

UT-SERIES

— efficiency, reliability and durability —



SINGLE AND MULTI-TEMPERATURE SELF-POWERED
REFRIGERATION SYSTEM FOR UNDERMOUNT APPLICATIONS
ON TRUCKS AND DRAW-BAR TRAILERS

UT-Series

The Thermo King UT-800, UT-1200 and UT Spectrum have been designed with both you and the environment in mind. These units are not only kind to the environment, but also kind to your pocket. Specifically developed for undermount applications on trucks and draw-bar trailers. The UT Spectrum provides total protection for both fresh and frozen goods in a range of two and three compartment configurations and multi-temperature flexibility for distribution operations where low noise is critical.

The units have undergone intensive testing at our state-of-the-art global research and development centres, so it goes without saying that when you deal with Thermo King you are dealing with the industry benchmark in reliability, performance, durability and efficiency.

Benefits to you

- Lower fuel consumption
- Smaller and lighter
- Low-cost installation
- Easy service accessibility
- Advanced TSR-3 Controller
- The flexibility of carrying products at different temperatures in one vehicle
- Full 2-year warranty
- Fast pull-down and temperature recovery

Benefits for the environment

- Low fuel consumption
- Reduced engine exhaust emissions with GreenTech™ engine (NRMM Stage V compliant)
- EMI 2000 hours extended maintenance interval
- Whisper-quiet operation for urban access
- R-452A refrigerant delivers reduced Global Warming Potential (GWP) for a 45% reduction in environmental impact.
- Multi-temperature configuration means greater vehicle utilization and therefore fewer vehicles on the road.

Why choose the UT-Series?

There is more than one reason why the UT-Series is the solution for you:

Lower fuel consumption

Through extensive development and field experience, Thermo King has 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-3 Controller means greater fuel efficiency.
- An innovative microchannel condenser coil helps to reduce fuel consumption by over 10% compared to a conventional tube and fin condenser coil.

Lower life cycle costs

- The new TSR-3 Controller allows optimum management of all functions within the unit, helping you to lower costs with each load.
- The extended maintenance interval EMI 2000, means that there is now up to 2000 hour intervals between engine oil and filter changes. This will help to lower maintenance costs significantly.
- Compact and light design reduce overall vehicle weight, thus increasing vehicle payload and enhancing fuel efficiency.
- All new UT-Series units come with a full 2-year warranty*.

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

Easy to use and service

- The new and intuitive TSR-3 Controller, means error-free operation, is now simpler than ever. By simply using the symbolic display, errors can become a thing of the past.
- Low level alerts for oil and coolant.
- Easily programmable service intervals and scheduled maintenance reminders.
- Easy service accessibility to electrical and engine components.

