Sliding Gate Motor Valve 8638

Series GS3 - DN 15 to DN 200

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)

Options & Accessories

- Metall bellow
- Bluetooth communication module BT-1

Technical data

Design	flange design acc. EN 1092-1 Form B or ASME B16.5 RF		
Nominal size	DN 15 - 200		Class 150 Class 300
Media temperature	Stainless steel housing Carbon steel housing		-60°C up to +350°C -29°C up to +350°C
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

Material standard version

	Stainless steel version			
Valve body	stainless steel, 1.4408 / CF8M			
Endpiece	stainless steel, 1.4408 / CF8M			
Valve stem	stainless steel 1.4571/ 316Ti			
coupling ring	Stainless steel 1.4581			
Packing tube	Stainless steel 1.4408 / CF8M			
Packing	PTFE carbon filled (spring 1.4310)			
Body seal	Graphite with stainless steel inlay			
Fixed disc	stainless steel coated		STN2-disc	STN3-disc
Sliding disc	special carbon material	SFC-disc (max. +300°C)	STN2-disc	STN3-disc

	carbon steel version			
Valve body	carbon steel, 1.0619 / WCC			
Endpiece	carbon steel, 1.0619 / WCC			
Valve stem	stainless steel 1.4571 / 316Ti			
coupling ring	Stainless steel 1.4581			
Packing tube	Stainless steel 1.4408 / CF8M			
Packing	PTFE carbon filled (spring 1.4310)			
Body seal	Graphite with stainless steel foil			
Fixed disc	stainless steel coated		STN2-disc	STN3-disc
Sliding disc	special carbon material	SFC-disc (max. +300°C)	STN2-disc	STN3-disc

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Technical data of actuator

Driving force	2,0 kN / 5,0 kN		
Power connections	24 V AC/DC 100 - 240 V 50/60Hz		
Ambient temperature	Standard: Low temperature version:	-10°C up to +60°C -40°C up to +60°C	
Storage Temperature	Standard: Low temperature version:	-30°C up to +80°C (+60°C with Fail-Safe protection) -40°C up to +80°C (+60°C 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. 6mm stroke		
Repeat accuracy	±0,1% at min. 6mm stroke		
Stroking speed	2,0 kN-version: 5,0 kN-version:	0,75 s/mm up to 250 s/mm (standard 1,5 s/mm) 2 s/mm up to 250 s/mm (standard 4 s/mm)	
Stroking speed of the Fail-Safe protection	2,0 kN-version: 5,0 kN-version:	0,75 s/mm up to 4 s/mm 2 s/mm up to 4 s/mm	
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				
		0,75 s/mm	1 s/mm	1,5 s/mm	2 s/mm	4 s/mm
15 - 40	6,25	4,7	6,3	9,4	12,5	25,0
50 - 80	8,25	6,2	8,3	12,4	16,5	33,0
100 - 200	8,75	6,6	8,8	13,1	17,5	35,0
				Standard 2kN-actuator	min. stroking time for 5kN-actuator	Standard 5kN-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)

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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:

DN	driving force: 2kN		driving force: 5kN	
	max. differential pressure (bar)			
	disc - pair carbon/SFC stainless steel coated	disc - pair STN2	disc - pair carbon/SFC stainless steel coated	disc - pair STN2
15	51,7	51,7	51,7	51,7
20	51,7	51,7	51,7	51,7
25	51,7	51,7	51,7	51,7
40	51,7	51,7	51,7	51,7
50	51,7	51,7	51,7	51,7
80	29,5	11,5	48	29,7
100	18,8	7,1	33	18,4
150	9,5	3,5	16	9,1
200	5,5	-	14,3	-

Upper limit of pressure class

	Upper limit for permissible pressures in bar to pressure class	
	ANSI150	ANSI 300
P maximum carbon steel	19,6	51,7
P maximum stainless steel	19,0	49,6

