



Process Chiller Buyer's Guide

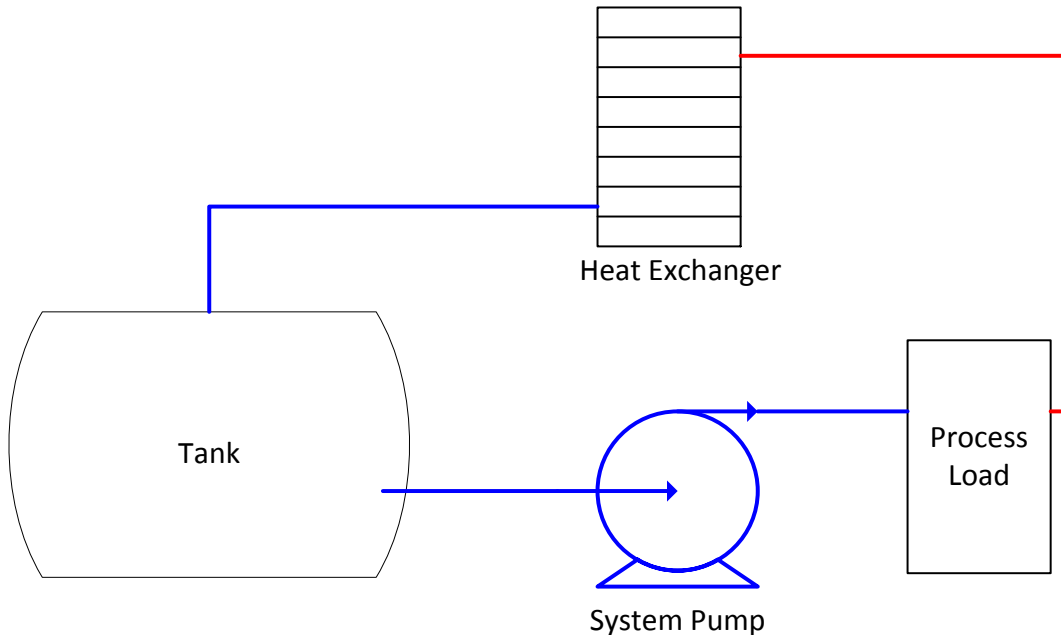
We are Challenging the Status Quo

Section Subject **Common Chiller Configurations**

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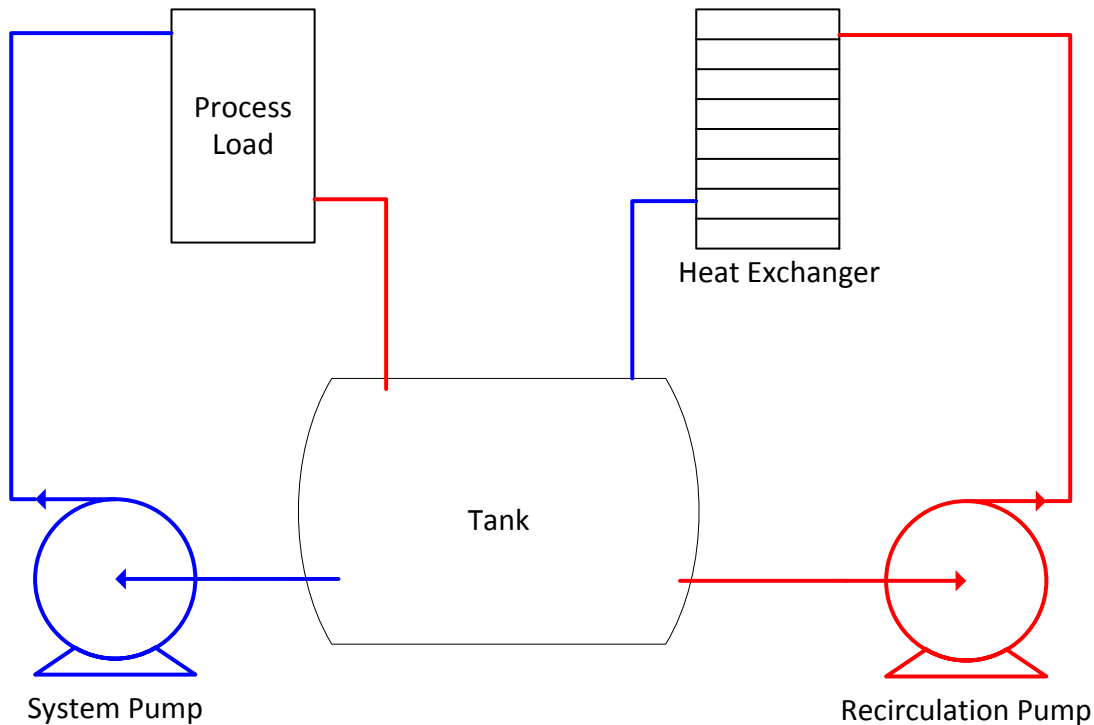
Once through: The illustration below represents a once through process cooling configuration. These applications are common for loads not especially susceptible to wide variations in process load inlet temperatures. Although this illustration shows an internal chiller tank, it is common for once through applications to not use a tank, provided the process loop has enough overall fluid volume.



Once Through System Considerations

Advantages	Disadvantages
<ul style="list-style-type: none"> • Total cost of chiller tends to be less • Lower energy costs • Slightly lower maintenance cost • Ideal for process loads that can handle a wide range of temperatures when load fluctuates 	<ul style="list-style-type: none"> • Process inlet temperatures can fluctuate with changes in load. • Chiller's refrigeration system can be impacted by way of flow changes in process. If flow drops below minimum of 2.5 GPM per ton of cooling chiller may shut down. • Pressure drop of chiller's internal heat exchanger must be considered when sizing of system pump.

Recirculation: The illustration below represents a recirculation process cooling configuration. This configuration is by far the most popular for process fluid cooling by way of its overall flexibility and reliability.



Recirculation System Considerations

Advantages	Disadvantages
<ul style="list-style-type: none"> • Provided the process chiller is properly sized, recirculation systems can provide very stable inlet temperature to the process load • Chiller's refrigeration systems are not dependent on fluid demand (or changes) in the process fluid loop • The chiller's heat exchanger are not a factory when sizing the System pump • Process loads that require less than the minimum of 2.5 GPM per ton can be serviced with no impact on the chiller's cooling operation 	<ul style="list-style-type: none"> • Slightly high maintenance costs • Higher initial investment