

Control Valve 8021



GS 4 series 1/2" up to 6"

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 further versions see data sheet 8021-GS1 and -GS3		
Nominal Sizes*	1" - 6"		
Nominal pressure acc. DIN 2401	2320 psi	1" - 3"	
	1450 psi	4" - 6"	
	580 psi	8" - 10"	
Nominal pressure ANSI	ANSI 900	1" - 3"	
	ANSI 600	4" - 6"	
	ANSI 300	8" - 10"	
Fluid Temperature	-76°F up to +662°F ** (+572°F for SFC)		
Ambient Temperature ***	-22°F up to +212°F		
Rangeability / Characteristic : digital Positioner	40 : 1 linear / 80:1 equalpercentage		
Leakage	Disc pair	Disc pair	
	SFC	STN2	
	% from Cvs IEC 60534-4	< 0,0005	< 0,001
	EN 12266-1	IV-S1	IV
		E	E

* other Nominal Sizes on demand

** higher temperatures on demand

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

Kvs- and Cv-values see data sheet 8001.

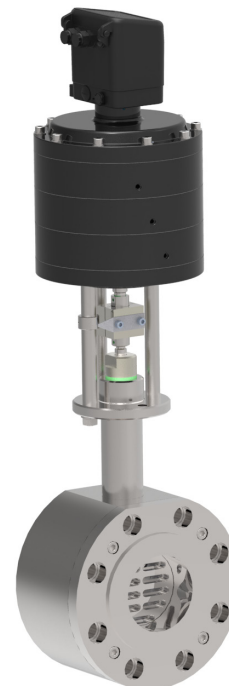
Materials

Valve Body	Stainless steel 316 Ti	
Head Section	Stainless steel 316 Ti	
Diaphragm Casing	Aluminium, KTL-coated	
Actuator Springs	Stainless steel 301	
Packing	Carbon-filled PTFE (spring SST 301)	
Valve Stem	Stainless steel 316 Ti, roller burnished	
Fixed disc	Stainless steel 316 Ti, Stellite	
Sliding disc	SFC-disc	STN2-disc

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

Positioner

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



Accessories

- Bellow
- Stroke Sensor
- Positioner (Ex ib IIC T6)

differential pressure

**Admissible differential pressures
(For temperatures of up to 250°F)**

For temperatures of 250°F and above: obey application limits !

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

size	SFC-Stainless steel coated		STN 2		effective area of the actuator (in ²)	number of springs
	differential pressure (psi)	pilot pressure (psi)	differential pressure (psi)	pilot pressure (psi)		
1"	2320	65	2320	65	160	39
2"	2320	65	2074	65	160	39
3"	2320	65	1204	65	160	39
4"	1450	65	754	73	160	39
6"	1450	65	377	73	160	39
8"	580	65	218	73	240	43
10"	363	65	131	73	240	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.

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

DN	Sliding unit: SFC - stainless steel, coated maximum pressures for GS4-valves (psi)						Sliding unit: STN2 maximum pressures for GS4-valves (psi)					
	210 °F	300 °F	400 °F	480 °F	570 °F	660 °F	210 °F	300 °F	400 °F	480 °F	570 °F	660 °F
1"	1925	1780	1665	1565	1485	-	1925	1780	1665	1565	1485	1420
2"	1925	1780	1665	1565	1485	-	1925	1780	1665	1565	1485	1420
3"	1925	1780	1665	1565	1485	-	1405,0	1390,0	1380,0	1365,0	1335,0	1275,0

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

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

DN	Sliding unit: SFC - stainless steel, coated maximum pressures for GS4-valves (psi)						Sliding unit: STN2 maximum pressures for GS4-valves (psi)					
	210 °F	300 °F	400 °F	480 °F	570 °F	660 °F	210 °F	300 °F	400 °F	480 °F	570 °F	660 °F
4"	910	845	795	755	740	-	910	845	795	755	740	720
6"	910	845	795	755	740	-	480,0	480,0	480,0	465,0	450,0	435,0

