Chiltrix Design Options

There are 1,000’s of possible designs. Here we show some basic designs.

For the most part, you can swap or merge parts of any two (or more) designs in or out, creating a new design.

Contact Chiltrix for free design assistance info@chiltrix.com

NOT TO SCALE NOT ALL COMPONENTS ARE SHOWN
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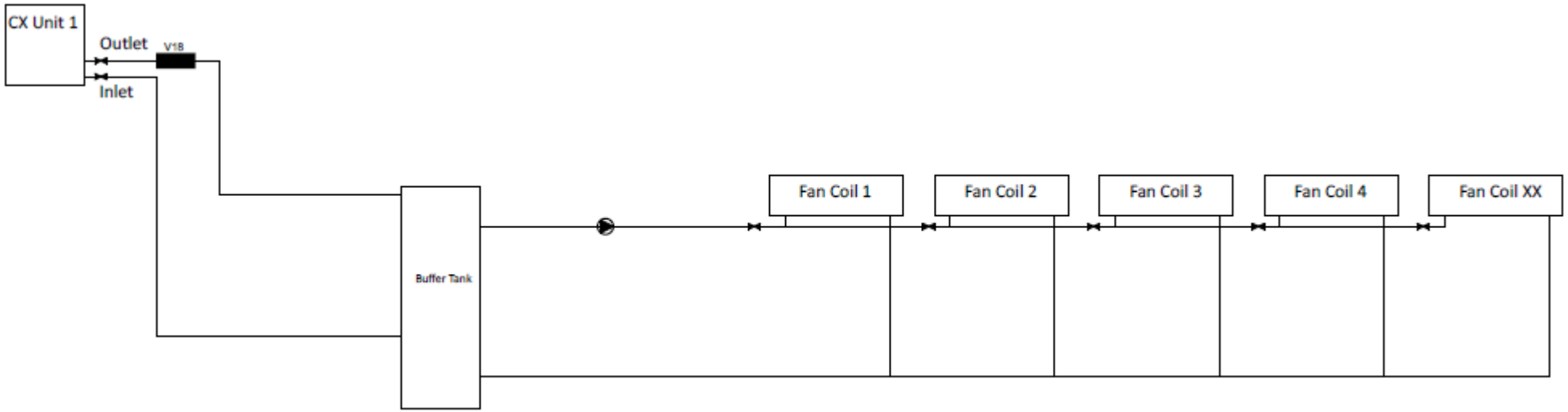
Chiltrix Design Options

This shows a very simple system of one heat pump, a small buffer tank, optional V18 backup heater and multiple ductless fan coils. Can be up to 8 or more fan coil units.



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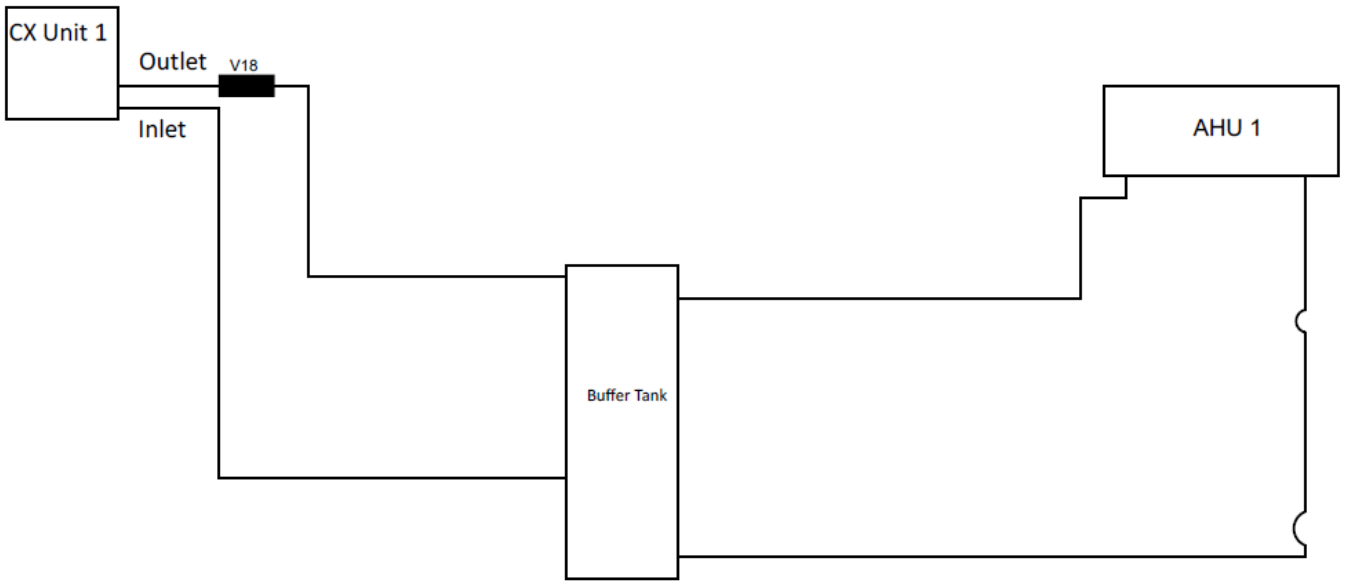
Chiltrix Design Options

This shows a very basic system of a single central air handler, one heat pump, optional V18 backup heater and a small buffer tank.



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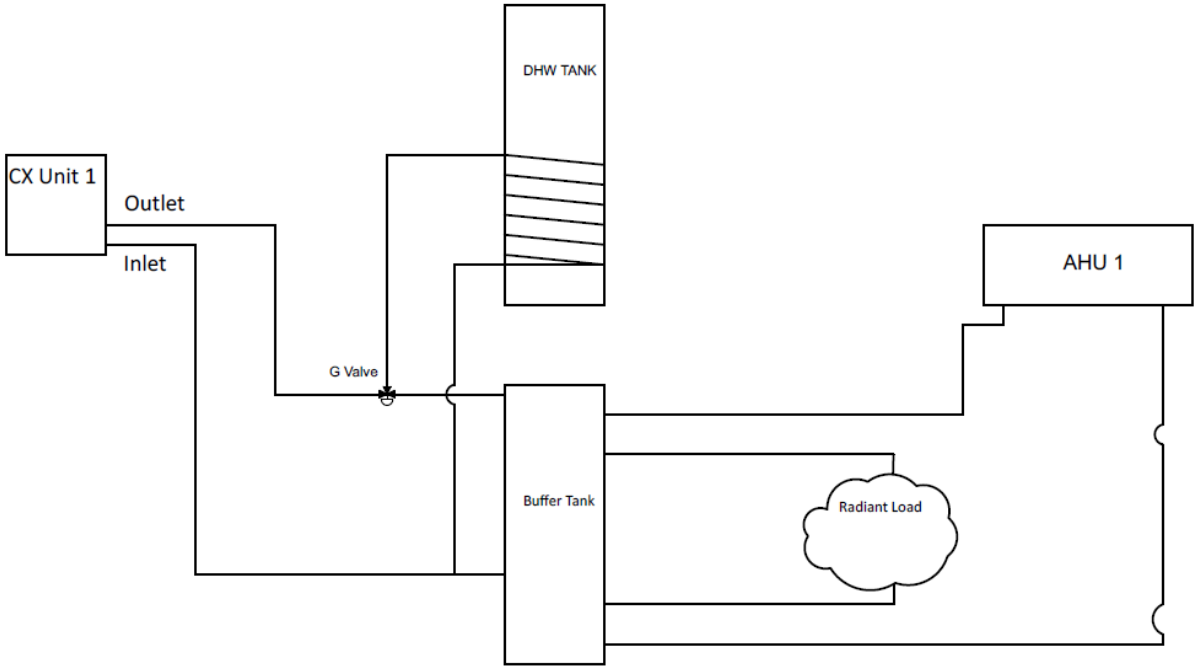
Example of a single heat pump supporting DHW (Domestic Hot Water) with radiant heating and a central air handler



