

Motor Valve 8037

ex-version

GS 3 series, DN 15 up to DN 250



Motor valve for control and switching of neutral through to highly aggressive media in process engineering, chemical industries and for plant equipment, for applications in Ex-Zone 1, 2, 21 and 22.



Technical Information Valve

Design	Flangeless design further versions see data sheet 8037-GS1		
Nominal size	DN 15 up to DN 250		
Nominal pressure acc. DIN 2401 for flanges with facing type B	PN 40 (fits also to PN 10-25)	DN 15 - DN 150	
	PN 100	DN 15 - DN 80	
	PN 16	DN 200 - DN 250	
Nominal pressure acc. ANSI for flanges acc. ASME B16.5 RF	ANSI 150	DN15 - DN 250	
	ANSI 300	DN 15 - DN 150	
	ANSI 600	DN 15 - DN 80	
Nominal pressure acc. JIS for "raiced face" flanges	10K	DN 15 - DN 50	
	20K	DN 15 - DN 40	
Media temperature	Carbon steel body	-10°C up to +300°C	
	Stainless steel body	-60°C up to +350°C (+300°C for SFC)	
Rangeability	30 : 1		
Leakage (% of Kvs)	Disc pair	Disc pair	Disc pair
	Carbon-stainless steel < 0,0001	SFC < 0,0005	STN 2 < 0,001

Kvs-values see data sheet 8001.

Technical Information Actuator

Driving force	1 kN , 2,5 kN , 5 kN
Stroking speed	2 / 3 / 6 / 9 / 12 s/mm (adjustable)
Power supply	24 ... 230 V AC/DC (longer range power supply)
Input signal	3-point 4 - 20 mA or 0 - 10 V
Feedback	4 - 20 mA or 0 - 10 V
Explosion protection (gas)	II 2G Ex de [ia] IIC T6/T5
Explosion protection (dust)	II 2D Ex tD [iaD] A21 IP66 T80°C
Protection class	IP 66
Ambient temperature	-20...+40°C at T6 / -20...+50°C at T5
Operating mode	S3 / 50% ED (max. 600 switching cycle / h)
Hysteresis	ca. ±1,5%
Resolution	ca. 100 steps
Ambient temperature	self-learning
Heating resistor element	16 Watt self actuating
Motor	brushless DC motor
Manual override	hexagon key (top of header)

Stroking times for the complete stroke (sec.):

Speed [s/mm]	2	3	6	9	12
DN 15 - 40	12,5	18,8	37,5	56,3	75,0
DN 50 - 80	16,5	24,8	49,5	74,3	99,0
DN 100 - 250	17,5	26,3	52,5	78,8	105,0

 = factory setting

Admissible Differential Pressures (For temperatures of up to 120°C)

DN	1,0 kN			2,5 kN			5,0 kN		
	max. differential pressure (bar)								
	carbon/SFC - stainless steel coated								
15	88	100	100	88	100	100	88	100	100
20	76	100	100	76	100	100	76	100	100
25	64	100	100	64	100	100	64	100	100
32	52	100	100	52	100	100	52	100	100
40	40	100	100	40	100	100	40	100	100
50	26	69	100	26	69	100	26	69	100
65	22	58	80	22	58	80	22	58	80
80	14	37	48	14	37	48	14	37	48
100	9	23	33	9	23	33	9	23	33
125	6	16	23	6	16	23	6	16	23
150	4,5	12	16	4,5	12	16	4,5	12	16
200	2,5	7	14	2,5	7	14	2,5	7	14
250	1,6	4,3	8,8	1,6	4,3	8,8	1,6	4,3	8,8

