

Low Temperature Valve 8026-GS3

with integrated positioner

GS 3 series 1/2" up to 4"

Pneumatic low temperature valve with integrated positioner for control of cold fluids down to - 328 °F

- Space saving wafer type construction
- Lowest possible weight
- Quiet operation
- Fast response time
- 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 (Cv)-values

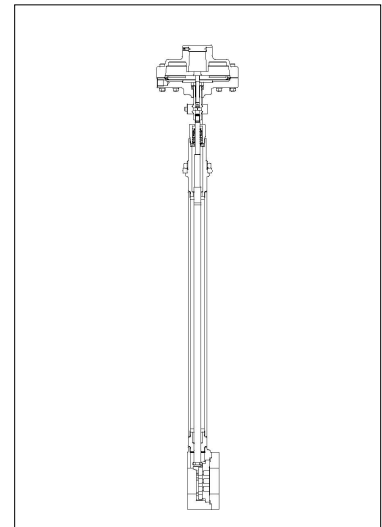
Technical Information

Design	ANSI flange wafer (self-aligning)	
Nominal Sizes	1/2" - 4"	
Nominal pressure acc. DIN 2401	580 psi (fits also to 145 up to 365 psi)	1/2" - 4"
Nominal pressure acc. ANSI	ANSI 150	1/2" - 4"
	ANSI 300	1/2" - 4"
Fluid Temperature	down to -328°F	
Leakage Rate (% of Cv-value)	Carbon < 0.0001	

Cv-values see data sheet 8001.

Materials

Valve Body	Stainless steel 316 Ti resp. 318
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	Carbon material, FUY (1/2" up to 4"), SIC (1/2", 1", 1 1/2", 2")



Options

- Stainless steel bellow
- Positioner
 - pneumatic
 - electropneumatic
 - electropneumatic (Ex ib IIC T6)
 - digital
- external i/p-converter

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Pilot and operating pressures
(for temperatures to -328°F)

p/p- and i/p-positioner

Actuator Size	20 in ²				40 in ²			
Spring Range (psi)	22 to 44		26 to 55		17 to 32		22 to 39	
Supply Pressure (psi)	58		73		44		58	
	max. pressure psi				max. pressure psi			
DN	Control	On - Off	Control	On - Off	Control	On - Off	Control	On - Off
1/2"	580	580	580	580	580	580	580	580
3/4"	580	580	580	580	580	580	580	580
1"	580	580	580	580	580	580	580	580
1 1/4"	580	580	580	580	580	580	580	580
1 1/2"	421	421	522	580	580	580	580	580
2"	247	276	305	421	421	421	508	580
2 1/2"	203	232	247	348	348	348	421	493
3"	116	145	145	218	203	203	247	319
4"	73	87	87	145	131	131	145	203
Spring Configuration	3 (Standard)		4		3 (Standard)		4	

Standard	Upper limits for pressures in psi			
	PN16	PN40	ANSI 150	ANSI 300
P max.	235	580	235	580

digital positioner

Actuator Size	20 in ²		40 in ²	
Supply Pressure (psi)	65	80	44	58
DN	max. pressure psi		max. pressure psi	
1/2"	580	580	580	580
3/4"	580	580	580	580
1"	580	580	580	580
1 1/4"	580	580	580	580
1 1/2"	580	580	580	580
2"	551	580	580	580
2 1/2"	450	566	580	580
3"	290	348	493	580
4"	174	218	305	377
Spring Configuration	3 (Standard)	4	3 (Standard)	4

Standard	Upper limits for pressures in psi			
	PN16	PN40	ANSI 150	ANSI 300
P max.	235	580	235	580

Maximum Pressures for GS3-Valves

These pressures must not be exceeded on GS-valves of series GS3, even if the actuator thrust would allow it.

ANSI #150

DN	Sliding unit: Carbon - Stainless steel, coated
	max. pressures in psi for GS3-valves from stainless steel
1/2" - 4"	235



580 psi (PN 40) and ANSI # 300

DN	Sliding unit: Carbon - Stainless steel, coated
	max. pressures in psi for GS3-valves from stainless steel
1/2" - 3"	580
4"	480

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Positioner

	Digital positioner Type 8048	i/p-positioner Type 8047	p/p-positioner Type 8047
Input signal range	0/4 - 20 mA, 0/2 - 10 V	0/4 - 20 mA, 0/2 - 10 V	3 - 15 psi
Supply voltage, electrical	24 V DC, maximum 10 W	none	none
Supply air pressure	max. 87 psi	max. 87 psi	max. 87 psi
Hysteresis	< 0,5 %	< 1 %	< 1 %
Rangeability	40 : 1	30 : 1	30 : 1
Characteristics	linear, equal percentage, user-defined, process optimized*	Characteristics of function unit	Characteristics of function unit
Adjustment (Stroke, zero point)	self-adapting	mechanical	mechanical
Ambient temperature	-4°F up to + 167°F	-4°F up to +140°F	-4°F up to +176°F
Protection class acc. DIN 40050	IP65	IP 54	IP 54
Ex-proof (Optional)	-	 II 2 G EEx ib IIC T6 up to 113°F  II 2 G EEx ib IIC T5 up to 140°F	-

*Produces a linear process flow characteristic for optimal control. After entering a few process data points (e.g. upstream and downstream pressures) the optimised flow characteristic is calculated by the positioner configuration software and stored in the positioner memory.

