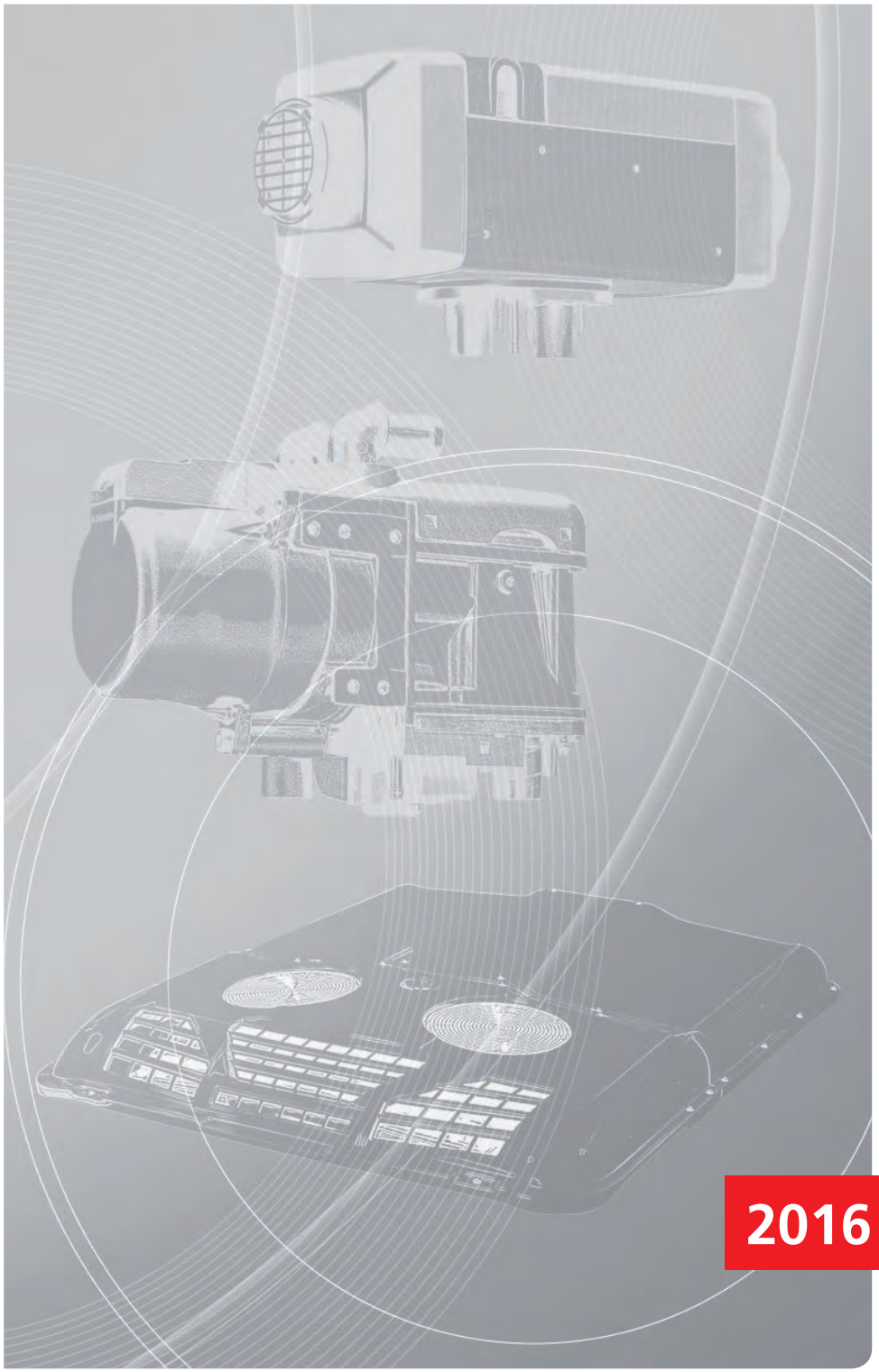
Webasto
Feel the Drive

Product Catalog
Heating and Air-Conditioning Solutions

For Cars, Trucks, Light-duty Vehicles, Special Vehicles and Rail



2016

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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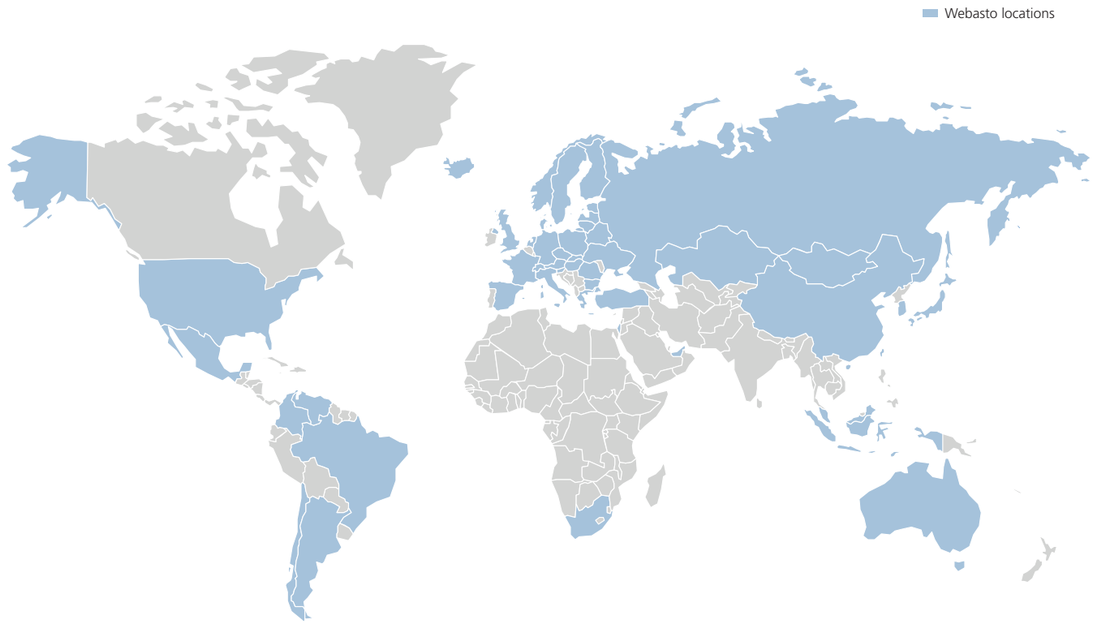
Webasto Network