Reduced emissions & waste

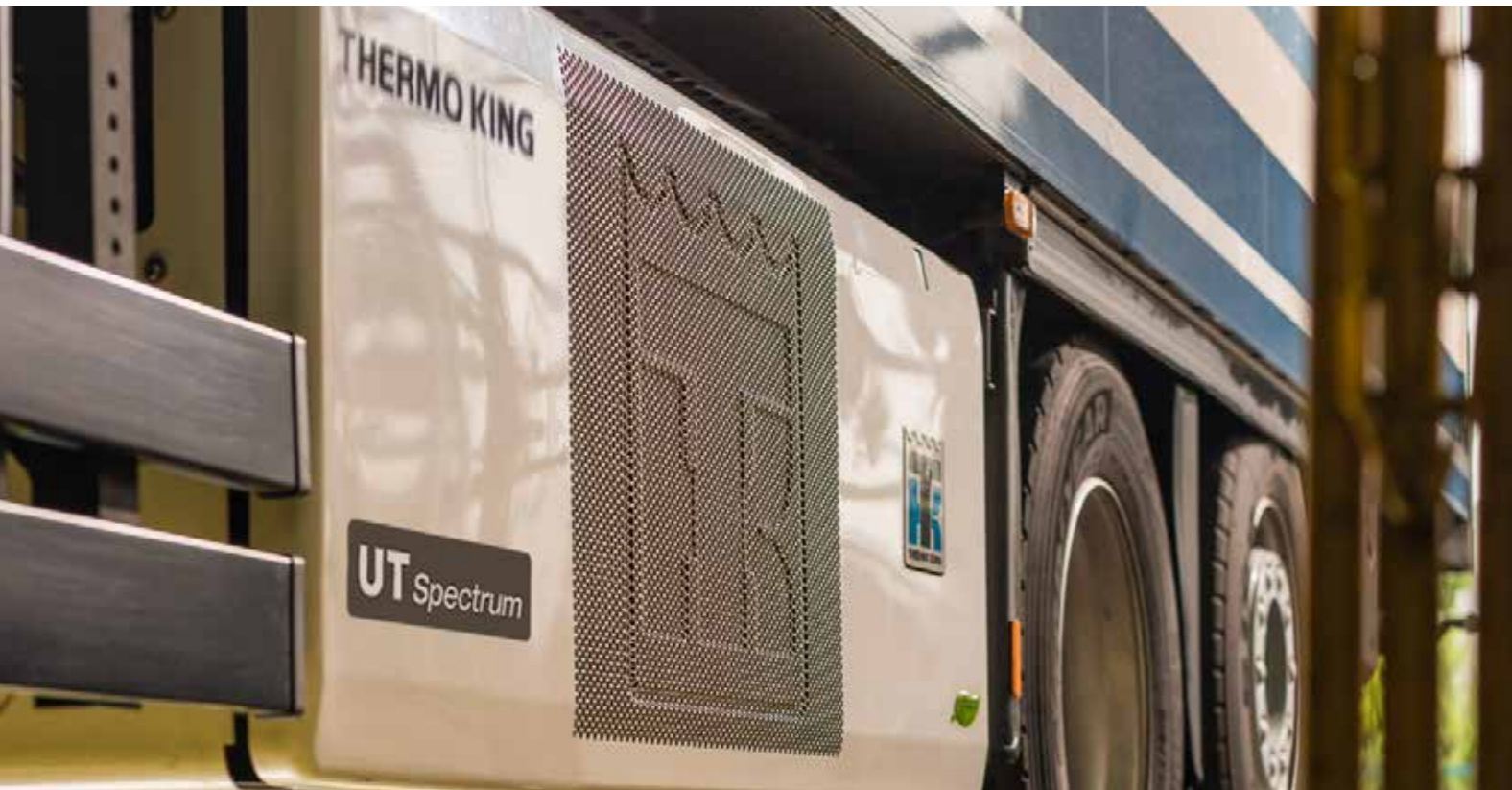
- With the introduction of the GreenTech™ engine you can be assured that the UT-Series is playing its part in keeping the environment safe. These engines are by far the cleanest on the market, significantly exceeding all EU requirements. (NRMM: Stage V)
- Large reduction of oil, filter and coolant waste through EMI 2000.
- 99.7% of the unit material is recyclable.
- The UT-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.

Capacities for every requirement

- Whatever your capacity requirements, we have a solution that suits your usage.
- Cut down on energy waste and save operating costs.
- All units are thoroughly tested up to 50°C ambient temperatures.

Why choose the UT Spectrum?

- Designed for the toughest urban distribution cycles.
- Proven to protect fresh and frozen loads during multi-drop operations.
- Adaptable multi-temperature capability to maximize fleet utilization.
- Faster pull-down to ensure cargo quality is maintained during and after door openings.
- Proven reliability through extensive field trial and laboratory test hours.



Quality you can rely on

Number one for efficiency, reliability and durability – The UT-Series from Thermo King was born from years of extensive research, testing and experience; imitated by many, perfected only by Thermo King.

At every stage of the development, the UT-Series units have 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 UT-Series refrigeration unit for any type of application, in all conditions, and without compromise.

State of the art GreenTech™ engine

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

Extended Maintenance Interval: EMI 2000

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

Condenser coils

- A larger condenser enables high temperature capability, further capacity and more efficiency, all with whisper-quiet operation.
- The microchannel condenser coils provide a number of additional performance benefits which will ensure operating profits and reliability are enhanced.

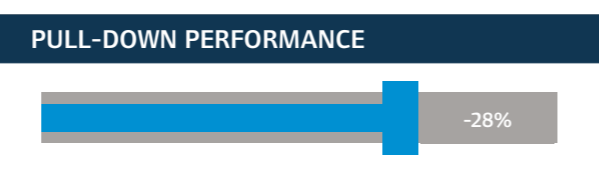
These features include:

- Reduced fuel consumption
- Reduced engine and compressor temperatures
- Reduced refrigerant charge
- Reduced weight
- Increased recyclability.

