



# T-90 Series

*Delivering the capacity, reliability and uptime that fit your demanding schedule, the new T-90 Series of self-powered truck refrigeration units truly offer **MORE.***



TRANE  
TECHNOLOGIES



THERMO K





***ON THE INSIDE:***

- 6. MORE Capacity***
- 8. MORE Savings***
- 10. MORE Reliability***
- 12. MORE Technology***
- 14. MORE Options***



*Since 1938, Thermo King's priority has been to develop innovative products that meet and exceed the ever changing needs of our customers.*

# MORE

The development of the T-90 Series of refrigeration units for straight trucks continues the legacy of customer-focused innovation. Taking our self-powered truck refrigeration models to a new level, the next-generation T-90 Series offers the right solutions for today's challenges. Whether you're looking for more capacity, trustworthy reliability and performance, fuel efficiency, unprecedented temperature pull-down and recovery, convenient maintenance intervals, or all of the above, the T-90 Series will not let you down.



*The T-90 Series is your solution for everything from fresh produce to ice cream and everything in between. Providing higher overall cargo flexibility and immediate value.*

*More*

# CAPACI

Improved coil designs, optimized engine management, along with many additional improvements, deliver elevated performance — performance that boasts increased capacity of up to 35 percent.

## **Thermo King Reciprocating Compressors**

The entire T-90 Series features the latest Thermo King designed and manufactured reciprocating compressors that surpass the technology of the past. With continuously improved reliability, today's X-214 and X-430 reciprocating compressors are a key component of our new design.

But don't just take our word for it. Documented reliability testing of these compressors has proven the quality improvements yielded over the past 10 years.

## **Taking it to the MAX**

Customers who need maximum capacity have new options that offer even more capacity. Choose confidently from the T-1090 MAX, T-890 MAX or T-690 MAX models to best meet your extreme temp control requirements, all featuring larger coils and heat exchangers, optimized compressor and engine speeds, and a sound-reduction kit to deliver quieter performance.



THERMO KING

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*When it comes to fuel savings and reduced maintenance costs, the T-90 Series sets the industry standard.*

*More*

# SAVING

With an extended maintenance interval (EMI) of 2,000 hours — the longest in the industry — downtime and costs are minimized. With longer maintenance intervals, you save money by reducing environmental impact and downtime.

Key laboratory application tests have shown that when using QuickTemp technology, the initial pull-down and recovery rates in the T-90 Series are up to 30 percent faster, fuel consumption is reduced by up to 35 percent, and engine runtime is decreased by up to 25 percent versus the

competition. Along with these savings, you get better control of cargo temperature and longer unit life because of our patent-pending refrigeration control system.

#### **SmartPower™ Electric Standby**

Running your refrigeration unit on electric power when stationary is simply smart. Save fuel, reduce engine wear, and decrease emissions. Using SmartPower electric standby can save you up to 75% on fuel costs - now that's smart.





### Thermo King SR Control System

It's hard to beat how this powerful and simple to use controller ensures accurate temperature control and efficient operation that delivers industry-leading fuel savings and temperature control. With on-screen instructions the premium HMI offers a symbolic interface and easy-to-read LCD display that makes precise setting and adjusting of the reefer quick and easy. Using QuickTemp technology, cycle-sentry mode, Fuel Saver II technology, and electronic door switches will all contribute to fuel savings. All of which operate seamlessly in the background; allowing your drivers to do what they do best ... drive.

\*The information provided herein does not, and is not intended to, constitute legal advice; instead, all information, content, and materials are provided for general informational purposes only. If you have any questions about this information, you should consult with your individual attorney to provide assurances that the information – and your interpretation of it – is applicable or appropriate to your particular situation. The information is provided “as is;” no representations are made with respect to the accuracy of the information.

## T-90 SAVINGS BY THE NUMBERS:

### SMARTPOWER

**SAVES FUEL**

**REDUCES ENGINE WEAR**

**DECREASES EMISSIONS**

REDUCES OPERATING  
COSTS BY UP TO:

**75%**

### 2000 HOUR EMI

>

**SPILLAGE**

>

**WASTE**

>

**DOWNTIME**

+

**ENGINE LIFE**

### PERFORMANCE vs. Competition\*

**44%**

FASTER RECOVERY

**35%**

LOWER FUEL CONSUMPTION

**50%**

FASTER PULL-DOWN

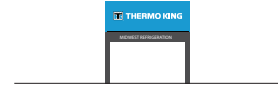
*The cornerstone of all Thermo King refrigeration units is reliability, and the T-90 Series continues the tradition.*

*More*

# RELIAB

Advancements in technology and innovation must be proven reliable before they are incorporated into our designs. This is at the core of who Thermo King is. Another key piece of our heritage, and an extension of the products themselves, is our unmatched service and support.

