

# Pressure Regulator compact 8011



GS 3 series

DN 15 up to DN 150

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

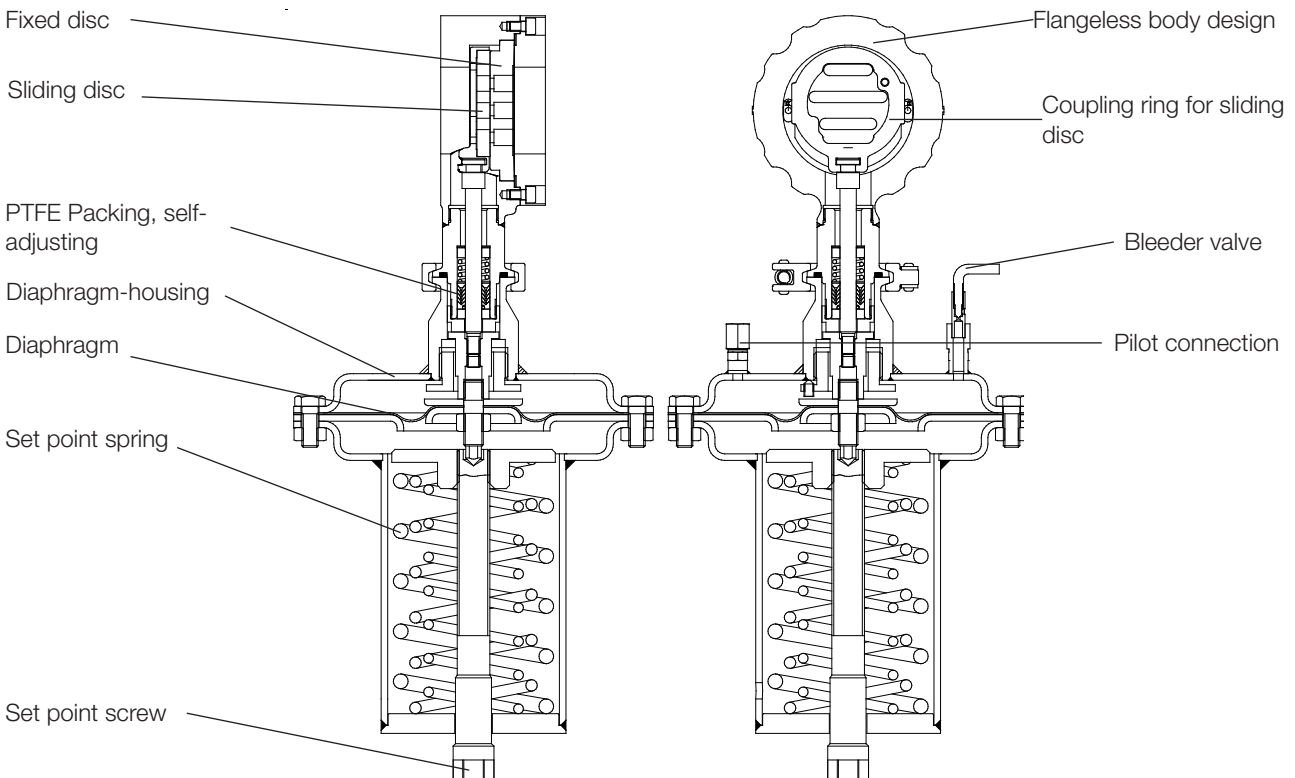
- Space saving wafer type design
- Lowest possible weight
- High Kvs-values

