

HVAC System Types

Cooling Source	Heating Source	HVAC System Type
No Cooling	No Heating	Unit Ventilator (no heating or cooling) Ventilation system with no cooling capability, no heating capability and no ductwork.
No Cooling	Furnace	Gas or Fuel Furnace with zone ventilation Central or wall mounted furnace with outside air ventilation supply. If central system, typically has ducted distribution system.
No Cooling	Furnace	Gas or Fuel Furnace with NO zone ventilation Central or wall mounted furnace with no outside air ventilation supply. If central system, typically has ducted distribution system.
No Cooling	Electric Resistance	Elec Furnace with zone ventilation Central or wall electric resistance heater with outside air ventilation supply. If central system, typically has ducted distribution system.
No Cooling	Electric Resistance	Elec Furnace with NO zone ventilation Central or wall electric resistance heater with no outside air ventilation supply. If central system, typically has ducted distribution system.
No Cooling	Electric Resistance	Forced Air Electric Heaters with zone ventilation Electric heaters serving individual zones or dwelling units. This system may be a ducted central system or non-ducted, in-wall heater. The zone and/or system has additional outside air ventilation supply as well.
No Cooling	Electric Resistance	Forced Air Electric Heaters with No zone ventilation Electric heaters serving individual zones or dwelling units. This system may be a ducted central system or non-ducted, in-wall heater. The zone and/or system does not have additional outside air ventilation supply.
No Cooling	Hot Water Coils	HW Furnace with zone ventilation Central or wall hot water heater with outside air ventilation supply. If central system, typically has ducted distribution system.
No Cooling	Hot Water Coils	HW Furnace with NO zone ventilation Central or wall hot water heater with no outside air ventilation supply. If central system, typically has ducted distribution system.
No Cooling	Hot Water Coils	Forced Air Hot Water Heaters with zone ventilation Hot water (hydronic) heaters serving individual zones or dwelling units. This system may be a ducted central system or non-ducted, in-wall heater. The zone and/or system has additional outside air ventilation supply as well.
No Cooling	Hot Water Coils	Forced Air Hot Water Heaters with No zone ventilation Hot water (hydronic) heaters serving individual zones or dwelling units. This system may be a ducted central system or non-ducted, in-wall heater. The zone and/or system does not have additional outside air ventilation supply.
No Cooling	Baseboards	Elec Baseboards (only) with zone ventilation

	Only	Electric resistance baseboard heaters with additional outside air ventilation fan(s).
No Cooling	Baseboards Only	Elec Baseboards (only) with NO zone ventilation Electric resistance baseboard heaters with no additional outside air ventilation fan(s).
No Cooling	Baseboards Only	HW Baseboards (only) with zone ventilation Hot water baseboard heaters with additional outside air ventilation fan(s).
No Cooling	Baseboards Only	HW Baseboards (only) with NO zone ventilation Hot water baseboard heaters with no additional outside air ventilation fan(s).
DX Coils	No Heating	Packaged Single Zone DX (no heating) Packaged single zone air conditioner with no heating capability, typically with ductwork.
DX Coils	No Heating	Split System Single Zone DX (no heating) Central single zone air conditioner with no heating capability, typically with ductwork. System has indoor fan and cooling coil and remote compressor/condensing unit.
DX Coils	No Heating	Packaged Terminal AC (no heating) Packaged terminal air conditioning unit with no heating capability and no ductwork. Unit may be window or through-wall mounted.
DX Coils	No Heating	Packaged VAV (no heating) Packaged direct expansion cooling system with no heating capability. System includes a variable volume, single duct fan/distribution system serving multiple zones each with its own thermostat control.
DX Coils	No Heating	Packaged VVT (no heating) Packaged direct expansion cooling system with no heating capability. System includes a variable volume, single duct fan/distribution system serving multiple zones. A single control zone controls the overall system flow volume and supply air temperature reset while thermostats in subzones, if any, control flow dampers serving the subzones.
DX Coils	No Heating	Packaged DX Parallel Fan-Powered VAV (no reheat) Packaged direct expansion cooling system with no heating capability. System includes a variable volume, single duct fan/distribution system serving multiple zones each with parallel fan-powered terminal units with thermostat control.
DX Coils	No Heating	Packaged DX Series Fan-Powered VAV (no reheat) Packaged direct expansion cooling system with no heating capability. System includes a variable volume, single duct fan/distribution system serving multiple zones each with series fan-powered terminal units with thermostat control.
DX Coils	No Heating	Data Center DX CRAC (no heating) Packaged direct expansion computer room air conditioning system with no heating capability. System includes a variable volume fan typically serving a single zone but with the option to serve subzones. A single control zone controls the unit flow volume and supply air temperature reset while thermostats in subzones, if any, control flow dampers serving the subzones.
DX Coils	Furnace	Packaged Single Zone DX with Furnace Central packaged single zone air conditioner with combustion furnace, typically with ductwork and typically used in commercial applications, including continuous indoor fan operation during occupancy and occupant ventilation air.
DX Coils	Furnace	

Split System Single Zone DX with Furnace

Central single zone air conditioner with combustion furnace, typically with ductwork and typically used in commercial applications, including continuous indoor fan operation during occupancy and occupant ventilation air. System has indoor fan and cooling coil and remote compressor/condensing unit.