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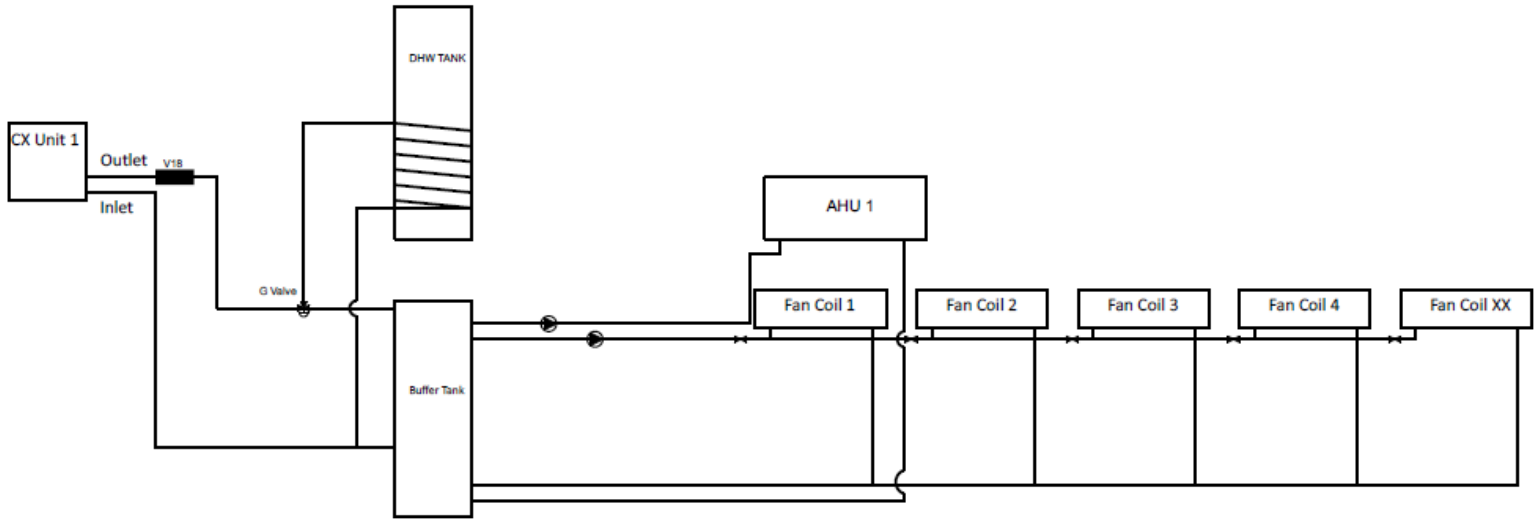
Chiltrix Design Options

Example of a single heat pump system supporting domestic hot water, multiple ductless fan coil units, a central air hander unit, with DHW and a V18b backup heater.



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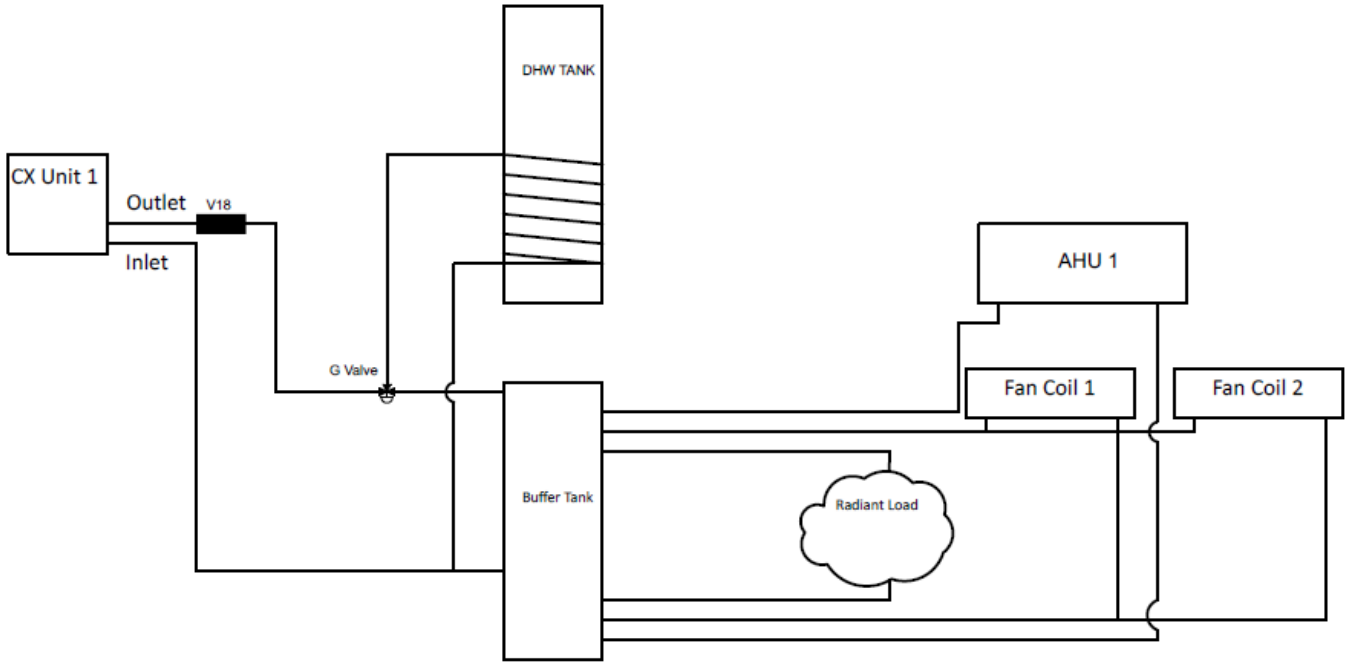
Chiltrix Design Options

This shows a single-heat pump system with optional V18b backup heater, domestic hot water, a buffer tank, supporting radiant, multiple fan coil units, and a central air handler.



