

# GS-Control Valve 8043-GS3

## Series GS 3

### 1/2" up to 4"



**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 Cv-values
- Tight shut-off
- Lower cost piston actuator

### Technical data

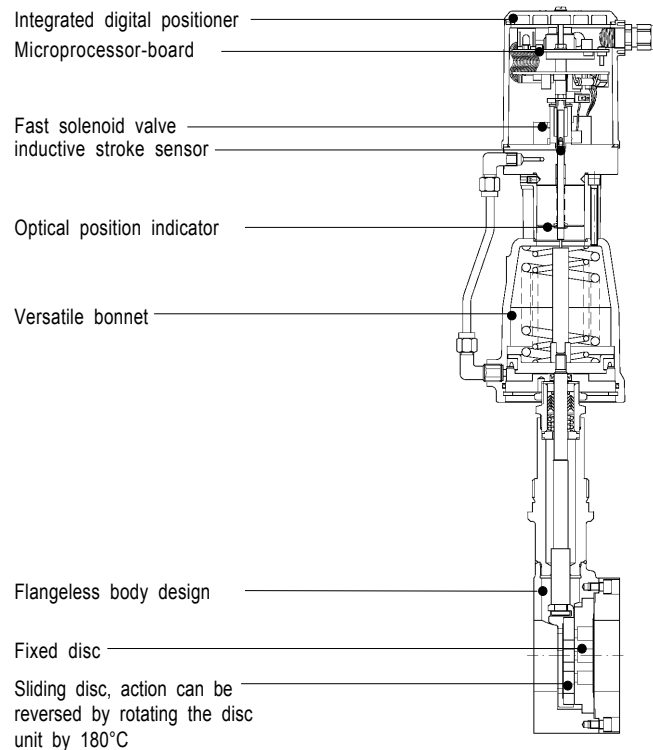
Design	ANSI flange wafer (self-aligning)	
Nominal Sizes	1/2" up to 4"	
Nominal pressure acc. DIN 2401	PN 40 (fits also to PN 10-25)	1/2" - 4"
Nominal pressure acc. ANSI	ANSI 150	1/2" - 4"
	ANSI 300	1/2" - 4"
Fluid Temperature	-76°F up to +662°F	
Leakage Rate (% of Cv-value)	Carbon, FUY	STN2
	< 0,0001	< 0,001



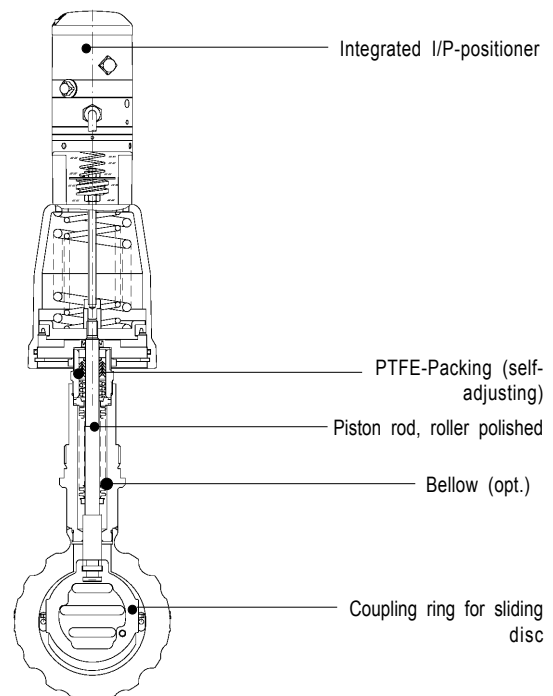
### Options

- Bellow (stainless steel)
- Position indicator
- External I/P-converter

C<sub>vs</sub>-values see data sheet 8001.



Type 8043  
with digital positioner



Type 8043  
with i/p-positioner



# GS-Control Valve 8043-GS3



**Pressure ratings**  
(For temperatures of up to 250°F)

## Digital positioner

Carbon-stainless steel coated

DN	Actuator	Max. differential pressure		Min. pilot pressure
		control	on/off	
		(psi)	(psi)	(psi)
1/2"	3"	580	580	50-85
3/4"	3"	580	580	60-85
1"	3"	580	580	60-85
1 1/4"	3"	580	580	65-85
1 1/2"	3"	435	435	65-85
2"	3"	275	275	75-85
2 1/2"	3"	230	230	75-85
3"	3"	145	145	75-85
4"	3"	85	85	75-85

1/2"	5"	580	580	45-85
3/4"	5"	580	580	45-85
1"	5"	580	580	50-85
1 1/4"	5"	580	580	50-85
1 1/2"	5"	580	580	50-85
2"	5"	580	580	60-85
2 1/2"	5"	535	535	60-85
3"	5"	335	335	60-85
4"	5"	205	205	60-85

