

# Motor Valve 8030

## 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.**

- 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	Flangeless design further versions see data sheet 8030-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 Carbon-stainless steel < 0,0001	Disc pair SFC < 0,0005	Disc pair STN 2 < 0,001

Kvs-values see data sheet 8001.



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### Materials

Body	Stainless steel 1.4571 /1.4581	Carbon steel 1.0570 /1.0619	
Head section	Stainless steel 1.4571 /1.4581	Carbon steel 1.0570 /1.0619	
Packing	PTFE (carbon filled), spring 1.4310		
Actuating stem	Stainless steel, roller burnished		
Bellow	Stainless steel 1.4571		
Fixed plate	Stainless steel 1.4571, plated		STN2-disc
Sliding disc	Standard: special carbon material	SFC-disc	STN2-disc
Coupling ring for discs	Stainless steel 1.4581		

## Stroking times (sec.):

Driving force	0,9 kN	2,0 kN	4,5 kN
DN 15 - 40	36	28	15
DN 50 - 80	47	38	20
DN 100 - 250	50	40	21

## Power consumption (Watt):

24 VAC, 230 VAC	5	6,6	40/28
24 VDC	10	20	30
400 V, 50 Hz	10	10	35
110/120 V AC	5	6,6	28

## Technical Information for the motor actuator

Driving force	0.9 kN; 2 kN; 4.5 kN
Type of duty (according VDE 0530)	S 1 - 100 % ED (0.9 kN; 2 kN; 4,5 kN DC) S 4 - 30 % ED 600c/h (0.9 kN; 2 kN) S 4 - 30 % ED 600c/h (4.5 kN)
Power connections	24 V AC, 24 V DC 110/120V AC 230 V AC 400 V 3-phase-AC other on request
Ambient temperature	0°C up to +60°C; -20°C bis +60°C with heating resistor element
Mounting position	free choice, but motor not vertical down
Protection class (Din 40050)	IP 65

## Options

Limit switches	max. 2	max. 2	max. 2
Potentiometer	1	1	max. 2*
Positioner, analogue	yes	yes	yes

\* One potentiometer is required for positioner option

## Additional stroking times

Actuator (kN)	0,9				2		4,5	
	Stroking speed mm/min.	13,5	8	5,1	2,9	15,2	7,5	5,6
Nominal size	Stroking times (sec.)							
DN 15 - 40	28	47	74	129	25	50	67	7,5
DN 50 - 80	37	62	97	171	33	66	88	9,9
DN 100-250	39	66	103	181	35	70	94	10,5

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

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

DN	0.9 kN	2,0 kN	4,5 kN	0.9 kN	2,0 kN	4,5 kN
	maximum differential pressure (bar) Disc pair carbon/SFC - stainless steel coated			maximum differential pressure (bar) STN2-disc pair		
15	78	100	100	55	100	100
20	68	100	100	42	100	100
25	57	100	100	32	76	100
32	46	100	100	23	56	100
40	35	84	100	16	38	72
50	23	55	100	9	23	53
65	19	46	80	8	19	44
80	12	29	48	4,5	11	26
100	8	18	33	3	7	16
125	5	12	23	2	4,5	11
150	4	9	16	-	3	8
200	2	5,5	12	-	-	-
250	1,4	3,4	7,9	-	-	-

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

## Ordering Number System

8 0 3 0 /     1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16  
 V M     M     Z     S

Type     Size     Symbol: "V": Valve  
 "R": Repair kit (sealings)

1 - 5 : Please quote all 5 sections.  
 6 - 16: Quote only if required.

