

S-SERIES SELECTION/PLACEMENT/INSTALLATION ROOF TOP MOUNTING

Cambridge S-Series heaters can be installed in a variety of configurations. When considering industrial retrofit projects, there are several considerations that should be taken into account.

ROOF TOP UNITS

Roof top units are an excellent choice for many warehouse applications. They do not require any floor space. Typically, the units are mounted in shipping/receiving areas to address the cold air gain at the dock doors.

For manufacturing areas, roof top units often are not a viable option for industrial retrofit projects due to the presence overhead cranes. In addition, adding more holes in the roof and therefore additional opportunities for roof leaks is not very attractive to many plant engineers and maintenance superintendents.

The heater may have an external gas train. If so, the gas train should be positioned such that the equivalent distance from the outlet of the gas train to the inlet of the heater does not exceed 4 feet. Usually the best location is to place the gas train perpendicular to the heater, so it can be piped directly into the heater's gas inlet, as illustrated in the S-Series Technical Manual.

Consideration must be given to adding this additional load onto the roof structure. A structural engineer's services may be needed to determine whether the roof can handle the additional loading and what supplemental structural support may be needed. If additional support is not installed, then the heater's weight may cause the roof to sag. Puddles may then form under the rain hood. Waterspouts can form when the heater is operating. The water can be ingested into the heater and discharge into the heated space, causing potential problems.

Installing the discharge ductwork for a roof top unit is a potential problem if overhead cranes are present. Accessing the ductwork via a man lift or scissors lift will entail entering crane space. This usually means that the work cannot take place until the crane(s) is locked out or other measures (such as blocking the crane) are taken. Locking out of cranes may seriously affect production, so it should not be taken lightly. This will need to be covered in the safe work plan.

Since plant production can be affected, scheduling the installation for the installing crew can be problematic. Although the installing crew may be coordinating closely with the production crew, there may still be a potential for cancelling the scheduled crane lock out due to a last minute change of the production schedule. Another potential problem is coordinating the work with the area supervisor. If the supervisor doesn't communicate the need for a crane lock out with the floor personnel, then the installation work may be delayed or postponed, resulting in additional for the installation.

Installing the ductwork may require barricading the floor area where the installing crew is working. Plant vehicle & pedestrian control must be considered. Flag men may be required. These aspects will need to be covered in the safe work plan.

Another potential problem can be a requirement for roof permits to access the roof. This can vary from a verbal discussion, to completing a roof permit form, to having a structural engineer review the planned route prior to access. If roof work is planned, it will need to be considered in the safe work plan. This will affect not only the installation of the heater but also all future service work.

Below are installations of roof top units that were installed several years ago. As always with retrofit installations, final mounting configuration and placement depends on “what the building gives you” with which to work.