Digital Positioner Type 8049

Version	4-wire	2-wire	AS-I
Set point signal	0/4 - 20 mA	4 - 20 mA	Single Slave, Slave Profil S - 7.3.4
Burden voltage	1,2 V	14 V	-
Supply energy, electrical	24 VDC	none	supply with AS-I
Adaption to range and zero	self-calibrating		
Configuration	with PC-Software		
Air capacity* to actuator	1.75 SCFM	varies with design	1.75 SCFM
System air consumption	none		
Ambient temperature limits	-4 to +167°F	-14 to +167°F	-4 to +167°F
Supply connection	NPT 1/8"		
Class of protection	IP 65		
Accessories	Analogue feedback module RM-1 2 wire design, feedback signal 4 - 20 mA		

**90 psi supply air

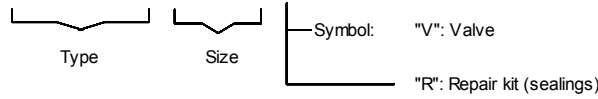
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Ordering Number System

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

1. Type	2. Body design	3. Body material	4. Safety position	5. Actuator	6. Special versions	7. Springs	8. Stem Sealing
K GS-Low temp. valve with pneumatic actuator	E GS3-flange less design acc. ANSI150 F GS3-flange less design acc. ANSI 300 G GS3 - flange less design acc. DIN, 145 - 580 psi	1 stainless steel 316 Ti / 318	0 spring closes 1 spring opens	6 Diaphragm actuator 20 in ² (NPT) 7 Diaphragm actuator 40 in ² (NPT) 8 Diaphragm actuator 80 in ² (NPT)	M To state if some sections 7 - 16 are quoted	- Standard 4 8 springs 8 16 springs	- PTFE-packing self-adjusting (Standard) 1 add. Stainless steel bellow 316 Ti (max. press. 480 psi)

9. Moving disc	10. Fixed disc	11. Cv-Values	12. Characteristic	13. Accessories	14. Positioners	15. Feedback	16. Further special versions
- Carbon B FUJY	- stainless steel/stellite	- 100 % (Stand.) A red. auf 63 % 1 red. auf 40 % B red. auf 25 % 2 red. auf 16 % C red. auf 10 % 3 red. auf 6,3 % 4 red. auf 2,5 % 5 red. auf 1 % 6 red. auf 20 % 7 red. auf 12 % 8 red. auf 2 % 9 red. auf 0,4 %	- linear 1 equal-%	Z State, if in following sections accessories are quoted.	- without 1 p/p positioner Type 8047 3 i/p positioner Type 8047 6 i/p positioner Type 8047 Eex ib IIC T6 with plug connc. M12x1 8 i/p positioner Type 8047 with plug connc. M12x1 A process controller Type 8048 IPC C digital positioner Type 8049, 4-wire D digital positioner Type 8048, IP65 R digital positioner Type 8049, 2-wire T digital positioner Type 8049, AS-i version	- without 0 2 limit switches M12x1 10-30V DC PNP	S Other special versions have to be quoted in letters!

Ordering example: 8026/050VKE106DM-----ZD
GS-low temperature valve type 8026 with pneumatic actuator, 2", ANSI 150, body material stainless steel, spring closes, standard spring configuration (6 springs), actuator 20 in², PTFE-packing, carbon unit, linear characteristic, digital positioner