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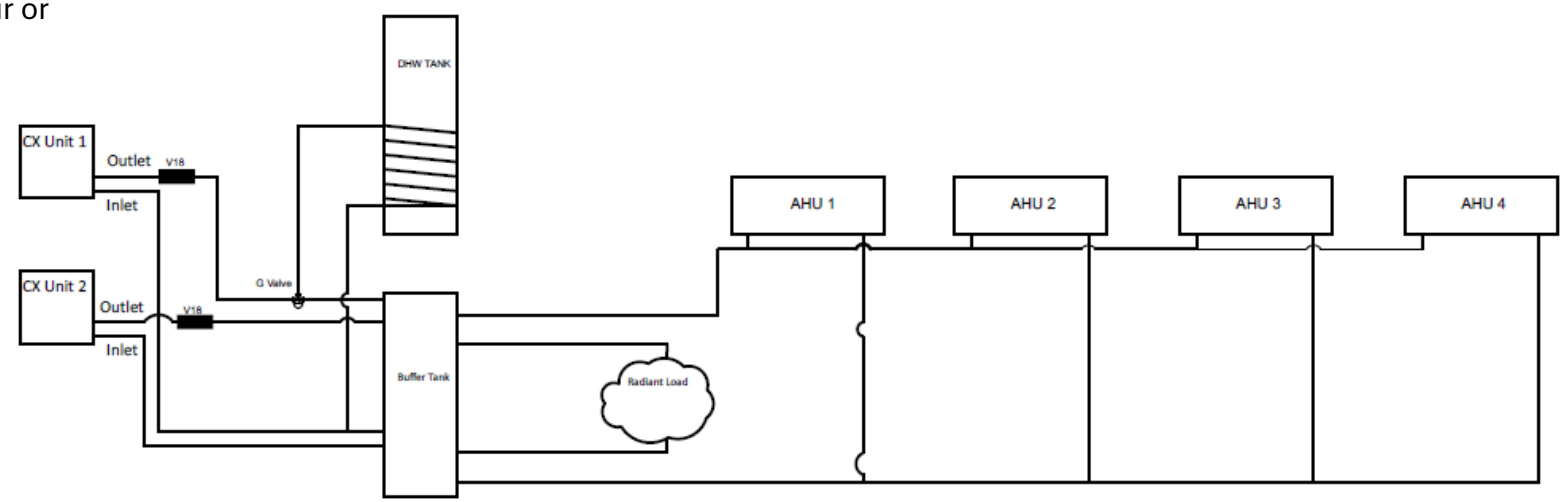
Shows 2 heat pumps with optional V18b backup heaters, DHW indirect water heater tank, buffer tank, radiant heating system, and four fan coil units. Note there could be more than four or less than four fan coil units.



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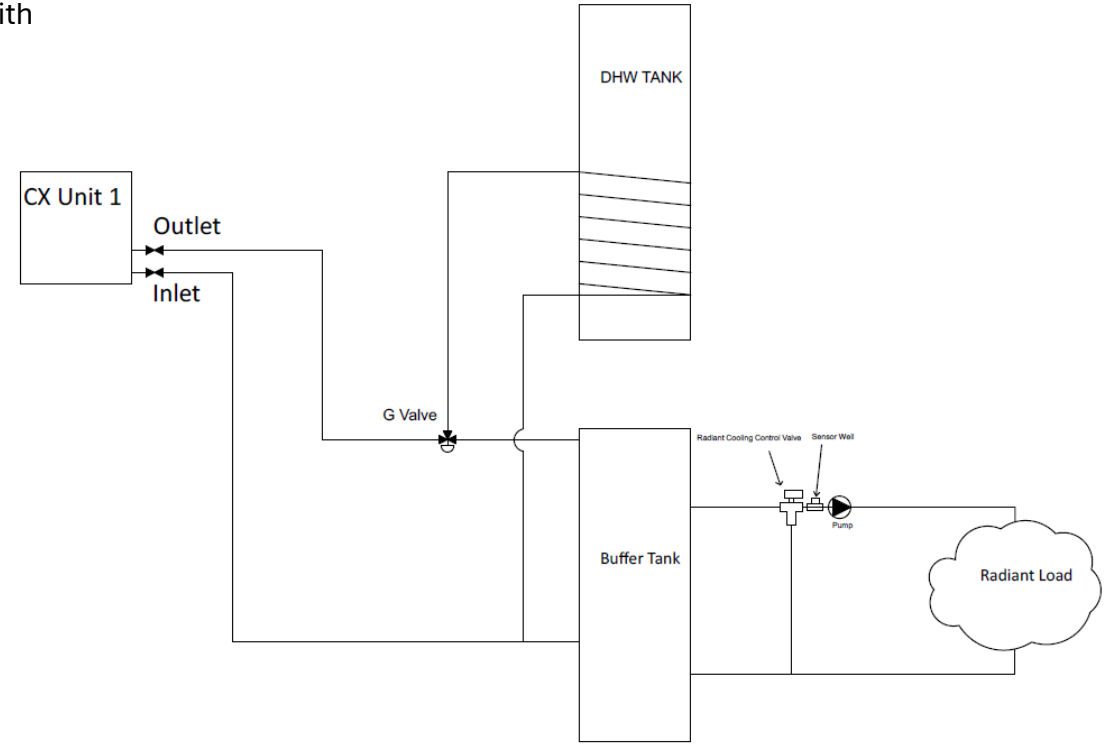
This shows piping for a system set up DHW with radiant heating and cooling.



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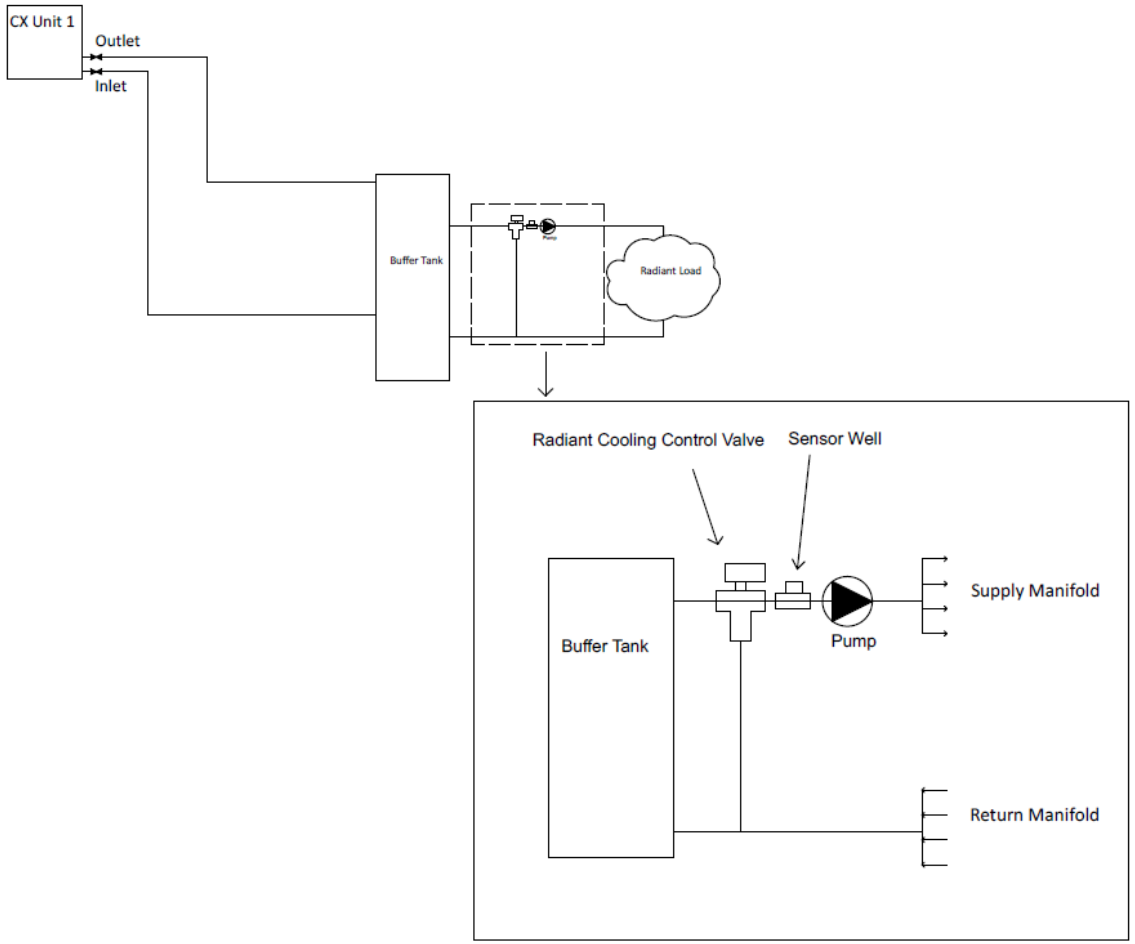
Example of a radiant cooling application using a CXRC dew point controller with a zoom-in on the radiant cooling piping.



