



# Dedicated Outdoor Air Systems

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Model XRV



## COMPLETE TEMPERATURE AND HUMIDITY CONTROL

Accurex® industry-leading, energy-efficient Dedicated Outdoor Air Systems (DOAS) are the ideal solution for commercial kitchens that require a higher percentage of fully conditioned outside air. DOAS provides complete temperature and humidity control inside your kitchen or dining spaces and can provide space and cost savings by reducing the amount of equipment needed on your roof. Plus, Accurex offers a variety of supplementary options for additional energy efficiencies and application flexibility.

### IDEAL APPLICATIONS:

- Open-Concept Kitchens
- Open Dining Rooms with High Occupancy
- Small Restaurants
- Larger Food Halls
- Food Halls
- Convenience Stores
- Fast Food Chains
- Ghost Kitchen Facilities
- Teaching Kitchens
- Event Venues

## THE ACCUREX ADVANTAGE



**FULLY CONDITIONS AIR FOR OPTIMUM EMPLOYEE AND PATRON COMFORT**



**MAY ELIMINATE THE NEED FOR A DEDICATED MAKE-UP AIR UNIT AND SOME OR ALL ROOFTOP UNITS, SAVING SPACE ON THE ROOF, INSTALLATION TIME, AND THE COST OF HAVING MULTIPLE UNITS**



**MICROPROCESSOR CONTROLLER WITH A WEB USER INTERFACE ALLOWS FOR COMPLETE CONTROL OF UNIT IN A SAFE AND ENERGY-EFFICIENT MANNER**



**16:1 BURNER TURNDOWN CAPABILITY ON INDIRECT GAS HEAT AND EITHER DIGITAL OR INVERTER SCROLL COMPRESSORS FOR COOLING TO PROVIDE COMFORT WITH PRECISE CONTROL**



**LOW-SOUND CONDENSER FANS ENSURE DOAS UNITS PROVIDE BOTH THERMAL AND AUDIBLE COMFORT**



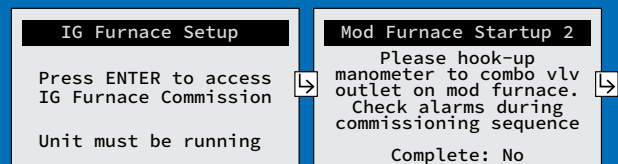
**2-INCH DOUBLE-WALL WITH R13 FOAM INSULATION CONSTRUCTION FOR SUPERIOR QUALITY AND PERFORMANCE**

## SIMPLIFIED CONTROLS

### MICROPROCESSOR

Standard on the XRV model, the controller is factory programmed, wired and tested prior to shipment and can operate as a stand-alone device or integrate with a Building Management System (BMS).

- ✓ Operates the unit in a safe and energy-efficient manner while controlling temperature and humidity.
- ✓ Built-in furnace commissioning guide for streamlined start-up, saving time and money.

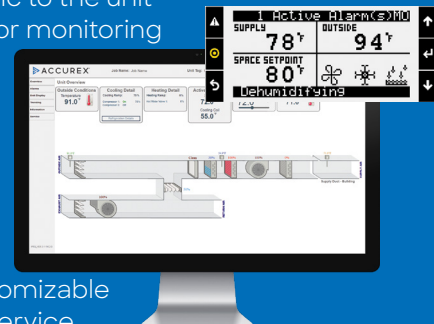


### WEB USER INTERFACE (UI)

Microprocessor controller includes a user interface allowing the unit to be controlled from a web browser.

- ✓ A full graphic, specific to the unit selected, will allow for monitoring and control of the unit without a Building Management System (BMS).

- ✓ Includes full control display access, customizable data trending, and service contact information.



## SAVE COSTS AND ENERGY

The Accurex DOAS unit provides options for additional cost savings and increased energy efficiency that meet or exceed Department of Energy minimum efficiency standards.

### INVERTER COMPRESSOR

Available from 3 to 70 tons and features:

- Improved part load efficiency
- Integrated Energy Efficiency Ratio (IEER) up to 22.1, with an average improvement over a digital scroll compressor of 15% to 20%
- Reduced sound levels
- Precise temperature and humidity control



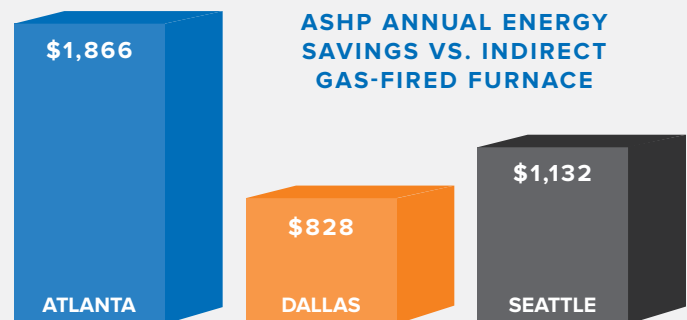
### AIR-SOURCE HEAT PUMP (ASHP)

