

Stop Valve 8040

GS 3 series, 1/2" up to 8"

Pneumatic piston operated stop valve for on/off control of steam, gas and liquids

- Space saving wafer-type construction
- Rapid actuation response (<100 ms)
- Light in weight
- Low operation noise level
- High differential pressure capability with small actuators
- Low energy consumption



Technical Information

Design	flangeless, wafer-type construction		
Nominal size	1/2" up to 8"		
Nominal pressure acc. DIN 2401 for flanges with facing type B	580 psi (fits also to 145-365 psi)	1/2" - 6"	
	235 psi	1/2" - 3"	
Nominal pressure acc. ANSI for flanges acc. ASME B16.5 RF	ANSI 150	1/2" - 8"	
	ANSI 300	1/2" - 6"	
Nominal pressure acc. JIS for „raised face“ flanges	10K	1/2" - 2"	
	20K	1/2" - 1 1/2"	
Media temperature	Versions from -76°F up to +572°F		
Ambient temperature	14°F up to +212°F		
Pilot pressure	maximum 145 psi (higher on demand)		
Leakage (% of Kvs) EN 12266-1	disc pair carbon-stainless steel	disc pair SFC	disc pair STN 2
	< 0,0001 D	< 0,0005 E	< 0,001 E
Packing leakage	tested according to TA-Luft as defined in DIN EN ISO 15848-1 and VDI 2440		

Options:

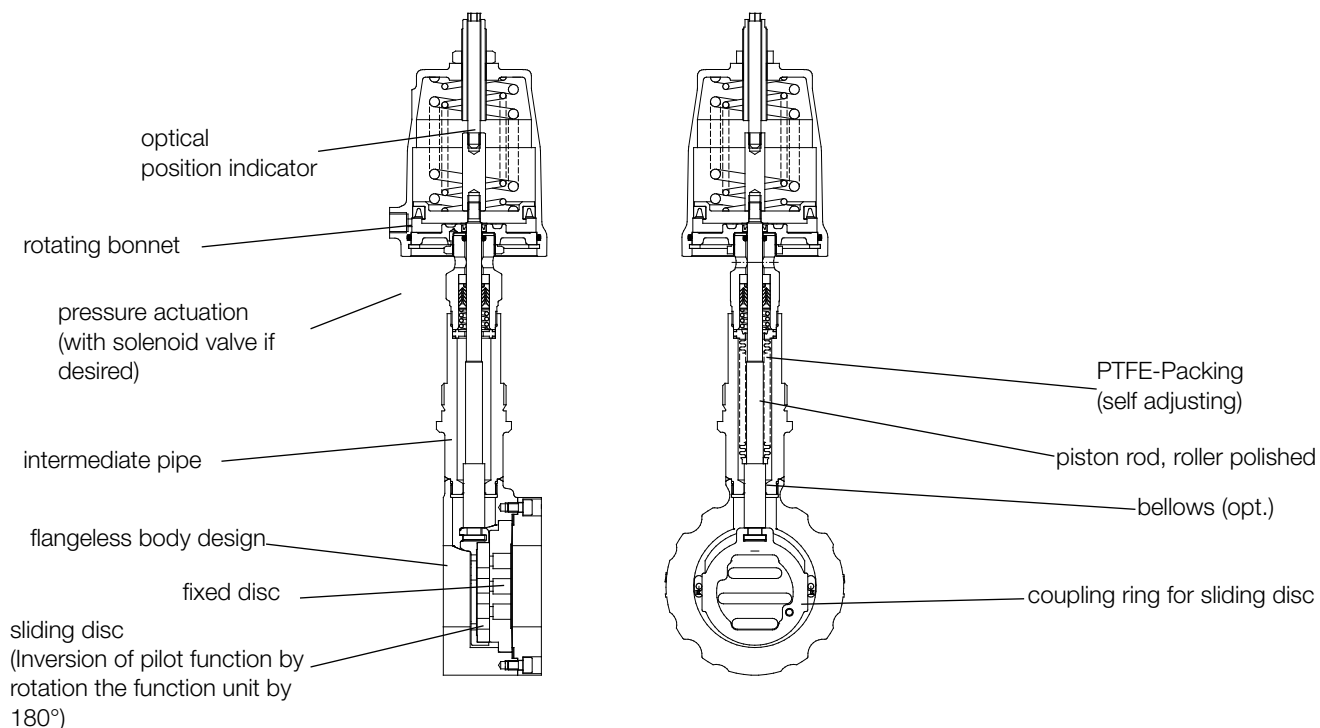
- Bellow (stainless steel)
- Limit switches
- Manual operation
- Pilot valve
- AS-I control head
- Complete stainless steel version
- O2 cleaned version

