

Control Valve

Model 8020-GS 1 DN 15 - DN 150



Pneumatic Control Valve for the 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
- Quiet operation
- Fast response time
- Control of high differential pressures with small actuators
- Greatly reduced energy consumption rates due to short strokes and low actuating forces on the throttle element
- High Kvs-(Cv)-values



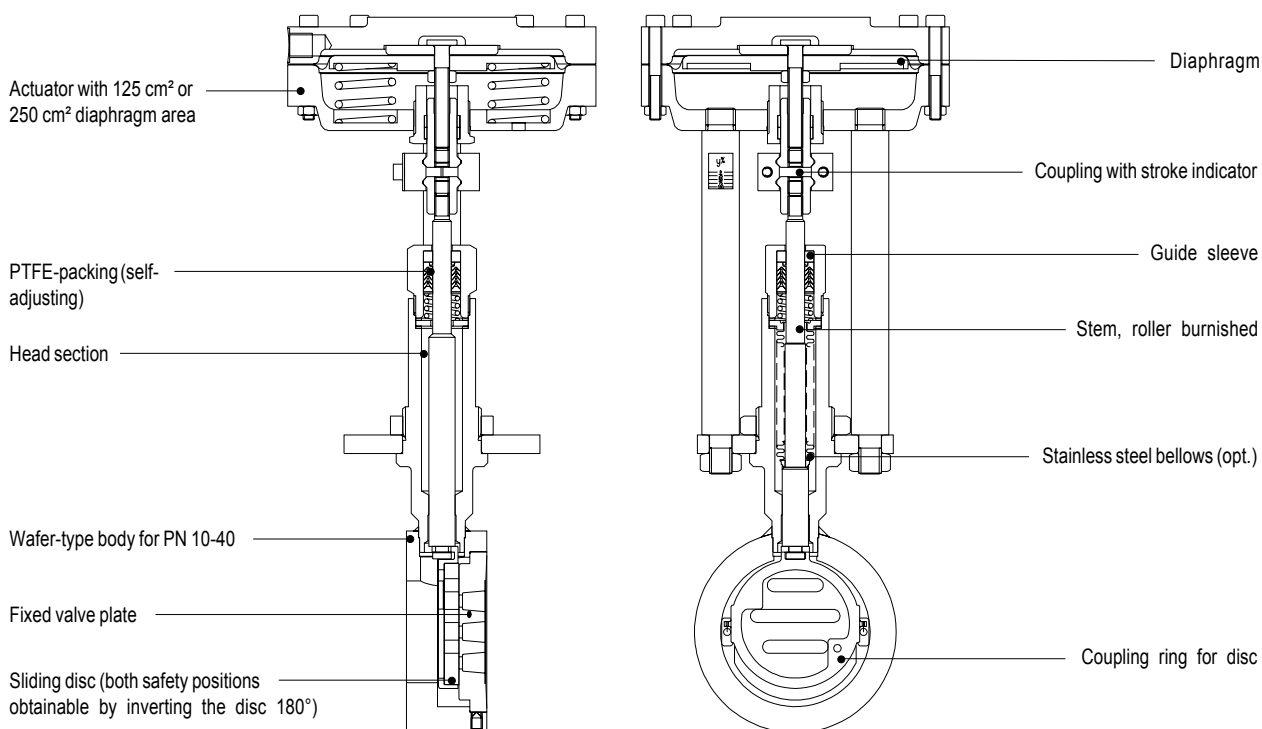
Technical Information

Body design	Flangeless, wafer-type construction Dimension to DIN-EN 558-1 series 20 more versions see on data-sheet 8020-GS3	
Nominal sizes	DN 15 to DN 150	
Nominal pressure	PN 40, DIN 2401 also for flanges PN 10 to PN 25	
Media temperature	Body 1.0570: -10°C to +300°C Body 1.4571: -60°C to +350°C	
Ambient temperature	-20°C to +80°C	
Rangeability	40 : 1	
Leakage (% of Kvs)	Disc pair Carbon-stainless steel < 0,0001	Disc pair STN 2 < 0,001