This heating and cooling option is available from 5 to 30 tons and offers:

- High efficiency with an inverter compressor (standard feature)
- Lead EC outdoor fan motor (standard feature) for modulating head pressure control
- Coefficients of Performance (COP) ranging from 3-4, contributing to lower annual energy costs

Primary applications where ASHP is most efficient:

- Where gas heat may not be an option (example: West Coast)
- Any region with a mild winter climate

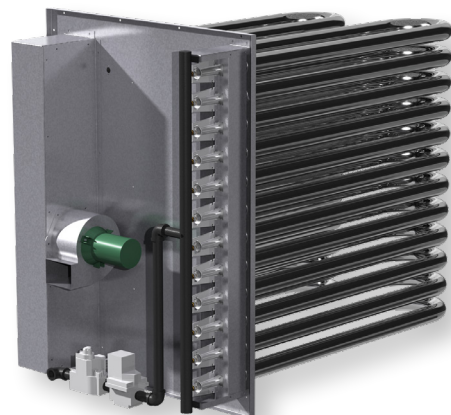


The chart illustrates the approximate energy cost savings of an ASHP over an indirect gas-fired furnace by region.

### HIGH TURNDOWN FURNACE

Industry-leading technology for the tubular-style heat exchanger which is highly beneficial when large burners are utilized to prevent the unit from over or under-heating the space.

- Up to 16:1 furnace turndown for precise temperature control
- Less cycling during part-load conditions
- Commissioning sequence for easy start-up





**STANDARD FEATURE**

**OPTIONAL FEATURE**

**1 PLENUM SUPPLY/EXHAUST FAN**

- Direct drive plenum fan
- Neoprene isolation
- Factory provided variable frequency drive

**2 CONSTRUCTION**

- 2-inch double-wall construction unit housing and base
- R13 foam insulation thermally broken
- Available finishes include:
  - Permatector™ (2,500 hr/salt spray rating under ASTM B117 testing conditions)
  - Hi-Pro Polyester (5,000 hr/salt spray rating under ASTM B117 testing conditions)

**3 FILTERS**

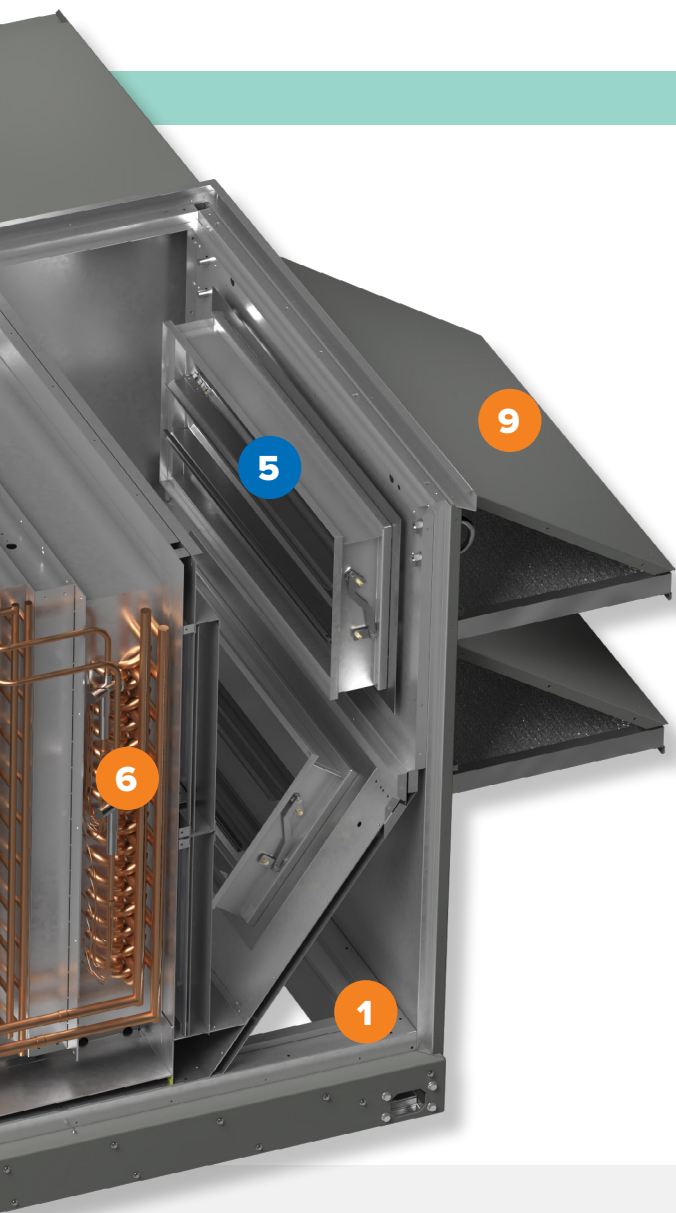
- Outdoor air and exhaust filters (pre-wheel)
  - 2-inch MERV 8
  - 2-inch aluminum
- Supply filters (pre-coil)
  - 2-inch MERV 8 or MERV 13
  - 4-inch MERV 8 or MERV 14
  - Combination of MERV 8 and MERV 13 or 14

