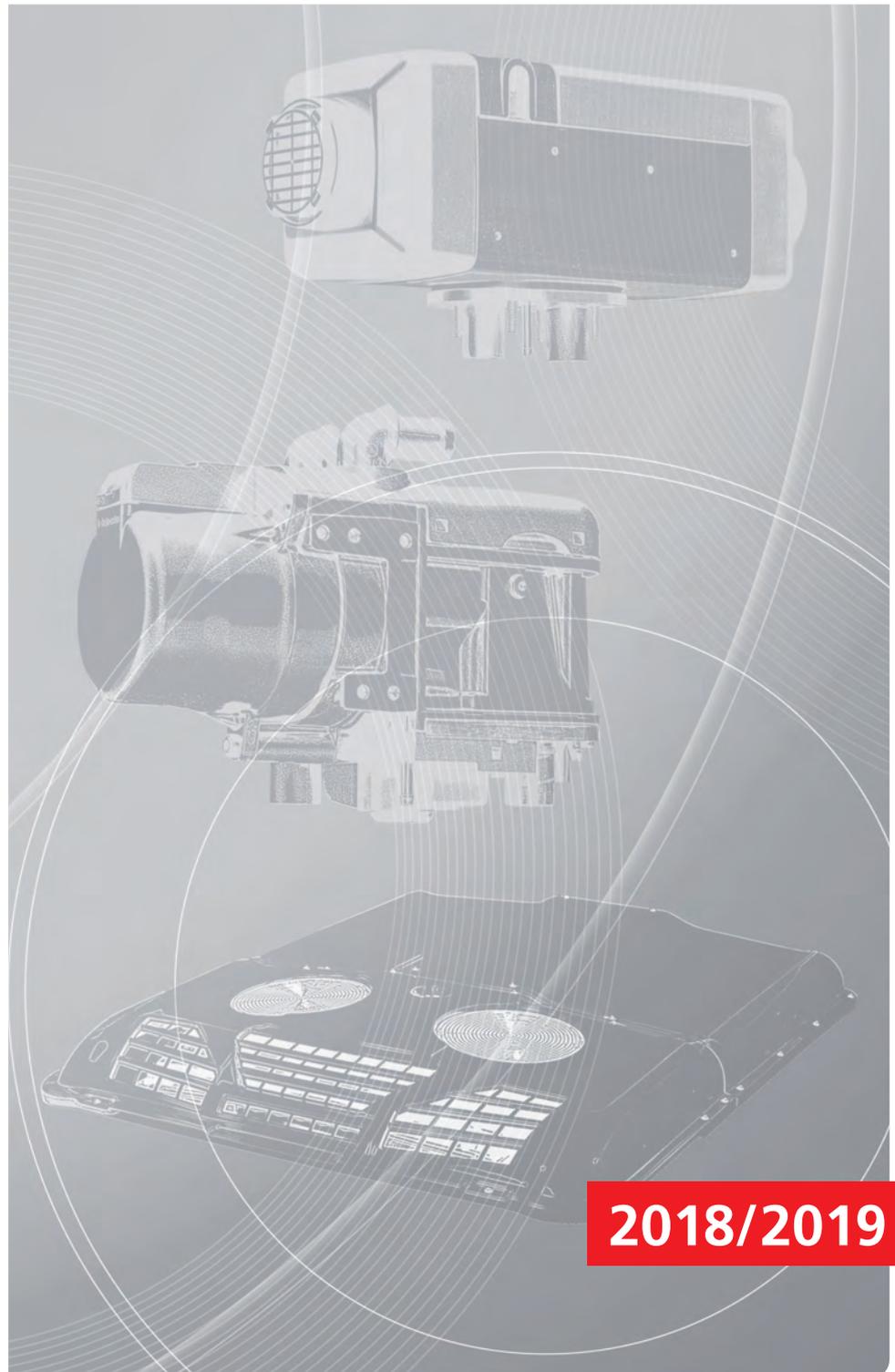


Product Catalog

Heating and Air-Conditioning Solutions

For Cars, Trucks, Light-duty Vehicles, Buses, Rail, Off-highway, Defense
and Special Vehicles



2018/2019



Dear Customers, dear Webasto Partners,

With this product catalog, Webasto offers you a comprehensive overview of the latest products for heating and cooling. In combination with our two accessories catalogs, you are ideally equipped for your work with our air-conditioning solutions.

The catalog is intended to help you prepare quotations quickly and easily, and to put you in a position to give professional advice at any time.

Furthermore, it gives you an overview of the special Webasto services for individual system solutions that you can expect from us as your business partner. Take up these offers and contact us at any time – we will be happy to assist you!

**We wish you great success with our products,
Your Webasto Team**

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Air heaters

Water heaters

Integrated heat exchangers

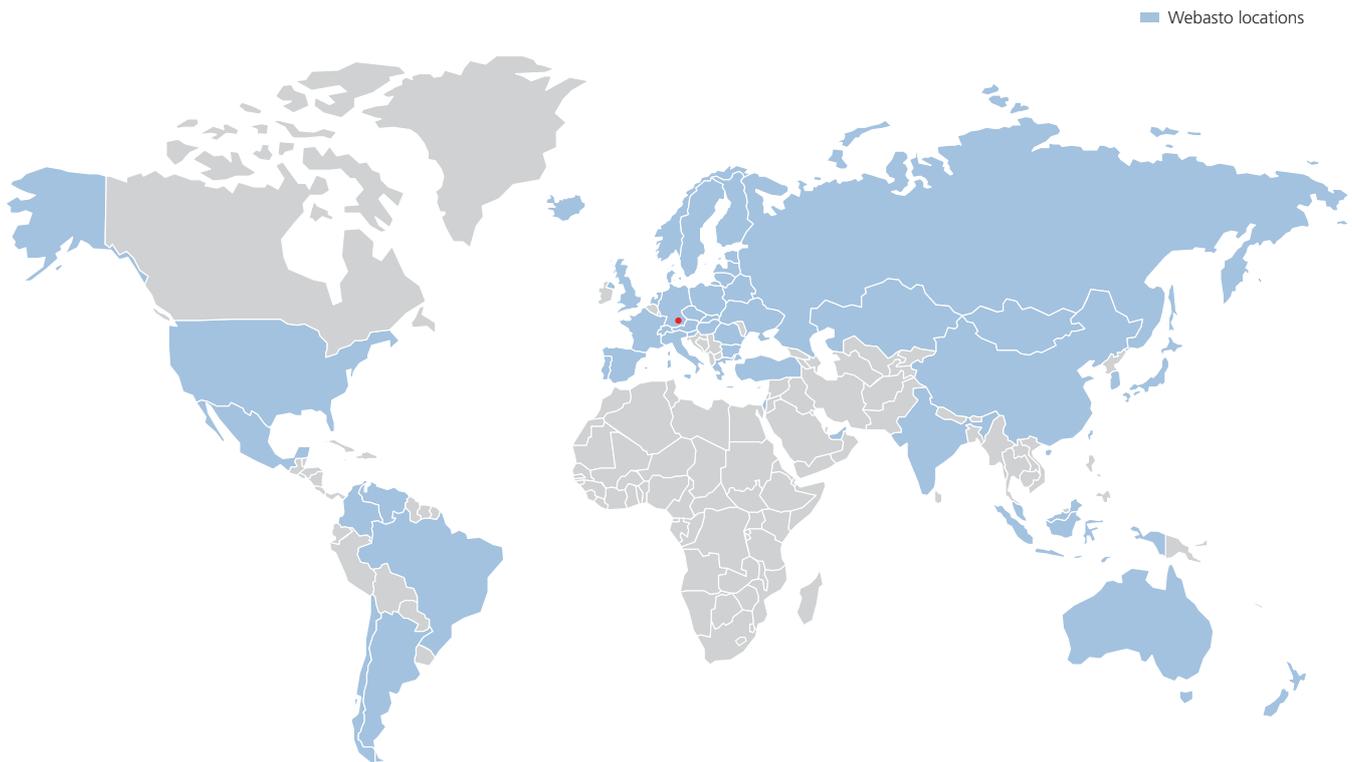
Rooftop AC systems

Integrated AC systems

Transport refrigeration systems

Webasto Network

**Expect comprehensive support from Webasto in all areas.
Before, during and after the installation of your Webasto solution!**



Our service partners actively support you in your day-to-day business – worldwide. Whether with effective training measures on new products or with practical tips and tools to make your work easier. This unique service network helps not only to fulfil the Webasto quality promise around the globe, but also supports you in your sales efforts. You can rely on the consistently high quality of products from Webasto: All our solutions meet the highest international quality standards and offer the latest technology.

A further benefit for you: We are never far away and can therefore identify ourselves with your needs on the spot and take your suggestions into consideration in the further development of our products and services.

Webasto Services

Engineering Services

Apart from a wide range of standard products, we offer you individually optimized system solutions. Whether installation position, operating temperature, operation at high altitudes, interface connection or the installation situation in the vehicle: we can work out an optimum solution for all your requirements. In this context, you can rely on our many years of experience in original equipment and the aftermarket. You profit from our high process and quality level, and our know-how in system integration, mechatronics and software development.

The development process of a customized system solution:

- Identification of the existing boundary conditions and requirements
- Calculation of the necessary heating or cooling capacity
- Elaboration of an application solution or complete development of an individual system
- Proof of the customer's specific requirements
- System or application acceptance in the customer's works



Technical Services

From the various parts of your application to extensive series of tests, Webasto offers you everything to ensure your solution functions perfectly. Our service is also at your disposal after installation for maintenance and spare parts.

- Efficient spare part management
- Secure login to the dealer portal (e.g. product documentation, installation instructions)
- Professional quality management
- Broad spectrum of test possibilities (e.g. climatic chamber, acoustic chamber, environmental tests)
- Technical support/online training

Marketing Services

We ensure our global brand awareness and image branding through a wide range of measures.

- High-quality, target group-specific marketing tools for all media
- Support for our partners on customized marketing measures
- Advertising and mailing templates for customer activation and customer loyalty
- Point-of-sale marketing materials
- Product-specific selling argument lists
- Professional participation in trade fairs
- Broad array of sponsoring activities

Market Segments



Webasto develops innovative heating and air-conditioning solutions for the following markets:



Cars
Page 8



Trucks
Page 10



Light-duty vehicles
Page 12



Buses
Page 14

Webasto also offers heating and air-conditioning solutions for recreational vehicles and boats. Please ask for our separate product catalogs.



Rail
Page 16



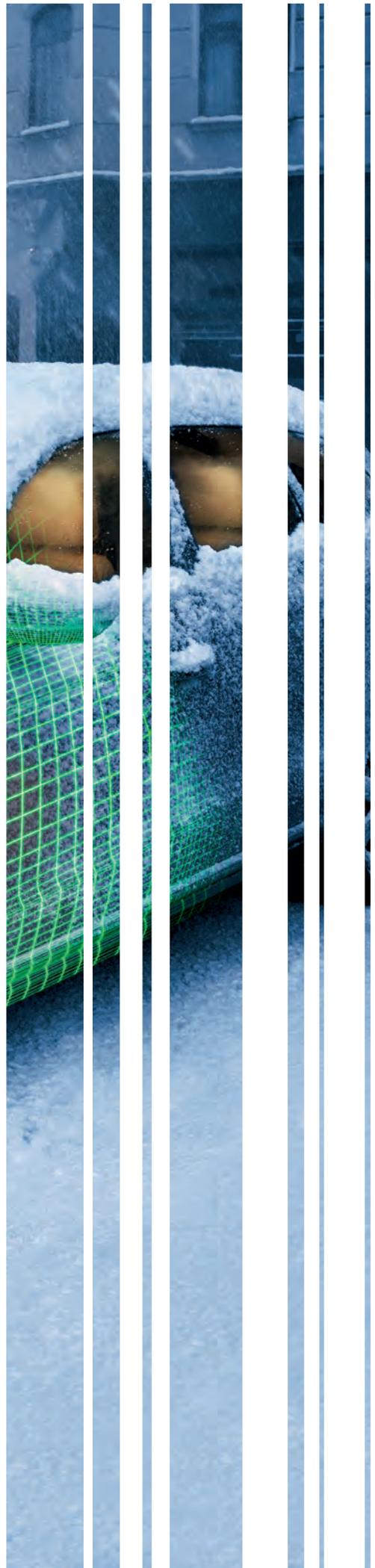
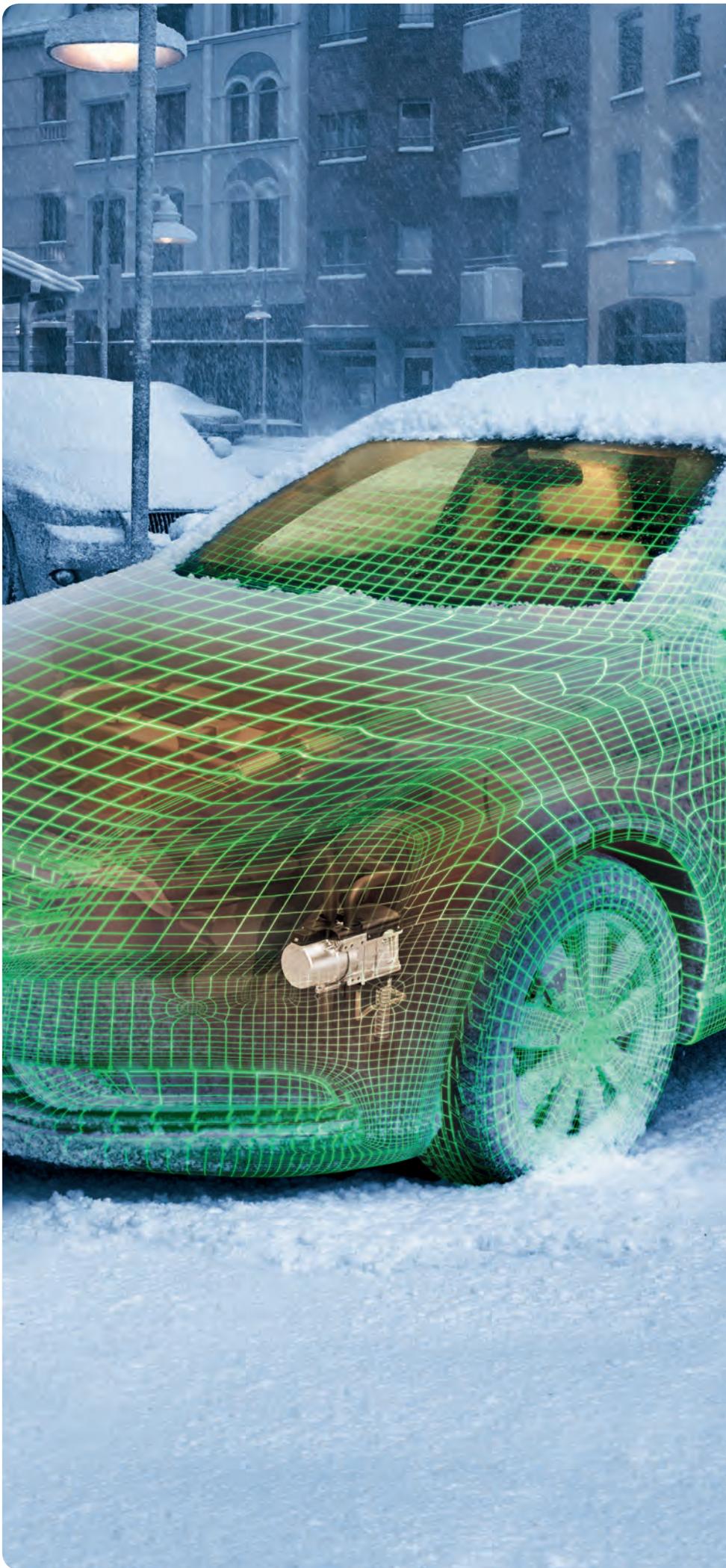
Off-highway
Page 18



Defense
Page 20



Special vehicles
Page 22



Cars

The right water heater for each vehicle class

No matter whether for compact, mid-size or luxury cars: Webasto offers heating solutions for every class that impress with stable heating performance and reliable, efficient operation.

eThermo Top Eco is an electrically operated water heater that can heat up the vehicle interior and / or engine. The eThermo Top Eco appeals to new groups of customers: garage and carport owners, short-distance drivers as well as environmentally aware motorists. The heater is operated via an electric cable connected to a 230 V power outlet. Thanks to the integrated trickle charge function for 12 V batteries, the car battery is charged during operation.

The latest generation of parking heaters, Thermo Top Evo, is specially developed for new car models and those with limited installation space. With different heating classes, the Thermo Top Evo offers the perfect heating solution for every car size. The most powerful heater in its class, the Thermo Top Evo 5+, easily heats vehicles with particularly large interiors and offers even faster and more efficient heating.

Benefits of the Webasto solutions for cars:

- Extremely small, space-saving design
- The lightest heater in its class
- Efficient and stable heating capacity
- Thermo Top Evo has low fuel consumption and minimized emissions during operation
- eThermo Top Eco has no emissions in operation
- Heat up vehicle interior and/or engine
- Thermo Top Evo can be combined with various control elements
- Installation kits for the most common vehicle models

Heating solution	Heating capacity (kW)
Water heaters	
eThermo Top Eco*	2.0 – 3.0
Thermo Top Evo 4/5/5+*	4.0 – 5.0

NEW

* Webasto also offers vehicle specific installation kits. For further information visit the Webasto dealer portal. <https://dealers.webasto.com>



Electrically Operated Water Heater



Fuel Operated Water Heater



Trucks

A pleasant cabin climate at all times – independant of the engine

Engine idling is not only costly in the longer term, it is actually forbidden in many countries. Our Webasto non-idling solutions bring the cabin to a pleasant temperature – fully independently of the engine. That reduces fuel consumption and – as a positive side-effect – also the emission of pollutants. This comfort benefits the driver, too, both while driving and during his breaks.

An idling truck engine consumes on average three liters of fuel per hour. Added to that is the increased wear on the engine and other components. The reliable heating solutions and air-conditioning systems from Webasto ensure comfortable temperatures without incurring these costs.

Benefits of the Webasto solutions for trucks:

- No unnecessary running of the engine in idle
- Reduced fuel costs
- Optimized cabin temperature at all times without the engine running
- Efficient use of the residual engine heat

Heating/Air-conditioning solution	Heating/Cooling capacity (kW)
Air heaters	
Air Top 2000 STC	2.0
Air Top Evo 40/55	4.0 – 5.5
Water heaters	
Thermo Pro 50 Eco	5.0
Thermo Pro 90	9.1
Thermo Top Pro 120/150	12.0 – 15.0
Thermo 230 / 300 / 350	23.0 - 35.0
Thermo S 230 / 300 / 350 / 400	23.0 - 40.0
Parking air-conditioning system	
Cool Top RTE 16	1.6



Air heater



Water heater



Parking Air-conditioning system



Light-duty Vehicles

From front to back: The perfect temperature all around

Light-duty vehicles have to transport goods and people safely to their destination. Reliable and efficient heating, air-conditioning and transport refrigeration systems play a central role here.

Webasto offers a wide range of powerful heating, air-conditioning and refrigeration solutions to meet every specialized transport demand. Whether temperature-sensitive medicines or other perishable goods have to be transported – we have a tailor-made solution available for every vehicle type and form of use.

Benefits of the Webasto solutions for light-duty vehicles:

- Engine and environment-friendly pre-heating and heating
- Installation kits for a wide variety of vehicles available
- Reduction in operating costs thanks to fuel saving and lower wear

Heating/Air-conditioning solution	Heating/Cooling capacity (kW)
Air heaters	
Air Top 2000 STC*	2.0
Air Top Evo 40/55*	4.0 – 5.5
Water heaters	
Thermo Top Evo 4/5/5+*	4.0 – 5.0
Thermo Pro 50 Eco*	5.0
Thermo Pro 90*	9.1
Heat exchangers	
Integrated heat exchangers	3.8 – 13.0
AC systems	
Rooftop AC systems	3.5 – 11.0
Integrated AC systems	4.0 – 9.5
Transport refrigeration systems	
Rooftop systems*	1.0 – 5.6
Integrated systems*	1.0 – 3.7

* Webasto also offers vehicle specific installation kits. For further information visit the Webasto dealer portal. <https://dealers.webasto.com>



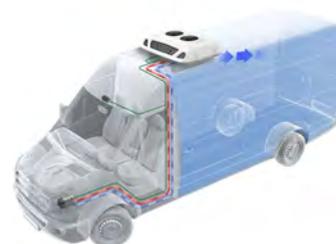
Air heater



Water heater



Air-conditioning system



Transport refrigeration system



Buses

Reliable climate comfort for a safe journey

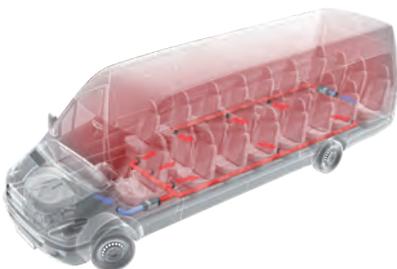
In order to ensure a safe journey, buses must be air-conditioned and ready for operation right from the beginning of the journey. For their climate control equipment, Webasto can draw on a vast product portfolio ranging from standard heaters through various heating solutions up to air-conditioning systems.

With this product range we can equip buses and offer a tailor-made climate solution for every specialized application.

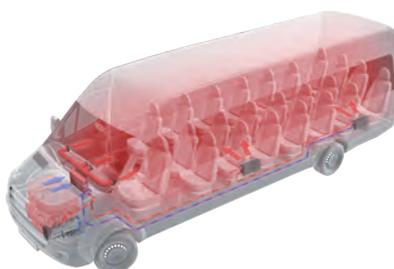
Benefits of the Webasto solutions for buses:

- Comfort for drivers and passengers in all climate conditions
- Comprehensive range of products with parking heaters and various heating/air-conditioning solutions
- Effective interior air-conditioning for every installation and application situation

Heating/Air-conditioning solution	Heating/Cooling capacity (kW)
Air heaters	
Air Top 2000 STC	2.0
Air Top Evo 40/55	4.0 – 5.5
Water heaters	
Thermo Pro 90	9.1
Thermo Top Pro 120/150	12.0 – 15.0
Thermo 230/300/350	23.0 – 35.0
Thermo S 230/300/350/400	23.0 – 40.0
Heat exchangers	
Integrated heat exchangers	3.8 – 13.0
AC systems	
Rooftop AC systems	3.5 – 36.0
Integrated AC systems	4.0 – 16.0



Air heater



Water heater



Air-conditioning system



Rail

Individual climate control solutions for every outdoor temperature

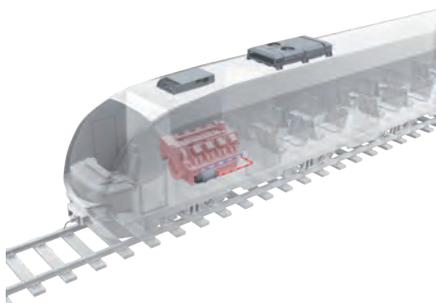
For more than 40 years, Webasto has been developing preheating systems for diesel locomotive engines.

Even before the start of operation, the diesel-powered heating system brings the engines of the trains to the optimum operating temperature. We develop individual solutions in close and flexible cooperation with the customer. In addition we also offer refurbishment solutions and the maintenance of the systems.

Benefits of the Webasto solutions for rail vehicles:

- Pleasant temperatures in passenger compartment and driver's cabin
- Cost efficiency thanks to preheating of diesel engine and fuel
- Low fuel consumption and minimized emission

Heating solution	Heating capacity (kW)
Water heaters	
Thermo Top Pro 150	15.0
Thermo 230/300/350	23.0 – 35.0



Water heater



Off-highway

Do your job more efficiently

Irrespective of the climatic situation, off-highway machines have to be sturdy and ready for operation at any time. Not only the vehicles, but also the operators are subjected to extreme working conditions.

In order to meet the high demands on man and machine, Webasto has developed intelligent heating and air-conditioning solutions. These systems combine comfort and efficiency – and save fuel. For example, the parking heaters with the new engine-off technology that avoids unnecessary engine running at standstill.

Benefits of the Webasto solutions for agricultural and off-highway machines:

- Fuel saving thanks to reduced engine idling
- Reduced operating hours of the engines
- Safe working conditions in all climate conditions
- Comfortable climate for the operator

Heating/Air-conditioning solution	Heating/Cooling capacity (kW)
Air heaters	
Air Top 2000 STC	2.0
Air Top Evo 40/55	4.0 – 5.5
Water heaters	
Thermo Top Evo 4/5/5+	4.0 – 5.0
Thermo Pro 50 Eco	5.0
Thermo Pro 90	9.1
Thermo Top Pro 120/150	12.0 – 15.0
Heat exchangers	
Integrated heat exchangers	3.8 – 13.0
AC systems	
Rooftop AC systems	3.5 – 8.5
Integrated AC systems	4.0 – 9.6

We are at your disposal for the development of individual air-conditioning systems and heat exchangers.



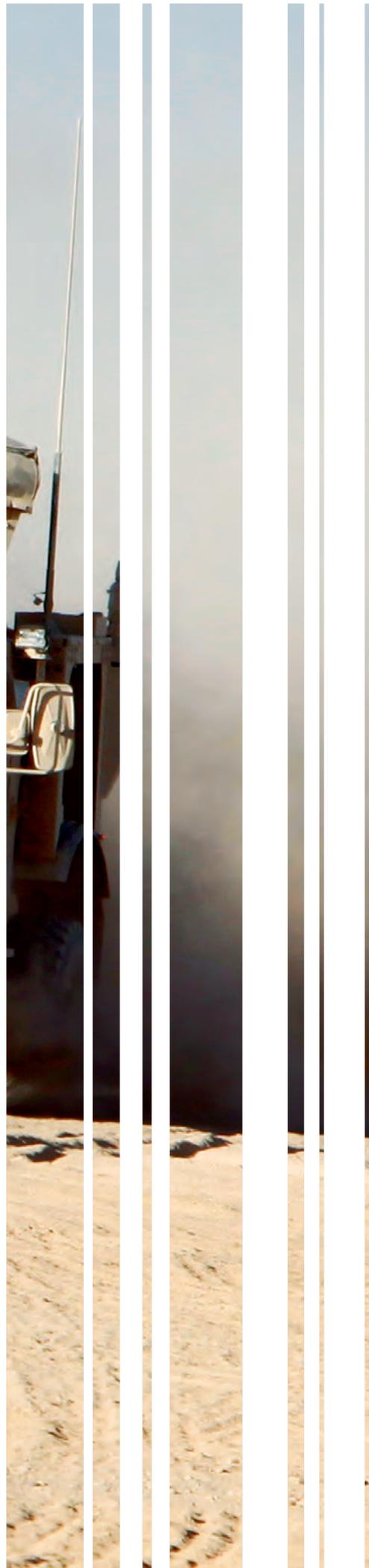
Air heater



Water heater



Air-conditioning system



Defense

Our solutions enables you to fulfill your mission even under the most extreme environmental conditions

Defense vehicles have to function perfectly under all climatic conditions around world. Webasto helps to meet these demand with tailor-made and field proven solutions.

Our heating and air-conditioning systems make vehicles ready for operations in all climatic regions from the arctic to the desert and guarantee a high availability of the system in order to help to fulfill your mission. Our optimized systems help to reduce the fuel consumption in the field and reduces the fuel supply needs.

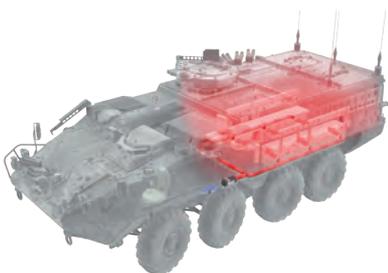
We are your development partner for your specific solution! Please contact our experts in case of any need for specific air-conditioning or heating systems!

Benefits of the Webasto solutions for defense vehicles:

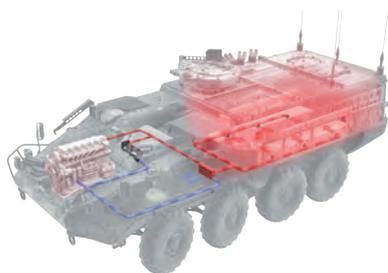
- Mission ready under all climatic conditions
- Fuel and cost efficient heating systems
- Reduced fuel supply in the field
- Optimal temperature for crew and equipment even with the engine switched off
- Reduced thermal signature
- Reduced fuel consumption and wear

Heating solution	Heating capacity (kW)
Air heaters	
Air Top 2000 STC	2.0
Air Top Evo 40/55	4.0 – 5.5
Water heaters	
Thermo Pro 50 Eco	5.0
Thermo Pro 90 HDD	9.1

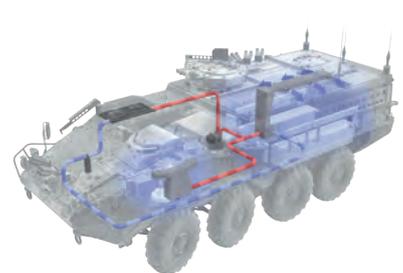
We are at your disposal for the development of individual air-conditioning systems.



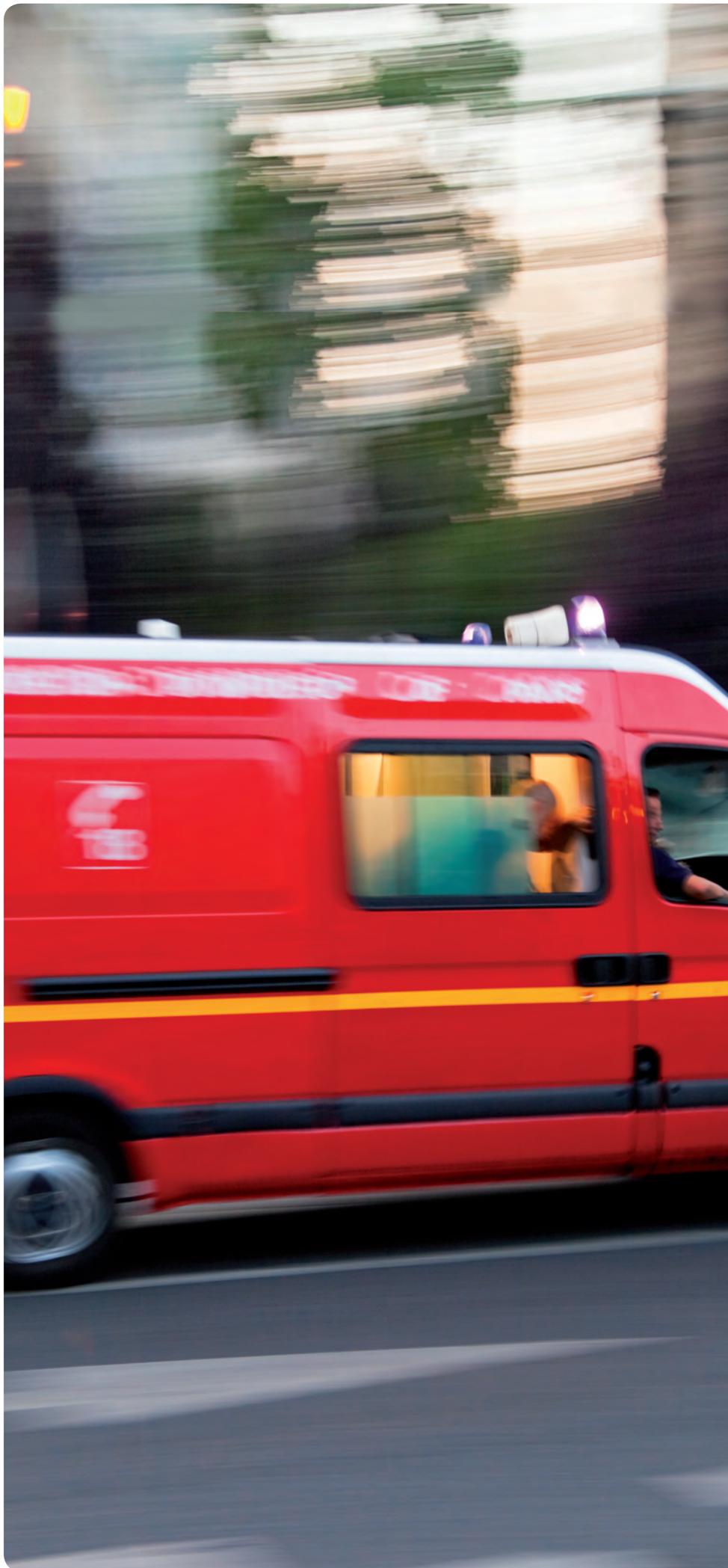
Air heater



Water heater



Air-conditioning system



Special Vehicles

Perfect environmental conditions – when every second counts

In rescue service, disaster control or firefighting you need to be focused from the very beginning on your operation. With the Webasto parking heaters and air-conditioning systems, special vehicles are ideally tempered which increase the safety, comfort and staying power for driver and crew. To keep cool when every second counts.

Parking heaters ensure de-iced and de-fogged windows even before the start of your special operation and offer a comfortable temperature within the vehicle. Thanks to the engine preheating, they also reduce wear and fuel costs.

Benefits of the Webasto solutions for special vehicles:

- Ideal climate conditions for drivers, crew and passengers
- De-iced and de-fogged windows at all times
- Efficient interior air-conditioning for every
- Wide product portfolio available to find the ideal solution for your demand
- High quality and reliability for the most challenging missions

Heating/Air-conditioning solution	Heating/Cooling capacity (kW)
Air heaters	
Air Top 2000 STC	2.0
Air Top Evo 40/55	4.0 – 5.5
Water heaters	
Thermo Top Evo 4/5/5+	4.0 – 5.0
Thermo Pro 50 Eco	5.0
Thermo Pro 90	9.1
Thermo Top Pro 120/150	12.0 – 15.0
Thermo 230/300/350	23.0 – 35.0
Thermo S 230/300/350/400	23.0 – 40.0
Heat exchangers	
Integrated heat exchangers	3.8 – 13.0
AC systems	
Rooftop AC systems	3.5 – 8.5
Integrated AC systems*	4.0 – 9.6



Air heater



Water heater



Air-conditioning system



Heating Systems

Webasto air and water heaters offer your customers a wide variety of advantages.

Safety and greater comfort

- Perfect view through ice-free and defogged windows right from the start of the journey
- Relaxing break times thanks to low-noise operation of our products
- Constant temperature in the passenger compartment thanks to intelligent temperature management
- Precise and continuously adjustable temperature control

Worthwhile investment

- High availability of the vehicle
- Worldwide professional service network
- Long term spare part availability
- Reduced fuel consumption and therefore cost efficient during engine idling times
- Low maintenance cost due to the use of high quality parts within our products
- Due to the optimized design our products have the smallest size on the market and therefore need minimum space requirements to be installed on your vehicle

Environment-friendly

- Low fuel consumption and minimized emission
- Efficient and high-efficiency combustion technology

Air heaters

Water heaters

Integrated heat exchangers

The tailor-made Webasto heating solution for every area

	Heating capacity (kW)								
Air heaters									
Air Top 2000 STC	2.0		■	■	■		■	■	■
Air Top Evo 40/55	4.0 – 5.5		■	■	■		■	■	■
Water heaters									
eThermo Top Eco	2.0 – 3.0	■							
Thermo Top Evo 4/5/5+	4.0 – 5.0	■		■			■		■
Thermo Pro 50 Eco	5.0		■	■			■	■	■
Thermo Pro 90	9.1		■	■	■		■	■	■
Thermo Top Pro 120/150	12.0 – 15.0		■	■	■	■	■	■	■
Thermo 230/300/350	23.0 – 35.0		■		■	■			■
Thermo S 230/300/350/400	23.0 – 40.0		■		■				■
Heat exchangers									
Integrated heat exchangers	3.8 – 13.0			■	■		■		

Application of an air heating system

Webasto air heating systems can be ordered tailored to your needs. The standard components are combined into a basic scope of delivery and a specific installation kit. You may need additional application material, depending on the application requirements and the installation location. You can find these in our comprehensive accessories program.



Hot air intake system
Choose between fresh air and recirculating air mode, depending on the requirements or field of application.

Control element
Choose from our portfolio of different control elements, such as a simple rotary switch, the Thermo-Call or a digital timer.



