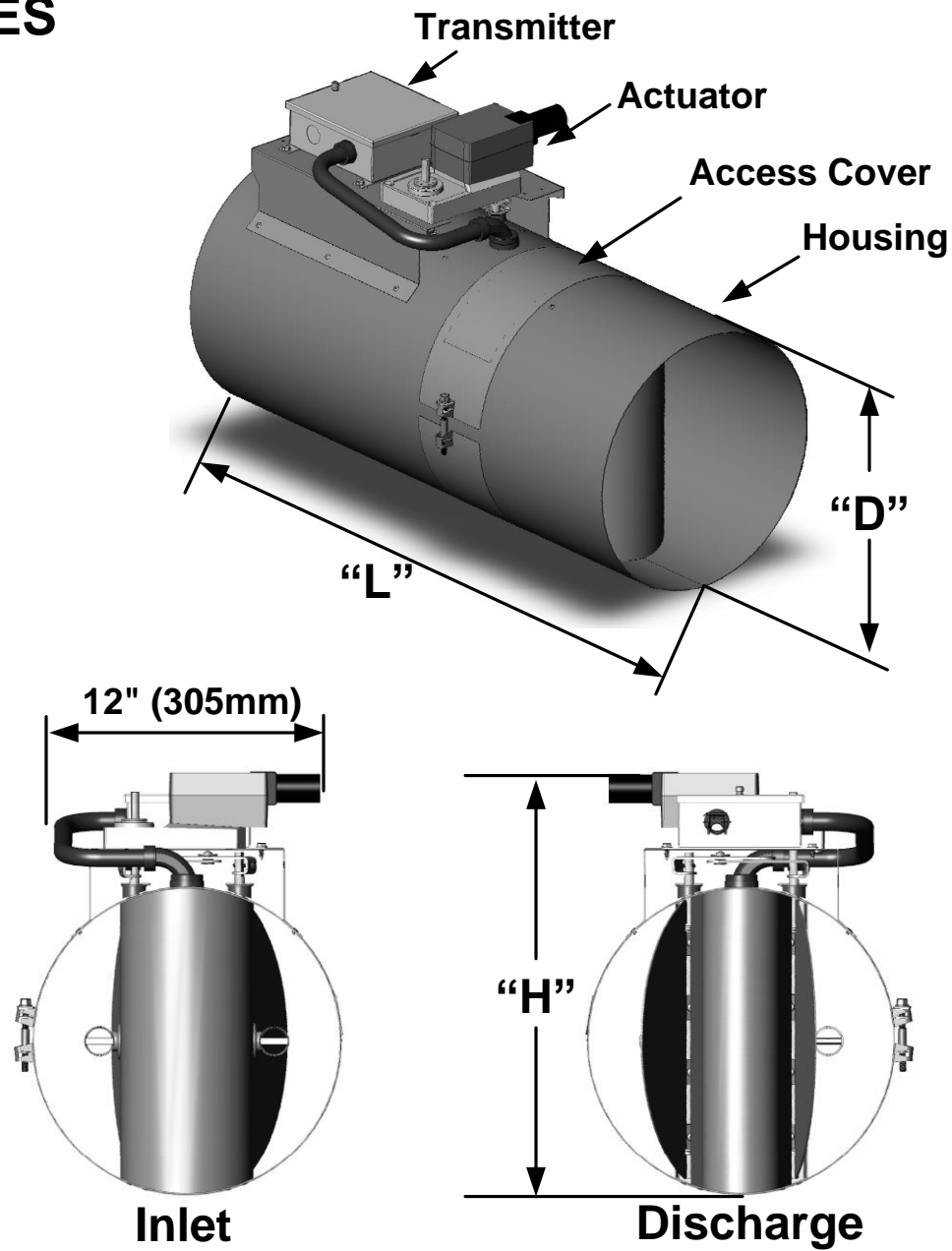


# FIGURES



# MODEL CODE

H-AV 3 1     -      

NOT FOR USE WITH PERCHLORIC ACID

### SHAPE

1 = Round

### VALVE HOUSING MATERIAL

2 = 304SS, 20 Gauge  
 3 = 316SS, 20 Gauge  
 4 = Aluminum, 18 Gauge

### ACTUATOR

7 = Fail Last Position, 2-10v

### OPTIONS

BLANK = No Options  
 F = Flanges (Ref Note3)  
 I = Insulation  
 S = Tight Shut-off

### SIZE

06 = 6" Diameter (Ref Note 1)  
 08 = 8" Diameter  
 10 = 10" Diameter  
 12 = 12" Diameter  
 14 = 14" Diameter

### NOTES:

- 1) Blade seals are standard on all 6" valves, therefore -S option is not available for valve size -06.
- 2) Factory Defaults: Transmitter Output: 0-20mA unless otherwise specified.
- 3) Standard valve flanges do NOT include predrilled holes. Reference Accutrol "Flange Detail Submittal Drawing" for details.

