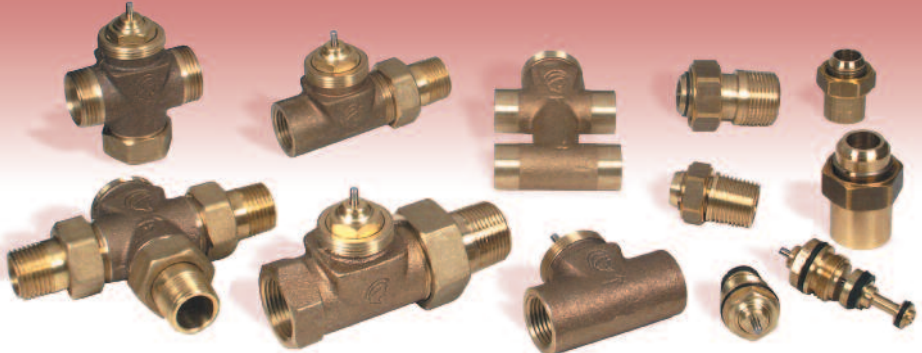


V200 & V300 Series Globe Control Valve Bodies

LIFETIME WARRANTY
ON VALVE BODIES
SPARTAN PERIPHERAL DEVICES

5 YEAR WARRANTY
ON CARTRIDGES
SPARTAN PERIPHERAL DEVICES

These ANSI 250# globe valve bodies (400# 26 bar @ 150°F, 250# 17 bar @ 250°F), which are common to all actuators, are available in a wide range of styles, connection types and Cv's (Kv's) sizes. Ordering using Cv implies NPT threads to ANSI standards. Ordering using metric Kv implies BSPT threads to DIN standard. These control valve assemblies can be used with the complete line of Spartan Zone Actuators (Wireless, Electric, Electronic, Pneumatic & Thermostatic) and are easily interchangeable with a thumb-nut. See Spartan Actuators Data Sheets.



Designed for use on hot or chilled water up to 50% glycol mix and low-pressure steam, the commercial application globe valve bodies utilize low zinc anti-zincification bronze, coupled with long life replaceable and interchangeable internals from 0.15 to 9.0 US Cv (0.12 to 7.75 KV's).

configuration. They have replaceable and / or interchangeable internals in the form of replaceable cartridge types with variations of parabolic or linear characterised globe plungers. Cv (Kv) values can be changed without removing the valve from the line. In all cases, the internals are complete with world-class specifications including 1 1/2 - million

cycles (3,000,000-stroke) packing, burnished mirror finish stainless-steel stems and micro-machine accurate parabolic characterizing plungers, which open wide to clear the orifice of debris.

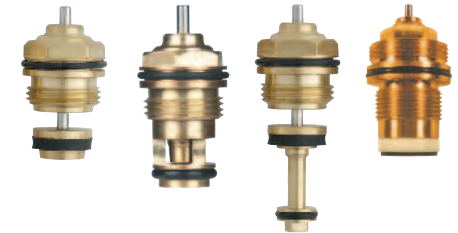
All valve bodies are globe type with spring-loaded stems, being actuated power driven stem down to open or close as required by the valve assembly

An optional OM1000 manual adjuster can be used to manually adjust the valve body flow without an actuator.

General Specifications

Body Material	Low zinc bronze, alloy C84400
Pressure Rating	ANSI 250 - 400 PSI at 32°F to 150°F, 250 PSI at 250°F PN25 at 0 to 66°C, PN16 at 121°C
NB PN16 is indicated on the valve body casting as it is the lowest rating at the highest temperature	
Max. Test Pressure	1200 PSI (81 bar)
Max. Differential P	50 PSI (3.5 bar)
Valve Stem	"Mirror - maker" burnished stainless steel stems
Turndown Ratio	Better than 50:1
Stem Travel	7/64" (2.8mm) 5/32" (4mm)
Stem Position	UP = valve open, DOWN = valve closed

Internal Cartridges



Type EP/EV Type BC Type ED Type EB

Spartan cartridges are made to high standards and exacting manufacturing techniques which ensure you the best quality available. See chart below for types available.

