

Control Valve

8043-GS3

with integrated positioner

GS 3 series

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 Information

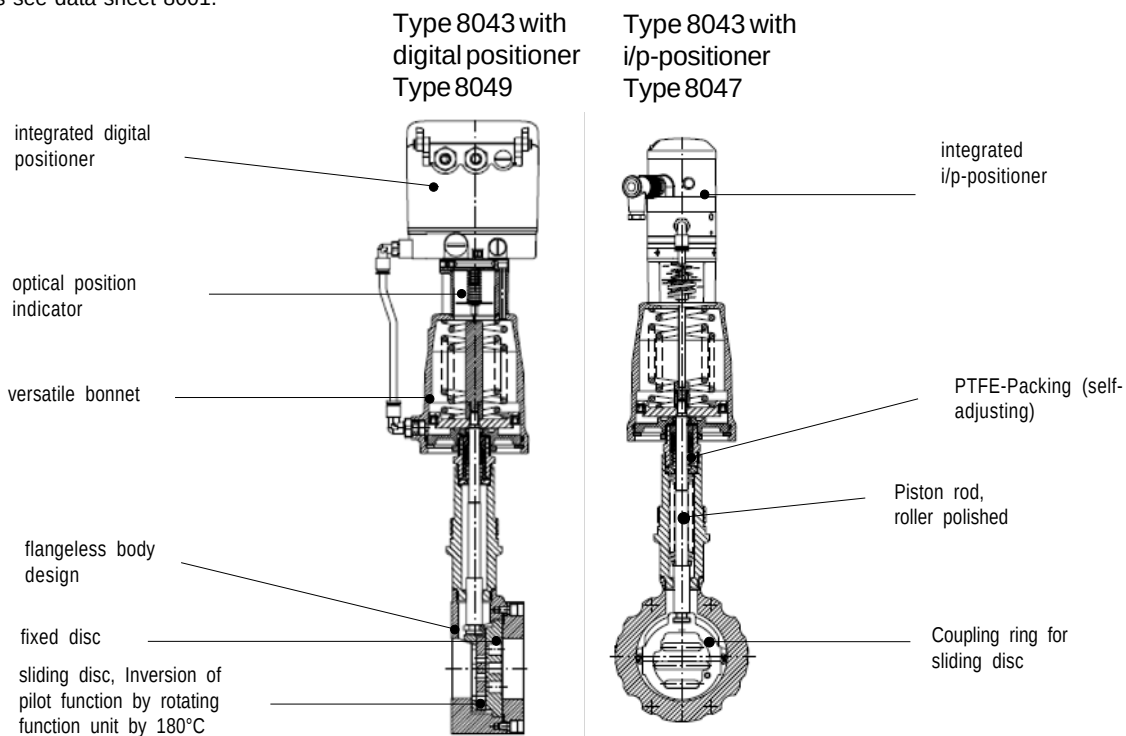
Design	ANSI flange wafer (self-aligning)	
Nominal Sizes	1/2" up to 4"	
Nominal pressure acc. DIN 2401	PN 40 (fits also to PN 10-25)	1/2" - 4"
Nominal pressure acc. ANSI	ANSI 150	1/2" - 4"
	ANSI 300	1/2" - 4"
Fluid Temperature	Carbon steel body	14°F up to +572°F
	Stainless steel body	-76°F up to +662°F
Leakage Rate (% of Cv-value)	Carbon, FUY	STN2
	< 0,0001	< 0,001

C_v-values see data sheet 8001.



Options

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



Control Valve 8043-GS3

with integrated positioner



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

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

Carbon - stainless steel coated

DN	Actuator	max. differential pressure		min. pilot pressure
		control	on/off	
		(psi)	(psi)	(psi)
1/2"	3"	580	580	45 - 85
3/4"	3"	535	535	50 - 85
1"	3"	420	450	50 - 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	50 - 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

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

Carbon - stainless steel coated

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

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

STN2

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

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

Control Valve 8043-GS3

with integrated positioner



Materials

Body	Stainless steel 316 Ti /318	Carbon steel ASTM A572, A216
Head section	Stainless steel 316 Ti /318	
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)	

Positioner

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

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

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" - 4"	230	220	190	175	145	125	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