Kvs- values see Data-sheet 8001

Options

- bellows (stainless steel)
- positioner
 - pneumatic
 - electro-pneumatic
 - electro-pneumatic for hazardous location use (EEX ib II C T5/T6)
- limit switches
- position feedback
- manual handwheel



Control Valve 8020-GS1



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

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

Disc pair: carbon - stainless steel

Diaphragm area	125 cm ²					250 cm ²				
	0.2 to 1.0 (bar)	1.0 to 2.0	1.5 to 3.0	1.8 to 3.8	2.1 to 4.5	0.2 to 1.0	0.8 to 1.4	1.2 to 2.2	1.5 to 2.7	1.7 to 3.2
Supply air (bar)	1,2	2,8	4,2	5,2	6,0	1,2	2,1	3,2	4,0	4,6
DN	Admissible differential pressures in bar (see pressure diagram for GS-Valves)									
15	20	40	40	40	40	37	40	40	40	40
20	16	40	40	40	40	34	40	40	40	40
25	10	40	40	40	40	23	40	40	40	40
32	6	40	40	40	40	19	40	40	40	40
40	4	40	40	40	40	11	40	40	40	40
50	-	36	40	40	40	6,5	40	40	40	40
65	-	29	40	40	40	5	40	40	40	40
80	-	17	26	33	39	3	30	40	40	40
100	-	10	16	20	24	1,8	18	25	25	25
125	-	6,5	10	13	15	1,2	12	16	16	16
150	-	5	7,5	9	11	0,7	8,5	13	16	16
Springconfiguration	D	2	3	4	5	D	2	3	4	5

Standard

Disc pair: STN 2

Diaphragm area	125 cm ²					250 cm ²				
	0.2 to 1.0 (bar)	1.0 to 2.0	1.5 to 3.0	1.8 to 3.8	2.1 to 4.5	0.2 to 1.0	0.8 to 1.4	1.2 to 2.2	1.5 to 2.7	1.7 to 3.2
Supply air (bar)	1,2	2,8	4,2	5,2	6,0	1,2	2,1	3,2	4,0	4,6
DN	Admissible differential pressures in bar (see pressure diagram for GS-Valves)									
15	12	40	40	40	40	30	40	40	40	40
20	8	40	40	40	40	20	40	40	40	40
25	6	40	40	40	40	15	40	40	40	40
32	3	38	40	40	40	12	40	40	40	40
40	2	23	27	27	27	5,5	27	27	27	27
50	-	13	20	25	30	3	23	35	40	40
65	-	10	16	20	24	2	18	28	34	38
80	-	6	9	11	14	1,3	10	16	19	22
100	-	3,5	5,5	7	8,5	0,7	6,5	10	12	13
125	-	2,5	3,5	4,5	5,5	0,5	4	6,5	8	9
150	-	1,5	2,5	3,5	4	0,4	3	4,5	5,5	6,5
Springconfiguration	D	2	3	4	5	D	2	3	4	5

Standard

The quoted pilot pressure must be available as a minimum value for use without a positioner. If a positioner is applied the pilot pressure is determined by the adjustment of the positioner. The standard adjustment value is 4 bar gauge. The spring configuration D enables the use of the control valve without positioner in line with a restricted control capacity. In this case the valve can be driven by a controller with a standard signal of 0.2 to 1.0 bar.

Applications limits for GS1-Valves made of stainless steel

PN 40

DN	Sliding unit: carbon - stainless steel, coated max. admissible diff. pressures for GS1-valves						Sliding unit: carbon - STN2 max. admissible diff. pressures for GS1-valves					
	100°C	150°C	200°C	250°C	300°C	350°C	100°C	150°C	200°C	250°C	300°C	350°C
15 - 65	40	38	35	32	28	24	40	38	35	32	28	24
80	40	38	35	32	28	24	36	34	33	26	22	19
100	33	31	29	27	25	24	33	31	29	24	20	17
125	23	21	20	19	18	17	22	21	20	16	13	11
150	16	15	14	13	12	12	16	15	14	11	9,5	8,5