**4 CONTROL CENTER**

- 24 VAC control voltage
- Control transformer
- Non-fused disconnect switch
- UL Listed, Recognized, or Classified electrical components
- Factory prewired for single point power connection
- Phase and brownout protection (PDX)

**5 OUTDOOR AIR AND RECIRCULATED AIR DAMPERS**

- Low leakage or insulated low leakage
- Modulating actuator



## OPTIONAL ACCESSORIES

- Building Pressure Sensor
- CO2 Sensor
- Condensate Overflow Switch
- Condenser Hail Guards
- Dirty Filter Sensor
- Duct Pressure Sensor
- Economizer Control
- Electrofin Coated Coils
- Microprocessor Remote Interface
- Outdoor, Supply, and Exhaust Airflow Monitor
- Roof Curbs
- Room Temperature Sensor
- Combination Room Temperature and Humidity Sensor
- Room Thermostat
- Service Lights
- Service Receptacle
- Smoke Detectors
- Economizer Fault Detection Diagnostics
- Ultraviolet Germicidal Irradiation (UVGI)
- Needlepoint Bipolar Ionization (NPBI®)

## 6 COOLING OPTIONS

- Packaged direct expansion (PDX)
  - Optional modulating head pressure control (EC motor or VFD on the lead condenser fan or all condenser fans)
- Chilled water coil
- Split DX coil with or without remote condenser
- All coils with copper tubes and permanently expanded aluminum fins (excludes XRV-10 and XRV-75)
- Mounted on a stainless steel drain pan
- Air source heat pump
  - Standard features include inverter compressor and modulating head pressure control

## 7 COMPRESSORS

- Quiet operating hermetic, scroll-type
- 3 to 70 tons of mechanical cooling
- Optional compressor for lead circuit:
  - Digital scroll
  - Inverter scroll

## 8 HEATING OPTIONS

- Indirect gas-fired furnace
  - Optional high turndown furnace (up to 16:1)
  - Stainless steel heat exchanger with an optional 5-year or 10-year extended warranty
- Electric heater
  - Silicon controlled rectifier (SCR) control
- Hot water coil
- Air-source heat pump

## 9 WEATHERHOOD

- Aluminum mesh filters
- Wind-driven rain prevention

## 10 REHEAT

- Modulating hot gas reheat

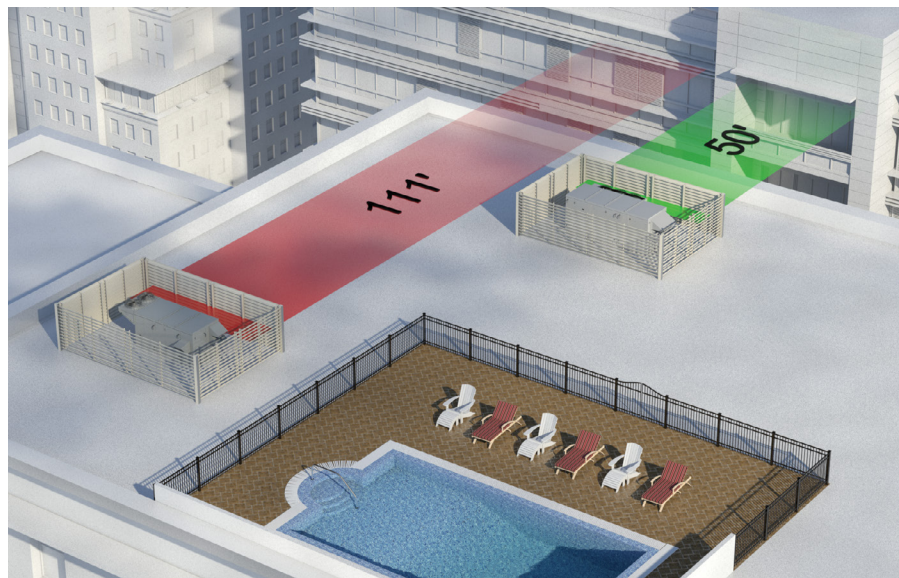


Accurex offers a variety of solutions for noise reduction, unprecedented design flexibility and heating/cooling upgrades for operational efficiencies and enhanced guest experience.

