

CF Series

Condensing Units
2-60 Tons



Air-Source Heat Pumps, Air-Cooled Condenser





CF Series

AAON CF Series condensing units are designed to reflect the proven reliability and engineering excellence that comes with a premier manufacturer of heating and cooling products.



2-60 Tons

AAON sets the standard for commercial condensers and condensing units in performance, serviceability, and long-term value.

Standard Features

- Housed service compartment for unit compressors and controls
- Factory supplied and labeled split system copper stub outs with shut off valves
- Refrigerant circuits contain automatic low pressure and manual reset high pressure safety cutouts, suction and liquid line Schrader valves, and a factory holding charge of refrigerant
- Scroll compressor technology: multiple cooling stages available for enhanced energy efficiency and precise temperature control
- Cabinet is constructed of heavy gauge galvanized steel with corrosion resistant paint that surpasses a 2,500 hour salt spray test
- Rigid base design with forklift slots (2-25 and 30 tons) and lifting lugs (9-60 tons) provides easy handling at the job site
- Unit specific color-coded point-to-point wiring diagrams are provided and are laminated and permanently affixed inside the control compartment
- 24V control circuit transformer to prevent exceeding the capacity of the air handling unit's control circuit transformer

Construction and Serviceability

ACCESSIBLE CABINET DOORS

Access doors with full length stainless steel piano hinges and quarter-turn, lockable handles provide improved reliability and easier serviceability over single point hinges.

DURABLE, EFFICIENT CONDENSER COILS

Microchannel condenser coils are durable, more efficient, lighter, and use less refrigerant than traditional fin and tube coils.

REDUCED REFRIGERANT RECOVERY

Compressor isolation valves reduce the amount of refrigerant that must be recovered during compressor service or replacement.

STREAMLINED SERVICEABILITY

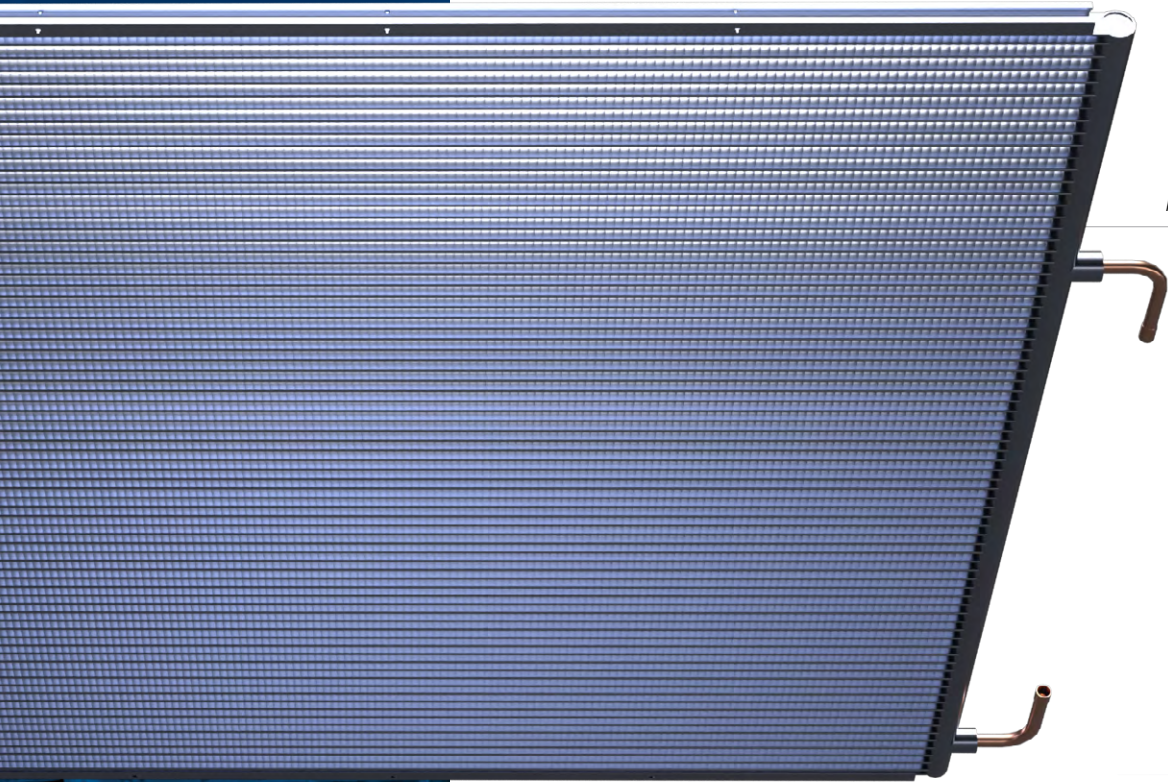
AAON equipment prioritizes efficient serviceability, reducing downtime and costs. Easily accessible compressors, control components, color-coded wiring diagrams, and labeled components minimize delays in evaluating service issues. This AAON standard feature ensures low service costs and maximizes unit run time.

CONVENIENTLY ISOLATED COMPRESSORS AND CONTROLS

Compressors and controls are isolated from the condenser airflow and are included in the control compartment for easy service and maintenance.

