

Sliding spool control valve with integrated positioner Series SG07



Design type	pneumatic control valve with diaphragm actuator with integrated positioner, Sandwich mounting version, NC
Overall length	according to EN558-1R20
Connection	Flanges DN15...DN150, according to EN1092-1 Form B, PN10-40
Materials	Housing Galvanized steel or rather Stainless steel 1.4408, Sealing disc, fixed Stainless steel 1.4571 coated and Movable sealing disc Special carbon Intermediate tube and piston rod Stainless steel 1.4571, Packing PTFE filled with carbon, Driver for sealing disc Stainless steel 1.4581, Diaphragm shells Aluminium coated, Actuator spring stainless steel 1.4310, Housing Positioner Anodized aluminium and Plastic
Sliding pair	Stainless steel/special carbon: Sealing washer fixed Stainless steel 1.4571 coated and Sealing washer movable Special carbon Stainless steel/SFC: Sealing washer fixed Stainless steel 1.4571 coated and Sealing washer movable SFC STN2: Sealing washer fixed and Sealing washer movable STN2
Leakage rate (% of Kvs)	Stainless steel/special carbon < 0,0001 Stainless steel/SFC < 0,0005 STN2 < 0,001
Mounting type	Installation in rigid piping system
Mounting position	The positioner is adjusted at the factory for horizontal mounting position. When used in a different mounting position, the zero point and the full-scale value must be readjusted.
Application range	gaseous and liquid media that do not attack the materials used
Medium temperature	Housing Galvanized steel: -10...+350°C Housing Stainless steel 1.4408: -60...+350°C (SFC -60...+300°C)
Ambient temperature	see positioner
Operating pressure	see tables
Supply pressure	max. 6bar



Type code

		SG	07	-	100	-	W	WC	1253	-	01
Type		07									
Connection		DN15	15								
	DN20	20									
	DN25	25									
	DN32	32									
	DN40	40									
	DN50	50									
	DN65	65									
	DN80	80									
	DN100	100									
	DN125	125									
	DN150	150									
Housing material		Steel galvanized					U				
	Stainless steel 1.4408						W				
Sliding pair		Stainless steel/special carbon					WC				
	Stainless steel/SFC						WF				
	STN2						WN				
Actuator		Actuator 125, Spring assembly 3						1253			
	Actuator 125, Spring assembly 4							1254			
	Actuator 250, Spring assembly 3							2503			
	Actuator 250, Spring assembly 4							2504			
	Actuator 500, Spring assembly 6							5006			
	Actuator 500, Spring assembly 8							5008			
Special version		described in the item text							01,02,03....		
	Kvs values reduced to										
	Characteristic curve linear/equal percentage										
	digital position controller type 8049, 4-wire										
	digital position controller type 8049, 2-wire										
	digital positioner type 8049, ASI version										
	digital position controller type 8049, 2-wire Ex version										
	P/P-Positioner Type 8047										
	I/P-Positioner Type 8047										
	I/P-Positioner Type 8047 EEx ib IIC T6 with plug connector M12x1										
	2 Inductive limit switch M12x1 10 ... 30 VDC PNP										
	2 Limit switch inductive M12x1 10 ... 55 VDC PNP/NPN										
	additional metal bellows Stainless steel 1.4571 (max. Pressure 33bar)										



