



# T-Series


*Delivering what matters*

Self-powered truck refrigeration units



- *Quiet operation*
- *Low fuel consumption*
- *Low life cycle costs*
- *Easy to use and service*
- *Reduced emissions & waste*






# *The new T-Series*

## *Delivering what matters*

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*Thermo King's new T-Series is the result of years of R&D and exhaustive testing. Built on the proven reliability of the TS and MD product ranges, the T-Series sets new industry standards for reliability, performance and efficiency.*

*The range has been specially developed to exceed your and your customers' expectations when it comes to truck refrigeration.*

*The T-Series delivers greater capacities at lower operating speeds and allows for precise temperature control.*

*Low operation and maintenance costs, as well as fuel saving technologies, make sure you save money throughout your unit's life cycle.*

*Easy system operation reduces the risk of user errors, while easy service and monitoring allow the unit to run at optimum efficiency at all times.*

*The T-Series also sets new standards when it comes to the reduction of emissions, waste and noise pollution, offering unmatched performance with minimal environmental impact. Whatever your application and needs, the T-Series is available in a complete range of capacities, making it the perfect fit for all your transportation requirements.*



## Introducing T-Series truck refrigeration units

### Low fuel consumption

- Through extensive development and field experience, Thermo King have found the right balance between system efficiency, fuel consumption and performance in all ambient conditions for both fresh and frozen produce
- Advanced fuel-saving control technology with the new TSR-2 controller means greater fuel efficiency
- On the T-1200R, the ETV (Electronic Throttling Valve) helps reduce engine emissions and increase fuel economy depending on the application



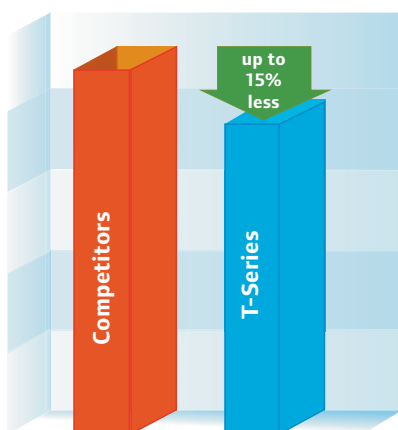
### Lower life cycle costs

- The TSR-2 controller allows optimum management of all functionalities of the unit in order to deliver what matters for every load
- The Extended Maintenance Interval Programme EMI 2000 reduces maintenance costs
- T-Series units come with a 2 year full warranty

### Easy to use and service

- The new and intuitive TSR-2 controller features a symbolic display for error-free operation
- Low level alerts for oil and coolant
- Programmable service intervals and scheduled maintenance reminders
- Easy service accessibility to electrical and engine components

### Fuel Consumption Comparison







### Reduced emissions & waste

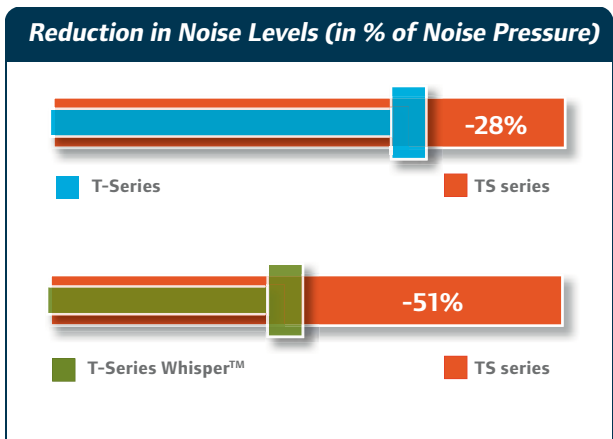
- T-Series units are now equipped with GreenTech™ engines which are the cleanest on the market, exceeding all existing EU requirements
- Reduction of waste through EMI 2000
- 99.7% of the unit material is recyclable
- The T-Series range is manufactured at Thermo King's state-of-the-art facility in Galway, Ireland, which has held ISO 14001 certification for Environmental Management since 2000

