

SELECTION GUIDE

Terminal Unit Zone Valve V200/V300 Series

A broad selection of inlet and outlet configurations and choice of sizes.

1 Select your valve body

- Female Thread
- Male Thread
- Solder
- Single Union
- Double Union

2 Select your cartridge type

- Choice of CV
- Hot and Chilled Water
- 50% Glycol
- Low Pressure Steam
- Pressure Balanced

3 Select your actuator

- Electric
- Pneumatic
- Thermoelectric
- Thermostatic
- Wireless
- Spring Return
- FLP Non Spring Return

**Easily Selectable
Easily Serviceable**

**Interchangeability
as easy as 1-2-3**



Install a Spartan valve body assembly and easily change the cartridge or actuator while the valve body remains "in-line".

Servicing is so much quicker and easier... it's the ultimate green solution for piping installations.

This guide will help you select the right assembly for your needs.

As easy as 1-2-3!



1/2" 3/4" 1"

1 Select the valve body to best suit to your piping applications and choose from many connection types

Spartan Peripheral Devices 2 way V200 series and 3 way V300 series globe control valve bodies are available in a wide range of styles and connection types. These valve bodies are common to the complete line of Spartan Terminal Unit actuators (wireless, electric, electronic, pneumatic and thermostatic) and are easily

interchangeable with a thumb nut.

The commercial application globe valve bodies utilize low zinc anti dezincification bronze.

All valve bodies are globe type rated ANSI 250 (PN 25).



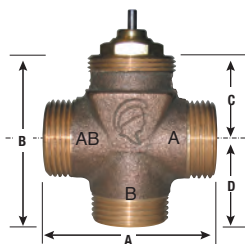
General Specifications for all Valve Bodies

| | |
|---------------------|--|
| Body Material | Low zinc bronze, alloy C84400 |
| Pressure Rating | ANSI 250 (400 PSI to 150°F (66°C), 250 PSI to 250°F (120°C)) |
| Max. Test Pressure | 1200 PSI (81 bar) |
| Max. Differential P | 50 PSI (3.5 bar) can be exceeded but with possible water noise |

| | |
|---------------|---|
| Valve Stem | "Mirror – maker" burnished stainless steel stems |
| Rangeability | See Internal Cartridge Specification table, on page 4 |
| Stem Travel | 5/32" (4mm) |
| Stem Position | UP = valve open, DOWN = valve closed |

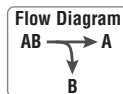
V300 Series 3 way Control Valve Bodies

V320 – 1/2" or 3/4", 3 Way Diverting Valve Body. Unions on all 3 ports



| V320 | A | B | C | D |
|------|-----------------|-----------------|-----------------|-----------------|
| | 2.24 (56.90) | 2.24 (56.90) | 1.09 (27.69) | 1.09 (27.69) |

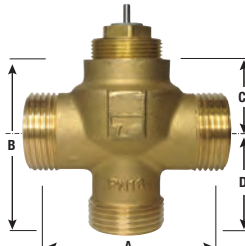
Weight: 1/2", 3/4" - 8.5oz (240g)



Select to include:

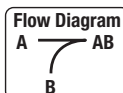
V320-12N for 1/2" threaded unions
 V320-12S for 1/2" solder unions (for 5/8" (16mm) OD copper pipe)
 V320-34N for 3/4" threaded unions
 V320-34S for 3/4" solder unions (for 7/8" (22mm) OD copper pipe)
 Select CV from cartridge type ED
 Stem UP flow AB to A (default position),
 Stem DOWN flow AB to B

V345 - 3/4" or 1", 3 Way Diverting Valve Body. Unions on all 3 ports



| V345 | A | B | C | D |
|------|------------|------------|------------|------------|
| | 3.25 83 | 3.00 76 | 1.50 38 | 1.50 38 |

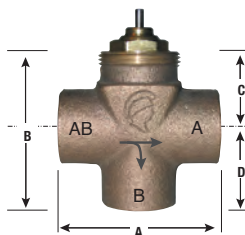
Weight: 2.35lbs (1.07kgs)



Select to include:

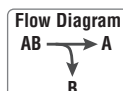
V345-34N for 3/4" threaded unions
 V345-34S for 3/4" solder unions (for 7/8" (22mm) OD copper pipe)
 V345-10N for 1" threaded unions
 V345-10S for 1" solder unions (for 1 1/8" (28mm) OD copper pipe)
 Stem UP flow AB to A (default position),
 Stem DOWN flow AB to B
 Replacement cartridge V345PKG-5.5

V325 – 1/2" or 3/4", 3 Way Diverting Valve Body. Direct Solder



| 1/2" Valve | A | B | C | D |
|------------|-----------------|-----------------|-----------------|-----------------|
| V325-12 | 2.24 (56.90) | 2.21 (56.13) | 1.09 (27.69) | 1.12 (28.45) |
| 3/4" Valve | A | B | C | D |
| V325-34 | 2.24 (56.90) | 3.32 (84.30) | 1.09 (25.00) | 2.23 (56.64) |

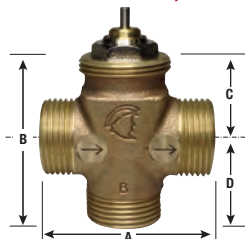
Weight: 1/2" - 8.1oz (230g),
 3/4" - 8.5oz (240g)



Select:

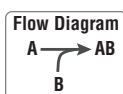
V325-12S for 1/2" solder (for 5/8" (16mm) OD copper pipe)
 V325-34S for 3/4" solder (for 7/8" (22mm) OD copper pipe)
 Select CV from cartridge type ED
 Stem UP flow AB to A (default position),
 Stem DOWN flow AB to B

V321 – 1/2" or 3/4", 3 Way Mixing Valve Body. Unions on all 3 ports



| A | B | C | D |
|-----------------|-----------------|-----------------|-----------------|
| 2.24 (56.90) | 2.24 (56.90) | 1.09 (27.69) | 1.09 (27.69) |

Weight: 1/2" and 3/4" - 8.5oz (240g)



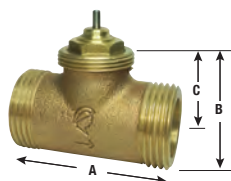
Select to include:

V321-12N for 1/2" threaded unions
 V321-12S for 1/2" solder unions (for 5/8" (16mm) OD copper pipe)
 V321-34N for 3/4" threaded unions
 V321-34S for 3/4" solder unions (for 7/8" (22mm) OD copper pipe)
 Cartridge type EX2.0 (2.0CV), EX3.0 (3.0CV)
 Stem UP flow B to AB (default position),
 Stem DOWN flow A to AB

V200 Series 2 way Globe Control Valve Bodies

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

V240FLT - 1/2", 3/4" or 1", 2 Way Valve Body with Flat Union Connections on Both Ports



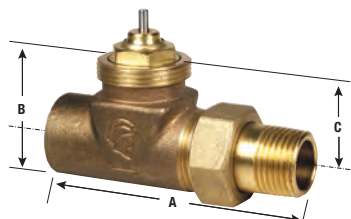
| Part No. | Used with unions | A | B | C |
|-----------|------------------|---------------|---------------|---------------|
| V24020FLT | 3/4" BSPP | 2 1/4" (57,2) | 1 1/8" (39,7) | 1 1/8" (27,0) |
| V24025FLT | 1" BSPP | 2 1/2" (63,5) | 2 1/4" (54,0) | 1 1/8" (36,5) |
| V24032FLT | 1 1/4" BSPP | 3 1/2" (88,9) | 2 3/4" (60,3) | 1 1/2" (38,1) |

Weight: 1/2" - 8.5oz (240g), 3/4" - 12.7oz (360g)
1" - 33.2oz (940g)

Select to include:

V240FLT-12N for 1/2" threaded unions
V240FLT-12S for 1/2" solder unions (for 5/8" (16mm) OD copper pipe)
V240FLT-34N for 3/4" threaded unions
V240FLT-34S for 3/4" solder unions (for 7/8" (22mm) OD copper pipe)
V240FLT-10N for 1" threaded unions
V240FLT-10S for 1" solder unions (for 1 1/8" (28mm) OD copper pipe)
Select CV from cartridge type EP, EB, EV or BC
Stem UP open (default position)