Internals Specifications - Field replaceable and interchangeable

	2 - way n/o valves			High 100psi/6.8 bar close-off	2 - way n/c valves	3-way/4 Port diverting valves
Replaceable Cartridge Part Nos	Type "EP" (plug) EP - (Cv) or (Kv) ie: EP - 3.5	Type "EV" (plug) for steam EV - (Cv) or (Kv) ie: EV - 3.5	Type "BC" (cage) BC - (Cv) or (Kv) ie: BC - 0.25	Type "EB" (balanced plug) EB - (Cv) or (Kv) ie: EB - 6.0	Type "ER" (plug) ER - (Cv) or (Kv) ie: ER - 3.0	Type "ED" (plug) ED - (Cv) or (Kv) ie: ED - 35
Valve seat	Integral bronze	Integral bronze	Bronze - replaceable	Integral bronze	Integral bronze	Integral bronze
Valve disc/plunger	EPDM / brass	Hi-temperature EPDM	Brass cage	EPDM / brass	EPDM / brass	EPDM / brass
Valve spring	Stainless Steel	Stainless Steel	Stainless Steel	Stainless Steel	Stainless Steel	Stainless Steel
Packing	Double EPDM	Hi-temperature Double EPDM	Double EPDM	Double EPDM	Double EPDM	Double EPDM
Stroke	4mm	4mm	4mm	4mm	4mm	2.8mm & 4mm
Tight close off	100 %	100 %	0.1% of Cv	100%	100%	100%
Steam rated	N / A	15 psi. (250°F / 120°C)	N / A	N / A	With RV packing	N / A
Water rated	(250°F / 120°C)	N / A	(250°F / 120°C)	(250°F / 120°C)	(250°F / 120°C)	(250°F / 120°C)
Glycol rated	To 50%	N / A	To 50%	To 50%	To 50%	To 50%
Cv Equal % - 4mm lift	0.5,1.0,1.5,2.0,2.5	0.5,1.0,1.5,2.0,2.5	0.15,0.25,0.50	0.5,1.0,1.5,2.0,2.5,3.0,6.0,8.0	N/A	N/A
Cv Linear - 2.8mm lift	N/A	N/A	N/A	N/A	1.0,2.0, 3.0	1.0,2.0,3.0
- 4mm lift	2.2,3.5,4.5	2.2,3.5,4.5,6.4,9.0	N/A	2.2,3.5,4.5,6.4,9.0		3.5 Bottom port CV 2.0
Kv Equal % - 4mm lift	0.43,0.86,1.3,1.72,2.15,2.58	0.43,0.86,1.3,1.72,2.15,2.58	0.12,0.21,0.43	0.43,0.86,1.3,1.72,2.15,2.58,5.16,6.9	N/A	N/A
Kv Linear - 2.8mm lift	N/A	N/A	N/A	N/A	0.86,1.72, 2.58	0.86,1.72,2.58
- 4mm lift	0.86,1.72,3.1,3.87	0.86,1.72,3.1,3.87	N/A	0.86,1.72,3.1,3.87,5.50,7.75		3.1 Bottom port KV 1.7

AV07 Packing Wrench

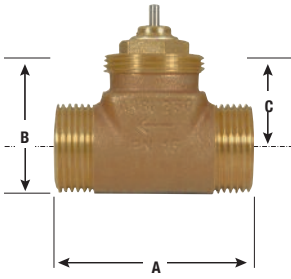


Use Spartan Peripheral Devices AV07 tool to replace packing and plunger internal cartridge.

V200 & V300 Series Control Valve Bodies

All dimensions in inches (mm)

V240 - union connection both ports

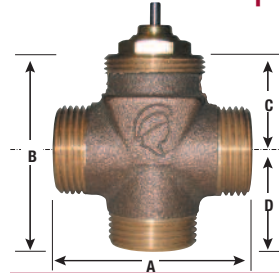


2 way normally open valve body

Select V240-12 for 1/2" unions
or V240-34 for 3/4" unions
Select Cv (Kv) cartridge...
EPXX or BCXX
Weight: 220g

	A	B	C
V240-12	2.24 (56,90)	2.24 (56,90)	1.09 (27,69)

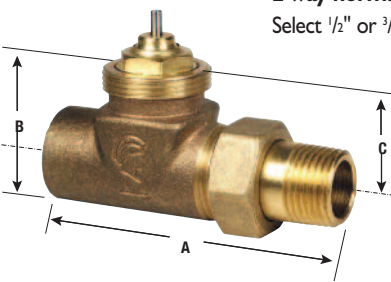
V320 - union on all 3 ports - 3 way diverting valve body V321 - union on all 3 ports - 3 way mixing valve body



Select V320/V321-12 for 1/2" unions
or V320/V321-34 for 3/4" unions
Select Cv (Kv) cartridge... EDXX
Weight: 1/2" and 3/4" - 240g

	A	B	C	D
V320/V321	2.24 (56,90)	2.24 (56,90)	1.09 (27,69)	1.15 (29,21)

V241 - female port in, X union connection port out



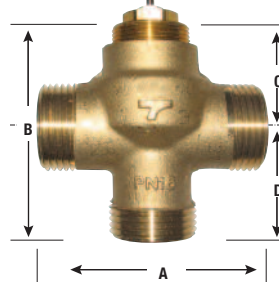
2 way normally open valve body

Select 1/2" or 3/4" valve size NPT or BSPT

Select Cv (Kv) cartridge...
EPXX or BCXX
Weight: 1/2" - 300g, 3/4" - 480g

1/2" Valve	A	B	C
V241-12	3.34 (84,84)	1.76 (44,70)	1.09 (27,69)
3/4" Valve	A	B	C
V241-34	3.90 (99,06)	2.20 (55,88)	1.09 (27,69)