OPTIMIZED SERVICE EQUIPMENT

Factory wired convenience outlet permits the use of the outlet while power to the unit is shut off for easy servicing.



Microchannel Condenser Coil



Accessible cabinet doors allow the unit to be easily serviced and maintained

Configurability

FLEXIBLE CONDENSER CONFIGURATION

Air-cooled condenser configuration without compressors is available with the CF Series for systems where the compressors are included with the air handling unit or self-contained unit. Configuration flexibility allows AAON split systems to meet the application requirements.

PRECISE HUMIDITY CONTROL

CF Series units are available with modulating hot gas reheat humidity control to provide precise dehumidification, even with low sensible heat loads, without the temperature swings common with on/off reheat systems. Factory installed modulating three-way valve allows only the necessary amount of reheat to create a consistent supply air temperature while maintaining space relative humidity.

SIMPLIFIED SPLIT SYSTEM MATCHING

AAON split systems, when paired with our condensing units, deliver consistent comfort while keeping energy consumption low. Experience tailored performance with matched pairs designed to meet your specific application, ensuring optimal functionality.

DELTA CLASS

AAON Delta Class was born from decades of leadership in Dedicated Outdoor Air Systems (DOAS). Our innovative engineering has opened the door to new possibilities in delivering fresh air efficiently and reliably. The CF Series is available as a Delta Class DOAS when paired with an H3 or V3 and configured as a split system. In this configuration, ventilation is handled separately from space conditioning. Working quietly in the background, the DOAS supplies fresh outdoor air, enhancing system performance, increasing flexibility, and providing greater control over indoor comfort.

Options

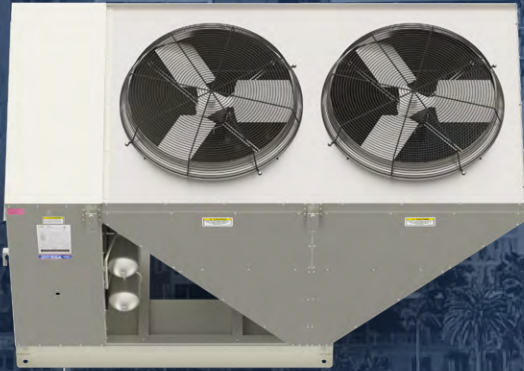
- Variable capacity scroll compressors for load matching cooling and improved part load efficiency
- Modulating hot gas reheat is available to provide precise dehumidification, even with low sensible heat loads, without the temperature swings common with on/off reheat systems
- Low ambient fan cycling or modulating head pressure control options (ECM driven or VFD controlled condenser fans) available to allow cooling operation down to 35° F ambient
- Flooded condenser head pressure control options available to allow cooling operation down to 0° F ambient
- Polymer e-coated coils for corrosion protection
- Hail guards protect the CF condenser coil from damage and debris
- High density foam compressor sound suppression blanket to reduce radiated noise
- Unit controls options including AAON provided controls and factory installed customer provided controls
- Optional five year non-prorated compressor warranty

VARIABLE CAPACITY SCROLL COMPRESSORS

CF Series units are available with variable capacity scroll compressors that allow for a wide range of capacity control (10-100%) for improved part load efficiency with simple controls. This allows the system, with a matching AAON air handling unit, to maintain consistent supply air temperatures at all operating conditions. During part load operation, reducing compressor capacity increases part load efficiency and ultimately saves valuable system operating costs.



2-7 tons



9-15 tons



16-30 tons



26-60 tons

CF Series meets capacities from 2-60 tons.

Low GWP Refrigerant

GWP, or Global Warming Potential, measures how much heat a refrigerant can trap in the atmosphere compared to carbon dioxide over a specific time period - typically 100 years. The higher the GWP number, the greater the potential impact on the environment.

Choosing low GWP refrigerants is essential for meeting current environmental regulations and building a more sustainable future. That's why AAON equipment now uses R-454B, the next generation refrigerant with a GWP of just 466.

R-454B delivers high performance and reliability, with characteristics similar to the previously used R-410A in both capacity and efficiency. It made for an easy transition with minimal redesign, making it the smart, future-ready choice for environmentally responsible AAON systems.

AAON selected R-454B, a sub 500 GWP refrigerant, to drive the industry towards a cleaner and more sustainable future.





Heat Pumps

CF Series units offer efficient cooling and heating capabilities with the heat pump option. By reversing the refrigeration circuits, the heat pump provides heating without the need for gas or electric heat, eliminating fossil fuel usage. With potential cost savings compared to gas heating systems, CF Series units are available as an Alpha Class air-source heat pump.

AIR-SOURCE HEAT PUMP

Air-source heat pumps use the outdoor air as the heat transfer medium. This system provides heat pump efficiency benefits and does not require a water loop.



CF Series units are available as an Alpha Class air-source heat pump as a split system pairing.



The A cabinet brings a compact and versatile size for smaller applications. It consists of a single circuit that can be operated with a two-step or variable capacity compressor for precise temperature control of small spaces or rooms.

