



VERTICAL STACK FAN COILS

300 - 1,200 CFM



ADVANCED
HYDRONICS

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ETL LISTED

Williams Vertical Stack Fan Coils are listed by Intertek (ETL). The ETL listing ensures that Williams Vertical Stack Fan Coils have been examined by ETL and comply with the organization's applicable standards. ETL's re-examination service includes periodic visits by ETL inspectors to Williams' factory to ensure continued compliance for all listed products. Materials and equipment acceptance for use by the New York Department of Buildings: AH 008-120 / MEA 414-05-E



AHRI CERTIFIED

Williams Vertical Stack Fan Coils are labeled and approved by the Air Conditioning, Heating & Refrigeration Institute (AHRI). This designation signifies that Williams Vertical Stack Fan Coils units have been rated as follows in accordance with the latest edition of ANSI/AHRI 440 with Addendum 1 Performance Rating of Room Fan Coils and subject to rating accuracy by AHRI sponsored, independent, third-party testing.



ALS-TRUESDAIL CERTIFICATION MARK FOR DRINKING WATER SYSTEM COMPONENTS - HEALTH EFFECTS

Certified Product and/or packaging, and/or documentation certified to both NSF/ANSI 61 and NSF/ANSI 372 by Truesdail shall bear this Certification mark to identify the compliance.

MORE THAN JUST FAN COILS

For over 100 years, Williams has been a market leader in providing high quality HVAC products for residential and commercial buildings. Today, Williams continues the proud tradition by offering to the commercial/industrial market more configurations and size options of quality fan coils and blower coils/air handlers than any other HVAC company in North America.

Williams is based in Colton California, serving all US and overseas markets with complete application engineering, sales, marketing and administrative services.

Our pledge is to provide complete, high quality and timely support for the successful completion of your construction projects involving engineered products offered by Williams. We believe in a partnering attitude that creates superior projects and high levels of satisfaction.

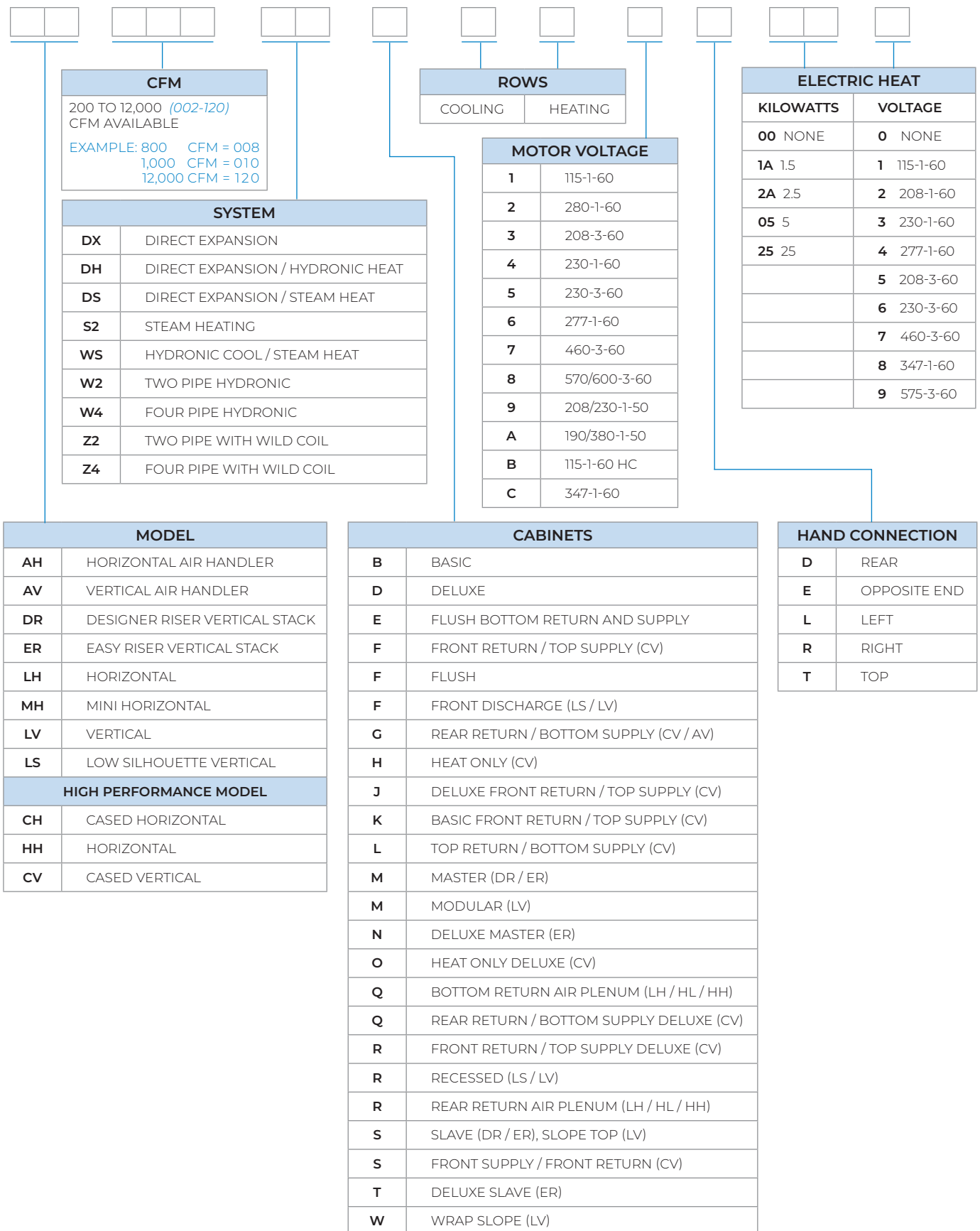


COLTON, CALIFORNIA

FAN COIL ASSEMBLY

AIR HANDLER ASSEMBLY

WILLIAMS FAN COIL AND AIR HANDLERS MODEL IDENTIFICATION SYSTEM



VERTICAL STACK MODELS ER & DR SERIES

300 - 1,200 CFM

EASY RISER BASIC / ER-B

For concealed application virtually anywhere in the room, the Easy Riser Basic Vertical Stack (ER-B) comes standard in a heavy gauge 88" galvanized steel cabinet, insulated with 1/2" thick, neoprene coated fiberglass. This standard unit features a 1/2" OD copper tube coil, slide out blower assembly with quick disconnect plug, insulated drain pan and filter. Risers are ordered separately due to size changes throughout the building.

EASY RISER DELUXE (PAINTED) / ER-D

For exposed applications along walls and in corners, the Easy Riser Deluxe Vertical Stack (ER-D) is the model of choice. In addition to the same internal features as the ER-B, the Easy Riser Deluxe comes with an epoxy, powder-coat exterior and is subjected to a 1,500-hour salt spray test in accordance with ASTM B117. When greater architectural appeal is desired, the ER-B with cabinet enclosure is the preferred choice.

DESIGNER RISER BASIC / DR-B

The Designer Riser Basic Vertical Stack (DR-B) is for concealed applications along walls and in corners. This model comes standard in an extended 97" galvanized steel cabinet, insulated with 1/2" thick neoprene coated fiberglass. Like the ER-B, this unit features a 1/2" OD copper tube coil, slide out blower assembly with quick disconnect plug, insulated drain pan and filter.

DESIGNER RISER DELUXE (PAINTED) / DR-D

The Designer Riser Deluxe Vertical Stack (DR-D) is for exposed applications also along walls and in corners. In addition to the same internal features as the DR-B, the Designer Riser Deluxe's 97" cabinet includes a epoxy, powder coat exterior and is subjected to a 1,500 hour salt spray test in accordance with ASTM B117. When greater architectural appeal is desired, the DR-B with cabinet enclosure is the preferred choice.



VERTICAL STACK MODELS ER & DR SERIES

300 - 1,200 CFM

EASY RISER / MASTER SLAVE / ER-M / ER-S

The Easy Riser Master/Slave Vertical Stack units (ER-M and ER-S) have the same internal components as our Basic model, yet are designed to share a common riser set. The Master/Slave combination features two separate units piped to a common set of risers, each with individual valves and controls. These units come in an 88" galvanized steel cabinet.

DESIGNER RISER / MASTER SLAVE DR-M / DR-S

The Designer Riser Master/Slave Vertical Stack units (DR-M and DR-S) have the same internal components as our Basic model, yet are designed to share a common riser set. The Master/Slave combination features two separate units piped to a common set of risers, each with individual valves and controls. These units come in a 97" galvanized steel cabinet.



TWINPACK / ER-D

The TwinPack is a master/slave combination that is pre-piped and housed in a common cabinet assembly at the factory. TwinPack Vertical Stack units include a UL 1 Hour Through Penetration Firestop W-L-7089 system. Local codes may dictate exact amount and placement of drywall. Each unit has it's own set of valves and controls.

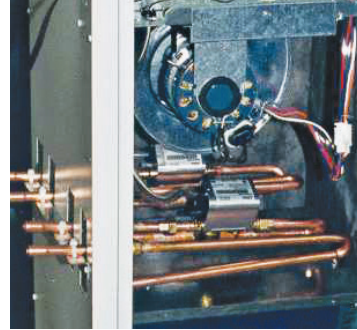
TWINPACK DELUXE / DR-D

The TwinPack is a master/slave combination that is pre-piped and housed in a common cabinet assembly at the factory. TwinPack Vertical Stack units include a UL 1 Hour Through Penetration Firestop W-L-7089 system. Local codes may dictate exact amount and placement of drywall. Each unit has it's own set of valves and controls.



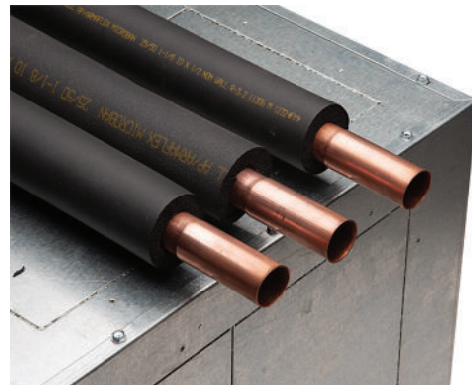
STANDARD FEATURES

- Heavy gauge galvanized steel cabinet with neoprene coated 1/2" thick fiberglass insulation with 3.35 PCF density.
- Coils are made of 1/2" OD copper tube with aluminum fins (12 FPI) equipped with manual air vent. DX and steam coils do not include manual air vent. Coils are 100% underwater pressure tested at 350 PSI with a 300 PSI working pressure.
- Galvanized drain pan is powder coated epoxy with a 1/8" thick elastomeric insulation and has a formed P-Trap drain connection.
- Three speed, 115/1/60 PSC motor with quick-connect plug.
- Controls and motors are factory-wired and terminated in a junction box for single point power supply.
- 1/2" reinforced duct collar on return air opening.
- Deluxe unit has single deflection supply air grille.
- One inch fiberglass, throwaway filter.
- Protective cardboard covers grille openings during shipment and construction.
- Individually tagged, crated and shipped as scheduled for installation.
- AHRI certified and ETL approved.
- 100% factory tested.



OPTIONS

- Soft-white, powder-coated epoxy cabinet that's subjected to a 1,500 hour salt spray test in accordance with ASTM B117.
- Drain pans - stainless steel and double wall.
- Insulation - fiberglass, foil face, elastomeric and double wall (solid or perforated) in 1/2" and 1" thicknesses.
- Coils - copper fins/tubes, stainless steel fins/tubes, phenolic coated, stainless steel end plates. All options are available on one to six rows.
- Three-speed, 208-230/1/50-60 or 277/1/60 PSC motor with quick-connect plug.
- Systems - two or four pipe, hydronic cooling/heating, steam, direct expansion (DX) and/or electric heat.
- Cabinet - enclosures; deluxe and concealed.
- Controls - wide selection of factory mounted valves and controls.
- Filters - two inch thick throwaway washable and metallic.
- ECM™ motors; programmed 3 speed, or variable volume, 120-240/1/60 or 277/1/60.
- Grilles - supply and return, single and double deflection, additional openings and custom colors.
- Thermostat with quick connect plug.
- Outside air openings - motorized and manual outside air dampers.
- Electric resistance heat from 1.0 to 7.5 kW.
- Pedestal bases.
- Risers and extensions available in type M, L and K copper with fiberglass, elastomeric and closed cell insulation.
- Risers on Master fan coils have a 3" long and 5/8" swaged solder joint to connect to the slave unit.
- Riser termination valve package.
- Ultraviolet lights.
- Grilles with camlocks.



AHRI CERTIFIED COOLING CAPACITY

ER SERIES



Williams Easy Riser Vertical Stack Fan Coils are labeled and approved by the Air-Conditioning, Heating & Refrigeration Institute (AHRI). This designation signifies that Williams Easy Riser Vertical Stack Fan Coil units have been rated as follows in accordance with the latest edition of ANSI/AHRI 440 with Addendum 1 Performance Rating of Room Fan Coils and subject to rating accuracy by AHRI sponsored, independent, third-party testing.

| WATER TEMP RISE | | 8 °F | | | | 10 °F | | | | 12 °F | | | | 14 °F | | | | 16 °F | | | | 18 °F | | | | 20 °F | | | |
|-----------------|------|------|------|-------|-------|-------|------|-------|-------|-------|------|-------|-------|-------|------|-------|-------|-------|------|-------|-------|-------|------|-------|-------|-------|------|-------|-------|
| MODEL NO. | ROWS | Q T | Q S | G P M | W P D | Q T | Q S | G P M | W P D | Q T | Q S | G P M | W P D | Q T | Q S | G P M | W P D | Q T | Q S | G P M | W P D | Q T | Q S | G P M | W P D | Q T | Q S | G P M | W P D |
| ER003 | 3 | 17.4 | 11.1 | 4.4 | 9.1 | 15.7 | 10.4 | 3.1 | 5.7 | 13.7 | 9.6 | 2.3 | 3.7 | 12.0 | 8.8 | 1.7 | 2.6 | 10.5 | 8.2 | 1.3 | 1.9 | 9.0 | 7.4 | 1.0 | 1.4 | 8.0 | 6.9 | 0.8 | 1.0 |
| | 4 | 20.0 | 12.4 | 5.0 | 15.0 | 18.6 | 11.8 | 3.7 | 9.7 | 17.0 | 11.1 | 2.8 | 6.7 | 15.2 | 10.3 | 2.2 | 4.7 | 13.7 | 9.7 | 1.7 | 3.4 | 12.1 | 9.0 | 1.3 | 2.6 | 10.6 | 8.3 | 1.1 | 1.9 |
| | 5 | 19.9 | 12.4 | 5.0 | 21.1 | 18.0 | 11.6 | 3.6 | 11.5 | 16.7 | 11.0 | 2.8 | 7.2 | 14.8 | 10.2 | 2.1 | 4.3 | 12.9 | 9.5 | 1.6 | 2.7 | 12.5 | 9.3 | 1.4 | 2.1 | 11.2 | 8.7 | 1.1 | 1.5 |
| ER004 | 3 | 21.3 | 13.8 | 5.3 | 12.3 | 19.3 | 12.9 | 3.9 | 7.7 | 16.9 | 11.9 | 2.8 | 4.9 | 14.7 | 11.0 | 2.1 | 3.3 | 12.6 | 10.1 | 1.6 | 2.3 | 10.7 | 9.1 | 1.2 | 1.7 | 9.5 | 8.3 | 0.9 | 1.3 |
| | 4 | 24.8 | 15.5 | 6.2 | 20.7 | 23.1 | 14.8 | 4.6 | 13.3 | 21.2 | 13.9 | 3.5 | 9.0 | 18.9 | 13.0 | 2.7 | 6.3 | 16.8 | 12.1 | 2.1 | 4.5 | 14.8 | 11.3 | 1.6 | 3.3 | 12.8 | 10.3 | 1.3 | 2.4 |
| | 5 | 24.9 | 15.7 | 6.2 | 32.3 | 22.5 | 14.6 | 4.5 | 17.4 | 20.4 | 13.7 | 3.4 | 10.3 | 17.8 | 12.6 | 2.5 | 6.1 | 15.4 | 11.6 | 1.9 | 3.7 | 15.1 | 11.5 | 1.7 | 2.9 | 13.5 | 10.8 | 1.3 | 2.0 |
| ER006 | 3 | 23.9 | 17.1 | 6.0 | 6.6 | 19.6 | 15.3 | 3.9 | 3.3 | 16.2 | 13.8 | 2.7 | 1.8 | 15.7 | 13.5 | 2.2 | 1.4 | 13.5 | 12.4 | 1.7 | 0.9 | 11.6 | 11.1 | 1.3 | 0.6 | 10.4 | 10.1 | 1.0 | 0.5 |
| | 4 | 30.6 | 20.2 | 7.7 | 5.0 | 26.7 | 18.6 | 5.3 | 3.0 | 22.7 | 16.9 | 3.8 | 1.9 | 18.8 | 15.3 | 2.7 | 1.3 | 18.3 | 15.0 | 2.3 | 1.0 | 16.4 | 14.1 | 1.8 | 0.8 | 14.3 | 13.0 | 1.4 | 0.6 |
| | 5 | 34.3 | 22.0 | 8.6 | 12.3 | 30.4 | 20.3 | 6.1 | 6.8 | 26.3 | 18.6 | 4.4 | 3.9 | 22.2 | 16.9 | 3.2 | 2.4 | 18.4 | 15.4 | 2.3 | 1.5 | 18.9 | 15.4 | 2.1 | 1.3 | 17.3 | 14.7 | 1.7 | 1.0 |
| ER008 | 3 | 37.3 | 24.8 | 9.3 | 15.5 | 33.2 | 23.1 | 6.6 | 8.6 | 28.5 | 21.1 | 4.7 | 4.9 | 24.4 | 19.4 | 3.5 | 3.0 | 20.1 | 17.5 | 2.5 | 1.8 | 16.4 | 15.3 | 1.8 | 1.2 | 14.7 | 13.9 | 1.5 | 0.9 |
| | 4 | 44.6 | 28.4 | 11.2 | 10.7 | 41.0 | 26.8 | 8.2 | 6.8 | 37.0 | 25.1 | 6.2 | 4.5 | 32.4 | 23.2 | 4.6 | 3.1 | 28.6 | 21.6 | 3.6 | 2.2 | 24.4 | 19.8 | 2.7 | 1.6 | 20.6 | 18.0 | 2.1 | 1.1 |
| | 5 | 47.8 | 30.0 | 11.9 | 23.7 | 43.7 | 28.2 | 8.7 | 13.7 | 39.6 | 26.4 | 6.6 | 8.5 | 34.9 | 24.5 | 5.0 | 5.3 | 30.3 | 22.6 | 3.8 | 3.5 | 28.8 | 21.9 | 3.2 | 2.7 | 25.3 | 20.4 | 2.5 | 1.9 |
| ER010 | 3 | 43.1 | 29.1 | 10.8 | 20.0 | 38.4 | 27.2 | 7.7 | 11.0 | 33.2 | 25.0 | 5.5 | 6.3 | 28.3 | 22.9 | 4.0 | 3.8 | 23.5 | 20.7 | 2.9 | 2.3 | 19.2 | 18.1 | 2.1 | 1.4 | 16.5 | 16.0 | 1.7 | 1.0 |
| | 4 | 49.5 | 32.5 | 12.4 | 23.5 | 44.1 | 30.2 | 8.8 | 12.8 | 38.6 | 27.9 | 6.4 | 7.4 | 32.9 | 25.5 | 4.7 | 4.4 | 30.1 | 24.2 | 3.8 | 3.1 | 26.8 | 22.7 | 3.0 | 2.1 | 23.1 | 20.8 | 2.3 | 1.5 |
| | 5 | 48.3 | 32.2 | 12.1 | 17.2 | 43.1 | 30.1 | 8.6 | 9.1 | 40.4 | 28.9 | 6.7 | 5.7 | 35.4 | 26.9 | 5.1 | 3.4 | 29.5 | 24.4 | 3.7 | 1.9 | 27.5 | 23.4 | 3.1 | 1.4 | 25.4 | 22.3 | 2.5 | 1.0 |
| ER012 | 3 | 46.9 | 32.2 | 11.7 | 23.3 | 41.9 | 30.1 | 8.4 | 12.8 | 36.5 | 27.8 | 6.1 | 7.4 | 31.1 | 25.4 | 4.4 | 4.4 | 26.2 | 23.3 | 3.3 | 2.7 | 21.5 | 20.4 | 2.4 | 1.7 | 17.7 | 17.4 | 1.8 | 1.1 |
| | 4 | 54.5 | 36.2 | 13.6 | 28.0 | 48.5 | 33.6 | 9.7 | 15.1 | 42.5 | 31.2 | 7.1 | 8.7 | 36.5 | 28.6 | 5.2 | 5.2 | 32.2 | 26.5 | 4.0 | 3.4 | 29.5 | 25.3 | 3.3 | 2.5 | 25.7 | 23.2 | 2.6 | 1.7 |
| | 5 | 53.5 | 36.1 | 13.4 | 20.9 | 46.8 | 33.4 | 9.4 | 10.6 | 42.6 | 31.6 | 7.1 | 6.3 | 39.6 | 30.4 | 5.7 | 4.2 | 32.8 | 27.5 | 4.1 | 2.3 | 29.0 | 25.5 | 3.2 | 1.5 | 27.6 | 24.6 | 2.8 | 1.2 |

