THERMO KING

# Genuine Parts and Service

Ingersoll Rand

# Genuine
## Thermo King Parts

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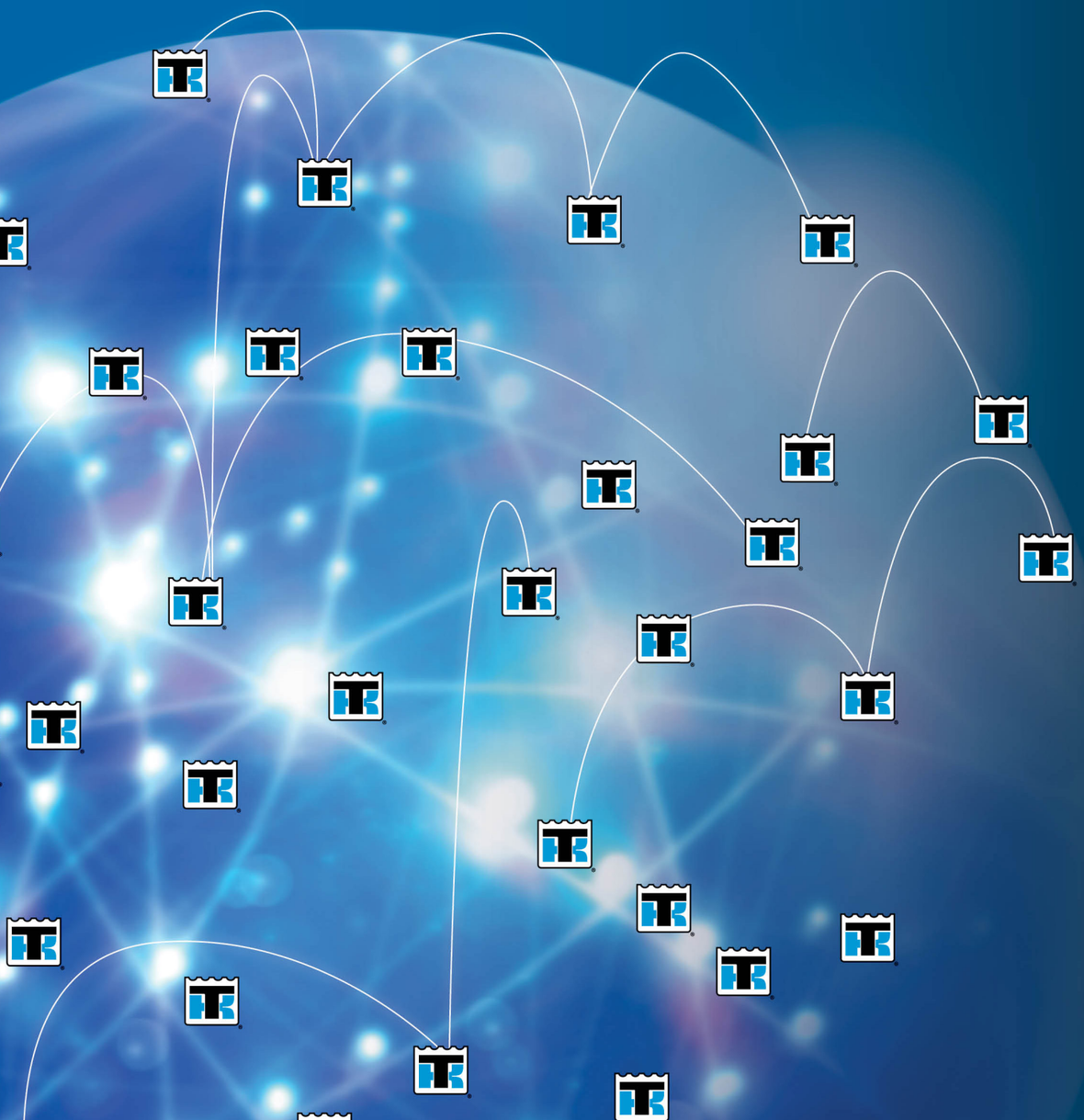
The best replacement is the original.

When replacing parts always choose the solution that is tried and tested to the same high standards of safety and performance as every other original part of your Thermo King unit.