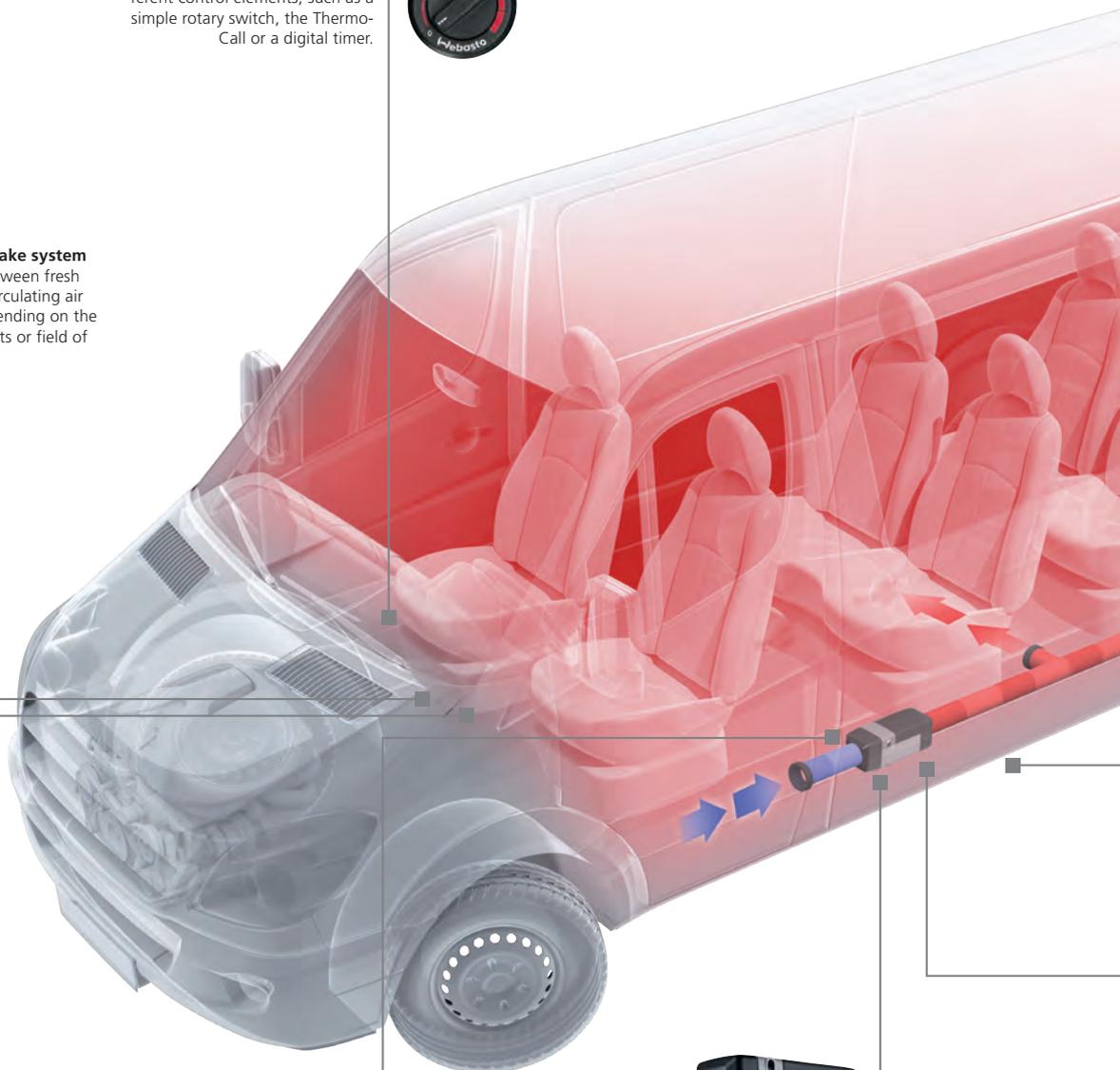
Electrical connection
A standardized wiring harness simplifies the connection of heater, control element and vehicle. It also offers a diagnostic possibility.



Exhaust system
The resulting exhaust gases has to be discharged via exhaust pipes.



Air heater
Air heaters are available with heating capacities from 2.0 to 5.5 kW.



The functionality of an air heating system can be found on page 136.



Hot air distribution

Configure the air distribution system individually using additional hoses, distributors and air outlets to achieve optimum heat distribution in the vehicle.



Fuel supply

A connection has to be made to the fuel tank. A fuel pump is part of the basic delivery scope.



Combustion air intake

The required combustion air has to be drawn in selectively from a dry area.

Advantages of air heating systems

- Low investment and installation cost
- Easy integration in the vehicle
- Short heating times
- Individual configuration of the air distribution
- Recirculating air or fresh air mode

Air heaters

Air Top 2000 STC



The simple and cost-effective solution

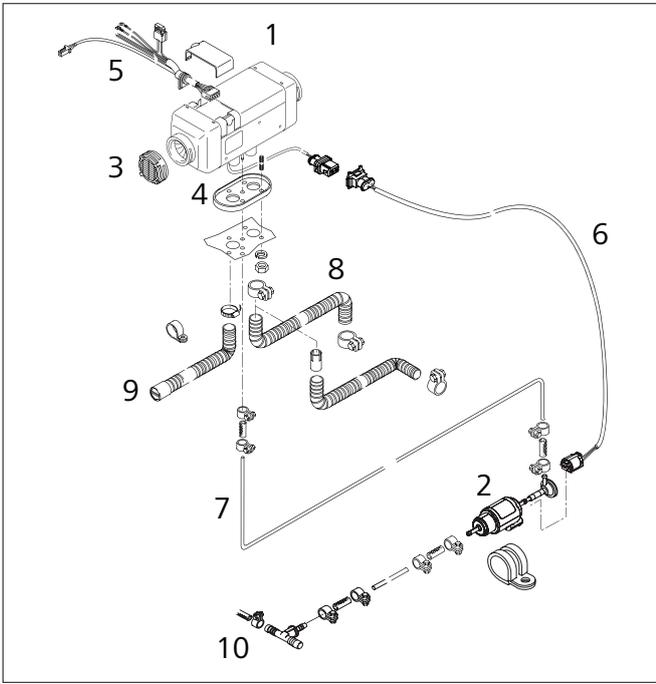
The compact Air Top 2000 STC air heater is an impressive performer thanks to its versatility and low fuel consumption. Its compact construction means that it can be installed quickly either inside or outside the vehicle. The Air Top 2000 STC heats the air in the interior or cargo space quickly and quietly whilst keeping a constant chosen working temperature. Users can choose between recirculation and fresh air modes.

- 2 kW heating capacity
- Heats up quickly, more even and quiet heating procedure by use of fuel pump DP 42
- Sturdy heater with compact dimensions and low fuel consumption
- Continuous operation possible
- Easy to service and maintain, diagnostic capability
- Suitable for use in vehicles for transporting hazardous materials (ADR)

Technical data

Model overview	Air Top 2000 STC	
	Diesel	Gasoline
ECE approval number ECE R122 (heating)	E1 00 0216	E1 00 0216
ECE approval number ECE R10 (EMC)	E1 04 1085	E1 04 1085
Heating capacity, control range (kW)	0.9 – 2.0	1.0 – 2.0
Fuel consumption, control range (l/h)	0.12 – 0.24	0.14 – 0.27
Nominal voltage (V)	12	12
Rated power consumption, control range (W)	15 – 30	15 – 30
Heating air volume flow against 0.5 mbar, control range (m ³ /h)	93	93
Fuels*	Diesel EN 590, B100 FAME EN 14214	E0-E10 EN 228
Operating temperature range (°C)	-40 to +40	-40 to +40
Dimensions L x W x H (mm)	310 x 120 x 118	310 x 120 x 118
Weight (kg)	2.6	2.6

* Information about further fuels on request



Contents Scope of delivery/Installation kit

Part	SOD	IK	Description
1	■		Heater
2	■		Fuel pump DP 42
3	■		Screen
4	■		Base seal
5		■	Heater wiring harness
6		■	Fuel pump wiring harness
7		■	Fuel hose Da 5 / Di 2 / L 6000
8		■	Flexible stainless steel exhaust pipe Di 22/L 700
9		■	Flexible aluminum combustion air pipe Di 22 / L 400 with air intake silencer
10		■	Fuel extractor

Air Top 2000 STC

Scope of delivery, heater	Order number
Air Top 2000 STC Diesel 12 V Basic	9032228B
Air Top 2000 STC Diesel 24 V Basic	9032229B
Air Top 2000 STC Gasoline 12 V Basic	9032227B

Installation kit	Order number
Air Top 2000 STC installation kit	9032244A

Control element not included. Separate order required.

Air heaters

Air Top Evo 40/55



Evolution with more power and versatility

The Air Top Evo model offers greater comfort, safety and heating capacity for large commercial vehicles. Air heating ensures quick and efficient heating of cabins and cargo spaces. Energy consumption and noise are at a minimum thanks to the control system. An automatic altitude compensation system is included as standard. Quick and easy installation makes the Air Top Evo an economical retrofit solution.

If required, two units can be combined in a modular fashion to allow for heating larger cargo spaces.

The advantages of the Air Top Evo 40/55

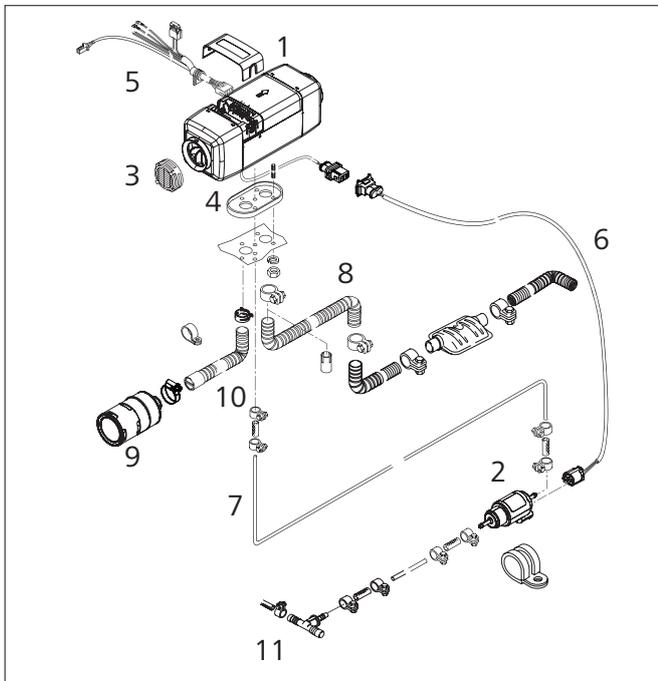
- Up to 4.0 / 5.5 kW heat output
- Very low electrical power consumption thanks to Intelligent Blower Control
- Silent operation thanks to adapted blower speed and silent fuel pump (DP42)
- Flame detection through exhaust gas temperature sensor
- Automatic altitude adjustment till 2,200 m above sea level
- Automatic cold start function for quick warm-up
- Suitable for use in vehicles for transporting hazardous materials (ADR)

Technical data

Model overview	Air Top Evo 40		Air Top Evo 55	
	Diesel	Gasoline	Diesel	Gasoline
ECE approval number ECE R122 (heating)	E1 00 0385	E1 00 0385	E1 00 0386	E1 00 0386
ECE approval number ECE R10 (EMC)	E1 05 5529	E1 05 5529	E1 05 5529	E1 05 5529
Heating capacity, control range/boost (kW)	1.5 – 3.5/4.0*	1.7 – 3.5/4.0*	1.5 – 5.0/5.5**	1.7 – 5.0/5.5**
Fuel consumption, control range/boost (l/h)	0.18 – 0.43/0.49	0.25 – 0.51/0.54	0.18 – 0.61/0.67	0.25 – 0.70/0.80
Nominal voltage (V)	12 24	12	12 24	12
Rated power consumption, control range/boost (W)	15 – 40/55	15 – 40/55	15 – 95/130	15 – 95/130
Heating air volume flow against 0.5 mbar, control range/boost (m³/h)	132/140	132/140	200/220	200/220
Fuels***	Diesel EN 590, B100 FAME EN 14214	E0-E10 EN 228	Diesel EN 590, B100 FAME EN 14214	E0-E10 EN 228
Operating temperature range (°C)	-40 to +40	-40 to +40	-40 to +40	-40 to +40
Dimensions L x W x H (mm)	423 x 148 x 162	423 x 148 x 162	423 x 148 x 162	423 x 148 x 162
Weight (kg)	5.9	5.9	5.9	5.9
Automatic altitude compensation (m)	2,200 High Altitude: 5,500	2,200	2,200	2,200

* Increased heat output ("Boost") possible for max. 6 hours. ** Increased heat output ("Boost") possible for max. 30 min.

*** Information about further fuels on request



Contents Scope of delivery/Installation kit

Part	SOD	IK	Description
1	■		Heater
2	■		Fuel pump DP42
3	■		Screen
4	■		Base seal
5		■	Heater wiring harness
6		■	Fuel pump wiring harness
7		■	Fuel hose Da 5/Di 2/L 8000
8		■	Flexible stainless steel exhaust pipe D 24/L 1100
9		■	Intake muffler
10		■	Flexible aluminum combustion air pipe Di 24.5/L 500
11		■	Fuel extractor

Air Top Evo 40

Scope of delivery, heater	Order number
Air Top Evo 40 Diesel 12 V Basic	9027980B
Air Top Evo 40 Diesel 24 V Basic	9027981B
Air Top Evo 40 Diesel 24 V High Altitude	9038558A
Air Top Evo 40 Gasoline 12 V Basic	9027979B

Air Top Evo 55

Scope of delivery, heater	Order number
Air Top Evo 55 Diesel 12 V Basic	9027985B
Air Top Evo 55 Diesel 24 V Basic	9027986B
Air Top Evo 55 Gasoline 12 V Basic	9027983B

Installation kit	Order number
Air Top Evo 40/55 installation kit	9027987A

Air Top Evo 40 High Altitude

Optimized product for high altitude requirements up to 5,500 m above sea level.

Air Top Evo System

Up to 11 kW heating capacity by combining two Air Top Evo units.

Installation kit	Order number
Air Top Evo 40/55 Slave installation kit Contents: installation kit (see above), cable harness and system documentation	9029962A

Control element not included. Separate order required.



Air heaters

Control elements

		Air Top 2000 STC	Air Top Evo 40/55	Order number
Wireless				
	ThermoConnect			
	<ul style="list-style-type: none"> – 12/24 V – Incl. GSM module, cable harness, GSM Antenna, GPS Antenna and pushbutton – Operating via App for iOS and Android and WebApp my.webastoconnect.com 	■	■	9035344A
	Remote control by phone ThermoCall TC4			
	<ul style="list-style-type: none"> – 12/24 V – Incl. GSM module, cable harness, GSM antenna and pushbutton – Operation via App. for iOS and Android 	■	■	9032141A
	External temperatur sensor			
	For ThermoCall	■	■	1319921A
Wired				
	Kit UniControl			
	<ul style="list-style-type: none"> – 12 / 24 V – Cover panel dimensions (L x W): 88,6 x 41,3 mm, installation depth: 30,6 mm – Quick start button – Switch input (for analog push button) – Instrument lighting (Kl.58) – Ignition plus (terminal 15, for ad hoc continous heating) – ADR Including wiring harness adapter UniControl – 9034555A 	■	■	9034520B
	Kit UniControl - replacement set standard timer 1531			
	<ul style="list-style-type: none"> – 12 / 24 V – Cover panel dimensions (L x W): 88,6 x 41,3 mm, installation depth: 30,6 mm – Quick start button – Switch input (for analog push button) – Instrument lighting (Kl.58) – Ignition plus (terminal 15, for ad hoc continous heating) – ADR Including adapter cable timer 1531 – 9034596A 	■	■	9034521B
	Wiring harness adapter UniControl			
	<ul style="list-style-type: none"> – Connection cable UniControl – 10-pole (UniControl) to 4-pole standard plug – Cable length 0.13 m 	■	■	9034555A

		Air Top 2000 STC	Air Top Evo 40/55	Order number
	Adapter cable UniControl - replacement standard timer 1531 Adapter cable for replacement of pre-selection timer 1531 – 10-pole (UniControl) to 12-pole connector of preselection timer 1531 – Cable length 0.2 m	■	■	9034596A
	Expansion kit UniControl Expansion cable for additional wiring (e.g. switching input, terminal 15) – 5 single wires with one-sided crimped flat connector – Flat connectors can be pinned into the still vacant slots of the 10-pole UniControl plug – Including 5 butt connectors – Cable length 3 m	■	■	9034597A
	Installation frame kit, short – For UniControl – Cover panel dimensions (L x W): 120 x 60 mm – With installation materials	■	■	474630
	Installation frame kit, long – For UniControl – Cover panel dimensions (L x W): 200 x 60 mm – With installation materials	■	■	476404

Air heaters

Control elements

		Air Top 2000 STC	Air Top Evo 40/55	Order number
Wired				
	MultiControl HD – 12/24 V – Cover panel dimensions (L x W) 68 x 48 mm, installation depth: 15 mm – Quick and intuitive operation thanks to a large TFT display and multifunction button – Status display of operating states via multicolored LED – 3 preselectable on-times per day, programmable for 7 days in advance – Internal temperature sensor / display of room temperature on display – Diagnostic interface for W-bus heaters and Thermo Test – Including adhesive pad	■	■	9030025D
	SmartControl – 12 / 24 V – Cover panel dimensions (L x W): 68 x 48 mm, installation depth: 15 mm – Quick and intuitive operation thanks to a large TFT display and multifunction button – Status display of operating states via multicolored LED – Self-explanatory menu control for heating and ventilation – Diagnostic interface for W-bus heaters and Thermo Test – ADR – Including adhesive pad	■	■	9030026D
	Multi-/SmartControl holding frame – Fastened by screws at the mounting point – Multi-/SmartControl is clicked into the holding frame	■	■	9030077A
	Adhesive pad – Included in kit 9030025D and 9030026D	■	■	9029618A
Switches				
	Rotary selector switch – 12/24 V – With switch function and light – Cover panel Ø 49 mm – Installation depth including plug: 55 mm	■	■	1322581A
	Installation cover panel – For rotary selector switch (1322581A) – Black plastic – Cover panel dimensions (L x W): 84 x 41,6 mm	■	■	1319733A
	Installation cover panel with rocker switch for heating and ventilation mode – For rotary selector switch (1322581A) – Black plastic – Cover panel dimensions (L x W): 84 x 41,6 mm	■	■	92240A

		Air Top 2000 STC	Air Top Evo 40/55	Order number
	Rocker switch for heating and ventilation mode			
	<ul style="list-style-type: none"> - Printed with flame and fan symbol - Cover panel dimensions (L x W): 19 x 14 mm - Switching current 3 amps - With connection materials 	■	■	1320434A
	Expansion kit 4-pole standard plug			
	<ul style="list-style-type: none"> - Expansion cable for 4-pole standard plug - For Rotary selector switch, UniControl, MultiControl, SmartControl, ThermoCall TC4 & ThermoConnect - Cable length 3m 	■	■	9031988A

Application of a water heating system

Webasto water heating systems can be ordered tailored to your needs. The standard components are combined into a basic scope of delivery and a vehicle specific installation kit. You may need additional application material, depending on the application requirements and the installation location. You can find these in our comprehensive accessories program.



Control element
Choose from our portfolio of different control elements, such as a simple switch, the ThermoCall or a remote control.

Integration into the water circuit

Depending on the vehicle type, choose the required application material such as hoses, valves or thermostats from the standard installation kit or our accessories portfolio.

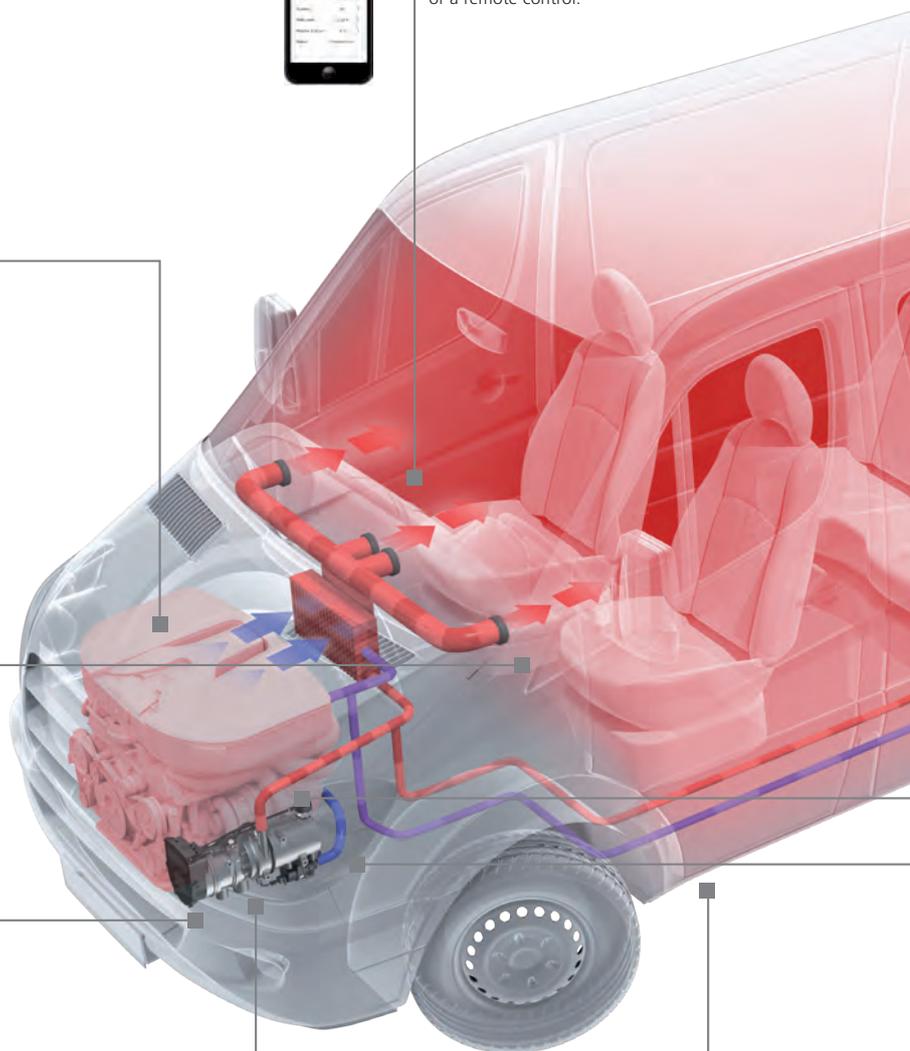


Electrical connection
A standardized wiring harness simplifies the connection of heater, control element and vehicle. It also offers a diagnosis interface.



Exhaust system

The resulting exhaust fumes have to be discharged via exhaust tube.



Water heater
Heaters are available with heating capacities from 2 to 40 kW.

The functionality of a water heating system can be found on page 137.



Coolant pump

Choose the required coolant pump from the broad accessories portfolio. For the eThermo Top Eco, Thermo Top Evo 4/5/5+, Thermo Pro 50 Eco, Thermo Pro 90 and Thermo Top Pro 120/150 heaters, a standard pump is included in the basic scope of delivery.



Combustion air intake

The required combustion air is provided via a air inlet pipe.



Fuel supply

A fuel operated heater needs a fuel supply via a fuel pump which is part of the basic scope of delivery.

Advantages of water heating systems

- Engine preheating and/or cabin heating
- Longer life of the engine thanks to reduction of cold starts
- Full integration in the existing heating system of the vehicle with a maximum of comfort for the passengers
- Use of the vehicle engine heat to bridge short standstill times without using the heater to reduce fuel consumption and emissions

Water heaters

New: eThermo Top Eco



Fast, Powerful, Electrical

eThermo Top Eco is an electrically operated water heater. The eThermo Top Eco appeals to new groups of customers: Garage and carport owners, short-distance drivers as well as environmentally aware motorists.

The electric parking heater is integrated into the coolant circuit of the vehicle. A circulation pump provides for the homogeneous heating of the vehicle engine. At the same time, the vehicle fan propels the flow of warm air into the interior and right onto the windshield, which is therefore de-iced extremely quickly.

The heater is operated via an electric cable connected to a 230 V power outlet. Thanks to the integrated trickle charge function for 12 V batteries, the car battery is automatically charged throughout the entire duration of operation. The eThermo Top Eco can be conveniently controlled with a preset timer for the power outlet.

There is a choice of two heating capacities, depending on the fuse protection type of the home connection:

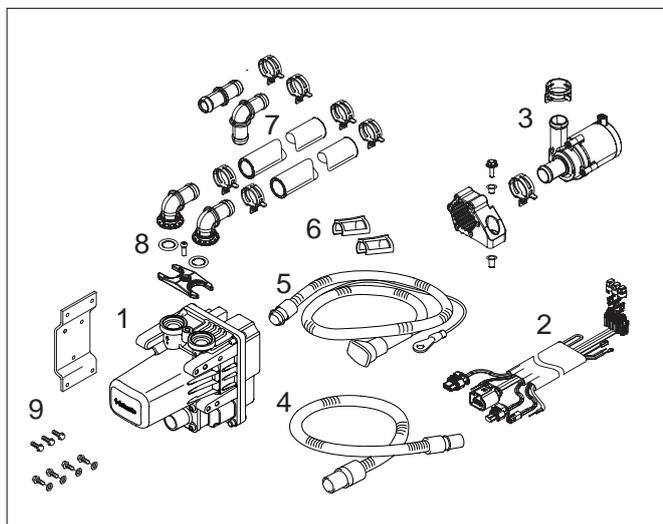
eThermo Top Eco 20 P (2 kW) for home connection with fuse protection of ≥ 10 A
 eThermo Top Eco 30 P (3 kW) for home connection with fuse protection of ≥ 16 A

- Retrofittable for cars with all types of drive systems
- Extremely small and light, weighting only 1.4 kg
- No emissions in operation
- Simultaneous and consistent heating of the engine and the interior
- Attractive price compared to fuel operated heaters
- Reduced installation time compared to Thermo Top Evo
- Trickle charge function of the vehicle's battery
- Available in two heating capacity options
- Convenient control possible with a preset timer

Technical data

Heater 230V / 112V	eThermo Top Eco 20 P	eThermo Top Eco 30 P
ECE approval number ECE R122	000531	000512
CE-Declaration of Conformity	Machinery Directive, 2014/30/EU (EMV), 2011/65/EU (RoHS), for further information see DoC	
Build type	Water heater (electrically powered)	
Grid connection (V) (50 Hz)	230	
Home connection fuse protection (A)	≥ 10	≥ 16
Heating capacity (kW)	max. 2	max. 3
Operating voltage (V) (50Hz)	220 – 230	
Output voltage battery (V)	12 – 14	
Output voltage coolant pump (V)	12 – 14.5	
Nominal energy consumption beyond control range (kW)	2	3
Permissible ambient temperatures (in operation) (°C)	-40 to +80	
Dimensions (L x W x H) (mm)	181 x 91 x 133	
Weight (kg)	1.4	
IP protection class	IP 5K4K, IPX9K	
Operation time (h)	max. 2	
Max. trickle charge amperage (A) Incl. coolant pump operation	8.5	
Coolant pump U4847 Econ		
Volume flow against 0.14 bar (l/h)	500	
Dimensions L x W x H (mm)	109 x 49 x 79	
Weight (kg)	0.3	

NEW



Contents Scope of delivery/Installation kit

Part	SOD	IK	Description
1	■		Heater eThermo Top Eco
2	■		12 V heater wiring harness
3	■		Coolant pump incl. bracket and specific harness
4	■		230 V extension cable
5	■		230 V mounting cable engine compartment
6	■		Safety lock (2 x)
7		■	Coolant hose Di 18/Da 25/L 2000
8		■	Coolant connection pieces
9		■	Heater bracket

eThermo Top Eco 20 P/eThermo Top Eco 30 P

Scope of delivery, heater	Order number
eThermo Top Eco 20 P (2 kW)	1330002A
eThermo Top Eco 30 P (3 kW)	1330003A

Installation kit	Order number
Installation kit eThermo Top Eco 20 P and 30 P	1330001A

Standard climate control kit	Order number
eThermo Top Eco 20 P and 30 P	1330005A

230 V house connecting cables in different lengths available, mounting accessories available, separate order required.
 Specific mounting part sets for various car models available.

Water heaters

Thermo Top Evo



Quick and reliable starting in winter

The Thermo Top Evo parking heater generation has been developed especially for new vehicles and those with restricted installation space. Thanks to the efficient heating system, the vehicle is ready to start quickly and reliably. Icy windows can be defrosted within a very short time and the cabin heats up very quickly.

There is a choice of three heating capacities, depending on the size of the vehicle. Thanks to its innovative control system, the Thermo Top Evo 5+ can be used to heat up very large interiors.

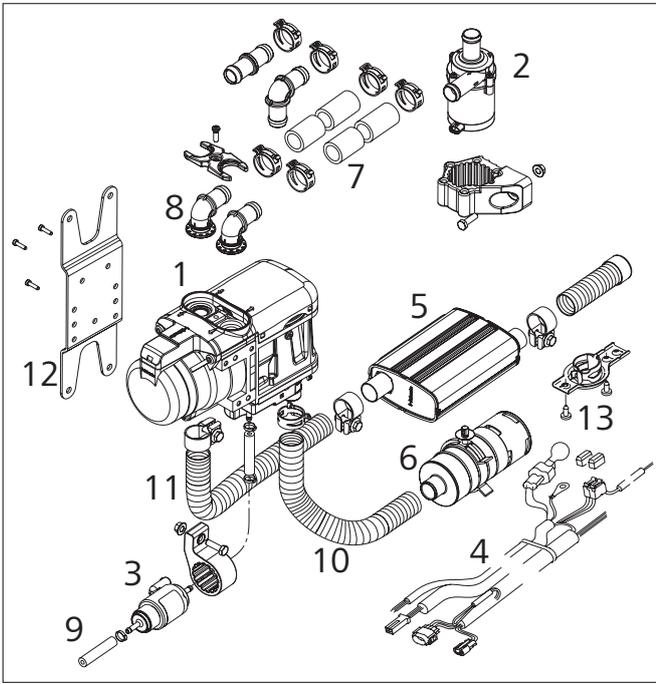
- Extremely small and a great space saver
- Weighting 2.1 kg, this is the lightest heater in its class
- Efficient and stable heating capacity
- Low fuel consumption and minimal emissions in operation
- Available in various heating capacities
- Vehicle-specific installation kits for the most common models

Technical data

Model overview	Thermo Top Evo 4		Thermo Top Evo 5		Thermo Top Evo 5+*	
	Diesel	Gasoline	Diesel	Gasoline	Diesel	Gasoline
ECE approval number ECE R122 (heating)	E1 00 0258		E1 00 0258		E1 00 0258	
ECE approval number ECE R10 (EMC)	E1 04 5627		E1 04 5627		E1 04 5627	
Heating capacity, part load/full load (kW)	2.5/4.0	2.8/4.0	2.5/5.0	2.8/5.0	2.5/5.0	2.8/5.0
Fuel consumption, part load/full load (l/h) +/- 10%	0.31/0.49	0.39/0.56	0.31/0.62	0.39/0.70	0.31/0.62	0.39/0.70
Nominal voltage (V)	12		12		12	
Rated power consumption without coolant pump, part load/full load (W) without vehicle's fan, +/- 10%	12/21	15/21	12/33	15/33	12/33	15/33
Fuels**	Diesel EN 590, Paraffinic fuel EN 15940 (HVO, GTL)	E0-E10 EN 228	Diesel EN 590, Paraffinic fuel EN 15940 (HVO, GTL)	E0-E10 EN 228	Diesel EN 590, Paraffinic fuel EN 15940 (HVO, GTL)	E0-E10 EN 228
Operating temperature range (°C)	-40 to +60					
Dimensions L x W x H (mm)	218 x 91 x 147		218 x 91 x 147		218 x 91 x 147	
Weight (kg)	2.1		2.1		2.1	
Coolant pump U4847 Econ						
Volume flow against 0.14 bar (l/h)	500					
Dimensions L x W x H (mm)	109 x 49 x 79					
Weight (kg)	0.3					

* The Thermo Top Evo 5+ unit has an innovative system for controlling the coolant circuit.

** Information about further fuels on request



Contents Scope of delivery/Installation kit

Part	SOD	IK	Description
1	■		Heater
2	■		Coolant pump U4847 Econ
3	■		Fuel pump DP42
4	■		Heater wiring harness
5		■	Exhaust silencer
6		■	Air intake silencer
7		■	Coolant hose Di 18/Da 25/L 2000
8		■	Coolant connection piece 90°/ Da 18/2 off
9		■	Fuel hose Di 2/Da 5/L 2000
10		■	Flexible combustion air pipe Di 21.4/ L 400
11		■	Flexible stainless steel exhaust pipe D 22/ L 1000
12		■	Heater bracket
13		■	Exhaust end fixing

Thermo Top Evo 4

Scope of delivery, heater	Order number
Thermo Top Evo 4 Diesel Basic	1314816B
Thermo Top Evo 4 Gasoline Basic	1314812B

Thermo Top Evo 5

Scope of delivery, heater	Order number
Thermo Top Evo 5 Diesel Basic	1314815B
Thermo Top Evo 5 Gasoline Basic	1314811B

Thermo Top Evo 5+

Scope of delivery, heater	Order number
Thermo Top Evo 5+ Diesel Basic	1314814A
Thermo Top Evo 5+ Gasoline Basic	1314810A

Installation kit*	Order number
Installation kit Thermo Top Evo Gasoline/Diesel Car AM	1314818D
Vehicle specific installation kit	please check our dealer portal on the internet

Control element not included. Separate order required.

Water heaters

Thermo Pro 50 Eco



Light and powerful

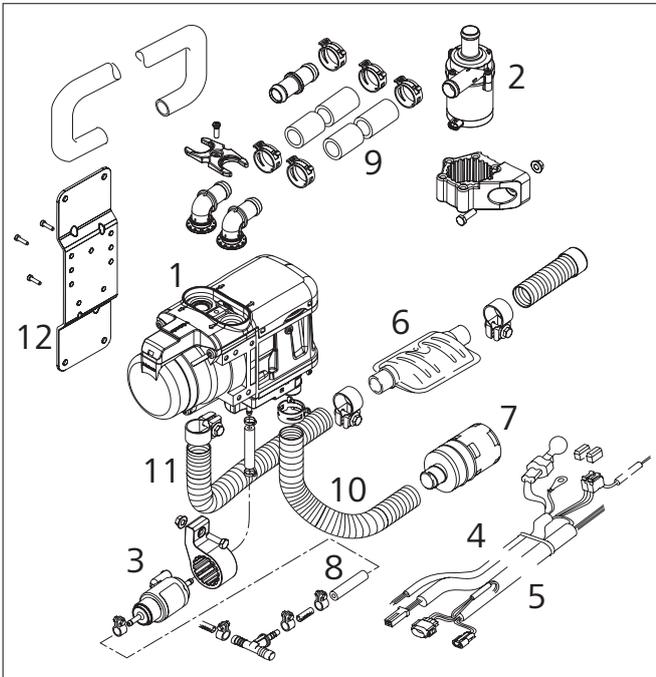
The Thermo Pro 50 Eco is designed especially for use in light trucks and small to medium-sized commercial and special vehicles. Its compact dimensions and low weight enable it to be installed even in restricted space conditions. The engine can be raised to the operating temperature even before starting, thereby saving fuel. The innovative control system ensures a pleasant temperature inside the vehicle, even when stationary and during breaks.

- Engine-independent heating mode for commercial vehicles with a 2.5 to 5 kW heating capacity
- Weighting just 2.2 kg, this is the lightest heater in its class
- Economical and with low emissions thanks to high efficiency
- Automatic altitude adjustment till 2,800 m above sea level

Technical data

Model overview	Thermo Pro 50 Eco
	Diesel
ECE approval number ECE R122 (heating)	E1 00 0471
ECE approval number ECE R10 (EMC)	E1 05 7609
Heating capacity, part load/full load (kW)	2.5/5
Fuel consumption, part load/full load (l/h)	0.3/0.65
Nominal voltage (V)	24
Rated power consumption without/with coolant pump (W)	35/50
Fuels*	Diesel EN 590
Operating temperature range (°C)	-40 to +80
Dimensions L x W x H (mm)	218 x 91 x 164
Weight (kg)	2.2
Automatic altitude compensation (m)	2,800
Coolant pump U4847 Econ	
Volume flow against 0.14 bar (l/h)	500
Dimensions L x W x H (mm)	109 x 49 x 79
Weight (kg)	0.3

* Information about further fuels on request



Contents Scope of delivery/Installation kit

Part	SOD	IK	Description
1	■		Heater
2	■		Coolant pump U4847 Econ
3	■		Fuel pump DP42
4		■	Heater wiring harness
5		■	Fuel pump wiring harness
6		■	Exhaust silencer
7		■	Air intake silencer
8		■	Fuel hose Da 5/Di 2/L 6000
9		■	Molded coolant hose Da 29 / Di 20 / L 2200
10		■	Flexible aluminum combustion air pipe D 21.4/L 400
11		■	Flexible stainless steel exhaust pipe D 22/L 1000
12		■	Heater bracket

Thermo Pro 50 Eco

Scope of delivery, heater	Order number
Thermo Pro 50 Eco Diesel 24 V Basic	9026553C

Installation kit	Order number
Installation kit Thermo Pro 50 Eco	9026722A

Control element not included. Separate order required.

Water heaters

Thermo Pro 90



Light and robust

The Thermo Pro 90 is designed especially for use in large commercial and special vehicles and in minibuses. It heats up the engine very quickly to optimum starting temperatures. Both fuel consumption and exhaust emissions are therefore reduced in the starting phase. New functions such as altitude compensation, Arctic Start and sliding heating capacity control allow new areas of application, even under extreme conditions.

The efficient and compact unit is easy to install and available for original equipment as well as for aftermarket installation.

