

## PRESSURE SWITCHES

There are two types of pressure switches found in heaters. The first type are gas pressure switches. These switches measure gas pressure at certain locations along the gas train. The second type of pressure switch is the airflow pressure switch. This serves to guarantee that there is proper airflow through the heater. They are described below:

### GAS PRESSURE SWITCHES

Gas pressure switches are options available to both the direct and indirect fired heater. The Antunes model A high gas pressure switch is a device that measures the gas pressure between the last electronic valve and the burner. The factory pressure setting for this switch is 8in. w.c. When the inlet gas pressure exceeds this setpoint, the burner is shut-down.

A low gas pressure switch is a device that measures the gas pressure at the gas inlet of the heater. The factory pressure setting for this switch is 2in. w.c. When the inlet gas pressure decreases below this set-point, the burner is shut-down.

Both of these switches must be manually reset and gas pressure to the unit must be serviced.

### AIRFLOW SWITCHES

An airflow switch is a device that compares the pressure of two different air streams or two different points in the same air stream.

The airflow switch in the indirect fired unit measures simply for the presence of airflow. The factory setting for this Tridelta RH3A switch is .05 in. w.c. If the airflow velocity decreases enough to stop generating enough pressure to make this switch, the burner will not activate. Airflow must then be increased to satisfy the pressure set-point of the switch.

In the direct fired unit, there are both **high and low airflow switches** contained within one housing measuring the pressure drop across the burner. The Cleveland Controls DDP-106 high airflow switch is factory set at **.65 in. w.c** and the low airflow switch is factory set at **.15 in. w.c**. This is to insure that there is proper airflow across the burner at all times. Both switches are wired in series and have single pole double throw (one common contact, one normally open contact, and one normally closed contact) switches that are "switched" by air pressure. There are two opposing airflow tubes in the heater, located near the burner and profile plate assembly (profile plates surround the burner and control air into the burner section). In the case of clogged filters, blocked intake, or a broken belt, a differential pressure is not achieved, not allowing the low airflow switch to close. The high airflow switch protects against profile plate failures that cause excessive airflow through the burner. In the event that the pressure drop across the burner is not in the range of the airflow switch, the Flame Safety Control stops gas flow to the burner.



**DDP-106  
Direct Fired  
Airflow Switch**