



THERMO KING

B-Series

ALL-ELECTRIC TEMPERATURE
CONTROL FOR CHILLED, FROZEN
AND PHARMA PRODUCTS



IR Ingersoll Rand®

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B-Series

B-100 is our extended all-electric unit range delivering outstanding refrigeration capacity for small trucks and vans. Because no compressor is needed in the engine compartment, your vehicle can operate its original AC system. The B-Series is ideal for use in noise sensitive areas. The units are powered by the vehicle battery and conveniently controlled from the driver's seat by the Thermo King Direct Smart Reefer controller.

By adding TrackKing™ you can now follow, monitor and trace shipments in real-time from a remote location, ensuring product integrity and on-time delivery. There is even a Pharma Kit so your vehicle can attain full Good Distribution Practice (GDP) qualification. All versions give you the convenience of all-electric operation for fresh and frozen goods, in heating and cooling modes and low noise.

Across the range, compact component dimensions ensure maximised load space. Installation couldn't be easier as no vehicle modifications are needed. The B-100 range is built and backed by the world leader in transport temperature control systems, supported by our worldwide Dealer network and multi-lingual 24/7 ThermoAssistance Service.



B-Series – flexible, dependable, compact and quiet

The B-Series Thermo King refrigeration units are designed for fresh or frozen applications on small trucks and vans. The compressor is driven by the vehicle's battery. On the 20 and 50 models, an AC motor in the condenser allows the unit to run on electric stand-by.

Total load protection with low operating costs.

The B-Series is a range of high performance, high efficiency units delivering effective temperature control with low cost of ownership.

Direct Smart Reefer technology puts you in control.

The advanced and user-friendly Direct Smart Reefer controller gives you complete control of your B-Series unit from the comfort and safety of the cab. Key data is simply presented so that operating errors can be minimised.

Go-anywhere tracking and monitoring.

TracKing™ GPS/GPRS is now available across the B-Series meaning you can stay connected to your vehicle and its load whenever and wherever it goes. Cargo and vehicle security never looked so easy.

Quiet operation and zero exhaust emissions - you'll be welcome to deliver anywhere, anytime.

Urban deliveries demand people-friendly equipment so you can access your customers 24/7. By using the vehicle battery to power our compressor, you have a system which has no engine, no emissions and low noise.

Rapid and cost-effective service and maintenance.

B-Series units are designed with ease of service as a priority. Your DSR controller provides maintenance reminders and uses easy to understand alarm codes to speed up diagnosis.

No matter your business, we have a system to suit.

Your customers demand that you are adaptable, so we gave you a system which is as flexible as you are. Choose from a wide range of units, roof mount or front mount, fresh or frozen.

Easy installation keeps costs to a minimum.

To keep your initial costs down, we make installation really straightforward. And because the B-Series doesn't need a compressor installed in the engine compartment, no vehicle modifications are needed.

ALL NEW ECO MODELS

EXTREME LOW CONSUMPTION, SUPER FLEXIBLE.

ECO versions are ideal for small electric vehicles with auxiliary 12V batteries, thanks to their low 45W power consumption. ECO models are a good solution also for internal combustion engine vehicles and does not require to upgrade alternator.

Features include:

- » Quiet operation for noise sensitive areas
- » ATP certified
- » Available in 50Hz and 12VDC versions to built multiple vehicle types
- » Available with standby and electric heating (10, 20, 30 and 50 models)
- » Compatible with internal combustion engine vans and small electrical vehicles.



Features and options

Description

The B-100 range operates with a compressor powered by the vehicle battery. It provides constant cooling and heating capacity independent of the vehicle engine. Where electric stand-by is required, an AC motor is fitted in the condenser. The aerodynamic condenser can be roof or front mounted, depending on the vehicle body shape.

Models available

MODEL	COOLING	HEATING	ELECTRIC STANDBY	APPLICATION	CONSUMPTION (AMPS)**		REFRIGERANT
					12V	24V	
B-100 10	✓			Fresh	65	31	R-134a
B-100 20	✓		✓	Fresh	65	31	R-134a
B-100 30	✓	✓		Fresh & Heat	65	31	R-134a
B-100 50	✓	✓	✓	Fresh & Heat	65	31	R-134a
B-100 10 ECO*	✓			Fresh	48	n.a.	R-134a
B-100 20 ECO*	✓		✓	Fresh	48	n.a.	R-134a
B-100 30 ECO*	✓	✓		Fresh & Heat	48	n.a.	R-134a
B-100 50 ECO*	✓	✓	✓	Fresh & Heat	48	n.a.	R-134a
B-100 10 MAX	✓			Fresh & Frozen	70	34	R-452A/R-404A
B-100 20 MAX	✓		✓	Fresh & Frozen	70	34	R-452A/R-404A
B-100 30 MAX	✓	✓		Fresh & Frozen & Heat	70	34	R-452A/R-404A
B-100 50 MAX	✓	✓	✓	Fresh & Frozen & Heat	70	34	R-452A/R-404A

* ECO versions are compatible with small electric vehicles due to their low power consumption.