- Engine-independent heating mode for commercial vehicles with up to 9.1 kW heating capacity
- Highly efficient combustion technology
- An extremely high-quality product with a long service life
- Automatic altitude compensation as standard
- Low energy consumption and operating noise

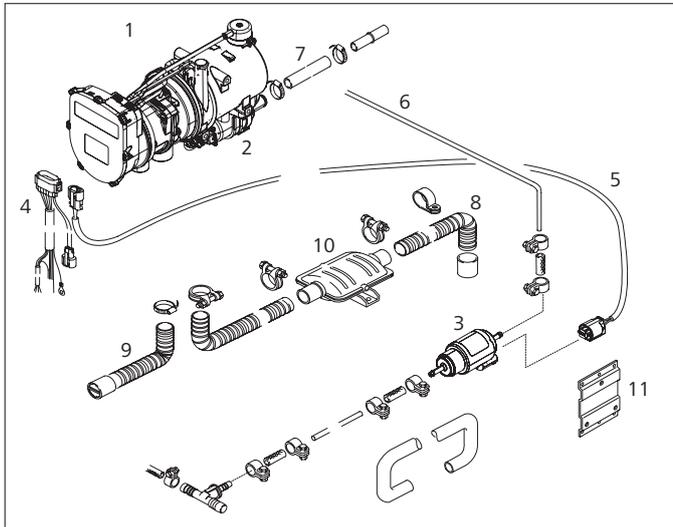
Technical data

Model overview	Thermo Pro 90	
	Diesel	
ECE approval number ECE R122 (heating)	E1 00 0320	
ECE approval number ECE R10 (EMC)	E1 04 6196	
Heating capacity, part load/full load/boost (kW)*	1.8/7.6/9.1	
Fuel consumption, part load/full load/boost (l/h)**	0.2/0.9/1.1	
Nominal voltage (V)	12	24
Rated power consumption with coolant pump, part load/full load/boost (W)	37/83/90	
Fuels***	Diesel EN 590, B100 FAME EN 14214, Paraffinic fuel EN 15940 (HVO, GTL)	
Operating temperature range (°C)	-40 to +80	
Dimensions with coolant pump U4840 L x W x H (mm)	385 x 139 x 219	
Weight with coolant pump U4840 (kg)	4.9	
Automatic altitude compensation (m)	3,500 High Altitude: 4,500	
Coolant pump U4840		
Volume flow against 0.34 bar (l/h)	700	
Dimensions L x W x H (mm)	134 x 53 x 90 (incl. connections)	
Weight (kg)	0.4	

* Increased heat output („Boost“) possible for max. 2 hours.

** About 20 – 40% of the stated fuel consumption is compensated for by the reduced consumption of the preheated engine.

*** Information about further fuels on request



Contents Scope of delivery/Installation kit

Part	SOD	IK	Description
1	■		Heater
2	■		Coolant pump U4840
3	■		Fuel pump DP42
4		■	Heater wiring harness
5		■	Fuel pump wiring harness
6		■	Fuel hose Da 5/Di 2/L 6000
7		■	Molded coolant hose Da 29/Di 20/L 2200
8		■	Flexible stainless steel exhaust pipe D 38/L 1000
9		■	Air intake silencer D 30/L 1160
10		■	Exhaust silencer
11		■	Heater bracket

Thermo Pro 90

Scope of delivery, heater	Order number
Thermo Pro 90 D 12 V Basic	9023075C
Thermo Pro 90 D 24 V Basic	9023076C
Thermo Pro 90 D 24 V HDD	9031850B
Thermo Pro 90 D 24V High Altitude	9034839A

Installation kit	Order number
Installation kit Thermo Pro 90 12 V	9024620A
Installation kit Thermo Pro 90 24 V	9024621A
Installation kit Thermo Pro 90 12 V Longline*	9028640A
Installation kit Thermo Pro 90 24 V Longline*	9028639A

Control element not included. Separate order required.

* Longline: Fuel line with larger diameter (inner 3 mm, outer 5 mm) and length of 12,000 mm. For use of large circuits only!

Thermo Pro 90 High Altitude

Optimized product for high altitude requirements up to 4,500 m above sea level.

Thermo Pro 90 HDD

Optimized product for industrial and construction sectors.

The Thermo Pro 90 HDD device satisfies additional standards regarding EMC compatibility, impact and vibration load and other environmental influences, acc. to MIL STD 810F, 810G, 461F, 1275D and other. Diagnostic off-board acc. to SAE J1939, prepared for on-board.

Water heaters

Thermo Top Pro 120/150



Greater performance and innovation in terms of customer comfort & safety

The Thermo Top Pro 120 and Thermo Top Pro 150 constitute a new generation of water heaters in the high-performance categories of 12 and 15 kW. The powerful heaters are each available in 12 and 24 V versions and are ideally suited for use in midi-buses, trucks, construction vehicles and agricultural equipment.

The heaters feature an innovative burner concept and an intelligent diagnosis and security system. Sensors monitor the exhaust gases and coolant temperature and continuously transmit the values to the control unit. One of the new features in this performance class is the automatic altitude adjustment, which ensures full heating capacity up to 3,500 meters above sea level. In addition, the heater is ready for operation even in extreme temperatures of minus 40 °C. The compact size and light weight enable easy installation of the water heater, even in confined spaces.

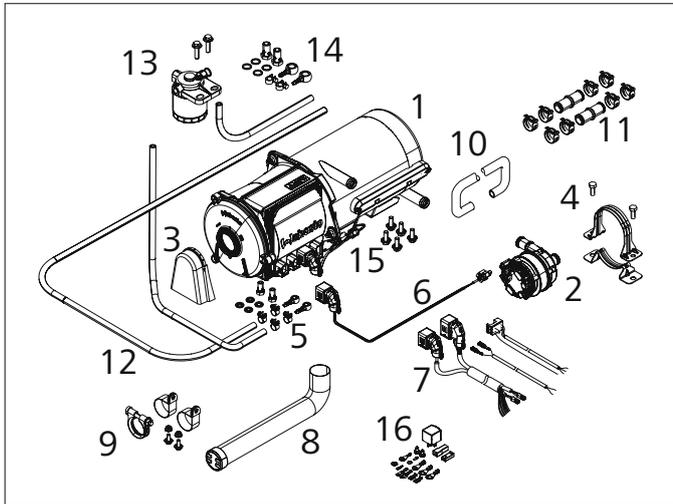
The new cooling pump U4850 provides a high volume flow and improved pressure resistance. Furthermore it does have an intelligent self-protection function and communicates to the control unit. The diagnosis process provides analysis of the heater as well as the cooling pump performances. The result: easy diagnosis and quick maintenance within the workshop.

- Small, light and lean design
- ECU and all connections on one side
- Easy to reach plugs for a fast installation
- Low noise emission
- Automatic altitude compensation up to 3,500 m above sea level
- More safety and diagnostic functions
- New, powerful coolant pump U4850
- Suitable for use in vehicles for transporting hazardous materials (ADR)

Technical data

Model overview	Thermo Top Pro 120	Thermo Top Pro 150
	Diesel	
ECE approval number ECE R 122	E1 00 0480, E1 00 0481	
ECE approval number ECE R 10 (EMC)	E1 05 7735	
Heating Capacity (kW)	12	15
Fuel consumption (kg/h)	1.37	1.45
Nominal voltage (V)	12/24	
Rated power consumption without coolant pump U4850 (W)	80	100
Fuels*	Diesel EN 590, Diesel B20-B30 EN 16709, Paraffinic fuel EN 15940 (HVO, GTL)	
Operating temperature range (°C)	-40 to +80	
Dimensions L x W X H (mm)	470 x 200 x 200	
Weight (kg)	11	
Automatic altitude compensation (m)	3,500	
Coolant pump U4850		
Volume flow against 0.56 bar (l/h)	1,500 l/h	
Weight (kg)	0.7	
Dimensions L x W X H (mm)	118 x 80 x 104	

* Information about further fuels on request



Contents Scope of delivery/Installation kit

Part	SOD	IK	Description
1	■		Heater
2	■		Coolant pump 4850
3	■		Splash guard
4	■		Bracket coolant pump
5	■		Mounting material fuel
6		■	Wiring harness coolant pump
7		■	Wiring harness vehicle, vehicle fan, fuse holder
8		■	Exhaust flex pipe
9		■	Mounting material exhaust
10		■	Coolant hose
11		■	Mounting material coolant
12		■	Fuel hose
13		■	Fuel filter
14		■	Mounting material fuel filter
15		■	Mounting material heater
16		■	Mounting material electric

Thermo Top Pro 120

Scope of delivery, heater	Order number
Thermo Top Pro 120, 12 V	9035585A
Thermo Top Pro 120, 24 V	9035584A

Thermo Top Pro 150

Scope of delivery, heater	Order number
Thermo Top Pro 150, 12 V	9035583A
Thermo Top Pro 150, 24 V	9035582A

Installation kit	Order number
Installation kit 12 V Standard	9035492A
Installation kit 24 V Standard	9035160A

Water heaters

Valeo, Thermo 230/300/350



Ready to start immediately, even at low temperatures

These powerful water heaters raise high-power engines to their operating temperature before starting. In public or tourist buses, they quickly establish a comfortable temperature level in the passenger areas without the engine running. In the case of railcars or locomotives, engines are preheated before starting. Apart from considerations of readiness for operation, these water heaters thereby also ensure that the engine has a longer life expectancy. The supplementary heating function during operation ensures a comfortable interior temperature, even when outside temperatures are very low. These water heating systems go beyond the legal requirements to meet the high standards of bus manufacturers as well.

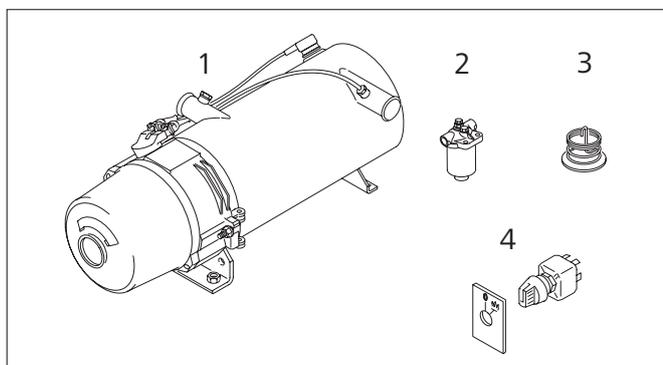
- Water heaters with 20/30/35 kW heating capacity
- Optional preheating of fuel
- Quick installation thanks to complete preconfigured systems

The Thermo water heaters will expire in 2020, the successor will be available in 2019.

Technical data

Model overview	Thermo 230	Thermo 300	Thermo 350
	Diesel		
ECE approval number ECE R122 (heating)	E1 00 0007	E1 00 0008	E1 00 0009
ECE approval number ECE R10 (EMC)	E1 03 1010		
Heating capacity (kW)	23	30	35
Fuel consumption (l/h)	3.0	4.0	4.5
Nominal voltage (V)	24		
Rated power consumption without coolant pump (W)	65	110	140
Fuels*	Diesel EN 590, Heating oil (EL) DIN 51603		
Operating temperature range (°C)	-40 to +85		
Dimensions L x W x H (mm)	610 x 246 x 220		
Weight (kg)	19.0		
Coolant pump U4814/Aquavent 5000			
Volume flow against 0.2 bar (l/h)	5,000		
Dimensions L x W x H (mm)	229 x 100 x 105		
Weight (kg)	2.1		
Coolant pump U4854/Aquavent 5000 S			
Volume flow against 0.2 bar (l/h)	5,000		
Dimensions L x W x H (mm)	249 x 100 x 105		
Weight (kg)	2.2		
Coolant pump U4856/Aquavent 6000 SC			
Volume flow against 0.4 bar (l/h)	6,000		
Dimensions L x W x H (mm)	229 x 110 x 115		
Weight (kg)	2.5		

* Information about further fuels on request



Contents Scope of delivery

Part	SOD	Description
1	■	Heater
2	■	Fuel filter
3	■	Exhaust deflector
4	■	Switch

Thermo 230

Scope of delivery, heater	Order number
Thermo 230 24 V	SPH85312C

Thermo 300

Scope of delivery, heater	Order number
Thermo 300 24 V	SPH85313C

Thermo 350

Scope of delivery, heater	Order number
Thermo 350 24 V	9810067A

Thermo Rail 230/300/350 heaters on request.

Water heaters

Valeo, Thermo S 230/300/350/400



Powerful and kind to the environment

The powerful water heaters of the Thermo S series raise high-power engines to their operating temperature before starting. In public or tourist buses, they quickly establish a comfortable temperature level in the passenger areas without the engine running. Apart from considerations of readiness for operation, preheating the engine also ensures that the engine has a longer life expectancy. A modified sensor system significantly reduces exhaust and noise emissions. The supplementary heating function during operation ensures a comfortable interior temperature, even when outside temperatures are very low. These water heating systems go beyond the legal requirements to meet the high standards of bus manufacturers as well.

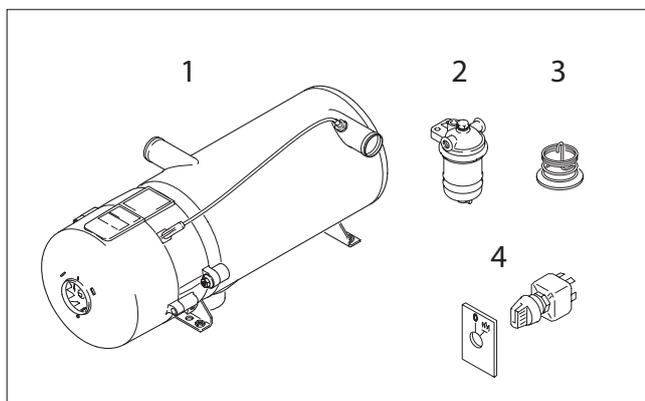
The Thermo S water heaters will expire in 2020, the successor will be available in 2019.

- Operational even at very low outside temperatures
- A comfortable interior temperature right from the start and while driving
- Preconfigured complete systems for less installation work
- An integrated diagnostic function reduces out-of-service and down times of the vehicle
- Optional preheating of the fuel

Technical data

Model overview	Thermo S230	Thermo S300	Thermo S350	Thermo S400
	Diesel			
ECE approval number ECE R122 (heating)	E1 00 0226	E1 00 0227	E1 00 0228	E1 00 0225
ECE approval number ECE R10 (EMC)	E1 03 5266			
Heating capacity (kW)	23	30	35	40
Fuel consumption (l/h)	3.0	3.6	4.3	4.9
Nominal voltage (V)	24			
Rated power consumption without coolant pump (W)	65	90	120	180
Fuels*	Diesel EN 590, Heating oil (EL) DIN 51603			
Operating temperature range (°C)	-40 to +100			
Dimensions L x W x H (mm)	600 x 247 x 220			
Weight (kg)	18.8			
Coolant pump U4814/Aquavent 5000				
Volume flow against 0.2 bar (l/h)	5,000			
Dimensions L x W x H (mm)	229 x 100 x 105			
Weight (kg)	2.1			
Coolant pump U4854/Aquavent 5000 S				
Volume flow against 0.2 bar (l/h)	5,000			
Dimensions L x W x H (mm)	249 x 100 x 105			
Weight (kg)	2.2			
Coolant pump U4856/Aquavent 6000 SC				
Volume flow against 0.4 bar (l/h)	6,000			
Dimensions L x W x H (mm)	229 x 110 x 115			
Weight (kg)	2.5			

* Information about further fuels on request



Contents Scope of delivery

Part	SOD	Description
1	■	Heater
2	■	Fuel filter
3	■	Exhaust deflector
4	■	Switch

Thermo S230

Scope of delivery, heater	Order number
Thermo S 230.004	9810115A

Thermo S300

Scope of delivery, heater	Order number
Thermo S 300.002	9810105A

Thermo S350

Scope of delivery, heater	Order number
Thermo S 350.022	9810108A

Thermo S400

Scope of delivery, heater	Order number
Thermo S 400.003	9810175A

Water heaters

Control elements

Wireless		Thermo Top Evo	Thermo Pro 50 Eco	Thermo Pro 90	Thermo Top Pro 120/150	Thermo 230/300/350	Thermo S 230/300/350/400	Order number
	ThermoConnect – 12/24 V – Incl. GSM module, cable harness, GSM Antenna, GPS Antenna and pushbutton – Operating via App for iOS and Android and WebApp my.webastoconnect.com	■						9035344A
	Remote control by phone Thermo Call TC4 ThermoCall TC4 – 12/24 V – Incl. GSM module, cable harness, GSM antenna and pushbutton – Operation via App. for iOS and Android	■	■	■	■			9032141A
	Remote control Telestart T100 HTM – 12 V – Incl. 1 hand-held transmitter with battery, receiver, self-adhesive window antenna, ESV adapter and temperature sensor HTM – Automatic heating time calculation	■		■				1314637A
	Hand-held transmitter T100 HTM Incl. battery Included in Kit 1314637A	■		■				1314638B
	Remote control Telestart T91 – 12 V, with check-back signal – Incl. 1 handheld transmitter with battery, receiver, self-adhesive window antenna and Y adapter	■		■				1314635A
	Hand-held transmitter T91 Incl. battery Included in kit 1314635A	■		■				1314636A

		Thermo Top Evo	Thermo Pro 50 Eco	Thermo Pro 90	Thermo Top Pro 120/150	Thermo 230/300/350	Thermo S 230/300/350/400	Order number
	Receiver T91/T100 HTM Included in kit 1314637A and kit 1314635A	■		■				1314639A
	Self-adhesive window antenna For remote controls Telestart T91/T100 HTM Included in kit 1314637A and kit 1314635A	■		■				1320938A
	ESV adapter cable harness for T91 and T100 HTM For connection of receiver, temperature sensor HTM and digital timer with heater Included in kit 1314637A and kit 1314635A	■		■				1320949A
	Battery for hand-held transmitter T100 HTM Included in Kit 1314637A	■		■				9011356B
	Battery for hand-held transmitter T91 Included in kit 1314635A	■		■				9014840A
	Battery compartment cover for hand-held transmitter T100 HTM Included in Kit 1314637A and 1314638B	■		■				1320946A
	Battery compartment cover for hand-held transmitter T91 Included in Kit 1314635 and 1314636A	■		■				1320216A
	Temperature sensor For T100 HTM and ThermoCall Included in Kit 1314637A	■		■				1319921A

Water heaters

Control elements

Wired

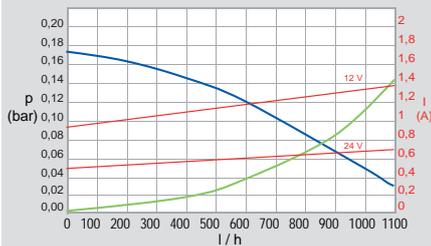
		Thermo Top Evo	Thermo Pro 50 Eco	Thermo Pro 90	Thermo Top Pro 120/150	Thermo 230/300/350	Thermo S 230/300/350/400	Order number
	Kit UniControl – 12 / 24 V – Cover panel dimensions (L x W): 88,6 x 41,3 mm, installation depth: 30,6 mm – Quick start button – Switch input (for analog push button) – Instrument lighting (KI.58) – Ignition plus (terminal 15, for ad hoc continuous heating) – ADR Including wiring harness adapter UniControl – 9034555A	■	■	■	■	■	■	9034520B
	Kit UniControl - replacement set standard timer 1531 – 12 / 24 V – Cover panel dimensions (L x W): 88,6 x 41,3 mm, installation depth: 30,6 mm – Quick start button – Switch input (for analog push button) – Instrument lighting (KI.58) – Ignition plus (terminal 15, for ad hoc continuous heating) – ADR Including adapter cable timer 1531 – 9034596A		■	■			■	9034521B
	Wiring harness adapter UniControl Connection cable UniControl – 10-pole (UniControl) to 4-pole standard plug – Cable length 0.13 m	■	■	■	■	■	■	9034555A
	Adapter cable UniControl - replacement standard timer 1531 Adapter cable for replacement of pre-selection timer 1531 – 10-pole (UniControl) to 12-pole connector of preselection timer 1531 – Cable length 0.2 m		■	■			■	9034596A
	Expansion kit UniControl Expansion cable for additional wiring (e.g. switching input, terminal 15) – 5 single wires with one-sided crimped flat connector – Flat connectors can be pinned into the still vacant slots of the 10-pole UniControl plug – Including 5 butt connectors – Cable length 3 m	■	■	■	■	■	■	9034597A
	Installation frame kit, short – For UniControl – Cover panel dimensions (L x W): 120 x 60 mm – With installation materials	■	■	■	■	■	■	474630
	Installation kit, long – For UniControl – Cover panel dimensions (L x W): 200 x 60 mm – With installation materials	■	■	■	■	■	■	476404

		Thermo Top Evo	Thermo Pro 50 Eco	Thermo Pro 90	Thermo Top Pro 120/150	Thermo 230/300/350	Thermo S 230/300/350/400	Order number
	MultiControl Car – 12/24 V – Cover panel dimensions (L x W): 68 x 48 mm, installation depth: 15 mm – Quick and intuitive operation thanks to a large TFT display and multi-function button – Status display of operating states via multicolored LED – Self-explanatory menu control for heating, ventilation and timer control – 3 preselectable on-times per day, programmable for 7 days in advance – Including adhesive pad – Diagnostic interface for W-bus heaters and Thermo Test	■						9029783C
	MultiControl HD – 12/24 V – Cover panel dimensions (L x W) 68 x 48 mm, installation depth: 15 mm – Quick and intuitive operation thanks to a large TFT display and multifunction button – Status display of operating states via multicolored LED – 3 preselectable on-times per day, programmable for 7 days in advance – Internal temperature sensor/display of room temperature on display – Diagnostic interface for W-bus heaters and Thermo Test – Including adhesive pad		■	■	■			9030025D
	SmartControl – 12 / 24 V – Cover panel dimensions (L x W): 68 x 48 mm, installation depth: 15 mm – Quick and intuitive operation thanks to a large TFT display and multifunction button – Status display of operating states via multicolored LED – Self-explanatory menu control for heating and ventilation – Diagnostic interface for W-bus heaters and Thermo Test – ADR – Including adhesive pad		■	■	■			9030026D
	Multi-/SmartControl holding frame – Fastened by screws at the mounting point – Multi-/SmartControl is clicked into the holding frame	■	■	■	■			9030077A
	Adhesive pad Included in kit 9029783C, 9030025D and 9030026D	■	■	■	■			9029618A
	Rocker switch ON/OFF – 12/24 V – Dimensions: 23 x 23 mm (drilling hole 20 mm) – LED to indicate heater operation – Incl. Wiring harness and information sheet with installation notes		■	■	■	■	■	9032550A
	Expansion kit 4-pole standard plug – Expansion cable for 4-pole standard plug – For Rocker switch ON/OFF, UniControl, MultiControl, SmartControl, ThermoCall TC4 & ThermoConnect – Cable length 3m	■	■	■	■	■	■	9031988A

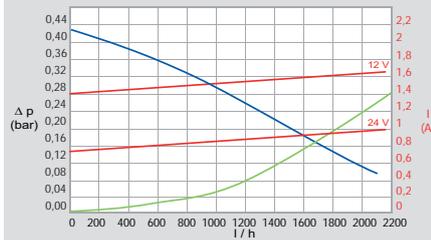
Water heaters

Coolant pumps

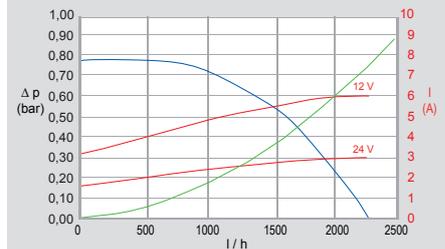
U4847 Econ



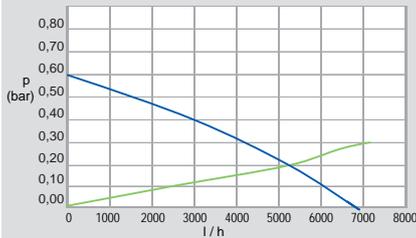
U4840



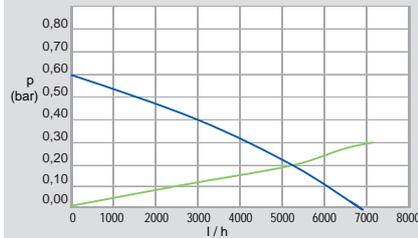
U4850



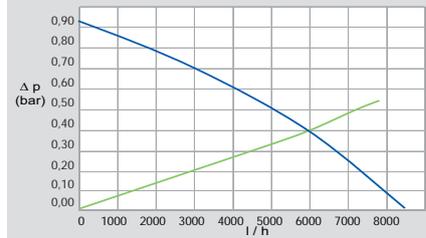
Aquavent 5000



Aquavent 5000 S



Aquavent 6000C / 6000SC



Volume flow with water/glycol mixture (50:50) 20°C

Flow resistance when the pump is stationary

Rated power consumption

Technical data

Model overview	U4847 Econ	U4840	U4850	Aquavent			
				5000	5000 S	6000 C	6000 SC
Nominal voltage (V)		12/24		12/24	24	24	
Nominal power consumption (W)	15	30	67	104		210	
Volume flow (l/h)	500 (against 0.14 bar)	700 (against 0.34 bar)	1,500 (against 0.56 bar)	5,000 (against 0.2 bar)	5,000 (against 0.2 bar)	6,000 (against 0.4 bar)	
Dimensions L x W x H (mm) (incl. connection pieces, axial)	109 x 49 x 79	134 x 53 x 90	118 x 80 x 104	229 x 100 x 105	249 x 100 x 105	225 x 110 x 115	229 x 110 x 115
Water connection, \varnothing (mm)	20			38			
Weight (kg)	0.3	0.4	0.7	2.1	2.2	2.4	2.5



U4847 Econ

Model overview	Order number
U4847 Econ coolant pump 12 V, 130° connection piece	9002514B
U4847 Econ coolant pump 24 V	98237B

U4840

Model overview	Order number
U4840 coolant pump 12 V	1321930A
U4840 coolant pump 24 V	1321932A

U4850

Model overview	Order number
U4850 coolant pump 12 V	9038904A
U4850 coolant pump 24 V	9038905A

The coolant pump, U4850 as a single component, does not have its own ECE type approval nor its own CE conformity. ECE type approval and/or CE conformity is/are only possible in conjunction with Webasto heaters: Thermo Top Pro 120 | 150, DBW 2010 | 2016. CE conformity exists in conjunction with the Webasto heater: HVH. When using a pump without a connection to these heaters, and/or when using a pump as a standalone unit, U4850 the OEM is obliged to obtain type approval for the entire vehicle, including the pump, by the appropriate government body, and/or to get CE conformity awarded for the vehicle including its pump.

Successor kits coolant pump U4846

Model overview	Order number
Kit U4840, 12 V (including U4840, 12 V with adapter cable and connection kit)	9024184B
Kit U4840, 12 V (including U4840, 12 V with bracket, adapter cable and connection kit)	9024186B
Kit U4840, 24 V (including U4840, 24 V with adapter cable and connection kit)	9024185B
Kit U4840, 24 V (including U4840, 24 V with bracket, adapter cable and connection kit)	9024187B

Successor kits coolant pump U4810

Model overview	Order number
Kit U4840, 12 V (including U4840, 12 V with adapter cable and connection kit)	9024184B
Kit U4840, 12 V (including U4840, 12 V with bracket, adapter cable and connection kit)	9024186B
Kit U4840, 24 V (including U4840, 24 V with adapter cable and connection kit)	9024185B
Kit U4840, 24 V (including U4840, 24 V with bracket, adapter cable and connection kit)	9024187B

Aquavent 5000/5000 S

Model overview	Order number
Aquavent 5000 (U4814) coolant pump 24 V (JAEGER 1/2)	9810031A
Kit Aquavent 5000 (U4814) coolant pump 12 V (AMP 6.3), with bracket	9810032A
Kit Aquavent 5000 (U4814) coolant pump 24 V (AMP 6.3), with bracket	9810033A
Aquavent 5000 S (U4854) coolant pump 24 V (AMP 6.3)	9810179B
Aquavent 5000 S (U4854) coolant pump 24 V (AMP DC MB)	9810182B
Aquavent 5000 S (U4854) coolant pump 24 V (G&H 2.8)	9810184B

Aquavent 6000 C/6000 SC

Model overview	Order number
Aquavent 6000 C (U4855.01) coolant pump 24 V (AMP 6.3)	9810015A
Aquavent 6000 C (U4855.08) coolant pump 24 V (AMP DC MB)	9810021A
Kit Aquavent 6000 SC (U4856.01) coolant pump 24 V (AMP 6.3), with bracket	1311280B
Aquavent 6000 SC (U4856.04) coolant pump 24 V (G&H 2.8)	SPH2710197B
Aquavent 6000 SC (U4856.08) coolant pump 24 V (AMP DC MB)	9810017A

Application of an integrated heat exchanger

The integrated Webasto heating systems use the engine residual heat to heat the vehicle. They are available in different capacities variants (3.8 to 13 kW) and are integrated into the coolant circuit. An comprehensive range of accessories is available for the installation.



Electrical connection

A matching wiring harness simplifies the connection of control element and heater components.

Control element

Choose from our broad portfolio of different control elements.



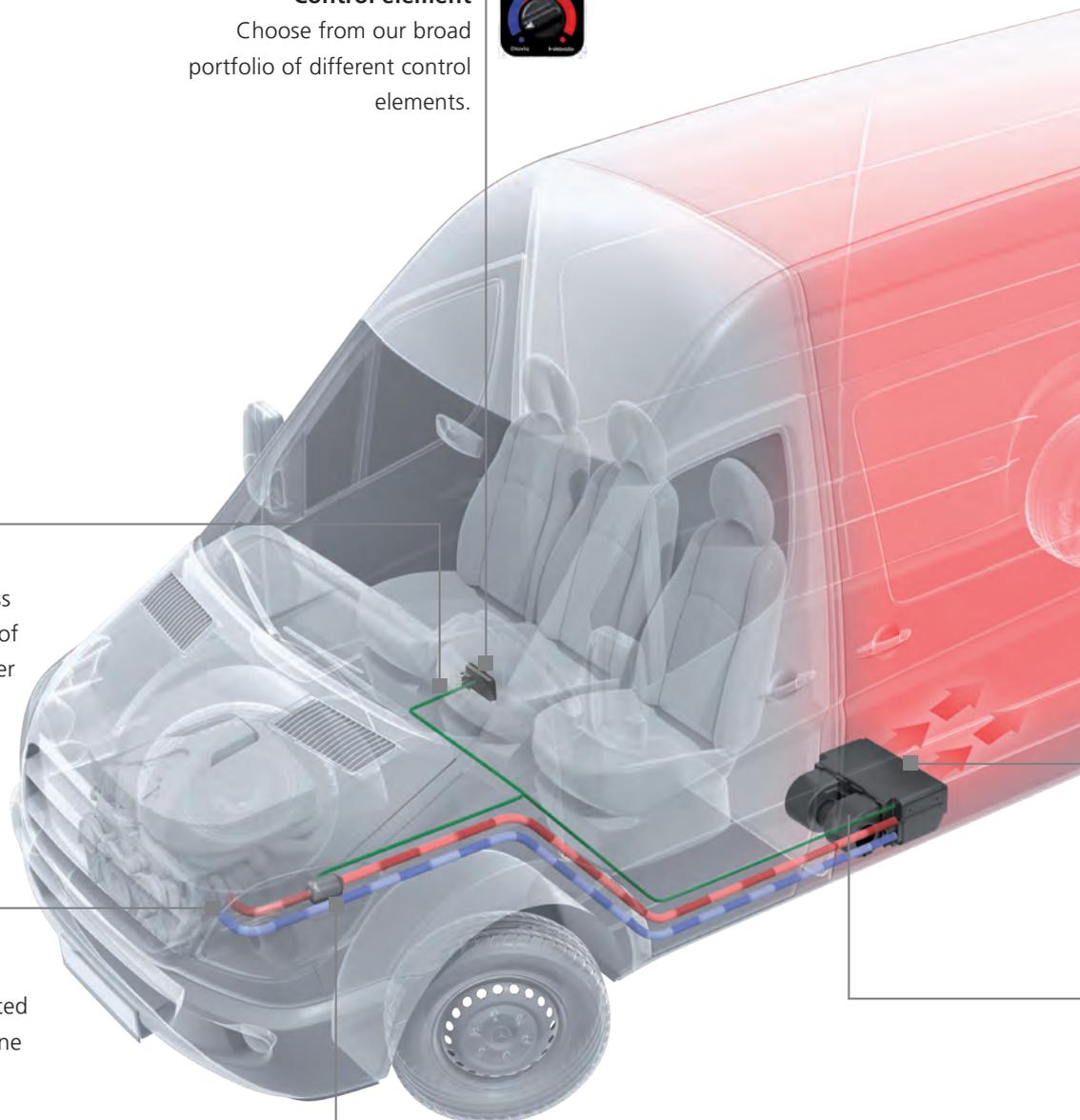
Integration into the coolant circuit

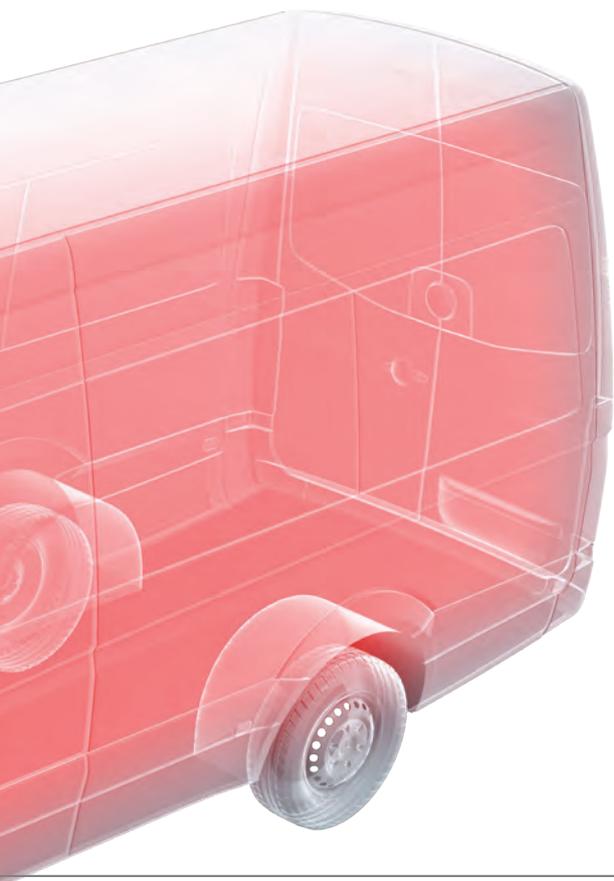
The heat exchanger is integrated into the vehicle's original engine coolant circuit.



Coolant pump

We offer you the right coolant pump for your heating solution.





Air distributor module

Our broad portfolio of air distribution solutions ranges from a simple air distributor plate through to a modular system, enabling a central or lateral air inlet into the cabin.



Heater

Heat exchangers are available in various capacities and versions from 3.8 to 13 kW.

Advantages of integrated heating systems

- Use of the engine residual heat via the coolant circuit to heat the cabin
- Low energy consumption (only fan and circulation pump)
- Individual choice of heat exchanger installation position

Integrated heat exchangers

3.8 to 13.0 kW heating capacity



Pleasantly warm in commercial vehicles and minibuses

The integrated heat exchangers are versatile and are the ideal solution for heating the interiors of minibuses and commercial vehicles. In these systems, the waste heat from the engine is used for heating, being transferred via the coolant circuit.

These products can be installed under the dashboard or under the roof, for example. In addition to high reliability, these heat exchanger are also distinguished by a long service life.

A large range of accessories, such as control elements and air ducts, offer high flexibility.

- Heating solutions with a heating capacity from 3.8 to 13.0 kW
- Optimum integration into various vehicle structures thanks to versatile installation options
- Low energy consumption
- High-quality reliable components from proven series-production processes

Technical data

Model overview	Sydney	Stoccolma	Houston	Toronto	Phoenix	Cyprus
Nominal heating capacity (kW)	3.8		6.5	7.0	8.6	13.0
Nominal voltage (V)	12/24	12	12/24	12	12/24	12/24
Max. total current absorption at 12 V (A)	4.2	3.5	14.0	8.6	8.4	24.0
Max. blower volume flow (m ³ /h)	170		420	450	450	800
Dimensions L x W x H (mm)	260 x 177 x 130	276 x 183 x 191	230 x 220 x 175	590 x 380 x 160	385 x 233 x 128	545 x 300 x 175
Weight (kg)	1.3	2.5	2.8	4.2	3.0	4.0
Water connection, Ø (mm)	16					



Sydney

Model overview	Scope of delivery	Order number
Sydney 12 V	Heating system	62U003CC048B (*)
Sydney 24 V		62U003CC049B (*)

* Blower motor with only two speeds



Stocolma

Model overview	Scope of delivery	Order number
Stocolma 12 V	Heating system with control element	62U003CC051A



Houston

Model overview	Scope of delivery	Order number
Houston 12 V	Heating system	62U003CC017A
Houston 24 V		62U003CC018A



Toronto

Model overview	Scope of delivery	Order number
Toronto 12 V	Heating system with control element	62U003CC012A



Phoenix

Model overview	Scope of delivery	Order number
Phoenix 12 V	Heating system	62U003CC019C
Phoenix 24 V		62U003CC020C



Cyprus

Model overview	Scope of delivery	Order number
Cyprus 12 V	Heating system	62U003CC052A
Cyprus 24 V		62U003CC053A

The performance data for your application may differ from the nominal values. These depend on various conditions, such as the air ducts and the climate. Products are supplied together with product documentation. Unless stated otherwise, the control element is not included.

