



## Does Distance Matter???

### Airflow conditions to avoid

While installing a duct heater, there are certain basic rules to follow. Respecting minimum distances upstream and downstream of the heater is one of the important ones. We recommend a minimum of 3x the duct diameter to be allowed upstream and downstream between any obstacles and the heater (Fans/Filters/Dampers/Elbows/Transitions etc.). Airflow must be evenly distributed across the duct and the full face of the heater to avoid overheats.

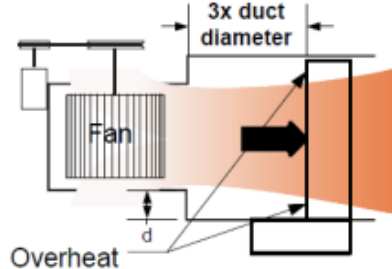
Below are installation tips. Insufficient airflow will lead to opening of mechanical airflow switch or electronic airflow sensors and automatic thermal cutout. This may damage heating elements and controls.

#### 2.1 Air flow condition to avoid:

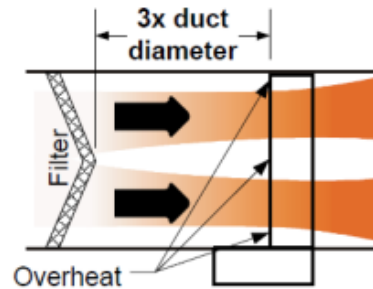
Minimum distance for the conditions below is **3 times the duct diameter**.

*Electric heater too close to Fan.*

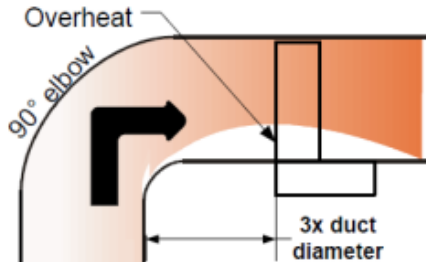
*Avoid any abrupt transition after a fan.*



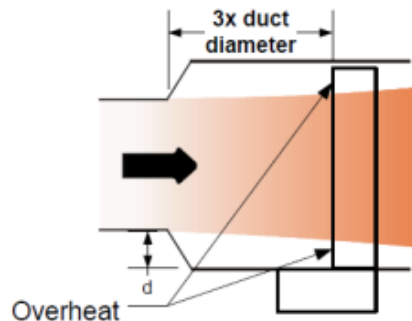
*Electric heater too close to filter.*



*Electric heater too close to elbow.*



*Electric heater too close to transition.*



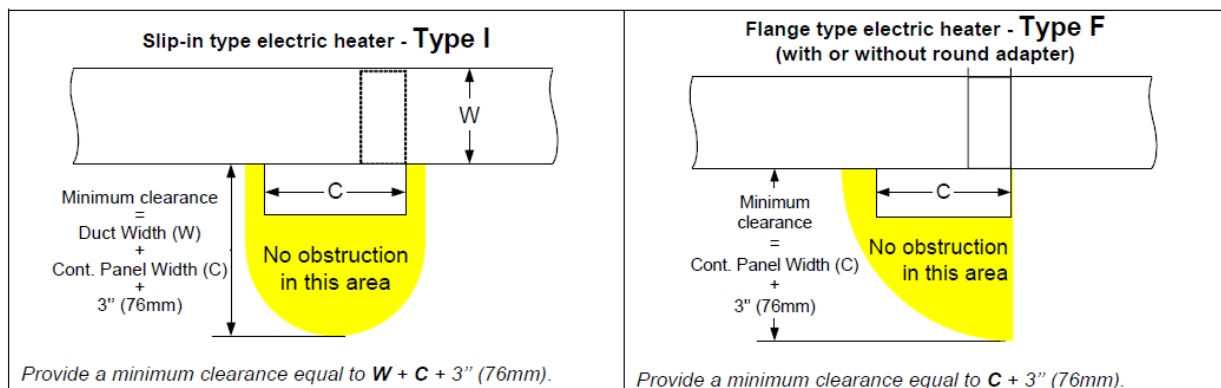
Many could be puzzled with our “**Zero Clearance Construction**” and the above mentioned conditions. Note that these are two different subjects. Zero clearance construction is one of our features stated on our Electric Heater catalog and documents. This simply means that there is no restriction on the distance **between combustible materials and the section of the duct housing of the heater or the heater itself**. All Nepronic heaters are designed and approved for Zero clearance construction. Having internal lining or insulation inside the duct could also have an effect and cause overheating. The automatic thermal cutout, known as the high limit is located on top of the frame above the heating element. Installers at times tend to cut the lining/insulation inside the duct to insert the electric heater. In a case like this, the thermal cutout will not be fully exposed to the airstream and could cause the heater to trip due to overheating. With our **Zero clearance construction**, the heater can be inserted into the duct with internal lining.

For safety reasons, it is also important to have a clearance to access the heater’s control panel. As per electrical code, the below conditions must be respected, leaving enough free space with no obstructions.

**2.2 Minimum clearance to access control panel**



Caution, for safety reason, minimum clearance to access control panel should respect local electric code.



For more information, please check the installation instruction available on our website.