

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 3½" tall and include holes to allow for overhead rigging and lifting with forklifts.

» Electrical lines and gas lines 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.

- » Resiliently factory-mounted on rubber grommets for vibration isolation
- » Refrigeration circuit includes both low- and high-pressure transducer, high pressure safety switch and temperature sensors for the suction and discharge lines.
- » 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.
- » Dual single-stage scroll compressor for partial load applications.

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.
- » 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 size filter per unit for low maintenance cost and easy replacement.
- » Tool-less filter access for easy and fast filter replacement and service.

Heating Section

Wide range of natural gas selections effectively handle most comfort heating demand from morning warm-up control to full heat, all available with Daikin's Wrinkle Bend heat exchanger technology.

Gas Furnace

ETL certified heating modules provide a custom match to specific design requirement.

- » Wrinkle Bend Technology available on all Daikin gas heat exchangers. The Wrinkle Bend Technology reduces the manufacturing stress that leads to defects and pinholes in the tubes at the same time as it increases the gas turbulence to amplify the heat transfer.
- » All 3-Phase models have a minimum 80% T.E. (Thermal Efficiency)
- » User has the flexibility to order heat exchanger tubes with 20 Gauge, G160, aluminized steel or stainless steel to meet your application needs.
- » The furnace has a tubular design with in-shot gas burner manifold and is installed downstream of the supply fan.

- » The module contains an induced draft fan that will maintain a negative pressure in the heat exchanger tubes for the removal of the flue gases to protect indoor air quality.
- » Each burner module provides flame roll-out safety protection switches and a high temperature limit switch for reliable operation.
- » Induced draft fan includes an airflow safety switch to prevent heating operation in the event of no airflow for occupant safety.
- » All burner assemblies are factory tested and adjusted prior to shipment.
- » Heating control is fully integrated into the unit's control system for quick start-up and reliable control.
- » Optional field installed LP kits are available for staged heating modules as well as high altitude kits.

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 115 V GFI convenience outlet requiring independent power supply for the receptacle is optional.
- » An optional unit powered 20 amp 115 V convenience outlet, 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.