Integrated heat exchangers

Control elements

		Sydney	Stoccolma	Houston	Toronto	Phoenix	Cyprus	Order number
	Heating control switch							
	Without electric water valve, controller and signal cable, 12/24 V	■		■		■	■	62A03998A
	With electric water valve, controller and signal cable, 12 V	■		■		■	■	620282129A
	With electric water valve, controller and signal cable, 24 V – 50 x 50 x 5 mm (W x H x D) – Mechanical control of the water valve for the heater	■		■		■	■	620282102A
	3-position blower switch							
	– 12/24 V – 53 x 50 x 5 mm (W x H x D) – Mechanical control of fan speed	■		■		■	■	62A04001A



Air-conditioning systems

Webasto air-conditioning systems offer your customers a wide variety of advantages:

Worthwhile investment

- High-quality and reliable components from proven series production
- All components for air-conditioning systems available from a broad product range
- Individual combination of the system components for specific application solutions
- Vehicle-specific installation kits for optimum integration
- Low maintenance costs

More safety and greater comfort

- Optimum temperature and humidity at all times
- High efficiency in all temperature ranges
- Greater concentration and thus greater safety
- Quiet operation thanks to high-quality fans
- Constant temperature in the interior thanks to intelligent temperature management
- Uniform air distribution thanks to modular air system components

Optimum transport of perishable goods

- Constant temperature in the refrigerated compartment thanks to automatic temperature control
- All air-conditioning components can be individually integrated into the vehicle
- Coverage of different temperature ranges through the use of different refrigerants

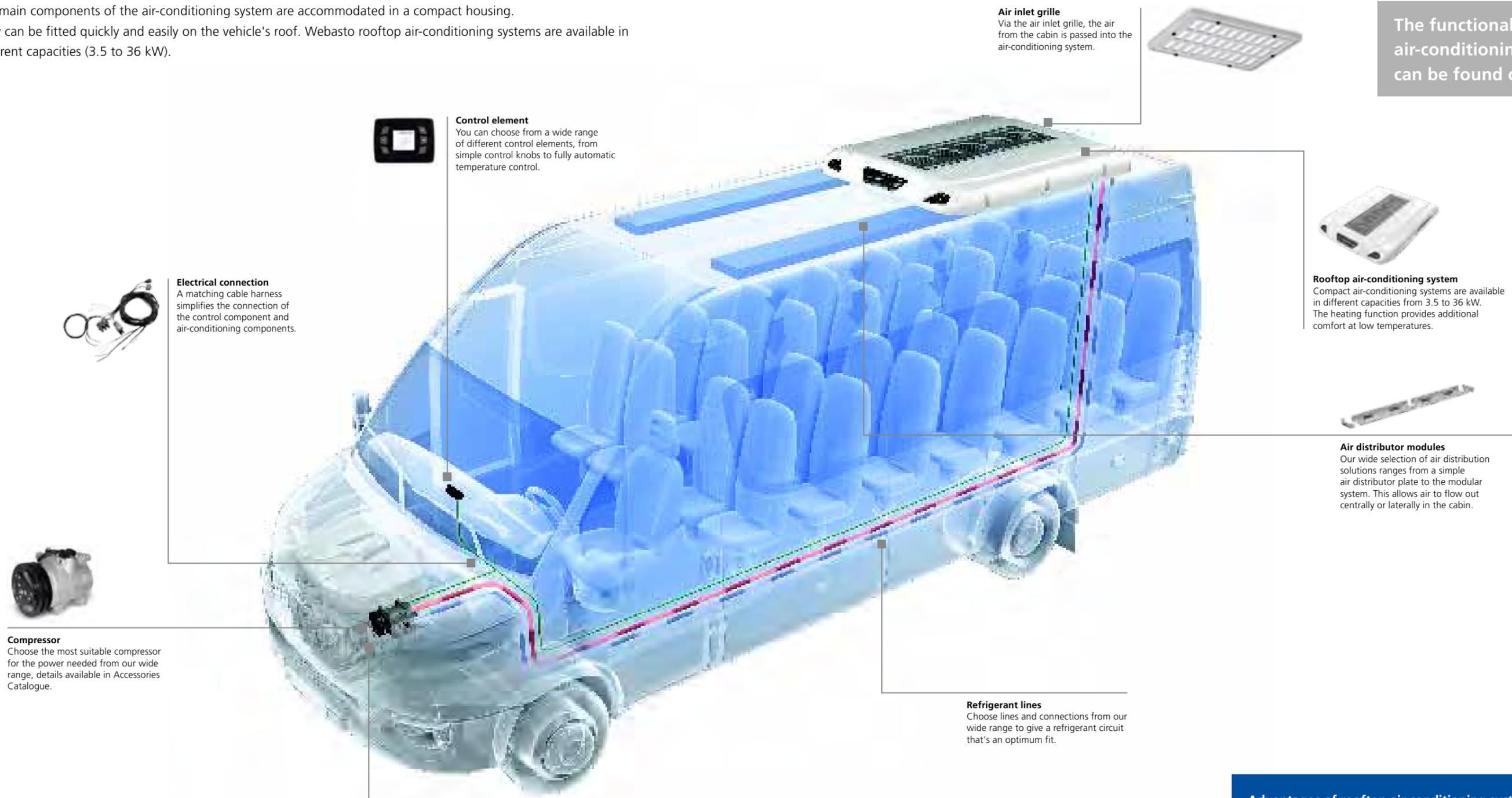
The tailor-made Webasto air-conditioning solution for every area

	Cooling capacity (kW)					
Rooftop AC systems	3.5 – 36.0	■	■	■	■	■
Integrated AC systems	4.0 – 16.0		■	■	■	■
Transport refrigeration systems	1.0 – 5.6		■			

Apart from our wide range of standard products, we also offer you individual system solutions.

Application of a rooftop air-conditioning system

The main components of the air-conditioning system are accommodated in a compact housing. They can be fitted quickly and easily on the vehicle's roof. Webasto rooftop air-conditioning systems are available in different capacities (3.5 to 36 kW).



Control element
You can choose from a wide range of different control elements, from simple control knobs to fully automatic temperature control.

Air inlet grille
Via the air inlet grille, the air from the cabin is passed into the air-conditioning system.

Rooftop air-conditioning system
Compact air-conditioning systems are available in different capacities from 3.5 to 36 kW. The heating function provides additional comfort at low temperatures.

Air distributor modules
Our wide selection of air distribution solutions ranges from a simple air distributor plate to the modular system. This allows air to flow out centrally or laterally in the cabin.

Compressor
Choose the most suitable compressor for the power needed from our wide range, details available in Accessories Catalogue.

Installation kit for compressor
Vehicle-specific installation kits ensure easy fitting and reliable operation of the compressor.

Refrigerant lines
Choose lines and connections from our wide range to give a refrigerant circuit that's an optimum fit.

The functionality of an air-conditioning system can be found on page 138.

- Advantages of rooftop air-conditioning systems**
- Compact design
 - Optimum harmonization of air-conditioning components
 - Quick and easy installation
 - Additional comfort options (heating or fresh air)
 - Proven, high-quality, standard component

Rooftop air-conditioning systems

From 3.5 kW to 6.2 kW cooling capacity



First-class air-conditioning in commercial vehicles and in construction and agricultural machinery

These rooftop air-conditioning systems are versatile, and can be used for the mini buses, ambulances and fire fighting vehicles and for construction and agricultural machinery. These units are very reliable and have a long service life. There is a wide range of accessories, such as control elements, air ducts and installation sets, available for these air-conditioning systems. The housings of these air-conditioning systems can be painted to match the color of the vehicle.

For complete air-conditioning solutions, the Portofino model has an optional heating function.

- Air-conditioning systems with a cooling capacity of 3.5 kW to 6.2 kW
- Compact construction and aerodynamic design
- High efficiency in relation to the dimensions
- High-quality and reliable components from proven series production processes
- Easy installation and low maintenance

Technical data

Model overview	Compact Cooler 4 E	Portofino	Minsk	Compact Cooler 5	Rimini
Nominal cooling capacity (kW)	3.5	4.0	5.0	5.0	6.2
Heating capacity (optional) (kW)	-	5.0	-	-	-
Refrigerant	R134a				
Nominal voltage (V)	24	12/24			
Max. operating temperature (°C)	-	45			
Max. total current absorption at 12 V (A)	-	20.0	9.0	-	20.0
Max. total current absorption at 24 V (A)	68.0	-	-	-	-
Max. volume flow of evaporator blower (m³/h)	550	400	450	630	550
Dimensions L x W x H (mm)	774 x 1,110 x 215	600 x 900 x 190	505 x 462 x 145	760 x 750 x 165	605 x 800 x 165
Weight (kg)	52.0	15.5	6.0	23.0	23.5
Inlet connection	-	3/4"-16 UNF-2A	-	3/4"-16 UNF-2A	
Outlet connection	-	7/8"-14 UNF-2A	-	7/8"-14 UNF-2A	
Expansion valve	-	Block valve	Angle valve	Block valve	
Accessories	-	Mounting kit, heating kit	External connection kit	E-Unit	-



Compact Cooler 4 E

Model overview	Scope of delivery	Order number
Compact Cooler 4E 24 V	Air-conditioning system with control element, air distributor plate, Standard installation kit without 6 m hoses	90238388C
Compact Cooler 4E 24 V	Air-conditioning system with control element, air distributor plate, Electric thermostat, Standard installation kit without 6 m hoses	9023839C

Portofino

Model overview	Scope of delivery	Order number
Portofino 12 V	Air-conditioning system	62U003FF081EB
Portofino 24 V		62U003FF082EB
Accessories		
Mounting kit		62U003AA130A
Heating kit		62A031064A

Minsk

Model overview	Scope of delivery	Order number
Minsk 12 V	Evaporator unit	62U003FF083ED
Minsk 24 V		62U003FF124EC
Accessories		
External connection kit	For external refrigerant connection	62A031024A

Compact Cooler 5

Model overview	Scope of delivery	Order number
Compact Cooler 5 12 V	Air-conditioning system with control element, air distributor plate	9023843C
Compact Cooler 5 24 V		9023842C
Compact Cooler 5 12 V	Air-conditioning system with control element, air distributor plate, electronic thermostat	9023845C
Compact Cooler 5 24 V		9023844C
Compact Cooler 5 12 V	Air-conditioning system with control element, air distributor plate, Standard installation kit with 6 m hoses	9023841C
Compact Cooler 5 24 V		9023840C
Compact Cooler 5 24 V	Air-conditioning system with control element, air distributor plate, electronic thermostat, external refrigerant lines	9023846C
Compact Cooler 5 24 V	Air conditioning system, external refrigerant line	629022993D
Accessories		
E-Unit	With electric motor and compressor	9004866D

Rimini

Model overview	Scope of delivery	Order number
Rimini 12 V	Air-conditioning system	62U003FF052EF
Rimini 24 V		62U003FF053EF

The performance data for your application may differ from the nominal values. These depend on various conditions, such as the compressors, the air ducts and the climate. Products are supplied together with product documentation. Unless stated otherwise, the control element is not included.

Rooftop air-conditioning systems

From 8.5 kW to 15.5 kW cooling capacity



Perfect air-conditioning in small and medium-sized bus

The rooftop air-conditioning systems are designed especially for air-conditioning small and medium-sized buses with up to 35 seats. These units are very reliable and have a long service life. There is a wide range of accessories, such as control elements, air ducts and installation sets, available for these air-conditioning systems. The housings of these air-conditioning systems can be painted to match the color of the vehicle.

For complete air-conditioning solutions, the Compact Cooler 8, Cool Top 110/140 RT-C and Madrid models have an optional heating function.

- Air-conditioning systems with a cooling capacity of 8.5 kW to 15.5 kW
- Compact construction and aerodynamic design
- High efficiency in relation to the dimensions
- High-quality and reliable components from proven series production processes
- Air distribution via a central duct or two side ducts
- Choose between fresh air and recirculated air (optional)
- Easy installation and low maintenance

Technical data

Model overview	Compact Cooler 8	Cool Top		Smirne	Madrid	
		110 RT-C	140 RT-C			
Cooling performance nominal (kW)	8.5	11.0	14.0	11.7	15.5	
Heating performance (kW)	7.5	12.0		-	20.0	
Refrigerant	R134a					
Nominal voltage (V)	12/24	12	12/24			
Max. current absorption (A) at 12 V (with forced fresh air)	30.0	50.0	80.0	35.0	58.0	58.0
Max. air flow evaporator blower (m³/h) (free blowing)	1,300	1,500 (1,800)	2,000 (2,300)	1,100	2,100	2,500
Dimensions L x W x H (mm)	970 x 1,025 x 197	1,150 x 1,600 x 204		930 x 1,045 x 170	1,280 x 1,790 x 185	
Weight (kg)	32.0	48.0	50.0	33.5	59.0	
Nominal roof radius (mm)	-	5,200		-	7,000	
Inlet connection	3/4" – 16 UNF-2A	7/8" – 14 UNF-2A		3/4" – 16 UNF-2A	7/8" – 14 UNF-2A	
Outlet connection	7/8" – 14 UNF-2A	1-1/16" – 14 UNF-2A		7/8" – 14 UNF-2A	1-1/16" – 14 UNF-2A	
Water connection, Ø (mm)	20.0	18.5		-	16.0	
Expansion valve	Block valve					
Accessories	for variants see table			-	Heating kit	



Compact Cooler 8

Model overview	Scope of delivery	Order number
Compact Cooler 8 12 V	Air-conditioning system with control element, electronic thermostat, heating section, fresh air flap	9023857B
Compact Cooler 8 24 V		9022638C
Compact Cooler 8 12 V	Air-conditioning system, electronic thermostat, heating section	9023853B
Compact Cooler 8 24 V		9023854B
Compact Cooler 8 12 V	Air-conditioning system with control element, air distributor plate, standard installation kit with 6-m hoses	9023848B
Compact Cooler 8 24 V		9023847B
Compact Cooler 8 12 V	Air-conditioning system with control element, electronic thermostat	9023851B
Compact Cooler 8 24 V		9023852B
Compact Cooler 8 12 V	Air-conditioning system with control element, electronic thermostat,	9023849B
Compact Cooler 8 24 V		9023850B
Compact Cooler 8 12 V	Air-conditioning system with control element, electronic thermostat, heating section	9023856B
Compact Cooler 8 12 V		9023855B

Cool Top 110 RT-C/140 RT-C

Model overview	Scope of delivery	Order number
Cool Top 110 RT-C 12 V	Air-Conditioning system without automatic control	6237878C
Cool Top 110 RT-C 12 V	Air-Conditioning system with automatic control, control element	6238282C
Cool Top 110 RT-C 12 V	Air-Conditioning system with automatic control, fresh air, control element	6242415A
Cool Top 140 RT-C 12 V	Air-Conditioning system without automatic control	6237944C
Cool Top 140 RT-C 12 V	Air-Conditioning system with automatic control, control element	6237945C
Cool Top 140 RT-C 24 V	Air-Conditioning system without automatic control	6238286C
Cool Top 140 RT-C 24 V	Air-Conditioning system with automatic control, control element	6238285C
Cool Top 140 RT-C 12 V	Air-Conditioning system with automatic control, fresh air, control element	6242974A
Cool Top 140 RT-C 24 V	Air-Conditioning system with automatic control, fresh air, control element	6242975A

Accessories

Heating kit 12 V	Only for automatic version	6240599B
Heating kit 24 V	Only for automatic version	6240600B
Front box kit		6238406A
Condensate drainage kit		6240595A
Lifting kit		6240617A
Drilling template		6240620B
Wiring harness kit		6243879A
Internal air grid black		62U003AA140A
Internal air grid grey		62U003AA141A

Smirne

Model overview	Scope of delivery	Order number
Smirne 12 V	Air-conditioning system, fresh air flap	62U003FF072EE
Smirne 24 V		62U003FF073EE

Madrid

Model overview	Scope of delivery	Order number
Madrid 12 V	Air-conditioning system with 2,100 m³/h volume flow	62U003FF116EG
Madrid 24 V		62U003FF117EG
Madrid 12 V	Air-conditioning system with 2,500 m³/h volume flow	62U003FF118EG
Madrid 24 V		62U003FF119EH

Accessories

Heating kit		62A031033A
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Rooftop air-conditioning systems

From 19.0 kW to 36.0 kW cooling capacity



Perfect air-conditioning in midi buses

This range of modular rooftop air-conditioning systems is designed for midi buses. The high energy-efficiency and -saving is achieved by an intelligent control of the condenser fans and the compressor. Thanks to the user-friendly maintenance concept, servicing is easier and the life and efficiency of the components are longer. Perfect comfort in all driving conditions is obtained by maintaining a constant supply of fresh air, even at the highest driving speeds. The heating option further increases passenger comfort. Installation is very fast and easy. The housings of these air-conditioning systems can be custom-painted to match the color of the vehicle.

- Air-conditioning systems with a cooling capacity up to 36.0 kW
- Compact and aerodynamic design
- High energy efficiency and innovative concepts
- High-quality and reliable components from proven series production
- Perfect comfort due to constant fresh air supply and optional heating function
- Fast installation and low maintenance concept

Technical data

Model overview	Cool Top 190 RT-C	Cool Top 190 RT-CXL	Cool Top 220 RT-C	Cool Top 250 RT-C	Cool Top 300 RT-C	Cool Top 360 RT-C
Nominal Cooling capacity (kW)	19.0		22.0	25.0	30.0	36.0
Nominal heating capacity (kW)	20.0		30.0			35.0
Refrigerant	R134a					
Nominal Voltage (V)	12/24		24			
Max. current absorption (A) at 24 V (with forced fresh air)	46		69	76/(89)	85/(97)	101/(114)
Max. air flow evaporator blower (m³/h)/ (free blowing)	3,680	3,680	4,800	4,000/(4,800)		6,000/(7,200)
Dimensions L x W x H (mm)	1,600 x 2,150 x 200	1,780 x 2,150 x 200	1,780 x 2,150 x 200	1,988 x 2,500 x 210		
Weight (kg)	75	78	80	138	143	154
Nominal roof-radius (mm)	6,000	7,500		8,500*/11,000*/15,000		
Connection inlet	Fitting 7/8"-14 UNF-2A			Block Flange Female D28		
Connection outlet	Fitting 1-1/16"-14 UNF-2A			Block Flange Female D22		
Connection water (mm)	18.5			18.0		
Expansion valve	Block valve			TXV		

* With adaptation plate



Cool Top 190 – 220 RT-C/CXL

Model overview	Scope of delivery	Order number
Cool Top 190 RT-C 12 V	Air-Conditioning system with automatic control, fresh air	6240853B
Cool Top 190 RT-C 24 V	Air-Conditioning system with automatic control, fresh air	6241905B
Cool Top 190 RT-CXL 12 V	Air-Conditioning system with automatic control, fresh air	6242069B
Cool Top 190 RT-CXL 24 V	Air-Conditioning system with automatic control, fresh air	6242070B
Cool Top 220 RT-C 24 V	Air-Conditioning system with automatic control, fresh air	6241137B
Accessories		
Heating kit 12 V		6241881A
Heating kit 24 V		6241882A
Front box kit		6238406A
Condensate drainage kit		6240595A
Lifting kit		6242258A
Drilling template Cool Top 190 RT-C		6242360A
Drilling template Cool Top 190 RT-CXL/220 RT-C		6241883A
Hoses kit Cool Top 190 RT-C/XL	10 m hoses + 2 x fitting compressor + 2 x fitting units included	6241890A
Hoses kit Cool Top 220 RT-C	10 m hoses + 2 x fitting compressor + 2 x fitting units included	6241889A
Wiring harness kit		6243879A
Power circuit 12 V Cool Top 190 (35 mmq)		620282503B
Power circuit 24 V Cool Top 190 (25 mmq)		620282504B
Power circuit 24 V Cool Top 220 (35 mmq)		620282503B
Control element		6243687A



Cool Top 250/300/360 RT-C

Model overview	Scope of delivery	Order number
Cool Top 250 RT-C	Air-Conditioning system with automatic control, fresh air, control element	6236688A
Cool Top 300 RT-C	Air-Conditioning system with automatic control, fresh air, control element	6237953A
Cool Top 360 RT-C	Air-Conditioning system with automatic control, fresh air, control element	6236082A
Accessories		
Heating kit Cool Top 250-300 RT-C		6238404A
Heating kit Cool Top 360 RT-C		6238407A
Condense discharger kit		6238405A
Hoses extension kit (10 m)		6238414A
Hoses extension kit (15 m)		6238415A
Drilling template		6237958A
Adaptation kit r = 8,500 mm		6238408A
Adaptation kit r = 11,000 mm		6238409A
Lifting tools		6238413A
Front box kit		6238406A
Wiring harness kit (1)	with connector 18 pins with connector 20 pins	6238411A 6243879A
Power circuit kit (2)		6236700A



Rooftop air-conditioning systems

Control elements

	Portofino	Minsk	Rimini	Smirne	Madrid	Cool Top 110 RT-C	Cool Top 140 RT-C	Cool Top 250 RT-C	Cool Top 300 RT-C	Cool Top 360 RT-C	Order number
Automatic control element											
	12 V, A/C	■	■	■	■						62A04003A
	24 V, A/C	■	■	■	■						62A04004A
	12 V, HVAC	■		■	■						62A04043A
	24 V, HVAC	■		■	■						62A04040A
	<ul style="list-style-type: none"> - 108 x 60 x 47 mm (W x H x D) - Electric control: - Internal temperature detector - Ice detector - External temperature detector - Water valve (only HVAC version) - On/Off switch, air-conditioning system - Fan speed - Fresh air/recirculated air control - Temperature regulation - External air monitoring 										
Manual control element											
	12 V				■						62A04052A
	24 V				■						62A04053A
	<ul style="list-style-type: none"> - 120 x 63 x 43 mm (W x H x D) - Electric control: - Water valve - Signal cable (2 m) - On/Off switch, air-conditioning system - Fan speed - Fresh air/recirculated air control - Temperature regulation 										
Manual control element											
	12 V	■									62A04054A
	24 V	■									62A04055A
	<ul style="list-style-type: none"> - 120 x 63 x 43 mm (W x H x D) - Electric control: - Water valve - Signal cable (2 m) - On/Off switch, air-conditioning system - Fan speed - Temperature regulation 										
Automatic control element											
	12 / 24 V A/C					■	■	■	■	■	6243687A
	<ul style="list-style-type: none"> - Dimensions 73 x 54 x 23 mm - External air monitoring - Temperature regulation - Internal temperature detector - External temperature detector - On/Off switch, air-conditioning system - Water valve (only HVAC version) - Fan speed/automatic and manual - Fresh air/recirculated air control 										

	Portofino	Minsk	Rimini	Smirne	Madrid	Order number
Air-conditioning control element						
	12 V, horizontal				■	62A031003B
	24 V, horizontal				■	6240304A
	12 V, vertical				■	6240301A
	24 V, vertical				■	62A031073A
	<ul style="list-style-type: none"> - 145 x 50 x 5 mm (W x H x D) or 50 x 145 x 5 mm (W x H x D) - Mechanical control: - On/Off switch, air-conditioning system - Fan speed - Fresh air/recirculated air control - Temperature regulation 					
Air-conditioning control element						
	Horizontal	■				62A03993B
	Vertical	■				62A03992B
	<ul style="list-style-type: none"> - 12/24 V - 100 x 50 x 5 mm (W x H x D) or 50 x 100 x 5 mm (W x H x D) - Mechanical control: - On/Off switch, air-conditioning system - Fan speed - Temperature regulation 					
	12 V, horizontal	■			■	62A031065A
	12 V vertical	■			■	62A031069A
	24 V horizontal	■			■	62A031067A
	24 V, vertical	■			■	6240303A
	<ul style="list-style-type: none"> - 100 x 50 x 5 mm (W x H x D) or 50 x 100 x 5 mm (W x H x D) - Mechanical control: - On/Off switch, air-conditioning system - Fan speed - On/Off switch, heater 					

Rooftop air-conditioning systems

Control elements

	Portofino	Minsk	Rimini	Smirne	Madrid	Cool Top 110 RT-C	Cool Top 140 RT-C	Order number
Air-conditioning control element								
	12 V, horizontal			■	■			62A031063A
	24 V, horizontal			■	■			62A031066A
	12 V, vertical			■	■			6240300A
	24 V, vertical			■	■			6240302A
	– 100 x 50 x 5 mm (W x H x D) or 50 x 100 x 5 mm (W x H x D) – Mechanical control: – On/Off switch, air-conditioning system – Fan speed – Recirculated air control							
Air-conditioning control element								
	12 V Horizontal negative version	■	■	■	■	■	■	6241975A
	24 V Horizontal negative version	■	■	■	■	■	■	6241976A
	12 V Vertical negative version	■	■	■	■	■	■	6241941A
	24 V Vertical negative version	■	■	■	■	■	■	6241974A
	– 12/24 V – 100 x 50 x 5 mm (W x H x D) or 50 x 100 x 5 mm (W x H x D) – Mechanical control: – On/Off switch, air-conditioning system – Fan speed							
Air-conditioning on/off switch								
	– 12/24 V – 52 x 50 x 5 mm (W x H x D) – On/Off switch, air-conditioning system	■	■	■	■			62A04000B
3-position blower switch								
	– 12/24 V – 53 x 50 x 5 mm (W x H x D) – Mechanical control of fan speed	■	■	■	■			62A04001A

	Compact Cooler 4 E	Compact Cooler 5	Compact Cooler 8	Order number	
Thermostat switch					
	12/24 V – Mechanical temperature regulation – Backlight	■	■	■	60ACKIT649A
	Air-conditioning on/off switch				
	– 12/24 V – On/Off switch, compressor	■	■	■	66596A
3-position blower switch					
	– 12/24 V – Fan speed	■	■	■	66595A
Heating control switch					
	12/24 V – Mechanical temperature regulation – Backlight	■	■	■	67638A

Different control panels can be suitable for the same unit, please check if all the functions/accessories of the unit are controllable by the selected control panel.

Rooftop air-conditioning systems

Cool Top RTE 16



The powerful, flat and lightweight electric parking cooler system for trucks

This powerful rooftop air-conditioning system ensures pleasant temperatures and humidity in truck cabins. Well-rested drivers have demonstrably better concentration and therefore contribute to greater safety on the road. The compressor-driven system is prefilled with refrigerant and is connected to the 24-V vehicle battery. The high performance combined with the lightweight construction and flat design results in one of the best parking coolers.

Installation in the existing roof opening is very simple and saves time. High-quality components set up a high quality standard for parking coolers and ensure a long life with a minimum expenditure on maintenance. The electric parking cooler reduces engine idling times and therefore saves fuel. The low-voltage cutoff ensures that the engine will start.

- Powerful parking cooler system (1,600 W) with high energy efficiency
- Optimum air distribution and quiet operation
- Lightweight construction
- Flat design (only 14 cm height) enables the installation also on high cabins
- The low-voltage cutoff ensures that the engine will start
- Wide choice of vehicle-specific mounting kits

Control elements

Control from the control panel with LC display
Comfortable adjustment via remote control



Technical data

	Cool Top RTE 16
Nominal cooling capacity (W)	1600
Refrigerant	R134a
Nominal voltage (V)	24
Max. total power consumption at 24 V (A)	23
Max. operation temperatur (°C)	45
Max. volume flow of evaporator blower (m³/h)	650
Dimensions condenser L x W x H (mm)	645 x 920 x 140
Dimensions evaporator L x W x H (mm)	387 x 349 x 165
Installation height (mm)	142 (depending on cabin type)
Weight (kg)	23.4

Model overview	Scope of delivery	Order number
Cool Top RTE 16	Air conditioning system, remote control, technical documentation	IND-CTRTE1600

Installation kit vehicle-specific	Order number
DAF XF 105/106 (Super Space Cab)	IND-2-6-1147-2
Iveco Stralis Cube with additional metal frame	IND-2-6-1119-2
Iveco Stralis AT, AD, AS	IND-2-6-1120-2
Iveco Eurocargo MLL High roof	
MAN TGX XXL (with/without deflector) MAN TGX XL*	IND-2-6-1143-2
MAN TGX XLX (only without deflector) MAN TGA	
MAN TGS M/L, LX MAN TGL L, LX MAN TGM L, LX	
MAN TGX, TGA, TGS, TGL, TGM with deflector	IND-2-6-1177-2
Mercedes-Benz Actros MP3	IND-2-6-1121-2
Mercedes-Benz Actros MP4	IND-2-6-1136-2
Renault Premium	IND-2-6-1123-2
Renault T	IND-2-6-1139-2
Scania R, P, G, Top E HL	IND-2-6-1116-2
Scania new R, S N-Cab + HL Cab	IND-2-6-1126-2

*Internal cover leaves approx. 2 cm free at each side

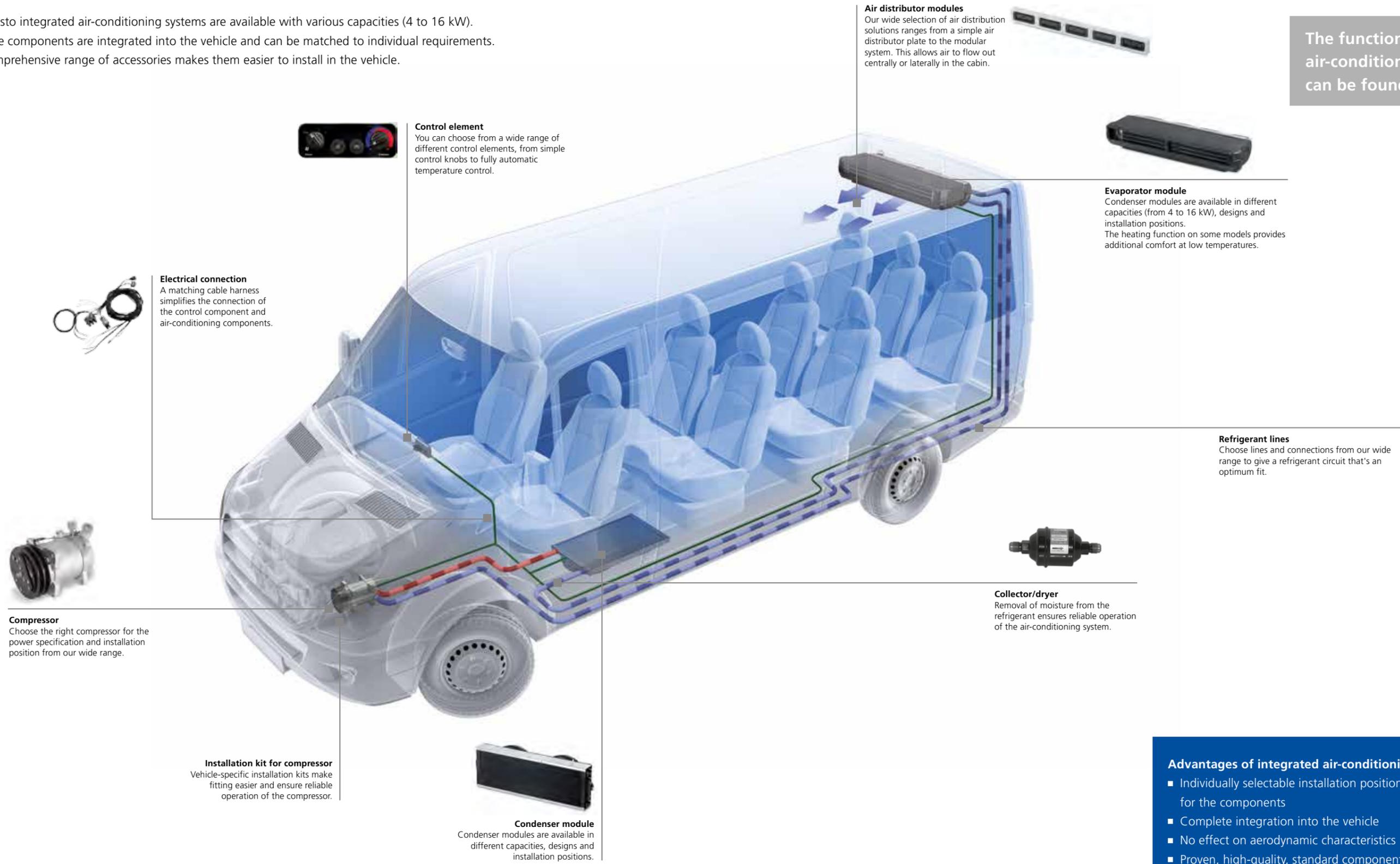
Installation kit universal	Order number
Iveco Eurocargo MLL flat roof*	IND-2-6-1122-2
Iveco Stralis HI-STREET cab with flat roof*	
Iveco Eurostar*Renault Magnum (old version)	
Renault Magnum Classic E Multipass-Cab	

*Internal cover leaves approx. 2 cm free at each side

Installation kit include power cable, bolts and screws, specific cover, technical documentation

Application of an integrated air-conditioning system

Webasto integrated air-conditioning systems are available with various capacities (4 to 16 kW). All the components are integrated into the vehicle and can be matched to individual requirements. A comprehensive range of accessories makes them easier to install in the vehicle.



The functionality of an air-conditioning system can be found on page 138.



Control element
You can choose from a wide range of different control elements, from simple control knobs to fully automatic temperature control.



Air distributor modules
Our wide selection of air distribution solutions ranges from a simple air distributor plate to the modular system. This allows air to flow out centrally or laterally in the cabin.



Evaporator module
Condenser modules are available in different capacities (from 4 to 16 kW), designs and installation positions. The heating function on some models provides additional comfort at low temperatures.



Electrical connection
A matching cable harness simplifies the connection of the control component and air-conditioning components.



Compressor
Choose the right compressor for the power specification and installation position from our wide range.

Installation kit for compressor
Vehicle-specific installation kits make fitting easier and ensure reliable operation of the compressor.



Condenser module
Condenser modules are available in different capacities, designs and installation positions.



Collector/dryer
Removal of moisture from the refrigerant ensures reliable operation of the air-conditioning system.

Refrigerant lines
Choose lines and connections from our wide range to give a refrigerant circuit that's an optimum fit.

Advantages of integrated air-conditioning systems

- Individually selectable installation position for the components
- Complete integration into the vehicle
- No effect on aerodynamic characteristics
- Proven, high-quality, standard components

Installation options for integrated air-conditioning systems

In addition to a large selection of standard products, we offer you individually tailored system solutions. We will implement your chosen modifications according to your requirements, e.g. a particular temperature range or a special position for the air-conditioning components in the vehicle. You can rely on our many years of experience in original equipment and retrofitting.

Possible positions for the evaporator

- Under the roof
- Under the dashboard
- Integrated into the roof
- Vertically on the side at the rear
- Vertical
- On the roof

Possible positions for the condenser

- On the roof
- On the underbody
- At the front of the vehicle

The evaporator and the condenser, the two main components of our integrated air-conditioning systems, can be fitted separately in the vehicle – depending on space requirements and use. The various positions available are shown below.

Condenser mounted on the roof



Evaporator under the roof Evaporator under the dashboard Evaporator integrated into the roof



Evaporator vertical on the side at the rear Evaporator vertical

Condenser mounted on the underbody



Evaporator under the roof Evaporator under the dashboard Evaporator integrated into the roof



Evaporator vertical on the side at the rear Evaporator vertical

Condenser mounted at the front of the vehicle



Evaporator under the roof Evaporator under the dashboard Evaporator integrated into the roof



Evaporator vertical on the side at the rear Evaporator vertical

Integrated air-conditioning systems

From 4.0 kW to 5.9 kW cooling capacity



Tailor-made air-conditioning solutions for commercial and special vehicles, minibuses, construction machinery and agricultural machinery

The integrated heating air-conditioning systems are versatile and can be used for minibuses, ambulances and fire trucks as well as construction and agricultural machinery. Depending on the type of vehicle, these air-conditioning systems can be installed under the dashboard or in the roof liner under the roof or vertically in the rear panel. These air-conditioning systems are very reliable and have a long service life.

The wide range of accessories includes condensers, which can be mounted on the roof or under the chassis, as well as control elements, air ducts and customer-specific installation sets. For a complete air-conditioning solution, the Baltimore, Quebec, Michigan and Milano models have an additional heating function.

