



# TECHNICAL BULLETIN

## **Valtek GS**

General Service Control Valve

FCD VLENTB0300AQ 03/13

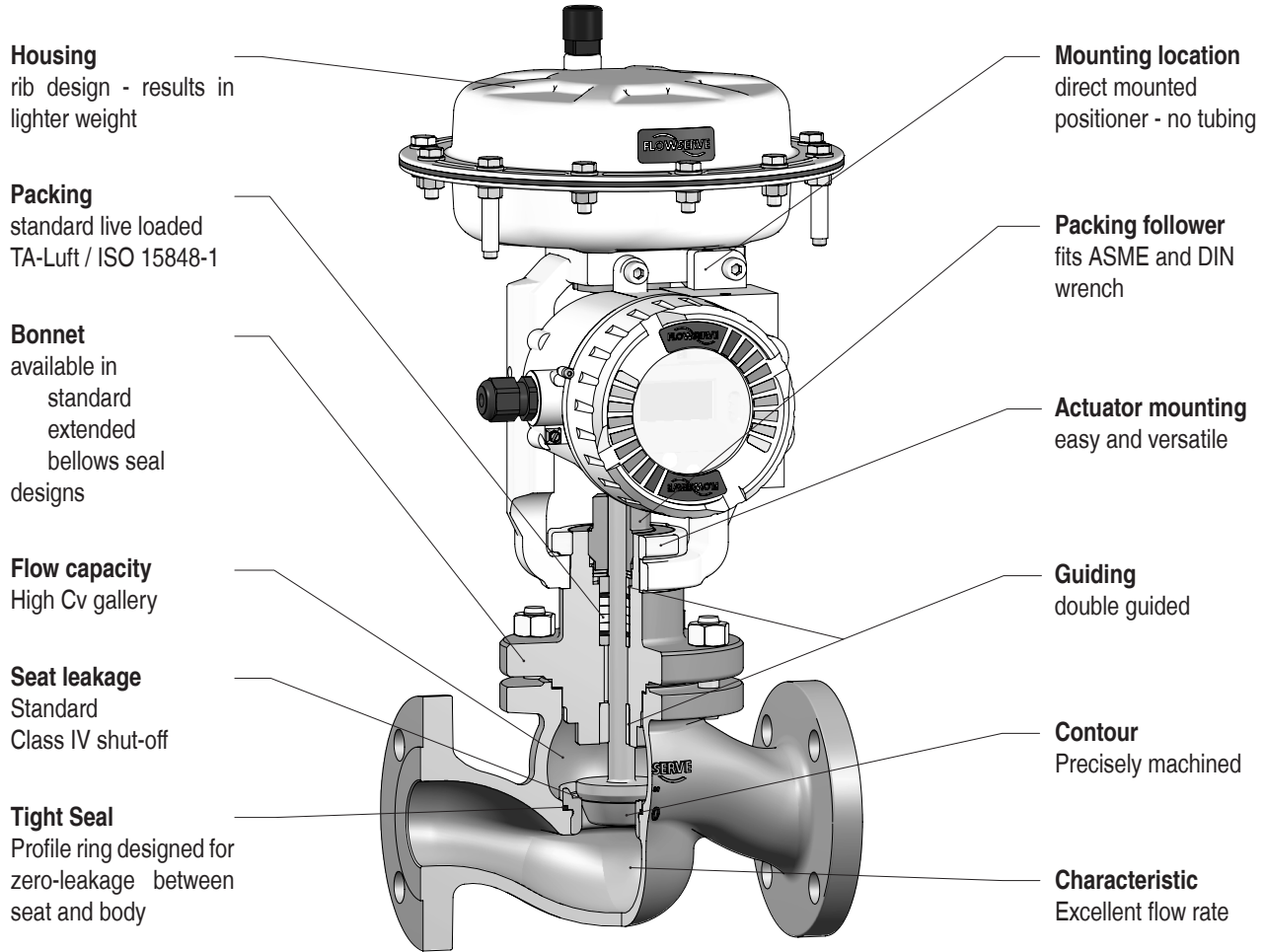


*Experience In Motion*

# Valtek GS - “General Service Control Valve”

The Valtek GS product line is low cost, compact and light-weight. Yet, it is rugged and can be used safely and confidently in a wide range of general service applications plant-wide. Its modularity provides trim and material options to suit most service situations. Simplicity of design reduces maintenance and parts inventory costs.

Ideally suited for flow and pressure control of liquid and gas media in oil and gas, power, chemical and petrochemical processing and related industries, the Valtek GS package provides flow rates, control accuracy and reliability at levels comparable to special engineered service control valves, but at a significantly lower total cost.

