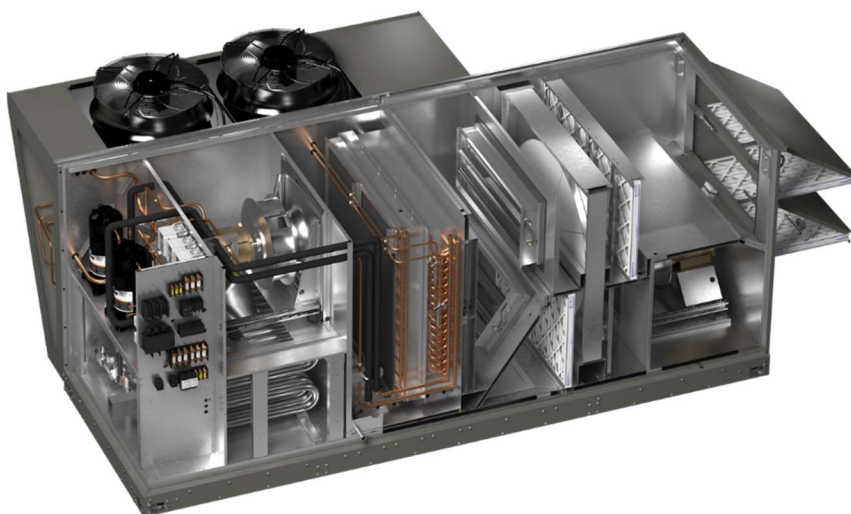


# ROOFTOP DEDICATED OUTDOOR AIR SYSTEMS (DOAS) ENGINEERING MANUAL



GEN2 Series (AR-DR)  
Base Rooftop DOAS  
500 to 12,000 CFM

GEN2 Series (AR-DE)  
Energy Recovery Wheel Rooftop DOAS  
900 to 18,000 CFM

GEN2 Series (AR-DC)  
Enthalpy Core Rooftop DOAS  
500-15,000 CFM

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A summary list of safety precautions is on page 3.

**To access additional technical documentation such as submittals, installation, service, general best practice, and building ventilation manuals, as well as white papers, catalogs, software programs, and more, log in to [www.lghvac.com](http://www.lghvac.com).**

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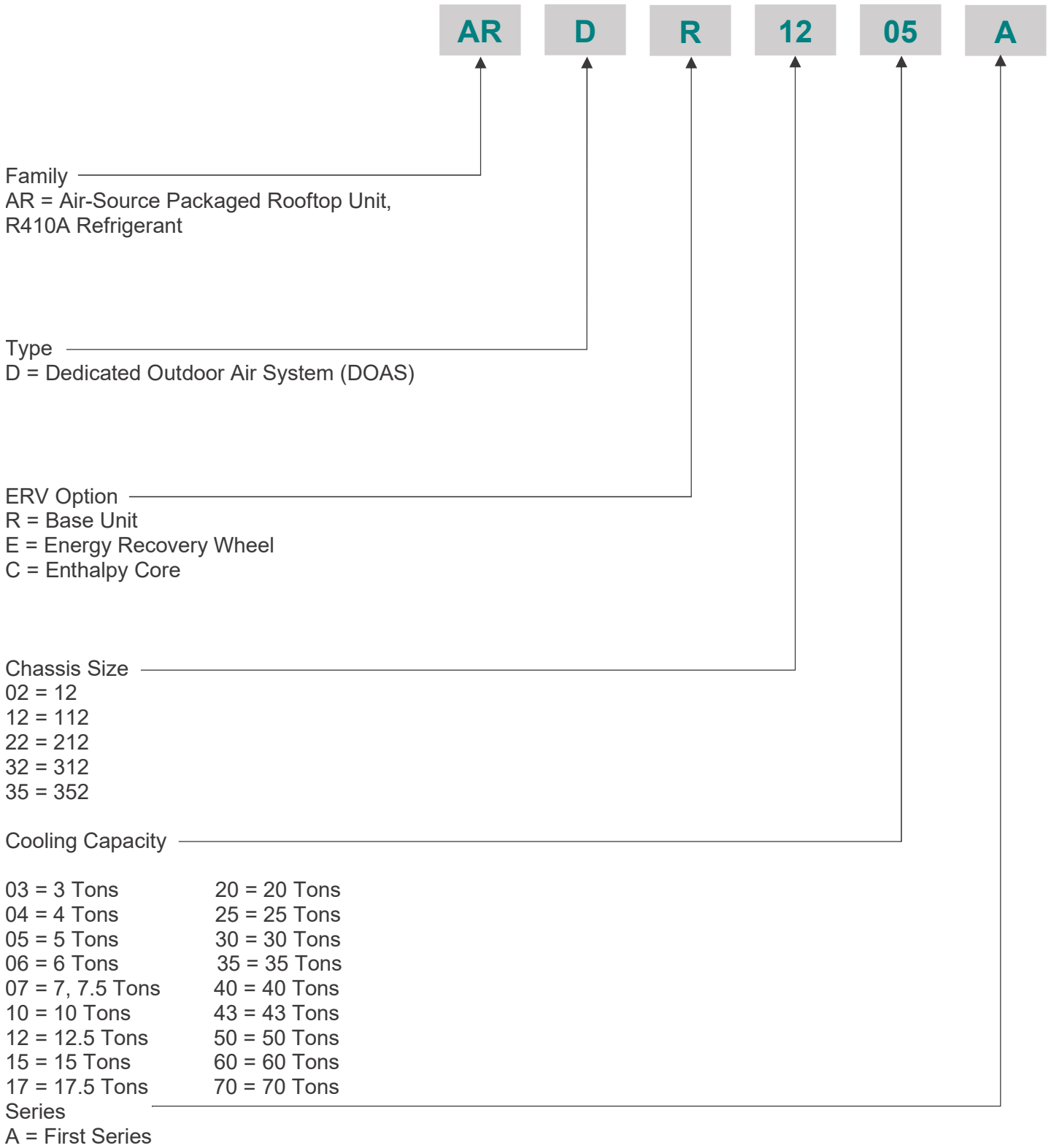
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## TABLE OF SYMBOLS

 <b>DANGER</b>	<i>This symbol indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury.</i>
 <b>WARNING</b>	<i>This symbol indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.</i>
 <b>CAUTION</b>	<i>This symbol indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury.</i>
<b>Note:</b>	<i>This symbol indicates situations that may result in equipment or property damage accidents only.</i>
	<i>This symbol indicates an action that should not be performed.</i>



# UNIT NOMENCALTURE



# MECHANICAL SPECIFICATIONS

## Rooftop Dedicated Outdoor Air Systems (DOAS)

### Rooftop Dedicated Outdoor Air Systems (DOAS) Casing

- Materials: Formed, 2-inch double wall closed cell foam insulated metal panels and 2" double wall closed cell foam insulated metal door construction, fabricated to permit access to internal components for maintenance.
- Outside casing: Minimum 22-gauge, galvanized (G90) steel meeting ASTM A653 for components that do not receive a painted finish. Unit's exterior shall be supplied from the manufacturer using G60 galvanized steel with proprietary pre-painted material in the following Permatector™ finish color; Concrete Gray-RAL 7023. This has been subjected to a salt spray test per ASTM-B117 and evaluated using ASTM-D714 and ASTM-D610 showing no observable signs of rust or blistering until reaching 2,500 hours.
- Internal assemblies: Minimum 24-gauge, galvanized (G90) steel, except for motor supports which shall be minimum 14-gauge galvanized (G90) steel.
- Cabinet Insulation: Comply with NFPA 90A and NFPA 90B and erosion requirements of UL 181.
- Materials: Rigid urethane injected foam.
  - Thickness: 2 inch (50.8 mm)
  - Thermal Resistance: R13
  - Meets UL94HF-1 flame requirements.
  - Location and application: Full coverage of entire exterior to include walls, roof of unit, unit base and doors.
- Access panels / doors: Unit shall be equipped with insulated, hinged doors or removable access panels to provide easy access to all major components. Doors and access panels shall be fabricated of minimum 22-gauge galvanized G90 steel or painted galvanized steel with 2-inch closed cell foam insulation.
- Supply Air blower assemblies: Blower assembly shall consist of an electric motor and direct-drive fan(s). Assembly shall be mounted on heavy gauge galvanized steel rails and further mounted on 1.125 inch thick neoprene vibration isolators. Blower motor(s) shall be capable of continuous speed modulation and controlled by a VFD.
- Exhaust Air blower assemblies: Blower assembly shall consist of an electric motor, with an ODP enclosure and a direct-drive fan. Assembly shall be mounted on heavy gauge galvanized steel rails and further mounted on 1.125 inch thick neoprene vibration isolators. Blower motor shall be capable of continuous speed modulation and controlled by a VFD.
- Evaporator Coil: Evaporator coil shall be AHRI Certified and shall be (silver) soldered or brazed into the compressed refrigerant system. Coil shall be constructed of copper tubing, permanently bonded to aluminum fins and enclosed in a galvanized steel frame. If two compressors are used as components of the unit, then the evaporator coil shall be of "interlaced" configuration, permitting independent operation of either compressor without conflict with the other compressor.
  - Optional: The evaporator and condenser coils are coated with **ElectroFin®** coil coating, E-Coat coated coils are tested and passed ASTM B-117 Salt Spray tests exceeding 6,000 hours.
- Control panel / connections: Rooftop Ventilator units shall have an electrical control center where all high and low voltage connections are made. Control center shall be constructed to permit single-point high voltage power supply connections. RTU shall be equipped with a Unit Disconnect Switch. Electric heater shall have a separate electrical control center and separate high voltage power circuit as shown on the plans.
  - optional: Electric heater shall have single point power
- Condensate drain pan: Drain Pan shall be an integral part of the unit whenever a cooling option is included. Pan shall be formed of welded austenitic stainless-steel sheet material and provided with a drain connection at the front (access side) for connection to a P trap. Drain pan shall be sloped in two directions to provide positive draining and drain connector shall be sealed at penetration through cabinet wall.
- P trap: If the unit is equipped with a condensate drain pan, contractor shall provide, or fabricate, and install an appropriate P trap, in accordance with all local and area codes and Best Practices.
- Energy wheel: Unit energy wheel shall handle the full volume of outdoor and exhaust air without an energy wheel bypass damper(s). Energy wheel shall be of total enthalpy, rotary air-to-air type and shall be an element of a removable energy wheel cassette. The cassette shall consist of a galvanized steel framework (designed to produce laminar air flow through the wheel), an energy wheel as specified and a motor and drive assembly. The cassette shall incorporate a pre-tensioned urethane drive belt or a link-style belt with a five year warranty. The wheel media shall be



a polymer film matrix. Wheel shall be comprised of individual segments that are removable for servicing. Silica gel desiccant shall be permanently bonded to the polymer film. The energy wheel is to have a five year warranty. Performance criteria are to be as specified in AHRI Standard 1060, complying with the Combined Efficiency data in the submittal.

- Wheel Frost Control: Modulating Wheel shall be provided for frost control of the energy wheel. Control system shall include an outdoor air thermostat, and pressure sensor on the wheel assembly to initiate frost control sequence. Optional energy wheel VFD will modulate the wheel speed based on exhaust air leaving air temperature.
- Enthalpy (Fiber/Polymer) core: Air-to-air heat exchanger shall provide sensible and latent energy transfer in a crossflow arrangement. Heat exchanger shall be constructed of media coated with hydrophilic resin housed within a G90 galvanized frame. Heat exchanger shall have to moving parts, motors, belts, or pulleys. The material shall not promote mold or bacteria growth and passes ASTM-G21 testing.
- Enthalpy core frost control: Timed exhaust shall be provided for frost control of the energy core. Control system shall include an exhaust air temperature sensor.
- Enthalpy (Fiber/Polymer) core bypass: A bypass damper shall be provided for frost control of the energy core. Control system shall include an exhaust air temperature sensor. Timed exhaust: Shall be provided for frost control of the energy core. Control system shall include an exhaust air temperature sensor.
- Preheat frost control: Electric pre-heat shall be provided for frost control of the energy core. Preheater assembly shall include an outdoor air temperature sensor to initiate frost control sequence. Pre-heater shall comply with UL 1995 and be constructed on a galvanized steel frame.
- Optional: Chilled water, Hot water, Chilled water and hot water coil(s) shall be factory installed and meet the design requirements as above.
  - Optional: Coil(s) shall be coated with **ElectroFin®** coil coating.
- Reheat Coil with factory installed modulating hot gas reheat valve.
  - Optional: This coil is coated with **ElectroFin®** coil coating.
- Optional Electric Post-heater: Post-heater shall be SCR control and shall include a temperature sensor with field adjustable set point, located in the outdoor air stream. Heat output of the post-heater shall be infinitely variable
- Indirect gas furnace:
  - Shall be ETL Certified as a component of the unit.
  - Shall have an integral combustion gas blower.
  - Shall be ETL Certified for installation downstream of a cooling coil.
  - Shall have fault sensors to provide fault conditions to optional digital controller or building controls.
  - Shall have 4-pass tubular heat exchangers, constructed of type 409 stainless steel. Heat exchanger tubes shall be installed on the vest. Heat exchanger tubes shall be supported and also permit expansion and contraction of the tubes].
  - Heat exchanger shall have a twenty-five year extended warranty.
  - Furnace control shall be 4:1 Modulating.
    - Optional: 10:1 Modulating, 12:1 Modulating, 13:1 Modulating, 14:1 Modulating, 16:1 Modulating
  - Shall be encased in a weather-tight metal housing with intake air vents. Large, metal door shall provide easy access to the enclosed vest plate, control circuitry, gas train, burner assembly, and exhaust blower.
  - Shall have solid state controls permitting stand-alone operation or control by building controllers.
- Packaged DX System: Unit shall have an integral compressor(s) and evaporator coil located within the weather-tight unit housing.
  - Optional: The evaporator and condenser coils are coated with **ElectroFin®** coil coating.
  - Condenser coils and appurtenant condenser fan assemblies shall be factory installed as integral subassemblies of the unit and mounted on the exterior of the unit. Unit condenser fans shall feature swept owl blade design resulting in reduced sound levels. Condenser fan motors shall be three phase, external rotor, type 56 frame, open air over and shaft up. Each condenser fan motor shall have a vented frame, rated for continuous duty and be equipped with an automatic reset thermal protector.
  - Optional: Lead condenser fan will have an electronically commutated (EC) motor that will modulate to maintain a head pressure set point.
  - Motors shall be UL Recognized and CSA Certified. The refrigerant compressor(s) shall be inverter type.
  - Optional: inverter hermetic scroll-type and shall be equipped with liquid line filter drier, thermostatic (optional: electronic) expansion valves (TXV) (EXV)(s), manual reset high pressure and low pressure cutouts and all appurtenant sensors, service ports and safety devices. Compressed refrigerant system shall be fully charged with R-410A refrigerant. Each non-inverter scroll compressor shall be factory-equipped with an electric crankcase heater to boil off liquid refrigerant from the oil.
- Packaged DX Control and Diagnostics: The Packaged DX system shall be controlled by an onboard digital controller (DDC) that indicates both owner-supplied settings and fault conditions that may occur. The DDC shall be programmed to indicate the following faults:
  - Global alarm condition (active when there is at least one alarm)



- Supply Air Proving alarm
- Dirty Filter alarm
- Compressor Trip alarm
- Compressor Locked Out alarm
- Supply Air Temperature Low Limit alarm
  - Sensor #1 Out of Range (outside air temperature)
  - Sensor #2 Out of Range (supply air temperature)
  - Sensor #3 Out of Range (cold coil leaving air temperature)
- Phase and brownout protection: RTU shall have a factory-installed phase monitor to detect electric supply phase loss and voltage brown-out conditions. Upon detection of a fault, the monitor shall disconnect supply voltage to all motors.
- Motorized dampers / Outdoor Air / Return Air: Damper shall be of (optional: insulated) low leakage AMCA Class 1A certified construction. Leakage rate shall not exceed 3 CFM/ft<sup>2</sup> @ 1 in. wg. and shall be factory installed.
- AMCA Class 1A motorized recirculating air damper designed to permit 100% maximum recirculation of return air shall be factory installed.
- Sensors are considered to be part of various optional operational modes or device controllers and are to be factory supplied and installed as specified by the A/E.
- Curb Assembly: A curb assembly made of 14 gauge galvanized steel shall be provided by the factory for assembly and installation as part of this division. The curb assembly shall provide perimeter support of the entire unit and shall have duct adapter(s) for supply air and return air. Curb assembly shall enclose the underside of the unit and shall be sized to fit into a recess in the bottom of the unit. Contractor shall be responsible for coordinating with roofing contractor to ensure curb unit is properly flashed to provide protection against weather/moisture penetration. Contractor shall provide and install appropriate insulation for the curb assembly. The curb shall be the height of (14", 18", 24", 36").
- Optional Service receptacle: 120 VAC GFCI service outlet shall be factory-provided and installed by this contractor in a location designated by the A/E. Unit contains a 120 VAC transformer to provide power to service outlet.
- Optional Hail guards: Protects the condensing unit from damage due to extreme weather conditions such as hail and flying debris.
- Optional Vapor Tight Lights: Provide service lights mounted in the unit to be used during times of routine maintenance. The lights must be wired by others on the jobsite as they will not be wired through the unit control center.
- Optional 24V/120V Smoke detector – Duct smoke detector is shipped loose for field mounting and wiring in the supply or return air duct. The air duct smoke detector housing shall be UL listed per UL 268A specifically for use in air handling systems. The air duct smoke detector housing shall be suitable for mounting indoors. The detector shall operate at air velocities of 100 feet per minute to 4000 feet per minute (0.5 to 20.32 meters/second). The power supply voltage shall be 20-29 VDC, 24 VAC 50-60 Hz, and 120 VAC 50-60 Hz. The detector shall consist of an alarm initiation contact & two DPDT auxiliary contact closures.
  - a. Duct smoke detectors are neither a substitute for open area smoke detectors, for early warning detection, nor a replacement for a building's regular fire detection system. Refer to NFPA 72 and 90A for additional information.

