

Daikin Packaged Rooftop Units (RTUs) are built to perform, with features and options that help provide low installation and operation costs, superior indoor air quality, efficient operation, and longevity.

Installation

Daikin Packaged units are designed with fast and easy installation in mind and are ideal for both new construction and retrofit projects. Our packaged rooftop units are built to be a direct replacement for most rooftop units on the field without the need of a curb adapter, to be able to replace the unit in a shorter time and at a lower cost (compared to the previous design).

Cabinet Construction

Daikin packaged rooftop units are made with high quality galvanized steel with a powder-paint finish to provide higher corrosion resistance.

- » Easy accessibility using our tool-less filter access.
- » The interior surface in the indoor air section is fully insulated to prevent sweating and thermal losses, using our foil face fiberglass insulation which also omits exposed filter fibers into the airstream.
- » 1" Raised flanged edges around the supply and return offer easy installation for the duct connections.

- » The full perimeter base rail is built using heavy gauge galvanized steel for a stronger structural installation, the base rails are a minimum of 3 ½" tall and include holes to allow for overhead rigging and lifting with forklifts.
- » Electrical lines and can be brought through the base of the unit or through the horizontal knockout for easy installation and accessibility on the field.

Compressor

High performance, low noise scroll compressors to match the required total load.

- » Two-stage scroll compressor for partial load applications.
- » Resiliently factory-mounted on rubber grommets for vibration isolation
- » Unit is factory charged with environmentally friendly Low GWP R-32 refrigerant.
- » Compressor location outside the condenser section to avoid air bypass.
- » Internal overload protection included with compressor.

Supply Fan

The direct-drive with airfoil single width, single inlet (SWSI) Class II construction supply fan with aluminum fan + blades provides efficient and quiet operation at wide ranging static pressure and air flow requirements.

- » Fan wheel is continuously welded to the hub plate and end rim for long lasting reliable operation.
- » Direct-drive ECM motor removes the need for belts, sheaves, or bearings and its permanently lubricated motors provides low maintenance cost.
- » Each fan assembly is dynamically trim balanced at the factory before shipment for quick start-up and efficient operation.
- » Electromechanical integrated controls modulate the supply fan motor
- » Motor with thermal overload is provided for motor long lasting operation.

Coils

All units use large face area outdoor coils. These coils are constructed with seamless copper tubes, mechanically bonded into aluminum plate-type fins with full drawn collars to completely cover the tubes for high operating efficiencies.



The indoor coil section is installed in a draw through configuration to provide better dehumidification.

- » Coils are factory pressure tested to ensure pressure and leak integrity.
- » Copper tube / aluminum fin coils on condenser and evaporator
- » 5mm Smart Coil Technology on all condenser coils for improved performance and reduced refrigerant load.

Controls and Wiring

Packaged rooftop units come equipped with a well-organized, large, easy to use weatherproof internal control box with easy access, for a better user experience.

- » Units are factory-wired with labeled color-coded wires and complete 24-volt Electromechanical controls package.
- » Units include single-point power entry as standard and also available with electric heat kits if selected.
- » Terminal blocks are provided as standard for easy installation and field power wiring
- » The Daikin iLINQ Controller is a factory-installed solution to provide intelligent control for Daikin Light Commercial rooftop units* (RTUs). iLINQ provides physical inputs and outputs to control and monitor the RTU and features a graphic web interface for remote access (via a computer or tablet). Equipped with built-in BACnet™ IP and MS/TP interface or it can be used with an optional LonWorks® card that is available to integrate the Daikin RTU with building automation systems (BMS).

Filtration

Unit provides a draw-through filter section as standard for better air quality and long lasting component maintenance.

- » Filters installed on the units are standard off the shelf sizes for easy replacement.
- » One or two size filter per unit for low maintenance cost and easy replacement.
- » Easy and fast filter service access.

Heating Section

Wide ranging of electric heat selections effectively handle most comfort heating demand from morning warm-up control to full heat.

Electric Heat

ETL approved electric heat is factory assembled, installed and tested.

- » Heating control is fully integrated into the unit's control system for quick start-up and reliable control.
- » Durable low watt density, nickel chromium elements provide longer life (compared to units without).

- » Fuses are provided in each branch circuit to a maximum of 48 Amps per NEC requirements.
- » Single-point power connection reduces installation cost.
- » For operational safeties electric heat includes automatic reset, and high temperature limit safety protection and an airflow safety switch to prevent electric heat operation in the event of no airflow.

Electrical

Units are completely wired and tested at the factory to provide faster commissioning and start-up.

- » Wiring complies with NEC requirements and all applicable UL standards.
- » For ease of use, wiring and electrical components are number coded and labeled according to the electrical diagram.
- » A 115V GFI convenience receptacle requiring independent power supply for the receptacle is optional.
- » An optional unit powered 20 amp 115 V convenience receptacle, complete with factory mounted transformer, disconnect switch, and primary and secondary overload protection, eliminates the need to pull a separate 115 V power source.
- » Supply air fan, compressor, and condenser fan motor branch circuits have individual short circuit protection. Unit includes knockouts in the bottom of the main control panels for field wiring entrance.
- » A single-point power connection with power block is standard and a terminal board is provided for connecting low voltage control wiring.
- » For better serviceability an optional non-fused disconnect switch can be installed inside the control panel and operated by an externally mounted handle to disconnect the electrical power at the unit

Daikin Modulating Hot Gas Reheat Dehumidification

Using a space sensor in conjunction with the Daikin iLINQ Controller and Reheat Module, the unit can initiate a Dehumidification Mode as the space humidity rises above setpoint. In this mode, the modulating valve diverts a percentage of the hot gas to the reheat coil as required in order to maintain supply air temperature requirements while lowering the space relative humidity. The modulating valve system allows smooth transition into dehumidification and longer run time at a steady supply air temperature. The indoor fan will operate at high and low speed during dehumidification mode.



Applications

Daikin Rooftop units are intended for comfort cooling applications in normal heating, ventilating, and air conditioning. Consult your local Daikin sales representative for applications involving operations at high ambient temperatures, high altitudes, non-cataloged voltages, or for job-specific unit selections that fall outside of the range of the catalog tables.

For proper operation, units should be rigged in accordance with instructions stated on the installation manual. Fire dampers, if required, must be installed in the ductwork according to local and/or state codes. No space is allowed for these dampers in the unit.

Follow factory check, test and start procedures explicitly to achieve satisfactory start-up and operation.

Most rooftop applications take advantage of the significant energy savings provided with economizer operation. When an economizer system is used, mechanical refrigeration is typically not required below an ambient temperature of 50°F.

Serviceability

Daikin packaged rooftop units are built with serviceability in mind, designed to make future maintenance and service on the unit easy and accessible.

- » Our packaged rooftop units offer a slide out blower to facilitate the access and removal of the fan.
- » Filter panels on the small chassis line offer tool-less access for easy maintenance.
- » Independent compressor outside of the air bypass to eliminate component blockage and provide easy access.
- » Labeled field connections, color coded and continuously marked wire to identify point-to-point component connections.
- » All 3 - 12.5 ton units are designed for convertible airflow orientation to serve downflow or horizontal applications. Every unit ships prepared to convert to horizontal orientation in the field if required.
- » Condenser clean out from inside-out.
- » Easy access to gas valves and control panel.

