Sliding Gate Motor Valve 8638

Series GS3 - 1/2 up to 8

Fast and high resolution sliding gate motor valve for control and switching of neutral through to aggressive media.

- Flange connection by ASME B16.5 in ANSI150 or ANSI300
- Construction is consistent with the ASME B16.34, API RP 553, API 598, ASME B31.1 (Power Piping) and ASME B31.3 (Process Piping)
- Control of high differential pressures with small actuators
- Fast stroking speed
- Small dead band
- Motor drive with metal body
- High KVs-Values
- Low operation noise level (quiet operation)

Technical data

Design	flange design acc. EN 1092-1 Form B or ASME B16.5 RF		
Nominal size	1/2“ up to 8“		Class 150 Class 300
Media temperature	Stainless steel housing Carbon steel housing		-76°F up to +662°F -20°F up to +662°F
Rangeability	40 : 1 linear / 80:1 equal percentuage		
Leakage % of Kvs IEC 60534-4 EN 12266-1	Disc pair Carbon-stainless steel < 0,0001 IV-S1 D	Disc pair SFC < 0,0005 IV-S1 E	Disc pair STN 2 < 0,001 IV E
Spezific leckage rate shaft and body sealing	ISO FE-BH-CC3-SSA0-t(-40°C/+350°C)-PN40-ISO 15848-1		

* Please note the application limits of the positioner
Kvs value please refer data sheet 8001

Options & Accessories

- Metall bellow
- Bluetooth communication module BT-1

Material standard version

	Stainless steel version			
Valve body	stainless steel, CF8M			
Endpiece	stainless steel, CF8M			
Valve stem	stainless steel 316Ti			
Coupling ring	Stainless steel 1.4581			
Packing tube	Stainless steel CF8M			
Packing	PTFE carbon filled (spring SST 301)			
Body seal	Graphite with stainless steel inlay			
Fixed disc	stainless steel coated		STN2-disc	STN3-disc
Sliding disc	special carbon material	SFC-disc (max. +572°F)	STN2-disc	STN3-disc

	carbon steel version			
Valve body	carbon steel, WCC			
Endpiece	carbon steel, WCC			
Valve stem	stainless steel 316Ti			
Coupling ring	Stainless steel 1.4581			
Packing tube	Stainless steel CF8M			
Packing	PTFE carbon filled (spring SST 301)			
Body seal	Graphite with stainless foil			
Fixed disc	stainless steel coated		STN2-disc	STN3-disc
Sliding disc	special carbon material	SFC-disc (max. +572°F)	STN2-disc	STN3-disc

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Technical data of actuator

Driving force	450 lbf / 1100 lbf		
Power connections	24 V AC/DC 100 - 240 V 50/60Hz		
Ambient temperature	Standard: Low temperature version:	+14°F up to +140°F -40°F up to +140°F	
Storage Temperature	Standard: Low temperature version:	-22°F up to +176°F (+140°F with Fail-Safe protection) -40°F up to +176°F (+140°F with Fail-Safe protection)	
Mounting position	choice horizontal or vertical actuator only		
Protection class (EN 60529)	IP 67		
Max. power consumption at 24V AC/DC-operation:	40 Watt		
Nominal power consumption during mains operation	Mains voltage 230V: Mains voltage 115V:	P=40W S=67,8VA I=295mA P=40W S=58,8VA I=511mA	cosφ=0.59 cosφ=0.68
Dead band	±0.2% at min. 0.24" stroke		
Repeat accuracy	±0.1% at min. 0.24" stroke		
Stroking speed	450 lbf-version: 1100 lbf-version:	19 s/inch up to 6350 s/inch (standard 38 s/inch) 51 s/inch up to 6350 s/inch (standard 38 s/inch)	
Stroking speed of the Fail-Safe protection	450 lbf-version: 1100 lbf-version:	19 s/inch up to 102 s/inch (standard 38 s/inch) 51 s/inch up to 102 s/inch (standard 38 s/inch)	
Set point range	adjustable 0(4) - 20 mA, 0(2) - 10 V optional binary input signal (24V DC)		
Feed back	adjustable 0(4) - 20 mA, 0(2) - 10 V		
cycles (Fail-Safe)	500000		
life-time (Fail-Safe)	10 years		
duty cycle	100%		
Self Monitoring	monitoring of the driving power, set point, actuator temperature, temperatrure of the electro-nic etc.		
Diagnostic function	storage of motor and total service life, temperature- and way classes		
Valve adaptation	automatic stroke adjustment to suit valve limits		
additional inputs	binary input		
additonal outputs	2 alarm outputs		
Electrical connection	Power supply M20x1.5 (optional NPT 1/2") Signal/position feedback 2x M16x1.5		

