

RC electric duct heaters are factory assembled units consisting of a corrosion resistant steel frame, Open coil / tubular finned heating elements and a control box. These duct heaters are fabricated in a wide Range standards and custom design for heating and controls/ safety modes. These duct heaters can be Viewed / inspected upon in our factory and are complete units, ready for installation on delivery.

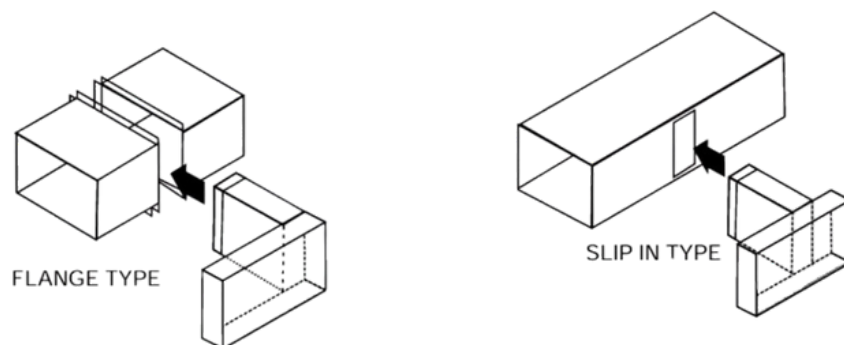
**Safety** – Because the heater coil is completely encased in a grounded metal sheath, shock hazard due to accidental contact are eliminated. Heaters installed close to a register, grille or access door should either use finned tubular construction or an open coil unit with a protective screen.

**Serviceability** – In the unlikely event of element failure, it is easier to replace individually mounted finned tubular elements than open coil elements.

**Mechanical Stability** – Finned tubular elements are more rugged than open coils. They will withstand more physical abuse.

**Airflow Uniformity** – Finned tubular duct heaters tend to be more tolerant of nonuniform airflow conditions. Heat conducted along the element length reduces or eliminates hot spots resulting from nonuniform airflow. With open coil heaters, it may be necessary to use a pressure plate to compensate for bad airflow conditions.

**Controllability** – Because of their relatively high thermal inertia, finned tubular elements controlled with on/off thermostat systems provide more precise control. Furthermore, finned tubular elements cycle at a reduced rate, thus increasing the life of the power components such as contactors. Nevertheless, when SCR controllers are used, equally precise control can be obtained with either construction



### Calculating KW Requirements

Once the volume of airflow (CFM – in cubic feet per minute) and the required temperature rise ( $\Delta T$  – in degrees F) through the heater are known, the required kilowatt rating (KW) of the heater can be determined from the formula:

$$KW = \frac{CFM \times T\Delta^{\circ}F}{3193}$$

$$KW = \frac{(\text{Liters/Second} \times T\Delta^{\circ}C)}{837}$$

Where the desired heating capacity in BTU/Hr is known the KW is determined from the following formula:

$$KW = \frac{BTU/Hr}{3412}$$