When you choose a T-90 Series truck unit, you choose Thermo King ...an industry pioneer who is invested in your success.



LARGEST DEALER SERVICE NETWORK –  
MORE THAN 200 LOCATIONS  
IN NORTH AMERICA ALONE



FACTORY TRAINED TECHNICIANS AT ALL LOCATIONS,  
DELIVERING SERVICE EXCELLENCE THAT ENHANCES  
EVERY CUSTOMER VISIT



24/7 MOBILE SERVICE IN MOST LOCATIONS



EXTENSIVE PRODUCT QUALIFICATION INCLUDING LAB  
TESTING AT OUR WORLD-CLASS TESTING FACILITIES AND  
FIELD TESTING WITH REAL CUSTOMERS  
IN REAL APPLICATIONS



THERMO GARD® ASSURANCE – GUARANTEED  
MAINTENANCE PLANS THAT OPTIMIZE FLEET  
EFFICIENCIES AND REDUCE MANAGEMENT COSTS



ACCESS TO A COMPLETE LINE OF THERMO KING  
GENUINE PARTS FOR MAXIMUM UPTIME



**THERMO KING**

**QUALITY**

*Innovation is only valuable if it improves the customer experience. Period. This is why each feature of T-90 Series was thoughtfully analyzed from the perspective of the customer.*

*More*

# TECHNOLOGY

## Connectivity

The integrated Thermo King telematics hardware opens the door to TracKing® Cellular. Connectivity to the units of the T-90 Series, and your cargo, has never been easier.

## USB Service Connectivity

Easier diagnostics and flash loading of system settings are at your fingertips.



## Premium HMI

Standard on the T-90 Series, users benefit from improved user interface, diagnostic capabilities, and ease of use.





## OptiSet® Plus

Featured in both the single-temperature and multi-temperature models, OptiSet Plus ensures that temperatures are optimized and personalized with pre-set profiles for your cargo. Your Thermo King certified dealer can help you get the most out of your refrigeration equipment, pre-loading your OptiSet Plus profiles specific to your operational needs to ensure your refrigeration unit delivers what you expect. Trip after trip, you can be confident that temperature set points and ranges, as well as the use of cycle-sentry mode, are locked in to best match your needs while taking the guesswork out of your driver's day.

## Manage your fleet and temperature control down to the smallest detail with OptiSet

- Ensure the quality of your fleet's cargo while improving fuel savings
- Resulting in more consistent product quality, fewer shipper and driver errors, and improved efficiency of your reefer unit
- Total customization of your operating conditions

*The T-90 Series of units comes with a variety of options to ensure that you get MORE of what you need.*

*More*

# OPTION

Available as add-on features as well as in packages designed to meet common needs, we are confident that you will end up with the refrigeration unit right for your business.

## **Precision Temp Control (PTC)**

Ideal for customers who need even MORE when it comes to accurate and steady temperature control, PTC is the perfect choice for cargo requiring exacting temperature control. Thermo King testing has shown PTC to maintain temperatures to within +/- 5 degrees F (+/- 3 degrees C) for the majority of applications. That performance is normally +/- 1 degree F (+/- 0.6 degree C) in tests with a properly insulated box — making this a must-have option for products such as pharmaceuticals. PTC is available

for most T-90 Series single temperature models including T-890/T-890 MAX, and T-1090/T-1090 MAX.

## **Solar Panels**

Available in both 40 watt and 110 watt versions, our ThermoLite® solar panels are the perfect complement to the T-90 Series of units by helping to reduce costs of battery replacements, jumpstarts and fuel consumption. The larger 110 watt solar panels can also be used to keep your lift gates operating all day long.



### Evaporator Guards

Available from the factory, these rugged aluminum evaporator guards protect your multi-temp remote evaporators from damage.

### Whisper Noise Reduction

This package minimizes your impact on neighbors during deliveries by reducing unit noise.

### Arctic Package

Ensuring reliable operation and easy engine starts for customers operating in cold and snowy conditions, the arctic package includes snow covers, synthetic oil and block heater.

### Monitor Package

This package offers visibility to temperature – both current and throughout a delivery, door openings, truck location, and more. TouchPrint Premium with two temperature sensors, a remote status light, and a wired door switch are all included.

### Premium Package

Offering the highest level of protection for T-890 and T-1090 units and your cargo, our premium package includes PTC, top screen cover and synthetic oil.