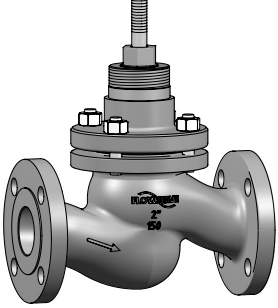


## Specifications

Style	Globe, ASME and DIN
Sizes	½ to 6 inch / 15 to 150 mm
Pressure Classes	ASME 150 and 300 / PN 16 and PN 40
End Connection	Flanged
Body Materials	A216WCC / 1.0619 and A351CF8M / 1.4408
Face to Face	ISA 75.08.06 / EN 558-1 basic series 1
Bonnet	standard, extended, bellows seal
Packing	PTFE and Graphite spring loaded TA-Luft & ISO 15848-1

Trim material	316 stainless steel
Trim types	standard, pressure balanced
Plug & seat facing	standard, seat surface Alloy 6
Characteristic	= %, linear, quick open
Low noise and anti-cavitation	1-stage MultiStream
Leakage rates	Class IV, V and VI ( with optional soft seat )
Actuator	pneumatic diaphragm spring actuator
Standard positioner	Logix 420, direct mounted without tubing

## Body Design - “Integral Flange”

Body Design	Type ( Body ) / Size	Body Material	Bonnet Design	Packing Design	Trim Design
Integral flange	PN 16 40  DN 15 20 25 32 40 50 65 80 100 125 150  Class 150 300  NPS 1/2 3/4 1 1 1/2 2 3 4 6	 1.0619 1.4408  A216 WCC A351 CF8M	<b>Unbalanced</b> Standard Bonnet Bellow Seal Bonnet Extended Bonnet  <b>V-Ring pressure balanced</b> Standard Bonnet Bellow Seal Bonnet Extended Bonnet  <b>Piston-Ring pressure balanced</b> Bellow Seal Bonnet Extended Bonnet  <i>see page 4 - 6</i>	          <b>spring loaded</b> Teflon TA-Luft Graphite TA-Luft  <i>see page 6</i>	<b>Contoured Plug</b> Standard Partial Hard Facing Contour Hard Facing Soft Seated  <b>Quick Open</b> Standard Soft Seated  <b>Anti-noise Equipment</b> MultiStream 1-stage  <i>see page 7</i>

## Body Connecting Design - “Detail”

Body Design	Face to Face		End Connections		
Integral flange	Raised Face	EN 558-1:2012-03 Basic Range 1	according to EN 1092-1	Form B1	Ra = 3,2 - 12,5 µm
		ASME / ISA 75.08.01-2002	according to ASME B16.5	Raised Face RF	Ra = 3,2 - 12,5 µm 125 - 250 µin.

## Body Pressure - Temperature Ratings

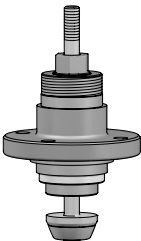
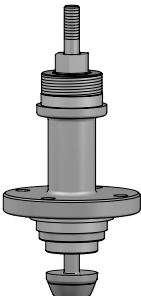
PN Class	Body Material	Maximum Allowable Working Pressure	Service Temperature in °C												
			- 60	- 46	- 29	- 10	50	100	150	200	250	300	350	400	
16	1.0619	bar			12,0	16,0	16,0	13,7	13,3	12,4	11,3	10,2	9,6	9,1	
	1.4408		16,0	16,0	16,0	16,0	16,0	15,1	13,7	12,7	11,9	11,0	10,5	10,2	
40	1.0619				30,0	40,0	40,0	34,2	33,3	31,0	28,3	25,7	24,1	22,8	
	1.4408		40,0	40,0	40,0	40,0	40,0	37,9	34,4	31,8	29,9	27,6	26,4	25,7	
150	A216 WCC				19,6	19,6	19,2	17,7	15,8	13,8	12,1	10,2	8,4	6,5	
	A351 CF8M		19,0	19,0	19,0	19,0	18,4	16,2	14,8	13,7	12,1	10,2	8,4	6,5	
300	A216 WCC				51,1	51,1	51,1	46,6	45,1	43,8	41,9	39,8	37,6	34,7	
	A351 CF8M		49,6	49,6	49,6	49,6	48,1	42,2	38,5	35,7	33,4	31,6	30,3	29,4	
Class				Service Temperature in °F											
				- 76	- 51	- 20	14	122	212	302	392	482	572	662	752
150	A216 WCC		psig			284	284	278	257	229	200	176	148	122	94
	A315 CF8M			276	276	276	276	267	235	215	199	176	148	122	94
300	A216 WCC				741	741	741	676	654	635	608	577	545	503	
	A351 CF8M	719		719	719	719	698	612	558	518	484	458	439	426	

## Working Temperature Range dependent on Body / Bonnet / Trim / Packing

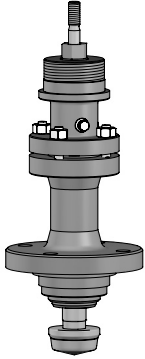
Body Material	Bonnet Design	Trim Material MAWT <sup>1)</sup>	Packing Material			
			Teflon - TA-Luft		Graphite - TA-Luft	
			°C	°F	°C	°F
1.0619 A216 WCC	Standard Bonnet	316 SS	- 29 to + 250	- 20 to + 482	-	-
	Bellows Seal Bonnet		- 29 to + 300	- 20 to + 572	+ 300 to + 400	+ 572 to + 752
	Extended Bonnet		+ 250 to + 300	+ 482 to + 572	+ 300 to + 400	+ 572 to + 752
	Standard Bonnet V-Ring pressure balanced		- 29 to + 250	- 20 to + 482	-	-
	Bellows Seal Bonnet V-Ring pressure balanced		- 29 to + 250	- 20 to + 482	-	-
	Extended Bonnet V-Ring pressure balanced		- 29 to + 250	- 20 to + 482	-	-
	Bellows Seal Bonnet Piston-Ring pressure balanced		+ 250 to + 300	+ 482 to + 572	+ 300 to + 400	+ 572 to + 752
	Extended Bonnet Piston-Ring pressure balanced		+ 250 to + 300	+ 482 to + 572	+ 300 to + 400	+ 572 to + 752
1.4408 A351 CF8M	Standard Bonnet		- 46 to + 250	- 51 to + 482	-	-
	Bellows Seal Bonnet		- 60 to + 300	- 76 to + 572	+ 300 to + 400	+ 572 to + 752
	Extended Bonnet		+ 250 to + 300	+ 482 to + 572	+ 300 to + 400	+ 572 to + 752
	Standard Bonnet V-Ring pressure balanced		- 46 to + 250	- 51 to + 482	-	-
	Bellows Seal Bonnet V-Ring pressure balanced		- 60 to + 250	- 76 to + 482	-	-
	Extended Bonnet V-Ring pressure balanced		- 60 to + 250	- 76 to + 482	-	-
	Bellows Seal Bonnet Piston-Ring pressure balanced		+ 250 to + 300	+ 482 to + 572	+ 300 to + 400	+ 572 to + 752
	Extended Bonnet Piston-Ring pressure balanced		+ 250 to + 300	+ 482 to + 572	+ 300 to + 400	+ 572 to + 752