V241 - 1/2", 3/4" or 1", 2 Way Valve Body with Female Threaded Port In & Union Connection Port Out

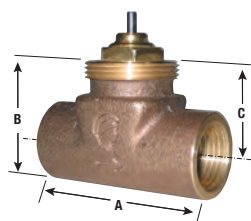


| | A | B | C |
|------------|----------|---------|---------|
| 1/2" Valve | 3.34 | 1.76 | 1.09 |
| V241-12 | (84,84) | (44,70) | (27,69) |
| 3/4" Valve | 3.90 | 2.20 | 1.09 |
| V241-34 | (99,06) | (55,88) | (27,69) |
| 1" Valve | 5.44 | 2.50 | 1.24 |
| V241-10 | (138,00) | (63,50) | (31,50) |

Select to include:

V241-12N for 1/2" threaded union
V241-34N for 3/4" threaded union
V241-10N for 1" threaded union
Select CV from cartridge type EP, EB, EV or BC
Stem UP open (default position)
Weight: 1/2" - 10.6oz (300g), 3/4" - 16.9oz (480g), 1" - 35.3oz (1000g)

V243 - 1/2", 3/4" or 1", 2 Way Valve Body with Female Threaded Ports In and Out

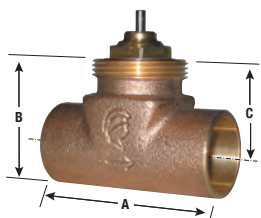


| | A | B | C |
|------------|---------|---------|---------|
| 1/2" Valve | 2.29 | 1.60 | 1.09 |
| V243-12 | (58,17) | (40,64) | (27,69) |
| 3/4" Valve | 2.70 | 2.20 | 1.09 |
| V243-34 | (68,58) | (55,88) | (27,69) |
| 1" Valve | 3.88 | 2.84 | 1.80 |
| V243-10 | (98,50) | (71,10) | (45,70) |

Select:

V243-12N 1/2" Valve Body
V243-34N 3/4" Valve Body
V243-10N 1" Valve Body
Select CV from cartridge type EP, EB, EV or BC
Stem UP open (default position)
Weight: 1/2" - 8.5oz (240g), 3/4" - 12.7oz (360g), 1" - 33.2oz (940g)

V245 - 1/2" or 3/4", 2 Way Valve Body with Direct Solder Connections

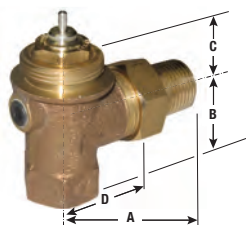


| | A | B | C |
|-------------------|---------|---------|---------|
| 1/2" Valve (16mm) | 2.24 | 1.60 | 1.09 |
| V245-12 | (56,90) | (40,64) | (27,69) |
| 3/4" Valve (22mm) | 2.29 | 1.60 | 1.09 |
| V245-34 | (58,17) | (40,64) | (27,69) |

Select:

V245-12S 1/2" Valve Body (for 5/8" (16mm) OD copper pipe)
V245-34S 3/4" Valve Body (for 7/8" (22mm) OD copper pipe)
Select CV from cartridge type EP, EB, EV or BC
Stem UP open (default position)
Weight: 1/2" - 7.8oz (220g), 3/4" - 8.1oz (230g)

V261 - 1/2", 3/4" or 1", 2 Way Angle Valve Body with Female Threaded Port In & Union Connection Port Out

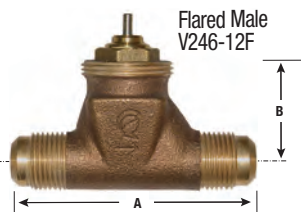


| | A | B | C | D |
|------------|---------|---------|---------|---------|
| 1/2" Valve | 2.25 | 1.13 | 1.13 | 1.25 |
| V261-12 | (58,00) | (28,00) | (29,00) | (32,00) |
| 3/4" Valve | 2.68 | 1.13 | 0.75 | 1.138 |
| V261-34 | (67,00) | (30,00) | (19,00) | (36,00) |
| 1" Valve | 3.15 | 1.50 | 2.37 | 1.65 |
| V261-10 | (80,00) | (38,00) | (60,00) | (42,00) |

