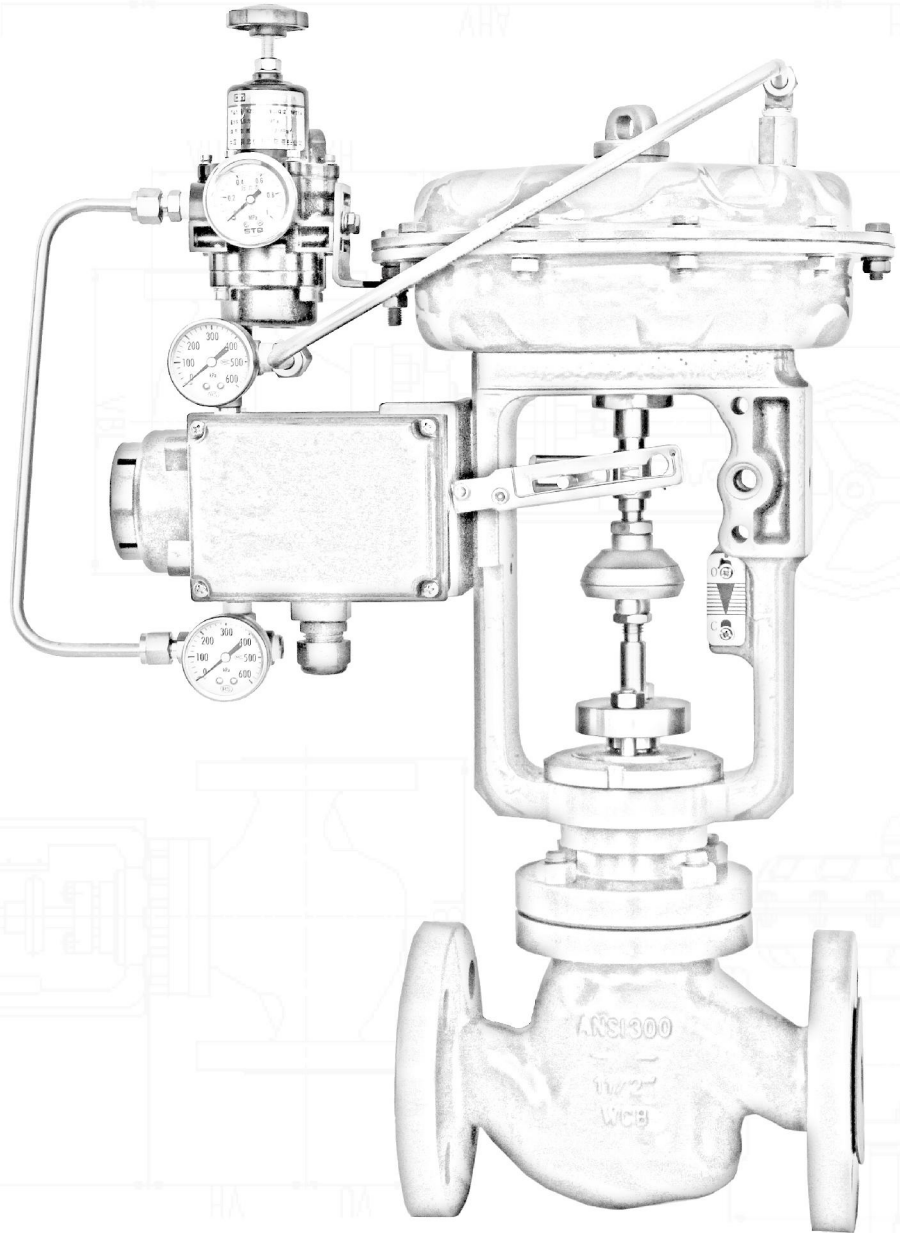


WZIFLOW CONTROL

3
YEAR
WARRANTY

1M+
VALVES
INSTALLED

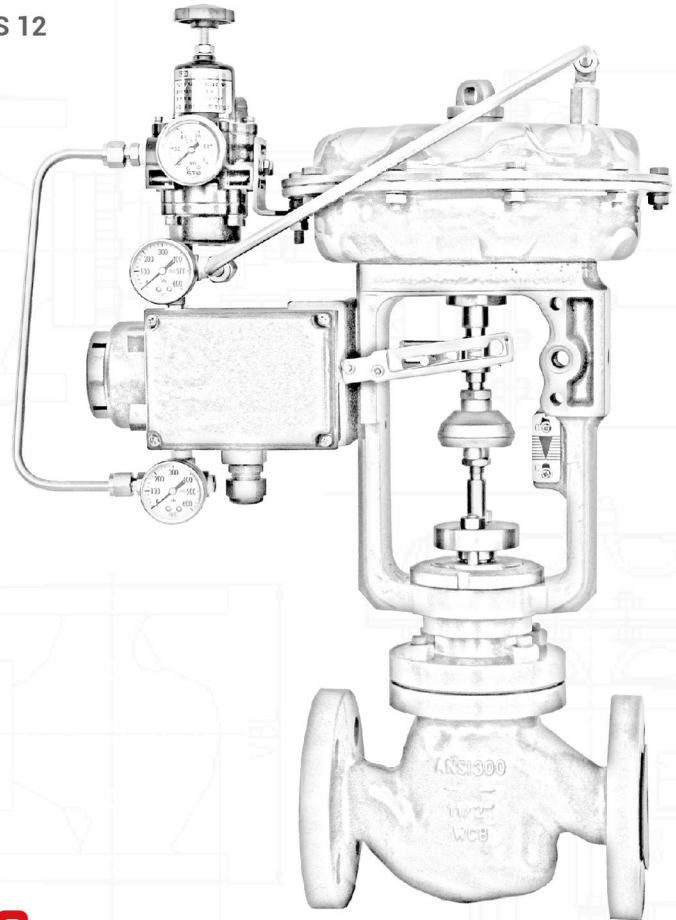
ASSEMBLED
IN USA



SERIES ATS SINGLE SEAT CONTROL VALVE

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SERIES ATS FEATURES

- **Double Guided Plug Design** for Maximum Support and Plug Stability
- Stem Guided through 4"(DN100) and **Post Guided** 6"(DN150)-16"(DN400)
- **Quick Change Trim** for Easy Servicing and Trim Modifications
- Cv Range from **0.01 to 2925** in Sizes ½" (DN15)-16"(DN400), Class 150-300
- **Wide Selection** of Trim Reductions and Flow Characteristics
- **Tight Shutoff** to ANSI/FCI 70-2 Class IV, V and VI
