

Control Valve

8043



with integrated positioner

GS 3 series DN 15 up to DN 100

Pneumatic control valve for control and switching of neutral through to highly aggressive media in process engineering, chemical industry and for plant equipment.

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



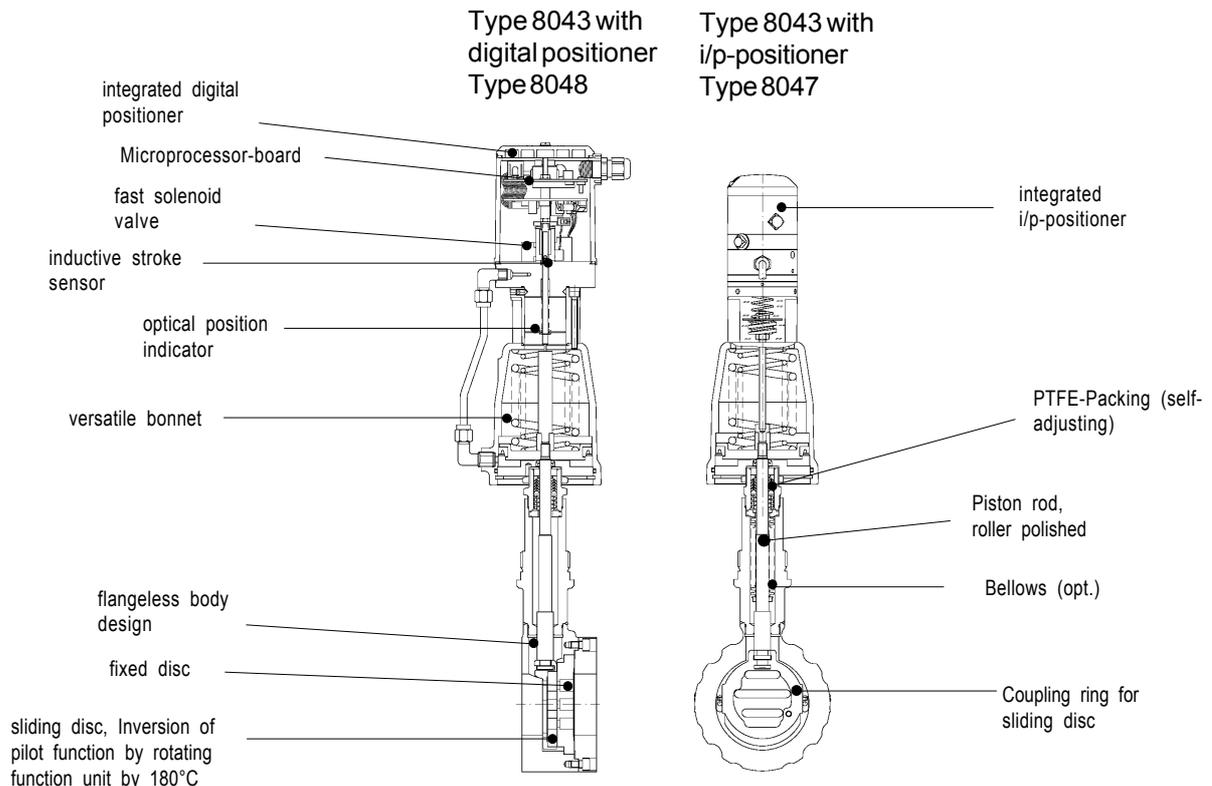
Technical Information

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	PN 40 (fits also to PN 10-25)	DN 15 - DN 100
Nominal pressure acc. ANSI	ANSI 150 ANSI 300	DN15 - DN 100 DN 15 - DN 100
Fluid Temperature	Carbon steel body Stainless steel body	-10°C up to +300°C -60°C up to +350°C
Leakage Rate (% of Kvs-value)	sliding unit carbon-stainless steel, coated < 0,0001	sliding unit STN2 < 0,001

K_{vs}-values see data sheet 8001.

Options

- bellow (stainless steel)
- position indicator
- external I/P-converter



Type 8043 with digital positioner Type 8048

Type 8043 with i/p-positioner Type 8047

Control Valve 8043-GS3

mit integrated positioner



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

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

p/p- and i/p-positioner

Disc-pair: Carbon - stainless steel coated

DN	Actuator	max. differential pressure		min. pilot pressure
		control	on/off	
		(bar)	(bar)	(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
		control	on/off	
		(bar)	(bar)	(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

Disc-pair: Carbon - stainless steel coated

DN	Actuator	max. differential pressure		min. pilot pressure
		control, on/off		
		(bar)		(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
		control, on/off		
		(bar)		(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

mit integrated positioner

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	0,2 - 1 bar
Supply voltage, electrical	24 V DC, maximum 10 W	none	none
Supply air pressure	max. 6 bar	max. 6 bar	max. 6 bar
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	-20°C up to + 75°C	-20°C up to +60°C	-20°C up to +80°C
Protection class acc. DIN 40050	IP65	IP 54	IP 54
Ex-proof (Optional)	-	 II 2 G EEx ib IIC T6 up to 45°C  II 2 G EEx ib IIC T5 up to 60°C	-

*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-learning		
Configuration	with PC-Software		
Air delivery*	50 NI/min.	according the version	50 NI/min.
System air consumption	none		
Ambient temperature limits	-20 up to +75°C	-10 up to +75°C	-20 up to +75°C
Supply connection	G 1/8"		
Class of protection acc. DIN 40050	IP 65		
Accessories	Analogue feedback module RM-1 2 wire design, feedback signal 4 - 20 mA		

* 6 bar supply air

Materials

Body	Stainless steel 1.4571 /1.4581	Carbon steel 1.0570 / 1.0619
Head section	Stainless steel 1.4571 /1.4581	
Bonnet	Brass plated (actuator ø 50 mm, ø 80 mm) Aluminium corrosion proof (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	STN2-disc
Coupling ring for discs	Stainless steel 1.4581	
Optical position indicator	PA Trogamid (transparent)	

Control Valve 8043-GS3

mit 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.

