

REBEL APPLIED[®] DPSA/DHSA/DCSA

ROOFTOP SYSTEMS W/HEAT PUMP TECHNOLOGY AND
LOW-GWP R-32 REFRIGERANT



DHSA



DCSA



DPSA



- MODELS DPSA/DHSA/DCSA
- 20 TO 120 TONS COOLING (5,000 TO 45,000 CFM)
- 30 TO 68 TONS ASHP
- R-32 REFRIGERANT

ROOFTOP PERFORMANCE THAT RISES ABOVE



MODEL DHSA
HEAT PUMP SYSTEM

Designed with low-GWP (global warming potential) R-32 refrigerant, new **Rebel Applied** direct expansion (DX) heat pump systems (model DHSA) feature class-leading heating capacity at low ambient temperatures, enhanced electrical flexibility and an expanded application range up to 68 tons for dedicated outdoor air solutions.

Rebel Applied's DX and heat pump capability will revolutionize your business's climate control need with precise temperature control, exceptional efficiency, and cost savings, regardless of weather conditions. Built to endure demanding commercial environments, Rebel Applied systems boast robust construction and require minimal maintenance. They prioritize sustainability by minimizing environmental impact through advanced R-32 refrigerant technology that not only reduces carbon footprint, but also increases your HVAC system efficiency. Coupled with state-of-the-art control options that effortlessly monitor and adjust energy settings, Rebel Applied rooftops with new DX heat pump technology will elevate your building's climate control capabilities for years to come with uncompromised reliability and astounding cost-saving performance.

CERTIFICATIONS



PERFORMANCE

- Heating and cooling
- 20-120 tons
- 5,000-45,000 cfm
- R-32 refrigerant
- Up to 20.0 IEER

FEATURES

- > R-13, double-wall foam, integral thermal break
- > Low-leak casing up to 6" of static pressure
- > 37% shorter, 30% lighter than legacy rooftops
- > Modular construction simplifies retrofits

LINKS:



Video



Installation &
Operation Manual

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Environmentally Friendly

Rebel Applied's heat pump technology uses electricity to move heat, rather than generating heat directly. This results in lower carbon emissions and a more environmentally friendly heating and cooling solution for various climate regions and seasons. So much so, that many government financial incentives are available to encourage adoption of the technology.

The Rebel Applied heat pump system utilizes advanced variable speed compressors and electronic commutated motor fans to enable precise temperature control while minimizing energy waste to ensure optimal performance, sustainable operation, and lessen impact on your building's financial budget.



Low GWP Refrigerant

With a GWP of 675, R-32 contributes less to global warming potential compared to other refrigerants like R-410A. Because of R-32's excellent thermodynamic performance characteristics, an R-32 system could have up to 40% less charge than R-410A in certain applications, meaning you could reduce refrigerant usage in the equipment and potentially also reduce quantities leaking to the environment.

Being a pure, single-component refrigerant, R-32 can't lose its composition like a blended refrigerant and is well suited to retain its quality over time. It can be topped off and recharged in the field in both liquid and gas phases; because the composition doesn't change, it's easy to clean and reuse on site. R-32 can be reclaimed and recycled with a simple cleaning process, as compared to blends with less stable HFOs that must be distilled to their pure compounds and then remixed.