### Quieter operation

- Whisper™ quiet operation
- Poly-V stretch belt with Quiet Channel technology for reduced noise

### Capacities that match your requirements

- The perfect capacity fit for your specific application
- Eliminate energy waste and save costs
- Capacities from 6000 W to 11500 W at 0°C
- Capacities from 3800 W to 6900 W at -20°C



# The GreenTech Engine from Thermo King

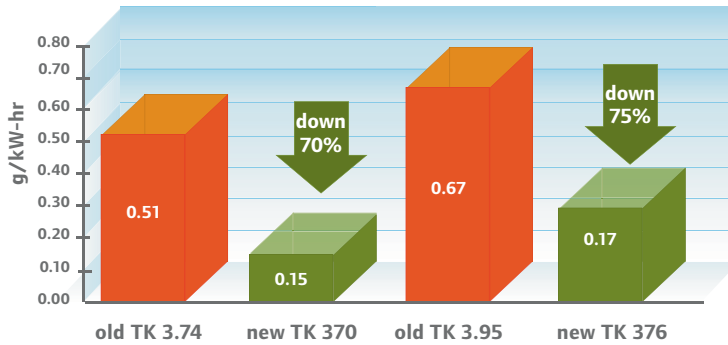
## Low emissions, high performance



All the T-Series truck refrigeration units are equipped with the new range of GreenTech engines from Thermo King. These engines drastically reduce emissions, waste and noise pollution, exceeding all known requirements, including the most stringent EU standards. So, when you see the GreenTech name and symbol, you know at a glance that you are looking at refrigeration units that contain the cleanest engines on the market today. Performance has been enhanced too; GreenTech engines are more powerful and cause less stress to components. It is the easy choice for you and the best choice for the environment.



### Particulate Matter Emissions



Emissions of particulate matter (PM) from all engines have been substantially reduced

### Engine life

Our new range of engines for the T-Series is more powerful, even running at no more than 80% of their maximum output. Thus, both oil and coolant temperatures are reduced, resulting in less component stress and less engine wear.

### Bio-fuel compatibility

All the new engines are approved for use with B5 fuel (5% bio/95% petroleum diesel) with no change in maintenance schedules. Fuels with higher bio-diesel content (B6 up to B100) require shorter intervals between oil changes and injector servicing.

# The new TSR-2 controller

## Easy to use, hard to beat

Powerful and simple to use, the new TSR-2 T-Series controller makes it easy for your drivers to accurately manage the temperature in the truck, no matter what you are hauling.

Step-by-step instructions, depicted in symbolic form, make it quick and easy to precisely set and adjust the refrigeration unit, helping your drivers, your customers and ultimately your bottom line.

### New intuitive interface

The new TSR-2 in-cab interface displays all information in clear symbols; It doesn't matter what language you speak. This increases ease-of-use and reduces the risk of operator errors.

### Fuel savings

The TSR-2 includes features that improve fuel savings such as:

- Cycle-Sentry™ mode
- ETV
- Economy mode
- Electronic door switch input

### Improved diagnostics with ServiceWatch™

Better diagnostics make it easier for service technicians to understand and respond to potential problems. ServiceWatch preventative maintenance logger is a precise built-in recorder that provides improved diagnostics and keeps track of system performance and functionality. It records all operational parameters to significantly improve service diagnostics.

### Easy-to-read LED display

The new LED display is bright and clear, ensuring better visibility in all light conditions. It also functions perfectly in all ambient temperatures.