<sup>1)</sup> Maximal Allowable Working Temperature with PTFE soft seat = - 60 to + 250 °C / - 76 to + 482 °F only !

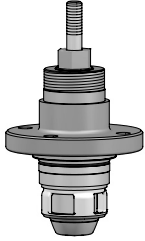
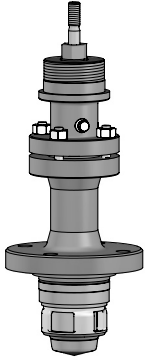
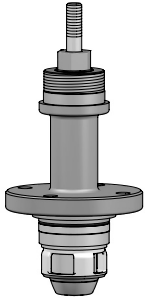
## Bonnet Design - “Unbalanced” for DN 15 to 150 / NPS ½ to 6

Bonnet Design	Type ( Bonnet )	Body / Bonnet Material	Temperature Range <sup>1)</sup>	Application	Packing Design
Standard Bonnet		dependent on body material  1.0619 / 1.0460 1.4408 / 1.4404  A216 WCC / A105 A351 CF8M / F316	- 46 to + 250 °C - 51 to + 482 °F	Universal use	<b>spring loaded</b> Teflon TA-Luft <i>see page 6</i>
Unbalanced		dependent on body material  1.0619 / 1.0619  A216 WCC / A216 WCC	+ 250 to + 300 °C + 482 to + 572 °F	Universal use dependent on temperature	<b>spring loaded</b> Teflon TA-Luft
		dependent on body material  1.4408 / 1.4408  A351 CF8M / A351 CF8M	- 60 to + 300 °C - 76 to + 572 °F		<b>spring loaded</b> Teflon TA-Luft
Extended Bonnet			+ 301 to + 400 °C + 573 to + 752 °F		<b>spring loaded</b> Graphite TA-Luft
			+ 301 to + 400 °C + 573 to + 752 °F		<b>spring loaded</b> Graphite TA-Luft

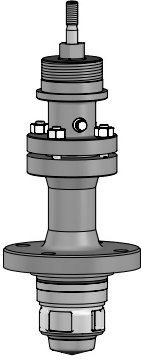
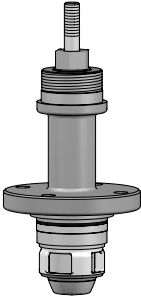
## Bonnet Design - “Unbalanced” for DN 15 to 150 / NPS ½ to 6

Bonnet Design	Type ( Bonnet )	Body / Bonnet Material	Temperature Range	Application	Packing Design
Unbalanced	 Bellows Seal Bonnet	dependent on body material 1.0619 / <b>1.0619</b> A216 WCC / <b>A216 WCC</b>	- 29 to + 300 °C - 20 to + 572 °F	Use for hazardous, costly media or vacuum	<b>spring loaded</b> Teflon TA-Luft <i>see page 6</i>
		dependent on body material 1.4408 / <b>1.4408</b> A351 CF8M / <b>A351 CF8M</b>	- 60 to + 300 °C - 76 to + 572 °F		
		dependent on body material 1.0619 / <b>1.0619</b> 1.4408 / <b>1.4408</b> A216 WCC / <b>A216 WCC</b> A351 CF8M / <b>A351 CF8M</b>	+ 300 to + 400 °C + 572 to + 752 °F		<b>spring loaded</b> Graphite TA-Luft <i>see page 6</i>

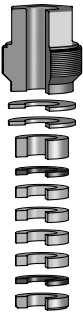

## Bonnet Design - “Pressure balanced” for DN 80 to 150 / NPS 3 to 6

Bonnet Design	Type ( Bonnet )	Body / Bonnet Material	Temperature Range	Application	Packing Design
V-Ring pressure balanced	 Standard Bonnet	dependent on body material 1.0619 / <b>1.0460</b> 1.4408 / <b>1.4404</b> A216 WCC → <b>A105</b> A351 CF8M → <b>F316</b>	- 29 to + 250 °C - 20 to + 482 °F	Universal use	<b>spring loaded</b> Teflon TA-Luft <i>see page 6</i>
	 Bellows Seal Bonnet	dependent on body material 1.0619 / <b>1.0619</b> A216 WCC / <b>A216 WCC</b>			
	 Extended Bonnet	dependent on body material 1.4408 / <b>1.4408</b> A351 CF8M / <b>A351 CF8M</b>	- 60 to + 250 °C - 76 to + 482 °F	Universal use dependent on temperature	