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

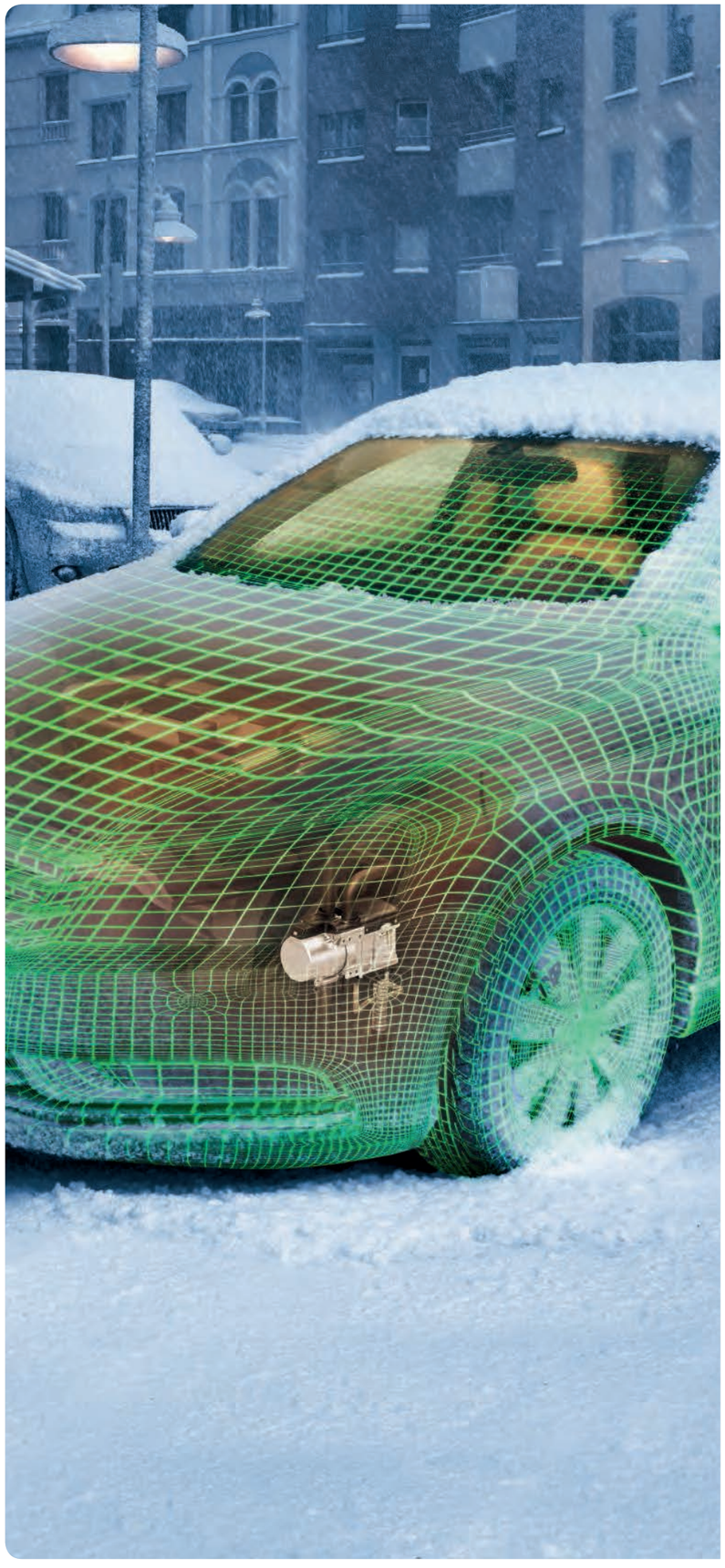
Marketing Services
We ensure our global brand awareness and image branding through a wide range of measures.

- 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:

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



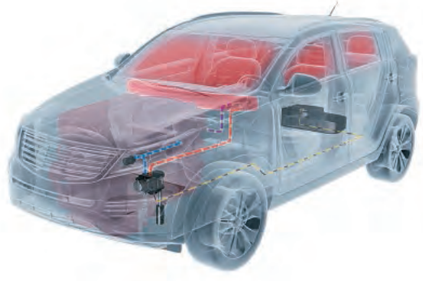
Cars

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.

The new generation of parking heaters, Thermo Top Evo, was 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
- At only 2.1 kg the lightest heater in its class
- Efficient and stable heating capacity
- Low fuel consumption and minimized emissions during operation
- Can be combined with all control elements
- Installation kits for the most common vehicle models

Heating/Air-conditioning solution	Heating/Cooling capacity (kW)
Water heaters	
Thermo Top Evo 4/5/5+	4.0 – 5.0



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
- Optimum 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
DBW 2010/2016	11.6 – 16.0
Parking air-conditioning system	
Cool Top RTE 10	1.0


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 common vehicle models
- 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 C/E	4.2 – 5.2
Thermo Pro 50 Eco	5.0
Thermo Top Evo 4/5/5+	4.0 – 5.0
Thermo Pro 90	9.1
Heat exchangers	
Integrated heat exchangers	3.8 – 13.0
AC systems	
Rooftop AC systems	3.5 – 8.4
Integrated AC systems	4.0 – 9.5
Transport refrigeration systems	
Rooftop systems	1.0 – 5.4
Integrated systems	1.0 – 3.7


Air heater


Water heater


Air-conditioning system


Transport refrigeration system

Buses

Reliable climate comfort for a safe journey

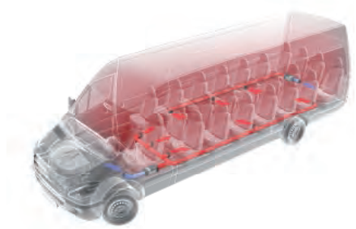
In order to ensure a safe journey, buses must be air-conditioned and ready for operation right from the beginning of the journey. For their climate control equipment, Webasto can draw on a vast product portfolio ranging from standard heaters through various heating solutions up to air-conditioning systems.

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

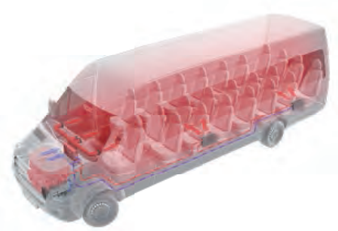
Benefits of the Webasto solutions for buses:

- 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
- Branded quality for every application

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
DBW 2010/2016	11.6 – 16.0
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

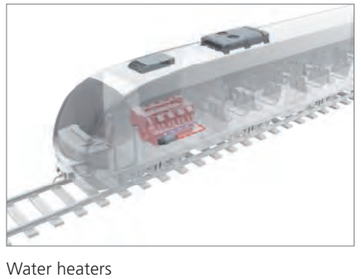
Rail

Individual climate control solutions for every outdoor temperature
For more than 40 years, Webasto has been developing parking heating, systems for diesel locomotive engines.

Even before the start of operation, the diesel-powered heating systems bring 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
- Use of eco-friendly materials

Heating/Air-conditioning solution	Heating/Cooling capacity (kW)
Water heaters	
DBW 2016	16.0
Thermo 230/300/350	23.0 – 35.0



Water heaters

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.

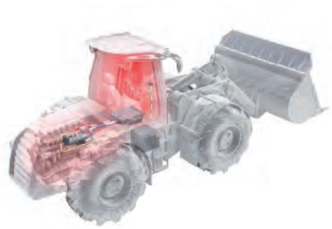
In order to meet the high demands on man and machine, Webasto has developed intelligent heating and air-conditioning solutions. These systems combine comfort and efficiency – and save fuel. For example, the parking heaters with the new engine-off technology that avoids unnecessary engine running at standstill.

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 C/E	4.2 – 5.2
Thermo Top Evo 4/5/5+	4.0 – 5.0
Thermo Pro 50 Eco	5.0
Thermo Pro 90	9.1
DBW 2010/2016	11.6 – 16.0
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

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

Air heater



Water heater

Air-conditioning system

Defense

High operational readiness under the most extreme conditions
Defense vehicles have to function perfectly wherever they are in the world, and have to withstand extreme climatic conditions irrespective of their form and size. Webasto helps to meet these demands with proven and tailor-made solutions.

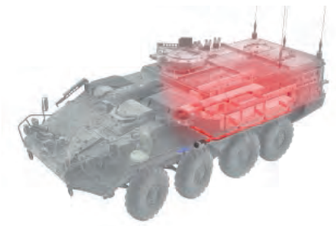
Our air-conditioning and heating systems make the vehicles not only ready for operation at any time and under any circumstances, but also help to save costs. They help to keep hydraulic fluids and equipment at the optimum temperature even when the engine is switched off and even at outdoor temperatures down to -46 °C. Of particular note here are also our solutions for container refrigeration with cooling capacities from 5 to 24 kW.