Notes: 1) Based on 80°F DB and 67°F WB EAT, 40°F EWT, 10°F temperature rise, high fan speed. Motor voltage 115/1/60 power source. Air flow under dry coil conditions. Water pressure drops shown in feet of water. All units are listed under UL Category Control No. LZFE.

2) Ratings are based on actual CFM. Standard coils for 003-004 is 3 rows and 006-012 is 4 rows.

AHRI CERTIFIED COOLING CAPACITY

DR SERIES



Williams Designer Rise Vertical Stack Fan Coils are labeled and approved by the Air-Conditioning, Heating & Refrigeration Institute (AHRI). This designation signifies that Williams Designer Rise Vertical Stack Fan Coil units have been rated as follows in accordance with the latest edition of ANSI/AHRI 440 with Addendum 1 Performance Rating of Room Fan Coils and subject to rating accuracy by AHRI sponsored, independent, third-party testing.

| WATER TEMP RISE | | 8 °F | | | | 10 °F | | | | 12 °F | | | | 14 °F | | | | 16 °F | | | | 18 °F | | | | 20 °F | | | |
|-----------------|------|------|------|-----|------|-------|------|-----|------|-------|------|-----|-----|-------|------|-----|-----|-------|------|-----|-----|-------|------|-----|-----|-------|------|-----|-----|
| MODEL NO. | ROWS | Q | S | G | W | Q | S | G | W | Q | S | G | W | Q | S | G | W | Q | S | G | W | Q | S | G | W | Q | S | G | W |
| | | T | S | P | D | T | S | M | D | T | S | M | D | T | S | M | D | T | S | M | D | T | S | M | D | T | S | M | D |
| DR003 | 3 | 11.7 | 8.6 | 2.9 | 4.1 | 9.4 | 7.6 | 1.9 | 1.9 | 7.6 | 6.8 | 1.3 | 1.0 | 8.0 | 7.0 | 1.1 | 0.8 | 6.9 | 6.3 | 0.9 | 0.5 | 6.1 | 5.8 | 0.7 | 0.4 | 5.6 | 5.4 | 0.6 | 0.3 |
| | 4 | 16.6 | 10.8 | 4.1 | 6.0 | 14.8 | 10.0 | 3.0 | 3.8 | 12.9 | 9.2 | 2.1 | 2.4 | 10.9 | 8.4 | 1.6 | 1.6 | 10.4 | 8.2 | 1.3 | 1.3 | 9.0 | 7.6 | 1.0 | 1.0 | 7.8 | 6.9 | 0.8 | 0.7 |
| | 5 | 15.1 | 10.2 | 3.8 | 5.8 | 13.9 | 9.8 | 2.8 | 3.3 | 14.4 | 9.9 | 2.4 | 2.5 | 11.9 | 8.9 | 1.7 | 1.3 | 10.1 | 8.2 | 1.3 | 1.8 | 9.3 | 7.8 | 1.0 | 0.6 | 8.5 | 7.4 | 0.8 | 0.4 |
| DR004 | 3 | 13.6 | 10.2 | 3.4 | 5.4 | 10.9 | 9.1 | 2.2 | 2.4 | 8.7 | 8.0 | 1.4 | 1.2 | 8.5 | 7.8 | 1.2 | 0.9 | 7.9 | 7.5 | 1.0 | 0.6 | 7.0 | 6.7 | 0.8 | 0.4 | 6.2 | 6.1 | 0.6 | 0.3 |
| | 4 | 19.6 | 12.9 | 4.9 | 7.7 | 17.4 | 12.0 | 3.5 | 4.7 | 15.2 | 11.1 | 2.5 | 3.0 | 12.9 | 10.1 | 1.8 | 2.0 | 11.8 | 9.6 | 1.5 | 1.5 | 10.6 | 9.0 | 1.2 | 1.2 | 9.2 | 8.3 | 0.9 | 0.9 |
| | 5 | 17.8 | 13.2 | 4.5 | 8.0 | 15.8 | 11.5 | 3.2 | 4.2 | 15.6 | 11.4 | 2.6 | 2.9 | 14.3 | 10.9 | 2.0 | 1.9 | 11.9 | 9.9 | 1.5 | 1.0 | 10.6 | 9.2 | 1.2 | 0.7 | 9.7 | 8.7 | 1.0 | 0.5 |
| DR005 | 3 | 15.0 | 11.5 | 3.8 | 6.5 | 12.1 | 10.2 | 2.4 | 2.9 | 9.5 | 8.9 | 1.6 | 1.4 | 8.7 | 8.3 | 1.2 | 1.9 | 8.7 | 8.3 | 1.1 | 0.7 | 7.6 | 7.4 | 0.8 | 0.5 | 6.7 | 6.6 | 0.7 | 0.3 |
| | 4 | 21.9 | 14.6 | 5.5 | 9.1 | 19.4 | 13.6 | 3.9 | 5.5 | 16.9 | 12.5 | 2.8 | 3.5 | 14.5 | 11.5 | 2.1 | 2.3 | 12.6 | 10.6 | 1.6 | 1.7 | 11.8 | 10.2 | 1.3 | 1.3 | 10.3 | 9.4 | 1.0 | 1.0 |
| | 5 | 19.9 | 13.9 | 5.0 | 9.9 | 17.1 | 12.8 | 3.4 | 4.8 | 15.8 | 12.3 | 2.6 | 3.0 | 16.4 | 12.5 | 2.3 | 2.4 | 13.4 | 11.2 | 1.7 | 1.3 | 11.6 | 10.3 | 1.3 | 0.8 | 10.6 | 9.7 | 1.1 | 0.6 |
| DR006 | 3 | 20.8 | 15.3 | 5.2 | 12.2 | 17.2 | 13.8 | 3.4 | 5.7 | 14.0 | 12.2 | 2.3 | 2.9 | 12.5 | 11.3 | 1.8 | 1.8 | 11.9 | 11.1 | 1.5 | 1.3 | 10.1 | 9.8 | 1.1 | 0.8 | 8.7 | 8.6 | 0.9 | 0.6 |
| | 4 | 25.3 | 17.5 | 6.3 | 16.5 | 21.6 | 16.0 | 4.3 | 8.0 | 18.3 | 14.6 | 3.0 | 4.2 | 15.0 | 13.2 | 2.1 | 2.2 | 13.1 | 12.0 | 1.6 | 1.4 | 13.1 | 12.0 | 1.5 | 1.1 | 12.0 | 11.2 | 1.2 | 0.8 |
| | 5 | 27.6 | 18.7 | 6.9 | 18.8 | 24.0 | 17.2 | 4.8 | 9.4 | 21.6 | 16.2 | 3.6 | 5.4 | 20.5 | 15.8 | 2.9 | 3.7 | 16.9 | 14.2 | 2.1 | 2.0 | 14.8 | 13.1 | 1.6 | 1.3 | 14.1 | 12.7 | 1.4 | 1.0 |
| DR008 | 3 | 23.4 | 17.5 | 5.8 | 15.2 | 19.4 | 15.8 | 3.9 | 7.1 | 15.8 | 14.0 | 2.6 | 3.5 | 13.4 | 12.5 | 1.9 | 2.0 | 13.2 | 12.4 | 1.7 | 1.6 | 11.4 | 11.1 | 1.3 | 1.0 | 9.6 | 9.6 | 1.0 | 0.7 |
| | 4 | 28.6 | 20.2 | 7.2 | 20.9 | 24.3 | 18.4 | 4.9 | 10.0 | 20.7 | 16.9 | 3.4 | 5.2 | 17.2 | 15.3 | 2.5 | 2.8 | 14.1 | 13.4 | 1.8 | 1.6 | 14.1 | 13.3 | 1.6 | 1.3 | 13.4 | 12.8 | 1.3 | 1.0 |
| | 5 | 31.4 | 21.6 | 7.8 | 24.2 | 27.0 | 19.8 | 5.4 | 11.8 | 23.5 | 18.4 | 3.9 | 6.4 | 23.1 | 18.1 | 3.3 | 4.6 | 19.5 | 16.7 | 2.4 | 2.6 | 16.3 | 15.0 | 1.8 | 1.5 | 15.4 | 14.2 | 1.5 | 1.1 |

Notes: 1) Based on 80°F DB and 67°F WB EAT, 40°F EWT, 10°F temperature rise, high fan speed. Motor voltage 115/1/60 power source. Air flow under dry coil conditions. Water pressure drops shown in feet of water. All units are listed under UL Category Control No. LZFE.

2) Ratings are based on actual CFM. Standard coils for 003-004 is 3 rows and 006-012 is 4 rows.

HEATING PERFORMANCE ER / DR SERIES

| WATER TEMP DROP AT | | 10 ° F | | | | 20 ° F | | | |
|--------------------|------|--------|--------|------|------|--------|--------|-----|-----|
| MODEL | ROWS | QT | QS | GPM | WPD | QT | QS | GPM | WPD |
| DR003 | 1 | 18,749 | 18,749 | 3.7 | 7.2 | 16,846 | 16,846 | 1.7 | 2.2 |
| | 2 | 28,837 | 28,837 | 5.8 | 4.8 | 26,190 | 26,190 | 2.6 | 1.5 |
| DR004 | 1 | 21,352 | 21,352 | 4.3 | 8.9 | 19,151 | 19,151 | 1.9 | 2.6 |
| | 2 | 33,755 | 33,755 | 6.8 | 6.1 | 30,547 | 30,547 | 3.1 | 1.9 |
| DR005 | 1 | 23,292 | 23,292 | 4.7 | 10.3 | 20,867 | 20,867 | 2.1 | 3.0 |
| | 2 | 37,502 | 37,502 | 7.5 | 7.2 | 33,859 | 33,859 | 3.4 | 2.2 |
| DR006 | 1 | 30,212 | 30,212 | 6.0 | 18.2 | 27,440 | 27,440 | 2.7 | 5.1 |
| | 2 | 48,518 | 48,518 | 9.7 | 12.6 | 44,360 | 44,360 | 4.4 | 3.7 |
| DR008 | 1 | 32,130 | 32,130 | 6.4 | 3.1 | 28,068 | 28,068 | 2.8 | 0.9 |
| | 2 | 54,839 | 54,839 | 11.0 | 15.4 | 50,032 | 50,032 | 5.0 | 4.4 |
| ER003 | 1 | 23,857 | 23,857 | 4.8 | 20.4 | 21,989 | 21,989 | 2.2 | 6.1 |
| | 2 | 34,048 | 34,048 | 6.8 | 11.8 | 31,738 | 31,738 | 3.2 | 3.8 |
| ER004 | 1 | 27,754 | 27,754 | 5.6 | 26.2 | 25,542 | 25,542 | 2.6 | 7.6 |
| | 2 | 41,080 | 41,080 | 8.2 | 16.0 | 38,152 | 38,152 | 3.8 | 5.0 |
| ER006 | 1 | 34,593 | 34,593 | 6.9 | 5.9 | 30,838 | 30,838 | 3.1 | 1.8 |
| | 2 | 54,117 | 54,117 | 10.8 | 4.0 | 48,745 | 48,745 | 4.9 | 1.3 |
| ER008 | 1 | 48,335 | 48,335 | 9.7 | 12.5 | 44,001 | 44,001 | 4.4 | 3.7 |
| | 2 | 74,063 | 74,063 | 14.8 | 8.1 | 68,071 | 68,071 | 6.8 | 2.5 |
| ER010 | 1 | 54,635 | 54,635 | 10.9 | 15.3 | 49,672 | 49,672 | 5.0 | 4.4 |
| | 2 | 85,862 | 85,862 | 17.2 | 10.3 | 78,693 | 78,693 | 7.9 | 3.1 |
| ER012 | 1 | 59,012 | 59,012 | 11.8 | 17.5 | 53,609 | 53,609 | 5.4 | 4.9 |
| | 2 | 94,311 | 94,311 | 18.9 | 12.0 | 86,275 | 86,275 | 8.6 | 3.6 |

Notes: Based on 70°F DB EAT, 180°F EWT, Delta T = 20, high fan speed. Motor voltage 115/1/60 power source.
Air flow under dry coil conditions. Water pressure drops shown in feet of water.

COIL DATA

Coils are made from ½" O.D. copper tubing with .017" wall thickness, and tubes are staggered for maximum heat transfer. A manual air vent is standard on all hydronic coils. DX and steam coils do not include manual air vent. All coils are 100% underwater pressure tested to 350 PSIG with a 300 PSIG working pressure. Steam coils are rated for up to 15 PSIG or 250°F.

Coils are available in two or four pipe, and from one to six row configurations for ER & DR Series units with any combination of chilled or hot water, steam or direct expansion. Custom circuiting is available.

COIL DATA

| COIL ROW | 003 | 004 | (005) | 006 | 008 | 010 | 012 |
|-----------------|-----|-----|-------|----------|-----|-----|-----|
| Single-Row Coil | | | | | | | |
| Two-Row Coil | | | | STANDARD | | | |
| Three-Row Coil | | | | | | | |
| Four-Row Coil | | | | | | | |
| *Five-Row Coil | | | | OPTIONAL | | | |
| Six-Row Coil | | | | | | | |

* Five row coil maximum when selecting a DX coil with a hot water coil.

* Five row available as DR only.

COIL OPTIONS:

- DX – Includes distributor and nozzle, TXV must be field furnished and installed
- Steam – 1-15 PSIG
- Wild Coil - Includes coil baffle and coil separator, requires outside air opening.
- Opposite End Connection (E). Place the “E” pipe hand connection in the eleventh digit of the model number, when ordering
- Preheat Coil Position (PREHEAT) – Standard coil is reheat position
- Phenolic Anti-Corrosion Coating (PAC)
- Stainless Steel Tubes/Fins/End Plates
- Copper Fins/Tubes/End Plates
- 6-16 Fins Per Inch (Standard is 12 FPI)

Coil connections on the chilled water side is ½" on the 003-012. The hot water connection is also ½" on the 003-012.

* 005 available as DR only.