Cvs-values see data sheet 8001.

Fluid temperature

Rating	PN40	PN 16	PN 100	ANSI 150	ANSI 300	ANSI 600
Body material cpl. stainless steel						
Tmin [°F]	-76	-76	-76	-20	-20	-20
Tmax [°F]	662	662	662	662	662	662
Body material cpl. carbon steel						
Tmin [°F]	-76	-76	14	-4	-4	14
Tmax [°F]	572	572	572	572	572	572
Body material carbon steel with stainless steel body cover						
Tmin [°F]	-76	-76	14	-4	-4	-4
Tmax [°F]	662	662	662	662	662	662

Stop Valve 8040



Materials

Body	stainless steel 318 / 316 Ti	carbon steel ASTM A216 / ASTM A572-50	
Bodycover	stainless steel 316 Ti or 316 L	carbon steel ASTM A572-50	
Bonnet	chrome plated brass (actuator \varnothing 2", \varnothing 3")		
	aluminium corrosion resistant coating (actuator \varnothing 5")		
Springs	stainless steel 304 (actuator 2", 3")		
	spring steel wire C, coated (actuator 5")		
Packing	PTFE (carbon filled)		
Valve stem	stainless steel 316 Ti, roller burnished		
Bellows	stainless steel 316Ti		
Fixed plate	stainless steel 1.4571, plated		STN2-disc
Sliding disc	standard:		STN2-disc
	special carbon material	SFC-disc	
Coupling ring for discs	stainless steel 318		

Admissible Pressures (For temperatures of up to 250°F)

**For temperatures exceeding 250°F:
consider operation limits**

size	actuator	Disc pair carbon/SFC - stainless steel	
		max. working pressure (psi)	required pilot pressure (psi)
1/2"	2"	480	55
3/4"	2"	420	55
1"	2"	350	55
1 1/4"	2"	285	55
1 1/2"	2"	220	60
2"	2"	140	70
2 1/2"	2"	120	75
3"	2"	75	75
4"	2"	50	80
5"	2"	35	80
6"	2"	25	80
1/2"	3"	740	45
3/4"	3"	740	45
1"	3"	740	45
1 1/4"	3"	740	45
1 1/2"	3"	580	50
2"	3"	380	60
2 1/2"	3"	320	60
3"	3"	205	65
4"	3"	130	70
5"	3"	90	70
6"	3"	65	70
8"	3"	40	70
1/2"	5"	740	25
3/4"	5"	740	25
1"	5"	740	25
1 1/4"	5"	740	25
1 1/2"	5"	740	30
2"	5"	560	35
2 1/2"	5"	470	35
3"	5"	300	40
4"	5"	190	40
5"	5"	130	40
6"	5"	95	40
8"	5"	55	40

size	actuator	STN2-disc pair	
		max. working pressure (psi)	required pilot pressure (psi)
1/2"	2"	340	55
3/4"	2"	265	60
1"	2"	195	65
1 1/4"	2"	145	65
1 1/2"	2"	100	70
2"	2"	60	75
2 1/2"	2"	50	80
3"	2"	30	80
4"	2"	20	80
5"	2"	-	-
6"	2"	-	-
1/2"	3"	740	45
3/4"	3"	705	50
1"	3"	525	55
1 1/4"	3"	390	60
1 1/2"	3"	270	60
2"	3"	160	65
2 1/2"	3"	130	65
3"	3"	80	70
4"	3"	50	70
5"	3"	35	70
6"	3"	25	70
8"	3"	-	-
1/2"	5"	740	25
3/4"	5"	740	30
1"	5"	740	30
1 1/4"	5"	575	35
1 1/2"	5"	395	35
2"	5"	235	40
2 1/2"	5"	195	40
3"	5"	115	40
4"	5"	75	40
5"	5"	50	40
6"	5"	35	40
8"	5"	-	-

	Pressure limits ANSI and DIN in psi			
	ANSI150	ANSI 300	PN16	PN40
P max. carbon steel	284	741	232	580
P max. stainless steel	276	719		

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.

