



CL Series



CONDENSING UNITS



Features:

- Energy Efficient - Low Operating Costs
- Air-Cooled Condenser or an Enhanced Energy Conserving Evaporative-Cooled Condenser with a Factory Installed Three Chemical Water Treatment System
- Environmentally Friendly R-410A Refrigerant
- Ease of Installation
- All Models Feature a Lighted, Full Height, Walk-in Compartment That Contains All Vital Operational Components to Allow Maximum Accessibility for Maintenance and Service
- Refrigeration or Evaporative Systems are Factory Piped & Circuited Ready for Field Connection
- Vertical Discharge - Forged Aluminum Axial Flow Fans with VFD Control
- Single Point Power Connection
- All Electrical Components are Factory Wired & Color Coded. Matching Color Coded Wiring Diagrams in the Service Vestibule Greatly Decreases Periodic Maintenance and Troubleshooting Times
- Foam Insulated Double Wall Construction Provides Sound Attenuation for Compressors Inside the Vestibule
- ETL Listed

Application Flexibility
Minimizes Installation Time and Reduces Cost

○ High Efficiency, Rubber Isolated, Scroll Compressors

○ Ease of Maintenance

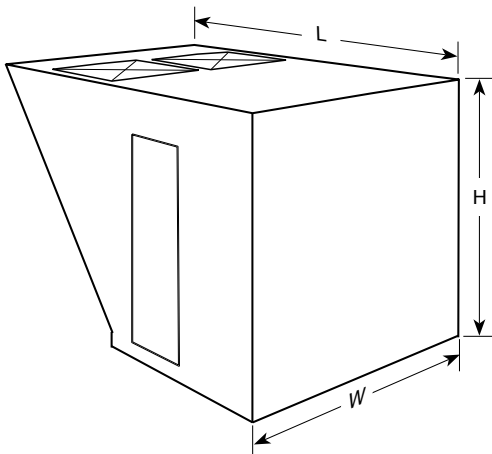
○ Sound attenuating construction

○ Factory Installed or Customer Specific Control Options

CL Series Condensing Units

The CL Series condensing unit may be installed on a roof, a platform, or at ground level to meet building code requirements. A base or foundation is not required if the selected unit location is level and strong enough to support the unit's operating weight. Cabinet walls, roof and floor surrounding the compressors are high performance foam-injected composite panel construction, to ensure low sound levels in adjacent areas.

AAON can supply many of the components needed for comfort conditioning systems in a vast number of building types. Many times remote condensing units are required due to building or system constraints. Condensing units may also be needed as replacements for older equipment that has failed or is being replaced to lower energy consumption.



Split System Condensing Units

Superior Features:

- All CL Series condensing units are provided completely factory assembled and piped for quick job site startup.
- Weatherproof cabinet is constructed entirely of galvanized steel and coated with polyurethane paint with corrosion resistance capabilities exceeding a 2500-hour salt spray test per ASTM-B117-95.
- Aluminum tread plate floor covering in appropriate equipment access areas for improved durability and safety.
- Sturdy walk-in access door has full height stainless steel hinges, dual action cast aluminum lockable handles and rain gutters.
- Walk-In weatherproof compressor compartment also contains the isolated electrical control compartment and can be independently heated or cooled for service personnel comfort during all weather conditions.
- Compressors are deck mounted with additional rubber isolation for vibration and acoustic dampening.
- Refrigerant Circuits contain many time saving, factory installed, options.
 - Automatic low pressure and manual reset high pressure safety cut-outs
 - Schrader valves on high and low side
 - Replaceable core filter dryers with dual isolation valves
 - Tandem scroll compressors with internal overload protection

Premier Options

- Compressor isolation valves provide improved service efficiency.
- Double pane viewing windows can be installed in the service vestibule access door when viewing of operating equipment or interior cabinet is needed.
- Evaporative-cooled condenser has increased energy efficiency and lower operating costs. In addition, factory installed, microprocessor controlled three-chemical water treatment system, with chemical dispensers for evaporative-cooled designs, saves installation time and engineering in the field.
- R-410A environmentally friendly refrigerant helps protect the environment.

