

# CF Series

Condensing Units  
2-60 Tons



Air-Source Heat Pumps

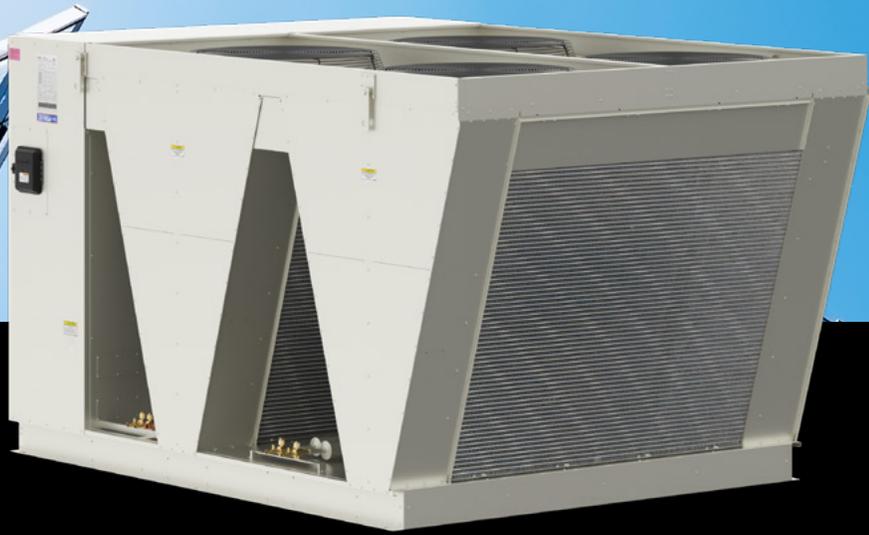




## CF Series

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



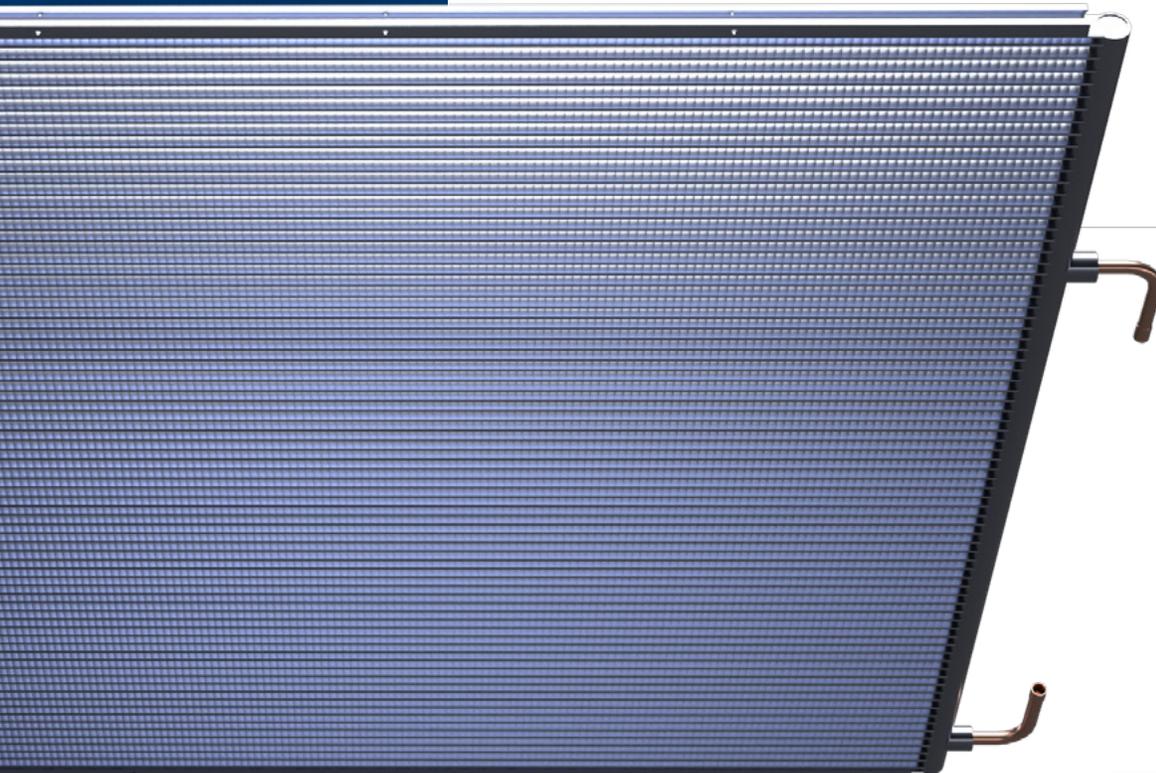


# 2-60 Tons

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: two, four, five, or six cooling stages 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



*Microchannel Condenser Coil*

# 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.

## 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.

## DURABLE, EFFICIENT CONDENSER COILS

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

## 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.

## REDUCED REFRIGERANT RECOVERY

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

## OPTIMIZED SERVICE EQUIPMENT

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



*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.