Thermo King parts are designed specifically for the extreme demands of truck and trailer temperature control applications.
Our investment in quality and reliability delivers longer life parts and increased service intervals keeping you on the move and minimising overall operating costs.

The best way to ensure that your Thermo King unit remains in top condition and cost effective to operate, is to keep it 100% Thermo King by using genuine parts and service every time.

In the over 75 years since Thermo King developed the first refrigeration unit, our engineers and technicians have learned a lot of ‘tips’ that will help you keep your units running smoothly. Look for ‘Tech Tips’ throughout the brochure and use what they have learned to your advantage.



# Service support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# Service support

# Service network

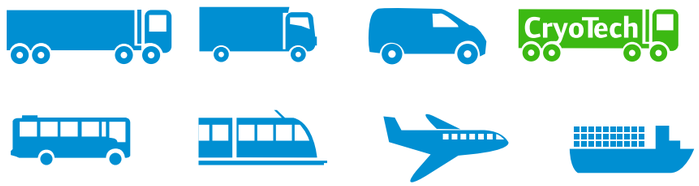
Thanks to your support Thermo King has been the world leader in manufacturing, supplying and servicing transport temperature control equipment for more than 75 years.

Our business does not stop with providing top-of-the-line transport temperature controlled units. Our industry leading service network ensures that we deliver the fastest and most extensive service guarantee in the industry, to keep you on the move. With more than 500 authorised service points across 75 countries in Europe, Russia, the Middle-East and Africa, we are at your service 24 hours a day, 7 days a week.

Our service commitment ensures the availability and serviceability of your transport temperature control equipment so that your investment is protected and secure. We stand by our promises offering industry leading parts warranty for parts installed at official Thermo King dealerships.

Our fully trained 'Certi-Tech' technicians know the Thermo King equipment intimately and can diagnose existing or imminent problems quickly to keep downtime to a minimum and to keep you on the move.

Over 1400+ Thermo King certified technicians receive on-going training on the latest Thermo King products and maintenance technologies to ensure consistent high quality service to meet your expectations.






## THERMO Assistance

All Thermo King dealers can be located via the Thermo King Dealer locator on the website, smartphone or tablet, via google maps or the Thermo King service directory. However, should drivers or operations personnel need advice regarding a Thermo King dealers location, they can contact our breakdown assistance service.

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

Service support

# Service contracts

In business today there is no room for unplanned or hidden costs. ThermoKare Service Solutions offer tailored contracts for your local, national or international fleet management concerns.

THERMO KING
ThermoKare

The service solutions are designed to optimise the efficiency of your fleet, minimise operating costs and maximise the resale value of your equipment. Choosing a ThermoKare programme will allow you to eliminate non-core tasks such as maintenance planning, scheduling, invoice interpretation and general fleet administration from your daily business operations. You can also opt for a 'non-risk package' offering peace of mind with predefined fixed costs, and the assurance of a consistent service level.

Our experts will analyse your fleet requirements and recommend the most suitable service agreement. Once you have selected a programme, your equipment will receive regular inspection, preventative maintenance and proper calibration. Potential problems will be prevented before they occur.

And when it comes to the cost, the best surprise of all is no surprise. You choose your level of coverage so you know exactly which services and parts are covered.

For more information please contact your Thermo King dealer or visit
www.europe.thermoking.com



**"Choosing a ThermoKare service solution is a simple stress-reducing strategy"**

## Service support

# Maintenance parts

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Maintenance parts

# Filters

Release the full potential of your Thermo King unit using Genuine Thermo King filters, designed and created uniquely for Thermo King.

Thermo King recommends an annual inspection for all trailer equipment and bi-annual inspection for truck equipment to ensure maximum reliability and efficient operations. The life of our filters match our Extended Maintenance Intervals (EMI) allowing trailer equipment to run for up to 2 years or 3000 hours and truck equipment to run up to a year or 2000 hours before a change of filters and oil is required. This reduces the cost of scheduled maintenance and extends engine life with improved, highly efficient filtration.

Less filters, less oil, more uptime and better for the environment.

