HENGSEN REFRIGERATION · TECHNICAL CENTER

Air, electric and hot-gas defrost compared

Document No.	CX-TC-004	Revision	A/0
Issue date	2026-06-21	Category	Defrost
Applies to	Room evaporators in freezer and chiller rooms	Issued by	Engineering Department

1. The three cycles

Cycle	How it works	Works at	Energy
Air (off-cycle)	fans run while the compressor rests	above about +2 °C	zero extra
Electric	heaters inside the coil, timed or demand-controlled	any temperature	1–3 % of total energy
Hot-gas	discharge gas routed through the coil	any temperature	standard on larger remote systems; needs valve station + receiver

2. Setting the interval

Start from four defrost pulses per day on a freezer, watch the coil sensor and the drain line for one full loading cycle, then adjust. Demand-controlled defrost (defrost only when the coil is actually iced) cuts the count to two or three and saves both energy and product temperature stability.

3. Drain-line details that matter

- Trap the drain line after the evaporator — without a trap, warm humid air short-circuits back into the room.
- Heat the drain line (trace cable) for the first metre outside the room in freezer applications.
- Give the line a continuous fall of at least 1 cm per metre; a flat line is an ice plug waiting to happen.