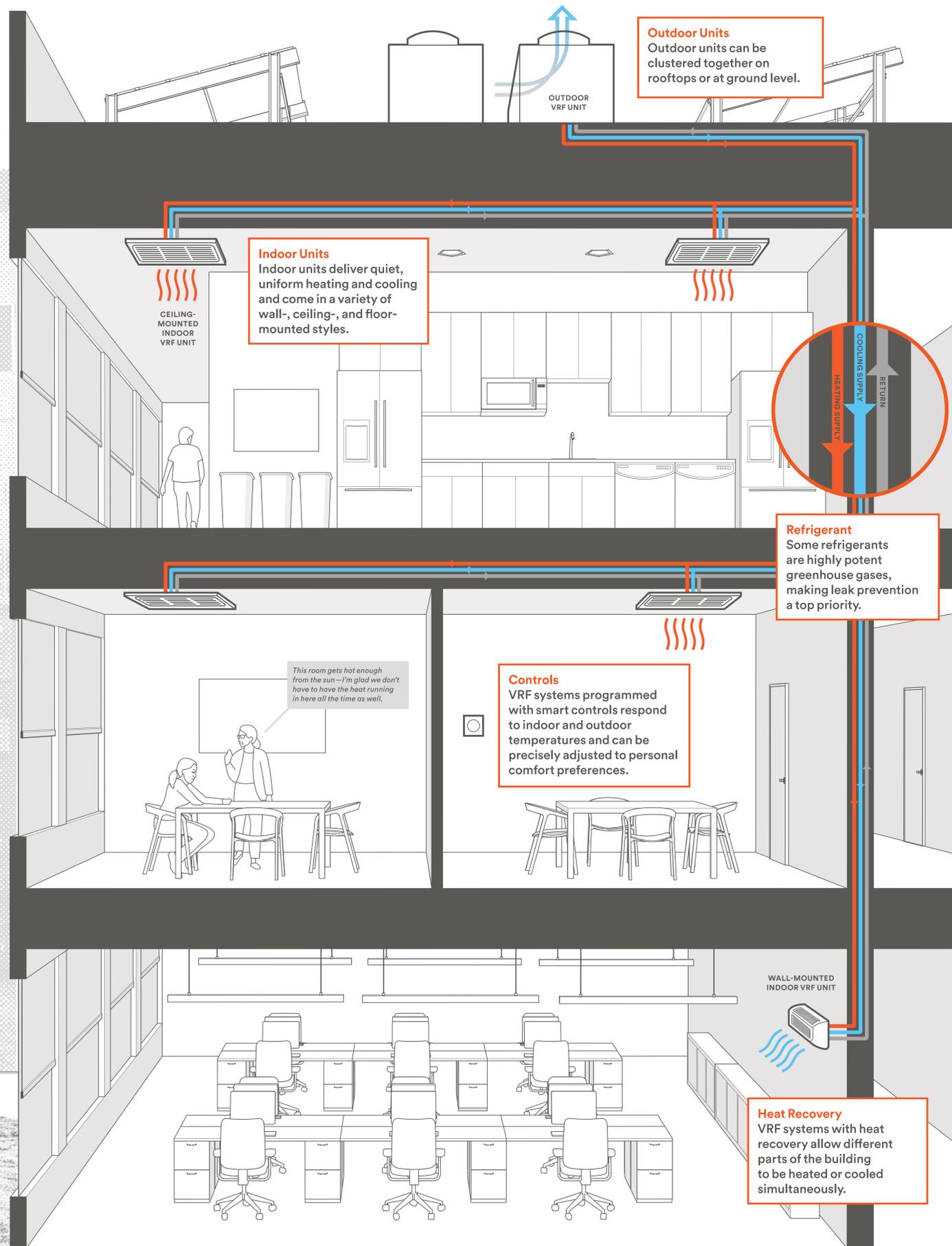


heat pumps

Heat pumps are high-efficiency electric appliances that transfer heat instead of generating it, and use a refrigerant to add or remove heat from an indoor space as needed.

Commonly used to provide air conditioning, heat pumps also function in reverse to provide effective heating in colder climates such as that of New York City.