## Air filters

### Genuine Thermo King EMI 3000 Air filter

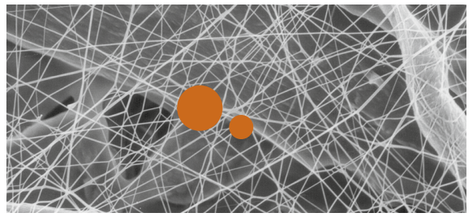
### Key features

- Built-in cyclonic separator that filters heavier particles which get automatically discharged through the evacuation valve.
- Built-in sonic choke for intake silencing.
- High efficiency patented filter design developed for use on Thermo King units to support our extended maintenance interval.
- Unique and trademarked filter media specially designed for Thermo King units and constructed for transport application.
- Special media outperforms standard cellulose media by delivering higher efficiency and capturing more contaminant.
- Thermo King filter media holds up to five times more contaminant than standard cellulose air filters.

## EMI 3000 Air cleaner assembly & filter system

### Thermo King high efficiency filtration

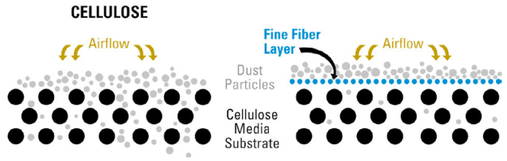
The filter media in Thermo King air filters causes submicron contaminant to load on the surface rather than dispersing throughout the depth of the filter where there is less area for the air to flow.
Therefore, in on-road applications, where the contaminant is primarily soot (submicron in size), the Thermo King air filter has less restriction than filters with cellulose media. The smaller, interfiber spaces of filter media deliver higher efficiency and capture more contaminant.



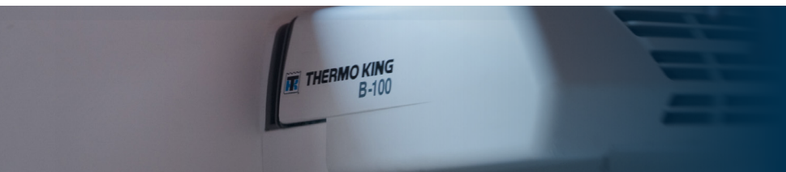
Filter Media Comparative Cross Section
Orange circles represent the diameter of a 2µ and a 5µ particle.

The fibers in our filter media have submicron diameter and small interfiber spaces which result in more contaminant being captured on the surface of the media and lower restriction.

Cellulose fibers are larger and have larger spaces between the fibers, causing contaminant to load in the depth of the media and plug the airflow path, resulting in higher restriction and less capacity.





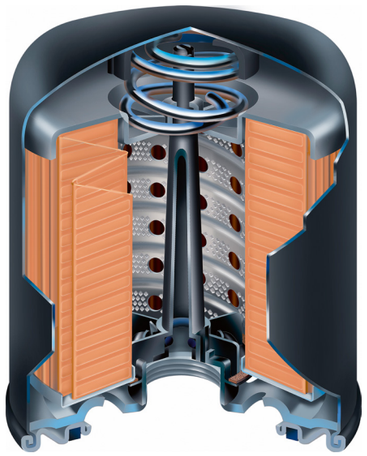




# Maintenance parts

# Filters

## Fuel filters

### Genuine Thermo King EMI 3000 fuel filter



### Key features

- Coated and lined to prevent corrosion.
- Spring insulator to reduce electrolysis and corrosion inside the can.
- Engine life is extended by avoiding the risk of corrosion caused by water.
- Pickup tube inside the filter that returns water to fuel tank so water does not have to manually be drained from the filter. Eliminates the risk that water enters the fuel pump and injectors.
- Patented design that automatically removes potentially damaging water from the filter sump and returns it back to the fuel tank to be drained.
- High strength gasket that resists heat and distortion for extended seal life.
- Heavy-duty baseplate with tuck-lock seam that resists seal leakage due to pressure distortion.
- High strength cellulose/glass media that offers superior contaminate filtering capacity and efficiency.
- Water stripping media that removes water before it can damage the fuel system and extends life of engine by avoiding corrosion caused by water.
- Heavy-duty, epoxy coated housing is impervious to cracking and corrosion.



## Tech tip

Thermo King offers over 70000 parts, not all of which would fit into one brochure. Take advantage of our extensive dealer network and ask your local dealer for more details on what parts are right for your unit.