- **Options** Include NACE MR0103/MR0175 Compliance, Custom Materials, Extension Bonnets
- Bolted Bonnet and Packing Boxes **Eliminate Thread Corrosion** and Failure of Threaded Designs

QUICK CHANGE TRIM GLOBE VALVES

KEY COMPONENTS

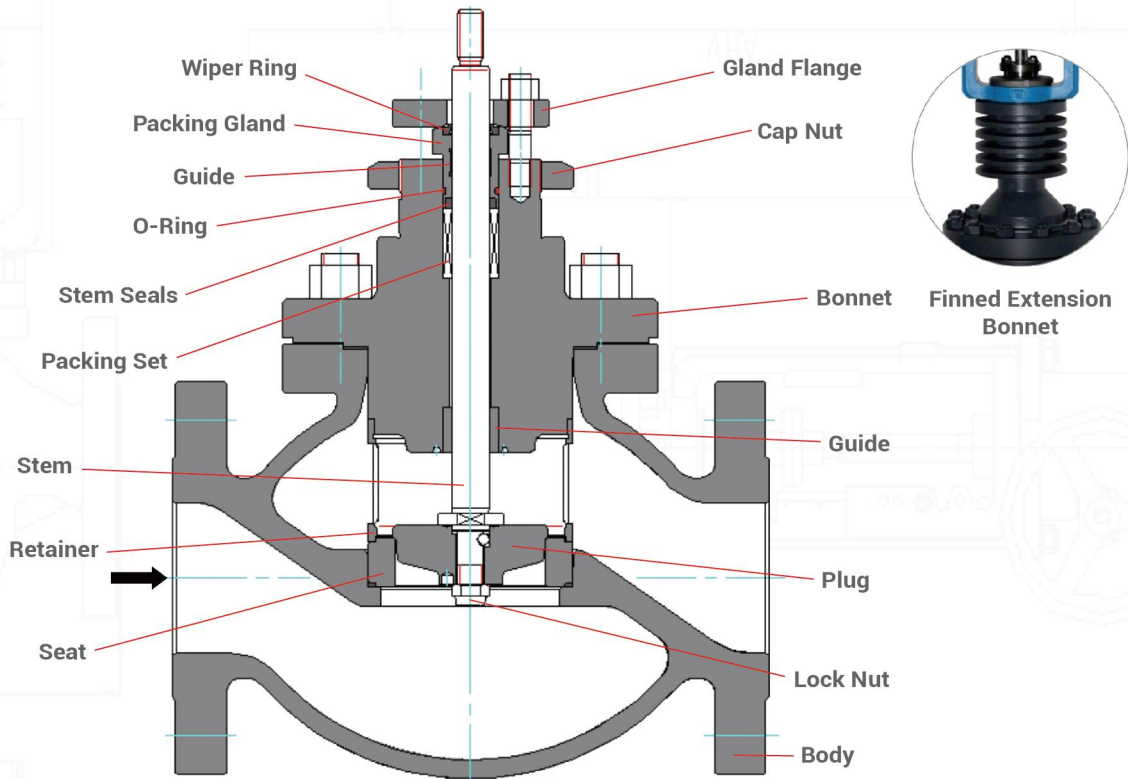


Table 1: Key Components

Type	Globe, Unbalanced Plug
Body Size	1/2"-16"; (DN15-DN400)
Plug Characteristics	Contoured Plug-Equal Percentage, Linear, Quick-Opening
Pressure Classes	ASME Class 150-300
Body Connections	Flanged (RF, RTJ), Welded Ends SW up to 2" (DN50), BW 2-1/2" & up (DN65) and larger
Face to Face Dimensions	IEC60534-3/ASME B16.10, See Pages 10-11
Packing	PTFE V-Ring, Flexible Graphite
Gasket	Graphite; Reinforced Graphite

