

ACCUVALVE® MODEL AVT4000 SUBMITTAL

MODEL CODE

⚠ WARNING: NOT FOR USE WITH PERCHLORIC ACID

AVT4 -

VALVE HOUSING MATERIAL

- 2 = 304SS, 20 GAUGE
- 3 = 316SS, 20 GAUGE
- 4 = ALUMINUM, 16 GAUGE

OPTIONS

- BLANK = NO OPTIONS
- B = BACnet MS/TP
- F = FLANGES (REF NOTES 2 & 3)
- I = INSULATION (REF NOTE 4)
- S = TIGHT SHUT-OFF (REF NOTE 1)
- W = WIRELESS BLUETOOTH

ACTUATOR

- 17 = FAIL LAST POSITION (FLP), 10 SEC

SIZE

- 06 = 06" DIAMETER
- 08 = 08" DIAMETER
- 10 = 10" DIAMETER
- 12 = 12" DIAMETER
- 14 = 14" DIAMETER
- 18 = 12"x18" RECTANGULAR
- 24 = 12"x24" RECTANGULAR

MODEL CODE NOTES:

- 1) Blade seals are standard on all 6" valves, therefore -S option is not available for valve size -06.
- 2) Reference the Flange Detail - Vanstone submittal drawing for round flanges
- 3) Reference the Flange Detail - Rectangular submittal drawing for rectangular flanges
- 4) Reference the Insulation detail submittal drawing

MATERIALS

| Materials Exposed to the Airstream | | | |
|------------------------------------|--------------------------------|--------------------------------|--------------------------------|
| Model Material Designator | (2) 304SS | (3) 316SS | (4) Aluminum |
| Housing | 304 Stainless Steel | 316 Stainless Steel | Al. Alloy 5052-H32 |
| Compression Section | 304 Stainless Steel | 316 Stainless Steel | Al. Alloy 5052-H32 |
| Static Regain Section | 304 Stainless Steel | 316 Stainless Steel | Al. Alloy 5052-H32 |
| End Plate | 304 Stainless Steel | 316 Stainless Steel | Galvanized Steel |
| Blades | 304 Stainless Steel | 316 Stainless Steel | Galvanized Steel |
| Shafts | 316 Stainless Steel | 316 Stainless Steel | 316 Stainless Steel |
| Shaft Bearings | Teflon | Teflon | Teflon |
| Vortex Sensors | Polycarbonate Plastic, UL94-V0 | Polycarbonate Plastic, UL94-V0 | Polycarbonate Plastic, UL94-V0 |
| Sensor Tubing | Polyurethane, Ether-based | Polyurethane, Ether-based | Polyurethane, Ether-based |
| Compression Seals | Viton Rubber | Viton Rubber | EPDM Rubber |
| Machine Screws | 304 Stainless Steel | 316 Stainless Steel | 304 Stainless Steel |
| Rivets | 304SS | 316SS | 304SS |
| Blade Seals (optional) | Viton Rubber | Viton Rubber | EPDM Rubber |

OPERATING RANGE

| Valve Model | Min. Flow Measured | | | Full Scale Range | | |
|-------------|--------------------|-----|-----|------------------|------|------|
| | CFM | L/S | CMH | CFM | L/S | CMH |
| AVT4X06-XX | 30 | 14 | 51 | 315 | 149 | 535 |
| AVT4X08-XX | 80 | 38 | 136 | 800 | 378 | 1359 |
| AVT4X10-XX | 120 | 57 | 204 | 1300 | 613 | 2209 |
| AVT4X12-XX | 180 | 85 | 306 | 1790 | 845 | 3041 |
| AVT4X14-XX | 250 | 118 | 425 | 2750 | 1298 | 4672 |
| AVT4X18-XX | 260 | 123 | 442 | 3200 | 1510 | 5437 |
| AVT4X24-XX | 350 | 165 | 595 | 4000 | 1888 | 6796 |

