

TLB Bi-Directional Linear Diffuser Installation & Operation Instructions

The utmost care has been taken in the manufacturing, calibration, and packaging of this product to insure trouble free operation and ease in installation. **PLEASE** read the installation instructions **PRIOR** to unpacking and installation.

1. Inspect the carton for damage before opening. On large orders, the individual cartons are banded and shrink wrapped to pallets. This is done to help minimize damage in shipping. NOTIFY the shipper if external damage exists.

2. Remove the diffuser from the carton at the point of installation to minimize handling damage.

3. Install the Thermal Logic Bi-Directional unit in the ceiling grid with the inlet collar facing away from the exterior wall. The directional blade may be in any position depending on the ambient temperature.

*At supply air temperatures of 70 degrees F. or less the blade will be positioned for cooling. This position will direct the air toward the inlet collar.

*At temperatures between 72 degrees and 76 degrees F., the blade will be between the cooling and heating position.

*At temperatures of 78 degrees F. or greater, the unit will be in the heating mode. This will direct the air away from the inlet collar and down.

4. Connect and secure the inlet duct to the collar.

OPERATION

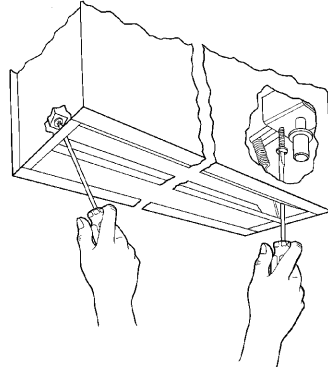
The Thermal Logic Bi-Directional linear diffuser is self-powered and requires no external power source. When the supply air temperature is 70 degrees F. or less, the air is discharged horizontally toward the unit inlet. At supply air temperatures of 78 degrees F. or greater, supply air is discharged vertically away from the collar. Positioned in front of an exterior wall the unit will:

In the cooling mode (supply air temperature 70 degrees F. or below) the discharge will direct cool air horizontally at the ceiling away from the exterior wall. Secondary induction generated by the primary air discharge from the unit will induce warm air by the exposure into the primary stream. This will absorb the heat load generated by the exposure before it raises the temperature in the "occupied zone."

In the heating mode (supply air temperatures 78 degrees or greater), the discharge will direct warm air vertically down the exposed wall. Secondary induction generated by the primary air stream will induce stratified warm air at the ceiling into the primary air stream. This will break the stratification causing a more uniform level of comfort, bring wasted heat into the "occupied zone," and help negate the radiant cooling effects of the exposed wall or window

ADJUSTMENT

The Thermal Logic Bi-Directional unit is factory set for full flow in both the cooling and heating modes. The TLB linear will automatically change from cooling to heating. The changeover temperature of 72 degrees and 76 degrees F. are not adjustable. The adjustment of cooling and heating volume and throw are independent of each other. Two manually adjustable screws (set point stops) are located at each end of the diffuser under the pattern controller—one for cooling discharge velocity and one for heating discharge velocity. (See illustration below)



Cooling Adjustment

To adjust the cooling discharge volume, the unit must be in the cooling mode.

The cooling volume control is located on the element side of the unit. The element mounting bracket and cooling volume adjustment screw can be viewed and accessed through the discharge slots. The blade should be manually pushed past the heating position to access the cooling volume adjustment screws. The unit will automatically change to the cooling mode when the supply air temperature is below 65 degrees. Allow five minutes for the changeover to be complete before balancing.

When in the cooling mode, turning the cooling volume adjustment control screw *clockwise* will decrease the cooling volume by decreasing the discharge opening. Turning the cooling volume adjustment *counterclockwise* will increase the cooling volume by increasing the discharge opening. After adjustment, release the blade, and it will position itself to the new setting.

Heating Adjustment

The heating volume control is located under the blade at the end opposite of the element and element mounting bracket. To adjust the heating volume, the unit must be in the heating mode. The unit will automatically change to the heating mode when the supply air temperature is above 78 degrees F. Allow five minutes for the changeover to be complete before balancing. When in the heating mode, turning the heating volume control screw *clockwise* will increase the heating volume by increasing the discharge opening. Turning the heating volume control screw *counterclockwise* will decrease the heating discharge volume by decreasing the heating discharge opening. After adjustment, release the blade, and it will position itself to the new setting.