Introduction: KVP Series

The Krueger vertical floor mounted fan coil units are designed to maximize flexibility of selection and installation.

The units are also designed to exceed the stringent quality standards of the institutional market, while remaining cost competitive in the light commercial segment of the market.

Krueger vertical fan coil units set the new standards for quality, flexibility, and competitive pricing.

MODEL

KVPH - Vertical Stack Fan Coil, Stand Alone
KVPP - Vertical Stack Fan Coil, Primary (Shipped Separate)
KVPS - Vertical Stack Fan Coil, Secondary (Shipped Separate)
KVIP - Vertical Stack Fan Coil, Primary Twin Pack
KVIS - Vertical Stack Fan Coil, Secondary Twin Pack
KVPE - Vertical Stack Fan Coil, Exposed
RISER - Riser for Vertical Stack Fan Coils

KVIP

KVPH

KVPE

KVP Series Product Description

HIGH PERFORMANCE

Krueger KVP series of vertical hi-rise fan coil units are designed to maximize flexibility of selection and installation, and for ease of service.

The units are also designed to exceed the stringent quality standards of the institutional market, while remaining cost competitive in the commercial and residential segments of the market.

Krueger vertical hi-rise fan coil units set the new standards for innovation, quality, flexibility, and competitive pricing.

DESIGNED FOR MAXIMUM FLEXIBILITY

The extensive variety of standard options available on KVP series fan coils are where you find the versatility to fit any HVAC system designer's needs.

Options include: single wall stainless steel drain pans, foil faced or elastomeric closed cell foam insulation, double deflection aluminum discharge grilles, manual or motorized outside air dampers and electric heat with single point power connection and silent relays. All electric heat units are listed with ETL as an assembly and carry the cETL label.

All units comply with the latest edition of AHRI Standard 440 for testing and rating fan coil units, are certified, and display the AHRI symbol.

High efficiency motors, fan relays, disconnects and fusing mean easier coordination between mechanical and electrical trades.

Coil options allow for three or four row chilled water and one or two row hot water coils in the reheat position only. A total of five rows of coil are accommodated.

OPTIMUM BUILDING PERFORMANCE

The KVP series fan coil chassis is built from galvanized steel. This metal surpasses the ASTM 125 hour salt spray test for corrosion and rust. Decorator front panels, supply grilles, and exposed cabinet Model KVPE are powder coated galvannealed 18 gauge steel. Standard insulation is 1/2" thick fiberglass, complying with UL 181 and NFPA 90A. Optional foil faced or elastomeric closed cell foam insulation may be specified.

All units, with or without electric heat, are cETL listed and labeled. All wiring is in compliance with NEC, assuring safety and quality for the owner.

KVP series fan coil units have removable fans and coils. The entire coil assembly can be easily removed from the unit and replaced or serviced on a workbench, reducing equipment down time. Coils are accessible for cleaning and removable for service or replacement. Filters are easily replaceable when the decorator front panel is removed. As an option, the drain pan can be equipped for removal for cleaning or replacement without disturbing the coil assembly.

Tandem Primary and Tandem Secondary models KVIP/KVIS ship complete with risers enclosed in a wall plenum with one layer of 5/8" gypsum for sound attenuation. As an option, Tandem Primary and Tandem Secondary Units may be ordered with two layers of 5/8" gypsum and fire blocking material. The Tandem Primary and Tandem Secondary fire rated unit has been tested and certified for 1 hour rating per UL 1479.

CONVENIENT INSTALLATION

All KVP series fan coil units are shipped completely assembled, reducing field installation time and labor. All units are thoroughly inspected and tested prior to shipment, eliminating potential problems at startup. Motor wiring is brought to a control compartment on the inside of the unit, reducing electrical hook-up time. Factory furnished pressure tested valve packages assure proper fit, operation and performance.

Factory furnished pressure tested risers with swaged connections are available in a variety of materials, diameters and lengths.

