

Pressure Regulator 8010

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.

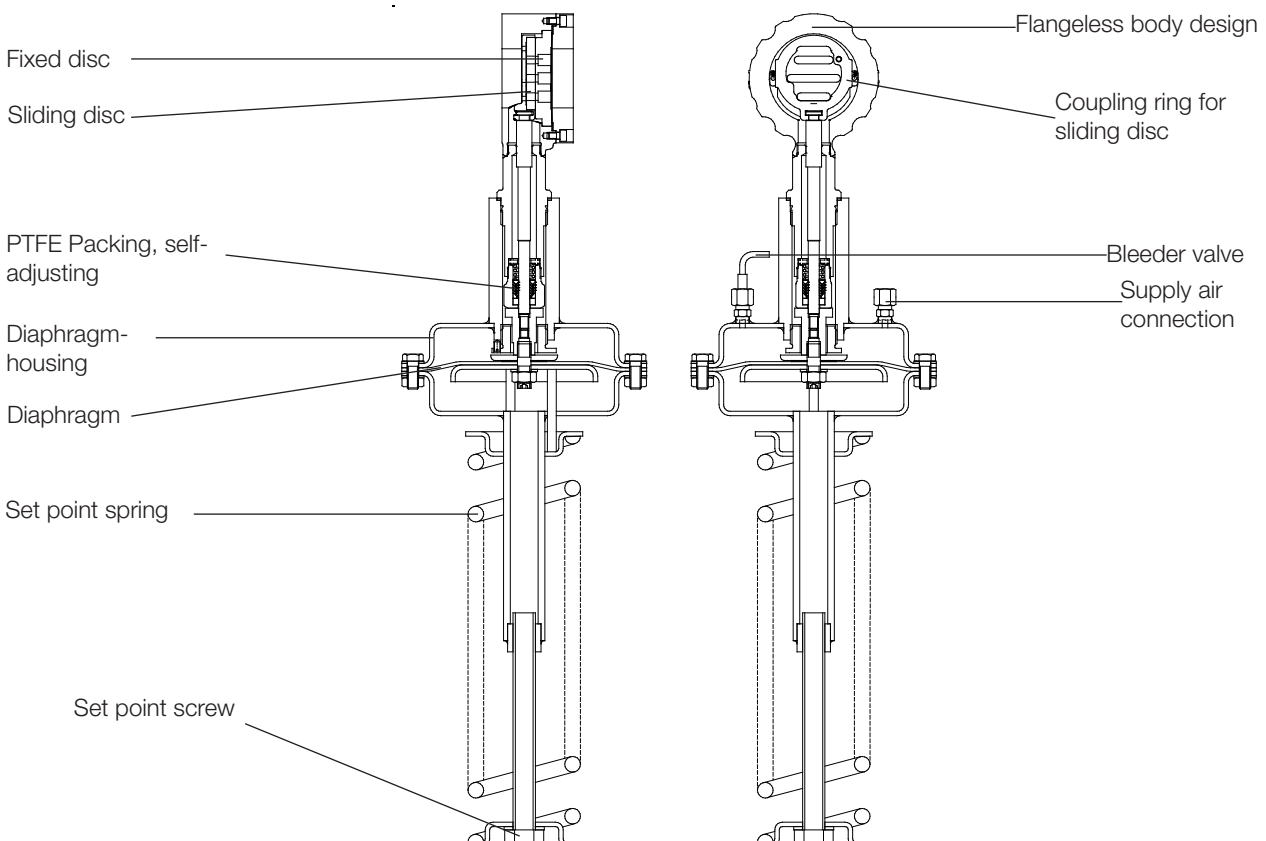
- Space saving wafer type design
- Lowest possible weight
- High Kvs-values
- Tight shut-off even for temperatures above +200°C

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 B 16.5 RF	ANSI 150	DN 15 - DN 150	
	ANSI 300	DN 15 - DN 150	
Nominal pressure acc. JIS for "raised face" flanges	10K	DN 15 - DN 50	
	20K	DN 15 - DN 40	
Pressure range	0,1 up to 10 bar (see table)		
Fluid temperature	Carbon steel body	-60°C up to +300°C	
	Stainless steel body	-60°C up to +350°C (+300°C for SFC)	
Max. working pressure for the actuator	Diaphragm material		
	CR:	-20°C up to +80°C	
	EPDM:	-30°C up to +130°C	
	FKM:	-30°C up to +150°C	
Leakage rate (% of Kvs-value)	Disc pair Carbon-stainless steel < 0.0001	Disc pair SFC < 0.0005	Disc pair STN2 < 0.001



Kvs-values see data sheet 8001.