STN2

DN	Actuator	Max. differential pressure		Min. pilot pressure
		control	on/off	
		(psi)	(psi)	(psi)
1/2"	3"	580	580	50-85
3/4"	3"	535	535	60-85
1"	3"	390	390	60-85
1 1/4"	3"	290	290	65-85
1 1/2"	3"	190	190	65-85
2"	3"	115	115	75-85
2 1/2"	3"	85	85	75-85
3"	3"	50	50	75-85
4"	3"	30	30	75-85

1/2"	5"	580	580	45-85
3/4"	5"	580	580	45-85
1"	5"	580	580	50-85
1 1/4"	5"	580	580	50-85
1 1/2"	5"	390	390	50-85
2"	5"	260	260	60-85
2 1/2"	5"	220	220	60-85
3"	5"	130	130	60-85
4"	5"	80	80	60-85

## p/p- or i/p- positioner

Carbon-stainless steel coated

DN	Actuator	Max. differential pressure		Min. pilot pressure
		control	on/off	
		(psi)	(psi)	(psi)
1/2"	3"	580	580	60-85
3/4"	3"	535	535	60-85
1"	3"	420	450	60-85
1 1/4"	3"	305	365	60-85
1 1/2"	3"	205	275	60-85
2"	3"	115	175	65-85
2 1/2"	3"	100	145	65-85
3"	3"	60	85	65-85
4"	3"	35	60	65-85

1/2"	5"	580	580	45-85
3/4"	5"	580	580	45-85
1"	5"	580	580	45-85
1 1/4"	5"	580	580	45-85
1 1/2"	5"	495	580	45-85
2"	5"	290	390	50-85
2 1/2"	5"	230	335	50-85
3"	5"	145	205	50-85
4"	5"	85	130	50-85

STN2



DN	Actuator	Max. differential pressure		Min. pilot pressure
		control	on/off	
		(psi)	(psi)	(bar)
1/2"	3"	405	435	60-85
3/4"	3"	275	335	60-85
1"	3"	190	245	60-85
1 1/4"	3"	130	190	60-85
1 1/2"	3"	80	115	60-85
2"	3"	45	75	65-85
2 1/2"	3"	35	60	65-85
3"	3"	-	-	-
4"	3"	-	-	-

1/2"	5"	580	580	45-85
3/4"	5"	580	580	45-85
1"	5"	435	550	45-85
1 1/4"	5"	305	405	45-85
1 1/2"	5"	190	275	45-85
2"	5"	100	160	50-85
2 1/2"	5"	85	130	50-85
3"	5"	50	75	50-85
4"	5"	30	45	50-85

# GS-Control Valve 8043-GS3



## Technical data - positioner

	Digital positioner	i/p-positioner	p/p-positioner
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. 90 psi	max. 90 psi	max. 90 psi
Hysteresis	< 0,5 %	< 1 %	< 1 %
Characteristics	linear, equal percentage, user-defined, process optimized*	Linear, equal percentage	Linear, equal percentage
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
Intrinsically safe (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.

## Materials

Body	Stainless steel 316 Ti / 318      8" also in 1.0570
Head section	Stainless steel 316 Ti
Bonnet	Brass plated (actuator ø 2", ø 3") Aluminium corrosion proof (actuator ø 5")
Springs	Stainless steel 304 (actuator ø 2", ø 3") Spring steel wire C, coated (actuator ø 5")
Packing	PTFE (carbon filled), spring SST 301
Actuating stem	Stainless steel, roller burnished
Bellow	Stainless steel 316 Ti
Fixed plate	Stainless steel 316 Ti, Stellite
Sliding disc	Carbon material, FUY (1/2" up to 4"), SIC (1/2", 1", 1 1/2", 2")
Coupling ring for discs	Stainless steel 318
Optical position indicator	PA Trogamid (transparent)

# GS-Control Valve 8043-GS3



## Pressure - Temperature ratings for GS3 Valves

### 580 psi (PN 40)

DN	Sliding unit: carbon - stainless steel, coated						Sliding unit: carbon - STN2					
	maximum pressures for GS3-valves (psi)						maximum pressures for GS3-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
1/2" - 2 1/2"	580	550	510	465	405	350	580	550	510	465	405	350
3"	580	550	510	465	405	350	520	495	480	375	320	275
4"	480	450	420	390	365	350	480	450	420	350	290	245
5"	335	305	290	275	260	245	320	305	290	230	190	160
6"	230	220	205	190	175	175	230	220	205	160	140	125
8" (PN16 only)	230	220	205	190	160	140	-	-	-	-	-	-

### ANSI #150

DN	Sliding unit: carbon - stainless steel, coated						Sliding unit: carbon - STN2					
	maximum pressures for GS3-valves (psi)						maximum pressures for GS3-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
1/2" - 5"	230	220	190	175	145	125	230	220	190	175	145	125
6"	230	220	190	175	145	125	230	220	190	160	140	125
8"	230	220	190	175	145	125	-	-	-	-	-	-

