

# Control Valve 8043

with integrated positioner  
GS3 series DN 15 up to DN 100



**Pneumatic control valve with integrated positioner for control of neutral and aggressive fluids in process engineering, chemical industry and for plant equipment.**

- Integrated positioner
- Lowest possible weight
- Fast response
- High Kvs- (Cv)- values
- Tight shut - off

## Technical Information

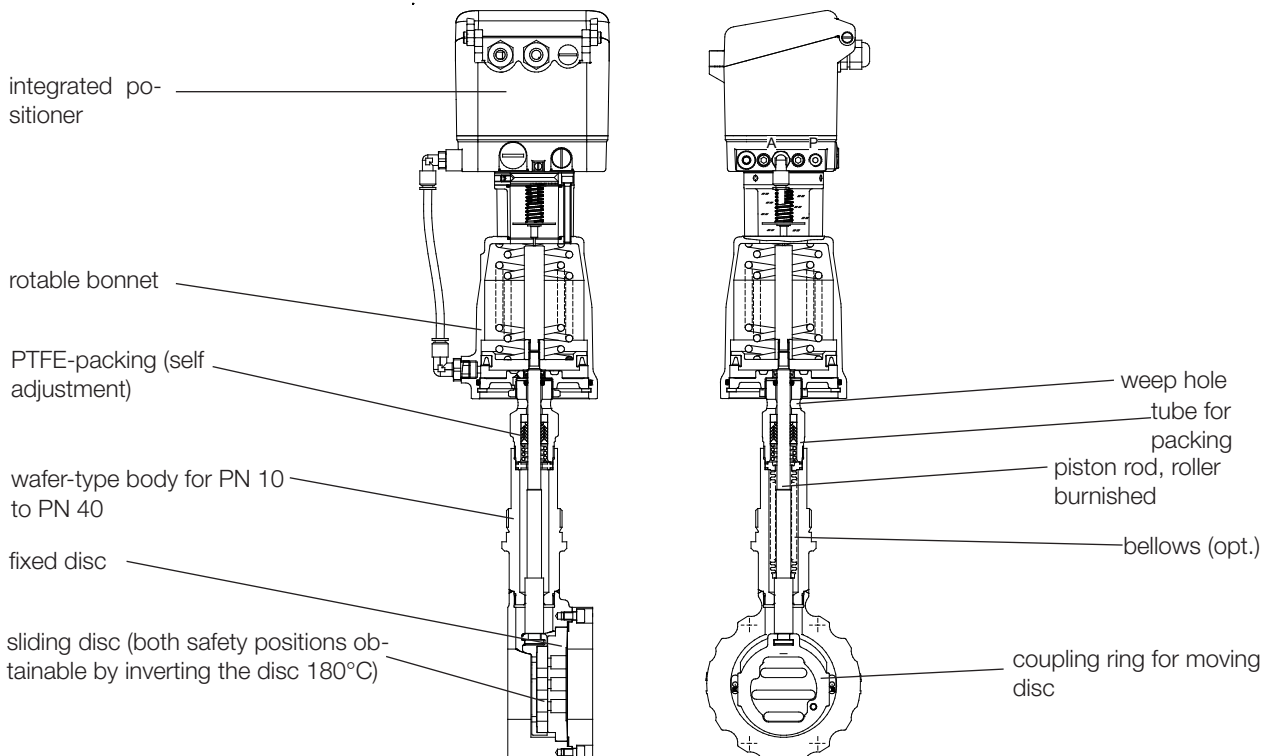
Design	wafer-type design further versions see data sheet 8043/44-GS1		
Nominal sizes	DN 15 - 100, 1/2" - 4"		
Nominal pressure acc. DIN 2401 for flanges with facing type B	PN 40 (fits also to PN 10-25)	DN 15 - DN 100	
Nominal pressure acc. ANSI for flanges acc. ASME B16.5 RF	ANSI 150 ANSI 300	DN 15 - 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	carbon steel body stainless steel body	-10°C up to +300°C -60°C up to +350°C	
Rangeability / Characteristic	analog positioner digital positioner		
	25 : 1 30 : 1		
Leakage rate (% of Kvs-value)	sliding unit carbon-stainless steel, coated < 0,0001	sliding unit SFC < 0,0005	sliding unit STN2 < 0,001

Kvs-values see data sheet 8001.