## NOISE REDUCTION

Accurex provides low-sound condenser fans as standard, offering an average sound power reduction of 5 to 8 decibels when compared to typical condenser fans.

- Low-sound swept blade condenser fans
- 2-inch R13 foam unit and base
- Compressor isolation
- Tested radiated sound data



*Accurex DOAS can be placed closer to adjacent buildings and the public outside or inside and nearby buildings will be less affected by sound compared to the noise other rooftop units produce.*

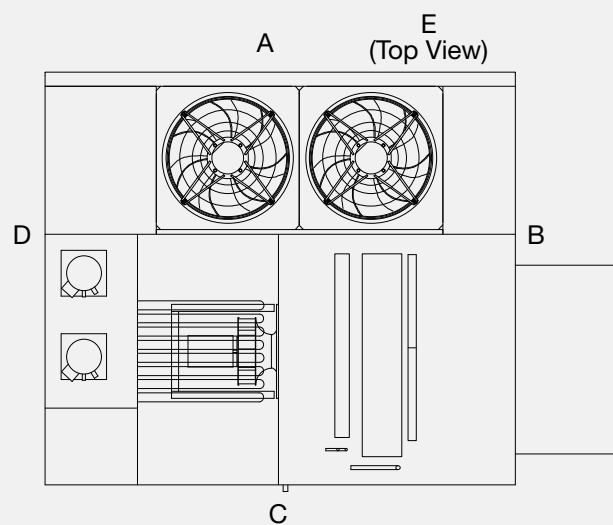
## STATE-OF-THE-ART TESTING

If equipment is too loud or placed too closely to other buildings, corrective actions can be time consuming and costly. Our actual radiated sound data is tested in accordance with AMCA 320-07 in our state-of-the-art testing facility, the Robert C. Greenheck Innovation Center.

| RADIATED SOUND LEVELS |                   |    |    |    |    |    |    |    |          |           |
|-----------------------|-------------------|----|----|----|----|----|----|----|----------|-----------|
| Plane                 | Octave Bands (Lw) |    |    |    |    |    |    |    | Plane Lw | Plane LwA |
|                       | 1                 | 2  | 3  | 4  | 5  | 6  | 7  | 8  |          |           |
| <b>A</b>              | 73                | 85 | 78 | 80 | 81 | 73 | 67 | 62 | 88       | 83        |
| <b>B</b>              | 71                | 79 | 69 | 78 | 73 | 68 | 64 | 57 | 83       | 78        |
| <b>C</b>              | 79                | 77 | 69 | 76 | 75 | 70 | 60 | 59 | 83       | 78        |
| <b>D</b>              | 74                | 77 | 72 | 74 | 74 | 67 | 61 | 58 | 82       | 77        |
| <b>E</b>              | 77                | 84 | 78 | 79 | 77 | 72 | 65 | 61 | 87       | 81        |
| <b>Total</b>          | 83                | 89 | 82 | 85 | 84 | 78 | 71 | 67 | 93       | 87        |

Tests conducted in accordance with AMCA 320-07 - Laboratory Methods of Sound Testing of Fans Using Sound Intensity.

Free field measurement plane created one foot from unit on all sides and top tested at max capacity.