** Conditions: ATP conditions (30°C ambient temperature and 0°C box temperature)

Operation

» Low battery voltage protection

Refrigeration Capacity

System net cooling capacity under ATP Certificate 10A00017 conditions

	ROAD OPERATION		ELECTRIC STAND-BY	
REFRIGERATION CAPACITY: SYSTEM NET COOLING CAPACITY AT 30°C AMBIENT TEMPERATURE				
Return air to evaporator	-20°C	0°C	-20°C	0°C
Cooling Capacity (W) – R-134a	n.a.	1010	n.a.	1000
Cooling Capacity (W) – MAX (R-452A/R-404A)	470	1180	450	1050
Cooling Capacity (W) – ECO R-134a	n.a.	780	n.a.	720
Heating Capacity (W) – All except ECO versions	680		700	
Heating Capacity (W) – ECO versions	340		700	

B-SERIES	
EVAPORATOR BLOWER PERFORMANCE	
Air volume	680 m ³ /hr (400 cfm)
COMPRESSOR	
Displacement	47.7 cc (2.9 cu.in.)
Number of cylinders	6
DEFROST	
Defrost	Automatic hot gas defrost

B-Series Selection guide

The B-series range provides constant cooling capacity and electrical heating independent of the vehicle engine. This means there is no need to install a road compressor and drive kit in the engine compartment.

The constant cooling and heating capacities ensure faster temperature pull-down and tighter temperature control when compared to a traditional refrigeration unit with an engine driven compressor.

30 and 50 models provide constant heating capacity over the road. Because heating is electrical, the compressor is not used and the capacity is not affected by ambient temperature.

TARGETTED VOLUME	APPLICATION		
	FROZEN	FRESH	AMBIENT
R-134a	n.a.	8 m ³	10 m ³
MAX	3 m ³	10 m ³	12 m ³
ECO	n.a.	6.75 m ³	8 m ³

Assumptions: K factor 0.4 – Ambient temperature 30°C – 2 door openings per hour of 3 minutes each

“Living beside a busy industrial bakery, I used to get woken up at crack of dawn with the noise of refrigerated vans picking up their loads. Well, that’s history now since their fleet of vans got these electric fridge units. It’s hard to believe they’re running at all.”

“Quiet days for me and my neighbours!”



Simona Holbrook, Pedestrian

Features and options

	B-100
LIFE COST MANAGEMENT	
ThermoKare service contracts	▲
DATA CAPTURE AND COMMUNICATIONS	
TracKing™	△ ▲
TouchPrint Data Logger Premium	▲
Wintrac (data analysis software)	▲
LOAD PROTECTION	
Pharma Kit	△ ▲
Door switch	△
LIFE COST MANAGEMENT	
Din adapter	△
Hose cover	△
Snow cover (also called kit deflector small)	△

△ Option: factory installed ▲ Option: dealer supplied

ThermoKare

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

TracKing™

TracKing™ is a web-based solution that uses GPR(S) technology to track and trace shipments in real-time. Data is fed to the DSR and to the independent sensors of the TouchPrint Premium. Now you can guarantee product integrity and on-time delivery while satisfying the need to establish critical controls at all points of the supply chain.

TouchPrint Data Logger Premium

- » Available in two options mutually exclusive to fit two different kinds of installations: inside the vehicle cabin and outside.
- » Up to 6 independent sensors.
- » Is able to communicate the DSR information for Telematics purposes.

Wintrac (data analysis software)

User-friendly software compatible with DSR controller for configuration file downloads.

Pharma Kit

The Pharma Kit enables B-Series units to meet Pharma GDP qualification requirements. Good Distribution Practice (GDP) protocol has been developed by Thermo King with supervision and validation by independent specialists serving the pharmaceutical industry.

Units equipped with the Pharma Kit can be used for the “Pharma Last Mile”, including transport from distributors, wholesalers or manufacturers to hospitals and pharmacies. Available on all 30 and 50 models with the exception of ECO versions.

Features and options

Door Switches

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

Din Adapter

The Din Adapter box allows the DSR controller to be fitted to the vehicle dashboard. The aesthetically designed box allows the placement of the DSR controller in any available radio slot in the driver’s cab.