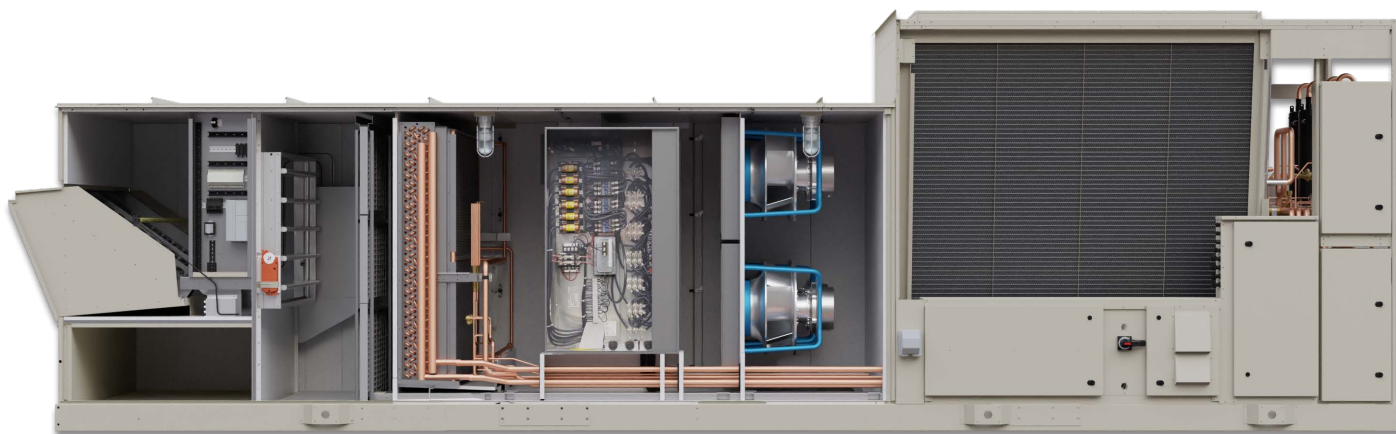
Industry-Leading Performance

Surpassing competitors with an exceptional EER of 11.0 and Class 6 air leakage rating at +/-6 static pressure, Rebel Applied outperforms traditional HVAC systems, achieving optimum cooling performance while consuming significantly less energy. These impressive ratings translate into substantial cost savings for commercial and industrial establishments, making it an ideal choice for reducing carbon footprint and expenses.

In addition, Rebel Applied's 20.0 IEER showcases its ability to provide unparalleled energy efficiency across a wide range of operating conditions. By considering different load levels and outdoor temperatures, this advanced system ensures optimal performance while maintaining a minimal energy footprint. It's this versatility that makes Rebel Applied suitable for diverse applications — from small office spaces to large-scale commercial buildings.



11.0 **20.0**
EER IEER

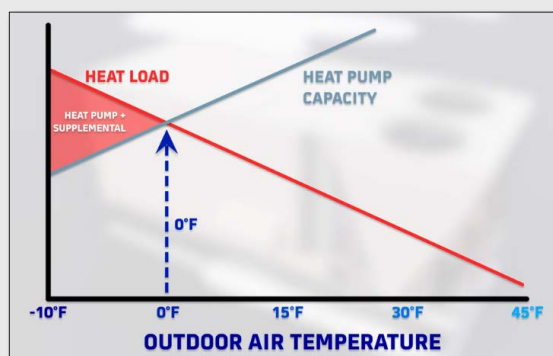


SUSTAINABLE HEAT PUMPS

HIGHER CAPACITIES FOR COLD CLIMATE APPLICATIONS

Direct Expansion (DX) Heat Pump

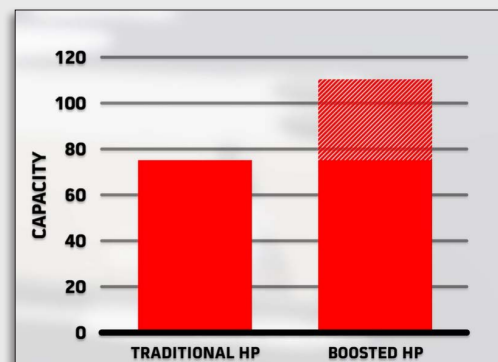
Rebel Applied's DX heat pumps are highly energy-efficient. They utilize a refrigeration cycle to transfer heat from one space to another, leveraging the temperature difference between the indoor and outdoor environments. This process requires significantly less energy compared to traditional heating systems, such as electric resistance heaters or fossil fuel-based furnaces. By consuming less energy, DX heat pumps help reduce greenhouse gas emissions and decrease the overall carbon footprint.



Conventional heat pump technology struggles to meet building loads in cold climates—often requiring large, inefficient electric heaters to provide supplemental heat. That's why we set out to develop a new generation of heat pump technology that delivers high output levels of performance in the coldest of conditions. As outdoor temperatures decrease, a typical building's heating demand increases. Simultaneously, as the outdoor temperature decreases, Rebel Applied's high output heat pump utilizes boost compression to increase heating capacity, with the remaining heat load to be supplemented by a gas or electric heat source.

Incorporating Rebel Applied's direct expansion heat pump operation yields a number of benefits favorable for HVAC design and comfort:

- High efficiency heat transfer to reduce operating cost
- Compact design for ease of installation
- Flexible zoning and individual temperature control
- Reduced noise levels for sound-sensitive applications
- Durable and reliable operation to withstand harsh weather



UNLIMITED PACKAGED CONFIGURABILITY AND **NEW** SPLIT CONDENSING SYSTEMS

With a groundbreaking 37% shorter and 20% lighter design, Rebel Applied units enable flexible installation in tight spaces, making them an ideal choice for both new installations and retrofit projects. This compactness not only saves valuable real estate but also simplifies logistics and installation, leading to reduced project timelines and costs. The reduced weight minimizes structural requirements, allowing for easier rooftop placement and reducing installation complexities.