MATERIALS OF CONSTRUCTION

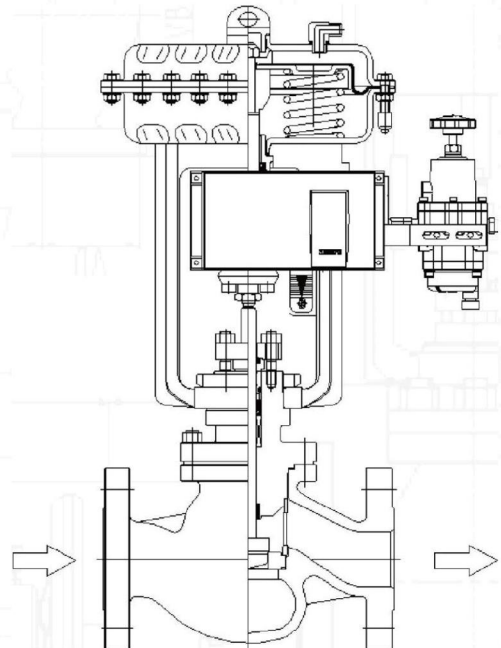
CARBON STEEL

Table 2.1: Carbon Steel Materials

Name	Temperature, °C/°F					
	-46	-29	200	260	345	425
	-50	-20	392	500	650	800
Body/Bonnet	A352-LCB					-
	-	A216-WCB				
Body/Packing Stud	A320-B7	A193-B7				
Body/Packing Nut	A194-7	A194-2H				
	-	420ss-HT				
Plug	316SS				-	
	316SS, 316SS/HF					
Stem	316SS					
Seat Gasket	316SS Graphite					
Seat	-	420ss Filled PTFE		-		
	316SS Filled PTFE		-			
	-	420ss-HT				
	316SS, 316SS/HF					
Leakage Class IV, V	Hard seat					
Leakage Class VI	316SS Filled PTFE		-			
	-	420ss Filled PTFE		-		
Locknut	300ss					
ball	300ss					
Plug Gasket	316SS Graphite					
Retainer	316SS				-	
	-				400ss	
Guide	-	420ss-HT				
	316SS NT					
Flat Key	316SS					
Socket Head Screw	316SS					
Body Gasket	316SS Graphite					
Cap Nut	Carbon Steel					
Gland Flange	A216-WCB					

NOTES:

- 1) For flashing or cavitating service, Hardfaced 316 SS trim is recommended
- 2) For Cv values < 29, plug and stem are integral
- 3) Soft seat pressure drops are limited by temperature
- 4) HT=Heat Treated, NT=Nitride, HF=Hardfaced with Stellite® 6 alloy
- 5) Optional materials are available; consult the factory
- 6) Pressure boundary parts are provided to ASTM standards
- 7) Valve internal materials are supplied to ASTM/JIS/DIN/GB equivalent
- 8) Compliance to NACE is available to MR0103 or MR01-75/ISO15156



MATERIALS OF CONSTRUCTION

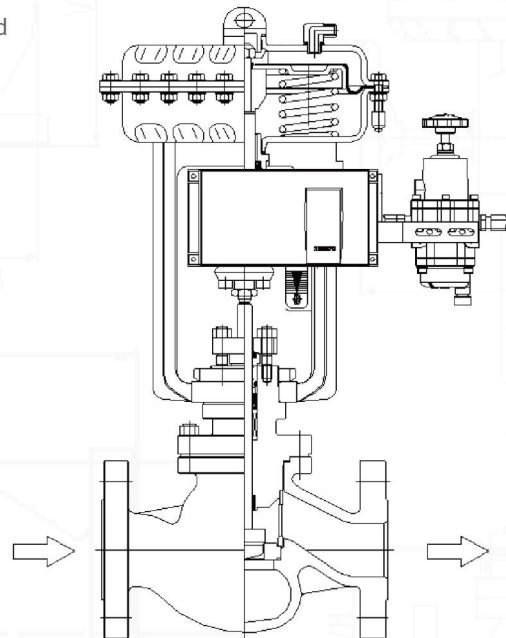
STAINLESS STEEL

Table 2.2: Stainless Steel Materials

Name	Temperature, °C/°F							
	-196	-46	-29	200	260	345	425	566
	-320	-50	-20	392	500	650	800	1050
Body/Bonnet	A351-CF8M							
Body/Packing Stud	A193-B8M Class 1							
Body/Packing Nut	A194-B8M							
Plug	316 SS					-	-	-
	316 SS, 316 SS/HF							
Stem	316 SS							
Seat Gasket	316 SS Graphite							
Seat	316 SS Filled PTFE					-	-	-
	316 SS, 316 SS/HF							
Leakage Class IV, V	Hard Seat							
Leakage Class VI	316 SS Filled PTFE					-	-	-
Locknut	300 SS							
Ball	300 SS							
Plug Gasket	316 SS Graphite							
Retainer	316 SS							
Guide	316 SS NT							
Flat Key	316 SS							
Socket Head Screw	316 SS							
Body Gasket	316 SS Graphite							
Cap Nut	Carbon Steel							
Gland Flange	316 SS							