DX Coils Furnace

Packaged Multizone with Furnace

Packaged direct expansion cooling system with combustion furnace. System includes a constant volume fan/distribution system serving multiple zones, each with its own thermostat. Warm and cold air are mixed for each zone to meet thermostat control requirements.

DX Coils Furnace

Packaged Single Zone DX with Furnace (residential)

Packaged single zone air conditioner with combustion furnace, typically with ductwork and typically used in residential applications, including intermittent indoor fan operation (indoor fan cycles with compressor or furnace) and no mechanical ventilation air.

DX Coils Furnace

Split System Single Zone DX with Furnace (residential)

Single zone air conditioner with combustion furnace, typically with ductwork and typically used in commercial applications, including intermittent indoor fan operation (indoor fan cycles with compressor or furnace) and no mechanical ventilation air. System has indoor fan and cooling coil and remote compressor/condensing unit.

DX Coils Furnace

Packaged VVT with Furnace

Packaged direct expansion cooling system with combustion furnace. System includes a variable volume, single duct fan/distribution system serving multiple zones. A single control zone controls the overall fan flow volume and supply air temperature reset while thermostats in subzones, if any, control flow dampers serving the subzones.

DX Coils Electric Resistance

Packaged Single Zone DX with Elec Heat

Central packaged single zone air conditioner with electric resistance heating typically used in commercial applications, including continuous indoor fan operation during occupancy and occupant ventilation air.

DX Coils Electric Resistance

Split System Single Zone DX with Elec Heat

Central single zone air conditioner with electric resistance heating, typically with ductwork and typically used in commercial applications, including continuous indoor fan operation during occupancy and occupant ventilation air. System has indoor fan and cooling coil and remote compressor/condensing unit.

DX Coils Electric Resistance

Packaged Single Zone DX with Elec Heat (residential)

Packaged single zone air conditioner with electric resistance heating, typically with ductwork and typically used in residential applications, including intermittent indoor fan operation (indoor fan cycles with compressor or furnace) and no mechanical ventilation air.

DX Coils Electric Resistance

Split System Single Zone DX w/ Elec Heat (residential)

Single zone air conditioner with electric resistance heating, typically with ductwork and typically used in commercial applications, including intermittent indoor fan operation (indoor fan cycles with compressor or furnace) and no mechanical ventilation air. System has indoor fan and cooling coil and remote compressor/condensing unit.

DX Coils Electric Resistance

Packaged Terminal AC with Elec Resist Heat

Packaged terminal air conditioning unit with electric resistance heating and no ductwork. Unit may be window or through-wall mounted.

DX Coils Electric Resistance

Packaged VAV with Elec Reheat

Packaged direct expansion cooling system with electric resistance

heating. System includes a variable volume, single duct fan/distribution system serving multiple zones each with its own thermostat control. Each zone is equipped with a variable volume terminal unit and electric resistance reheating coils.