MODEL DPSA PACKAGED SYSTEM



37% SHORTER

20% LIGHTER



NEW!
MODEL DCSA
SPLIT CONDENSING
SYSTEM

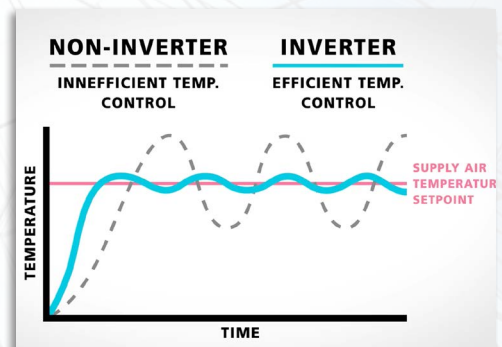
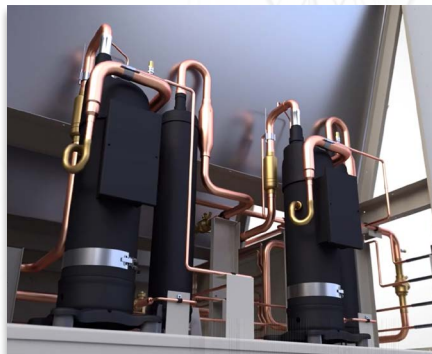
Easy Retrofit

Rebel Applied's cutting-edge modular solution offers unparalleled flexibility, allowing you to design around the exact application. No more compromises or settling for less than perfection. With Rebel Applied, you have the power to tailor your retrofit project precisely to your needs.

Experience ease of installation with our no-transition curb that ensures hassle-free integration into any setting, eliminating the need for costly modifications or extensive downtime. Seamlessly replace Daikin or other rooftop units with Rebel Applied, and witness the transformation firsthand.

Inverter Scroll Compressors

Daikin inverter compressors operate at variable speeds, making them energy-efficient. Unlike traditional compressors that operate at fixed speeds, inverter compressors can adjust their power output according to the cooling requirements. By continuously regulating the compressor's speed, they ensure that only the required amount of energy is consumed, resulting in significant energy savings. This not only lowers your electricity bills and reduces your carbon footprint, but it also delivers precision air temperature and humidity control, making it the environmentally friendly choice.



PUTTING THE IQ IN IAQ

Occupant and building material emissions are a common IAQ issue for buildings. CO₂ generated by space occupants is a common driver of ventilation rates and is one of the most common building contaminants to be managed. Off-gassing from furniture, building materials and the like introduces volatile organic compounds, like formaldehyde, into the air. Daikin technologies for building contaminants focus on ventilation that maximizes effective clean air changes in the space with the lowest energy consumption.

Sorbent Ventilation Technology (SVT)

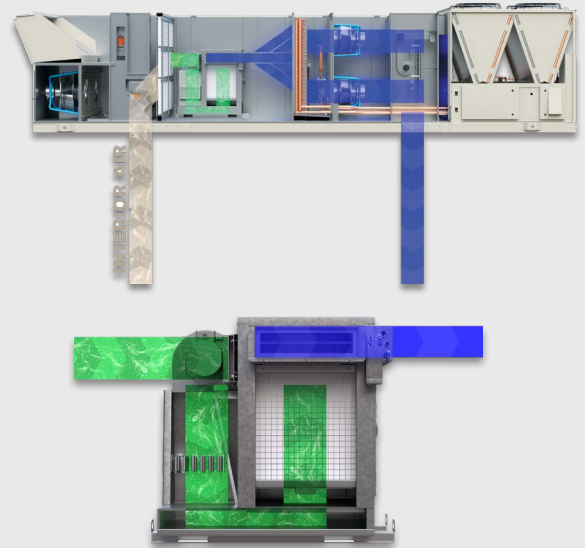
SVT is tested in accordance with ASHRAE 145.2 to remove CO₂, VOCs and other contaminants using sorbent filtration. When applied using ASHRAE 62.1's IAQ Procedure (IAQP), SVT provides cleaner air and reduces HVAC energy use by up to 30%.

Better Air: Promote better IAQ by removing building and occupancy related contaminants.

Retrofit Flexibility: Increase occupancy of served spaces without requiring increases in building infrastructure.

Energy Cost: Reduce outdoor air by up to 80% and save up to 30% in HVAC energy use.

Sustainability: By reducing HVAC energy use by up to 30%, SVT offers a sustainable decarbonization solution that reduces indirect carbon emissions while enhancing building air quality.