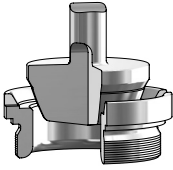
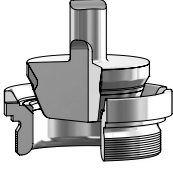
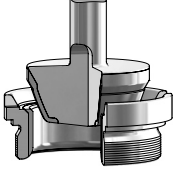
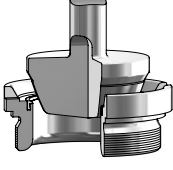
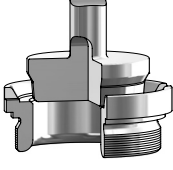
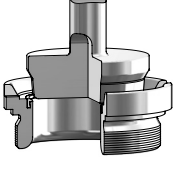
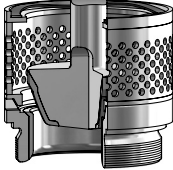
## Bonnet Design - "Pressure balanced" for DN 80 to 150 / NPS 3 to 6

Bonnet Design	Type ( Bonnet )	Body / Bonnet Material	Temperature Range	Application	Packing Design
Piston-Ring pressure balanced	<p>Bellows Seal Bonnet</p> 	<p>dependent on body material</p> <p>1.0619 / 1.0619 1.4408 / 1.4408</p> <p>A216 WCC / A216 WCC A351 CF8M / A351 CF8M</p>	<p>+ 250 to + 400 °C + 482 to + 752 °F</p> <p><i>see also Working Temperature Range on Page 4</i></p>	<p>Use for hazardous, costly media or vacuum</p>	<p><b>spring loaded</b></p> <p>Graphite TA-Luft</p> <p><i>see page 6</i></p>
	<p>Extended Bonnet</p> 				

## Packing Design - "Detail"

Packing Design	Type ( Packing )	Material	Temperature Range	Application	Approvals
spring loaded		<p><b>Packing Rings</b> Braided PTFE-Yarn impregnated with PTFE-Dispersion</p> <p><b>Chamber Washers</b> PTFE-Carbon</p>	<p>- 60 to + 300 °C - 76 to + 572 °F</p> <p><i>see also Working Temperature Range on Page 4</i></p>	<p>Universal chemical resistance.</p>	<p>TA-Luft ISO 15848-1 ( 10<sup>4</sup> mg * s<sup>-1</sup> * m<sup>-1</sup> ) Tightness class → B Endurance class → CC1</p>
		<p><b>Packing Rings</b> Braided Graphite made out of expanded pure Graphite-Yarn lubricated with a slip additive</p>	<p>301 to + 400 °C 573 to + 752 °F</p> <p><i>see also Working Temperature Range on Page 7</i></p>	<p>Universal chemical resistance. Not suitable for oxidizing medium !</p>	<p>TA-Luft ISO 15848-1 ( 10<sup>2</sup> mg * s<sup>-1</sup> * m<sup>-1</sup> ) Tightness class → C Endurance class → CC1</p>

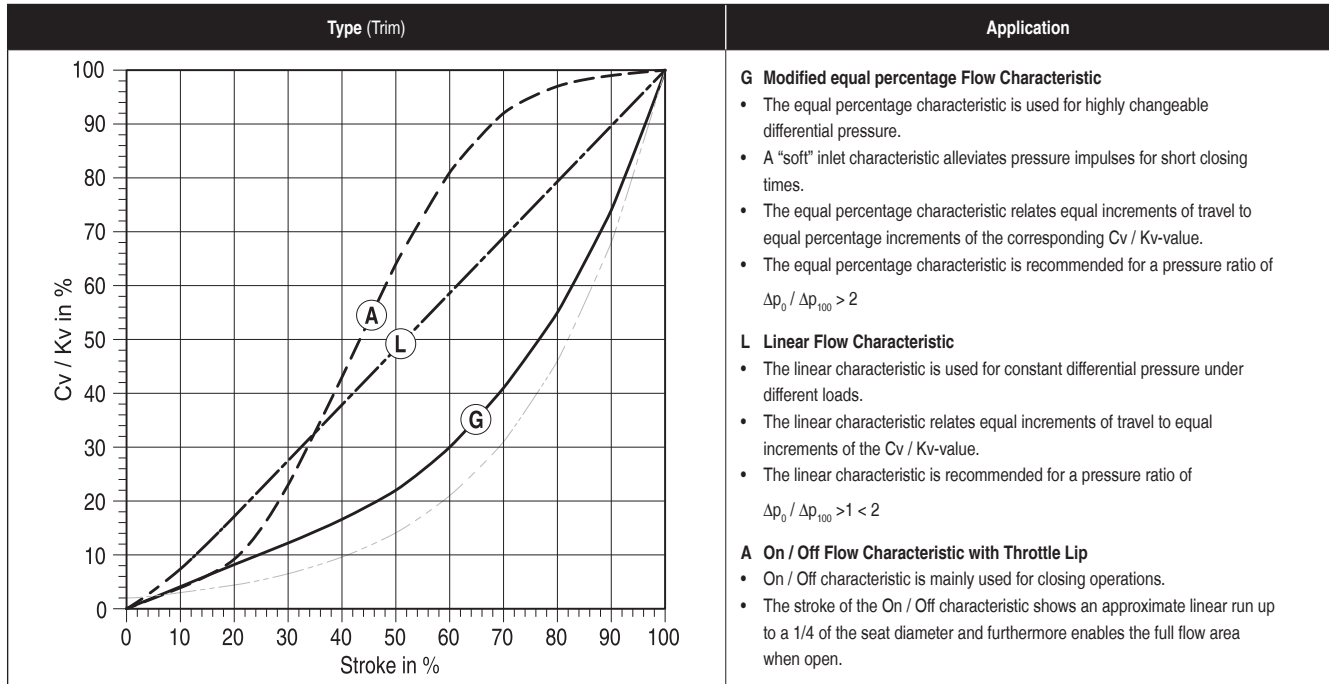
# Trim Design - "Standard"