Scroll compressor

Technological advantages

- High efficiency means high capacity.
- Greater capacity means faster pulldown and temperature recovery.
- 87% fewer moving parts means high reliability and longer life.
- Lower fuel consumption means more operating profit.
- The scroll set to optimise the high ambient performance is cooled through liquid injection.



Corrosion prevention

Due to the extreme environments in which the UT-Series will operate, corrosion prevention was a key priority in the designing of these units. Some of these world-class leading features include:

- An automotive grade electrocoated (e-coated) frame.
- An all aluminum microchannel coil to eliminate galvanic corrosion.
- Extensive use of painted aluminum and galvanised steel for skins and other components.

Environmental advantages

- Less fuel required means less fuel consumed.
- Less fuel consumed means lower diesel emissions.
- Whisper-quiet operation means lower noise emissions.

The new TSR-3 Controller – simple and intuitive

Install confidence amongst your fleet and your drivers with the easy to use TSR-3 Controller. This innovative symbolic display means the operator can make adjustments and settings with confidence.

Intuitive interface

Make operator errors a thing of the past with the TSR-3 in-cab display. This easy to use interface is the perfect solution, regardless of what language you speak. All information is displayed with easy to understand symbols and is effortless to navigate. For those who need that little bit extra, the graphic TSR-3 Premium in-cab display is also available. With 21 languages, misunderstandings are eliminated.



TSR-3 Standard in-cab display



TSR-3 Premium in-cab display

Fuel savings

The TSR-3 Controller includes features that significantly reduce fuel consumption:

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

Improved diagnostics with ServiceWatch™

Clearer diagnostics with ServiceWatch™ make it a pleasure to use for service technicians. Potential problems become easier to understand and response times are shortened. The built-in preventative maintenance logger is a recorder that provides improved diagnostics and keeps track of all system performance and functionality. By recording all operational parameters, service diagnostics are significantly improved, ensuring service technicians have reliable and valuable information to hand at all times.

Easy-to-read LED display

The LED display is bright and clear, providing better visibility in all light conditions and at all ambient temperatures.

Enhanced safety and security

Total load protection is a priority for you and your end customers. The TSR-3 Controller offers numerous features to ensure goods arrive in prime condition:

- 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 standby hour meter display
- DAS (Data Acquisition System) and TracKing™ compatibility.

The GreenTech™ Engine from Thermo King

Low emissions, high performance



The UT-Series truck refrigeration units are equipped with the class-leading 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.

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 also been enhanced; 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. Make sure you are doing your bit for the environment and do not take less than GreenTech™.



Engine life

The engine used for the UT-Series is more powerful, than any other on the market; even running at no more than 80% of its maximum output. This means, both oil and coolant temperatures are reduced greatly, resulting in less component stress and engine wear. Longer engine life = higher savings.

Bio-fuel compatibility

All new GreenTech™ engines are approved for use with B7 fuel (7% bio/93% petroleum diesel) with no change in maintenance schedules. Fuels with higher bio-diesel content (B8 up to B100) require shorter intervals between oil changes and injector servicing. Contact your Thermo King representative for more information.

Extended maintenance interval: EMI 2000

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

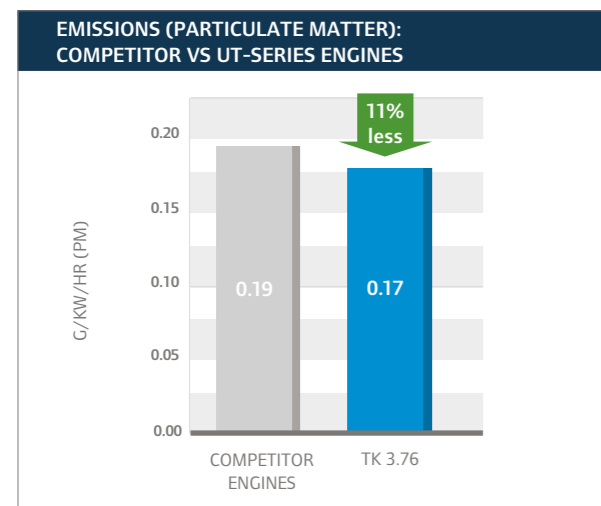
Whisper quiet operation

In times where noise pollution is a growing concern, whisper quiet operation has never been more important. Those distributing to urban and noise sensitive areas will welcome this introduction, particularly for nighttime deliveries.

