

High Pressure Sliding Gate Valve 8021

GS4 series - 1" up to 10"

Sliding gate valve optionally with integrated positioner for the control of neutral and aggressive fluids for industrial high pressure applications

- Space saving screwed wafer type construction
- Compact version, low weight
- Quiet operation
- High dynamic because of small stroke
- Control of high differential pressures with small actuators
- Low energy consumption
- High Cvs-values
- Long lifetime also with cavitation operation



Technical Information

Design	screwed wafer-type design; further versions see data sheet 8021-GS1 and -GS3	
Nominal Sizes*	1" - 10"	
Nominal pressure acc. DIN 2401*	2320 psi 1450 psi 580 psi	1" - 3" 4" - 6" 8" - 10"
Nominal pressure ANSI*	ANSI 900 ANSI 600 ANSI 300	1" - 3" 4" - 6" 8" - 10"
Mounting position	Any mounting position for installation in horizontal pipes Not in rising pipes	
Fluid Temperature	-76°F up to +662°F **	
Ambient temperature***	digital positioner +14°F up to +167°F analog positioner +5°F up to +140°F	
digital Positioner	40 : 1 linear / 80:1 equalpercentage	
Leakage	Disc pair STN2 < 0,002	
% from Cvs IEC 60534-4 EN 12266-1	IV F	
Spezific leakage rate shaft and body sealing	ISO FE-BH-CC3-SSA0-t(-40°C/+350°C)-PN40-ISO 15848-1	

* 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 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	STN2-disc
Sliding 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.

High Pressure Sliding Gate Valve 8021-GS4 differential pressure



Admissible differential pressures

For temperatures of up to 100°F (ANSI) / 250°F (PN)

For temperatures of 100°F for ANSI-ratings and 250°F for PN-ratings and above: obey application limits!

Actuator size	115 sqin			155 sqin			230 sqin		
Supply pressure (psi)	20	52	62	55	71	80	49	58	62
Size	max. admissible pressure in psi			max. admissible pressure in psi			max. admissible pressure in psi		
1"	795	2320	2320	2320	2320	2320	2320	2320	2320
2"	300	1230	1475	1665	2305	2320	2320	2320	2320
3"	165	650	780	880	1215	1345	1260	1475	1620
4"	105	405	490	565	765	855	795	940	1025
6"	52	200	245	275	375	420	390	460	505
8"	30	115	140	155	220	245	230	265	290
10"	19	74	88	100	135	150	140	165	180
Spring configuration	Code L	Code „-“	Code P	Code L	Code „-“	Code P	Code L	Code „-“	Code P

Standard

High Pressure Sliding Gate Valve 8021-GS4 differential pressure



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.

PN160

Size	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"	2320	2130	1840	1670	1515	-	1450	1340	1145	1050	945	885
2"	2320	2130	1840	1670	1515	-	1450	1340	1145	1050	945	885
3"	2320	2130	1840	1670	1515	-	1405	1390	1380	1365	1335	1275

PN100

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"	1450	1340	1145	1050	945	-	1450	1340	1145	1050	945	885
2"	1450	1340	1145	1050	945	-	1450	1340	1145	1050	945	885
3"	1450	1340	1145	1050	945	-	1405	1390	1380	1365	1335	1275
4"	1450	1340	1145	1050	945	-	1450	1335	1145	1045	945	885
6"	1450	1340	1145	1050	945	-	955	940	940	810	695	590

PN40

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"	580	520	450	405	375	-	550	520	450	405	375	350
10"	580	520	450	405	375	-	335	335	335	275	245	205

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	-	1925,0	1780,0	1665,0	1565,0	1485,0	1420,0

*: 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	595	910	845	795	755	740	720
6"	910	845	795	755	740	595	910,0	845,0	795,0	755,0	695,0	590,0

*: 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	-	455,0	425,0	400,0	380,0	370,0	350,0
10"	455	425	400	380	370	-	335,0	335,0	335,0	275,0	245,0	205,0

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

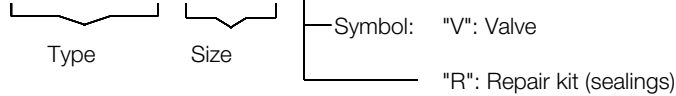
High Pressure Sliding Gate Valve 8021-GS4



Ordering Number System

8	0	2	1	/			V	G					M					Z			S
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1 - 5 : Please quote all 5 sections.
6 - 12: Quote only if required.