PN 40

DN	Sliding unit: carbon - stainless steel, coated					
	max. admissible diff. pressures for GS3-valves					
	100°C	150°C	200°C	250°C	300°C	350°C
15 - 65	40	38	35	32	28	24
80	40	38	35	32	28	24
100	33	31	29	27	25	24

	Sliding unit: carbon - STN2					
	max. admissible diff. pressures for GS3-valves					
	100°C	150°C	200°C	250°C	300°C	350°C
	40	38	35	32	28	24
	36	34	33	26	22	19
	33	31	29	24	20	17

ANSI #150

DN	Sliding unit: carbon - stainless steel, coated					
	max. admissible diff. pressures for GS3-valves					
	100°C	150°C	200°C	250°C	300°C	350°C
15 - 100	16	15	13	12	10	8,5

	Sliding unit: carbon - STN2					
	max. admissible diff. pressures for GS3-valves					
	100°C	150°C	200°C	250°C	300°C	350°C
	16	15	13	12	10	8,5

ANSI #300

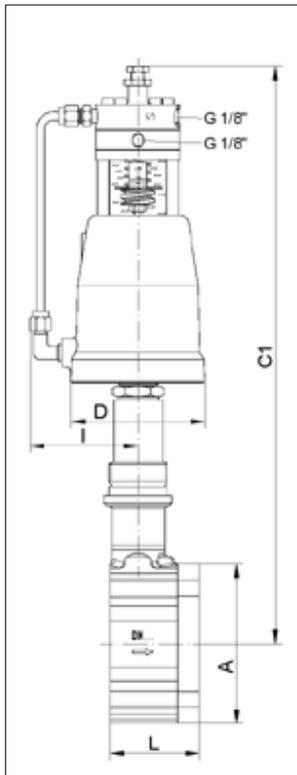
DN	Sliding unit: carbon - stainless steel, coated					
	max. admissible diff. pressures for GS3-valves					
	100°C	150°C	200°C	250°C	300°C	350°C
15 - 65	40	38	35	33	31	30
80	40	38	35	33	31	30
100	33	31	29	27	25	24

	Sliding unit: carbon - STN2					
	max. admissible diff. pressures for GS3-valves					
	100°C	150°C	200°C	250°C	300°C	350°C
	40	38	35	33	31	30
	36	34	33	26	22	19
	33	31	29	24	20	17

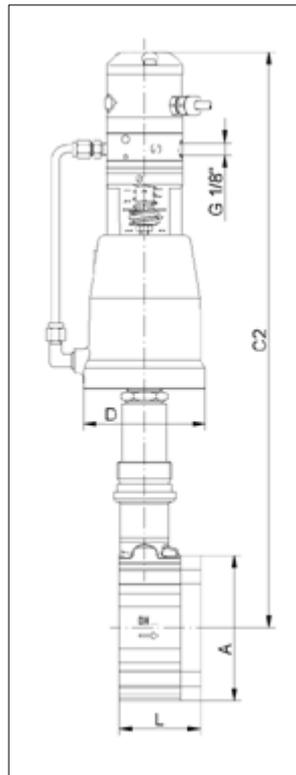
Control Valve 8043-GS3

mit integrated positioner

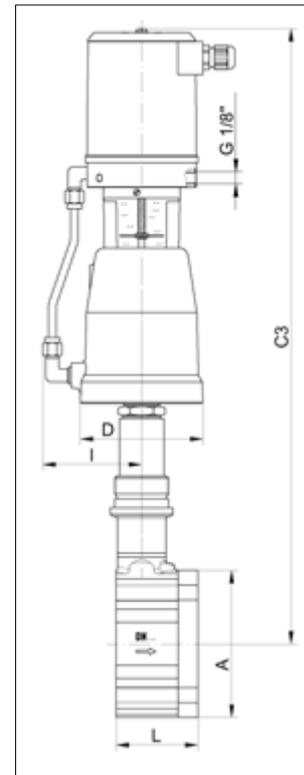
Dimensions and Weights



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



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



Type 8043 with
digital positioner Type 8048
and with position indicator

Text and pictures are not binding. We reserve the right to alter the equipment.

DN	Actuator Ø	A	L	D	Type 8043 actuator ø 80 mm			I	Weight kg Type 8043
					C1	C2	C3		
15	80	64	56	98	392	429	457	80	6,0
20	80	72	56	98	397	434	462	80	6,3
25	80	82	56	98	402	439	467	80	6,5
32	80	89	56	98	406	443	471	80	6,6
40	80	99	56	98	411	448	476	80	7,0
50	80	116	64	98	421	458	486	80	8,5
50	125	116	64	146	451	488	516	105	10,3
65	80	138	68	98	431	468	496	80	10,0
65	125	138	68	146	461	498	526	105	11,8
80	80	153	70	98	439	476	504	80	11,2
80	125	153	70	146	469	506	534	105	13,0
100	80	184	75	98	452	489	517	80	14,5
100	125	184	75	146	482	519	547	105	16,2

Dimensions in mm

For positioner without optical position indicator: C1, C2 and C3 minus 48 mm