

# Cryogenic Valve 8026

## with integrated positioner

### GS3 series - DN 15 up to DN 100

**Pneumatic cryogenic valve with integrated positioner for control of cold fluids down to - 200 °C**

- 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



**Packing tested according to TA-Luft as defined in DIN EN ISO 15848-1 and VDI 2440**

#### Technical Information

Design	wafer-type design	
Nominal Sizes	DN 15 up to 100 (1/2" - 4")	
Nominal pressure acc. DIN 2401 for flanges with facing type B	PN 40 (fits also to PN 10-25)	DN 15 - DN 100
Nominal pressure acc. ANSI for flanges acc. ASME B 16.5 RF	ANSI 150 ANSI 300	DN 15 - DN 100 DN 15 - DN 100
Nominal pressure acc. JIS for "raiced face" flanges	10K 20K	DN 15 - DN 50 DN 15 - DN 40
Fluid Temperature	down to -200°C	
Leakage	Disc pair Carbon-stainless steel	
% of Kvs IEC 60534-4 EN 12266-1	< 0,0001 IV-S1 D	

Kvs-values see data sheet 8001.

#### Options

- Positioner
  - pneumatic
  - electropneumatic
  - electropneumatic (EEx ib IIC T6)
  - digital
- external i/p-converter

#### Materials

Valve Body	stainless steel 1.4408
Body extension	stainless steel 1.4404
Bodycover	stainless steel 1.4404 or 1.4571
Diaphragm Casing	aluminium, KTL-coated
Actuator Springs	stainless steel 1.4310
Packung	carbon-filled PTFE (spring 1.4310)
Valve Stem	stainless steel 1.4571, roller burnished
Valve Plate (fixed)	stainless steel, stellite coated
Valve Disc (moving)	special carbon material

#### Positioner

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

# Cryogenic Valve 8026-GS3



with integrated positioner

## Admissible Differential Pressures (for temperatures down to -200°C )

p/p- and i/p-positioner, Type 8047

Antriebs-Wirkfläche (cm <sup>2</sup> )	125 cm <sup>2</sup>				250 cm <sup>2</sup>				500 cm <sup>2</sup>			
Feder-Druckbereich (bar)	1,5 bis 3,0		1,8 bis 3,8		1,2 bis 2,2		1,5 bis 2,7		1,2 bis 2,2		1,5 bis 2,7	
Zuluftdruck (bar)	4		5		3		4		3		4,5	
max. zulässiger Differenzdruck in bar bei Gehäuse PN100												
DN	Regelung	Auf-Zu	Regelung	Auf-Zu	Regelung	Auf-Zu	Regelung	Auf-Zu	Regelung	Auf-Zu	Regelung	Auf-Zu
15	33	33	33	33	33	33	33	33	-	-	-	-
20	33	33	33	33	33	33	33	33	-	-	-	-
25	33	33	33	33	33	33	33	33	33	33	33	33
32	33	33	33	33	33	33	33	33	33	33	33	33
40	29	29	33	33	33	33	33	33	33	33	33	33
50	17	19	21	29	29	29	33	33	33	33	33	33
65	14	16	17	24	24	24	29	33	33	33	33	33
80	8	10	10	15	14	14	17	22	29	29	33	33
100	5	6	6	10	9	9	10	14	18	18	22	28
Federbestückung	Code 3 (Standard)		Code 4		Code 3 (Standard)		Code 4		Code 6 (Standard)		Code 8	

Standard

	Upper limits for admissible pressures in bar			
	PN16	PN40	ANSI150	ANSI 300
P max. stainless steel	16	40	19,0	49,6

digital positioner, Type 8049

(also on-off valves and valves with other side-mounted positioner)

Antriebs-Wirkfläche (cm <sup>2</sup> )	125 cm <sup>2</sup>		250 cm <sup>2</sup>		500 cm <sup>2</sup>	
Zuluftdruck (bar)	4,5	5,5	3,0	4,0	3,0	4,5
DN	max. zulässiger Differenzdruck in bar bei Gehäuse PN 100					
15	33	33	33	33	33	33
20	33	33	33	33	33	33
25	33	33	33	33	33	33
32	33	33	33	33	33	33
40	33	33	33	33	33	33
50	33	33	33	33	33	33
65	33	33	33	33	33	33
80	23	29	33	33	33	33
100	15	16	25	31	33	33
Federbestückung	Code 3 (Standard)	Code 4	Code 3 (Standard)	Code 4	Code 6 (Standard)	Code 8

Standard

	Upper limits for admissible pressures in bar			
	PN16	PN40	ANSI150	ANSI 300
P max. stainless steel	16	40	19,0	49,6



with integrated positioner

## Application limitations for GS3 valves in stainless steel

These pressure must not be exceeded for GS-valves from the GS3-series made of stainless steel, even though the actuator power might allow it.