## Oil filters

### Genuine Thermo King EMI 3000 oil filter

### Key features

- High efficiency full-flow element developed for use on Thermo King units to support the extended maintenance interval and provide clean lubricant to the engine.
- Designed specifically for Thermo King applications with maximum capacity and efficiency to prevent excessive engine wear and damage.
- High strength gasket that resists heat and distortion for extended seal life.
- Heavy-duty baseplate with tuck-lock seam that resists seal leakage due to pressure distortion.
- Spiral center tube that prevents media breakdown to maximise flow.
- High strength cellulose/glass media that offers superior contaminant filtering capacity and efficiency.
- A patented two-stage arrangement that provides more filtering surface to increase holding capacity and filter life by directing the oil through a full-flow section and a metered portion that continues through the by-pass section while removing finer contaminants.
- Steel spring that maintains pressure on seal while keeping oil from bypassing filter element.
- Heavy-duty, epoxy coated housing is impervious to cracking and corrosion.

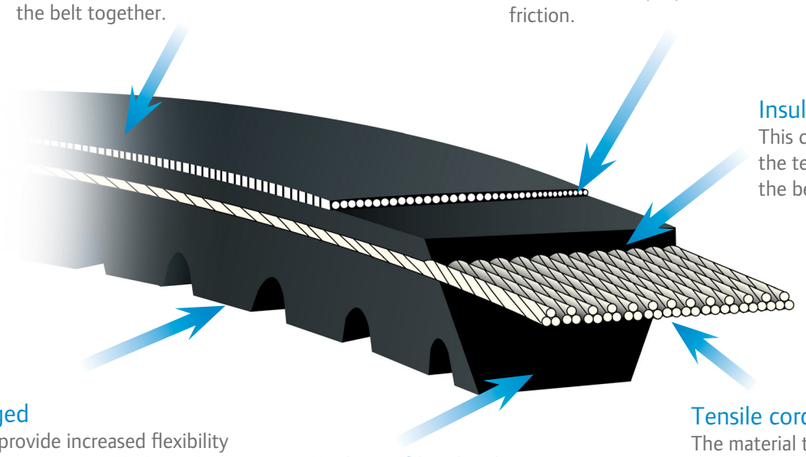
# Belts

Operational and performance requirements of over-the-road temperature control units are unlike any other.

Genuine Thermo King belts are designed and built especially for your system and its specific temperature requirements – you can depend on the belt to withstand the heat specific to your application.

Premium materials mean superior temperature and chemical resistance, resulting in longer belt life.

When you purchase a Genuine Thermo King belt, you can be confident of fitting the best performing product for your application to protect your investment.



**Top fabric**
Increases flexibility, provides wear resistance on backside idlers, and joins the belt together.

**Envelope**
Provides a long wearing driving surface and the proper coefficient of friction.

**Insulation**
This component surrounds the tensile cords to ensure the best possible bond.

**Cogged**
Cogs provide increased flexibility for specific types of belts and applications.

**Cushion/fiber loading**
Provides the necessary support for the cords, preventing distortion and collapsing of the belt. It provides unidirectional support which helps resists abrasion, reduces noise and controls the coefficient of friction.

**Tensile cord**
The material that carries the load of the belt. Constructed of the strongest material to reduce the possibility of shrinkage or stretch.

## Tech tip

Genuine Thermo King belts are built to provide the highest performance in their operating environment considering loads, temperature and geometry. Competitive belts are typically just a dimensional match and do not provide the same peace of mind. Imitation belts may 'fit' your unit but are not designed to adhere to its specifications, including cross section length, materials and performance expectations.

# Maintenance parts

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# Replacement parts

# Genuine exchange parts

Thermo King offers a wide range of exchange components to help reduce your cost of ownership, including engines, compressors, controllers, PCB's, alternators and starters. Renew your fleet with exchange parts by exchanging new for old at a lower net cost.

Engines

Compressors

Controllers

PCB's

Alternators

Starters

## Key features

- Brand new replacement parts available now, not a week from now, meaning increased uptime and more loads delivered.
- Parts supplied complete so they can be fitted without delay, keeping labour costs to a minimum.
- Parts come with the same industry leading warranty as the original part.

Genuine exchange parts can be recognised by the **exchange parts symbol**.

# Genuine Remanufactured Parts

Thermo King also offers a range of remanufactured parts providing you with Thermo King quality at an affordable price.