# MATERIALS

Model Code Material Designator	AccuValve Materials of Construction		
	(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	416 Stainless Steel
Shaft Tabs	304 Stainless Steel	316 Stainless Steel	304 Stainless Steel
Shaft Bearings	Teflon	Teflon	Teflon
Vortex Sensors	Polycarbonate, UL94-VO	Polycarbonate with Parylene Coating	Polycarbonate, UL94-VO
Sensor Tubing	PVC	PVC	PVC
Compression Seals	Viton Rubber	Viton Rubber	Neoprene Rubber
Machine Screws	304 Stainless Steel	316 Stainless Steel	304 Stainless Steel
Rivets	304SS	316SS	304SS
Blade Seals (optional)	Viton Rubber	Viton Rubber	Neoprene Rubber

# OPERATING RANGE

Valve Model	Min. Flow Measured			Transmitter Factory FS		
	CFM	L/S	CMH	CFM	L/S	CMH
H-AV3100-06	30	14	51	330	156	561
H-AV3100-08	80	38	136	850	401	1444
H-AV3100-10	120	57	204	1370	647	2328
H-AV3100-12	180	85	306	1900	897	3228
H-AV3100-14	250	118	425	3000	1416	5097

# SIZE & WEIGHT

Valve Model	Dimensions						Weight			
	"D"		"L"		"H"		Stainless Steel		Aluminum	
	in.	mm	in.	mm	in.	mm	Lbs.	kg	Lbs.	kg
H-AV3100-06	5.88	149	22	559	10	254	13	5.9	9	4.1
H-AV3100-08	7.88	200	24	610	13	381	16	7.3	12	5.4
H-AV3100-10	9.88	250	24	610	15	432	20	9.1	14	6.4
H-AV3100-12	11.88	300	27	686	17	483	26	11.8	16	7.3
H-AV3100-14	13.88	350	30	762	19	533	30	13.6	20	9.1



Accutrol Representative:

# SUBMITTAL DRAWING

## Round AccuValve® Model H-AV3100

THIS DOCUMENT IS SUBJECT TO CHANGE WITHOUT NOTICE.  
 THIS DOCUMENT OR THE CONTENTS THEREOF SHALL NOT BE MODIFIED WITHOUT PRIOR WRITTEN PERMISSION BY ACCUTROL LLC.

DWG. NO:	H-AV3100 SUBMITTAL DWG		
REVISION:	E	ECN:	2313
REV. DATE:	11-30-17	SHEET:	1 OF: 3

# INSTALLATION INSTRUCTIONS

**CAUTION:** 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 more detailed installation instructions, refer to the AV3000 Installation & Operation Manual.

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

3. Locate the duct section which the valve is servicing and select a suitable 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 the valve away from transitions and bends to minimize impact on system static pressure. Also 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.

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" smaller than the valve length, whereas a flanged valve will require an opening the same length as the valve. Reference Sheet 1 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, companion flanges and gaskets are not provided by Accutrol LLC.

## Standard Slip-fit Valve Secured Using Tek Screws

## Standard Slip-fit Valve Secured Using Draw Bands

## Flanged Valve "Option F" Secured Using Companion Flanges

(Draw Bands are Sold Separately)

(Companion Flanges are Sold Separately)

Reference Accutrol Drawband Clamp Submittal Drawing for Details

Reference Accutrol Flange Option Submittal Drawing for Details

Secure valve to duct at both ends using tek screws and duct sealant.

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

Install companion flanges to duct ends and secure to duct. Apply duct sealant and/or gasket to flange face. Install valve and secure flanges using tek-screws.