### PN40

DN	Sliding unit: carbon/SFC - stainless steel, coated						Sliding unit: STN2					
	max. admissible pressures for GS3-valves						max. admissible pressures for GS3-valves					
	100°C	150°C	200°C	250°C	300°C	350°C	100°C	150°C	200°C	250°C	300°C	350°C
15-32	40	40	40	40	40	40	40	40	40	40	40	40
40	40	40	40	40	40	40	40	40	40	40	40	37
50	40	40	40	40	40	40	40	40	40	40	40	40
65	40	40	40	40	40	40	40	40	40	40	37	32
80	40	40	40	40	40	40	36	34	33	26	22	19
100	33	33	33	33	33	33	32	31	30	24	20	17
125	23	23	23	23	23	23	21	21	19	16	13	11
150	16	16	16	16	16	16	15	15	14	11	9	8
200 (only PN16)	16	16	15	13	12	11	-	-	-	-	-	-
250 (only PN16)	10	9	9	8	7	6	-	-	-	-	-	-

Limitation for SFC-sliding discs: 300°C

### PN100

DN	Sliding unit: carbon/SFC - stainless steel, coated						Sliding unit: STN2					
	max. admissible pressures for GS3-valves						max. admissible pressures for GS3-valves					
	100°C	150°C	200°C	250°C	300°C	350°C	100°C	150°C	200°C	250°C	300°C	350°C
15	100	100	100	93	84	79	100	100	100	93	84	79
20	100	100	89	81	73	68	100	100	89	81	73	68
25	88	81	70	63	57	54	88	81	70	63	57	54
32	100	93	80	73	65	62	100	93	80	73	65	60
40	88	81	70	63	57	54	72	69	65	53	43	37
50	100	100	100	100	100	94	77	73	70	56	46	40
65	80	80	80	79	71	67	62	59	56	45	37	32
80	48	48	48	48	48	44	36	34	33	26	22	19

Limitation for SFC-sliding discs: 300°C

### ANSI150

DN	Sliding unit: carbon/SFC - stainless steel, coated								Sliding unit: STN2							
	max. admissible pressures for GS3-valves								max. admissible pressures for GS3-valves							
	38°C	50°C	100°C	150°C	200°C	250°C	300°C	350°C	38°C	50°C	100°C	150°C	200°C	250°C	300°C	350°C
15-125	19,0	18,4	16,2	14,8	13,7	12,1	10,2	8,4	19,0	18,4	16,2	14,8	13,7	12,1	10,2	8,4
150	16,0	16,0	16,0	14,8	13,7	12,1	10,2	8,4	16,2	16,2	16,2	14,8	13,7	11,8	9,7	8,4
200	16,0	16,0	16,0	14,8	13,7	12,1	10,2	8,4	-	-	-	-	-	-	-	-
250	10,4	10,4	10,4	9,9	9,4	8,4	7,4	6,8	-	-	-	-	-	-	-	-

Limitation for SFC-sliding discs: 300°C

### ANSI300

DN	Sliding unit: carbon/SFC - stainless steel, coated								Sliding unit: STN2							
	max. admissible pressures for GS3-valves								max. admissible pressures for GS3-valves							
	38°C	50°C	100°C	150°C	200°C	250°C	300°C	350°C	38°C	50°C	100°C	150°C	200°C	250°C	300°C	350°C
15-65	49,6	48,1	42,2	38,5	35,7	33,4	31,6	30,3	49,6	48,1	42,2	38,5	35,7	33,4	31,6	30,3
80	48,0	48,0	42,2	38,5	35,7	33,4	31,6	30,3	36,6	36,6	36,6	34,8	33,0	26,8	22,0	19,0
100	33,0	33,0	33,0	33,0	33,0	33,0	31,6	30,3	33,0	33,0	33,0	31,7	30,1	24,4	20,1	17,3
125	23,0	23,0	23,0	23,0	23,0	23,0	23,0	23,0	22,0	22,0	22,0	21,0	19,9	16,1	13,2	11,5
150	16,0	16,0	16,0	16,0	16,0	16,0	16,0	16,0	16,0	16,0	16,0	15,4	14,6	11,8	9,7	8,4