Benefits of the Webasto solutions for defense vehicles:
- Operational readiness of vehicles and equipment under all climatic conditions
- Cost-efficient heating systems
- Optimum temperature for vehicle equipment and occupants even with the engine switched off
- Reduced fuel consumption and wear

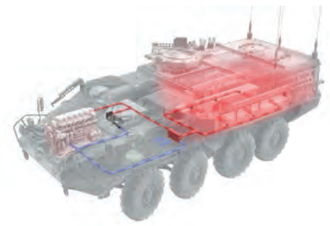
Heating/Air-conditioning solution	Heating/Cooling capacity (kW)
Air heaters	
Air Top 2000 STC*	2.0
Air Top Evo 40/55**	4.0 – 5.5
Water heaters	
Thermo Pro 50 Eco*	5.0
Thermo Pro 90	9.1
DBW 2010/2016	11.6 – 16.0
Thermo 230/300/350	23.0 – 35.0
Thermo S 230/300/350/400	23.0 – 40.0

* Optional: Satisfies various military standards.
List of approved military fuels, see webasto.com
** Satisfies various military standards.

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



Air heater



Water heater

Air-conditioning system

Special Vehicles

Safe journey and reduced fuel consumption from the first yard

During every special operation, driver and team have to be fit and aware from the very beginning. With the Webasto parking heaters and air-conditioning systems, special vehicles are ideally equipped, increasing the safety and comfort for driver and passengers.

Parking heaters ensure de-iced and de-fogged windows even before the start of the journey – in small and large vehicles. Thanks to the engine preheating, they also reduce wear and fuel costs.

Benefits of the Webasto solutions for special vehicles:

- Comfort for drivers and passengers in all climate conditions
- Clear visibility at all times, even in snow and ice
- Efficient interior air-conditioning for every installation and application situation
- Branded quality for every application

* Webasto also offers air-conditioning solutions for the new refrigerant R1234yf.

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 C/E	4.2 – 5.2
Thermo Pro 50 Eco	5.0
Thermo Top Evo 4/5/5+	4.0 – 5.0
Thermo Pro 90	9.1
DBW 2010/2016	11.6 – 16.0
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.

Worthwhile investment
- High operational readiness and availability of the commercial vehicle
- High quality products available on a long-term basis
- Optimum coordination of space and application requirements thanks to customized application solutions
- Lower operating costs thanks to reduction in engine idling times
- Predictable maintenance costs thanks to diagnosis functionality

More 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
- Constant temperature in the passenger compartment thanks to intelligent temperature management
- Precise and continuously adjustable temperature control

Environment-friendly operation
- Reduced engine idling during pauses and rest periods
- Reduced energy consumption thanks to efficient and high-efficiency combustion technology

The tailor-made Webasto heating solution for every area

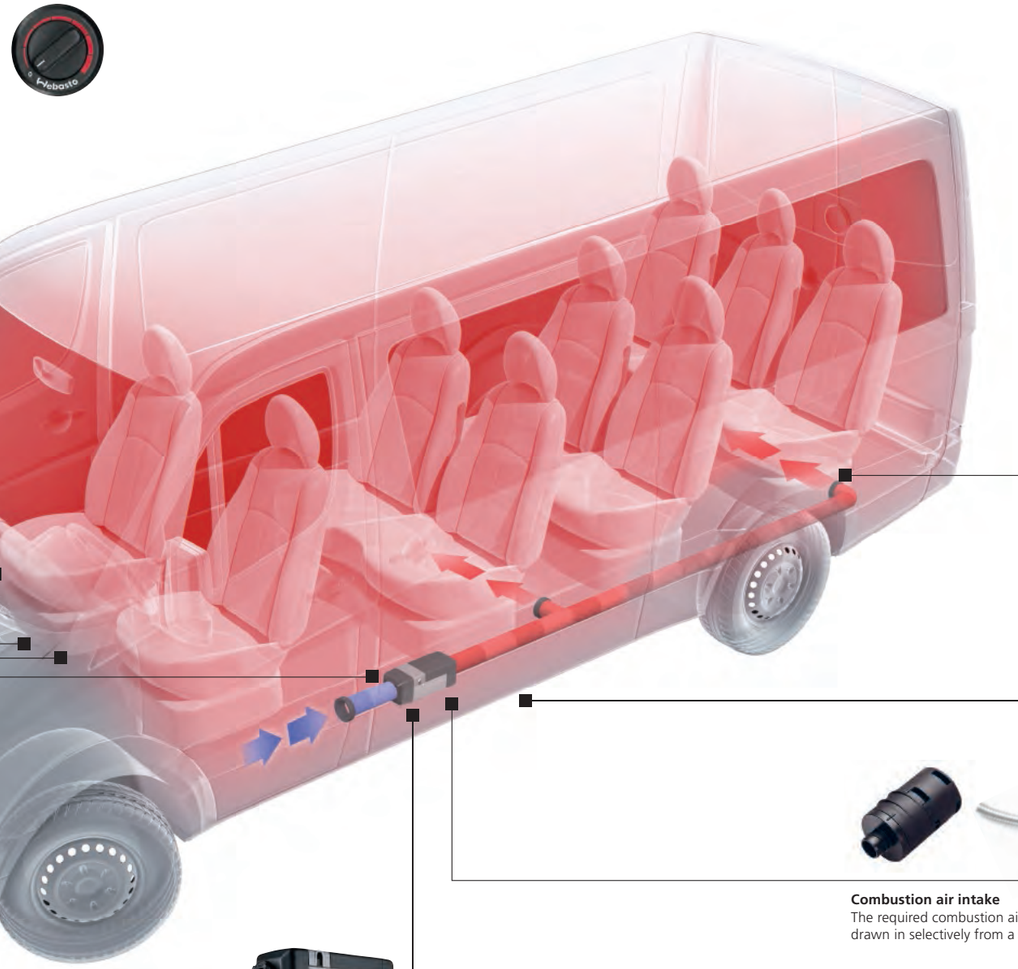
	Heating capacity (kW)								
Air heaters									
Air Top 2000 STC	2.0		■	■	■		■	■	■
Air Top Evo 40/55	4.0 – 5.5		■	■	■		■	■	■
Water heaters									
Thermo Pro 50 Eco	5.0		■	■			■	■	■
Thermo Top Evo 4/5/5+	4.0 – 5.0	■		■			■		■
Thermo Pro 90	9.1		■	■	■		■	■	■
DBW 2010/2016	11.6 – 16.0		■		■	■	■	■	■
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 in diverse delivery scopes. The standard components are combined into a basic delivery scope and an installation kit. You may need additional application material, depending on the requirements for use and the installation location. You can find these in our extensive accessories program.

The functionality of an air heating system can be found on page 134.

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



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

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 forms part of the basic delivery scope.

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

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 have to be discharged via exhaust pipes.