1. Function	2. Body design	3. Body material	4. Safety function	5. Actuator
G sliding gate valve with pneumatic actuator (type 8021)	P GS4-flangeless design acc. DIN	0 carbon steel 1.0619	0 spring closes	9 diaphragm actuator 750 cm ²
	Q GS4-Flangeless design acc. ASME	1 stainless steel 1.4408	1 spring opens	E diaphragm actuator 1000 cm ²
	Z GS4-version	5 Alloy C-276; 2.4819		F diaphragm actuator 1500 cm ²

6. Special version	7. Springs	8. Stem sealing	9. Moved disc	10. Fixed disc
M To state, if further sections are quoted	- Standard	- PTFE-packing, self adjusting (standard)	- Carbon material	- stainless steel 1.4571
A groove and groove acc. DIN EN1092-1	4 8 springs	0 PTFE-and fluororubber-free 392°F	9 STN2	1 STN2 (only in combination with pos. „9“ STN2)
C groove and tongue acc. DIN EN1092-1	8 16 springs	5 packing for higher chemical resistance	S SFC	
E 2x lowered face acc. DIN EN1092-1				
H lowered and raised face acc. DIN EN1092-1				

11. Kvs-Values	12. Flow characteristic	13. Accessories	14. Positioners	15. Signalling equipment
- 100% (Stand.)	- linear	Z To state if further sections are quoted	- without	- without
A red. auf 63 %	1 equal-%		1 p/p positioner Type 8047	0 2 limit switches M12x1 DC
1 red. auf 40 %			3 i/p positioner Type 8047	
B red. auf 25 %			8 i/p positioner with plug connec. M12x1	
2 red. auf 16 %			C dig. positioner, Type 8049, 4-wire	
6 red. auf 20 %			R dig. positioner, Type 8049, 2-wire	
7 red. auf 12 %			W dig. positioner, type 8049 ExPro, ATEX, IEC EX	
8 red. auf 2 %			K dig. positioner, type 8049 ExPro-FM	
9 red. auf 0,4%			N dig. positioner, type 8049 IO-Link version	

16. Further versions
S Other special versions have to be quoted in letters!

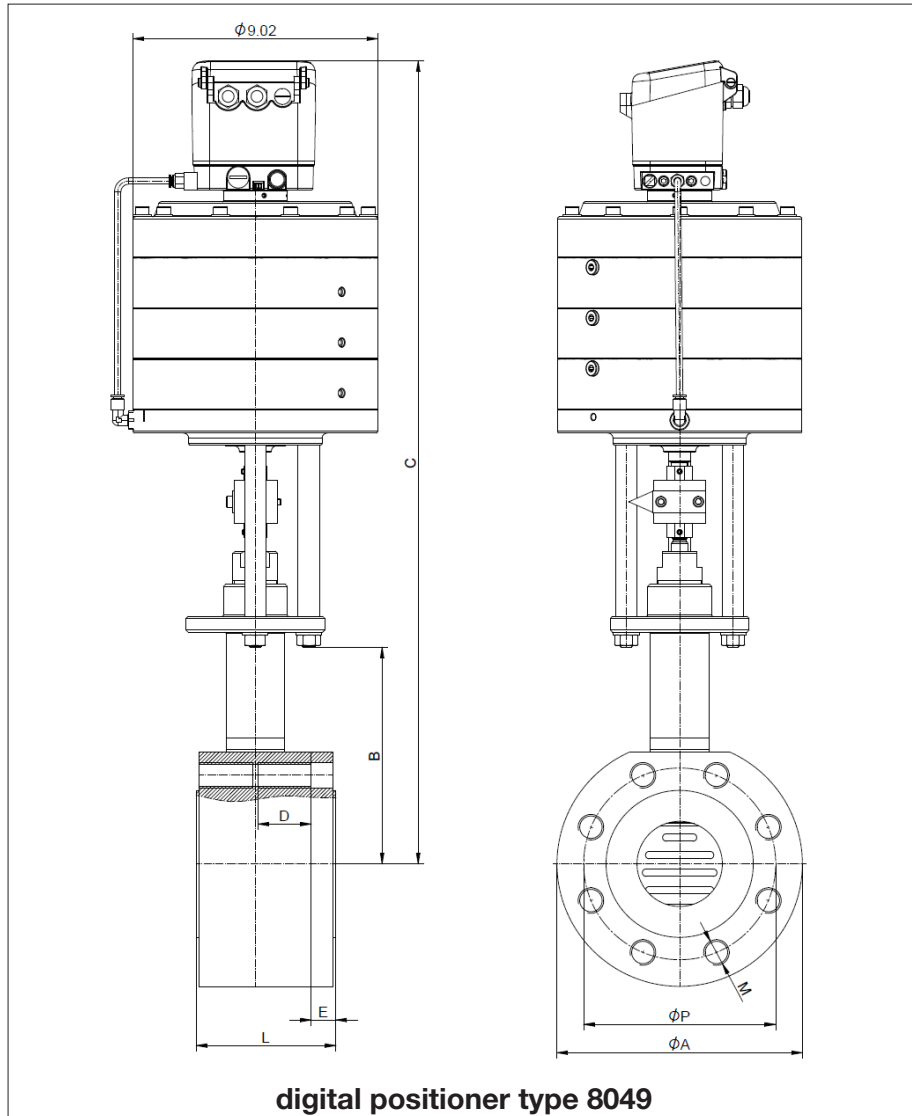
Ordering example: 8021/050VGP109M--91--ZC
sliding gate valve type 8021 with pneumatic actuator, DN 50, PN160, body material stainless steel, spring closes, actuator 750 cm², PTFE-chevron rings, Disc pair: Moving disc STN2/STN3 and fixed disc STN2, characteristics linear, digital positioner type 8049, 4-wire

