



V-SERIES SPECTRUM RANGE

Multi Temperature

Total flexibility for fresh,
frozen and deep frozen applications
Choose compartment or lane configuration
Precise temperature management
Ideal for urban distribution



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Delivering unmatched
efficiency and the lowest overall
cost of ownership

V-SERIES SPECTRUM RANGE

Multi Temperature

The V-Series Spectrum range offers multi temperature solutions to suit vehicles from small vans to large trucks up to 7 metres in length. Designed to meet all the requirements of the two-temperature distribution sector, it is equally suitable for both compartment and lane configurations.

The V-Series Spectrum range provides maximum flexibility thanks to its ability to switch between fresh, frozen and deep frozen temperatures in each compartment. Across the range, heating performance has been enhanced to meet the most demanding conditions.

The range includes four levels of cooling capacity, ensuring a precise match between the unit and the specific needs of a particular distribution operation.

Compartment configuration is fully flexible; it can be fresh-fresh, fresh-frozen, frozen-fresh, or frozen-frozen. Such adaptability reduces the number of vehicles needed in a fleet and offers increased flexibility to shippers.

All models in the V-Series Spectrum range are powered by the vehicle engine. By dispensing with the need for an independent diesel engine, they provide a low noise, low emissions solution, with minimal environmental impact. As a result, they are ideally suited to urban distribution.



Frozen and fresh



Fresh only



Frozen only



Fresh and frozen

V-Series Spectrum: total flexibility to meet specific needs

The V-Series Spectrum has been designed to ensure the operator gets exactly the configuration his operation requires. Selection can be made based on vehicle size, over-the-road power consumption or stand-by power consumption. There need be no compromises.

Selection based on vehicle size

The table provides a guide to match vehicle body volume and ambient temperature to a unit model with the necessary airflow and cooling capacity.

Consultation with a Thermo King dealer is always strongly recommended.

VEHICLE SIZES UP TO:	30°C	40°C
V-200 MAX Spectrum	12m ³	9m ³
V-300 MAX Spectrum	16m ³	12m ³
V-500 MAX Spectrum	22m ³	17m ³
V-500 MAX PLUS Spectrum	26m ³	20m ³
V-700 MAX Spectrum	40m ³	30m ³

Recommendations are based on pre-cooled loads. A K value of 0.35 W/m²K is used for frozen goods (-20°C) and 0.5 W/m²K for fresh goods (0°C and +6°C). A maximum distribution cycle of 8 hours is assumed. Recommendations are based on V-200 MAX Spectrum ES100+ES100, V-300 MAX Spectrum ES150+ES150, V-500 MAX Spectrum ES300+ES300 and V-700 MAX ES400+ES400 configurations. Recommendations are not a guarantee of performance as there are many variables to be considered. Always consult a Thermo King dealer for a detailed application guide.

Enhanced heating capacity

Thermo King has enhanced the heating capacity of all the V-Series Spectrum range. The new levels of performance will comfortably meet the requirements of customers operating in low ambient conditions. In addition, increasingly specialised operations, such as those found in the pharmaceutical industry requiring positive temperatures, will benefit from the assurance of enhanced heating capability.

ROAD OPERATION	
V-200 MAX Spectrum ES100 + ES100	2800 W
V-300 MAX Spectrum ES150 + ES150	3100 W
V-500 MAX Spectrum ES300 + ES300	3600 W
V-700 MAX Spectrum ES400 + ES400	4500 W

Conditions: +18°C internal air temperature, -18°C ambient air temperature

Defrost

- Automatic hot gas defrost

Selection based on total over-the-road power consumption

TOTAL OVER-THE-ROAD POWER CONSUMPTION	12 VDC	24 VDC
V-200 MAX Spectrum ES100 + ES100	32 A	16 A
V-300 MAX Spectrum ES150 + ES150	32 A	16 A
V-300 MAX Spectrum ES150 + ES100	32 A	16 A
V-300 MAX Spectrum ES200 + ES100	39 A	19.5 A
V-500 MAX Spectrum ES300 + ES300	42 A	21 A
V-500 MAX Spectrum ES300 + 2 x ES150	42 A	21 A
V-500 MAX Spectrum 2 x ES150 + 2 x ES150	42 A	21 A
V-500 MAX Spectrum ES300 + ES150	35 A	17.5 A
V-700 MAX Spectrum ES400 + ES400	N/A	32 A
V-700 MAX Spectrum ES500 + 2 x ES150	N/A	38.5 A
V-700 MAX Spectrum ES500 + ES150	N/A	35 A