Pressure Regulator 8010-GS3



without supply energy

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 coated
SFC - stainless steel coated**

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	0,5 to 1,2	0,2 to 0,6	0,1 to 0,3
Diaphragm: Diameter (mm)	175	175	175	220	270	360
Surface area (cm ²)	19	36	80	176	320	640
DN 15	36	34	38	39	39	39
DN 20	23	20	25	28	23	23
DN 25	14	13	16	17	15	15
Diaphragm: Diameter (mm)	220	220	220	270	360	360
Surface area (cm ²)	40	80	176	320	640	640
DN 32	32	32	36	30	30	10
DN 40	20	20	22	19	19	6
DN 50	11	11	12	10	10	3,4
DN 65	9	9	10	8	8	2,7
DN 80	5	5	6	5	5	1,6
DN 100	3,2	3,2	3,6	3	3	1
DN 125	2	2	2,4	2	2	0,6
DN 150	1,5	1,5	1,7	1,4	1,4	0,5

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	0,5 to 1,2	0,2 to 0,6	0,1 to 0,3
Diaphragm: Diameter (mm)	175	175	175	220	270	360
Surface area (cm ²)	19	36	80	176	320	640
DN 15	13	12	15	16	14	14
DN 20	8	7	9	10	8	8
DN 25	5	4,5	5,5	6	5	5
Diaphragm: Diameter (mm)	220	220	220	270	360	360
Surface area (cm ²)	40	80	176	320	640	640
DN 32	11	11	13	11	11	3,5
DN 40	7	7	8	6,5	6,5	2
DN 50	4	4	4,5	3,5	3,5	1,2
DN 65	3	3	3,5	3	3	1
DN 80	1,8	1,8	2	1,7	1,7	0,5
DN 100	1	1	1,2	1	1	0,3
DN 125	0,7	0,7	0,8	0,7	0,7	0,2
DN 150	0,5	0,5	0,5	0,5	0,5	0,15

overflow (inlet pressure regulator)

Pressure range (bar) inlet pressure P1	4 to 10	2 to 5	1 to 2,5	0,5 to 1,2	0,2 to 0,6	0,1 to 0,3
Diaphragm: Diameter (mm)	175	175	175	220	270	360
Surface area (cm ²)	19	36	80	176	320	640
DN 15	10	5	2,5	1,2	0,6	0,3
DN 20	10	5	2,5	1,2	0,6	0,3
DN 25	10	5	2,5	1,2	0,6	0,3
Diaphragm: Diameter (mm)	220	220	220	270	360	360
Surface area (cm ²)	40	80	176	320	640	640
DN 32	10	5	2,5	1,2	0,6	0,3
DN 40	10	5	2,5	1,2	0,6	0,3
DN 50	10	5	2,5	1,2	0,6	0,3
DN 65	9	5	2,5	1,2	0,6	0,3
DN 80	5	5	2,5	1,2	0,6	0,3
DN 100	3,2	3,2	2,5	1,2	0,6	0,3
DN 125	2	2	2,4	1,2	0,6	0,3
DN 150	1,5	1,5	1,7	1,2	0,6	0,3

overflow (inlet pressure regulator)

Pressure range (bar) inlet pressure P1	4 to 10	2 to 5	1 to 2,5	0,5 to 1,2	0,2 to 0,6	0,1 to 0,3
Diaphragm: Diameter (mm)	175	175	175	220	270	360
Surface area (cm ²)	19	36	80	176	320	640
DN 15	10	5	2,5	1,2	0,6	0,3
DN 20	10	5	2,5	1,2	0,6	0,3
DN 25	10	5	2,5	1,2	0,6	0,3
Diaphragm: Diameter (mm)	220	220	220	270	360	360
Surface area (cm ²)	40	80	176	320	640	640
DN 32	10	5	2,5	1,2	0,6	0,3
DN 40	7	5	2,5	1,2	0,6	0,3
DN 50	4	4	2,5	1,2	0,6	0,3
DN 65	3	3	2,5	1,2	0,6	0,3
DN 80	1,8	1,8	2	1,2	0,6	0,3
DN 100	1	1	1,2	1	0,6	0,3
DN 125	0,7	0,7	0,8	0,7	0,6	0,2
DN 150	0,5	0,5	0,5	0,5	0,5	0,15