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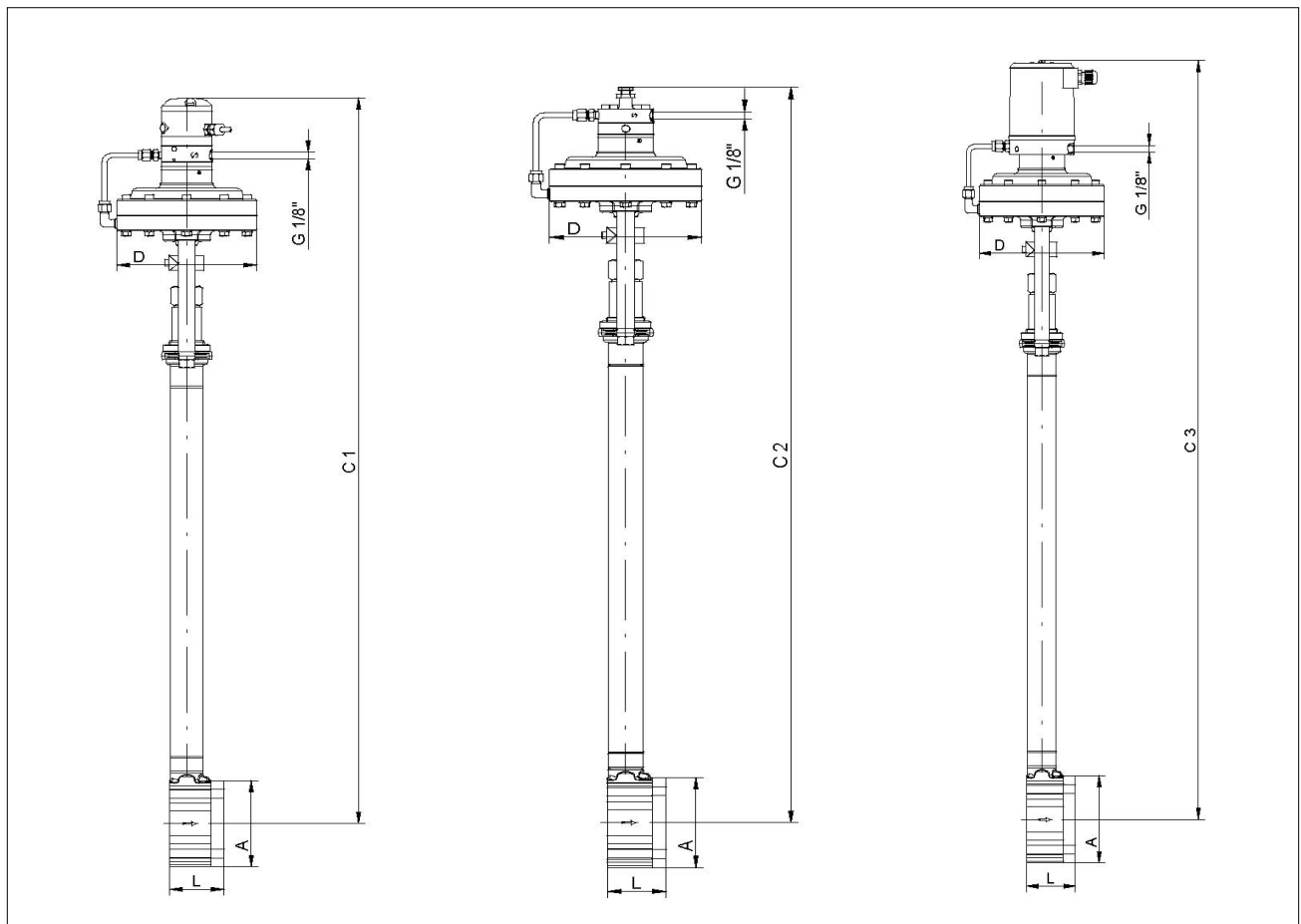
with integrated positioner



Dimensions and Weights

DN	Ø A	C1	C2	C3	Ø D for actuator		PN 40		ANSI 150		ANSI 300		R	L	Stroke	Weight (lbs) for actuator	
					D 125	D250	P	M	P	M	P	M				D 125	D 250
1/2"	2.5	37.4	36.2	38.6	6.5	8.75	2.1	1.75	1.9	1.75	2.1	1.75	0.3	2.2	0.24	25	29
3/4"	2.85	37.6	36.4	38.8	6.5	8.75	2.5	1.75	2.3	1.75	2.7	1.75	0.4	2.2	0.24	25	30
1"	3.25	37.8	36.6	39	6.5	8.75	2.85	1.75	2.65	1.75	2.85	1.75	0.4	2.2	0.24	26	31
1 1/4"	3.5	38	36.8	39.15	6.5	8.75	3.25	1.75	3.05	1.75	3.25	1.75	0.4	2.2	0.24	27	32
1 1/2"	3.9	38.4	37.2	39.55	6.5	8.75	3.7	1.75	3.45	1.75	3.7	1.75	0.4	2.2	0.24	28	33
2"	4.55	38.8	37.6	39.95	6.5	8.75	4.15	1.75	4.15	1.75	4.4	0.9	0.4	2.5	0.31	31	36
2 1/2"	5.45	39.15	38	40.35	6.5	8.75	5.1	0.9	4.9	1.75	5.1	0.9	0.4	2.7	0.31	35	40
3"	6	39.55	38.4	40.75	6.5	8.75	5.65	0.9	5.45	1.75	5.9	0.9	0.4	2.75	0.31	38	42
4"	7.25	39.95	38.8	41.15	6.5	8.75	6.45	0.9	6.95	0.9	7.15	0.9	0.4	2.95	0.33	45	50

Dimensions in inch



**i/p - positioner
Type 8047**

**p/p - positioner
Type 8047**

**digital - positioner
Type 8048**

Control Valve 8026-GS3

Flow Coefficients - Cv-Values

Ordering code		-	A	1	B	6	2	7	C	3	4	8	5	9
DN	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	-	0.05	-
	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	-	-	-	0.05
	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	-	-									
	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	-										