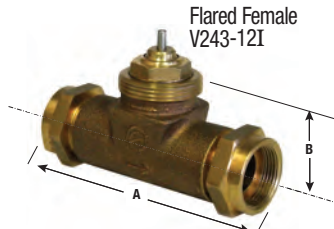
Select

V261-12N for 1/2" Valve Size
V261-34N for 3/4" Valve Size
V261-10N for 1" Valve Size
Select CV from cartridge type EP, EB, EV or BC
Stem UP open (default position)
Weight: 1/2" - 7.8oz (221g), 3/4" - 8.1oz (230g), 1" - 32.5oz 921g)

V246 - 1/2", 2 Way Valve Body with Flared Male and V243-12I Flared Female Connection



| A | B | Weight |
|-------------------------------|---------|---------------|
| Flared Male V246-12F | | |
| 3.125 | 1.32 | 7.8oz (220g) |
| (79,00) | (33,53) | |
| Flared Female V243-12I | | |
| 3.125 | 1.32 | 12.7oz (360g) |
| (79,00) | (33,53) | |



Select:

V246-12F Flared Male for 1/2" Valve Size
V243-12I Flared Female for 1/2" Valve Size
Select CV from cartridge type EP, EB, EV or BC
Stem UP open (default position)

2 Select the valve cartridge type and CV value to best suit your application such as hot and chilled water, low pressure steam or high close-off pressures.

Internal Cartridge Types - Field replaceable & interchangeable

All Spartan valve body assemblies are service/maintenance free with interchangeable internals (in the form of a replaceable cartridge) for specific applications with variations of equal percentage parabolic or linear characterized globe plungers. CV (KV) values can be changed without having to remove the valve from the line simply by changing the cartridge.

The internals are equipped with 1½ million cycles (3 million repositions), packings with burnished mirror finish stainless steel stems and micro machined accurate parabolic characterized plugs.



EP TYPE CARTRIDGE (for 2 way valve body)



Used for hot and chilled water and 50% glycol.

Select from available CV's 0.5, 1.0, 1.5, 2.0, 2.5, 3.0, 3.5,
Can be installed in all 2 way ½" valve bodies

Select from available CV's 1.0, 1.5, 2.0, 2.5, 3.0, 3.5, 4.5
Can be installed in all 2 way ¾" valve bodies



EV TYPE CARTRIDGE (for 2 way valve body)



Used for low pressure up to 15PSI steam applications recognizable by nickel plated cap.

Select from available CV's 0.5, 1.0, 1.5, 2.0, 2.5, 3.0, 3.5, Can be
installed in all 2 way ½" valve bodies

Select from available CV's 1.0, 1.5, 2.0, 2.5, 3.0, 3.5, 4.5 Can be
installed in all 2 way ¾" valve bodies

Select from available CV's 6.4, 9.0

Can be installed in 2 way 1" valve bodies



BC TYPE CARTRIDGE (for 2 way valve body)



Cage type cartridge used for low CV values.

Select from available CV's 0.15, 0.25, 0.50

Can be installed in all 2 way ½" valve bodies



For ½" & ¾" valve
bodies



For 1" valve bodies

EB TYPE CARTRIDGE (for 2 way valve body)



Balanced cartridge used for high close-off pressure applications (up to 100 psi) for hot and chilled water, and 50% glycol.

For 2 way ½" valve bodies select from

CV's 0.5, 1.0, 1.5, 2.0, 2.5, 3.0, 3.5

For 2 way ¾" valve bodies select from

CV's 1.0, 1.5, 2.0, 2.5, 3.0, 3.5, 4.5

For 2 way 1" valve bodies select from

CV's CV's 6.0, 6.4, 8.0, 9.0

The EB cartridge is recommended for use on certain spring return actuators. See note on page 5.



ED TYPE CARTRIDGE (for 3 way valve body)



Used for 3 way diverting V320, V323, V325 valve bodies for hot and chilled water and 50% glycol.

Select from available CV's 1.0, 2.0, 3.0

Can be installed in 3 way ½" and ¾" valve bodies



EX TYPE CARTRIDGE (for 3 way valve body)



Used for 3 way mixing V321 valve bodies for hot and chilled water and 50% glycol.