Type ( Trim ) / Material		Medium	Flow	max. allowable Differential Pressure in bar <sup>1)</sup>	Noise Reduction
Contoured Plug Characteristic: mod. equal per. or linear	standard 316 SS 	gases, vapors and liquids	Flow direction <b>under</b> the plug	$\Delta p_i < x_{Fz} \cdot (p_i - p_v)$ $\Delta p_c < x_T \cdot p_i$	none - noise reduction with Special Trim Equipment or Noise Insulating provided by customer
	partial hard facing ( seat surface ) 316 SS 			$\Delta p_i < (x_{Fz} + 0,10) \cdot (p_i - p_v)$ $\Delta p_c < x_T \cdot p_i$	
	full hard facing ( contour ) 316 SS 			$\Delta p_i < (x_{Fz} + 0,15) \cdot (p_i - p_v)$ $\Delta p_c < x_T \cdot p_i$	
	soft seated 316 SS + PTFE 			$\Delta p_i < x_{Fz} \cdot (p_i - p_v)$ $\Delta p_c < x_T \cdot p_i$	
Quick Open with Throttle Lip Characteristic: On / Off	standard 316 SS 	Gases and Vapors		$\Delta p < MAWP$	max. - 10 dB(A)
	soft seated 316 SS + PTFE 				
Contoured Plug with MultiStream	all Standard Trim 	Liquids	Type: partial hard fac. $\Delta p_i < (x_{Fz} + 0,10) \cdot (p_i - p_v)$	Type: full hard facing $\Delta p_i < (x_{Fz} + 0,15) \cdot (p_i - p_v)$	

Characteristic values of incompressible fluids  $\Delta p_i \rightarrow x_{Fz} \rightarrow 0,79 - 0,24$  respectively compressible fluids  $\Delta p_c \rightarrow x_T \rightarrow 0,82 - 0,61$

<sup>1)</sup> Formulas works only with SI - values ( bar = psi / 14.5038 ) !

# Valve Characteristic



## Contoured Plug

Characteristic: modified - equal percentage resp. linear

Cv (gpm)	kvs (m <sup>3</sup> /h)	Seat Ø	Balancing	Material / Design				Possible seat diameter depends on nominal size											
				316 SS				15	20	25	32	40	50	65	80	100	125	150	
				standard	partial hard facing	full hard facing	soft seated <sup>1)</sup>	1/2"	3/4"	1"	1 1/2"	2"	3"	4"	6"	8"	10"		
								Stroke = 20 mm / 0.787 in.					40 mm / 1.574 in.		60 mm / 2.362 in.				
0.46	0.40	4		•		•	•	•	•	•									
0.73	0.63	6		•		•	•	•	•	•									
1.16	1.0	8		•		•	•	•	•	•									
1.8	1.6	8		•		•	•	•	•	•									
2.9	2.5	10		•		•	•	•	•	•									
4.6	4.0	12		•	•		•	•	•	•									
6.5	5.6	16		•	•		•	•											
7.3	6.3	16		•	•		•		•	•									
9.2	8.0	20		•	•		•		•										
11.6	10	20		•	•		•		•	•									
16.2	14	25		•	•		•		•										
18.5	16	25		•	•		•		•	•	•								
-	22.4	34		•	•		•		•										
29	25	34		•	•		•		•	•									
36	31.5	40		•	•		•		•										
46	40	42		•	•		•		•		•	•	•						
55	47.5	50		•	•		•		•	•									
73	63	53		•	•		•		•		•	•	•						
-	80	67		•	•		•		•		•		•	•	•				
116	100	67	•	•	•		•		•		•		•	•	•	•	•		
145	125	80	•	•	•		•		•		•		•	•	•	•	•		
185	160	84	•	•	•		•		•		•		•	•	•	•	•		
208	180	100	•	•	•		•		•		•		•	•	•	•	•		
289	250	105	•	•	•		•		•		•		•	•	•	•	•		
410	355	130	•	•	•		•		•		•		•	•	•	•	•		

<sup>1)</sup> Maximal Allowable Working Temperature with PTFE soft seat = - 60 to + 250 °C / - 76 to + 482 °F only !





# Quick Open

Characteristic: on / off

cv (gpm)	kvs (m <sup>3</sup> /h)	Seat Ø	Material / Design		Possible seat diameter depends on nominal size										
					15	20	25	32	40	50	65	80	100	125	150
			standard	soft seated <sup>1)</sup>	1/2"	3/4"	1"		1 1/2"	2"		3"	4"		6"
7.3	6,3	16	•	•	•										
10.4	9,0	20	•	•		•									
18.5	16	25	•	•			•								
-	25	34	•	•				•							
41	35,5	40	•	•					•						
61	53	50	•	•						•					
-	90	67	•	•							•				
162	140	80	•	•								•			
231	200	100	•	•									•		
-	285	105	•	•										•	
462	400	130	•	•											•

<sup>1)</sup> Maximal Allowable Working Temperature → 316 SS + soft seated = - 60 to + 250 °C / - 76 to + 482 °F only !