CL Model	Width	Height	Air-Cooled Length	Evaporative-Cooled Length
045		102		
060			152	125
070				
075	100		175	150
095				
100				
110			215	195
125				
134	142		213	179
135	100		215	195
155		213	179	
170				
190	142			
210		196	207	
230				

All dimensions are in inches

Innovative Cabinet Construction

CL Series condensing units are designed for outdoor applications. All cabinet walls, roof and floor are constructed of high performance composite panels with a closed cell polyurethane foam interior core providing a rigid, impact resistant surface.

- Walls and access doors are 2" thick with an R value of 13.
- The roof is sloped at a minimum of 1/4 inch per foot and is on average 2.5" thick with an R value of 16.
- The floor of the control compartment is 3" thick with an R value of 19 and includes an aluminum tread plate covering the appropriate equipment access areas.

This innovative cabinet construction has proved to be useful for sound attenuation.



Cutaway of panel wall showing thermal break and foam core.

Efficiency and Application Flexibility

Facts About Direct Expansion (DX) Air Conditioning

Energy Efficient Direct expansion systems can be 35% lower in operating costs than chilled water systems. There is no chilled water pumping system and the chiller is eliminated when the refrigerant is piped directly to the cooling coils. The work done by the compressor is less since the suction temperature is about 10°F higher on a DX system than on a chiller. This results in greater cooling tons with less kW consumption.

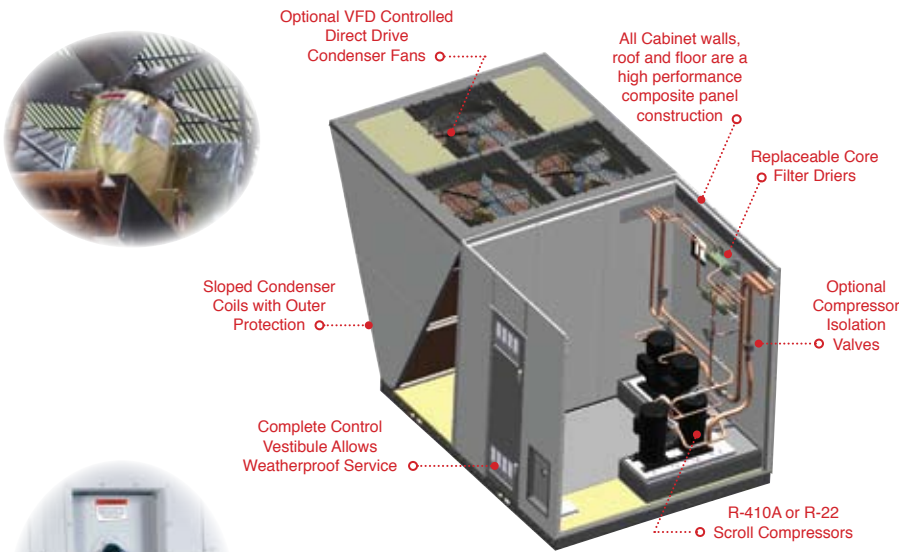
Lower In First Cost There is no danger of freezing or the requirement for safety controls to protect the chilled water loop or pumps since they are not present. Pipe insulation costs are cut substantially.

Lower In Maintenance Cost Maintenance is at a minimum with packaged, factory assembled system components. The AAON condensing units with a walk-in compartment make equipment inspection easy at any time of the year.

Require Less Space With AAON CL Series condensing units, the equipment room is within the unit itself, outside of the building space. There is no wasted building floor space for a chiller and its associated pumps, controls and water filters in a mechanical equipment room.