SIZE AND WEIGHT

| Valve Model | Valve Dimensions (Reference Sheet 2) | | | | | | Weight | | | | | |
|-------------|--------------------------------------|-----|--------------|-----|-----|-----|-----------------|------|----------|------|------------|-----|
| | "D" or "W" | | "L" (Note 1) | | "H" | | Stainless Steel | | Aluminum | | Flange Add | |
| | in. | mm | in. | mm | in. | mm | Lbs. | kg | Lbs. | kg | Lbs. | kg |
| AVT4X06-XX | 5.88 | 149 | 22 | 559 | 10 | 254 | 13 | 5.9 | 9 | 4.1 | 2.0 | 0.9 |
| AVT4X08-XX | 7.88 | 200 | 24 | 610 | 12 | 305 | 16 | 7.3 | 12 | 5.4 | 2.6 | 1.2 |
| AVT4X10-XX | 9.88 | 250 | 24 | 610 | 14 | 356 | 20 | 9.1 | 14 | 6.4 | 3.2 | 1.5 |
| AVT4X12-XX | 11.88 | 300 | 27 | 686 | 16 | 406 | 26 | 11.8 | 16 | 7.3 | 4.5 | 2.0 |
| AVT4X14-XX | 13.88 | 350 | 30 | 762 | 18 | 457 | 30 | 13.6 | 20 | 9.1 | 5.2 | 2.4 |
| AVT4X18-XX | 17.88 | 454 | 30 | 762 | 17 | 432 | 43 | 19.5 | 26 | 11.8 | 5.0 | 2.3 |
| AVT4X24-XX | 23.88 | 607 | 30 | 762 | 17 | 432 | 49 | 22.2 | 29 | 13.2 | 5.5 | 2.5 |

SIZE AND WEIGHT NOTES:

- 1) Round valves with optional flanges "L" is 1/2" (13mm) less than standard valves



Accutrol Representative:

SUBMITTAL DRAWING

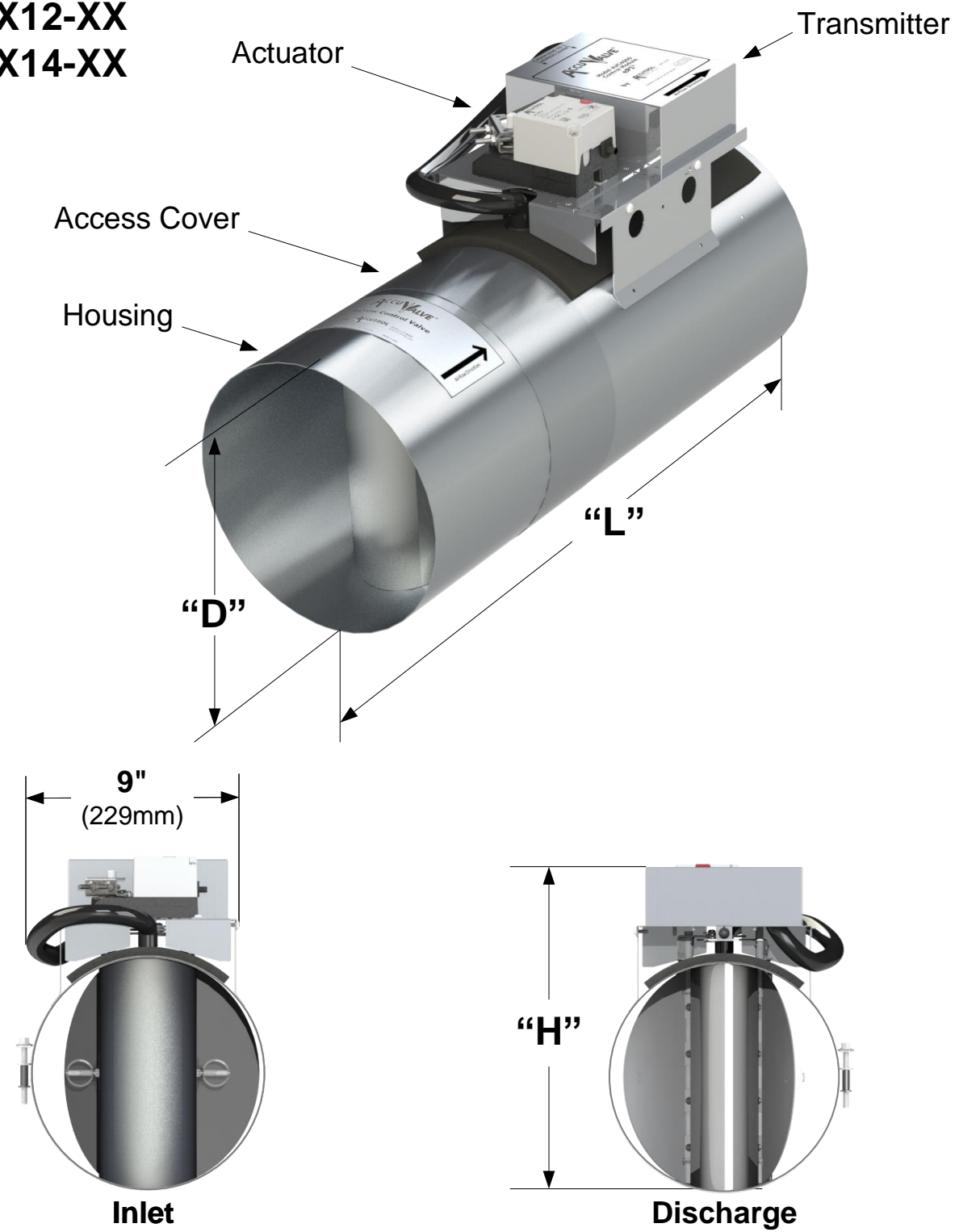
AccuValve® Model AVT4000

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| | | | |
|------------|-----------------------|--------|---------|
| DWG. NO: | AVT4000 SUBMITTAL DWG | | |
| REVISION: | C | ECN: | 2748 |
| REV. DATE: | 12-1-21 | SHEET: | 1 OF: 5 |

