

# High Pressure Control Valve 8021

## with integrated positioner

### GS 4 series DN 25 up to DN 250



**Pneumatic control valve for the control of neutral and aggressive fluids at high operative pressures with integrated positioner**

- Space saving screwed wafer type construction
- Low weight in comparison to competitive valves
- Quiet operation
- High dynamic because of small stroke
- 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	screwed wafer-type design for flanges acc. DIN EN 1092-1 Form B further versions see data sheet 8021-GS1 and -GS3	
Nominal Sizes*	DN 25 - 250	
Nominal pressure acc. DIN 2401*	PN160	DN 25 - DN 80
	PN 100	DN 100 - DN 150
	PN 40	DN 200 - DN 250
Nominal pressure ANSI*	ANSI 900	DN 25 - DN 80 (1" - 3")
	ANSI 600	DN 100 - DN 150 (4" - 6")
	ANSI 300	DN 200 - DN 250 (8" - 10")
Fluid Temperature	-60°C up to +350°C ** (+300°C for SFC)	
Ambient Temperature ***	-30°C up to +100°C	
Rangeability / Characteristic : digital Positioner	40 : 1 linear / 80:1 equalpercentage	
Leakage	Disc pair	Disc pair
	SFC	STN2
	< 0,0005	< 0,001
	IV-S1	IV
% from Kvs IEC 60534-4 EN 12266-1	E	E

\* other pressure ratings on demand

\*\* higher temperatures on demand

\*\*\* Please consider the temperature limitation of the positioner!

Kvs- and Cv-values see data sheet 8001.

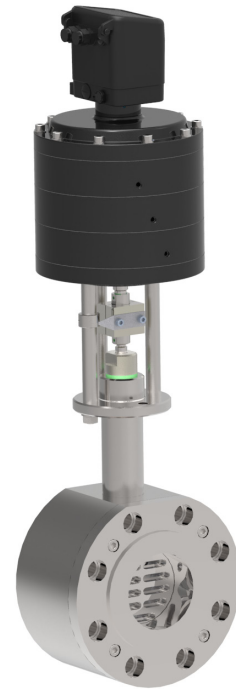
#### Materials

Valve body	stainless steel 1.4571	
Head section	stainless steel 1.4571	
Diaphragm casing	aluminium, KTL-coated	
Actuator springs	stainless steel 1.4310	
Packing	carbon-filled PTFE (spring 1.4310)	
Valve stem	stainless steel 1.4122 or 1.4571, roller burnished	
Fixed disc	stainless steel coated	STN2-disc
Sliding disc	SFC-disc	STN2-disc

\*further materials such as hastelloy, duplex-steel, monell, titan, inconell, incoloy, 1.4539 etc. on request

#### Positioner

For technical information of our positioners please refer to the corresponding data sheets.



#### Accessories

- Bellow
- Stroke Sensor
- Positioner (Ex ib IIC6)

## Differential pressures

**Admissible differential pressures**  
(For temperatures of up to 120°C)

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

with integrated digital positioner, Type 8049  
(also on-off valves and valves with other side-mounted positioner)

DN	SFC-Stainless steel coated		STN 2		effective area of the actuator (cm <sup>2</sup> )	number of springs
	differential pressure (bar)	pilot pressure (bar)	differential pressure (bar)	pilot pressure (bar)		
25	160	4,5	160	4,5	1000	39
50	160	4,5	143	4,5	1000	39
80	160	4,5	83	4,5	1000	39
100	100	4,5	52	5	1000	39
150	100	4,5	26	5	1000	39
200	40	4,5	15	5	1500	43
250	25	4,5	9	5	1500	43

## Application limitations for GS4 valves in stainless steel

These pressure must not be exceeded for GS-valves from the GS4-series made of stainless steel, even though the actuator power might allow it. Applications for dangerous gases acc. pressure equipment directive 2014/68/EU category III (DN > 100; PS x DN > 3500) only after consultation.