Select from available CV's 2.0, 3.0

Can be installed in 3 way ½" and ¾" valve bodies

Internal Cartridge Specifications - each CV/KV is stamped on the face of the cartridge

| Replaceable Cartridge Type | EP Type | EV Type | BC Type | EB Type | ED Type | EX Type |
|----------------------------|-------------------------------|------------------------------|----------------------|--|-------------------------------------|-------------------|
| 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 |
| Valve stem | Burnished 303 Stainless Steel | (same as EP Type) | (same as EP Type) | (same as EP Type) | (same as EP Type) | (same as EP Type) |
| Packing | Double EPDM | Hi-temperature Double EPDM | Double EPDM | Double EPDM | Double EPDM | Double EPDM |
| Stroke | 4mm | 4mm | 4mm | 4mm | 4mm | 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 | N / A | 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, 3.0 | 0.5, 1.0, 1.5, 2.0, 2.5, 3.0 | 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 |
| Rangeability | 100:1 | 100:1 | 100:1 | 100:1 | - | - |
| Cv Linear - 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 | 1.0, 2.0, 3.0 Bottom port CV 2.0 | 2.0, 3.0 |

3

Select the valve actuator to best suit your control signal, voltage application, spring return or FLP requirements

Terminal Unit Actuators Selection Guide

ELECTRIC - FAIL LAST POSITION - SYNCUBE ACTUATORS

| MODEL | SIGNAL | VOLT | FEATURES |
|--------|------------|-------|--|
| ME4140 | Floating | 24Vac | End of travel switch-off, complete shutdown * |
| ME4240 | PWM | 24Vac | Pulse Width Modulation 0.25-5.0 secs. Feedback 1-5 Vdc * |
| ME4340 | Modulating | 24Vac | Selectable 0-10Vdc, 2-10Vdc, 4-20mA. Feedback 1-5 Vdc * |
| ME4344 | Modulating | 24Vac | Selectable 0-5Vdc, 5-10Vdc. Feedback 1-5 Vdc * |



Standard clear cover
Optional white cover

3 YEAR WARRANTY
SPARTAN PERIPHERAL DEVICES

ELECTRIC - SPRING RETURN (FAIL SAFE) - POWERCUBE ACTUATORS

| | | | |
|---------|------------|--------|---|
| ME4430 | ON-OFF | 24Vac | N.O. (Normally open) * |
| ME4430S | ON-OFF | 24Vac | N.O. (Normally open) with SPDT auxillary switch |
| ME4431 | ON-OFF | 110Vac | N.O. (Normally open) |
| ME4431S | ON-OFF | 110Vac | N.O. (Normally open) with SPDT auxillary switch |
| ME4530 | ON-OFF | 24Vac | N.C. (Normally closed) * |
| ME4530S | ON-OFF | 24Vac | N.C. (Normally closed) with SPDT auxillary switch |
| ME4531 | ON-OFF | 110Vac | N.C. (Normally closed) |
| ME4531S | ON-OFF | 110Vac | N.C. (Normally closed) with SPDT auxillary switch |
| ME4640 | Floating | 24Vac | N.O. (Normally open) * |
| ME4740 | PWM | 24Vac | N.O. (Normally open), Pulse Width Modulation 0.25-5.0 secs. Feedback 1-5 Vdc * |
| ME4840 | Modulating | 24Vac | N.O. (Normally open), Selectable 0-10Vdc, 2-10Vdc, 4-20mA. Feedback 1-5 Vdc * |
| ME4844 | Modulating | 24Vac | N.O. (Normally open), Selectable 0-5Vdc, 5-10Vdc. Feedback 1-5 Vdc * |
| ME4940 | Modulating | 24Vac | N.C. (Normally closed), Selectable 0-10Vdc, 2-10Vdc, 4-20mA. Feedback 1-5 Vdc * |
| ME4944 | Modulating | 24Vac | N.C. (Normally closed), Selectable 0-5Vdc, 5-10Vdc. Feedback 1-5 Vdc * |



