

# S-SERIES

— environmental control systems for small vehicles —



# S-Series

## For the highest capacity and airflow

Thermo King offers a complete S-Series product line to meet a wide range of applications, including small buses, vans, ambulances, security vehicles and special purpose vehicles. These systems are supported by the industry's largest worldwide service organisation and are engineered for reliability, low maintenance and high performance for the life of the vehicle.

### Product Features



#### Duct system

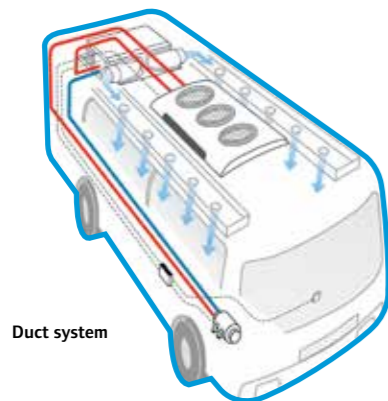
The S-Series evaporator, when used with the side discharge plenum, can be installed into a ducted system. The duct distributes the cool air evenly to all areas of the bus interior. This system works best for tour and commuter buses. The evaporator hidden inside the ductwork does not affect appearance.

#### Free-blow system

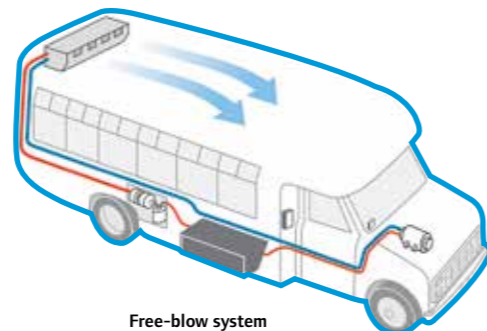
The S-Series evaporator is also designed to be installed so the cool air is directly discharged into the passenger area. This creates faster temperature reduction for rider comfort. Since there are no air distribution ducts, the installation is simple and low in cost. This system works particularly well for short haul operations, such as airport and hotel shuttles.

#### Dependable retrofit applications

The S-Series product line is versatile and flexible for both retrofit and factory installations in a variety of small bus HVAC applications. Choices of undermount and low profile rooftop condensers, ducted or free-flow evaporators, and modular installation kits attractively integrate with vehicle design. A combination of lightweight aluminium, fibreglass and plastic construction enhances aesthetics, is corrosion resistant and reduces maintenance costs.



Duct system



Free-blow system

## S-Series: Select your product

### Choose S-Series

Select the right air conditioning unit for your bus. Look up the length of your bus in the left hand column and the typical outside (ambient) temperature across the top row. The colour at the intersection of the length and ambient temperature corresponds to the appropriate cooling system for your vehicle as indicated in the right column.

USE GRID TO DETERMINE PROPER UNIT BASED ON CAPACITY:								
BUS LENGTH (M)	OUTSIDE TEMPERATURE (°C)							TK UNIT
	43	40	37	35	32	29	26	
4,3								S-20 II
4,5								
4,9								
5,2								
5,4								
5,8								
6,0								S-30 II or S-20 II + S-20 II
6,4								
6,7								
7,0								
7,3								
7,6								
7,9								S-40 II or S-20 II + S-30 II
8,2								
8,5								
8,8								
9,1								
9,4								
9,7								SR-50 II or S-30 II + S-40 II
10,0								
10,3								
10,6								
10,9								
11,2								
11,5								S-40 II + S-40 II
11,9								
12,0								

# The S-Series Value Advantage

Highest cooling capacity + highest airflow = best performance

## Rooftop condensers

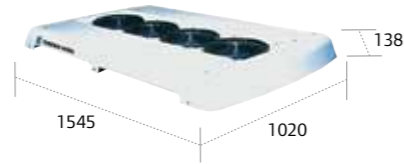
A low-profile, low-maintenance rooftop condenser is available and can be used to protect the condenser from hot road surfaces and road debris.



S-Series S-20 II



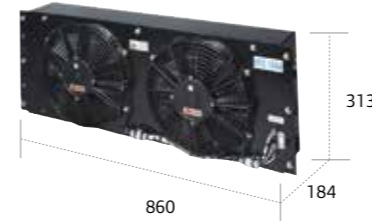
S-Series S-30 II



S-Series S-40 II

## Low-profile condensers

For small vehicles that have limited under-floor space, S-20 II and S-30 II models have optional low-profile undermount condensers that are 180 mm deep.



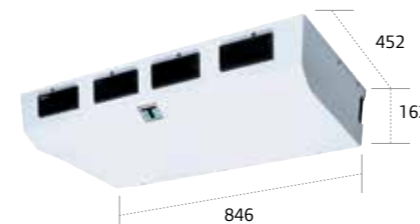
S-Series S-20 II



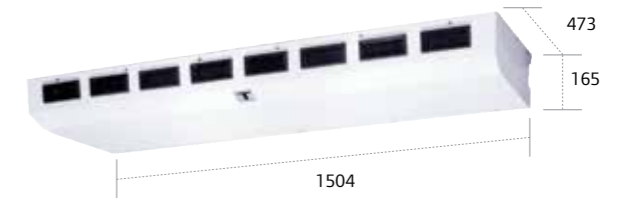
S-Series S-30 II

## Evaporators

Totally self-contained evaporator includes blowers, cooling coil and condensate drain system. Aluminium construction for durability and long life. Three-speed fans for quick temperature pulldown and comfort. Attractive plastic cover is standard for free-blow system.



