



# Rebel<sup>®</sup> Commercial Packaged Rooftop Systems

with Advanced Technologies

Model DPS  
3 to 28 tons



3 - 28 tons

# Rebel features and benefits



## 1] Variable speed inverter scroll compressor

- Optimum comfort via modulating capacity control
- Exceptional part-load efficiencies
- Enclosed for quiet operation
- Improves comfort with outstanding discharge air temperature control

## 2] Variable speed heat pump

- More economical than gas heat during winter
- Back-up heat options for extreme cold weather and defrost operation
- Greater comfort control via modulating capacity

## 3] Direct-drive variable speed ECM or VFD fan motors

- Increase system reliability and efficiency by eliminating belts and bearing setscrews
- Increase energy savings at light-load conditions
- Superior fan efficiencies with backward-inclined design

## 4] MicroTech® unit controller

- Simplified BAS integration using Open Choices™ feature with BACnet® or LONMARK® communications
- Improved serviceability with intuitive unit diagnostics
- DIII gateway for iTouch VRV controls

## 5] Electronic expansion valves

- Deliver optimum control of superheat
- Prevent liquid refrigerant compressor slugging
- Increase efficiencies by lowering head pressure

## 6] Seamless top panel and hinges access door

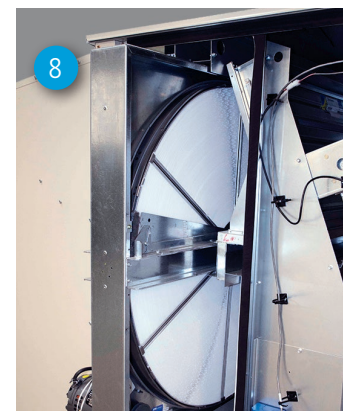
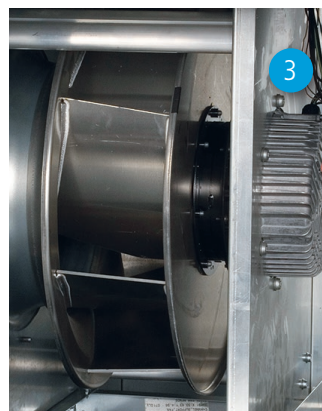
- Leak-free construction
- Easy service and maintenance access using 1/4-turn latch doors

## 7] 100% outdoor air option

- Low-leak dampers, double-wall blades, edge, and jam seals improve energy savings
- Efficient modulating compressor, hot gas reheat, and 100° temperature rise furnace

## 8] Energy recovery wheel

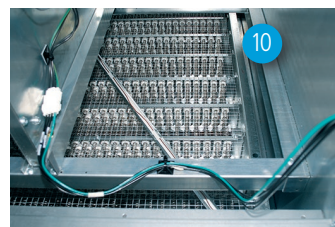
- Recovers exhausted heat and moisture energy
- Increases energy savings up to 40% more
- Quickens service via unitary construction
- Reduces commissioning time with single-point power connect
- Simplifies operation with integrated unit control





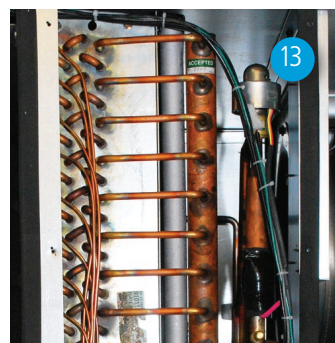
9] 2" and 4" slide-out filter racks

- Quick serviceability with easy filter change-outs
- MERV 8 prefilters, MERV 11 - 14 after-filters
- 4" factory-installed filters (16 - 28 tons)



10] Supplemental heat

- Gas furnace with 10:1 turn-down
- Electric heat with SCR
- Hot water heat



11] Double-wall foam cabinet

- Provides for fiber-free air stream
- Energy efficient R7 and R13 foam-injected panels



12] Low audible condenser fans

- Low ambient energy savings with variable speed ECM motor(s)
- Fully modulating head pressure control