**For temperatures of 120°C and above:
obey application limits !**

DN	1,0 kN			2,5 kN			5,0 kN		
	max. differential pressure (bar)								
	STN2								
15	62	100	100	62	100	100	62	100	100
20	48	100	100	48	100	100	48	100	100
25	36	96	100	36	96	100	36	96	100
32	26	71	100	26	71	100	26	71	100
40	18	49	72	18	49	72	18	49	72
50	11	29	59	11	29	59	11	29	59
65	9	24	49	9	24	49	9	24	49
80	5	14	29	5	14	29	5	14	29
100	3	9	18	3	9	18	3	9	18
125	2	6	12	2	6	12	2	6	12
150	1,5	4,5	9	1,5	4,5	9	1,5	4,5	9
200	-	-	-	-	-	-	-	-	-
250	-	-	-	-	-	-	-	-	-

	Upper limits for admissible pressures in bar					
	PN16	PN40	PN100	ANSI 150	ANSI 300	ANSI 600
P max.	16	40	100	16	40	80

Options

- 2 potential-free limit switches at a separated terminal box
- inductive proximity switches (mounted at the column)
- Version only for zone 2 and zone 22
- Version not ex-actuator

Motor Valve 8037-GS3



ex-version

Ordering Number System

pos. 1 up to 4 please quote
 pos. 5 up to 13 quote only if required.
 from pos. 14 if required, quoted by the manufacturer

Ordering Number:		1	2	3	4	5	6	7	8	9	10	11	12	13	14	
Nominal Size	8037/		H				M								Z	...
e.g. DN 25 = 025	xxx															
Article																
valve		V														
lower part		U														
repair-kit		R														
Function																
ex-proofed motor actuator (Type 8037)		H														
Body design																
GS3 - flangeless design acc. DIN, PN10 - PN40, (DN200 PN16)			G													
GS3 - flangeless design acc. DIN, PN100			H													
GS3 - flangeless design, acc. ANSI 150			E													
GS3 - flangeless design, acc. ANSI 300			F													
Body material																
carbon steel 1.0570 / 1.0619				0												
stainless steel 1.4571 / 1.4581				1												
Safety position																
without safety position					0											
Motor actuator																
without actuator						0										
1 kN driving force, on /off, 3-point, IP65, 24...230V AC/DC, II 2GEx de [ia] IIC T5/T6						1										
2,5 kN driving force, on /off, 3-point, IP65, 24...230V AC/DC, II 2GEx de [ia] IIC T5/T6						2										
5 kN driving force, on /off, 3-point, IP65, 24...230V AC/DC, II 2GEx de [ia] IIC T5/T6						3										
1 kN driving force with electronic positioner, IP65, 24...230V AC/DC, control signal							A									
4-20mA/0-10V, feedback 4-20 mA/0-10V, II2G Ex de [ia] IIC T5/T6																
2,5 kN driving force with electronic positioner, IP65, 24...230V AC/DC, control signal								B								
4-20mA/0-10V, feedback 4-20 mA/0-10V, II2G Ex de [ia] IIC T5/T6																
5 kN driving force with electronic positioner, IP65, 24...230V AC/DC, control signal																
4-20mA/0-10V, feedback 4-20 mA/0-10V, II2G Ex de [ia] IIC T5/T6																
Motor voltage																
24...230V AC/DC (standard)								-								
Stem sealing																
standard (PTFE-V-shaped seal, self-adjusting)									-							
additional stainless steel bellows										1						
Sliding disc																
carbon steel											-					
STN2/STN3												9				
SFC													S			
Fixed disc																
standard coated, stainless steel 1.4571														-		
STN2															1	
STN3																2
Kvs-value																
100% (standard)																-
red. 63%																A
red. 40%																1
red. 25%																B
red. 16%																2
red. 10%																C
further reductions on request (see data sheet 8001)																...
Seat characteristics																
linear																-
equal percentage																1
Accessories																
please note if required																Z

On request further versions are possible!

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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.

