Single Duct Electric Heat

MODEL TSS-EH
Johnson Controls Single Zone Electric Heat VAV Corrects Common Industry Heater Problems

Historically, heater elements placed downstream of a VAV damper have experienced two major problems:

- Elements fail prematurely due to hot spots resulting from an uneven air velocity profile over the heater face
- Heaters suffer rapid nuisance cycling of the contactors and elements because the airflow switch probe is located on the low pressure (downstream side) of the VAV damper

Johnson Controls unique electric heat VAV terminal, the TSS-EH, solves these problems. The heater elements are located midway between the air inlet and the damper. This design provides uniform airflow over the face of the electric heater at all damper positions. Element life is extended, reducing repair cost and inconvenience.

With the heater elements located on the high pressure side of the VAV damper, the airflow pressure switch receives a reliable pressure signal even at minimum damper positions. This arrangement provides greater safety, as well as enhanced reliability.

The TSS-EH design permits tremendous flexibility when selecting KW, voltage, phase, balanced or unbalanced circuiting and method of control.

The TSS-EH breaks new ground in single duct VAV electric heater design. The patented FlowStar™ sensor permits modulation to lower airflow levels than all other sensors in the industry. This minimizes the energy expended for heat in many applications.

The FlowStar™ probe is visible in the inlet of the TSS-EH. The elements, partially removed for this photo, are midway between the inlet and the damper.

The outlet end of the TSS-EH reveals the VAV damper. Heater elements are well upstream of the damper in an area of developed airflow.