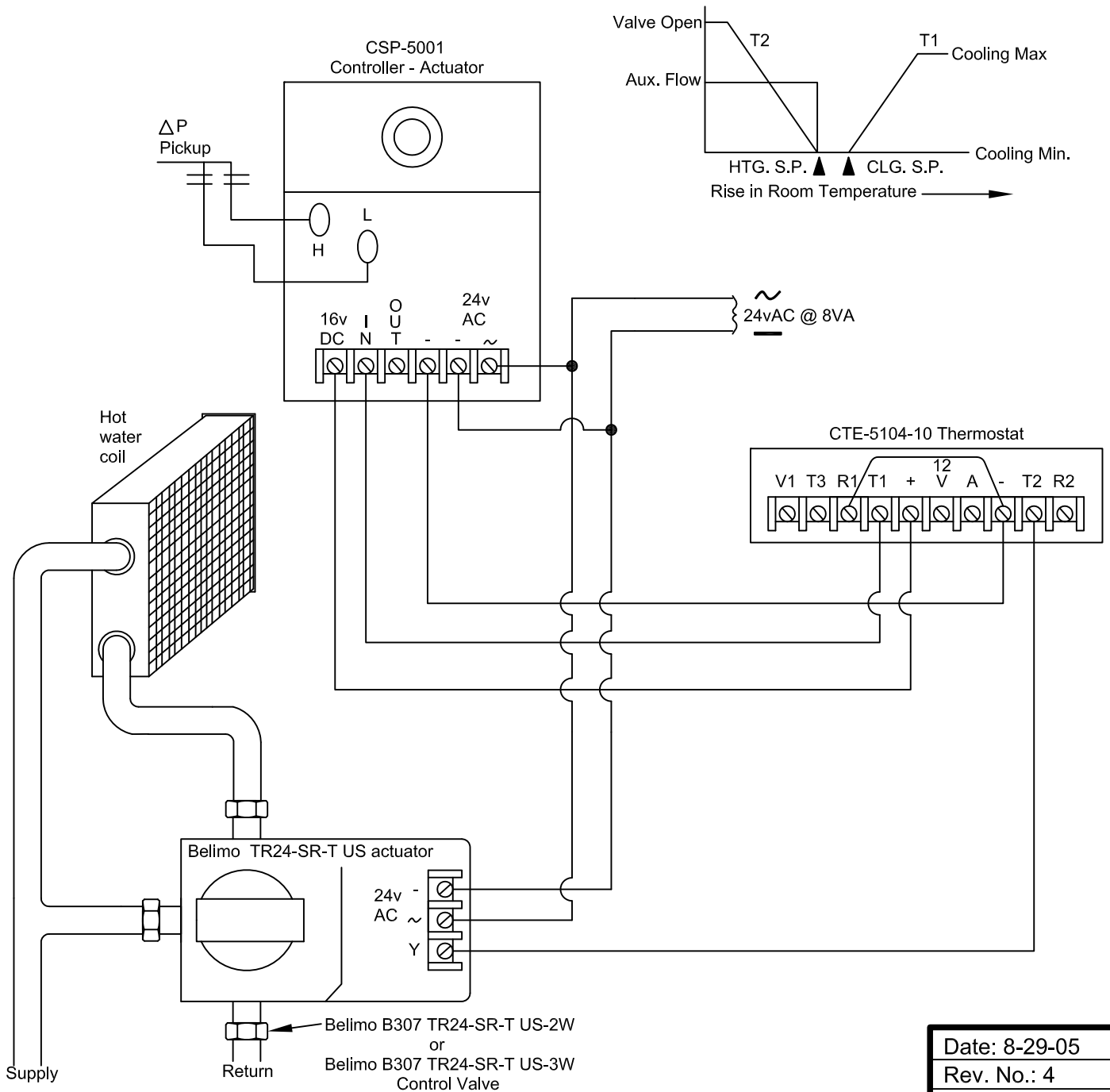


VAV Single Duct Cooling w/ wet reheat

In this application a CTE-5104 thermostat is used in conjunction with a B307TR24 hot water valve to control temperature in the conditioned space. The valve shown below utilizes the TR24-SR-T actuator for reheat control. The B307TR24 is a mixing valve (2 or 3 way); with 0-VDC from the thermostat the valve bypasses water from supply to return. As the thermostat voltage increases, water begins flowing into the coil to allow heated air into the space. At 2° below set point, the full flow is sent through the coil.