Pathogen Mitigation

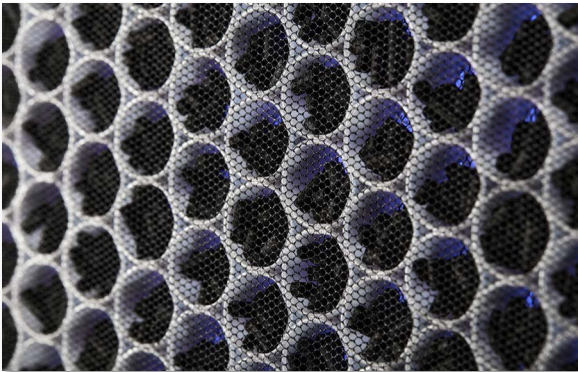


PHOTO-CATALYTIC-OXIDATION

UVGI photons react with a Titanium Oxide (TiO₂) mesh panel to create a powerful oxidizing agent called a hydroxyl radical. As the air passes through the UVGI powered catalyst, the radicals oxidize gaseous organic compounds such as odors and VOCs, reducing them to trace compounds, CO₂ and H₂O. PCO systems are ideal where ventilation loads are driven by non-occupancy related emissions like casinos, airports, and office buildings.

FILTRATION

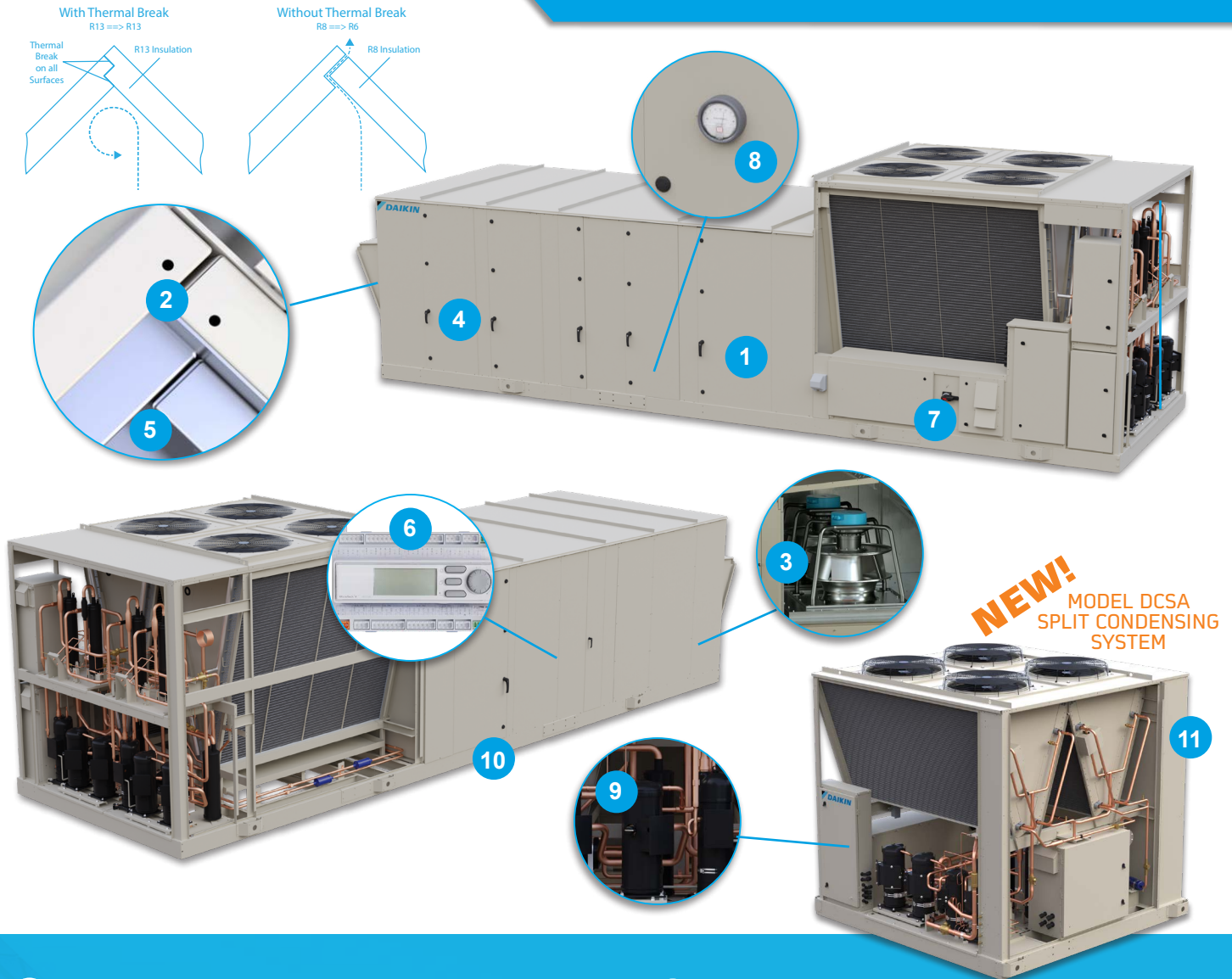
Rebel Applied has configurable filtration with cartridge filters up to MERV 16 and HEPA final filters. High efficiency filtration is the number one way to reduce infection risk of airborne pathogens.