## Blower

- Blower section construction Supply Air: direct drive motor(s) and blower(s) shall be assembled on a 14-gauge galvanized steel platform and shall be equipped with 1.125 inch thick neoprene vibration isolation devices.
- Blower assemblies: Shall be statically and dynamically balanced and designed for continuous operation at maximum rated fan speed and horsepower.
- Fan: Direct drive, airfoil plenum fan with painted steel or aluminum wheels statically and dynamically balanced and AMCA certified for air and sound performance.
- Blower section motor source quality control: Blower performance shall be factory tested for flow rate, pressure, power, air density, rotation speed and efficiency. Ratings are to be established in accordance with AMCA 210, "Laboratory Methods of Testing Fans for Rating."





## Motors

- General: Blower motors greater than  $\frac{3}{4}$  horsepower shall be “NEMA Premium™” unless otherwise indicated. Compliance with EPA minimum energy-efficiency standards for single speed ODP and TE enclosures is not acceptable. Motors shall be heavy-duty, permanently lubricated type to match the fan load and furnished at the specified voltage, phase and enclosure. Motors shall be 60 cycle, 3 phase 208 / 230 / 460 volts. The designation “NEMA Premium™” applies to electric motors with efficiencies that are “better than EPA.” The terms “high efficiency” or “premium efficiency” have no industry definitions.

## Unit Controls

- The unit shall be constructed so that it can function as a stand-alone heating and cooling system controlled by factory-supplied controllers, thermostats and sensors, or it can be operated as a heating and cooling system controlled by a Building Management System (BMS). This unit shall be controlled by a factory-installed microprocessor programmable controller (DDC) that is connected to various optional sensors.
- Optional: Unit shall incorporate a DDC controller with integral LCD screen that provides text readouts of status. DDC controller shall have a built-in keypad to permit operator to access read-out screens without the use of ancillary equipment, devices or software. DDC controllers that require the use of equipment or software that is not factory-installed in the unit are not acceptable. Alarm readouts consisting of flashing light codes are not acceptable.
- RTU supply fan shall be configured for Constant Volume (ON / OFF)
  - Optional: network control, CO2 sensor by factory, duct pressure by factory, 0 – 10 VDC by others to DDC, Single Zone VAV.
- Exhaust fan shall be configured for Constant Volume (ON /OFF)
  - Optional: network control, building pressure by factory, damper tracking, 0-10 VCD by others to DDC, Supply Tracking.
- Outside Air / Return Air damper control shall be field adjustable two-position, Optional: network control, CO2 sensor by factory.
- Optional: Economizer control shall be temperature, temperature/dew point, comparative temperature, and comparative enthalpy.
- Optional: Dirty filter sensor shall be factory-installed.
- Operating protocol: The DDC shall be factory-programmed BACnet MSTP, BACnet IP.
- Variable Frequency Drive (VFD) [unit shall have factory installed variable frequency drive for modulation of the supply air blower assembly and exhaust air blower assembly. The VFD shall be factory-programmed for unit-specific requirements and shall not require additional field programming to operate.
- Optional: Airflow monitoring required through thermistor or low-pressure transducer in the Outdoor/Exhaust/Supply/All airstreams.
- Optional: Room thermostat shall be provided as a shipped loose item. The room thermostat shall have an LCD display to adjust the room temperature set-point from within the space. Room thermostat and room humidity sensor shall be provided as a shipped loose item.
- Controller shall auto trend 7 days of operating points for trouble shooting purposes.
- Embedded web page with complete web user interface to allow full remote control and monitoring of unit.
- Alarm Recording: Controller shall store all alarm events for download.
- Alarm Operating Snapshot: Controller shall store operating inputs and outputs at time of alarm.

## Filters

- Unit shall have supply final air filter shall be of 2 inch MERV 8
  - Optional: hood filter shall be of 1 inch aluminum type
  - Optional: 4 inch MERV 8, MERV 13 with a 2 inch MERV 8 pre-filter, MERV 13, MERV 14 disposable pleated type.
  - Energy recovery section shall have outdoor air and exhaust air filters of 2 inch MERV 8





# FEATURES AND BENEFITS / OPTIONS

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## Features and Benefits

Rooftop Dedicated Outdoor Air System (DOAS) units provide 100% outdoor air in heating, cooling and dehumidification modes. Working with LG VRF systems, the LG Rooftop DOAS unit provides a complementary system solution to condition code-required outdoor air.

- Airflow range from 500 CFM to 18,000 CFM
- Tonnage from three (3) tons to seventy (70) tons
- Down discharge or side discharge duct connections
- Available in 208, 230, or 460 Volt / 3 phase power
- Double wall casing with foam injection
- Gas heat with 4:1 turndown
- Four (4) to six (6) row direct expansion (DX) cooling coil
- Modulating hot gas reheat coil for dehumidification mode
- Variable capacity inverter scroll compressor(s)
- Direct drive supply fan with variable-frequency drive (VFD)
- Microprocessor controller connectible to AC Smart or ACP central controllers (or stand-alone operation)  
BACnet IP, BACnet MSTP, Modbus RTU, and Modbus IP protocols (BACnet® is a trademark of ASHRAE)
- Web access to controller
- 2" MERV 8 supply-air filters (standard)
- Discharge air control sequence with field mounted duct temperature sensor
- Flexible design to match local design outdoor temperatures
- Adjustable DX cooling coil discharge air set-point temperatures and unit discharge air temperatures
- Dehumidification mode is triggered based on adjustable outdoor air dew point temperature set-points
- Extensive end of line testing at factory
- Insulated floor pan
- Bottom return or side return duct connections for AR-DE models
- Direct drive exhaust fan with VFD for AR-DE models
- Phase voltage monitor

## Options

- Energy recovery wheel with rotation sensor (optional for AR-DE models)
- Energy core with exhaust air temperature sensor (optional for AR-DC models)
- Corrosion resistance coating for DX cooling reheat, condenser coils, and casing
- High turndown (up to 16:1) gas heat control
- Electric heat with silicon-controlled rectifier (SCR) control
- Curbs (14", 18", 24", high)
- Hail guards
- Airflow monitoring intake damper
- VFD option for energy recovery wheel defrost control
- 4" MERV 8, 13, or 14 filters
- Convenience outlet
- Supply air filter pressure switch
- Smoke detector
- Return air opening with motorized damper for AR-DR models
- Discharge air control with space temperature and humidity sensors
- Space temperature and humidity control with outdoor air reset



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- Spare set of 2" MERV 8 supply filters
- Condensate overflow switch
- Vapor tight lights
- Electric preheat for energy core frost control.

### **Note:**

- Wiring diagrams are custom made to match each units configuration and can be found on the inside of the control cabinet access door.
- Performance data for each unit will vary depending on entering air temperatures, design leaving air temperature, and airflow rates. LG CAPS Rooftop DOAS Selection Software must be used for each application to generate accurate performance data. (LG CAPS software will be available at [www.myLGHVAC.com](http://www.myLGHVAC.com), or contact a local LG sales representative.)
- See the Rooftop DOAS Installation manual for details on mounting, condensate piping, etc.



# GENERAL DATA

## Base Rooftop DOAS

Table 1: Base Rooftop DOAS.

Model No.	AR-DR02-03A	AR-DR02-04A	AR-DR02-05A	AR-DR02-06A	AR-DR02-07A
Design Airflow (CFM)	620	770	960	1,050	1,240
ESP (in. wg)	2.5	2.5	2.5	2.5	2.5
Entering Air Summer DB/WB (°F)	95/75	95/75	95/75	95/75	95/75
Entering Air Winter DB (°F)	0	0	0	0	0
<b>Cooling Performance</b>					
Coil LAT DB/WB (°F)	54.7/54.6	55.1/55.0	54.9/54.8	55.0/54.9	55.0/54.9
Total Cooling Capacity (MBH)	44	53.7	67.6	73.6	86.9
Sensible Cooling Capacity (MBH)	27	33.2	41.6	45.3	53.5
Hot Gas Reheat Coil Capacity (MBH)	22.8	27.4	32	35.8	39.7
Evaporator coil depth (rows)	3	3	4	4	6
Number of compressors	1	1	1	1	1
Compressor Type(s)	Inverter scroll	Inverter scroll	Inverter scroll	Inverter scroll	Inverter scroll
<b>Heating</b>					
Fuel	Natural Gas	Natural Gas	Natural Gas	Natural Gas	Natural Gas
Capacity Input (MBH)	75	100	100	100	150
Capacity Output (MBH)	61	81	81	81	122
LAT (°F)	91.1	97.4	78.1	71.4	90.6
Turndown Type	Modulating	Modulating	Modulating	Modulating	Modulating
Turndown Ratio	4:1	4:1	4:1	4:1	4:1
<b>Supply Fan Data</b>					
Fan Quantity	1	1	1	1	1
Wheel Speed (RPM)	1,900	1,920	1,991	2,029	2,113
Motor HP	3/4	3/4	1	1	1.5
<b>Configuration</b>					
Outdoor Air Intake	End	End	End	End	End
Supply Air Discharge	Bottom	Bottom	Bottom	Bottom	Bottom
Weight (lbs)	1,051	1,071	1,082	1,085	1,140
<b>Filtration</b>					
Hood	None	None	None	None	None
Supply	2" MERV 8	2" MERV 8	2" MERV 8	2" MERV 8	2" MERV 8

### Note:

- Capacity Data above may change if entering air temperatures, leaving air temperatures (LAT), or airflow rates are varied.
- Take appropriate actions at the end of HVAC equipment life to recover, recycle, reclaim or destroy R410A refrigerant according to applicable regulations (40 CFR Part 82, Subpart F) under section 608 of CAA.



# GENERAL DATA

## Base Rooftop DOAS

Table 2: Base Rooftop DOAS, continued.

Model No.	AR-DR12-05A	AR-DR12-07A	AR-DR12-10A	AR-DR12-12A	AR-DR12-15A
Design Airflow (CFM)	980	1,500	1,800	2,250	2,900
ESP (in. wg)	2	2	2	2	2
Entering Air Summer DB/WB (°F)	95/75	95/75	95/75	95/75	95/75
Entering Air Winter DB (°F)	0	0	0	0	0
<b>Cooling Performance</b>					
Coil LAT DB/WB (°F)	54.5/54.5	58.5/58.4	54.8/54.7	56.1/56.1	55.1/55.0
Unit LAT DB (°F)	95.3	90.9	89.7	88.7	89.0
Total Cooling Capacity (MBH)	70.5	90.7	128.6	151.4	204.1
Sensible Cooling Capacity (MBH)	43.7	60.3	79.7	96.3	127.5
Hot Gas Reheat Coil Capacity (MBH)	43.2	52.5	68	79.1	106.2
Evaporator coil depth (rows)	4	4	4	6	6
Number of compressors	1	1	1	1	1
Compressor Type(s)	Inverter scroll	Inverter scroll	Inverter scroll	Inverter scroll	Inverter scroll
<b>Heating</b>					
Fuel	Natural Gas	Natural Gas	Natural Gas	Natural Gas	Natural Gas
Capacity Input (MBH)	100	200	200	300	300
Capacity Output (MBH)	81	162	162	243	243
LAT (°F)	76.5	100	83.3	99.9	77.5
Turndown Type	Modulating	Modulating	Modulating	Modulating	Modulating
Turndown Ratio	4:1	4:1	4:1	4:1	4:1
<b>Supply Fan Data</b>					
Fan Quantity	1	1	1	1	1
Wheel Speed (RPM)	1,414	1,434	1,492	1,595	1,770
Motor HP	1	1	1.5	1.5	2
<b>Configuration</b>					
Outdoor Air Intake	End	End	End	End	End
Supply Air Discharge	Bottom	Bottom	Bottom	Bottom	Bottom
Weight (lbs)	2,007	2,044	2,172	2,277	2,373
<b>Filtration</b>					
Hood	None	None	None	None	None
Supply	2" MERV 8	2" MERV 8	2" MERV 8	2" MERV 8	2" MERV 8

### Note:

- Capacity Data above may change if entering air temperatures, leaving air temperatures (LAT), or airflow rates are varied.
- Take appropriate actions at the end of HVAC equipment life to recover, recycle, reclaim or destroy R410A refrigerant according to applicable regulations (40 CFR Part 82, Subpart F) under section 608 of CAA.



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# GENERAL DATA

## Base Rooftop DOAS

Table 3: Base Rooftop DOAS, continued.

Model No.	AR-DR22-15A	AR-DR22-17A	AR-DR22-20A	AR-DR22-25A	AR-DR22-30A
Design Airflow (CFM)	2,900	3,200	3,700	4,600	5,100
ESP (in. wg)	3	3	3	3	3
Entering Air Summer DB/WB (°F)	95/75	95/75	95/75	95/75	95/75
Entering Air Winter DB (°F)	0	0	0	0	0
<b>Cooling Performance</b>					
Coil LAT DB/WB (°F)	54.4/54.4	55.3/55.2	52.6/52.6	54.2/54.1	54.1/54.0
Unit LAT DB (°F)	96.1	94.9	93.8	94.6	95
Total Cooling Capacity (MBH)	209.7	224	285.7	335.4	373.2
Sensible Cooling Capacity (MBH)	129.5	139.9	172.6	206.5	229.3
Hot Gas Reheat Coil Capacity (MBH)	130.4	137	164.6	200.8	225.3
Evaporator coil depth (rows)	5	5	6	6	6
Number of compressors	1	1	2	2	2
Compressor Type(s)	Inverter scroll	Inverter scroll	Inverter scroll	Inverter scroll	Inverter scroll
<b>Heating</b>					
Fuel	Natural Gas	Natural Gas	Natural Gas	Natural Gas	Natural Gas
Capacity Input (MBH)	300	400	400	500	500
Capacity Output (MBH)	243	324	324	405	405
LAT (°F)	77.6	93.7	81	81.4	73.5
Turndown Type	Modulating	Modulating	Modulating	Modulating	Modulating
Turndown Ratio	4:1	4:1	4:1	4:1	4:1
<b>Supply Fan Data</b>					
Fan Quantity	1	1	1	1	1
Wheel Speed (RPM)	1,417	1,438	1,489	1,570	1,636
Motor HP	3	3	5	5	5
<b>Configuration</b>					
Outdoor Air Intake	End	End	End	End	End
Supply Air Discharge	Bottom	Bottom	Bottom	Bottom	Bottom
Weight (lbs)	3,072	3,125	3,260	3,347	3,393
<b>Filtration</b>					
Hood	None	None	None	None	None
Supply	2" MERV 8	2" MERV 8	2" MERV 8	2" MERV 8	2" MERV 8

### Note:

- Capacity Data above may change if entering air temperatures, leaving air temperatures (LAT), or airflow rates are varied.
- Take appropriate actions at the end of HVAC equipment life to recover, recycle, reclaim or destroy R410A refrigerant according to applicable regulations (40 CFR Part 82, Subpart F) under section 608 of CAA.



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# GENERAL DATA

## Base Rooftop DOAS

Table 4: Base Rooftop DOAS, continued.

Model No.	AR-DR32-25A	AR-DR32-30A	AR-DR32-40A	AR-DR32-50A
Design Airflow (CFM)	4,500	5,550	7,800	8,900
ESP (in. wg)	2	2	3	3
Entering Air Summer DB/WB (°F)	95/75	95/75	95/75	95/75
Entering Air Winter DB (°F)	0	0	0	0
<b>Cooling Performance</b>				
Coil LAT DB/WB (°F)	55.6/55.6	54.7/54.6	54.7/54.6	54.8/54.7
Unit LAT DB (°F)	92.2	91.6	89.4	88.7
Total Cooling Capacity (MBH)	307.4	394.3	553	628.9
Sensible Cooling Capacity (MBH)	191.2	241.6	339.2	386.2
Hot Gas Reheat Coil Capacity (MBH)	181.1	225.8	301.2	335.9
Evaporator coil depth (rows)	4	4	6	6
Number of compressors	2	2	3	3
Compressor Type(s)	Inverter scroll	Inverter scroll	Inverter scroll	Inverter scroll
<b>Heating</b>				
Fuel	Natural Gas	Natural Gas	Natural Gas	Natural Gas
Capacity Input (MBH)	600	600	1,000	1,000
Capacity Output (MBH)	486	486	810	810
LAT (°F)	100.0	81.1	96.1	84.2
Turndown Type	Modulating	Modulating	Modulating	Modulating
Turndown Ratio	4:1	4:1	5:1	5:1
<b>Supply Fan Data</b>				
Supply Fan Quantity	2	2	2	2
Supply Fan Wheel Speed (RPM)	1,170	1,165	1,524	1,602
Supply Fan Motor HP	1.5	3	5	5
<b>Configuration</b>				
Outdoor Air Intake	End	End	End	End
Supply Air Discharge	Bottom	Bottom	Bottom	Bottom
Return Air Opening	Bottom	Bottom	Bottom	Bottom
Weight (lbs)	5,306	5,450	6,080	6,116
<b>Filtration</b>				
Hood	none	none	none	none
Supply	2" MERV8	2" MERV8	2" MERV8	2" MERV8



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# GENERAL DATA

## Base Rooftop DOAS

Table 5: Base Rooftop DOAS, continued.