13] Dehumidification control

- Free heat using modulating hot gas reheat
- Tight humidity control without over-cooling the space
- Maintains desired indoor dew point temperatures

14] Low radiated noise

- Noise dampening enclosed compressor
- Quiet ECM or VFD fan motors
- Reduced motor speed and harmonics at part-load

15] Stainless steel, double-sloped drain pan

- Prevents corrosion and standing water for higher IAQ
- Overflow protection switch (16 - 28 tons)

16] Economizer

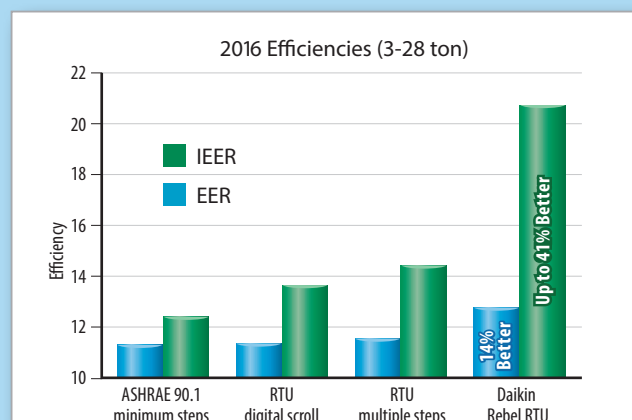
- Free cooling when outdoor conditions prevail
- Meets local requirements for fresh air provision
- Integrates operation with mechanical cooling
- Increases efficiency with demand control ventilation
- Superior ventilation control with outdoor air monitor

17] Outdoor air damper control

- Building pressure over-ride automatically opens dampers
- Monitor ensures precision airflow
- Efficient integrated operation with mechanical cooling
- Maintains ventilation with demand control

## Rooftop efficiencies

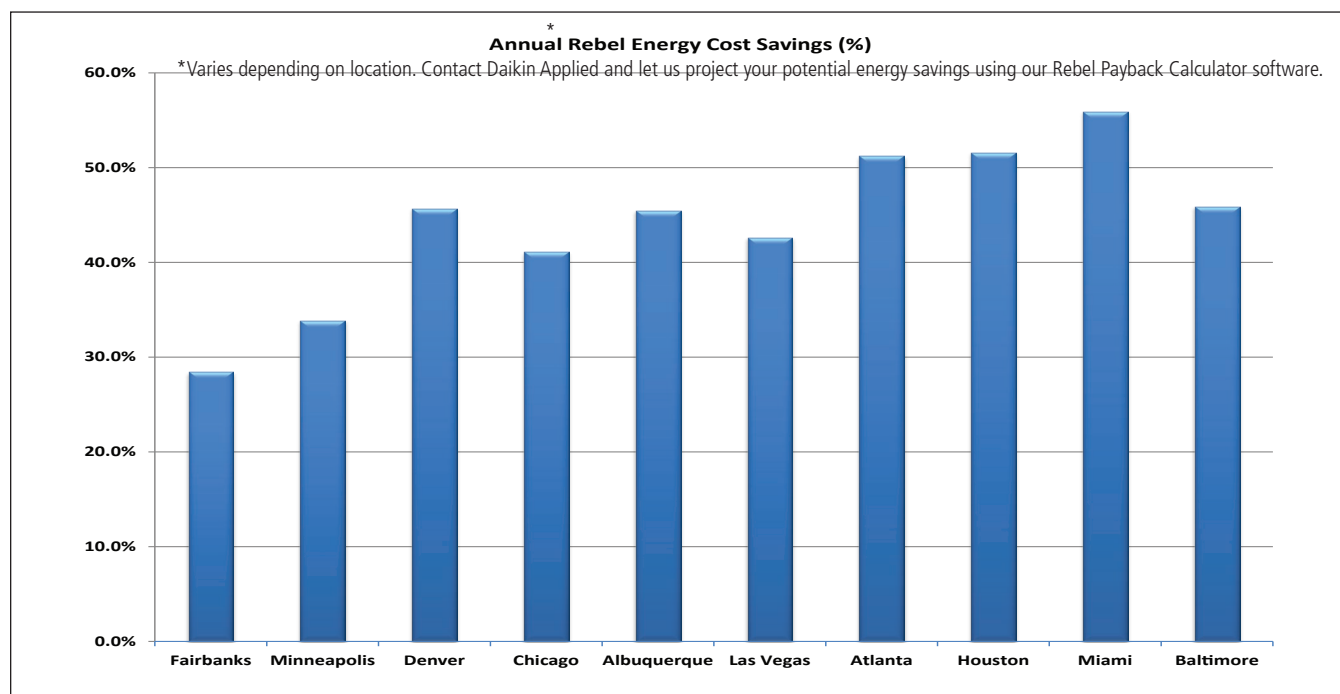
Rooftop efficiency is measured by two rating metrics—IEER (integrated energy efficiency ratio) for part-load operation where equipment operates (in cooling mode) 98% of the time, and EER (energy efficiency rating) for full-load operation where equipment operates 2% of the time. Part-load efficiencies—98% of equipment operating time—are the best measure of efficiency. This is where Rebel rooftop units excel, providing superior IEER rooftop ratings with up to 95% 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 EERs that surpass ASHRAE 90.1 by up to 14%. Rebel is the first unit to meet and exceed DOE's Rooftop Unit Challenge specification for energy savings and performance, and is one of the industry's most energy efficient rooftops.





