

Motor Valve

GS 3 series

8036-GS3

1/2" up to 8"



Motor valve for control and switching of neutral through to highly aggressive media in process engineering, chemical industries and for plant equipment.

- Space saving wafer type construction
- Lowest possible weight (especially in larger sizes)
- Low operation noise level (quiet operation)
- Control of high differential pressures with small actuators
- Fast response time

Technical Information

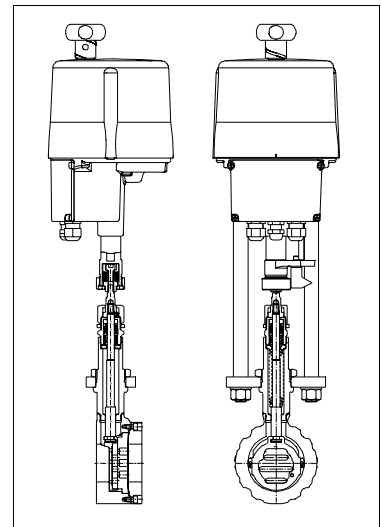
Design	ANSI flange wafer (self-aligning)	
Nominal size	1/2" up to 8"	
Nominal pressure acc. DIN 2401	580 psi (fits also to 145-365 psi)	1/2" - 6"
	1450 psi	1/2" - 3"
	230 psi	8"
Nominal pressure acc. ANSI	ANSI 150	1/2" - 8"
	ANSI 300	1/2" - 6"
	ANSI 600	1/2" - 3"
Media temperature	body 1.0570: +15°F up to +570°F	
	body 316 Ti: -76°F up to +660°F	
Leakage (% of Cv)	Carbon, FUJ	STN 2
	< 0,0001	< 0,001

C_{vs}-values see data sheet 8001.



Materials

Body	Stainless steel 316 Ti /318	Carbon steel ASTM A572, A216
Head section	Stainless steel 316 Ti /318	
Packing	PTFE (carbon filled), spring SST 301	
Actuating stem	Stainless steel, roller burnished	
Bellow	Stainless steel 316 Ti	
Fixed disc	Stainless steel 316 Ti, Stellite	
Sliding disc	Carbon material, FUJ (1/2" up to 4"), SIC (1/2", 1", 1 1/2", 2")	
Coupling ring for discs	Stainless steel 318	



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Actuator with Position Electronic

Technical Information

Driving force	510 lbf
Type of duty (according IEC-34)	S2 30min S4 - 1200 c/h 50% ED
Power connections	24 V DC 24 V AC 110/120 V AC 230 V AC
Ambient temperature	-5°F up to +140°F
Mounting position	choice horizontal or vertical actuator only
Protection class (DIN 60529)	IP 65
max. Power consumption	30 Watt
Set point range	adjustable 0 - 20 mA, 0 - 10 V
Feed back	adjustable 0 - 20 mA, 0 - 10 V
Self Monitoring	torque, set point, temperature
Diagnostic function	storage of motor and total service life, number of motor starts, etc.
Valve adaptation	automatic stroke adjustment to suit valve limits

Stroking Time (sec.)

DN	Stroking speed for the complete stroke		
	0,02 inch/s (50%)	0,03 inch/s (75%)	0,04 inch/s (100%)
1/2" - 1 1/2"	13,9	9,3	6,9
2" - 3"	18,4	12,3	9,2
4" - 8"	19,5	13,1	9,7

= Standard

Options

2 additional stroke limit switches	free adjustable volt free contacts (open/close)
Heater	anti condensation heater
Process controller	PI - process controller integrated in the actuator
Fair Safe Protection	via battery pack open or closed
Local control	mounted on the actuator
Communication software	by use of data care to configure actuator

Pressure Ratings (For temperatures of up to 250°F)

DN	max. pressure (psi)			
	carbon - stainless steel coated control	carbon - stainless steel coated on - off	STN2 control	STN2 on - off
1/2"	1450	1450	1450	1450
3/4"	1450	1450	1450	1450
1"	1450	1450	1276	1450
1 1/4"	1450	1450	942.5	1450
1 1/2"	1406.5	1450	652.5	1044
2"	913.5	1450	391.5	768.5
2 1/2"	768.5	1160	319	638
3"	493	696	188.5	377
4"	304.5	478.5	116	232
5"	203	333.5	80	159.5
6"	159.5	232	58	116
8"	94.5	174		

Pressure limits
DIN and ANSI

psi	P max.
235	16
580	40
1420	100
235	16
580	40
1160	80

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Actuator without Position Electronic (function: open/close or 3-step-drive)

Technical Information

Driving force	220 lbf, 450 lbf, 990 lbf
Type of duty (according VDE 0530)	S2 30min S4 - 1200 c/h 50%ED
Power connections	24 V AC 110/120V AC 230 V AC
Ambient temperature	-5°F bis +175°F (S2) / -5°F bis +140°F (S4)
Mounting position	free of choice, but motor not top-down
Protection class (EN 60529)	IP 65
max. Power consumption	220lbf: 26W, 450lbf: 30W, 990lbf: 47 W
Actuator protection	torque switch

Options

2 additional stroke limit switches	free adjustable volt free contacts (open/close)
Heater	anti condensation heater
Feed back 4-20 mA	in 2-wire or 3-wire design
Local control	mounted key pad on actuator

Stroking Time (sec.)