Model No.	AR-DR35-30A	AR-DR35-40A	AR-DR35-50A	AR-DR35-60A	AR-DR35-70A
Design Airflow (CFM)	5,200	6,700	8,500	9,800	12,000
ESP (in. wg)	3	3	3	3	3
Entering Air Summer DB/WB (°F)	95/75	95/75	95/75	95/75	95/75
Entering Air Winter DB (°F)	0	0	0	0	0
<b>Cooling Performance</b>					
Coil LAT DB/WB (°F)	54.1/53.4	55.0/54.1	56.0/55.3	53.9/53.7	55.4/55.1
Unit LAT DB (°F)	79.8	77.6	77.1	72.5	73.2
Total Cooling Capacity (MBH)	389.6	488.1	592.5	727.3	842.9
Sensible Cooling Capacity (MBH)	234.0	294.9	364.8	443.4	522.8
Hot Gas Reheat Coil Capacity (MBH)	144.4	163.9	193.9	196.4	231
Evaporator coil depth (rows)	4	4	4	6	6
Number of compressors	3	4	4	4	4
Compressor Type(s)	Inverter scroll	Inverter scroll	Inverter scroll	Inverter scroll	Inverter scroll
<b>Heating</b>					
Fuel	Natural Gas	Natural Gas	Natural Gas	Natural Gas	Natural Gas
Capacity Input (MBH)	600	800	800	1,200	1,200
Capacity Output (MBH)	486	648	648	972	972
LAT (°F)	86.5	89.6	70.5	91.8	75
Turndown Type	Modulating	Modulating	Modulating	Modulating	Modulating
Turndown Ratio	4:1	10:1	10:1	10:1	10:1
<b>Supply Fan Data</b>					
Supply Fan Quantity	3	3	3	2	3
Supply Fan Wheel Speed (RPM)	2,380	2,157	2,344	2,367	2,260
Supply Fan Motor HP	1.5	3	5	5	5
<b>Configuration</b>					
Outdoor Air Intake	End	End	End	End	End
Supply Air Discharge	Bottom	Bottom	Bottom	Bottom	Bottom
Return Air Opening	Bottom	Bottom	Bottom	Bottom	Bottom
Weight (lbs)	7,280	7,781	7,994	8,332	8,474
<b>Filtration</b>					
Hood	none	none	none	none	none
Supply	2" MERV8	2" MERV8	2" MERV8	2" MERV8	2" MERV8



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# GENERAL DATA

## Energy Recovery Wheel Rooftop DOAS

Table 6: Energy Recovery Wheel Rooftop DOAS.

Model No.	AR-DE12-05A	AR-DE12-07A	AR-DE12-10A	AR-DE12-12A	AR-DE12-15A
Design Airflow (CFM)	1,700	2,600	2,950	3,700	4,150
ESP (in. wg)	2	2	2	2	2
Entering Air Summer DB/WB (°F)	95/75	95/75	95/75	95/75	95/75
Entering Air Winter DB (°F)	0	0	0	0	0
<b>Cooling Performance</b>					
Coil EAT DB/WB (°F)	81.2/67.0	81.5/67.2	82.1/67.6	82.3/67.7	82.9/68.1
Coil LAT DB/WB (°F)	53.9/53.9	57.0/56.7	54.6/54.3	55.3/55.2	53.4/53.3
Unit LAT DB (°F)	81.6	81.8	81.6	80.6	81.8
Total Cooling Capacity (MBH)	70.2	88.4	125.1	148.7	195.7
Sensible Cooling Capacity (MBH)	50.9	70.1	89	109.6	134.3
Hot Gas Reheat Coil Capacity (MBH)	50.7	69.7	85.9	101.1	127.4
Wheel Dimensions (in) and Speed	30-30H	36-30H	36-30H	41-30H	41-30H
Evaporator coil depth (rows)	4	4	4	6	6
Number of compressors	1	1	1	1	1
Compressor Type(s)	Inverter scroll	Inverter scroll	Inverter scroll	Inverter scroll	Inverter scroll
<b>Heating</b>					
Fuel	Natural Gas	Natural Gas	Natural Gas	Natural Gas	Natural Gas
Capacity Input (MBH)	100	200	300	300	300
Capacity Output (MBH)	81	162	243	243	243
LAT (°F)	90.4	102.8	119.2	103.2	94.3
Turndown Type	Modulating	Modulating	Modulating	Modulating	Modulating
Turndown Ratio	4:1	4:1	4:1	4:1	4:1
<b>Fan Data</b>					
Supply Fan Quantity	1	1	1	1	1
Supply Fan Wheel Speed (RPM)	1,698	2,005	2,022	2,304	2,461
Supply Fan Motor HP	1.5	3	3	5	7.5
Exhaust Fan Quantity	1	1	1	1	1
Exhaust Fan Wheel Speed (RPM)	1,675	1,852	1,951	2,171	2,314
Exhaust Fan Motor HP	1.5	3	3	5	5
<b>Configuration</b>					
Outdoor Air Intake	End	End	End	End	End
Supply Air Discharge	Bottom	Bottom	Bottom	Bottom	Bottom
Return Air Opening	Bottom	Bottom	Bottom	Bottom	Bottom
Weight (lbs)	2,849	3,049	3,188	3,191	3,320
<b>Filtration</b>					
Hood	none	none	none	none	none
Supply	2" MERV8	2" MERV8	2" MERV8	2" MERV8	2" MERV8



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# GENERAL DATA

## Energy Recovery Wheel Rooftop DOAS

Table 7: Energy Recovery Wheel Rooftop DOAS, continued.

Model No.	AR-DE22-15A	AR-DE22-17A	AR-DE22-20A	AR-DE22-25A	AR-DE22-30A
Design Airflow (CFM)	5,000	5,510	6,300	6,750	7,450
ESP (in. wg)	2	2	2	2	2
Entering Air Summer DB/WB (°F)	95/75	95/75	95/75	95/75	95/75
Entering Air Winter DB (°F)	0	0	0	0	0
<b>Cooling Performance</b>					
Coil EAT DB/WB (°F)	81.0/66.8	81.5/67.1	82.1/67.6	81.4/67.1	81.9/67.4
Coil LAT DB/WB (°F)	53.9/53.7	54.7/54.5	53.3/53.1	51.9/51.8	52.2/52.0
Unit LAT DB (°F)	87.2	85.5	86.4	86	87.4
Total Cooling Capacity (MBH)	206.6	221.5	286.7	321.1	358
Sensible Cooling Capacity (MBH)	148.9	161.5	199.3	218.9	242.9
Hot Gas Reheat Coil Capacity (MBH)	180	183.2	225.4	248.9	283
Wheel Dimensions (in) and Speed	52-30H	52-30H	52-30H	58-30H	58-30H
Evaporator coil depth (rows)	5	5	6	6	6
Number of compressors	1	1	2	2	2
Compressor Type(s)	Inverter scroll	Inverter scroll	Inverter scroll	Inverter scroll	Inverter scroll
<b>Heating</b>					
Fuel	Natural Gas	Natural Gas	Natural Gas	Natural Gas	Natural Gas
Capacity Input (MBH)	400	500	500	500	500
Capacity Output (MBH)	324	405	405	405	405
LAT (°F)	107	113.5	102.6	101.1	94.1
Turndown Type	Modulating	Modulating	Modulating	Modulating	Modulating
Turndown Ratio	4:1	4:1	4:1	4:1	4:1
<b>Fan Data</b>					
Supply Fan Quantity	1	1	1	1	1
Supply Fan Wheel Speed (RPM)	1,696	1,751	1,890	1,915	2,041
Supply Fan Motor HP	7.5	7.5	7.5	7.5	10
Exhaust Fan Quantity	1	1	1	1	1
Exhaust Fan Wheel Speed (RPM)	1,578	1,656	1,778	1,859	1,977
Exhaust Fan Motor HP	5	7.5	7.5	7.5	10
<b>Configuration</b>					
Outdoor Air Intake	End	End	End	End	End
Supply Air Discharge	Bottom	Bottom	Bottom	Bottom	Bottom
Return Air Opening	Bottom	Bottom	Bottom	Bottom	Bottom
Weight (lbs)	4,326	4,456	4,630	4,711	4,759
<b>Filtration</b>					
Hood	none	none	none	none	none
Supply	2" MERV8	2" MERV8	2" MERV8	2" MERV8	2" MERV8



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# GENERAL DATA

## Energy Recovery Wheel Rooftop DOAS

Table 8: Energy Recovery Wheel Rooftop DOAS, continued.

Model No.	AR-DE32-25A	AR-DE32-30A	AR-DE32-40A	AR-DE32-50A
Design Airflow (CFM)	8,700	10,300	14,000	15,000
ESP (in. wg)	3	3	3	3
Entering Air Summer DB/WB (°F)	95/75	95/75	95/75	95/75
Entering Air Winter DB (°F)	0	0	0	0
<b>Cooling Performance</b>				
Coil EAT DB/WB (°F)	80.4/66.4	81.1/66.9	81.7/67.3	82.0/67.5
Coil LAT DB/WB (°F)	55.2/55.1	54.7/54.7	54.9/54.9	54.5/54.4
Unit LAT DB (°F)	78.7	80.3	80.9	80.2
Total Cooling Capacity (MBH)	310.1	396.4	553.2	623.7
Sensible Cooling Capacity (MBH)	237.6	293.5	405.4	446.6
Hot Gas Reheat Coil Capacity (MBH)	218.6	280.3	399.2	422.9
Wheel Dimensions (in) and Speed	74-30H	74-30H	81-30H	81-30H
Evaporator coil depth (rows)	4	4	6	6
Number of compressors	2	2	3	3
Compressor Type(s)	Inverter scroll	Inverter scroll	Inverter scroll	Inverter scroll
<b>Heating</b>				
Fuel	Natural Gas	Natural Gas	Natural Gas	Natural Gas
Capacity Input (MBH)	800	800	1,200	1,200
Capacity Output (MBH)	648	648	972	972
LAT (°F)	119	105.7	108.8	103.3
Turndown Type	Modulating	Modulating	Modulating	Modulating
Turndown Ratio	4:1	4:1	5:1	5:1
<b>Fan Data</b>				
Supply Fan Quantity	2	2	2	2
Supply Fan Wheel Speed (RPM)	1,721	1,854	2,148	2,241
Supply Fan Motor HP	5	7.5	10	15
Exhaust Fan Quantity	2	2	2	2
Exhaust Fan Wheel Speed (RPM)	2,213	2,445	3,021	1,999
Exhaust Fan Motor HP	5	5	10	15
<b>Configuration</b>				
Outdoor Air Intake	End	End	End	End
Supply Air Discharge	Bottom	Bottom	Bottom	Bottom
Return Air Opening	Bottom	Bottom	Bottom	Bottom
Weight (lbs)	7,465	7,598	8,430	8,706
<b>Filtration</b>				
Hood	none	none	none	none
Supply	2" MERV8	2" MERV8	2" MERV8	2" MERV8



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# GENERAL DATA

## Energy Recovery Wheel Rooftop DOAS

Table 9: Energy Recovery Wheel Rooftop DOAS, continued.

Model No.	AR-DE35-30A	AR-DE35-40A	AR-DE35-50A	AR-DE35-60A	AR-DE35-70A
Design Airflow (CFM)	9,400	11,600	13,500	16,000	17,500
ESP (in. wg)	3	3	3	2.5	2.5
Entering Air Summer DB/WB (°F)	95/75	95/75	95/75	95/75	95/75
Entering Air Winter DB (°F)	0	0	0	0	0
<b>Cooling Performance</b>					
Coil EAT DB/WB (°F)	80.1/66.2	80.9/66.7	81.6/67.2	82.4/67.8	82.9/68.1
Coil LAT DB/WB (°F)	54.1/53.0	54.8/53.5	54.7/53.7	54.1/53.7	54.0/53.5
Unit LAT DB (°F)	72.1	71.1	71.8	67.8	68.8
Total Cooling Capacity (MBH)	384.3	479.8	567.7	718.9	814.3
Sensible Cooling Capacity (MBH)	268.4	332.3	398.6	497.6	554.9
Hot Gas Reheat Coil Capacity (MBH)	182.6	204	249.2	237.1	279.1
Wheel Dimensions (in) and Speed	81-30H	81-30H	81-30H	81-30H	81-30H
Evaporator coil depth (rows)	4	4	4	6	6
Number of compressors	2	4	4	4	4
Compressor Type(s)	Inverter scroll	Inverter scroll	Inverter scroll	Inverter scroll	Inverter scroll
<b>Heating</b>					
Fuel	Natural Gas	Natural Gas	Natural Gas	Natural Gas	Natural Gas
Capacity Input (MBH)	800	1,000	1,200	1,200	1,200
Capacity Output (MBH)	648	810	972	972	972
LAT (°F)	114.7	112.2	111.7	98.1	91.5
Turndown Type	Modulating	Modulating	Modulating	Modulating	Modulating
Turndown Ratio	4:1	10:1	10:1	10:1	10:1
<b>Fan Data</b>					
Supply Fan Quantity	3	3	3	3	3
Supply Fan Wheel Speed (RPM)	2,203	2,324	2,100	2,241	2,357
Supply Fan Motor HP	3	5	7.5	7.5	10
Exhaust Fan Quantity	3	2	3	3	3
Exhaust Fan Wheel Speed (RPM)	2,372	2,014	2,276	2,019	2,107
Exhaust Fan Motor HP	3	5	5	7.5	7.5
<b>Configuration</b>					
Outdoor Air Intake	End	End	End	End	End
Supply Air Discharge	Bottom	Bottom	Bottom	Bottom	Bottom
Return Air Opening	Bottom	Bottom	Bottom	Bottom	Bottom
Weight (lbs)	9,910	10,438	11,024	11,422	11,467
<b>Filtration</b>					
Hood	none	none	none	none	none
Supply	2" MERV8	2" MERV8	2" MERV8	2" MERV8	2" MERV8



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# GENERAL DATA

## Enthalpy Core Rooftop DOAS

Table 10. Enthalpy Core Rooftop DOAS.

Model No.	AR-DC12-05A	AR-DC12-07A	AR-DC12-10A	AR-DC12-12A	AR-DC12-15A
Design Airflow (CFM)	1,800	2,150	2,950	3,400	3,600
ESP (in. wg)	2	2	2	2	2
Entering Air Summer DB/WB (°F)	95/75	95/75	95/75	95/75	95/75
Entering Air Winter DB (°F)	0	0	0	0	0
<b>Cooling Performance</b>					
Coil EAT DB/WB (°F)	80.6/67.1	80.8/67.4	81.1/67.8	81.6/68.3	81.9/68.3
Coil LAT DB/WB (°F)	54.9/54.8	54.9/54.8	54.8/54.5	54.9/54.9	51.5/51.4
Unit LAT DB (°F)	81.5	81.9	81.8	81.2	81.9
Total Cooling Capacity (MBH)	70.9	86.9	125.6	148.4	190.5
Sensible Cooling Capacity (MBH)	50.8	61.1	85.2	99.6	120.4
Hot Gas Reheat Coil Capacity (MBH)	51.7	62.6	85.9	96.6	118.1
Material	Fiber	Fiber	Polymer	Fiber	Polymer
Evaporator coil depth (rows)	4	4	4	6	6
Number of compressors	1	1	1	1	1
Compressor Type(s)	Inverter scroll	Inverter scroll	Inverter scroll	Inverter scroll	Inverter scroll
<b>Heating</b>					
Fuel	Natural Gas	Natural Gas	Natural Gas	Natural Gas	Natural Gas
Capacity Input (MBH)	100	100	200	300	300
Capacity Output (MBH)	81	81	162	243	243
LAT (°F)	95.5	86.8	98.5	111.4	106.7
Turndown Type	Modulating	Modulating	Modulating	Modulating	Modulating
Turndown Ratio	4:1	4:1	4:1	4:1	4:1
<b>Fan Data</b>					
Supply Fan Quantity	1	1	1	1	1
Supply Fan Wheel Speed (RPM)	1,708	1,824	1,996	2,157	2,224
Supply Fan Motor HP	2	2	3	5	5
Exhaust Fan Quantity	1	1	1	1	1
Exhaust Fan Wheel Speed (RPM)	1,654	1,737	1,954	2,102	2,154
Exhaust Fan Motor HP	1.5	2	3	5	5
<b>Configuration</b>					
Outdoor Air Intake	End	End	End	End	End
Supply Air Discharge	Bottom	Bottom	Bottom	Bottom	Bottom
Return Air Opening	Bottom	Bottom	Bottom	Bottom	Bottom
Weight (lbs)	3,359	3,372	3,587	3,612	3,695
<b>Filtration</b>					
Hood	none	none	none	none	none
Supply	2" MERV8	2" MERV8	2" MERV8	2" MERV8	2" MERV8



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# GENERAL DATA

## Enthalpy Core Rooftop DOAS

Table 11. Enthalpy Core Rooftop DOAS, continued.

Model No.	AR-DC22-15A	AR-DC22-17A	AR-DC22-20A	AR-DC22-25A	AR-DC22-30A
Design Airflow (CFM)	5,400	5,600	6,500	6,490	6,490
ESP (in. wg)	2	2	2	2	2
Entering Air Summer DB/WB (°F)	95/75	95/75	95/75	95/75	95/75
Entering Air Winter DB (°F)	0	0	0	0	0
<b>Cooling Performance</b>					
Coil EAT DB/WB (°F)	81.3/67.2	81.4/67.3	81.5/67.7	81.5/67.7	81.5/67.7
Coil LAT DB/WB (°F)	55.3/55.0	55.1/54.9	53.9/53.7	52.0/52.8	50.4/50.3
Unit LAT DB (°F)	87.7	85.7	86.6	86.7	87.4
Total Cooling Capacity (MBH)	211	222.6	289	321.6	348.2
Sensible Cooling Capacity (MBH)	154.5	161.1	197.3	210.5	221.7
Hot Gas Reheat Coil Capacity (MBH)	189.4	185	230.1	243.1	259.4
Material	Fiber	Fiber	Fiber	Fiber	Fiber
Evaporator coil depth (rows)	5	5	6	6	6
Number of compressors	1	1	2	2	2
Compressor Type(s)	Inverter scroll	Inverter scroll	Inverter scroll	Inverter scroll	Inverter scroll
<b>Heating</b>					
Fuel	Natural Gas	Natural Gas	Natural Gas	Natural Gas	Natural Gas
Capacity Input (MBH)	500	500	500	500	500
Capacity Output (MBH)	405	405	405	405	405
LAT (°F)	115.8	113.2	103.4	103.5	103.5
Turndown Type	Modulating	Modulating	Modulating	Modulating	Modulating
Turndown Ratio	4:1	4:1	4:1	4:1	4:1
<b>Fan Data</b>					
Supply Fan Quantity	1	1	1	1	1
Supply Fan Wheel Speed (RPM)	1,708	1,742	1,900	1,898	1,898
Supply Fan Motor HP	7.5	7.5	7.5	7.5	7.5
Exhaust Fan Quantity	1	1	1	1	1
Exhaust Fan Wheel Speed (RPM)	1,654	1,685	1,826	1,825	1,825
Exhaust Fan Motor HP	7.5	7.5	7.5	7.5	7.5
<b>Configuration</b>					
Outdoor Air Intake	End	End	End	End	End
Supply Air Discharge	Bottom	Bottom	Bottom	Bottom	Bottom
Return Air Opening	Bottom	Bottom	Bottom	Bottom	Bottom
Weight (lbs)	4,910	4,951	5,125	5,170	5,216
<b>Filtration</b>					
Hood	none	none	none	none	none
Supply	2" MERV8	2" MERV8	2" MERV8	2" MERV8	2" MERV8



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# GENERAL DATA

## Enthalpy Core Rooftop DOAS

Table 12. Enthalpy Core Rooftop DOAS, continued.

