



Refrigeration & HVAC, Inc.

Reducing Refrigeration Costs Through Optimal System Performance

A leader in the food industry for over 90 years, Spartan Stores operates a chain of more than 100 grocery stores in the state of Michigan.

Spartan is unique in that they have grown their chain through acquisition rather than building new stores. That presented some challenges when initiating energy efficiency projects.

The equipment and controls Spartan inherited in these acquisitions varied in condition, and, because of this, they knew that their stores were not operating at optimal energy efficiency. Spartan needed a plan to address critical issues first.

They selected a national refrigeration company to help them address their issues, but the results were not ideal, so they went in search of a company that would partner with them for success.

“We realized a reduction in refrigeration costs across all eight stores, ranging from 6 to 17 percent.”

- Ray Webb, Energy Specialist for Spartan Stores

Source Refrigeration was contracted to help Spartan address this challenge. Source Refrigeration helps businesses that rely upon their refrigeration and HVAC systems to optimize energy efficiency, minimize environmental impact and reduce total cost of ownership.

PROVING RESULTS AT A PROBLEM STORE

Spartan selected a pilot store to test Source Refrigeration's services. This store was identified as a 'problem store' in the chain, and Spartan believed Source's services could make a positive impact on its energy efficiency.

“Source came in and evaluated the current state at the pilot store,” said Ray Webb, Energy Specialist for Spartan Stores. “They made several recommendations for improvement. After implementing the most critical and cost-effective upgrades, our energy efficiency was significantly improved and we realized a savings of 15-18% off of our refrigeration costs.”

“We were able to take these results to management as a 'proof of concept' and get the backing to move forward with the rest of the chain,” added Webb. “Source surveyed about 80 locations in the Spartan Stores chain and we selected eight locations to move forward with Source's services.”

“These eight stores were chosen because we could most easily make upgrades to them in a cost-effective manner,” said Webb. “At the other stores, much of the equipment needed to be replaced and we wanted to focus Source's work where it could make the most impact on our energy costs.”

PRESENTING A PLAN OF ACTION

"One thing that was really great about Source's team was that they didn't just come in with a blanket plan for the entire chain," continued Webb. "They customized the energy efficiency plan for each store."

"Source presented us with a detailed list of recommendations to improve our energy efficiency at each location," said Webb. "We implemented the most cost-effective changes first, recommissioning some equipment and purchasing new for a few things."

RESULTS

- Reduced refrigeration costs 6 -17%
- Increased energy efficiency
- Reduced risk of product loss
- Improved refrigeration system performance

ADDRESSING THE ISSUES

"Source helped us correct several of the issues outlined in their recommendations," said Webb. "They reprogrammed our systems and replaced some of our control units with updated technology."

"They adjusted the super heat settings in our cases to ensure the cases weren't being flooded with refrigerant and made sure they were being monitored properly," added Webb. "They adjusted the programming controls on multi-cases so there wasn't excessive use on the compressors from one case."

"They 'settled down' our compressors by reducing excessive cycles," continued Webb. "They also made adjustments so the suction pressure is more stable, which made the minimum/maximum temperature range tighter. These adjustments helped make our refrigeration system more energy efficient."

"At one store, Source identified that our main air handler evaporator wasn't operating properly," said Webb. "It was making our refrigeration system overwork and causing the cases to ice up. They cleaned the coils and it fixed the issue."

"Overall, their improvements made our refrigeration system perform better," said Webb.

MANAGING SENSITIVE RELATIONSHIPS

"In addition to adjusting and upgrading our current equipment, there were some things that simply needed to be replaced," said Webb. "Upon Source's recommendation, we contracted that work out to local refrigeration companies." "We work with three major refrigeration contractors in Michigan on a regular basis, and we wanted to be sensitive to our relationship with them," shared Webb. "Source did an excellent job of working with our contractors to ensure they understood the relationship and didn't feel threatened. It really made everyone's working relationship much stronger."

DELIVERING ENERGY EFFICIENCY RESULTS

"The fact that Source customized their plan for each store meant that the energy efficiency results we achieved also varied," said Webb. "We realized a reduction in refrigeration costs across all eight stores, ranging from 6 to 17 percent depending upon location."

"We're quite happy with the reduction in refrigeration costs and with the service that Source provided," added Webb.

PLANNING FOR THE FUTURE

"When we build new stores, energy efficiency is at the top of the list," said Webb. "We currently have one Energy Star rated store and we have one LEED certified store in design."

"However, when we look to remodel existing stores, we'll continue to work with Source on the energy efficiency plans for these remodels," closed Webb. "We're very pleased with the service we have received and the results we have been able to achieve thanks to Source."