New TSR-2 in-cab interface



### Enhanced safety and security

At the end of the day, protecting your load is what matters. The TSR-2 makes that job easier and even more effective with a range of enhanced features:

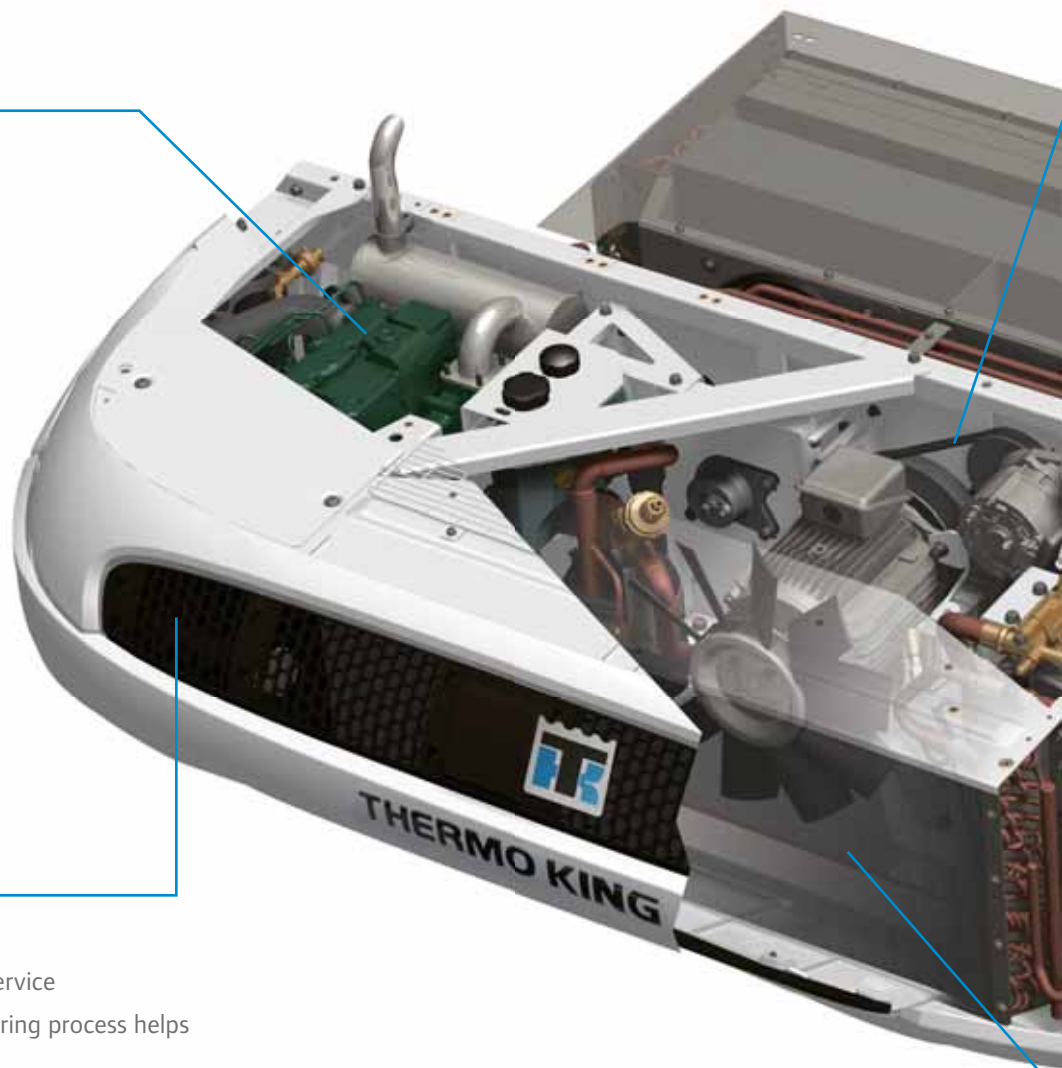
- Keypad with lock-out
- Phase correction
- Diesel/electric auto switching
- Set-point warning
- Oil and coolant level alerts
- Tiered security access levels for appropriate personnel
- Diesel engine and electric stand-by hour meter display
- DAS (Data Acquisition System) and Tracking capability

# Quality you can rely on

Thermo King's T-Series is the result of years of extensive research and stringent testing, ensuring each unit can provide unmatched reliability and efficiency from day one. At every stage of the development, the T-Series has undergone rigorous testing procedures in cutting-edge R&D centres worldwide. This includes nonstop endurance tests, accelerated life tests and exposure to extreme operating environments. All of these measures ensure that you can rely on your T-Series refrigeration unit for any type of application, in all conditions, and without compromise.