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

DN	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							
	38°C	50°C	100°C	150°C	200°C	250°C	300°C	350°C	38°C	50°C	100°C	150°C	200°C	250°C	300°C	350°C
15-125	19,0	18,4	16,2	14,8	13,7	12,1	10,2	8,4	19,0	18,4	16,2	14,8	13,7	12,1	10,2	8,4
150	16,0	16,0	16,0	14,8	13,7	12,1	10,2	8,4	16,2	16,2	16,2	14,8	13,7	11,8	9,7	8,4
200	16,0	16,0	16,0	14,8	13,7	12,1	10,2	8,4	-	-	-	-	-	-	-	-

Limitation for SFC-sliding discs: 300°C

ANSI300

DN	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							
	38°C	50°C	100°C	150°C	200°C	250°C	300°C	350°C	38°C	50°C	100°C	150°C	200°C	250°C	300°C	350°C
15-65	49,6	48,1	42,2	38,5	35,7	33,4	31,6	30,3	49,6	48,1	42,2	38,5	35,7	33,4	31,6	30,3
80	48,0	48,0	42,2	38,5	35,7	33,4	31,6	30,3	36,6	36,6	36,6	34,8	33,0	26,8	22,0	19,0
100	33,0	33,0	33,0	33,0	33,0	33,0	31,6	30,3	33,0	33,0	33,0	31,7	30,1	24,4	20,1	17,3
125	23,0	23,0	23,0	23,0	23,0	23,0	23,0	23,0	22,0	22,0	22,0	21,0	19,9	16,1	13,2	11,5
150	16,0	16,0	16,0	16,0	16,0	16,0	16,0	16,0	16,0	16,0	16,0	15,4	14,6	11,8	9,7	8,4
200	16,0	16,0	16,0	14,8	13,7	12,1	10,2	8,4	-	-	-	-	-	-	-	-

Limitation for SFC-sliding discs: 300°C

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

DN	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							
	38°C	50°C	100°C	150°C	200°C	250°C	300°C	350°C	38°C	50°C	100°C	150°C	200°C	250°C	300°C	350°C
15-125	19,6	19,2	17,7	15,8	13,8	12,1	10,2	8,4	19,6	19,2	17,7	15,8	13,8	12,1	10,2	8,4
150	16,0	16,0	16,0	15,8	13,8	12,1	10,2	8,4	16,2	16,2	16,2	15,4	13,8	11,8	9,7	8,0
200	16,0	16,0	16,0	15,8	13,8	12,1	10,2	8,4	-	-	-	-	-	-	-	-