	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	Aluminium, plastic coated		
Packing	PTFE (Carbon filled), spring SST 301		
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	SFC-disc	STN2-disc
Guide ring for sliding disc	Stainless steel 1.4581		

Pressure Regulator 8010-GS3



without supply energy

Application limits for GS3-valves made of stainless steel

PN 40

DN	Sliding unit: carbon/SFC - stainless steel, coated max. admissible diff. pressures for GS3-valves					
	100°C	150°C	200°C	250°C	300°C	350°C
15 - 65	40	38	34	32	31	29
80	40	38	34	32	31	29
100	33	31	29	27	25	24
125	23	21	20	19	18	17
150	16	15	14	13	12	12
200 (PN16 only)	16	15	14	13	12	11,0
250 (PN16 only)	10,5	10	9,5	8,4	7,4	6,9

DN	Sliding unit: carbon - STN2 max. admissible diff. pressures for GS3-valves					
	100°C	150°C	200°C	250°C	300°C	350°C
15 - 65	40	38	34	32	31	29
80	36	34	33	26	22	19
100	33	31	26	24	20	17
125	22	21	17	16	13	11
150	16	15	13	11	9	8
200	-	-	-	-	-	-
250	-	-	-	-	-	-

Limitation for SFC-sliding discs: 300°C

ANSI #150

DN	Sliding unit: carbon/SFC - stainless steel, coated max. admissible diff. pressures for GS3-valves					
	100°C	150°C	200°C	250°C	300°C	350°C
15 - 125	16	15	13	12	10	8
150	16	15	13	12	10	8
200	16	15	13	12	10	8
250	10,5	10	9,5	8,4	7,4	6,9

DN	Sliding unit: carbon - STN2 max. admissible diff. pressures for GS3-valves					
	100°C	150°C	200°C	250°C	300°C	350°C
15 - 125	16	15	13	12	10	8
150	16	15	13	11	9,5	8
200	-	-	-	-	-	-
250	-	-	-	-	-	-

Limitation for SFC-sliding discs: 300°C

ANSI #300

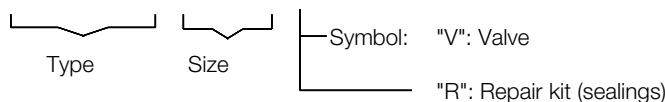
DN	Sliding unit: carbon/SFC - stainless steel, coated max. admissible pressures in bar for GS3-valves					
	100°C	150°C	200°C	250°C	300°C	350°C
15 - 65	40	38	35	33	31	30
80	40	38	35	33	31	30
100	33	31	29	27	25	24
125	23	21	20	19	18	17
150	16	15	14	13	12	12

DN	Sliding unit: STN2 max. admissible pressures for GS3-valves					
	100°C	150°C	200°C	250°C	300°C	350°C
15 - 65	40	38	35	32	31	29
80	36	34	33	26	22	19
100	33	31	26	24	20	17
125	22	21	17	16	13	11
150	16	15	13	11	9	8

Limitation for SFC-sliding discs: 300°C

Ordering Number System

8 0 1 0 / V M S



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

1. Type	2. Connection	3. Materials body and actuator	4. Function	5. Pressure range	6. Special versions
D Pressure regulator	E GS3 - flangeless design acc. ANSI 150 F GS3 - flangeless design acc. ANSI 300 G GS3 - flangeless design acc. DIN, PN 10 - PN 40	1 Wetted parts stainless steel 1.4571 2 Completely stainless steel	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 4 0,2 - 0,6 bar 5 0,1 - 0,3 bar	M State, if further sections are quoted

7. Spring cap	8. Diaphragm material	9. Moving disc	10. Fixed plate	11. Kvs-values	12. Special versions
- open 1 closed	- CR (Standard) 1 EPDM 2 FKM 3 CR + PTFE-foil 4 EPDM + PTFE-foil 5 FKM + PTFE-foil	- Carbon 9 STN 2 S SFC	- Stainless steel 1.4571 1 STN 2 (only in combination with the pos. "9")	- 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 Further special versions