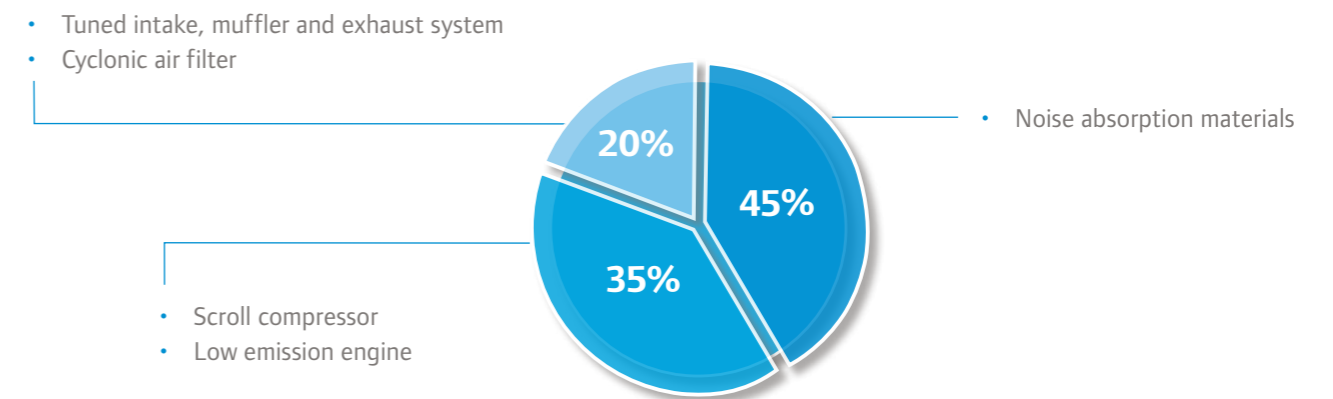
It is with this in mind that the UT-800, UT-1200 and UT Spectrum were designed. We realised, that not only did we have to pay attention to containing noise emissions; we also had to look at reducing noise from the source. A considerable amount of components in both units were designed to operate at minimum noise levels while still maintaining the integrity of all operations.

Whisper quiet operation

The belt drive system and fan are positioned at the back of the unit, resulting in a significant decrease in noise levels over other layouts trialled. This, combined with sound-abating technology around critical components, make the UT-Series significantly quieter than any competitor systems.



Percentage contribution to noise reduction



Features and Options

ThermoKare

ThermoKare offers a comprehensive range of service contract options, helping to manage your maintenance costs and the total life cost of your unit.

Warranty coverage

2-year warranty coverage on unit and options*

*2nd year warranty coverage subject to mid-term inspection



Cycle-Sentry

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

- Fuel and CO₂ savings of up to 80%
- Increased component life
- Reduced maintenance costs

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 oil, filter and coolant waste.
- Extending engine life with improved, highly efficient filtration.

Thermo King EnergyOne Silver battery 640CCA

- Incorporates silver-calcium technology to extend service life to over 20% more than conventional batteries.

Thermo King EnergyOne Gold battery 760CCA

- For customers operating in colder climates, this 760CCA upgraded EnergyOne Gold battery delivers greater power than the standard battery.

Thermo King EnergyOne Platinum battery 880CCA

- Uses Absorbed Glass Mat (AGM) technology with deep-cycle capability and enormous cranking power.
- Maintains capacity at extremely low temperatures better than a wet cell battery.
- Saves you the time and money of battery replacements through an expected five to eight year service life also backed by our 2-year warranty.

DAS (Data Acquisition System)

This high performance data recorder system records temperatures, set-point, operating modes and external events. An invaluable option for your unit.

- Data can be output to a computer or a printer
- Operates independently of unit controller
- Memory storage for over one year's worth of data
- Assures 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.

TrackKing



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 ThermoKare service contract. TrackKing is compatible with all Thermo King dataloggers and controllers.
- More information at www.tktracking.com

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.

TouchPrint Data Logger

- Thermo King's TouchPrint data logger is compact, easy to use, flexible to download and quick to generate printouts.