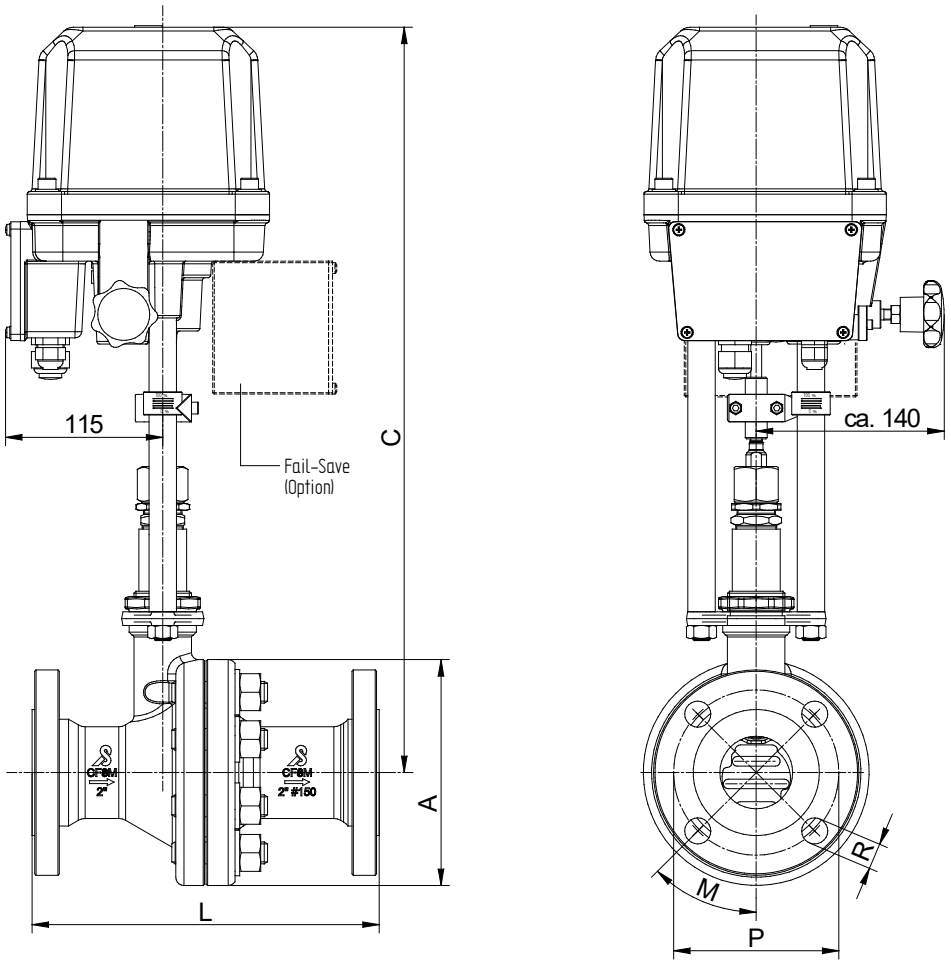
Limitation for SFC-sliding discs: 300°C

ANSI300

DN	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							
	38°C	50°C	100°C	150°C	200°C	250°C	300°C	350°C	38°C	50°C	100°C	150°C	200°C	250°C	300°C	350°C
15-50	51,1	50,1	46,6	45,1	43,8	41,9	39,8	37,6	51,1	50,1	46,6	45,1	43,8	41,9	39,8	37,6
65	51,1	50,1	46,6	45,1	43,8	41,9	39,8	37,6	41,7	41,7	41,7	39,7	37,6	33,5	37,6	33,0
80	48,0	48,0	46,6	45,1	43,8	41,9	39,8	37,6	36,6	36,6	36,6	34,8	33,0	26,8	22,0	19,0
100	33,0	33,0	33,0	33,0	33,0	33,0	33,0	33,0	33,0	33,0	33,0	31,7	30,1	24,4	20,0	17,5
125	23,0	23,0	23,0	23,0	23,0	23,0	23,0	23,0	22,1	22,1	22,1	21,0	19,9	16,1	13,2	11,5
150	16,0	16,0	16,0	16,0	16,0	16,0	16,0	16,0	16,0	16,0	16,0	15,4	14,6	11,8	9,7	8,4
200	16,0	16,0	16,0	14,8	13,7	12,1	10,2	8,4	-	-	-	-	-	-	-	-

Limitation for SFC-sliding discs: 300°C

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
15	95	522	554	60,3	45	4	184	15,88	13	14,8	13,9	15,7
20	115	527	559	69,9	45	4	184	15,88	14,4	16,2	15,3	17,1
25	125	532	564	79,4	45	4	184	15,88	16	17,8	16,9	18,7
40	155	547	579	98,4	45	4	222	15,88	20,2	22	21,1	22,9
50	165	552	584	120,7	45	4	254	19,05	22,5	24,3	23,4	25,2
80	210	567	599	152,4	45	4	298	19,05	36,2	38	37,1	38,9
100	248	582	614	190,5	22,5	8	352	19,05	48,7	50,5	49,6	51,4
150	320	612	644	241,3	22,5	8	451	22,22	79,1	80,9	80	81,8
200	380	642	674	299	15	12	543	25,4	129,1	130,9	130	131,8

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	
15	66,7	45	4	190	15,88	13,4	15,2	14,3	16,1	6
20	82,6	45	4	194	19,05	15,6	17,4	16,5	18,3	6
25	88,9	45	4	197	19,05	17,2	19	18,1	19,9	6
40	114,3	45	4	235	22,22	23,1	24,9	24	25,8	6
50	127	22,5	8	267	19,05	25	26,8	25,9	27,7	8
80	168,3	22,5	8	318	22,22	40,4	42,2	41,3	43,1	8
100	200	22,5	8	368	22,22	57,4	59,2	58,3	60,1	8,5
150	269,9	15	12	473	22,22	98,2	100	99,1	100,9	8,5
200	330	15	12	568	25,4	157,5	159,3	158,4	160,2	8,5

Dimensions in mm

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