Wide Tonnage Range AAON condensing units are available from 2 to 230 tons of cooling capacity with multiple steps of capacity inherent in the design. When full capacity is not required during the intermediate seasons or lighter load, compressor circuits are shutdown.

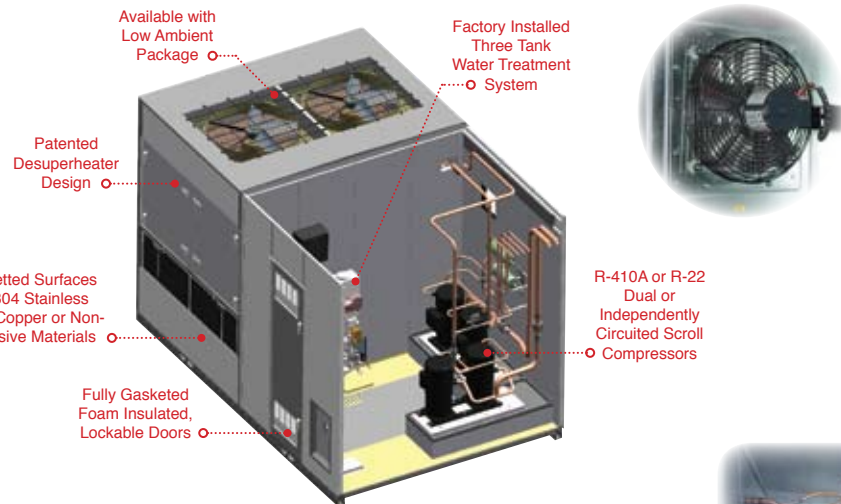
Flexibility The AAON CL Series condensing unit can be used in a wide variety of applications with other AAON supplied equipment or with previously installed system components. These may be air handlers with DX cooling coils within the building or roof mounted air handlers requiring remote condensing units. The AAON evaporative-cooled condensing units offer the opportunity to enhance the energy performance of the building in both new and replacement applications. The energy savings can be enhanced up to 40% by use of evaporative-cooled condensing over air-cooled.



Air-Cooled Condensers

Coils are constructed of copper tubing mechanically bonded to aluminum fins. Optional copper-to-copper coil construction, with copper tubing and copper fins, is available where extra corrosion protection is required for the condensing coil(s).

Coil mounts are sloped to protect fins from damage. In addition, coils facing outward are protected by perforated sheet metal screens. Coils are designed for a minimum 10°F refrigerant sub-cooling.



Evaporative-Cooled Condensers

The AAON evaporative-cooled condenser design provides energy savings of 20 to 40% over an air-cooled model. The system utilizes a patented de-superheater above the wetted evaporative condenser section that reduces the water usage and chemical treatment requirement for the condenser water by 20 to 100%, depending on the ambient temperature. Maximum energy efficiency and sound attenuation, as well as, minimal operating temperature is achieved by utilizing VFD controlled condenser fans.

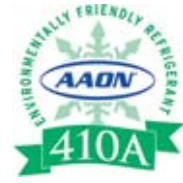
All wetted surfaces are constructed of 304 stainless steel, copper or other non-corrosive material. Water treatment systems for AAON evaporative-cooled condensers are completely factory assembled and include required chemical dispensers. All processes are controlled through a factory-supplied microprocessor.



CL Series
Condensing Units

AAON Environmentally Friendly HVAC Product Family

Customer Commitment – AAON encourages environmentally responsible design by incorporating many energy saving features into our superior heating and cooling products. In addition to energy efficiency, AAON also offers environmentally friendly R-410A refrigerant capability in all our cooling and heat pump equipment. As countries throughout the world phase out CFC and HCFC refrigerants, R-410A is becoming the global standard and AAON is leading the way!



Rooftop Units



Condensing Units



Air-Cooled or Evaporative-Cooled Chiller



Boiler



Outdoor Air Handling Units



Indoor Air Handling Units



Custom Indoor or Outdoor Air Handling Units



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