## Key features

- Not just repaired but totally remanufactured
- All critical components replaced to ensure maximum life and performance
- Extensive testing performed

Genuine Remanufactured Parts can be recognised by the **remanufactured parts symbol**.

Thermo King remanufactured parts include the following replacement parts

- OEM valve plates
- OEM crankshaft seal
- OEM C5 main bearings
- OEM oil pressure regulators
- OEM pistons
- OEM cast iron oil pump
- OEM rod bearings
- OEM gaskets
- OEM C5 pump housing
- OEM hardware

Competitive rebuilt parts commonly only include the following replacement parts

- Valve plates
- Main bearings
- Oil pressure regulator
- Pistons
- Oil pump

# Control options

Designed exclusively for transport refrigeration applications, Thermo King's microprocessor controllers offer not just temperature control but 'Best in Class' total temperature management.

Powerful and simple to use intuitive interfaces enable control and monitoring of system performance, ensuring increased uptime and load protection.

## SR-3 Controller

Exchange Parts

Remanufactured Parts

### Key features

- Simple intuitive display
- Load protection - advanced security
- Cargo Watch™ Data Acquisition System – high performance data recorder
- ServiceWatch™ built-in preventive maintenance logger for improved diagnostics and record of system performance
- A selection of controllers are available on the Thermo King exchange programme — exchange new for old at a lower net cost
- Thermo King offers a selection of remanufactured controllers with the same quality as new parts and at attractive prices



## Truck single & multi temp.

### Key features

- Improved fuel savings features
- Enhanced load management with ETV (Electronic Throttling Valve)
- ServiceWatch™ built-in preventive maintenance logger for improved diagnostics and record of system performance
- 21 language capability for easy operation
- Programmable hour metres to easily track maintenance intervals
- Guarded access menu allows custom tailored unit setup
- Maintenance menu provides diagnostics and service capability
- Can be used as dash mounted controller or as a hand held diagnostic tool
- For single and multi temp. systems
- Enhanced safety and security
- A selection of controllers are available on the Thermo King exchange programme — exchange new for old at a lower net cost
- Thermo King offers a selection of remanufactured controllers with the same quality as new parts and at attractive prices

## Replacement parts

# Electrical components

Prior to introduction, Thermo King electrical components go through rigorous testing in equipment designed to push the component to its limits and solve any issues BEFORE the part is used in a Thermo King unit.

Reliability and accuracy are key and each component is given significant attention to ensure only the highest quality electrical parts are given the Thermo King name.

## Sensors & switches

**Key features**

- High quality materials selected specifically for Thermo King applications
- Proven reliability and accuracy through rigorous in-house testing at one of Thermo King's specially designed, global test facilities
- Less noise interference and a reliable signal in adverse electrical conditions



**Tech tip**

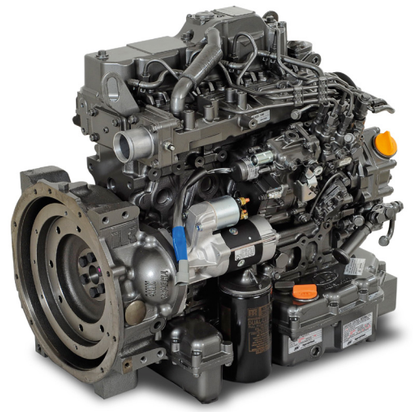
Toggle switches are defined by the number of terminal points in the back of the switch, whether the switch is opened or closed, and whether the switch has two or three positions. Thermo King offers all switches to fit your unit – contact your local dealer to ensure you get the right switch.

# Engines

Our engines are designed specifically for Thermo King applications with a focus on low emissions and high performance. Each engine is tested and validated to ensure compliance with our rigorous quality control standards.

The GreenTech engine from Thermo King drastically reduces emissions, waste and noise pollution, exceeding all known requirements, including the most stringent EU standards.

## Thermo King GreenTech engine



Exchange Parts

Remanufactured Parts

**Key features**

- High performance: GreenTech engines are not only the cleanest engine on the market today, they are also more powerful and cause less stress to components.
- Noise: no effect on overall sound power or pressure of unit. However, the tonal quality of the new engines is markedly superior.
- Bio-fuel compatibility: the new engine is approved for use with B5 fuels (5% bio/ 95% petroleum diesel) with no change in the maintenance schedule.
- Reduced emissions of particulate matter.
- A selection of engines are available on the Thermo King exchange programme -exchange new for old at a lower net cost.