3 YEAR WARRANTY
SPARTAN PERIPHERAL DEVICES

* See individual actuator data sheets for additional cable options

WIRELESS ACTUATORS - many other Wireless Actuators available at www.spartan-pd.com

| | |
|--------|---|
| ME8200 | Modulating 24Vac FLP, operates on RF 433MHz |
| ME8300 | Modulating 24Vac FLP, operates on EnOcean TCM320(c) Dolphin module, 902 MHz America, 868 MHz Europe |
| ME8400 | ThermPyla Self Powered Energy Harvesting, EnOcean Dolphin module, 902 MHz America, 868 MHz Europe |



3 YEAR WARRANTY
SPARTAN PERIPHERAL DEVICES

THERMO-ELECTRIC ACTUATORS - SPRING RETURN (FAIL SAFE)

| | | | |
|---------|---------------|-------|--|
| ME1607 | ON/OFF or PWM | 24Vac | N.O. (Normally open) |
| ME1707 | ON/OFF or PWM | 24Vac | N.C. (Normally closed) |
| ME1707S | ON/OFF or PWM | 24Vac | N.C. (Normally closed) with SPDT aux. switch |



5 YEAR WARRANTY
SPARTAN PERIPHERAL DEVICES

PNEUMATIC ACTUATORS

| | | | |
|--------|-------------------|-------|--------------------|
| MP5100 | On-Off Modulating | 3-6# | N.O. Normally Open |
| MP5300 | On-Off Modulating | 7-11# | N.O. Normally Open |
| MP5400 | On-Off Modulating | 5-11# | N.O. Normally Open |



5 YEAR WARRANTY
SPARTAN PERIPHERAL DEVICES

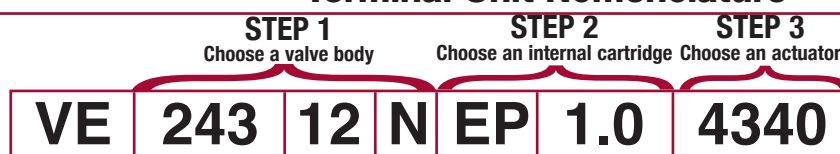
THERMOSTATIC ACTUATORS

| | |
|-------------|--|
| OT1100 | Valve mounted self-acting thermostatic actuator 40-80°F (6-26°C) |
| OT2100/2115 | Remote bulb self-acting thermostatic actuator with 6.5/16.5ft capillary 40-80°F (6-26°C) |
| OT5100 | Remote bulb wall-mounted self-acting thermostatic actuator with 6.5ft capillary 40-80°F (6-26°C) |



3 YEAR WARRANTY
SPARTAN PERIPHERAL DEVICES

Terminal Unit Nomenclature



◆ The EB cartridge is recommended when using these actuators

Actuator Type

Cv Value

Cartridge Type

Union Type - N = NPT, B = BSP, S = Solder

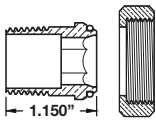
Valve Size

Valve Body Type - select from connection type

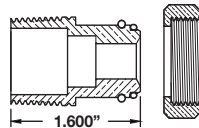
Valve Assembly Type - Select E for Electric, P for Pneumatic, or T for Thermostatic

Terminal Unit Accessories

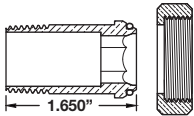
½" Tapered Unions (includes nut and nipple) - used
 with V240, V241-12, V261-12, V320-20, V321 Valve Bodies.
 Union nut fits on ¾" BSPP threads



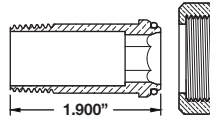
AV6112 - ½" NPT Union,
1" nominal length nipple



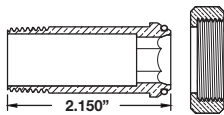
AV6134 - ½" Union with 1½" nominal
length. Step up ¾" NPT nipple



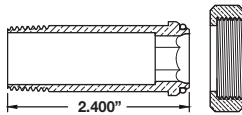
AV6112D - ½" NPT Union,
1½" nominal length nipple



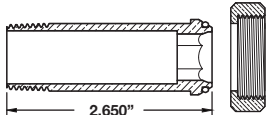
AV6112E - ½" NPT Union,
1¾" nominal length nipple



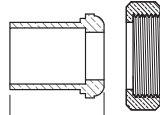
AV6112F - ½" NPT Union,
2" nominal length nipple



