RUSKIN®

ZCDVAV
RUSKIN ZONE CONTROL SYSTEM

APPLICATION

Ruskin Model ZCDVAV was developed to meet an increased demand for zone specific products combined with individual controls. Utilizing Ruskin's years of experience as the leader in the control damper market, a new series of products were designed combining dampers with controls providing the complete package. These products are well suited for both retrofit applications as well as new construction.

ZCVAV Zone dampers are designed and built for light commercial and residential variable volume zone control only and must not be used for tight shutoff. No seals are provided.

Ruskin Model ZCDVAV comes with a factory installed Tri-state modulating actuator coupled with a room and duct thermostat which evenly controls the flow and heating to cooling change over.

STANDARD CONSTRUCTION

FRAME
   18 gage (1.2) galvanized, mechanically joined.
BLADES
   18 gage (1.2) galvanized steel, 3" (76) nominal width.
AXLES
   1/2" (13) steel hex plated.
LINKAGE
   Plated steel.
BEARINGS
   Synthetic.
FINISH
   Galvanized.
MINIMUM SIZE
   8"w x 6"h (203 x 152).
MAXIMUM SIZE
   30"w x 30"h (762 x 762).
ACTUATOR
   ML7161A
THERMOSTAT (RmT)
   TB7980A
DUCT SENSOR (SaT)
   A/10K-2-RPP-6

PACKAGE CONTENTS

- Zone Control Damper with side plate and duct sensor
- Factory mounted actuator
- Room thermostat (shipped loose)

NOTES:

1. Dimensions shown in parentheses (   ) indicate millimeters.
2. Available in 2" (51) increments only.
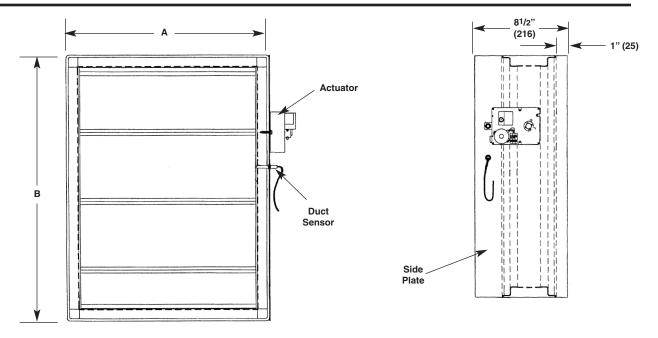

ZCDVAV shown with wall mounted thermostat.

VARIATIONS

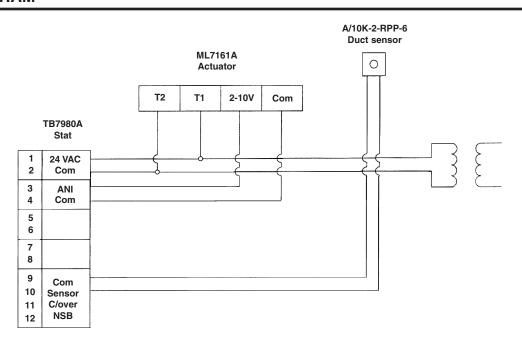- 120/24 VAC Transformer
- Factory hemmed sleeve

SEQUENCE OF OPERATION

The room thermostat (RmT) calls for more or less air depending on the current mode of operation. The mode of operation is determined by the SaT sensor positioned in the supply air duct. The SaT sensor automatically switches between heating and cooling mode, reversing the directions of rotation for the damper actuator accordingly.

When the room temperature RmT is below setpoint it energizes the actuator motor and starts driving the actuator motor in one direction. The actuator motor moves very slowly, seven minutes from full open to fully closed. When the RmT is satisfied the actuator power is removed and the actuator remains in its last position. When the RmT is above setpoint it energizes the actuator motor and starts driving the actuator motor in the opposite direction until the RmT is satisfied. The actuator power is removed when the RmT setpoint is obtained and the actuator remains in its last position.

DIMENSIONAL DETAILS

WIRING DIAGRAM

SUGGESTED SPECIFICATION

Furnish and install at locations shown on plans, or as in accordance with schedules, electronic zone control dampers built to the following minimum requirements. Frame shall be 16 gage galvanized steel hat channel reinforced with corner braces for structural strength. The blades shall be single skin, 16 gage galvanized steel with three longitudinal grooves for reinforcement. Bearings shall be corrosion resistant, molded synthetic sleeve type turning in an extruded hole in the damper frame. Axles shall be hexagonal positively locked into the damper blade. Linkage shall be concealed out of the airstream, within the damper frame to reduce pressure drop and noise. Provide temperature control of the airflow to a critical area in a zone control system to maintain room temperature setpoint. The damper providing supply air shall be controlled by a room temperature thermostat installed in the space and shall open or close the damper to provide more or less air as required to maintain setpoint when operating in either heating or cooling mode. The supply air temperature shall be monitored to determine when system is operating in heating or cooling mode and the controller shall automatically switch over between heating and cooling mode. The operation of the damper shall be switched from CW to CCW rotation depending on the temperature of the air being supplied to the area. The change over point shall be adjustable. The actuator shall be direct coupled, floating point, non-spring return. Dampers shall be in all respects equivalent to Ruskin Model ZCDVAV.