ANSI150

Size	Sliding unit: carbon/SFC - stainless steel, coated								Sliding unit: STN2							
	max. admissible pressures for GS3-valves in stainless steel								max. admissible pressures for GS3-valves in stainless steel							
	100°F	120°F	210°F	300°F	390°F	480°F	570°F	660°F	100°F	120°F	210°F	300°F	390°F	480°F	570°F	660°F
1/2" - 5"	275,0	265,0	235,0	215,0	200,0	175,0	150,0	120,0	275,0	265,0	235,0	215,0	200,0	175,0	150,0	120,0
6"	230,0	230,0	230,0	215,0	200,0	175,0	150,0	120,0	235,0	235,0	235,0	215,0	200,0	170,0	140,0	120,0
8"	230,0	230,0	230,0	215,0	200,0	175,0	150,0	120,0	-	-	-	-	-	-	-	-
10"	150,0	150,0	150,0	145,0	135,0	120,0	105,0	100,0	-	-	-	-	-	-	-	-

Limitation for SFC-sliding discs: 570°F

ANSI300

Size	Sliding unit: carbon/SFC - stainless steel, coated								Sliding unit: STN2							
	max. admissible pressures for GS3-valves in stainless steel								max. admissible pressures for GS3-valves in stainless steel							
	100°F	120°F	210°F	300°F	390°F	480°F	570°F	660°F	100°F	120°F	210°F	300°F	390°F	480°F	570°F	660°F
1/2" - 2 1/2"	720,0	695,0	610,0	560,0	520,0	485,0	460,0	440,0	720,0	695,0	610,0	560,0	520,0	485,0	460,0	440,0
3"	695,0	695,0	610,0	560,0	520,0	485,0	460,0	440,0	530,0	530,0	530,0	505,0	480,0	390,0	320,0	275,0
4"	480,0	480,0	480,0	480,0	480,0	480,0	460,0	440,0	480,0	480,0	480,0	460,0	435,0	355,0	290,0	250,0
5"	335,0	335,0	335,0	335,0	335,0	335,0	335,0	335,0	320,0	320,0	320,0	305,0	290,0	235,0	190,0	165,0
6"	230,0	230,0	230,0	230,0	230,0	230,0	230,0	230,0	230,0	230,0	230,0	225,0	210,0	170,0	140,0	120,0

Limitation for SFC-sliding discs: 570°F

PN40

Size	Sliding unit: carbon/SFC - stainless steel, coated						Paarung: STN 2					
	maximum pressures for GS3-valves in stainless steel						maximum pressures for GS3-valves in stainless steel					
	210°F	300°F	390°F	480°F	570°F	660°F	210°F	300°F	390°F	480°F	570°F	660°F
1/2"-1 1/4"	580	580	580	580	580	580	580	580	580	580	580	580
1 1/2"	580	580	580	580	580	580	580	580	580	580	580	535
2"	580	580	580	580	580	580	580	580	580	580	580	580
2 1/2"	580	580	580	580	580	580	580	580	580	580	535	465
3"	580	580	580	580	580	580	520	495	480	375	320	275
4"	480	480	480	480	480	480	465	450	435	350	290	245
5"	335	335	335	335	335	335	305	305	275	230	190	160
6"	230	230	230	230	230	230	220	220	205	160	130	115
8" (only PN16)	230	230	220	190	175	160	-	-	-	-	-	-
10" (only PN16)	145	130	130	115	100	85	-	-	-	-	-	-

Limitation for SFC-sliding discs: 570°F

Application limitations for GS3 valves in carbon steel

These pressure must not be exceeded for GS-valves from the GS3-series made of carbon steel, even though the actuator power might allow it.