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

Advantages of air heating systems

- Low procurement and installation costs
- No intervention in the original vehicle system
- Short heating times
- Individual configuration of the air distribution
- Recirculating air or fresh air mode

Air heaters

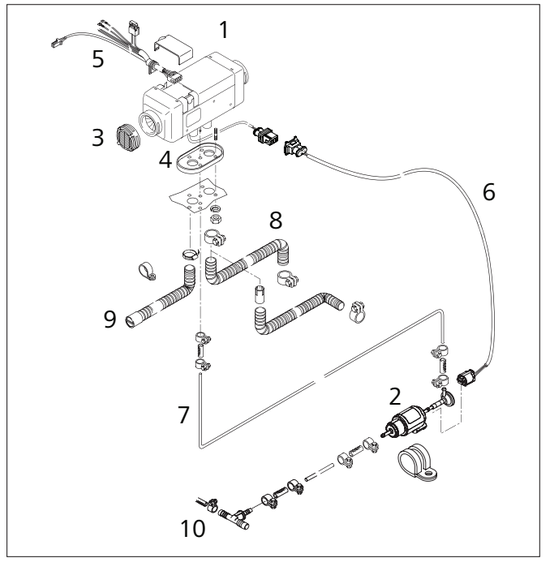
Air Top 2000 STC

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 and keeps it constant at the chosen working temperature. Users can choose between recirculation and fresh-air modes.

The heater is easy to service and repair. Design and low fuel consumption make the Air Top 2000 STC economical to maintain.

- 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
- Easy to service and maintain, diagnostic capability
- Suitable for use in vehicles for transporting hazardous materials (ADR)
- Full W-bus compatibility of the heater
- Continuous operation with the new SmartControl and MultiControl HD control elements
- Use of Unibox no longer necessary



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 D 22/L 700
9		■	Flexible combustion air pipe H-M-A Di 22/400 with air intake silencer
10		■	Fuel extractor

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	24	12
Rated power consumption, control range (W)	13 – 30		15 – 30
Heating air volume flow against 0.5 mbar, control range (m^3/h)	93		93
Fuels	Diesel EN 590; FAME DIN EN 14214; Heating oil (EL) DIN 5160 Diesel F54		Gasoline EN 228 Gasoline DIN 516261
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

Air Top 2000 STC

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

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.

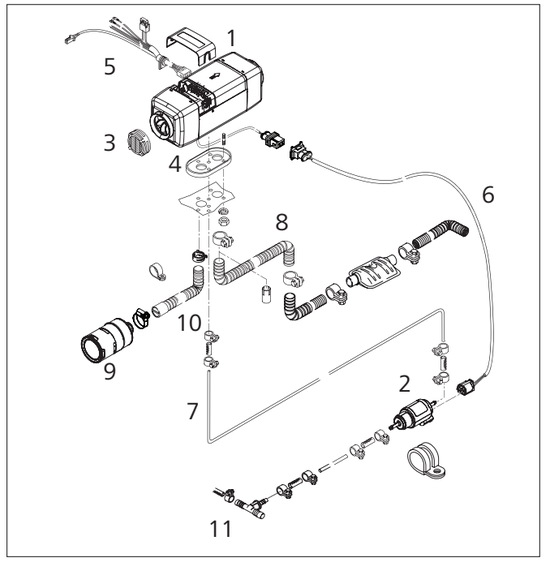
The advantages of the Air Top Evo 40/55

- Up to 4.0/5.5 kW heat output
- Very low electrical power consumption thanks to Intelligent Blower Control
- Very silent operation thanks to adapted blower speed and silent fuel pump (DP42)
- Flame detection through exhaust gas temperature sensor
- Automatic altitude adjustment as standard
- Automatic cold start function for quick warm-up
- Compatible to MultiControl digital control panel

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 04 5529	E1 04 5529	E1 04 5529	E1 04 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 – 0.51/0.58	0.18 – 0.61/0.67	0.28 – 0.73/0.80
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 (m^3/h)	132/140	132/140	200/220	200/220
Fuels	Diesel EN 590, FAME DIN EN 14214	Gasoline EN 228	Diesel EN 590, FAME DIN EN 14214	Gasoline 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	2,200	2,200	2,200

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



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 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

Note: when using installation kit 9027987A with MC 04 control element the heater wiring harness with order no. 1321865A is to be ordered additionally

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
	**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 – Self-explanatory menu control for heating, ventilation and timer control – 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	■	■	9030025C
	**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 – Internal temperature sensor/display of room temperature on display – Diagnostic interface for W-bus heaters and Thermo Test – ADR display on display	■	■	9030026C
	**MultiControl holding frame** – Fastened by screws at the mounting point – MultiControl is clicked into the holding frame	■	■	9030077A
	**MC 04** – 12/24 V – For Air Top Evo heaters in use with specific delivery scopes only, see also Recreational Vehicles and Marine catalog – Cover panel dimensions (L x W): 122 x 80 mm – Installation depth including plug: 51 mm – Allows multi-mode operation to match individual heating capacity requirements		■	1322717A
	**Small component kit for standard / combination timer** For connection of standard and combination digital timers	■	■	88191B
	**Rotary selector switch Standard** – 12/24 V – With switch function and light – Cover panel Ø 49 mm – Installation depth including plug: 55 mm	■	■	**1322581A**
	**Rotary selector switch Camping** – 12/24 V – With switch function and light – Cover panel Ø 49 mm – Installation depth including plug: 55 mm – For Air Top Evo heaters with automatic altitude compensation		■	**1322703A**

		Air Top 2000 STC	Air Top Evo 40/55	Order number
	**Installation cover panel** – For rotary selector switch 82819 – Black plastic	■	■	1319733A
	**Installation cover panel with changeover switch for heating and air-conditioning mode** – For rotary selector switch 82819 – Black plastic	■	■	92240A
	**Printed rocker switch** – Changeover switch for heating and ventilation mode – Printed with flame and fan symbol, switching current 3 amps, with connection materials – Cover panel dimensions (L x W): 19 x 14 mm	■	■	1320434A
	**Installation frame kit, short** – For standard/combination digital timer and space thermostat, 3 position controller – With installation materials	■	■	474630
	**Installation kit, long** – For standard/combination digital timer and space thermostat, 3 position controller – With installation materials	■	■	476404
	**Installation housing kit** – For standard/combination digital timer and space thermostat, 3 position controller – With installation materials	■	■	475866
	**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 – Available from 08/2016 Only in connection to other Webasto controls. See Webasto dealer's portal for information and wiring schemes for possible combinations of Webasto controls.	■	■	9032550A

Air heaters

Control elements

		Air Top 2000 STC	Air Top Evo 40/55	Order number
	**Remote control by phone Thermo Call TC4**			
	ThermoCall TC4 Entry ThermoCall TC4 Advanced – 12/24 V – Incl. GSM module, cable harness, GSM antenna and pushbutton – Operation via app. for iOS and Android – In the case of DBW 2010/2016, operation is only possible in combination with relays	■ ■	■ ■	9032129A 9032141A
	**Remote control Telestart T91**			
	– 12 V, with check-back signal, incl. 1 handheld transmitter with battery, receiver, self-adhesive window antenna and Y adapter – Programmable heating time up to 120 min. Only in connection to other Webasto controls. See Webasto dealer's portal for information and wiring schemes for possible combinations of Webasto controls.	■	■	1314635A
	**Hand-held transmitter T91**			
	Incl. battery	■	■	1314636A
	**Remote control Telestart T91 Holiday with continuous heating function**			
	– 12 V – With check-back signal. Incl. 1 handheld transmitter with battery, receiver, self-adhesive window antenna and Y adapter Only in connection to other Webasto controls. See Webasto dealer's portal for information and wiring schemes for possible combinations of Webasto controls.	■	■	9018150B
	**Battery for hand-held transmitter T91**			
		■	■	1322583A
	**Battery compartment cover for hand-held transmitter T91**			
		■	■	1320216A
	**Receiver T91**			
	Only in connection to other Webasto controls. See Webasto dealer's portal for information and wiring schemes for possible combinations of Webasto controls.	■	■	1319898A