NOTES:

- 1) For flashing or cavitating service, Hardfaced 316 SS trim is recommended
- 2) For Cv values <29, plug and stem are integral
- 3) Soft seat pressure drops are limited by temperature
- 4) HT=Heat Treated, NT=Nitride, HF=Hardfaced with Stellite® 6 alloy
- 5) Optional materials are available; consult the factory
- 6) Pressure boundary parts are provided to ASTM standards
- 7) Valve internal materials are supplied to ASTM/JIS/DIN/GB equivalent
- 8) Compliance to NACE is available to MR0103 or MR01-75/ISO 15156



MATERIALS OF CONSTRUCTION

NACE STANDARD MATERIAL

Table 2.3: NACE Materials

Name	Temperature, °C/°F					
	-46	-29	200	260	345	425
	-50	-20	392	500	650	800
Body/Bonnet	A352-LCB					
	-	A216-WCB				
	A351-CF8M					
Body/Packing Stud	A193 B8M Class 1					
	A320-L7/L7M	A193-B7/B7M				
Body/Packing Nut	A194-B8M					
	A194-L7/L7M	A194-2H/2HM				
Plug	316 SS					
	316 SS, 316 SS/HF					
Stem	316 SS					
Seat Gasket	316 SS Graphite					
Seat	316 SS Filled PTFE			-	-	-
	316 SS, 316 SS/HF					
Leakage Class IV, V	Hard Seat					
Leakage Class VI	316 SS Filled PTFE			-	-	-
Locknut	300 SS					
Ball	300 SS					
Plug Gasket	316 SS Graphite					
Retainer, CF8M Body	316 SS					
Retainer, C/Steel Body	316 SS			400 SS		
Guide	316 SS NT					
Flat Key	300 SS					
Socket Head Screw	300 SS					
Body Gasket	316 SS Graphite					
Cap Nut	Carbon Steel					
Gland Flange	A216-WCB					

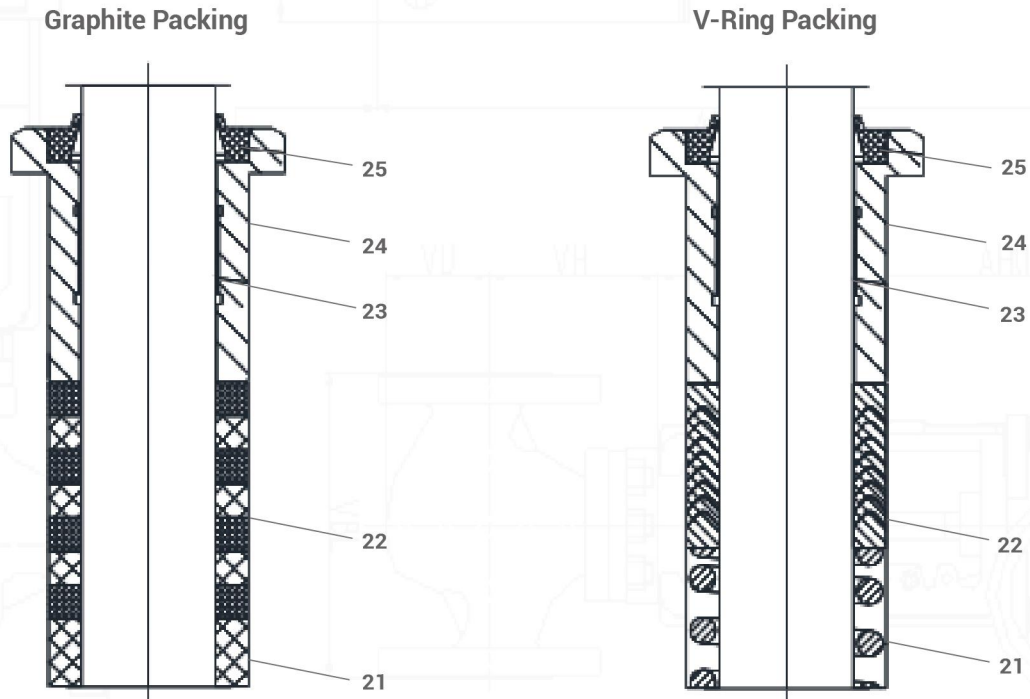
NOTES:

- 1) For flashing or cavitating service, Hardfaced 316 SS trim is recommended
- 2) For Cv values <29, plug and stem are integral
- 3) Soft seat pressure drops are limited by temperature
- 4) HT=Heat Treated, NT=Nitride, HF=Hardfaced with Stellite® 6 alloy
- 5) Optional materials are available; consult the factory
- 6) Pressure boundary parts are provided to ASTM standards
- 7) Valve internal materials are supplied to ASTM/JIS/DIN/GB equivalent
- 8) Compliance to NACE is available to MR0103 or MR01-75/ISO 15156



MATERIALS OF CONSTRUCTION

VALVE PACKING BOXES AND OPTIONS



PACKING BOX BILL OF MATERIAL AND TEMPERATURE SELECTION

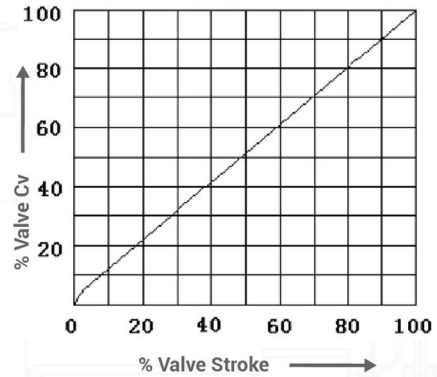
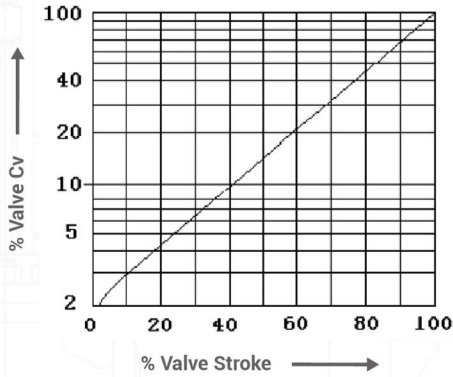
Table 2.4: Packing Box Materials

Item	Component	Temperature, °C/°F							
		-196	-46	-29	200	260	345	425	566
		-320	-50	-20	392	500	650	800	1050
21	Spacer, Graphite Packing	Carbon							
	Spring, V-Ring Packing	-	300 SS			-	-	-	-
	Spacer, NACE Service	-	Carbon						
22	Packing, Standard Bonnet	-	PTFE			-	-	-	-
		-	Filled PTFE			-	-	-	-
		-	Grafoil®/Graphite						
	Packing Extended/Finned Bonnet	PTFE			-	-	-	-	-
		Filled PTFE			-	-	-	-	-
		Grafoil®/Graphite							
23	Guide Standard Bonnet	-	Metaloplast™			-	-	-	-
	Guide Extended Bonnet	Metaloplast™						-	-
24	Packing Follower	316 SS							
25	Wiper Ring, Standard Bonnet	-	Buna-N			-	-	-	-
	Wiper Ring, Extended Bonnet	Buna-N						-	-

Standard packing boxes are shown; Fugitive Emission qualified and live loading options are available

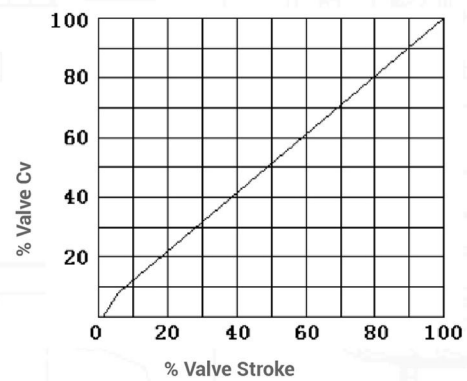
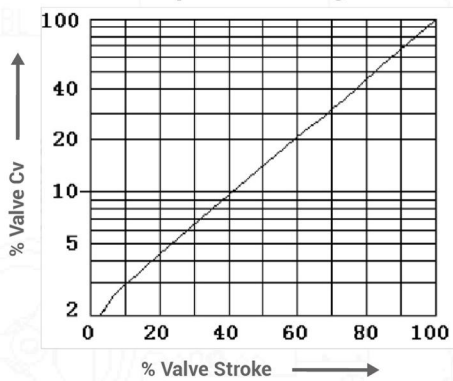
FLOW CHARACTERISTICS