**Tech tip**

Any time you replace an engine, we recommend you install a new oil pressure switch, a new water temperature switch and a new coolant thermostat.

**Replacement parts**

# Starters

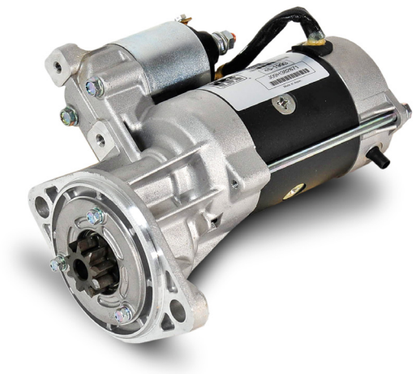
Keeping you on the road is our primary concern, genuine Thermo King Starters are the only starters designed for your Thermo King unit.

They are robustly designed to provide maximum start-up performance even in the most extreme winter conditions to ensure thousands of reliable starts.

## Genuine Thermo King starter

Exchange Parts

Remanufactured Parts



### Key features

- Genuine OEM starter that comes from the factory with new unit.
- Engineered specifically for Thermo King engine.
- Provide maximum durability and reduced operating costs.
- Designed to give your Thermo King unit optimal performance and maximum life.
- A selection of starters are available on the Thermo King exchange programme - exchange new for old at a lower net cost.
- Thermo King offers a selection of remanufactured starters with the same quality as new parts and at attractive prices.

## Tech tip

Thermo King remanufactured starters are microscopically analysed for damage to the armature. This evaluation catches imperfections that cannot be seen without this tool to ensure only the highest quality products make it to the market and significantly reduces the risk of failures.

# Alternators

The Thermo King alternator's long lasting and durable design includes heavy-duty bearings, a powder coated frame, electrical components sealed with silicone, and stainless steel hardware for corrosion resistance.

Proper charging is ensured through a proprietary temperature-compensated voltage regulator. The enhanced bronze slip rings and brushes provide increased durability for all the standard copper components.

## Thermo King alternator

Exchange Parts

Remanufactured Parts

### Key features

- Delivers the same performance and life as factory-new Thermo King components.
- Maximum corrosion resistance with epoxy powder coat paint and stainless steel hardware.
- A selection of alternators are available on the Thermo King exchange programme -exchange new for old at a lower net cost.
- Thermo King offers a selection of remanufactured alternators with the same quality as new parts and at attractive prices.

## Tech tip

Any time you change an alternator, we recommend installing a new drive belt to ensure maximum uptime before the next related service.

## Replacement parts

# Compressors

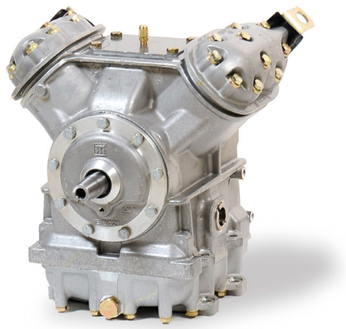
Thermo King design and build their own compressors specifically for the extreme demands of truck and trailer transport temperature control applications. Our compressors are built to last and are continuously developed to do justice to the high demands from customers.

Genuine Thermo King compressors are developed by dedicated teams of Thermo King engineers and tested extensively in state-of-the-art R&D centres for high performance and long life to keep you on the road for longer.

