Industrial Warm Air Heating Selection Guide

Direct-Fired vs Indirect-Fired · Keywarm One-Page Guide

Key Question

Warm air heating selection should not be based solely on installed heating capacity. The first step is to determine whether combustion products can enter the supply air, whether the system is required to provide ventilation or make-up air, and whether the primary heat loss comes from recovery after frequent door opening.

Type	More Suitable Applications	Key Advantages	Boundaries / Misuse
Direct-Fired Warm Air Heater	Warehouses, logistics centers, loading docks (high air exchange rate)	Fast response, close to 100% thermal efficiency	Requires ventilation; not suitable for areas with long-term occupancy
Indirect-Fired Warm Air Heater	Factories, workshops, service centers; make-up air heating	Clean supply air; can be integrated with HVAC systems	Higher initial investment; low ROI if only used for door heat-loss recovery

Quick Selection Rules

• Frequent door opening / fast temperature recovery required → Direct-fired warm air heating
• Used for ventilation or make-up air heating → Indirect-fired warm air heating
• Long-term occupancy with higher indoor air quality requirements → Indirect-fired warm air heating
• High-bay spaces → Warm air heating + radiant heating / destratification fans

Common Mistakes

• Using direct-fired heaters in enclosed factories → Compliance risk
• Using indirect-fired heaters only for door heat-loss recovery → Poor ROI
• Using only warm air heating in very high spaces → Air stratification problems

Keywarm Engineering Commitment

Warm air heating is fundamentally a system-level decision. Keywarm evaluates ventilation requirements, indoor air quality expectations, and heat-loss behavior to determine the appropriate solution between direct-fired and indirect-fired systems. When necessary, radiant heating systems or destratification solutions will also be integrated.