DN	Stroking speed for the complete stroke		
	220 lbf	450 lbf	990 lbf
1/2" - 1 1/2"	25	25	12,5
2" - 3"	33	33	16,5
4" - 8"	35	35	17,5

(other regulating speeds on request)

Pressure Ratings (For temperatures of up to 250°F)

DN	max. pressure (psi)					
	carbon stainless steel coated			STN2		
	220 lbf	450 lbf	990 lbf	220 lbf	450 lbf	990 lbf
1/2"	1276	1450	1450	899	1450	1450
3/4"	1102	1450	1450	696	1450	1450
1"	928	1450	1450	522	1102	1450
1 1/4"	754	1450	1450	377	812	1450
1 1/2"	565.5	1218	1450	261	551	1044
2"	377	797.5	1450	159.5	333.5	768.5
2 1/2"	319	667	1160	130.5	275.5	638
3"	203	420.5	696	72.5	159.5	377
4"	123.5	261	478.5	43.5	101.5	232
5"	87	174	333.5	29	65.5	159.5
6"	65.5	138	232	22	51	116
8"	36.5	80	181.5			

Pressure limits
DIN and ANSI

psi	P max.
235	16
580	40
1420	100
235	16
580	40
1160	80

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Pressure - Temperature ratings for GS3-Valves

580 psi (PN 40)

DN	Sliding unit: carbon - stainless steel, coated						Sliding unit: carbon - STN2					
	maximum pressures for GS3-valves (psi)						maximum pressures for GS3-valves (psi)					
	210 °F	300 °F	400 °F	480 °F	570 °F	660 °F	210 °F	300 °F	400 °F	480 °F	570 °F	660 °F
1/2" - 2 1/2"	580	550	510	465	405	350	580	550	510	465	405	350
3"	580	550	510	465	405	350	520	495	480	375	320	275
4"	480	450	420	390	365	350	480	450	420	350	290	245
5"	335	305	290	275	260	245	320	305	290	230	190	160
6"	230	220	205	190	175	175	230	220	205	160	140	125
8" (PN16 only)	230	220	205	190	160	140	-	-	-	-	-	-

1450 psi (PN 100)

DN	Sliding unit: carbon - stainless steel, coated						Sliding unit: STN2					
	maximum pressures for GS3-valves (psi)						maximum pressures for GS3-valves (psi)					
	210 °F	300 °F	400 °F	480 °F	570 °F	660 °F	210 °F	300 °F	400 °F	480 °F	570 °F	660 °F
1/2"	1450	1335	1160	1015	870	810	1450	1335	1160	1015	870	810
1"	1450	1335	1160	1015	870	810	1450	1335	1160	1015	870	810
1 1/2"	1450	1335	1160	1015	870	810	1045	1000	945	915	625	535
2"	1450	1335	1160	1015	870	810	1115	1060	1015	810	665	580
2 1/2"	1160	1100	1045	970	870	810	900	855	810	655	535	465
3"	695	655	625	580	535	520	520	495	480	375	320	275

ANSI #150

DN	Sliding unit: carbon - stainless steel, coated						Sliding unit: carbon - STN2					
	maximum pressures for GS3-valves (psi)						maximum pressures for GS3-valves (psi)					
	210 °F	300 °F	400 °F	480 °F	570 °F	660 °F	210 °F	300 °F	400 °F	480 °F	570 °F	660 °F
1/2" - 5"	230	220	190	175	145	125	230	220	190	175	145	125
6"	230	220	190	175	145	125	230	220	190	160	140	125
8"	230	220	190	175	145	125	-	-	-	-	-	-