Control Valve 8043-GS3

with integrated positioner



Ordering Number System

8	0	4	3	/				V	F					M						Z			S
Type				Size				Symbol: "V": Valve								"R": Repair kit (sealings)							

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, 145 - 580 psi	0 carbon steel ASTM A572 ASTM A216 1 stainless steel 316 Ti / 318	0 Spring to close 1 Spring to open	8 piston 3" (NPT) 9 piston 5" (NPT)	M to state if some sections 7-16 are quoted!	- standard	- PTFE-V-shaped sealing rings, self-adjusting additional bellow 316 Ti 1

9. Sliding disc	10. Fixed disc	11. Cv-values	12. Characteristic	13. Accessories	14. Positioner	15. Special versions	16. Special version
- carbon material 9 STN2/STN3 A SIC B FUY	- stainless steel/stellite 1 STN2-plate (only in combination with the position "9") 3 STN3-plate (only in combination with the position "9")	- 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:

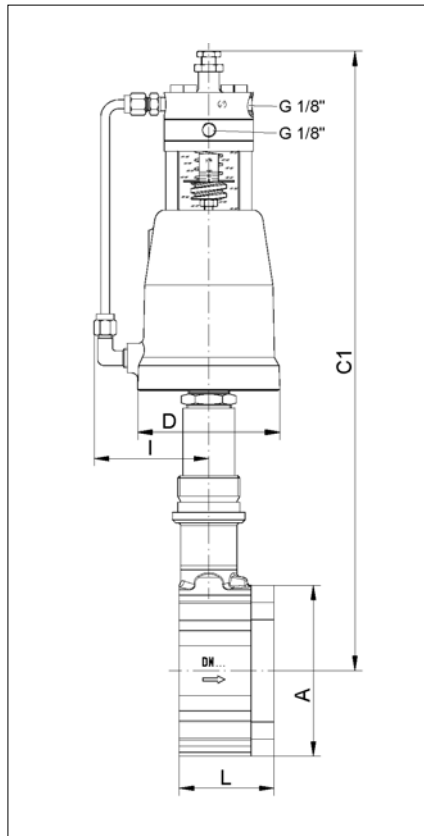
8043/050VFE101M-1--2-Z8

GS3-control valve with piston actuator, long design, 2", ANSI#150, body material stainless steel, NC, actuator Ø 3", bellow, disc pair: carbon material - stainless steel 316 Ti coated, fixed disc stainless steel 316 Ti coated, Cv-value 16 % (red.), linear characteristics, integrated i/p-positioner with position indicator