Selection based on total stand-by power consumption

TOTAL STANDBY CURRENT CONSUMPTION	230/1 PHASE 50HZ	230/1 PHASE 60HZ	400/3 PHASE 50HZ	230/3 PHASE 50HZ	230/3 PHASE 60HZ
V-200 MAX Spectrum ES100 + ES100	11.2 A	12.2 A	5.5 A	9.5 A	9.8 A
V-300 MAX Spectrum ES150 + ES150	11.2 A	12.2 A	5.5 A	9.5 A	9.8 A
V-300 MAX Spectrum ES150 + ES100	11.2 A	12.2 A	5.5 A	9.5 A	9.8 A
V-300 MAX Spectrum ES200 + ES100	11.7 A	12.7 A	5.8 A	10 A	10.3 A
V-500 MAX Spectrum ES300 + ES300	20.3 A	20.3 A	9.3 A	16.1 A	18.4 A
V-500 MAX Spectrum ES300 + 2 x ES150	20.3 A	20.3 A	9.3 A	16.1 A	18.4 A
V-500 MAX Spectrum ES300 + ES150	19.8 A	19.8 A	9 A	15.6 A	17.9 A
V-500 MAX Spectrum 2 x ES150 + 2 x ES150	20.3 A	20.3 A	9.3 A	16.1 A	18.4 A
V-700 MAX 50 Spectrum ES400 + ES400	N/A	N/A	11.9 A	20.6 A	N/A
V-700 MAX 50 Spectrum ES500 + 2 x ES150	N/A	N/A	12.4 A	21.4 A	N/A
V-700 MAX 50 Spectrum ES500 + ES150	N/A	N/A	12.1 A	20.9 A	N/A

V-Series Spectrum range

V-SERIES SPECTRUM



Refrigerant





Stand-by



Heating



	V-200 MAX 30 Spectrum ES100 + ES100	R-404A	X	✓
	V-200 MAX 50 Spectrum ES100 + ES100	R-404A	✓	✓
	V-300 MAX 30 Spectrum ES150 + ES150	R-404A	X	✓
	V-300 MAX 50 Spectrum ES150 + ES150	R-404A	✓	✓
	V-300 MAX 30 Spectrum ES150 + ES100	R-404A	X	✓
	V-300 MAX 50 Spectrum ES150 + ES100	R-404A	✓	✓
	V-300 MAX 30 Spectrum ES200 + ES100	R-404A	X	✓
	V-300 MAX 50 Spectrum ES200 + ES100	R-404A	✓	✓
	V-500 MAX 30 Spectrum ES300 + ES300	R-404A	X	✓
	V-500 MAX 50 Spectrum ES300 + ES300	R-404A	✓	✓
	V-500 MAX 30 Spectrum ES300 + 2 x ES150	R-404A	X	✓
	V-500 MAX 50 Spectrum ES300 + 2 x ES150	R-404A	✓	✓
	V-500 MAX 30 Spectrum ES300 + ES150	R-404A	X	✓
	V-500 MAX 50 Spectrum ES300 + ES150	R-404A	✓	✓
	V-500 MAX 30 Spectrum 2 x ES150 + 2 x ES150	R-404A	X	✓
	V-500 MAX 50 Spectrum 2 x ES150 + 2 x ES150	R-404A	✓	✓
	V-700 MAX 50 Spectrum ES400 + ES400	R-404A	✓	✓
	V-700 MAX 50 Spectrum ES500 + 2 x ES150	R-404A	✓	✓
	V-700 MAX 50 Spectrum ES500 + ES150	R-404A	✓	✓

V-200 MAX SPECTRUM

The V-200 MAX Spectrum is the smallest unit in the V-Series Spectrum platform, created for vans or trucks up to 12 m³. It is available with an ES100 + ES100 configuration, the smallest evaporators in the range in order to properly address the size limitation of the smallest vans on the market.