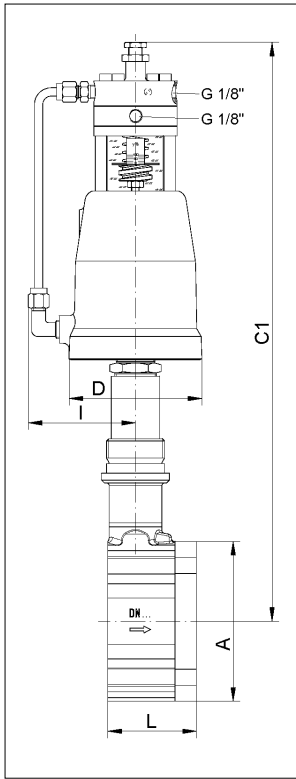
### ANSI #300

DN	Sliding unit: carbon - stainless steel, coated						Sliding unit: carbon - STN2					
	maximum pressures for GS3-valves (psi)						maximum pressures for GS3-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
1/2" - 2 1/2"	580	550	510	480	450	435	580	550	510	480	450	435
3"	580	550	510	480	450	435	520	495	480	375	320	275
4"	480	450	420	390	365	350	480	450	420	350	290	245
5"	335	305	290	275	260	245	320	305	290	230	190	160
6"	230	220	205	190	175	175	230	220	205	160	130	115

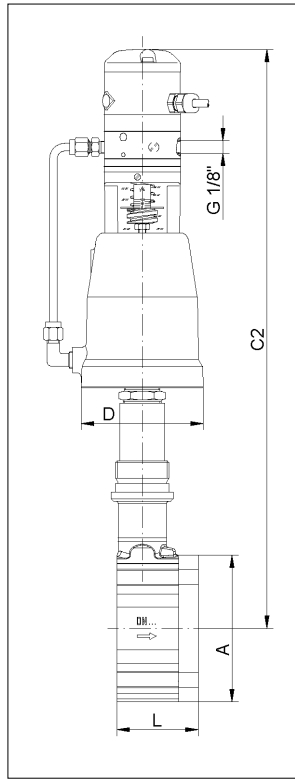


# GS-Control Valve 8043-GS3

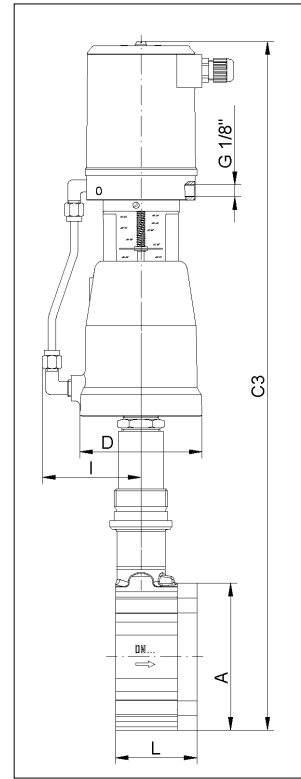
## Dimensions and weights



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



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



Type 8043 with digital positioner and with position indicator

DN	Actuator Ø	A	L	D	Type 8043 3"-actuator			I	Weight lb Type 8043
					C1	C2	C3		
15	3"	2,50	2,20	3,85	15,4	16,9	18,0	3,15	13,2
20	3"	2,85	2,20	3,85	15,6	17,1	18,2	3,15	13,9
25	3"	3,25	2,20	3,85	15,8	17,3	18,4	3,15	14,3
32	3"	3,50	2,20	3,85	16,0	17,4	18,5	3,15	14,5
40	3"	3,90	2,20	3,85	16,2	17,6	18,7	3,15	15,4
50	3"	4,55	2,50	3,85	16,6	18,0	19,1	3,15	18,7
50	5"	4,55	2,50	5,75	17,8	19,2	20,3	4,15	22,7
65	3"	5,45	2,70	3,85	17,0	18,4	19,5	3,15	22,0
65	5"	5,45	2,70	5,75	18,1	19,6	20,7	4,15	26,0
80	3"	6,00	2,75	3,85	17,3	18,7	19,8	3,15	24,6
80	5"	6,00	2,75	5,75	18,5	19,9	21,0	4,15	28,6
100	3"	7,25	2,95	3,85	17,8	19,3	20,4	3,15	31,9
100	5"	7,25	2,95	5,75	19,0	20,4	21,5	4,15	35,6

Dimensions in inch

For positioner without optical position indicator: C1, C2 and C3 minus 1.9"

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## 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	-	-	-	-	0,145	-	-
	eq. perc.	3,1	-	-	-	-	-	-	-	-	-	-	-	-
1"	(mod.) linear	13	6,3	4,6	-	-	1,9	-	1,08	0,72	-	-	-	0,05
	eq. perc.	5,8	-	2,8	-	1,3	-	-	-	-	-	-	-	-
1 1/4"	(mod.) linear	19	11,6	-	-	-								
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	-										

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