		Air Top 2000 STC	Air Top Evo 40/55	Order number
	**Remote control Telestart T100 HTM**			
	– Including 1 hand-held transmitter with battery, receiver, self-adhesive window antenna, ESV adapter and temperature sensor HTM – Automatic heating time calculation Only in connection to other Webasto controls. See Webasto dealer's portal for information and wiring schemes for possible combinations of Webasto controls.	■	■	1314637A
	**Hand-held transmitter T100 HTM**			
	Incl. battery	■	■	1314638B
	**Self-adhesive window antenna**			
	For remote controls Telestart T91/T100 HTM	■	■	1320938A
	**ESV adapter cable harness for T91 and T100 HTM**			
	For connecting the receiver, the temperature sensor HTM and the digital timer to the heater	■	■	1320949A
	**Battery for hand-held transmitter T100 HTM**			
		■	■	9011356B
	**Battery compartment cover for hand-held transmitter T100 HTM**			
		■	■	1320946A
	**Receiver T100 HTM**			
	Only in connection to other Webasto controls. See Webasto dealer's portal for information and wiring schemes for possible combinations of Webasto controls.	■	■	1320353A
	**Temperature sensor T100 HTM**			
		■	■	1319921A

Application of a water heating system

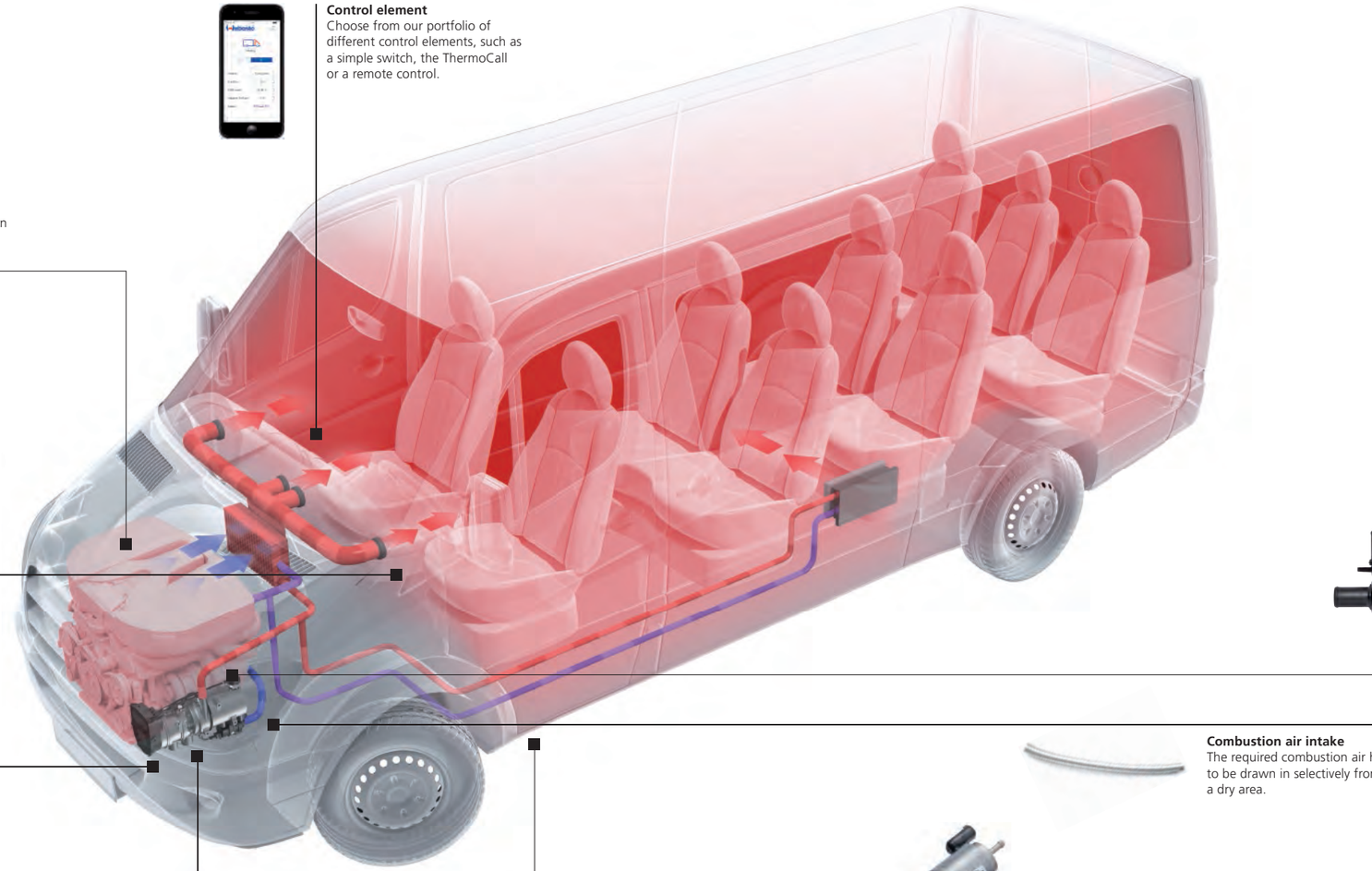
Webasto water heating systems can be ordered in diverse delivery scopes. The standard components are combined into a basic delivery scope and an installation kit. You may need additional application material, depending on the desired application and the installation location. You can find these in our extensive accessories program.

The functionality of a water heating system can be found on page 135.

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 diagnostic possibility.



Coolant pump
Choose the required coolant pump from the broad accessories portfolio. For the Thermo Pro 50 Eco, Thermo Pro 90 and TT-Evo heaters, a standard pump is included in the basic delivery scope.

Exhaust system
The resulting exhaust fumes have to be discharged via exhaust pipes.

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

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

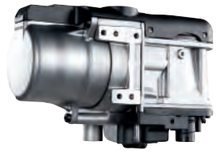
Water heater
Heaters are available with heating capacities from 4 to 40 kW.

Advantages of water heating systems

- Engine preheating and/or cabin heating
- Longer service life of the engine thanks to reduction of cold starts
- Continued use of existing vehicle components
- Use of the engine heat to bridge short standstill times without exhaust emissions

Water heaters

Thermo Pro 50 Eco



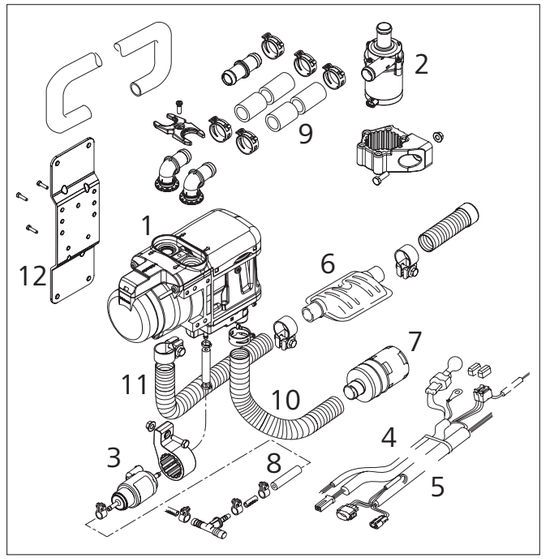
Light and powerful

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. This means that 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
- Weighing just 2.2 kg, this is the lightest heater in its class
- Economical and with low emissions thanks to high efficiency
- New functions such as altitude compensation and residual heat utilization
- Available for retrofit and as original equipment

