



Up to 84% Energy Savings...



...Using Industry Leading Technologies

With industry-best efficiencies up to 20.6 IEER, Rebel delivers unprecedented energy savings of **84%** above ASHRAE's 90.1 efficiency standard, allowing for complete system payback in as little as two years.

Rebel commercial rooftop systems are the ideal solution for any low-rise commercial building like schools, retail and dedicated outdoor air systems, and incorporate technologies that are at the forefront of the HVAC industry:

- VAV operation from 3-15 tons
- Variable speed heat pump with hybrid heat options
- Variable speed ECM motors on all fans
- Variable speed inverter scroll compressor
- Electronic expansion valves, ultra-quiet composite condenser fans, and more!

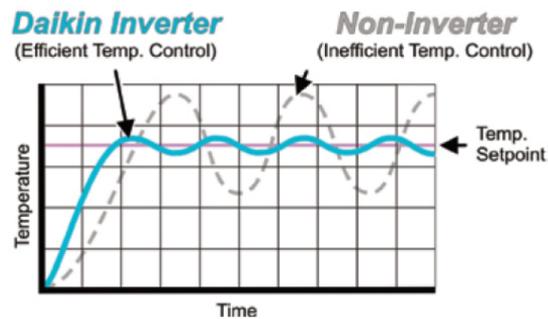
Variable Speed Inverter Scroll Compressors



Daikin compressors provide industry-leading energy efficiencies unmatched by typical fixed speed, digital scroll, or 2-stage scroll compressors. Typical compressors cycle excessively resulting in locked rotor current spikes, increased compressor wear, temperature fluctuations, erratic economizer control and over-cooling. The Daikin compressor modulates, delivering only the required energy to satisfy space conditions, providing you with exceptional energy savings, temperature control, acoustics, and quick payback.

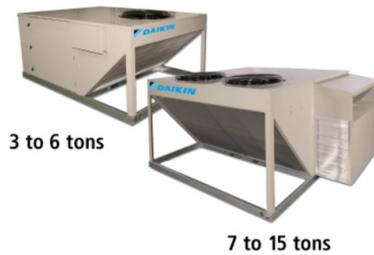
Advantages of Variable Speed Daikin Inverter Scroll Compressors

- Allows for complete system payback in as little as two years
- No compressor cycling or voltage peaks
- No temperature fluctuations
- Quiet operation



Rebel 3-15 Ton Rooftop Systems for Low-Rise Applications

STEP 1 Choose a Rebel Unit for Stand-Alone or 100% Outdoor Air Ventilation



1. Cooling or cooling with hybrid heat
 - a. Variable air volume, single-zone VAV, constant air volume
 - b. Heat pump, gas, electric, or hot water
 - c. Economizer and powered exhaust
2. 100% outdoor air

Offered with the above:

- Stand-alone controls (complete with time clock and comfort controls) or
- Network communication to LONMARK®, BACnet®, McQuay VAV, or Daikin VRV control systems

STEP 2 For 100% Outdoor Air Applications – Choose Terminal Units



Rebel™ Commercial Packaged Rooftop Systems
3-15 Tons
with Advanced Daikin Technologies

Rebel™ Features and Benefits



1] *Variable Speed Inverter Scroll Compressor

- Modulating capacity allows optimum comfort control
- Best part-load efficiency in the industry
- Dependable and quiet operation
- Superior discharge air temperature control

2] *Variable Speed Heat Pump

- More economical than gas heat during winter
- Hybrid backup heat options for extreme cold weather and defrost operation
- Modulating capacity delivers industry's best heat pump comfort control

3] Variable Speed ECM Motors on All Fans

- Greatly increases system reliability and efficiency, eliminates belts and bearing setscrews
- Saves energy at light load
- Super-efficient magnetic rotor
- Built-in inverter eliminates control panel heat

4] Electronic Expansion Valves

- Optimum control of superheat
- Protects compressor from liquid refrigerant
- Increases efficiency by safely lowering head pressure

5] MicroTech® III Unit Controller

- Open Choices™ feature provides interoperability with BACnet® or LONMARK® communications for easy integration with BAS
- Unit diagnostics for easy serviceability
- Outdoor air and humidity control logic maintains minimum fresh air intake and optimum humidity levels

6] Seamless Top Panel

- Seamless construction prohibits leaks

7] Hinged Access Doors

- 1/4 turn latch doors provide easy access to system components for maintenance and service

8] Full Perimeter, Forkable Base Rail

- Allows easy maneuvering and installation

9] Hybrid Backup Heat Options

- Gas furnace with turndowns as high as 10:1
- Electric heat with SCR for precise temperature control
- Hot water heat

10] *Ultra-Quiet Condenser Fans

- One-piece composite blade design for noiseless operation
- UV and corrosion resistant
- Variable speed ECM motors provide tremendous energy savings at lower ambient

11] Double Wall Foam Cabinet

- No exposed insulation to the air stream
- Better thermal seal than fiberglass

12] Durable Construction

- Foam-injected panels with an R-value of 7
- Increased insulation value improves system efficiency
- Double-wall construction increases indoor air quality

13] 100% Outdoor Air Option

- Low leak dampers
- Double-wall blades, edge and jam seals
- Modulating 100° temperature rise furnace
- Modulating compressor
- Hot gas reheat

14] Dehumidification Control

- Hot gas used for "free" reheat
- Tight humidity control without over cooling the space
- Modulating hot gas reheat coil

15] Stainless Steel, Double-Sloped Drain Pan

- Prevents corrosion
- Avoids standing water for high IAQ

16] Low Radiated Noise

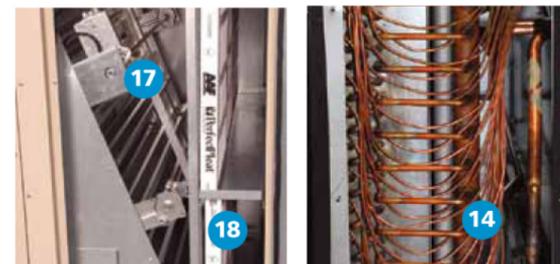
- Enclosed compressor
- Quiet outdoor fan
- All motors slow down at part-load

17] Economizer

- Provides free cooling when outdoor conditions are suitable
- Provides fresh air to meet local requirements
- Integrated economizer operating with mechanical cooling
- Optional demand control ventilation for increased system efficiency

18] 2" and 4" Slide-Out Filter Racks

- Easy filter change outs for quick serviceability



Rooftop Efficiencies

Rooftop efficiency is measured by two rating metrics – IEER (integrated energy efficiency ratio) for part-load operation where equipment operates at (in cooling mode) 98% of the time, and EER (energy efficiency rating) for full-load operation where equipment operates at 2% of the time. It makes sense then, that customers should be most concerned about part-load efficiencies that occur during 98% of the equipment's operating time. This is where Rebel rooftop units excel, providing unprecedented and unmatched IEER rooftop ratings with up to **84%** more total energy savings than ASHRAE's 90.1 efficiency standard! And what of the remaining 2% full load operation? Rebel addresses that too, providing leading EER's that surpass ASHRAE 90.1 by up to 14%! Rebel is the first unit to meet the DOE's Rooftop Unit Challenge specification for energy savings and performance, and is one of the industry's most energy efficient rooftop units available. Rebel is ideal for any low-rise commercial building application like schools, offices, or retail, and is configurable for 100% dedicated outdoor air, VAV, Single-Zone VAV, or CAV systems.