DX Coils	Electric Resistance	Packaged Multizone with Elec Heat	Packaged direct expansion cooling system with electric resistance heating. System includes a constant volume fan/distribution system serving multiple zones, each with its own thermostat. Warm and cold air are mixed for each zone to meet thermostat control requirements.
DX Coils	Electric Resistance	Packaged VVT with Elec Heat	Packaged direct expansion cooling system with electric resistance heating. System includes a variable volume, single duct fan/distribution system serving multiple zones. A single control zone controls the overall fan flow volume and supply air temperature reset while thermostats in subzones, if any, control flow dampers serving the subzones.
DX Coils	Electric Resistance	Packaged DX Parallel Fan-Powered VAV w/ Elec Heat	Packaged direct expansion cooling system with electric resistance heating. System includes a variable volume, single duct fan/distribution system serving multiple zones each with parallel fan-powered terminal units with thermostat control.
DX Coils	Electric Resistance	Packaged DX Series Fan-Powered VAV with Elec Heat	Packaged direct expansion cooling system with electric resistance heating. System includes a variable volume, single duct fan/distribution system serving multiple zones each with series fan-powered terminal units with thermostat control.
DX Coils	DX Coils (Heat Pump)	Packaged Single Zone Heat Pump	Packaged single zone heat pump unit, typically with ductwork and typically used in commercial applications, including continuous indoor fan operation during occupancy and occupant ventilation air.
DX Coils	DX Coils (Heat Pump)	Split System Single Zone Heat Pump	Central single zone heat pump unit, typically with ductwork and typically used in commercial applications, including continuous indoor fan operation during occupancy and occupant ventilation air. System has indoor fan and cooling coil and remote compressor/condensing unit.
DX Coils	DX Coils (Heat Pump)	Packaged Single Zone Heat Pump (residential)	Packaged single zone heat pump, typically with ductwork and typically used in residential applications, including intermittent indoor fan operation (indoor fan cycles with compressor or furnace) and no mechanical ventilation air.
DX Coils	DX Coils (Heat Pump)	Split System Single Zone Heat Pump (residential)	Single zone heat pump, typically with ductwork and typically used in commercial applications, including intermittent indoor fan operation (indoor fan cycles with compressor or furnace) and no mechanical ventilation air. System has indoor fan and cooling/heating coil and remote compressor/condensing/evaporator unit.
DX Coils	DX Coils (Heat Pump)	Packaged Terminal Heat Pump	Packaged terminal heat pump unit with no ductwork. Unit may be window or through-wall mounted.
DX Coils	DX Coils (Heat Pump)	Packaged VVT Heat Pump	Packaged heat pump unit. System includes a variable volume, single duct fan/distribution system serving multiple zones. A single control zone controls the overall fan flow volume and supply air temperature reset while thermostats in subzones, if any, control flow dampers serving the subzones.
DX Coils	DX Coils	Ground-Source Heat Pump	

(Heat Pump)

Ground-source heat pump is a special form of the water-source heat pump application. Different from common water-source heat pump systems that use both cooling tower and boiler to maintain the loop temperature within the specified range, the ground-source heat pump (if not the hybrid type) use only the ground loop heat exchanger to keep the loop temperature within the specified range.

DX Coils

DX Coils
(Heat Pump)

Water-Source Heat Pump

Water-source heat pump, connected to a common condenser water loop along with other water-source heat pumps in the same building. Water-source heat pumps typically have ducted distribution systems. Two System Type options are available:
 W SHP (single/multi-zone) allows only one control zone (i.e., any additional zones are subordinate zones; eQUEST default: one system per zone), VAV indoor fans, VSD fan control, multi-stage and VSD compressor.
 W SHP (simplified single zone) is conventional HP system, single zone only, CV fans, single stage compressor

DX Coils

Hot Water Coils

Packaged VAV with HW Reheat

Packaged direct expansion cooling system with hot water heating. System includes a variable volume, single duct fan/distribution system serving multiple zones each with its own thermostat control. Each zone is equipped with a variable volume terminal unit and hot water reheating coils.

Chilled Water Coils

No Heating

Standard VAV (no reheat)

Chilled water cooling system with no central heating. System includes a variable volume, single duct fan/distribution system serving multiple zones each with its own thermostat control. Each zone is equipped with a variable volume terminal unit with no reheating coils.

Chilled Water Coils

No Heating

Parallel Fan-Powered VAV (no reheat)

Chilled water cooling system with no central heating. System includes a variable volume, single duct fan/distribution system serving multiple zones each with its own thermostat control. Each zone is equipped with a parallel fan-powered terminal unit with no reheating coils.

Chilled Water Coils

No Heating

Series Fan-Powered VAV (no reheat)

Chilled water cooling system with no central heating capacity. System includes a variable volume, single duct fan/distribution system serving multiple zones each with its own thermostat control. Each zone is equipped with a series fan-powered terminal unit with no reheating coils.

Chilled Water Coils

No Heating

Single Zone Air Handler (cooling only)

Chilled water (hydronic) cooling units with no heating capacity serving individual zones or dwelling units with ducted distribution system.

Chilled Water Coils

No Heating

Multizone Air Handler (cooling only)

Packaged direct expansion cooling system with no heating capacity. System includes a constant volume fan/distribution system serving multiple zones, each with its own thermostat. Return and cold air are mixed for each zone to meet thermostat requirements.

Chilled Water Coils

No Heating

Data Center CHW CRAH (no heating)

Chilled Water-based computer room air handling system with no heating capability. System includes a variable volume fan typically serving a single zone but with the option to serve subzones. A single control zone controls the unit flow volume and supply air temperature reset while thermostats in subzones, if any, control flow dampers serving the subzones.

Chilled Water Coils

Electric Resistance

Standard VAV with Elec Reheat

Chilled water cooling system with no central heating capacity. System

includes a variable volume, single duct fan/distribution system serving multiple zones each with its own thermostat control. Each zone is equipped with a variable volume terminal unit and electric resistance reheating coils.

Chilled Water Coils Electric Resistance **Parallel Fan-Powered VAV with Elec Reheat**
 Chilled water cooling system with no central heating capacity. System includes a variable volume, single duct fan/distribution system serving multiple zones each with its own thermostat control. Each zone is equipped with a parallel fan-powered terminal unit with electric resistance reheating coils.