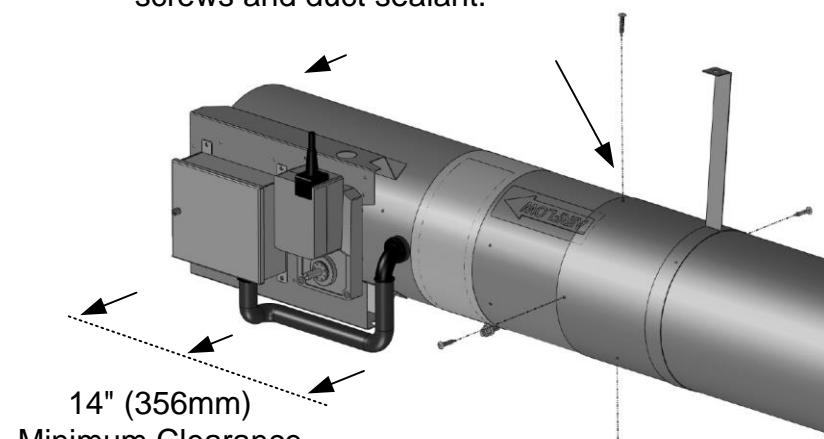


Figure 1

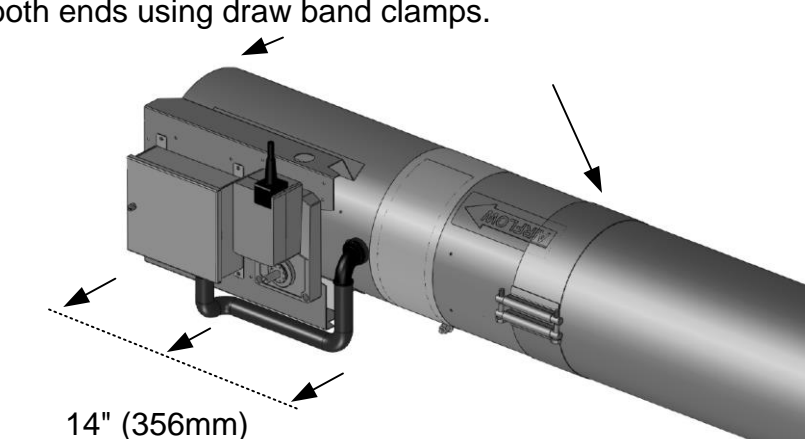


Figure 2

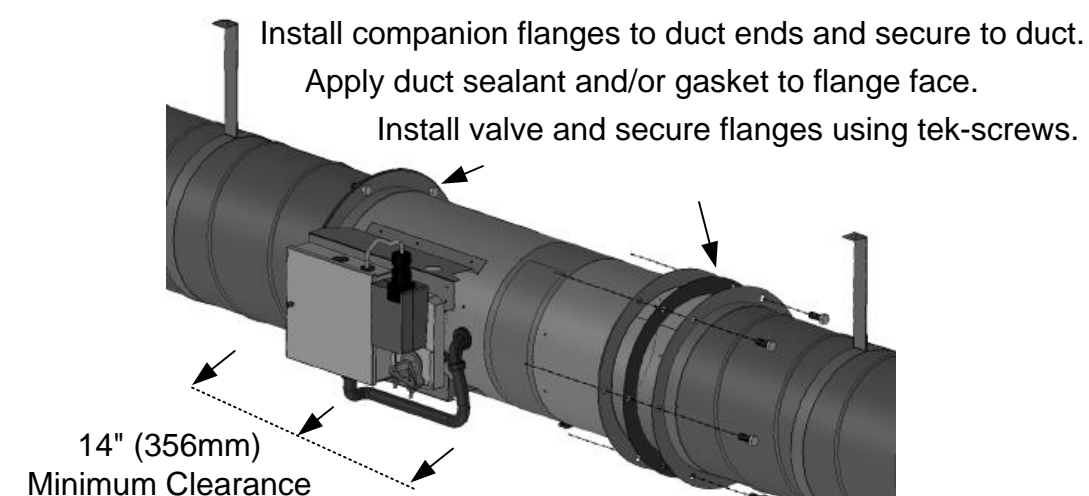
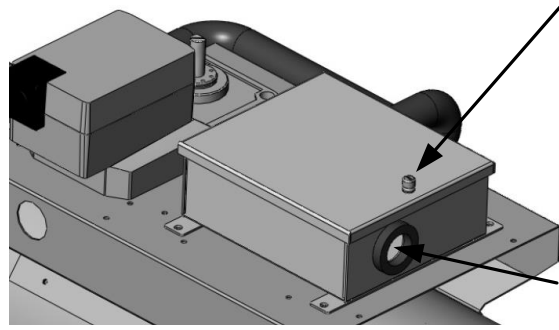