## X430P™ compressor

Exchange Parts

Remanufactured Parts

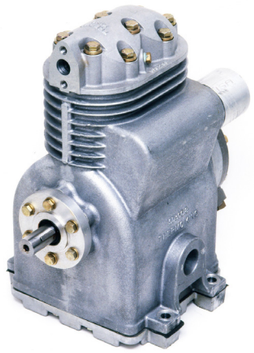


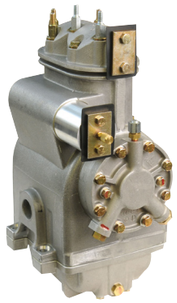
### Key features

- The most robust range ever developed with increased performance, capacity and utilisation.
- Reduced fuel consumption-reduced friction due to new high precision crankshaft bearings leads to longer compressor life and less fuel consumed.
- Increased life span - Thermo King uses oil pump housings designed to reduce stress on bearings, increasing the compressor lifespan.
- Pressurised shaft seal technology that keeps shaft seal lubricated in all operating conditions.
- Proven reliability - Thermo King compressors are engineered by Thermo King and extensively tested for optimum performance and reliability under extreme conditions.
- A selection of compressors are available on the Thermo King exchange programme -exchange new for old at a lower net cost.
- Thermo King offers a selection of remanufactured X430 C3 compressors at attractive prices.



## Reciprocating compressors





Exchange Parts

### Key features

- High volumetric efficiency vs. other reciprocating compressors due to more pumping capacity per cubic centimetre
- Reliable, time-tested design
- Field-repairable for easy service
- No special tools or facilities required
- Removable and replaceable cast iron cylinder sleeve design
- Available on the Thermo King exchange programme -exchange new for old at a lower net cost



## Tech tip

Thermo King sells all parts to repair Thermo King compressors, including connecting rods, crankshafts, pistons, bearings and more. Contact your Thermo King dealer today for more information.

# Compressors

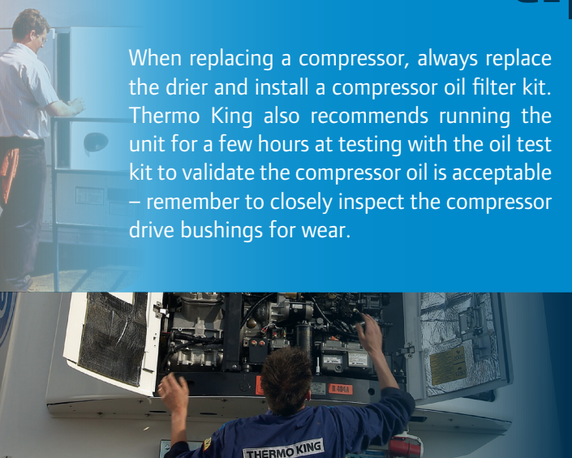
## Scroll compressors

**Key features**

- High efficiency and greater capacity
- Less noise and vibration
- Less maintenance (87% fewer moving parts)
- E nickel-plated Oldham coupling for greater reliability

## Tech tip

When replacing a compressor, always replace the drier and install a compressor oil filter kit. Thermo King also recommends running the unit for a few hours at testing with the oil test kit to validate the compressor oil is acceptable – remember to closely inspect the compressor drive bushings for wear.

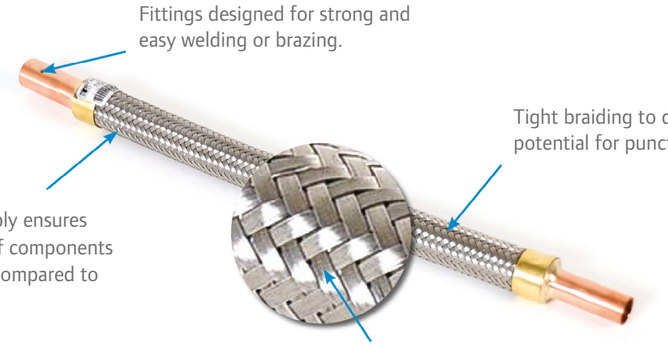



# Valves and vibrasorbers

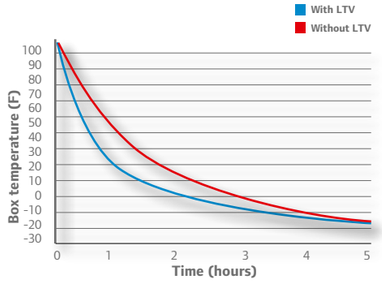
Thermo King refrigeration valves and vibrasorbers must pass rigorous testing to withstand the tough conditions a refrigeration unit faces on the road.

The corrugated metal used in Thermo King vibrasorbers is designed to be fireproof and decrease leak concerns. Corrugated metal hose is rated up to over 500°C compared to rubber hose with only a 120°C rating.