PN 40

DN	Sliding unit: carbon/SFC - stainless steel, coated max. admissible diff. pressures for GS3-valves					
	100°C	150°C	200°C	250°C	300°C	350°C
15 - 65	40	38	34	32	31	29
80	40	38	34	32	31	29
100	33	31	29	27	25	24
125	23	21	20	19	18	17
150	16	15	14	13	12	12
200 (PN16 only)	16	15	14	13	12	11,0
250 (PN16 only)	10,5	10	9,5	8,4	7,4	6,9

DN	Sliding unit: carbon - STN2 max. admissible diff. pressures for GS3-valves					
	100°C	150°C	200°C	250°C	300°C	350°C
40	38	34	32	31	29	29
36	34	33	26	22	19	19
33	31	26	24	20	17	17
22	21	17	16	13	11	11
16	15	13	11	9	8	8
-	-	-	-	-	-	-

Limitation for SFC-sliding discs: 300°C

PN 100

DN	Sliding unit: carbon/SFC - stainless steel, coated max. admissible pressures for GS3-valves					
	100°C	150°C	200°C	250°C	300°C	350°C
15	100	95	87	82	77	72
20	100	95	87	82	77	72
25	100	95	87	82	77	72
32	100	95	87	82	77	72
40	100	95	87	82	77	72
50	100	95	87	82	77	72
65	80	76	72	67	62	60
80	48	45	43	40	37	36

DN	Sliding unit: STN2 max. admissible pressures for GS3-valves					
	100°C	150°C	200°C	250°C	300°C	350°C
100	95	87	82	77	72	72
100	95	87	82	77	72	72
100	95	87	82	77	72	72
100	95	87	82	69	60	60
72	69	65	53	43	37	37
77	73	70	56	46	40	40
62	59	56	45	37	32	32
36	34	33	26	22	19	19

Limitation for SFC-sliding discs: 300°C

ANSI #150

DN	Sliding unit: carbon/SFC - stainless steel, coated max. admissible diff. pressures for GS3-valves					
	100°C	150°C	200°C	250°C	300°C	350°C
15 - 125	16	15	13	12	10	8
150	16	15	13	12	10	8
200	16	15	13	12	10	8
250	10,5	10	9,5	8,4	7,4	6,9

DN	Sliding unit: carbon - STN2 max. admissible diff. pressures for GS3-valves					
	100°C	150°C	200°C	250°C	300°C	350°C
16	15	13	12	10	8	8
16	15	13	11	9,5	8	8
-	-	-	-	-	-	-

Limitation for SFC-sliding discs: 300°C

ANSI #300

DN	Sliding unit: carbon/SFC - stainless steel, coated max. admissible pressures in bar for GS3-valves					
	100°C	150°C	200°C	250°C	300°C	350°C
15 - 65	40	38	35	33	31	30
80	40	38	35	33	31	30
100	33	31	29	27	25	24
125	23	21	20	19	18	17
150	16	15	14	13	12	12

DN	Sliding unit: STN2 max. admissible pressures for GS3-valves					
	100°C	150°C	200°C	250°C	300°C	350°C
40	38	35	32	31	29	29
36	34	33	26	22	19	19
33	31	26	24	20	17	17
22	21	17	16	13	11	11
16	15	13	11	9	8	8

Limitation for SFC-sliding discs: 300°C

ANSI #600

DN	Sliding unit: carbon/SFC - stainless steel, coated max. admissible pressures for GS3-valves					
	100°C	150°C	200°C	250°C	300°C	350°C
15 - 32	80	77	71	66	63	60
40	80	77	71	66	63	60
50	80	77	71	66	63	60
65	80	76	71	66	62	60
80	48	45	43	40	37	36

DN	Sliding unit: STN2 max. admissible pressures for GS3-valves					
	100°C	150°C	200°C	250°C	300°C	350°C
80	77	71	66	63	60	60
72	69	65	53	43	37	37
77	73	70	56	46	40	40
62	59	56	45	37	32	32
36	34	33	26	22	19	19