High Pressure Sliding Gate Valve 8021-GS4

with integrated digital positioner, Type 8049



Dimensions and Weights



size	ØA	B	C for actuators			pressure rating	ØP	num- ber of screws	M	D	E	L	stroke	weight for actuators [lbs]		
			115 in ²	155 in ²	230 in ²									115 in ²	155 in ²	230 in ²
1"	5.31	6.4	26.3	28.15	-	PN160	3.94	4	M16	2.76	0.43	3.27	0.24	62	73	-
	5.91	6.4	26.3	28.15	-	ANSI900	4	4	7/8"-9 UNC	2.76	0.98	4.02		66	77	-
2"	7.32	6.54	26.5	28.35	-	PN160	5.71	4	M24	2.68	0.87	3.62	0.31	77	88	-
	8.46	6.54	28.07	29.92	-	ANSI900	6.5	8	7/8"-9 UNC	3.07	1.54	4.88		84	117	-
3"	9.06	8.01	27.87	29.72	-	PN160	7.09	8	M24	1.97	0.91	5.16	0.31	122	132	-
	9.45	8.01	27.87	29.72	-	ANSI900	7.5	8	7/8"-9 UNC	1.9	1.3	6.5		143	154	-
4"	10.24	8.6	28.46	30.31	34.06	PN100	8.27	8	M27	2.17	0.94	5.98	0.33	154	165	181
	10.83	8.6	28.46	30.31	34.06	ANSI600	8.5	8	7/8"-9 UNC	2.17	1.22	7.64		198	209	225
6"	14.76	12.72	32.6	34.45	38.19	PN100	11.42	12	M30	2.6	0.94	7.64	0.33	331	342	357
	14.76	12.72	32.6	34.45	38.19	ANSI600	11.5	12	1"-8 UNC	2.76	1.46	9.02		381	459	474
8"	16.54	13.54	33.39	35.24	38.98	PN40	12.6	12	M27	2.17	0.94	5.75	0.33	309	320	335
	16.54	13.54	33.39	35.24	38.98	ANSI300	13	12	7/8"-9 UNC	2.17	0.94	5.69		320	331	346
10"	17.72	14.21	34.17	36.02	39.76	PN40	15.16	12	M30	2.36	0.94	6.14	0.35	342	353	368
	17.72	14.21	34.17	36.02	39.76	ANSI300	15.25	12	1"-8 UNC	2.36	0.94	6.16		348	359	375

* face to face dimension acc. ANSI ISA 75.08.09-2015
Dimensions in inch

High Pressure Sliding Gate Valve 8021-GS4

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	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	-	-	-	0.41	-	-	-	-
1 1/4"	(mod.) linear	19	12	-	-	-	-	-	-	-	-	-	-	-
	eq. perc.	9.3	5.45	-	-	-	-	-	-	-	-	-	-	-
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	-	-	-	-	3.5	-	-	-	-	-	-
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.	329	-	-	-	-	-	-	-	-	-	-	-	-
10"	(mod.) linear	1056	667	-	-	-	-	-	-	-	-	-	-	-
	eq.perc.	-	-	-	-	-	-	-	-	-	-	-	-	-