°F	750°F	840°F
1/2"-5"	285	280	255	230	200	175	150	120	90	65
6"	230	230	230	230	200	175	150	120	90	65
8"	230	230	230	230	200	175	150	120	90	65
10"	150	150	150	145	135	120	105	87	90	65

Size	Sliding unit: STN2									
	max. admissible pressures for GS3-valves in carbon steel									
	100°F	120°F	210°F	300°F	390°F	480°F	570°F	660°F	750°F	840°F
1/2"-5"	285	280	255	230	200	175	150	120	90	65
6"	235	235	235	225	200	170	140	115	90	65
8"	-	-	-	-	-	-	-	-	-	-
10"	-	-	-	-	-	-	-	-	-	-

Limitation for SFC-sliding discs: 570°F

### ANSI 300

Size	Sliding unit: carbon/SFC - stainless steel, coated									
	max. admissible pressures for GS3-valves in carbon steel									
	100°F	120°F	210°F	300°F	390°F	480°F	570°F	660°F	750°F	840°F
1/2"-1"	740	725	675	655	635	610	577	580	500	330
1 1/4"	740	725	675	655	635	610	285	580	500	330
1 1/2"	740	725	675	655	635	610	285	580	500	330
2"	740	725	675	655	635	610	285	580	500	330
2 1/2"	740	725	675	655	635	610	285	580	500	330
3"	695	695	675	655	635	610	285	580	500	330
4"	480	480	480	480	480	480	285	475	330	330
5"	335	335	335	335	335	335	285	330	330	330
6"	230	230	230	230	230	230	230	230	230	230

Size	Sliding unit: STN2									
	max. admissible pressures for GS3-valves in carbon steel									
	100°F	120°F	210°F	300°F	390°F	480°F	570°F	660°F	750°F	840°F
1/2"-1"	740	725	675	655	635	610	577	545	500	330
1 1/4"	740	725	675	655	635	610	577	545	500	330
1 1/2"	740	725	675	655	635	610	577	545	475	330
2"	740	725	675	655	635	610	577	545	500	330
2 1/2"	605	605	605	575	545	485	545	470	410	330
3"	530	530	530	505	480	390	319	275	240	210
4"	480	480	480	460	435	355	290	245	215	190
5"	320	320	320	305	290	235	191	155	145	125
6"	230	230	230	225	210	170	141	115	105	90

Limitation for SFC-sliding discs: 570°F

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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	-	-	-	-	-	-	-	-
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.	296	-	-	-	-	-	-	-	-	-	-	-	-
10"	(mod.) linear	1056	667	-	-	-	-	-	-	-	-	-	-	-
	eq.perc.	-	-	-	-	-	-	-	-	-	-	-	-	-