Chilled Water Coils Electric Resistance **Series Fan-Powered VAV with Elec Reheat**
 Chilled water cooling system with no central heating capacity. System includes a variable volume, single duct fan/distribution system serving multiple zones each with its own thermostat control. Each zone is equipped with a series fan-powered terminal unit with electric resistance reheating coils.

Chilled Water Coils Electric Resistance **Single Zone Air Handler with Elec Heat**
 Chilled water (hydronic) cooling system with electric resistance heating serving individual zones or dwelling units with ducted distribution system.

Chilled Water Coils Electric Resistance **Reheat Fan System with Elec Reheat**
 Constant volume, chilled water (hydronic) cooling system serving multiple zones, each with its own thermostat control. Electric resistance reheating coils are provided for each zone.

Chilled Water Coils Electric Resistance **Multizone Air Handler with Elec Heat**
 Chilled water cooling system with electric resistance heating. System includes a constant volume fan/distribution system serving multiple zones, each with its own thermostat. Warm and cold air are mixed for each zone to meet thermostat control requirements.

Chilled Water Coils Electric Resistance **Dual Duct Air Handler with Elec Heat**
 Chilled water cooling system with no electric resistance heating. System includes individual warm air and cool air distribution systems serving multiple zones, each with its own thermostat. Warm and cold air are mixed for each zone to meet thermostat control requirements.

Chilled Water Coils **Hot Water Coils** **Standard VAV with HW Reheat**
 Chilled water cooling system with no central heating. System includes a variable volume, single duct fan/distribution system serving multiple zones each with its own thermostat control. Each zone is equipped with a variable volume terminal unit and hot water reheating coils.

Chilled Water Coils Hot Water Coils **Parallel Fan-Powered VAV with HW Reheat**
 Chilled water cooling system with no central heating capacity. System includes a variable volume, single duct fan/distribution system serving multiple zones each with its own thermostat control. Each zone is equipped with a parallel fan-powered terminal unit with hot water reheating coils.

Chilled Water Coils Hot Water Coils **Series Fan-Powered VAV with HW Reheat**
 Chilled water cooling system with no central heating capacity. System includes a variable volume, single duct fan/distribution system serving multiple zones each with its own thermostat control. Each zone is equipped with a series fan-powered terminal unit with hot water reheating coils.

Chilled Water Coils Hot Water Coils **Single Zone Air Handler with HW Heat**
 Chilled water (hydronic) cooling system with hot water heating serving individual zones or dwelling units with ducted distribution system.

Chilled Water Coils Hot Water Coils **Reheat Fan System with HW Reheat**
 Constant volume, chilled water (hydronic) cooling system serving multiple zones, each with its own thermostat control. Hot water

reheating coils are provided for each zone.

Chilled
Water Coils

Hot Water Coils

4-Pipe Fan Coils with HW Heat

Chilled water (hydronic) cooling/hot water heating units with serving individual zones or dwelling units with no ducted distribution system. The zone and/or system does not have additional outside air ventilation supply.

Chilled
Water Coils

Hot Water Coils

Multizone Air Handler with HW Heat

Chilled water cooling system with hot water heating. System includes a constant volume fan/distribution system serving multiple zones, each with its own thermostat. Warm and cold air are mixed for each zone to meet thermostat control requirements.

Chilled
Water Coils

Hot Water Coils

Dual Duct Air Handler with HW Heat

Chilled water cooling system with no hot water heating. System includes individual warm air and cool air distribution systems serving multiple zones, each with its own thermostat. Warm and cold air are mixed for each zone to meet thermostat control requirements.

Evaporative Coolers

No Heating

Direct Evaporative Cooler (cooling only)

Direct evaporative cooling system with no heating capacity.

Evaporative
Coolers

No Heating

Indirect/Direct Evaporative Cooler (cooling only)

Evaporative cooling system with direct and indirect evaporative cooling sections and no heating capacity.

Evaporative Coolers

Furnace

Indirect/Direct Evaporative Cooler with Furnace

Evaporative cooling system with direct and indirect evaporative cooling sections and combustion furnace.

Evaporative
Coolers

Furnace

Direct Evaporative Cooler with Furnace

Direct evaporative cooling system with combustion furnace.

Evaporative Coolers

Electric
Resistance

Indirect/Direct Evaporative Cooler with Elec Heat

Evaporative cooling system with direct and indirect evaporative cooling sections and electric resistance heating.

Evaporative
Coolers

Electric Resistance

Direct Evaporative Cooler with Elec Heat

Direct evaporative cooling system with electric resistance heating.

For more information:

[HVAC System Types for Multifamily Buildings in Northwestern U.S.](#)