## SIMPLIFIED SPLIT SYSTEM MATCHING

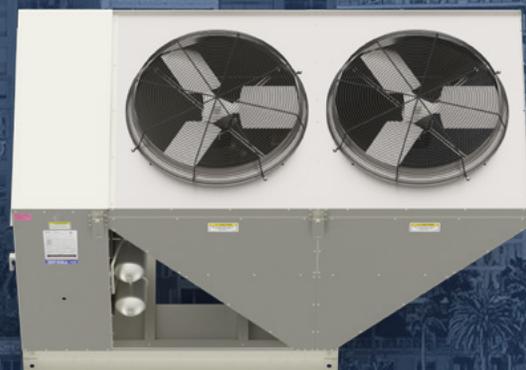
AAON split systems, when paired with our condensing units, deliver consistent comfort while keeping energy consumption low. Experience tailored performance with matched pairs designed to meet your specific application, ensuring optimal functionality. Please note that availability may vary based on regulatory 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.



2-7 tons



9-15 tons

CF Series meets capacities from 2-60 tons.

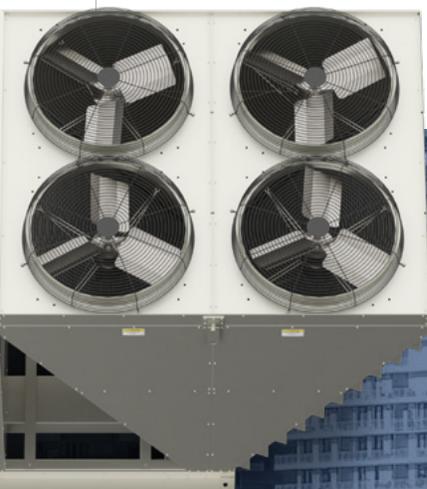
# Options

- 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
- Multiple high efficiency air filtration options for improved indoor air quality by reducing airborne allergens and pollutants
- 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.



30 tons



26-60 tons

# Low GWP Refrigerant

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

## AIM ACT COMPLIANT

The AIM Act of 2020 empowered the U.S. Environmental Protection Agency to manage Hydrofluorocarbons (HFCs) and regulate refrigerants based on global warming potential (GWP). GWP was developed to compare refrigerants' impact on global warming. The final ruling mandating all new air conditioners to use refrigerants with a GWP below 700 is anticipated to begin January 1, 2025.

AAON thoroughly researched and tested low GWP refrigerants and selected R-454B for its similarity to R-410A in capacity and properties, requiring less product redesign. With a GWP of 466, R-454B is well below the upcoming regulation limits.







# 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 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 can be equipped with coil guard louvers to protect the coil from debris and limit moisture accumulation when in heat pump mode.*



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 1/4, H: 56 1/4, L (Base): 62 1/2 L (Top): 61 1/2



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 3/4, H: 57, L (Base): 59 3/4 L (Top): 94





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



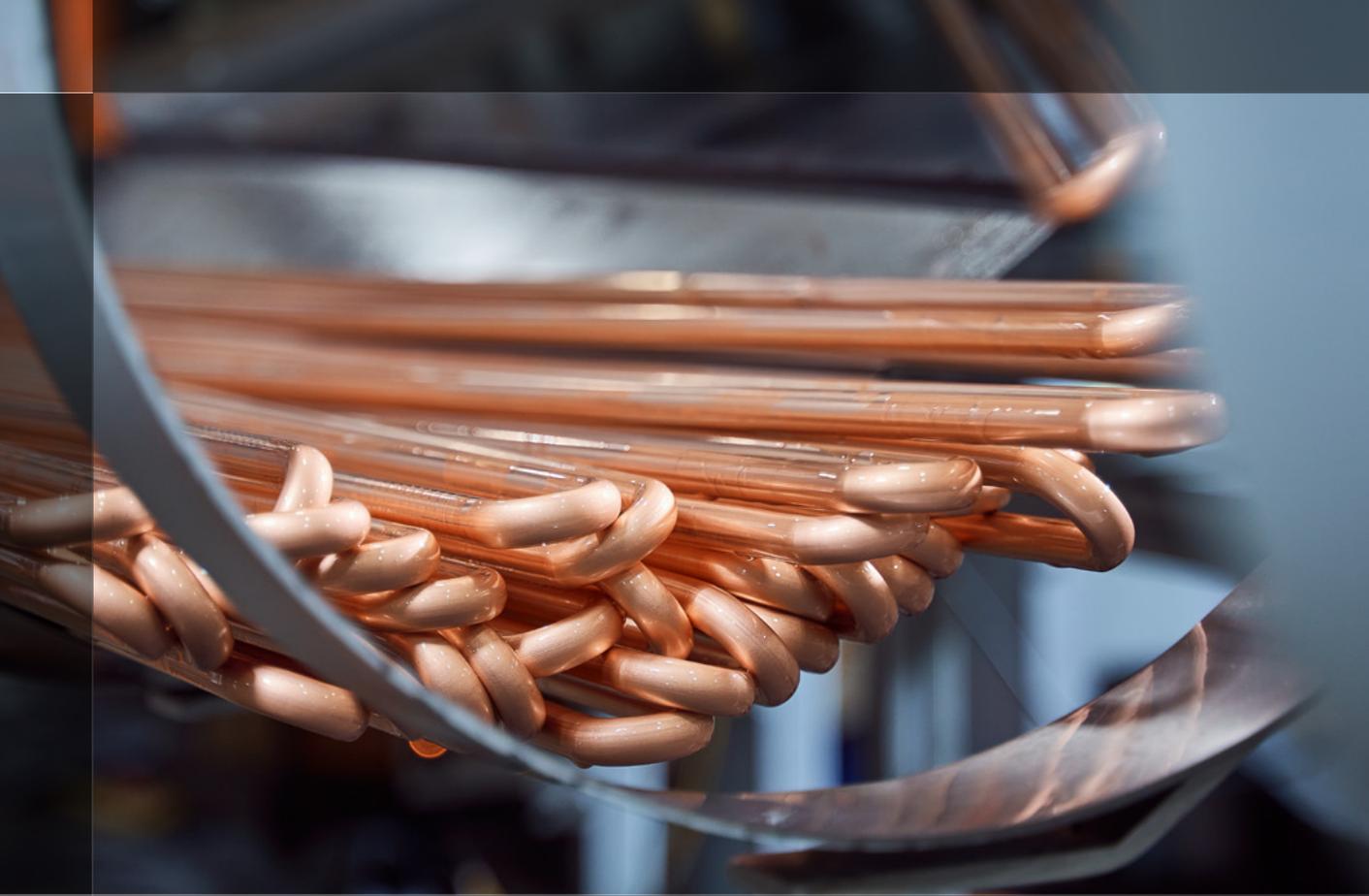
The largest of the CF Series, the D cabinet provides a wide range of control especially for part-load applications. Four circuits are utilized with the use of four on/off compressors, tandem scrolls, or variable capacity compressors. Multiple circuits allow for better staging and control of space conditions.