ELECTRIC HEAT

Electric heat may be furnished with either hydronic, direct expansion or steam coils and is factory mounted, wired, and tested. Option equipped with low watt density (for long life) nichrome wire elements. The heater has a built-in, high limit, and fusible link to provide maximum safety.

| MODEL / SIZE | kW | 0.5 | 1.0 | 1.5 | 2.0 | 2.5 | 3.0 | 3.5 | 4.0 | 4.5 | 5.0 | 5.5 | 6.0 | 6.5 | 7.0 | 7.5 | 8.0 |
|--------------|---------|------|-----|------|------|------|------|------|------|------|------|------|------|------|------|------|-----|
| | VOLTAGE | AMPS | | | | | | | | | | | | | | | |
| 003 | 115 | | 8.7 | 13.0 | 17.4 | 21.7 | 36.1 | | | | | | | | | | |
| | 208 | | 4.8 | 7.2 | 9.6 | 12.0 | 14.4 | 16.8 | 19.2 | | | | | | | | |
| | 230 | | 4.4 | 6.5 | 8.7 | 10.9 | 13.0 | 15.2 | 17.4 | | | | | | | | |
| | 277 | | 3.6 | 5.4 | 7.2 | 9.0 | 10.8 | 12.6 | 14.4 | | | | | | | | |
| 004 | 115 | | 8.7 | 13.0 | 17.4 | 21.7 | 26.1 | | | | | | | | | | |
| | 208 | | 4.8 | 7.2 | 9.6 | 12.0 | 14.4 | 16.8 | 19.2 | | | | | | | | |
| | 230 | | 4.4 | 6.5 | 8.7 | 10.9 | 13.0 | 15.2 | 17.4 | | | | | | | | |
| | 277 | | 3.6 | 5.4 | 7.2 | 9.0 | 10.8 | 12.6 | 14.4 | | | | | | | | |
| 005* | 115 | | 8.7 | 13.0 | 17.4 | 21.7 | 26.1 | | | | | | | | | | |
| | 208 | | 4.8 | 7.2 | 9.6 | 12.0 | 14.4 | 16.8 | 19.2 | | | | | | | | |
| | 230 | | 4.4 | 6.5 | 8.7 | 10.9 | 13.0 | 15.2 | 17.4 | | | | | | | | |
| | 277 | | 3.6 | 5.4 | 7.2 | 9.0 | 10.8 | 12.6 | 14.4 | | | | | | | | |
| 006 | 115 | | 8.7 | 13.0 | 17.4 | 21.7 | 26.1 | | | | | | | | | | |
| | 208 | | 4.8 | 7.2 | 9.6 | 12.0 | 14.4 | 16.8 | 19.2 | | | | | | | | |
| | 230 | | 4.4 | 6.5 | 8.7 | 10.9 | 13.0 | 15.2 | 17.4 | | | | | | | | |
| | 277 | | 3.6 | 5.4 | 7.2 | 9.0 | 10.8 | 12.6 | 14.4 | | | | | | | | |
| 008 | 115 | | 8.7 | 13.0 | 17.4 | 21.7 | 26.1 | | | | | | | | | | |
| | 208 | | 4.8 | 7.2 | 9.6 | 12.0 | 14.4 | 16.8 | 19.2 | 21.6 | 24.0 | | | | | | |
| | 230 | | 4.4 | 6.5 | 8.7 | 10.9 | 13.0 | 15.2 | 17.4 | 19.6 | 21.7 | | | | | | |
| | 277 | | 3.6 | 5.4 | 7.2 | 9.0 | 10.8 | 12.6 | 14.4 | 16.3 | 18.1 | | | | | | |
| 010 | 115 | | 8.7 | 13.0 | 17.4 | 21.7 | 26.1 | | | | | | | | | | |
| | 208 | | 4.8 | 7.2 | 9.6 | 12.0 | 14.4 | 16.8 | 19.2 | 21.6 | 24.0 | 26.4 | 28.9 | 31.3 | 33.7 | 36.1 | |
| | 230 | | 4.4 | 6.5 | 8.7 | 10.9 | 13.0 | 15.2 | 17.4 | 19.6 | 21.7 | 23.9 | 26.1 | 28.3 | 30.4 | 32.6 | |
| | 277 | | 3.6 | 5.4 | 7.2 | 9.0 | 10.8 | 12.6 | 14.4 | 16.3 | 18.1 | 19.9 | 21.7 | 23.5 | 25.3 | 27.1 | |
| 012 | 115 | | 8.7 | 13.0 | 17.4 | 21.7 | 26.1 | | | | | | | | | | |
| | 208 | | 4.8 | 7.2 | 9.6 | 12.0 | 14.4 | 16.8 | 19.2 | 21.6 | 24.0 | 26.4 | 28.9 | 31.3 | 33.7 | 36.1 | |
| | 230 | | 4.4 | 6.5 | 8.7 | 10.9 | 13.0 | 15.2 | 17.4 | 19.6 | 21.7 | 23.9 | 26.1 | 28.3 | 30.4 | 32.6 | |
| | 277 | | 3.6 | 5.4 | 7.2 | 9.0 | 10.8 | 12.6 | 14.4 | 16.3 | 18.1 | 19.9 | 21.7 | 23.5 | 25.3 | 27.1 | |

Notes: Ratings and capacity tables based on nominal CFM.

AIR FLOW DATA

Air flow shown below is under dry coil conditions.

| AIR FLOW DATA | | EXTERNAL STATIC PRESSURE | | | | | | | | | | | | | | | | | |
|---------------|-----------|--------------------------|-----|-----|------|-----|-----|------|-----|-----|------|-----|-----|------|-----|-----|------|-----|-----|
| SIZE | COIL ROWS | 0.00 | | | 0.05 | | | 0.10 | | | 0.15 | | | 0.20 | | | 0.25 | | |
| | | HI | MED | LOW | HI | MED | LOW | HI | MED | LOW | HI | MED | LOW | HI | MED | LOW | HI | MED | LOW |
| ER003 | 3 ROW | 350 | 270 | 200 | 310 | 235 | 170 | 265 | 205 | 145 | 225 | 170 | 115 | NA | NA | NA | NA | NA | NA |
| | 4 ROW | 346 | 267 | 197 | 306 | 232 | 168 | 261 | 202 | 142 | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| | 3 ROW | 340 | 285 | 245 | 305 | 260 | 210 | 275 | 230 | 180 | 245 | 200 | 145 | NA | NA | NA | NA | NA | NA |
| | 4 ROW | 337 | 283 | 242 | 302 | 257 | 207 | 272 | 227 | 177 | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| ER004 | 3 ROW | 450 | 350 | 255 | 410 | 315 | 230 | 370 | 285 | 210 | 330 | 255 | 185 | 290 | 225 | 160 | NA | NA | NA |
| | 4 ROW | 445 | 347 | 253 | 406 | 312 | 228 | 366 | 282 | 208 | 326 | 252 | 183 | 290 | 225 | 160 | NA | NA | NA |
| | 3 ROW | 425 | 345 | 290 | 395 | 310 | 260 | 360 | 280 | 235 | 330 | 245 | 205 | 300 | 210 | 175 | NA | NA | NA |
| | 4 ROW | 422 | 342 | 287 | 392 | 307 | 258 | 357 | 277 | 232 | 327 | 242 | 202 | 300 | 210 | 175 | NA | NA | NA |
| ER005 | 4 ROW | 491 | 411 | 385 | 470 | 390 | 360 | 445 | 366 | 335 | 420 | 346 | 310 | 400 | 330 | 290 | NA | NA | NA |
| | 5 ROW | 493 | 413 | 388 | 473 | 393 | 363 | 448 | 368 | 338 | 423 | 348 | 313 | 400 | 330 | 290 | NA | NA | NA |
| ER006 | 4 ROW | 665 | 490 | 380 | 620 | 459 | 353 | 566 | 424 | 323 | 511 | 389 | 293 | 460 | 349 | 263 | NA | NA | NA |
| | 5 ROW | 660 | 487 | 377 | 610 | 452 | 347 | 555 | 417 | 317 | 500 | 381 | 287 | 455 | 345 | 260 | NA | NA | NA |
| | 4 ROW | 630 | 550 | 465 | 610 | 530 | 445 | 590 | 515 | 430 | 570 | 495 | 415 | 550 | 475 | 400 | NA | NA | NA |
| | 5 ROW | 628 | 548 | 463 | 610 | 529 | 444 | 588 | 513 | 429 | 568 | 493 | 414 | 550 | 475 | 400 | NA | NA | NA |
| ER008 | 4 ROW | 860 | 665 | 525 | 805 | 625 | 490 | 755 | 580 | 460 | 700 | 540 | 425 | 650 | 495 | 390 | 600 | 455 | 360 |
| | 5 ROW | 855 | 661 | 522 | 800 | 621 | 487 | 750 | 576 | 457 | 695 | 536 | 422 | 645 | 491 | 387 | 600 | 455 | 360 |
| | 4 ROW | 755 | 630 | 550 | 730 | 610 | 530 | 705 | 590 | 515 | 680 | 570 | 495 | 655 | 550 | 475 | 630 | 530 | 455 |
| | 5 ROW | 753 | 628 | 548 | 728 | 608 | 529 | 703 | 588 | 513 | 678 | 568 | 493 | 653 | 548 | 473 | 630 | 530 | 455 |
| ER010 | 4 ROW | 1055 | 810 | 655 | 995 | 765 | 620 | 940 | 725 | 590 | 880 | 685 | 555 | 820 | 640 | 520 | 760 | 600 | 480 |
| | 5 ROW | 1049 | 806 | 652 | 990 | 761 | 617 | 934 | 721 | 587 | 874 | 681 | 552 | 814 | 636 | 516 | 760 | 600 | 480 |
| | 4 ROW | 1055 | 810 | 655 | 995 | 765 | 620 | 940 | 725 | 590 | 880 | 685 | 555 | 820 | 640 | 520 | 760 | 600 | 480 |
| | 5 ROW | 1049 | 806 | 652 | 990 | 761 | 617 | 934 | 721 | 587 | 874 | 681 | 552 | 814 | 636 | 516 | 760 | 600 | 480 |
| ER012 | 4 ROW | 1055 | 810 | 655 | 995 | 765 | 620 | 940 | 725 | 590 | 880 | 685 | 555 | 820 | 640 | 520 | 760 | 600 | 480 |
| | 5 ROW | 1049 | 806 | 652 | 990 | 761 | 617 | 934 | 721 | 587 | 874 | 681 | 552 | 814 | 636 | 516 | 760 | 600 | 480 |
| | 4 ROW | 1055 | 810 | 655 | 995 | 765 | 620 | 940 | 725 | 590 | 880 | 685 | 555 | 820 | 640 | 520 | 760 | 600 | 480 |
| | 5 ROW | 1049 | 806 | 652 | 990 | 761 | 617 | 934 | 721 | 587 | 874 | 681 | 552 | 814 | 636 | 516 | 760 | NA | 480 |
| DR003 | 3 ROW | 340 | 290 | 250 | 310 | 260 | 210 | 280 | 230 | 170 | 250 | 200 | 150 | 220 | 170 | 140 | 175 | 160 | - |
| DR004 | 4 ROW | 420 | 340 | 300 | 390 | 310 | 260 | 370 | 280 | 230 | 340 | 250 | 200 | 300 | 220 | 170 | 260 | 170 | 130 |
| DR005 | 4 ROW | 525 | 380 | 320 | 490 | 350 | 370 | 465 | 320 | 250 | 450 | 385 | 210 | 420 | 260 | 180 | 400 | 225 | 160 |
| DR006 | 4 ROW | 630 | 550 | 430 | 610 | 530 | 450 | 590 | 510 | 430 | 570 | 500 | 415 | 550 | 480 | 400 | 530 | 450 | 380 |
| DR008 | 4 ROW | 760 | 630 | 550 | 730 | 610 | 530 | 700 | 590 | 510 | 680 | 570 | 500 | 660 | 550 | 480 | 630 | 530 | 450 |

Notes: Motor full load amps listed refer to NEC amps. Actual motor nameplate amps may vary.

MOTOR DATA

Motors are wired to a junction box ready for single-point field connection.

OUTSTANDING MOTOR FEATURES:

- Quick connect plug
- Permanent split capacitor
- Thermal overload protection
- 1050 RPM for lower operating costs
- Oversized bearings are permanently lubricated and sealed
- 122°F maximum operating temperature
- Custom motor mounts designed to reduce noise and eliminate vibration
- Stators are epoxy dipped for more efficient motor cooling

OPTIONAL MOTORS:

- 208V-1Ø-60 motors
- 277V-1Ø-60 motors
- 230/220V-1Ø-60 motors
- 50-Hz motors in specified voltages

| 60 HERTZ SINGLE-PHASE MOTORS (1100 RPM) | | | | VOLTAGE / WATTS | | | | | | | |
|-----------------------------------------|-------------------------|----------|---------|-----------------|-------|------|-------|------|-------|------|-------|
| | | | | 115V | | 208V | | 230V | | 277V | |
| SIZE | MODEL / MOTOR TYPE | HP (QTY) | BLOWERS | AMPS | WATTS | AMPS | WATTS | AMPS | WATTS | AMPS | WATTS |
| 003 | ER/DR series (standard) | 1/15 | 1 | 0.9 | 105 | 0.55 | 105 | 0.5 | 105 | 0.4 | 134 |
| | ER/DR series (standard) | 1/15 | 1 | 0.9 | 108 | 0.55 | 108 | 0.5 | 108 | 0.4 | 108 |
| 004 | ER/DR series (standard) | 1/15 | 1 | 1.0 | 143 | 0.66 | 143 | 0.6 | 143 | 0.6 | 143 |
| | ER/DR series (standard) | 1/15 | 1 | 1.0 | 138 | 0.66 | 138 | 0.6 | 138 | 0.6 | 138 |
| *005 | DR series (standard) | 1/12 | 1 | 1.2 | 205 | 0.77 | 205 | 0.7 | 205 | 0.7 | 205 |
| 006 | ER/DR series (standard) | 1/6 | 1 | 1.5 | 188 | 0.66 | 188 | 0.6 | 188 | 0.6 | 188 |
| | ER/DR series (standard) | 1/6 | 1 | 1.5 | 224 | 0.88 | 224 | 0.8 | 224 | 0.6 | 224 |
| 008 | ER/DR series (standard) | 1/6 | 1 | 2.2 | 293 | 1.10 | 293 | 1.0 | 293 | 0.8 | 293 |
| | ER/DR series (standard) | 1/6 | 1 | 2.2 | 284 | 1.10 | 282 | 1.0 | 282 | 0.8 | 282 |
| 010 | ER/DR series (standard) | 1/4 | 1 | 2.5 | 298 | 1.10 | 298 | 1.0 | 298 | 0.8 | 298 |
| | ER/DR series (standard) | 1/4 | 1 | 2.6 | 303 | 1.30 | 303 | 1.2 | 303 | 0.9 | 303 |
| 012 | ER/DR series (standard) | 1/4 | 1 | 3.2 | 383 | 1.65 | 383 | 1.5 | 383 | 1.2 | 383 |
| | ER/DR series (standard) | 1/4 | 1 | 3.2 | 390 | 1.65 | 390 | 1.5 | 390 | 1.2 | 390 |

SOUND DATA ER SERIES

| SIZE | FAN SPEED | OCTAVE BAND | | | | | | |
|------|--------------|------------------------|------|------|------|------|------|------|
| | | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| | | CENTER FREQUENCY (CPS) | | | | | | |
| | | 125 | 250 | 500 | 1000 | 2000 | 4000 | 8000 |
| 003 | High | 55.4 | 47.6 | 47.3 | 38.7 | 21.3 | 29.8 | 31.8 |
| | Medium | 50.6 | 43.7 | 41.3 | 33.6 | 27.7 | 27.3 | 29.7 |
| | Low | 46.5 | 38.8 | 36.5 | 28.7 | 22.4 | 21.8 | 24.6 |
| | *Low-Special | 40.9 | 34.9 | 32.7 | 23.6 | 19.9 | 19.8 | 22.4 |
| 004 | High | 58.5 | 52.3 | 51.0 | 43.6 | 38.6 | 34.7 | 31.7 |
| | Medium | 55.6 | 43.1 | 40.0 | 34.5 | 28.8 | 26.6 | 28.7 |
| | Low | 51.4 | 40.0 | 38.8 | 31.6 | 25.4 | 23.8 | 27.5 |
| | *Low-Special | 44.5 | 37.9 | 34.9 | 25.5 | 23.1 | 21.7 | 25.4 |
| 006 | High | 60.9 | 51.7 | 50.7 | 44.6 | 38.7 | 34.0 | 35.6 |
| | Medium | 57.6 | 48.6 | 47.5 | 40.3 | 33.5 | 32.1 | 35.0 |
| | Low | 52.6 | 46.0 | 43.0 | 35.7 | 32.3 | 28.1 | 27.9 |
| | *Low-Special | 47.1 | 44.7 | 42.7 | 37.1 | 31.4 | 27.0 | 26.8 |
| 008 | High | 64.3 | 58.4 | 56.1 | 50.1 | 46.3 | 42.1 | 38.7 |
| | Medium | 58.4 | 49.8 | 46.3 | 42.3 | 38.8 | 32.2 | 31.0 |
| | Low | 51.4 | 46.2 | 40.5 | 36.7 | 33.2 | 28.5 | 25.2 |
| | *Low-Special | 46.3 | 43.9 | 39.2 | 35.2 | 29.5 | 28.1 | 24.8 |
| 010 | High | 65.8 | 59.9 | 58.8 | 55.7 | 49.8 | 44.6 | 41.7 |
| | Medium | 60.3 | 54.1 | 54.7 | 51.5 | 44.6 | 41.7 | 33.8 |
| | Low | 57.0 | 49.8 | 46.5 | 44.3 | 37.6 | 35.5 | 31.7 |
| | *Low-Special | 56.0 | 48.2 | 43.2 | 36.7 | 30.3 | 29.3 | 30.1 |
| 012 | High | 69.1 | 65.3 | 62.3 | 58.5 | 52.8 | 47.3 | 45.8 |
| | Medium | 63.3 | 58.9 | 57.9 | 54.1 | 47.3 | 44.2 | 37.2 |
| | Low | 59.9 | 54.3 | 49.3 | 46.5 | 39.9 | 37.6 | 34.8 |
| | *Low-Special | 58.8 | 52.5 | 45.8 | 38.5 | 32.1 | 31.1 | 33.1 |

- Notes:
- 1) Power levels are in dB RE 10-12 watts.
 - 2) Sound data tested in accordance with ASHRAE standard 68 and ARI standard 260 and 350.
 - 3) Ratings are based on actual CFM. Standard coils for 003-004 is 3 rows and 006-012 is 4 rows.
 - 4) Air flow under dry coil conditions.