Auto phase correction

- Avoids reverse fan rotation while on electric standby.
- Protects your load.

Diesel/electric auto switching

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

Door switches

- Reduces the load temperature rise and saves fuel when doors are opened.

TSR-3 standard in-cab display

- Simplified keypad to reduce the risk of incorrect operation of the system, cutting down on errors.
- Visible set-point confirmation for load protection.
- Programmable features allow tailoring of operating conditions to each load.

TSR-3 premium in-cab display

- Enables greater control of every aspect of a UT-Series unit.
- Allows access to all programmable features on the TSR-3 Controller.
- Simple and logical menus, easy to read screen and choice of 21 languages.

TherMax system

- Faster defrosts.

Evaporator guard

- Maximum protection against evaporator damage during loading and unloading.
- Easy to install.
- Exceptional quality.

TSR-3 rear remote control

- Allows easy control of the refrigeration unit from inside the rear of the truck.
- Enables energy efficient and safe loading.

Body mount enclosure

- Allows external mounting of in-cab displays on drawbar truck bodies, allowing for easy access.

90L Fuel tank

- Approved for diesel and bio-diesel.
- Vibration resistant as per Thermo King standards.
- Mechanical fuel gauge with option to upgrade to electrical.
- Galvanised drain plug as standard.
- Corrosion resistant installation kit (e-coated).

FEATURES AND OPTIONS	UT-800	UT-1200	UT SPECTRUM
LIFE COST MANAGEMENT			
ThermoKare service contracts	▲	▲	▲
2-year warranty coverage	●	●	●
Cycle-Sentry start/stop control system	●	●	●
EMI 2000 extended maintenance	●	●	●
Thermo King EnergyOne Silver battery 640CCA	●	●	●
Thermo King EnergyOne Gold battery 760CCA	△	△	△
Thermo King EnergyOne Platinum battery 880CCA	△	△	△
DATA CAPTURE & COMMUNICATIONS			
DAS (Data Acquisition System)	▲	▲	▲
TrackKing (tracking and load monitoring)	▲	▲	▲
Wintrac (data analysis software)	▲	▲	▲
TouchPrint Data Logger	▲	▲	▲
LOAD PROTECTION			
Auto phase correction	●	●	●
Diesel/electric auto switching	●	●	●
Door switches	△	△	△
TSR-3 standard in-cab display	●	●	△
CUSTOMIZATION			
TSR-3 premium in-cab display	△	△	●
TherMax system	●	●	●
Evaporator guard	▲	▲	▲
TSR-3 rear remote control	△	△	△
Body mount enclosure	△	△	△
90L Fuel tank	▲	▲	▲
Flexible hoses	▲	▲	▲
Electronic Fuel Capture	▲	▲	▲
Remote Status Light and Combination Display	▲	▲	▲

- Not Available
- Standard Feature
- △ Option: Factory Supplied
- ▲ Option: Dealer Supplied

Exclusive driver training software

Avail of Thermo King's Tutor Series with "Professor Kool™". This software provides rapid and effective interactive training to reduce driver error and will ensure you get the best results from the operation of your equipment.