Date: 8-29-05
Rev. No.: 4
Rev. Date: 01-6-11
DWG. NO.: L-22

Installation Guide

Mounting

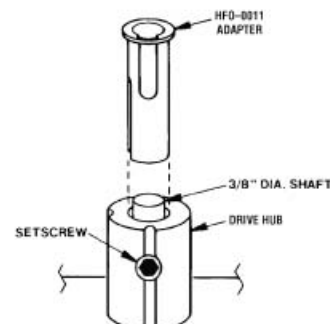
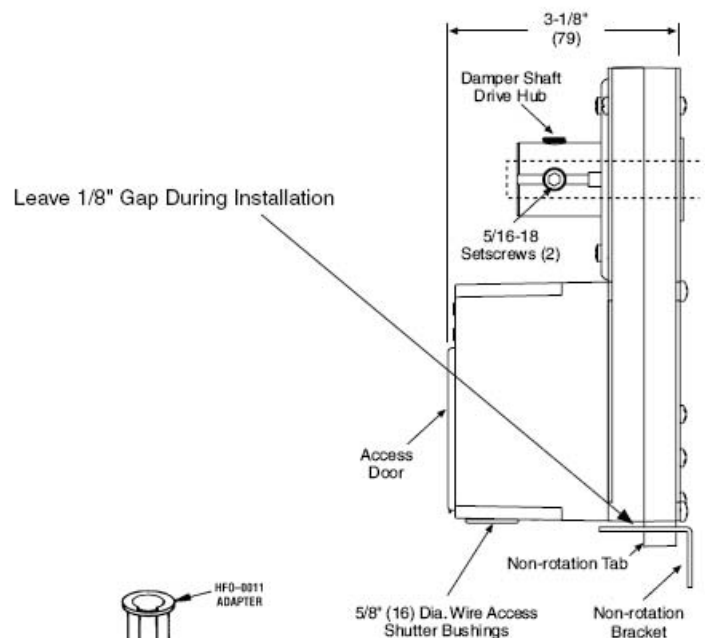
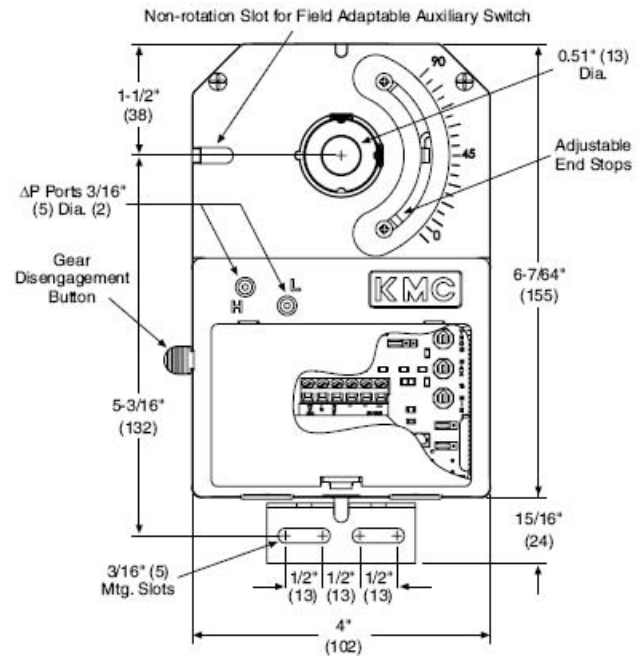
The CSP-5001/5002 is designed to mount on a standard 1/2 in. (13 mm) diameter shaft or a 3/8 in. (9.5 mm) shaft using the optional HFO-0011 adaptor.

Standard Instructions

- Slide the CSP-5001/5002 directly onto the 1/2 in. diameter damper shaft. The shaft must extend a minimum of 1-3/4 in. from the mounting surface. (For a 3/8 in. shaft, see the HFO-0011 Adaptor section below.)
- Place the non-rotation bracket (supplied) on the non-rotation tab. Leave a gap of 1/8" between the bottom surface of the CSP-5001/5002 and the bracket to allow for play during operation (see illustration).
- Attach the non-rotation bracket to the mounting surface using (2) #8 or #10 self-tapping screws (not included).
- Depress the gear disengagement button and:
 - Rotate the drive hub until the indicator stops at the "90" mark if the damper is clockwise to close.
 - Rotate the drive hub to the "0" mark if the damper is counterclockwise to close.
- Position the damper to full open.
- Torque the two 5/16-18 setscrews to 75-85 in. lb.
- Depress the gear disengagement button and rotate the drive hub/damper to the closed position.
- Loosen the adjustable end stop, position against the damper position indicator, and retighten.