- Air-conditioning systems with a cooling capacity of 4.0 to 5.9 kW
- Optimum integration into the vehicle design thanks to versatile installation options
- High efficiency in relation to the dimensions
- High-quality and reliable components from proven series production processes
- Very low maintenance

Technical data

Model overview	Baltimore	Oakland	Osaka	Quebec	Montreal	Michigan	Wyoming	Milano
Nominal cooling capacity (kW)	4.0		4.6	5.0		5.5		5.5
Nominal heating capacity (kW)	2.0	–	–	6.7	–	6.3	2.8*	11.0
Installation position	under the dashboard		vertical			ceiling		under the dashboard
Refrigerant	R134a							
Nominal voltage (V)	12/24				12/24	12	12/24	
Max. total current absorption at 12 V (A)	7.4		9.5	9.5		13.0	12.7	13.0
Max. volume flow of evaporator blower (m³/h)	450		350			450		
Dimensions L x W x H (mm)	381 x 233 x 126		410 x 165 x 320	370 x 185 x 330	370 x 160 x 350	590 x 380 x 185		414 x 328 x 233
Weight (kg)	3.7		5.5	6.5	5.5	8.7	7.5	6.4
Water connection, Ø (mm)	16	–	–	16	–	16	–	16
Expansion valve	Angle valve			Block valve				
Air duct connection								4 connections for air duct Ø 60 mm

* Electric heater version



Baltimore

Model overview	Scope of delivery	Order number
Baltimore 12 V	Air-conditioning system, black, heating function	62U003CF072EC
Baltimore 24 V		62U003CF088EB
Baltimore 12 V	Air-conditioning system, black, for vertical, heating function installation, with adjustable heating function	62U003CF073EA

Oakland

Model overview	Scope of delivery	Order number
Oakland 12 V	Air-conditioning system, black	62U003FF084ED
Oakland 24 V		62U003FF085ED

Osaka

Model overview	Scope of delivery	Order number
Osaka 12 V	Air-conditioning system, black	62U003FF069EA
Osaka 24 V	Air-conditioning system, black	62U003FF070EA

Quebec

Model overview	Scope of delivery	Order number
Quebec 12 V	Air-conditioning system, black, with heating function, without heating valve, with control element	62U003CF030EB
Quebec 24 V		62U003CF031EB
Quebec 12 V	Air-conditioning system, gray, with heating function, without heating valve, with control element	62U003CF043EC
Quebec 24 V		62U003CF044EC
Quebec 12 V	Air-conditioning system, black, with adjustable heating function, with control element	62U003CF026EB
Quebec 24 V		62U003CF027EB
Quebec 12 V	Air-conditioning system, gray, with adjustable heating function, with control element	62U003CF045EC
Quebec 24 V		62U003CF046EC

Montreal

Model overview	Scope of delivery	Order number
Montreal 12 V	Air-conditioning system, black, with control element	62U003FF030EB
Montreal 24 V		62U003FF031EB
Montreal 12 V	Air-conditioning system, gray, with control element	62U003FF058EB
Montreal 24 V		62U003FF059EA

Michigan

Model overview	Scope of delivery	Order number
Michigan 12 V	Air-conditioning system, black, with heating function, with control element	62U003CF057EA
Michigan 24 V		62U003CF058EA
Michigan 12 V	Air-conditioning system, black, with electric heating function, with control element	62U003CF059EA

Wyoming

Model overview	Scope of delivery	Order number
Wyoming 12 V	Air-conditioning system, black, with control element	62U003FF078EA
Wyoming 24 V		62U003FF079EA

Milano

Model overview	Scope of delivery	Order number
Milano 12 V	Air-conditioning system, black, with heating function	62U003CF055EB
Milano 24 V		62U003CF056EB

The performance data for your application may differ from the nominal values. These depend on various conditions, such as the compressors, the air ducts and the climate. Products are supplied together with product documentation. Unless stated otherwise, the control element is not included.

Integrated air-conditioning systems

From 6.0 kW to 8.9 kW cooling capacity



Optimum air-conditioning solutions for light-duty vehicles, minibuses and special vehicles

The integrated heating air-conditioning systems are versatile and can be used for mini-buses, ambulances and fire trucks as well as construction and agricultural machinery, for example. With a wide variety of installation options – under the dashboard or roof, in the roof liner or vertically in the rear panel, these units can be installed in various types of vehicle.

The wide range of accessories includes condensers, which can be mounted on the roof or under the chassis, as well as control elements, air ducts and customer-specific installation sets. For a complete air-conditioning solution, the Oslo, Norway and Paris models have an additional heating function.

- Air-conditioning systems with a cooling capacity of 6.0 to 8.9 kW
- Optimum integration into the vehicle design thanks to versatile installation options
- High efficiency in relation to the dimensions
- High-quality and reliable components from proven series production processes
- Very low maintenance

Technical data

Model overview	Glasgow	Oslo	Norway	Paris	Monaco
Nominal cooling capacity (kW)	6.2		6.3	7.7	
Nominal heating capacity (kW)	–	8.5	10.2	6.3	–
Installation position	under the dashboard		vertical	under the dashboard	
Refrigerant	R134a				
Nominal voltage (V)	12/24				
Max. total current absorption at 12 V (A)	14.8	15.8	16.0	17.6	18.6
Max. volume flow of evaporator blower (m³/h)	650			634	
Dimensions L x W x H (mm)	400 x 360 x 170		425 x 225 x 440	580 x 340 x 128	
Weight (kg)	4.7	5.3	10.0	5.2	4.7
Water connection, Ø (mm)	–	16			–
Expansion valve	Block valve				
Air duct connection	–				



Glasgow

Model overview	Scope of delivery	Order number
Glasgow 12 V	Air-conditioning system, black	62U003FF054EC
Glasgow 24 V		62U003FF055EC

Oslo

Model overview	Scope of delivery	Order number
Oslo 12 V	Air-conditioning system, black, with heating function	62U003CF041EC
Oslo 24 V		62U003CF042EC

Norway

Model overview	Scope of delivery	Order number
Norway 12 V	Air-conditioning system, gray, with heating function, with control element	62U003CF049EB
Norway 24 V		62U003CF050EB
Norway 24 V	Air-conditioning system, black, with heating function, with control element	62U003CF021EC

Paris

Model overview	Scope of delivery	Order number
Paris 12 V	Air-conditioning system, black, with heating function	62U003CF077EA
Paris 24 V		62U003CF078EA

Monaco

Model overview	Scope of delivery	Order number
Monaco 12 V	Air-conditioning system, black	62U003FF129EA
Monaco 24 V		62U003FF130EA

The performance data for your application may differ from the nominal values. These depend on various conditions, such as the compressors, the air ducts and the climate. Products are supplied together with product documentation. The control element is not included.

Integrated air-conditioning systems

From 9.0 kW to 11.9 kW cooling capacity



An ideal climate for minibuses with up to 15 seats

These integrated air-conditioning systems create pleasant conditions for the driver and passengers in minibuses with up to 15 seats. With installation options under the dashboard or roof, in the roof liner or vertically in the rear panel, these units offer a high degree of flexibility. These units are very reliable and have a long service life.

The wide range of accessories includes condensers, which can be mounted on the roof or under the chassis, as well as control units, air ducts and customer-specific installation sets. For a complete air-conditioning solution, the Ibiza, London and Oxford models have an additional heating function.

- Air-conditioning systems with a cooling capacity of 9.0 to 11.9 kW
- Optimum integration into the vehicle design thanks to versatile installation options
- High efficiency in relation to the dimensions
- High-quality and reliable components from proven series production processes
- Very low maintenance

Technical data

Model overview	Marbella	Ibiza	London	Oxford	Vancouver
Nominal cooling capacity (kW)	9.0		9.5		
Nominal heating capacity (kW)	–	12.0	13.0		–
Installation position	vertical		under the dashboard	vertical	under the dashboard
Refrigerant	R134a				
Nominal voltage (V)	12/24				
Max. total current absorption at 12 V (A)	20.5	21.2	21.0	17.0	22.0
Max. volume flow of evaporator blower (m³/h)	800				
Dimensions L x W x H (mm)	533 x 342 x 176		550 x 400 x 180	175 x 420 x 560	500 x 372 x 170
Weight (kg)	8.0	10.0	7.7	8.0	6.7
Water connection Ø (mm)	–		16		–
Expansion valve	Block valve				
Air duct connection	–			5/7 connections for air duct Ø 60 mm	–



Marbella

Model overview	Scope of delivery	Order number
Marbella 12 V	Air-conditioning system	62U003FF096EB
Marbella 24 V		62U003FF097EB

Ibiza

Model overview	Scope of delivery	Order number
Ibiza 12 V	Air-conditioning system, with heating function	62U003CF062EC
Ibiza 24 V		62U003CF080EA

London

Model overview	Scope of delivery	Order number
London 12 V	Air-conditioning system, with heating function	62U003CF047EC
London 24 V		62U003CF048EC

Oxford

Model overview	Scope of delivery	Order number
Oxford 12 V	Air-conditioning system, with heating function	62U003CF085EB
Oxford 24 V		62U003CF082EB

Vancouver

Model overview	Scope of delivery	Order number
Vancouver 12 V	Air-conditioning system	62U003FF060EF
Vancouver 24 V		62U003FF061EF

The performance data for your application may differ from the nominal values. These depend on various conditions, such as the compressors, the air ducts and the climate. Products are supplied together with product documentation. Unless stated otherwise, the control element is not included.

Integrated air-conditioning systems

From 12.0 kW to 16.0 kW cooling capacity



Optimum air-conditioning solutions for minibuses with up to 25 seats

These integrated air-conditioning systems create pleasant conditions for the driver and passengers in minibuses with up to 25 seats. With installation options under the dashboard or roof, in the roof liner or vertically in the rear panel, they offer a high degree of flexibility. These units are very reliable and have a long service life. The wide range of accessories includes condensers, which can be mounted on the roof or under the chassis, as well as control elements, air ducts and customer-specific installation sets.

For a complete air-conditioning solution, the Kiev and Monterrey models have an additional heating function.

- Air-conditioning systems with a cooling capacity of 12.0 to 16.0 kW
- Optimum integration into the vehicle design thanks to versatile installation options
- High efficiency in relation to the dimensions
- High-quality and reliable components from proven series production processes
- Very low maintenance

Technical data

Model overview	Riga		Kiev	Moscow	Monterrey		Newport	
Nominal cooling capacity (kW)	12.0	14.0	13.4	13.4	14.0	16.0	14.0	16.0
Nominal heating capacity (kW)	-		11.5	-	14.6		-	
Installation position	under dash or under roof							
Refrigerant	R134a							
Nominal voltage (V)	12/24							
Max. total current absorption at 12 V (A)	31.0		18.0	19.0	39.0		40.0	
Max. volume flow of evaporator blower (m³/h)	1,350		1,000		1,300			
Dimensions L x W x H (mm)	1,240 x 320 x 175		890 x 380 x 170	856 x 355 x 170	925 x 390 x 180		925 x 390 x 180	
Weight (kg)	18.0		12.5	11.5	13.5		12.5	
Water connection Ø (mm)	-		16	-	20		-	
Expansion valve	Block valve, 2 tons	Angle valve, 3 tons	Block valve		Block valve, 2 tons	Angle valve, 3 tons	Block valve, 2 tons	Angle valve, 3 tons
Air duct connection	6 connections for air duct Ø 72 mm		-					



Riga

Model overview	Scope of delivery	Order number
Riga 12 V	Air-conditioning system, 2-ton expansion valve, 1 air duct, front distribution, 2 air ducts, top	62U003FF066EC
Riga 12 V	Air-conditioning system, 2-ton expansion valve, 2 air ducts, front distribution, 1 air duct, top	62U003FF067EC
Riga 12 V	Air-conditioning system, 2-ton expansion valve, 3 air duct, front distribution	62U003FF065EC
Riga 24 V		62U003FF068EC
Riga 12 V	Air-conditioning system, 3-ton expansion valve, 3 air duct, front distribution	62U003FF132EA
Riga 24 V		62U003FF133EA

Kiev

Model overview	Scope of delivery	Order number
Kiev 12 V	Air-conditioning system, with heating function	62U003CF051EE
Kiev 24 V		62U003CF052EE

Moscow

Model overview	Scope of delivery	Order number
Moscow 12 V	Air-conditioning system	62U003FF064EB
Moscow 24 V		62U003FF071EB

Monterrey

Model overview	Scope of delivery	Order number
Monterrey 12 V	Air-conditioning system, 2-ton expansion valve, with heating function	62U003CF069EB
Monterrey 24 V		62U003CF070EB
Monterrey 12 V	Air-conditioning system, 3-ton expansion valve, with heating function	62U003CF075EC
Monterrey 24 V		62U003CF076EC

Newport

Model overview	Scope of delivery	Order number
Newport 12 V	Air-conditioning system, 2-ton expansion valve	62U003FF104EE
Newport 24 V		62U003FF105EE
Newport 12 V	Air-conditioning system, 3-ton expansion valve	62U003FF127EE
Newport 24 V		62U003FF128EE

The performance data for your application may differ from the nominal values. These depend on various conditions, such as the compressors, the air ducts and the climate. Products are supplied together with product documentation. The control element is not included.

Integrated air-conditioning systems

Control elements for air-conditioning systems without heating

	Oakland	Osaka	Glasgow	Monaco	Marbella	Vancouver	Riga	Moscow	Newport	Order number
	Automatic control element									
12 V, A/C	■	■	■	■	■	■	■	■	■	62A04003A
24 V, A/C	■	■	■	■	■	■	■	■	■	62A04004A
<ul style="list-style-type: none"> - 108 x 60 x 47 mm (W x H x D) - Electric control: <ul style="list-style-type: none"> - Internal temperature detector - Ice detector - External temperature detector - Water valve (only HVAC version) - On/Off switch, air-conditioning system - Fan speed - Fresh air/recirculated air control - Temperature regulation - External air monitoring 										
	Air-conditioning control element									
Horizontal	■	■	■	■	■	■	■	■	■	62A03995A
Vertical	■	■	■	■	■	■	■	■	■	62A03994A
<ul style="list-style-type: none"> - 12/24 V - 100 x 50 x 5 mm (W x H x D) or 50 x 100 x 5 mm (W x H x D) - Mechanical control: <ul style="list-style-type: none"> - Air-conditioning system control - Fan speed - Length of thermostat cable 1,500 mm 										

	Oakland	Osaka	Glasgow	Monaco	Marbella	Vancouver	Riga	Moscow	Newport	Order number
	Air-conditioning control element									
Horizontal	■	■	■	■	■	■	■	■	■	62A03997B
Vertical	■	■	■	■	■	■	■	■	■	62A03996B
<ul style="list-style-type: none"> - 12/24 V - 100 x 50 x 5 mm (W x H x D) or 50 x 100 x 5 mm (W x H x D) - Mechanical control: <ul style="list-style-type: none"> - On/Off switch, air-conditioning system - Fan speed 										
	Thermostat switch									
12/24 V	■	■	■	■	■	■	■	■	■	62A03999A
<ul style="list-style-type: none"> - 51 x 50 x 5 mm (W x H x D) - Mechanical control of air-conditioning system - Length of thermostat cable 1,500 mm 										
	Air-conditioning on/off switch									
12/24 V	■	■	■	■	■	■	■	■	■	62A04000B
<ul style="list-style-type: none"> - 52 x 50 x 5 mm (W x H x D) - On/Off switch, air-conditioning system 										
	3-position blower switch									
12/24 V	■	■	■	■	■	■	■	■	■	62A04001A
<ul style="list-style-type: none"> - 53 x 50 x 5 mm (W x H x D) - Mechanical control of fan speed 										

Different control panels can be suitable for the same unit, please check if all the functions/accessories of the unit are controllable by the selected control panel.

Integrated air-conditioning systems

Control elements for air-conditioning systems with heating

	Baltimore	Oslo	Milano	Paris	Ibiza	London	Oxford	Kiev	Monterrey	Order number
Automatic control element										
	■	■	■	■	■	■	■	■	■	62A04043A
12 V, HVAC	■	■	■	■	■	■	■	■	■	62A04043A
24 V, HVAC	■	■	■	■	■	■	■	■	■	62A04040A
<ul style="list-style-type: none"> - 108 x 60 x 47 mm (W x H x D) - Electric control: - Internal temperature detector - Ice detector - External temperature detector - Water valve (only HVAC version) - On/Off switch, air-conditioning system - Fan speed - Fresh air/recirculated air control - Temperature regulation - External air monitoring 										
Manual control element										
	■	■	■	■	■	■	■	■	■	62A04054A
12 V	■	■	■	■	■	■	■	■	■	62A04054A
24 V	■	■	■	■	■	■	■	■	■	62A04055A
<ul style="list-style-type: none"> - 120 x 63 x 43 mm (W x H x D) - Electric control: - Water valve - Signal cable (2m) - On/Off switch, air-conditioning system - Fan speed - Temperature regulation 										
Air-conditioning control element										
	■	■	■	■	■	■	■	■	■	62A03993B
Horizontal	■	■	■	■	■	■	■	■	■	62A03993B
	■	■	■	■	■	■	■	■	■	62A03992B
Vertical	■	■	■	■	■	■	■	■	■	62A03992B
<ul style="list-style-type: none"> - 12/24 V - 100 x 50 x 5 mm (W x H x D) or 50 x 100 x 5 mm (W x H x D) - Mechanical control: - On/Off switch, air-conditioning system - Fan speed - Temperature regulation 										

	Baltimore	Oslo	Milano	Paris	Ibiza	London	Oxford	Kiev	Monterrey	Order number
Air-conditioning control element										
	■	■	■	■	■	■	■	■	■	62A031065A
12 V, horizontal	■	■	■	■	■	■	■	■	■	62A031065A
	■	■	■	■	■	■	■	■	■	62A031069A
12 V, vertical	■	■	■	■	■	■	■	■	■	62A031069A
	■	■	■	■	■	■	■	■	■	62A031067A
24 V, horizontal	■	■	■	■	■	■	■	■	■	62A031067A
	■	■	■	■	■	■	■	■	■	6240303A
24 V, vertical	■	■	■	■	■	■	■	■	■	6240303A
<ul style="list-style-type: none"> - 100 x 50 x 5 mm (W x H x D) or 50 x 100 x 5 mm (W x H x D) - Mechanical control: - On/Off switch, air-conditioning system - Fan speed - On/Off switch, heater 										
Air-Conditioning control element										
	■	■	■	■	■	■	■	■	■	62A03998A
Without electric water valve, controller and signal cable, 12/24 V	■	■	■	■	■	■	■	■	■	62A03998A
	■	■	■	■	■	■	■	■	■	620282129A
With electric water valve, controller and signal cable, 12 V	■	■	■	■	■	■	■	■	■	620282129A
	■	■	■	■	■	■	■	■	■	620282102A
With electric water valve, controller and signal cable, 24 V	■	■	■	■	■	■	■	■	■	620282102A
<ul style="list-style-type: none"> - 50 x 5 x 50 mm (W x H x D) - Mechanical control of the water valve of the heater 										
3-position blower switch										
	■	■	■	■	■	■	■	■	■	62A04001A
12/24 V	■	■	■	■	■	■	■	■	■	62A04001A
<ul style="list-style-type: none"> - 53 x 50 x 5 mm (W x H x D) - Mechanical control of fan speed 										

Different control panels can be suitable for the same unit, please check if all the functions/accessories of the unit are controllable by the selected control panel.

Integrated air-conditioning systems

Electroventilated condensers

	Model	Performance (kW)	Dimensions L x W x H (mm)	Description	Current consumption (A)	Weight (kg)	Voltage (V)	Order number
	Trieste	5	575 x 480 x 180	T&F, Fin pitch 3.5 mm	13	8	12	62U00025431E
	Trieste	5	575 x 480 x 180	T&F, Fin pitch 3.5 mm	6	8	24	62U00025433E
	Trieste	6.5	575 x 480 x 180	HTC, Fin pitch 2.5 mm	13	8	12	62U00025455C
	Trieste	6.5	575 x 480 x 180	HTC, Fin pitch 2.5 mm	6	8	24	62U00025457C
	Venezia	2.8	570 x 370 x 150	T&F, Fin pitch 2.5 mm	7	8	12	62U00025322B
	Venezia	2.8	570 x 370 x 150	T&F, Fin pitch 2.5 mm	3	8	24	62U00025386B
	Venezia	5.5	570 x 370 x 150	HTC, Fin pitch 2.5 mm	7	8	12	62U00025315C
	Venezia	5.5	570 x 370 x 150	HTC, Fin pitch 2.5 mm	3	8	24	62U00025327B
	Capril	8	815 x 600 x 150	T&F, Fin pitch 3.5 mm	18	12	12	62U00025430E
	Capril	8	815 x 600 x 150	T&F, Fin pitch 3.5 mm	9	12	24	62U00025432E
	Capril	10.5	815 x 600 x 150	HTC, Fin pitch 2.5 mm	18	12	12	62U00025456D
	Capril	10.5	815 x 600 x 150	HTC, Fin pitch 2.5 mm	9	12	24	62U00025458C
	Napoli	6	830 x 485 x 150	T&F, Fin pitch 2.5 mm	18	12	12	62U00025393B
	Napoli	6	830 x 485 x 150	T&F, Fin pitch 2.5 mm	9	12	24	62U00025326B
	Napoli	11.5	830 x 485 x 150	HTC, Fin pitch 2.5 mm	18	12	12	62U00025316B
	Napoli	11.5	830 x 485 x 150	HTC, Fin pitch 2.5 mm	9	12	24	62U00025317C
	Valencia	12.5	955 x 600 x 150	HTC, Fin pitch 2.5 mm	27	14	12	62U00025437E
	Valencia	12.5	955 x 600 x 150	HTC, Fin pitch 2.5 mm	13	14	24	62U00025438D
	Sicilia	5	690 x 157 x 230	T&F, Fin pitch 2.1 mm	13	8	12	62U00025060E
	Sicilia	5	690 x 157 x 230	T&F, Fin pitch 2.1 mm	6	8	24	62U00025439D
	Verona	5	690 x 157 x 230	T&F, Fin pitch 2.1 mm	13	9.5	12	62U00025258G
	Verona	5	690 x 157 x 230	T&F, Fin pitch 2.1 mm	6	9.5	24	62U00025444A
	Taormina	5	710 x 165 x 180	T&F, Fin pitch 2.1 mm	13	9.5	12	62U00025441A
	Taormina	5	710 x 165 x 180	T&F, Fin pitch 2.1 mm	6	9.5	24	62U00025442A

	Model	Performance (kW)	Dimensions L x W x H (mm)	Description	Current consumption (A)	Weight (kg)	Voltage (V)	Order number
	HTC	6.5	480 x 110 x 350	HTC, Fin pitch 2.5 mm	13	3.7	12	62U00025453A
	HTC	6.5	480 x 110 x 350	HTC, Fin pitch 2.5 mm	6	3.7	24	62025454A
	HTC	5	606 x 110 x 350	HTC, Fin pitch 3.5 mm	18	4.5	12	62U00025427A
	HTC	7	606 x 110 x 350	HTC, Fin pitch 2.5 mm	18	4.5	12	62U00025460A
	HTC	12	606 x 160 x 350	HTC, Fin pitch 2.5 mm	16	7.5	24	62U00025486A
	HTC	12	606 x 160 x 350	HTC, Fin pitch 2.5 mm	32	7.5	12	62U00025472A
	HTC	12	725 x 105 x 450	HTC, Fin pitch 3.5 mm	18	6	12	62U00025426B
	HTC	14	725 x 105 x 450	HTC, Fin pitch 2.5 mm	18	4.6	12	62U00025459C
	HTC	14	725 x 105 x 450	HTC, Fin pitch 2.5 mm	9	4.6	24	62U00025478A

Integrated air-conditioning systems

Air-conditioning kit, including evaporator, for light-duty vehicles

Model	Emissions standard	Model year	Engine Displacement	Horse Power	Cylinders	Notes	Order number			Kit characteristics	
										Control	Notes
Citroën											
Berlingo 1.6 HDI	Euro 4	from 2006	1560	75	4		621C113300EB	623C149EA			2)
Jumper 2.0 HDI – 2.2 HDI	–		1997	84	4	7)	621F133500EA	62A03898A		Webasto	2)
Jumper 2.0 HDI – 2.2 HDI	–		1997	84	4		621F133500EA	62A03915A		Original	2)
Jumper 2.0 HDI – 2.2 HDI	–		1997	84	4	8)	621F133500EA	62A03955A	62A03898A	Webasto	2)
Jumper 2.0 HDI – 2.2 HDI	–		1997	84	4	8)	621F133500EA	62A03955A	62A03915A	Original	2)
Jumper 2.2 HDI	Euro 4	from 2006	2198	101/120	4	5)	621F134400EB	62A031020B	62A031017A	Original	
Jumper 2.2 HDI	Euro 4	from 2006	2198	101/120	4	5)	621F134400EB	62A031020B	62A031018A	Webasto	
Jumper 2.2 HDI	Euro 5	from 2010	2198	100	4		621C113601EA			Webasto	
Jumper 2.2 HDI	Euro 5	from 2010	2198	100	4		621C113701EA			Original	
Jumper 2.8 HDI (series 244)	–	from 2001 – 2006	2798	127	4		621F130400EB	62A03898A		Webasto	2)
Jumper 2.8 HDI (series 244)	–	from 2001 – 2006	2798	127	4		621F130400EB	62A03915A		Original	2)
Jumper 3.0 HDI	Euro 4	from 2006	2999	157	4	6)	621F134300EB	62A031019A	62A031017A	Original	
Jumper 3.0 HDI	Euro 4	from 2006	2999	157	4	6)	621F134300EB	62A031019A	62A031018A	Webasto	
Jumper 3.0 HDI	Euro 4	from 2006	2999	157	4	5)	621F134300EB	62A031020B	62A031017A	Original	
Jumper 3.0 HDI	Euro 4	from 2006	2999	157	4	5)	621F134300EB	62A031020B	62A031018A	Webasto	
Jumper 3.0 HDI	Euro 5	to 2010	2998	157	4		621F136001EA			Webasto	
Jumper 3.0 HDI	Euro 5	to 2010	2998	157	4		621F136101EA			Original	
Jumper 33-35 2.8 HDI (series 230)	–	from 2000	2798	127	4	9)	621F130400EB	62A03864B			2)
Jumpy 1.6 HDI	–	from 2006	1560	90	4		621F134801EA				
Jumpy 2.0 HDI	Euro 4	from 2007	1997	120	4		621F134501EA				2)
Jumpy 2.0 HDI TD	–	from 2000	1997	95/109	4	3) 4)	621C113300EB	623C149EA			2)
Jumpy 2.0 MJ	Euro 5		1997	128	4		621F135501EB				2)
NEMO 1.3 HDI	Euro 4	from 11/2000	1248	75	4	1)	621F135401EA				2)
NEMO 1.4 HDI	Euro 5	from 2008	1399	70	4		621C113501EA			Webasto	2)
Fiat											
Ducato 2.3 JTD (series 244)	–	from 2001	2286	110	4		621F132400EB	62A03898A		Webasto	2)
Ducato 2.3 JTD (series 244)	–	from 2001	2286	110	4	29)	621F132400EB	62A03915A		Original	2)
Ducato 2.8 JTD (series 244)	–	from 2001	2798	127	4		621F130400EB	62A03898A		Webasto	2)
Ducato 2.8 JTD (series 244)	–	from 2001	2798	127	4	29)	621F130400EB	62A03915A		Original	2)
Ducato 10 -14 2.8 TD	–	to 03/1999	2800	122	4		621F1285120EA				2)
Ducato 10-14 2.5 D – 2.5 TDI	–	from 1994	2500	85/116	4		621F1223120EC				2)
Ducato 10-14 2.8 D	–		2800	87	4		621F1285120EA				2)
Ducato 10-14 2.8 JTD (series 230)	–	from 2000	2800	122	4	9)	621F130400EB	62A03864B			2)
Ducato 10-14 2.8 TDI (series 230)	–	from 03/99	2800	122	4	10)	621F130400EB	62A03865B			2)
Ducato 2.0 JTD	–	from 05/2004	1997	84	4	7)	621F133500EA	62A03898A		Webasto	2)
Ducato 2.0 JTD	–	from 05/2004	1997	84	4	7)	621F133500EA	62A03915A		Original	2)
Ducato 2.0 JTD	–	to 05/2004	1997	84	4	8)	621F133500EA	62A03955A	62A03898A	Webasto	2)
Ducato 2.0 JTD	–	to 05/2004	1997	84	4	8)	621F133500EA	62A03955A	62A03915A	Original	2)
Ducato X250 2.0 MJT	Euro 5	from 2010	1956	116	4		621F135601EA			Original	
Ducato X250 2.0 MJT	Euro 5	from 2010	1956	116	4		621F135701EA			Webasto	

Model	Emissions standard	Model year	Engine Displacement	Horse Power	Cylinders	Notes	Order number			Kit characteristics	
										Control	Notes
Ducato X250 2.2 MJT	Euro 4	from 2006	2198	101	4	5)	621F134400EB	62A031020B	62A031017A	Original	
Ducato X250 2.2 MJT	Euro 4	from 2006	2198	101	4	5)	621F134400EB	62A031020B	62A031018A	Webasto	
Ducato X250 2.3 MJT	Euro 4 / 5	from 2006	2287	120	4	6)	621F134200EB	62A031019A	62A031018A	Webasto	
Ducato X250 2.3 MJT	Euro 4 / 5	from 2006	2287	120	4	6)	621F134200EB	62A031019A	62A031017A	Original	
Ducato X250 2.3 MJT	Euro 4 / 5	from 2006	2287	120	4	5)	621F134200EB	62A031020B	62A031017A	Original	
Ducato X250 2.3 MJT	Euro 4 / 5	from 2006	2287	120	4	5)	621F134200EB	62A031020B	62A031018A	Webasto	
Ducato X250 3.0 MJT	Euro 4 / 5	from 2006	2999	157	4	6)	621F134300EB	62A031019A	62A031018A	Webasto	
Ducato X250 3.0 MJT	Euro 5	from 2010	2998	157	4		621F136001EA			Webasto	
Ducato X250 3.0 MJT	Euro 4 / 5	from 2006	2999	157	4	6)	621F134300EB	62A031019A	62A031017A	Original	
Ducato X250 3.0 MJT	Euro 4 / 5	from 2006	2999	157	4	5)	621F134300EB	62A031020B	62A031017A	Original	
Ducato X250 3.0 MJT	Euro 4 / 5	from 2006	2999	157	4	5)	621F134300EB	62A031020B	62A031018A	Webasto	
Ducato X250 3.0 MJT	Euro 5	from 2010	2998	157	4		621F136101EA			Original	
Fiorino 1.3 MJT 16v	Euro 4	from 2008	1248	75	4	1)	621F135401EA			Original	
Scudo 1.6 Mj	–	from 2006	1560	90	4		621F134801EA				2)
Scudo 2.0 JTD (not prepared)	–	from 2004	1997	109	4	12), 14)	621F131200EA				2)
Scudo 2.0 MJ	–	from 2007	1997	120	4		621F134501EA				2)
Scudo 2.0 MJ	Euro 5	from 2007	1997	128	4		621F135501EB				2)
Ford											
Transit connect 1.8TDCI (not prepared)	–	from 2004	1753	90	4		621F027997EA		621F027997EA		2)
Isuzu											
NLR-NMR-NLS 85 (small cabin)	Euro 4 / 5	from 2008	2999	150	4		621IS02111EB				2)
NPR 75 5.2 TDI	–	from 2007	5193	190	4		621IS02211EA				2)
NPR85 L gsx (large cabin)	Euro 4 / 5	from 2008	2999	150	4		621IS02011EB				2)
NPR85 (large cabin)	Euro 5 / 6	from 2014	2999	150	4		621IS02611A				2)
NPR85 (narrow cabin)	Euro 5 / 6	from 2014	2999	150	4		621IS02711A				2)
Iveco											
Daily 2.3 HPT	Euro 5	to 05-2014	2286	106/145	4		621IV02518EA			Original	2)
Daily 2.3HPI	–	from 2006 – 2009	2286	116	4		621IV02217EA			Original	2)
Daily 2.3HPI	–	from 1999 – 2005	2286	96/116	4		621IV01816EB			Original	2)
Daily 2.8D / TD / JTD	–	from 1999 – 2005	2798	125/146	4		621IV01916EC			Original	2)
Daily 3.0 HPT	Euro 5	from 2005-2014	2998	145/170	4		621IV02418EA			Original	2)
Daily 3.0 HPT	Euro 4	from 2006 – 2009	2998	177	4		621IV02117EA			Original	2)
Daily 3.0 JTD 16V (also for engine 169HP)	Euro 3	from 2004	3000	136	4		621IV02016EB			Original	2)
Daily 3.0 JTD 16V (also for engine 169HP)	Euro 3	from 2006	3000	136	4		621IV02016EB	62A031010A		Original	2)
ECO Daily 2.3 HPI	–	to 2010	2286	116	4		621IV02218EA			Original	2)
ECO Daily 35C 3.0 Hpi	–	from 2010 – 2011	2998	177	4		621IV02118EA			Original	2)
Eurocargo 120 E18 – 130 E18 – 150 E18	–		5861	177	6		621F199109EA				2)
Eurocargo 120 E23 – 130 E23	–		5861	227	6		621F197109EA				2)

Integrated air-conditioning systems

Air-conditioning kit, including evaporator, for light-duty vehicles

Model	Emissions standard	Model year	Engine Displacement	Horse Power	Cylinders	Notes	Order number			Kit characteristics	
										Control	Notes
Eurocargo 120 E23 – 130 E24	–		5861	227	6		621F1197109EA				2)
Eurocargo 60E – 65E – 75E 12/14	–		3908	116/136	4		621F1199109EA				2)
Eurocargo 80E 15/18 – 100E 15/18	–		5861	143/177	6		621F1199109EA				2)
Eurocargo TECTOR E17	–	to 2006	3920	170	4		621V00908EA				2)
Eurocargo TECTOR E18	–	to 2006	5880	182	6		621V00908EA				2)
Eurocargo TECTOR E21	–	to 2006	5880	209	6		621V00908EA				2)
Eurocargo TECTOR E24	–	to 2006	5880	240	6		621V00908EA				2)
Eurocargo TECTOR E28	–	to 2006	5880	275	6		621V00908EA				2)
Eurocargo TECTOR E13 E15	Euro 3 / 4	from 2006	3920	150	4		621V02318EA				2)
Eurocargo TECTOR E13 E15	Euro 2	to 2006	3920	150	4		621V00908EA				2)
Eurocargo TECTOR E17	Euro 3 / 4	from 2006	3920	170	4		621V02318EA				2)
Eurocargo TECTOR E18	Euro 3 / 4	from 2006	5880	182	6		621V02318EA				2)
Eurocargo TECTOR E21	Euro 3 / 4	from 2006	5880	209	6		621V02318EA				2)
Eurocargo TECTOR E24	Euro 3 / 4	from 2006	5880	240	6		621V02318EA				2)
Eurocargo TECTOR E28	Euro 3 / 4	from 2006	5880	275	6		621V02318EA				2)
Mercedes-Benz											
Actros 1831 L	–		11946	313	6V	18)	621MB298110EB				2)
Actros 1835 L	–		11946	354	6V	18)	621MB298110EB				2)
Actros 1840 L	–		11946	394	6V	18)	621MB298110EB				2)
Actros 1840 L with e/magnetic radiator fan	–		11946	394	6V	18)	621MB298110EB				2)
Actros 1843 L	–		11946	428	6V	18)	621MB298110EB				2)
Sprinter 2.2 CDI	–	from 2006	2148	150	4	20)	621MB32400EA	62A031028A			2)
Sprinter 2.2 CDI (also for RHD drive)	–	from 2006	2148	150	4	17)	621MB32400EA	62A031029A			2)
Sprinter 208-308 CDI (engine OM 611)	–	from 2000	2150	82	4		621MB311116ED			Original	2)
Sprinter 211-311 CDI (engine OM 611)	–	from 2000	2150	109	4		621MB311116ED			Original	2)
Sprinter 213-313 CDI (engine OM 611)	–	from 2000	2150	129	4		621MB311116ED			Original	2)
Sprinter 216-316-416 (engine OM 612)	–		2686	156	5		621MB311116ED			Original	2)
Sprinter 3.0 DCI	–	from 2006	2987	184	6	17)	621MB32400EA	62A031061A			2)
Sprinter 308 CDI (engine OM 611)	–	from 2000	2150	79	4		621MB311116ED			Original	2)
Sprinter 316 2.2 CDI (Euro 5) OM651	Euro 5	from 2009	2143	163	4	20)	621MB32400EA	62A031117A			2)
Vito 108 2.2 CDI (engine OM611) (cab only)	–	from 1994 – 2000	2151	82	4	16)	621MB307114ED			Original	2)
Vito 108 2.3 D (cab only)	–	from 1994 – 2000	2299	79	4		621MB296108EB				2)
Vito 109-111-115 2.2CDI	–	from 2003	2148	108	4		621MB322121EA				2)
Vito 110 2.2 CDI (engine OM 611) (cab only)	–	from 1994 – 2000	2151	102	4	16)	621MB307114ED			Original	2)
Vito 110 2.3 TD (cab only)	–	from 1994 – 2000	2299	98	4		621MB296108EB				2)
Vito 112 2.2 CDI (engine OM 611) (cab only)	–	from 1994 – 2000	2151	122	4	16)	621MB307114ED			Original	2)