## Technical Information

Body design	Flangeless, wafer-type construction more versions see on data-sheet 8010-GS1		
Nominal sizes	DN 15 to DN 150		
Nominal pressure acc. DIN 2401 for flanges with facing type B	PN 40 (fits also to PN 10-25)	DN 15 - DN 150	
Nominal pressure acc. ANSI for flanges acc. ASME B16.5 RF	ANSI 150	DN 15 - DN 150	
	ANSI 300	DN 15 - DN 150	
Nominal pressure acc. JIS for "raiced face" flanges	10K	DN 15 - DN 50	
	20K	DN 15 - DN 40	
Pressure range	0,3 up to 10 bar (see table)		
Media temperature	-60°C up to +230°C at special versions up to 300°C		
Max. working temperatures for the actuator	Diaphragm material		
	CR:	-20°C up to +80°C	
	EPDM:	-30°C up to +130°C	
Leakage rate (% of Kvs-value)	disc pair carbon / stainless steel < 0.0001	disc pair SFC	disc pair STN2
		< 0.0005	
		< 0.001	



Kvs-values see data sheet 8001



# Pressure Regulator compact 8011-GS3



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### Admissible Differential Pressure (For temperatures of up to 120°C)

**For temperatures of 120°C and above:  
obey application limits !**

#### Disc pair: carbon - stainless steel SFC - stainless steel

Maximum admissible differential pressures for  
pressure regulator (output pressure regulator)

Pressure range (bar) output pressure P2	4 to 10	2 to 5	1 to 2,5	0,3 to 1,2
Diaphragm: Diameter (mm)	220	220	220	220
Surface area (cm <sup>2</sup> )	40	80	176	176
DN 15	40	40	40	40
DN 20	40	40	40	38
DN 25	40	40	40	24
DN 32	32	32	36	16
DN 40	20	20	22	10
DN 50	11	11	12	5,6
DN 65	9	9	10	4,5
DN 80	5	5	6	2,6
DN 100	3,2	3,2	3,6	1,6
DN 125	2	2	2,4	1,1
DN 150	1,5	1,5	1,7	0,8

#### Disc pair: STN 2

Maximum admissible differential pressures for  
pressure regulator (output pressure regulator)

Pressure range (bar) output pressure P2	4 to 10	2 to 5	1 to 2,5	0,3 to 1,2
Diaphragm: Diameter (mm)	220	220	220	220
Surface area (cm <sup>2</sup> )	40	80	176	176
DN 15	40	40	40	21
DN 20	30	30	33	12
DN 25	19	19	21	8
DN 32	11	11	13	5
DN 40	7	7	8	3,3
DN 50	4	4	4,5	1,8
DN 65	3	3	3,5	1,5
DN 80	1,8	1,8	2	0,8
DN 100	1	1	1,2	0,5
DN 125	0,7	0,7	0,8	0,3
DN 150	0,5	0,5	0,5	0,25

#### overflow (inlet pressure regulator)

Pressure range (bar) inlet pressure P1	4 to 10	2 to 5	1 to 2,5	0,3 to 1,2
Diaphragm: Diameter (mm)	220	220	220	220
Surface area (cm <sup>2</sup> )	40	80	176	176
DN 15	10	5	2,5	1,2
DN 20	10	5	2,5	1,2
DN 25	10	5	2,5	1,2
DN 32	10	5	2,5	1,2
DN 40	10	5	2,5	1,2
DN 50	10	5	2,5	1,2
DN 65	9	5	2,5	1,2
DN 80	5	5	2,5	1,2
DN 100	3,2	3,2	2,5	1,2
DN 125	2	2	2,4	1
DN 150	1,5	1,5	1,7	0,8

#### overflow (inlet pressure regulator)

Pressure range (bar) inlet pressure P1	4 to 10	2 to 5	1 to 2,5	0,3 to 1,2
Diaphragm: Diameter (mm)	220	220	220	220
Surface area (cm <sup>2</sup> )	40	80	176	176
DN 15	10	5	2,5	1,2
DN 20	10	5	2,5	1,2
DN 25	10	5	2,5	1,2
DN 32	10	5	2,5	1,2
DN 40	7	5	2,5	1,2
DN 50	4	4	2,5	1,2
DN 65	3	3	2,5	1,2
DN 80	1,8	1,8	2	0,8
DN 100	1	1	1,2	0,5
DN 125	0,7	0,7	0,8	0,3
DN 150	0,5	0,5	0,5	0,25

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

The actuator should be of a size that allows an adjustment at the upper limit of the pressure range.