### PN160

DN	Sliding unit: SFC - stainless steel, coated					
	max. admissible pressures for GS4-valves					
	100°C	150°C	200°C	250°C	300°C	350°C
25	160	148	128	116	104	-
50	160	148	128	116	104	-
80	160	148	128	116	104	-

DN	Sliding unit: STN2					
	max. admissible pressures for GS4-valves					
	100°C	150°C	200°C	250°C	300°C	350°C
25	160	147	127	115	104	98
50	143	148	128	116	104	99
80	97	96	95	94	92	88

### PN100

DN	Paarung: SFC - Edelstahl beschichtet					
	max. admissible pressures for GS4-valves					
	100°C	150°C	200°C	250°C	300°C	350°C
100	100	92	79	72	65	-
150	92	91	79	72	65	-

DN	Paarung: STN 2					
	max. admissible pressures for GS4-valves					
	100°C	150°C	200°C	250°C	300°C	350°C
100	59	59	58	57	56	54
150	33	33	33	32	31	30

### PN40

DN	Paarung: SFC - Edelstahl beschichtet					
	max. admissible pressures for GS4-valves					
	100°C	150°C	200°C	250°C	300°C	350°C
DN200	40	36	31	28	26	-
DN250	40	36	31	28	26	-

DN	Paarung: STN 2					
	max. admissible pressures for GS4-valves					
	100°C	150°C	200°C	250°C	300°C	350°C
200	19	19	19	18	18	17
250	12	11	11	11	11	10

### ANSI 900 (ASME B16.34 - 316L)\*

DN	Paarung: SFC - Edelstahl beschichtet					
	max. admissible pressures for GS4-valves					
	100°C	150°C	200°C	250°C	300°C	350°C
25	132,7	122,9	114,9	108,1	102,4	-
50	132,7	122,9	114,9	108,1	102,4	-
80	132,7	122,9	114,9	108,1	102,4	-

DN	Paarung: STN 2					
	max. admissible pressures for GS4-valves					
	100°C	150°C	200°C	250°C	300°C	350°C
25	132,7	122,9	114,9	108,1	102,4	97,8
50	132,7	122,9	114,9	108,1	102,4	97,8
80	97,0	96,0	95,0	94,0	92,0	88,0

ASME B16.34 rating depends on the valve body material. Other materials and ratings on demand.

### ANSI 600 (ASME B16.34 - 316L)\*

DN	Paarung: SFC - Edelstahl beschichtet					
	max. admissible pressures for GS4-valves					
	100°C	150°C	200°C	250°C	300°C	350°C
100	62,8	58,3	54,9	52,1	51	-
150	62,8	58,3	54,9	52,1	51	-

DN	Paarung: STN 2					
	max. admissible pressures for GS4-valves					
	100°C	150°C	200°C	250°C	300°C	350°C
100	62,8	58,3	54,9	52,1	51	49,5
150	33,0	33,0	33,0	32,0	31,0	30,0

ASME B16.34 rating depends on the valve body material. Other materials and ratings on demand.

### ANSI 300 (ASME B16.34 - 316L)\*

DN	Paarung: SFC - Edelstahl beschichtet					
	max. admissible pressures for GS4-valves					
	100°C	150°C	200°C	250°C	300°C	350°C
DN200	31,4	29,2	27,5	26,1	25,5	-
DN250	31,4	29,2	27,5	26,1	25,5	-

DN	Paarung: STN 2					
	max. admissible pressures for GS4-valves					
	100°C	150°C	200°C	250°C	300°C	350°C
200	19,0	19,0	19,0	18,0	18,0	17,0
250	12,0	11,0	11,0	11,0	11,0	10,0