# Save thousands in energy costs every year

To illustrate yearly percentages of Rebel's energy cost savings, the graph below shows a 12-ton Rebel single-zone VAV gas heat unit versus an ASHRAE 90.1 2013 compliant CAV gas heat unit, set in a 7-day retail application in climates where annual energy costs often exceed \$5,000.



It's easy to see Rebel saves...and saves significantly. Rebel gives building owners the lowest total cost of ownership for any commercial rooftop system, with complete energy-saving payback in as little as two years. Call your Daikin Representative to model your potential savings using our enhanced Rebel payback calculator.

## Get connected

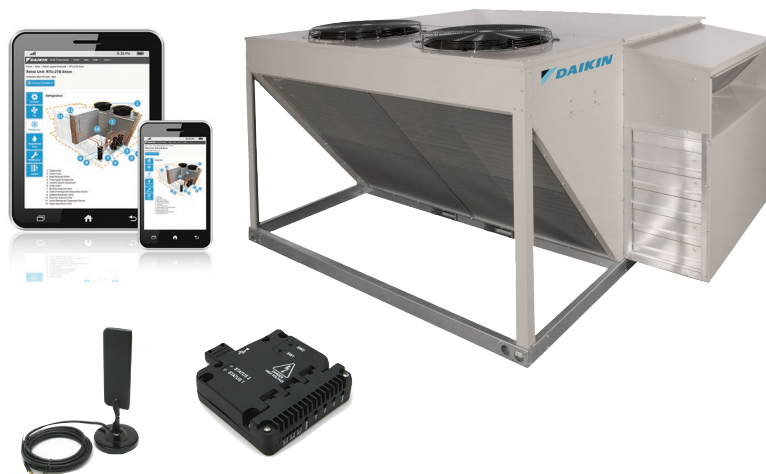
Smart businesses run on SiteLine™ Building Controls

Gain effortless insight & optimal performance for your HVAC equipment

Daikin makes building automation simpler, more effective and easier to scale than any other controls solution on the market today.

Whether you're overseeing a complex HVAC ecosystem of equipment and buildings or monitoring standalone units, SiteLine™ Building Controls and Service Solutions will help you create comfortable and sustainable environments where tenants work and live.

Daikin's scalable, cloud-based building automation systems (BAS) instantly and easily optimize the performance of any HVAC ecosystem—including other makes and existing building systems. Plus, our real-time analytics provide effortless insight and enable optimization for energy, indoor air quality (IAQ) and sustainability.