Positioning time

DN	Stroke	Stroking time (sec.) for the complete stroke at a stroking speed of				
		19 s/inch	25 s/inch	38 s/inch	51 s/inch	102 s/inch
1/2" - 1 1/2"	0.25	0.18	0.25	0.37	0.49	0.98
2" - 3"	0.32	0.24	0.32	0.49	0.65	1.3
4" - 8"	0.34	0.26	0.34	0.52	0.69	1.38
				Standard 450 lbf-actuator	min. stroking time for 1100 lbf-actu-ator	Standard 450 lbf-actuator

Options

2 additional way-switch	freely adjustable as potential-free contacts (opener/closure)
Electric power failure protection	Mounted on the own body of the actuator fail safe version freely selectable
Communication software	with data cable, for parameterization and diagnosis of the actuator
Bluetooth module BT-1	Wireless connection for configuration software DeviceConfig (can be retrofitted)

Actuator with fail safe feature (option)

- Safety function at power failure
- Power supply above high performance capacitors
- Safety position open, closed or selected in any valve position
- self-employed monitoring of the state of charge of the high performance capacitors

Maximal differential pressure

(for temperatures to 38°C)

Please note the application limits at temperatures above 38°C:

Size	driving force: 450 lbf		driving force: 1100 lbf	
	max. pressure (psi)			
	carbon/SFC - stainless steel coated	STN2	carbon/SFC - stainless steel coated	STN2
1/2"	750	750	750	750
3/4"	750	750	750	750
1"	750	750	750	750
1 1/2"	750	750	750	750
2"	750	750	750	750
3"	430	165	695	430
4"	275	105	480	265
6"	140	50	230	130
8"	80	-	205	-

Upper limit of pressure class

	Pressure limits ANSI and DIN in psi	
	ANSI150	ANSI 300
P max. carbon steel	284	750
P max. stainless steel	276	719

Application limits for GS3-valves of stainless steel

The pressures are not allowed to exceed the series GS3 of stainless steel of GS-valves even if the pulling force of the actuator allow this.

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	265	235	215	200	175	150	120	275	265	235	215	200	175	150	120
6"	230	230	230	215	200	175	150	120	235	235	235	215	200	170	140	120
8'"	230	230	230	215	200	175	150	120	150	145	120	110	100	80	65	55
10"	150	150	150	145	135	120	105	100	85	85	85	80	75	60	50	40

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	695	610	560	520	485	460	440	720	695	610	560	520	485	460	440
3"	695	695	610	560	520	485	460	440	530	530	530	505	480	390	320	275
4"	480	480	480	480	480	480	460	440	480	480	480	460	435	355	290	250
5"	335	335	335	335	335	335	335	335	320	320	320	305	290	235	190	165
6"	230	230	230	230	230	230	230	230	230	230	230	225	210	170	140	120
8"	230	230	230	145	135	120	105	100	230	230	220	200	180	155	140	130

Application limits for GS3-valves of carbon steel

The pressures are not allowed to exceed the series GS3 of carbon steel of GS-valves even if the pulling force of the actuator allow this.

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	-	-	-	-	-	-	-	-

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	565	535	740	725	675	655	635	610	565	535
2 1/2"	740	725	675	655	635	610	565	535	605	605	605	575	545	485	550	470
3"	695	695	675	655	635	610	565	535	530	530	530	505	480	390	319	275
4"	480	480	480	480	480	480	475	475	480	480	480	460	435	355	290	245
5"	335	335	335	335	335	335	330	330	320	320	320	305	290	235	191	155
6"	230	230	230	230	230	230	230	230	230	230	230	225	210	170	141	115
8"	230	230	230	145	135	120	105	87	-	-	-	-	-	-	-	-