Figure 3

# WIRING INSTRUCTIONS

## Transmitter Wiring

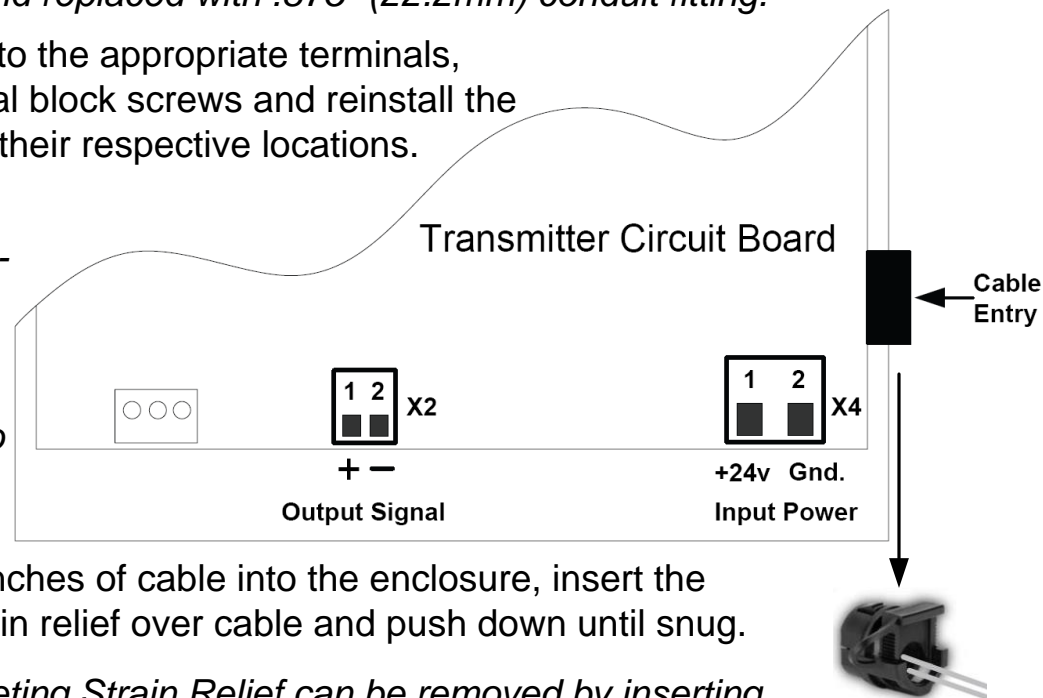


1. Loosen the thumb-screw and remove cover.  
**NOTE:** Reference inside of cover label for identifying connection points.
2. Remove the Input Power & Output Signal connectors from board.
3. Route Power and Signal cables through the strain relief fitting.

**NOTE:** For installations requiring conduit, the plastic strain relief fitting can be removed and replaced with .875" (22.2mm) conduit fitting.

4. Land wires to the appropriate terminals, secure terminal block screws and reinstall the connectors to their respective locations.

**NOTE:** Reference job-specific wiring diagrams for details of connections to field devices.



5. Pull a few inches of cable into the enclosure, insert the ratcheting strain relief over cable and push down until snug.

**NOTE:** Ratcheting Strain Relief can be removed by inserting snap ring pliers with .040" tips into two holes on the part and spread open.

6. Reinstall the cover and secure by tightening the thumb screw.

## Actuator Wiring

Basic wiring requirements for the actuator are shown in the wiring diagram to the right.

