THERMO KING

Direct Drive Truck Units

A complete line of refrigeration units for a wide variety of vehicle chassis and applications.



TRANE TECHNOLOGIES

CLEAN, EFFICIENT, RELIABLE.

THERMO KING DIRECT DRIVE VEHICLE-POWERED UNITS FOR A WIDE VARIETY OF APPLICATIONS

Every day your business faces new challenges - increasing fuel costs, new idling and noise regulations, food safety, driver turnover - all while you're expected to continue to deliver the freshest product possible to your customers. That's where Thermo King comes in. With a full range of vehicle-powered units to suit your needs, from straight trucks to delivery vans, or groceries to home-cooked meals, Thermo King has the temperature control solution for you.

DELIVERING WHAT MATTERS:

- **Low Fuel Consumption and Running Costs** achieved by optimizing performance according to the capacity demand, thereby reducing the fuel consumption of the truck.
- **Controller** delivers optimum temperature control and monitoring.
- **Superior Capacity and Airflow** to ensure superior temperature distribution to protect the product load.
- **Electric Standby** options to support maximum protection of the load at any time.
- **Outstanding Pull-Down Capacity** for improved pull-down and recovery time to guarantee product quality.
- **Ideal for Demanding Conditions** and functions in ambient temperatures up to 122°F with both R134A versions for fresh and R452A for frozen applications.
- **Sustainable** operation with the e200 unit. It uses R452A refrigerant, which supports a lower GWP.
- **Low Noise Level** in all operating conditions, particularly in steady state conditions.
- **CARB TRU Exemption** saves you time and money by not having to register units or do expensive compliance upgrades.
- **Multi-Temperature Operation** for transporting combinations of fresh and frozen goods gives you maximum flexibility.

DEALER NETWORK

Get support anywhere, anytime

The Thermo King dealer network gives you the support you need, whenever and wherever you are, with factory-trained expert service and genuine Thermo King parts.

- 200+ dealers
- 500+ mobile trucks
- 800+ service bays
- 900+ factory certified technicians

Find your local dealer at: thermoking.com/dealer



The B-100 and e200 units are part of our all-electric portfolio, called evolve™. The evolve portfolio aligns with our customers' goals to transition to more sustainable solutions for their fleets, and will help advance Trane Technologies' 2030 Sustainability Commitments, including its Gigaton Challenge to reduce customer greenhouse gas emissions by 1 billion metric tons.



B-100

The B-100 is a compact, all-electric unit that provides outstanding refrigeration capacity for small trucks and vans in fresh applications. The system is powered by the vehicle's battery (minimum 250 amp alternator recommended) and does not require a compressor mounted in the engine compartment or extra refrigerant hoses. The B-100 is controlled by the controller, which delivers maximum temperature control and efficiency.



B-100 FEATURES INCLUDE:

- Ultra-thin ceiling mounted evaporator to increase payload space
- Low battery voltage protection
- SmartPower electric standby standard (115 VAC)
- Hermetic refrigeration system
- Lightweight construction
- R134A refrigerant
- 12VDC
- Backed by Thermo King's world-wide service network

E200

The e200 is a full-electric unit for small and medium-size vans and trucks. Designed for both electric and engine-powered vehicles, the e200 can help ensure operations remain compliant with a growing array of regional and national regulations concerning the reduction of noise and CO2 emissions.

The system also does not require a compressor mounted to the vehicle engine as it draws power from the vehicle alternator (requires 95-120 amps).



E200 FEATURES INCLUDE:

- With no road compressor or drive kit, all the major components are fully integrated – making it a plug and play solution
- Controller for single and multi-temp, delivers constant capacity independent of the vehicle RPM
- Capable of communicating with the vehicle to enhance power management
- SmartPower™ electric standby standard (230V or 115V)
- Variable speed compressor
- Uses R452A refrigerant, which has a lower global warming potential (GWP) than other refrigerants, making it more enviromental-friendly
- Telematics is an option to support fleet management capabilities



V-520 NOSEMOUNT AND ROOFTOP

The V-520 provides superior cooling performance in two different packages: nosemount and rooftop. The nosemount unit is ideal for medium size box trucks, while the rooftop arrangement is perfect for large vans and body-on-chassis vehicles with reach-in side compartments. Only Thermo King offers a unit with this much capacity in a slim line package (just 6 inches above the roof for non-standby units).