## Options

- stainless steel bellows
- external i/p-converter
- position indicator



# Control Valve 8043-GS3

## with integrated positioner



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

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

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

disc-pair: carbon - stainless steel coated  
SFC - stainless steel coated

DN	actuator	max. differential pressure		min. pilot pressure (bar)
		control (bar)	on/off (bar)	
15	80	40	40	3,0 - 6
20	80	37	37	3,5 - 6
25	80	29	31	3,5 - 6
32	80	21	25	4,0 - 6
40	80	14	19	4,0 - 6
50	80	8	12	4,5 - 6
65	80	7	10	4,5 - 6
80	80	4	6	4,5 - 6
100	80	2,5	4	4,5 - 6
15	125	40	40	3,0 - 6
20	125	40	40	3,0 - 6
25	125	40	40	3,0 - 6
32	125	40	40	3,0 - 6
40	125	34	40	3,0 - 6
50	125	20	27	3,5 - 6
65	125	16	23	3,5 - 6
80	125	10	14	3,5 - 6
100	125	6	9	3,5 - 6

disc pair: STN2

DN	actuator	max. differential pressure		min. pilot pressure (bar)
		control (bar)	on/off (bar)	
15	80	28	30	3,5 - 6
20	80	19	23	4,0 - 6
25	80	13	17	4,0 - 6
32	80	9	13	4,0 - 6
40	80	5,5	8	4,0 - 6
50	80	3	5	4,5 - 6
65	80	2,5	4	4,5 - 6
80	80	-	-	-
100	80	-	-	-
15	125	40	40	3,0 - 6
20	125	40	40	3,0 - 6
25	125	30	38	3,0 - 6
32	125	21	28	3,0 - 6
40	125	13	19	3,0 - 6
50	125	7	11	3,5 - 6
65	125	6	9	3,5 - 6
80	125	3,5	5	3,5 - 6
100	125	2	3	3,5 - 6

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

disc-pair: carbon - stainless steel coated  
SFC - stainless steel coated

DN	actuator	max. differential pressure		min. pilot pressure (bar)
		control, on/off (bar)		
15	80	40		3,5 - 6
20	80	40		3,5 - 6
25	80	40		3,5 - 6
32	80	40		4,0 - 6
40	80	30		4,0 - 6
50	80	19		4,5 - 6
65	80	16		4,5 - 6
80	80	10		5,0 - 6
100	80	6		5,0 - 6
15	125	40		3,0 - 6
20	125	40		3,0 - 6
25	125	40		3,0 - 6
32	125	40		3,0 - 6
40	125	40		3,0 - 6
50	125	40		3,5 - 6
65	125	37		3,5 - 6
80	125	23		4,0 - 6
100	125	14		4,0 - 6

disc pair: STN2

DN	actuator	max. differential pressure		min. pilot pressure (bar)
		control, on/off (bar)		
15	80	40		3,5 - 6
20	80	37		4,0 - 6
25	80	27		4,0 - 6
32	80	20		4,5 - 6
40	80	13		4,5 - 6
50	80	8		5,0 - 6
65	80	6		5,0 - 6
80	80	3,5		5,0 - 6
100	80	2		5,0 - 6
15	125	40		3,0 - 6
20	125	40		3,0 - 6
25	125	40		3,0 - 6
32	125	40		3,5 - 6
40	125	27		3,5 - 6
50	125	18		4,0 - 6
65	125	15		4,0 - 6
80	125	9		4,0 - 6
100	125	5,5		4,0 - 6

# Control Valve 8043-GS3

with integrated positioner



## Materials

Body	stainless steel 1.4581	carbon steel 1.0619
Intermediate pipe	stainless steel 1.4571	
Bonnet	brass plated (actuator ø 50 mm, ø 80 mm) aluminium corrosion proofed (actuator ø 125 mm)	
Springs	stainless steel 1.4301 (actuator ø 50 mm, ø 80 mm) spring steel wire C, coated (actuator ø 125 mm)	
Packing	PTFE carbon filled (spring 1.4310)	
Actuating stem	stainless steel, roller burnished	
Bellow	stainless steel 1.4571	
Fixed plate	Stainless steel 1.4571, plated	STN2-disc
Sliding disc	standard: special carbon material	SFC-disc STN2-disc
Coupling ring for discs	stainless steel 1.4581	
Optical position indicator	PA Trogamid (transparent)	

