

Ref: Airflow Bulletin Update No. 2

LOW AIRFLOW IN HEAT PUMP SYSTEMS

For the purpose of this message, low air flow is defined as *indoor airflow in residential heat pump systems below the required minimum specified by the equipment manufacturer.*

It is a documented fact that low airflow exists in more than 50% of heat pump systems in the U.S. (google “DOE/ENERGY STAR low airflow in heat pumps”). It is widely known that low airflow will cause auxiliary electric heaters to short-cycle by their auto-reset primary high temperature safety limits and become inoperative (as they are designed to do) by their secondary back-up safety limits. It is also widely known that low airflow will cause heat pump compressors to short-cycle by their auto-reset high head pressure limits. Both the electric heater and the compressor are subject to premature failure depending on the degree of low airflow and the length of time in use. The amount of compressor failures will increase with the mandated increased use of R-410 refrigerant which has higher operating pressure than the soon to be banned R-22 refrigerant.

Some distributors, installers, service personnel, and users are led to believe that electric heaters that have become inoperative due to low airflow are defective heaters. This false belief has caused some to replace heaters with other brands without correction of the true cause – low airflow. In these situations it is only a question of length of time before the replacement heater brand also becomes inoperative unless the airflow problem is corrected.

Currently, there is no industry standard to effectively ensure adequate airflow in heat pump systems or non heat pump systems. Warren Technology is currently conducting its own extensive study to investigate the reported industry-wide low airflow problems in an effort to help find ways to correct them, for the sake of all concerned. Significant progress has already been made. You may participate in this effort by providing your comments and receive information from: www.lowairflow.com

Thank you for your interest and cooperation.

Ed Trout