**Dimensions vary depending on options selected. All dimensions are in inches. Design cfm may be 30-50% greater or less than nominal cfm.*

A-Cabinet	
Capacity	2-7 tons
Discharge Direction	Horizontal
Compressor/Circuit	1/1
Dimensions*	W: 29 ¼, H: 56 ½, L (Base): 62 ½, L (Top): 61 ½



The C cabinet provides an optimal middle tonnage range for applications of a medium load such as an office space. Two circuits with the ability to use variable capacity or two-step compressors provide precise control of the space conditions.

**Dimensions vary depending on options selected. All dimensions are in inches. Design cfm may be 30-50% greater or less than nominal cfm.*

C-Cabinet	
Capacity	16-30 tons
Discharge Direction	Vertical
Compressor/Circuit	2/2
Dimensions*	W: 63, H: 67 ¼, L (Base): 58, L (Top): 91



The B cabinet provides the ability to operate a two circuit system feeding directly to an indoor air handling unit. It can be configured with 2 two-step compressors, two variable refrigeration systems or one variable and a two-step compressor.

**Dimensions vary depending on options selected. All dimensions are in inches. Design cfm may be 30-50% greater or less than nominal cfm.*

B-Cabinet	
Capacity	9-15 tons
Discharge Direction	Vertical
Compressor/Circuit	2/2
Dimensions*	W: 46 ¾, H: 57, L (Base): 59 ¾, L (Top): 94



The largest of the CF Series, the D cabinet, provides a wide range of control especially for part-load applications. Four circuits are utilized with the use of four on/off compressors, tandem scrolls, or variable capacity compressors. Multiple circuits allow for better staging and control of space conditions.

**Dimensions vary depending on options selected. All dimensions are in inches. Design cfm may be 30-50% greater or less than nominal cfm.*

D-Cabinet	
Capacity	26-60 tons
Discharge Direction	Vertical
Compressor/Circuit	4/2 or 4/4
Dimensions*	W: 84, H: 69 ¼, L (Base): 104, L (Top): 121 ¼

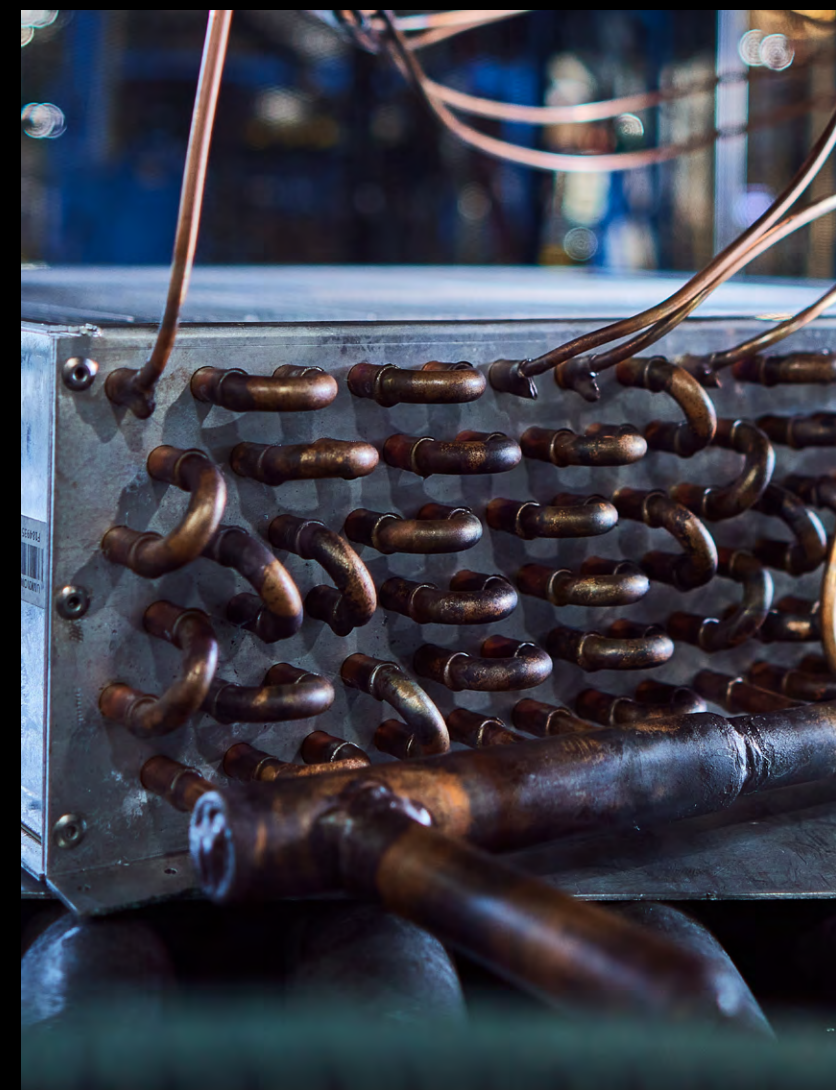




There's a confidence that comes from knowing you've chosen the best. Because our operations are as efficient as our HVAC systems, you get premier AAON quality at a reasonable price. Outstanding serviceability and support create lifetime AAON customers.



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