Technical data

Model overview	Thermo Pro 50 Eco Diesel
ECE approval number ECE R122 (heating)	E1 00 0334
ECE approval number ECE R10 (EMC)	E1 04 6271
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 DIN EN 590; FAME DIN V 51606 up to 30%; Fuel oil EL DIN 51603; Kerosine F-34; Diesel F-63
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)	3,500
Coolant pump U4847 Econ	
Volume flow against 0.14 bar (l/h)	500
Dimensions L x W x H (mm)	96 x 75 x 80
Weight (kg)	0.3



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 Di 20/Da/29/L 2200
10		■	Flexible aluminum combustion air pipe Di 21.4/L 400
11		■	Flexible stainless steel exhaust pipe D 22/L 1000
12		■	Heater bracket

Thermo Pro 50 Eco

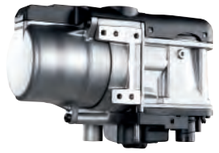
Scope of delivery, heater	Order number
Thermo Pro 50 Eco Diesel 24 V Basic	9026553C

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

Control element not included. Separate order required.

Water heaters

Thermo Top Evo

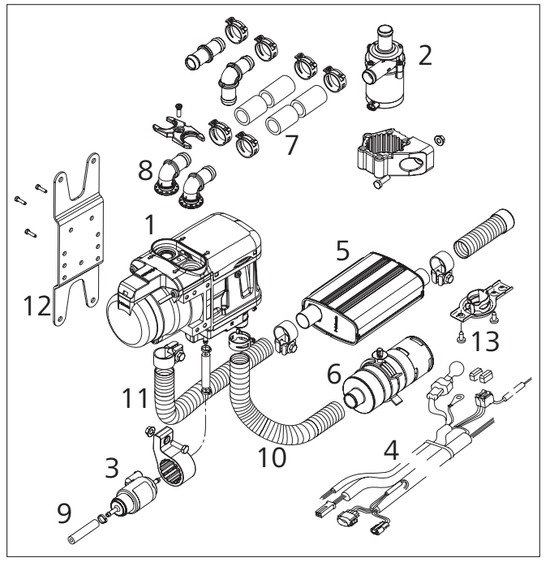


Quick and reliable starting in winter

The new Thermo Top Evo parking heater generation has been developed especially for new vehicles and those with restricted installation space. This means that 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
- Weighing 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 capacity options
- Vehicle-specific installation kits for the most common models
- Available for retrofit and as original equipment



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 Da 5/Di 2/L 5000
10		■	Flexible aluminum 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

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	Gasoline EN 228	Diesel EN 590	Gasoline EN 228	Diesel EN 590	Gasoline EN 228
Operating temperature range (°C)	-40 to +80	-40 to +60	-40 to +80	-40 to +60	-40 to +80	-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)	96 x 75 x 80					
Weight (kg)	0.3					

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

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
IK Thermo Top Evo Gasoline/Diesel Car AM	1314818D

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.

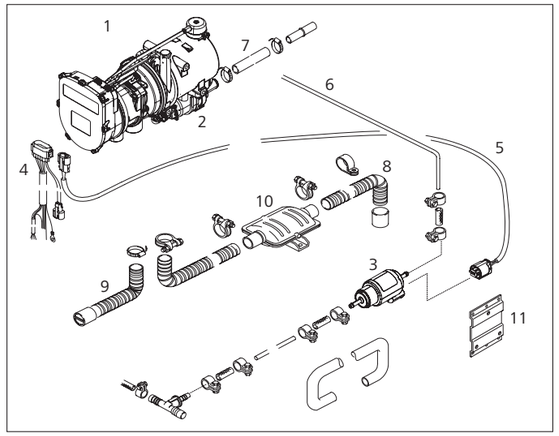
The efficient and compact unit is easy to install and available for original equipment as well as for aftermarket installation.

- 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)	37/70/90	
Fuels	Diesel EN 590; 100% FAME DIN EN 14214; Fuel oil (EL) DIN 51603;	
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	
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	

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



Contents SOD/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 Di 20/Da 29/L 2200
8		■	Flexible stainless steel exhaust pipe D1 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

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 1,200 mm. For use of large circuits only!

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

DBW 2010/2016

Gentle on the engine, environmentally friendly and cost-effective
Thanks to its robust construction and engineering, the DBW is the best option in the high-power category up to 16 kW for heating large-volume cabins and cargo spaces. In the case of medium- to large-engined vehicles, the engine and the cabin can be heated simultaneously.

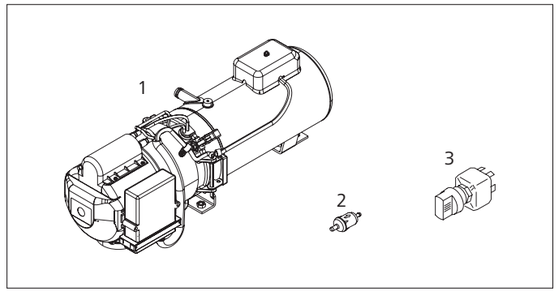
The reduction in costs due to lower fuel consumption and the avoidance of engine idling times increases the economic benefit provided by the vehicle and makes a contribution to reducing the burden on the environment. The long service life of the heater and of its components and the very low maintenance and repair costs ensure maximum vehicle utilization and operating times. For use in the rail sector, there is a special, powerful complete system with approval by the German Federal Office for Railroads.

- Quick and reliable readiness for operation, even at low temperatures
- Robust technology with low repair and maintenance costs
- Saves fuel by avoiding engine idling times
- Available for retrofit and as original equipment

Technical data

Model overview	DBW 2010		DBW 2016*	
	Diesel			
ECE approval number ECE R122 (heating)	E1 00 0006		E1 00 0001	
ECE approval number ECE R10 (EMC)	E1 04 6955		E1 04 6955	
Heating capacity (kW)	11.6		16.0	
Fuel consumption (l/h)	1.3		1.9	
Nominal voltage (V)	12	24	12	24
Rated power consumption with/without coolant pump U4840 (W)	115/85		135/105	
Fuels	Diesel EN 590; Heating oil (EL) DIN 51603		Diesel EN 590; Heating oil (EL) DIN 51603	
Operating temperature range (°C)	–40 to +60		–40 to +60	
Dimensions L x W x H (mm)	584 x 205 x 228		584 x 205 x 228	
Weight (kg)	13.5		14.6	
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			
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			

* DBW 2016 with railroad approval: type approval EBA 31 AZ3/0039/13.



Contents Scope of delivery

Part	SOD	Description
1	■	Complete heater
2	■	Fuel filter
3	■	Switch

DBW 2010

Scope of delivery, heater	Order number
DBW 2010 12 V Standard	9023677A
DBW 2010 24 V Standard	9023678A

DBW 2016

Scope of delivery, heater	Order number
DBW 2016 12 V Standard	9012936A
DBW 2016 24 V Standard	9012935A
DBW 2016 24 V Railroad	9028785D

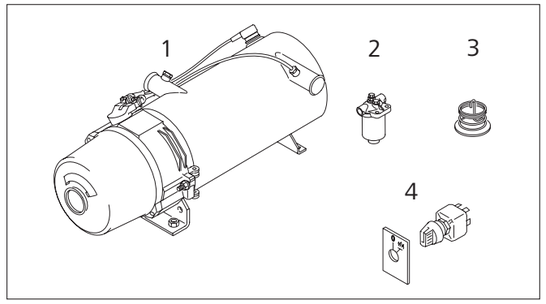
Water heaters

Spheros, 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 sytems



Contents Scope of delivery

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

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		

Thermo 230

Scope of delivery, heater	Order number
Thermo 230 24 V	9810065A

Thermo 300

Scope of delivery, heater	Order number
Thermo 300 24 V	9810066A

Thermo 350

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

Thermo Rail 230/300/350 heaters on request.