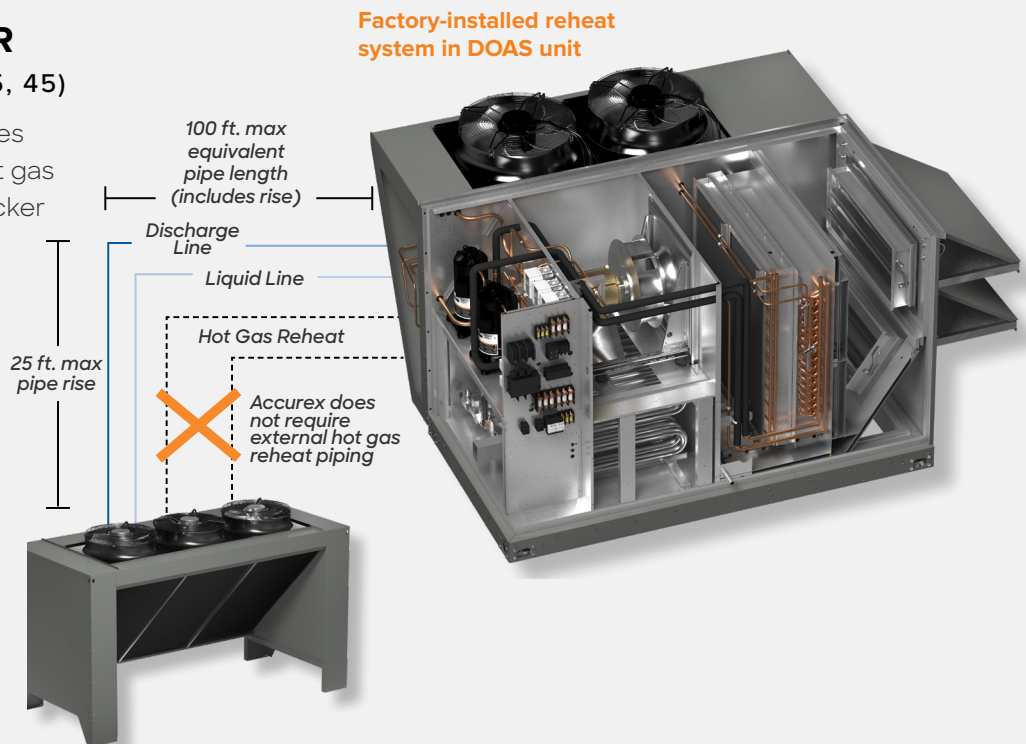


## REMOTE CONDENSER

(PAIRED WITH MODELS XRV-25, 45)

Optional remote condenser features factory piping and wiring of the hot gas reheat components, providing quicker installation with indoor or outdoor mounting options.

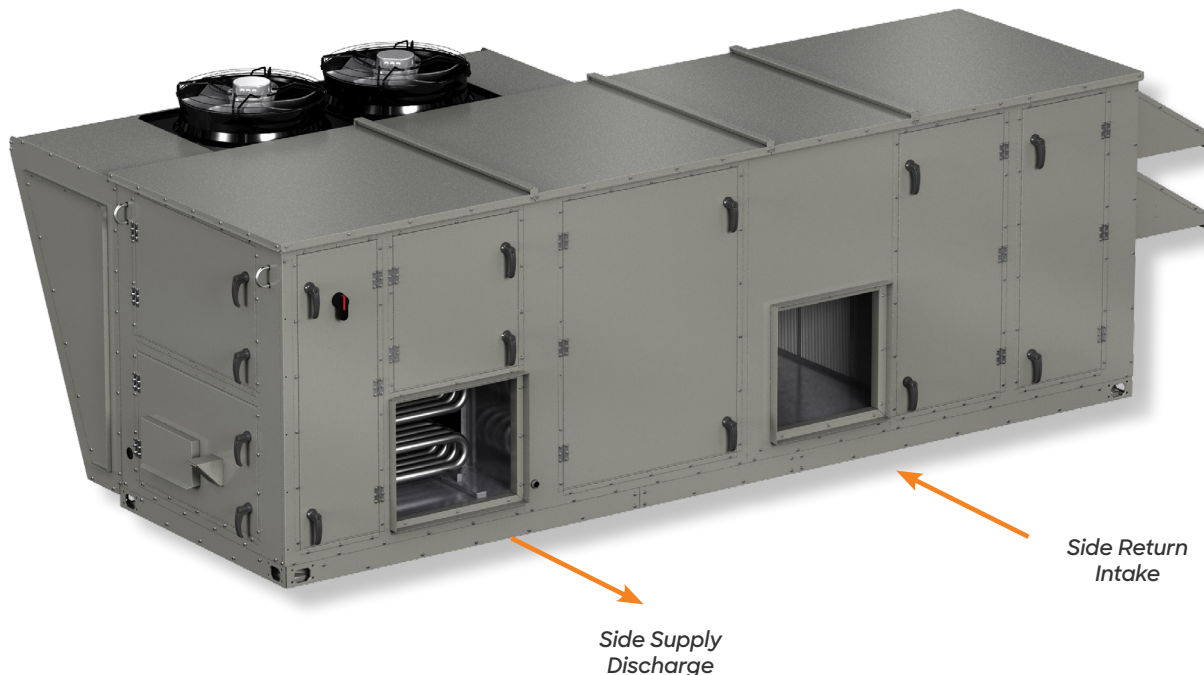
- Common applications include standing seam (sloped) roofs, retrofits, restricted roof space, and restricted structural (load) limitations.
- 5 to 30 tons cooling capacity
- 800 to 8,500 cfm
- Low-sound condenser fans
- Lead EC condenser fan
- Optional EC on all condenser fans



## HORIZONTAL DUCT CONNECTIONS

An optional side or end return air intake and side discharge is available for installation flexibility.