Both units use an engine-mounted TK-16 compressor or optional TK-312 reciprocating compressor. Refrigerant R452A is available for MAX and SPECTRUM units for frozen and multi-temp applications, while R134A is available for fresh applications.

V-520 FEATURES INCLUDE:

- SmartPower electric standby option (230 VAC)
- Automatic hot gas defrost
- Optional heating package (hot gas, MAX units)
- Jet lube compressor lubrication
- Jet cool compressor injection cooling (MAX units)
- Controller
- 12VDC
- 24VDC (non-standby units only)
- Lightweight construction
- Long life condenser fans

V-520 NM (Nosemount)







V-520 RT (Rooftop)





V-220/V-320

The V-220 and V-320 vehicle powered units deliver day-in and day-out cooling performance for small van or compartmental applications. Both systems use an engine-mounted compressor (TK-13 and TK-15 respectively) and are available in MAX configurations for higher capacity needs or frozen goods.



V-220/V-320 FEATURES INCLUDE:

- SmartPower electric standby option (115 or 230 VAC)
- Automatic hot gas defrost
- Optional heating packages
  - Coolant heat option (V-220/320)
  - Hot gas heat option (V-320)
- Jet lube compressor lubrication
- Jet cool compressor injection cooling (MAX units)
- Controller
- R134A or R452A (MAX) refrigerants
- 12VDC
- Lightweight construction
- Hourmeters - Road/ standby/total hours plus maintenance counter
- Optional snow cover







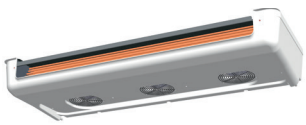
V-800

The V-800 is the largest vehicle-powered system that Thermo King has to offer. The unit provides unparalleled cooling performance, even up to trucks 24′ in length. Use the V-800 where large urban transport is needed, but the higher costs of maintaining an extra diesel engine are not.

The V-800 consists of a two-piece, split design for fresh, frozen and deep frozen applications for medium to large trucks. The road compressor is powered by the vehicle's engine and the electric standby compressor is powered by an electric motor located in the unit.

V-800 Series units are equipped with an industry-standard swash plate compressor, which uses a wide range of drive kits for ease of installation.





V-800 FEATURES INCLUDE:

- Highest cooling capacity on the market
- SmartPower electric standby option (230 VAC)
- Automatic hot gas defrost
- Jet lube compressor lubrication
- Jet cool compressor injection cooling (MAX units)
- Controller
- 12VDC
- 24VDC
- Lightweight construction
- Low-noise operation
- Long life condenser fans

CONTROLLER

MICROPROCESSOR-BASED INTELLIGENT CONTROL

- Advanced control but simple to use
- Flexible and modular
- Enables control and monitoring of the refrigeration unit from inside the cab



IN-CAB DISPLAY:

Equipped with features to provide the best user interface experience, including LCD technology for comfortable exposure and outstanding display conditions and an LED backlight for optimal viewing without additional light. Multiple available functions provide the flexibility to adapt to your specific transport application while guaranteeing optimal temperature control and product integrity while displaying alarm code symbols for quick driver response.

STANDARD FEATURES:

- Automatic start-up to restart unit in case of power interruption, switches between standby and over-the-road operation automatically
- Separate hour meters to record total unit on time, engine compressor run time and electric standby compressor run time
- Simple alarm codes for rapid diagnosis and reduced maintenance costs
- Manual or automatic defrost allowing defrost initiation and termination to be scheduled to suit the application
- Vehicle battery protection with low voltage monitoring, sequential evaporator starts and “soft starting” during unit power-up
- Compressor protection with optional “soft start” feature to increase engine compressor life

PROGRAMMABLE FEATURES:

- Set-point lock prevents the driver modifying a pre-determined temperature
- Door switches shut down the unit when door is opened to help maintain box temperature and protect the load (optional)
- Wintrac®, a Windows-based software package, allows configuration parameters to be edited in the field and system values such as voltage, pressure and alarms to be logged and read
- Firmware upgrades can be carried out in the field
- Independent control of two-compartments on Spectrum® multi-temp units allows compartments to switch on/off independently
- Evacuation mode to pump down the system

CONTROL BOARD:

- Modular concept, separating the control and power relay boards (VPRS-111)
- Improved reliability, serviceability and component replacement
- Reduced service and maintenance costs



COMPRESSORS FOR V-SERIES

Thermo King vehicle-powered systems use industry-standard swash plate compressors that deliver excellent performance in a compact size. The compressor is sized for the size of the unit and speed of the engine. For increased reliability and performance, the TK-208 and TK-312 reciprocating compressors are also available when the truck chassis will allow.