Model	Emissions standard	Model year	Engine Displacement	Horse Power	Cylinders	Notes	Order number			Kit characteristics	
										Control	Notes
Nissan											
INTERSTAR 2.2/2.5 DCI (not prepared)	–	from 2004	2500	120	4	20) 33)	621RE20100EA	62A03967A			2)
INTERSTAR 2.2/2.5 DCI (not prepared)	–	from 2004	2500	120	4	21) 33)	621RE20100EA	62A03968A			2)
INTERSTAR 2.5 DCI	Euro 4	from 2006	2464	120	4	19)	621RE20200EA	62A031030A			2)
Primastar 2.0 DCI	–	from 2006 – 2008	1995	90-115	4		621RE20397EA				2)
Primastar C27 – C29 1.9 DCI (not prepared)	–	from 2003	1870	82/101	4		621OP27776EA				2)
Primastar C27 – C29 2.5 DCI	–	from 2003	2463	133	4		621NI02319EA				2)
Rear evaporator for Primastar 2.0 + air duct kit (suitable only with Webasto solution)	–						62U003FF058EB	623RE89EA			2)
Opel											
Movano 2.2/2.5 DCI (not prepared)	–	from 2003 – 2006	2500	120	4	20) 33)	621RE20100EA	62A03967A			2)
Movano 2.2/2.5 DCI (not prepared)	–	from 2003 – 2006	2500	120	4	21) 33)	621RE20100EA	62A03968A			2)
Movano 2.5 DCI	Euro 4	from 2006	2464	120	4	20)	621RE20200EA	62A031030A			2)
New Combo 1.7 DTI (engine Y17DT)	–		1686	75	4		621OP28300EA			Original	2) (b)
Vivano 2.0 rear evaporator + air duct kit (suitable only with Webasto solution)	–						62U003FF058EB	623RE89EA			
Vivaro 1.9 DI-DTI (engine F9Q) (not prepared)	–	from 2001	1870	80/100	4		621OP27776EA				2)
Vivaro 2.0 CDTi	–	from 2006 – 2008	1995	90-115	4		621RE20397EA				2)
Vivaro 2.5 DTI	–	from 2003	2463	133	4		621NI02319EA				2)
Peugeot											
Bipper 1.3 HDI	Euro 4	from 11/2008	1248	75	4	1)	621F135401EA				2)
Bipper 1.4 HDI	Euro 4	from 2008	1399	70	4		621C113501EA				2)
Boxer 2.0 HDI (version 244)	–	from 05/2004	1997	84	4	7)	621F133500EA	62A03898A		Webasto	2)
Boxer 2.0 HDI (version 244)	–	from 05/2004	1997	84	4	7)	621F133500EA	62A03915A		Original	2)
Boxer 2.0 HDI (version 244)	–	to 05/2004	1997	84	4	8)	621F133500EA	62A03955A	62A03898A	Webasto	2)
Boxer 2.0 HDI (version 244)	–	to 05/2004	1997	84	4	29)	621F133500EA	62A03955A	62A03915A	Original	2)
Boxer 2.2 HDI	Euro 4	from 2006	2198	101/120	4	5)	621F134400EB	62A031020B	62A031017A	Original	
Boxer 2.2 HDI	Euro 4	from 2006	2198	101/120	4	5)	621F134400EB	62A031020B	62A031018A	Webasto	
Boxer 2.2 HDI	Euro 5	to 2010	2198	100	4	5)	621C113601EA			Webasto	
Boxer 2.2 HDI	Euro 5	to 2010	2198	100	4	5)	621C113701EA			Original	
Boxer 3.0 HDI	Euro 4	from 2006	2999	157	4	6)	621F134300EB	62A031019A	62A031017A	Original	
Boxer 3.0 HDI	Euro 4	from 2006	2999	157	4	6)	621F134300EB	62A031019A	62A031018A	Webasto	
Boxer 3.0 HDI	Euro 4	from 2006	2999	157	4	5)	621F134300EB	62A031020B	62A031017A	Original	
Boxer 3.0 HDI	Euro 4	from 2006	2999	157	4	5)	621F134300EB	62A031020B	62A031018A	Webasto	
Boxer 3.0 HDI	Euro 5	to 2010	2998	158	4	5)	621F136001EA			Webasto	
Boxer 3.0 HDI	Euro 5	to 2010	2998	158	4	5)	621F136101EA			Original	

Integrated air-conditioning systems

Air-conditioning kit, including evaporator, for light-duty vehicles

Model	Emissions standard	Model year	Engine Displacement	Horse Power	Cylinders	Notes	Order number			Kit characteristics	
										Control	Notes
Boxer 330-350 2.8 HDI	-		2798	127	4	15)	621FI30400EB	62A03864B			2)
Expert 1.6 HDI	-	from 2006	1560	90	4		621FI34801EA				2)
Expert 2.0 HDI	Euro 4	from 2007	1997	120	4		621FI34501EA				2)
Expert 2.0 MJ	Euro 5		1997	128	4		621FI35501EB				2)
Expert 220/230 2.0 HDI	-		1997	94	4	22)	621FI31200EA				2)
Partner / Ranch 1.6 HDI	Euro 4	from 2006	1560	75	4		621CI13300EB	623CI49EA			
Renault											
Kangoo 1.5 DCI	Euro 4	from 2008					621RE20401EA				2)
Master 2.2/2.5 DCI (not prepared)	-	from 2004	2500	120	4	20) 33)	621RE20100EA	62A03967A			2)
Master 2.2/2.5 DCI (not prepared)	-	from 2004	2500	120	4	30) 33)	621RE20100EA	62A03968A			2)
Master 2.3 DCI with PTO	Euro 5	from 2010	1998	125	4	20) 31) 34)	621RE20501EA				2)
Master 2.5 DCI	Euro 4	from 2006	2464	120	4	20)	621RE20200EA	62A031030A			2)
Master/Mascott 3.0 DCI (transversal engine)	-	from 2004	2953	136	4	33)	621RE20100EA	62A03988A			
Trafic 1.9 DCI TD (engine F9Q76)	-	from 2001	1870	80/100	4		621OP27776EA				2)
Trafic 2.0 DCI	Euro 4	from 2006 - 2008	1995	90-115	4		621RE20397EA				2)
Trafic 2.0 rear evaporator + air duct kit (suitable only with Webasto solution)	-						62U003FF058EB	623RE89EA			
Trafic 2.5 DCI	-	from 2003	2463	140	4		621NI02319EA				2)
Volkswagen											
Caddy 1.6 (engine FSI, BAG-BLG)	-	from 2004	1390	115	4	23)	621VW22400EA	62A03956B			2)
Caddy 1.9/2.0 TDI (engine BKC/BRU/BJB)	-	from 2008	1390	90/105/140	4	27)	621VW22800EA	62A03958A	62A031027B	62MAN057A	2)
Caddy 1.9/2.0 TDI (engine BKC/BRU/BJB)	-	from 2008	1390	90/105/140	4	27)	621VW22800EA			62MAN057A	2)
Caddy 1.9/2.0 TDI (engine BKC/BRU/BJB)	-	from 2008	1390	90/105/140	4	27)	621VW22800EA	62A031027B			2)
Caddy 1.9/2.0 TDI (engine BKC/BRU/BJB)	-	from 2004	1390	90/105	4	24) 28)	621VW22600EA	62A03958A	62A031027B	62MAN057A	2)
Caddy 1.9/2.0 TDI (engine BKC/BRU/BJB)	-	from 2004	1390	90/105	4	25)	621VW22600EA			62MAN057A	2)
Caddy 1.9/2.0 TDI (engine BKC/BRU/BJB)	-	from 2004	1390	90/105	4	26)	621VW22600EA	62A031027B		62MAN057A	2)
Caddy 2.0 TDI (engine BKC/BRU/BJB)	-	from 2004	1984	140	4	24)	621VW22600EA	62A03958A	62A031027B	62MAN057A	2)
Caddy 2.0 TDI (engine BKC/BRU/BJB)	-	from 2004	1984	140	4	25)	621VW22600EA			62MAN057A	2)
Caddy 2.0 TDI (engine BKC/BRU/BJB)		from 2004	1984	140	4	26)	621VW22600EA	62A031027B		62MAN057A	2)
Crafter 2.0 TDI (incl. bipower)	Euro 5	from 2011	1968	109/163	4	20)	621MB32400EA	62A031109B			
Crafter 2.5	-	from 2006	2461	136	5	17)	621MB32400EA	62A031042A			
Crafter 2.5	Euro 4	from 2006	2461	136	5	20)	621MB32400EA	62A031043A			
Crafter 2.5 TDI	Euro 4	from 2006	2461	136	5	17)	621VW22501EA				2)
LT35 2.5 SDI (engine AGX, AVR)	-	from 1999	2459	75/102	5		621VW19051ED				2)

Model	Emissions standard	Model year	Engine Displacement	Horse Power	Cylinders	Notes	Order number			Kit characteristics	
										Control	Notes
LT35 2.5 TDI (engine AHD, ANJ, BBF, BBE, APA, AVR)	-	from 1999	2459	75/102	5		621VW19051ED				2)
Manual Control kit for VW T4 MY 1999 with original prepared rear heater	-		2459				62MAN049A				
Transporter 1.9 TDI T5 (engine AXB, AXC)	-	from 2003	1898	80	4		621VW21956EC				
Transporter 1.9 TDI T5 (engine BRS, BRR)	-	from 2003	1898	80	4	32)	621VW21956EC				
Transporter T5 2.0 TDI	-	from 2010	1968	102	4		621VW22056EA				

Notes

- For the Euro 5 version separately belt with code 62013716EA needed
- AC unit with manual control
- Additional control wiring kit for Jumpy 2.0 HDI TD
- Only for cars without prepared oil pump
- Wiring harness for not prepared vehicles
- Wiring harness for prepared vehicles
- Kit suitable for new engines with back side power steering pump are identified by chassis number from 7431721dd 04.05.2004
- Kit suitable for old engines with front side power steering pump (former 1FI32300E)
- Additional control wiring kit for Jumper 2.8 HDI series 230
- Additional control wiring kit for Ducato 2.8 JTD series 230
- Vehicles with crankshaft pulley with one groove
- Additional control wiring kit for Scudo 2.0 HDI TD
- Only for cars with prepared oil pump
- Only for cars without prepared oil pump
- Additional control wiring kit for Boxer 2.8 HDI
- Additional kit for cars without REC
- For kit with V5 compressor
- Only vehicles with hydraulic coupling system
- Kit with SP15 (154cc) compressor (included in the 62A031030A)
- Kit with SP15 (154cc) compressor
- Kit with SP10 (110cc) compressor
- Control wiring kit for Expert 2.0 HDI
- Compressor mounting kits for Caddy Gasoline
- Additional kits for vehicle with one radiator fan
- Kit for vehicle with double radiator fan and with Engine Coolant Temperature sensor (G83) situated at the radiator hose
- Kit for vehicle with double radiator fan and with Engine Coolant Temperature sensor (G83) situated behind the alternator
- Unified version (Euro 3, Euro 4)
- Additional kit for vehicles with high original cooling radiator (height 477 mm)
- Original AC panel kit with A/C switch and rear heater switch
- Is necessary only for cabin application, not necessary with a second compressor application
- Power steering, alternator bracket and hoses
- Belt 62013687A must be added
- Only for vehicles with heating BEHR
- Front-Wheel Drive

Transport refrigeration systems

The appropriate refrigeration systems for your commercial transport vehicle

				
	Small light-duty vehicle	Medium light-duty vehicle	Big light-duty vehicle	Heavy commercial vehicle
Rolle 2000	Roof Top			
Rolle 2000 with stand-by	Roof Top			
Rolle 2000 HD	Roof Top			
Rolle 2000 HD with stand-by	Roof Top			
Frigo Top 10 I-E	Integrated			
Frigo Top 10 I-ES	Integrated			
Frigo Top 24 RT-D		Roof Top		
Pordoi 2000		Integrated		
Pordoi 2000 with stand-by		Integrated		
Frigo Top 25 RT-DS		Roof Top		
Frigo Top 36 RT-D		Roof Top		
Pordoi 3000		Integrated		
Pordoi 3000 with stand-by		Integrated		
Frigo Top 35 RT-DS		Roof Top		
Frigo Top 35 RT-DSMT*		Roof Top		
Frigo Top 35 RT-DSMT**		Roof Top		
Frigo Top 38 RT-D		Roof Top		
Frigo Top 40 RT-DS		Roof Top		
Frigo Top 43 RT-D		Roof Top		
Pordoi 4000		Integrated		
Pordoi 4000 with stand-by		Integrated		
Frigo Top 50 RT-D			Roof Top	
Frigo Top 50 RT-DS			Roof Top	
Frigo Top 60 RT-D			Roof Top	
Frigo Top 60 RT-DS			Roof Top	

* With two evaporators Frigo Top 25 ** With evaporators Frigo Top 25 and Frigo Top 35

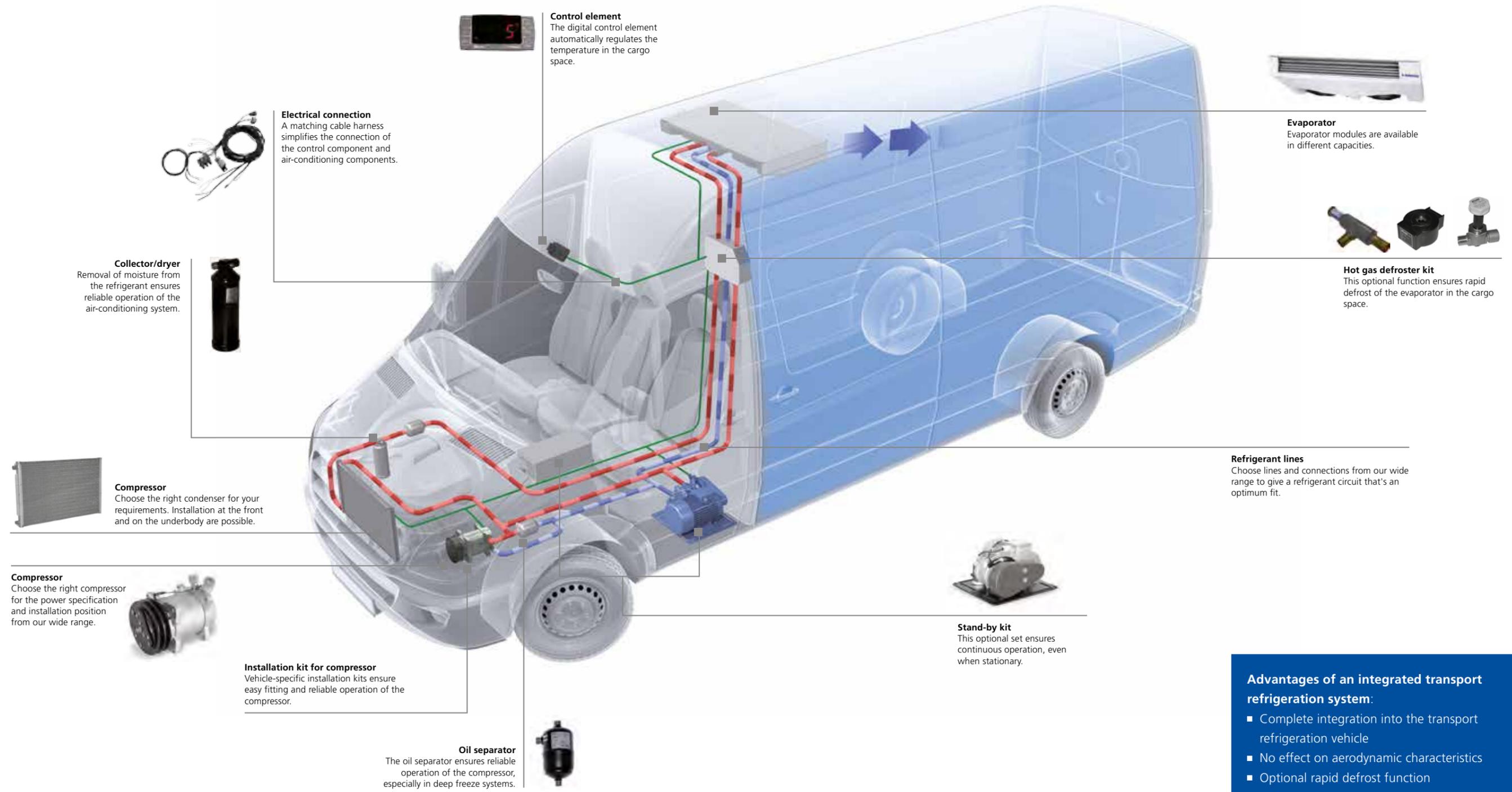
■ Roof Top
 ■ Integrated
 ■ Electric
 ■ Direct Drive

Installation options, features and accessories

	Mounting		Power supply			Use		
	Roof mounting	Intergrated	Direct drive	Electric (Battery)	AC stand-by (network) operation	Cool and freeze (0°C and -20°C)	Cool (0°C)	Multi-temperature
Rolle 2000	Roof mounting			Electric (Battery)				
Rolle 2000 with stand-by	Roof mounting			Electric (Battery)				
Rolle 2000 HD	Roof mounting			Electric (Battery)				
Rolle 2000 HD with stand-by	Roof mounting			Electric (Battery)				
Frigo Top 10 I-E		Intergrated						
Frigo Top 10 I-ES		Intergrated						
Frigo Top 24 RT-D	Roof mounting		Direct drive					
Pordoi 2000		Intergrated						
Pordoi 2000 with stand-by		Intergrated						
Frigo Top 25 RT-DS	Roof mounting		Direct drive					
Frigo Top 36 RT-D	Roof mounting		Direct drive					
Pordoi 3000		Intergrated						
Pordoi 3000 with stand-by		Intergrated						
Frigo Top 35 RT-DS	Roof mounting		Direct drive					
Frigo Top 35 RT-DSMT	Roof mounting		Direct drive					
Frigo Top 35 RT-DSMT	Roof mounting		Direct drive					
Frigo Top 38 RT-D	Roof mounting		Direct drive					
Frigo Top 40 RT-DS	Roof mounting		Direct drive					
Frigo Top 43 RT-D	Roof mounting		Direct drive					
Pordoi 4000		Intergrated						
Pordoi 4000 with stand-by		Intergrated						
Frigo Top 50 RT-D	Roof mounting		Direct drive					
Frigo Top 50 RT-DS	Roof mounting		Direct drive					
Frigo Top 60 RT-D	Roof mounting		Direct drive					
Frigo Top 60 RT-DS	Roof mounting		Direct drive					

Application of an integrated transport refrigeration system

Webasto integrated transport refrigeration systems are suitable for fresh produce delivery (> 0 °C) and for deep frozen cargo (< 0 °C). They are available in various capacities up to 3,660 W. An optional stand-by function allows operation independently of the engine. The system components are fully integrated into the vehicle and can be tailored to the individual application and requirements. Vehicle-specific installation kits are available.



Control element
The digital control element automatically regulates the temperature in the cargo space.

Electrical connection
A matching cable harness simplifies the connection of the control component and air-conditioning components.



Evaporator
Evaporator modules are available in different capacities.



Hot gas defroster kit
This optional function ensures rapid defrost of the evaporator in the cargo space.

Collector/dryer
Removal of moisture from the refrigerant ensures reliable operation of the air-conditioning system.



Refrigerant lines
Choose lines and connections from our wide range to give a refrigerant circuit that's an optimum fit.

Compressor
Choose the right condenser for your requirements. Installation at the front and on the underbody are possible.

Compressor
Choose the right compressor for the power specification and installation position from our wide range.



Installation kit for compressor
Vehicle-specific installation kits ensure easy fitting and reliable operation of the compressor.



Stand-by kit
This optional set ensures continuous operation, even when stationary.

Oil separator
The oil separator ensures reliable operation of the compressor, especially in deep freeze systems.



- Advantages of an integrated transport refrigeration system:**
- Complete integration into the transport refrigeration vehicle
 - No effect on aerodynamic characteristics
 - Optional rapid defrost function

Transport Refrigeration Systems

Integrated, battery drive



Battery-operated transport refrigeration system, fully integrated in vehicles with cargo space volumes up to 5 m³ for transporting perishables.

Transport refrigeration systems ensure that perishables can be transported across long distances at optimum temperatures so they arrive at their destination in perfect condition. Suitable for cold and frozen goods (working range -20/+10 °C), the Frigo Top 10 is Webasto's unique solution for smaller transport vehicles with an air-conditioning system but no space for an additional compressor in the engine compartment. The compressor, motor and condenser of the compact Frigo Top 10 are completely integrated under the chassis so there is no protrusion that changes your vehicle's visual appearance and fuel is saved. It also features an auto switch-off device with low battery voltage. Powered directly by the vehicle battery, installation is easy, with no need to connect engine-driven compressors and no roof drilling. Proven Webasto quality and reliability are built in, so you can look forward to accustomed efficiency and the all-important long life.time.

- Cooling capacity up to 1,108 W
- Automatic temperature regulation and a **defrost function** means high efficiency in all ranges
- High-quality reliable components from proven series-production processes
- Easy installation and maintenance
- ATP (Accord Transport Perissable) certification

Model overview	Frigo Top 10
Refrigerant	R404A
Cooling capacity according to ATP standard, at ambient temperature of +30 °C and compartment temperature of 0 °C, in engine/stand-by operation (W)	1,022/1,108
Cooling capacity according to ATP standard, at ambient temperature of +30 °C and compartment temperature of -10 °C, in engine/stand-by operation (W)	722/776
Cooling capacity according to ATP standard, at ambient temperature of +30 °C and compartment temperature of -20 °C, in engine/stand-by operation (W)	389/403
Nominal voltage (V)	12
Air flow (m ³ /h)	743
Max. current absorption, in engine operation 12 V (A)	65
Max. current absorption, in stand-by operation 230 V (A)	10
Dimensions L x W x H (mm)	
Condenser unit	481 x 265 x 124
Evaporator unit	660 x 530 x 158
Motor, compressor	465 x 455 x 240
Weight (kg)	
Condenser unit	2.9
Evaporator unit	11.5
Motor, compressor	25.0

Frigo Top 10

Model overview	Scope of delivery	Order number
Frigo Top 10 I-E 12 V without stand-by	Transport refrigeration system with refrigerant R404A, including motor-pulley-compressor module, condenser, evaporator, installation kit, without stand-by module, automatic temperature regulation, defrost kit, product documentation	6235097A
Frigo Top 10 I-ES 12 V/230 V with stand-by	Transport refrigeration system with refrigerant R404A, including motor-pulley-compressor module, condenser, evaporator, installation kit, stand-by module, automatic temperature regulation, defrost kit, product documentation	6232186A
Accessories		
Cut-off device for battery protection specific for Mercedes vehicles	-	6234421A
Vehicle-specific installation kits	Bracket for condenser and motor/compressor module	On request

The performance data for your application may differ from the nominal values.

Transport refrigeration systems

Integrated solutions, direct drive



Transport refrigeration system fully integrated into the vehicle. Optimum component combinations thanks to modular system.

The transport refrigeration systems ensure that perishable goods can be transported over long distances at the optimum temperature and reach their destination in perfect condition. The components of this cooling system, such as evaporators, condensers and compressors as well as a large range of accessories can be combined to give individually tailored solutions. This gives a high degree of flexibility and adaptability to different applications as specified by the customer. With powerful fans, they offer reliability and a long life, important factors in transport refrigeration. Depending on the desired temperature range, the system can be filled with the refrigerant R134a or R404A. An electric motor is available as an option for stand-by operation.

Pordoi

Modular system for almost all light-duty vehicles. The fully integrated design ensures that neither the exterior appearance nor the aerodynamics of the vehicle are negatively affected.

Stand-by module:

The stand-by module is used to keep the transport refrigeration system working at set temperature when the vehicle is still and connected to the power network. The stand-by module grants the cooling power declared with ATP certification only for the refrigerant R134a.

- Integrated system
- Tailor-made refrigeration units for commercial vehicles with cargo spaces up to 18 m³
- Cooling capacity up to 3,660 W
- Automatic temperature regulation
- High efficiency in all temperature ranges
- High-quality reliable components from proven series production processes
- ATP (Accord Transport Perissable) certification for all units

Model overview	Pordoi 2000		Pordoi 3000		Pordoi 4000	
	Stand-by unit optional					
Refrigerant	R404A	R134a	R404A	R134a	R404A	R134a
Cooling capacity according to ATP standard, at ambient temperature of +30 °C and compartment temperature of 0 °C, in engine/stand-by operation optional (W)	2,493/753	1,565/1,233	2,799/890	2,203/1,636	3,660/1,133	2,616/1,858
Cooling capacity according to ATP standard, at ambient temperature of +30 °C and compartment temperature of -20 °C, in engine/stand-by operation optional (W)	1,206/-	-	1,332/-	-	1,926/-	-
Cooling capacity according to ATP standard, at ambient temperature of +30 °C and compartment temperature of +5 °C, in engine/stand-by operation optional (W)	-	1,895/1,539	-	2,714/1,994	-	3,101/2,329
Nominal voltage (V)	12					
Air flow (m ³ /h)	670		1,040		1,534	
Max. total current absorption at 12 V, in engine/stand-by operation (A)	(*) / 14		(*) / 16			
Dimensions Condenser unit Evaporator unit L x W x H (mm)	(*) 660 x 500 x 157		(*) 900 x 500 x 157		(*) 1,000 x 500 x 157	
Weight Condenser unit Evaporator unit (kg)	(*) 7.5		(*) 10.5		(*) 12.5	
Accessories	Stand-by unit (**)					

(*) Depending on application (**) ATP certification is available only for R134a

Pordoi 2000

Model overview	Scope of delivery	Order number
Pordoi 2000	Evaporator unit with refrigerant R404A, product documentation	62U003FF109EC
Pordoi 2000	Evaporator unit with refrigerant R134a, product documentation	62U003FF123EB
Accessories		
Stand-by unit		62U006SB04E

Pordoi 3000

Model overview	Scope of delivery	Order number
Pordoi 3000	Evaporator unit with refrigerant R404A, product documentation	62U003FF111EC
Pordoi 3000	Evaporator unit with refrigerant R134a, product documentation	62U003FF110EC
Accessories		
Stand-by unit		62U006SB04E

Pordoi 4000

Model overview	Scope of delivery	Order number
Pordoi 4000	Evaporator unit with refrigerant R404A, product documentation	62U003FF112EC
Pordoi 4000	Evaporator unit with refrigerant R134a, product documentation	62U003FF113EC
Accessories		
Stand-by unit		62U006SB04E

The performance data for your application may differ from the nominal values.

The following pages contain an overview of the available vehicle-specific installation kits. These contain a compressor with bracket, condenser with bracket, collector / dryer, pressure switch, cable harness, refrigerant lines and joints.

Transport refrigeration systems

Transport refrigeration kit for integrated solutions

Model	Emissions standard	Model year	Engine Displacement	HP	Cylinders	Notes	with original vehicle air-conditioning system	without original vehicle air-conditioning system	Evaporator to be added		
									Part No.	Evaporator with Valve (R134A) P/N	Evaporator with Valve (R404a) P/N
Citroën											
Berlingo 1.6 HDI	Euro 5		1560	75/92	4			x	622HDPE002FB	62U003FF108EC	
Berlingo 1.6 HDI	Euro 4	from 2006	1560	75	4		x		621HDCI003EB	62U003FF108EC	
Berlingo 1.9D	–	from 2003	1905	69	4		x		621HDCI002EA	62U003FF108EC	
Jumper 2.2 HDI	Euro 4	from 2006	2198	101	4		x		6231182A	62U003FF110EC	
Jumper 2.2 HDI	Euro 4	from 2006	2198	101	4		x		6231182A	62U003FF113EC	
Jumper 2.2 HDI	Euro 4	from 2006	2198	101	4	1)	x		6231198A	62U003FF111EC	
Jumper 2.2 HDI	Euro 4	from 2006	2198	101	4	1)	x		6231198A	62U003FF112EC	
Jumper 2.2 HDI	Euro 4	from 2006	2198	101	4	1)	x		6231198A	62U003FF125EB	
Jumper 2.2 HDI	Euro 4	from 2006	2198	101	4			x	622HDFI001FB	62U003FF110EC	
Jumper 2.2 HDI	Euro 4	from 2006	2198	101	4			x	622HDFI001FB	62U003FF113EC	
Jumper 2.2 HDI	Euro 5	from 2010	2198	100	4			x	622HDCI005FA	62U003FF110EC	
Jumper 2.3 MJT	Euro 4	from 2006	2287	120	4		x		621HDFI008EC	62U003FF110EC	
Jumper 2.3 MJT	Euro 4	from 2006	2287	120	4		x		621HDFI008EC	62U003FF113EC	
Jumper 2.8HDI	–	from 2001	2798	127	4		x		621HDFI002EA	62U003FF110EC	
Jumper 3.0 HDI	Euro 4	from 2006	2999	157	4		x		621HDFI009EC	62U003FF110EC	
Jumper 3.0 HDI	Euro 4	from 2006	2999	157	4		x		621HDFI009EC	62U003FF113EC	
Jumper 3.0 HDI	Euro 4	from 2006	2999	157	4			x	622HDFI003FB	62U003FF113EC	
Jumper 3.0 HDI	Euro 4	from 2006	2999	157	4			x	622HDFI003SB	62U003FF113EC	
Jumper 3.0 HDI	Euro 4	from 2006	2999	157	4			x	622HDFI003FB	62U003FF110EC	
Jumper 2.0 EcoBlue HDI	Euro 6	from 2016	1997		4		x	x	6241400A	62U003FF110EC	
Jumper 2.0 EcoBlue HDI	Euro 6	from 2016	1997		4		x	x	6241400A	62U003FF113EC	
Jumper 3.0 HDI	Euro 4	from 2006	2999	157	4			x	622HDFI003SB	62U003FF110EC	
Jumpy 1.6 HDI	Euro 4	from 2007	1560	90	4		x		621HDFI012EA	62U003FF108EC	
Jumpy 1.6 HDI	Euro 4	from 2007	1560	90	4		x		621HDFI012EA	62U003FF110EC	
Jumpy 1.6 Blue HDI	Euro 6	from 2016	1560	95-115	4			x	6241866A	62U003FF108EC	
Jumpy 1.6 Blue HDI	Euro 6	from 2016	1560	95-115	4			x	6241866A	62U003FF110EC	
Jumpy 2.0 HDI	Euro 4	from 2007	1997	120	4		x		621HDFI011EA	62U003FF110EC	
Jumpy 2.0 HDI	Euro 4	from 2007	1997	120/136	4			x	622HDFI004FA	62U003FF110EC	
Jumpy 2.0 HDI	Euro 5	from 2010	1997	163	4			x	622HDFI011FC	62U003FF110EC	
Jumpy 2.0 HDI (prepared)	Euro 3	from 2000	1997	94	4			x	622HDFI018SA	62U003FF108EC	
Jumpy 2.0 HDI (prepared)	Euro 3	from 2000	1997	94	4			x	622HDFI018SA	62U003FF110EC	
Jumpy 2.0 HDI	Euro 5	from 2010	1997	163	4		x		621HDFI020EA	62U003FF108EC	
Jumpy 2.0 HDI	Euro 5	from 2010	1997	163	4		x		621HDFI020EA	62U003FF110EC	
Jumpy 2.0 Blue HDI	Euro 6	from 2010	1997	128-163	4			x	6241721A	62U003FF108EC	
Jumpy 2.0 Blue HDI	Euro 6	from 2010	1997	128-163	4			x	6241721A	62U003FF110EC	
Nemo 1.4 HDI	Euro 4	from 2008	1399	70	4			x	621HDCI004EB	62U003FF108EC	
FIAT											
Doblò 1.3 MJT 16 V	Euro 5	from 2010	1248	75	4			x	622HDFI009FA	62U003FF108EC	
Doblò 1.3 MJT	Euro 5	from 2010	1248	90	4			x	6240889A	62U003FF108EC	
Doblò 1.3 MJ	–	from 2004	1248	69	4		x		621HDFI003EB	62U003FF108EC	
Doblò 1.3 MJ	Euro 4	from 2010	1248	90	4		x		621HDFI014EA	62U003FF108EC	
Doblò 1.6 MJ	Euro 4	from 2010	1598	105	4		x		621HDFI015EA	62U003FF108EC	
Doblò 1.6 MJ	Euro 4	from 2010	1598	105	4		x		621HDFI015EA	62U003FF110EC	
Nuovo Doblò' Cargo 1.6 MJT II	Euro 6	from 2016	1598	95-105	4			x	6242084A	62U003FF108EC	
Nuovo Doblò' Cargo 1.6 MJT II	Euro 6	from 2016	1598	95-105	4			x	6242084A	62U003FF110EC	

Model	Emissions standard	Model year	Engine Displacement	HP	Cylinders	Notes	with original vehicle air-conditioning system	without original vehicle air-conditioning system	Evaporator to be added		
									Part No.	Evaporator with Valve (R134A) P/N	Evaporator with Valve (R404a) P/N
Doblò 1.9 JTD	–	from 2003	1910	105	4		x		621HDFI007EB	62U003FF108EC	
Doblò Cargo 1.3 (69HP) MJ.	Euro 3/4	from 2004	1248	69	4			x	622HDFI012FA	62U003FF108EC	
Doblò Cargo 1.4 (120HP) T-Jet Nat	Euro 5/6	from 2011	1368	120	4			x	622HDFI015FA	62U003FF108EC	
Doblò Cargo 1.4 (95HP) Benz.	Euro 4	from 2007	1368	95	4			x	622HDFI008FA	62U003FF108EC	
Doblò Cargo 1.6 (105HP) MJT	Euro 5		1598	105	4			x	622HDFI006FA	62U003FF108EC	
Doblò Cargo 1.9 (105HP) MJ.	Euro 4	from 2007	1910	105	4			x	622HDFI014FA	62U003FF108EC	
Doblò Cargo 2.0 (135HP) MJT	Euro 5		1956	135	4			x	622HDFI006FA	62U003FF110EC	
Nuovo Doblò' Cargo 2.0 MJT II	Euro 6	from 2016	1956	135	4			x	6242084A	62U003FF108EC	
Nuovo Doblò' Cargo 2.0 MJT II	Euro 6	from 2016	1956	135	4			x	6242084A	62U003FF110EC	
Ducato 2.0 MJ	Euro 5	from 2007	1956	115	4		x		621HDFI018EA	62U003FF110EC	
Ducato 2.0 MJ	Euro 5	from 2008	1956	115	4		x		621HDFI018EA	62U003FF113EC	
Ducato 2.0 Mjt (SP15)	Euro 5	from 2011	1956	115	4			x	622HDFI013FA	62U003FF110EC	
Ducato 2.0 Mjt (SP15)	Euro 5	from 2011	1956	115	4			x	622HDFI013FA	62U003FF113EC	
Ducato 2.0 Mjt (TM15)	Euro 5	from 2011	1956	115	4			x	622HDFI010FA	62U003FF110EC	
Ducato 2.0 Mjt (TM15)	Euro 5	from 2011	1956	115	4			x	622HDFI010FA	62U003FF113EC	
Ducato 2.2 MJ R134a	Euro 4	from 2006	2198	101	4		x		6231182A	62U003FF110EC	
Ducato 2.2 MJ R134	Euro 4	from 2006	2198	101	4		x		6231182A	62U003FF113EC	
Ducato 2.2 MJ	Euro 4	from 2006	2198	101	4			x	622HDFI001FB	62U003FF110EC	
Ducato 2.2 MJ	Euro 4	from 2006	2198	101	4			x	622HDFI001FB	62U003FF113EC	
Ducato 2.2 MJ R404A	Euro 4	from 2006	2198	101	4	1)	x		6231198A	62U003FF111EC	
Ducato 2.2 MJ R404A	Euro 4	from 2006	2198	101	4	1)	x		6231198A	62U003FF112EC	
Ducato 2.2 MJ R404A	Euro 4	from 2006	2198	101	4	1)	x		6231198A	62U003FF125EB	
Ducato 2.3 MJ	–	from 2006	2287	120	4		x		621HDFI008EC	62U003FF110EC	
Ducato 2.3 MJ	–	from 2006	2287	120	4		x		621HDFI008EC	62U003FF113EC	
Ducato 2.8JTD (Serie 244)	–	from 2003	2798	127	4		x		621HDFI002EA	62U003FF110EC	
Ducato 3.0 MJ	–	from 2006	2999	157	4		x		621HDFI009EC	62U003FF110EC	
Ducato 3.0 MJ	–	from 2006	2999	157	4		x		621HDFI009EC	62U003FF113EC	
Ducato X 250 2.2 MJT	Euro 4	from 2006	2287	120	4L			x	622HDFI001FB	62U003FF110EC	
Ducato X 250 2.2 MJT	Euro 4	from 2006	2287	120	4L			x	622HDFI001FB	62U003FF113EC	
Ducato X250 2.3 MJT	Euro 4/5	from 2006	2287	120	4L			x	6234515A	62U003FF110EC	
Ducato X250 2.3 MJT	Euro 4/5	from 2006	2287	120	4L			x	6234515A	62U003FF113EC	
Ducato X250 3.0 MJT	Euro 4	from 2006	2999	157	4			x	622HDFI003FB	62U003FF110EC	
Ducato X250 3.0 MJT	Euro 4	from 2006	2999	157	4			x	622HDFI003SB	62U003FF110EC	
Ducato X250 3.0 MJT	Euro 4	from 2006	2999	157	4			x	622HDFI003FB	62U003FF113EC	
Ducato X250 3.0 MJT	Euro 4	from 2006	2999	157	4			x	622HDFI003SB	62U003FF113EC	
Fiorino 1.3 MJT 16 V	Euro 4	from 2008	1248	75	4		x		621HDFI013EB	62U003FF108EC	
Fiorino 1.3 MJT 16 V	Euro 4	from 2008	1248	75	4			x	6240902A	62U003FF108EC	
Fiorino 1.3 MJT 16 V	Euro 5	from 2010	1248	75	4			x	622HDFI009FA	62U003FF108EC	
Scudo 1.6 MJ	Euro 4	from 2007	1560	90	4		x		621HDFI012EA	62U003FF108EC	
Scudo 1.6 MJ	Euro 4	from 2007	1560	90	4		x		621HDFI012EA	62U003FF110EC	
Scudo 1.6 MJ	Euro 4	from 2007	1560	90	4	3)		x	622HDFI007FA	62U003FF108EC	
Scudo 1.6 MJ	Euro 4	from 2007	1560	90	4	3)		x	622HDFI007FA	62U003FF110EC	
Scudo 2.0 MJ	Euro 4	from 2007	1997	120	4		x		621HDFI011EA	62U003FF110EC	
Scudo 2.0 MJ	Euro 4	from 2007	1997	120/136	4			x	622HDFI004FA	62U003FF110EC	
Scudo 2.0 MJT/HDI	Euro 5	from 2010	1997	163	4		x		621HDFI020EA	62U003FF108EC	
Scudo 2.0 MJT/HDI	Euro 5	from 2010	1997	163	4		x		621HDFI020EA	62U003FF110EC	
Scudo 2.0JTD (prepared)	–	from 2000	1997	94	4			x	622HDFI018SA	62U003FF108EC	