System components

- Small condenser section: V-200 Series without electric stand-by
- Large condenser section: V-200 Series with electric stand-by
- Ultra slim evaporator ES100
- Engine driven compressor
- Installation kit
- In-cab Direct Smart Reefer
- MT module

Swash plate compressor (TM13)

- Number of cylinders: 6
- Displacement: 131 cm³ (8 cu. in.)
- Maximum recommended speed: 3,000 rpm
- Jet Lube™ and Jet Cool™ compressor lubrication and cooling systems



Swash plate compressor (TM13)

Refrigerant: R-404A

RANGE	AMOUNT
V-200 MAX 30 Spectrum	1.45 kg
V-200 MAX 50 Spectrum	1.50 kg

Chlorine: Zero



Specifications

SPECIFICATIONS	V-200 MAX SPECTRUM
Total nominal capacity on engine power at -20°C/30°C	
ES100 + ES100	1520 W
Total nominal capacity on electric standby at -20°C/30°C	
ES100 + ES100	1060 W
EVAPORATOR	
Individual capacity on engine power	
0°C/30°C	2340 W
-20°C/30°C	1225 W
Individual capacity on electric standby	
0°C/30°C	1560 W
-20°C/30°C	830 W
EVAPORATOR FAN PERFORMANCE	
Airflow volume @ 0 Pa static pressure	695 m³/h

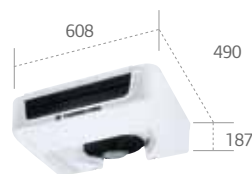
Capacity on engine power given at 2,400 rpm (ATP conditions)

WEIGHTS (APPROXIMATE)	KG
Condenser w/o electric standby	25
Condenser with electric standby	75
ES100 (Ultra Slim Evaporator)	9
Installation kit (incl. cpr.)	28
MT modules	9

Dimensions (mm)



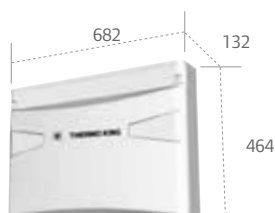
V-200 with electric standby



ES100 Ultra slim evaporator



V-200/V-300 Condenser without electric standby



MT Module



In-cab Direct Smart Reefer

V-300 MAX SPECTRUM

The V-300 MAX Spectrum is suitable for vans and trucks up to 16 m³ and can be configured with three evaporator options (ES150 + ES150, ES200 + ES100 and ES150 + ES100), to meet the widest range of applications.

System components

- Small condenser section: V-300 Series without electric stand-by
- Large condenser section: V-300 Series with electric stand-by
- Ultra slim evaporator ES100
- Ultra slim evaporator ES150
- Ultra slim evaporator ES200
- Engine driven compressor
- Installation kit
- In-cab Direct Smart Reefer (DSR)
- Multi temperature (MT) module

Swash plate compressor (TM15)

- Number of cylinders: 6
- Displacement: 146.7 cm³ (8.95 cu. in.)
- Maximum recommended speed: 3,000 rpm
- Jet Lube™ and Jet Cool™ compressor lubrication and cooling systems



Swash plate compressor (TM15)

Refrigerant: R-404A

RANGE	AMOUNT
V-300 MAX 30 Spectrum	1.55 kg
V-300 MAX 50 Spectrum	1.60 kg

Chlorine: Zero



Specifications

SPECIFICATIONS	V-300 MAX SPECTRUM		
Total nominal capacity on engine power at -20°C/30°C			
ES150 + ES150	1780 W		
ES150 + ES100	1630 W ***		
ES200 + ES100	1740 W ***		
Total nominal capacity on electric standby at -20°C/30°C			
ES150 + ES150	1000 W		
ES150 + ES100	915 W ***		
ES200 + ES100	975 W ***		
EVAPORATOR	ES150 MAX	ES100 MAX	ES200 MAX
Individual capacity on engine power			
0°C/30°C	2830 W	2435 W	2890 W
-20°C/30°C	1615 W	1330 W	1600 W ***
Individual capacity on electric standby			
0°C/30°C	1400 W	1735 W	2260 W
-20°C/30°C	930 W	995 W	1250 W ***
EVAPORATOR FAN PERFORMANCE			
Airflow volume @ 0 Pa static pressure	760 m³/h	695 m³/h	1070 m³/h

Capacity on engine power given at 2,400 rpm (ATP conditions)

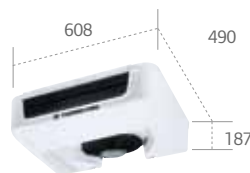
*** Internally tested

WEIGHTS (APPROXIMATE)	KG
Condenser w/o electric standby	25
Condenser with electric standby	75
ES100 (Ultra slim evaporator)	9
ES150 (Ultra slim evaporator)	12,5
ES200 (Ultra slim evaporator)	15
Installation kit (incl. cpr.)	28
MT modules	9

Dimensions (mm)



V-300 with electric standby



ES100 Ultra slim evaporator



ES150 Ultra slim evaporator



V-200/V-300 Condenser without electric standby



ES200 Ultra slim evaporator



In-cab Direct Smart Reefer



MT Module

V-500 MAX SPECTRUM

The V-500 MAX Spectrum is designed for medium-sized trucks (four to five metres in length).