Cv vs STROKE, METAL SEATED TRIM



Cv vs STROKE, SOFT SEATED TRIM

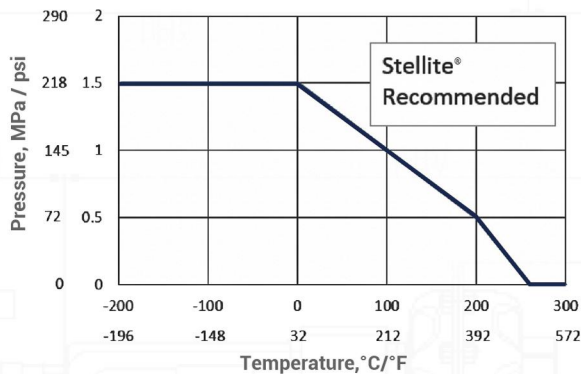
Equal Percentage



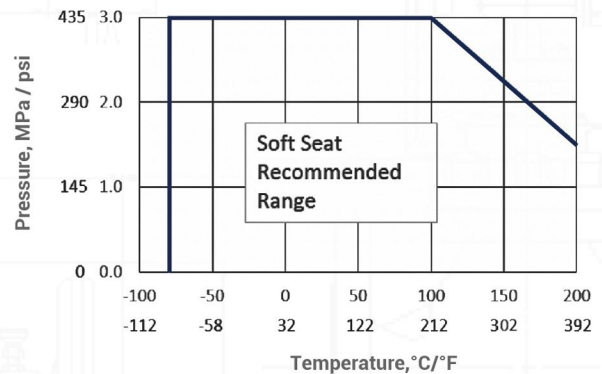
The Cv versus stroke characteristic may also be dependent on the application of the valve
 Certain industry applications are better served by a specific valve characteristic
 Consult the factory for further information

MATERIAL vs OPERATING PRESSURE-TEMPERATURE

Pressure / Temperature Recommendation for Stellite®



Pressure / Temperature Soft Seat Limits



NOTES:

- 1) Use of Stellite® trim is recommended under the condition of cavitation, flashing or services containing particles
- 2) The soft seat material is filled PTFE

FLOW CHARACTERISTICS

RATED Cv FOR VALVE SIZES

Table 3.1: Trim Cv From 1/2"(DN15) To 1-1/4"(DN32)

Cv	Seat Size,mm	Metal Seat		Soft Seat			Travel,mm	Nominal Valve Size, mm			
		Equal Percentage	Linear	Equal Percentage	Linear	Quick-Opening		15 (1/2)	20 (3/4)	25 (1)	32 (1 1/4)
0.01	6	—	★	—	★	—	16 10, Quick-Opening	★	★	★	—
0.04		—	★	—	★	—		★	★	★	—
0.1		—	★	—	★	—		★	★	★	—
0.16		—	★	—	★	—		★	★	★	—
0.25		★	★	★	★	—		★	★	★	—
0.4	8	★	★	★	★	—		★	★	★	—
0.63		★	★	★	★	—		★	★	★	—
0.73	5	★	★	★	★	—		★	★	—	—
1.0	11	★	★	★	★	—		★	★	★	★
1.6		★	★	★	★	—		★	★	★	★
1.9	10	★	★	★	★	—		★	★	★	★
2.5	14	★	★	★	★	—		★	★	★	★
4.0		★	★	★	★	—		★	★	★	★
4.7	15	★	★	★	★	See Below		★	★	★	★
6.3	19	★	★	★	★	—		—	★	★	★
11.5	25	★	★	★	★	See Below		—	—	★	★

*Only available in 1/2" and 3/4" (DN15 and DN20) with metal and soft seats

RATED Cv FOR VALVE SIZES

Table 3.2: Trim Cv From 1-1/2"(DN40) To 16"(DN400)

Seat Type		Metal Seat							Soft Seat						
Flow Characteristics		Linear			Equal Percentage			Q-O	Linear			Equal Percentage			Q-O
Nominal Size inch (DN)	Travel mm	Cv1	Cv2	Cv3	Cv1	Cv2	Cv3	Cv1	Cv1	Cv2	Cv3	Cv1	Cv2	Cv3	Cv1
1.5(40)	16 10(On-off)	29	19	11.5	29	19	11.5	29	29	19	11.5	29	19	11.5	29
2 (50)		46	29	19	46	29	19	46	46	29	19	46	29	19	46
2.5(65)		73	46	29	73	46	29	73	73	46	29	73	46	29	73
3(80)	30 20(On-off)	116	73	46	116	73	46	116	116	73	46	116	73	46	116
4(100)		186	116	73	186	116	73	186	186	116	73	186	116	73	186
6(150)	60 45(On-off)	445	304	176	445	304	176	445	445	304	—	445	304	—	445
8(200)		761	445	304	761	445	304	761	761	—	—	761	—	—	761
10(250)	100 75(On-off)	1053	761	445	1053	761	445	1053	1053	—	—	1053	—	—	1053
12(300)		1521	1053	761	1521	1053	761	1521	1521	—	—	1521	—	—	1521
14(350)		2106	1521	1053	2106	1521	1053	2106	2106	—	—	2106	—	—	2106
16(400)	120 100(On-off)	2925	2106	1521	2925	2106	1521	2925	2925	—	—	2925	—	—	2925