V345 - unions on all 3 ports



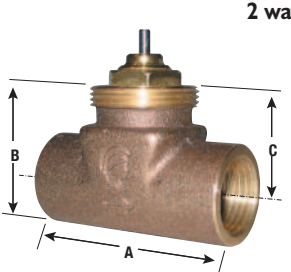
Option: Can be used as mixing at 5 psi (0.4 bar) maximum Δp CV 5.5, KV 4.73

3 way diverting valve body

V345-34-5.5 - includes 3/4" union
V345-10-5.5 - includes 1" union
Weight: 520g

	A	B	C	D
V345	3.25 (82,55)	3.12 (79,25)	1.50 (38,10)	1.62 (41,15)

V243 - female port in, X female port out



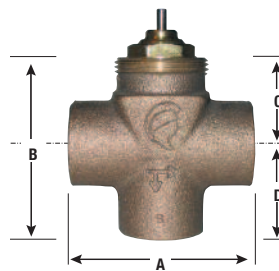
2 way normally open valve body

Select 1/2" or 3/4" valve size NPT or BSPT
Select Cv (Kv) cartridge... EPXX or BCXX

Weight:
1/2" - 240g,
3/4" - 360g,
1" - 940g

1/2" Valve	A	B	C
V243-12	2.29 (58,17)	1.60 (40,64)	1.09 (27,69)
3/4" Valve	A	B	C
V243-34	2.70 (68,58)	2.20 (55,88)	1.09 (27,69)
1" Valve	A	B	C
V243-10	3.88 (98,50)	2.84 (71,10)	1.80 (45,70)

V323 - female thread on all 3 ports



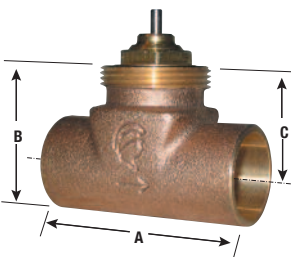
Option: Can be used as mixing at 5 psi (0.4 bar) maximum Δp

3 way diverting valve body

Available in 1/2" valve size
Select Cv (Kv) Cartridge... EDXX
Weight: 320g

1/2" Valve	A	B	C	D
V323-12	2.50 (63,50)	2.30 (58,42)	1.13 (28,70)	1.20 (30,48)

V245 - direct solder



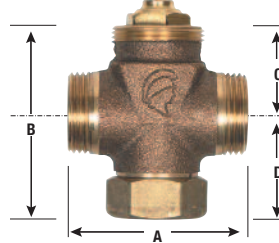
2 way normally open valve body

Select 1/2" (16mm) or 3/4" (22mm) valve size*
Select Cv (Kv) Cartridge... EPXX or BCXX

Weight:
1/2" - 220g
3/4" - 230g

1/2" Valve (16mm)	A	B	C
V245-12	2.24 (56,90)	1.60 (40,64)	1.09 (27,69)
3/4" Valve (22mm)	A	B	C
V245-34	2.29 (58,17)	1.60 (40,64)	1.09 (27,69)

V222 - union connection both ports



2 way reverse acting normally closed valve body

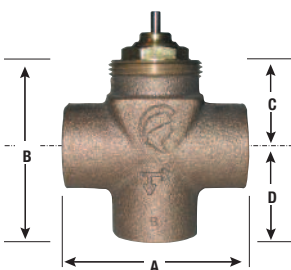
Select V222-12 for 1/2" unions
or V222-34 for 3/4" unions

Select Cv (Kv) cartridge...
ERXX CV 1.0, 2.0, 3.0
ERXX KV 0.86, 1.70, 3.0

Weight:
300g

	A	B	C
V222	2.24 (56,90)	2.43 (61,72)	1.09 (27,69)

V325 - direct solder



Option: Can be used as mixing at 5 psi (0.4 bar) maximum Δp

3 way diverting valve body

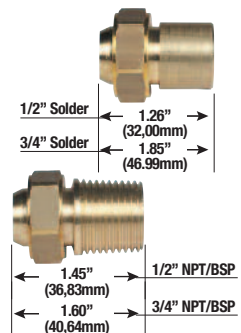
Select Cv (Kv) Cartridge... EDXX
Weight: 3/4" - 240g

3/4" Valve	A	B	C	D
V325-34	2.24 (56,90)	1.13 (28,70)	1.09 (27,69)	2.23 (56,64)

* Available in 1/2" valve size with AV6412 reducer on each port

Unions

MODEL	Mounts on Body
1/2" NPT	AV6112 V240/V241-12/V320
3/4" NPT	AV6134 V240/V320
3/4" NPT	AV6534 V241-34
1/2" BSP	AV6212 V240/V241-12/V320
3/4" BSP	AV6234 V240/V320
3/4" BSP	AV6543 V241-34
(1/2") 16mm Solder	AV6312 V240/V320
(3/4") 22mm Solder	AV6334 V240/V320



*Choice of unions

All dimensions in inches (mm). Weight includes the internal cartridge.