It has the capability to maximise vehicle load capacity, being offered in four different evaporator configurations (ES300 + ES300, ES300 + 2 x ES150, ES300 + ES150 and 2 x ES150 + 2 x ES150).

System components

- Condenser
- Slim-line evaporator ES300 MAX and ES150 MAX
- Engine driven compressor choice between reciprocating and swash plate compressor
- Installation kit (note: evaporator hoses are not supplied for 3 or 4 evaporator configurations)
- In-cab Direct Smart Reefer (DSR)

Compressor (engine driven)

- **Swash plate compressor (TM16):**
 - Number of cylinders: 6
 - Displacement: 163 cm³ (9.9 cu. in.)
 - Maximum recommended speed: 3,000 rpm
 - Jet Lube™ and Jet Cool™ compressor lubrication and cooling systems
- **Reciprocating compressor (TK-312R):**
 - Number of cylinders: 3
 - Displacement: 186.7 cm³ (11.4 cu. in.)
 - Maximum recommended speed: 3,000 rpm
 - Jet Lube™ and Jet Cool™ compressor lubrication and cooling systems

Refrigerant: R-404A

RANGE	AMOUNT
V-500 MAX 10 Spectrum	2.3 kg
V-500 MAX 20/30 Spectrum	2.4 kg
V-500 MAX 50 Spectrum	2.5 kg

Chlorine: Zero



Swash plate compressor (TM16)



Reciprocating compressor (TK-312R)



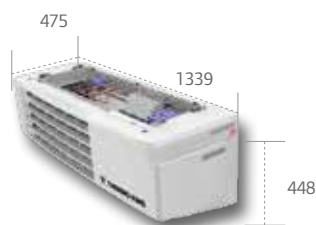
Specifications

SPECIFICATIONS	V-500 MAX SPECTRUM		
Total nominal capacity on engine power at -20°C/30°C			
ES300 + ES300	2390 W		
ES300 + 2 X ES150	2390 W		
ES300 + ES150	2390 W		
2 X ES150 + 2 X ES150	2390 W		
Total nominal capacity on electric standby at -20°C/30°C			
ES300 + ES300	2005 W		
ES300 + 2 X ES150	2005 W		
ES300 + ES150	2005 W		
2 X ES150 + 2 X ES150	2005 W		
EVAPORATOR	ES300 MAX	2 X ES150 MAX	ES150 MAX
Individual capacity on engine power			
0°C/30°C	3585 W	3975 W	2925 W
-20°C/30°C	1930 W	2055 W	1580 W
Individual capacity on electric standby			
0°C/30°C	3385 W	3595 W	2580 W
-20°C/30°C	1745 W	1770 W	1380 W
EVAPORATOR FAN PERFORMANCE			
Airflow volume @ 0 Pa static pressure	1185 m³/h	2x700 m³/h	700 m³/h

Capacity on engine power given at 2,400 rpm (ATP conditions)
Figures are shown with TM16 compressor (TK-312 is available on request)

WEIGHTS (APPROXIMATE)	KG
Condenser w/o electric standby	53
Condenser with electric standby	125
ES300 (Ultra slim evaporator)	18
ES150 (Ultra slim evaporator)	12,5
Reciprocating compressor	13
Swash plate compressor	7,5

Dimensions (mm)



V-500



ES150 Ultra slim evaporator



ES300 Ultra slim evaporator



In-cab Direct Smart Reefer

V-700 MAX SPECTRUM

The V-700 MAX Spectrum is the most powerful unit in Thermo King's V-Series Spectrum range and is suitable for truck bodies up to seven metres. It offers a choice of three different evaporator configurations (ES400 + ES400, ES500 + 2 x ES150 and ES500 + ES150) to suit a wide variety of applications. It is capable of managing two large compartments, in either transverse or longitudinal configurations. The V-700 MAX Spectrum is the ideal choice for multi temperature urban distribution in large trucks.