- Common applications include indoor mounted, pad mounted, or rooftop mounted uses, reducing ductwork and eliminating the need for a tall, costly plenum curb.



DOAS has been specifically engineered for commercial cooking applications that require higher percentages of outside air for ultimate comfort in kitchen and dining applications, offering precise temperature and humidity control.



### Dehumidifies

Reduces and maintains humidity levels for increased occupancy comfort



### Energy efficient

Meets or exceeds Department of Energy minimum efficiency standards



### Easy installation

Factory mounted and wired microprocessor controller with easy set point adjustment and seamless integration to BMS



### Economizer

Optional control sequence allowing for cool outdoor air to condition the space, in lieu of mechanical cooling



### Demand control ventilation

Adjusts outdoor airflow to match building occupancy, reducing operational costs



### Airflow monitoring

Stand-alone monitoring system to ensure proper ventilation and meet LEED requirements



### Simple airflow adjustment

Direct-drive backward-inclined plenum fans with factory mounted VFDs provide precise airflow control via modulating fan speed, also eliminating belt losses and maintenance



### Drain pan

Double-sloped stainless steel drain pan ensures that all condensate properly drains for the unit



### Durable

2-inch double-wall construction with R13 foam insulation reduces thermal losses through the unit



### Control system

Preconfigured and field adjustable controls that can be stand-alone or integrated into a building management system

## PRODUCT CERTIFICATIONS

Accurex takes pride in offering a high-quality, reliable product. We invest our resources into designing, testing and manufacturing products to ensure customer satisfaction.



*ETL Listed for electrical and overall unit safety. Every unit is tested at the factory before it is shipped to the jobsite.*

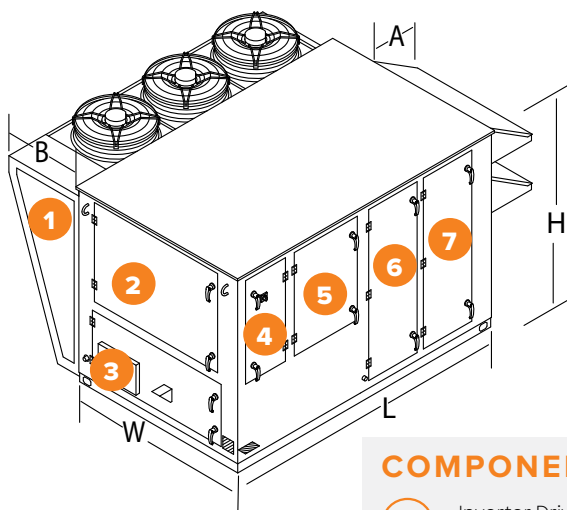


# SOLUTION DRIVEN

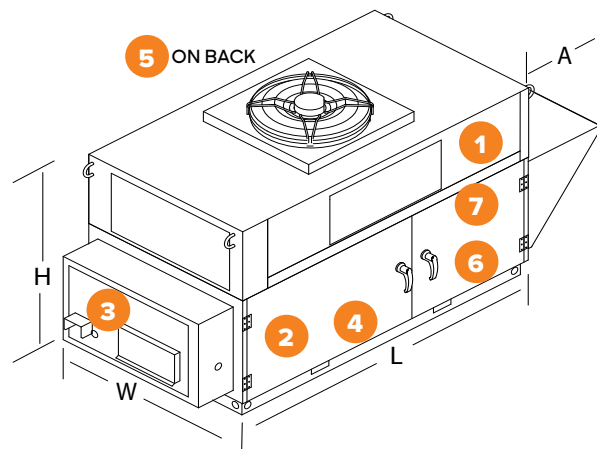
Noise and humidity can make for an uncomfortable atmosphere in your dining space. Accurex offers a variety of solutions to effectively alleviate these challenges. Here are some simple solutions for consideration.

| CHALLENGE  | CHALLENGE   | CHALLENGE   |
|--|---|---|
| CONDITIONING HIGH PERCENTAGE OUTDOOR AIR WITH MINIMAL ENERGY USAGE   | CONTROLLING OUTDOOR AIR VOLUME  | CRITICAL SOUND APPLICATIONS   |
|   |    |   |
| <b>ACCUREX SOLUTION</b>  | <b>ACCUREX SOLUTION</b>   | <b>ACCUREX SOLUTION</b>   |
| <ul style="list-style-type: none"><li>• High capacity (6-row) cooling coil</li><li>• 2-inch R13 foam injected insulated unit and base</li><li>• Modulating hot gas reheat coil (optional)</li><li>• Inverter compressor (optional)</li><li>• High turndown indirect gas-fired furnace (optional)</li><li>• Modulating head pressure control (optional)</li><li>• Air-source heat pump (optional)</li></ul> | <ul style="list-style-type: none"><li>• Low leakage dampers with modulating actuator</li><li>• Factory mounted and wired microprocessor controller</li><li>• Energy-efficient control sequences</li><li>• Direct-drive plenum fan with factory mounted VFD</li><li>• Remote monitor and control from web-user interface</li></ul> | <ul style="list-style-type: none"><li>• Low-sound condenser fans</li><li>• Radiated sound data off five planes of unit tested at full load</li><li>• 2-inch R 13 foam injected insulated unit base</li><li>• Compressor isolation</li><li>• Inverter scroll at part load (optional)</li><li>• Electronically commutated (EC) motor (optional)</li></ul> |