# Capitalize with 95% more energy savings



If you are a commercial building owner, facility manager, or specifying engineer with demanding rooftop performance criteria, you need the best performance, period. Choose a Daikin Rebel rooftop system and you'll experience outstanding energy efficiency, unwavering performance, low-audible sound, superior comfort control and dehumidification, and substantial cost-savings.

Producing an astounding 20.6 IEER and 95% energy savings above ASHRAE's 90.1 standard, Rebel generates efficiencies previously unachievable in a commercial rooftop system.

Rebel's exceptional performance makes it ideal for any low-rise commercial building like schools, offices, grocery, or retail stores, as well as 100% outdoor air, VAV with duct pressure control, single-zone VAV, and VRV applications.

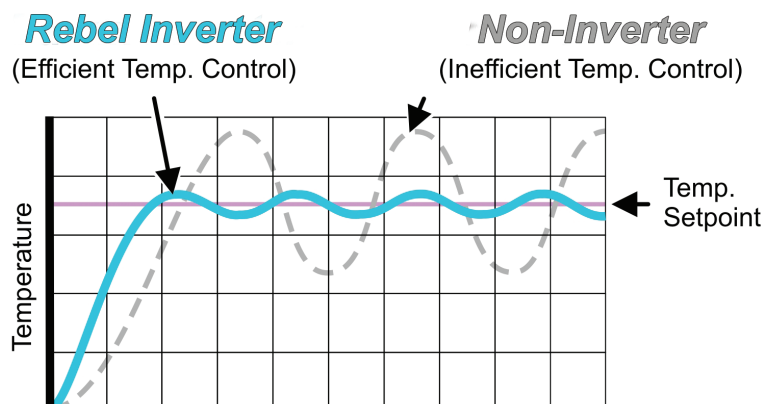
## Advanced technologies

To meet and exceed demanding building performance criteria, Rebel integrates advanced HVAC technologies including:

- Variable speed inverter compressor
- Variable speed heat pump with supplemental gas, electric, hot water, or modulating heat
- Direct-drive fans with variable speed ECM or VFD motors
- Energy recovery wheel
- Outdoor air monitor
- Modulating hot gas reheat
- MicroTech® unit controller
- SiteLine™ Building Controls

## Inverter compressor benefits

At the core of Rebel's advanced technologies is the inverter scroll compressor, which provides superior energy efficiencies and cost savings unmatched by typical fixed speed, digital scroll, or 2-stage scroll compressors. Non-inverter compressors cycle excessively resulting in locked rotor current spikes, increased compressor wear, temperature fluctuations, erratic economizer control, and over-cooling (see below). Conversely, inverter scroll compressors deliver only the required energy to satisfy space conditions, which provides exceptional energy savings, precise temperature control, ultra-quiet operation, and accelerated equipment payback.



# Choose a comprehensive system for optimum performance

## STEP 1

Select Rebel for stand-alone or application specific operation



1. Cooling only or cooling with supplement heat
  - a. VAV with duct pressure control or single-zone VAV
  - 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®, Daikin VAV, or Daikin VRV control systems and
- SiteLine™ Building Controls for 24/7 remote access to real-time data and your HVAC system

## STEP 2

Select from complementary Daikin products



Rebel Applied®  
Heating & Cooling  
20 to 52 tons



Maverick® II Heating & Cooling  
with Inverter Compressor  
26 to 75 tons



RoofPak® Heating & Cooling  
with Inverter Compressor  
45 to 150 tons



VAVs



VRVs  
with cassettes

## The industry leader in environmental solutions

Daikin Applied is committed to sustainable practices as part of our corporate culture. We believe it is the right thing to do for our customers, our community, the environment, and ourselves. As the global HVAC leader, Daikin Applied has a unique opportunity to make a difference in sustainable initiatives and to continue to lead the industry in environmental solutions.



For more information about our rooftop systems with advanced technologies, contact your local Daikin Applied sales office or visit [www.DaikinApplied.com](http://www.DaikinApplied.com) to find an office near you.