ANSI #300

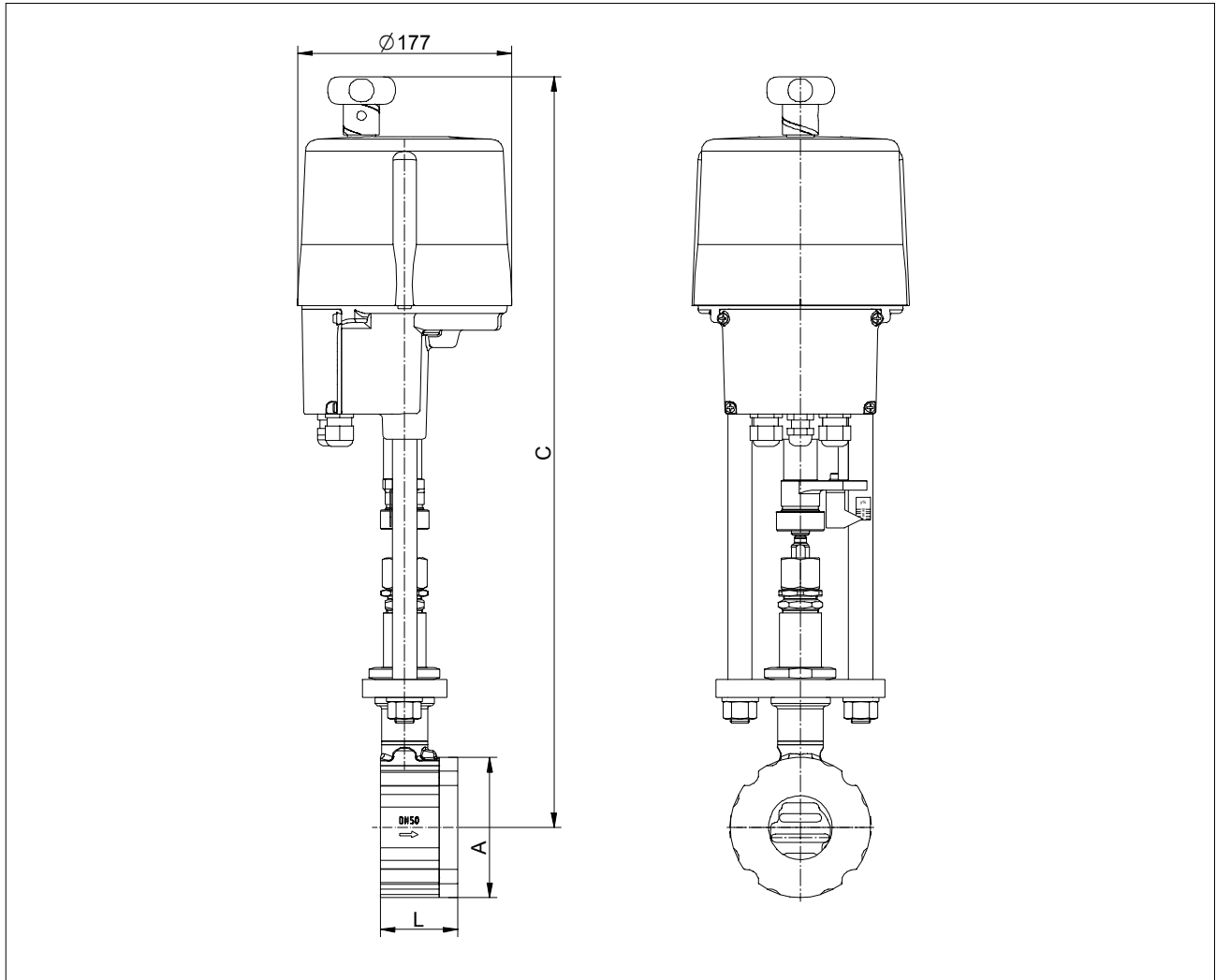
DN	Sliding unit: carbon - stainless steel, coated						Sliding unit: carbon - STN2					
	maximum pressures for GS3-valves (psi)						maximum pressures for GS3-valves (psi)					
	210 °F	300 °F	400 °F	480 °F	570 °F	660 °F	210 °F	300 °F	400 °F	480 °F	570 °F	660 °F
1/2" - 2 1/2"	580	550	510	480	450	435	580	550	510	480	450	435
3"	580	550	510	480	450	435	520	495	480	375	320	275
4"	480	450	420	390	365	350	480	450	420	350	290	245
5"	335	305	290	275	260	245	320	305	290	230	190	160
6"	230	220	205	190	175	175	230	220	205	160	130	115

ANSI #600

DN	Sliding unit: carbon - stainless steel, coated						Sliding unit: STN2					
	maximum pressures for GS3-valves (psi)						maximum pressures for GS3-valves (psi)					
	210 °F	300 °F	400 °F	480 °F	570 °F	660 °F	210 °F	300 °F	400 °F	480 °F	570 °F	660 °F
1/2" - 1 1/4"	1160	1115	1030	970	915	870	1160	1115	1030	970	915	870
1 1/2"	1160	1115	1030	970	915	870	1045	1000	945	915	625	535
2"	1160	1115	1030	970	915	870	1115	1060	1015	810	665	580
2 1/2"	1160	1100	1030	970	900	870	900	855	810	655	535	465
3"	695	655	625	580	535	520	520	495	480	375	320	275

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Dimensions and Weights



DN	$\varnothing A$ inch	C inch	L inch	stroke inch	weight lbs
1/2"	2.52	23.31	2.2	0.24	18
3/4"	2.83	23.5	2.2	0.24	18
1"	3.23	23.7	2.2	0.24	19
1 1/4"	3.5	23.9	2.2	0.24	19
1 1/2"	3.9	24.09	2.2	0.24	20
2"	4.57	24.49	2.52	0.31	24
2 1/2"	5.43	24.88	2.68	0.31	27
3"	6.02	25.08	2.76	0.31	30
4"	7.24	25.67	2.95	0.33	37
5"	8.35	26.26	3.15	0.33	42
6"	9.53	26.85	3.15	0.33	50
8"	11.89	28.03	3.66	0.33	87

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Flow Coefficients - Cv-Values



Ordering code		-	A	1	B	6	2	7	C	3	4	8	5	9
DN	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	-	0.05	-
	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	-	-	-	0.05
	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	-	-									
	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	-										

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