Model No.	AR-DC35-30A	AR-DC35-40A	AR-DC35-50A	AR-DC35-60A	AR-DC35-70A
Design Airflow (CFM)	8,600	10,100	12,300	15,000	15,000
ESP (in. wg)	2	2	2	2	2
Entering Air Summer DB/WB (°F)	95/75	95/75	95/75	95/75	95/75
Entering Air Winter DB (°F)	0	0	0	0	0
<b>Cooling Performance</b>					
Coil EAT DB/WB (°F)	81.5/68.2	81.7/68.4	82.0/68.8	82.3/69.1	82.3/69.1
Coil LAT DB/WB (°F)	55.0/54.0	54.6/53.6	55.1/54.3	54.6/54.2	52.7/52.4
Unit LAT DB (°F)	73.9	72.2	72.8	68.8	68.6
Total Cooling Capacity (MBH)	391.6	480.5	579.6	728.3	802.4
Sensible Cooling Capacity (MBH)	250.3	300.7	364.5	458.1	488.2
Hot Gas Reheat Coil Capacity (MBH)	175.3	191.7	235.9	230.6	257.3
Material	Polymer	Polymer	Polymer	Polymer	Polymer
Evaporator coil depth (rows)	4	4	4	6	6
Number of compressors	3	4	4	4	4
Compressor Type(s)	Inverter scroll	Inverter scroll	Inverter scroll	Inverter scroll	Inverter scroll
<b>Heating</b>					
Fuel	Natural Gas	Natural Gas	Natural Gas	Natural Gas	Natural Gas
Capacity Input (MBH)	800	800	1,200	1,200	1,200
Capacity Output (MBH)	648	648	972	972	972
LAT (°F)	118.4	107.2	119.9	105.6	105.6
Turndown Type	Modulating	Modulating	Modulating	Modulating	Modulating
Turndown Ratio	10:1	10:1	10:1	10:1	10:1
<b>Fan Data</b>					
Supply Fan Quantity	3	2	3	3	3
Supply Fan Wheel Speed (RPM)	2,002	1,990	2,346	2,236	2,227
Supply Fan Motor HP	3	5	5	7.5	7.5
Exhaust Fan Quantity	1	3	2	3	3
Exhaust Fan Wheel Speed (RPM)	1,574	2,386	2,035	2,370	1,924
Exhaust Fan Motor HP	3	3	5	5	5
<b>Configuration</b>					
Outdoor Air Intake	End	End	End	End	End
Supply Air Discharge	Bottom	Bottom	Bottom	Bottom	Bottom
Return Air Opening	Bottom	Bottom	Bottom	Bottom	Bottom
Weight (lbs)	11,591	11,804	12,285	12,821	12,827
<b>Filtration</b>					
Hood	none	none	none	none	none
Supply	2" MERV8	2" MERV8	2" MERV8	2" MERV8	2" MERV8



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# ELECTRICAL DATA

## Base Rooftop DOAS

Table 13: Base Rooftop DOAS Electrical Data.

Model No.	AR-DR02-03A	AR-DR02-04A	AR-DR02-05A	AR-DR02-06A	AR-DR02-07A
Design Airflow (CFM)	620	770	960	1,050	1,240
ESP (in. wg)	2.5	2.5	2.5	2.5	2.5
<b>Voltage (V/P/C) 208/3/60</b>					
MCA (amps)	20.3	20.8	26.0	27.4	32.2
MOP (amps)	30.0	30.0	40.0	40.0	50.0
<b>Voltage (V/P/C) 230/3/60</b>					
MCA (amps)	19.6	19.6	25.2	25.2	29.1
MOP (amps)	25	25	35	35	45
<b>Voltage (V/P/C) 460/3/60</b>					
MCA (amps)	11.4	11.4	14.2	14.2	14.7
MOP (amps)	15	15	20	20	20

Table 14: Base Rooftop DOAS Electrical Data, continued.

Model No.	AR-DR12-05A	AR-DR12-07A	AR-DR12-10A	AR-DR12-12A	AR-DR12-15A
Design Airflow (CFM)	980	1,500	1,800	2,250	2,900
ESP (in. wg)	2	2	2	2	2
<b>Voltage (V/P/C) 208/3/60</b>					
MCA (amps)	25	52.3	53.8	53.8	79.2
MOP (amps)	35	60	60	60	125
<b>Voltage (V/P/C) 230/3/60</b>					
MCA (amps)	24.3	51.2	52.6	52.6	78.1
MOP (amps)	35	60	60	60	125
<b>Voltage (V/P/C) 460/3/60</b>					
MCA (amps)	13.8	25.4	26.1	26.1	47.2
MOP (amps)	20	40	40	40	60



# ELECTRICAL DATA

## Base Rooftop DOAS

Table 15: Base Rooftop DOAS Electrical Data, continued.

Model No.	AR-DR22-15A	AR-DR22-17A	AR-DR22-20A	AR-DR22-25A	AR-DR22-30A
Design Airflow (CFM)	2,900	3,200	3,700	4,600	5,100
ESP (in. wg)	3	3	3	3	3
<b>Voltage (V/P/C) 208/3/60</b>					
MCA (amps)	81.8	85.2	100.5	119.2	148
MOP (amps)	125	125	125	150	200
<b>Voltage (V/P/C) 230/3/60</b>					
MCA (amps)	80.3	83.1	98	116.6	145.3
MOP (amps)	125	125	125	150	200
<b>Voltage (V/P/C) 460/3/60</b>					
MCA (amps)	48.3	49.9	47.7	67.3	79.5
MOP (amps)	60	60	60	90	110

### Note:

- MCA = Minimum Circuit Ampacity.
- MOP = Maximum overcurrent protection.
- Electrical data above may vary if design airflow rate or external static pressures are varied.



# ELECTRICAL DATA

## Base Rooftop DOAS

Table 16: Base Rooftop DOAS Electrical Data, continued.

Model No.	AR-DR32-25A	AR-DR32-30A	AR-DR32-40A	AR-DR32-50A
Design Airflow (CFM)	4,450	5,550	7,800	8,900
ESP (in. wg)	1.3	2	3	3
<b>Voltage (V/P/C) 208/3/60</b>				
MCA (amps)	114.6	157.9	202.2	237.9
MOP (amps)	150	200	250	300
<b>Voltage (V/P/C) 230/3/60</b>				
MCA (amps)	112.4	154.7	196.9	232.6
MOP (amps)	150	200	250	300
<b>Voltage (V/P/C) 460/3/60</b>				
MCA (amps)	65.2	85.2	94.7	120.3
MOP (amps)	90	110	110	150

Table 17: Base Rooftop DOAS Electrical Data, continued.

Model No.	AR-DR35-30A	AR-DR35-40A	AR-DR35-50A	AR-DR35-60A	AR-DR35-70A
Design Airflow (CFM)	5,200	6,700	8,500	9,800	12,000
ESP (in. wg)	3	3	3	3	3
<b>Voltage (V/P/C) 208/3/60</b>					
MCA (amps)	154.6	187.7	237.9	282	331.4
MOP (amps)	200	200	300	300	400
<b>Voltage (V/P/C) 230/3/60</b>					
MCA (amps)	151.7	183	232.6	275.7	324.3
MOP (amps)	200	200	300	300	350
<b>Voltage (V/P/C) 460/3/60</b>					
MCA (amps)	82.7	97.2	120.3	139.2	161.1
MOP (amps)	110	110	150	150	175

### Note:

- MCA = Minimum Circuit Ampacity.
- MOP = Maximum overcurrent protection.
- Electrical data above may vary if design airflow rate or external static pressures are varied.



# ELECTRICAL DATA

## Energy Recovery Wheel Rooftop DOAS

Table 18: Energy Recovery Wheel Rooftop DOAS Electrical Data.

Model No.	AR-DE12-05A	AR-DE12-07A	AR-DE12-10A	AR-DE12-12A	AR-DE12-15A
Design Airflow (CFM)	1,700	2,600	2,950	3,700	4,150
ESP (in. wg)	2	2	2	2	2
<b>Voltage (V/P/C) 208/3/60</b>					
MCA (amps)	35.2	49	68	77.2	110.9
MOP (amps)	45	60	100	100	150
<b>Voltage (V/P/C) 230/3/60</b>					
MCA (amps)	34.9	46	66.1	74.5	107.4
MOP (amps)	45	60	90	100	150
<b>Voltage (V/P/C) 460/3/60</b>					
MCA (amps)	19.3	23.5	33.1	37.3	62.3
MOP (amps)	25	30	45	50	90

Table 19: Energy Recovery Wheel Rooftop DOAS Electrical Data, continued.

Model No.	AR-DE22-15A	AR-DE22-17A	AR-DE22-20A	AR-DE22-25A	AR-DE22-30A
Design Airflow (CFM)	5,000	5,510	6,300	6,750	7,450
ESP (in. wg)	2	2	2	2	2
<b>Voltage (V/P/C) 208/3/60</b>					
MCA (amps)	108.5	119.7	130.4	147.5	187.9
MOP (amps)	150	150	150	175	225
<b>Voltage (V/P/C) 230/3/60</b>					
MCA (amps)	105.6	115.9	126.6	143.6	183.1
MOP (amps)	150	150	150	175	225
<b>Voltage (V/P/C) 460/3/60</b>					
MCA (amps)	60.8	66.2	61.9	80.8	98.4
MOP (amps)	90	90	70	110	125

### Note:

- MCA = Minimum Circuit Ampacity.
- MOP = Maximum overcurrent protection.
- Electrical data above may vary if design airflow rate or external static pressures are varied.



# ELECTRICAL DATA

## Energy Recovery Wheel Rooftop DOAS

Table 20: Energy Recovery Wheel Rooftop DOAS Electrical Data, continued.

Model No.	AR-DE32-25A	AR-DE32-30A	AR-DE32-40A	AR-DE32-50A
Design Airflow (CFM)	8,700	10,300	14,000	15,000
ESP (in. wg)	3	3	3	3
<b>Voltage (V/P/C) 208/3/60</b>				
MCA (amps)	158.4	205.3	282.3	341.2
MOP (amps)	200	250	300	400
<b>Voltage (V/P/C) 230/3/60</b>				
MCA (amps)	152.9	199.4	273.1	330.8
MOP (amps)	175	250	300	400
<b>Voltage (V/P/C) 460/3/60</b>				
MCA (amps)	75.4	106	132.8	169.4
MOP (amps)	90	125	150	200

Table 21: Energy Recovery Wheel Rooftop DOAS Electrical Data, continued.

Model No.	AR-DE35-30A	AR-DE35-40A	AR-DE35-50A	AR-DE35-60A	AR-DE35-70A
Design Airflow (CFM)	9,400	11,600	13,500	16,000	17,500
ESP (in. wg)	3	3	3	2.5	2.5
<b>Voltage (V/P/C) 208/3/60</b>					
MCA (amps)	205.3	234.7	318	NA	NA
MOP (amps)	250	250	400	NA	NA
<b>Voltage (V/P/C) 230/3/60</b>					
MCA (amps)	199.4	226.1	308.8	NA	NA
MOP (amps)	250	250	350	NA	NA
<b>Voltage (V/P/C) 460/3/60</b>					
MCA (amps)	106	118.9	158.4	186.1	209.5
MOP (amps)	125	125	175	200	225



# ELECTRICAL DATA

## Enthalpy Core Rooftop DOAS

Table 22: Enthalpy Core Rooftop DOAS Electrical Data.

Model No.	AR-DC12-05A	AR-DC12-07A	AR-DC12-10A	AR-DC12-12A	AR-DC12-15A
Design Airflow (CFM)	1,800	2,150	2,950	3,400	3,600
ESP (in. wg)	2	2	2	2	2
<b>Voltage (V/P/C) 208/3/60</b>					
MCA (amps)	67.7	69.9	76.4	87.9	103.8
MOP (amps)	70	70	90	100	150
<b>Voltage (V/P/C) 230/3/60</b>					
MCA (amps)	72.6	74.8	80.3	90.8	100.5
MOP (amps)	80	80	90	100	150
<b>Voltage (V/P/C) 460/3/60</b>					
MCA (amps)	36.3	37.4	40.2	45.4	58.6
MOP (amps)	40	40	45	50	90

Table 23: Enthalpy Core Rooftop DOAS Electrical Data, continued.

Model No.	AR-DC22-15A	AR-DC22-17A	AR-DC22-20A	AR-DC22-25A	AR-DC22-30A
Design Airflow (CFM)	5,400	5,600	6,500	6,490	6,490
ESP (in. wg)	2	2	2	2	2
<b>Voltage (V/P/C) 208/3/60</b>					
MCA (amps)	114.8	118.2	128.9	146.4	175.1
MOP (amps)	150	150	150	175	225
<b>Voltage (V/P/C) 230/3/60</b>					
MCA (amps)	111.6	114.4	125.1	142.6	171.3
MOP (amps)	150	150	150	175	225
<b>Voltage (V/P/C) 460/3/60</b>					
MCA (amps)	64	65.6	61.3	80.3	92.5
MOP (amps)	90	90	70	110	110



# ELECTRICAL DATA

## Enthalpy Core Rooftop DOAS

Table 24: Enthalpy Core Rooftop DOAS Electrical Data, continued.

Model No.	AR-DC35-30A	AR-DC35-40A	AR-DC35-50A	AR-DC35-60A	AR-DC35-70A
Design Airflow (CFM)	8,600	10,100	12,300	15,000	15,000
ESP (in. wg)	2	2	2	2	2
<b>Voltage (V/P/C) 208/3/60</b>					
MCA (amps)	211.6	215.7	280.5	357.8	NA
MOP (amps)	225	225	300	400	NA
<b>Voltage (V/P/C) 230/3/60</b>					
MCA (amps)	197	209.4	271.8	347.7	NA
MOP (amps)	225	225	300	350	NA
<b>Voltage (V/P/C) 460/3/60</b>					
MCA (amps)	103.1	110.4	123.2	175.2	190.5
MOP (amps)	125	125	125	200	200



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# ACOUSTIC DATA

## Base Rooftop DOAS

Table 25: Base Rooftop DOAS Acoustic Data.

	Sound Power by Octave Band (Lw)								Lwa
	62.5 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	
AR-DR02-03A									
Supply Air Discharge	82	74	79	83	70	66	64	64	81
AR-DR02-04A									
Supply Air Discharge	82	74	80	83	70	66	64	64	81
AR-DR02-05A									
Supply Air Discharge	83	74	81	84	71	67	66	64	83
AR-DR02-06A									
Supply Air Discharge	83	75	82	85	72	68	66	64	83
AR-DR02-07A									
Supply Air Discharge	84	76	84	86	73	70	67	65	85

### Note:

- *Lw* = Sound power level (dB).
- *Lwa* = A-weighted sound power level (dB).
- Sound power data is calculated based on design conditions listed in the General Data tables.



# ACOUSTIC DATA

## Base Rooftop DOAS

Table 26: Base Rooftop DOAS Acoustic Data, continued.

	Sound Power by Octave Band (Lw)								Lwa
	62.5 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	
AR-DR12-05A									
Supply Air Discharge	81	73	78	82	68	65	63	63	80
AR-DR12-07A									
Supply Air Discharge	74	77	80	70	65	61	74	61	78
AR-DR12-10A									
Supply Air Discharge	74	78	82	71	66	63	74	62	79
AR-DR12-12A									
Supply Air Discharge	75	80	86	73	69	65	75	62	81
AR-DR12-15A									
Supply Air Discharge	85	86	80	76	69	64	63	65	78
AR-DR22-15A									
Supply Air Discharge	86	88	86	78	73	68	67	67	82
AR-DR22-17A									
Supply Air Discharge	86	88	87	79	74	68	67	67	82
AR-DR22-20A									
Supply Air Discharge	87	88	89	79	75	69	68	68	83
AR-DR22-25A									
Supply Air Discharge	87	89	91	80	76	71	70	68	85
AR-DR22-30A									
Supply Air Discharge	88	89	94	81	78	72	71	69	87

### Note:

- $L_w$  = Sound power level (dB).
- $L_{wa}$  = A-weighted sound power level (dB).
- Sound power data is calculated based on design conditions listed in the General Data tables.



# ACOUSTIC DATA

## Base Rooftop DOAS

Table 27: Base Rooftop DOAS Acoustic Data, continued.

	Sound Power by Octave Band (Lw)								Lwa
	62.5 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	
AR-DR32-25A									
Supply Air Discharge	86	86	83	77	70	64	63	64	79
AR-DR32-30A									
Supply Air Discharge	80	82	82	81	79	73	69	65	83
AR-DR32-40A									
Supply Air Discharge	89	89	91	83	80	76	79	74	88
AR-DR32-50A									
Supply Air Discharge	90	90	93	85	82	78	80	76	90

Table 28: Base Rooftop DOAS Acoustic Data, continued.