Further versions for higher differential pressure, other disc pairs or other pressure range are available upon request.

### Materials

Body	Stainless steel 1.4571 / 1.4581		
Head section	Stainless steel 1.4571		
Diaphragm housing	Stainless steel 1.4571		
Diaphragm	CR, EPDM, FKM, PTFE-foil		
Spring	Stainless steel 1.4310		
Stem	Stainless steel 1.4571, roller burnished		
Fixed disc	Stainless steel 1.4571, coated	STN2-disc	
Sliding disc	Special carbon material	SFC-disc	STN2-disc
Guide ring for sliding disc	Stainless steel 1.4581		

# Pressure Regulator compact 8011-GS3



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## Applications limits for GS3-Valves made of stainless steel

The following operating pressures for GS-valves in stainless steel of the GS3 series may not be exceeded at any time, even though the force of the actuator might be able to handle it.

### PN 40

DN	Sliding unit: carbon/SFC - stainless steel, coated max. admissible diff. pressures for GS3-valves			
	100°C	150°C	200°C	230°C
15 - 65	40	38	35	32
80	40	38	35	32
100	33	31	29	27
125	23	21	20	19
150	16	15	14	13

DN	Sliding unit: STN2 max. admissible diff. pressures for GS3-valves			
	100°C	150°C	200°C	230°C
15 - 65	40	38	35	32
80	36	34	33	26
100	33	31	29	24
125	22	21	20	16
150	16	15	14	11

### ANSI #150

DN	Sliding unit: carbon/SFC - stainless steel, coated max. admissible diff. pressures for GS3-valves			
	100°C	150°C	200°C	230°C
15 - 125	16	15	13	12
150	16	15	13	12

DN	Sliding unit: STN2 max. admissible diff. pressures for GS3-valves			
	100°C	150°C	200°C	230°C
15 - 125	16	15	13	12
150	16	15	13	11

### ANSI #300

DN	Sliding unit: carbon/SFC - stainless steel, coated max. admissible diff. pressures for GS3-valves			
	100°C	150°C	200°C	230°C
15 - 65	40	38	35	33
80	40	38	35	33
100	33	31	29	27
125	23	21	20	19
150	16	15	14	13

DN	Sliding unit: STN2 max. admissible diff. pressures for GS3-valves			
	100°C	150°C	200°C	230°C
15 - 65	40	38	35	33
80	36	34	33	26
100	33	31	29	24
125	22	21	20	16
150	16	15	14	11

### Ordering Number System

1 2 3 4 5 6 7 8 9 10 11 12

8	0	1	1	/					V	D	K										M																S
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Type: 8 0 1 1 / Size: V D K M S  
 Symbol: "V": Valve  
 "R": Repair kit (sealings)

1 - 5 : Please quote all 5 sections.  
 6 - 12: Quote only if required.

1. Function	2. Design	3. Body design	4. Version	5. Function	6. Pressure range
D Pressure regulator compact (Type 8011)	K Compact design	E GS3 - flangeless design acc. ANSI 150 F GS3 - flangeless design acc. ANSI 300 G GS3 - flangeless design acc. DIN, PN10 - PN40	2 Completely stainless 5 Completely stainless with controlling connection G 1/4"	0 Overflow valve 1 Pressure regulator	0 4 - 10 bar 1 2 - 5 bar 2 1 - 2,5 bar 3 0,5 - 1,2 bar
7. Special version	8. Diaphragm material	9. Sliding disc	10. Fixed disc	11. Kvs-values	12. Special versions
M To state, if further sections are quoted	- CR (Standard) 1 EPDM 2 FKM 3 CR + PTFE-foil 4 EPDM + PTFE-foil 5 FKM + PTFE-foil	- carbon material 9 STN2 S SFC	- stainless steel 1.4571 1 STN2	- 100 % (Stand.) A red. to 63 % 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 % 7 red. to 12 % 8 red. to 2 %	S Quote for further special versions