Hose Covers

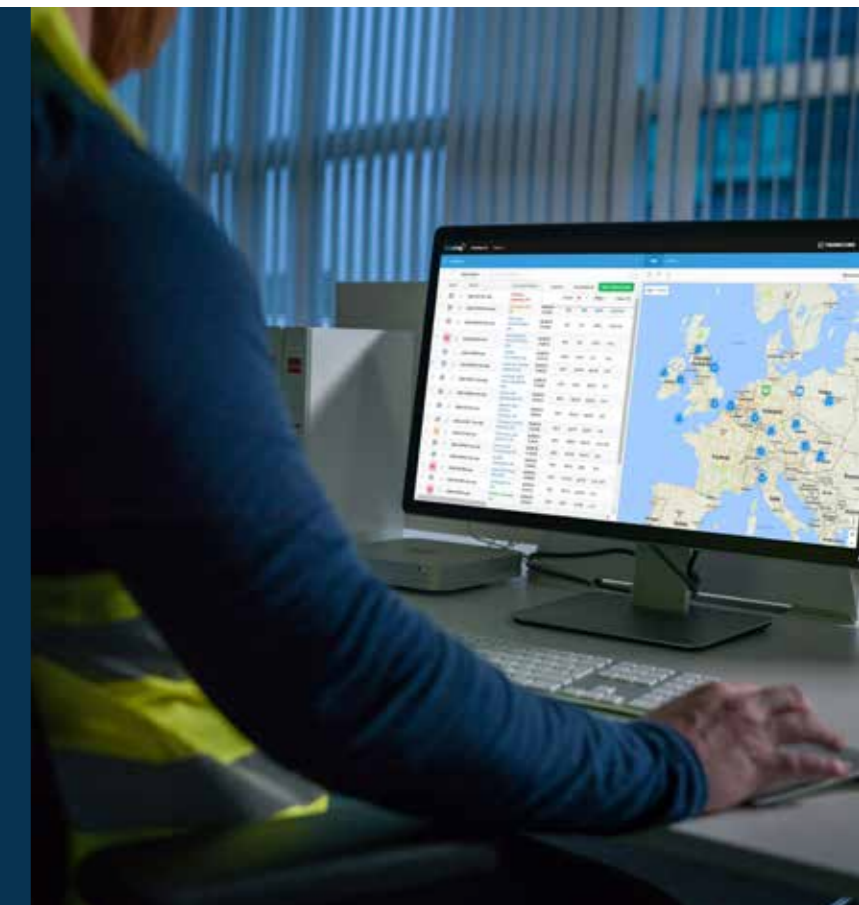
Full protection of hoses and cables on the road in all weather. Designed with superior aesthetics and exceptional durability. User friendly installation. Not suitable for vans.

Snow Covers

Designed to protect your unit against extreme climate conditions. The aerodynamically designed snow cover prevents the build-up of snow and ice on unit fans, avoiding downtime and repair costs.

“With TracKing and Bluetooth we can now follow, monitor and trace shipments remotely and in real-time. It means we can alert the driver if there’s a problem and get it sorted. Because we can see the locations of our whole fleet, we’ve improved our delivery performance and we’re getting much better vehicle utilisation.”

“Being connected is better for us, better for our customers.”



Harry Leavy, Fleet Manager

B-Series upgrade: Specifications

ATP Tests available on InfoCentral

MODEL	GDP QUALIFIED
B-100 10	
B-100 20	
B-100 30	✓
B-100 50	✓
B-100 10 ECO*	
B-100 20 ECO*	
B-100 30 ECO*	On demand
B-100 50 ECO*	On demand
B-100 10 MAX	
B-100 20 MAX	
B-100 30 MAX	✓
B-100 50 MAX	✓



PHARMA KIT FOR B-SERIES

Pharmaceutical manufacturers and logistics providers understand the critical nature of maintaining the quality and integrity of medical and biological products during transport. If a shipment is compromised, the risk is more than simply loss of cargo - it can actually compromise the health and well-being of patients.

EU guidelines covering design, installation, operations and performance qualification in the Pharma industry are supported by Good Distribution Practice (GDP) protocol to ensure that the high level of product quality, determined by good manufacturing practices, is maintained throughout the distribution chain. As industry leaders, Thermo King has fostered the GDP concept with supervision and validation by independent specialists serving the pharmaceutical industry.

The Pharma Kit ensures full Good Distribution Practice (GDP) qualification for small Thermo King refrigerated vehicles including the B-Series range, ensuring that product quality is maintained to the very highest standard throughout the distribution chain and especially during the vital "last mile". These deliveries are typically performed by small vans and trucks for which the all-electric B-Series cooling units are a perfect match.