DIMENSIONS & WEIGHTS

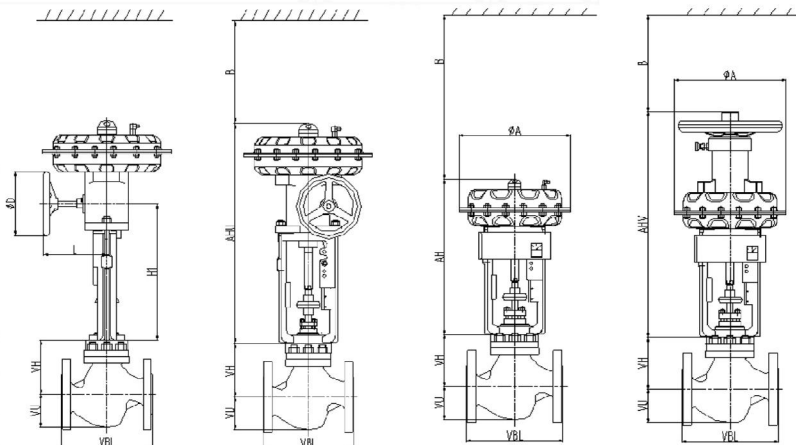
1/2"(DN15) TO 4" (DN100)SIZE VALVES

Table 4.1: Valve Dimensions From 1/2"(DN15) To 4"(DN100)

DN / inch		15/2"	20/3/4"	25/1"	32/1.25"	40/1.5"	50/2"	65/2.5"	80/3"	100/4"	
Valve	VBL Class 150	RF	178/7"	181/7.12"	184/7.25"	200/7.87"	222/8.75"	254/10"	276/10.87"	298/11.75"	352/13.87"
		RJ	—	—	197/7.75"	213/8.39"	235/9.25"	267/10.5"	289/11.38"	311/12.25"	365/14.37"
		SW/BW	187/7.37"	206/8.12"	210/8.27"	245/9.65"	251/9.88"	286/11.26"	311/12.24"	337/13.27"	394/15.51"
	VBL Class 300	RF	191/7.52"	194/7.64"	197/7.76"	213/8.39"	235/9.25"	267/10.50"	292/11.50"	317/12.48"	368/14.5"
		RJ	202/7.95"	206/8.12"	210/8.27"	225/8.87"	248/9.76"	282/11.10"	308/12.31"	333/13.31"	384/15.12"
		SW/BW	187/7.37"	206/8.12"	210/8.27"	245/9.65"	251/9.88"	286/11.26"	311/12.24"	337/13.27"	394/15.51"
	VH Bonnet Type	Std.	138/5.4"				138/5.4"			182/7.2"	213/8.4"
		Ext.	207/8.1"				206/8.1"			301/11.9"	315/12.4"
	VU		48/1.9"	59/2.3"	62/2.4"	67/2.6"	78/3.1"	83/3.3"	95/3.7"	107/4.2"	137/5.4"
	Actuator	A dia.	MF2	270/10.6"							
MF3			400/15.7"								
AH		MF2	380/15.0"						425/16.7"		
		MF3	505/19.9"								
AHV		M2F	540/21.3"						580/22.8"		
		MF3	780/30.7"								
AHU		MF2	500/19.7"						545/21.5"		
		MF3	685/12.5"								
B		M2F	130/5.1"								
		MF3	150/5.9"								
D dia.		MF2	200/7.9"								
		MF3	250/9.8"								
L		MF2	159/6.3"								
		MF3	197/7.8"								
H1		MF2	308/12.1"						331/13.0"		
		MF3	424/16.7"								
Weight, kg/lbs	MF2	24/53	26.5/58	27/59	28/62	36/79	38/84	46.5/102	76/167	99/218	
	MF3	47/103	50/110	59/112	62/114	59/130	61/134	70/154	96/211	119/262	

NOTES:

- 1) Dimensions are in mm (inches) weight kg (pounds)
- 2) Main flange size dimensions comply with ANSI B 16.5 Class 150/300
- 3) See MF actuator publication for additional dimensions for handwheels and different actuator sizes
- 4) Face-to-face dimensions comply with DIN IEC 60534-3 and ANSI B16.10