## GreenTech<sup>100%</sup> Engine

- Low emissions
- High performance
- Increased life
- Reduced maintenance



## Unit Grill and Skins

- Aerodynamic skins
- Removable side doors for easy service
- Impact-resistant, in-mould colouring process helps reduce and hide scratches
- Recyclable Geloy® engineered plastic

## Extended Maintenance Interval: EMI 2000

- 2000 hours / 24 months oil change intervals
- Reduced environmental impact with less spillage and less waste
- Lower maintenance costs than competitor models



## Powertray

- Poly-V stretch belt system delivers exceptional belt life
- Made with Quiet Channel technology: advanced materials virtually eliminate the usual noise caused by misalignment

## Electronic Throttling Valve

- On the T-1200R, the ETV (Electronic Throttling Valve) helps reduce engine emissions and increase fuel economy depending on the application

## Thermo King Reciprocating Compressors

- The industry standard for proven reliability and easy service
- X426 C5 / X430 C5 compressors with extended life crankshaft bearings
- High volumetric efficiency due to more pumping capacity per cubic centimetre
- Reliable, time-tested design
- Field-repairable for easy service
- No special tools or facilities required

## Coils

- Bigger condenser/evaporator gives high ambient capability, more capacity and more efficiency with less noise
- Mechanical-drive evaporator fans reduce maintenance costs



X214 Compressor



X426 C5/X430 C5 Compressor

# Key features and options

Performance	T-600R	T-800R	T-1000R	T-1200R
Refrigeration Capacity 0°C (W)	6000	7500	8700	11500
Refrigeration Capacity -20°C (W)	3800	4250	5200	6900

Features and Options		T-600R	T-800R	T-1000R	T-1200R
<b>LIFE COST MANAGEMENT</b>					
1	ThermoKare	▲	▲	▲	▲
2	Cycle-Sentry	●	●	●	●
3	Extended maintenance interval: EMI 2000	●	●	●	●
4	Thermo King high performance battery	●	●	●	●
5	Whisper™ Low Noise kit	△	△	△	△
6	Thermo King EON battery	△	△	△	△
7	Two year full warranty	●	●	●	●
8	TherMax system	●	●	●	●
<b>DATA CAPTURE &amp; COMMUNICATIONS</b>					
9	DAS (Data Acquisition System)	△	△	△	△
10	TKDL data capture	△	△	△	△
11	Wintrac (data analysis software)	▲	▲	▲	▲
12	FleetWatch (fleet management software)	▲	▲	▲	▲
13	TrackKing (tracking and load monitoring)	▲	▲	▲	▲
<b>LOAD PROTECTION</b>					
14	TSR-2 in-cab interface	●	●	●	●
15	Auto phase correction	●	●	●	●
16	Diesel/electric auto switching	●	●	●	●
17	Door switches	▲	▲	▲	▲



○ Not Available   ● Standard Feature   △ Option: Factory Installed   ▲ Option: Dealer Supplied



## 1 ThermoKare

ThermoKare offers a complete selection of service contract solutions to manage maintenance costs and hence the total life cost of a unit.

## 2 Cycle-Sentry

This stops the engine when refrigeration is not needed and restarts it when refrigeration or battery charge is needed.

- Fuel and CO<sub>2</sub> savings of up to 80%
- Increase component life
- Reduce maintenance costs

## 3 Extended maintenance interval: EMI 2000

Thermo King EMI 2000 will extend your maintenance interval and reduce your operating costs by:

- Reducing clean-up and disposal costs
- Reducing environmental impact with less spillage and less waste
- Extending engine life with improved, highly efficient filtration

## 4 Thermo King high performance battery

- Designed exclusively for transport applications
- Incorporates silver-calcium technology to extend service life over 20% longer than conventional batteries

## 5 Whisper™ low noise kit

The Whisper low noise kit reduces noise levels by over 50% compared to the previous generation of truck units.