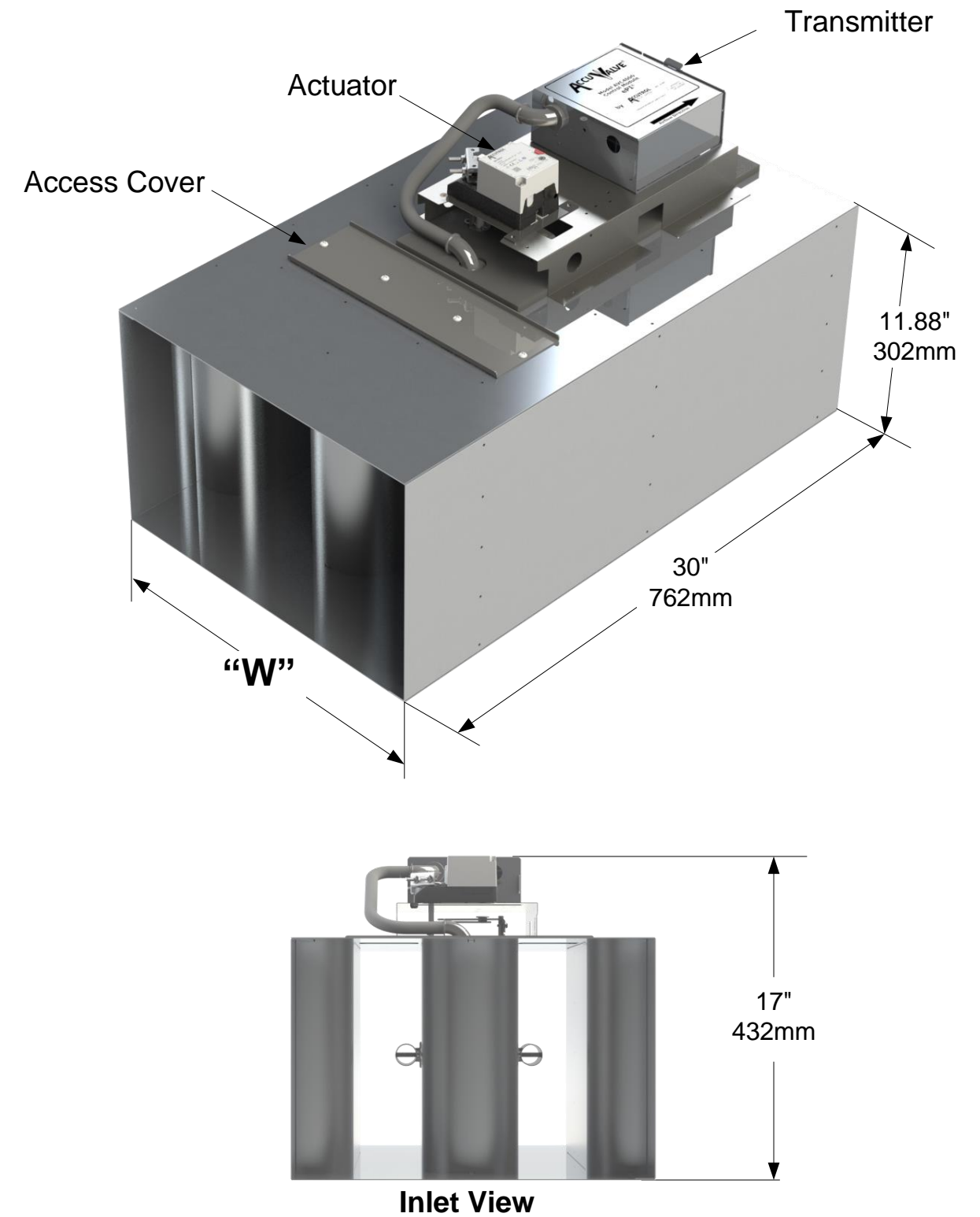
ROUND VALVE

AVT4X06-XX
 AVT4X08-XX
 AVT4X10-XX
 AVT4X12-XX
 AVT4X14-XX



RECTANGULAR VALVE

AVT4X18-XX
 AVT4X24-XX



| | | | |
|------------|-----------------------|--------|---------|
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| REVISION: | C | ECN: | 2748 |
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ROUND VALVE: INSTALLATION INSTRUCTIONS

! WARNING: Wear eye protection, protective gloves and clothing suitable for working with sheet metal which may have sharp edges.

1. Read all instructions prior to beginning installation.

NOTE: For detailed installation instructions, refer to the AccuValve® Installation & Operation Manual.

2. Verify the tag number located on the valve label matches the HVAC schedule, when applicable.

3. Locate the duct section which the valve is servicing and select a suitable mounting location for the valve.

NOTES: The AccuValve® does not require straight inlet duct runs to operate properly, however it's always best to locate the valve away from transitions and bends to minimize impact on system static pressure. Be sure to select a location that will provide a minimum clearance of 14 inches (356 mm) unobstructed access to the transmitter, actuator and valve access cover. The AccuValve® is not position sensitive. It can be installed in any plane or rotational axis without having impact on the performance.

4. Provide an opening in the selected duct section sized appropriately for the valve being installed.

NOTE: A slip-fit valve will require an opening approximately 2" (50.8 mm) smaller than the valve length, whereas a flanged valve will require an opening the same length as the valve. Reference Sheet 1 and 2 for valve dimensions.

5. Install duct hangers within 12 inches (305 mm) from each end of the valve. Reference Sheet 1 for valve weights.

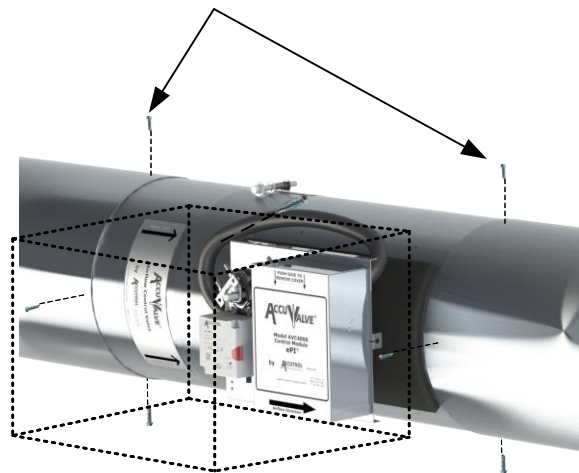
! WARNING: Use duct hangers and hardware designed to support the total load of valve and associated duct sections. Failure to do so may result in serious personal injury or death.

6. Install the valve into the duct in accordance with the airflow direction label located on the valve. Position the valve for easy access to the transmitter side then secure to duct per the appropriate figure below.

NOTE: Screws, nuts, fasteners, duct sealant, hangers, and gaskets are not provided by Accutrol LLC.

Standard Slip-fit Valve Secured Using Tek Screws

Seal joints using duct sealant and secure valve to duct at both ends using Tek screws.