## Leakage Class for Quick Open Function acc. DIN EN 12266-1:2003-06

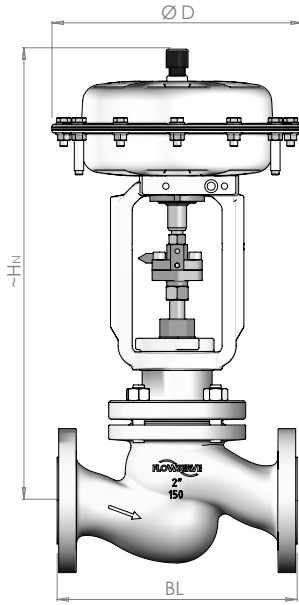
Bonnet Design	Type / Trim Design	Leakage Class acc. EN 12266	Test Medium	Test Pressure (bar)	max. Seat Leakage
Unbalanced	metal to metal seated	A	Liquid	Working Pressure · 1,1	no leakage viewable
	metal to metal seated, lapped seat		Gas	Working Pressure, max. 6	
	soft seated			Working Pressure, max. 6	

## Max. allowable control - differential pressure

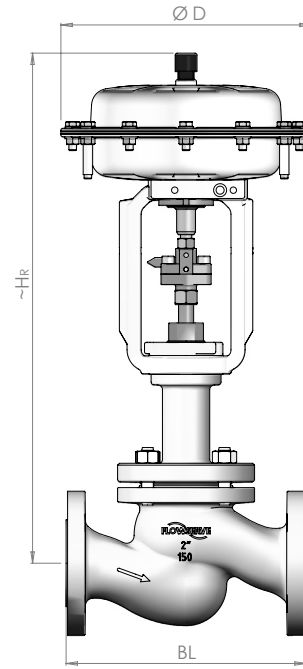
Seat Ø	$\Delta p$ (bar / psi)															
	15	20	25	32	40	50	65	80	100	125	150					
	1/2"	3/4"	1"		1 1/2"	2"		3"	4"		6"					
	Stroke 20 mm / 0.787 in.						40 mm / 1.574 in.			60 mm / 2.362 in.						
	Stem Ø 12 mm / 0.472 in. max. Force 13 500 N / 3035 lbf			Stem Ø 16 mm / 0.630 in. max. Force 23 000 N / 5171 lbf			Stem Ø 20 mm / 0.787 in. max. Force 39 000 N / 8768 lbf			Stem Ø 24 mm / 0.945 in. m. F. 56 000 N / 12 590 lbf						
unbalanced	4	51	740	51	740	51	740									
	6	51	740	51	740	51	740									
	8	51	740	51	740	51	740									
	10	51	740	51	740	51	740									
	12	51	740	51	740	51	740									
	16	51	740	51	740	51	740									
	20		51	740	51	740	51	740								
	25			51	740	51	740	51	740							
	34				51	740	51	740	51	740						
	40						48	696								
	42								44	638	51	740	51	740		
	50								32	464						
	53										32	464	32	464		
67										20	290	20	290	20	290	
80												15	218			
84														13	189	
100														10	145	
105															10	
130															7	
pressure balanced	67											51	740	51	740	
	80											51	740			
	84													51	740	
	100													51	740	
	105														51	
130															51	