# WIRING DIAGRAMS

Figure 1, Typical Field Wiring Schematic

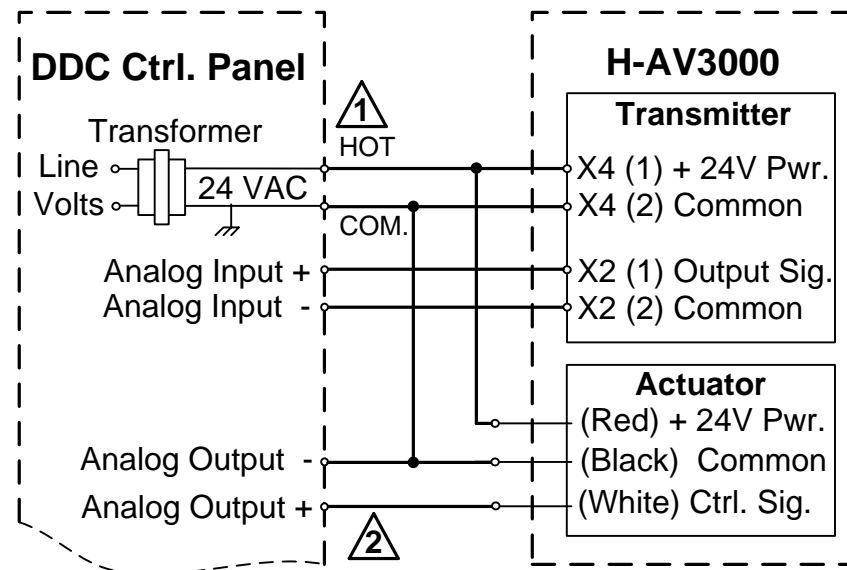
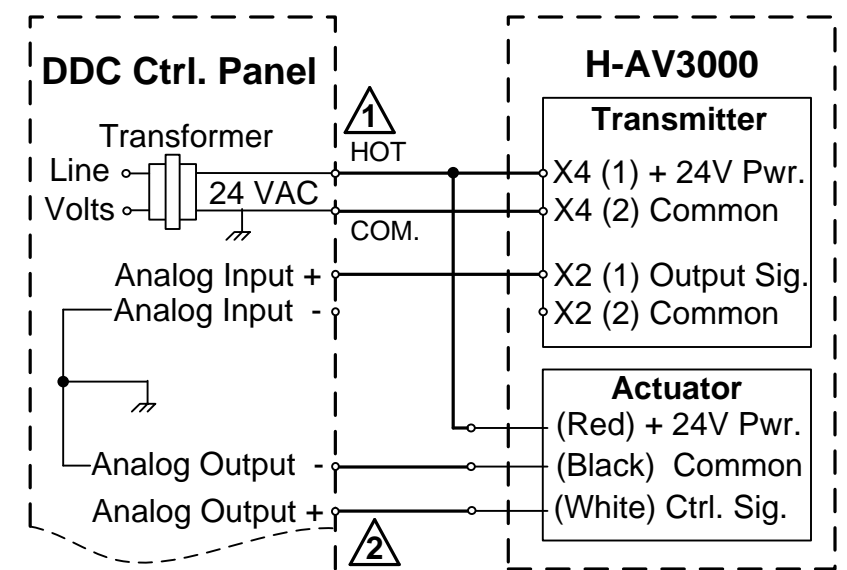


Figure 2, Controller with Common I/O and Power Ground



### NOTES:

1. Polarity must be maintained if transformer is used to power multiple devices otherwise equipment may be damaged. Power source must include a circuit breaker and be current limited to 8 amps maximum and grounded on the (-) side.
2. Wiring shown is for (2-10 VDC) Analog Output. For using a current Analog Output (4-20mA) install a 500-ohm 1/4 watt resistor across Analog Output + and - terminals at the Controller.
3. Figures 1 and 2 are intended to be used as a general guide for wiring the H-AV3000 to a typical DDC Controller. The detailed wiring diagrams provided by the Control Contractor shall be used in conjunction with this document.
4. Power Requirements: Transmitter (2.5 VA), Actuator (6 VA).

# ELECTRICAL SPECIFICATIONS

## Transmitter Electrical Specifications

Input Power: 24 VAC +/- 20% 50/60 Hz, 2.5 VA Max. or 24 VDC +/- 20%, 75mA Max.

Output Signal: 0-10v, 2-10v, 0-20mA or 4-20mA (Configurable Using Jumpers JP1 and JP4)

Wire Specifications: 16-22 AWG, Shielded Cable

Electromagnetic Compatibility: EMC Directive 2004/108/EC, Low Voltage Directive 2004/108/EEC, EN61326-1:2006, FCC Part 15

Product Safety: IEC/EN/UL/CSA 61010-1:2001, CAN/CSA-C22.2 No. 61010-1