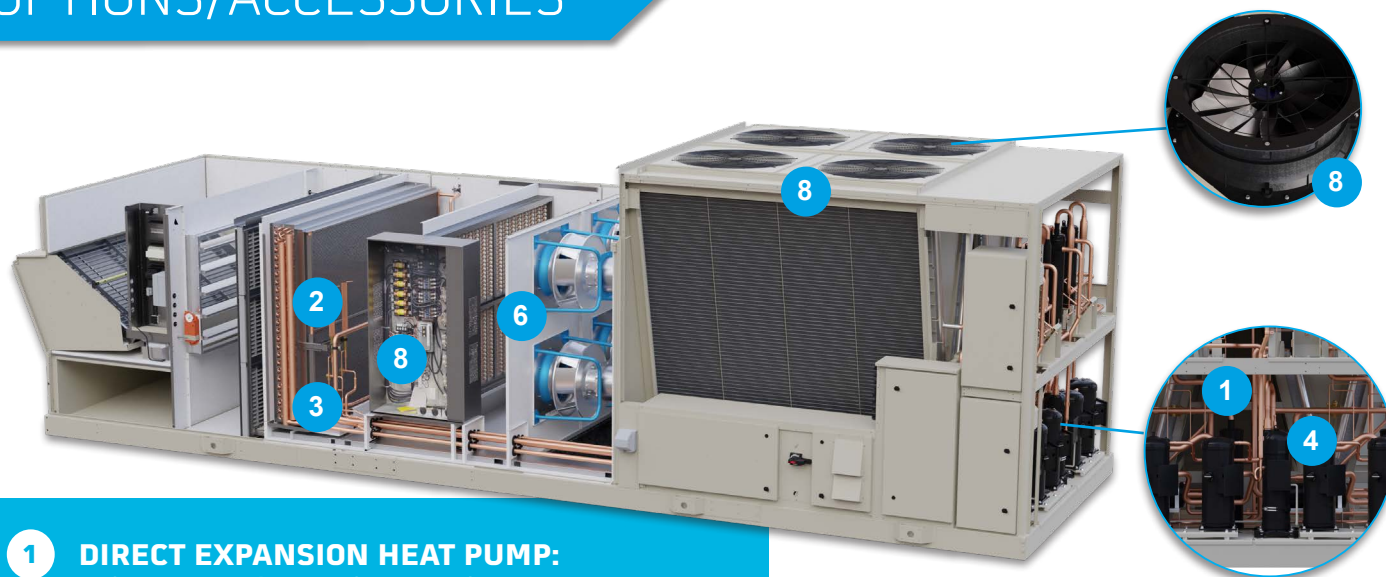
ULTRA-VIOLET GERMICIDAL IRRADIATION

Factory-mounted UV lights are available in coil cleaning intensity to keep coils clean of harmful microbial growth or airstream disinfection intensity to deactivate airborne pathogens as they pass through the air tunnel.





- 1 R-13 CABINETRY:** Double-wall foam reduces operational costs and improves IAQ for applications up to 8" of static pressure.
- 2 THERMAL BREAKS:** Eliminate energy-robbing direct conduction paths with class-exclusive air leakage of <0.5% at design air flow and static pressure.
- 3 RETURN AIR FANS:** EC motor technology with variable speed control increases energy savings and efficiencies.
- 4 1/4 TURN ACCESS DOORS:** Piano-hinged doors with single lockable handles for fast service.
- 5 GALVANIZED LINER:** Smooths air flow, reduces resistance and pressure drops to increase efficiency.
- 6 MICRITECH® CONTROLS:** Seamless communication with existing BAS, precise temperature and humidity control.
- 7 POWER BLOCK:** Configurable to match electrical requirements, single or dual-point power with disconnect.
- 8 DIRTY FILTER SWITCH:** Detects restricted air flow that negatively impacts energy efficiency, indoor air quality, and operation of the system.
- 9 INVERTER SCROLL COMPRESSORS:** Deliver superior temperature and humidity control with reduced operating noise and carbon footprint resulting in significant energy savings.
- 10 CONFIGURABLE DESIGN:** Eliminate transition curbs and optimize serviceability and access with 4" incremental lengths that simplify retrofit applications.
- 11 SPLIT CONDENSING SYSTEM:** Pair with Daikin air handlers for enhanced R-32 efficiency; allows up to 150 feet of piping to air handler.



