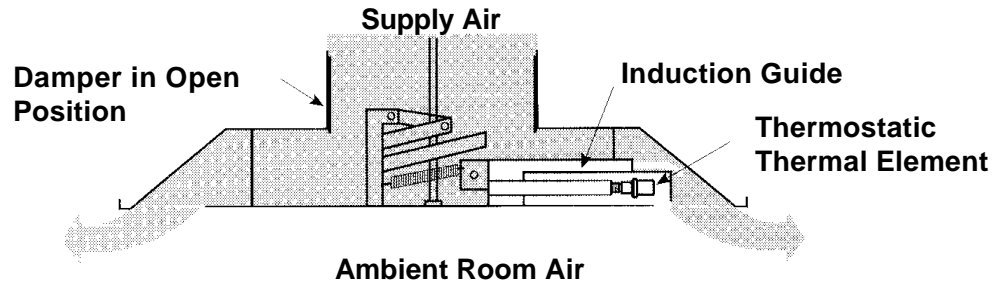


THERMAL PRODUCTS CORPORATION

INSTALLATION INSTRUCTIONS

VFS24 SERIES VARI-FLOW DIFFUSER™



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

1. Inspect the carton for damage before opening.

On large shipments, 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.

This is a sensitive temperature control device and diffuser. It should be treated as carefully as a thermostat.

3. Caution!! Do not push or bend the damper lift arm.

This may cause permanent damage to the unit or may affect the calibration.

4. Install the diffuser in the ceiling grid being careful not to hit or bend the damper lift arms.

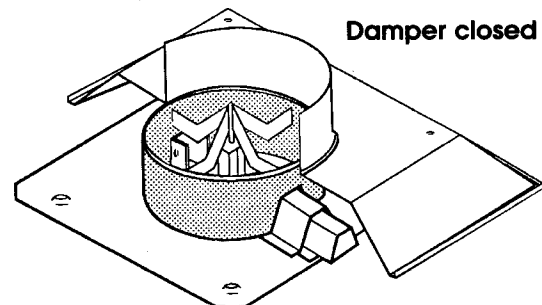
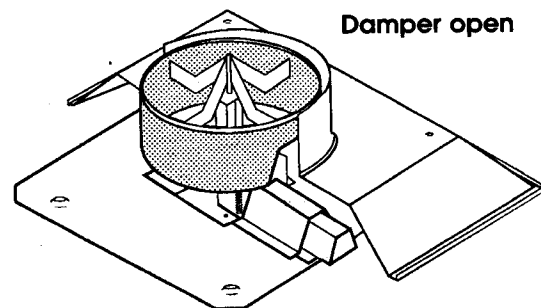
5. Connect and secure the inlet duct to the collar.

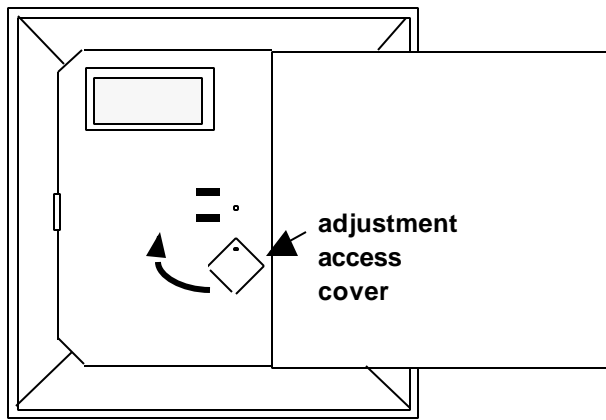
NOTE: The VFS-24 Series unit uses a sleeve type damper (valve) that slides up into the collar to open. Excessive tightening of the flex duct on the collar may crush it causing the damper to jam. Damage to the collar in transit, unpacking, handling, or during installation can cause the unit to malfunction. Inspect the collar prior to connection of the duct for dents or deformation that will interfere with the damper movement.

DO NOT USE SHEET METAL SCREWS TO SECURE THE DUCT TO THE COLLAR!!!!