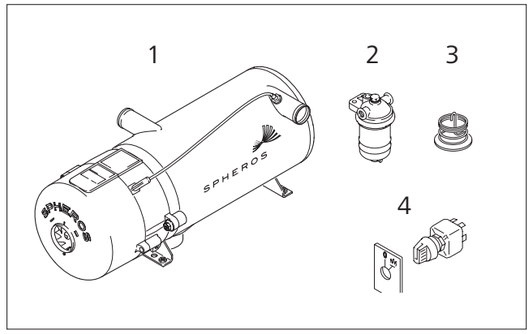
Water heaters

Spheros, Thermo S230/300/350/400

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.

- 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



Contents Scope of delivery

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

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	170
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			

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

		Thermo Pro 50 Eco	Thermo Top Evo	Thermo Pro 90	DBW 2010/2016	Thermo 230/300/350	Thermo S 230/300/350/400	Dual Top Evo	Order number
	**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 – Self-explanatory menu control for heating, ventilation and timer control – 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	■		■	■	■	■		9030025C
	**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 – Internal temperature sensor/display of room temperature on display – Diagnostic interface for W-bus heaters and Thermo Test – ADR display on display	■		■	■			■	9030026C
	**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 multifunction 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 – Internal temperature sensor/display of room temperature on display – Diagnostic interface for W-bus heaters and Thermo Test		■						9029783C
	**MultiControl holding frame** – Fastened by screws at the mounting point – MultiControl is clicked into the holding frame	■	■	■	■	■	■	■	9030077A
	**Small component kit for standard / combination timer** For connection of standard and combination digital timers.	■		■	■	■	■		88191B
	**Space thermostat, 3 position controller** – Switches vehicle blower, 10 to 30 V – In the case of DBW 2010/2016 and Thermo 230/300/350, operation is only possible in combination with relays – Cover panel dimensions (L x W): 89 x 42 mm – Installation depth including plug: 51 mm – Limited availability due to end of production	■		■	■	■	■		34875A

		Thermo Pro 50 Eco	Thermo Top Evo	Thermo Pro 90	DBW 2010/2016	Thermo 230/300/350	Thermo S 230/300/350/400	Dual Top Evo	Order number
	**Rotary switch with function indicator** 12 V			■					109995
	24 V – Switching current 15 amps – Green light to indicate operation – With switch position plate and connection plugs	■		■	■	■	■		109999
	**Switch position plate** – For rotary switches with operation indicator No. 109995 and 109999 – Printed foil, (H x B): 41 x 35 mm	■		■	■	■	■		1321017A
	**Installation frame kit, short** – For standard/combination digital timer and space thermostat, 3 position controller – With installation materials	■		■	■	■	■		474630
	**Installation kit, long** – For standard/combination digital timer and space thermostat, 3 position controller – With installation materials	■		■	■	■	■		476404
	**Installation housing kit** – For standard/combination digital timer and space thermostat, 3 position controller – With installation materials	■		■	■	■	■		475866
	**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 – Available from 08/2016	■		■	■	■	■		9032550A

Water heaters

Control elements

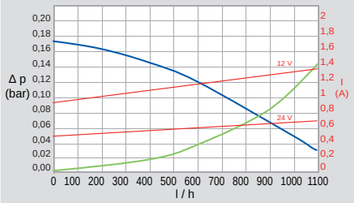
		Thermo Pro 50 Eco	Thermo Top Evo	Thermo Pro 90	DBW 2010/2016	Thermo 230/300/350	Thermo S 230/300/350/400	Dual Top Evo	Order number
	**Remote control Telestart T91** – 12 V, with check-back signal, incl. 1 handheld transmitter with battery, receiver, self-adhesive window antenna and Y adapter – Programmable heating time up to 120 min.		■	■			■		1314635A
	**Hand-held transmitter T91** Incl. battery		■	■			■		1314636A
	**Battery for hand-held transmitter T91**		■	■			■		9014840A
	**Battery compartment cover for hand-held transmitter T91**		■	■			■		1320216A
	**Receiver T91**		■	■			■		1319898A
	**Self-adhesive window antenna** For remote controls Telestart T91/T100 HTM		■	■			■		1320938A
	**Remote control Telestart T100 HTM** – Including 1 hand-held transmitter with battery, receiver, self-adhesive window antenna, ESV adapter and temperature sensor HTM – Automatic heating time calculation		■	■			■		1314637A

		Thermo Pro 50 Eco	Thermo Top Evo	Thermo Pro 90	DBW 2010/2016	Thermo 230/300/350	Thermo S 230/300/350/400	Dual Top Evo	Order number
	**Hand-held transmitter T100 HTM** Incl. battery		■	■			■		1314638B
	**Battery for hand-held transmitter T100 HTM**		■	■			■		9011356B
	**Battery compartment cover for hand-held transmitter T100 HTM**		■	■			■		1320946A
	**Receiver T100 HTM**		■	■			■		1320353A
	**ESV adapter cable harness for T91 and T100 HTM** For connection of receiver, temperature sensor HTM and digital timer with heater		■	■			■		1320949A
	**Temperature sensor T 100 HTM**		■	■			■		1319921A
	**Remote control by phone Thermo Call TC4** ThermoCall TC4 Entry ThermoCall TC4 Advanced – 12/24 V – Incl. GSM module, cable harness, GSM antenna and pushbutton – Operation via app. for iOS and Android – In the case of DBW 2010/2016, operation is only possible in combination with relays	■ ■	■ ■	■ ■	■ ■	■ ■	■ ■	■ ■	9032129A 9032141A

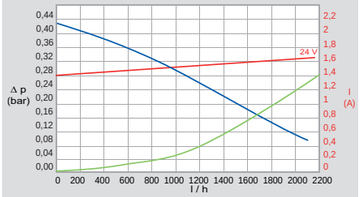
Water heaters

Coolant pumps

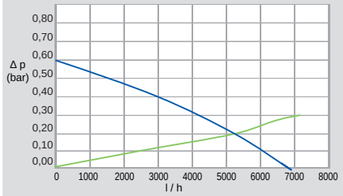
U4847 Econ



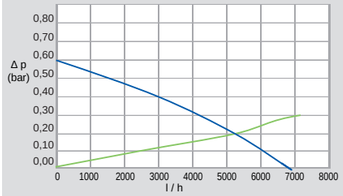
U4840



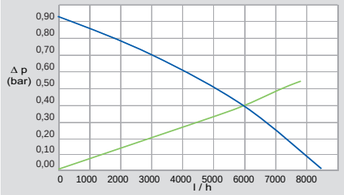
Aquavent 5000



Aquavent 5000 S



Aquavent 6000 SC



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	Aquavent		
			5000	5000 S	6000 S/6000 SC
Nominal voltage (V)	12/24		12/24	24	24
Nominal power consumption (W)	15	29	104		210
Volume flow (l/h)	500 (against 0.14 bar)	700 (against 0.34 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)	95 x 65 x 85 (130° connection piece)	134 x 53 x 90	229 x 100 x 105		229 x 110 x 115
Water connection, Ø (mm)	20		38		
Weight (kg)	0.3	0.4	2.1	2.2	2.4

