



SPECTRUM™ Multi-Temperature System

Featuring the easy-to-use SR-2 (Smart Reefer™ 2) controller.





SPECTRUM multi-temperature systems lead the way in

advanced cargo protection.



Thermo King's temperature control systems for trailers usher in a new era in transport refrigeration. Fueled by growing concerns over temperature inaccuracy and contamination of perishable food products, governments and customers worldwide are demanding tighter control and more accurate monitoring of temperatures throughout the "cold chain." Regulatory bodies have become industry partners in this effort, creating the Hazard Analysis Critical Control Points (HACCP) as a means of control.

At the same time, transport companies continually seek greater fuel efficiency, along with systems that run quietly and are easy to operate. The new SPECTRUM system meets these new challenges head-on, by incorporating the latest technology and innovation into the industry's most advanced temperature control system. Reliability, temperature control, fast pull down, ease of use, fuel efficiency, quiet operation ... they're all here. The SPECTRUM systems do it all ... and nobody does it better.

Easier than ever to perform a yard check.

The SR-2 controller provides an enlarged display screen with an oversized display of the cargo temperature and system setpoint value. This simple but effective feature allows for a quick check of units in the yard. At a glance you can verify that equipment is functioning properly. In addition, Thermo King's optional remote status light also offers that instant assurance that your system is running as it should.

Optional Rear Remote Control.

- Convenient location for operator
- Set/check all temperatures
- Turn each zone on or off

Electric standby saves fuel and reduces emissions.


The SPECTRUM with optional electric standby allows the unit to run on electric power, reducing emissions and saving fuel.

SPECTRUM™ Features:

- High performance
- Low fuel consumption
- Whisper™ Quiet operation
- Smart Set™ control for optimum temperature control
- Smart Reefer 2™ (SR-2) controller
- Easy to operate
- Easy to monitor
- Low maintenance
- Hybrid option

Thermo King is the Green Leader

Thermo King offers industry-leading products and solutions that enable businesses around the world to reduce energy consumption and costs and decrease harmful environmental emissions.

The  symbol indicates a feature that delivers a significant environmental advantage over previous models or the competition.

Reduced Maintenance

EMI-3000, Extended Maintenance Interval includes a special 12,000 hour coolant and high grade mineral oil to significantly extend service life.

- Reduces clean up and disposal costs
- Reduces environmental impact with less spillage and less waste
- Extends engine life
- Reduces maintenance cost up to 45% over competitive models
- Contributes to less operating cost
- This highly touted package features specially designed oil, fuel and air filters

Meeting the challenge of product integrity.

SPECTRUM Incorporates Thermo King's exclusive Whisper™ Quiet technology.

With noise pollution becoming an increasing problem, the Whisper technology built into every SPECTRUM unit offers welcome added value. What makes it whisper quiet? Special Whisper quiet sound deadening components like an extremely quiet engine, tuned intake resonator, special exhaust system and muffler soundproof material, special door gaskets and sound-absorbing door provide a refrigeration system that's a full ten decibels quieter than standard competitive units. As an example, it would take the noise level of ten SPECTRUMS, all operating at the same time, to equal the noise level of one standard competitive unit.

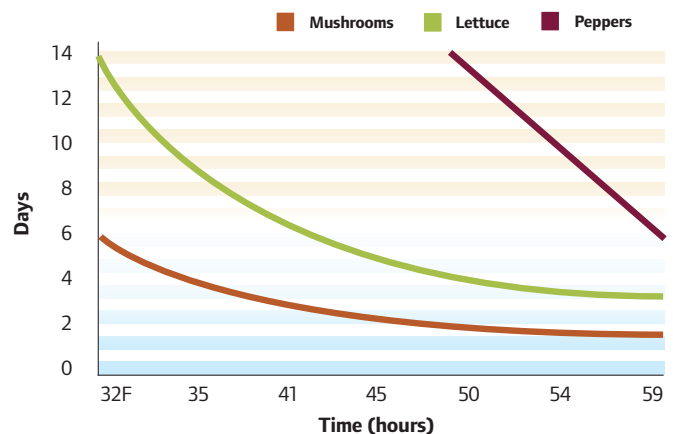
Faster pull down and recovery

It's simple math. The faster you can get the trailer temperature pulled down to the required level for the cargo, the faster you can load and be on the road. SPECTRUM systems achieve the fast recovery through increased capacity - up to 35% more - which results in a 20% faster pull down. Aside from reduced wait time, that also means improved shelf life of perishable products and less fuel consumption because of reduced unit run time.

Tighter control.