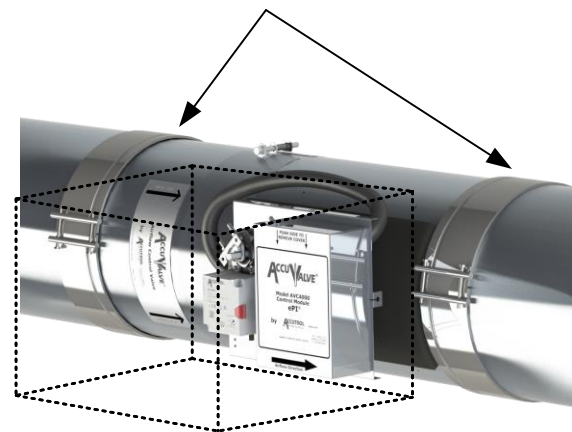
14" (356mm)
Keep-Out Zone

Figure 1

Standard Slip-fit Valve Secured Using Draw Bands

(Draw Bands are Sold Separately)

After sealing joints with appropriate type of tape, secure both ends using draw band clamps.



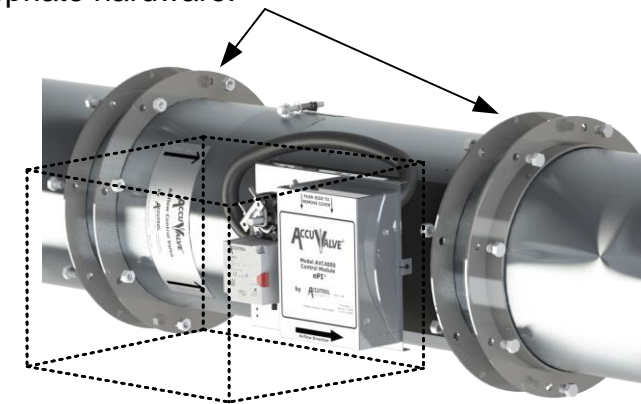
14" (356mm)
Keep-Out Zone

Figure 2

Flanged Valve "Option F" Secured Using Companion Flanges

(Companion Flanges are Sold Separately)

Install companion flanges to duct ends and secure to duct. Apply duct sealant and/or gasket to flange face. Install valve and rotate VanStone flanges to align with bolt holes on the duct flanges. Secure flanges using appropriate hardware.



14" (356mm)
Keep-Out Zone

Figure 3

Reference Accutrol Draw Band Clamp Submittal Drawing for Details

Reference Accutrol VanStone Flange Submittal Drawing for Details

ACCUTROL
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Danbury, CT 06810
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Accutrol Representative:

SUBMITTAL DRAWING

AccuValve® Model AVT4000

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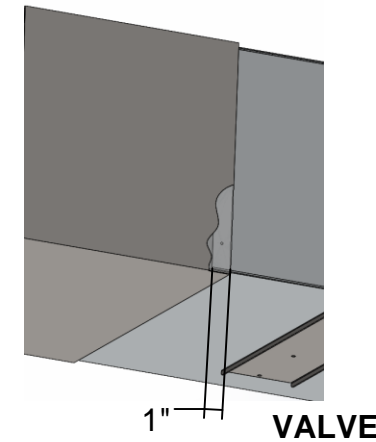
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| DWG. NO: | AVT4000 SUBMITTAL DWG | | |
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RECTANGULAR VALVE: INSTALLATION INSTRUCTIONS