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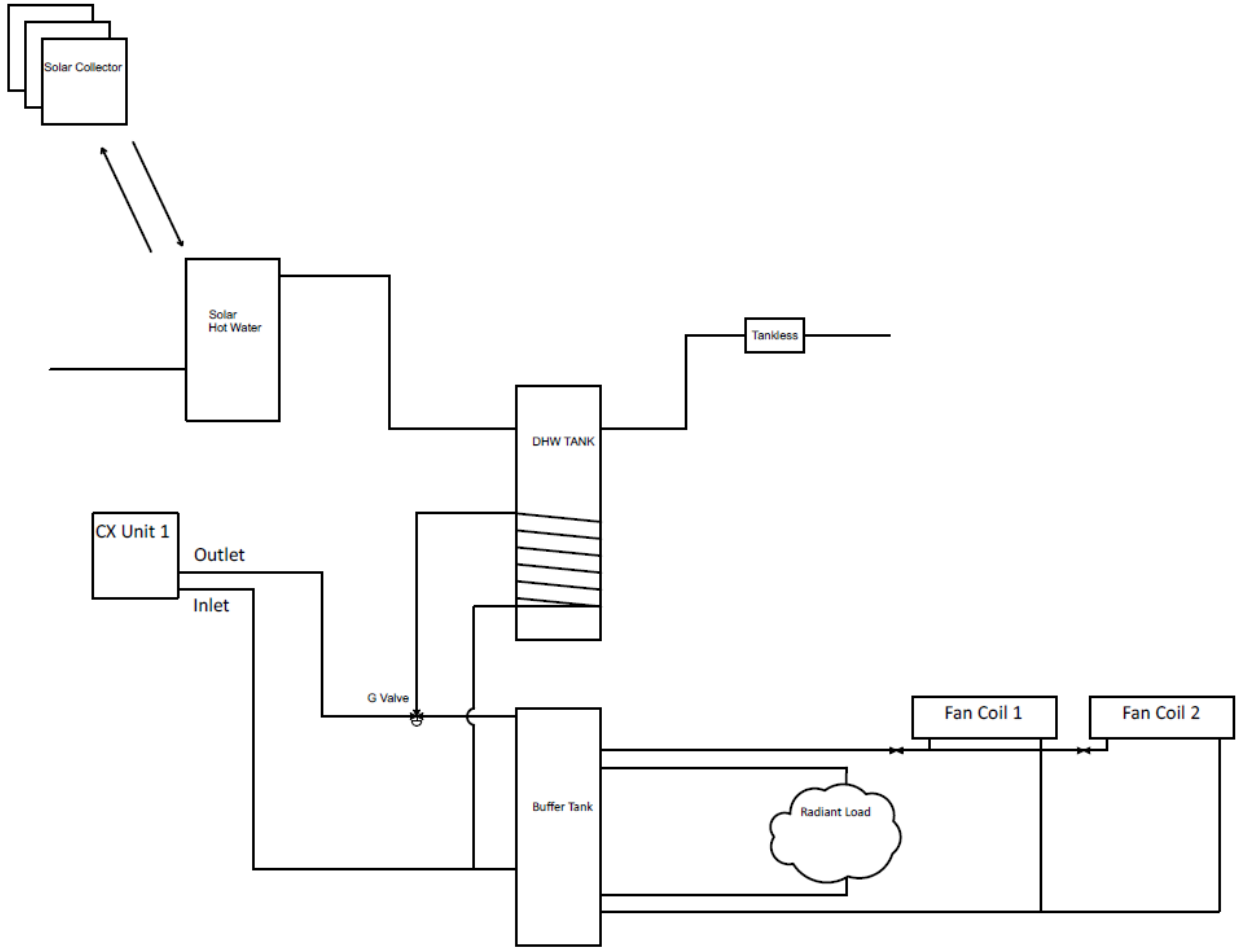
This shows the preferred way to integrate with a solar water heater where the solar heater is used as a pre-heat tank, its output becomes the input of the heat pump powered DHW tank.



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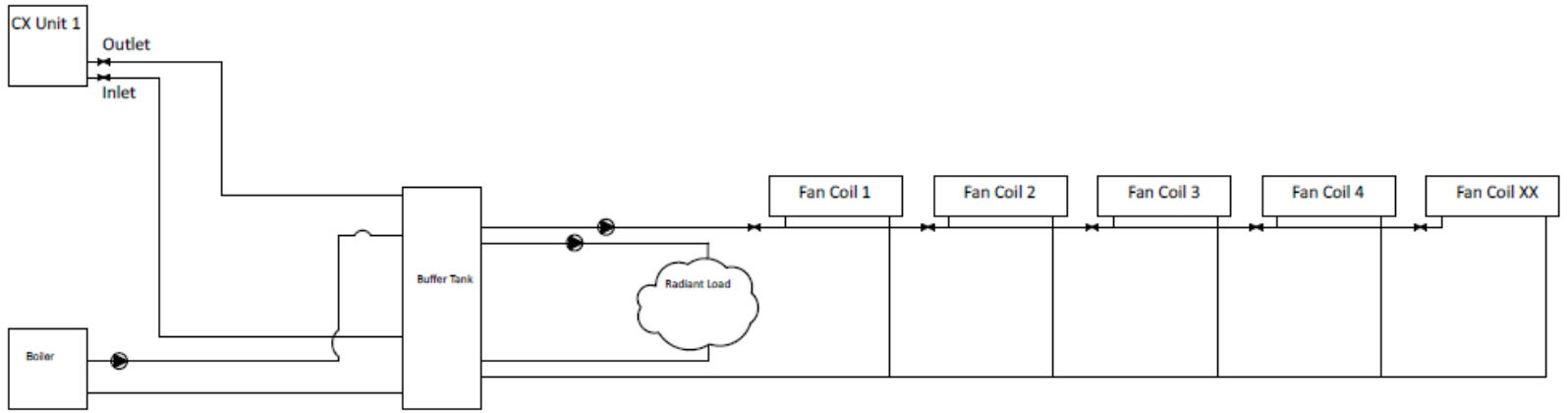
Example of a single heat pump supporting radiant and multiple fan coils with an existing boiler integrated for backup or emergency heating