HFO-0011 Adaptor

- Mount the CSP-5001/5002 actuator over the 3/8 in. shaft.
- Slide the HFO-0011 over the shaft into the drive hub of the actuator.
- Align the adaptor slots with the setscrews.
- Partially tighten the setscrews.
- Continue with Step 2 under the Standard Instructions section above.

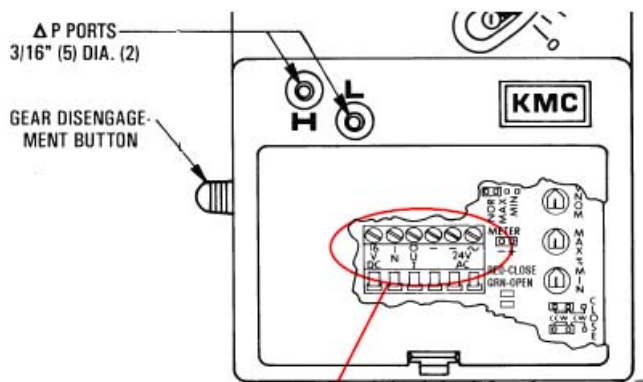


Wiring

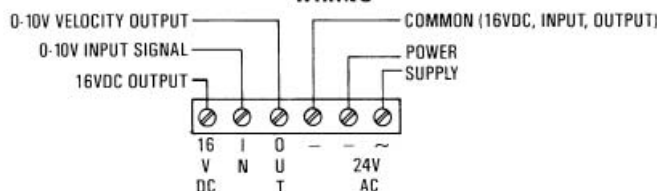
1. Remove the CSP's wiring access door by pulling back on the door's tab and lifting upward.
2. Access for wire or cable is via two 5/8 in. (16 mm) diameter snap-in shutter bushings located on the rear of the CSP's cover.
3. Connect conduit to the actuator if required (connectors are not supplied—order separately):
 - A. HMO-4518 for 1/2 in. flexible conduit.
 - B. HMO-4520 compression connector for plenum rated cable.
 - C. HMO-4526 female connector 1/2 in. conduit.
4. Remove the snap-in shutter bushing and replace with the HMO-4518, HMO-4520, or HMO-4526 if required.
5. Connect the CSP to a CTE-5100 thermostat:
 - A. Terminal "16 VDC" to thermostat terminal "+".
 - B. Terminal "IN" to thermostat terminal "T1" for cooling or "T2" for heating air flow.

NOTE: If minimum and maximum velocity limits will be set at the CSP, then use "T3" for cooling and "T4" for heating.

- C. Terminal "OUT" to thermostat terminal "V1" for velocity readout at thermostat.
 - D. Terminal "-" to thermostat terminal "-".
6. Connect the CSP to a 24 volt AC, -15/+20%, 50/60 Hz power source:
 - A. Terminal "~" to the phase side of the 24 volt AC transformer.
 - B. Terminal "-" to the neutral or ground side of the transformer.
 7. Replace wiring access door.



WIRING



Air Flow Sensor Connection

Using 24 inches of 1/4-inch OD x 0.040-inch wall FR instrument and control tubing, connect the CSP to an SSS-1000 series differential pressure flow sensor:

1. Connect the "H" port to the (high side) "H" of the sensor.
2. Connect the "L" port to the (low side) "L" of the sensor.

NOTE: To maintain a close correlation with the factory calibration (for 0 to 3300 fpm), installations must use **exactly** 24 inches of the tubing without restrictions such as fittings or kinks.

NOTE: The SSS-1000 series differential pressure flow sensor must be mounted with the arrow pointing in the direction of the air flow.

Rotation Setup

The CSP-5001 is factory-set for CCW to close. The CSP-5002 is factory-set for CW to close. To reverse the rotation direction of either controller model:

1. Remove the access door by pulling back on the door's tab and lifting upward.
2. Position both jumpers in either the CW or CCW positions as needed. See the diagram.