Control Valve 8020-GS1



Materials

Body	Carbon steel 1.0570	Stainless steel 1.4571
Head section	Carbon steel 1.0570	Stainless steel 1.4571
Diaphragm housing	Aluminium KTL coated	
Packing	PTFE (Carbon filled), spring 1.4310	
Actuating stem	Stainless steel 1.4571, roller burnished	
Bellows	Stainless steel 1.4571	
Fixed disc	Stainless steel 1.4571, coated	STN2-disc
Sliding disc	Special carbon material	STN2-disc
Coupling ring	Stainless steel 1.4571	

Ordering-Number System

8	0	2	0	/				V	P						M					Z			S	
Type		Size			Symbol: "V": Valve "R": Repair kit (sealings)																			

1 - 5 : Please quote all 5 sections.
6 - 12: Quote only if required.

1. Type	2. Connection	3. Body material	4. Safety position	5. Actuator	6. Special versions	7. Springs	8. Stem sealing
P Pneumatic control valve	0 Flangeless design acc. DIN2632-2635 (PN10-PN40)	0 Carbon steel 1.0570 1 Stainless 1.4571	0 spring closes spring opens 1	3 Diaphragm 125 cm ² 4 Diaphragm 250 cm ²	M State, if further sections are quoted	- Standard 1 2 springs 2 4 springs 3 6 springs 4 8 springs 5 10 springs D Spring set 0,2-1 bar	- PTFE-packing, self adjusting (standard) 1 Additional bellow 14.571

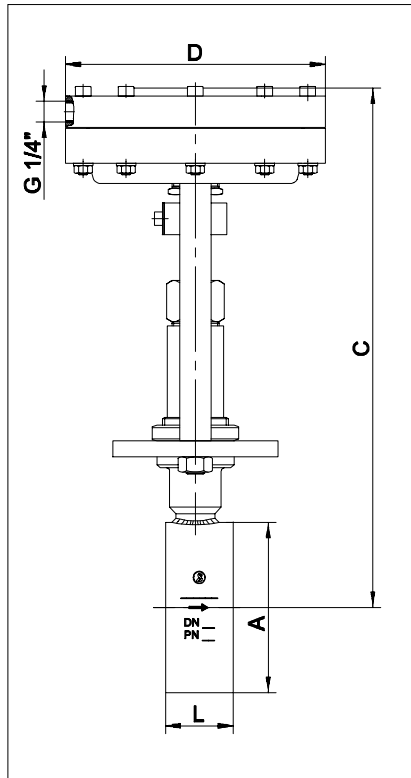
9. Moving disc	10. Fixed disc	11. Kvs-values	12. Characteristic	13. Accessories	14. Positioner	15. Feedback	16. Special versions
- Carbon material 9 STN2-disc B Carbon material, fibre-reinforced	- Stainless steel 1.4571, coated 1 STN2-disc	- 100% (Stand.) red. to 63% A 1 red. to 40% B red. to 25% 2 red. to 16% C red. to 10% 3 red. to 6,3% 4 red. to 2,5% 5 red. to 1% 7 red. to 12% 8 red. to 2% 9 red. to 0,4 %	- linear 1 equal percentage	Z Acces-sories	- without 1 p/p-positioner without gauges 2 p/p-positioner with gauges 3 i/p-positioner without 4 i/p-positioner with gauges 6 i/p-positioner, ex-proof, without 7 i/p-positioner, ex-proof, with gauges	- Without 0 2 ind. limit switches M12x1 DC 10-30V 5 2 ind. limit switches M12x1 DC 10-55V D 1 ind. limit switch M12x1 DC 10- 6 1 ind. limit switch M12x1 DC 10-	S Further special versions

Ordering Example: 8020/080VP0103M5 - - - - Z3
GS-control valve with pneumatic actuator, DN 80, PN 10/40, stainless steel, normally closed, actuator 125 cm² (standard design) with 10 springs, PTFE-V-shaped seal, carbon material-stainless steel 1.4571, Kvs-value 100 %, Flow characteristic linear, I/p-positioner without gauges.