## 6 Thermo King EON battery

- Uses Absorbed Glass Mat (AGM) technology with deep-cycle capability and enormous cranking power
- Maintains capacity at low temperatures better than a wet cell battery
- Saves you the time and money of battery replacements through expected five to eight year service life, backed by our four year warranty



## 7 Warranty coverage

2 year warranty coverage on unit and options\*

\*2nd year warranty coverage subject to mid-term inspection. Refer to warranty guidelines.

## 8 TherMax system

- Faster defrosts

## 9 DAS (Data Acquisition System)

This high performance data recorder system records temperatures, set-point, operating modes and external events.

- Data can be output to a computer or printer
- Operates independently of unit controller
- Memory storage for over one year's data
- Reassures customer of total quality control
- Provides evidence of correct practice
- Approved to EN-12830, CE mark and IP-65 standards
- Up to 6 independent sensors
- Automatic power-up and shut-off to protect unit battery



## 10 TKDL data capture

- User-friendly temperature recorders for all makes of temperature-controlled equipment
- Simple data offload to PC
- Delivery and journey printouts at the touch of a button
- Approved to EN 12830, CE Mark and IP-65 standards
- Up to 4 independent sensors and up to one year's data storage capacity

## 11 Wintrac (data analysis software)

User-friendly software offers fleet managers automatic and customised reporting of temperature and operational data logged by DAS or transmitted by TrackKing.

## 12 FleetWatch

This user-friendly software empowers the fleet manager with automatic custom reporting.

- Provides seamless connection to collect and organise output from Thermo King's DAS and TKDL data recorders
- Automatically organises data recorder output data into simple, selectable reports useful to your operation
- Reports are easy to understand and user-friendly



## 13 TrackKing



Get complete load monitoring and fleet tracking at your fingertips.

- Monitors sensitive loads via the web
- Increases truck asset utilisation
- Reduces operating costs
- Enhances customer satisfaction
- Increases security and reduces insurance risk
- TrackKing can be sold with a TotalKare service contract
- TrackKing is compatible with all Thermo King dataloggers and controllers
- More information at [www.tktracking.com](http://www.tktracking.com)

## 14 TSR-2 in-cab interface

- Simplified keypad to reduce the risk of incorrect operation of the system
- Visible set-point confirmation for load protection
- Enhanced temperature management
- Unit self-check for reduced down time
- Alarm codes for simplified troubleshooting
- Programmable features to tailor operating conditions to the load



## 15 Auto phase correction

- Avoids reverse fan rotation while on electric stand-by
- Protects your load

## 16 Diesel/electric auto switching

- Automatically starts diesel engine if electric stand-by fails
- Manual override for ferry operation
- Protects the load automatically (without manual intervention)

## 17 Door switches

- Reduce load temperature rise and save fuel when doors are opened

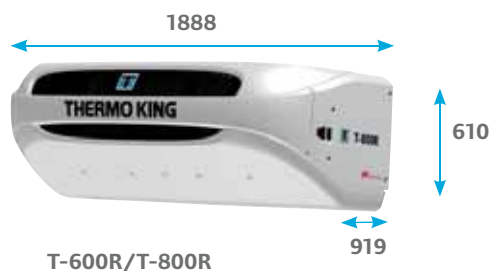


## Exclusive driver training software

Thermo King's Tutor Series with "Professor Kool" provides rapid and effective interactive training to reduce driver error and ensure optimum equipment operation.