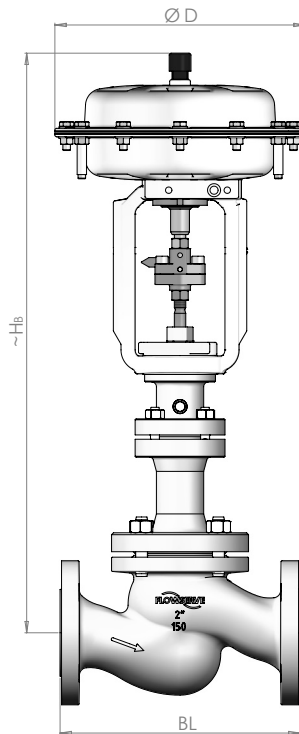
# Dimensional Drawing



Valve with Standard Bonnet and Pneumatic Actuator



Valve with Extension Bonnet and Pneumatic Actuator



Valve with Bellows Seal Bonnet and Pneumatic Actuator

# Dimensions and Weights

Description			Nominal Size											
DIN - Valves (mm resp. kg)		Actuator	15	20	25	32	40	50	65	80	100	125	150	
		Size	Stroke 20 mm / 0.787 in.					40 mm / 1.574 in.			60 mm / 2.362 in.			
		Ø D												
BL Face to Face Dimension according to EN 558			130	150	160	180	200	230	290	310	350	400	480	
~ H <sub>v</sub> for Standard Bonnet and Actuator (mm)	IG 253	265	445	445	445	475	475	480						
	IG 503	352	565	565	565	600	600	600	665	665	670			
	IG 701	390				640	640	640	710	710	710	805	805	
~ H <sub>s</sub> for Bellows Seal Bonnet and Actuator (mm) <sup>1)</sup>	IG 253	265	600	600	600	600	600	600						
	IG 503	352	720	720	720	720	720	720	870	870	870			
	IG 701	390				760	760	760	910	910	910	1190	1195	
~ H <sub>e</sub> for Extension Bonnet and Actuator (mm)	IG 253	265	520	520	520	540	540	540						
	IG 503	352	640	640	640	660	660	660	750	750	750			
	IG 701	390				700	700	700	790	790	790	935	940	
~ Weight in kg for Standard Bonnet and Actuator	IG 253		16,5	17,5	18,0	23	24	29						
	IG 503		27	28	28	33	34	39	55	59	75			
	IG 701					40	41	46	62	66	82	105	137	
~ Weight in kg for Bellows Seal Bonnet and Actuator <sup>1)</sup>	IG 253		20	21	22	26	27	31						
	IG 503		30	31	32	36	37	41	58	60	76			
	IG 701					43	44	48	65	67	83	117	148	
~ Weight in kg for Extension Bonnet and Actuator	IG 253		17,5	18,0	19,0	24	25	30						
	IG 503		28	28	29	34	35	40	57	61	75			
	IG 701					41	42	47	64	68	82	108	141	
Flanges drilled and dimensioned according to			EN 1092-1, Form B1											
ASME - Valves (mm resp. kg)		Actuator	1/2"	3/4"	1"	-	1 1/2"	2"	-	3"	4"	-	6"	
		Size	Stroke 20 mm / 0.787 in.					40 mm / 1.574 in.			60 mm / 2.362 in.			
		Ø D												
BL Face to Face Dimension acc. to ASME/ISA 75.08.01			Class 150 RF	184	184	184	-	222	254	-	298	352	-	451
			Class 300 RF	190	194	197	-	235	267	-	318	368	-	473
~ H <sub>v</sub> for Bonnets and Actuators			see DIN - Valves											
~ Weight in kg for Standard Bonnet and Actuator	IG 253		17,0	18,0	19,0	-	29	32						
	IG 503		27	28	29	-	39	42	-	69	94			
	IG 701					-	46	49	-	76	101	-	161	
~ Weight in kg for Bellows Seal Bonnet and Actuator <sup>1)</sup>	IG 253		22	22	23	-	31	33						
	IG 503		32	32	33	-	41	43	-	72	91			
	IG 701					-	48	50	-	79	98	-	165	
~ Weight in kg for Extension Bonnet and Actuator	IG 253		18,0	19,0	20	-	29	32						
	IG 503		28	29	30	-	40	43	-	71	95			
	IG 701					-	46	49	-	78	102	-	167	
Flanges drilled and dimensioned according to			ASME B16.5, Raised Face											
BL Face to Face Dimension acc. to ASME/ISA 75.08.01 (inch)			Class 150 RF	7.25	7.25	7.25	-	8.75	10.00	-	11.75	13.88	-	17.75
			Class 300 RF	7.50	7.62	7.75	-	9.25	10.50	-	12.50	14.50	-	18.62
~ H <sub>v</sub> for Standard Bonnet and Actuator (inch)	IG 253	10.4	17.5	17.5	17.5	-	18.7	18.9						
	IG 503	13.9	22.2	22.2	22.2	-	23.6	23.6	-	26.2	26.4			
	IG 701	15.4				-	25.2	25.2	-	28.0	28.0	-	31.7	
~ H <sub>s</sub> for Bellows Seal Bonnet and Actuator (inch) <sup>1)</sup>	IG 253	10.4	23.6	23.6	23.6	-	23.6	23.6						
	IG 503	13.9	28.3	28.3	28.3	-	28.3	28.3	-	34.3	34.3			
	IG 701	15.4				-	29.9	29.9	-	35.8	35.8	-	47.0	
~ H <sub>e</sub> for Extension Bonnet and Actuator (inch)	IG 253	10.4	20.5	20.5	20.5	-	21.3	21.3						
	IG 503	13.9	25.2	25.2	25.2	-	26.0	26.0	-	29.5	29.5			
	IG 701	15.4				-	27.6	27.6	-	31.1	31.1	-	37.0	
~ Weight in lbs for Standard Bonnet and Actuator	IG 253		37.5	39.7	41.9	-	63.9	70.5						
	IG 503		59.5	61.7	63.9	-	86.0	92.6	-	152	207			
	IG 701					-	101	108	-	168	223	-	355	
~ Weight in lbs for Bellows Seal Bonnet and Actuator <sup>1)</sup>	IG 253		48.5	48.5	50.7	-	68.3	72.8						
	IG 503		70.5	70.5	72.8	-	90.4	94.8	-	159	201			
	IG 701					-	106	110	-	174	216	-	364	
~ Weight in lbs for Extension Bonnet and Actuator	IG 253		39.7	41.9	44.1	-	63.9	70.5						
	IG 503		61.7	63.9	66.1	-	88.2	94.8	-	157	209			
	IG 701					-	101	108	-	172	225	-	368	

<sup>1)</sup> pending ( preliminary values ) !