Limitation for SFC-sliding discs: 570°F

Sliding Gate Motor Valve 8638

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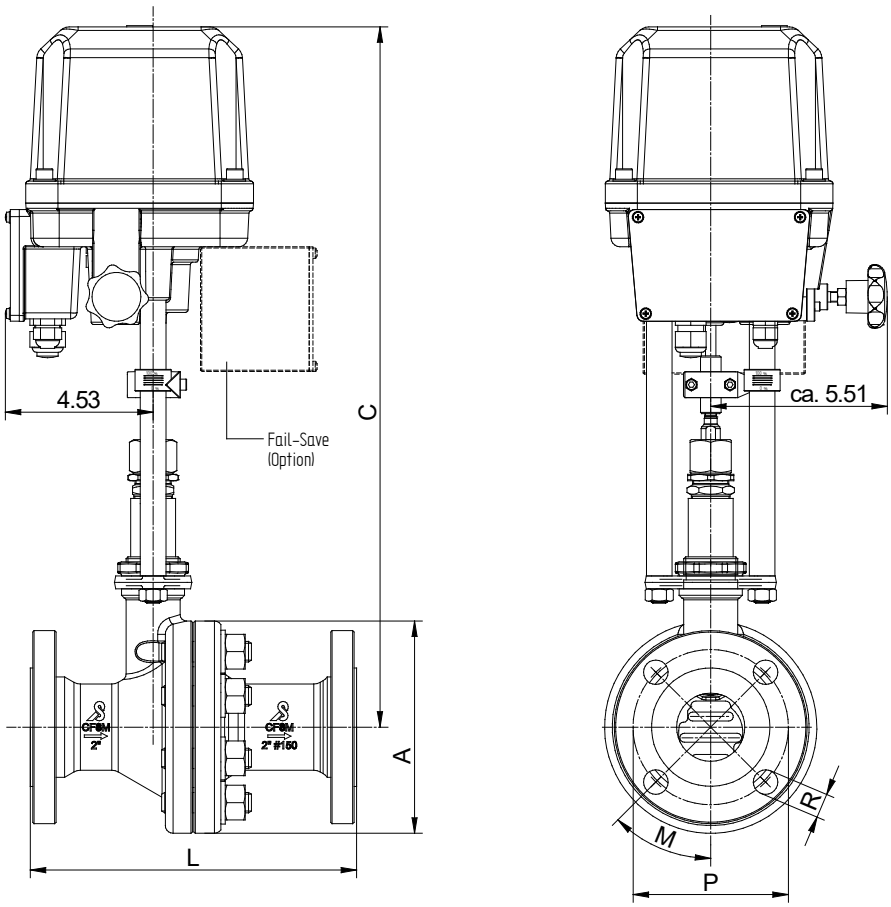
Dimensions and weights



DN	ØA	C with actuator		ANSI 150								
									Weight (kg) with actuator			
									2 kN		5 kN	
		2 kN	5 kN	P	M	number	L	R	without Fail-Save	with Fail-Save	without Fail-Save	with Fail-Save
1/2“	3.74	20.55	21.81	2.37	1.77	4	7.24	0.62	28.66	32.62	30.64	34.61
3/4“	4.52	20.75	22	2.75	1.77	4	7.24	0.62	31.74	35.71	33.73	37.7
1“	4.92	20.94	22.2	3.12	1.77	4	7.24	0.62	35.27	39.24	37.26	41.23
1 1/2“	6.1	21.54	22.79	3.87	1.77	4	8.74	0.62	44.53	48.5	46.52	50.49
2“	6.49	21.73	22.99	4.75	1.77	4	10	0.75	49.6	53.57	51.59	55.56
3“	8.26	22.32	23.58	6	1.77	4	11.73	0.75	79.8	83.78	81.79	85.76
4“	9.76	22.91	24.17	7.5	0.88	8	13.85	0.75	107.36	111.33	109.35	113.32
6“	12.59	24.09	25.35	9.5	0.88	8	17.76	0.87	174.38	178.35	176.37	180.34
8“	14.96	25.27	26.53	11.77	0.59	12	21.37	1	284.61	288.59	286.6	290.57

Dimensions in inch

DN	ANSI 300									stroke
						Weight (kg) with actuator				
						2 kN		5 kN		
	P	M	number	L	R	without Fail-Save	with Fail-Save	without Fail-Save	with Fail-Save	
1/2“	2.62	1.77	4	7.48	0.63	29.54	33.51	31.53	35.49	0.24
3/4“	3.25	1.77	4	7.63	0.75	34.39	38.36	36.38	40.34	0.24
1“	3.5	1.77	4	7.75	0.75	37.92	41.89	39.90	43.87	0.24
1 1/2“	4.5	1.77	4	9.25	0.87	50.93	54.90	52.91	56.88	0.24
2“	5.0	0.89	8	10.51	0.75	55.12	59.08	57.10	61.10	0.31
3“	6.63	0.89	8	12.52	0.87	89.07	93.04	91.05	95.02	0.31
4“	7,87	0.89	8	14.48	0.87	126.55	130.51	128.53	132.50	0.33
6“	10.63	0.59	12	18.62	0.87	216.49	220.46	218.48	222.45	0.33
8“	12.99	0.59	12	22.36	1.0	347.23	351.20	349.21	353.18	0.33

Dimensions and weights

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	0.021
	eq. perc.	2	-	1.3	-	0.4	-	-	-	0.12	-	-	-	-
3/4“	(mod.) lin.	7.4	-	-	-	-	1.16	-	-	-	-	0.15	-	-
	eq. perc.	3.5	-	1.7	-	-	-	-	-	-	-	-	-	-
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	-	-	-	0.41	-	-	-	-
1 1/4“	(mod.) linear	19	12	-	-	-	-							
	eq. perc.	9.3	5.45	-	-	-	-							
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	-	-	-	3.5							
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.	329	-	-										

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