## Positioner

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

## 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.

### PN 40

DN	Sliding unit: carbon/SFC - stainless steel, coated max. admissible diff. pressures for GS3-valves						Sliding unit: carbon - STN2 max. admissible diff. 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 - 65	40	38	35	32	28	24	40	38	35	32	28	24
80	40	38	35	32	28	24	36	34	33	26	22	19
100	33	31	29	27	25	24	33	31	29	24	20	17

Limitation for SFC-sliding discs: 300°C

### ANSI #150

DN	Sliding unit: carbon/SFC - stainless steel, coated max. admissible diff. pressures for GS3-valves						Sliding unit: carbon - STN2 max. admissible diff. 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	16	15	13	12	10	8,5	16	15	13	12	10	8,5

Limitation for SFC-sliding discs: 300°C

### ANSI #300

DN	Sliding unit: carbon/SFC - stainless steel, coated max. admissible pressures for GS3-valves						Sliding unit: STN2 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 - 65	40	38	35	33	31	30	40	38	35	33	31	30
80	40	38	35	33	31	30	36	34	33	26	22	19
100	33	31	29	27	25	24	33	31	29	24	20	17

Limitation for SFC-sliding discs: 300°C

# Control Valve 8043-GS3

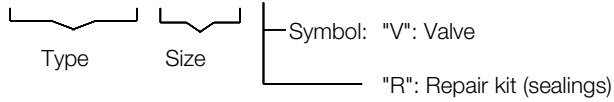
## with integrated positioner



### Ordering Number System

8	0	4	3	/				V	F					M						Z				S
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1 - 5 : Please quote all 5 sections  
6 - 12: Quote only if required



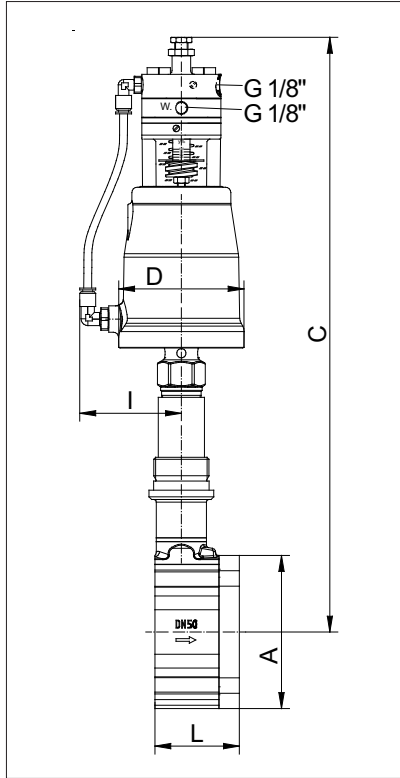
1. Function	2. Body design	3. Body material	4. Pilot function	5. Actuator	6. Special versions	7. Springs	8. Stem sealing
F GS-Control Valve with piston actu. long design (Type 8043)	E GS3 - flangeless design acc. ANSI 150 F GS3 - flangeless design acc. ANSI 300 G GS3 - flangeless design acc. DIN, PN10-PN40	0 carbon steel 1.0619 1 stainless steel 1.4581 2 carbon steel 1.0619 3 reduced design stainless steel 1.4581 reduced design	0 spring to close spring to open 1	1 piston 80 mm 2 piston 125 mm	M to state if some sections 7-16 are quoted! A groove and groove acc. DIN EN1092-1 C groove and tongue acc. DIN EN1092-1 E 2x lowered face acc. DIN EN1092-1 H lowered and raised face acc. DIN EN1092-1	- standard	- PTFE-V-shaped sealing rings, self-adjusting additional bellow 1.4571 1
9. Sliding disc	10. Fixed disc	11. Kvs-values	12. Characteristic	13. Accessories	14. Positioner	15. Special versions	16. Further special versions
- carbon material 9 STN2 S SFC	- stainless steel 1.4581, hard-chrome plated 1 STN2 (only in combination with the position "9" STN2-disc)	- 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 percentage	Z to state, if in sections 14 and 15 accessories are quoted	2 p/p-positioner Type 8047 + pos.indicator 3 i/p positioner Type 8047+ pos.indicator 5 i/p positioner Type 8047 + pos.indicator Eex ib II CT6, plug conn. M12x1 8 i/p positioner Type 8047 + plug conn. M12x1, pos.indicator C dig. positioner, Type 8049, 4-wire R dig. positioner, Type 8049, 2-wire T dig. positioner, Type 8049, AS-i version W dig. positioner, Type 8049, 2-wire ex-version	1 air-tube-connection actuator-positioner in plastic (PA)	S please quote further special versions in clear text