KVP series fan coil units have several standard features that provide for installation flexibility that are unmatched in the industry. Featuring internal stainless steel braided hoses that link the piping packages to the riser shut-off valves, the unique design of the KVP series allows for easy field configuration of left hand, right hand, or back riser connections without the need for thermal cutting and joining of piping. Both the sides as well as the back panels are manufactured with riser slot knockouts. Supply air opening knockouts are included on all sides, and the top of the unit. If requested, the KVPH/KVPP/KVPS units ship from the factory with knockouts removed for the selected arrangement of supply air and riser location.

Risers may ship in advance of the unit to facilitate installation and fire safing of floor penetrations in limited space. Delaying the delivery of units until walls are in place protects the fan coil units from construction debris during installation and pressure testing of the risers.

CONSTRUCTION FEATURES

Fan Deck: For ease of service, the fan/motor assembly is easily removed by unscrewing two locknuts located at the front of the assembly. Slide rails support the fan during removal and installation, and the electrical harness is equipped with a quick connect plug.

Drain Pan: The sloped insulated drain pan is available in stainless steel construction. Standard drain pans are externally insulated, single wall galvanized steel. As an option, the KVP series drain pan can be equipped for easy removal from the front of the unit for inspection and cleaning. For optimum moisture resistance and cleanability, the fan coil unit may be lined with foil faced fiberglass insulation (shown above) or elastomeric closed cell foam insulation.

Filters: Filter options include 1" throwaway (standard), pleated MERV 8, or synthetic media. Filters are easily replaceable from the return air when the front panel is removed.

KVP Series Product Description

Coils and Piping: All fan coils are available in 2 or 4 pipe configurations. The heating coil is standard in the reheat position. Access for cleaning on both the entering and leaving air sides is available. Coils are removable from the front of the unit for service.

Stainless Steel Braided Hoses: Stainless steel braided hoses allow for flexibility and thermal expansion within the unit cabinet. The hose-to-coil and hose-to-riser connections are made via a threaded swivel adapter, simplifying coil removal.

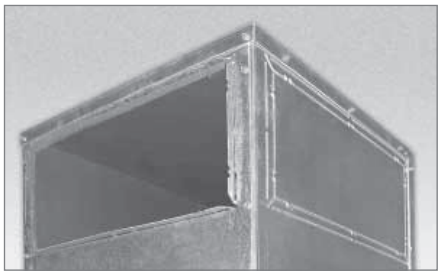
Risers: Risers, coils and piping packages are pressure tested and ship installed on the unit as a complete package. Risers may also ship in advance of the unit. This option greatly simplifies installation, while keeping the units free of construction debris during pressure testing of the risers

Powder Coat Painted Surface: Exposed cabinet, model KVPE, as well as the front return textured decorator panel, feature a powder coat finish that resists scuffing, scratching, fading, and fingerprints.

Reducing Mold Growth In Hi-Rise Residential Projects:
Krueger's KV fan coils feature several options to mitigate mold and mildew when applied in a properly designed and constructed building. For humid climates, Krueger offers innovations to ensure optimum humidity control at part load conditions.

- Elastomeric closed cell foam insulation is a great alternative to fiberglass insulation in extremely humid climates, as well as educational and hi-rise residential facilities. The material's smooth and cleanable surface makes it naturally mold resistant, with no danger of fibrous material entering the airstream. Additional features include:
  - Easily cleaned surface resists dirt, moisture absorption, and microbial growth – even if torn or punctured.
  - Higher temperature limit than polyethylene CCF, able to withstand service temperature spikes without permanent failure.
  - More flexible than polyethylene CCF at 75°F, allowing expansion and contraction in hot and cold cycle applications.
  - Compression resistance; retains its thermal insulating capacity.
  - Outer moisture vapor barrier or liner not required.
  - Ratings: NFPA 90A and 90B, ASTM E84, ASTM G-21 (fungi resistance), UL 181 (mold growth/humidity and air erosion)
- Motorized coil bypass damper in conjunction with fan speed control increases dehumidification at part load and more closely matches cooling capacity to the room load during off peak operation.
- Innovative temperature and humidity controller improves part load relative humidity control.
- Deep loading, synthetic media filtration protects both the coil and the coil bypass air from airborne contaminants. Filter frame and media are non organic, and will not support mold growth.
- Risers (shipped in advance) allow installation and pressure testing during building construction, prior to units arriving on job site.
- Stainless steel drain pans and coil casings are available for use where added corrosion resistance or longevity are required.
- Coils and piping packages are removable in minutes through the standard front panel with only a screwdriver and pair of wrenches for periodic cleaning or service outside of the unit.
- IAQ drain pan is positively sloped to prevent standing water. An optional drain pan is removable for effective cleaning.
- Refer to the engineering specifications in this catalog for additional information on many of these features.