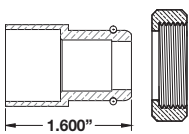
AV6112G - ½" NPT Union,
2¼" nominal length nipple



AV6112H - ½" NPT Union
2½" nominal length nipple



AV6312 - ½" solder union for ¾"
(16mm) OD copper pipe (for ½" valves)

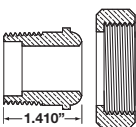


AV6334 - ¾" solder union step up
for ¾" (22mm) OD copper pipe
(for ½" valves)

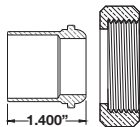


AV199-13 - Pack of 10 "O" rings
for ½" unions (¾" BSPP thread)

1" Tapered Unions (includes nut and nipple) -
 used with V241-10, V261-10, V345-10 Valve Bodies
 Union nut fits on 1¼" BSPP threads

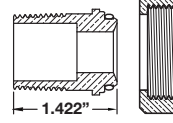


AV6810 1" NPT union,
1¼" nominal length nipple

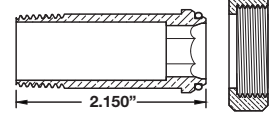


AV6810S 1" Solder union

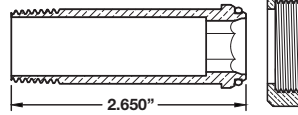
¾" Tapered Unions (includes nut and nipple) - used
 with V241-34, V261-34, V345-34 Valve Bodies
 Union nut fits on 1" BSPP threads



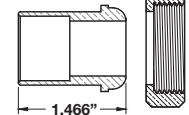
AV6534 ¾" NPT Union,
1¼" nominal length nipple



AV6534F ¾" NPT Union,
2" nominal length nipple



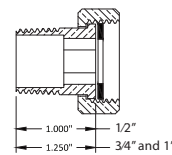
AV6534H ¾" NPT Union,
2½" nominal length nipple



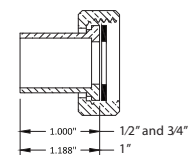
AV6534S ¾" Solder Union



AV199-08 Pack of 10 "O" rings
for ¾" union
(1" BSPP thread)

Flat Unions with washers

NPT thread

½" - **AV6112FLT** (for valve body V24020FLT)
 ¾" - **AV6534FLT** (for valve body V24025FLT)
 1" - **AV6810FLT** (for valve body V24032FLT)


Sweat

½" - **AV6312SFLT** (for valve body V24020FLT)
 ¾" - **AV6534SFLT** (for valve body V24025FLT)
 1" - **AV6810SFLT** (for valve body V24032FLT)

Terminal Unit Accessories


AVP20 (½", ¾"), **AVP116** (1"). Cap plug to replace
any valve cartridge for pipe flushing.



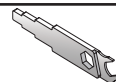
AV199-03 (½", ¾"), **AV199-14** (1") Pack of 10
"O" rings for internal cartridges for valve bodies



OM1100P Manual adjuster for all valve bodies
Box of 10.



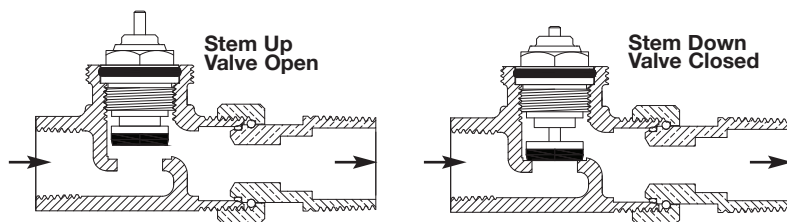
AVK100 Union Selection Kit. Consisting of
different size and length unions