Positioner



analog position controller
8047

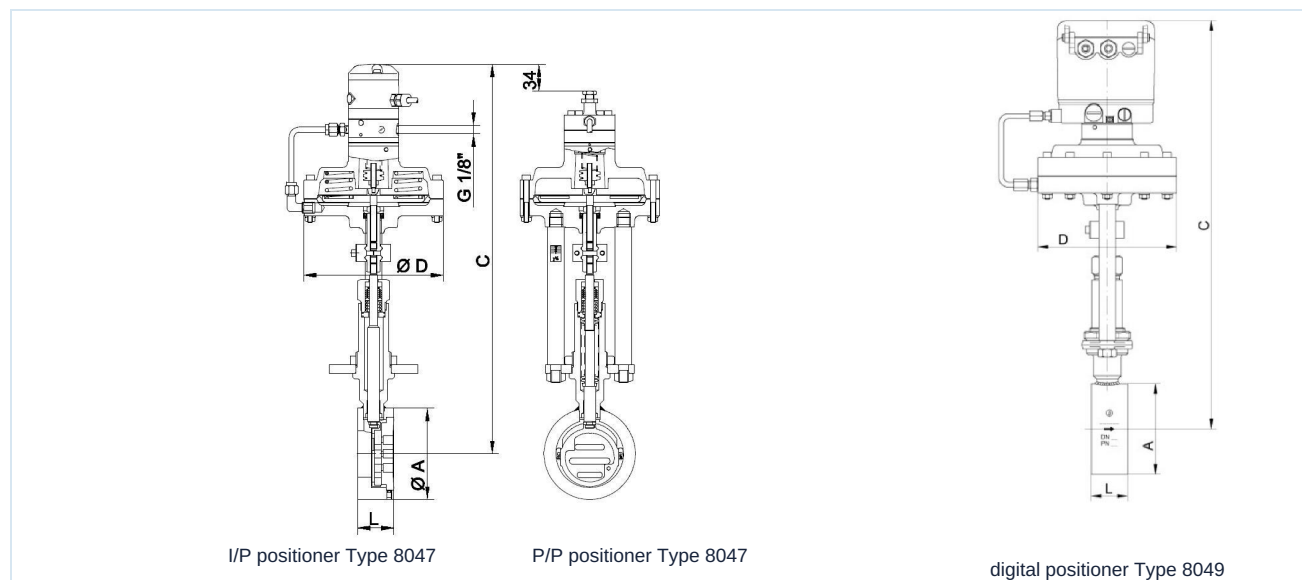


digital positioner
8049

analog position controller	
Control signal	pneumatic: 0,2...1bar electropneumatic: 0/4...20mA
Control pressure	3...6bar
Control medium	non-lubricated, dry compressed air or neutral gases, 5µm filtered
Ambient temperature	-15...+60°C
Control ratio	30:1
Hysteresis	< ±1%
Self air consumption	400...600 NI/h (depending on supply pressure)
Pressure port	G1/8"
Degree of protection	IP54 according to EN 60529
digital positioner	
Supply voltage	4-wire connection 24VDC 2-wire connection none
Burden voltage	4-wire connection 3,5V at 20mA 2-wire connection 6,2V at 20mA
Control signal	4-wire connection: 0/4 ... 20mA 2-wire connection: 4 ... 20mA
Control pressure	4-wire connection: 4 ... 6bar 2-wire connection: 4,5...6bar
Control medium	4-wire connection non-lubricated, dry compressed air or neutral gases, 40µm filtered 2-wire connection non-lubricated, dry compressed air or neutral gases, 5µm filtered
Ambient temperature	4-wire connection: -20...+75°C 2-wire connection: -10...+75°C
Control ratio	Characteristic curve linear 40:1 Characteristic curve equal percentage 80:1
Self air consumption	none
Pressure port	G1/8"
Degree of protection	IP65 according to EN 60529
Accessories	Limit switch, visual position indicator, analog feedback module for digital controller



Dimensions



Nominal size DN [mm]	A	C		Actuator D		L	Stroke	Weight [approx. kg]	
		analog controller	digital controller	D125	D250			D125	D250
15	53	430	460	165	222	33	6	6,9	9,1
20	62	435	465	165	222	33	6	7,0	9,2
25	72	440	470	165	222	33	6	7,2	9,4
32	82	445	475	165	222	33	6	7,5	9,7
40	92	450	480	165	222	33	6	7,7	9,9
50	108	460	490	165	222	43	8	8,9	11,1
65	127	470	500	165	222	46	8	9,7	11,9
80	142	480	510	165	222	46	8	10,3	12,5
100	164	490	520	165	222	52	8,5	11,8	14,0
125	194	505	535	165	222	56	8,5	14,0	16,2
150	219	520	550	165	222	56	8,5	15,5	17,7

Application limits - maximum permissible inlet pressures in bar

Nominal size DN [mm]	Stainless steel/special carbon - Stainless steel/SFC						STN2					
	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 - 25	40	36	31	28	26	24	40	36	31	28	26	24
32	40	36	31	28	26	24	40	36	31	28	25	22
40	40	36	31	28	26	24	26	25	24	19	16	14
50	40	36	31	28	26	24	40	36	31	28	26	24
65	40	36	31	28	26	24	37	35	31	27	22	19
80	40	36	31	28	26	24	22	20	19	16	13	11
100	24	23	22	19	17	16	13	12	12	9,0	8,0	6,0
125	16	15	14	13	11	10	8	8	7,0	6,0	5,0	4,0
150	16	16	16	16	14	13	10	10	9,0	7,0	6,0	5,0

SFC max. 300°C



Permissible differential pressures - analog position controller (for temperatures up to 120°C)*
Sliding pair Stainless steel/special carbon - Stainless steel/SFC

Nominal size DN [mm]	permissible differential pressure [bar]			
	Effective actuator area 125cm²		Effective actuator area 250cm²	
	Spring assembly 3 (Standard)	Spring assembly 4	Spring assembly 3 (Standard)	Spring assembly 4
	Supply pressure 4bar	Supply pressure 5bar	Supply pressure 3bar	Supply pressure 4bar
15	40	40	40	40
20	40	40	40	40
25	40	40	40	40
32	40	40	40	40
40	29	36	40	40
50	17	21	29	35
65	14	17	24	29
80	8	10	14	17
100	5	6	9	10
125	3	4	6	7
150	2	3	4	5

*At temperatures above 120°C observe application limits

Permissible differential pressures - analog position controller (for temperatures up to 120°C)*
Sliding pair STN2