ANSI150

Size	Sliding unit: carbon/SFC - stainless steel, coated								Sliding unit: STN2							
	max. admissible pressures for GS3-valves in carbon steel								max. admissible pressures for GS3-valves in carbon steel							
	100°F	120°F	210°F	300°F	390°F	480°F	570°F	660°F	100°F	120°F	210°F	300°F	390°F	480°F	570°F	660°F
1/2"-5"	285	280	255	230	200	175	150	120	285	280	255	230	200	175	150	120
6"	230	230	230	230	200	175	150	120	235	235	235	225	200	170	140	115
8"	230	230	230	230	200	175	150	120	-	-	-	-	-	-	-	-
10"	150	150	150	145	135	120	105	87	-	-	-	-	-	-	-	-

Limitation for SFC-sliding discs: 570°F

ANSI300

Size	Sliding unit: carbon/SFC - stainless steel, coated								Sliding unit: STN2							
	max. admissible pressures for GS3-valves in carbon steel								max. admissible pressures for GS3-valves in carbon steel							
	100°F	120°F	210°F	300°F	390°F	480°F	570°F	660°F	100°F	120°F	210°F	300°F	390°F	480°F	570°F	660°F
1/2"-2"	740	725	675	655	635	610	285	580	740	725	675	655	635	610	285	545
2 1/2"	740	725	675	655	635	610	285	580	605	605	605	575	545	485	285	470
3"	695	695	675	655	635	610	285	580	530	530	530	505	480	390	285	275
4"	480	480	480	480	480	480	285	475	480	480	480	460	435	355	285	245
5"	335	335	335	335	335	335	285	330	320	320	320	305	290	235	190	155
6"	230	230	230	230	230	230	230	230	230	230	230	225	210	170	140	115