1 DIRECT EXPANSION HEAT PUMP: Refrigerant cycle transfers heat from the outdoor air to the indoor space, requiring less electricity to generate heat or cool air.

ALTERNATING CIRCUIT DEFROST: Allows system to provide net neutral air during heat pump defrost cycle.

2 COOLING COILS: 4 or 6-row, blow-through, drawthrough and extended configurations, corrosion protection for improved IAQ.

3 A2L LEAK SENSOR: Detects leaked refrigerant in the air and can trigger alarms or alerts to notify personnel. Also available on model DCSA.

4 COOLING MODULATION: Staged compressors, staged control, variable speed control, 2-way, 3-way or no control valve for chilled water applications.

5 REHEAT: Hot gas reheat or liquid subcool reheat + HGRH allow for precise temperature control and energy savings for individual zones.

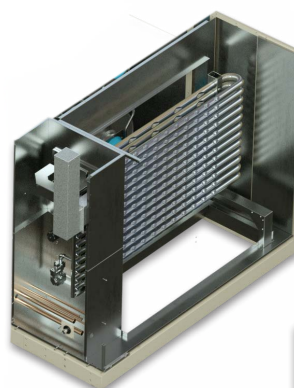
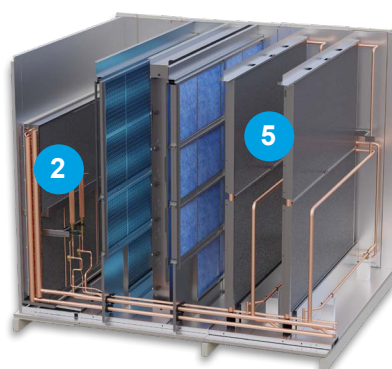
6 SVT: Removes contaminants, reduces outdoor air up to 80%, saves up to 30% in energy use.

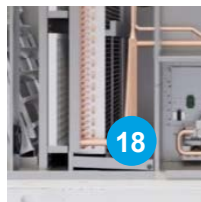
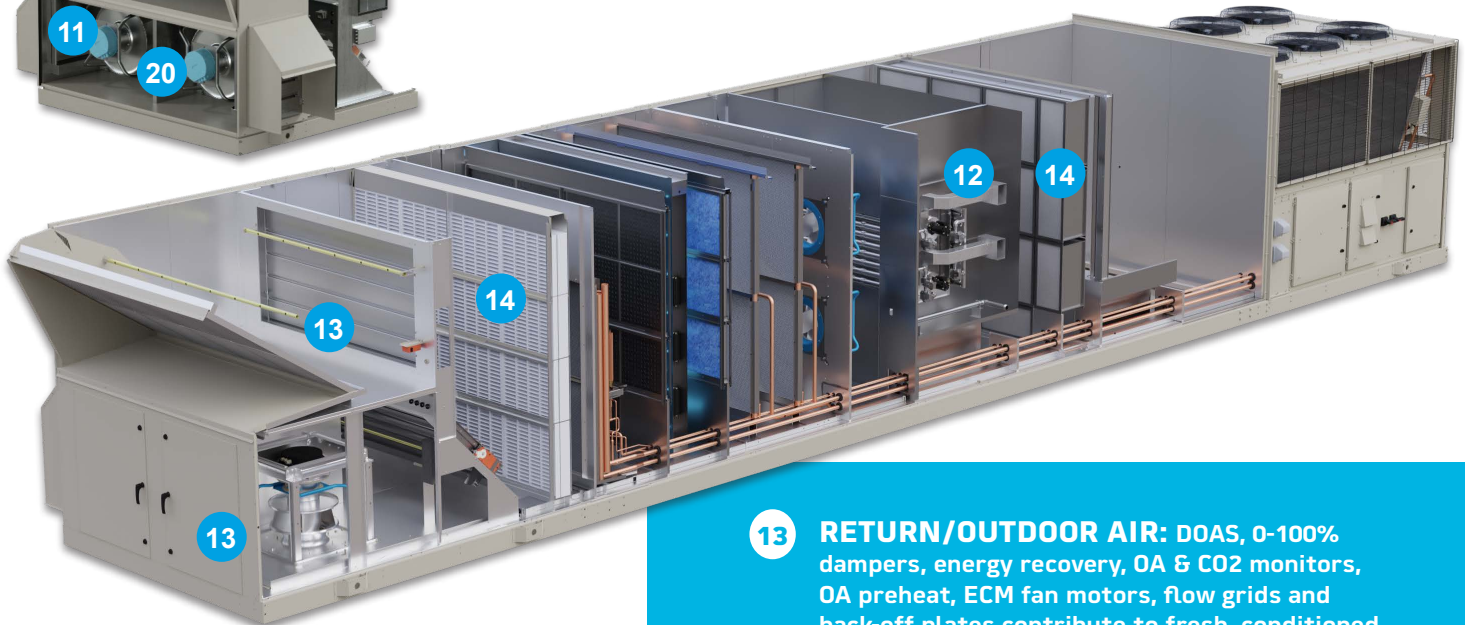
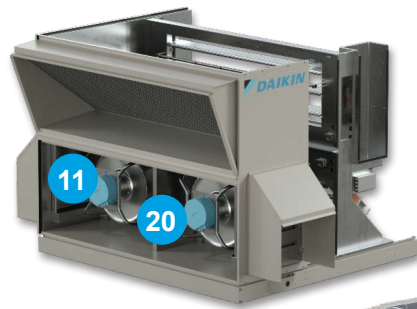
7 DDPL/ECM FAN ARRAY: 2, 4 or 6 fan configuration provide redundancy and variable speeds to reduce energy use and lower operating costs.