Ordering example: 8043/050VFG0101M - - - - 1Z3  
GS3-Control valve type 8043, long design, DN 50, PN 10/40, stainless steel 1.4581, spring closes, actuator 80 mm, PTFE-V-shaped sealing rings, carbon material, stainless steel, seat characteristic equal percentage, i/p positioner with optical position indicator

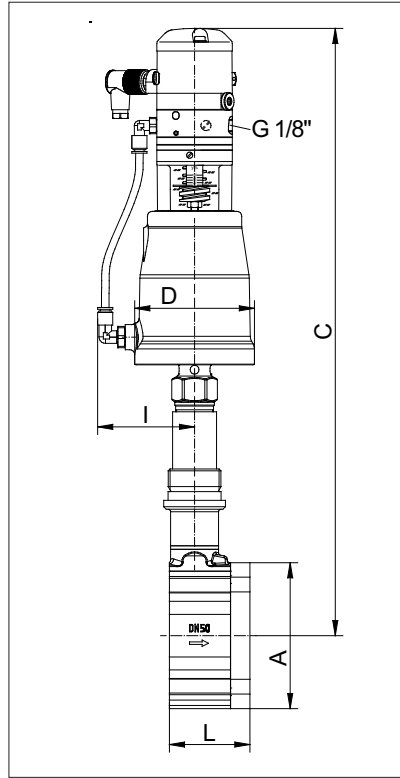
# Control Valve 8043-GS3

## with integrated positioner

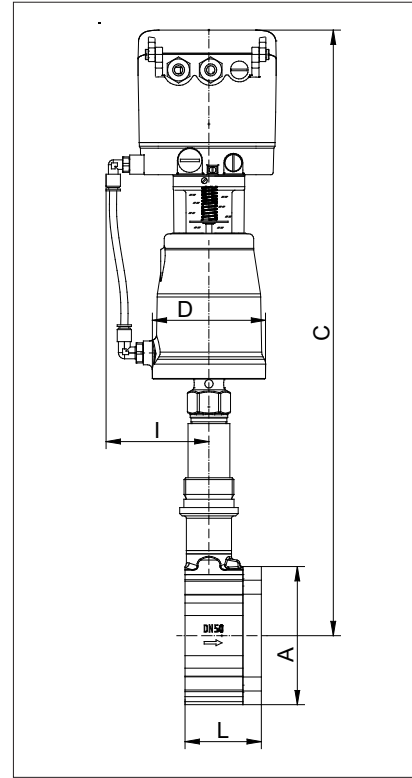
### Dimensions and Weights



Type 8043 with p/p-positioner  
Type 8047  
with position indicator



Type 8043 with i/p-positioner  
Type 8047  
with position indicator



Type 8043 with digital positioner  
Type 8049  
with position indicator

DN	Actuator Ø	A	L	D	I	C			Stroke H	Weight (kg)
						p/p positioner	i/p positioner	digital positioner		
15	80	64	56	96	80	426	458	484	6	6,2
15	125	64	56	146	105	446	478	504	6	8
20	80	72	56	96	80	430	462	488	6	6,5
20	125	72	56	146	105	450	482	508	6	8,3
25	80	82	56	96	80	435	467	493	6	6,7
25	125	82	56	146	105	455	487	513	6	8,5
32	80	89	56	96	80	437	469	495	6	6,8
32	125	89	56	146	105	457	489	515	6	8,6
40	80	99	56	96	80	443	475	501	6	7,2
40	125	99	56	146	105	463	495	521	6	9
50	80	116	64	96	80	451	483	509	8	8,7
50	125	116	64	146	105	471	503	529	8	10,5
65	80	138	68	96	80	460	492	518	8	10,2
65	125	138	68	146	105	480	412	538	8	12
80	80	153	70	96	80	469	501	527	8	11,4
80	125	153	70	146	105	489	521	547	8	13,2
100	80	184	75	96	80	482	514	540	8,5	14,7
100	125	184	75	146	105	502	534	560	8,5	16,4

Dimension C „reduced design“ shortened by 25,4 mm

Dimensions in mm