



Field Study:

Belle Plaza

Niles, Michigan

The Reihl Coil Evaporator Technology

At a mid-sized grocery/convenience store location in Berrien County, Parker Arntz installed The Reihl Coil on a walk-in dairy display case. Through the use of electrical monitoring equipment, they were able to determine the upgrade brought a reduction of 86% of the kilowatt hours used between the evaporator coil and the condensing unit in late December and early January of 2013/2014. For this particular business, changing the evaporator coil in one walk-in cooler display case equaled an estimated annual savings of 28,527 kilowatts or \$3,423.

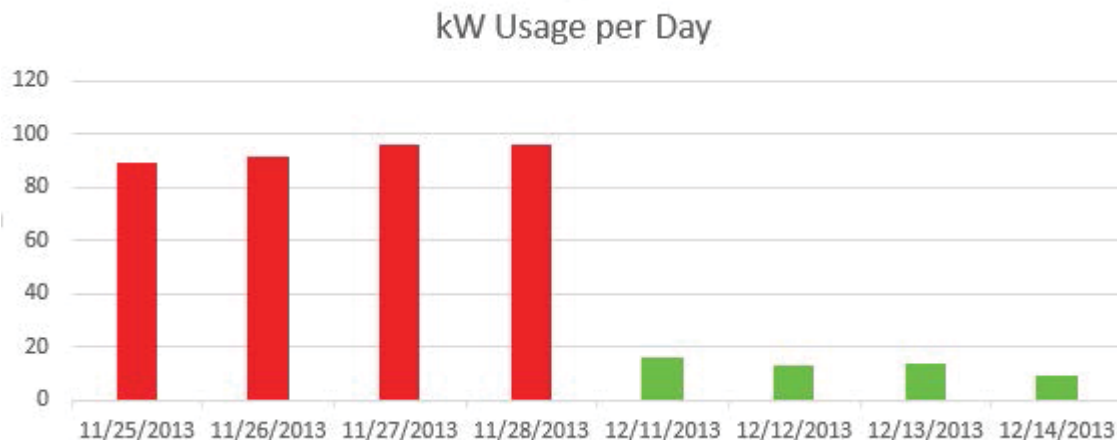
Though the evaporator and condenser showed a savings of 86% during the period, with further adjusting of the system Parker Arntz believes their customer will see even more savings.

Conservatively assuming 28% of the total electric usage of the business is for refrigeration, if there were more evaporator coils that needed to be changed at this location and the savings of 86% is constant, the total annual kilowatts used would be reduced by approximately 28,500 per unit and cost savings would be approximately \$3,400 on each additional unit. If the preexisting refrigeration system was less efficient and accounted for 38% of the total electric usage, total annual kilowatts used would be reduced by approximately 38,600 and the cost savings would be approximately \$5,400.

The charts below show the 86% combined decrease in kilowatts used and cost per day for the evaporator and condensing unit on the walk-in display cooler in the time period before (pre test) and after (post test) the evaporator was upgraded to The Reihl Coil technology.

Red Indicates Pre-Reihl Coil Installation Data

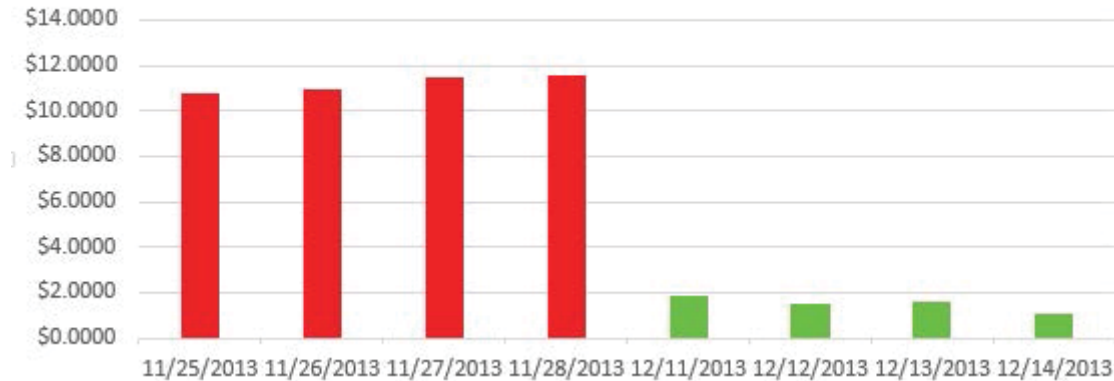
Green indicates Post-Reihl Coil Installation Data



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Cost per Day



What Can This Technology do for You? - Determine Your Potential Cost Savings

In order to calculate a rough estimate of potential savings for your food sales or food service business, first find the total annual kilowatt hours and costs from your recent electric utility bills. So as to not overestimate savings, assume that 28% of the total kilowatts are used for refrigeration.¹ Next, calculate 86% of that number; this number is a conservative estimate of your potential savings.

Monthly	Preinstall	Post-install	Savings	Efficiency Improvement
Composite:	2729.20	384.48	2344.72	86%
Cost (0.12c/kWh):	\$ 327.50	\$ 46.14	\$ 281.37	

Yearly	Preinstall	Post-install	Savings	Efficiency Improvement
Composite:	33205.24	4677.84	28527.40	86%
Cost (0.12c/kWh):	\$ 3,984.63	\$ 561.34	\$ 3,423.29	

System Efficiency Improvement = 86%

Calculation Equations
System Composite Energy = Condenser Energy + Fans Energy
Efficiency Improvement = ((Pre Install Energy - Post Install Energy)/Pre Install Energy) X 100%

This study was completed by the previous owner of the product known as CoolVap.

¹ If the existing refrigeration system in your business is less efficient, your savings could increase beyond the numbers shown here.