1. Function	2. Body design	3. Body material	4. Safety position	5. Actuator	6. Special versions	7. Motor voltages	8. Stem sealing
M Control valve with motor actuator (type 8030)	E GS3 - flangeless design acc. ANSI 150 F GS3 - flangeless design acc. ANSI 300 K GS3 - flangeless design acc. ANSI 600 G GS3 - flangeless design acc. DIN, PN10-PN40 H GS3 - flangeless design acc. DIN, PN100	0 Carbon-Steel 1.0570 / 1.0619 1.0570 bzw. 1 Stainless Steel 1.4571 / 1.4581	- without	4 0,9 kN - IP65 1 2,0 kN - IP65 2 4,5 kN - IP65	M To state, if further sections are quoted A groove and groove acc. DIN EN1092-1 C groove and tongue acc. DIN EN1092-1 E 2x lowered face acc. DIN EN1092-1 H lowered and raised face acc. DIN EN1092-1	- 230 V AC (Standard) 1 24 V AC 2 400 V, 50 Hz rotary current 3 24 V DC 4 110/120V AC	- PTFE-V-shaped seal, self-adjusting (Standard) 1 additional stainless steel bellows 1.4571

9. Sliding disc	10. Fixed disc	11. Kvs-values	12. Flow characteristic	13. Accessories	14. Limit switches	15. Feedback	16. Special versions
- carbon material 9 STN2 S SFC	- stainless steel 1.4581, hard-chrome plated 1 STN2 (only in combination with the position "9" STN2-disc)	- 100 % (Stand.) A red. to 63 % 1 red. to 40 % B red. to 25% 2 red. to 16 % C red. to 10% 3 red. to 6,3 % 4 red. to 2,5 % 5 red. to 1 % 6 red. to 20% 7 red. to 2% 8 red. to 20% 9 red. to 0,4%	- linear 1 equal percentage	Z To state, if further sections are quoted	- without 1 one limit switch 2 two limit switches	- without potentiometer 1000 Ohm stroke feedback for positioner 0/4 - 20mA C	S Quote for further special versions

17. Options	18. Special treatment	19. Positioner
- Standard	- Standard	- without positioner 3 positioner 0-10 V N positioner 4-20 mA M positioner 0-20 mA

Ordering example: 8030/100VMG10-1M1 - - - - - Z2  
 GS3-control valve with motor actuator, DN 100, PN 10/40, stainless steel, actuator 2 kN, 24 V AC, PTFE-Packing, carbon-stainless steel 1.4571 coated, linear characteristics, 2 stroke dependent limit switches

## 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
15 - 65	40	38	34	32	31	29
80	36	34	33	26	22	19
100	33	31	26	24	20	17
125	22	21	17	16	13	11
150	16	15	13	11	9	8
200 (PN16 only)	-	-	-	-	-	-
250 (PN16 only)	-	-	-	-	-	-

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
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	69	60
40	72	69	65	53	43	37
50	77	73	70	56	46	40
65	62	59	56	45	37	32
80	36	34	33	26	22	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
15 - 125	16	15	13	12	10	8
150	16	15	13	11	9,5	8
200	-	-	-	-	-	-
250	-	-	-	-	-	-

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
15 - 65	40	38	35	32	31	29
80	36	34	33	26	22	19
100	33	31	26	24	20	17
125	22	21	17	16	13	11
150	16	15	13	11	9	8