Tight temperature control in food storage and distribution is essential to ensure food safety and quality. Small variations in temperature can significantly affect the shelf life of sensitive produce. For example, a difference of 1°F can reduce the shelf life of lettuce by approximately a day.

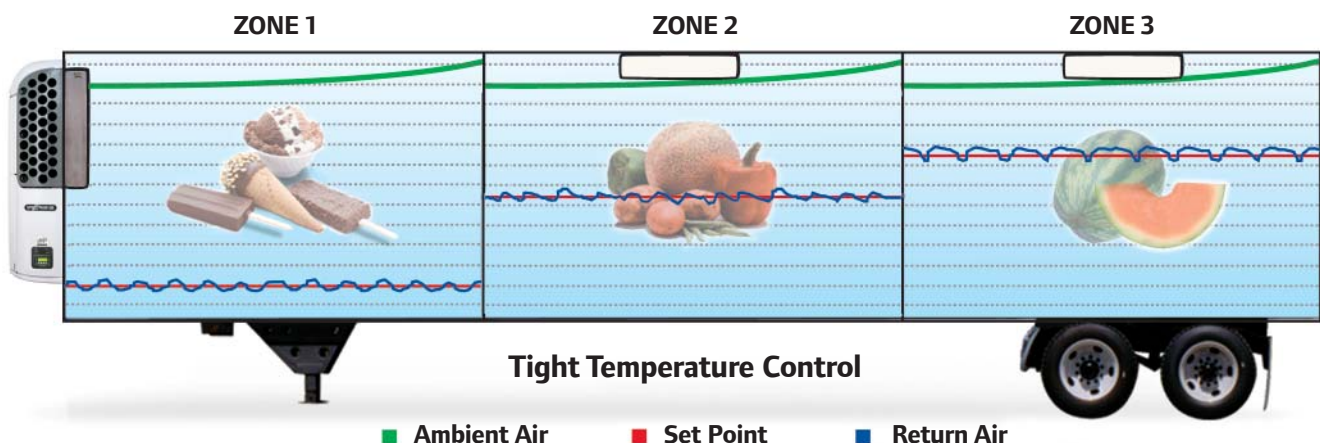
Temperature Control and Shelf Life



SPECTRUM provides perfect temperature balance in up to three different zones.

Thermo King's Smart Set™ is one of the latest advancements and typical of Thermo King technology - deriving an additional benefit while improving on another. Fresh cargo has always had an advantage with a Thermo King refrigeration unit. With Smart Set, fresh cargo receives precise temperature control. In addition, reduced fuel consumption is realized

at all operating ranges. Cool moist air circulates throughout the entire cargo area, thereby keeping dehydration to a minimum and allowing fresh produce to be delivered in the freshest state. The illustration below shows a host unit and two separate remote evaporators maintaining tight control in three zones.



The powerful, SR-2 controller offers not just temperature control, but

Total Temperature Management.



Extremely easy to use, simple text display for:

- Changing setpoint
- Customer selectable alarms
- System performance monitoring
- Start of trip
- Viewing all zones at the same time

Enhanced safety and security for load protection is even more effective with:

- Keypad with lock-out
- Mode-lock
- Phase-correction
- Diesel/electric auto switching
- Setpoint warning
- Analyze and store data using Wintrac® software

So smart it can speak 21 languages with a multi-lingual text menu:

- Records all operational parameters
- English, Spanish, French, German, Italian, Dutch, Danish, Norwegian, Swedish, Finnish, Russian, Plus 10 other languages

CargoWatch™ provides temperature and system data for HACCP plan.

- 6 temperature sensors/probes
- 4 door switches
- Humidity sensor
- Data averaging
- Programmable, temperature out-of-range alarms (optional)

ServiceWatch™ built in preventative maintenance logger is standard.

