

Features and Benefits Comparison Self-Contained Refrigeration Systems vs. Split Systems*

Self-contained refrigeration systems offer a seemingly simple solution to refrigerating a walk-in cooler or freezer. But, self-contained systems cost more to operate and maintain than split systems. Also, self-contained system performance rarely satisfies the box load requirement as well as a split system does.

Split systems are lower cost in initial purchase but initial install costs are higher. Split systems are designed to meet box load requirements exactly. Split systems are more energy efficient than

self-contained systems and maintenance costs on split systems are lower.

Self-contained systems do require start up by a qualified refrigeration mechanic. During start up, the mechanic checks refrigerant levels as well as operating temperatures and pressures. This start up check rarely takes place, setting up an early service call. Split systems are professionally started with all operating conditions set and checked at time of installation.

	Self-Contained System*	Split System*
Power Consumption – Cooler	Lower consumption	1.1% greater consumption
	Lower cooling cap	3.5% greater cooling cap
Power Consumption – Freezer	Higher consumption	16% lower consumption
	Lower cooling cap	4.9% greater cooling cap
Air Distribution	Poor	Superior
CFM	Lower	Higher
Average ambient operating temp	Higher – shortens compressor life	Lower
Service/Maintenance	Higher	Lower (location and access are easier)
Install costs	Lower	Higher (offset by equipment/service costs)
Equipment cost – Cooler	Higher (24% on average)	Lower (w/higher install costs)
Equipment cost – Freezer	Higher (47% on average)	Lower (w/higher install costs)
Efficiency	• Lower	• Superior
	• Kitchen-located condensers get dirty faster and are harder to reach.	• Outdoor-located condensers are in a cleaner environment and are easier to clean.
	• Compressor life shortened if not cleaned regularly.	
	• Move heat from walk-in into kitchen area.	• Move heat from walk-in to outdoors.
	• Inefficiency adds to operating costs.	
Design Factors	• Non-specific design.	• Application-specific design.
	• Deliver marginal performance in many cases.	• Performance-designed.
Refrigeration Contractors	• Initially not present	• Ensure correct installation and start-up, assume warranty responsibility.

Cost Comparison Self-Contained Refrigeration Systems vs. Split Systems

	COOLER*		FREEZER*	
	Self-Contained	Split	Self-Contained	Split
Cost	\$1,458	\$1,176	\$2,133	\$1,449
CFM	500	1460	900	1400
BTUH	7630	7894	5360	5625
Amps	9.3	9.4	15.3	12.8
Watts/hr	1934	1955	3182	2662

Note: Even while drawing more amps and using more watts per hour, the cooler with the split system costs less overall because of its greater cooling capacity.

*Cooler Condensing Unit – 1/2hp 208-1 Freezer Condensing Unit – 1.5hp 208-1