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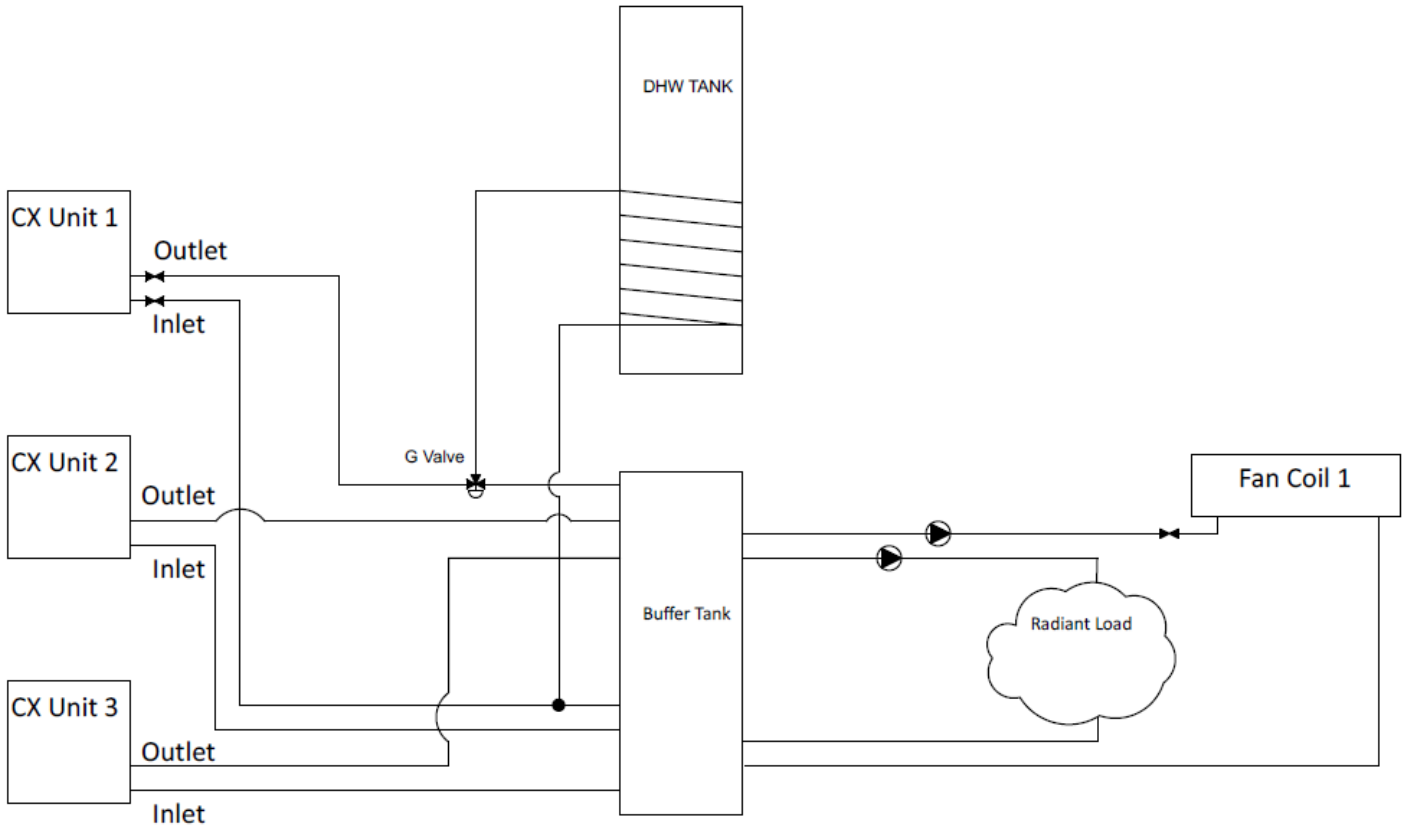
Example of using three heat pumps in one system. This system shows DHW, radiant heating and one fan coil unit but could also have multiple fan coils, air handlers, etc. added.



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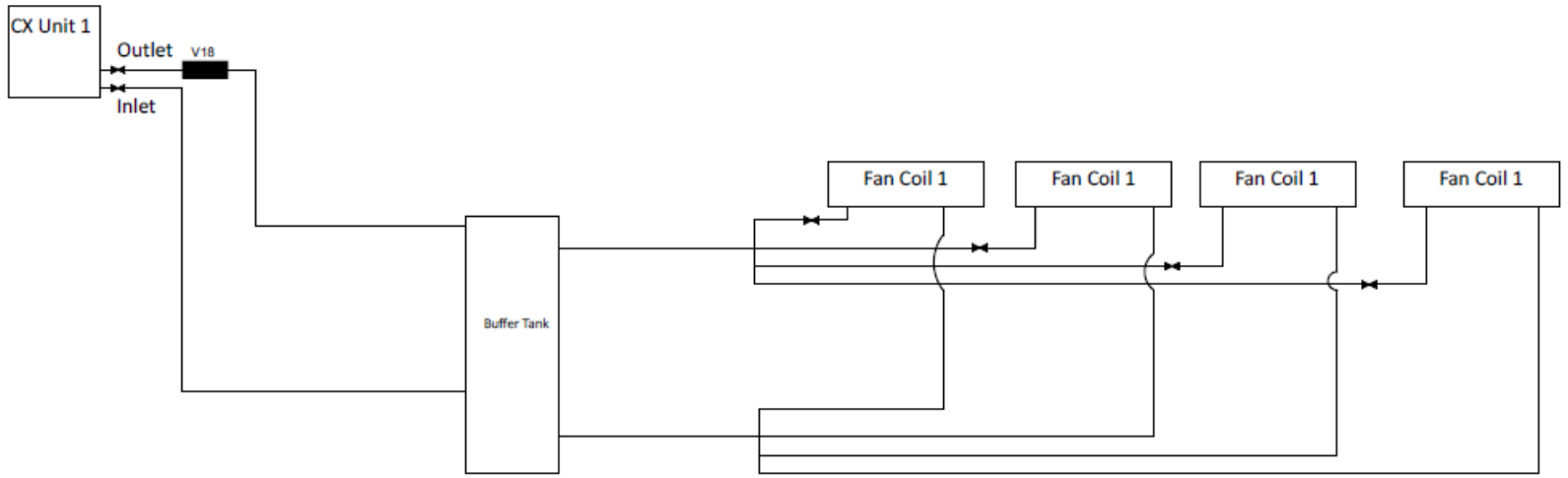
This shows traditional “manifold” way to connect fan coils. Not the preferred method, but workable if desired.