## APPLICATIONS CHART



### BOX SIZE 14'

35°F	T-590
0°F	T-590
-20°F	T-690



### BOX SIZE 16'

35°F	T-590
0°F	T-690
-20°F	T-690 MAX



### BOX SIZE 18'

35°F	T-590
0°F	T-690
-20°F	T-890



### BOX SIZE 20'

35°F	T-590
0°F	T-690
-20°F	T-890



### BOX SIZE 22'

35°F	T-590
0°F	T-690 MAX
-20°F	T-890



### BOX SIZE 24'

35°F	T-590
0°F	T-690 MAX
-20°F	T-890



### BOX SIZE 26'

35°F	T-890
0°F	T-890
-20°F	T-890

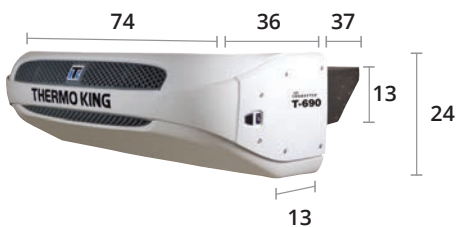


### BOX SIZE 28'

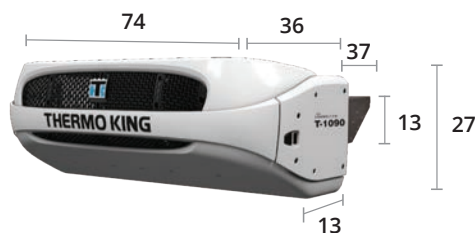
35°F	T-890
0°F	T-890
-20°F	T-1090

Assuming 3" of insulation for 35°F, 0°F and 4" for -20°F; ten door openings per day; box dimensions of 96"W and 96"H on trucks 10' and over in length. Unit selection may vary. Consult your Thermo King dealer for a detailed analysis of your requirements.

## DIMENSIONS (INCHES)

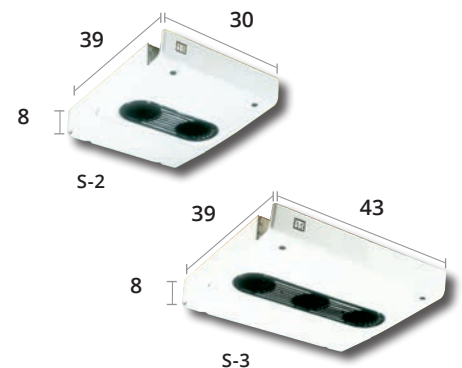


T-590R / T-690 / T-690 MAX



T-890, T-890 MAX, T-1090,  
T-1090 MAX, T-1090 SPECTRUM

### SPECTRUM S-2 & S-3 EVAPS





# T-90 SERIES OPTIONS

■ Available option    ■ Not available

	T-590	T-690	T-690 MAX	T-890	T-890 MAX	T-1090	T-1090 MAX	T-1090 SPECTRUM
<b>CONTROLS AND INFORMATION</b>								
Rear Remote Control (Flushmount)	■	■	■	■	■	■	■	■
Body Mount Enclosure for HMI	■	■	■	■	■	■	■	■
Remote Status Indicator Light	■	■	■	■	■	■	■	■
Remote Service Watch Port (USB)	■	■	■	■	■	■	■	■
Precision Temp Control	■	■	■	■	■	■	■	■
<b>ENGINE, FUEL &amp; SMARTPOWER</b>								
SmartPower - 200V to 230V/3Ph/50-60Hz	■	■	■	■	■	■	■	■
SmartPower - 460V/3Ph/60Hz	■	■	■	■	■	■	■	■
Battery Box	■	■	■	■	■	■	■	■
Heat (electric - SmartPower units only)	■	■	■	■	■	■	■	■
Engine Block Heater	■	■	■	■	■	■	■	■
Fuel Tank (30 gallon aluminum side fill)	■	■	■	■	■	■	■	■
Oil Drain - Quick Disconnect	■	■	■	■	■	■	■	■
Synthetic Oil	■	■	■	■	■	■	■	■
<b>CONNECTED ASSETS, SENSORS &amp; POWER MANAGEMENT</b>								
TouchPrint Premium W/2 Temp Sensors	■	■	■	■	■	■	■	■
Door Switch	■	■	■	■	■	■	■	■
40W Solar Panel	■	■	■	■	■	■	■	■
110W Solar Panel	■	■	■	■	■	■	■	■
<b>APPEARANCE, NOISE &amp; PROTECTION</b>								
Snow Cover + Top Screen	■	■	■	■	■	■	■	■
Whisper™ Sound Kit	■	■	■	■	■	■	■	■
Evap Side Screens	■	■	■	■	■	■	■	■
Hose Management Channel	■	■	■	■	■	■	■	■
<b>SPECTRUM OPTIONS</b>								
S-2 Remote Evap	■	■	■	■	■	■	■	■
S-3 Remote Evap	■	■	■	■	■	■	■	■
S-2 Remote Evap Guard	■	■	■	■	■	■	■	■
S-3 Remote Evap Guard	■	■	■	■	■	■	■	■
<b>OPTIONS PACKAGES</b>								
Arctic Package	■	■	■	■	■	■	■	■
Monitor Package	■	■	■	■	■	■	■	■
Premium Package	■	■	■	■	■	■	■	■



## UNIT SPECIFICATIONS

### T-590

#### ENGINE

#### CAPACITY\* (BTU/HR)

35°F.....	15,500
0°F.....	10,000
-20°F.....	5,500

#### HEATING CAPACITY

35°F.....	10,500
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#### ELECTRIC

#### CAPACITY\* (BTU/HR)

35°F.....	14,000
0°F.....	8,000
-20°F.....	5,000

#### HEATING CAPACITY

35°F.....	6,000
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WEIGHT\*\* 910 / 973 LBS.