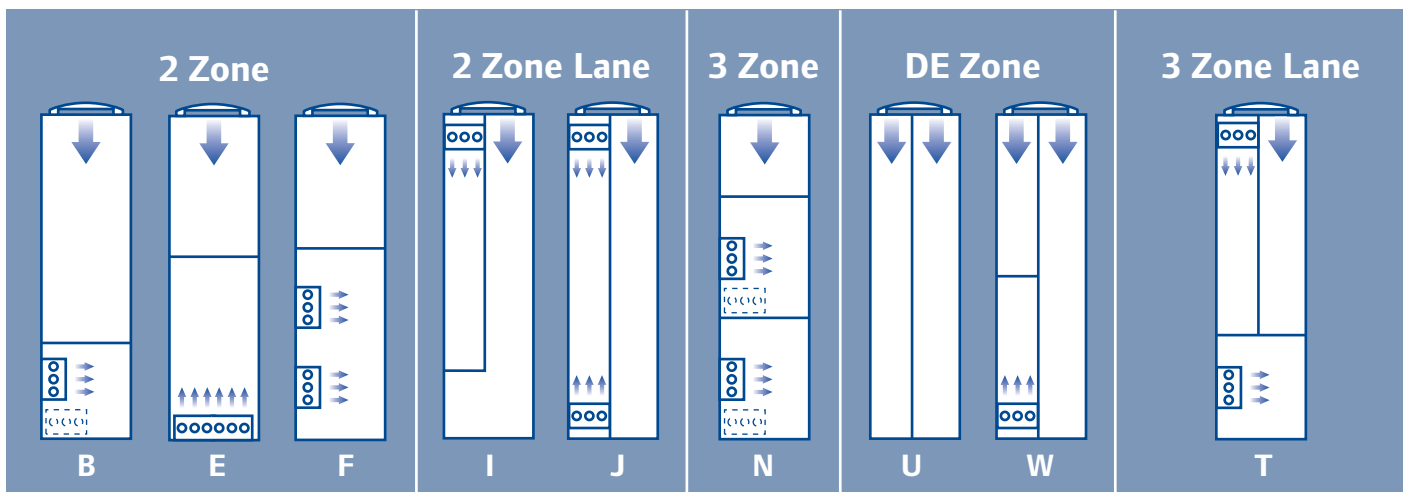
- Provides improved diagnostics
- Keeps track of system performance and functionality

Improved diagnostics to understand and respond to problems including:

- A comprehensive listing of alarm codes with text descriptions
- Customer-selectable alarms
- A service test mode

SPECTRUM™

Multi-Temperature Zone Plans





Key Features and Options

Standard

- Smart Reefer 2™ controller
- SmartSet™
- EMI-3000
- Whisper™ Quiet technology
- Long-life coolant/silicone hoses
- Electric Standby (SB 50)
- Standard unit color white
- Standard grille color black
- Directional air delivery
- Vibration isolation system
- Aluminum undermount fuel tank 50 gal. (186 liter)
- Alternator, 120 Amp, 12 Vdc (SB)
- Alternator, 60 Amp, 12 Vdc (DE)
- CargoWatch™
- Service Watch™

Options (Factory Installed)

- Remote status light
- Special color grilles white or gray
- Fuel heater
- Frost plug heater
- Fresh Air Exchange
- Spectrum S-3 Remote EVAP

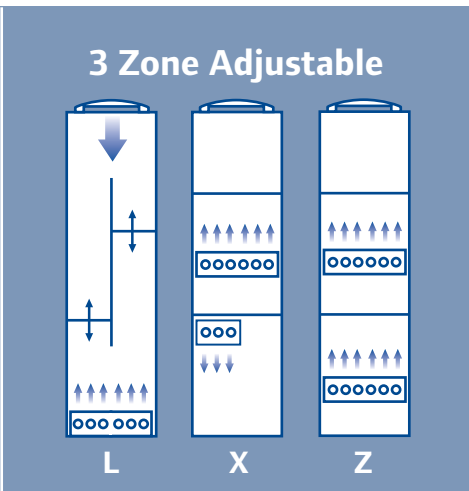
Options (Dealer Installed)

- Thermo King bulkhead
- Rear remote control
- Electronic door switches
- EON battery



Remote evaporators make each temperature zone like **an individual trailer.**

Designed with high airflow and large capacity, the SPECTRUM S-3 Remote Evaporator is the perfect complement to the SPECTRUM host units. Like a Thermo King host unit it was also built to last being both durable as well as efficient.



Return Air

To Evaporator	Btu/hr	Watts
35°F (1.7°C)	29,600	8,675
0°F (-17.8°C)	18,400	5,395
-20°F (-28.9°C)	11,950	3,500

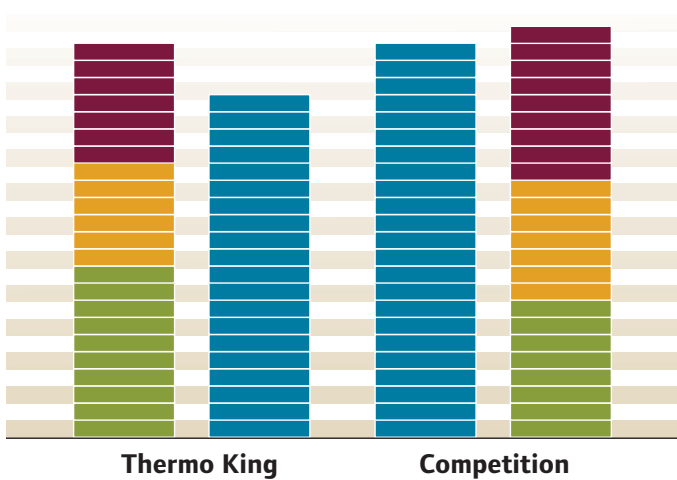
Airflow=1200 CFM

The most economical multi-temperature systems available.