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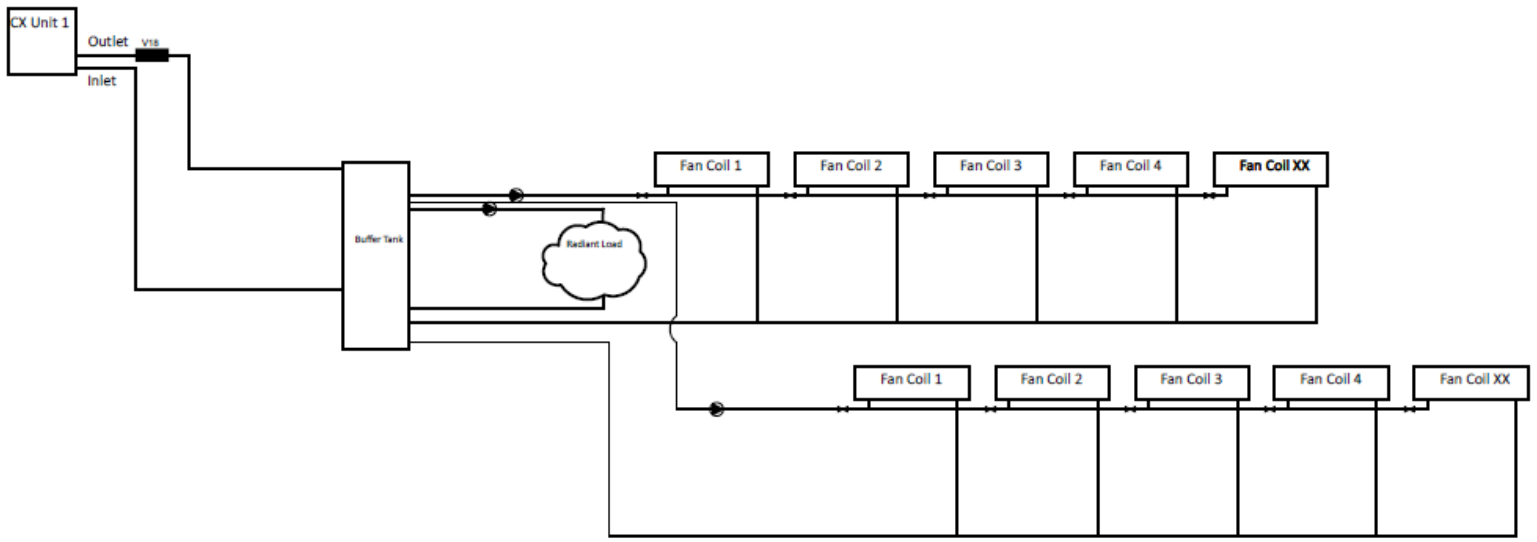
Example of a single heat pump supporting many fan coil units along with radiant. Optional V18b shown.



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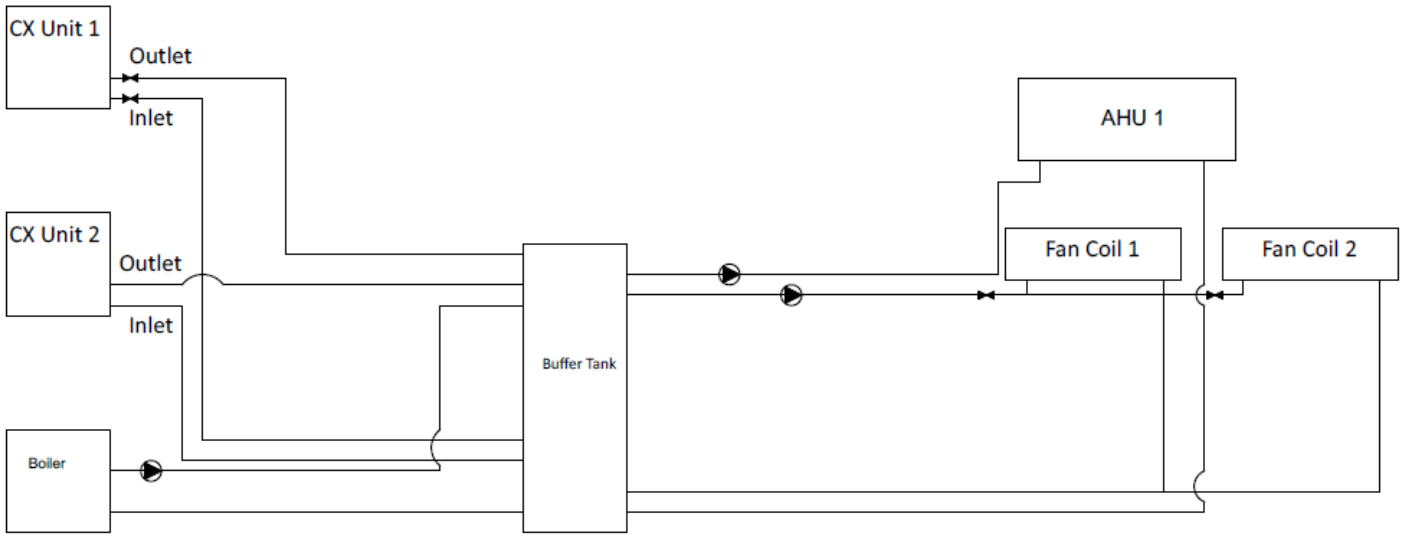
Example of two heat pumps supporting an air handler and multiple fan coil units, with an existing boiler piped in parallel to the buffer tank for backup heating.



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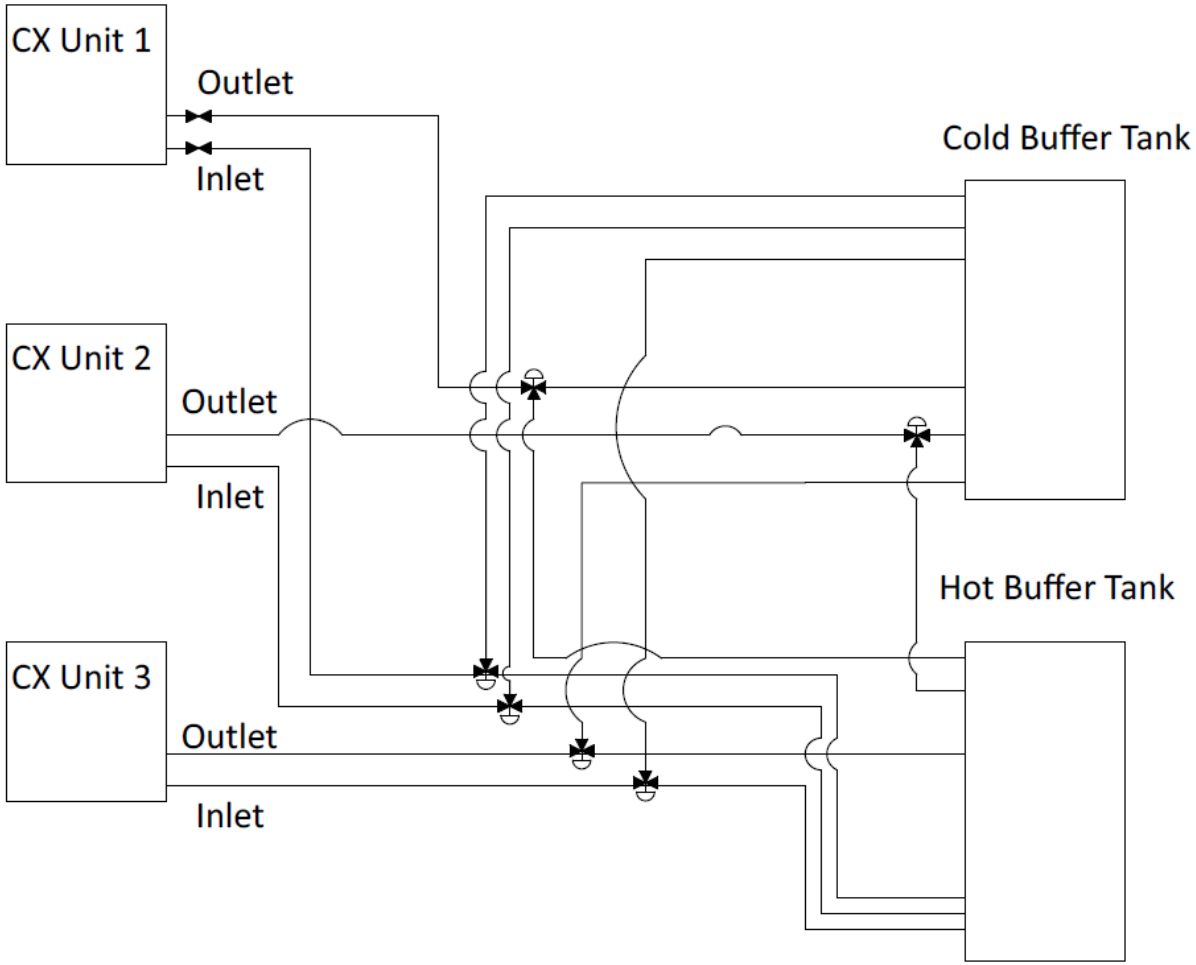
This shows a system with a hot tank and a cold tank. This is an unusual configuration, not generally needed for residential applications.