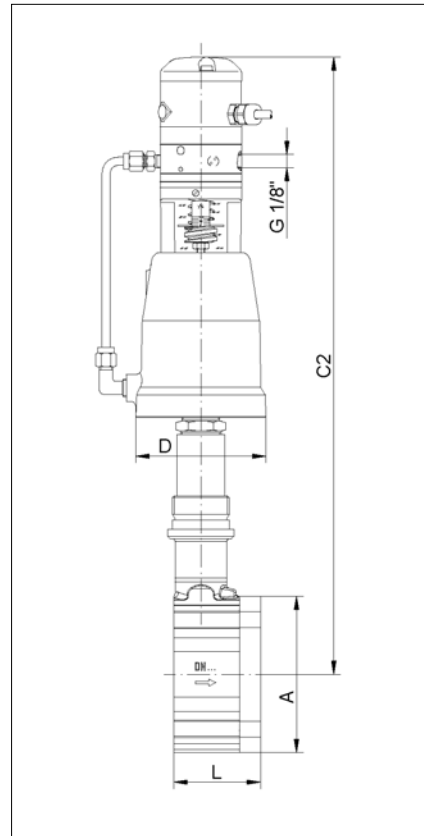
Control Valve 8043-GS3

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

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

DN	Actuator Ø	A	L	D	Type 8043 3"-actuator		I	Weight lbs Type 8043
					C1	C2		
1/2"	3"	2.5	2.2	3.85	15.45	16.9	3.15	13.2
3/4"	3"	2.85	2.2	3.85	15.65	17.1	3.15	13.9
1"	3"	3.25	2.2	3.85	15.85	17.3	3.15	14.3
1 1/4"	3"	3.5	2.2	3.85	16	17.45	3.15	14.5
1 1/2"	3"	3.9	2.2	3.85	16.2	17.65	3.15	15.4
2"	3"	4.55	2.5	3.85	16.55	18.05	3.15	18.7
2"	5"	4.55	2.5	5.75	17.75	19.2	4.15	22.7
2 1/2"	3"	5.45	2.7	3.85	16.95	18.45	3.15	22
2 1/2"	5"	5.45	2.7	5.75	18.15	19.6	4.15	26
3"	3"	6	2.75	3.85	17.3	18.75	3.15	24.6
3"	5"	6	2.75	5.75	18.45	19.9	4.15	28.6
4"	3"	7.25	2.95	3.85	17.8	19.25	3.15	31.9
4"	5"	7.25	2.95	5.75	19	20.45	4.15	35.6

Dimensions in inch

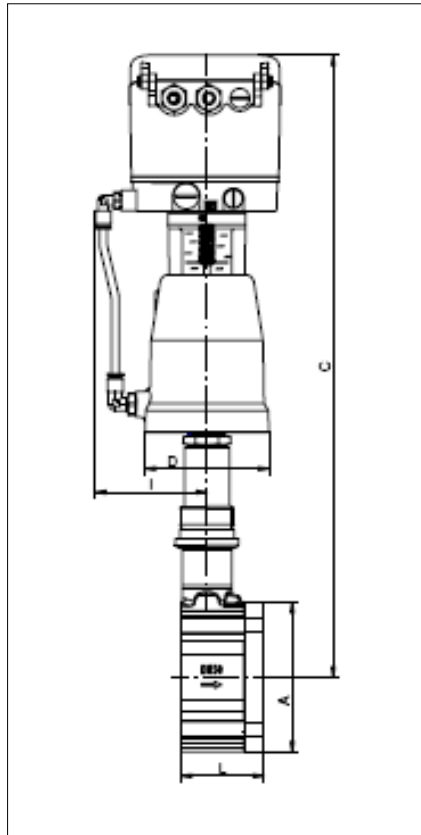
For positioner without optical position indicator: C1 and C2 minus 1.9"

Control Valve 8043-GS3

with integrated digital positioner, Type 8049



Dimensions and Weights



DN	Actuator Ø	A Ø	C	D	I	R	L	Stroke	Weight lbs Type 8043
1/2"	3"	2.52	19.02	3.78	3.54	0.31	2.2	0.24	13.2
1/2"	5"	2.52	20.2	5.75	7.28	0.31	2.2	0.24	17.2
3/4"	3"	2.83	19.21	3.78	3.54	0.39	2.2	0.24	13.9
3/4"	5"	2.83	20.39	5.75	7.28	0.39	2.2	0.24	17.8
1"	3"	3.23	19.41	3.78	3.54	0.39	2.2	0.24	14.3
1"	5"	3.23	20.59	5.75	7.28	0.39	2.2	0.24	18.3
1 1/4"	3"	3.5	19.57	3.78	3.54	0.39	2.2	0.24	14.5
1 1/4"	5"	3.5	20.75	5.75	7.28	0.39	2.2	0.24	18.5
1 1/2"	3"	3.9	19.76	3.78	3.54	0.39	2.2	0.24	15.4
1 1/2"	5"	3.9	20.94	5.75	7.28	0.39	2.2	0.24	19.4
2"	3"	4.57	20.28	3.78	3.54	0.39	2.52	0.31	18.7
2"	5"	4.57	21.46	5.75	7.28	0.39	2.52	0.31	22.7
2 1/2"	3"	5.43	20.63	3.78	3.54	0.39	2.68	0.31	22
2 1/2"	5"	5.43	21.81	5.75	7.28	0.39	2.68	0.31	26
3"	3"	6.02	20.94	3.78	3.54	0.39	2.76	0.31	24.6
3"	5"	6.02	22.13	5.75	7.28	0.39	2.76	0.31	28.6
4"	3"	7.24	21.46	3.78	3.54	0.39	2.95	0.33	31.9
4"	5"	7.24	22.64	5.75	7.28	0.39	2.95	0.33	35.6

Dimensions in inch

GS-Control Valve 8043-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	-										