Heat pumps provide significant advantages over traditional systems. Not only do heat pumps use less space because of their small size and dual function as heaters and air conditioners, they are more efficient than traditional systems and offer dramatic greenhouse gas reduction potential.

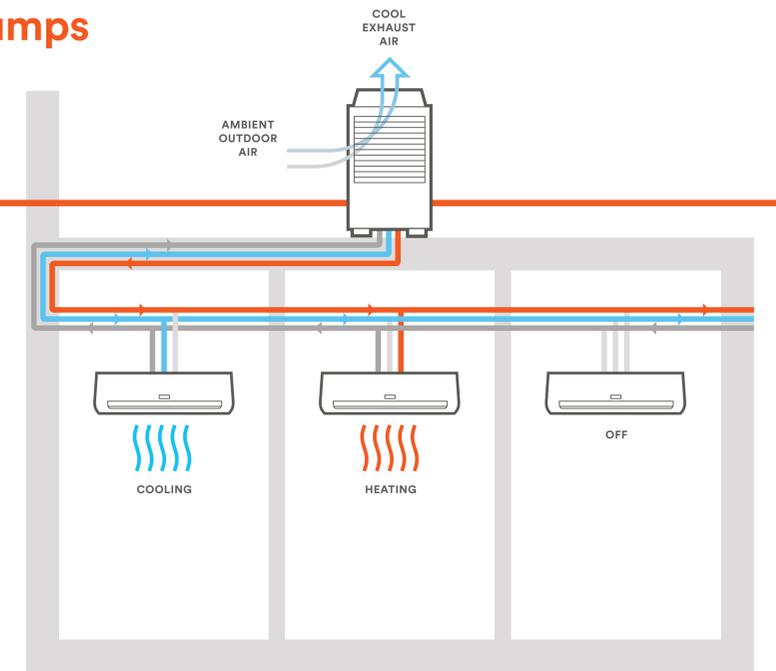


types of heat pumps

The three technologies below are examples of centralized and decentralized heat pump systems suitable for a variety of building types.

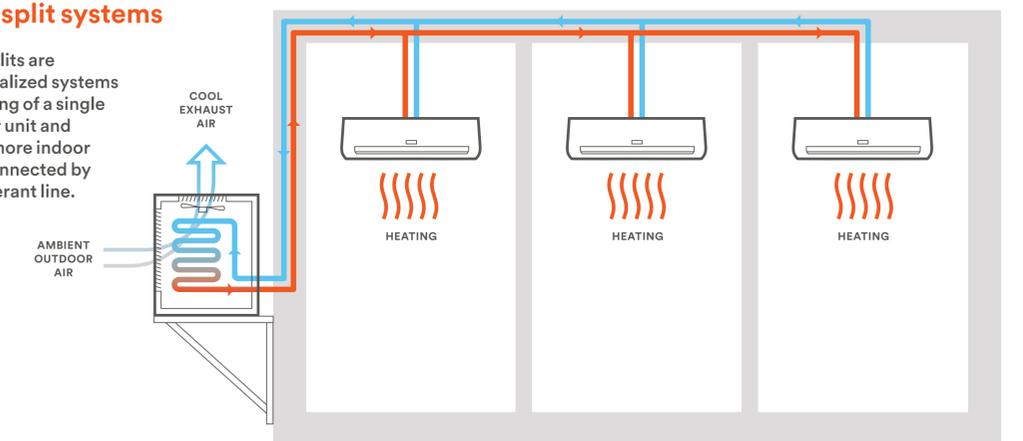
variable refrigerant flow (VRF)

VRF is a centralized system consisting of a single outdoor unit connected to multiple indoor units via refrigerant lines. Some types of VRF systems provide simultaneous heating and cooling.



mini-split systems

Mini-Splits are decentralized systems consisting of a single outdoor unit and one or more indoor units connected by a refrigerant line.



packaged terminal heat pump (PTHP)

PTHPs are decentralized single units installed in metal sleeves, typically located beneath windows. PTHPs are a high-efficiency replacement to through-wall sleeve Air Conditioners (ACs) and Packaged Terminal Air Conditioners (PTACs) because they can be inserted into an existing metal sleeve with minimal adjustment.

