



Infrared comfort heaters are compact heating devices that are capable of radiating heat to a space without ventilation or forced-air flow. These highly flexible heaters are suitable for a wide range of indoor and outdoor applications.

HOW IT WORKS

Every infrared comfort heater contains a heat source such as a quartz lamp, quartz tube, or metal rod that emits infrared radiation when electricity is supplied to it. Reflectors focus the infrared rays directly toward the objects and occupants in the space. Additionally, nearby surfaces such as floors and walls reradiate the heat for increased occupant comfort. These heaters are generally controlled by a simple on-off switch, but some devices allow the heat intensity to be adjusted using an input controller.

DID YOU KNOW?

Un-flued fossil fuel furnaces release water vapor, which can cause dampness and mold inside a building. In contrast, infrared heaters eliminate localized mold and dampness, and this is a major benefit for them.

APPLICATIONS

For outdoor use, infrared heaters work well for high, open spaces that have constant air exchange due to open doors. For indoor use they are available in several designs to function efficiently in different spaces. Typical applications are:

Outdoors

- Open truck loading bays
- Garages
- Outdoor seating at restaurants
- Tennis courts
- Construction sites

Indoors

- Warehouses
- Lobbies
- Churches
- Hospital recovery rooms
- Baggage rooms

BENEFITS

Efficient heating. Infrared heaters convert 100% of electricity to heat (primarily radiant but the remainder convection near the heater). They directly heat the objects and the occupants in the space; no energy is lost to heated air that may be inaccessible to occupants. Also, a building owner can heat selected portions of the space rather than heating the entire building. Lower energy use means lower energy bills for the customer.

Instant heating. Infrared heaters, primarily those with quartz lamps, turn on and radiate heat instantly. Restaurants, for instance, can start them several minutes before opening. In contrast, a forced-air system requires time for heat to build up in a space since hot air must travel long distances to reach the vents.

Portability. Most infrared heaters are portable to some extent, i.e., they can be moved from room to room. Certain infrared heater models are designed with portability as the prime distinguishing factor.

Low maintenance. Infrared heaters are like electric resistance heaters in that they have no moving parts such as motors or compressors. The primary required maintenance is periodic cleaning of the reflectors.

Flexible installation. Infrared heaters are available in a variety of sizes and shapes. They allow for creative installation on the ceiling, walls, or floor depending on the aesthetics of the heated space.

LIMITATIONS

Safety issues. High-intensity infrared lamps installed close to the floor can pose a hazard to the eyes. The glare of shortwave infrared rays can be irritating if one looks directly at the lamp. This challenge can be mitigated by installing the equipment sufficiently higher, on the walls or the ceiling.

Health issues. The direct heat rays that fall on human skin can cause a burning sensation, which can in turn reduce blood pressure and cause fainting. Because heat output decreases with distance, placement higher on walls or the ceiling can mitigate this challenge. Furthermore, occupants should not sit or stand too close to these lamps.

Quick loss of heat. A room loses heat the moment an infrared heater is turned off. The heater needs to stay on continuously to keep personnel comfortable.

Not meant for large areas. Infrared heaters are intended to be used as spot heaters, such as for a small portion of a space. To heat a large area would require a series of infrared comfort heaters strategically positioned, which may not be as cost-efficient as a traditional HVAC system.