Limitation for SFC-sliding discs: 300°C

### ANSI600

DN	Sliding unit: carbon/SFC - stainless steel, coated								Sliding unit: STN2							
	max. admissible pressures for GS3-valves								max. admissible pressures for GS3-valves							
	38°C	50°C	100°C	150°C	200°C	250°C	300°C	350°C	38°C	50°C	100°C	150°C	200°C	250°C	300°C	350°C
15-20	99,3	96,2	84,4	77,0	71,3	66,8	63,2	60,7	99,3	96,2	84,4	77,0	71,3	66,8	63,2	60,7
25	88,0	88,0	84,4	77,0	70,1	63,7	57,3	54,2	88,0	88,0	84,4	77,0	70,1	63,7	57,3	54,2
32	99,3	96,2	84,4	77,0	71,3	66,8	63,2	60,7	99,3	96,2	84,4	77,0	71,3	66,8	63,2	60,2
40	88,0	88,0	84,4	77,0	70,1	63,7	57,3	54,2	72,5	72,5	72,5	69,0	65,5	53,1	43,6	37,7
50	99,3	96,2	84,4	77,0	71,3	66,8	63,2	60,7	77,7	77,7	77,7	73,9	70,2	56,9	46,7	40,4
65	80,0	80,0	80,0	77,0	71,3	66,8	63,2	60,7	62,5	62,5	41,7	59,5	56,4	45,8	37,6	32,5
80	48,0	48,0	48,0	48,0	48,0	48,0	48,0	44,5	36,6	36,6	36,6	34,8	33,0	26,8	22,0	19,0