DIMENSIONS & WEIGHTS

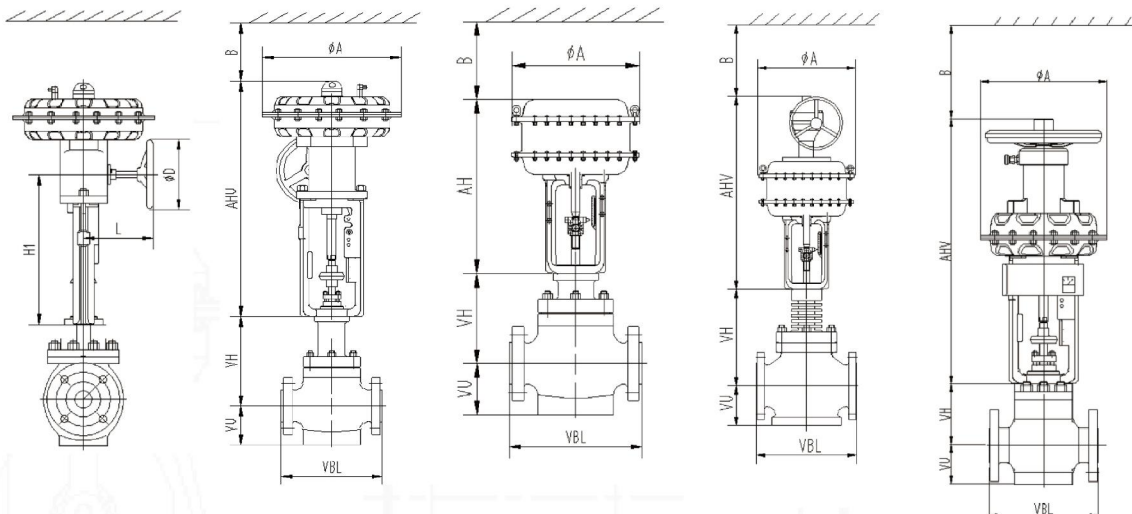
6" (DN150) TO 16" (DN400) SIZE VALVES

Table 4.2: Valve Dimensions From 6"(DN150) To 16"(DN400)

		DN/inch	150/6"	200/8"	250/10"	300/12"	350/14"	400/16"	
Valve	VBL Class 150	RF	451/17.8"	543/21.4"	730/28.7"	850/33.5"	980/38.6"	1100/43.3"	
		RJ	464/18.3"	556/21.9"	742/29.2"	862/33.9"	992/39.1"	1112/43.8"	
		BW	473/18.6"	568/22.4"	-	-	-	-	
	VBL Class 300	RF	473/18.6"	568/22.4"	730/28.7"	850/33.5"	980/38.6"	1100/43.3"	
		RJ	488/19.2"	585/23.0"	742/29.2"	862/33.9"	992/39.1"	1112/43.8"	
		BW	508/20.0"	610/24.0"	-	-	-	-	
	VH Bonnet Type	Std	261/10.3"	292/11.5"	360/14.2"	397/15.6"	533/21.0"	521/20.5"	
Ext.		484/19.1"	517/20.4"	623/24.5"	657/25.9"	725/28.5"	781/30.7"		
VU			189/7.4"	239/9.4"	305/12.0"	335/13.2"	395/15.6"	443/17.4"	
Actuator	A dia.	MF3	400/15.7"		-	-	-	-	
		MF5	630/24.8"						
	AH	MF3	595/23.4"			-	-	-	
		MF5	890/35.0"						
	AHV	MF3	920/36.2"		-	-	-		
	H1	MF5	1265/49.8"	1295/51.0"	1370/53.9"		1400/55.1"		
	AHU	MF3	825/32.5"		-	-	-		
	B		200/7.9"			450/17.7"			
	D dia.	MF3	250/10"		-	-	-	-	
		MF5	350/13.8"						
	L	MF3	197/7.8"		-	-	-	-	
		MF5	200/7.9"						
	H1	MF3	424/16.7"		-	-	-	-	
		MF5	1100/43.3"						
	Weight, kg/lbs	MF3	190/418	253/557	-	-	-	-	
MF5		333/733	393/865	455/1001	757/1665	885/1947	1502/3304		

NOTES:

- 1) Dimensions are in mm (inches) weight kg (pounds)
- 2) Main flange size dimensions comply with ASME B 16.5 Class 150/300
- 3) See MF actuator publication for additional dimensions for handwheels and different actuator sizes
- 4) Face-to-face dimensions comply with DIN IEC 60534-3 and B16.10 to size 8" (DN200) valves



WHO WE ARE

WZI Flow Control, Ltd., a subsidiary of WuZhong Instrument Company, Ltd., began business in 1959. As China's largest control valve manufacturer, WZI has a state of the art 2.8M ft² production, foundry and corporate office campus. With over 1000 employees, WZI is expanding globally with increased manufacturing, sales and service capabilities to better serve our rapidly growing global customer base.

As a member of the highly acclaimed China Automation Group (www.cag.com.hk), WZI has successfully supplied over 1 million valves for the global market. With our 100% Testing and Serialization Program, WZI prides itself on our high quality, competitively priced products with superior delivery from our new sales and service center located in Houston, Texas. Our Southern California office designs new products and makes continuous improvements to our broad existing product offering.

LET'S WORK TOGETHER

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WE'RE QUALIFIED

As a global manufacturing company, WZI Flow Control verifies that we are operating in full compliance with this partial list of industry standards. Our compliance includes additional standards not shown here. Please contact the factory for additional details.

> ISO 9001
> ISO 14001
> OHSAS 18001

> API Spec Q1
> API 6A
> API 6D

> API 6DSS
> API 17D
> API 609 Cat B

> API 607, 7th Edition
> API 6FA, 3rd Edition
> SIL-capable

QUALITY TRUST INTEGRITY

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