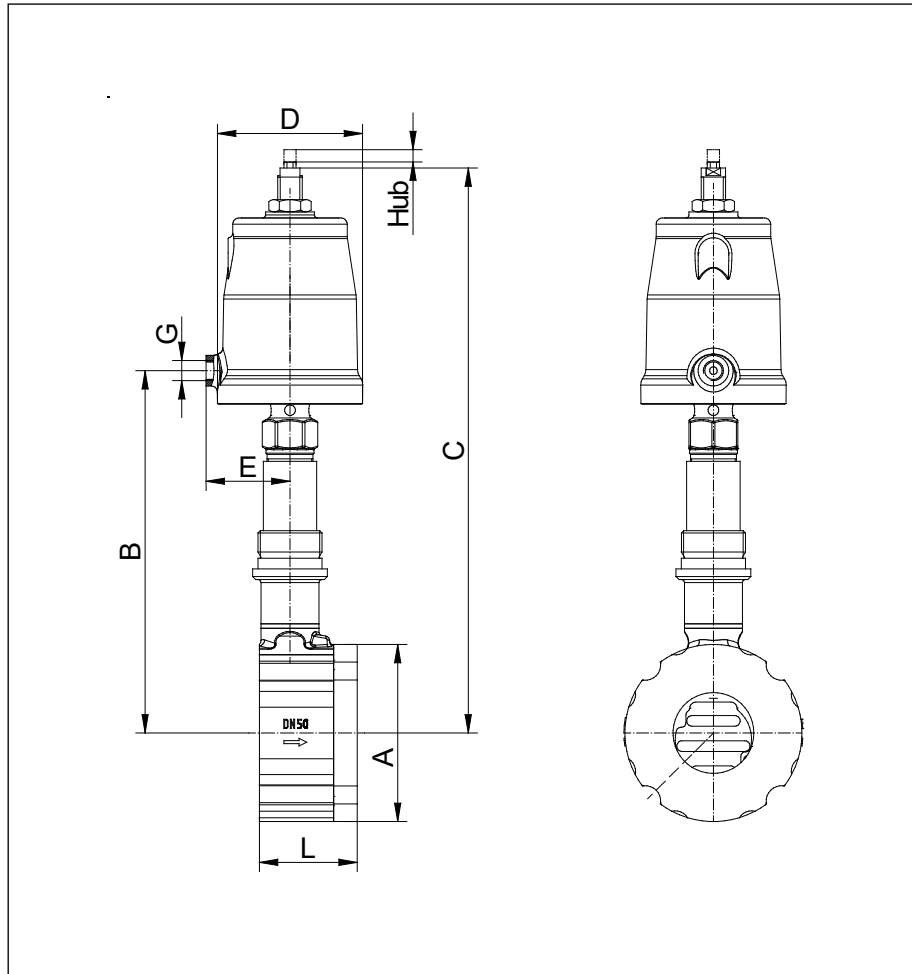
Limitation for SFC-sliding discs: 570°F

PN40

Size	Sliding unit: carbon/SFC - stainless steel, coated							Sliding unit: STN2					
	max. admissible pressures for GS3-valves in carbon steel							max. admissible pressures for GS3-valves in carbon steel					
	210°F	300°F	390°F	480°F	570°F	660°F	210°F	300°F	390°F	480°F	570°F	660°F	
1/2" - 2"	580	580	580	580	580	580	580	580	580	580	580	580	
2 1/2"	580	580	580	580	580	580	580	580	580	580	535	460	
3"	580	580	580	580	580	580	520	495	480	375	320	275	
4"	480	480	480	480	480	475	480	450	435	350	290	245	
5"	335	335	335	335	335	330	320	305	275	230	190	155	
6"	230	230	230	230	230	230	230	220	205	160	130	115	
8" (only 235 psi)	230	230	220	190	175	155	-	-	-	-	-	-	
10" (only 235 psi)	145	130	130	115	100	87	-	-	-	-	-	-	

Limitation for SFC-sliding discs: 570°F

Dimensions and Weights



Size	A	B actuator			C max actuator			L	Weight lbs actuator			Stroke H
		2"	3"	5"	2"	3"	5"		2"	3"	5"	
1/2"	2.52	8.23	8.39	8.46	12.05	13.54	14.25	2.2	7.5	12.5	15.5	0.24
3/4"	2.83	8.39	8.54	8.62	12.2	13.7	14.41	2.2	8	13	16	0.24
1"	3.23	8.58	8.74	8.82	12.4	13.9	14.61	2.2	8.5	13.5	16.5	0.24
1 1/4"	3.5	8.66	8.82	8.9	12.48	13.98	14.69	2.2	9	14	17	0.24
1 1/2"	3.9	8.9	9.06	9.13	12.72	14.21	14.92	2.2	9.5	14.5	17.5	0.24
2"	4.57	9.21	9.37	9.45	13.11	14.61	15.31	2.52	13	18	21	0.31
2 1/2"	5.43	9.57	9.72	9.8	13.46	14.96	15.67	2.68	16.5	21	24	0.31
3"	6.02	9.92	10.08	10.16	13.82	15.31	16.02	2.76	19	24	27	0.31
4"	7.24	10.43	10.59	10.67	14.33	15.83	16.54	2.95	26	31	34	0.33
5"	8.35	10.98	11.14	11.22	14.88	16.38	17.09	3.15	31	36	39	0.33
6"	9.53	11.5	11.65	11.73	15.39	16.89	17.6	3.15	39.5	44	47.5	0.33
8"	11.89	12.6	12.76	12.83	16.5	17.99	18.7	3.66	76.5	81.5	84.5	0.33

Actuator inch	D	G	E
2"	2,45	1/8"	1,35
3"	3,80	1/4"	2,15
5"	5,75	1/4"	3,15

Dimensions in inch

Dimension C „reduced design“ shortened by 1"

Stop Valve 8040-GS3



Flow Coefficients - Cv-values

Ordering code		-	A	1	B	6	2	7	C	3	4	8	5	9
Size	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	0.09	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	0.3	-	0.16	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	-	17									
	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	-										
5"	(mod.) linear	275	-	110										
	eq.perc.	135	-	-										
6"	(mod.) linear	392	246	-										
	eq.perc.	171	104	-										
8"	(mod.) linear	650	408	-										
	eq.perc.	-	-	-										
10"	(mod.) linear	1056												
	eq.perc.	-												