Positively sloped drain pan prevents standing water; lined with closed cell foam insulation for added moisture protection.



Supply air opening knockouts may be left in place during building construction to keep units dry and free from construction debris.

KVP Series Product Description

STANDARD FEATURES

Construction
- AHRI 440 certified and labeled.
- Galvanized steel construction.
- 1/2” thick fiberglass insulation.
- Integral filter rack with 1” throwaway filter.
- Riser slot knockouts.
- Supply air knockouts.

Decorator Front Panel
- Stamped louver return air grille.
- Durable powder coat paint.
- Quarter-turn cam lock fasteners.

Supply Air
- Single outlet.
- Front, side or top outlets.

Coils
- Cooling - 3 or 4 row chilled water.
- Heating - 1 or 2 row hot water - reheat position.
- 5 total rows of cooling and heating coils maximum.
- 3/8” O.D. seamless copper tubes.
- 0.012” tube wall thickness.
- High efficiency aluminum fin surface for optimizing heat transfer, pressure drop and carryover.
- Easily removable for service.
- Manual air vents.

Drain Pans
- Single wall, galvanized steel, externally insulated – fire retardant and antimicrobial.
- Positively sloped to drain connection.
- 7/8” O.D. drain connection.
- P-trap factory installed.

Fan Assemblies
- Forward curved, DWDI centrifugal type blowers.
- 115 volt, single phase, three tap PSC motors.
- Quick disconnect motor connections.
- Easily removable fan/motor deck for service.

Electrical
- cETL listed for safety compliance.
- Electrical enclosure with access door for field wiring terminations.
- Terminal block for field connections.

Electric Heat
- ETL listed as an assembly for safety compliance.
- Integral electric heat assembly with removable elements for easy service.
- Automatic reset primary and back-up secondary thermal limits.
- Single point power connection.

OPTIONAL FEATURES

Construction
- Primary/secondary arrangements.
- Foil faced fiberglass insulation.
- Blower shield.
- 1” pleated filter (MERV 8).
- 1" synthetic media filter (MERV 6).
- Elastomeric closed cell foam insulation.
- Manual or motorized outside air damper.

Supply Air
- Double deflection discharge grille(s).
- Double outlets.
- Sight and sound baffles for double outlet units.
- Opposed blade damper.

Coils
- Automatic air vents
- Stainless steel coil casings.

Drain Pans
- Stainless steel construction with external insulation.
- Removable for cleaning.

Fan Assemblies
- 208-230 & 277 volt, single phase, three tap PSC motors.
- EC motor (3 speed).

Electrical
- SCR fan speed controller.
- Fan relay packages.
- Silent solid state fan relays.
- Toggle disconnect switch.
- Condensate overflow switch (drain pan).
- Unit and remote mounted three speed fan switches.
- Main fusing.

Electric Heat
- Manual reset secondary thermal limit.
- Silent relay/contactors.
- Door interlocking disconnect switches.
- Main fusing.

Piping Packages
- Factory assembled and installed.
- 1/2” 2-way and 3-way normally closed, two position electric motorized valves.
- Stainless steel braided hoses (threaded swivel connections) for thermal expansion including isolation ball valves with memory stop.
- Fixed and adjustable flow control devices.
- High pressure close-off actuators (50 PSIG max).
- P/T ports and Y-strainers.
- Modulating control valves.

Thermostats
- Analog, digital display, or programmable.
- Unit and wall mounted.
- 2 and 4-pipe control sequences.
- Automatic and manual changeover.
- Integral three speed fan switches.
- ADA mounting location on front panel or unit sides.

Risers
- Type-M or L copper with swaged connections.
- 3/4” to 3” diameters.
- 1/2” and 3/4” closed cell insulation.
- Type-M copper condensate riser.
- Riser extensions.
- Riser cover.
- Ship in advance risers.