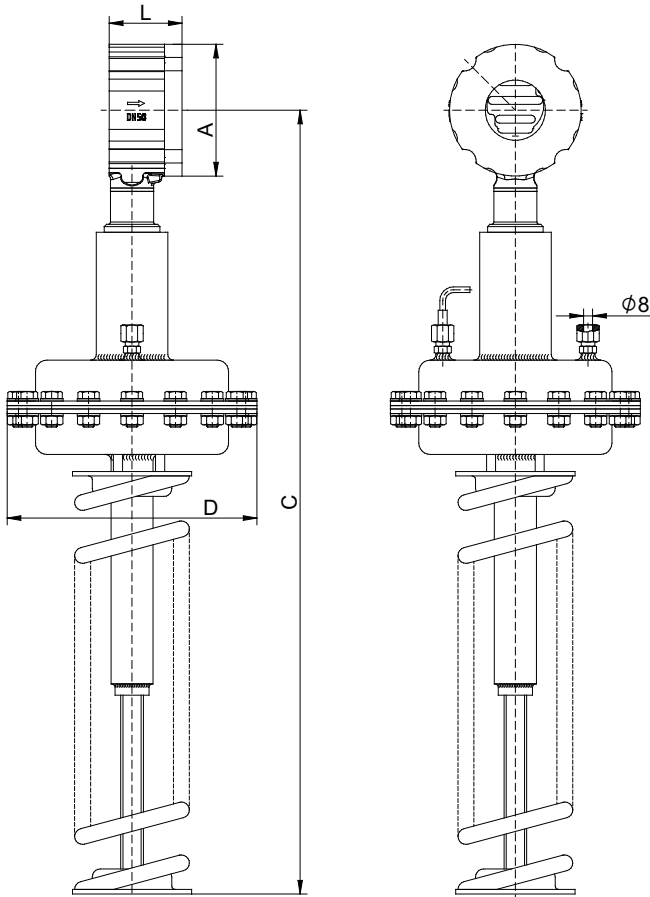
Ordering example:

8010/080VDG210M11--1
GS3-pressure regulator, DN 80, PN 10/40, completely stainless steel, pressure reducer, pressure range 4-10 bar, spring cap closed, diaphragm material EPDM, Disc pair carbon material-stainless steel 1.4571 coated, reduced Kvs-value (40 %)

Pressure Regulator 8010-GS3

without supply energy

Dimensions and Weights



DN	Weight in kg for pressure range (bar)					
	4 - 10	2 - 5	1 - 2.5	0.5 - 1.2	0.2 - 0.6	0.1 - 0.3
15	13,3	13,3	13,3	14,3	17,3	20,3
20	13,5	13,5	13,5	14,5	168,7	20,5
25	13,8	13,8	13,8	139,9	17,8	20,8
32	17	17	17	20	23	21
40	17,3	17,3	17,3	20,3	23,3	21,3
50	18,8	18,8	18,8	21,8	24,8	22,8
65	20,3	20,3	20,3	23,3	26,3	24,3
80	21,5	21,5	21,5	24,5	27,5	25,5
100	24,7	24,7	24,7	27,7	261,1	28,7
125	27	27	27	30	33	31
150	30,8	30,8	30,8	33,8	36,8	34,8

DN	Ø A	C						D						L	D1	Stroke
		for pressure range (bar)						for pressure range (bar)								
		4 - 10	2 - 5	1 - 2.5	0.5 - 1.2	0.2 - 0.6	0.1 - 0.3	4 - 10	2 - 5	1 - 2.5	0.5 - 1.2	0.2 - 0.6	0.1 - 0.3			
15	64	530	530	530	550	550	550	175	175	175	220	270	360	56	8	6
20	72	535	535	535	555	555	555	175	175	175	220	270	360	56	8	6
25	82	540	540	540	560	560	560	175	175	175	220	270	360	56	8	6
32	89	680	680	680	680	680	565	220	220	220	270	360	360	56	8	6
40	99	685	685	685	685	685	570	220	220	220	270	360	360	56	8	6
50	116	695	695	695	695	695	580	220	220	220	270	360	360	64	8	8
65	138	705	705	705	705	705	590	220	220	220	270	360	360	68	8	8
80	153	715	715	715	715	715	600	220	220	220	270	360	360	70	8	8
100	184	725	725	725	725	725	610	220	220	220	270	360	360	75	8	8,5
125	212	740	740	740	740	740	625	220	220	220	270	360	360	80	8	8,5
150	242	755	755	755	755	755	640	220	220	220	270	360	360	80	8	8,5

closed spring cap: dimension C increases by 200 mm.

Dimensions in mm