Industry statistics indicate that:

- » 25% of vaccines reach their destination in a degraded state because of incorrect shipping.
- » Almost 30% of scrapped sales at pharmaceutical companies can be attributed to logistics issues.
- » Almost 20% of temperature-sensitive health care products are damaged during transport due to a broken cold chain.
- » Approximately 0.5% of transported goods are damaged during transport through non-compliance to temperature guidelines.

Source: World Health Organisation (WHO), Parenteral Drug Association (PDA) and other industry estimates.

Common non-compliance issues include failure to:

- » Monitor and/or record storage temperatures
- » Temperature-map warehouses to find hot and cold spots
- » Calibrate temperature monitoring devices
- » Take appropriate action when temperature excursions are noted

Source: Recent review of regulatory inspection findings for UK wholesale distributors.



Martin Smith, Pharmacist

"In our business, temperature accuracy is absolutely critical, and deliveries that don't meet the strictest of criteria will be rejected. No exceptions. Ever since our transporter switched to the new Pharma approved B-Series, there has been a notable drop in load rejections. They tell me the new units allow them to monitor the load from door to door and I see the evidence every day."

"I'm impressed with the significant drop in load rejections."

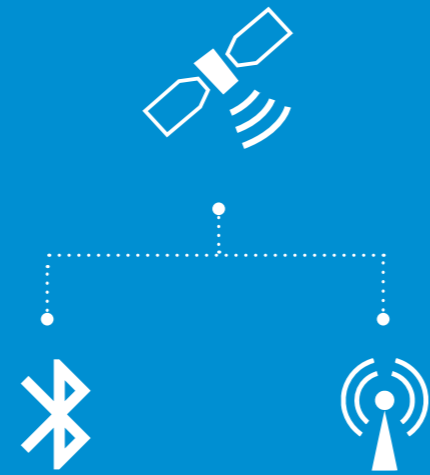
GET CONNECTED!

STAY IN TOUCH WITH YOUR GOODS IN TRANSIT 24/7.

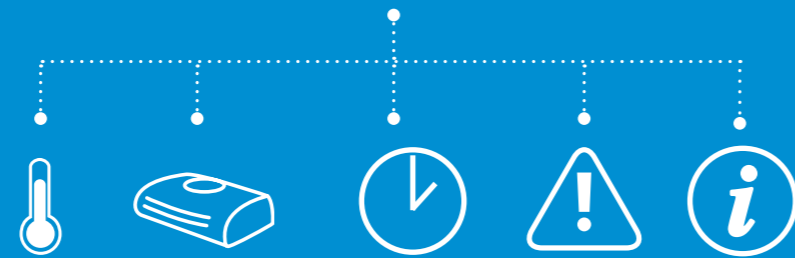
Every vehicle fitted with a Thermo King B-Series unit can now have TracKing™ GPS/GPRS technology. And that means full remote monitoring of critical data including:

- » Set point and return air temperature
- » Unit status
- » Hours of operation
- » Alarm codes
- » Door status
- » Geolocalisation

Possibility of retrofitting refrigeration units already in the field.



App accessible via Bluetooth and GPRS

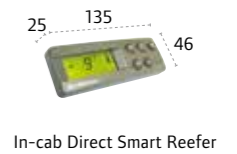
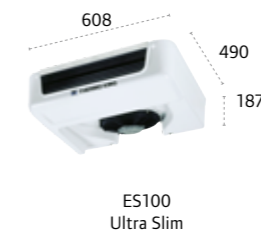


24/7

B-SERIES		
ELECTRIC MOTORS		
DC voltage options*		12V dc and 24V dc
Electric stand-by options*	Voltage/ phase/ frequency	230/1/50/ 230//1//60 115/1/60
WEIGHT		
Without standby		47 kg
With standby		59 kg
Evaporator ES100		9 kg

* ECO versions only available at 12V and 50HZ.

Dimensions (in millimeters)



“My job is to deliver on time and on temperature. I need a controller that gives me the key info but is also quick and easy to use. That’s the B-Series in a nutshell. And now that I can monitor the load remotely with Bluetooth, I know for a fact that my cargo will arrive in perfect condition.”

“Brilliant controller. Tells me all I need to know.”

Susan Howard, driver



WARRANTY CONDITIONS

Terms of the Thermo King Warranty are available on request. The unit and its components are warranted to be free from defects in material and workmanship from date in service according to the terms (in months) as specified in the Thermo King Warranty. Manufacturer is not responsible and will not be held liable in contract or tort (including strict liability and negligence) for any special, indirect or consequential damages including but not limited to injury or damage caused to vehicles, contents or persons, by reason of the installation or use of any Thermo King product or its mechanical failure.