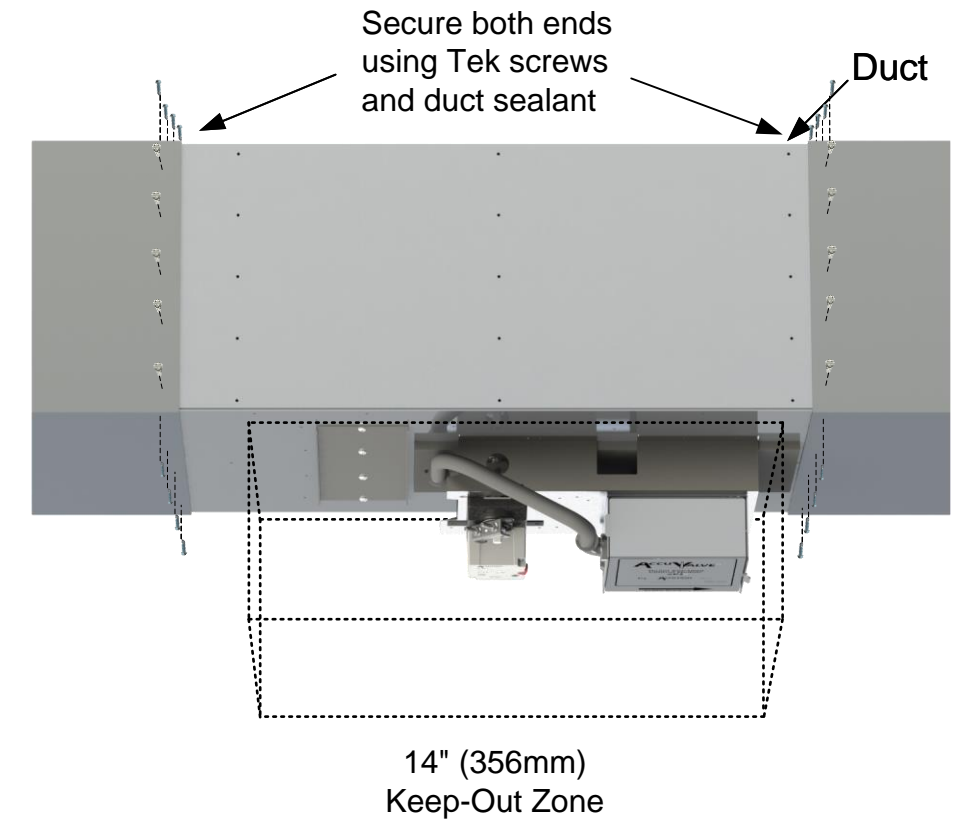
1. Read all instructions completely before installing the valve.
 - ⚠ **WARNING:** Wear eye protection, protective gloves and clothing suitable for working with sheet metal which may have sharp edges.
2. Verify the tag number located on the valve label matches the HVAC schedule when applicable.
3. Select optimum mounting location for the valve.
 - NOTE:** The AccuValve® does not require straight inlet duct runs to operate properly, however it's always best to locate any duct device away from transitions and bends to minimize impact on system static pressure.
4. Allow a minimum clearance of 14 inches (356 mm) unobstructed access to the transmitter, actuator and valve access cover.
 - NOTE:** Rectangular valves are normally installed with the "access side" facing downwards for easy access. However, the AccuValve® is not position sensitive. It can be installed in any plane or rotational axis without having impact on the performance.
5. To support the weight of the valve, install duct hangers within 12 inches (305 mm) of valve connections. Reference Sheet 1 for valve weights.
 - ⚠ **WARNING:** Use duct hangers and hardware designed to support the total load of the valve and associated duct sections. Failure to do so may result in serious personal injury or death.
6. After the duct section is properly supported to carry the weight of the valve, install valve into the duct in accordance with the airflow direction label located on the valve. Position valve so the transmitter, actuator and access cover are easily accessible.
7. Reference the appropriate diagram to the right for installation details.
 - NOTE:** Screws, nuts, fasteners, duct sealant, hangers, companion flanges and gaskets are not provided by Accutrol LLC.