Limitation for SFC-sliding discs: 300°C

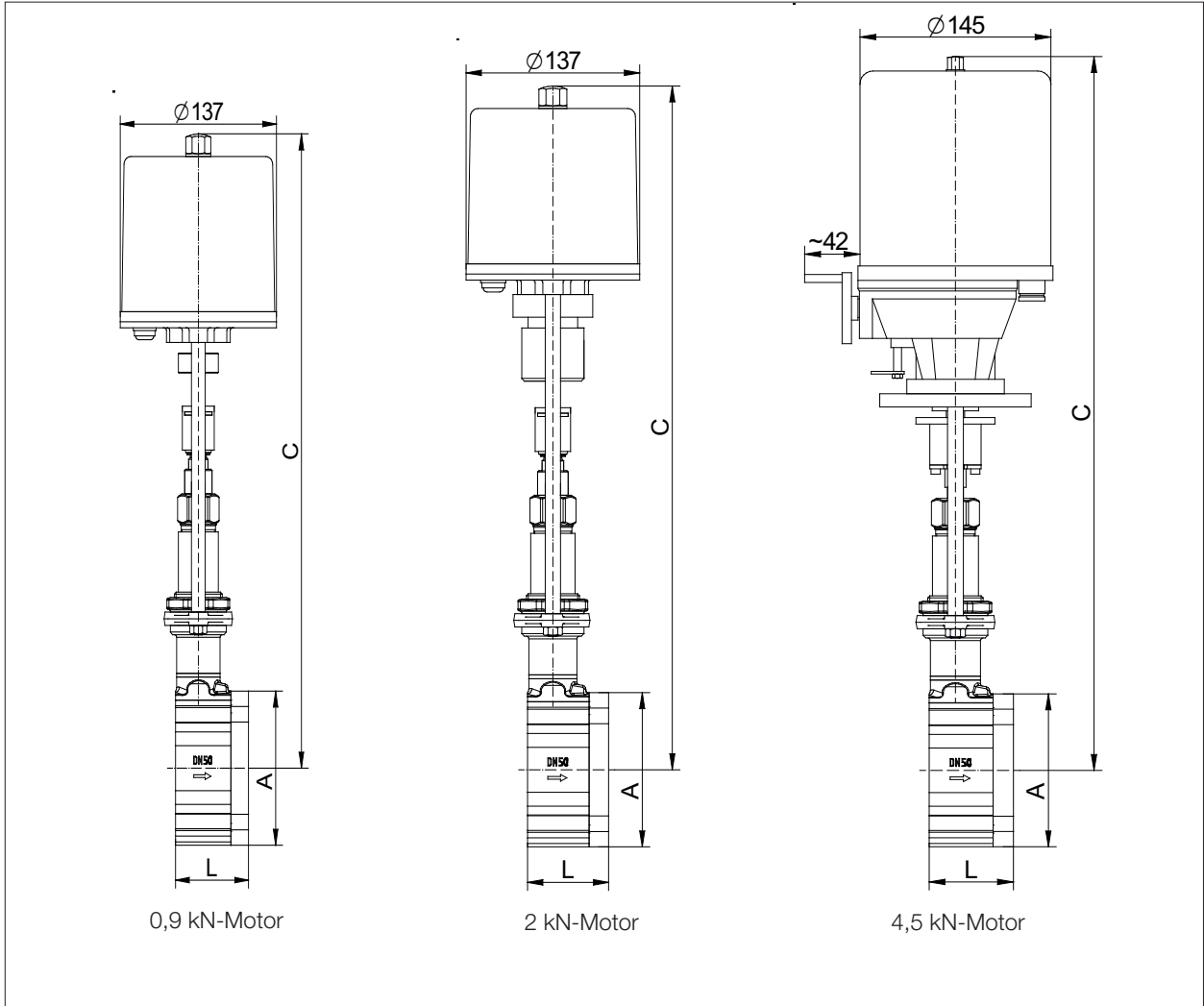
### ANSI #600

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
15 - 32	80	77	71	66	63	60
40	72	69	65	53	43	37
50	77	73	70	56	46	40
65	62	59	56	45	37	32
80	36	34	33	26	22	19

Limitation for SFC-sliding discs: 300°C

## Dimensions and Weights



DN	A	C			L	Weight kg			Stroke
		0,9 kN	2 kN	4,5 kN		0,9 kN	2,0 kN	4,5 kN	
15	64	450	487	525	56	4,5	4,8	7,8	6
20	72	455	492	530	56	4,7	5	8	6
25	82	460	497	535	56	5	5,3	8,3	6
32	89	465	502	540	56	5,2	5,5	8,5	6
40	99	470	507	545	56	5,6	5,9	8,9	6
50	116	480	517	555	64	7,1	7,4	10,4	8
65	138	490	527	565	68	8,6	8,9	11,9	8
80	153	495	532	570	70	9,9	10,2	13,2	8
100	184	510	547	585	75	13	13,3	16,3	8,5
125	212	525	562	600	80	15,4	15,7	18,7	8,5
150	242	540	577	615	80	-	19,3	22,3	8,5
200	302	570	607	645	93	-	36	39	8,5
250	360	595	632	670	96	-	41,4	44,4	8,5

Dimensions in mm