

Process Chiller Buyer's Guide

We are Challenging the Status Quo

Section Subject Features Matter

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Life Cycle Costs Matter: With the number of choices out there it can be a challenge to uncover the best overall value of a process chiller. One of the most effective ways to analyze the value of an investment is to first look at the initial investment versus the life cycle costs. In the graphic below, we have provided a breakdown of the eight major cost categories for a process chiller. Interestingly, the **initial cost** to purchase a process chiller is only about **10%** of the overall cost throughout the equipment's life cycle.



Plant Performance Services Group, ITT

Features Matter: Based on extensive market research, we have identified specific process chiller features known to increase the overall reliability and extend its life cycle. In the table below, we have identified each of these key features and their application within a process chiller.

Key Feature	Feature Application
Stainless Steel Evaporator	A chiller's evaporator is a critical component that removes heat from the process fluid. Constantly exposed to the process fluid, stainless steel (especially grade 316) is the most durable material to be used for fluid process cooling.
Stainless Steel Pump Impellers	Like the chiller's evaporator, the pumps impeller is constantly exposed to the process fluid. Stainless steel (especially grade 316) can dramatically extend the life cycle of a chiller.
Liquid Line Solenoid	In the refrigeration system, having an automatic liquid line solenoid valve in the system prevents migration of refrigerant in the off cycle. This prevention reduces wear on the chiller's compressor.
Powder Coated Painted Cabinet	A cabinet's paint coating is the first line of defense in protecting the chiller's internal components from the elements. The powder coating process prevents peeling or flaking paint protection.
Suction Accumulator	In the refrigeration system, a suction accumulator mounted between the chiller's evaporator outlet and the compressor provides an additional layer of protection to the chiller's compressor.
Machine Bent Copper Tubing	Copper joints in the chiller's fluid and refrigeration systems have the highest possibility of leaks. Machine bending can reduce the number of fittings by 60%, also reducing leap potential.
Hot Gas Bypass	Under low load conditions, the hot gas bypass feature provides capacity control. Additionally, this feature provides an additional level of freeze protection helping to prevent catastrophic failures.

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Features Matter



Features Matter (continued): The graphs below highlight the importance of key process chiller options.

Graph indicates potential **REPAIR COSTS** for a chiller deployed in a process application equipped with standard features . In this graph, the total potential repair expenditures in its life is:



\$14,568.00



Graph indicates potential **REPAIR COSTS** for a chiller deployed in a process application equipped with upgraded features . In this graph, the total potential repair expenditures in its life is:

* \$8,535.00

* 59% reduction in repair costs





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