6. Slide the appearance panel open (away from the induction inlet.)

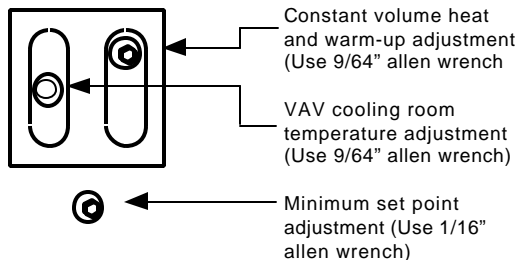
This will expose the adjustment access holes. A nylon tie down shipping strap is threaded through the holes securing the mechanism and holding the damper in a closed position during shipping. Cut the knot end of the strap and remove the strap. Be sure that the entire strap has been removed. When the strap is cut, the damper may jump open. This is normal.





ADJUSTMENT ACCESS

The VAV cooling temperature adjustment, constant volume heat/warm-up adjustment, and minimum set point are located under the appearance panel. To access the controls, slide the appearance panel back from the element edge of the unit (as shown in the illustration). Slide the adjustment access cover away exposing the adjustment screws. The adjustment instruction label is adjacent to the adjustment access. The instruction label details the location and procedures for the adjustment.



VAV COOLING ADJUSTMENT

The VFS "C" units are factory set for VAV cooling at approximately 70 degrees F. Turning the adjustment screw clockwise will decrease the set point temperature approximately 1.5 degrees F. per revolution. The temperature set point range of the VFS is 70 to 78 degrees F. A temperature table is attached next to the adjustment for easy, precise temperature adjustment.

VAV Cooling Room Temperature Adjustment Table						
Temperature (deg.F.)	70.0	71.5	73.0	74.5	76.0	77.5
No. of turns (counter clockwise)	0*	1	2	3	4	5
*Turn adjustment screw clockwise until it stops-DO NOT USE EXCESSIVE FORCE						

CONSTANT VOLUME HEAT SETTING WARM-UP FEATURE (VFSH)

Vari-Flow diffusers equipped with an adjustable warm-up feature have a warm-up element located in the collar mechanism of the unit. When the duct air temperature is above 78 degrees F. the warm-up element will open the damper. The warm-up volume damper setting adjustment (located under the appearance panel) allows adjustment of the damper opening and air discharge volume when the warm-up element is engaged (duct temperature greater than 78 degrees F.) **The VFS "H" units are shipped from the factory with the damper set in a fully closed position for the heating mode.** To adjust the damper setting for constant volume heat or morning warm-up, insert a 9/64 inch allen wrench and engage the adjustment screw. With the unit in the heat mode (duct temperature greater than 78 degrees F.), turn the adjustment screw counterclockwise to increase the damper discharge opening. When the duct air temperature is below 70 degree F. the warm-up element disengages and the unit returns control to the VAV cooling thermal element. **NOTE: When turning the adjustment screws, never use excessive force when resistance is felt.**

MINIMUM DAMPER SET POINT ADJUSTMENT

The minimum damper set point adjustment allows for minimum air flow requirements. This control stops the damper from closing so that a minimum air flow is maintained independent of the room temperature. The adjustment is made with a 1/16 inch allen wrench. Included are two minimum set point spacers (taped to the back side of the unit), The spacers are 1/2 inch and 1 inch in length. The combination of these will allow for a minimum set point adjustment of zero to two inch minimum damper opening. As shipped the adjustment range is zero to 1/2 inch. The minimum set point set screw will be flush with the panel (without spacers) for a set point of zero, (fully closed). Turning the set screw clockwise will increase the minimum set point up to 1/2 inch (without spacers). To increase the range from 1/2 to 1 inch, remove the set screw and insert the 1/2 inch spacer and replace the set screw. Inserting the 1 inch spacer will increase the range from 1 to 1 1/2 inch. Inserting both spacers will extend the minimum set point range from 1 1/2 to 2 inches.

BALANCING

CONTACT YOUR LOCAL REP. FOR A COMPLETE BALANCING MANUAL