System components

- Condenser
- Slim-line evaporator ES500 MAX, ES400 MAX and ES150 MAX
- Reciprocating road compressor
- Installation kit
- In-cab Direct Smart Reefer (DSR)

Reciprocating compressor (TK-315R)

- Number of cylinders: 3
- Displacement: 226 cm³ (13.8 cu. in.)
- Maximum recommended speed: 3,000 rpm
- Jet Lube™ and Jet Cool™ compressor lubrication and cooling systems



Reciprocating compressor (TK-315R)

Refrigerant: R-404A

RANGE	AMOUNT
V-700 MAX 50 Spectrum (ES400+ES400)	5.2 kg
V-700 MAX 50 Spectrum (ES500+ES150)	5.0 kg
V-700 MAX 50 Spectrum (ES500+2xES150)	5.15 kg

Chlorine: Zero



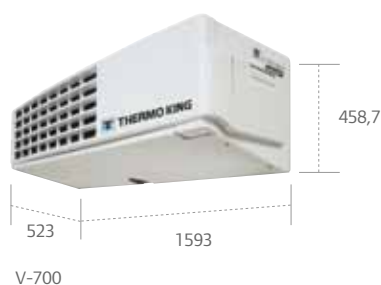
Specifications

SPECIFICATIONS	V-700 MAX SPECTRUM			
Total nominal capacity on engine power at -20°C/30°C				
ES400 + ES400	3705 W			
ES500 + 2 X ES150	3305 W			
ES500 + ES150	3305 W			
Total nominal capacity on electric standby at -20°C/30°C				
ES400 + ES400	3335 W			
ES500 + 2 X ES150	3080 W			
ES500 + ES150	3080 W			
EVAPORATOR	ES400 MAX	ES500 MAX	2 X ES150 MAX	ES150 MAX
Individual capacity on engine power				
0°C/30°C	5055 W	5570 W	5190 W	3700 W
-20°C/30°C	2870 W	2930 W	2820 W	2135 W
Individual capacity on electric standby				
0°C/30°C	4850 W	5250 W	4905 W	3575 W
-20°C/30°C	2695 W	2775 W	2720 W	2030 W
EVAPORATOR FAN PERFORMANCE				
Airflow volume @ 0 Pa static pressure	1290 m³/h	2200 m³/h	1580 m³/h	790 m³/h

Capacity on engine power given at 2,400 rpm (ATP conditions)

WEIGHTS (APPROXIMATE)	KG
Condenser	160
ES500 (Ultra slim evaporator)	25,5
ES400 (Ultra slim evaporator)	20
ES150 (Ultra slim evaporator)	12,5
Reciprocating Compressor	15

Dimensions (mm)



Features and options

ThermoKare

ThermoKare offers a full range of service contract solutions to manage maintenance costs and the total life cost of a refrigeration system.

TKDL data capture

- User-friendly temperature recorders
- Delivery and journey printouts at the touch of a button
- EN 12830, CE Mark and IP-65 certified.

Wintrac (data analysis software)

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

Din adaptor

The Din adaptor box enables the DSR controller to be installed in the vehicle dashboard.

The aesthetically designed box allows the controller to be fitted in any available radio slot.

Snow covers

Thermo King snow covers are 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.

Hose covers

A highly durable kit providing total protection for hoses and cables while enhancing vehicle appearance. Easily installed on box bodies, the kit is not suitable for vans.

Muffler kit

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

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.

Harness extension

Allows location of evaporators wherever they are required within the load space. Comes as a two-metre harness extension featuring plug-and-play connections for ease of installation. Can be fitted as multiples where greater length is required.

For more information on options and accessories, consult our Aftermarket Product Guide at europe.thermoking.com/ebooks.

WARRANTY SUMMARY

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.

Thermo King 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 covered product or its mechanical failure.

OPTIONS	V-200 / 300 MAX SPECTRUM 30	V-200 / 300 MAX SPECTRUM 50	V-500 / 700 MAX SPECTRUM
LIFE COST MANAGEMENT			
ThermoKare service contracts	△	△	△
DATA CAPTURE AND COMMUNICATIONS			
TKDL data capture	△	△	△
Wintrac (data analysis software)	△	△	△
USB datalogger	△	△	△
Datalogger Jr	△	△	△
LOAD PROTECTION			
Door switch kit	▲	▲	▲
CUSTOMIZATION			
Din adaptor	▲	▲	▲
Hose covers	▲	▲	▲
Muffler kit	▲	▲	×
Snow cover (Also called kit deflector small)	▲	×	×
Snow cover (Also called kit deflector big)	×	▲	×
Harness extension V-200/300 Spectrum	▲	▲	×

△ OPTION - DEALER SUPPLIED ▲ OPTION - FACTORY SUPPLIED × NOT AVAILABLE





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For further information please contact:



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