	Sound Power by Octave Band (Lw)								Lwa
	62.5 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	
AR-DR35-30A									
Supply Air Discharge	88	89	94	82	78	72	71	69	88
AR-DR35-40A									
Supply Air Discharge	86	80	88	81	80	75	72	68	85
AR-DR35-50A									
Supply Air Discharge	90	90	92	84	82	77	80	75	89
AR-DR35-60A									
Supply Air Discharge	85	80	90	89	91	84	83	76	94
AR-DR35-70A									
Supply Air Discharge	85	81	90	87	88	82	79	74	91

### Note:

- *Lw* = Sound power level (dB).
- *Lwa* = A-weighted sound power level (dB).
- Sound power data is calculated based on design conditions listed in the General Data tables.



# ACOUSTIC DATA

## Energy Recovery Wheel Rooftop DOAS

Table 29: Energy Recovery Wheel Rooftop DOAS Acoustic Data.

	Sound Power by Octave Band (Lw)								Lwa
	62.5 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	
AR-DE12-05A									
Supply Air Discharge	75	81	88	75	70	66	75	63	82
AR-DE12-07A									
Supply Air Discharge	77	81	89	77	72	68	76	64	83
AR-DE12-10A									
Supply Air Discharge	78	81	90	77	73	68	76	65	84
AR-DE12-12A									
Supply Air Discharge	80	81	92	80	76	71	77	67	86
AR-DE12-15A									
Supply Air Discharge	81	81	93	81	77	72	78	67	87
AR-DE22-15A									
Supply Air Discharge	88	89	94	82	79	73	72	70	88
AR-DE22-17A									
Supply Air Discharge	89	88	96	83	80	74	73	70	89
AR-DE22-20A									
Supply Air Discharge	90	87	98	85	82	76	75	73	91
AR-DE22-25A									
Supply Air Discharge	91	87	98	86	83	76	75	73	91
AR-DE22-30A									
Supply Air Discharge	92	87	99	88	85	78	78	75	93

### Note:

- Lw = Sound power level (dB).
- Lwa = A-weighted sound power level (dB).
- Sound power data is calculated based on design conditions listed in the General Data tables.



# ACOUSTIC DATA

## Energy Recovery Wheel Rooftop DOAS

Table 30: Energy Recovery Wheel Rooftop DOAS Acoustic Data, continued.

	Sound Power by Octave Band (Lw)								Lwa
	62.5 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	
AR-DE32-25A									
Supply Air Discharge	91	91	96	87	84	80	82	77	92
AR-DE32-30A									
Supply Air Discharge	92	92	98	89	86	82	83	79	93
AR-DE32-40A									
Supply Air Discharge	93	96	103	94	91	85	85	81	98
AR-DE32-50A									
Supply Air Discharge	94	97	104	95	93	87	86	82	99

Table 31: Energy Recovery Wheel Rooftop DOAS Acoustic Data, continued.

	Sound Power by Octave Band (Lw)								Lwa
	62.5 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	
AR-DE35-30A									
Supply Air Discharge	92	92	97	88	85	81	82	78	92
AR-DE35-40A									
Supply Air Discharge	86	81	91	87	89	82	79	74	92
AR-DE35-50A									
Supply Air Discharge	93	95	102	93	90	85	84	81	97
AR-DE35-60A									
Supply Air Discharge	87	83	94	90	92	84	80	76	94
AR-DE35-70A									
Supply Air Discharge	88	85	95	92	93	86	82	77	96

### Note:

- Lw = Sound power level (dB).
- Lwa = A-weighted sound power level (dB).
- Sound power data is calculated based on design conditions listed in the General Data tables.



# ACOUSTIC DATA

## Enthalpy Core Rooftop DOAS

Table 32: Enthalpy Core Rooftop DOAS Acoustic Data.

	Sound Power by Octave Band (Lw)								Lwa
	62.5 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	
AR-DC12-05A									
Supply Air Discharge	76	81	88	75	70	66	75	63	82
AR-DC12-07A									
Supply Air Discharge	76	81	89	76	71	67	75	64	83
AR-DC12-10A									
Supply Air Discharge	78	81	90	77	73	68	76	65	84
AR-DC12-12A									
Supply Air Discharge	79	81	91	79	74	69	77	66	85
AR-DC12-15A									
Supply Air Discharge	79	81	91	79	75	70	77	66	85

Table 33: Enthalpy Core Rooftop DOAS Acoustic Data, continued.

	Sound Power by Octave Band (Lw)								Lwa
	62.5 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	
AR-DC22-15A									
Supply Air Discharge	88	89	95	82	79	73	72	70	88
AR-DC22-17A									
Supply Air Discharge	89	88	96	83	80	74	73	70	89
AR-DC22-20A									
Supply Air Discharge	91	87	98	85	82	76	75	73	91
AR-DC22-25A									
Supply Air Discharge	91	87	98	86	83	76	76	74	92
AR-DC22-30A									
Supply Air Discharge	91	87	98	85	82	76	75	73	91

### Note:

- *Lw* = Sound power level (dB).
- *Lwa* = A-weighted sound power level (dB).
- Sound power data is calculated based on design conditions listed in the General Data tables.



# ACOUSTIC DATA

## Enthalpy Core Rooftop DOAS

Table 34: Enthalpy Core Rooftop DOAS Acoustic Data, continued.

	Sound Power by Octave Band (Lw)								Lwa
	62.5 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	
AR-DC35-30A									
Supply Air Discharge	85	85	90	85	83	78	74	70	88
AR-DC35-40A									
Supply Air Discharge	84	84	89	88	88	80	77	72	91
AR-DC35-50A									
Supply Air Discharge	86	81	91	88	90	83	80	75	93
AR-DC35-60A									
Supply Air Discharge	88	84	96	90	91	84	80	76	94
AR-DC35-70A									
Supply Air Discharge	88	84	96	90	91	84	80	76	94

### Note:

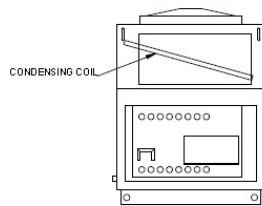
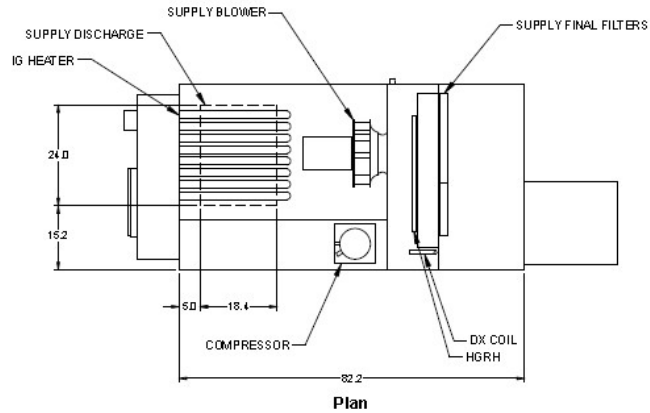
- *Lw = Sound power level (dB).*
- *Lwa = A-weighted sound power level (dB).*
- *Sound power data is calculated based on design conditions listed in the General Data tables.*



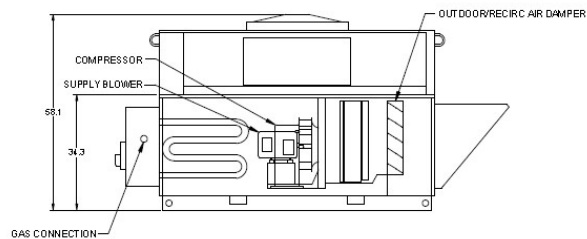


# DIMENSIONS

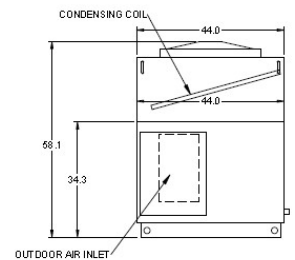
AR-DR02-03A, AR-DR02-04A, AR-DR02-05A, AR-DR02-06A, AR-DR02-07A Base Rooftop DOAS



Left End



Elevation



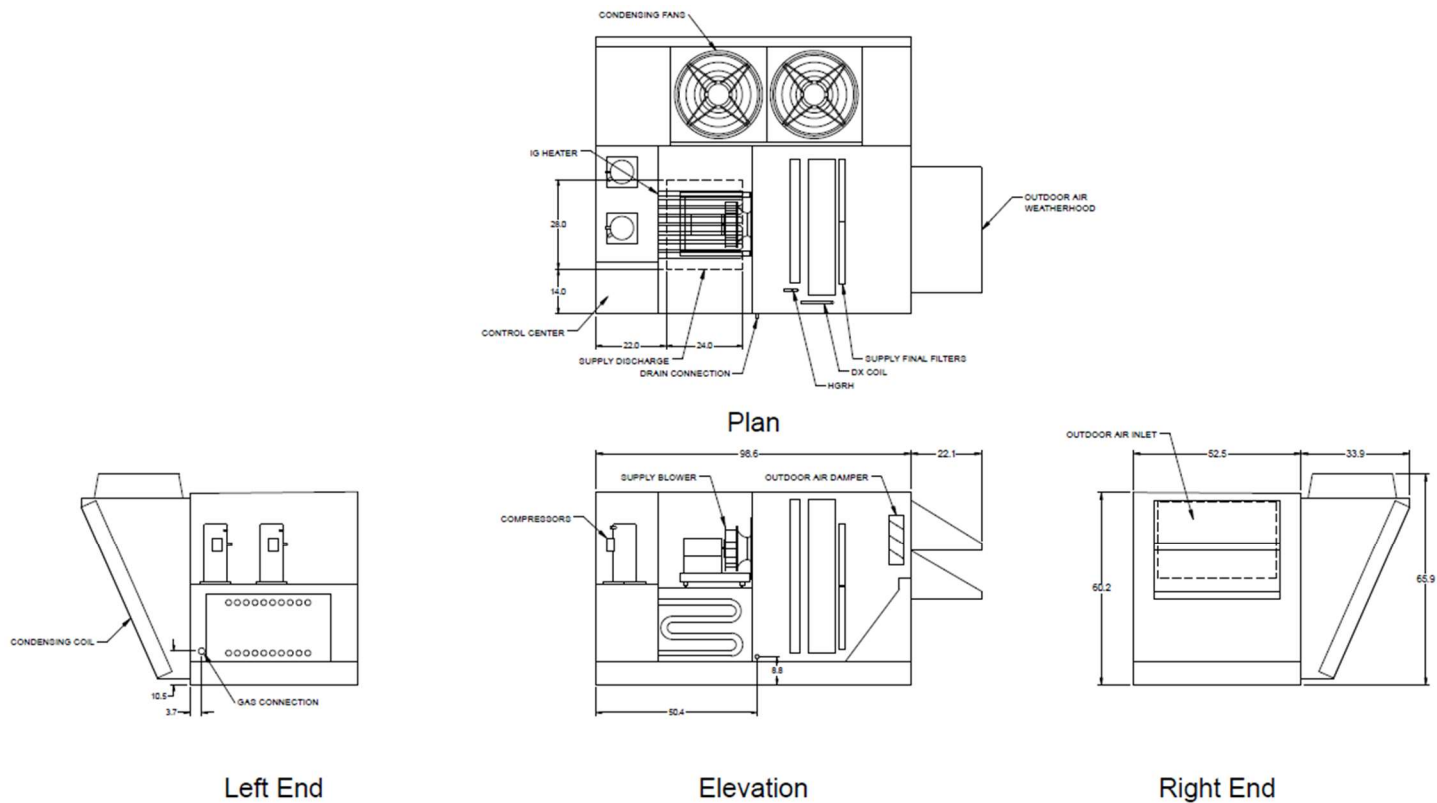
Right End



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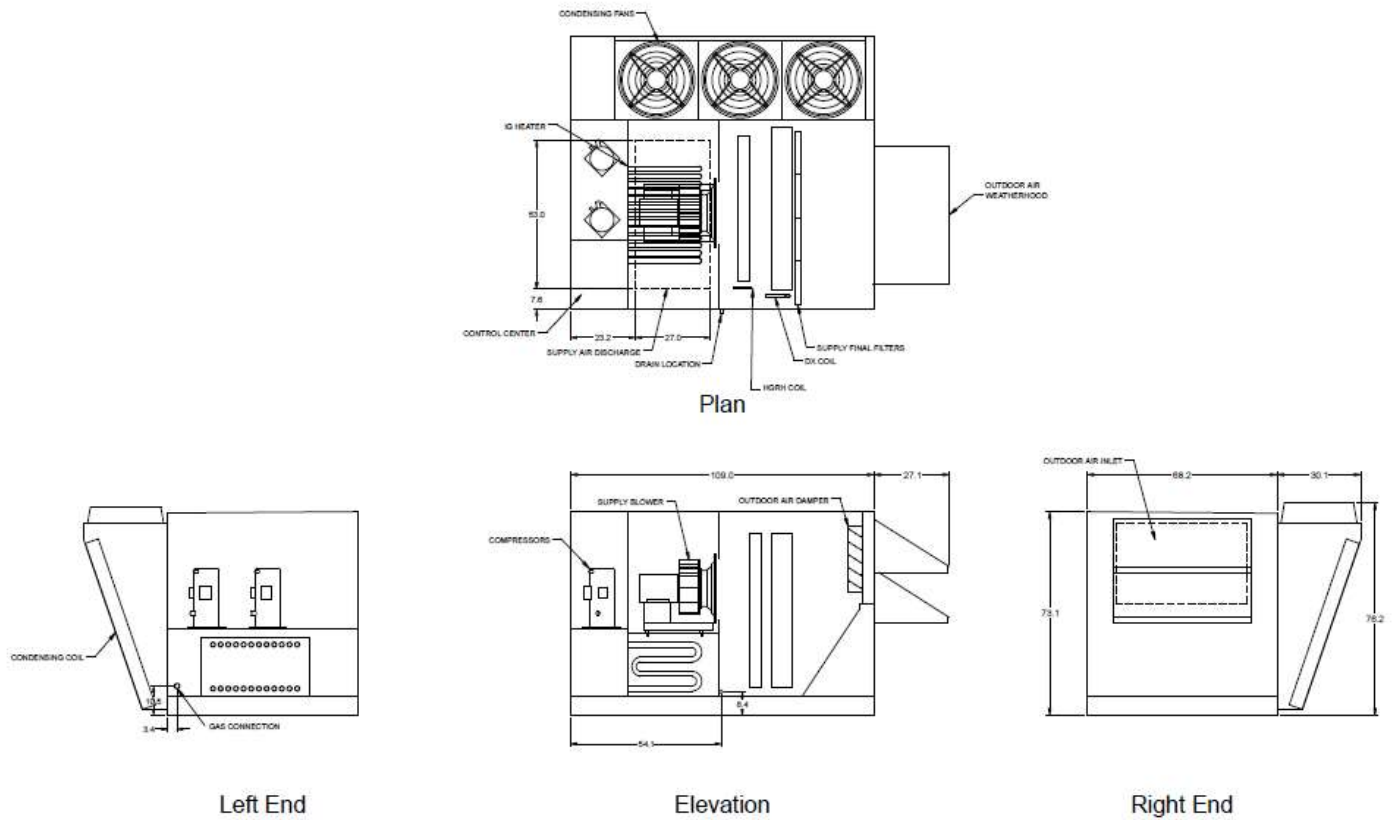
AR-DR12-05A, AR-DR12-07A, AR-DR12-10A, AR-DR12-12A, AR-DR12-15A Base Rooftop DOAS



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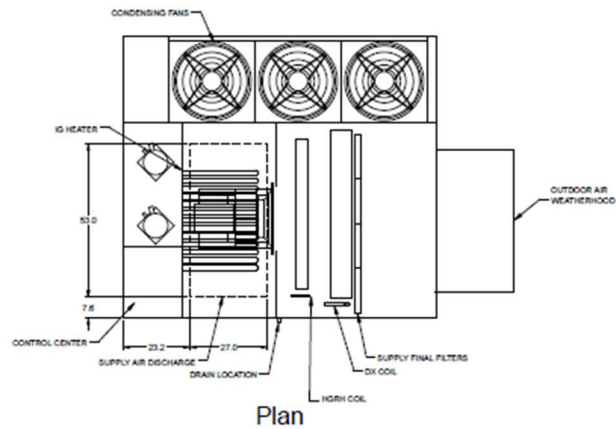
AR-DR22-15A, AR-DR22-17A, AR-DR22-20A Base Rooftop DOAS



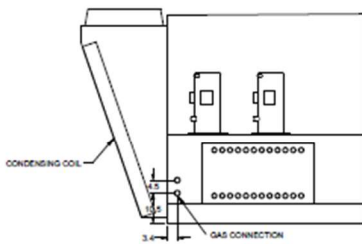
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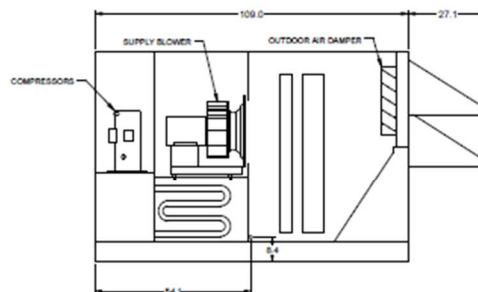
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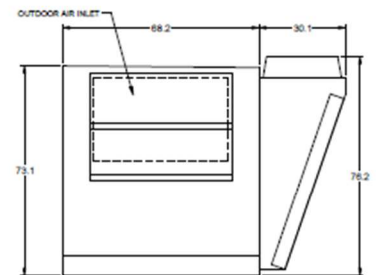
Plan



