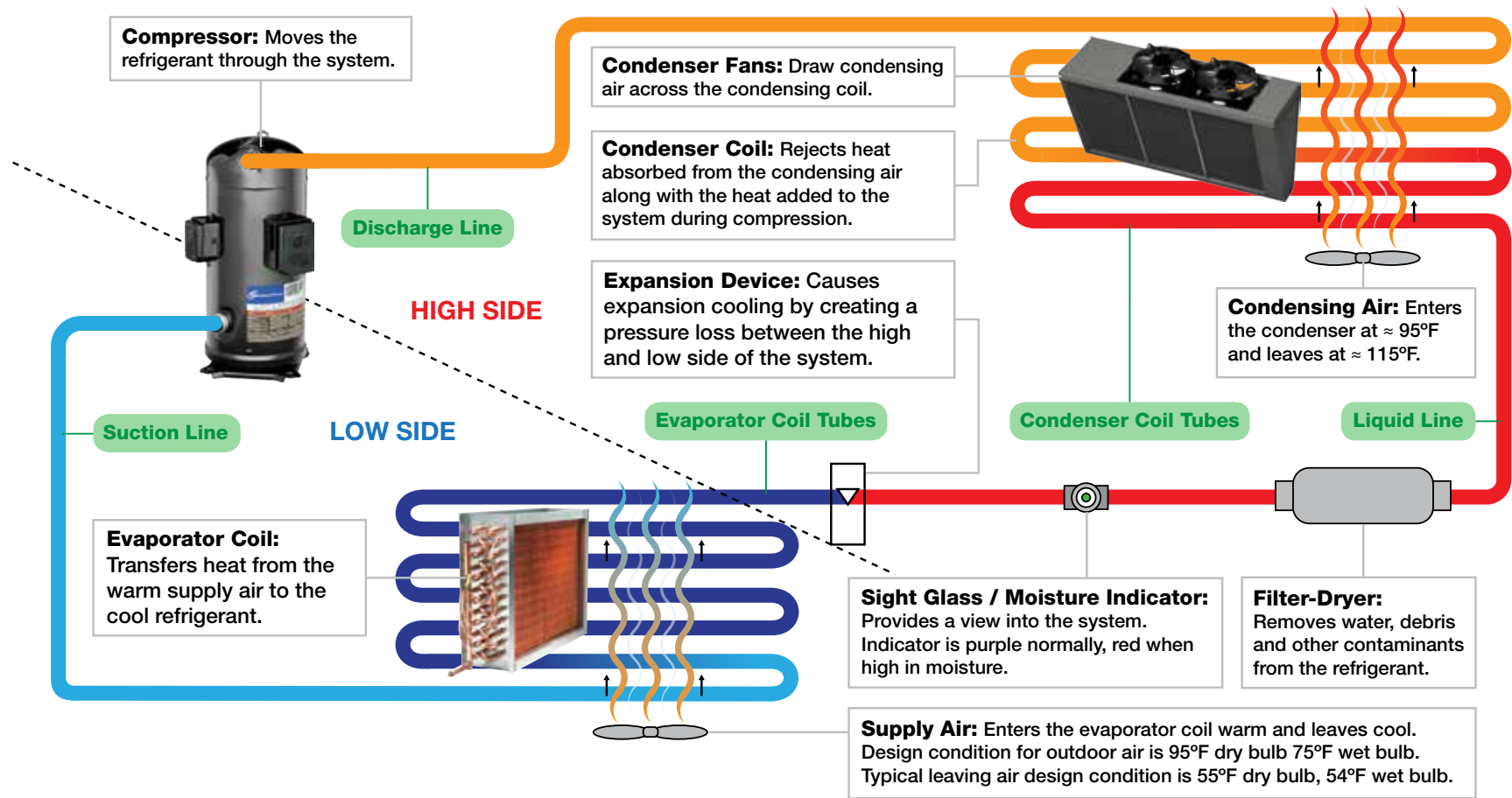


Packaged Direct Expansion (DX) Cooling System



SYSTEM TEMPERATURES AND PRESSURES

Refrigerant State	T, °F	R-410A, psig	Superheat/Subcool
Low Pressure Saturated	45	131	
Low Pressure Superheated Vapor	55	131	Superheat = $T - T_{\text{sat}} = 55^{\circ} - 45^{\circ} = 10^{\circ}\text{F}$
High Pressure Gas	160	393	
High Pressure Saturated	115	393	
High Pressure Liquid	105	393	Subcool = $T_{\text{sat}} - T = 115^{\circ} - 105^{\circ} = 10^{\circ}\text{F}$