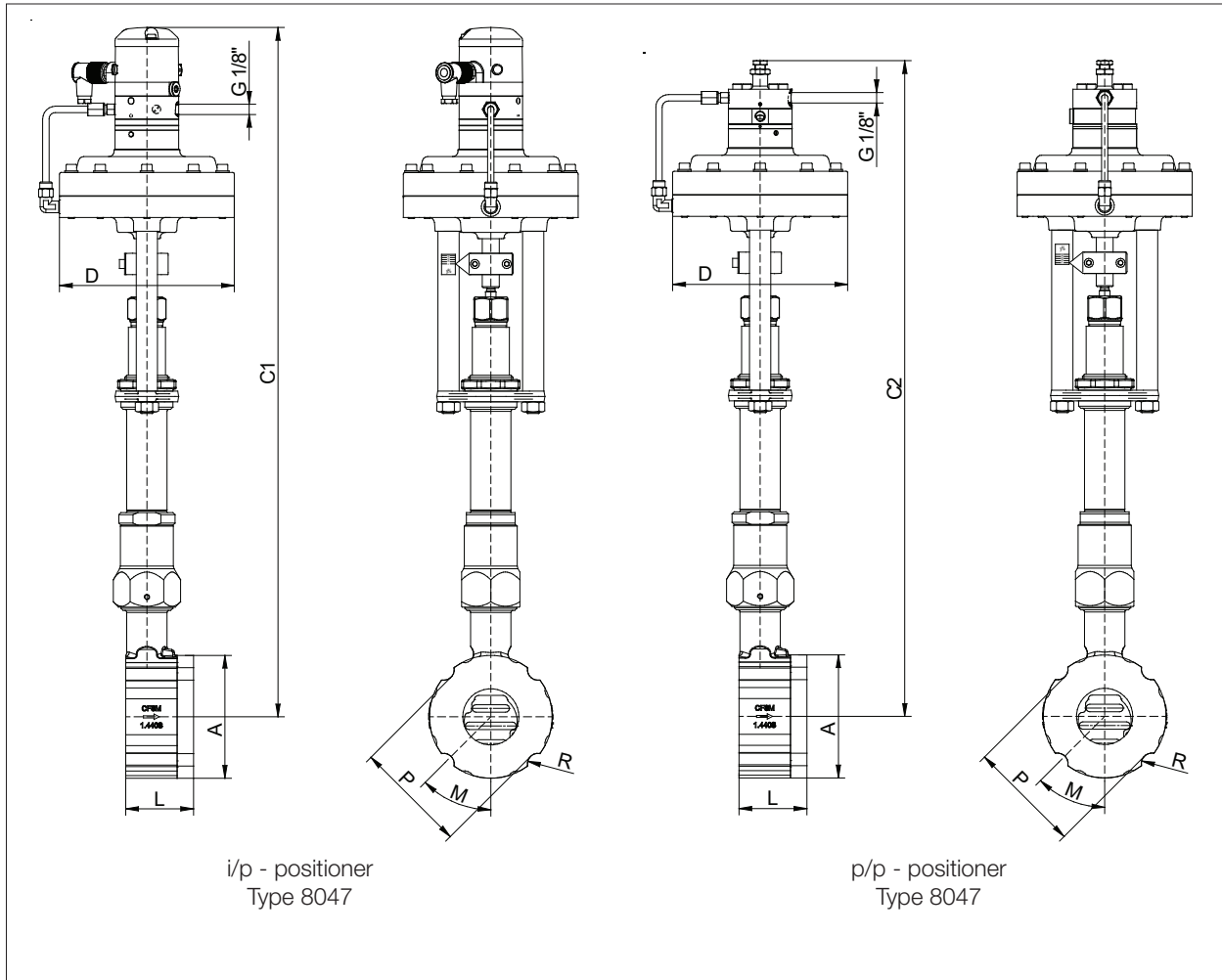
Limitation for SFC-sliding discs: 300°C

# Cryogenic Valve 8026-GS3



with integrated i/p and p/p - positioner Type 8047

## Dimensions and Weights



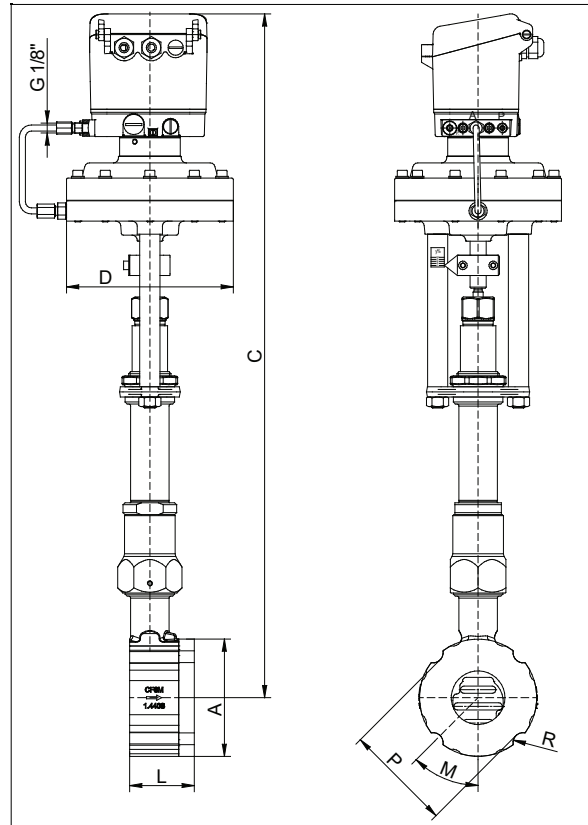
DN	Ø A	C1	C2	Ø D for actuator		PN 40		ANSI 150		ANSI 300		R	L	Stroke	Weight (kg) for actuator	
				D 125	D250	P	M	P	M	P	M				D 125	D 250
15	64	625	590	165	222	53	45	48,8	45	53	45	8	56	6	11,0	13,2
20	72	630	595	165	222	63	45	58,2	45	68	45	10	56	6	11,2	13,4
25	82	635	600	165	222	73	45	67,6	45	73	45	10	56	6	11,6	13,8
32	89	640	605	165	222	83	45	77	45	83	45	10	56	6	12,0	14,2
40	99	645	610	165	222	94	45	87	45	94	45	10	56	6	12,4	14,6
50	116	655	620	165	222	106	45	106	45	112	22,5	10	64	8	14,0	16,2
65	138	665	630	165	222	129	22,5	125	45	129	22,5	10	68	8	15,8	18,0
80	153	675	640	165	222	144	22,5	138	45	150	22,5	10	70	8	16,9	19,1
100	184	685	650	165	222	164	22,5	176	22,5	182	22,5	10	75	8,5	20,4	22,6

Dimensions in mm

# Cryogenic Valve 8026-GS3

with integrated digital positioner Type 8049

## Dimensions and Weights



digital positioner  
Type 8049

DN	Ø A	C	K	Ø D for actuator		PN 40		ANSI 150		ANSI 300		R	L	Stroke	Weight (kg) for actuator	
				D 125	D250	P	M	P	M	P	M				D 125	D 250
15	64	655	595	165	222	53	45	48,8	45	53	45	8	56	6	11,0	13,2
20	72	660	599,5	165	222	63	45	58,2	45	68	45	10	56	6	11,2	13,4
25	82	665	604	165	222	73	45	67,6	45	73	45	10	56	6	11,6	13,8
32	89	670	606,5	165	222	83	45	77	45	83	45	10	56	6	12,0	14,2
40	99	675	612	165	222	94	45	87	45	94	45	10	56	6	12,4	14,6
50	116	685	620,5	165	222	115	45	106	45	112	22,5	10	64	8	14,0	16,2
65	138	695	629,5	165	222	129	22,5	125	45	129	22,5	10	68	8	15,8	18,0
80	153	705	638	165	222	144	22,5	138	45	150	22,5	10	70	8	16,9	19,1
100	184	715	651,3	165	222	164	22,5	176	22,5	182	22,5	10	75	8,50	20,4	22,6

Dimensions in mm