8 CONDENSER CONTROL/QUIET FANS: Allows operation down to 0°F, maintains refrigerant pressure by varying fan speed, quiet Ziehl fan blades mitigate noise.

9 HEAT: 100°F temperature rise gas furnace, modulating, super mod, super mod w/preheater, electric, propane, hot water, steam, 2, 4, 5-stage.

10 DAIKIN BUILDING CONTROLS: Remote system monitoring and enhanced diagnostics.





13 RETURN/OUTDOOR AIR: DOAS, 0-100% dampers, energy recovery, OA & CO₂ monitors, OA preheat, ECM fan motors, flow grids and back-off plates contribute to fresh, conditioned outdoor air for improved IAQ.

14 ENERGY RECOVERY WHEEL: Recovers exhausted heat and moisture energy to increase energy savings up to 40%; frost protection available.

15 FILTERS: 2" or 4" filter rack w/ MERV (8 or 13) filters, cartridge and carbon filters, filter/pre-filter combinations, HEPA, 2" prefilter/1" headered rack for 12" filter, PCO filtration for SVT applications.

16 DUAL-SIDE ACCESS DOORS: Offer flexibility in installation and service from either side; ideal for settings with limited access or space constraints.

17 ULTRA-VIOLET LIGHTS: Improve IAQ and maintain optimal heat transfer by deactivating airborne pathogens and preventing biological growth on coils.

18 COIL CASING/DRAIN PAN: Galvanized or stainless steel selections are resistant to corrosion, bacteria, mold and other contaminants for better indoor air quality.

19 BACKDRAFT DAMPERS: Maintain optimal heat transfer by preventing air recirculation in event of a fan failure.

20 ECM EXHAUST FAN(S): Variable speed fan motors reduce energy consumption and lower operating costs while running quietly.

21 DDC CONTROLS: Flexible, seamless integration with existing controls platform, HMI interface, refrigeration only, I/O modules.

11 DISCHARGE/RETURN OPENINGS: Full end back, back, left, right or bottom to fit space constraints.

12 FURNACE DISCHARGE POSITION: Top, bottom, left or right to fit space constraints.



EDUCATION

Optimize learning environments with Rebel Applied's extremely quiet operation and configurable outside air management components designed to bring in fresh, filtered, quality indoor air for students and staff, while quiet ecm fan motors, sound baffles, attenuators and condenser fans provide low-sound operation critical to learning environments.



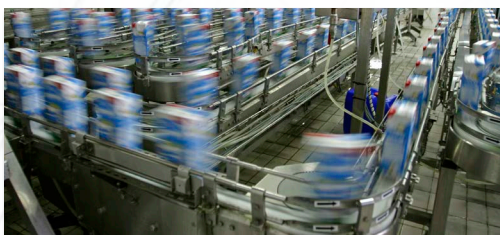
OFFICE BUILDINGS

Daikin Rebel Applied systems provide precise temperature control and zoning capabilities, allowing different areas of the office building to be cooled or heated independently. This ensures that occupants have a comfortable working environment, enhancing productivity and satisfaction.



HEALTHCARE

Maximize patient health outcomes with flexible Indoor Air Quality (IAQ) features tailored for medical office buildings, outpatient clinics, hospitals, nursing homes, and other healthcare facilities: ultra-violet lights, sorbent ventilation, ecm fan arrays, stainless steel liners, coil casings, and MERV 8, 13 and HEPA filters for healthier air.



MANUFACTURING

Withstanding the vibrations and shockwaves common in manufacturing processes, Rebel Applied's durable cabinet construction protects vulnerable components from environmental stresses, ensuring both performance and stability. For processes demanding precise temperature control, Rebel Applied helps create and maintain an optimal indoor environment.