Transport refrigeration systems

Transport refrigeration kit for integrated solutions

Model	Emissions standard	Model year	Engine Displacement	HP	Cylinders	Notes	with original vehicle air-conditioning system	without original vehicle air-conditioning system	Evaporator to be added		
									Part No.	Evaporator with Valve (R134A) P/N	Evaporator with Valve (R404a) P/N
Ford											
Transit (Custom) 2.2 TDCI	Euro 5	from 2012	2200	100-125	4	10)		x	622HDF0003FA	62U003FF110EC	
Transit (Custom) 2.2 TDCI	Euro 5	from 2012	2200	100-125	4	10)		x	622HDF0003FA	62U003FF113EC	
Transit (Custom) 2.2 TDCI	Euro 5	from 2012	2200	100-125	4		x		621HDF0006SA	62U003FF110EC	
Transit (Custom) 2.2 TDCI	Euro 5	from 2012	2200	100-125	4		x		621HDF0006SA	62U003FF113EC	
Transit (Custom) 2.2 TDCI	Euro 5	from 2012	2198	100-155	4	12)		x	6237934A	62U003FF110EC	
Transit (Custom) 2,0 EcoBlue	Euro 6	from 2016	1996	105/130/170	4	10)		x	6241290A	62U003FF110EC	
Transit (Custom) 2,0 EcoBlue	Euro 6	from 2016	1996	105/130/170	4	10)		x	6241290A	62U003FF113EC	
Transit (Custom) 2,0 EcoBlue (Engine YNR6)	Euro 6	from 2016	1996	105/130/170	4	12)		x	6241827A	62U003FF110EC	
Transit (Custom) 2,0 EcoBlue (Engine YNR6)	Euro 6	from 2016	1996	105/130/170	4	12)		x	6241827A	62U003FF113EC	
Connect 1.5 TDCi (6 gear box)	Euro 6	from 2016	1499	75/100/120	4	13)		x	6241354A	62U003FF108EC	
Connect 1.5 TDCi (6 gear box)	Euro 6	from 2016	1499	75/100/120	4	13)		x	6241354A	62U003FF110EC	
under chassis condenser kit									62A031133B		
Transit 2.2 TDCI	Euro 4	from 2006	2198	115/140	4L			x	622HDF0002SD	62U003FF110EC	
Transit 2.2 TDCI	Euro 5	from 2012	2198	101	4	4)	x		621HDF0005EB	62U003FF110EC	
Transit 2.2 TDCI	Euro 5	from 2012	2200	100-125	4	10)		x	622HDF0003SA	62U003FF110EC	
Transit 2.2 TDCI	Euro 5	from 2012	2200	100-125	4	10)		x	622HDF0003SA	62U003FF113EC	
Transit 2.4 TDCI	Euro 4	from 2006	2402	140	4L			x	622HDF0001SB	62U003FF110EC	
Transit 2.4 TDCI	Euro 4	from 2006	2402	140	4L			x	622HDF0001SB	62U003FF113EC	
Transit Connect 1.8 TDCI (not prepared)	-	from 2003	1753	90	4		x		621HDF0002EA	62U003FF108EC	
Transit Connect 1.6 E5 – 6 Speed	Euro 6	from 2014	1560	75 - 95 - 115	4			x	6240604A	62U003FF108EC	
Transit 2.2 TDCI	Euro 5/5b+	from 2012	2198	101	4			x	6237934A	62U003FF110EC	
Transit 2.2 TDCI	Euro 5/5b+	from 2012	2198	101	4			x	6237934A	62U003FF113EC	
Iveco											
Daily 2.3 HPI	Euro 4	from 2006	2286	116	4		x		621HDIV004EA	62U003FF110EC	
Daily 2.3 HPI	Euro 4	from 2006	2286	116	4		x		621HDIV004EA	62U003FF113EC	
Daily 2.3 HPI	Euro 4	2003 – 2006	2286	116	4			x	622HDIV004SA	62U003FF110EC	
Daily 2.3 HPI	Euro 4	2003 – 2006	2286	116	4			x	622HDIV004SA	62U003FF113EC	
Daily 2.3 HPI	Euro 5/5B+/6	to 05-2014	2286	106/126	4	11)		x	622HDIV005SA	62U003FF110EC	
Daily 2.3 HPI	Euro 5	to 05-2014	2286	106/126	4			x	622HDIV005SA	62U003FF113EC	
Daily 2.3 HPT	Euro 5	to 05-2014	2286	106/145	4		x		621HDIV008EA	62U003FF110EC	
Daily 2.3 HPT	Euro 5	to 05-2014	2286	106/145	4		x		621HDIV008EA	62U003FF113EC	
Daily 3.0	Euro 5/5b+	to 05-2014	2998	107/150	4			x	622HDIV006SB	62U003FF110EC	
Daily 3.0 HPT	Euro 5	to 05-2014	2998	145/170	4		x		621HDIV007EA	62U003FF110EC	
Daily 3.0 HPT	Euro 5	to 05-2014	2998	145/170	4		x		621HDIV007EA	62U003FF113EC	
Daily 3.0 JTD	-	from 2004	3000	170	4			x	621HDIV006EA	62U003FF110EC	

Model	Emissions standard	Model year	Engine Displacement	HP	Cylinders	Notes	with original vehicle air-conditioning system	without original vehicle air-conditioning system	Evaporator to be added		
									Part No.	Evaporator with Valve (R134A) P/N	Evaporator with Valve (R404a) P/N
Daily 3.0 JTD	-	from 2004	3000	170	4		x		621HDIV006EA	62U003FF113EC	
Daily 3.0 JTD	-	2003 – 2006	3000	169/177	4			x	622HDIV0015B	62U003FF110EC	
Daily 3.0 JTD	-	2003 – 2006	3000	169/177	4			x	622HDIV0015B	62U003FF113EC	
Daily 3.1	Euro 5/5b+	from 2010	2998	107/150	4			x	622HDIV0065B	62U003FF113EC	
Mercedes-Benz											
Sprinter 2.2 CDI – GSX	Euro 4	from 2600	2148	150	4		x		621HDMB004EA	62U003FF110EC	
Sprinter 2.2 CDI – GSX	Euro 4	from 2600	2148	150	4		x		621HDMB004EA	62U003FF113EC	
Sprinter 2.2 CDI (MB N63)	Euro 4	from 2010	2143	163	4			x	6243136A	62U003FF110EC	
Sprinter 2.2 CDI (MB N63)	Euro 4	from 2010	2143	163	4			x	6243136A	62U003FF113EC	
Sprinter 2.2 CDI E4 OM 646 DELA	-	2006 – 2009	2148	150	4			x	622HDMB0025B	62U003FF110EC	
Sprinter 2.2 CDI E4 OM 646 DELA	-	2006 – 2009	2148	150	4			x	622HDMB0025B	62U003FF113EC	
Sprinter 3.0 CDI (Tend. Orig.) OM 642DELA	Euro 4/5/5b+/6	to 2006	2987	184	6			x	622HDMB009SA	62U003FF110EC	
Sprinter 3.0 CDI (Tend. Orig.) OM 642DELA	Euro 4/5/5b+/6	to 2006	2987	184	6			x	622HDMB009SA	62U003FF113EC	
Sprinter 316 2.2 CDI OM651 DE22LA (not fittable for vehicles BlueEfficiency)	Euro 5	to 2009	2143	163	4			x	622HDMB0085B	62U003FF110EC	
Sprinter 316 2.2 CDI OM651 DE22LA (not fittable for vehicles BlueEfficiency)	Euro 5	to 2009	2143	163	4			x	622HDMB0085B	62U003FF113EC	
Sprinter 316 NGT M271 E18 ML (M22)	Euro 4	from 2009	2987	115/156	4			x	6240094A		
Vito 109-111-115 2.2 DCI	Euro 4	from 2007	2148	95/116/150	4L		x		621HDMB005EA	62U003FF110EC	
Vito 109-111-115 2.2 DCI	Euro 4	from 2007	2148	95/116/152	4L		x		621HDMB005EA	62U003FF113EC	
Vito 111-115 2.2 CDI	not defined	from 2003	2148	110-150	4			x	622HDMB0065A	62U003FF110EC	
Vito 111-115 2.2 CDI	not defined	from 2003	2148	110-150	4			x	622HDMB0065A	62U003FF113EC	
Vito 2.2 CDI (engine OM 646) OM 651 (Euro 5)	Euro 4	from 2003	2148	109	4		x		621HDMB003EC	62U003FF110EC	
Vito 2.2 CDI (engine OM 646) OM 651 (Euro 5)	Euro 4	from 2003	2148	109	4		x		621HDMB003EC	62U003FF113EC	
Nissan											
Interstar 2.2/2.5 DCI (prepared)	-	from 2004	2463	114	4			x	622HDRE003SA	62U003FF110EC	
Interstar 2.5 DCI	Euro 4	from 2006	2464	120	4			x	622HDRE001SA	62U003FF110EC	
Interstar 2.5 DCI	Euro 4	from 2006	2464	120	4			x	622HDRE001SA	62U003FF113EC	
NV200 1.5 DCI	Euro 5	from 2010	1462	86	4			x	622HDNI003FA	62U003FF108EC	
NV300 1.6 DCI	Euro 5B+/6	from 2016	1598	95-125-145	4			x	6242153A	62U003FF108EC	
NV400 2.3	Euro 4/5	from 2010	2298	125	4			x	622HDRE006SA	62U003FF110EC	
NV400 2.3	Euro 5B+	from 2010	2298	135-165	4		x	x	6235258A	62U003FF110EC	
Primastar 1.9 DCI	-	from 2001	1870	82	4			x	622HDRE005SA	62U003FF108EC	
Primastar 2.0 DCI	Euro 5	from 2010	1995	90-114	4	5)		x	622HDRE007SA	62U003FF108EC	

Transport refrigeration systems

Transport refrigeration kit for integrated solutions

Model	Emissions standard	Model year	Engine Displacement	HP	Cylinders	Notes	with original vehicle air-conditioning system	without original vehicle air-conditioning system	Evaporator to be added		
									Part No.	Evaporator with Valve (R134A) P/N	Evaporator with Valve (R404a) P/N
Primastar 2.0 DCI	Euro 5	from 2010	1995	90-115	4		x		621HDRE015NA		62U003FF111EC
Primastar 2.0 DCI	Euro 5	from 2010	1995	90-115	4		x		621HDRE015NA		62U003FF109EC
Primastar 2.0 DCI	Euro 5	from 2010	1995	90-115	4		x		621HDRE015A	62U003FF108EC	
Primastar 2.0 DCI	Euro 4	from 2006	1995	90-115	4		x		621HDRE010EB	62U003FF108EC	
Primastar 2.0 DCI	Euro 4	from 2006	1995	90	4	6)		x	622HDRE009SA	62U003FF108EC	
Opel											
Combo 1.4 Metan	Euro 5	from 2011	1368	120	4			x	622HDFI015FA	62U003FF108EC	
Combo 1.6 MJT	Euro 5		1598	105	4			x	622HDFI006FA	62U003FF108EC	
Movano 2.2/2.5 CDTI (not prepared)	-	from 2003	2188/2463	90/114	4		x		621HDRE007EA	62U003FF110EC	
Movano 2.2/2.5 CDTI (prepared)	-	from 2004	2463	114	4			x	622HDRE003SA	62U003FF110EC	
Movano 2.3 DCI R134a	Euro 5	from 2010	2298	125	4	10)	x		621HDRE013EA	62U003FF110EC	
Movano 2.3 DCI R404A	Euro 5	from 2010	2298	125	4	1) 10)	x		621HDRE013NB		62U003FF111EC
Movano 2.3 Twin Turbo	Euro 5B+	from 2010	2298	135-165	4		x	x	6235258A	62U003FF110EC	
Movano 2.5 DCI	Euro 4	from 2006	2464	120	4			x	622HDRE001SA	62U003FF110EC	
Movano 2.5 DCI	Euro 4	from 2006	2464	120	4			x	622HDRE001SA	62U003FF113EC	
Vivaro 1.6 DCi	Euro 5B+/6	from 2016	1598	95-125-145	4			x	6242153A	62U003FF108EC	
Vivaro 1.9 DCI	-	from 2001	1870	82	4			x	622HDRE005SA	62U003FF110EC	
Vivaro 1.9 DI-TDI (engine F9Q) (not prepared)	-	from 2001	1870	80/100	4		x		621HDRE003EA	62U003FF110EC	
Vivaro 2.0 CDTI	-	from 2006	1995	90-115	4		x		621HDRE010EB	62U003FF110EC	
Vivaro 2.0 CDTI	-	from 2006	1995	90	4	6)		x	622HDRE009SA	62U003FF110EC	
Vivaro 2.0 DCI	Euro 5	from 2010	1995	90-115	4	5)		x	622HDRE007SA	62U003FF110EC	
Vivaro 2.0 DCI	Euro 5	from 2010	1995	90-115	4		x		621HDRE015NA		62U003FF111EC
Vivaro 2.0 DCI	Euro 5	from 2010	1995	90-115	4		x		621HDRE015A	62U003FF110EC	
Vivaro 1.6 CDTi Biturbo	Euro 5B+		1598	120-140	4			x	6242153A	62U003FF110EC	
Peugeot											
Bipper 1.4 HDI	Euro 4	from 2008	1399	70	4				621HDCI004EB	62U003FF108EC	
Boxer 2.0 EcoBlue HDI	Euro 6	from 2016	1997		4		x	x	6241400A	62U003FF110EC	
Boxer 2.0 EcoBlue HDI	Euro 6	from 2016	1997		4		x	x	6241400A	62U003FF113EC	
Boxer 2.2 HDI	Euro 4	from 2006	2198	101	4		x		6231182A	62U003FF110EC	
Boxer 2.2 HDI	Euro 4	from 2006	2198	101	4		x		6231182A	62U003FF113EC	
Boxer 2.2 HDI	Euro 4	from 2006	2198	101	4			x	622HDFI001FB	62U003FF110EC	
Boxer 2.2 HDI	Euro 4	from 2006	2198	101	4			x	622HDFI001FB	62U003FF113EC	
Boxer 2.2 HDI	Euro 5	from 2010	2198	100	4			x	622HDCI005FA	62U003FF110EC	
Boxer 2.2 HDI	Euro 4	from 2006	2198	101	4	1)	x		6231198A		62U003FF111EC
Boxer 2.2 HDI	Euro 4	from 2006	2198	101	4	1)	x		6231198A		62U003FF112EC
Boxer 2.2 HDI	Euro 4	from 2006	2198	101	4	1)	x		6231198A		62U003FF125EB
Boxer 2.3 MJT	Euro 4	from 2006	2287	120	4		x		621HDFI008EC	62U003FF110EC	
Boxer 2.3 MJT	Euro 4	from 2006	2287	120	4		x		621HDFI008EC	62U003FF113EC	
Boxer 3.0 HDI	Euro 4	from 2006	2999	157	4			x	622HDFI003FB	62U003FF110EC	
Boxer 3.0 HDI	Euro 4	from 2006	2999	157	4			x	622HDFI003SB	62U003FF110EC	
Boxer 3.0 MJT	Euro 4	from 2006	2999	157	4		x		621HDFI009EC	62U003FF110EC	
Boxer 3.0 MJT	Euro 4	from 2006	2999	157	4		x		621HDFI009EC	62U003FF113EC	
Boxer 330-350 2.8HDI	-	from 2003	2798	127	4		x		621HDFI002EA	62U003FF110EC	

Model	Emissions standard	Model year	Engine Displacement	HP	Cylinders	Notes	with original vehicle air-conditioning system	without original vehicle air-conditioning system	Evaporator to be added		
									Part No.	Evaporator with Valve (R134A) P/N	Evaporator with Valve (R404a) P/N
Expert 1.6 HDI	Euro 4	from 2007	1560	90	4		x		621HDFI012EA	62U003FF108EC	
Expert 1.6 HDI	Euro 4	from 2007	1560	90	4		x		621HDFI012EA	62U003FF110EC	
Expert 1.6 MJ HDI	Euro 5	from 2011	1560	90	4			x	622HDFI020FA	62U003FF108EC	
Expert 1.6 MJ HDI	Euro 5	from 2011	1560	90	4			x	622HDFI020FA	62U003FF110EC	
Expert 1.6 Blue HDI	Euro 6	from 2016	1560	95-115	4			x	6241866A	62U003FF108EC	
Expert 1.6 Blue HDI	Euro 6	from 2016	1560	95-115	4			x	6241866A	62U003FF110EC	
Expert 2.0 HDI	Euro 4	from 2007	1997	120	4		x		621HDFI011EA	62U003FF110EC	
Expert 2.0 HDI	Euro 4	from 2007	1997	120/136	4			x	622HDFI004FA	62U003FF110EC	
Expert 2.0 MJT/HDI	Euro 5	from 2010	1997	163	4		x		621HDFI020EA	62U003FF108EC	
Expert 2.0 MJT/HDI	Euro 5	from 2010	1997	163	4		x		621HDFI020EA	62U003FF110EC	
Expert 2.0 HDI	Euro 5	from 2010	1997	163	4			x	622HDFI011FC	62U003FF110EC	
Expert 2.0 Blue HDI	Euro 6	from 2010	1997	128-163	4			x	6241721A	62U003FF108EC	
Expert 2.0 Blue HDI	Euro 6	from 2010	1997	128-163	4			x	6241721A	62U003FF110EC	
Expert 220-230 2.0 HDI (prepared)	-	from 2000	1997	94	4			x	622HDFI018SA	62U003FF108EC	
Partner 1.6 HDI	Euro 5		1560	75/92	4			x	622HDPE002FB	62U003FF108EC	
Partner 1600 HDI (KMD-131)	-	from 2008	1560	75/90	4			x	622HDPE001FA	62U003FF108EC	
Partner/Ranch 1.9D MY2003	-	to 09/2002	1905	69	4		x		621HDCI002EA	62U003FF108EC	
Renault											
Kangoo 1.5 DCI	Euro 5		1461	75	4		x		621HDRE014EA	62U003FF108EC	
Kangoo 1.5 DCI (engine K9K)	Euro 4	from 2008	1461	68/86/105	4		x		621HDRE012EA	62U003FF108EC	
Kangoo 1.5 DCI (engine K9K)	Euro 5	from 2011	1461	68/86/105	4			x	622HDRE010FA	62U003FF108EC	
Master 2.2/2.5 DCI (not prepared)	-	from 2003	2188/2463	90/114	4		x		621HDRE007EA	62U003FF110EC	
Master 2.2/2.5 DCI (prepared)	-	from 2004	2463	114	4			x	622HDRE003SA	62U003FF110EC	
Master 2.3 DCI Rear-wheel drive	Euro 5	from 2010	2298	125	4			x	622HDRE008SA	62U003FF110EC	
Master 2.3 DCI with PTO R134a	Euro 5	from 2010	2298	125	4	10)	x		621HDRE013EA	62U003FF110EC	
Master 2.3 DCI with PTO R134a	Euro 5	from 2010	2298	125	4			x	622HDRE006SA	62U003FF110EC	
Master 2.3 DCI with PTO R404A	Euro 5	from 2010	2298	125	4	1) 10)	x		621HDRE013NB		62U003FF111EC
Master 2.3 Twin Turbo	Euro 5B+	from 2010	2298	135-165	4		x	x	6235258A	62U003FF110EC	
Master 2.5 DCI	Euro 4	from 2006	2464	120	4			x	622HDRE001SA	62U003FF110EC	
Trafic 1.9 DCI	-	from 2001	1870	82	4			x	622HDRE005SA	62U003FF110EC	
Trafic 1.9 DCI TD (not prepared) (engine F9Q76)	-	from 2001	1870	80/100	4		x		621HDRE003EA	62U003FF110EC	
Trafic 2.0 DCI	Euro 5	from 2010	1995	90-115	4	5)		x	622HDRE007SA	62U003FF110EC	
Trafic 2.0 DCI	Euro 5	from 2010	1995	90-115	4		x		621HDRE015NA		62U003FF111EC
Trafic 2.0 DCI	Euro 5	from 2010	1995	90-115	4		x		621HDRE015A	62U003FF110EC	
Trafic 2.0 DCI (not prepared)	-	from 2006	1995	90-115	4		x		621HDRE010EB	62U003FF110EC	
Trafic 2.0 DCI (not prepared)	-	from 2006	1995	90	4	6)		x	622HDRE009SA	62U003FF110EC	
Trafic 1.6 CDTi Single-/Bi-Turbo	Euro 5B+/6	from 2016	1598	95-125-145	4			x	6242153A	62U003FF110EC	
Volkswagen											
Caddy 1.6 TDI	Euro 5	from 2010	1598	102	4	7)	x		621HDVW006EA	62U003FF108EC	
Caddy 1.6 TDI	Euro 5	from 2010	1598	102	4	8)	x		621HDVW006EA	62U003FF108EC	
Caddy 1.6 TDI	Euro 4/5	to 09/2015	1598		4			x	6235704A	62U003FF108EC	

Transport refrigeration systems

Transport refrigeration kit for integrated solutions

Model	Emissions standard	Model year	Engine Displacement	HP	Cylinders	Notes	with original vehicle air-conditioning system	without original vehicle air-conditioning system	Evaporator to be added		
									Part No.	Evaporator with Valve (R134A) P/N	Evaporator with Valve (R404a) P/N
Caddy 1.9 TDI – 2.0SDI (engine BDJ)	–	from 2004	1968	69	4	7)	x		621HDVW001EA	62U003FF108EC	
Caddy 1.9 TDI – 2.0SDI (engine BDJ)	–	from 2004	1968	69	4	8)	x		621HDVW001EA	62U003FF108EC	
Caddy 1.9 TDI – 2.0SDI (engine BDJ)	–	from 2004	1968	69	4				62A01001A		
Caddy 2,0 BiFuel	Euro 4/5	to 09/2015	1968		4			x	6235704A	62U003FF108EC	
Crafter 2.0 TDI without A/C	Euro 5	from 2009	1968	106/163	4		x		621HDVW005EB	62U003FF110EC	
Crafter 2.0 TDI	Euro 5	2006-2011	1968	109-163	4			x	622HDVW0045C	62U003FF110EC	
Crafter 2.0 TDI	Euro 5	2006-2011	1968	109-163	4	1)	x		621HDVW005NB		62U003FF112EC
Under chassis condenser kit									62A031023C		
Crafter 2.5 TDI	–	from 2006	2459	136	4L			x	622HDVW0015B	62U003FF108EC	
T5 1.9 TDI	Euro 4	from 2004	1896	86/105	4		x		621HDVW004EA	62U003FF108EC	
T5 1.9 TDI	Euro 4	from 2004	1896	86/105	4		x		621HDVW004EA	62U003FF110EC	
T5 1.9 TDI	Euro 4	from 2004	1896	86/105	4		x		621HDVW004EA	62U003FF113EC	
T5 2.0 TDI (engine CAA)	Euro 5	from 2010	1968	102	4L		x		621HDVW004EA	62U003FF108EC	
T5 2.0 TDI (engine CAA)	Euro 5	from 2010	1968	102	4L		x		621HDVW004EA	62U003FF110EC	
T5 2.0 TDI (engine CAA)	Euro 5	from 2010	1968	102	4L		x		621HDVW004EA	62U003FF113EC	
T5 2.0 TDI	Euro 5								6235578A	62U003FF113EC	
T5 2.0 TDI 6 gear box	Euro 5	from 2009	1968	140-180	4			x	622HDVW0065A	62U003FF110EC	
T5 2.0 TDI 5 gear box	Euro 5	from 2009	1968	82-102	4			x	622HDVW0055A	62U003FF110EC	
T5 2.0 TDI Automatic Transmission	Euro 5	from 2009	1968	140-180	4			x	622HDVW0075A	62U003FF110EC	

Notes

- 1) Only for neg. temp. (R404A) the kit includes oil separator, wiring resistor and defrost
- 2) Hot gas defrost kit → defrosting of the evaporator fins: For temperature over 5°C the kit is optional, for temperatures lower than 5°C the kit is mandatory, for temperatures between 0 °C and 5 °C the kit is strongly recommended above all when there is a long use of the vehicle or when the door is often opened.
- 3) For vehicles to November 2010 with Euro 4 and with original compressor
- 4) Condenser under chassis
- 5) Verify on the fitting manual if the engine block is correct
- 6) Do not install on Euro 5 vehicles
- 7) Kit for vehicle with one radiator fan
- 8) Additional kit for vehicle with double radiator fan
- 9) Kit under chassis condenser for heavy duty application 62A03966A to be ordered separately
- 10) Front-Wheel Drive
- 11) For Euro 6 installations special care for the positioning of the below chassis condenser must be taken not to interfere with the existing urea filter
- 12) Rear-wheel Drive
- 13) Not fittable for vehicles with Entry/Trend set-up with Economy park and all the engines Econetic set-up

General components	Refrigerant	Voltage (V)	Order Number
Evaporator unit for Frigo 2000 – prepared for hot gas defrosting function	R134a		62U003FF108EC
Evaporator unit for Frigo 2000 – prepared for hot gas defrosting function	R404A		62U003FF109EC
Evaporator unit for Frigo 3000 – prepared for hot gas defrosting function	R134a		62U003FF110EC
Evaporator unit for Frigo 3000 – prepared for hot gas defrosting function	R404A		62U003FF111EC
Evaporator unit for Frigo 4000 – prepared for hot gas defrosting function	R404A		62U003FF112EC
Evaporator unit for Frigo 4000 – prepared for hot gas defrosting function	R134a		62U003FF113EC
Evaporator unit for Frigo 4000 – prepared for hot gas defrosting function	R404A	24	62U003FF099ED
Evaporator unit for Frigo 5000 – prepared for hot gas defrosting function	R404A	12	62U003FF125EB
Evaporator unit for Frigo 5000 – prepared for hot gas defrosting function	R404A	24	62U003FF126EB
Hot gas defrost kit		12	62U003AA133A
Hot gas defrost kit		24	62U003AA144A
Hot gas “light” defrost kit for positive temperatures			62U003AA137A
Low pressure switch kit			62U003AA132B
Oil separator kit			62U003AA044A
Sight glass			62U003AA131A
Wiring resistor to defrost the condensate drain for negative temperatures			62U003AA143A
Controller programming tool			620682827A
New stand-by PS 1000 (60 A – 12 V) w/o accessories			62U0065804E
Accessories for stand-by			
Oil separator kit			62U003AA044A
Sight glass			62U003AA131A
Hot gas “light” defrost kit for positive temperatures			62U003AA137A
Low pressure switch kit			62U003AA132B
Extension cable			62A031092A

Transport refrigeration systems

Transport refrigeration kit for integrated solutions



Defrost kit

Defrost of the evaporator fins: for temperatures above 5°C, the kit is optional, for temperatures below that it is obligatory; for temperatures between 0°C and 5°C, the kit is strongly recommended/necessary especially when the vehicle is in service for long periods.

This kit is normally made in a different way in R134a "Light defrost" vs. R404A configurations. In both cases has is ordered separately.



De-icing kit

The kit includes a heating wire to keep the evaporator drain hose frost-free allowing a correct drain flow after defrosting.



Low pressure switch

Switches off the compressor when pressure goes below the lowest value.



Oil separator kit

This additional filter must be installed in R404a applications and is recommended when Set Point is < 5°C.



Liquid line eyes kit

It is used to check the gas inside the system, when bubbles appear the reasons can be:

- Sub cooling not enough
- Refrigerant quantity not enough
- Condenser overheating (too small)
- Receiver drier too small
- Receiver drier obstructed

As indicated by the order numbers, our transport refrigeration kits contain the following:

Scope of delivery

- Transport refrigeration kit
621HD, 622HD...F
- Compressor
 - Compressor installation kit
 - Condenser with mount for front mounting
 - Collector/dryer
 - Pressure switch
 - Cable harness
 - Refrigerant lines and connections

Scope of delivery

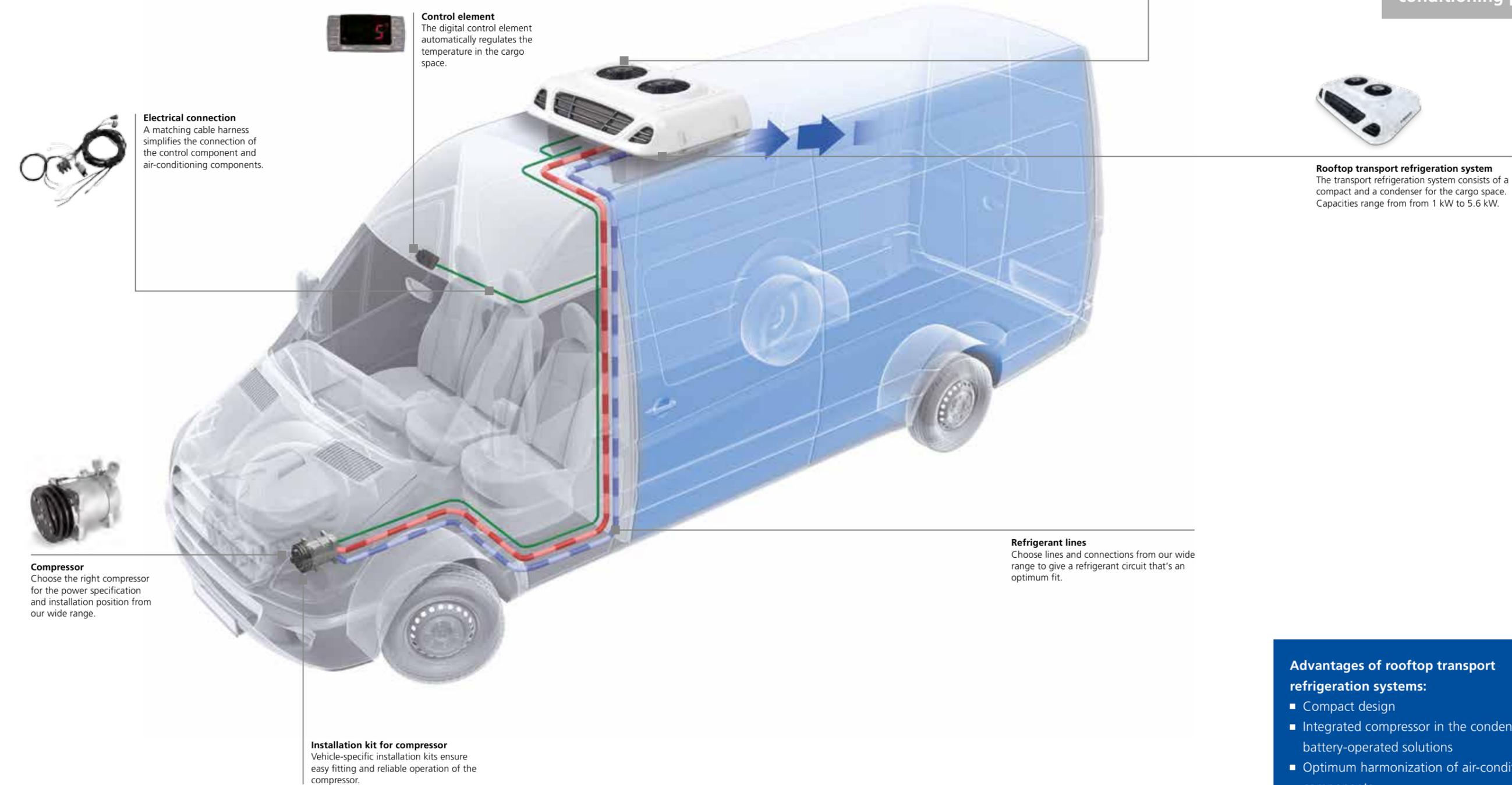
- Transport refrigeration kit
622HD...S
- Compressor
 - Compressor installation kit
 - Condenser with mount for underbody mounting
 - Collector/dryer
 - Pressure switch
 - Cable harness
 - Refrigerant lines and connections

Please note when ordering

- For above-freezing temperatures:
evaporator with refrigerant R134a
- For freezing temperatures:
evaporator with refrigerant R404A

Application of a rooftop transport refrigeration system

The main components of the Webasto rooftop transport refrigeration system are accommodated in a compact, aerodynamic housing. The cooling systems, with capacity options ranging between 1,000 and 5,600 W, are suitable for fresh produce delivery (> 0°C) and for deep frozen cargo (< 0°C). An optional stand-by function allows cooling independently of the engine.



Our transport refrigeration systems can be found in our separate heating and air-conditioning product catalog.

Stand-by function
This function ensures continuous operation, even when stationary.

Control element
The digital control element automatically regulates the temperature in the cargo space.

Electrical connection
A matching cable harness simplifies the connection of the control component and air-conditioning components.



Rooftop transport refrigeration system
The transport refrigeration system consists of a compact and a condenser for the cargo space. Capacities range from from 1 kW to 5.6 kW.



Compressor
Choose the right compressor for the power specification and installation position from our wide range.

Installation kit for compressor
Vehicle-specific installation kits ensure easy fitting and reliable operation of the compressor.

Refrigerant lines
Choose lines and connections from our wide range to give a refrigerant circuit that's an optimum fit.

- Advantages of rooftop transport refrigeration systems:**
- Compact design
 - Integrated compressor in the condenser unit of all battery-operated solutions
 - Optimum harmonization of air-conditioning components
 - Quick and easy installation

Transport refrigeration systems

Rooftop solutions, direct drive



Transport refrigeration systems for light-duty vehicles transporting perishable goods. Maximum performance, compact, easy to install, for cargo spaces up to 23 m³.

The transport refrigeration systems ensure that perishable goods can be transported over long distances at the optimum temperature and reach their destination in perfect condition. In these systems, which have been designed for light-duty vehicles with a cargo space for sensitive products, the compressor is integrated into the vehicle. Thanks to a wide range of installation kits, the compressor can be installed in various different vehicle models. With powerful fans, they offer reliability and a long lifetime, important factors in transport refrigeration. Depending on the desired temperature range, the system can be filled with the refrigerant R134a, R404A or R452A.

Frigo Top

The transport refrigeration systems with direct drive, high capacity and very low maintenance requirements for vehicles with cargo spaces up to 23 m³. The flexible solutions are suitable for a very wide range of temperatures.