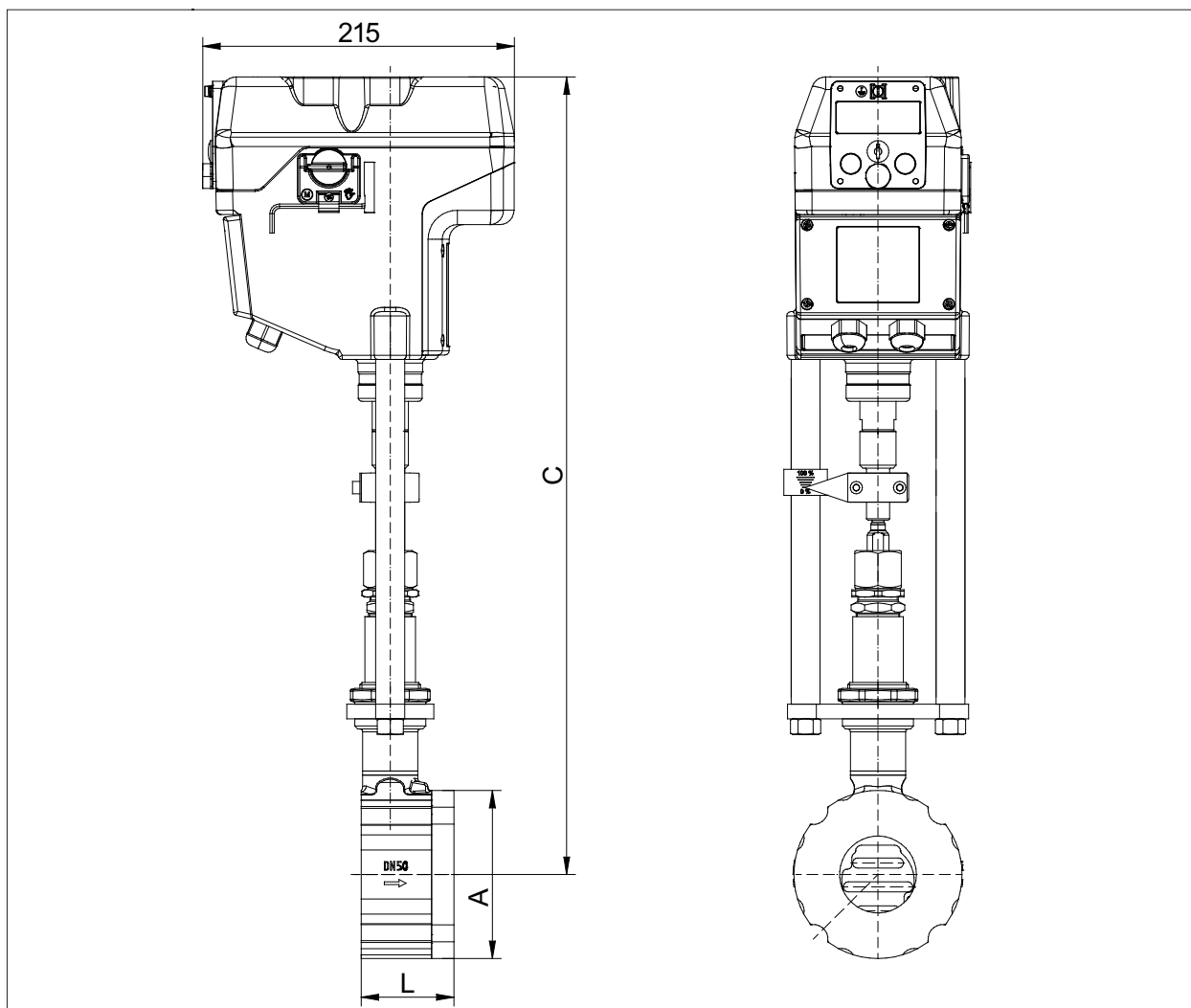
Limitation for SFC-sliding discs: 300°C

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Dimensions and Weights



DN	A	C	L	Weight kg	Stroke
15	64	520	56	11,2	6
20	72	525	56	11,4	6
25	82	530	56	11,8	6
32	89	535	56	12,2	6
40	99	540	56	12,6	6
50	116	550	64	14,2	8
65	138	560	68	16,0	8
80	153	570	70	17,1	8
100	184	580	75	20,6	8,5
125	212	595	80	24,8	8,5
150	242	610	80	28,5	8,5
200	302	640	93	45,4	8,5
250	360	662	96	50,6	8,5

Dimensions in mm