Nominal size DN [mm]	permissible differential pressure [bar]			
	Effective actuator area 125cm²		Effective actuator area 250cm²	
	Spring assembly 3 (Standard)	Spring assembly 4	Spring assembly 3 (Standard)	Spring assembly 4
	Supply pressure 4bar	Supply pressure 5bar	Supply pressure 3bar	Supply pressure 4bar
15	40	40	40	40
20	37	40	40	40
25	25	31	40	40
32	17	22	30	36
40	11	14	19	24
50	6	8	11	13
65	5	6	9	11
80	3	3,5	5	6
100	1,5	2	3	4
125	-	1,5	2	2,5
150	-	1	1,5	1,8

*At temperatures above 120°C observe application limits



Permissible differential pressures - digital positioner (for temperatures up to 120°C)*
Sliding pair Stainless steel/special carbon - Stainless steel/SFC

Nominal size DN [mm]	permissible differential pressure [bar]				
	Effective actuator area 125cm²		Effective actuator area 250cm²		
	Spring assembly 3 (Standard)	Spring assembly 4	Spring assembly 3 (Standard)	Spring assembly 4	Spring assembly 6
	Supply pressure 4,5bar	Supply pressure 5,5bar	Supply pressure 3bar	Supply pressure 4bar	Supply pressure 5,3bar
15	40	40	40	40	40
20	40	40	40	40	40
25	40	40	40	40	40
32	40	40	40	40	40
40	40	40	40	40	40
50	40	40	40	40	40
65	37	40	40	40	40
80	23	29	40	40	40
100	15	16	24	25	33
125	10	11	16	16	23
150	7	7,5	13	15	16

*At temperatures above 120°C observe application limits

Permissible differential pressures - digital positioner (for temperatures up to 120°C)*
Sliding pair STN2

Nominal size DN [mm]	permissible differential pressure [bar]				
	Effective actuator area 125cm²		Effective actuator area 250cm²		
	Spring assembly 3 (Standard)	Spring assembly 4	Spring assembly 3 (Standard)	Spring assembly 4	Spring assembly 6
	Supply pressure 4,5bar	Supply pressure 5,5bar	Supply pressure 3bar	Supply pressure 4bar	Supply pressure 5,7bar
15	40	40	40	40	40
20	40	40	40	40	40
25	40	40	40	40	40
32	40	40	40	40	40
40	26	27	27	27	27
50	18	20	31	38	40
65	15	16	26	31	38
80	9	9,5	15	19	22
100	5	5,5	9	11	13,5
125	3	3,5	6	7	8,9
150	2	2,5	4,5	5,5	7,8

*At temperatures above 120°C observe application limits



Kvs values

Nominal size DN [mm]	Characteristic curve	Kvs value [m³/h]												
		100%	63%	40%	25%	20%	16%	12%	10%	6,3%	2,5%	2%	1%	0,4%
15	linear	4	2,6	1,7	1,4	-	0,71	0,49	0,44	0,26	0,14	0,08	0,04	0,018
	equal percentage	1,7	-	1,1	-	0,35	-	-	-	0,1	-	-	-	-
20	linear	6,4	-	-	-	-	1	-	-	-	-	0,13	-	-
	equal percentage	3	-	1,5	-	-	-	-	-	-	-	-	-	-
25	linear	11	6,4	4	-	-	1,6	-	0,93	0,62	0,26	-	0,14	0,04
	equal percentage	5	-	2,4	-	1,1	-	-	-	0,35	-	-	-	-
32	linear	16	10	-	-	-	-	-	-	-	-	-	-	-
	equal percentage	8	4,7	-	-	-	-	-	-	-	-	-	-	-
40	linear	26	16	11	7	-	-	-	-	-	-	-	-	-
	equal percentage	11	8,5	-	2,75	-	-	-	-	-	-	-	-	-
50	linear	45	28	20	12	10	-	-	-	-	-	-	-	-
	equal percentage	19	12	-	-	-	3	-	-	-	-	-	-	-
65	linear	52	35	-	15	-	-	-	-	-	-	-	-	-
	equal percentage	30	-	-	8	-	-	-	-	-	-	-	-	-
80	linear	92	58	40	-	-	-	-	-	-	-	-	-	-
	equal percentage	48	35	-	-	-	-	-	-	-	-	-	-	-
100	linear	154	95	62	-	-	-	-	-	-	-	-	-	-
	equal percentage	77	48	-	-	-	-	-	-	-	-	-	-	-
125	linear	237	-	95	-	-	-	-	-	-	-	-	-	-
	equal percentage	116	-	-	-	-	-	-	-	-	-	-	-	-
150	linear	338	212	-	-	-	-	-	-	-	-	-	-	-
	equal percentage	147	90	-	-	-	-	-	-	-	-	-	-	-

Illustrations non-binding

Design, dimensional and material changes reserved

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