SOUND DATA DR SERIES

| SIZE | FAN SPEED | OCTAVE BAND | | | | | | |
|------|-----------|------------------------|------|-------|------|------|------|------|
| | | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| | | CENTER FREQUENCY (CPS) | | | | | | |
| | | 125 | 250 | 500 | 1000 | 2000 | 4000 | 8000 |
| 003 | High | 55 | 47 | 46.5 | 40.5 | 31 | 24 | 27.5 |
| | Medium | 50.5 | 44.5 | 43.5 | 37 | 25.5 | 20.5 | 27.5 |
| | Low | 46.5 | 39 | 37 | 30 | 41.5 | 20 | 27.5 |
| 004 | High | 57.5 | 54.5 | 53 | 48 | 31 | 33.5 | 29 |
| | Medium | 55 | 47 | 46.5 | 40.5 | 25.5 | 24 | 27.5 |
| | Low | 50.5 | 44.5 | 43.5 | 37 | 42 | 20.5 | 27.5 |
| 006 | High | 58.5 | 55 | 456.5 | 50.5 | 40 | 36.5 | 30 |
| | Medium | 53 | 51.5 | 53 | 45 | 31 | 37 | 30 |
| | Low | 51 | 47.5 | 48.5 | 40.5 | 48 | 24 | 27 |
| 008 | High | 61.5 | 59.5 | 60.5 | 56 | 46.5 | 42.5 | 36 |
| | Medium | 57.5 | 56 | 56 | 51.5 | 36 | 41 | 34 |
| | Low | 52.6 | 51 | 52 | 45 | | 30.5 | 27 |

- Notes:
- 1) Power levels are in dB RE 10-12 watts.
 - 2) Sound data tested in accordance with ASHRAE standard 68 and ARI standard 260 and 350.
 - 3) Ratings are based on actual CFM. Standard coils for 003-004 is 3 rows and 005-012 is 4 rows DR.
 - 4) Air flow under dry coil conditions.

WEIGHTS & MEASURES ER/DR SERIES

The following ER & DR Series weights and measures are based on fan coil units only. Add approximately 20% for packaging and crating.

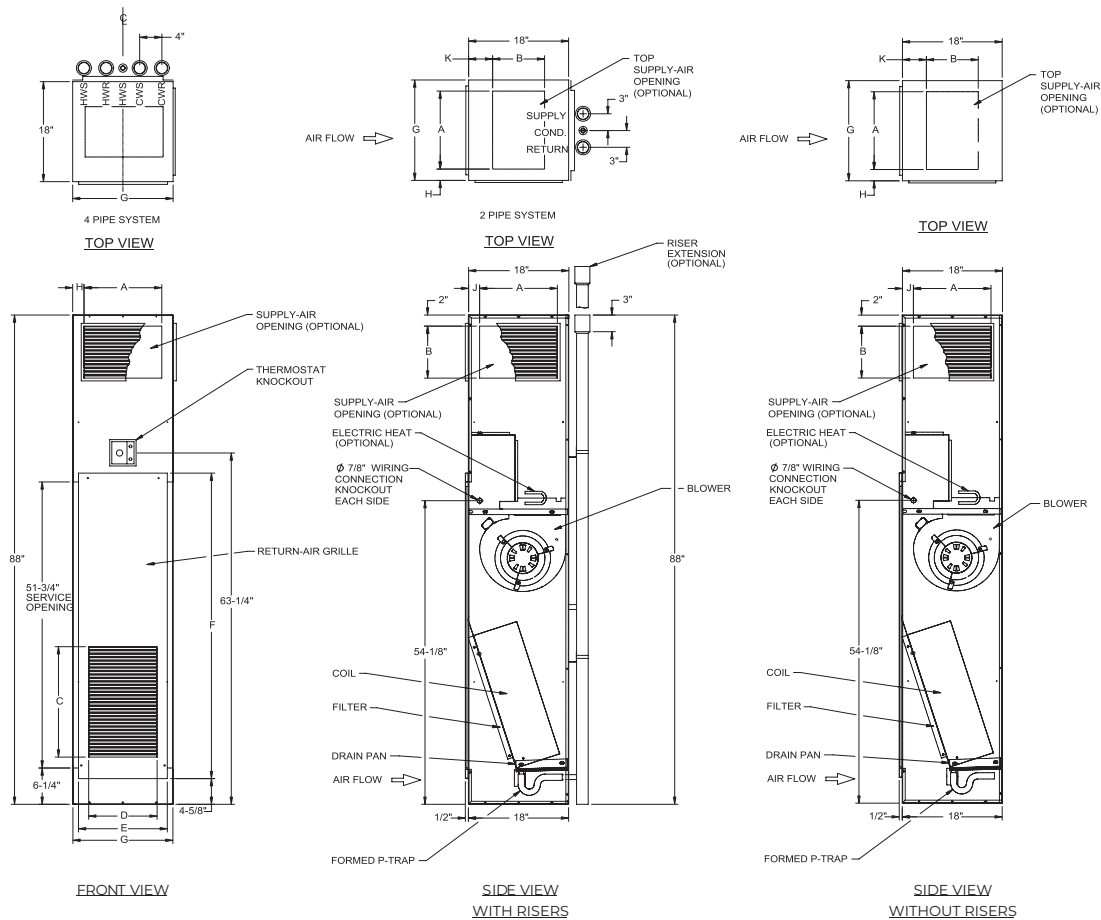
| UNIT | MODEL | DIMENSIONS / INCHES | | | WT./ LBS. | DIMENSIONS / MILLIMETERS | | | WT./KG. |
|-----------------------------------------------|-------|---------------------|-------|-------|-----------|--------------------------|-------|-------|---------|
| | | HEIGHT | WIDTH | DEPTH | DRY | HEIGHT | WIDTH | DEPTH | DRY |
| ER Series Basic / Deluxe Master / Slave | 003 | 88 | 18 | 18 | 225 | 2,235 | 457 | 457 | 102 |
| | 004 | 88 | 18 | 18 | 225 | 2,235 | 457 | 457 | 102 |
| | 006 | 88 | 18 | 18 | 225 | 2,235 | 457 | 457 | 102 |
| | 008 | 88 | 24 | 18 | 250 | 2,235 | 610 | 457 | 114 |
| | 010 | 88 | 24 | 18 | 250 | 2,235 | 610 | 457 | 114 |
| | 012 | 88 | 24 | 18 | 250 | 2,235 | 610 | 457 | 114 |
| ER Series TwinPack | 003 | 88 | 18 | 42 | 450 | 2,235 | 457 | 1067 | 205 |
| | 004 | 88 | 18 | 42 | 450 | 2,235 | 457 | 1067 | 205 |
| | 006 | 88 | 18 | 42 | 450 | 2,235 | 457 | 1067 | 205 |
| | 008 | 88 | 24 | 42 | 500 | 2,235 | 610 | 1067 | 227 |
| | 010 | 88 | 24 | 42 | 500 | 2,235 | 610 | 1067 | 227 |
| | 012 | 88 | 24 | 42 | 500 | 2,235 | 610 | 1067 | 227 |
| DR Series Basic / Deluxe Master / Slave | 003 | 97 | 20 | 20 | 240 | 2,464 | 508 | 508 | 109 |
| | 004 | 97 | 20 | 20 | 240 | 2,464 | 508 | 508 | 109 |
| | 005 | 97 | 20 | 20 | 240 | 2,464 | 508 | 508 | 109 |
| | 006 | 97 | 24 | 20 | 240 | 2,464 | 610 | 508 | 137 |
| | 008 | 97 | 24 | 20 | 300 | 2,464 | 610 | 508 | 137 |
| | 010 | 97 | 24 | 20 | 300 | 2,464 | 610 | 508 | 137 |
| | 012 | 97 | 24 | 20 | 300 | 2,464 | 610 | 508 | 137 |
| DR Series TwinPack | 003 | 97 | 20 | 46 | 480 | 2,464 | 508 | 1168 | 208 |
| | 004 | 97 | 20 | 46 | 480 | 2,464 | 508 | 1168 | 218 |
| | 005 | 97 | 20 | 46 | 480 | 2,464 | 508 | 1168 | 218 |
| | 006 | 97 | 24 | 46 | 480 | 2,464 | 610 | 1168 | 218 |
| | 008 | 97 | 24 | 46 | 600 | 2,464 | 610 | 1168 | 273 |
| | 010 | 97 | 24 | 46 | 600 | 2,464 | 610 | 1168 | 273 |
| | 012 | 97 | 24 | 46 | 600 | 2,464 | 610 | 1168 | 273 |

Notes: 1) Standard coils for 003-004 is 3 rows and 005-012 is 4 rows.
2) Cabinet only. Does not include risers.

WILLIAMS VERTICAL STACK FAN COILS 19

VERTICAL STACK HIGH RISE

ER-B BASIC / ER-D DELUXE 300 - 1,200 CFM

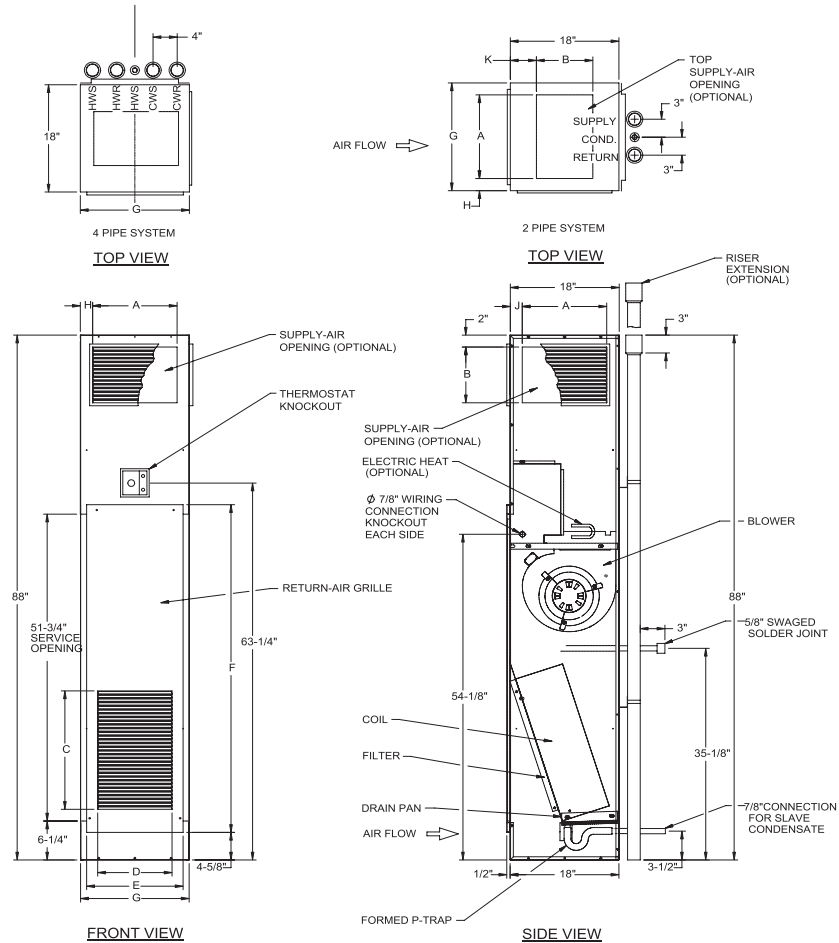


| MODEL ER-B | DISCHARGE OPENING | | RETURN AIR GRILLS | | ACCESS PANEL | | G | H | J | K | FILTER SIZE |
|---------------|----------------------|----|----------------------|----|--------------|----|----|---|---|---|-------------|
| | A | B | C | D | E | F | | | | | |
| 300 | 14 | 12 | 19-1/2 | 13 | 17 | 55 | 18 | 2 | 2 | 2 | 14 x 25 x 1 |
| 400 | 14 | 12 | 19-1/2 | 13 | 17 | 55 | 18 | 2 | 2 | 2 | 14 x 25 x 1 |
| 600 | 14 | 12 | 19-1/2 | 13 | 17 | 55 | 18 | 2 | 2 | 2 | 14 x 25 x 1 |
| 800 | 16 | 14 | 20-1/2 | 15 | 23 | 55 | 24 | 4 | 1 | 4 | 20 x 25 x 1 |
| 1000 | 16 | 14 | 20-1/2 | 15 | 23 | 55 | 24 | 4 | 1 | 4 | 20 x 25 x 1 |
| 1200 | 16 | 14 | 20-1/2 | 15 | 23 | 55 | 24 | 4 | 1 | 4 | 20 x 25 x 1 |

- Coil connections may be right, left or rear.
- Coil connections determined by facing the return air grille.
- Electrical junction box is located above the blower and motor assembly.
- Unit must be installed level and condensate drain lines should be trapped.
- Removable drain pan is powder coated epoxy with a 1/8" thick Elastomeric insulation and has 3/4" NPT primary and secondary drain connections.
- Entire cabinet, scroll and blower wheel are heavy gauge, galvanized steel.
- Coil Connections: 1/2" CW on ER003-006 and 3/4" on ER008-012.

VERTICAL STACK HIGH RISE

ER-M MASTER / 300 - 1,200 CFM

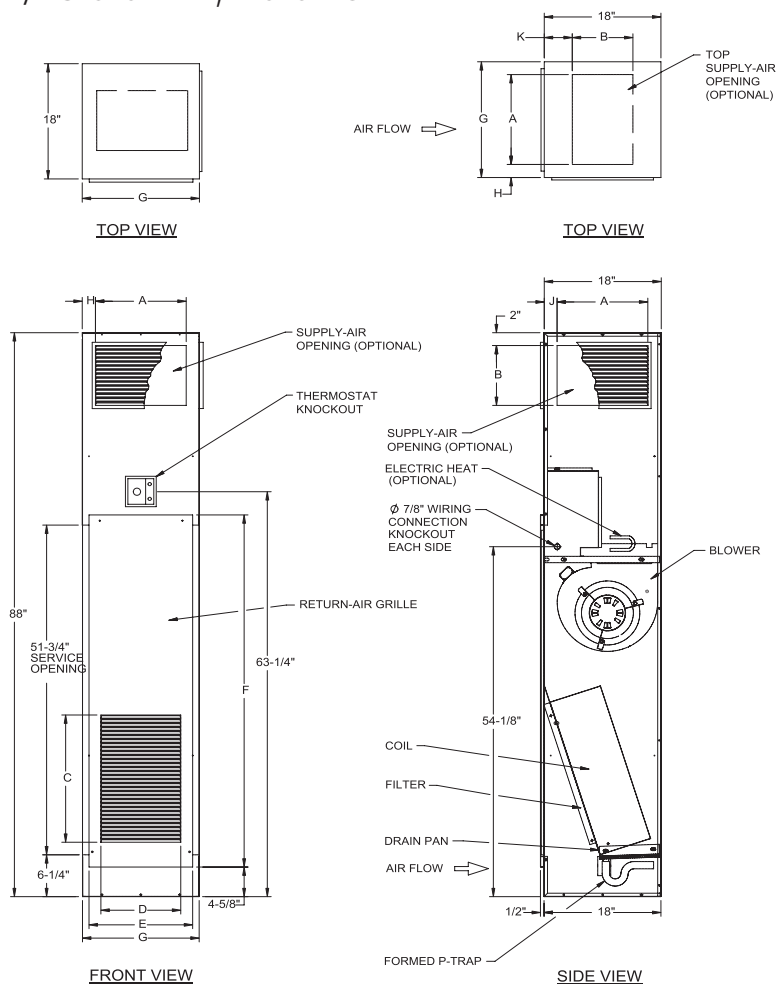


| MODEL ER-M | DISCHARGE OPENING | | RETURN AIR LOUVERS | | RETURN AIR GRILLE | | G | H | J | K | FILTER SIZE |
|---------------|----------------------|----|-----------------------|----|----------------------|----|----|---|---|---|-------------|
| | A | B | C | D | E | F | | | | | |
| 300 | 14 | 12 | 19-1/2 | 13 | 17 | 55 | 18 | 2 | 2 | 2 | 14 x 25 x 1 |
| 400 | 14 | 12 | 19-1/2 | 13 | 17 | 55 | 18 | 2 | 2 | 2 | 14 x 25 x 1 |
| 600 | 14 | 12 | 19-1/2 | 13 | 17 | 55 | 18 | 2 | 2 | 2 | 14 x 25 x 1 |
| 800 | 16 | 14 | 20-1/2 | 15 | 23 | 55 | 24 | 4 | 1 | 4 | 20 x 25 x 1 |
| 1000 | 16 | 14 | 20-1/2 | 15 | 23 | 55 | 24 | 4 | 1 | 4 | 20 x 25 x 1 |
| 1200 | 16 | 14 | 20-1/2 | 15 | 23 | 55 | 24 | 4 | 1 | 4 | 20 x 25 x 1 |

- Coil connections may be right, left or rear.
- Coil connections determined by facing the return air grille.
- Electrical junction box is located above the blower and motor assembly.
- Unit must be installed level and condensate drain lines should be trapped.
- Removable drain pan is powder coated epoxy with a 1/8" thick Elastomeric insulation and has 3/4" NPT primary and secondary drain connections.
- Entire cabinet, scroll and blower wheel are heavy gauge, galvanized steel.
- Coil Connections: 1/2" CW on ER003-006 and 3/4" on ER003-012.

