



## Sporlan Supermarket Test Lab

Where Refrigeration Systems are Put to the Test

aerospace  
climate control  
electromechanical  
filtration  
fluid & gas handling  
hydraulics  
pneumatics  
process control  
sealing & shielding



ENGINEERING YOUR SUCCESS.

# Bringing the Real World Environment to the Lab

One of the most demanding refrigeration environments—today’s supermarket—demands the most advanced equipment testing methods available. Sporlan has it: the Sporlan Supermarket Test Lab.

Developed by Sporlan engineers and now operating within our Washington, Mo. division headquarters, the Sporlan Supermarket Test Lab is the refrigeration industry’s most modern, comprehensive and sophisticated supermarket test lab. It puts component and systems testing methodologies where they are needed most—within the supermarket itself.

We’ve taken testing to the next level with a million dollar facility that mimics a wide spectrum of real life supermarket operations.



Island cases

# Finally, the Kind of Data We All Want

Encompassing an impressive array of rack control, defrost options, heat recovery, sub-cooling, direct expansion and secondary systems, the Sporlan Supermarket Test Lab is fully outfitted with temperature, pressure and flow instrumentation to generate the kinds of real-world data needed for equipment decision-making.

Fully staffed by test and product development engineers, the Supermarket Test Lab incorporates complete control of indoor ambient conditions that meet ASHRAE standards of 75°F and 55% humidity along with tightly controlled outdoor ambient conditions from +10°F to +110°F, the test lab is commissioned to:

- **Baseline current technology performance and compare it to alternative electronic advancements and strategies;**
- **Provide real-time, head-to-head efficiency improvement comparisons with the ability to control indoor and outdoor conditions;**
- **Profile case temperature control performance during holding load and link to reduction in product shrinkage;**
- **Pull down performance following defrost comparison;**
- **Evaluate strategies to reduce the number of defrosts per day to save energy;**
- **Evaluate system control strategies and collect solid data on energy savings and system performance.**

Refrigeration Rack Control Panel



# Systems Development, Optimization and Maintenance

Utilizing testing protocols available through the Sporlan Supermarket Test Lab, engineers have the perfect platform to help train service personnel on new and existing technologies, develop and evaluate various networking topologies and conduct root cause analysis of problems being encountered in the field.



Monitoring room

Our lab is optimized to:

- Analyze and quantify the benefits of control system integration;
- Develop intelligent secondary glycol control strategies to save energy;
- Evaluate actual system performance and efficiency during dynamic indoor and outdoor conditions;
- Improve and quantify overall store control strategies using Micro Thermo Technologies store controllers;
- Test intelligent head pressure control strategies with DX systems;



Dairy cases

- Evaluate the performance of capacity control strategies;
- Evaluate and develop various demand defrost control schemes, and
- Develop store ambient control strategies.

## Even Better Research and Development

At Sporlan, we are testing new flow control technologies in real-world system applications, developing new technologies for enhanced energy savings and systems performance, and exploring the next generation of refrigerants.

Our new supermarket is where we:

- Evaluate new flow controls performance and functionality in real-world environments;
- Develop adaptive superheat and glycol valve control algorithms;
- Test advanced electronic valves and controller tandems;
- Test new sensors;
- Test control strategies and temperature control performance, and
- Develop next-generation natural refrigerants.

Freezer cases





Outdoor Ambient Room



Outdoor Ambient Room Support Rack



Outdoor Ambient Room Support Rack Controls



Heat Recovery

## Visit our Supermarket

You are invited to see our Sporlan Supermarket Test Lab in operation, and even to put it to the test yourself. For more information, or to arrange for an on-site inspection, contact your Sporlan representative.