Left End



Elevation



Right End



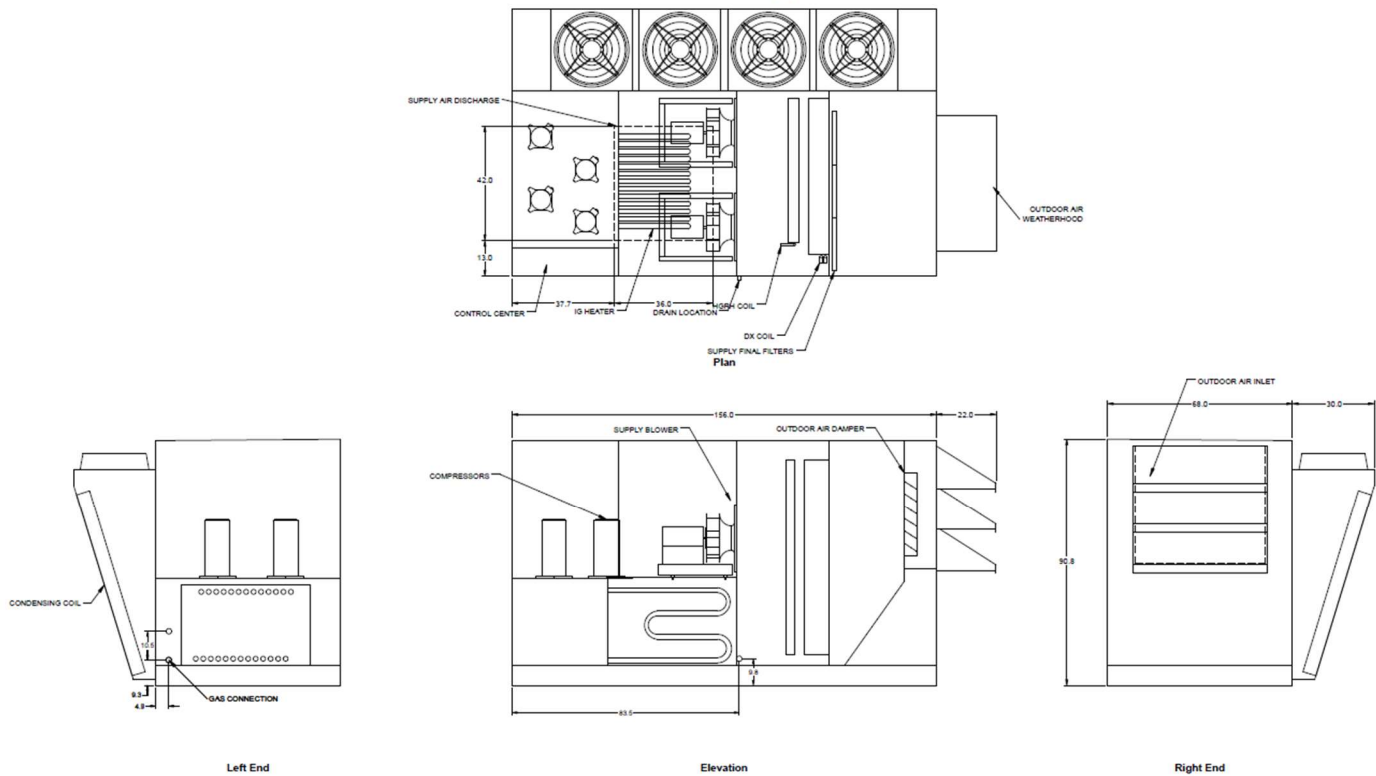
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# DIMENSIONS

AR-DR31125A, ARDR31130A

Base Rooftop DOAS

Overview Drawings



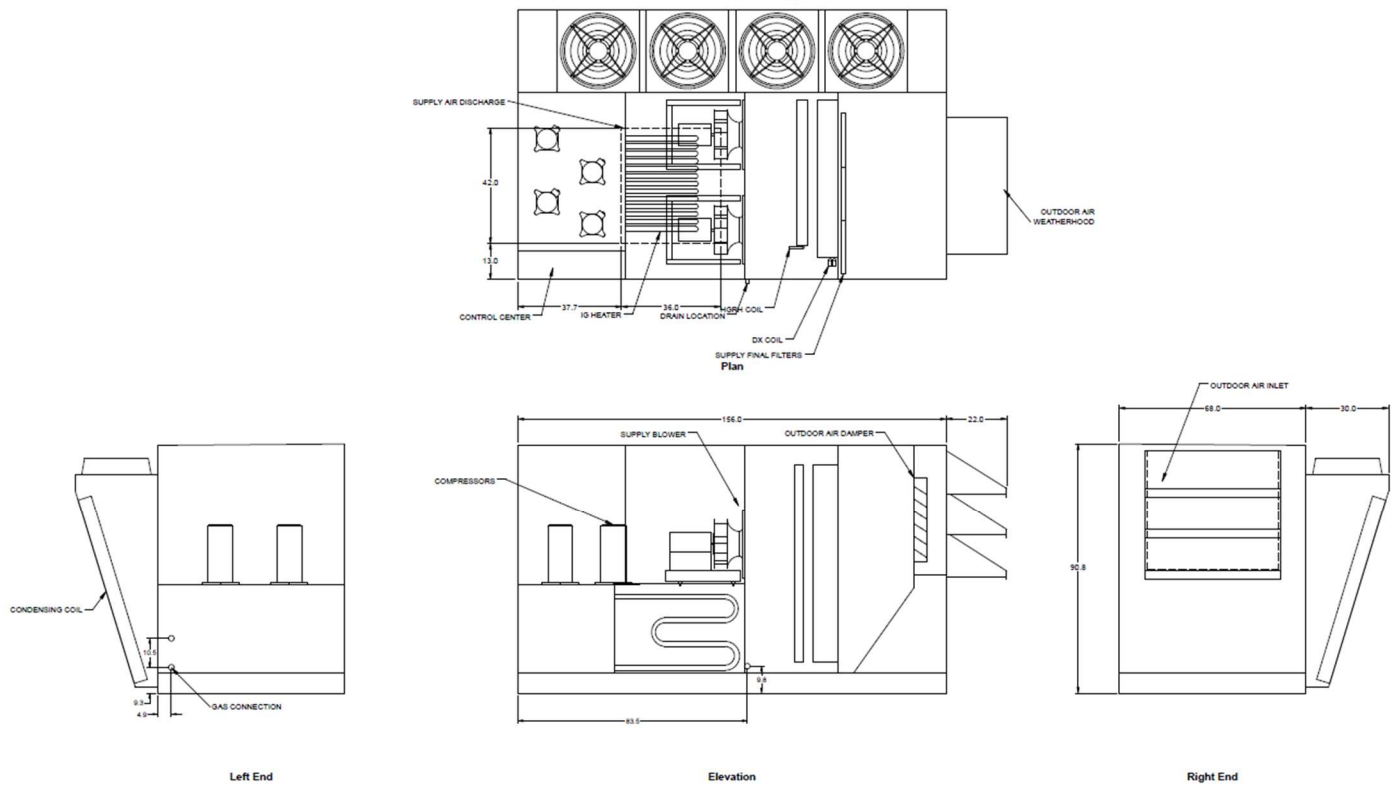
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# DIMENSIONS

AR-DR31135A, AR-DR31143A

Base Rooftop DOAS

Overview Drawings



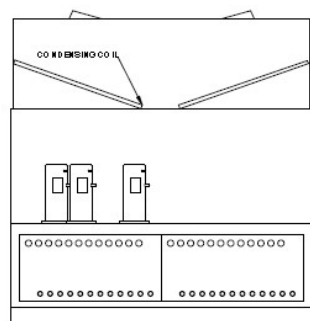
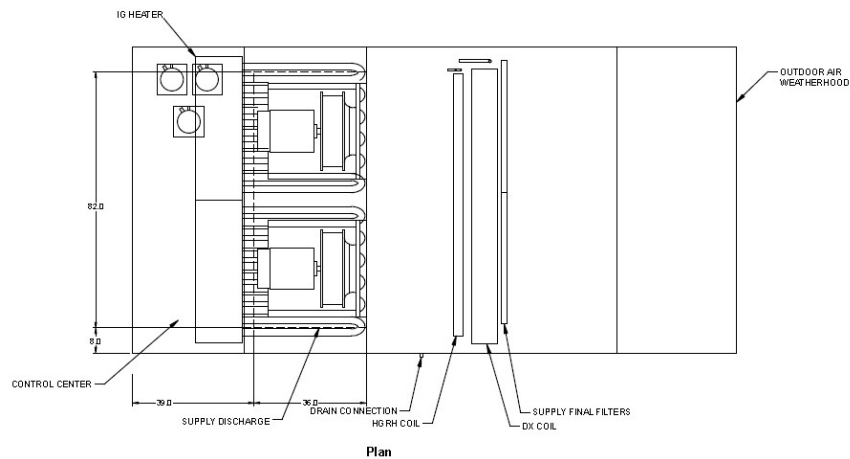
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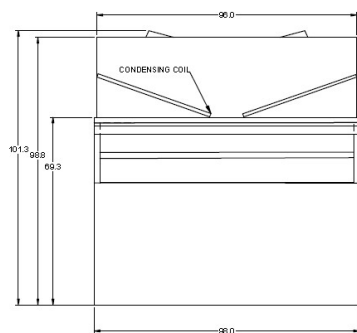
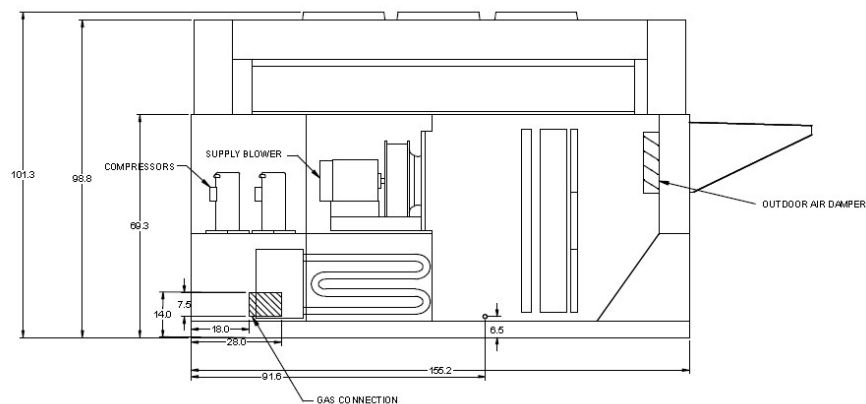
AR-DR32-25A, AR-DR32-30A, AR-DR32-40A, AR-DR32-50A

Base Rooftop DOAS

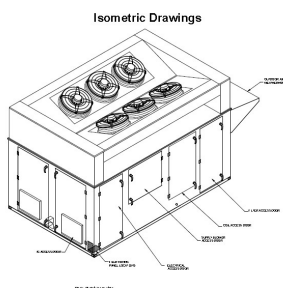
## Overview Drawings



Left End



Right End



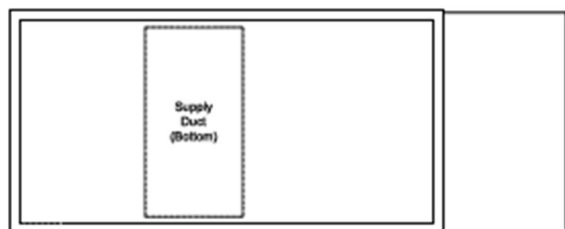
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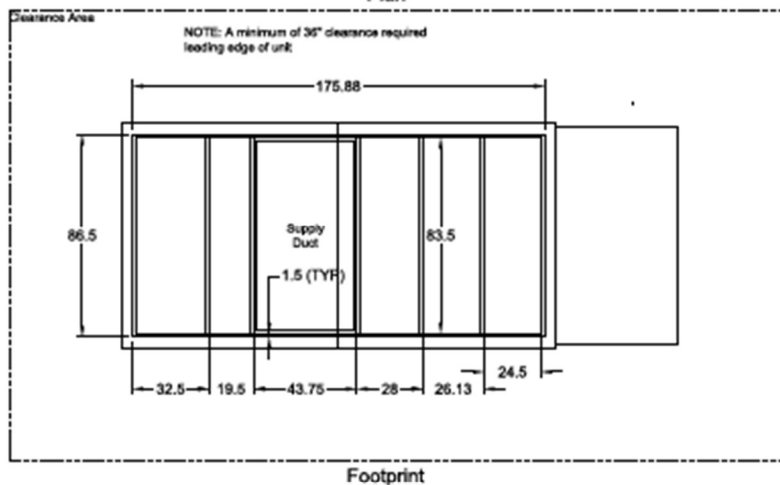
AR-DR35-30A

Base Rooftop DOAS

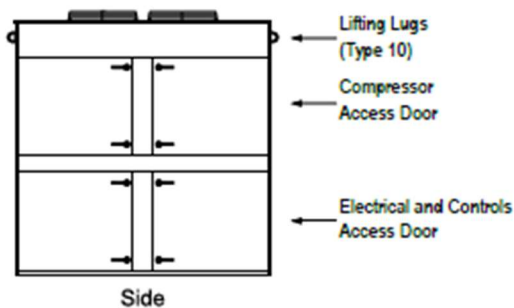
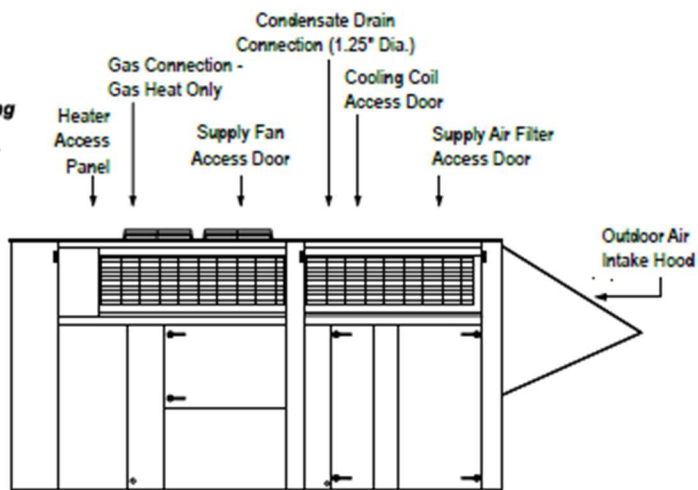
**Top Drawing**



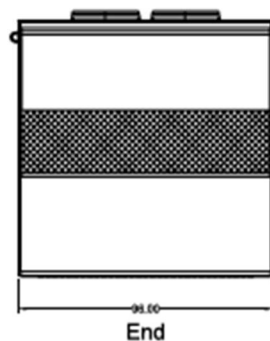
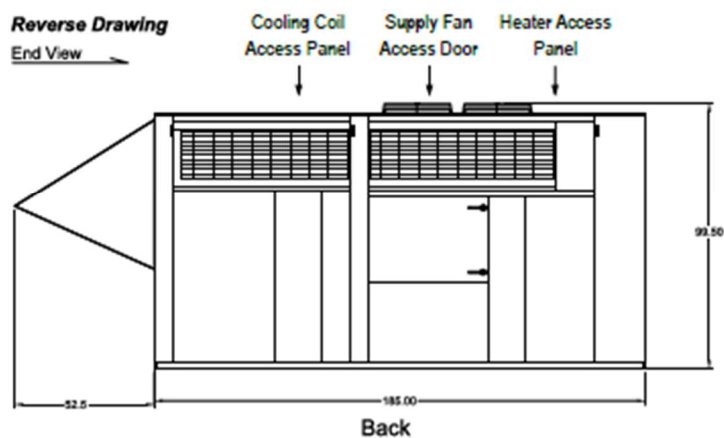
**Plan**



**Front Drawing**  
Side View



**Reverse Drawing**  
End View



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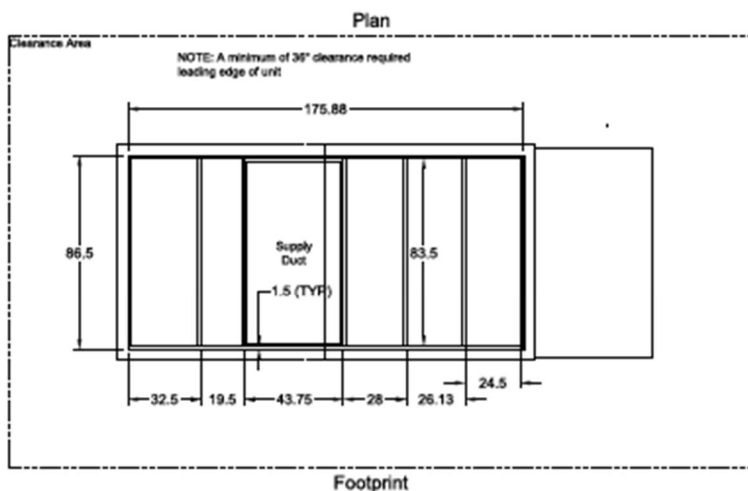
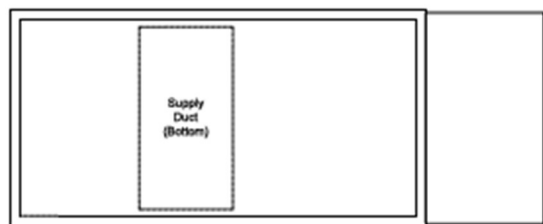


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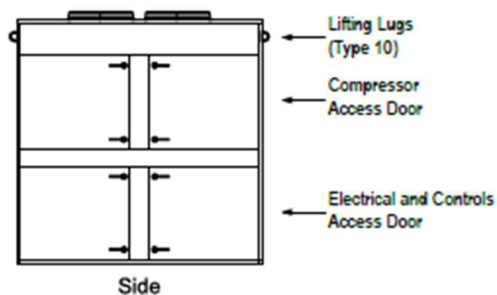
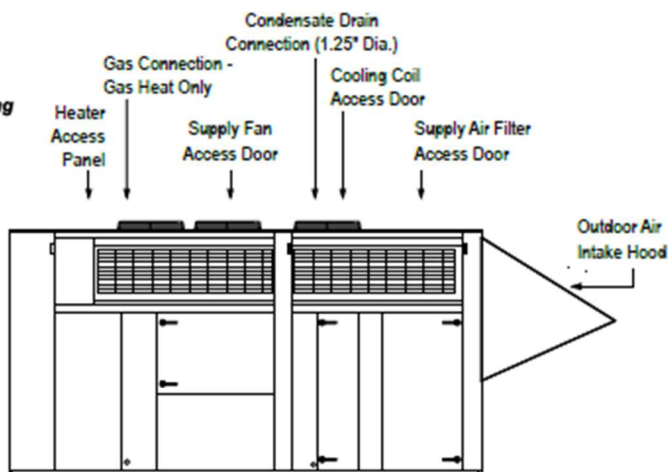
AR-DR35-40A