LOAD CALCULATIONS

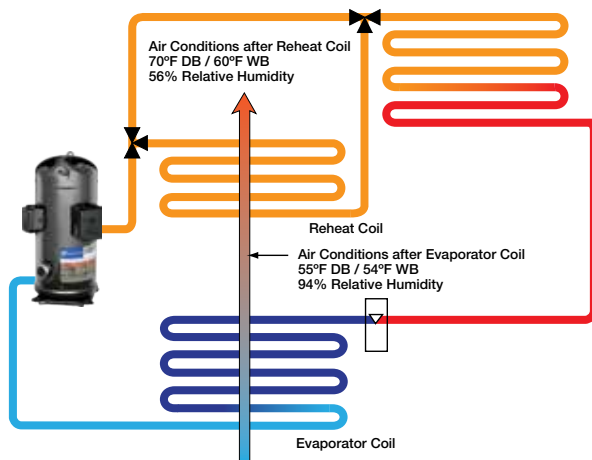
Condenser	$Q_{\text{out}} (\text{Btu/hr}) = 1.08 \times \text{SCFM} \times \Delta \text{Temperature}$
Evaporator	$Q_{\text{in}} (\text{Btu/hr}) = 4.5 \times \text{SCFM} \times \Delta \text{Enthalpy}$

Packaged Direct Expansion (DX) Cooling System Options

HOT GAS REHEAT: Includes a condenser coil mounted in the supply airstream and a modulating refrigerant valve to control the supply air temperature and relative humidity.

Benefit: Controls the supply air temperature and relative humidity without the need for auxiliary post heat. Provides dehumidified air without overcooling the space.

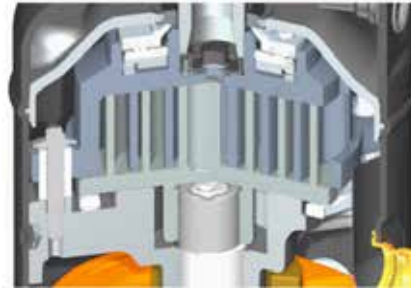
Availability: Optional on ERCH, RV and RVE



DIGITAL SCROLL COMPRESSORS: Unload/load based on cooling demand.

Benefit: Precise temperature control.

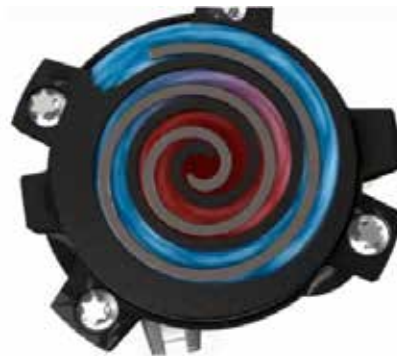
Availability: Optional on ERCH, RV and RVE



INVERTER SCROLL COMPRESSORS: Refrigerant flow varies with motor speed.

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

Availability: Optional on RV and RVE



LOW SOUND CONDENSER FAN(S): Low-sound swept blade.

Benefit: Average sound power reduction of 5 to 8 decibels when compared to typical condenser fans. Reduces perceived noise by 50%.

Availability: Standard on RV and RVE



MODULATING HEAD PRESSURE CONTROL: The electronically commutated (EC) condenser fan(s) will modulate speed to maintain the optimal liquid line pressure using built-in control sequences within the factory controller.

Benefit: More reheat capacity at part-load conditions. Better cooling control for lower ambient temperatures. EC motors selectable on lead or all condenser fans.

Lead: An EC motor on the lead condenser fan will modulate to maintain a head pressure set point. Improves reheat capacity at part-load conditions.

All: The entire bank of condensing fans will have EC motors and will modulate in sync to maintain a head pressure set point. Improves sound performance and energy efficiency at part-load conditions.

Availability: Optional on RV and RVE