# General Service Control Valve - GS order code

Valtek GS	Type						Size	PN	Body material / Certificate				Plug				Seat	kvs	Trim						
	V701	D	K	V	N	U			50	40	1.0619	O	O	A	O	P				O	N	P	1	G	G
Body design	globe, flanged end																								
Flange connection according to	EN 1092-1		Form B1		K																				
	ASME B16.5		RF		F																				
Balancing	without						V																		
	V-ring						O																		
	Piston-ring						K																		
Bonnet	Standard bonnet						N																		
	Bellows seal bonnet						B																		
	Extended bonnet						R																		
Stuffing box packing	PTFE standard, TA-Luft						U																		
	Graphite standard, TA-Luft						V																		
Nominal Size	15 - 20 - 25 - 32 - 40 - 50 - 65 - 80 - 100 - 125 - 150						15 - 150																		
	1/2" - 3/4" - 1" - 1 1/2" - 2" - 3" - 4" - 6"						1/2" - 6"																		
Nominal pressure	PN						16																		
	PN						40																		
	Class						150																		
	Class						300																		
Body material	DIN						1.0619																		
	DIN						1.4408																		
	ASME						A216WCC																		
	ASME						A351CF8M																		
Regulation for material	without						N																		
	PED						O																		
	PED & AD 2000						A																		
Material certificate	without						O																		
	2.2						Z																		
	EN 10204	3.1 with list of certificates ( without CMTR )						B																	
		3.1 with copy of certificates ( CMTR of body & bonnet & bolting )						E																	
Regulation for final test	EN 1349						IEC 534 / FCI 70-2																		
Final test certificate	without						O																		
	2.2						Z																		
	EN 10204	3.1						B																	
		3.1						A																	
Plug type	Contoured plug		control service																						
	Quick Open		on - off seervice																						
Trim equipment	without						additional trim equipment																		
	One-stage		for liquid and gas service				MultiStream																		
Plug and seat design	standard						N																		
	Seat surface - Alloy 6						D																		
	Full contour - Alloy 6						K																		
	Soft seat						W																		
Seat leakage	Class IV	IEC / FCI	Test medium	Water																					
				Gas																					
	Class V	IEC / FCI	Test medium	Water																					
				Gas																					
	Class VI	IEC / FCI	Test medium	Water																					
				Gas																					
	LR A	EN 12 266	Test medium	Water																					
				Gas																					
Plug guiding	Double stem guided / Cage guided with pressure balanced design																								
Characteristic	Modified equal percentage																								
	Linear																								
	Quick Open ( on - off )																								
Flow direction	Flow under the plug																								
Seat diameter																									
kvs - value	( m³/h )																								
cv - value	( gpm )																								
Trim material	316 SS																								

## Pneumatic multi spring actuator - FlowAct order code

FlowAct				Order code								
				I	G	503	B	FY	O	Z	B	
Actuator design	internal air supply			I								
Yoke design	Multi-function yoke for GS only			G								
Actuator size (cm <sup>2</sup> / inch <sup>2</sup> )	250	38.75	Stroke (mm / inch)	20	0.79	253						
	500	77.50		20, 40	0.79, 1.57	503						
	700	108.50		20, 40, 60	0.79, 1.57, 2.36	701						
Color	white, powder coated						B					
Spring range (bar)	Actuator size		253	503		701						
	Actuator force (N / lbs)		500 112	1 000 225	1 400 315	AD						
	0,2 - 1,0	2,9 - 14,5	1 250 281	2 500 562	3 500 787	BL						
	0,5 - 1,9	7,3 - 27,6	2 500 562	5 000 1 124	7 000 1 574	DY						
	1,0 - 2,4	14,5 - 34,8	3 750 843	7 500 1 686	10 500 2 360	VC						
	1,5 - 2,7 <sup>1)</sup>	21,8 - 39,2	3 750 843	7 500 1 686	10 500 2 360	VI						
	1,5 - 3,8	21,8 - 55,1	5 000 1 124	10 000 2 248	14 000 3 147	FY						
	2,0 - 4,8	29,0 - 69,6	- -	- -	16 100 3 619	TD						
Hand wheel	without								O			
	side mounted								S			
Safety position at air failure	spring to open									A		
	spring to close									Z		
Stroke (mm / inch)	20	0.79									A	
	40	1.57									B	
	60	2.36									C	

<sup>1)</sup> Stroke 20, 40 mm / 0.79, 1.57 inch only !  
<sup>2)</sup> Stroke 20 mm / 0.79 inch only !

## Electrical linear actuator - PSL order code

PSL Automation				Order code								
				A	G	202	Z	P	O	15	A	
Actuator design				A								
Yoke design	Pillar yoke for GS only			G								
Actuator size	PSL 201	Stroke (mm / inch)	20, 40	0.79, 1.57	Actuator force (N / lbs)	1 000 225	201					
	PSL 202 / 202.1		20, 40	0.79, 1.57		2 000 450	202					
	PSL 204		20, 40	0.79, 1.57		4 500 1 012	204					
	PSL 208		20, 40	0.79, 1.57		8 000 1 798	208					
	PSL 210		20, 40	0.79, 1.57		10 000 2 248	210					
	PSL 214		20, 40, 60	0.79, 1.57, 2.36		14 000 3 147	214					
	Voltage		AC 220 - 240 V	50 Hz						Z		
AC 110 - 115 V		50 Hz (not with PSL 202.1)					Y					
AC 24 V		50 Hz					F					
Transmitter	without								O			
	two additional position switches			2WE					E			
	potentiometer 1000 Ω			PD 210					P			
	tandem - poti 1000 Ω			PD2 210					D			
	transmitter (mA), two-wire			PSPT02					M			
	potentiometer 1000 Ω with two position switches								Q			
	transmitter (mA) with two position switches								N			
Positioner	without								O			
	positioner 0 (4) - 20 mA, standard version			PSAP 2A					M			
Positioning speed (mm / min) (inch / min)	15	0.59	(PSL 201 / 202.1)								15	
	27	1.06	(PSL 210 / 214)								27	
	30	1.18	(PSL 202 / 204 / 208)								30	
Stroke (mm / inch)	20	0.79									A	
	40	1.57									B	
	60	2.36									C	



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