RECTANGULAR VALVE: INSTALLATION DIAGRAMS

Figure 1
Standard Slip-fit Valve Using Tek Screws



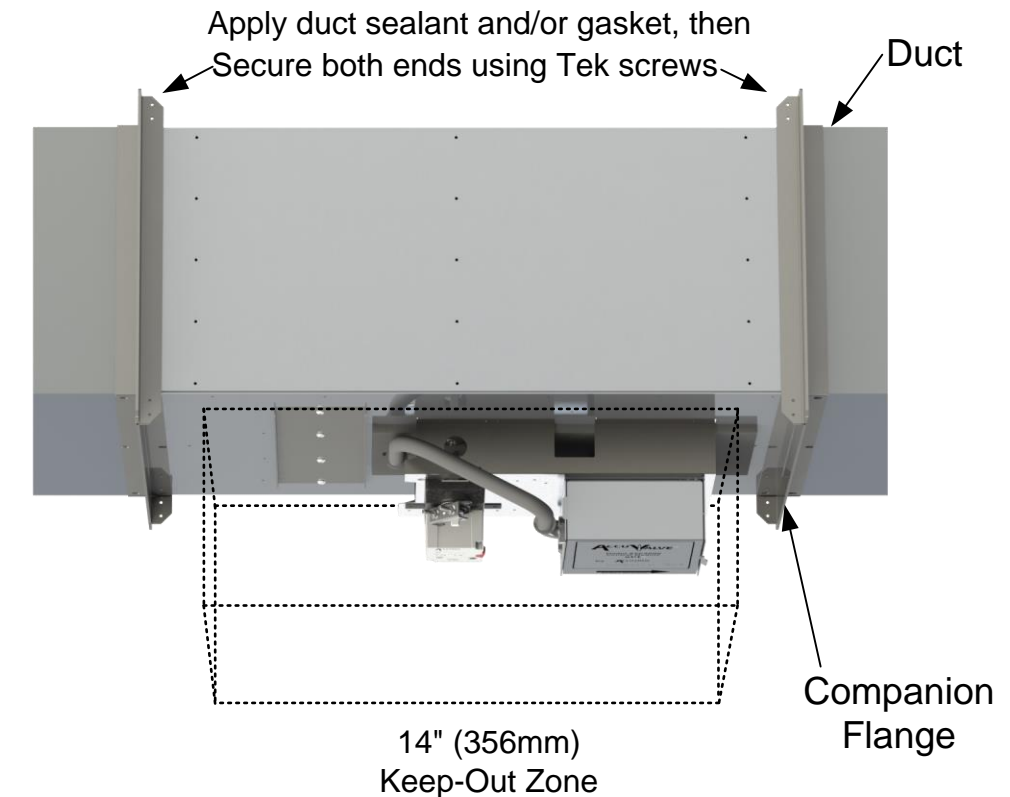
For slip-fit applications valve must be inserted at least 1" into ductwork to cover open holes on valve housing.



14" (356mm)
Keep-Out Zone

Figure 2
Flanged Valve
"Option F" Using
Companion Flanges
(Provided by Others)

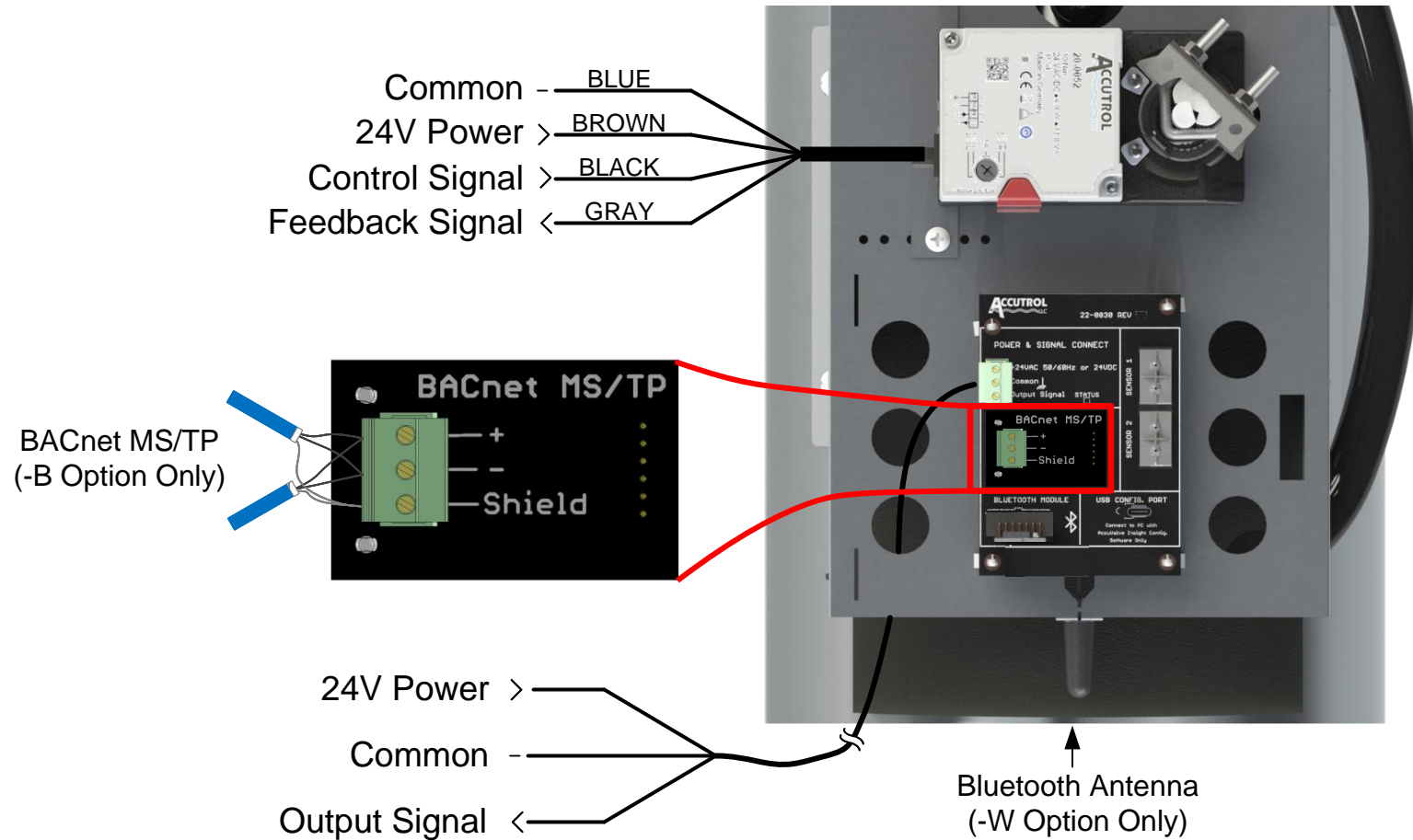
Reference Rectangular
AccuValve Flange Detail
Submittal DWG