## MODELS XRV-25, 45



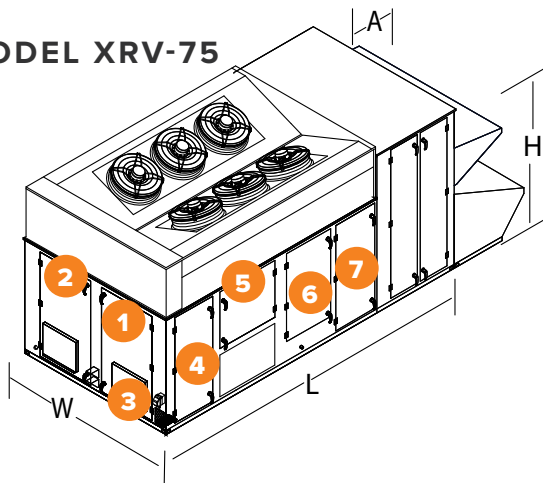
## MODEL XRV-10



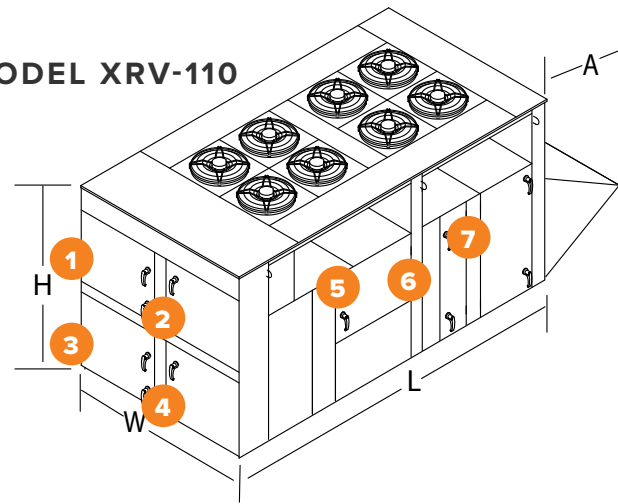
## COMPONENT ACCESS

- |   |  |   |               |
|---|--|---|---------------|
| 1 | Inverter Drive (Optional for Models XRV-25, 45, 75, and 110) | 5 | Supply Blower |
| 2 | Compressor/Electrical  | 6 | Coil          |
| 3 | Optional Gas Furnace/<br>Optional Electric Heater            | 7 | Filters       |
| 4 | Electrical   |   |               |

## MODEL XRV-75



## MODEL XRV-110



| Unit Size | Nominal Tonnage (tons) | Height (H) | Width (W) | Length (L)                                | Intake (A)           | Condensing Section (B) | Nominal Weight (lbs) | Outdoor Intake | Supply Discharge | Return Intake                                 | Exhaust Discharge                     |
|-----------|------------------------|------------|-----------|---|----------------------|------------------------|----------------------|----------------|------------------|---|---------------------------------------|
| XRV-10    | 3-7                    | 58.1       | 44.0      | 82.2 <sup>10</sup>                        | 22.3                 | NA                     | 1,180                | End            | Bottom or Side   | Bottom, End <sup>2</sup>                      | NA                                    |
| XRV-25    | 5-15                   | 59.3       | 52.5      | 98.6 <sup>4</sup> /<br>149.5 <sup>1</sup> | 22.1                 | 30.1                   | 2,700                |                |                  | Bottom, End <sup>2</sup> or Side <sup>1</sup> | End <sup>3</sup> or Side <sup>1</sup> |
| XRV-45    | 15-30                  | 72.5       | 68.2      | 109 <sup>4</sup> /<br>163.2 <sup>1</sup>  | 27.7                 | 30.1                   | 4,500                |                |                  | Bottom or End                                 |                                       |
| XRV-75    | 25-50                  | 101.3      | 98        | 155.2                                     | 39/47.5 <sup>5</sup> | Not Applicable         | 6,500                |                |                  | Bottom or End                                 | Side <sup>1</sup>                     |
| XRV-110   | 30-70                  | 99.5       | 96        | 185                                       | 52.5                 | Not Applicable         | 7,950                |                |                  | Bottom or End                                 |                                       |

All dimensions are shown in inches. Weight is shown in pounds and includes largest supply and exhaust fans, PDX with reheat, largest indirect gas-fired furnace, all dampers and largest energy wheel. Actual weights will vary based on the unit configuration.