VERTICAL STACK HIGH RISE

ER-S SLAVE / 300 - 1,200 CFM

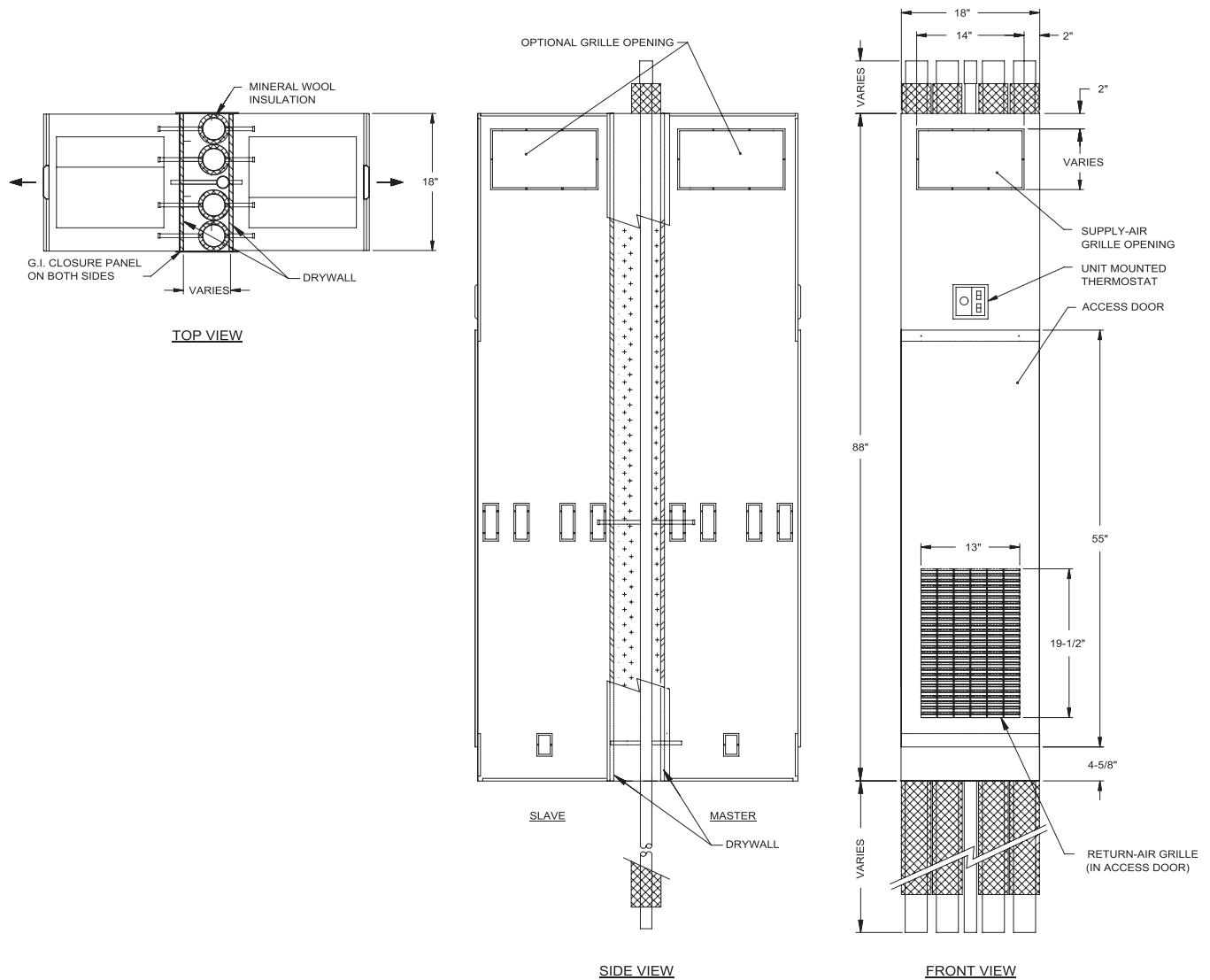


| MODEL ER-S | DISCHARGE GRILLE | | RETURN AIR OPENING | | RETURN AIR GRILLE | | G | H | J | K | FILTER SIZE |
|---------------|---------------------|----|-----------------------|----|----------------------|----|----|---|---|---|-------------|
| | A | B | C | D | E | F | | | | | |
| 300 | 14 | 12 | 19-1/2 | 13 | 17 | 55 | 18 | 2 | 2 | 2 | 14 x 25 x 1 |
| 400 | 14 | 12 | 19-1/2 | 13 | 17 | 55 | 18 | 2 | 2 | 2 | 14 x 25 x 1 |
| 600 | 14 | 12 | 19-1/2 | 13 | 17 | 55 | 18 | 2 | 2 | 2 | 14 x 25 x 1 |
| 800 | 16 | 14 | 20-1/2 | 15 | 23 | 55 | 24 | 4 | 1 | 4 | 20 x 25 x 1 |
| 1000 | 16 | 14 | 20-1/2 | 15 | 23 | 55 | 24 | 4 | 1 | 4 | 20 x 25 x 1 |
| 1200 | 16 | 14 | 20-1/2 | 15 | 23 | 55 | 24 | 4 | 1 | 4 | 20 x 25 x 1 |

- Coil connections may be right, left or rear.
- Coil connections determined by facing the return air grille.
- Electrical junction box is located above the blower and motor assembly.
- Unit must be installed level and condensate drain lines should be trapped.
- Removable drain pan is powder coated epoxy with a 1/8" thick Elastomeric insulation and has 3/4" NPT primary and secondary drain connections.
- Entire cabinet, scroll and blower wheel are heavy gauge, galvanized steel.
- Coil Connections: 1/2" CW on ER003-006, 3/4" on ER008-012.

VERTICAL STACK HIGH RISE

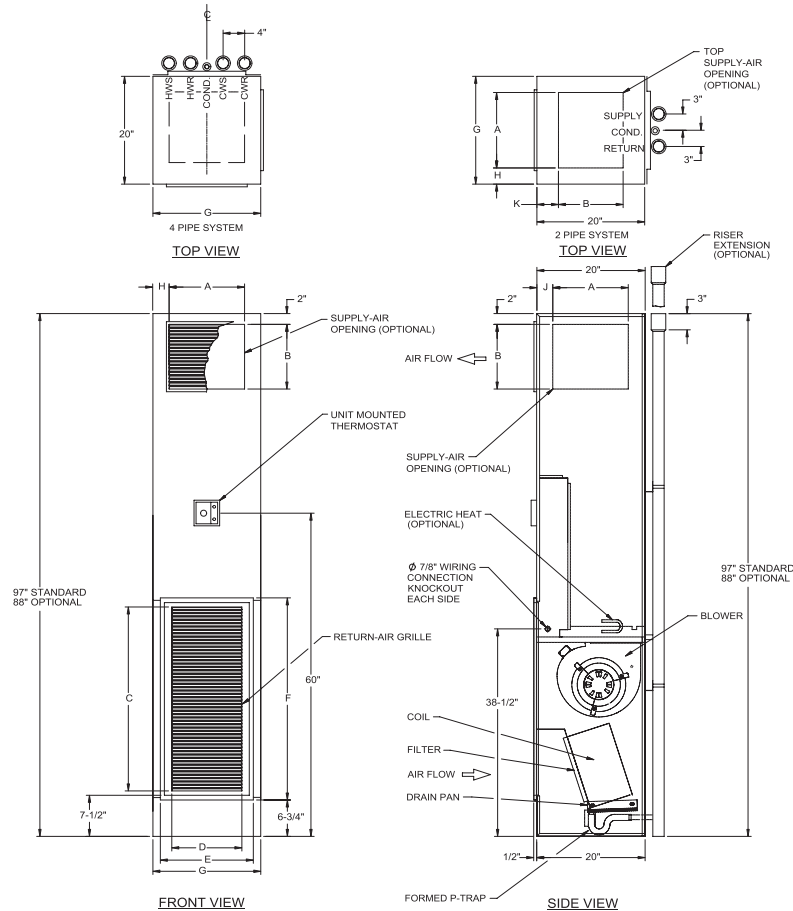
ER TWINPACK / 300 - 600 CFM



- TwinPacks include a one hour UL through penetration firestop W-L-7089 system. Local codes may dictate exact amount and placement of drywall.
- Galvanized steel support brackets are added to the top and bottom of each TwinPack for protection during shipping and handling.
- Field furnish and install approved firestop material after the units are installed at points where piping penetrates the ceiling and floor.
- Each unit operates independently with it's own valves and controls.
- The TwinPack unit is suitable for zero inch clearance to combustible materials.

VERTICAL STACK HIGH RISE

DR-B BASIC / DR-D DELUXE / 300 - 1,200 CFM

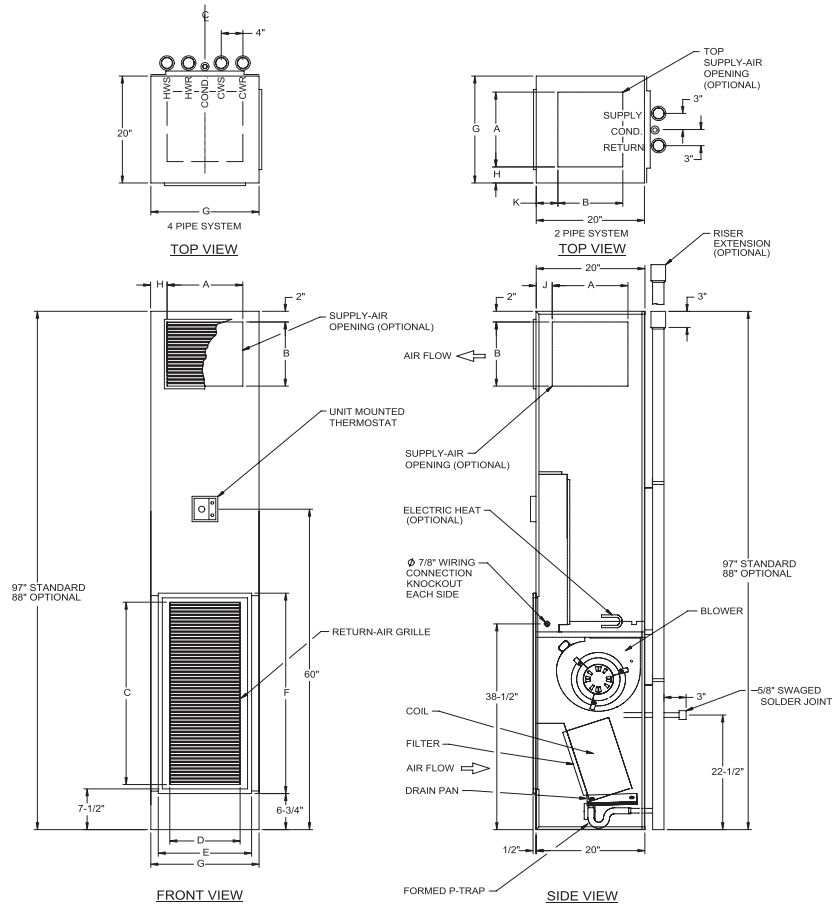


| MODEL DR-B | DISCHARGE OPENING | | RETURN AIR GRILLE | | ACCESS PANEL | | G | H | J | K | FILTER SIZE |
|---------------|----------------------|----|----------------------|----|--------------|--------|----|---|---|---|-----------------|
| | A | B | C | D | E | F | | | | | |
| 300 | 14 | 12 | 34 | 13 | 17-1/2 | 37-1/2 | 20 | 3 | 3 | 4 | 12 x 15-1/2 x 1 |
| 400 | 14 | 12 | 34 | 13 | 17-1/2 | 37-1/2 | 20 | 3 | 3 | 4 | 12 x 15-1/2 x 1 |
| 500 | 14 | 12 | 34 | 13 | 17-1/2 | 37-1/2 | 20 | 3 | 3 | 4 | 12 x 15-1/2 x 1 |
| 600 | 16 | 14 | 34 | 17 | 20-1/2 | 37-1/2 | 24 | 4 | 2 | 3 | 12 x 15-1/2 x 1 |
| 800 | 16 | 14 | 34 | 17 | 20-1/2 | 37-1/2 | 24 | 4 | 2 | 3 | 12 x 15-1/2 x 1 |
| 1000 | 16 | 14 | 40 | 17 | 20-1/2 | 43-1/2 | 24 | 4 | 2 | 3 | 18 x 19-1/2 x 1 |
| 1200 | 16 | 14 | 40 | 17 | 20-1/2 | 43-1/2 | 24 | 4 | 2 | 3 | 18 x 19-1/2 x 1 |

- Coil connections may be right, left or rear.
- Coil connections determined by facing the return air grille.
- Electrical junction box is located above the blower and motor assembly.
- Unit must be installed level and condensate drain lines should be trapped.
- Removable drain pan is powder coated epoxy with a 1/8" thick Elastomeric insulation and has 3/4" NPT primary and secondary drain connections.
- Entire cabinet, scroll and blower wheel are heavy gauge, galvanized steel.
- Coil Connections: 1/2" CW on DR003-006, 3/4" on DR008-012 and 1/2" HW on DR003-012.

VERTICAL STACK HIGH RISE

DR-D MASTER / 300 - 1,200 CFM



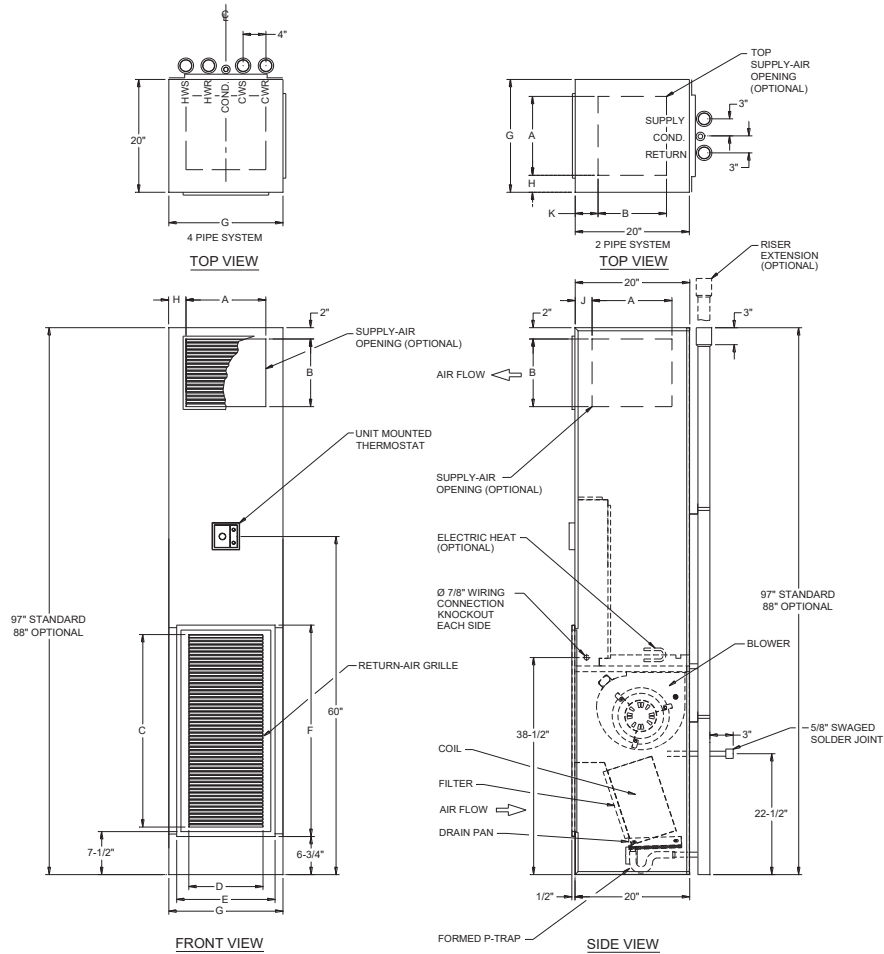
| MODEL DR-M | DISCHARGE OPENING | | RETURN AIR GRILLE | | ACCESS PANEL | | G | H | J | K | FILTER SIZE |
|---------------|----------------------|----|----------------------|----|--------------|--------|----|---|---|---|-----------------|
| | A | B | C | D | E | F | | | | | |
| 300 | 14 | 12 | 34 | 13 | 17-1/2 | 37-1/2 | 20 | 3 | 3 | 4 | 12 x 15-1/2 x 1 |
| 400 | 14 | 12 | 34 | 13 | 17-1/2 | 37-1/2 | 20 | 3 | 3 | 4 | 12 x 15-1/2 x 1 |
| 500 | 14 | 12 | 34 | 13 | 17-1/2 | 37-1/2 | 20 | 3 | 3 | 4 | 12 x 15-1/2 x 1 |
| 600 | 16 | 14 | 34 | 17 | 20-1/2 | 37-1/2 | 24 | 4 | 2 | 3 | 12 x 15-1/2 x 1 |
| 800 | 16 | 14 | 34 | 17 | 20-1/2 | 37-1/2 | 24 | 4 | 2 | 3 | 12 x 15-1/2 x 1 |
| 1000 | 16 | 14 | 40 | 17 | 20-1/2 | 43-1/2 | 24 | 4 | 2 | 3 | 18 x 19-1/2 x 1 |
| 1200 | 16 | 14 | 40 | 17 | 20-1/2 | 43-1/2 | 24 | 4 | 2 | 3 | 18 x 19-1/2 x 1 |

- Coil connections may be right, left or rear.
- Coil connections determined by facing the return air grille.
- Electrical junction box is located above the blower and motor assembly.
- Unit must be installed level and condensate drain lines should be trapped.
- Removable drain pan is powder-coated epoxy with a 1/8" thick closed-cell insulation and has 3/4" NPT primary and secondary drain connections.
- Entire cabinet, scroll and blower wheel are heavy gauge, galvanized steel.
- Coil Connections: 1/2" CW on DR003-006, 3/4" on DR008-012 and 1/2" HW on DR003-012.