14" (356mm)
Keep-Out Zone

WIRING SPECIFICATIONS

NOTE: Connections will vary based on application. For detailed wiring instructions, use this drawing in conjunction with the job-specific wiring diagrams.



Transmitter and Actuator

Connect the power and signal wires to the actuator and transmitter per the diagram. For more details on the actuator, reference the appropriate actuator submittal drawing listed in the table below.

CAUTION: Maintain polarity if the power source is used to power multiple devices otherwise equipment may be damaged.

CAUTION: Do not use the transmitter enclosure as a junction box. The only wires entering the transmitter enclosure shall be wires connected to the transmitter otherwise equipment may be damaged.

Optional BACnet MS/TP Module

Connect the 2-wire EIA 485 BACnet MS/TP bus to the AVT4000 transmitter per the diagram. Network bias and EOL termination are not provided by the AVT4000.

Optional Wireless Bluetooth Module

Reference Wireless Bluetooth Field Manual.

WARNING: During installation, testing, servicing and troubleshooting of this product, it may be necessary to work with live electrical components. This work shall be performed by a licensed electrician or qualified individual who has been properly trained in handling live electrical equipment. Failure to follow all electrical safety precautions when exposed to live electrical components may result in serious injury or death.

TRANSMITTER ELECTRICAL SPECIFICATIONS

Power Supply: 24 VAC +/- 20% 50/60 Hz, 6 VA max
 24 VDC +/- 10% 3 W max

Output Signal: 0-20mA, 4-20mA, 0-10V, 2-10V, 0-5V, or 1-5V (Software Config.)
 12-bit Resolution

Capable of driving 1K-ohm load

Configuration: USB Type C Connector, Wireless Bluetooth (Optional)

BACnet MS/TP (Optional): EIA 485 2-wire BACnet MS/TP, Galvanically Isolated
 Data Rates 9600, 19200, 38400, 57600, 76800 and 115200
 1/8 Unit Load Receiver Input Impedance

Network bias and EOL termination not provided within the transmitter.

Terminal Plugs: 3-position, vertical pluggable, screw on top, wire size 12-30 AWG

ACTUATOR ELECTRICAL SPECIFICATIONS

(For complete actuator specifications, reference actuator drawing 20-0052)

Power Supply: 24 VAC/DC, 11VA/6W

Control Signal: 0-10V or 2-10V (Switch Selectable)