ROOFTOP SYSTEMS SOLUTIONS



NAME/MODEL:

REBEL®
DPS
Commercial



3-31 ton

REBEL APPLIED®
DCSA
Condensing Unit

25-75 ton



MAVERICK® II
MPS
Commercial



30-50 ton

REBEL APPLIED®
DHSA
Applied

30-68 ton



REBEL APPLIED®
DPSA
Applied/Industrial

20-120 ton



Tons 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

LEARN MORE AT

DAIKINAPPLIED.COM/PRODUCTS/ROOFTOP-SYSTEMS

MAINTAIN AND REPAIR

PROTECTIVE MAINTENANCE SERVICES

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REPAIR SERVICES

Breakdowns happen and when your equipment has an issue, time is of the essence. Call us at 800-432-1342 to get Daikin Service professionals dispatched quickly and minimize downtime. Your local team is backed by nearly 100 years of experience to alleviate undue stress in your operations.

- **24/7 Emergency Service**
- **System Repairs & Assessments**
(Ancillary Equipment: Boilers, Cooling Towers)
- **Equipment Diagnostics**
- **Technical Troubleshooting**
- **Building Automation & Controls**
- **OEM & Generic Parts/Supply**
- **All Equipment Types & Brands**

PREDICTIVE SERVICES

Predictive maintenance services anticipate failures before they happen to mitigate the risk of catastrophic failure. For those who have in-house maintenance capabilities, Daikin Service can also guide your team and be on standby for more complex technical needs with predictive maintenance.

- **Oil & Refrigerant Analysis**
- **Vibration Analysis**
- **System Diagnostics**
- **Eddy Current Testing**
- **Infrared Analysis**
- **Combustion Analysis**
- **IAQ Assessments**
- **Laser Alignments**
- **Bearing Analysis**

PLANNED MAINTENANCE SERVICES

Daikin Applied's service technicians can perform all of the vital maintenance your system needs to ensure your equipment is running at peak efficiency. From proper cleaning to software upgrades and necessary maintenance, our techs will maximize your system to help extend the life of your equipment.

- **Regularly Scheduled Maintenance**
- **Seasonal Startup & Shutdown**
- **System Diagnostics**
- **Condenser Cleaning**
- **Air Filters**
- **On-site System Inspections**

PROACTIVE SERVICES

With proactive maintenance services, we support you with proven experts, offerings and processes to ensure customers get the help they need from a trusted advisor.

- **Building Operations Review**
- **Contingency Planning**



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RENTAL SOLUTIONS

KEEPING YOU UP AND RUNNING

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CHILLERS | AIR CONDITIONERS | DEHUMIDIFIERS | HEATING | POWER

EMERGENCY RENTALS

When your equipment fails, limiting downtime is mission critical. Daikin Applied provides quick delivery and installation of reliable rental products to help you weather the outage. We're here to help get you back up and running, and can provide a turnkey solution.

- Industry-leading efficiency and proven technology
- 24-hour turnaround on available inventory
- 8-hour average set up with on-site experts
- Comprehensive package, including pumps, flexible water piping connection and electrical hookups

EQUIPMENT FOR PLANNED SITUATIONS

Forming a contingency plan in the event of an outage can help you quickly get operations back to normal and limit financial loss, and help you breathe easier when the unexpected happens. Selecting the right-sized equipment is just one part of the process. The best contingency plans start by assessing and understanding your financial risk, and then using this information to drive the rest of your plan. Our Rental Solutions experts can specify the supplemental cooling system required to support any situation you're experiencing.

- System maintenance
- Building expansion
- Server room heat generation
- Seasonal/staff heat load swings
- Contingency plans

SUPPLEMENTAL CAPACITY

When the demand of your facility or process exceeds your current system's capacity because of record-high temperatures or changes to cooling requirements, Daikin temporary rentals can be used to increase your heating or cooling output. By eliminating the need to purchase additional equipment that might be only used part of the year, you save on capital expenditures.

STANDBY

Standby for critical applications and processes is another efficient use for temporary rental equipment. A temporary system is sometimes used to back up manufacturing and chemical processes, or when a hospital's required system redundancy has been reduced.

COMPLETE HVAC SYSTEM SOLUTIONS

SELF-CONTAINED | ROOFTOPS | COILS | CONDENSING UNITS
AIR HANDLERS | WATER-COOLED CHILLERS | AIR-COOLED CHILLERS
MODULAR CENTRAL PLANTS | SITELINE BUILDING CONTROLS
UNIT HEATERS | FAN COILS | AIR PURIFIERS | WATER SOURCE HEAT PUMPS
VARIABLE AIR VOLUME UNITS | UNIT VENTILATORS



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