WILLIAMS VERTICAL STACK FAN COILS 25

VERTICAL STACK HIGH RISE

DR-M MASTER SLAVE / 300 - 1,200 CFM

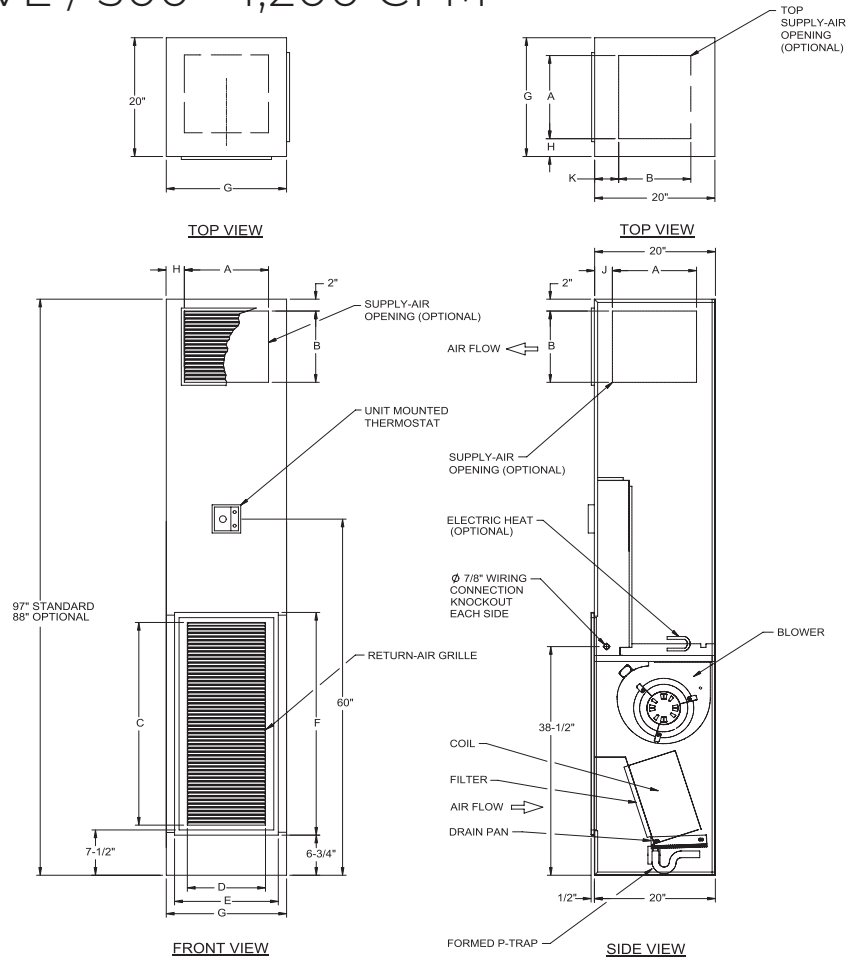


| MODEL DR-M | DISCHARGE OPENING | | RETURN AIR GRILLE | | ACCESS PANEL | | G | H | J | K | FILTER SIZE |
|---------------|----------------------|----|----------------------|----|--------------|--------|----|---|---|---|-----------------|
| | A | B | C | D | E | F | | | | | |
| 300 | 14 | 12 | 34 | 13 | 17-1/2 | 37-1/2 | 20 | 3 | 3 | 4 | 12 x 15-1/2 x 1 |
| 400 | 14 | 12 | 34 | 13 | 17-1/2 | 37-1/2 | 20 | 3 | 3 | 4 | 12 x 15-1/2 x 1 |
| 500 | 14 | 12 | 34 | 13 | 17-1/2 | 37-1/2 | 20 | 3 | 3 | 4 | 12 x 15-1/2 x 1 |
| 600 | 16 | 14 | 34 | 17 | 20-1/2 | 37-1/2 | 24 | 4 | 2 | 3 | 12 x 15-1/2 x 1 |
| 800 | 16 | 14 | 34 | 17 | 20-1/2 | 37-1/2 | 24 | 4 | 2 | 3 | 12 x 15-1/2 x 1 |
| 1000 | 16 | 14 | 40 | 17 | 20-1/2 | 43-1/2 | 24 | 4 | 2 | 3 | 18 x 19-1/2 x 1 |
| 1200 | 16 | 14 | 40 | 17 | 20-1/2 | 43-1/2 | 24 | 4 | 2 | 3 | 18 x 19-1/2 x 1 |

- Coil connections may be right, left or rear.
- Coil connections determined by facing the return air grille.
- Electrical junction box is located above the blower and motor assembly.
- Unit must be installed level and condensate drain lines should be trapped.
- Drain pan is powder coated epoxy with a 1/4" thick closed cell insulation and has a formed p-trap drain connection.
- Entire cabinet, scroll and blower wheel are heavy gauge, galvanized steel.
- Coil connections: 1/2" CW on DR003-006, 3/4" on DR008-012 and 1/2" HW DR003-012.

VERTICAL STACK HIGH RISE

DR-S SLAVE / 300 - 1,200 CFM

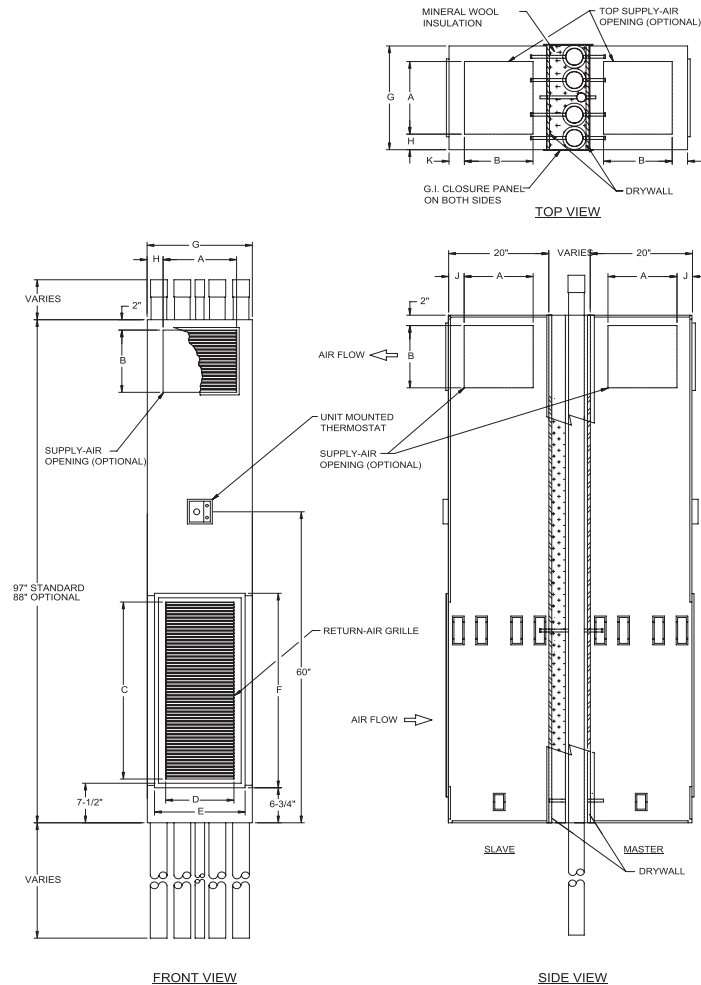


| MODEL DR-S | DISCHARGE OPENING | | RETURN AIR GRILLE | | ACCESS PANEL | | G | H | J | K | FILTER SIZE |
|---------------|----------------------|----|----------------------|----|--------------|--------|----|---|---|---|-----------------|
| | A | B | C | D | E | F | | | | | |
| 300 | 14 | 12 | 34 | 13 | 17-1/2 | 37-1/2 | 20 | 3 | 3 | 4 | 12 x 15-1/2 x 1 |
| 400 | 14 | 12 | 34 | 13 | 17-1/2 | 37-1/2 | 20 | 3 | 3 | 4 | 12 x 15-1/2 x 1 |
| 500 | 14 | 12 | 34 | 13 | 17-1/2 | 37-1/2 | 20 | 3 | 3 | 4 | 12 x 15-1/2 x 1 |
| 600 | 16 | 14 | 34 | 17 | 20-1/2 | 37-1/2 | 24 | 4 | 2 | 3 | 12 x 15-1/2 x 1 |
| 800 | 16 | 14 | 34 | 17 | 20-1/2 | 37-1/2 | 24 | 4 | 2 | 3 | 12 x 15-1/2 x 1 |
| 1000 | 16 | 14 | 40 | 17 | 20-1/2 | 43-1/2 | 24 | 4 | 2 | 3 | 18 x 19-1/2 x 1 |
| 1200 | 16 | 14 | 40 | 17 | 20-1/2 | 43-1/2 | 24 | 4 | 2 | 3 | 18 x 19-1/2 x 1 |

- Coil connections may be right, left or rear.
- Coil connections determined by facing the return air grille.
- Electrical junction box is located above the blower and motor assembly.
- Unit must be installed level and condensate drain lines should be trapped.
- Removable drain pan is powder coated epoxy with a 1/8" thick Elastomeric insulation and has 3/4" NPT primary and secondary drain connections.
- Entire cabinet, scroll and blower wheel are heavy gauge, galvanized steel.
- Coil Connections: 1/2" CW on DR003-006, 3/4" on DR008-012 and 1/2" HW on DR003-012

VERTICAL STACK

DR TWINPACK / 300 - 1,200 CFM / WITH RISERS BETWEEN UNITS

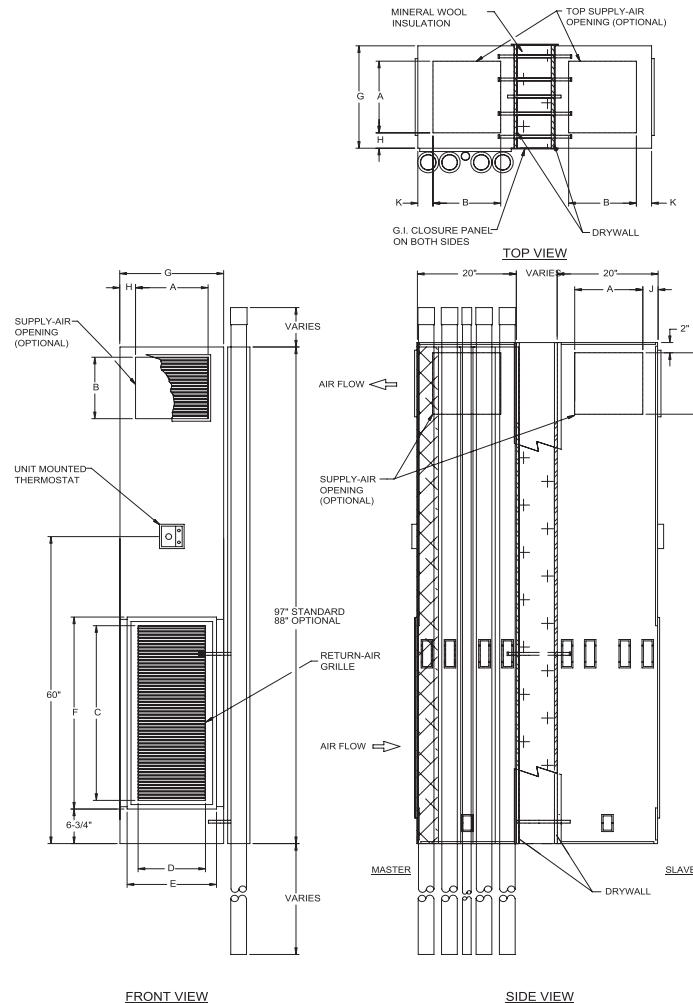


| MODEL DR-B | DISCHARGE OPENING | | RETURN AIR GRILLE | | ACCESS PANEL | | G | H | J | K | FILTER SIZE |
|---------------|----------------------|----|----------------------|----|--------------|--------|----|---|---|---|-----------------|
| | A | B | C | D | E | F | | | | | |
| 300 | 14 | 12 | 34 | 13 | 17-1/2 | 37-1/2 | 20 | 3 | 3 | 4 | 12 x 15-1/2 x 1 |
| 400 | 14 | 12 | 34 | 13 | 17-1/2 | 37-1/2 | 20 | 3 | 3 | 4 | 12 x 15-1/2 x 1 |
| 500 | 14 | 12 | 34 | 13 | 17-1/2 | 37-1/2 | 20 | 3 | 3 | 4 | 12 x 15-1/2 x 1 |
| 600 | 16 | 14 | 34 | 17 | 20-1/2 | 37-1/2 | 24 | 4 | 2 | 3 | 12 x 15-1/2 x 1 |
| 800 | 16 | 14 | 34 | 17 | 20-1/2 | 37-1/2 | 24 | 4 | 2 | 3 | 12 x 15-1/2 x 1 |
| 1000 | 16 | 14 | 40 | 17 | 20-1/2 | 43-1/2 | 24 | 4 | 2 | 3 | 18 x 19-1/2 x 1 |
| 1200 | 16 | 14 | 40 | 17 | 20-1/2 | 43-1/2 | 24 | 4 | 2 | 3 | 18 x 19-1/2 x 1 |

- TwinPacks include a one hour UL through penetration firestop W-L-7089 system. Local codes may dictate exact amount and placement of drywall.
- Galvanized steel support brackets are added to the top and bottom of each TwinPack for protection during shipping and handling.
- Field furnish and install approved firestop material after the units are installed at points where piping penetrates the ceiling and floor.
- Each unit operates independently with it's own valves and controls.
- The TwinPack unit is suitable for zero inch clearance to combustible materials.

VERTICAL STACK

DR TWINPACK / 300 - 1,200 CFM / WITH RIGHT SIDE RISERS

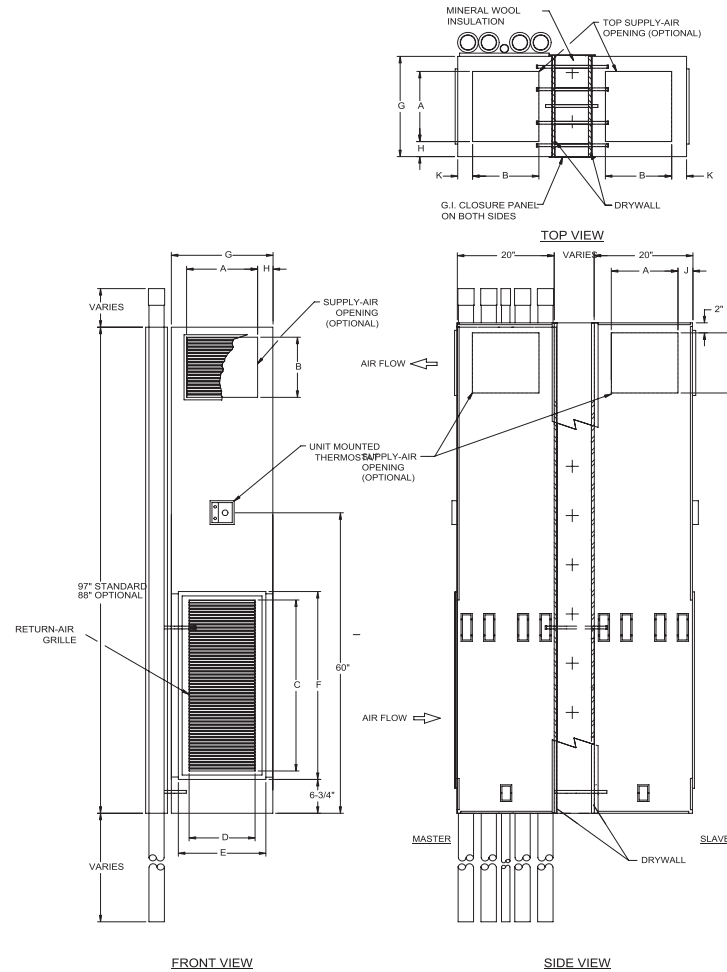


| MODEL DR-B | DISCHARGE OPENING | | RETURN AIR GRILLE | | ACCESS PANEL | | G | H | J | K | FILTER SIZE |
|---------------|----------------------|----|----------------------|----|--------------|--------|----|---|---|---|-----------------|
| | A | B | C | D | E | F | | | | | |
| 300 | 14 | 12 | 34 | 13 | 17-1/2 | 37-1/2 | 20 | 3 | 3 | 4 | 12 x 15-1/2 x 1 |
| 400 | 14 | 12 | 34 | 13 | 17-1/2 | 37-1/2 | 20 | 3 | 3 | 4 | 12 x 15-1/2 x 1 |
| 500 | 14 | 12 | 34 | 13 | 17-1/2 | 37-1/2 | 20 | 3 | 3 | 4 | 12 x 15-1/2 x 1 |
| 600 | 16 | 14 | 34 | 17 | 20-1/2 | 37-1/2 | 24 | 4 | 2 | 3 | 12 x 15-1/2 x 1 |
| 800 | 16 | 14 | 34 | 17 | 20-1/2 | 37-1/2 | 24 | 4 | 2 | 3 | 12 x 15-1/2 x 1 |
| 1000 | 16 | 14 | 40 | 17 | 20-1/2 | 43-1/2 | 24 | 4 | 2 | 3 | 18 x 19-1/2 x 1 |
| 1200 | 16 | 14 | 40 | 17 | 20-1/2 | 43-1/2 | 24 | 4 | 2 | 3 | 18 x 19-1/2 x 1 |

- TwinPacks include a one hour UL through penetration firestop W-L-7089 system. Local codes may dictate exact amount and placement of drywall.
- Galvanized steel support brackets are added to the top and bottom of each TwinPack for protection during shipping and handling.
- Field furnish and install approved firestop material after the units are installed at points where piping penetrates the ceiling and floor.
- Each unit operates independently with it's own valves and controls.
- The TwinPack unit is suitable for zero inch clearance to combustible materials.

VERTICAL STACK

DR TWINPACK / 300 - 1,200 CFM / WITH LEFT SIDE RISERS



| MODEL DR-B | DISCHARGE OPENING | | RETURN AIR GRILLE | | ACCESS PANEL | | G | H | J | K | FILTER SIZE |
|---------------|----------------------|----|----------------------|----|--------------|--------|----|---|---|---|-----------------|
| | A | B | C | D | E | F | | | | | |
| 300 | 14 | 12 | 34 | 13 | 17-1/2 | 37-1/2 | 20 | 3 | 3 | 4 | 12 x 15-1/2 x 1 |
| 400 | 14 | 12 | 34 | 13 | 17-1/2 | 37-1/2 | 20 | 3 | 3 | 4 | 12 x 15-1/2 x 1 |
| 500 | 14 | 12 | 34 | 13 | 17-1/2 | 37-1/2 | 20 | 3 | 3 | 4 | 12 x 15-1/2 x 1 |
| 600 | 16 | 14 | 34 | 17 | 20-1/2 | 37-1/2 | 24 | 4 | 2 | 3 | 12 x 15-1/2 x 1 |
| 800 | 16 | 14 | 34 | 17 | 20-1/2 | 37-1/2 | 24 | 4 | 2 | 3 | 12 x 15-1/2 x 1 |
| 1000 | 16 | 14 | 40 | 17 | 20-1/2 | 43-1/2 | 24 | 4 | 2 | 3 | 18 x 19-1/2 x 1 |
| 1200 | 16 | 14 | 40 | 17 | 20-1/2 | 43-1/2 | 24 | 4 | 2 | 3 | 18 x 19-1/2 x 1 |

- TwinPacks include a one hour UL through penetration firestop W-L-7089 system. Local codes may dictate exact amount and placement of drywall.
- Galvanized steel support brackets are added to the top and bottom of each TwinPack for protection during shipping and handling.
- Field furnish and install approved firestop material after the units are installed at points where piping penetrates the ceiling and floor.
- Each unit operates independently with it's own valves and controls.
- The TwinPack unit is suitable for zero inch clearance to combustible materials.