Specifications

SPECIFICATIONS		UT-800 (ES-800)		UT-1200 (S3 + S3)		UT-1200 (E-EVAP)		UT SPECTRUM	
REFRIGERATION CAPACITY: SYSTEM NET COOLING CAPACITY AT 30°C AMBIENT TEMPERATURE UNDER A.T.P. CONDITIONS									
Return air to evaporator	Celsius	0°C	-20°C	0°C	-20°C	0°C	-20°C	0°C	-20°C
Capacity on engine power	W	9400	5400	11200	6600	11400	6600	10550	6050
Capacity on electric standby	W	7700	4500	8900	5100	8000	5200	7700	4500
AIRFLOW									
Airflow volume @ 0 Pa static pressure	m³/hr	2640		4700		3350		S-2: 1420 S-3: 2350	
Discharge velocity (air throw)	m/sec	6.5		9.5		6.6		9.5	
WEIGHT INCLUDING EVAPORATOR									
Model 50: cooling and heating on engine & electric standby operation (unit + evaporator)	kg	530		597		580		S-3 + S-3 = 597 S-3 + S-3 + S-2 = 633	
ENGINE: LOW EMISSIONS, 3 CYLINDER, LIQUID COOLED									
Model		TK376U		TK376U		TK376U		TK376U	
Rating	kW	14.6		14.6		14.6		14.6	
Maintenance interval	hrs	2000		2000		2000		2000	
COMPRESSOR: ALUMINIUM									
Model		TK06 Scroll		TK06 Scroll		TK06 Scroll		TK06 Scroll	
Displacement	cc	98		98		98		98	
ELECTRIC STANDBY OPTION									
Voltage / Phase / Frequency		200V/3Ph/60Hz 230V/3Ph/60Hz 400V/3Ph/50Hz 460V/3Ph/60Hz	200V/3Ph/60Hz 230V/3Ph/60Hz 400V/3Ph/50Hz 460V/3Ph/60Hz	200V/3Ph/60Hz 230V/3Ph/60Hz 400V/3Ph/50Hz 460V/3Ph/60Hz	200V/3Ph/60Hz 230V/3Ph/60Hz 400V/3Ph/50Hz 460V/3Ph/60Hz	200 V/3 Ph/60 Hz 230 V/3 Ph/50 Hz 230 V/3 Ph/60 Hz 400 V/3 Ph/50 Hz			
Rating	kW	7.5		7.5		7.5		7.5	
REFRIGERANT: R-452A, FUTURE PROOF COMPLIANCE WITH F-GAS REGULATIONS (2020 REVISION)									
Charge	kg	4.7		4.7		4.5		8.5	

Specifications are subject to change without notice.
Airflow volume and weight will be cumulative. Capacity will depend on unit configuration.



WARRANTY SUMMARY

Specific terms of the Ingersoll Rand Ltd. 24 month full warranty are available on request (refer to operator's manual). 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

Product segmentation

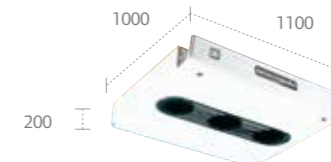
Box length in metres	< 7.5	> 7.5	> 7.5
	5.0 - 7.5	> 7.5	7.5 - 9.0
Unit model			
	UT-800	UT-1200	UT SPECTRUM

*The above recommendations are for average running conditions and will be affected by operational factors such as climate temperature and door openings. To ensure the best selection for your application please contact your Thermo King representative.

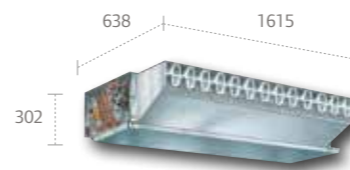
Dimensions (mm)



UT-800/UT-1200/UT SPECTRUM



S-3



E-type Evaporator



ES800

Multi-temperature configurations

- Great zone flexibility
- 2 & 3 zone configuration
- S-2*, S-3, or S-4 Remote Evaporators
- ATP Certified

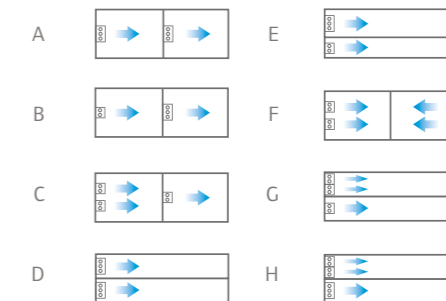
* For S-2 evaporators, minimum operating temperature is -21°C

Zone configurations

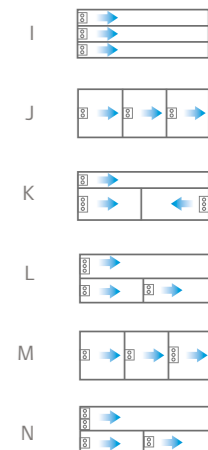
	REMOTE
A	S-3 + S-3
B	S-2 + S-3
C	S-4 + S-2
D	S-3 + S-3
E	S-3 + S-2
F	S-4 + S-4
G	S-4 + S-2
H	S-4 + S-3
I	S-2 + S-2 + S-2
J	S-2 + S-2 + S-2
K	S-3 + S-3 + S-2
L	S-3 + S-2 + S-2
M	S-2 + S-2 + S-3
N	S-4 + S-2 + S-2

Zone plans

2 zones



3 zones





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 further information, please contact:
europe.thermoking.com

Find your nearest dealer on
dealers.thermoking.com

TRANE
TECHNOLOGIES