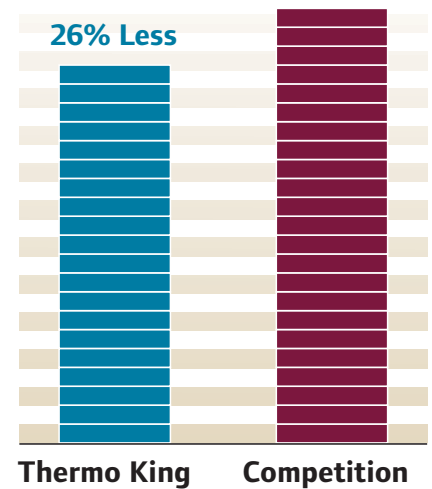
You want performance to protect your load and power to accelerate your cycle times. But at what price?

The combination of price together with fuel costs, maintenance costs and resale value defines the equipment's Total Life Cost. The low fuel consumption of our SPECTRUM systems, our fixed cost maintenance contracts and our superior resale value mean you can have the best for less.

Fuel contributes around 40% of the total life cost of a temperature control system. Competitive products can consume over 20% more fuel. That's 20% higher fuel costs. A typical SPECTRUM is up to 100 lbs. lighter than its nearest competitor. That means less wear and tear on the tractor/trailer. And more revenue generating payload before you weigh out.



- Purchase Price
- Fuel
- Maintenance
- Life Cycle Cost
(Purchase Price + Fuel + Maintenance - Residual Value)



**Expert Service
and Support are as
close as this sign.**

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Thermo King Dealer Network.



Over 200 factory-authorized service centers nationwide—
find one nearby at www.thermoking.com

System Performance

Description

High-capacity, frontmount, diesel or diesel/electric-powered cooling and heating units in combination with remote evaporators allowing for multiple temperature zones inside the same trailer.

Models available

SPECTRUM SB Model 30, SB Model 50 with Electric Standby and DE Model 30: Cooling and heating on engine operation using R-404A refrigerant

Operation

- Continuous run/Cycle-Sentry™
- Automatic defrost initiation
- Programmable defrost timer

Engine

TK486V direct-injection diesel

- Four-cylinder, liquid-cooled
- API classified CI mineral oil after break-in
- 15 qt (14.2 liter) oil capacity
- 34.0 hp rating operating at 2200 rpm
- 3000 hour maintenance intervals
- Meets EPA emissions requirements for Tier 2 through 2007 and Interim Tier 4 through 2012 (applies to units with an engine serial number beginning with "V" or manufactured after April, 2005)

Compressor

- Model X430L
- 30.0 cu in (491.6 cm³) displacement
- High-strength forged crankshaft
- Lightweight, aluminum alloy body, heads and sump
- Replaceable cylinder liners
- Vanasil® ringless pistons
- Gerotor oil pump

Refrigeration capacities

System net cooling capacity at 100°F (38°C) ambient and high-speed engine operation.

Return air

SPECTRUM SB

To Evaporator	Btu/hr	Watts
35°F (1.7°C)	51,000	14,950
0°F (-17.8°C)	31,000	9,085
-20°F (-28.9°C)	20,000	5,861

SPECTRUM DE

To Evaporator	Btu/hr	Watts
35°F (1.7°C)	45,000	13,188
0°F (-17.8°C)	29,000	8,499
-20°F (-28.9°C)	17,200	5,041

Specifications

Dimensions

Inches (Millimeters)



Weight

SPECTRUM SB 30/DE

1635 lbs (742 kg)

SPECTRUM SB 50

1885 lbs (855 kg)

Fuel tank, 50 gallon

35 lbs (16 kg)

Warranty

Terms of the Thermo King Warranty are available on request from your local Thermo King dealer.



Providing equipment and services to manage controlled-temperature environments for food and other temperature-sensitive products, our Climate Control Technologies sector encompasses both transport and stationary refrigeration solutions. Our product brands include Thermo King®, a world leader in transport temperature control systems, and Hussmann®, a manufacturer of refrigeration and food merchandising equipment.

www.thermoking.com www.hussmann.com www.ingersollrand.com

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