AVAILABLE OPTIONS:

DOOR SWITCH KIT

Reduces load temperature rise and saves fuel when the vehicle doors are opened by turning off the refrigeration system. Unit will automatically restart when doors are closed.

DIN ADAPTOR

The din adaptor box enables the controller to be installed in the vehicle dashboard. The aesthetically-designed box allows the controller to be fitted in any available radio slot.

HOSE COVERS

Highly durable kits providing total protection for hoses and cables while enhancing vehicle appearance. Easily installed on all bodies. Metal and plastic options are available.

MUFFLER KIT

Purpose-designed kit to eliminate transmission of unit vibration and noise into the driver cab. Provides significant gains in driver comfort.

SNOW COVERS

Designed to protect the unit condenser in extreme conditions. The aerodynamically-designed snow cover prevents the build-up of snow and ice on fan blades, avoiding downtime, and additional maintenance costs.

BOX SIZE/TEMPERATURE GUIDE*



Temp	6′	8′	10′	12	14	16	18	20	22
35°F -2°C	V-220, B-100 or e200	V-220, B-100 or e200	V-320 or e200	V-320 or V-520RT	V-520 or V-520RT	V-520 or V-520RT	V-520 or V-520RT	V-800 MAX	V-800 MAX
0°F -18°C	V-220 MAX or e200	V-320 MAX	V-320 MAX or V-520RT MAX	V-520 MAX, or V-520RT MAX	V-520 MAX or V-520RT MAX	V-520 MAX or V-520RT MAX	V-800 MAX	V-800 MAX	Contact your Dealer
-20°F -29°C	V-220 MAX	V-320 MAX or V-520RT MAX	V-320 MAX or V-520RT MAX	V-520 MAX or V-520RT MAX	V-800 MAX	V-800 MAX	Contact your Dealer	Contact your Dealer	Contact your Dealer

*For cooling applications only. Above reference assumes 3″ of insulation for 35°F (2°C), 0°F (-18°C) and 4″ for -20°F (-29°C); ten door openings per delivery day; box dimensions of 96″W and 96″H on trucks 10′ and over in length.

Model	Refrigerant	Truck Engine Cooling Capacity-BTU/hr			Electric Standby Cooling Capacity-BTU/hr			Evap Airflow	Coolant Heating-BTU/hr		Hot Gas Heating-BTU/hr	
		35°F	0°F	-20°F	35°F	0°F	-20°F	CFM	Engine	Electric	Engine	Electric
B-100*	R134A	3,600	----	----	3,700	----	----	400	----	----	----	----
e200	R452A	4,700	2,700	----	4,700	2,700	----	470	2,300	2,300	----	----
V-220*	R134A	5,930	----	----	4,700	----	----	650	14,400	5,000	----	----
V-220 MAX**	R452A	7,160	4,775	3,170	5,250	3,410	2,265	650	14,400	5,000	----	----
V-320*	R134A	9,590	----	----	6,690	----	----	765	14,400	5,000	----	----
V-320 MAX	R452A	10,015	5,835	3,535	5,801	3,790	2,565	765	14,400	5,000	10,875	5.393
V-520*	R134A	12,200	----	----	10,000	----	----	1,415	----	----	----	----
V-520 RT*												
V-520 MAX	R452A	15,500	8,200	5,000	10,400	6,600	3,500	1,415	----	----	14,000	8,000
V-520 RT MAX												
V-520 SPECTRUM												
V-520 RT SPECTRUM												
V-800*	R134A	16,400	----	----	16,500	----	----	1,576	----	----	----	----
V-800 MAX	R452A	20,500	9,500	6,000	21,000	11,000	6,200	1,576	----	----	----	----

* Non-MAX units (R134A) are rated at 0ºF but not allowed to operate below 25ºF due to system protection. All standby capacities rated with 230 VAC option.
** Hot gas heat not available on V-220 Series.

THERMO KING

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* or *tranetechnologies.com*.

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