# Specifications

Specifications		T-600R	T-800R	T-1000R	T-1200R
<b>REFRIGERATION CAPACITY: SYSTEM NET COOLING CAPACITY AT 30°C AMBIENT TEMPERATURE UNDER A.T.P. CONDITIONS</b>					
Return air to evaporator	Celsius	0°C	-20°C	0°C	-20°C
CAPACITY ON ENGINE POWER	W	6000	3800	7500	4250
CAPACITY ON ELECTRIC STAND-BY	W	4600	3200	5900	3300
<b>AIRFLOW: ON HIGH SPEED ENGINE OPERATION</b>					
Airflow volume @ 0 Pa static pressure	m <sup>3</sup> /hr	2700	2700	3200	3300
<b>WEIGHT: INCLUDES BATTERY AND FLUIDS</b>					
Model 30: cooling and heating on engine operation	kg	450	450	470	480
Model 50: cooling and heating on engine & electric stand-by operation	kg	470	470	520	530
<b>ENGINE: LOW EMISSIONS, 3 CYLINDER, LIQUID COOLED</b>					
Model		TK 370	TK 370	TK 376	TK 376
Rating	kW	11.2	11.2	14.6	14.6
Maintenance interval	hrs	2000	2000	2000	2000
<b>COMPRESSOR: LIGHTWEIGHT ALUMINIUM ALLOY</b>					
Model		X214	X214	X426 C5	X430 C5
Displacement	cc	228	228	426	430
<b>ELECTRIC STAND-BY OPTION</b>					
Voltage / Phase / Frequency		400V/3Ph/50Hz	400V/3Ph/50Hz	400V/3Ph/50Hz	400V/3Ph/50Hz
Rating	kW	4.5	4.5	7.5	7.5
<b>REFRIGERANT: R-404A ZERO OZONE DEPLETION POTENTIAL (ODP), INTERNATIONALLY APPROVED</b>					
Charge	kg	3.6	3.8	4.0	4.0



Dimensions in millimetres

## WARRANTY SUMMARY

Specific terms of the Thermo King Ireland Ltd. 24 month full warranty (TK 60186-2-WA) are available on request. Thermo King excludes liability in contract and tort (including strict liability and negligence) for any special, indirect or consequential damages by reason of the installation or use of any covered product or its mechanical failure.



# *Always insist on genuine Thermo King service parts*

*Thermo King understands the importance of parts availability and performance. That's why we have expanded our range of aftermarket products. Now you can get the parts and accessories you need, where you need them, when you need them, quicker and more efficiently than ever before. Our goal is to provide you with a total solutions package to increase operating performance and reduce life cycle costs.*

## **Replacement parts**

Genuine Thermo King replacement parts are proven time after time in side-by-side testing to be superior to other non-original parts. Specifically engineered to provide optimal performance and maximum life, Thermo King replacement parts protect your investment and give you confidence and peace of mind on the road.

## **Maintenance parts**

Thermo King offers the highest quality in durable maintenance parts. All parts have been carefully selected and designed to keep your Thermo King equipment operating efficiently and at full capacity for longer and to reduce life cycle costs.



# Thermo King Dealer Service Network

## ThermoKare

ThermoKare is a complete selection of service contract solutions, designed for fleets operating nationally or internationally. The contracts are designed to optimise the efficiency of your fleets, minimise operating costs and maximise the resale value of your equipment. Our tailored service contract solutions help to remove the non-core tasks from your daily business operations such as maintenance planning, scheduling, invoice interpretation and general fleet administration. The ThermoKare service contract solutions offer you everything from “administration only” to the complete “peace of mind” contract at an agreed, fixed cost.

**For more information about ThermoKare, please contact your Thermo King dealer.**



## Thermo Assistance

Thermo Assistance is a multilingual 24-hour telephone breakdown assistance service available throughout Europe that puts you in direct contact with an authorised Service Dealer whenever you require one.



## Anywhere in Europe

- Blanket coverage across Europe
- Open & available 24/7
- Over 300 authorised service points
- 1,300 certified technicians





Ingersoll Rand (NYSE:IR) is a world leader in creating and sustaining safe, comfortable and efficient environments in commercial, residential and industrial markets. Our people and our family of brands— including Club Car®, Hussmann®, Ingersoll Rand®, Schlage®, Thermo King® and Trane®—work together to enhance the quality and comfort of air in homes and buildings, transport and protect food and perishables, secure homes and commercial properties, and increase industrial productivity and efficiency. We are a \$13 billion global business committed to sustainable business practices within our company and for our customers.

[thermoking.com](http://thermoking.com)    [ingersollrand.com](http://ingersollrand.com)

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