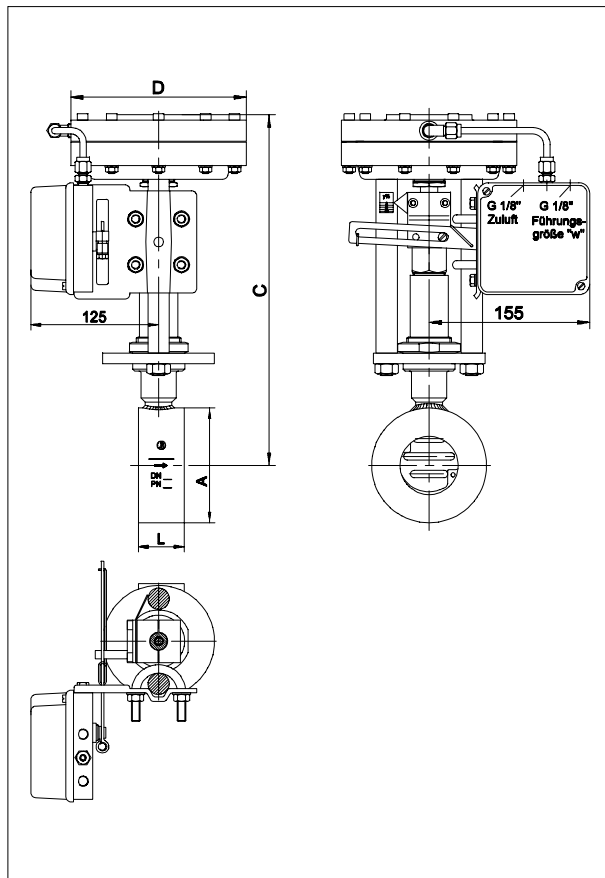
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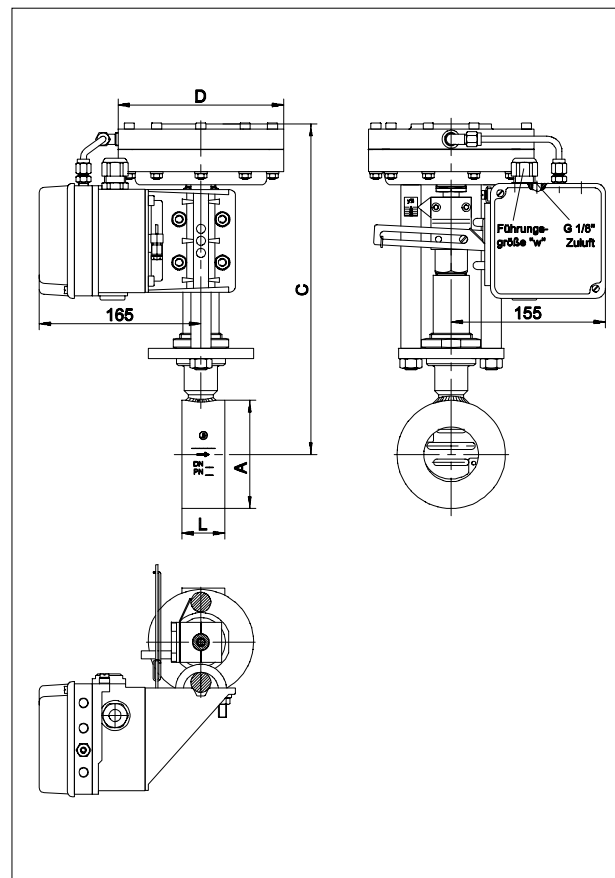
Dimensions and Weights



DN	A mm	C mm	Ø D for actuator		L mm	Weight (Kg) for actuator		Stroke mm
			125	250		125	250	
15	53	305	165	222	33	5,9	8,1	6
20	62	310	165	222	33	6	8,2	6
25	72	315	165	222	33	6,2	8,4	6
32	82	320	165	222	33	6,5	8,7	6
40	92	325	165	222	33	6,7	8,9	6
50	108	335	165	222	43	7,9	10,1	8
65	127	345	165	222	46	8,7	10,9	8
80	142	355	165	222	46	9,3	11,5	8
100	164	365	165	222	52	10,5	12,7	8,5
125	194	380	165	222	56	12,7	14,9	8,5
150	219	395	165	222	56	14,2	16,4	8,5



with pneumatic positioner



with electropneumatic positioner