Installation Tools


AV08 Spud Tool for union nipple installation
1/2", 3/4" and 1" valve bodies

2 way and 3 way Terminal Unit Piping Diagrams

2 WAY - V240, V241, V243, V245, V246, V261 VALVE BODIES



V240, V241, V243, V245, V246, V261, V246I

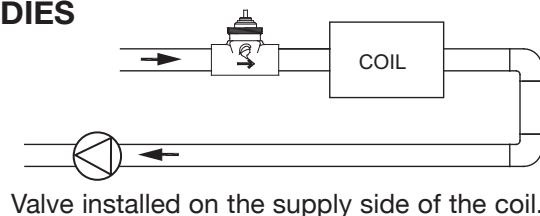
TERMINAL UNIT BODIES ARE NORMALLY OPEN

STEM UP: VALVE IS OPEN

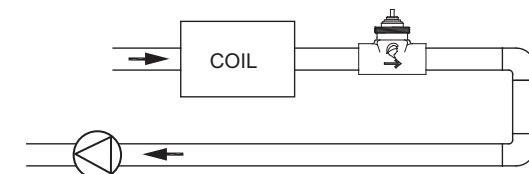
STEM DOWN: VALVE IS CLOSE

When used in conjunction with direct acting actuators they become normally open valve assemblies.

When used in conjunction with reverse acting actuators they become normally closed valve assemblies.

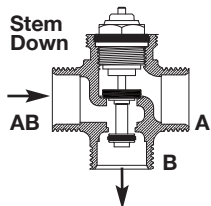
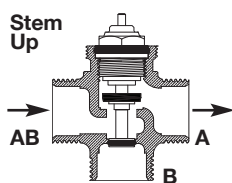


Valve installed on the supply side of the coil.



Valve installed on the return side of the coil.

The valve body must be installed in the direction indicated on the valve body cavity



3 WAY - V320, V323, V325, V345 DIVERTING VALVE BODIES

The diverting valve body is installed on the supply side of the coil.

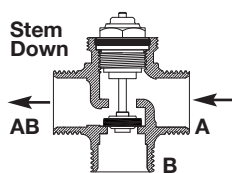
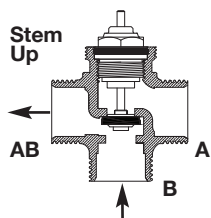
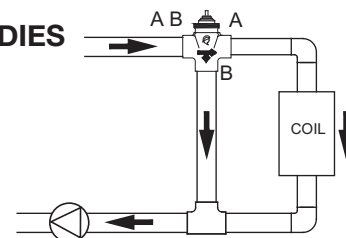
The water diverts in the valve and mixes in the "T" the flow enters the common port AB

The side port A must be connected to the supply of the coil

The bottom port B must be connected to the bypass around the coil.

STEM UP: FLOW AB-A

STEM DOWN: FLOW AB-B



3 WAY - V321 MIXING VALVE BODY

The mixing valve body is installed on the return side of the coil.

The water diverts in the "T" and mixes in the valve.

Piping example No1: The flow enters port A from the coil and

port B from the bypass and exits from the common port AB

STEM UP: FLOW B-AB

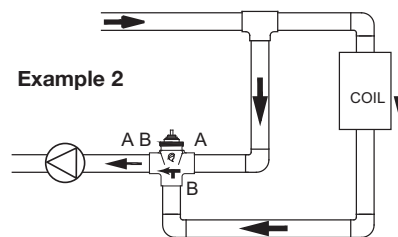
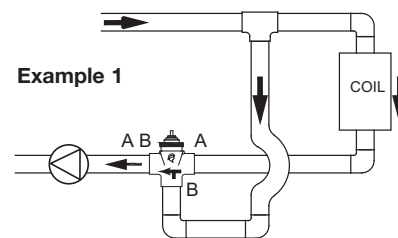
STEM DOWN: FLOW A-AB

Piping example No 2: The flow enters port B from the coil and

port A from the bypass and exits from the common port AB

STEM UP: FLOW B-AB

STEM DOWN: FLOW A-AB



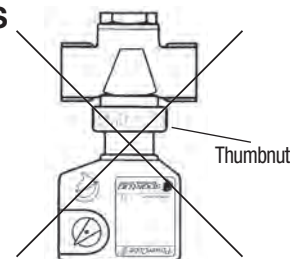
SOLDER INSTRUCTIONS

If direct solder bodies are used, remove the stem packing cartridge before installation as the heat will damage the packing.

If solder unions are used, solder the unions without the sealing O-ring.

IMPORTANT INSTALLATION NOTES

The complete valve assembly can be installed vertically or horizontally; it cannot be installed upside down. The Actuator mounting thumbnut is to be tightened by hand only, using tools may result in over-tightening.





CONTROLS WITHOUT COMPROMISE

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