Base Rooftop DOAS

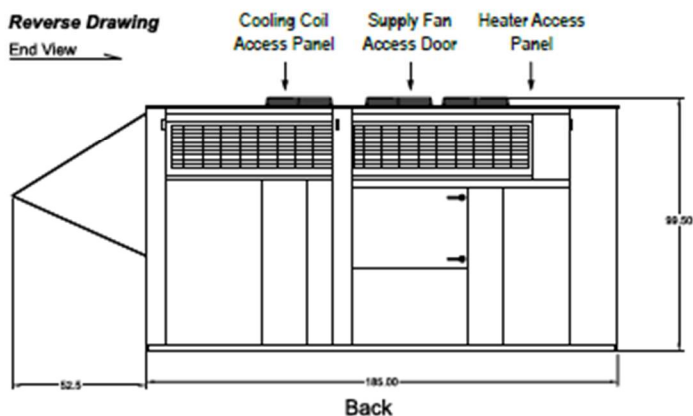
**Top Drawing**



**Front Drawing**  
Side View



**Reverse Drawing**  
End View



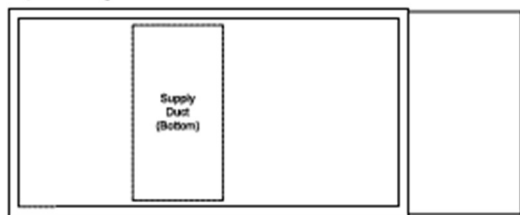
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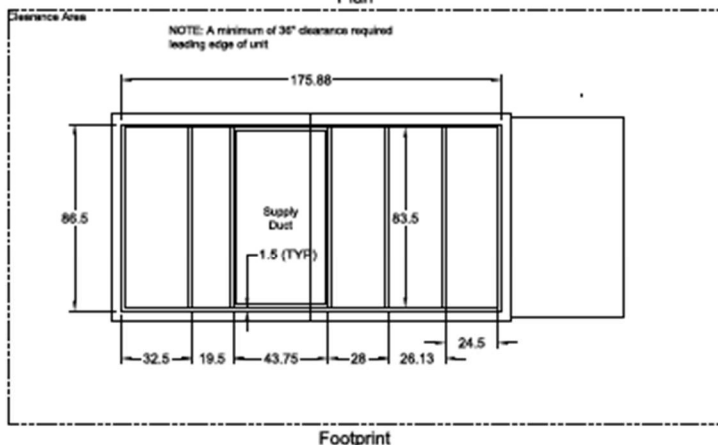
AR-DR35-50A, AR-DR35-60A, AR-DR35-70A

Base Rooftop DOAS

Top Drawing

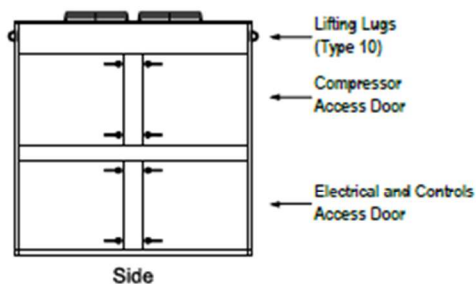
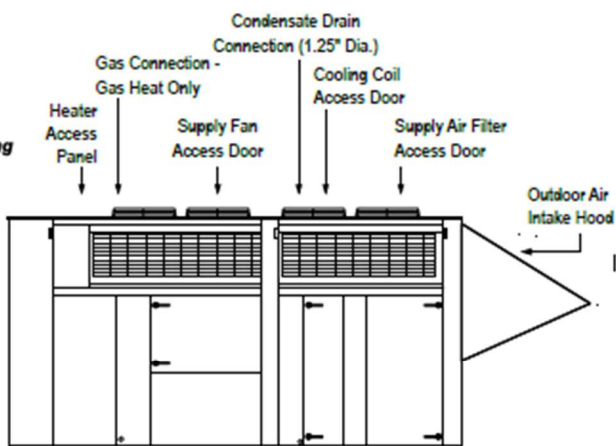


Plan



Front Drawing

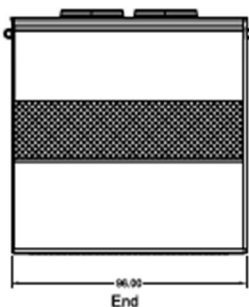
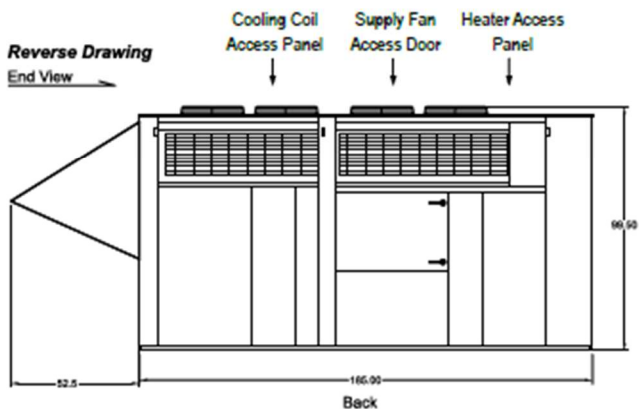
Side View



Side

Reverse Drawing

End View

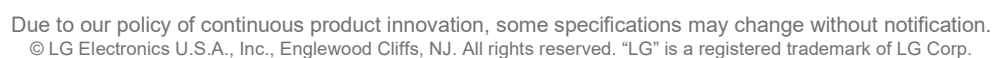


End



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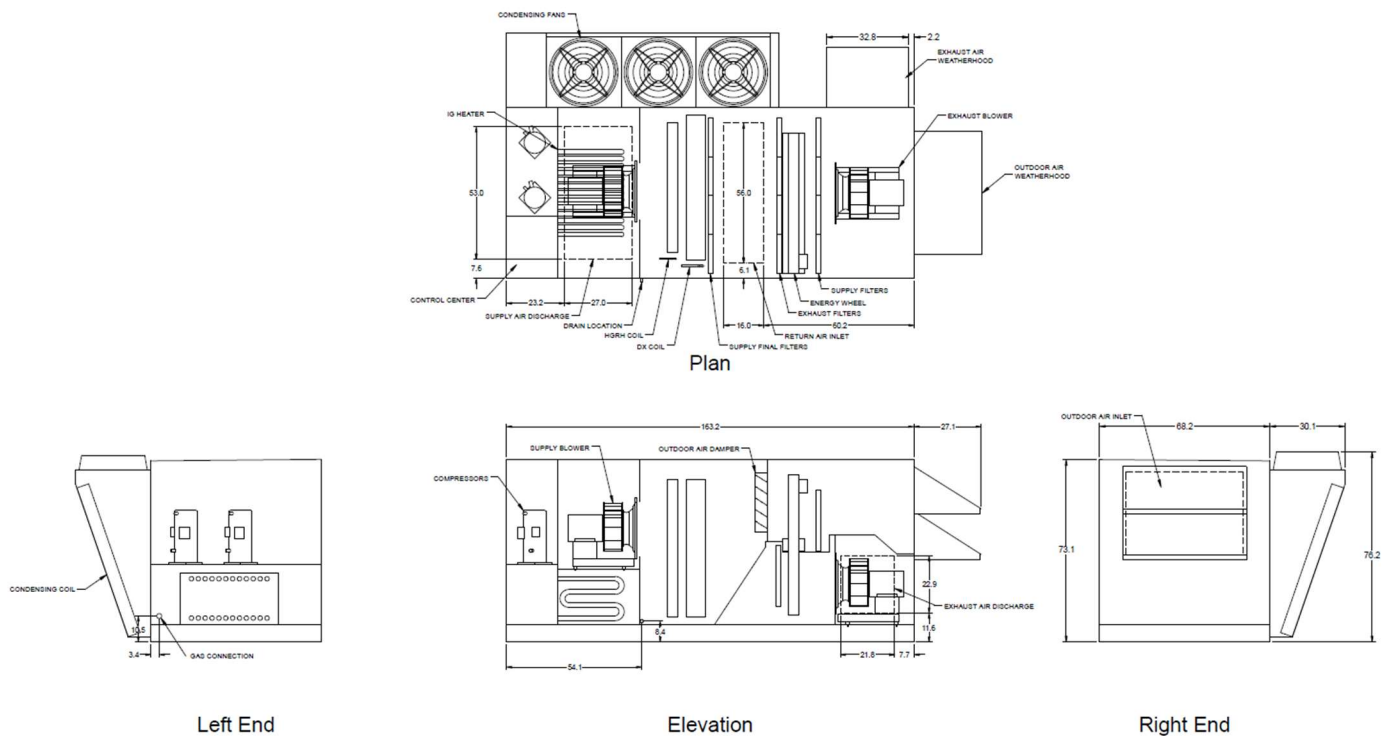
## Energy Recovery Wheel Rooftop DOAS



# DIMENSIONS

AR-DE22-15A, AR-DE22-17A, AR-DE22-20A, AR-DE22-25A, AR-DE22-30A

Energy Recovery Wheel Rooftop DOAS



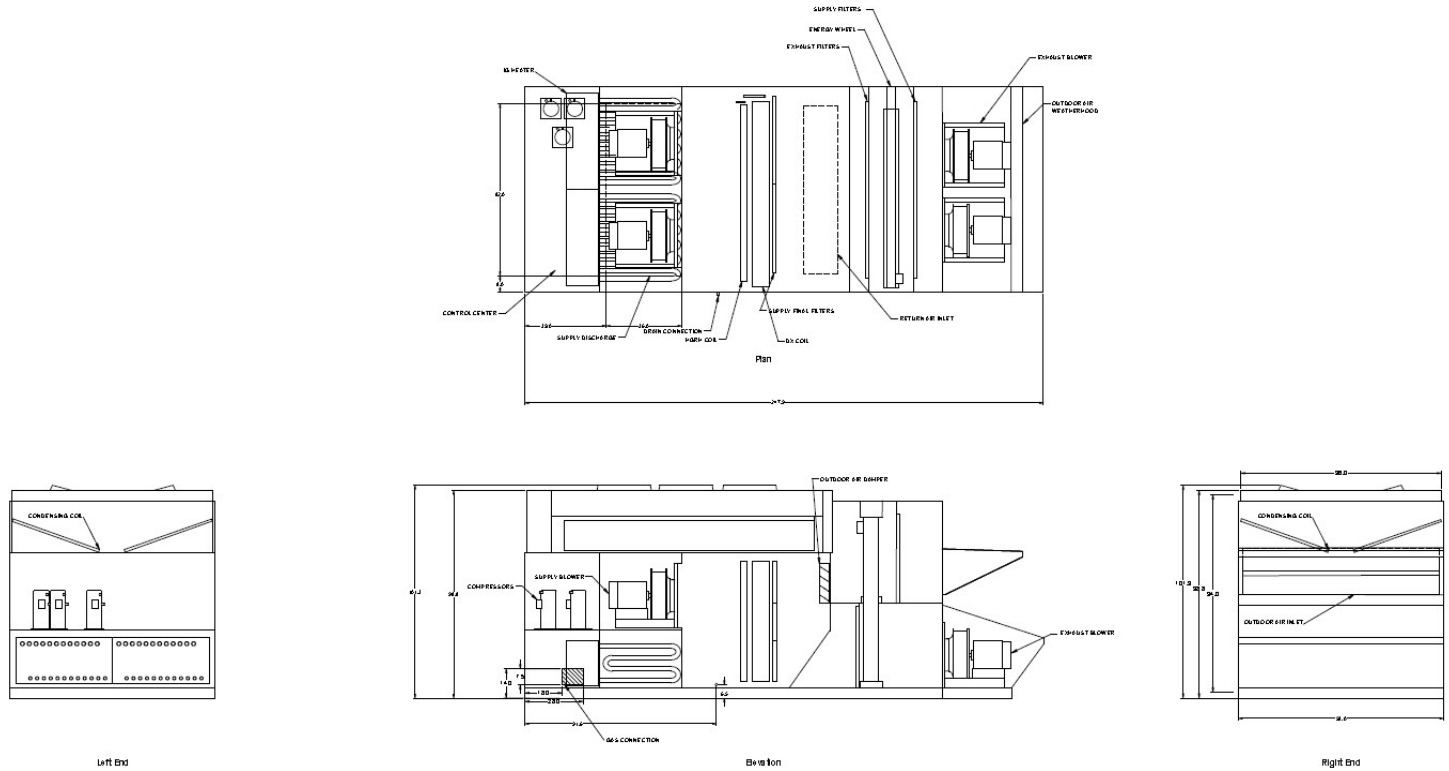
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# DIMENSIONS

AR-DE32-25A, AR-DE32-30A, AR-DE32-40A, AR-DE32-50A

Energy Recovery Wheel Rooftop DOAS

## Overview Drawings



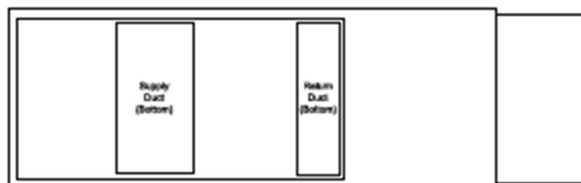
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# DIMENSIONS

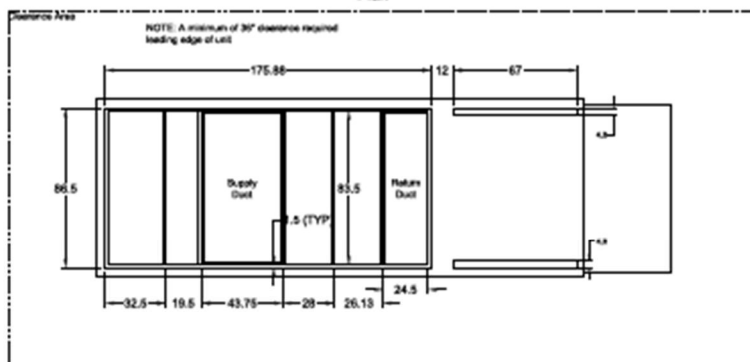
AR-DE35-30A

Energy Recovery Wheel Rooftop DOAS

**Top Drawing**

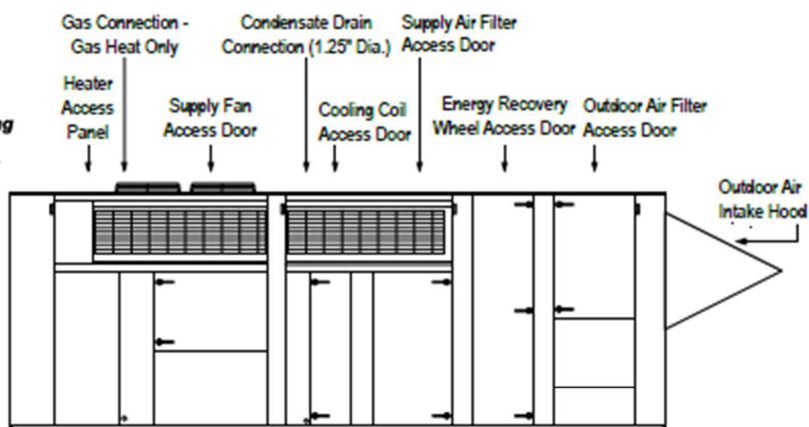


**Plan**

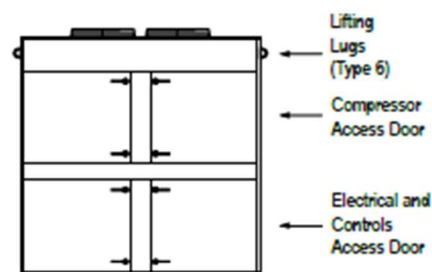


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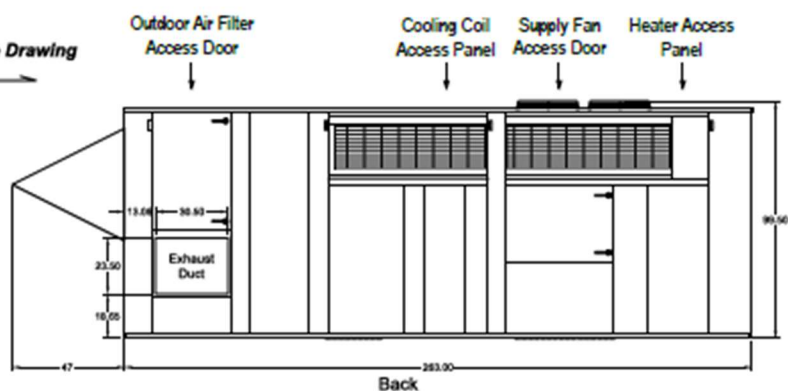
**Front Drawing**  
Side View