Features & Options DR/ER Series

- **Custom Grille Finish**
 - Supply & Return
- **Custom Colors**
- **Framed (No Hardware)**
 - Louvers (full position)
 - Stainless Steel
- **Privacy Baffle**
- **Accoustical Package**
- **Thermostat Quick-Disconnect**
 - Unit mounted
 - Remote mounted
- **Sound Shield**
- **Disconnect Switches**
 - Fused & non-fused
- **Limit Switches**
 - Lani switch
 - High limit (fire)
 - Freeze thermostat
- **Cabinet Types**
 - Basic
 - Primary
 - Secondary
 - TwinPack
 - Deluxe
- **Cabinet Insulation**
 - Fiberglass
 - Foil faced
 - Elastomeric
- **Double Wall**
 - Solid
 - Perforated
- **Risers**
 - Copper types
 - Custom lengths
 - Insulation thickness
- **Coil System**
 - Two- or four pipe hydronic
 - Direct expansion
 - Steam
 - Wild coil
- **UV Lights**
- **Drain Pans**
 - Stainless steel
 - Porcelain
 - Double wall
 - Removable
- **Outside Air Opening**
 - Manual damper
 - Motorized damper
- **Pedestal Base**
- **Micro pumps**
- **Piping termination packages**

DISCHARGE AIR

Single, double or top discharge arrangements for ducting or single or double deflection grilles.

RISERS

Factory installed, right, left or rear. Copper type diameter, height and insulation to your specifications. Swaged 3" deep with "belled" top for easy installation.

ER UNIT ON FLOOR ABOVE

FLOOR/CEILING LINE

CABINET

Constructed of heavy gauge galvanized steel and fully insulated with erosion resistance fiberglass. Available 84" - 97" heights.

CONTROL & ELECTRICAL

All controls, motors and optional equipment are factory wired and terminated in a junction box requiring only a single point power supply.

ELECTRIC HEAT (Optional)

The electric heat is low watt density (for long life) nichrome wire elements, with built-in safety overloads. Available in 115, 208/230 and 277 volt single phase.

EASY ACCESS

The combination panel and attractive stamped louver return air grille provide full access to internal components simply by turning two twist lock fasteners.

MOTOR

High efficiency, three speed, permanent split capacitor, 115 volt motors are standard; 208/230 and 277 volt also available. Quick disconnect for fast removal. Extended oiler tube for easy service, if desired (not necessary).

BLOWER

The draw through centrifugal blower is statically and dynamically balanced, and uniquely mounted with resilient isolation. It slides out like a drawer for less than a 30 second removal.

VALVES

Combination shut off and balancing valves are optional (not standard). Available with two or three way electrically operated motorized valves in the various voltage options. Strategically placed, brackets support piping during shipping and installation.

EXPANSION COMPENSATION LOOPS

These standard built-in loops allow for the expansion and contraction of the piping system when switching from chilled water to hot water operation.

FILTER

Easily accessible through the front panel, the filter rack design assures filter fully covers coil. Throwaway provided, washable and metallic, optional.

COILS

High efficiency copper tube with aluminum finned coils are designed for low pressure drops. Coils can easily be removed through the front of the unit.

DRAIN PAN

Epoxy, powder coated, insulated and trapped for positive condensate drainage.

RISER SYSTEM AND ORIENTATION

ER / DR SERIES PIPING SYSTEMS

SYSTEM 1

"DIRECT RETURN" is the most common method of piping. This technique is economical to install since it supplies and returns the water for a riser column at the same place, at the bottom or top. This type of riser arrangement does require more attention to individual unit water flow balancing. These risers are normally capped at the end or require a flush and vent loop at the end of each riser column. These loops are field installed and the units are furnished with the normal full height risers on all floors.

SYSTEM 2

"REVERSE RETURN" system which is commonly used to minimize the requirement for individual unit balancing. This type of system is sometimes referred to as "self balancing". This riser arrangement enhances the natural tendency to equalized flow to each unit in the column; however, individual unit balancing may be necessary. This reverse return system with an individual return or "express" riser for each column may be used on 2 pipe systems.

SYSTEM 3

"REVERSE RETURN" system with a common reverse return riser installed separately from the individual unit riser columns. This system has the same characteristics as the reverse return system described above, but allows more flexibility of individual unit riser sizing. It also may better suit the architectural and structural features of some buildings. In addition, this technique may be used on 4 pipe systems.

NOTE: No matter which system is selected, each individual unit must have the water flow adjusted and balanced properly to maximize performance. This may be done manually or automatically with a variety of optional devices.

EXPANSION AND CONTRACTION

Proper allowance must be made for pipe expansion. Provisions have been designed into the Vertical Stack, High Rise unit to allow for plus or minus 1-1/8" of riser movement (2-1/4" total movement, minimum to maximum). For riser systems where the movement exceeds 2-1/4", provisions must be provided in the riser system to restrict the movement. As a rule of thumb,

100 feet of copper pipe will expand 1" when exposed to a 100° temperature difference. The temperature difference is the difference between the temperature at which the piping is installed and the water temperature during operation. On a two pipe system, this temperature difference becomes even greater due to the change in water temperature from cooling to heating.

One method of limiting riser expansion is by anchoring the riser pipes at the center of the riser stack and allowing the pipes to expand away from the anchor point. Thus, a 200 ft. length would expand approximately 1" each way. Another method is anchoring the riser pipes at the end and absorbing the expansion with an expansion compensator. If an expansion compensator is used, the pipe should be guided. In some situations, a combination of both methods may be required. The risers must be secured at some point to the building structure as the units have not been designed to support the riser weight.

NUMBER OF FLOORS PER RISER

The standard Vertical Stack, high rise unit with service valves, expansion loops, etc., will operate at 300 PSI working pressure which is almost equivalent to a 50 story building.

SELECTION & SIZING OF RISER PIPING

Riser piping should be sized & selected based on water velocity in the risers, the GPM requirements of units and system pressure drop. A water velocity of 2 FPS is considered to be the minimum requirement for entraining and carrying air with water flow. Water velocities of over 8 FPS may cause undue erosion of water pipe. Risers may be sized on the highest water velocity that will not cause noise or erosion. We recommend that the water velocity in risers and units fall within the range of 4 FPS to 6 FPS. Riser sizes need not be changed at every floor to accommodate flow changes but may be carried at one size until water velocities fall outside the recommended ranges. Information regarding riser pipe material and selection may be found in the ASHRAE handbook series.

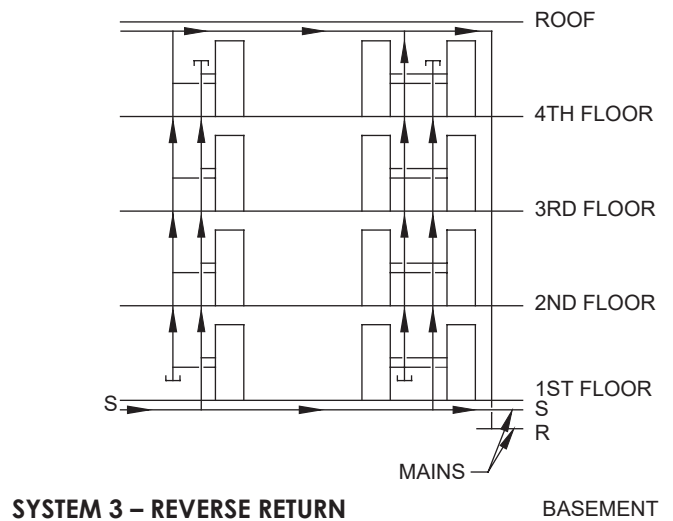
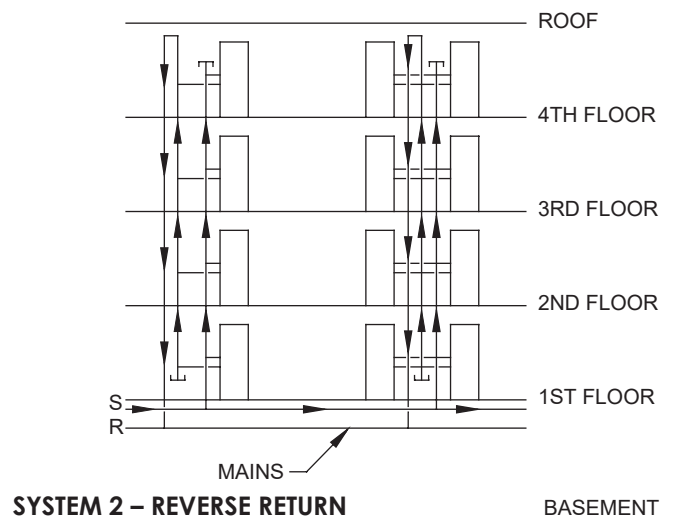
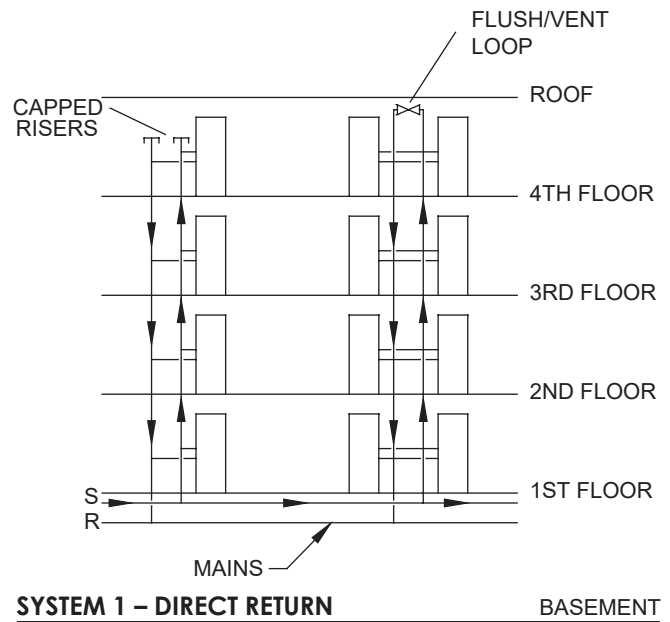
CONTRACTOR PIPING RESPONSIBILITY

Field riser installation may involve clamping slip the coupling in place and brazing riser joints to the risers above and below. Reducing couplings, anchors and expansion compensators, if required, must be provided by others. These items are the responsibility of the consulting engineer of the job and the installing mechanical contractor.

Insulation to cover slip couplings is field installed. Providing a good cement bond at the joints between the field installed insulation and the factory installed riser insulation is the contractor's responsibility.

FIRE STOP

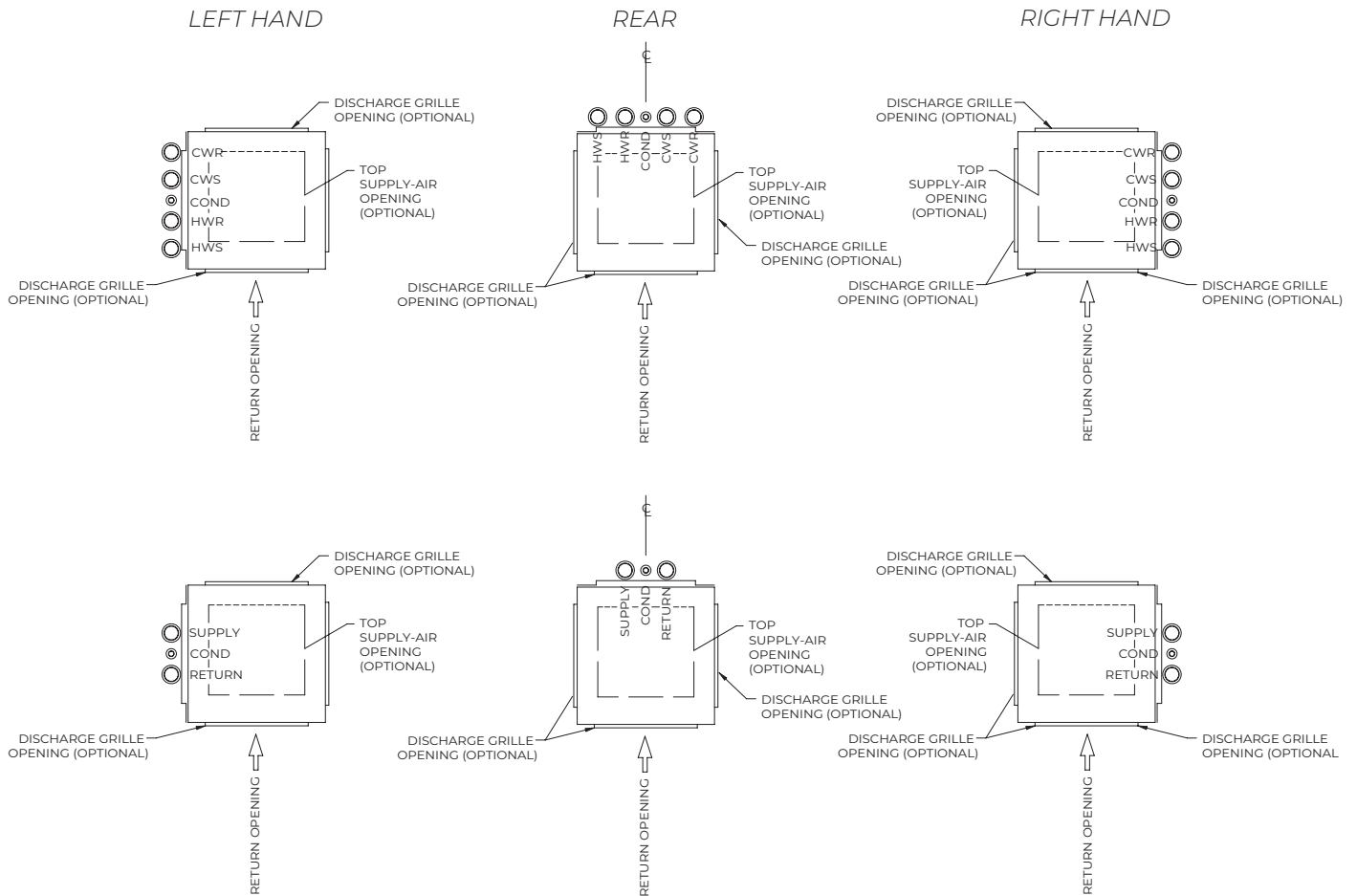
To assure building code compliance, a fire stop must be provided by the contractor in the riser opening between floors and between twin units serving adjacent rooms.



RISER CABINET CONFIGURATIONS

ER / DR SERIES

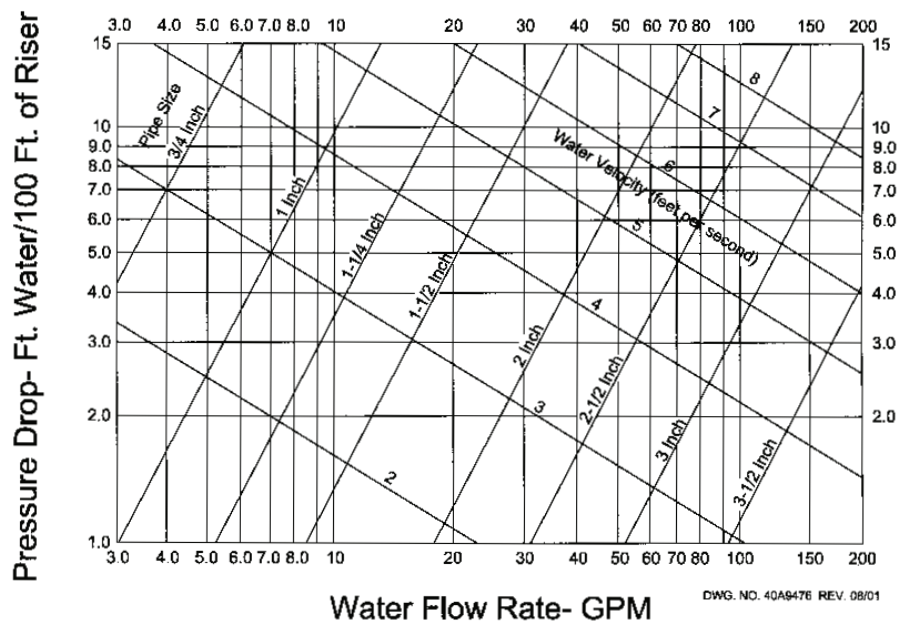
The drawings below illustrate the variety of unit handing and supply air option combinations that are available with ER & DR Series Vertical Stack fan coils.