## Vibrasorbers




## Valves




The Electronic Throttling Valve (ETV) on Thermo King trailer units protects fresh loads while saving you time and fuel. ETV also maximises high-ambient temperature operating performance, improving load safety in hot summer weather.

**Key features**

- Improves pull downtime (and pull-up), increasing fuel efficiency
- Maximises capacity using a suction pressure control algorithm
- Increase temperature control in extreme ambient conditions



**Replacement parts**

## Finishing touches

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# Finishing touches

# Finishing touches

As your unit gets older it may need more repair, especially to maintain its appearance and its resale value.

Damaged insulated bodies, particularly doors and door seals have a major impact on the efficiency of the refrigeration systems. Thermo King dealers can examine the bodies and carry out simple repairs to improve the overall performance and reduce energy consumption, exhaust emissions and fuel consumption. Renew your fleet with Thermo King affordable replacement doors, panels and grills; we can help make your old unit look like new.

All Thermo King doors, panels and grills are made from high quality materials to improve the appearance of your unit whether this is required due to accidental damage or from regular wear and tear. All doors and panels are supplied fully primed and painted to the approved technology and environmental specifications so that we can offer our industry leading anti-corrosion warranty.

1. Geloy* ASA resin upper panels:
   - Colour saturated: no painting, no solvent release
   - 100% recyclable
2. Galvanised steel lower doors:
   - 100% recyclable
   - Powder painted: less than 2% loss, no solvent release

Your local Thermo King dealer can provide you with an affordable package to renew your unit whether it is a minor repair or a complete system overhaul.

- High quality material
- Designed for perfect fit and alignment
- Painted to original specification
- Improves efficiency of operation
- Impact resistant

Renew your fleet with Thermo King affordable replacement doors, panels and grills; we can help make your old unit look like new.



## Tech tip

When we design your new Thermo King unit, the key is in the details.
Every component, no matter how large or small, is important to the overall quality and performance of your unit. The gaskets and hardware are specially selected, tested and recommended for each Thermo King unit.
Even the smallest details matter.

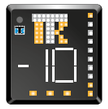
# Retrofit options

## Air Chute

Maintains uniform air and temperature distribution throughout your trailer.

## Protection bars

Prevent impact damage to the unit panels while allowing easy access for maintenance and service.




## Combo display

Allows viewing of unit status and alarms directly from the driver's cab, including operating mode, box temperature and fuel level.

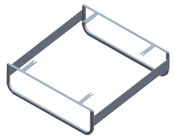
## TracKing

**Your intelligent remote monitoring system**

Monitor sensitive loads via the web.

## TouchPrint

Intuitive and flexible logging and printing operations.



## Remote evaporator guard

To protect against accidental damage when loading and unloading.

## ColdCube™

ColdCube are flexible, portable with cooling, freezing and heating functionality, refrigeration units for market entry applications.

## SR-3 rear remote control

Allows easy and safe control of the refrigeration unit from inside the rear of the trailer during loading.





## The 4-in-1 fuel filtration and priming system

- Fuel filter
- Water separator
- Priming pump
- Optional heating functionality

## Slim-line door switch

Shuts down the unit when doors are open to reduce load temperature rise and save fuel. Unit restarts when doors are closed.

## SafeGuard battery protection kit

Avoids a fully discharged battery and the resultant cost and inconvenience of downtime.

## UltraSonic fuel sensor

Enables high accuracy measurement of fuel within your Thermo King fuel tank.

## Fuel sensor

Uses the SR-3 to show the operator how much fuel remains in the tank and thus avoid nuisance shut-downs.

## Tail Lift Charger

Maintains the charge in tail-lift batteries by using the unit alternator.

## Diesel fuel tanks

- Plastic & aluminium options
- Different capacity sizes

For more information and a full list of options please contact your Thermo King dealer or visit **www.europe.thermoking.com**

# Finishing touches

ThermoKing is a brand of Ingersoll Rand®. Ingersoll Rand (NYSE:IR) advances the quality of life by creating comfortable, sustainable and efficient environments. Our people and our family of brands—including Ingersoll Rand®, ThermoKing®, Trane® and Club Car® — work together to enhance the quality and comfort of air in homes and buildings; transport and protect food and perishables; and increase industrial productivity and efficiency. We are a global business committed to a world of sustainable progress and enduring results.

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