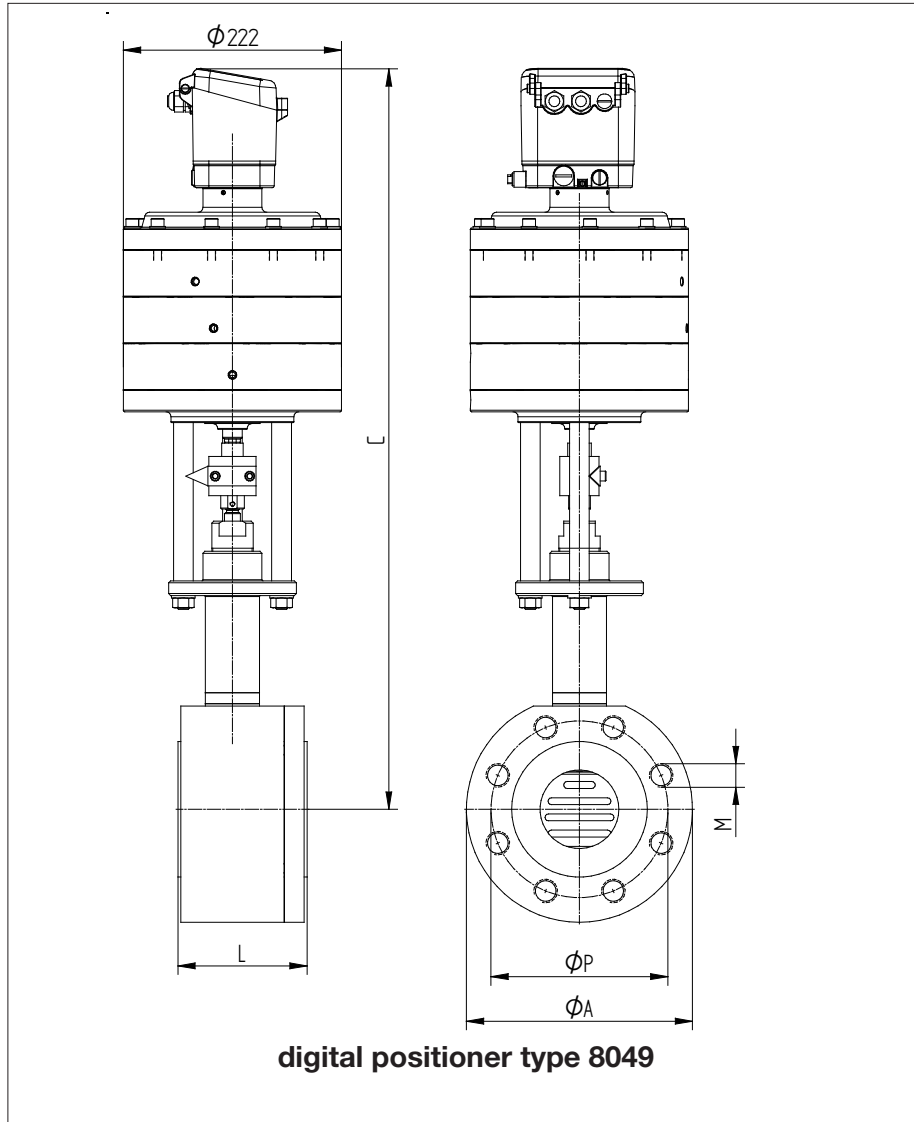
ASME B16.34 rating depends on the valve body material. Other materials and ratings on demand.

# Control Valve 8021-GS4

with integrated digital positioner, Type 8049



## Dimensions and Weights



DN	$\phi A$	C for actuators		pressure rating	$\phi P$	number of screws	M	L	stroke	Weight for actuators	
		D1000	D1500							D1000	D1500
25	135	715	-	PN160	100	4	M16	83	6	33 kg	-
	150	715	-	ANSI900	101,6	4	7/8"-9 UNC	102 *		35 kg	-
50	186	716	-	PN160	145	4	M24	92	8	40 kg	-
	215	753	-	ANSI900	165,1	8	7/8"-9 UNC	124 *		53 kg	-
80	230	755	-	PN160	180	8	M24	131	8	60 kg	-
	240	756	-	ANSI900	190,5	8	7/8"-9 UNC	165 *		70 kg	-
100	260	720	815	PN100	210	8	M27	152	8,5	75 kg	82 kg
	275	742	837	ANSI600	215,9	8	7/8"-9 UNC	194 *		95 kg	102 kg
150	375	875	970	PN100	290	12	M30	194	8,5	188 kg	195 kg
	375	875	970	ANSI600	292,1	12	1"-8 UNC	229 *		208 kg	215 kg

\* face to face dimension acc. ANSI ISA 75.08.09-2015

Dimensions for DN200 (8") and DN250 (10") on demand

Dimensions in mm