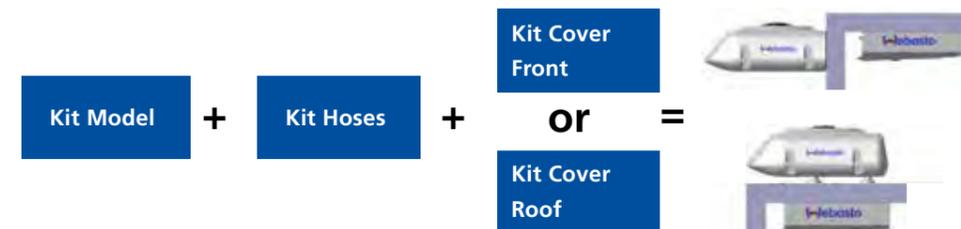
- Transport refrigeration for commercial vehicles with cargo spaces up to 23 m³
- Cooling capacity of up to 4,300 W
- Automatic temperature regulation
- High efficiency in all temperature ranges
- High-quality reliable components from proven series-production processes
- ATP (Accord Transport Perissable) certification for all units with refrigerant R134a and R452A

Technical data

Model overview	Frigo Top 24 RT-D		Frigo Top 36 RT-D			Frigo Top 38 RT-D	Frigo Top 43 RT-D	
	R452A	R134a	R452A	R134a	R404A	R404A	R452A	R404A
Cooling performance nominal (according ATP standard) in W at 30°C ambient temperature and compartment temperature +5°C – Engine operation	–	2528,0	–	3310,0	–	–	–	–
Cooling performance nominal (according ATP standard) in W at 30°C ambient temperature and compartment temperature 0°C – Engine operation	2421,0	2091,0	3674,0	2828,0	3550,0	3800,0	4220,0	4300,0
Cooling performance nominal (according ATP standard) in W at 30°C ambient temperature and compartment temperature -5°C – Engine operation	–	1571,0	–	2286,0	–	–	–	–
Cooling performance nominal (according ATP standard) in W at 30°C ambient temperature and compartment temperature -10°C – Engine operation	1776,0	–	1766,0	–	–	–	3065,0	–
Cooling performance nominal (according ATP standard) in W at 30°C ambient temperature and compartment temperature -20°C – Engine operation	1091,0	–	1512,0	–	1600,0	1600,0	2040,0	2050,0
Nominal Voltage (V)	12							
Installation	Roof	Roof and Front		Roof	Roof and Front		Roof and Front	
Air Flow in m³/h	984	1,743		1,743	1,743		1,984	
Max. current absorption (A) Engine operation 12/24 V	21.5/-		42.0/-		31.0/-		42.0/-	
Dimensions L x W x H (mm)	900 x 496 x 190		1,115 x 663 x 194		900 x 496 x 190		1,115 x 663 x 194	
Condenser unit (Roof)	–		1,115 x 585 x 194		–		1,115 x 585 x 194	
Condenser unit (Front)	–		1,000 x 500 x 157		–		1,130 x 530 x 158	
Evaporator unit	660 x 530 x 158		–		1,000 x 500 x 157		–	
Weight (kg) – Condenser	15.0	12.0	31.0	28.0	15.0	28.0	31.0	
Weight (kg) – Evaporator unit	10.0		–		12.5		18.5	

Model overview	Scope of delivery	Order number
Kit model Frigo Top 24 RT-D 12 V (R134a)	Condensing unit (with plastic covers) evaporators, accessories box, drilling template, documents	6241858A
Kit model Frigo Top 24 RT-D 12 V (R452A)	Condensing unit (with plastic covers) evaporators, accessories box, drilling template, documents	6241910A
Kit model Frigo Top 36 RT-D 12 V (R134a)	Condensing unit (w/o plastic covers) evaporators, accessories box, drilling template, documents	6242052A
Kit model Frigo Top 36 RT-D 12 V (R452a)	Condensing unit (w/o plastic covers) evaporators, accessories box, drilling template, documents	6242014A
Kit model Frigo Top 36 RT-D 12 V (R404A)	Condensing unit (with plastic covers) evaporators, accessories box, drilling template, documents	6242437A
Kit model Frigo Top 38 RT-D 12 V (R404A)	Condensing unit (w/o plastic covers) evaporators, accessories box, drilling template, documents	6242669A
Kit model Frigo Top 43 RT-D 12 V (R452A)	Condensing unit (w/o plastic covers) evaporators, accessories box, drilling template, documents	6242067A
Kit model Frigo Top 43 RT-D 24 V (R452A)	Condensing unit (w/o plastic covers) evaporators, accessories box, drilling template, documents	6242093A
Kit model Frigo Top 43 RT-D 12 V (R404A)	Condensing unit (w/o plastic covers) evaporators, accessories box, drilling template, documents	6242648A
Kit model Frigo Top 43 RT-D 24 V (R404A)	Condensing unit (w/o plastic covers) evaporators, accessories box, drilling template, documents	6242762A
Kit cover (Front mounting) 12/24 V	upper cover	6242056A
Kit cover (Roof mounting) 12/24 V	upper cover	6242054A
Kit hoses Frigo Top 24 RT-D R134a		6241951A
Kit hoses Frigo Top 24 RT-D R452A		6241947A
Kit hoses Frigo Top 36 RT-D R134a		6242057A
Kit hoses Frigo Top 36 RT-D R404-R452A		6242063A
Kit hoses Frigo Top 38 RT-D R404A		6242063A
Kit hoses Frigo Top 43 RT-D R404A-R452A		6242314A
Accessories		
De-icing Kit		
Frigo Top 24		6231058A
Frigo Top 36 – 38		62U003AA143A
Frigo Top 43 12 V		6231060A
Frigo Top 43 24 V		6231061A
Heating Kit		
Frigo Top 24 (R452A) – 36 (R404A)		6242400A
Frigo Top 36 (R452A) – 38 (R404A)		6242401A
Frigo Top 43 12 V		6242401A
Frigo Top 43 24 V		6242455A

Configuration for Frigo Top 36 RT-D with R452A & R134a, Frigo Top 38 RT-D, Frigo Top 43 RT-D



Configuration for Frigo Top 24 RT-D, Frigo Top 36 RT-D with R404A



Transport refrigeration systems

Rooftop solutions, battery drive



Compact transport refrigeration systems for light-duty vehicles transporting perishable goods. Reliable solutions for cargo space volumes up to 5 m³.

The transport refrigeration systems ensure that perishable goods can be transported over long distances at the optimum temperature and reach their destination in perfect condition. This product series is designed for light transportation vehicles with a cargo space and built-in air-conditioning system. Both the electric motor and the compressor are integrated into the condenser unit. With powerful fans, they offer reliability and a long lifetime, important factors in transport refrigeration.

Rolle

Battery-operated transport refrigeration systems for smaller vehicles and cargo spaces up to 5 m³. Exceptionally quick and easy to install.

- Transport refrigeration for commercial vehicles with cargo spaces up to 5 m³
- Cooling capacity of up to 1,186 W
- The motor and the compressor are integrated into the condenser unit.
- Automatic temperature regulation High efficiency in all temperature ranges
- High-quality reliable components from proven series-production processes
- ATP (Accord Transport Perissable) certification for all units

Technical data

Model overview	Rolle 2000		Rolle 2000 HD	
	without stand-by unit	with stand-by unit	without stand-by unit	with stand-by unit
Refrigerant	R404A			
Cooling capacity according to ATP standard, at ambient temperature of +30°C and compartment temperature of 0°C, in engine/stand-by operation optional (W)	1,011/-	1,011 / 985	1,186/-	1,186/1,059
Cooling capacity according to ATP standard, at ambient temperature of +30°C and compartment temperature of -20°C, in engine/stand-by operation optional (W)	424/-	424/447	508/-	508/477
Nominal voltage (V)	12			
Air flow (m ³ /h)	650			
Max. total current absorption at 12 V, in engine/stand-by operation (A)	80/-	80/5	90/-	90/6
Max. total current absorption, generator (A)	125		140	
Dimensions L x W x H (mm)				
Condenser unit	810 x 540 x 243		810 x 540 x 258	
Evaporator unit	660 x 500 x 157		660 x 500 x 157	
Weight (kg)				
Condenser unit	45	53	47	55
Evaporator unit	7.5	7.5	7.5	7.5

Rolle 2000

Model overview	Scope of delivery	Order number
Rolle 2000	Transport refrigeration system for refrigerant R404A, including condenser, evaporator, installation kit, automatic temperature regulation, product documentation	621RLN2K01EG
Rolle 2000 Stand-by	Transport refrigeration system for refrigerant R404A, including condenser, evaporator, installation kit, automatic temperature regulation, stand-by unit, product documentation	621RLN2K01SEG

Rolle 2000 HD

Model overview	Scope of delivery	Order number
Rolle 2000 HD	Transport refrigeration system for refrigerant R404A, including condenser, evaporator, installation kit, automatic temperature regulation, product documentation	621RLN2K02EE
Rolle 2000 HD Stand-by	Transport refrigeration system for refrigerant R404A, including condenser, evaporator, installation kit, automatic temperature regulation, stand-by unit, product documentation	621RLN2K02SEE

The performance data for your application may differ from the nominal values.

Transport refrigeration systems

Rooftop solutions, direct drive



Refrigeration systems for light-duty vehicles transporting perishable goods. Highest performance, variable and easy installation for cargo space volumes up to 21 m³.

Transport refrigeration systems keep perishables at the perfect temperature so they reach their destination in top condition. Frigo Top is the new generation of transport refrigeration systems with greatly improved functionality. The new model series offers a broad range of variability and thereby meets individual customer requirements. All systems come in 12 V and 24 V versions, with a stand-by operation optionally with 230 V or 400 V and the option of rooftop or front installation.

Among other aspects, the optimized product structure features very durable fans and a dual-sided defrosting system. The integrated heat exchanger enhances the unit's cooling capacity. Thus, it ensures powerful cooling even at high outside temperatures. Thanks to the refrigerant R404A, these systems are suitable for both above zero and below zero temperatures and therefore cover a wide range of uses. These systems stand out for their particularly easy and comfortable installation and maintenance. Laterally removable covers facilitate fast and easy access to the components. Moreover, the electronic elements are cost-effectively and easily exchangeable. The compressor is integrated into the engine space.

- Cooling capacity up to 3,836 W
- Automatic temperature regulation
- High efficiency in all temperature ranges
- Stand-by operation optionally with 230 V and 400 V
- Rooftop or front mounting
- Reliable devices with high-quality components made in proven series production
- Easy installation and maintenance
- ATP (Accord Transport Perissable) certification for all units

Technical data

Model overview	Frigo Top 25 RT-DS	Frigo Top 35 RT-DS	Frigo Top 40 RT-DS
Refrigerant	R404A		
Cooling capacity according to ATP standard, at ambient temperature of +30 °C and compartment temperature of 0 °C, in engine/stand-by operation (W)	2,347/1,490	3,509/2,412	3,836/2,469
Cooling capacity according to ATP standard, at ambient temperature of +30 °C and compartment temperature of -10 °C, in engine/stand-by operation (W)	1,747/1,105	2,791/1,806	2,880/1,836
Cooling capacity according to ATP standard, at ambient temperature of +30 °C and compartment temperature of -20 °C, in engine/stand-by operation (W)	1,250/730	2,011/1,266	2,011/1,283
Nominal Voltage (V)	12/230/400	12/24/230/400	
Air flow (m³/h)	850	1,420	1,960
Max. current absorption, in engine operation 12/24 V (A)	15.0	30.0/15.0	30.0/15.0
Max. current absorption, in stand-by operation 230/400 V (A)	8.5/8.5	10.8/10.8	10.8/10.8
Dimensions L x W x H (mm)			
Condenser unit	906 x 715 x 256	1,096 x 725 x 278	1,096 x 725 x 278
Evaporator unit	660 x 530 x 158	1,130 x 530 x 158	1,130 x 530 x 158
Weight (kg)			
Condenser unit	55.2	65.0	66.0
Evaporator unit	11.5	18.5	18.5

Frigo Top 25 RT-DS

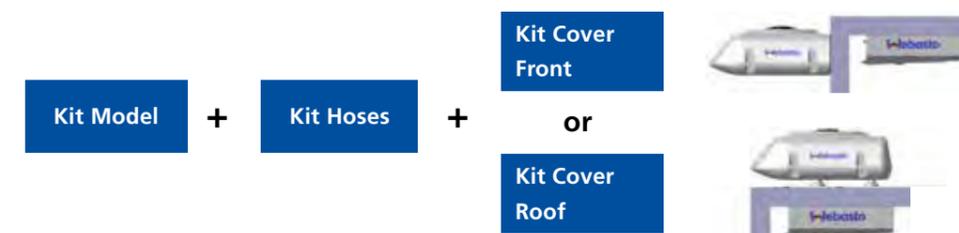
Description	Scope of delivery	Order number
Kit model Frigo Top 25 12 V – 230 V single phase	Condenser unit (w/o plastic covers) evaporator unit, accessories box, drilling template, documents	6234554A
Kit model Frigo Top 25 12 V – 400 V three phase	Condenser unit (w/o plastic covers) evaporator unit, accessories box, drilling template, documents	6234570A
Kit cover roof mounted Frigo Top 25	Condenser unit (w/o plastic covers) evaporator unit, accessories box, drilling template, documents	6234632A
Kit cover front mounted Frigo Top 25	Condenser unit (w/o plastic covers) evaporator unit, accessories box, drilling template, documents	6234633A
Kit hoses Frigo Top 25	Hoses and joints	6234684A
Accessories		
Kit heating		6234860A
Kit de-icing 12 V Frigo Top 25		6231058A

Frigo Top 35 RT-DS

Description	Scope of delivery	Order number
Kit model Frigo Top 35 12 V – 230 V single phase	Condenser unit (w/o plastic covers) evaporator unit, accessories box, drilling template, documents	6234749A
Kit model Frigo Top 35 24 V – 230 V single phase	Condenser unit (w/o plastic covers) evaporator unit, accessories box, drilling template, documents	6234770A
Kit model Frigo Top 35 12 V – 400 V three phase	Condenser unit (w/o plastic covers) evaporator unit, accessories box, drilling template, documents	6234759A
Kit model Frigo Top 35 24 V – 400 V three phase	Condenser unit (w/o plastic covers) evaporator unit, accessories box, drilling template, documents	6234781A
Kit cover roof mounted Frigo Top 35-40 12 V	Upper/lower cover, grid and fans, accessories bag	6234642A
Kit cover roof mounted Frigo Top 35-40 24 V	Upper/lower cover, grid and fans, accessories bag	6234653A
Kit cover front mounted Frigo Top 35-40 12 V	Upper/lower cover, grid and fans, accessories bag	6234647A
Kit cover front mounted Frigo Top 35-40 24 V	Upper/lower cover, grid and fans, accessories bag	6234678A
Kit hoses Frigo Top 35-40	Hoses and joints	6234685A
Accessories		
Kit heating Frigo Top 35 12 V		6234861A
Kit heating Frigo Top 35 24 V		6234862A
Kit de-icing 12 V Frigo Top 35-40		6231060A
Kit de-icing 24 V Frigo Top 35-40		6231061A

Frigo Top 40 RT-DS

Description	Scope of delivery	Order number
Kit model Frigo Top 40 12 V – 230 V single phase	Condenser unit (w/o plastic covers) evaporator unit, accessories box, drilling template, documents	6234784A
Kit model Frigo Top 40 24 V – 230 V single phase	Condenser unit (w/o plastic covers) evaporator unit, accessories box, drilling template, documents	6234791A
Kit model Frigo Top 40 12 V – 400 V three phase	Condenser unit (w/o plastic covers) evaporator unit, accessories box, drilling template, documents	6234788A
Kit model Frigo Top 40 24 V – 400 V three phase	Condenser unit (w/o plastic covers) evaporator unit, accessories box, drilling template, documents	6234794A
Kit cover roof mounted Frigo Top 35-40 12 V	Upper/lower cover, grid and fans, accessories bag	6234642A
Kit cover roof mounted Frigo Top 35-40 24 V	Upper/lower cover, grid and fans, accessories bag	6234653A
Kit cover front mounted Frigo Top 35-40 12 V	Upper/lower cover, grid and fans, accessories bag	6234647A
Kit cover front mounted Frigo Top 35-40 24 V	Upper/lower cover, grid and fans, accessories bag	6234678A
Kit hoses Frigo Top 35-40	Hoses and joints	6234685A
Accessories		
Kit heating Frigo Top 40 12 V		6234863A
Kit heating Frigo Top 40 24 V		6234864A
Kit de-icing 12 V Frigo Top 35-40		6231060A
Kit de-icing 24 V Frigo Top 35-40		6231061A



Transport refrigeration systems

Rooftop solutions, direct drive



Transport refrigeration systems for larger transport vehicles and small trucks of up to approx. 36 m³ load size. Highly reliable even in great heat, simple front installation.

The transport refrigeration systems were developed for keeping perishables fresh and ensure that refrigerated and frozen goods reach their destination safely and at the optimal temperature. The cooling systems owe their reliable performance even at the highest ambient temperatures to the large air intake openings in the condenser area. These facilitate a powerful air flow with enhanced fluid and thermo dynamics.

The special condenser rotor blade design actually has dual positive impact: The system operates at a lower noise level and also consumes less energy. Thanks to this sophisticated design and a removable side cover, installation, inspection and maintenance are extremely easy. All products have an ATP certification.

- Cooling capacity of up to 5,638 W
- One of the most compact and lightweight transport refrigeration unit in its class
- Easy installation and maintenance
- High level of reliability thanks to electric compressor for stand-by function (no belt, pulley, engine)
- Reduced noise and energy consumption
- One refrigerant for both positive and negative temperatures
- Optional heating function and hot gas defroster kit
- ATP (Accord Transport Perissable) certification for all units

Technical data

Model overview	Frigo Top 50 RT-D	Frigo Top 50 RT-DS	Frigo Top 60 RT-D	Frigo Top 60 RT-DS
Refrigerant	R404A			
Cooling performance nominal (according ATP standard) (W) at 30°C ambient temperature and compartment temperature 0°C Engine operation/stand-by operation	4,599/-	4,599 / 4,243	5,638/-	5,638/4,914
Cooling performance nominal (according ATP standard) (W) at 30°C ambient temperature and compartment temperature -10°C Engine operation/stand-by operation	3,403/-	3,403 / 3,134	3,763/-	3,763/3,524
Cooling performance nominal (according ATP standard) (W) at 30°C ambient temperature and compartment temperature -20°C Engine operation/stand-by operation	2,415/-	2,415/2,115	2,668/-	2,668/2,368
Nominal voltage (V)	12/24	12/24/400	12/24	12/24/400
Air flow in m ³ /h	1,560		3,102	
Max. current absorption (A) Engine operation 12 V/24 V	30/15		42/21	
Max. current absorption (A) Stand-by operation 230/400 V	N/A	-/7.3	N/A	-/7.3
Dimensions L x W x H (mm) Condenser unit	1,730 x 570 x 650			
Dimensions L x W x H (mm) Evaporator unit	1,100 x 750 x 200		1,450 x 750 x 200	
Weight (kg) Condenser unit	68.0	128.0	68.0	128.0
Weight (kg) Evaporator unit	22.0		31.0	

Frigo Top 50 RT-DS	Scope of delivery	Order number
Kit model Frigo Top 50 RT-D 12 V	Control unit, w/o stand-by unit, condenser unit, evaporator unit, wiring harness, hoses and fittings (*)	6238410A
Kit model Frigo Top 50 RT-D 24 V	Control unit, w/o stand-by unit, condenser unit, evaporator unit, wiring harness, hoses and fittings (*)	6238758A
Kit model Frigo Top 50 RT-DS 12 V – 400 V	Control unit, stand-by unit, condenser unit, evaporator unit, wiring harness, hoses and fittings (*)	6238077A
Kit model Frigo Top 50 RT-DS 24 V – 400 V	Control unit, stand-by unit, condenser unit, evaporator unit, wiring harness, hoses and fittings (*)	6238089A
Accessories		
Kit heating 12 V		6238851A
Kit heating 24 V		6238852A
Kit drain hose heating resistor 12 V		6238859A
Kit drain hose heating resistor 24 V		6238860A

(*) To complete the installation: Compressor, compressor mounting kit, compressor fittings – depending on application.

Frigo Top 60 RT-DS	Scope of delivery	Order number
Kit model Frigo Top 60 RT-D 12 V	Control unit, w/o stand-by unit, condenser unit, evaporator unit, wiring harness, hoses and fittings (*)	6238402A
Kit model Frigo Top 60 RT-D 24 V	Control unit, w/o stand-by unit, condenser unit, evaporator unit, wiring harness, hoses and fittings (*)	6238649A
Kit model Frigo Top 60 RT-DS 12 V – 400 V	Control unit, stand-by unit, condenser unit, evaporator unit, wiring harness, hoses and fittings (*)	6238098A
Kit model Frigo Top 60 RT-DS 24 V – 400 V	Control unit, stand-by unit, condenser unit, evaporator unit, wiring harness, hoses and fittings (*)	6238103A
Accessories		
Kit heating 12 V		6238851A
Kit heating 24 V		6238852A
Kit drain hose heating resistor 12 V		6238859A
Kit drain hose heating resistor 24 V		6238860A

(*) To complete the installation: Compressor, compressor mounting kit, compressor fittings – depending on application.

Transport refrigeration systems

Rooftop solutions, multi-temperature



Transport refrigeration systems with variable single or multi-temperature application for light-duty commercial vehicles with a cargo space capacity of up to ca. 16 m³. Energy-efficient shipping of perishable goods with different refrigeration requirements.

The requirements for energy efficiency and versatility in transporting refrigerated goods are increasing. Especially the capacity for optimal transport of goods with diverse cooling or refrigeration requirements in one vehicle is becoming ever more important. The Frigo Top 35 RT-DSMT is well-suited for transporting various types of goods at different temperatures. It enables independent, flexible temperature control in separate cargo spaces and can be variably combined with two evaporators (Frigo Top 25 and Frigo Top 35). This ensures perfect, constant refrigeration in the individual cargo spaces. This also applies for light-duty vehicles with removable walls.

The microprocessor control of the compressor and the blowers was enhanced once again in order to boost energy efficiency and extend the lifetime. The extremely flat, space-saving design of the evaporators is also beneficial. The use of standard components that are also used in the Frigo Top 25 and Frigo Top 35 models, ensures very fast availability of spare parts (condensing unit, evaporator, hoses and hose assemblies as well as the fittings).

The devices are designed to be very user-friendly and thus allow for easy, fast and cost-effective installation and maintenance.

- Flexible, suitable for single and multi-temperature use
- Cooling capacity of up to 3,070 W
- Automatic temperature control
- Enhanced energy efficiency, longer operating time
- Stand-by operation optionally with 230 V
- Simple, easy installation and maintenance, lower costs
- Fast availability of devices and spare parts
- ATP (Accord Transport Perissable) accreditation for all devices and their combinations

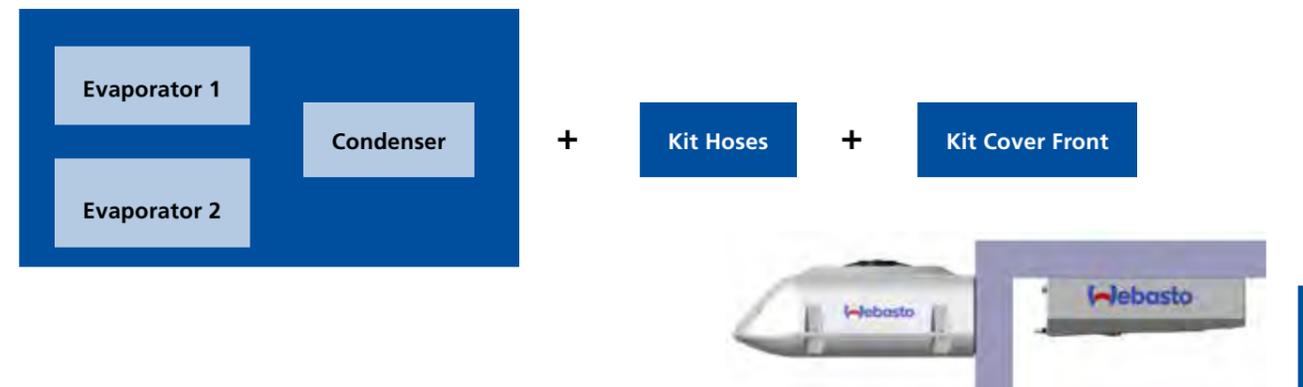
Technical data

Model overview	Frigo Top 35 RT-DSMT*	Frigo Top 35 RT-DSMT**
Refrigerant	R404A	
Cooling performance nominal (according ATP standard) in W at 30°C ambient temperature and compartment temperature 0°C Engine operation/stand-by operation (W)	2,450/1,930	3,070/2,280
Cooling performance nominal (according ATP standard) in W at 30°C ambient temperature and compartment temperature -20°C Engine operation/stand-by operation (W)	1,314/950	1,570/1,020
Nominal voltage (V)	12/230	12/230
Air flow in m ³ /h	930	1760
Max. current absorption (A) Engine operation 12 V	30	37.5
Max. current absorption (A) Stand-by operation 230 V	10.8/-	
Dimensions L x W x H (mm) Condenser unit	1,096 x 725 x 278	
Dimensions L x W x H (mm) Evaporator unit/Evaporator unit 2	(660 x 530 x 158) + (660 x 530 x 158)	(660 x 530 x 158) + (1,130 x 530 x 158)
Weight (kg) Condenser w/wo stand-by	65.0	
Weight (kg) Evaporator unit/Evaporator unit 2	11.5/11.5	11.5/18.5

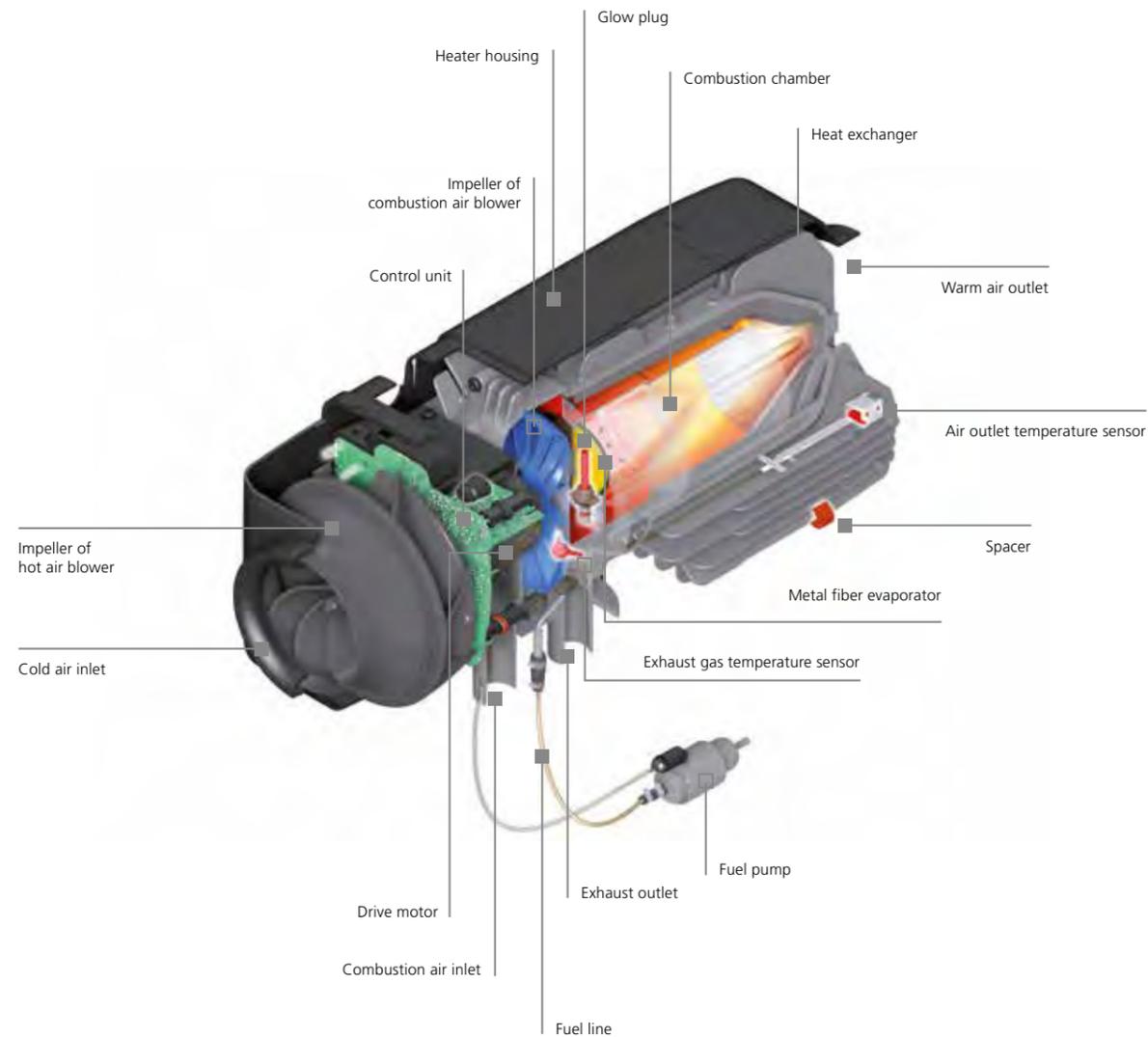
* With two evaporators Frigo Top 25. ** With evaporators Frigo Top 25 and Frigo Top 35.

Model overview	Scope of delivery	Order number
Frigo Top 35 RT-DSMT 12 V evap Frigo Top 25 + Frigo Top 25	Condensing unit (w/o plastic covers) 2 evaporators, accessories box, drilling template, documents	6238287A
Frigo Top 35 RT-DSMT 12 V evap Frigo Top 25 + Frigo Top 35	Condensing unit (w/o plastic covers) 2 evaporators, accessories box, drilling template, documents	6238288A
Kit cover (front mounting)	Upper/lower cover, grid and fans	6234647A
Kit hoses Frigo Top 35 RT-DSMT evap Frigo Top 25 + Frigo Top 25	Hoses and joints	6238289A
Kit hoses Frigo Top 35 RT-DSMT evap Frigo Top 25 + Frigo Top 35	Hoses and joints	6238290A
Accessories		
Kit de-icing Frigo Top 35 RT-DSMT 12 V evap Frigo Top 25 + Frigo Top 25		6231058A + 6231058A
Kit de-icing Frigo Top 35 RT-DSMT 12 V evap Frigo Top 25 + Frigo Top 35		6231058A + 6231060A
Extension kit 5-16 L = 4 m		6238213A
Extension kit 5-16 L = 6 m		6238215A
Extension kit 5-8 L = 4 m		6238216A
Extension kit 5-8 L = 6 m		6238218A

(*) To complete the installation: Compressor, compressor mounting kit, compressor fittings – depending on application



Operation of an air heating system

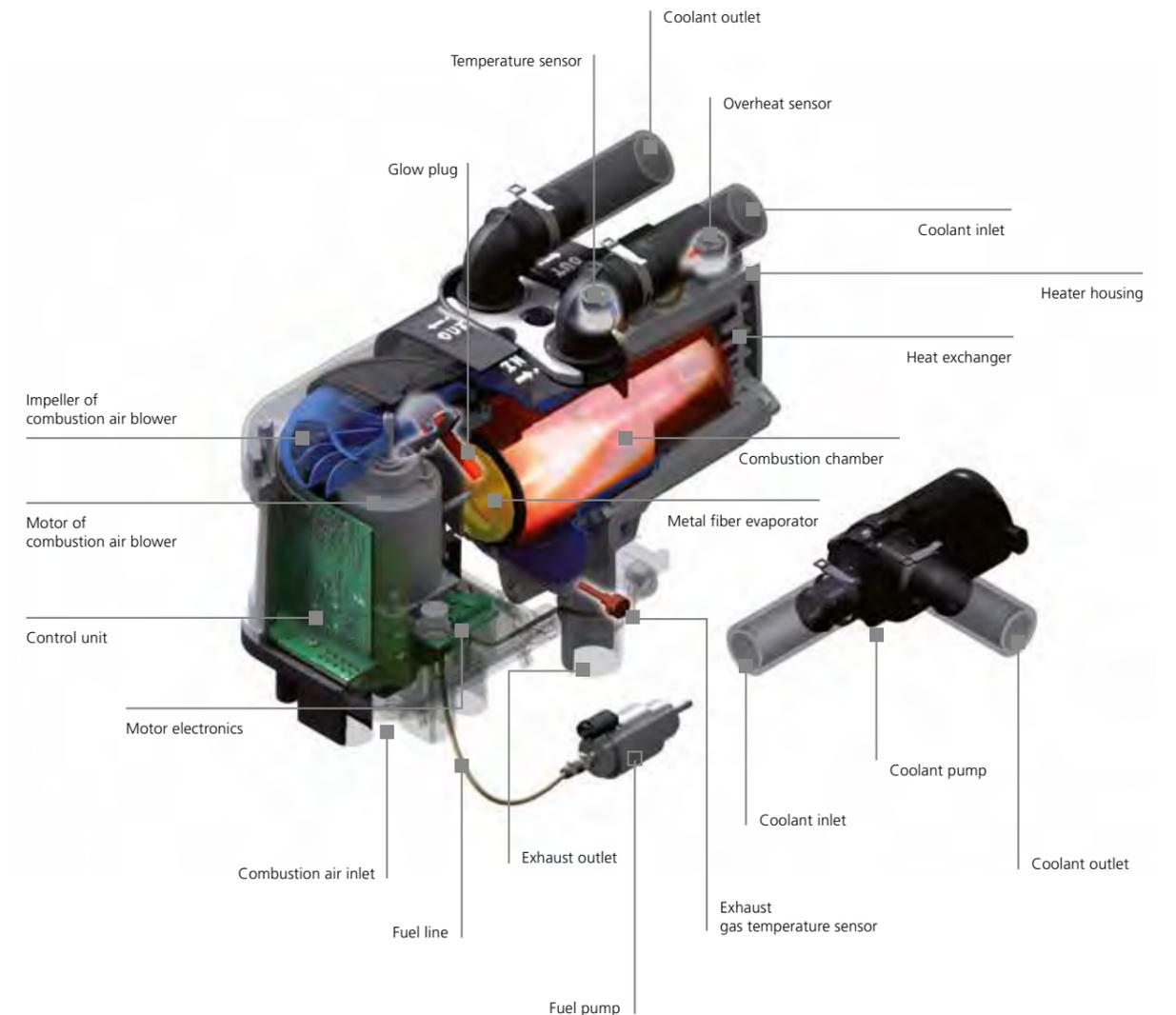


Our air heaters are integrated into the vehicles independently of the engine and, thanks to the small number of interfaces with the vehicle, are easy to install.

The air heaters operate as follows: the combustion air required for combustion enters the combustion chamber via the combustion air inlet. Meanwhile, the fuel pump pumps fuel out of the fuel tank into the combustion chamber. There the fuel/air mixture is ignited by means of a glow plug and burnt. The exhaust gases which form during this process are discharged via the exhaust outlet.

The impeller drives the cold air that will be used to heat the cabin across the heat exchanger. In the process, the air heats up and enters the part of the vehicle that is to be heated via the warm air outlet.

Operation of a water heating system

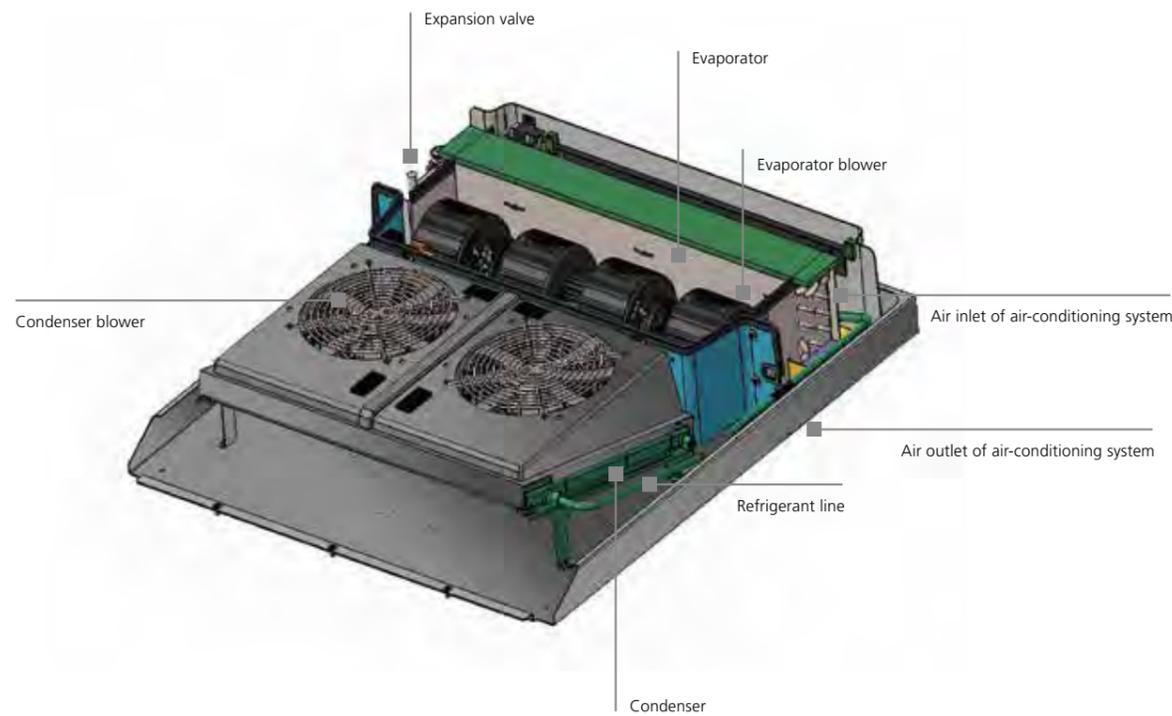


The water heater is incorporated into the vehicle's engine coolant circuit. In this circuit, it flows first through the heat exchanger of the heating system and then through the vehicle's engine.

During the operation of the heater, the combustion air required for combustion is passed into the combustion chamber via the combustion air inlet. Meanwhile, the fuel pump pumps fuel out of the fuel tank into the combustion chamber. There the fuel/air mixture is ignited by means of a glow plug and burnt. The exhaust gases which form during this process are discharged via the exhaust outlet.

The vehicle coolant is driven through the heater by the coolant pump, where it is heated, and is then passed to the vehicle heat exchanger. From there, the heat is transferred by the vehicle's built-in blower to the interior of the vehicle, and then to the vehicle's engine, which is likewise heated.

Operation of an air-conditioning system



In the closed circuit of the air-conditioning system, a special refrigerant absorbs the heat from the interior of the vehicle and releases it again to the environment at some other point.

In this arrangement, the compressor draws in the gaseous refrigerant, compresses it and drives it into the condenser. There, it is condensed, releasing heat in the process. Via the expansion valve, the liquid refrigerant enters the evaporator, where it changes to the gaseous state, absorbing heat as it does so. The air passed across the evaporator by the blower cools and is discharged into the interior of the vehicle. Depending on the design of the equipment, recirculated air from the vehicle or fresh air from the environment can be used for this purpose.

The transport refrigeration system also operates on the same principle. In this case, an additional stand-by kit is generally connected and maintains the cooling function when the engine is not running.

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Abbreviations

Specifications

AC	Air-conditioning system
ACC	Automatic climate control
ECE	Economic Commission for Europe
EMC	Electromagnetic compatibility
HDD	Heavy Duty Design
HTM	Heating time management
HVAC	Air-conditioning system with heating function (Heating, Ventilating, Air-conditioning)
IK	Installation kit
SOD	Scope of delivery

Units of measurement

D	Diameter (mm)
H	Height (mm)
kg	Kilogram
L	Length (mm)
m	Meter
mm	Millimeter
W	Width (mm)

Electrical units

A	Ampere
kW	Kilowatt
rpm	Revolutions per minute
V	Volt
W	Watt



Since its foundation in 1901 the Webasto group has continued to set new technological standards in the original equipment and aftermarket sector. Today, we are one of the 100 biggest suppliers in the automotive industry worldwide. We develop and produce roof, convertible as well as heating, cooling and ventilation systems. Our products help provide a better atmosphere on the road, more comfort and security, as well as increased efficiency for cars, commercial and special vehicles, motor homes and boats. An outstanding network of production facilities and dealers guarantees high-quality products, installation standards and services worldwide.