*\*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

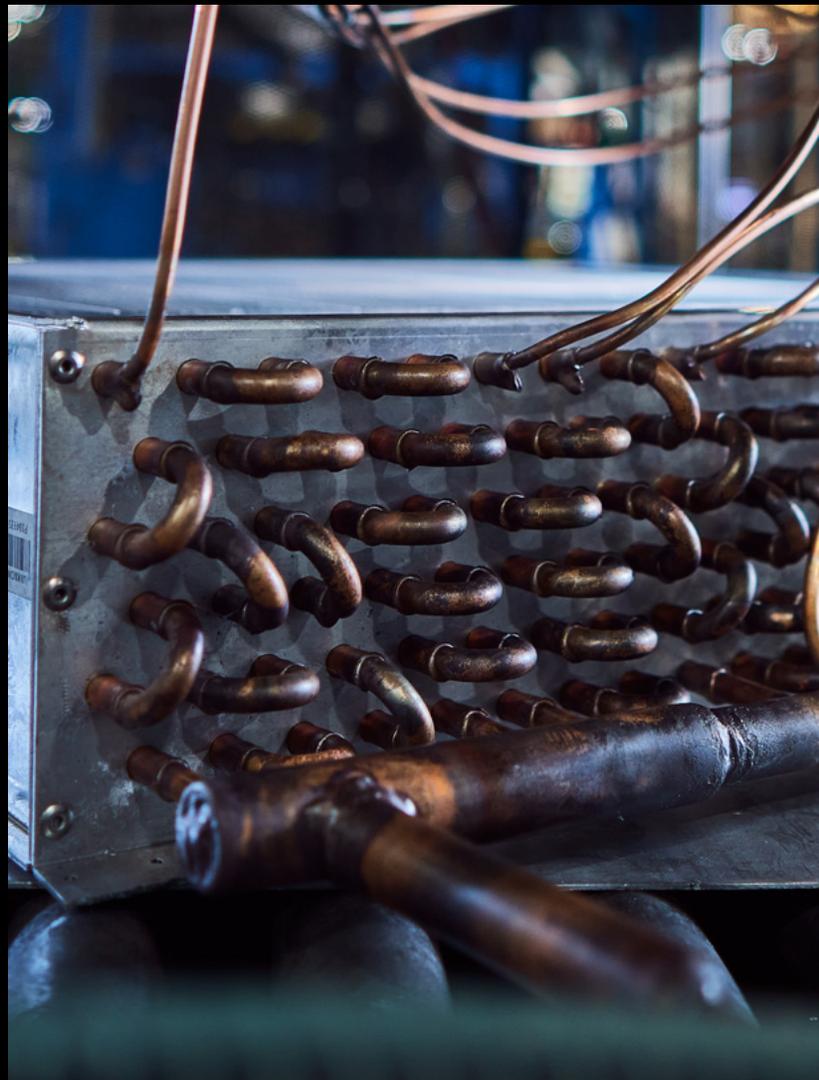




Built to last.  
Built for you.



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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