<sup>1</sup> Only available with powered exhaust

<sup>3</sup> Only available with barometric relief

<sup>5</sup> Length with powered exhaust bumpout

<sup>2</sup> Only available without barometric relief

<sup>4</sup> Length with bottom or end return

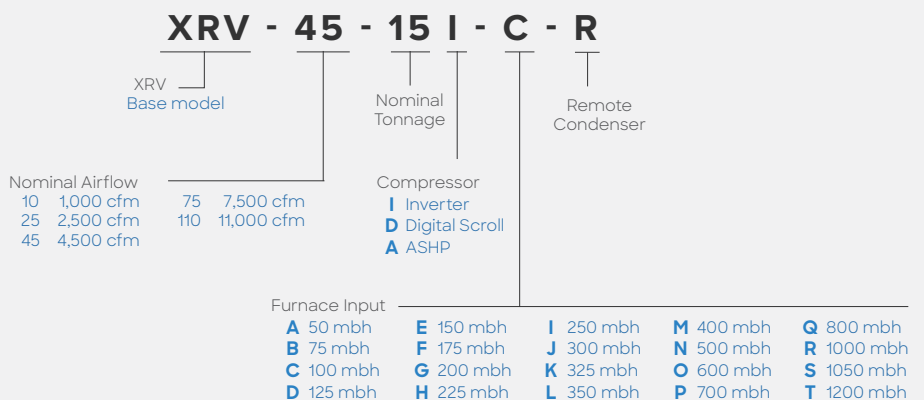
| MODEL        | AIRFLOW (SCFM) |
|--------------|----------------|
| XRV-10-3I    | 1100           |
| XRV-10-4I    | 1450           |
| XRV-10-5I    | 1700           |
| XRV-10-6I    | 1900           |
| XRV-10-7I    | 1900           |
| XRV-25-5I    | 2325           |
| XRV-25-5D    | 2325           |
| XRV-25-5A    | 3400           |
| XRV-25-7.5I  | 2300           |
| XRV-25-7.5D  | 2300           |
| XRV-25-7.5A  | 3000           |
| XRV-25-10I   | 2700           |
| XRV-25-10D   | 2800           |
| XRV-25-10A   | 4400           |
| XRV-25-12.5I | 3400           |
| XRV-25-12.5D | 3550           |
| XRV-25-12.5A | 4400           |
| XRV-25-15I   | 3775           |
| XRV-25-15D   | 3775           |
| XRV-25-15A   | 4300           |
| XRV-45-15I   | 4100           |
| XRV-45-15D   | 4100           |
| XRV-45-15A   | 4800           |
| XRV-45-17.5I | 4650           |
| XRV-45-17.5D | 4650           |
| XRV-45-17.5A | 5500           |
| XRV-45-20I   | 4900           |

| MODEL       | AIRFLOW (SCFM) |
|-------------|----------------|
| XRV-45-20D  | 5100           |
| XRV-45-20A  | 6400           |
| XRV-45-25I  | 5750           |
| XRV-45-25D  | 5600           |
| XRV-45-25A  | 7200           |
| XRV-45-30I  | 6000           |
| XRV-45-30D  | 6000           |
| XRV-45-30A  | 7000           |
| XRV-75-25I  | 8300           |
| XRV-75-25D  | 8300           |
| XRV-75-30I  | 9400           |
| XRV-75-30D  | 9500           |
| XRV-75-40I  | 10000          |
| XRV-75-40D  | 10000          |
| XRV-75-50I  | 10800          |
| XRV-75-50D  | 10800          |
| XRV-110-30I | 9000           |
| XRV-110-30D | 9000           |
| XRV-110-40I | 10500          |
| XRV-110-40D | 10500          |
| XRV-110-50I | 10500          |
| XRV-110-50D | 10500          |
| XRV-110-60I | 14000          |
| XRV-110-60D | 14000          |
| XRV-110-70I | 16000          |
| XRV-110-70D | 16000          |

Full load rating airflow per AHRI 340/360

## MODEL NUMBER CODE

The Model Number Code is designed to completely identify the unit. The correct code letters must be specified to designate the configurations and size.



# Discover how simple the Accurex way can be at **Accurex.com**

For more information on applying  
the DOAS product offering, click to  
view our **Application Brochure**



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