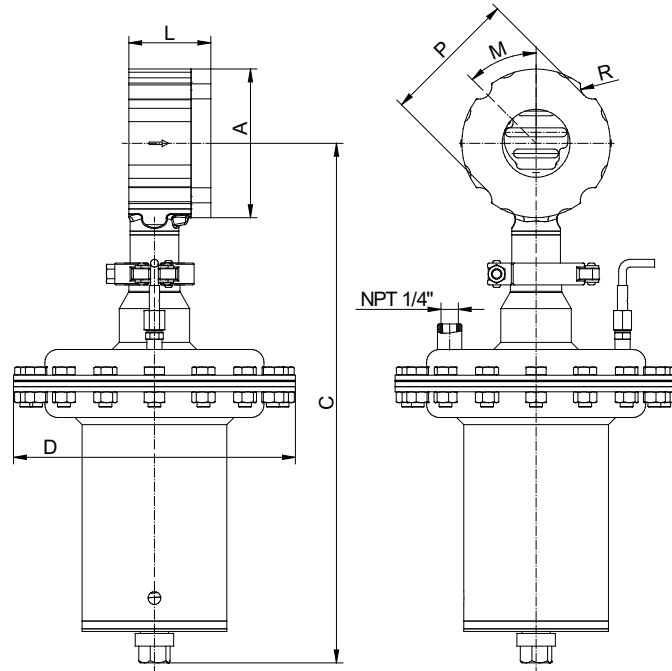
Ordering example: 8011/080VDKG210M1- -1  
 GS3-pressure regulator, DN80, compact design, PN 10/40, completely stainless steel, spring cap colsed, pressure regulator, pressure range 4-10 bar, diaphragm material EPDM, sliding disc carbon material, fixed disc, stainless steel 1.4571, reduced Kvs-value (40%)

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## Dimensions and Weights



DN	Weight in kg for pressure range (bar)			
	4 - 10	2 - 5	1 - 2.5	0.3 - 1.2
15	11,2	11,2	10,1	9,3
20	11,4	11,4	10,3	9,5
25	12,3	12,3	11,2	10,4
32	12,7	12,7	11,6	10,8
40	13,1	13,1	12	11,2
50	15,2	15,2	14,1	13,3
65	17	17	15,9	15,1
80	18,1	18,1	17	16,2
100	22,1	22,1	21	20,2
125	26,3	26,3	25,2	24,4
150	30	30	28,9	28,1

DN	Ø A	D	C max.	Stroke	PN40			ANSI150			ANSI300			R	L
					P	M	Number "R"	P	M	Number "R"	P	M	Number "R"		
15	64	220	389	6	53	45	4	48,8	45	4	53	45	4	8	56
20	72	220	393	6	63	45	4	58,2	45	4	68	45	4	10	56
25	82	220	398	6	73	45	4	67,6	45	4	73	45	4	10	56
32	89	220	401	6	83	45	4	77	45	4	83	45	4	10	56
40	99	220	406	6	94	45	4	87	45	4	94	45	4	10	56
50	116	220	416	8	115	45	4	106	45	4	112	22,5	8	10	64
65	138	220	425	8	129	22,5	8	125	45	4	129	22,5	8	10	68
80	153	220	434	8	144	22,5	8	138	45	4	150	22,5	8	10	70
100	184	220	456	8,5	164	22,5	8	176	22,5	8	182	22,5	8	10	75
125	212	220	470	8,5	194	22,5	8	194	22,5	8	212	---	0	16	80
150	242	220	483	8,5	220	22,5	8	220	22,5	8	242	---	0	16	80

Dimensions in mm