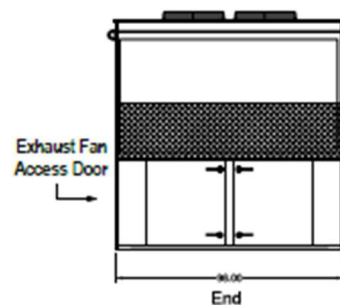
**Side**



**Reverse Drawing**  
End View



**Back**



**End**



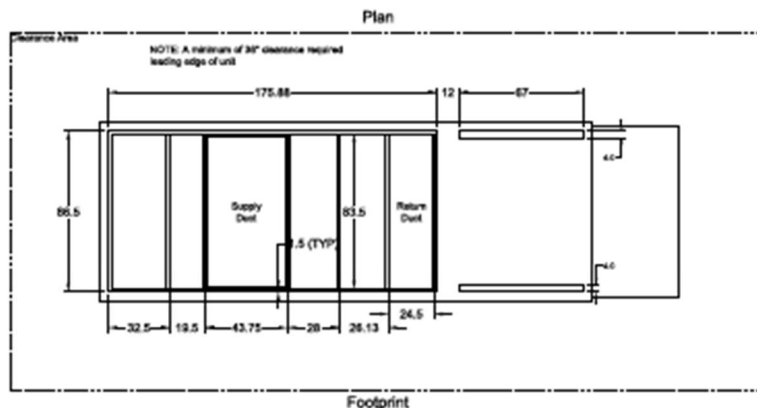
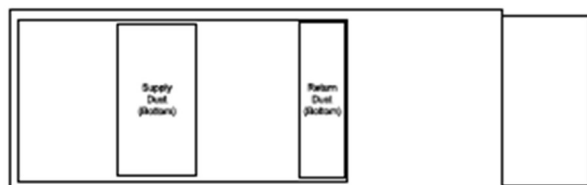
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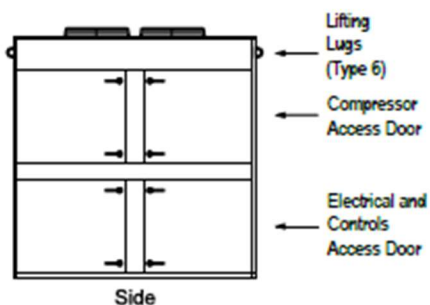
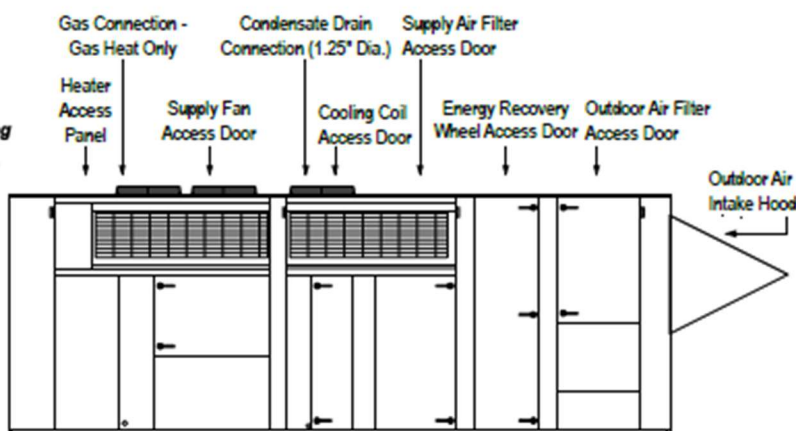
AR-DE35-40A

Energy Recovery Wheel Rooftop DOAS

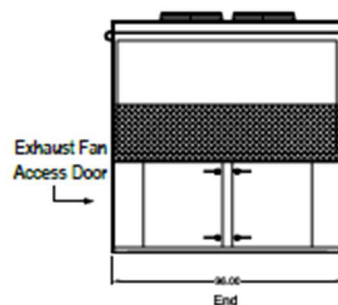
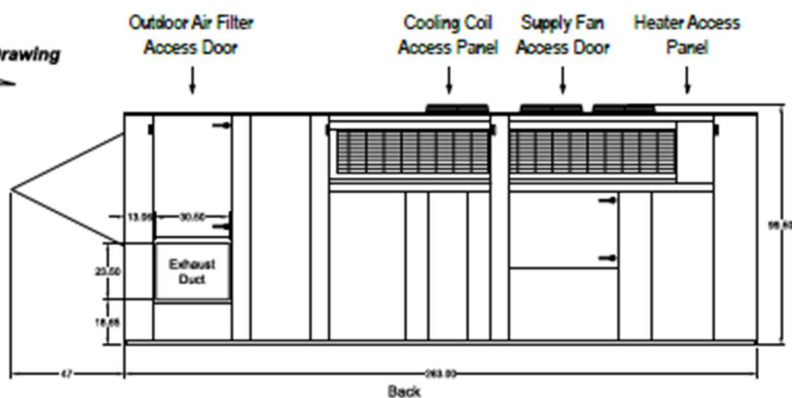
Top Drawing



Front Drawing  
Side View



Reverse Drawing  
End View



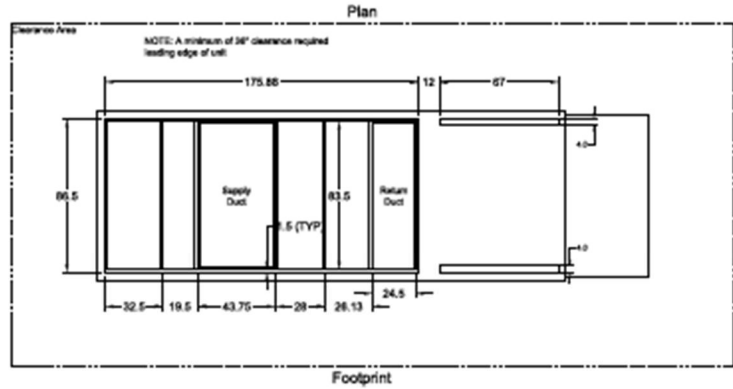
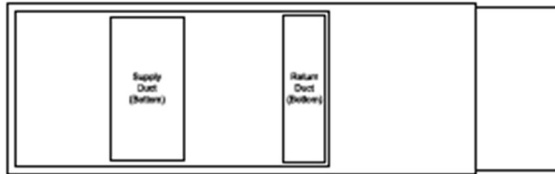
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# DIMENSIONS

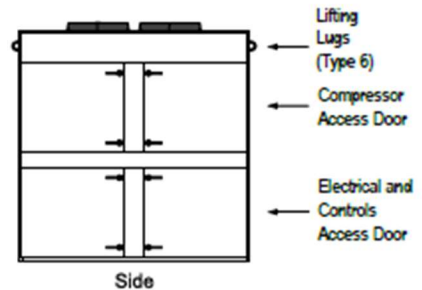
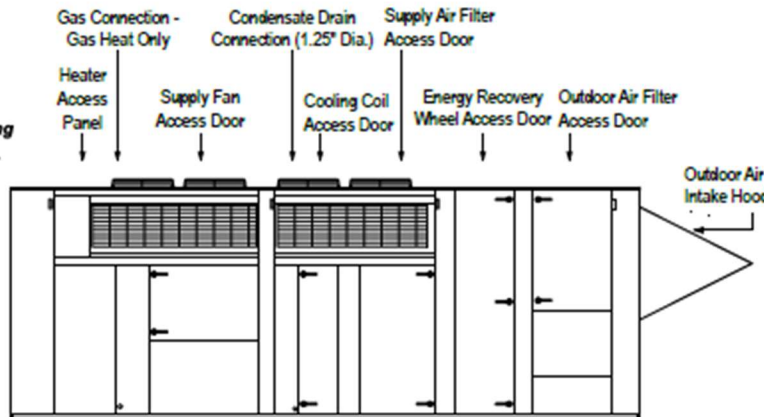
AR-DE35-50A, AR-DE35-60A, AR-DE35-70A

Energy Recovery Wheel Rooftop DOAS

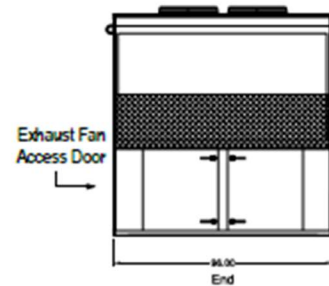
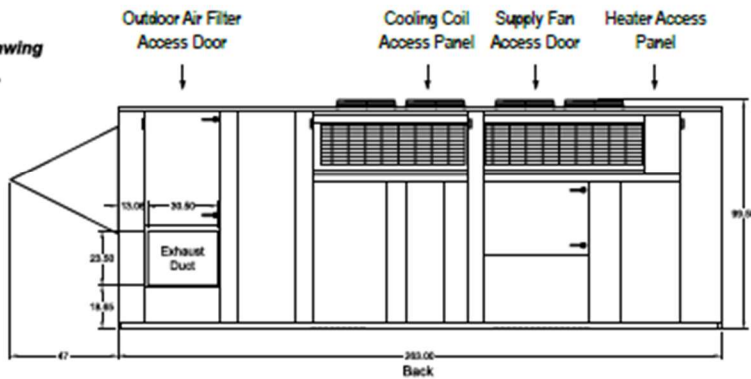
Top Drawing



Front Drawing  
Side View



Reverse Drawing  
End View



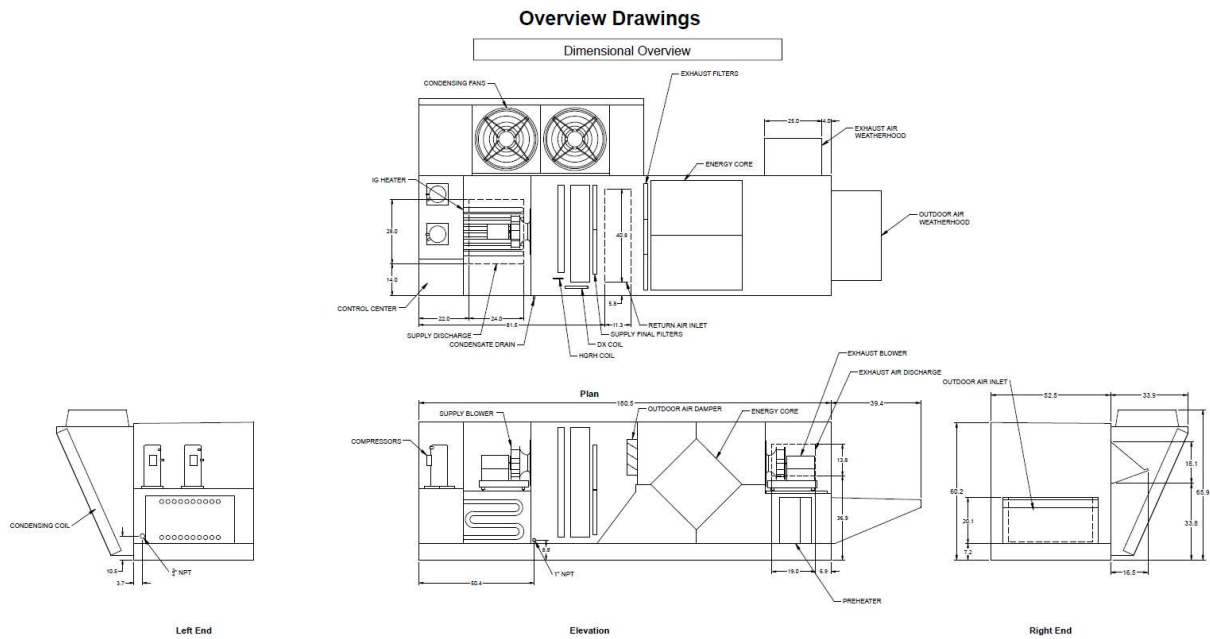
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# DIMENSIONS

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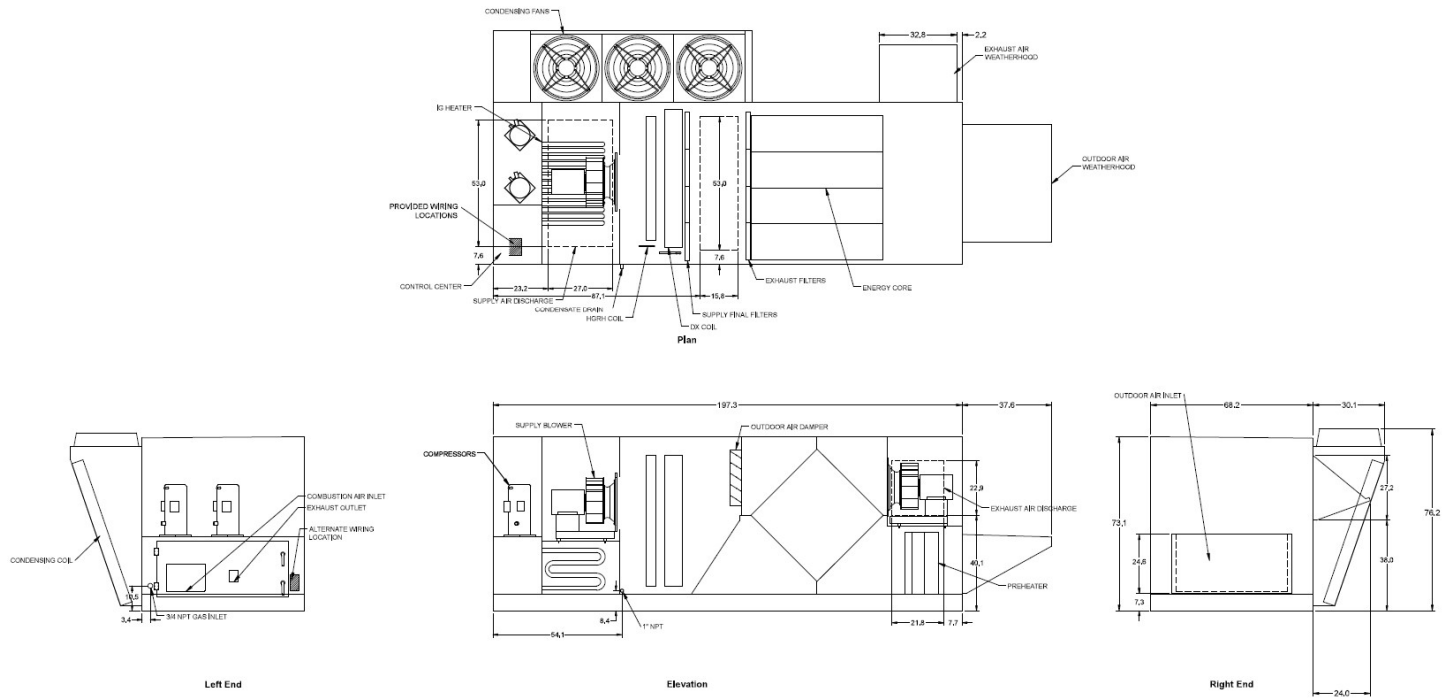
Enthalpy Core Rooftop DOAS



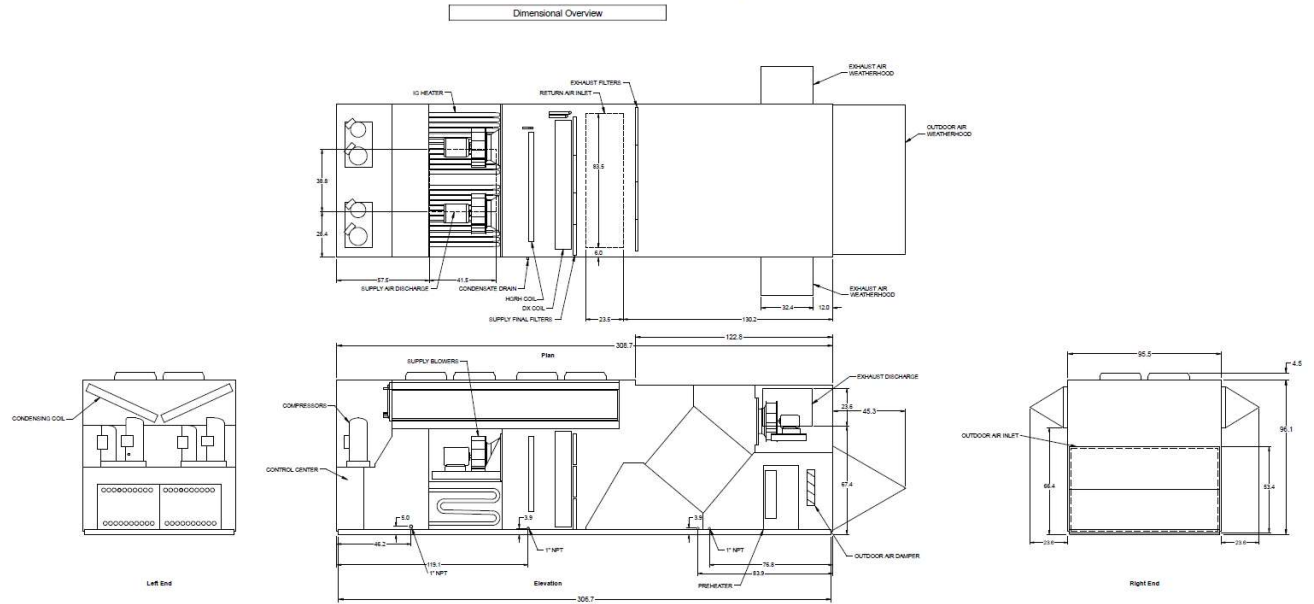
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## Enthalpy Core Rooftop DOAS

## Dimensional Overview



## Enthalpy Core Rooftop DOAS



# SELECTION PROCESS

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## Selection Process

LG Caps software will be available for selecting the proper rooftop DOAS unit. (LG CAPS will be available at [www.myLGHVAC.com](http://www.myLGHVAC.com) in April 2019, or contact your local LG sales representative.) If LG CAPS software is not yet available and you need help in sizing the Rooftop DOAS unit, please contact your local LG representative. The designer will need to know the following items to properly size rooftop DOAS unit:

- Entering air dry bulb (DB) and wet bulb (WB) temperatures for cooling (°F)
- Entering air DB temperature for heating (°F)
- Airflow rate (CFM)
- Airflow external static pressure (in. wg)
- Direct expansion (DX) coil leaving air temperature (LAT) (°F)
- Unit LAT in cooling and heating modes (°F)

Regional outdoor design temperatures are varied across the United States market, and it is important to input the appropriate outdoor design temperatures in the LG CAPS selection software. Over-sizing or under-sizing the DOAS unit capacity may result in discharge air temperatures that do not meet set-point. By entering both the DB and WB outdoor cooling design temperatures, the compressors and coils can be accurately sized to dehumidify the outdoor air. The DX coil leaving air temperature for dehumidification mode is commonly selected at 55°F to help remove the moisture from the air. The General Data tables on pages 11 to 14 are based on 55°F DX coil LATs, but some regions require different LATs.

Airflow capacities at other temperatures not shown in the tables can be generated using the LG CAPS selection software. These tables were generated for a quick reference to illustrate the effects of various EATs, and various DX coil LATs.

