

INDOOR PACKAGED EQUIPMENT

SELF-CONTAINED
HEATING/COOLING UNITS



S**D, S**E
& R**D

SKYPAK™

Self-Contained Heating/Cooling Units



Heating and air-conditioning in a convenient through-the-wall package.

The Skypak™ Self-Contained Heating/Cooling Unit by Johnson Controls provides a complete air-conditioning and heating system in a single, convenient package. These units are designed for conventional through-the-wall installation in residential low- and high-rise, industrial and commercial applications. Best of all, the all-indoor design eliminates the need for any unsightly exterior equipment, and refrigerant line connections, while maintaining architectural aesthetics, protecting the unit from weathering and vandalism.

Self-contained heating/cooling units are growing in popularity within their respective vertical markets as a result of the following attributes:

- Individual metering
- Ease of installation
- Reduced labor costs in installation
- Enhanced consumer convenience and comfort
- Building aesthetics
- Outdoor space flexibility
- Overall cost effectiveness



Tonnage Capacities
Cooling capacities available in 1, 1-1/2, 2, 2-1/2 and 3 tons

STANDARD FEATURES

- Cooling capacities available in 1, 1-1/2, 2, 2-1/2 and 3 tons
- R-410A refrigerant
- Heating available in natural gas (direct vent), electric, hydronic or propane
- Gas heating units are power-vented through a wall sleeve, eliminating need for a chimney
- Unit applications allow for independent metering and temperature control
- Return air can be ducted if required
- Convenient indoor access to all parts and service needs
- Unit left- or right-hand configuration
- Closet installation against an outside wall
- Mounting wall sleeve provided: 6", 8", 10", or 12"
- Factory provided exterior (stamped) grilles are available in five standard colors or customer match (optional)
- Units are designed for floor mounting, in combination with the pre-assembled sub-base
- Indoor airflow orientation is available in either down-flow or top discharge
- Outdoor airflow for the integral condensing section is routed through the companion wall sleeve
- Supply air from the top of cabinet with an option for side or bottom return

Compressors

- All models utilize a high-efficiency rotary or scroll type compressor
- Each refrigeration circuit is thoroughly evacuated and fully charged with R-410A refrigerant prior to shipment
- Compressors are mounted on rubber isolators to minimize vibration transmission
- Internal compressor motor overload protection is provided on compressors
- Compressor enclosure insulated with 1/2 inch thick, 2-pound density insulation
- Standard compressor start assist device is included to ensure reliable operation in the event of low supply voltage



Construction

- All models feature a complete heating, cooling and air handling system in one self-contained assembly
- Units are shipped completely factory assembled, tested, pre-charged and ready for field connection
- Cabinet assembly is constructed of heavy gauge corrosion-resistant galvanized steel
- Unit cabinet interior is fully insulated with foil-faced fiberglass insulation
- All operating components of the mechanical systems are completely enclosed in the insulated cabinet to minimize sound transmission
- Full service and accessibility from the front of the unit via access doors
- All models are shipped as a factory tested through-the-wall packaged HVAC system
- Units install in a closet having an exterior wall with a factory provided exterior grille
- Unit interior (evaporator and condensing section) are insulated with 1/2 inch thick, high-density insulation
- Standard units come with provisions for outside air intake

Refrigerant System

- R-410A refrigerant system
- Refrigeration circuit includes an externally equalized thermal expansion valve, liquid line filter drier, a high refrigerant pressure switch (manual-reset), and service gauge ports
- The evaporator and condenser coils are constructed of internally enhanced copper tubes mechanically bonded to enhanced aluminum plate fins
- The evaporator coil is employed in a blow-through configuration
- The large evaporator coil face area maximizes efficiency and cooling performance
- Condensate drain is isolated from the air stream

Fan Assembly

- Forward curved, double-inlet and double-width, direct-drive centrifugal blowers are used for evaporator and condenser air movement
- Large diameter wheels are employed to provide required airflow performance at minimum sound levels
- Blower fan wheels are fabricated of galvanized steel
- Fan motors are PSC type, with minimum three speeds (Hi-Med-Low), on the evaporator motor
- The PSC motors feature permanently lubricated bearings and are provided with internal thermal overload protection

HEATING SECTION

Gas Furnace Section

- Gas-fired heat exchanger is of a tubular aluminized steel design providing 80.3% AFUE
- Heating capacity offering of 40,000 to 80,000 BTU's
- The burner section is of the in-shot design, with hot surface ignition
- All air for combustion is drawn through the outside wall grille
- Flue-gases are power-vented through the upper wall grille section
- Furnace controls include a high-limit switch, flame-roll-out sensor, ignition sensor, ventor motor safety switch and an indoor blower control module

Electric Furnace Section

- Electric heating elements consist of resistance type nickel-chrome wire supported in ceramic holders
- The bare wire elements are exposed directly in the air stream resulting in instant heat transfer, lower element temperatures, and long service life
- Each heavy gauge element frame is equipped with an auto reset limit control, and elements are individually removable for service
- Relays bring the heating elements on and off, in sequence and in equal increments, with a time delay between each element
- In addition, relays initiate or stop blower operation, or change blower speed
- Electric heating output of 4 – 15 KW

Hot Water Heat Section

- Two-row coils constructed of copper tubes, mechanically bonded to aluminum plate fins
- An optional circulating pump may be factory installed to provide control of the water flow, simultaneous with blower operation

Electrical Components and Controls

- Units are ETL and CSA listed
- All units are factory wired with a 24-volt control circuit to allow for connection to a factory or field provided mechanical or electronic thermostat
- Basic control functions include anti-short cycle compressor protection, random start delay, and positive compressor lockout in the event of high pressure/low temperature cutout
- Standard non-fused electrical disconnect provided for service convenience and maintenance
- 50 VA Class II transformer

Filters

- All models shipped with a 1-inch thick medium-efficiency throwaway filter
- Filters are accessible from front of unit
- All models are shipped complete with an internal, suspended wire-frame style filter rack, for use with a replaceable filter media

Fresh Air Intake

- Factory provided mechanical fresh air intake with adjustable damper to allow for minimum fresh air code requirements
- An "optional" flat-panel rack is available for field installation on units employing the side return air intake