OUR DEALER SERVICE NETWORK ANYTIME, ANYWHERE, ALWAYS THERE

THERMO KING'S DEALER NETWORK IS THE MOST EXTENSIVE IN THE BUSINESS

- » Over 500 authorised service points in 75 countries
- » 1400 fully trained and certified technicians with Gold, Silver and Bronze Certi-Tech expertise certifications
- » Open and available 24/7



FIND THE DEALER CLOSEST TO YOU WITH OUR ONLINE DEALER LOCATOR
DEALERS.THERMOKING.COM

MORE DEALER SERVICES

- ✓ Emergency assistance
- ✓ Service contracts
- ✓ Genuine Thermo King parts
- ✓ Options and Accessories
- ✓ Mobile service
- ✓ Calibration and leak testing
- ✓ ...

As a Thermo King owner, you have invested in trusted and proven technology. So when maintaining your unit, it makes sense to choose original Thermo King replacement parts. It is reassuring to know that every part has been exhaustively tested to the same world-class standards as your Thermo King unit. Genuine parts last longer and perform dependably day after day, year after year.

Talk to your dealer to find the best solution for your needs and know you always get the best.

ALWAYS INSIST ON GENUINE THERMO KING SERVICE PARTS.



ThermoKare is a complete selection of service contract solutions designed to optimise fleet efficiency, minimise operating costs and maximise equipment resale values. When you choose a ThermoKare programme you let the experts service your fleet while you focus on your business. Your Thermo King Dealer will take care of maintenance planning, scheduling, invoice interpretation and general fleet administration.

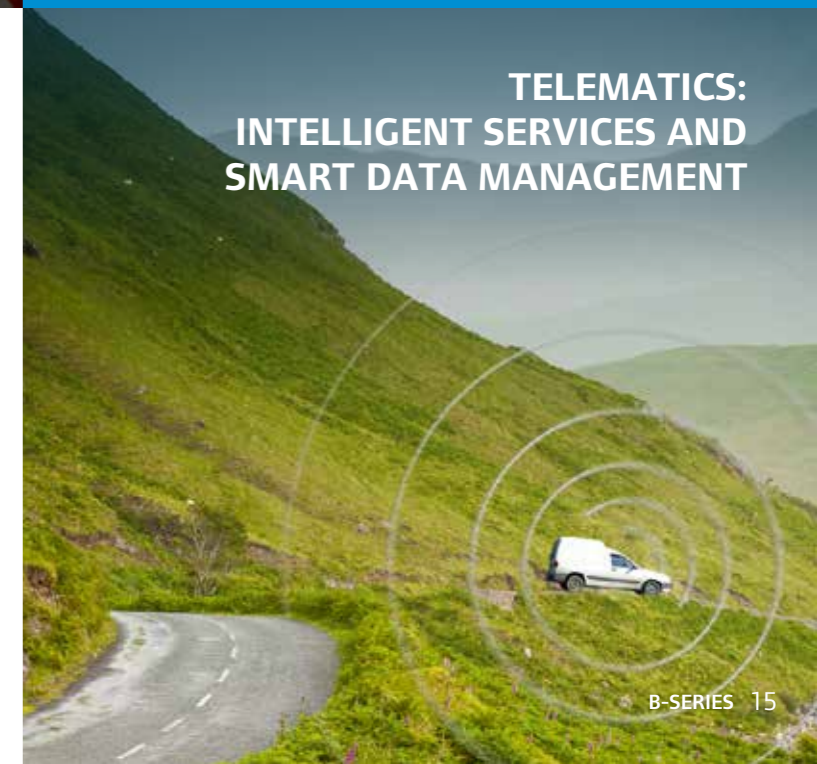


ThermoAssistance is a multilingual telephone service putting you in contact with an authorised Thermo King Service Dealer whenever the need arises. It is available across Europe 24/7/365.

TELEMATICS: INTELLIGENT SERVICES AND SMART DATA MANAGEMENT

The transportation industry has always been about connectivity. It brings products to consumers all over the world and has enabled a global marketplace. Today, connectivity has taken on even greater meaning due to the amazing technologies that are within our grasp. Thermo King's Telematics portfolio offers innovative data storage, transfer and management solutions giving you the competitive edge in food safety, regulatory conformity, fleet usage and data control.

TK Wintrac is just an example. Check it out on europe.thermoking.com/telematics





europe.thermoking.com



For further information please contact:



Thermo King 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®, Thermo King®, 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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