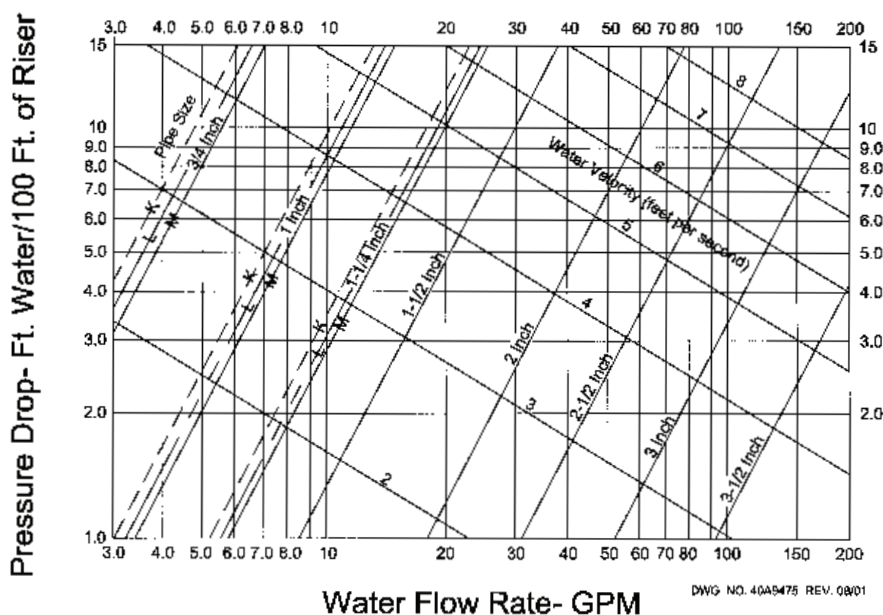
RISER PRESSURE DROP

TYPE K / L & M

RISER PRESSURE DROP TYPE "K" COPPER RISERS

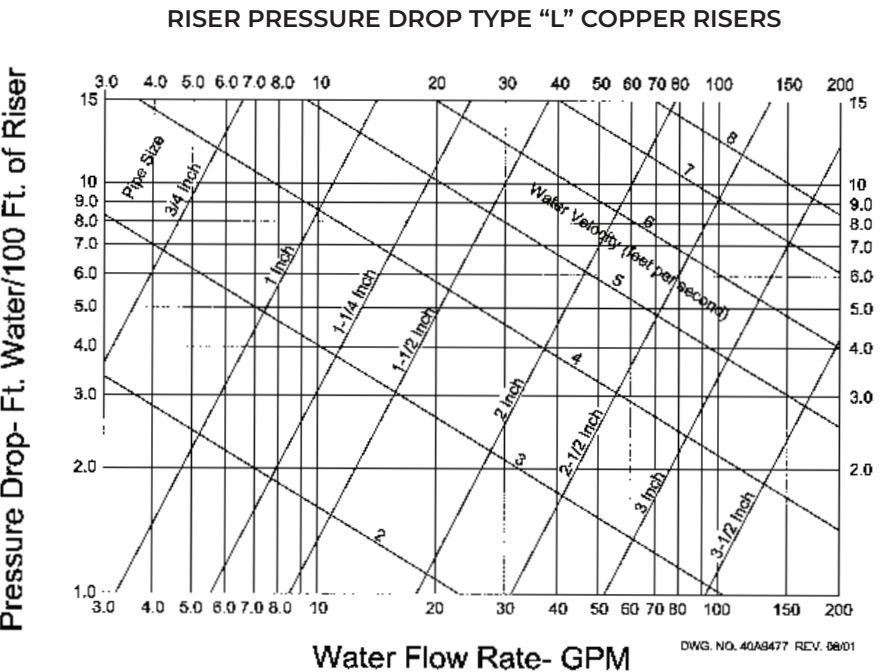
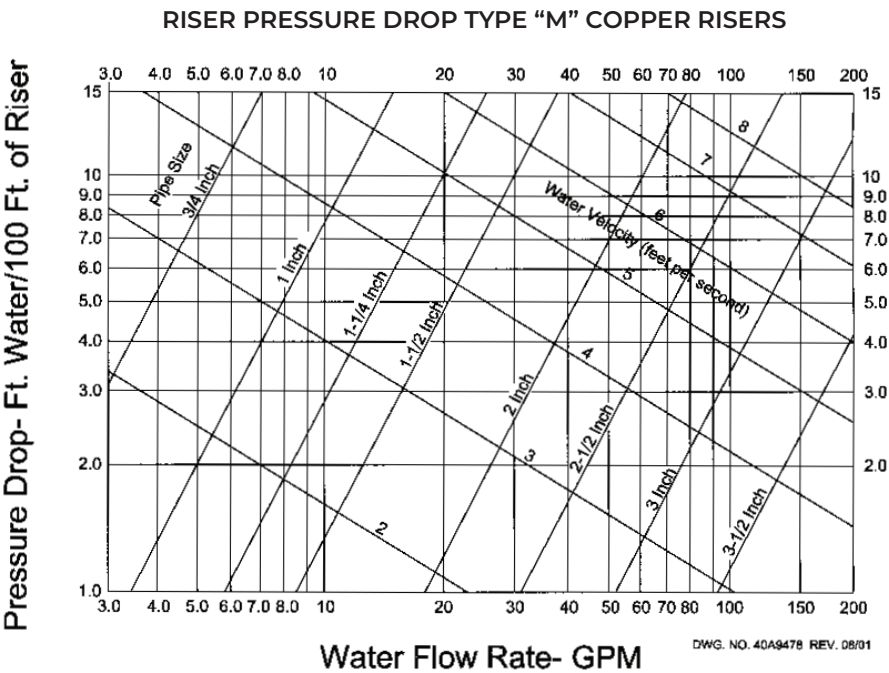


RISER PRESSURE DROP TYPE "K, L & M" COPPER RISERS



RISER PRESSURE DROP

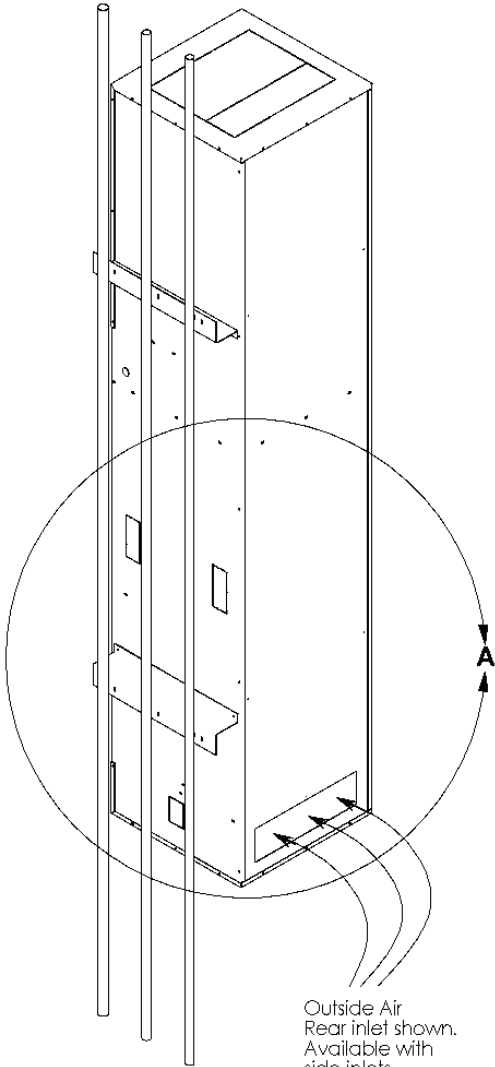
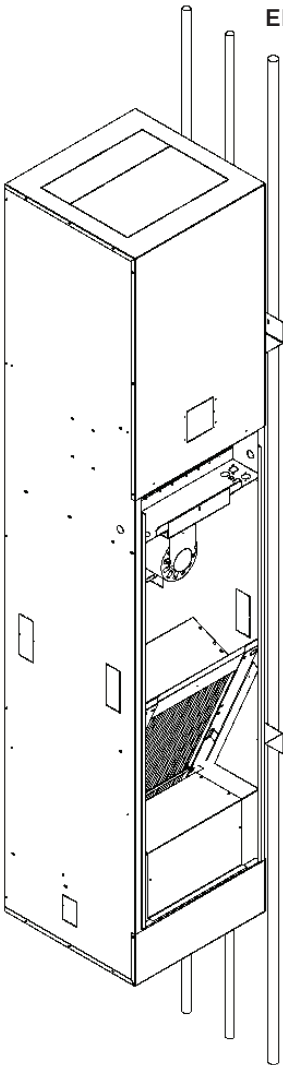
TYPE M & L



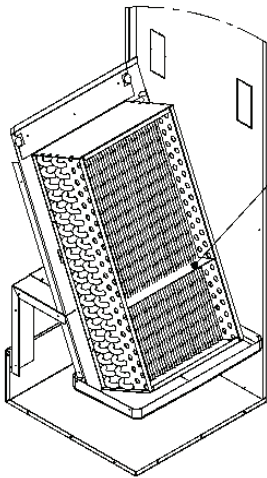
VERTICAL STACK WITH “WILD-COIL”

300 - 1,200 CFM

ERO4-B (R.H.) with WILD-COIL option



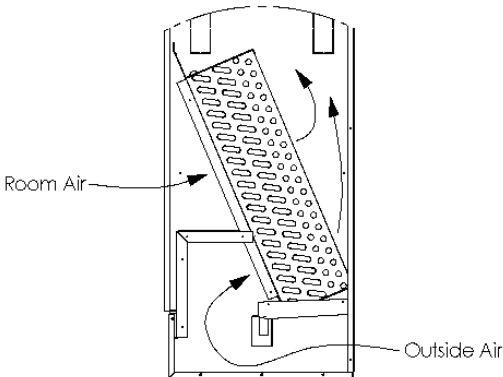
Outside Air
Rear inlet shown.
Available with
side inlets.



The coil is divided
into two independent
sections. The upper
section provides
heating/cooling, the
lower provides
dehumidification.

Each section can be
configured to your
heating/cooling and
dehumidification
needs.

Detail A
Cabinet side, back, and front
have been removed for clarity.



FRAMED GRILLE OPTIONS



Framed grille with
sound shield bar style
pattern, full louver



Framed grille with
sound shield bar style
pattern, partial louver



Framed grille with
sound shield



Grille with camlocks,
bar style louver



Grille with camlocks,
louvered pattern



Grille with camlocks,
solid pattern

PIPING INSTRUCTION

CHILLED & HOT WATER COILS

PURPOSE

This data is intended to explain piping arrangements for chilled and hot water coils to the correct inlet and outlet locations.

TWO PIPE COILS

Two pipe coils have one inlet and outlet. Vertical Stacks may have one to six rows on each unit. The coil may be 100% chilled water, 100% hot water, or with the addition of a pipe sensor changeover control, it may use chilled water when the chiller is operating, or hot water when the boiler is operating. A two-pipe system allows for the chiller or boiler to operate independently, one at a time. The pipe sensor must be clamped onto the supply water line as close to the incoming water source as possible. The purpose of the pipe sensor is to sense the water temperature in the inlet pipe and detect the water temperature at its' set point of approximately 88°F. The pipe sensor will change the thermostat control from the cooling mode to the heating mode, and vice versa.

The inlet is always at the bottom of the coil and the outlet is always at the top of the coil. All coils are piped so that the inlet is always on the row farthest downstream from the incoming air (see diagram 1).

All coils have one or more circuits. Circuits are added to reduce the water pressure drop to an acceptable level (usually 10-ft. H₂O pressure drop or less). Due to the various circuit options available, the inlet, and outlet may change position making the inlet and outlet locations vary.

FOUR PIPE COILS

Four pipe coils have a dedicated, chilled water coil, and a dedicated hot water coil; each with its' own inlet and outlet, equaling four pipes. Williams' coils use a common tube sheet for four pipe coils. Example: A four row, chilled water coil and a one row, hot water coil would use a five-row coil with four rows for chilled water and one row for hot water. Normally the one row, hot water coil is in the reheat position or downstream from the cooling coil. The hot water coil may also be ordered in the preheat position or upstream from the chilled water coil. The controls are wired so that either the chilled water coil is operating or the hot water coil is operating, but not both at the

same time. When the conditioned space thermostat is satisfied, both the chilled and hot water control valves are deactivated. The same rule applies for inlet and outlet locations as explained above in "Two-Pipe Coils" (see diagram 2). Each chilled and hot water coil is controlled individually so a pipe sensor is not required.

WILLIAMS MODEL IDENTIFICATION

The following model numbers indicate the number of rows and type of chilled and hot water coils. Williams standard coil has the hot water coil located in the reheat position.

ER008W2B40 = W2 indicates a two pipe, water coil

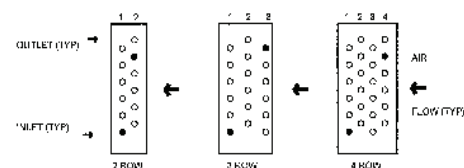
ER008W4B42 = W4 indicates a four pipe, water coil

ER008W2B40 = 40 indicates four row, chilled water, 0-row hot water (first number chilled water; second number hot water)

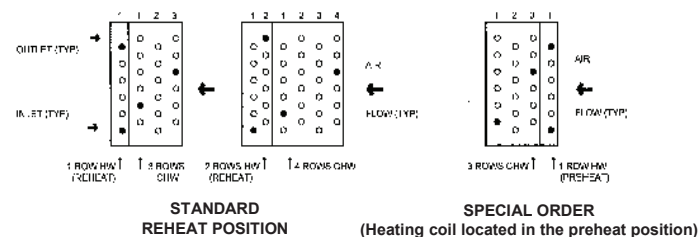
ER008W4B42 = 42 indicates four row, chilled water, two row, hot water

ER008W2B02 = 02 indicates 0 row, chilled water, two row, hot water (heating unit only)

Two-Pipe Coil Diagrams 1 (Two) Pipe Coils (Right Hand Shown Left-Hand Opposite)



Four-Pipe Coil Diagrams 2 (Four) Pipe Coils (Right Hand Shown Left-Hand Opposite)



Because of the variations of circuiting available, the location of the inlet and outlet connections may vary up and down. However, always use the following rule to be correct. The inlet is always the lower connection and the farthest away from the entering air side. The outlet connection is always the higher connection the closest to the entering air side.

GENERAL INFORMATION

Furnish and install Williams ER/DR Vertical Stack Fan Coil units as indicated on the plans and in the Installation, Operation Manual. All units shall be completely factory assembled, tested and shipped as one working unit. All units shall be capable of meeting or exceeding the scheduled capacities for cooling, heating and air delivery. Dimensions for each model and size shall be considered maximums. Units shall be ETL listed and also in compliance with UL/ANSI Standard 1995 (USA) CSA C22.2#236 (CA) and be certified as complying with the latest edition of AHRI Standard 430.

CONSTRUCTION

All unit chassis shall be fabricated of heavy gauge galvanized steel panels. All exposed units shall have exterior panels fabricated of cold rolled steel be insulated with 1/2" thick, 1.5 pound per cubic foot, dual density fiberglass insulation rated for a maximum air velocity of 3600 f.p.m. Insulation shall conform to UL 181 for erosion and NFPA 90A and 90B for flame spread (25) and smoke developed (50) rating per ASTM E-84 and UL 723 and CAN./ULC, S102-M88.

OPTION: Provide foil faced insulation in lieu of standard. Foil insulation shall meet or exceed the requirements stated above, and in addition, meet ASTM Standards C665 and C-1136 for biological growth in insulation. Insulation shall be lined with aluminum foil, fiberglass scrim reinforcement, and 30 pound kraft paper laminated together with a flame resistant adhesive. All exposed edges shall be sealed to prevent any fibers from reaching the air stream.

OPTION: Provide elastomeric Elastomeric foam Insulation in lieu of standard. Insulation shall conform to UL 181 for erosion and NFPA 90A for fire, smoke and melting, and comply with a 25/50 Flame Spread and Smoke Developed Index per ASTM E-84 or UL 723. Additionally, insulation shall comply with Anti-microbial performance rating of zero, no observed growth, per ASTM G21. Polyethylene insulation is not acceptable.

PAINTED FINISH *(OPTION)*

All exposed cabinet exterior panels shall be provided with soft white powder coated epoxy finish.

COILS

All cooling and heating coils shall optimize rows and fins per inch to meet the specified capacity. Coils shall have seamless copper tubes and shall be mechanically expanded to provide an efficient, permanent bond between the tube and fin. Fins shall have high efficiency aluminum surface optimized for heat transfer, air pressure drop and carryover.

All coils shall be hydrostatically tested at 350 PSIG air pressure under water, and rated for a maximum of 300 PSIG working pressure at 180°F maximum water temperature. Direct expansion cooling coils shall include a fixed orifice distributor and nozzle.

Steam coils shall be standard steam type suitable for temperatures above 35°F and 15 PSIG maximum working pressure.

OPTION: Coil casing shall be fabricated from 304 Stainless Steel.

OPTION: Provide a manual air vent fitting to allow for coil venting.

OPTION: Provide a manual water drain fitting for coil draining.

OPTION: Provide automatic air vents in lieu of manual air vents.

Cooling and heating coils shall be in the common coil casing, heating coils shall be furnished in the re-heat or preheat position on the unit with chilled water coils, and DX coil shall be in preheat position only.

DRAIN PANS

Condensate drain pan shall be single wall, heavy gauge, powder coated epoxy and extend under the entire cooling coil. Drain pan shall be of one piece construction and be positively sloped for condensate removal. Drain pan shall have a single drain connection.

The drain pan shall be externally insulated with a Elastomeric foam insulation. The insulation shall

carry no more than a 25/50 flame spread and smoke developed rating per ASTM E-84 and UL 723 and fungi resistant per ASTM G21/C1338, bacteria resistant per ASTM G22 and mold growth per UL 181.

OPTION: Provide a single wall primary drain pan constructed entirely of heavy gauge type 304 stainless steel for superior corrosion resistance. Stainless steel drain pans shall be externally insulated and meet or exceed the requirements stated above.

FILTERS

All units shall be furnished with a one inch thick, throwaway filter, flatly mounted with spring loaded clips on the front of coil for easy maintenance without the use of tools.

OPTIONAL: washable filters.

ELECTRICAL

Units shall be furnished with single point power connection. Installer shall provide an electrical junction box wrapper with terminal strip for motor and other electrical terminations.

OPTION: Electrical junction box with multiple position 1/4" spade terminal block to facilitate wiring terminations for the electric control valves and thermostats.

OPTIONS: Include fusing, disconnects, sensors and switches.

ELECTRIC HEAT

Furnish an electric resistance heating assembly as an integral part of the fan coil unit, with the heating capacity, voltage and kilowatts scheduled. The heater assembly shall be designed and rated for installation on the fan coil unit without the use of duct extensions or transitions, and be located in the unit as to not expose the fan assembly to excessive leaving air temperatures that could affect motor performance.

The heater and unit assembly shall be listed for zero clearance and meet all NEC requirements, and be UL listed with the unit as an assembly in compliance with UL/ANSI Standard 1995.

All heating elements shall be open coil type Nichrome wire mounted in ceramic insulators and located in an

insulated heavy gauge galvanized steel housing. All elements shall terminate in a machine staked stainless steel terminal secured with stainless steel hardware for corrosion resistance. The element support brackets shall be spaced no greater than 3-1/2" on center. All internal wiring shall be rated for 105°C minimum.

All heaters shall include over temperature protection consisting of an automatic reset primary thermal limit and back up secondary thermal limit. All heaters shall be single stage.

An incoming line power distribution block shall be provided and designated to accept single point power wiring capable of carrying 125% of the calculated load current.

OPTION: Devices used to energize and de-energize (switch) electric heat must be totally silent. Mercury and/or quiet relays and/or contactors are not acceptable.

PIPING PACKAGES *(OPTION)*

Provide a factory assembled valve piping package to consist of a 2 or 3 way valve body, on/off motorized electric control valve actuator and two isolation ball valves. Control valves are piped normally closed to the coil. Maximum entering water temperature on the control valve is 180°F, and maximum close off pressure is 75 PSIG (1/2") or 44 PSIG (3/4"). Maximum allowed pressure shall be 300 PSIG.

OPTION: Provide 3 wire floating point modulating control valve in lieu of standard 2 position control valve with factory assembled valve piping package

OPTION: Provide either a fixed or adjustable flow control device for each piping package.

OPTION: Provide pressure-temperature ports for each piping package.

OPTION: Strainer for each package Piping packages are shipped loose on all units and can be installed by request only.

NOTES

NOTES



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