Can be configured to automatically select the number of heat pumps used for each purpose at varying times of the year. For example: In July, all 3 heat pumps connected to the cold tank. In September, 1 or 2 heat pumps connected to cold tank, 1 or 2 connected to hot tank. In December, all 3 heat pumps connected to hot tank. Highly programmable.

Load-side options not show.

DHW is also possible with this design.



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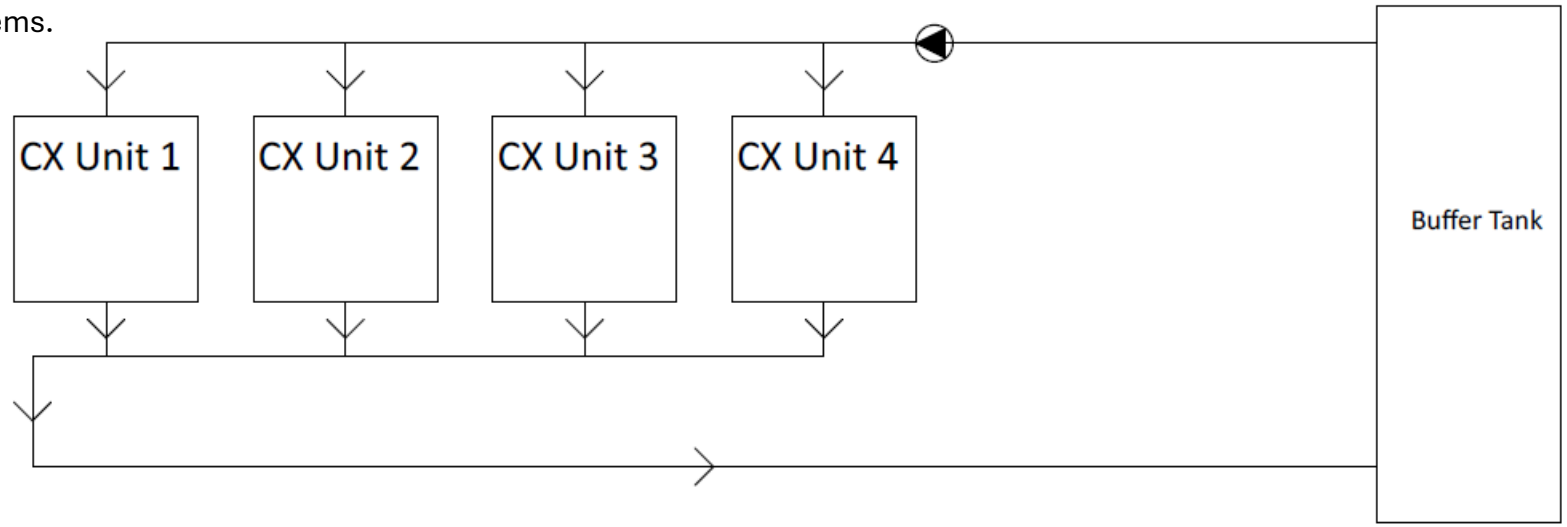
This shows a way to connect multiple heat pumps to the same buffer tank. This is only used when there is a long run from multiple heat pumps to the buffer tank area or when there are more than 3 heat pumps used together. This is not the preferred way as it requires an extra pump in addition to the internal pumps, to prevent flow problems.



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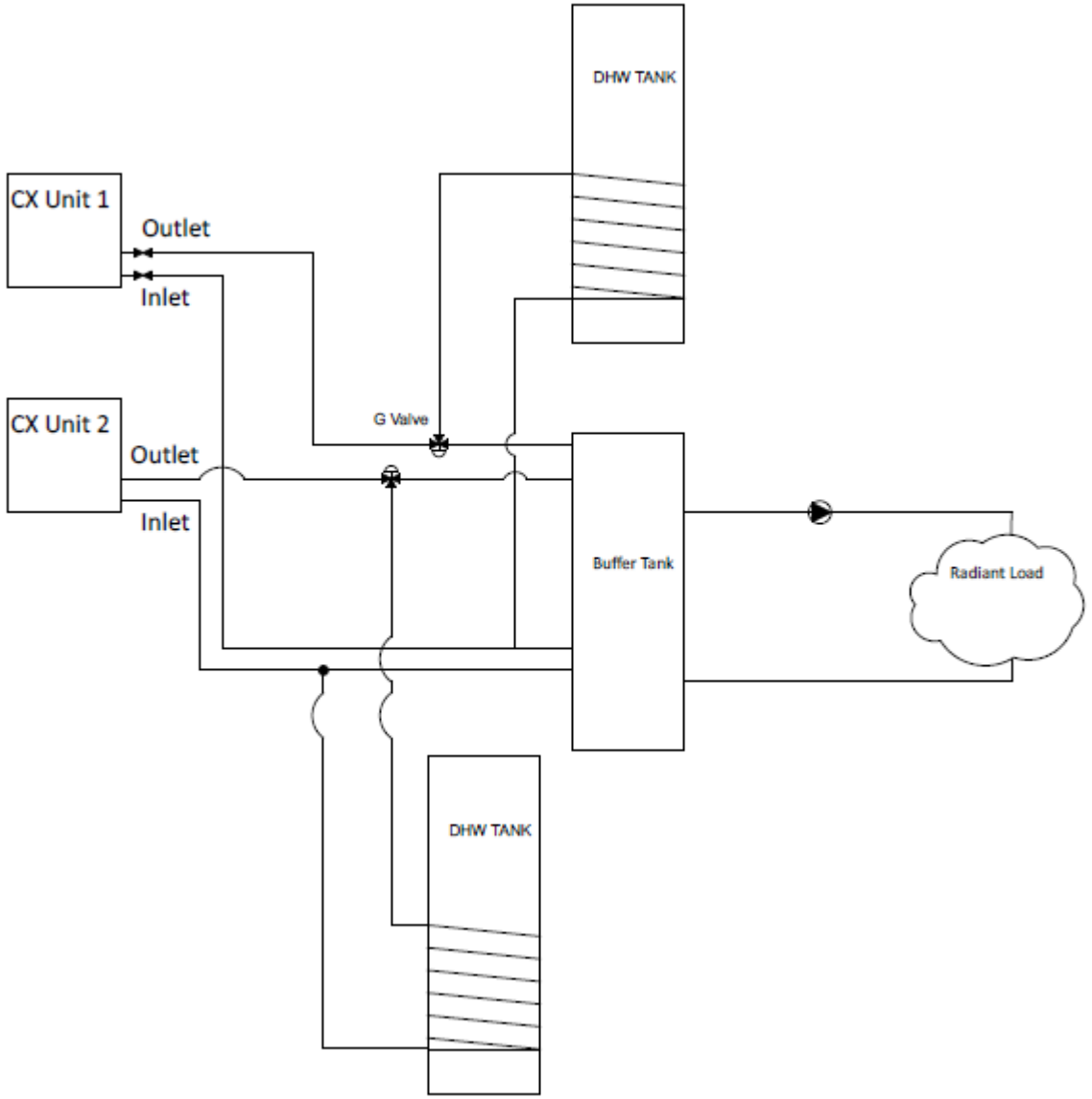
Example of using 2x DHW tanks two heat pumps is a single system with radiant heating but could easily include only one heat pump, or could also have fan coils, air handlers, etc. added.



