

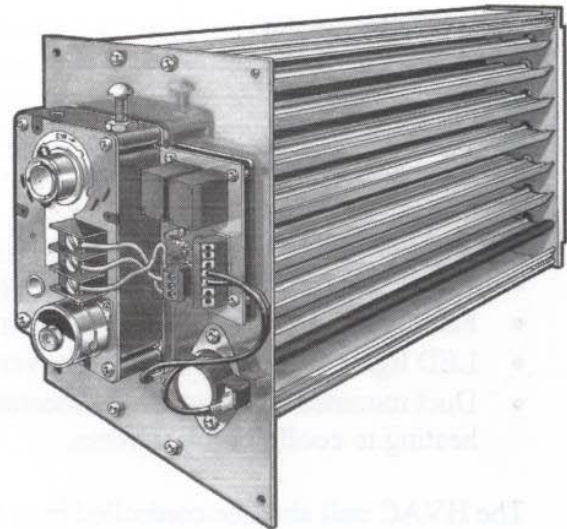
2085 VAV Modulating Opposed Blade with Automatic Changeover Damper

The Model 2085 by Young Regulator combines the advantages of Variable Air Volume and the simple installation of a damper to provide zone control with automatic changeover between heating and cooling without the need for an expensive VAV box.

The 2085 Automatic Changeover Modulating VAV Damper includes an opposed blade damper, automatic changeover duct sensor, PC relay board module, and 24V damper motor. It is thermostatically controlled and is ideal for zone temperature control in low or medium pressure commercial or residential applications. Simple to install and wire, the 2085 easily provides individual zone control for new installation, or additional zones to existing systems.

FEATURES

- Opposed blade damper design for better air control and less turbulence and noise. Heavy duty extruded aluminum and stainless steel construction for long, corrosion-resistant life. Individual blade bushings for smooth, quiet operation.
- Mounting plate with motor attached allows slip-in installation in the side of the duct. Blades contained within the 2" frame for installation in tight areas.
- Simple adjustable minimum air settings.
- LED lights on PC board indicate damper operating mode.
- 7 minute, 24 Volt, 2 Va reversing actuator for modulating control of master damper and up to 5 additional drone (model 3085) dampers by a single thermostat.
- Duct stat senses supply air temperature and changes between heating and cooling modes at or about 72 ($\pm 2F$) degrees.
- For control of a single zone, the 2085 saves installation time and money over VAV box installation and adjusting.
- Zoning saves energy.



OPERATION

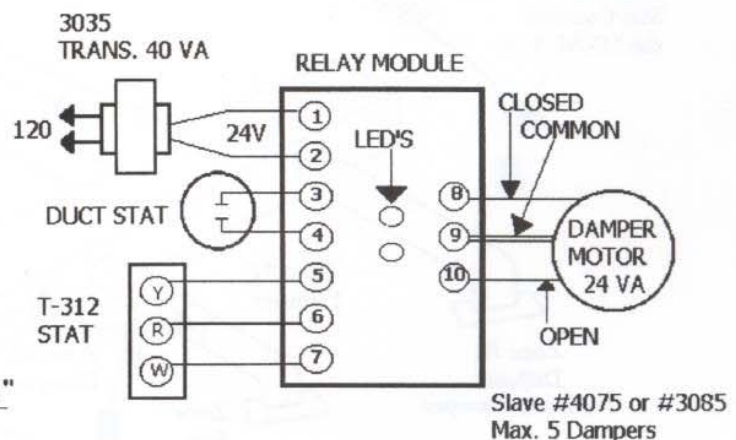
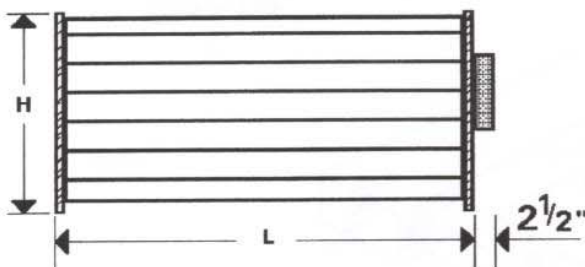
The 2085 is operated by a 3 wire, 24 volt, stall type reversing motor through a dead band single pole, double throw, center off thermostat. The damper mounted duct stat senses supply air temperature to reverse the action from cooling to heating. When the thermostat calls for air, the damper will run open until the thermostat is satisfied, then the damper stalls. The damper continues to supply air to the zone until the thermostat is 1 degree to 1.5 degree past set point (depending upon thermostat). This signals the damper to modulate closed to decrease the volume of air at discharge. The processes is reversed, with the damper modulating between full open and full closed, as the room temperature is maintained within the dead band range of the thermostat.

Suggested thermostats include the Young models T-312-CE and T-641 (see page 298). The Young model 3035 120V-24V transformer brings line voltage down to the required 24V.

For P+I control, use a model 3085 damper with 90 second motor with the T-322 or T-422 thermostat and changeover sensor to maintain zone temperature within .5 degree of set point.

AVAILABLE SIZES

Standard sizes range from 6" x 6" through 24" x 24". Please call the factory for intermediate and larger sizes.



NOTE: Zoned systems may require pressure relief. See Young Model 4092 round or 3092 rectangular bypass dampers for electronic pressure relief.

YOUNG REGULATOR COMPANY
20910 Miles Parkway • Cleveland, Ohio 44128
(216) 663-5646 • Fax (216) 663-1830

Specification Guide for Commercial Constant Volume HVAC Zone Control System

The contractor shall furnish and install a Young Regulator Zone 2000 Control System.

The system shall consist of as many Young Regulator #2075 round dampers or #2085 rectangular dampers and T-312-CE zone thermostats as may be required. The damper motors and thermostats shall be of the modulating type. The dampers must be capable of automatic heat/cool changeover. A Young Regulator #3092 or #4092 bypass damper is also available when required in order to maintain a constant system static pressure

The zone damper assembly shall be equipped with:

- Adjustable minimum position setting.
- Factory mounted and wired control module with terminal connections.
- LED lights to indicate damper movement and position.
- Duct mounted changeover thermostat to change the damper mode of operation from heating to cooling or vice versa.

The HVAC unit shall be controlled by a separate programmable or non-programmable thermostat, either single or two stage to match the equipment. This thermostat, not supplied by Young Regulator, should be located in the zone with the highest heat gain/heat loss. The area or zone in which the equipment thermostat is located **must not** have a zone stat and damper serving it.