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

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

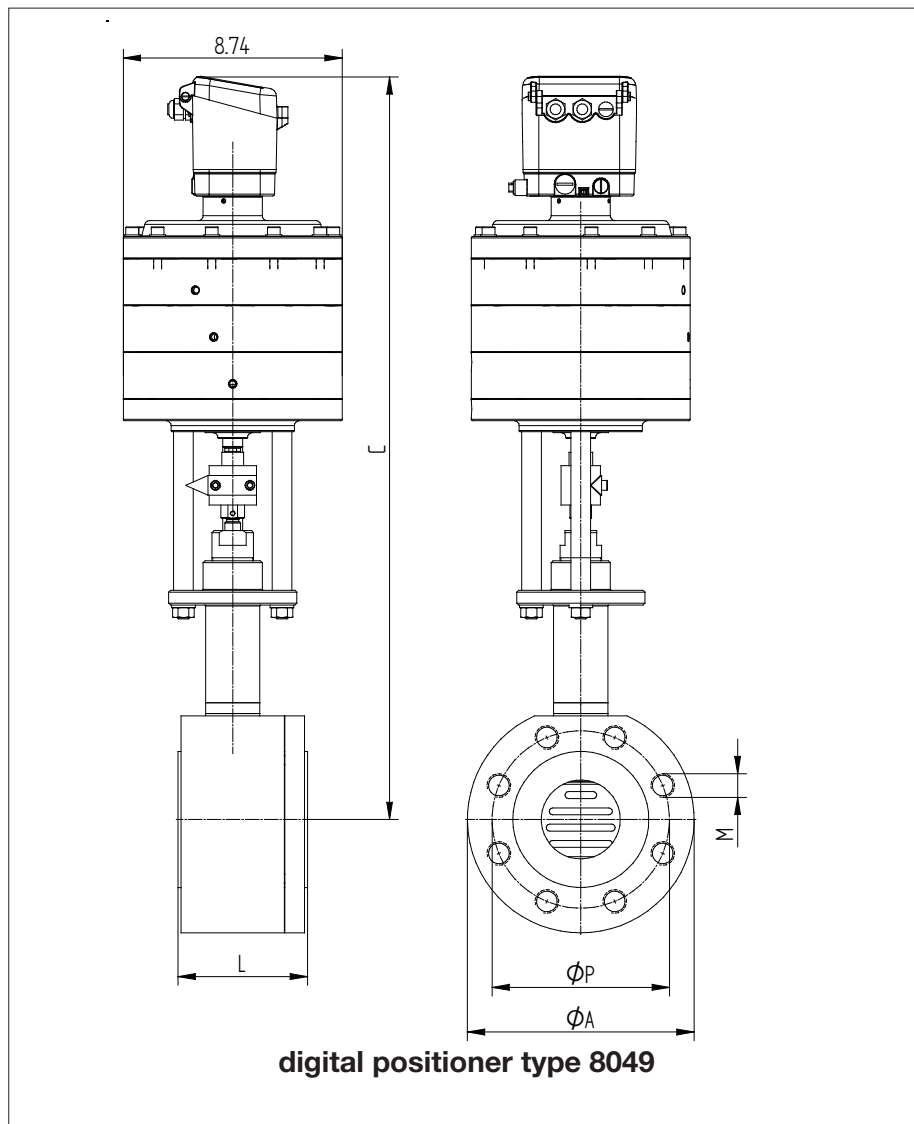
DN	Sliding unit: SFC - stainless steel, coated maximum pressures for GS4-valves (psi)						Sliding unit: STN2 maximum pressures for GS4-valves (psi)					
	210 °F	300 °F	400 °F	480 °F	570 °F	660 °F	210 °F	300 °F	400 °F	480 °F	570 °F	660 °F
8"	455	425	400	380	370	-	275,0	275,0	275,0	260,0	260,0	245,0
10"	455	425	400	380	370	-	175,0	160,0	160,0	160,0	160,0	145,0

*: 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



size	ØA	C for actuators		pressure rating	ØP	number of screws	M	L	stroke	Weight for actuators	
		160	240							D1000	D1500
1"	5,31	28,15	-	PN160	3,94	4	M16	3,27	0,23622047	73	-
	5,91	28,15	-	ANSI900	4,00	4	7/8"-9 UNC	4,02		77	-
2"	7,32	28,19	-	PN160	5,71	4	M24	3,62	0,31496063	88	-
	8,46	29,65	-	ANSI900	6,50	8	7/8"-9 UNC	4,88		117	-
3"	9,06	29,72	-	PN160	7,09	8	M24	5,16	0,31496063	132	-
	9,45	29,76	-	ANSI900	7,50	8	7/8"-9 UNC	6,50		154	-
4"	10,24	28,35	32,09	PN100	8,27	8	M27	5,98	0,33464567	165	181
	10,83	29,21	32,95	ANSI600	8,50	8	7/8"-9 UNC	7,64		209	225
6"	14,76	34,45	38,19	PN100	11,42	12	M30	7,64	0,33464567	414	430
	14,76	34,45	38,19	ANSI600	11,50	12	1"-8 UNC	9,02		459	474

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

Dimensions in inch

Dimensions for 8" and 10" on demand

Flow Coefficients - Cv-values

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	-
	eq. perc.	2	-	1.3	-	-	-	-	-	0.12	-	-	-	-
3/4"	(mod.) lin.	7.4	-	-	-	-	1.16	-	-	-	-	0.15	-	-
	eq. perc.	3.5	-	-	-	-	-	-	-	-	-	-	-	-
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.	-	-	-										
10"	(mod.) linear	1056												
	eq.perc.	-												