### T-890 MAX

#### ENGINE

#### CAPACITY\* (BTU/HR)

35°F.....	27,000
0°F.....	18,000
-20°F.....	11,500

#### HEATING CAPACITY

35°F.....	14,000
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#### ELECTRIC

#### CAPACITY\* (BTU/HR)

35°F.....	22,500
0°F.....	13,500
-20°F.....	8,500

#### HEATING CAPACITY

35°F.....	10,500
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WEIGHT\*\* 1027 / 1136 LBS.

### T-690

#### ENGINE

#### CAPACITY\* (BTU/HR)

35°F.....	19,000
0°F.....	12,000
-20°F.....	7,250

#### HEATING CAPACITY

35°F.....	12,000
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WEIGHT\*\* 910 / 973 LBS.

### T-1090

#### ENGINE

#### CAPACITY\* (BTU/HR)

35°F.....	32,000
0°F.....	21,000
-20°F.....	13,500

#### HEATING CAPACITY

35°F.....	14,000
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WEIGHT\*\* 1014 / 1123 LBS.

#### ELECTRIC

#### CAPACITY\* (BTU/HR)

35°F.....	16,500
0°F.....	11,000
-20°F.....	6,500

#### HEATING CAPACITY

35°F.....	7,500
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#### ELECTRIC

#### CAPACITY\* (BTU/HR)

35°F.....	27,000
0°F.....	15,500
-20°F.....	11,000

#### HEATING CAPACITY

35°F.....	14,000
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All T-90 Series units meet 2013 EPA Tier 4 final requirements, including NTE (Not to Exceed) and Altitude.



## T-690 MAX

### ENGINE

#### CAPACITY\* (BTU/HR)

35°F.....	21,000
0°F.....	13,500
-20°F.....	8,000

#### HEATING CAPACITY

35°F.....	14,000
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WEIGHT\*\* 947 / 1010 LBS.

### ELECTRIC

#### CAPACITY\* (BTU/HR)

35°F.....	18,000
0°F.....	12,250
-20°F.....	6,750

#### HEATING CAPACITY

35°F.....	7,500
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## T-890

### ENGINE

#### CAPACITY\* (BTU/HR)

35°F.....	25,000
0°F.....	17,000
-20°F.....	11,000

#### HEATING CAPACITY

35°F.....	10,500
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WEIGHT\*\* 990 / 1099 LBS.

### ELECTRIC

#### CAPACITY\* (BTU/HR)

35°F.....	21,000
0°F.....	12,500
-20°F.....	8,000

#### HEATING CAPACITY

35°F.....	10,500
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## T-1090 MAX

### ENGINE

#### CAPACITY\* (BTU/HR)

35°F.....	35,000
0°F.....	22,500
-20°F.....	14,250

#### HEATING CAPACITY

35°F.....	20,000
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WEIGHT\*\* 1051 / 1160 LBS.

### ELECTRIC

#### CAPACITY\* (BTU/HR)

35°F.....	28,500
0°F.....	19,000
-20°F.....	13,000

#### HEATING CAPACITY

35°F.....	14,000
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## T-1090 SPECTRUM™

### ENGINE

#### CAPACITY\* (BTU/HR)

35°F.....	34,000
0°F.....	22,000
-20°F.....	13,000

#### HEATING CAPACITY

35°F.....	19,000
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WEIGHT\*\* 883 / 992 LBS.

### ELECTRIC

#### CAPACITY\* (BTU/HR)

35°F.....	28,500
0°F.....	16,500
-20°F.....	9,000

#### HEATING CAPACITY

35°F.....	13,500
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\*Cooling capacities rated at 100°F ambient, heating at 0°F ambient.

\*\* Weights are listed for standard unit/units with SmartPower option



Thermo King – by Trane Technologies (NYSE: TT), a global climate innovator – is a worldwide leader in sustainable transport temperature control solutions. Thermo King has been providing transport temperature control solutions for a variety of applications, including trailers, truck bodies, buses, air, shipboard containers and railway cars since 1938. For more information, visit [thermoking.com](http://thermoking.com) or [tranetechnologies.com](http://tranetechnologies.com).