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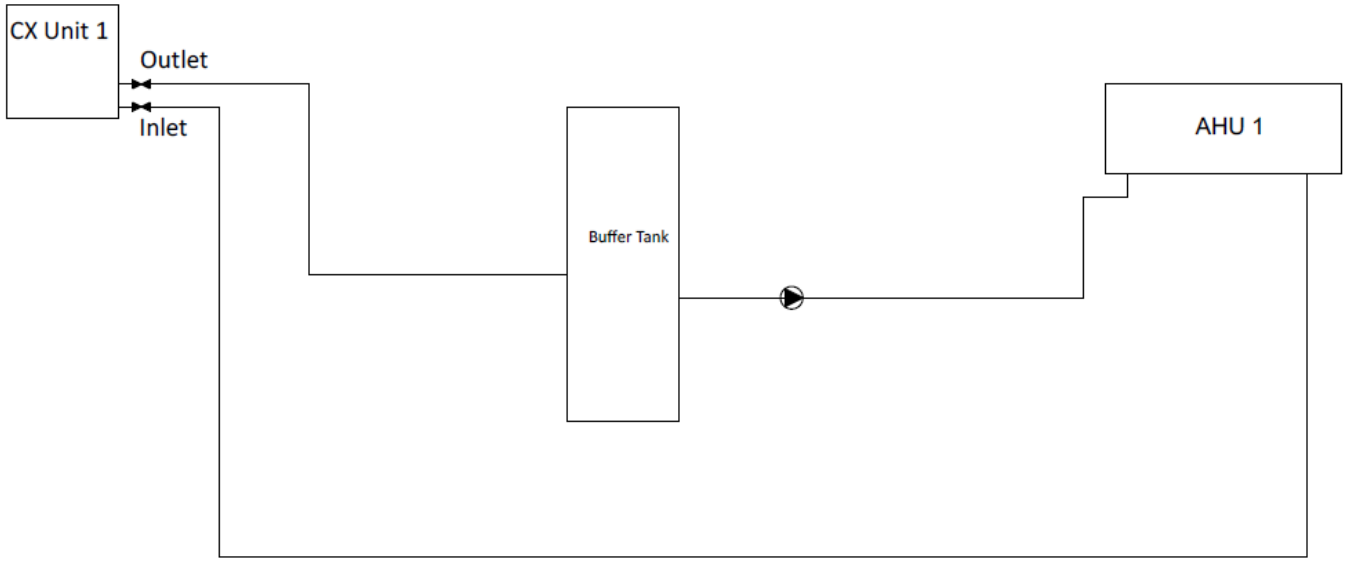
Example of a single heat pump supporting a single air handler without a true buffer tank. This design uses a tank inline to simply add more fluid volume. It relies on the internal heat pump circulating pump and avoids a 2nd pump. This can be a workable design when only one air handler is used however it is not a preferred design.



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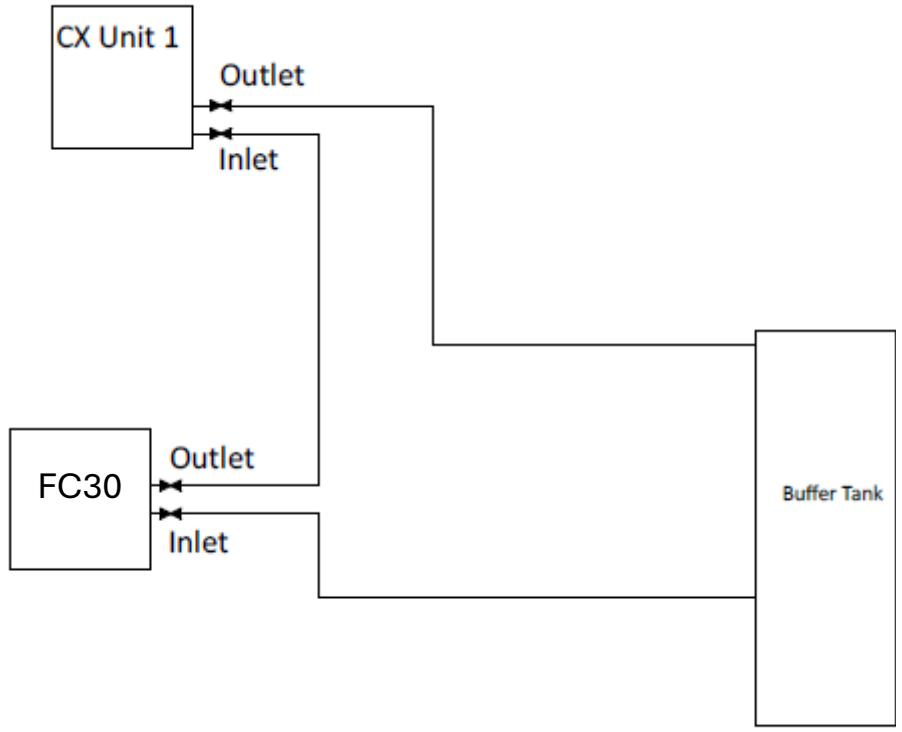
Example of a low-ambient cooling unit for server rooms or indoor growing where cooling is needed in the winter. The FC30 is a fan/coil unit with smart controls, pump, etc. that can pre-cool the return water. Activated automatically when outdoor temperatures drop, it allows large energy savings for customers who need cooling in the winter and allows cooling operation to be available as low as -50F, well below the stopping point of any normal cooling system.



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