S-Series S-20 II



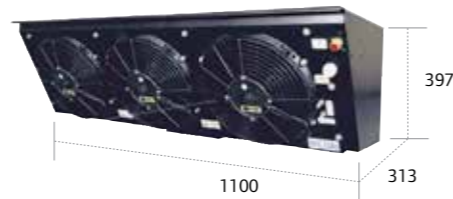
S-Series S-30 II

## Undermount condensers

This condenser is fully integrated under the bus body so that bus appearance is not affected by air conditioning components. Aluminium construction for light weight and corrosion resistance.



S-Series S-20 II



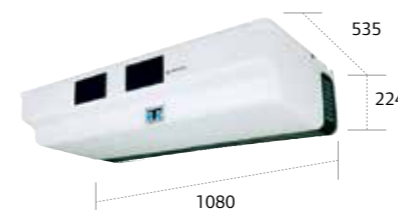
S-Series S-30 II



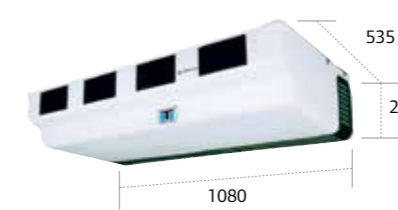
S-Series S-40 II

## Low-profile evaporators

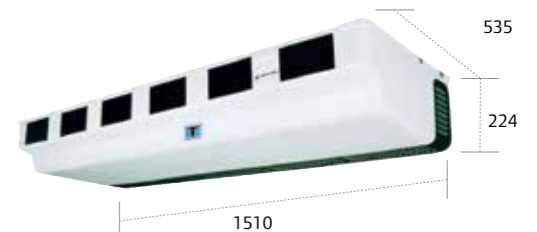
For small vehicles that have limited evaporator space, S-20 II and S-30 II models have optional low-profile evaporators that are 160 mm high.



S-Series S-20 II



S-Series S-30 II



S-Series S-40 II

## Accessories and Controls

### Compressors

A complete range of compressors, clutches and manifolds are available for all applications.



### Optional heat coil

An optional two-row hot water heating coil that delivers maximum evaporator heating capacity can be added to standard evaporators.

#### Benefits:

Supplemental heat for passenger comfort and quick defogging of passenger area windows.



### ClimaAIRE I D™ controller

#### Standard:

On/off switch and a three-speed fan switch.

#### Optional:

Cool only or heat/cool electronic thermostats with digital display.

All driver control panels are pre-wired and come with easy-to-install mounting brackets.



### Airflow plenum

Where ducted airflow is preferred to free-blow, this plenum can be attached to the standard evaporator to divert the cool air into side ducts that distribute the air throughout the vehicle.

The plenum is insulated. Flexible hoses and clamps are supplied to complete the connection to the duct system.



## Specifications

MODELS	S-20 II	S-30 II	S-40 II
<b>CAPABILITIES</b>			
Cool	✓	✓	✓
Ventilate	✓	✓	✓
Heat	✓	✓	✓
<b>MAXIMUM CAPACITY @ 50 °C (120 °F)</b>			
kW	6.8	10.0	13.5
Btu/hr (ASHRAE)	23,000	34,000	46,000
<b>RATED CAPACITY @ 35 °C - OUTSIDE 27 °C - DB 19 °C WB INSIDE</b>			
kW	5.3	8.1	11.0
Btu/hr (ASHRAE)	18,000	27,500	37,500
Btu/hr (IMACA)	40,000	60,000	82,000
<b>HEATING CAPACITY</b>			
kW	9.1	12.3	18.5
Btu/hr (ASHRAE)	31,000	42,000	63,000
<b>REFRIGERANT TYPE (R-134a)</b>			
kg	3	3.9	5.5
<b>COMPRESSOR TYPE</b>			
	TM 16	TM 16	TM 16
		TM 21	TM 21
			TM 31
<b>EVAPORATOR AIRFLOW</b>			
m <sup>3</sup> /hr	892	1487	2295
<b>ELECTRIC POWER</b>			
Evaporator	14/8	28/16	42/24
Condenser	15/8	22.5/12	30/16
Clutch	3.8/1.9	3.8/1.9	3.8/1.9

WEIGHT (KG)	S-20 II	S-30 II	S-40 II
Cool Only Evaporator	19	21	34
Cool/Heat Evaporator (88)	21	23	38
Evaporator (low-profile)	19	32	-
Undermount Condenser	24	32	41
Undermount Condenser (low-profile)	21	29	-
Rooftop Condenser	31	41	51

Highest cooling capacity  
Highest airflow

## 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.



 **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.

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