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

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	9810031A
Aquavent 5000 (U4814) coolant pump 12 V (AMP)	9810032A
Aquavent 5000 (U4814) coolant pump 24 V (AMP)	9810033A
Aquavent 5000 S (U4854) coolant pump (AMP 6.2)	9810179B
Aquavent 5000 S (U4854) coolant pump (MB)	9810182B
Aquavent 5000 S (U4854) coolant pump (G+H 2.8)	9810184B

Aquavent 6000 C/6000 SC

Model overview	Order number
Aquavent 6000 C (U4855.01) coolant pump (AMP 6.3)	9810015A
Aquavent 6000 C (U4855.08) coolant pump (AMP DC)	9810021A
Aquavent 6000 SC (U4856.01) coolant pump (AMP 6.3) with stand	1311280B
Aquavent 6000 SC (U4856.04) coolant pump (G+H 2.8)	9810185A
Aquavent 6000 SC (U4856.06) coolant pump (PACKARD)	9810188B
Aquavent 6000 SC (U4856.08) coolant pump (AMP DC)	9810017A

Heating Systems

Vehicle-specific installation kits for light-duty vehicles

Model	From model year	Heater model	Fuel	Order number		Heater control						
				Delivery scope, heater	Installation kit	Rotary switch	Digital timer	MultiControl	Combi timer[2]	T91	T100HTM	ThermoCall / ThermoCall App[1]
Citroën												
Nemo	2008	Thermo Top C	Diesel, Gasoline	Diesel: 9003168C Gasoline: 9003167C	1313749C	–	1322580A	9029783B[3]	–	1314635A	1314637A	9032141A*[4] 9032129A*[5]
Berlingo	2008	Thermo Top C	Diesel	9003168C	AC: 1313672C ACC: 1313673C	–	1322580A	9029783B[3]	–	1314635A	1314637A	9032141A*[4] 9032129A*[5]
Berlingo	2008	Thermo Top C	Gasoline	9003167C	AC: 1313670D ACC: 1313671D	–	1322580A	9029783B[3]	–	1314635A	1314637A	9032141A*[4] 9032129A*[5]
Berlingo	2012 + 2015	Thermo Top Evo 5	Diesel	1314815B	1318864C + with ACC 1318866B + ADK fuel 1324685A from MJ2015	–	1322580A	9029783B[3]	–	1314635A	1314637A	9032141A*[4] 9032129A*[5]
Berlingo	2013	Thermo Top Evo 5	Diesel	1314815B	1321507A	–	1322580A	9029783B[3]		1314635A	1314637A	9032141A*[4]
Jumpy	2007	Thermo Top C	Diesel	9003168C	AC: 1313563C ACC: 1313585E	–	1322580A	9029783B[3]	–	1314635A	1314637A	9032141A*[4] 9032129A*[5]
Jumpy	2007	Auxiliary heater	Diesel	–	Upgrade kit: AC: 1313104C ACC: 1313103E	–	1322580A	9029783B[3]	–	1314635A	1314637A	9032141A*[4] 9032129A*[5]
Jumper	2006	Thermo Top C	Diesel	9003168C	1311342D + ACC: 1314416A	–	1322580A	9029783B[3]	–	1314635A	1314637A	9032141A*[4] 9032129A*[5]
Jumper	2009	Air Top 2000 ST	Diesel	Set 1324717A	1315904A included in Set	82819B	–	9030025B 9029784A	9010385A	1314635A + 1311194A	1314637A + 1311194A	9032141A *[4] 9032129A*[5]
Jumper	2012	Thermo Top Evo 5	Diesel	1314815B	1318462C + with ACC 1318504B	–	1322580A	9029783B[3]	–	1314635A	1314637A	9032141A*[4] 9032129A*[5]
Fiat												
Fiorino Fiorino Qubo	2008	Thermo Top C	Diesel, Gasoline	Diesel: 9003168C Gasoline: 9003167C	1313749C	–	1322580A	9029783B[3]	–	1314635A	1314637A	9032141A*[4] 9032129A*[5]
Doblo Doblo Cargo	2010 + 2015	Thermo Top Evo 5	Diesel	1314815B	1315993D + with ACC 1316747B	–	1322580A	9029783B[3]	–	1314635A	1314637A	9032141A*[4] 9032129A*[5]
Scudo	2007	Thermo Top C	Diesel	9003168C	AC: 1313563C ACC: 1313585E	–	1322580A	9029783B[3]	–	1314635A	1314637A	9032141A*[4] 9032129A*[5]
Scudo	2007	Auxiliary heater	Diesel	–	Upgrade kit: AC: 1313104C ACC: 1313103E	–	1322580A	9029783B[3]	–	1314635A	1314637A	9032141A*[4] 9032129A*[5]
Ducato	2006	Thermo Top C	Diesel	9003168C	EBK 1311342D + with ACC 1314416A	–	1322580A	9029783B[3]	–	1314635A	1314637A	9032141A*[4] 9032129A*[5]
Ducato	2009	Air Top 2000 ST	Diesel	Set 1324717A	1315904A included in Set	82819B	–	9030025B 9029784A	9010385A	1314635A + 1311194A	1314637A + 1311194A	9032141A*[4] 9032129A*[5]
Ducato	2012	Thermo Top Evo 5	Diesel	1314815B	1318462C + with ACC 1318504B	–	1322580A	9029783B[3]	–	1314635A	1314637A	9032141A*[4] 9032129A*[5]
Ford												
Tourneo Connect	2014	Thermo Top Evo 5	Diesel	1314815B	1322641A	–	1322580A	9029783B[3]	–	1314635A	1314637A	9032141A*[4]
Transit	2007	Air Top 2000 ST	Diesel	Set 1324718A	1311683B included in Set	82819B	–	9030025B 9029784A	1311691A	1314635A + 1311194A	1314637A + 1311194A	9032141A*[4] 9032129A*[5]
Transit	2009	Thermo Top C	Diesel	9003168C	1314798A	–	1322580A	9029783B[3]	–	1314635A	1314637A	9032141A*[4]
Transit	2014	Thermo Top Evo 5	Diesel	1314815B	1323197A	–	1322580A	9029783B[3]	–	1314635A	1314637A	9032141A*[4]
Transit[1]	2014	Air Top 2000 ST	Diesel	Set 1324720A	1323193A included in Set	82819B	–	9030025B 9029784A	9010385A	1314635A + 1319724A	1314637A + 1319724A	9032141A*[4] 9032129A*[5] + 1319724A
Transit	2014	Air Top Evo 40	Diesel	9027980A	1323195A	82819B	–	9030025B	9010385A	1314635A + 1319724A	1314637A + 1319724A	9032141A*[4] 9032129A*[5] + 1319724A
Transit Custom	2013 + 2015	Thermo Top Evo 5	Diesel	1314815B	1319578B	–	1322580A	9029783B[3]	–	1314635A	1314637A	9032141A*[4]
Transit Custom	2013	Air Top 2000 STC	Diesel	9032228A	1324770A	82819B	–	9030025B	9010385A	1314635A + 1319724A	1314637A + 1319724A	9032141A*[4] 9032129A*[5] + 1319724A
Transit Custom	2013	AirTop Evo 40	Diesel	9027980B	1324768A	82819B	–	9030025B 9029784A	9010385A	1314635A + 1319724A	1314637A + 1319724A	9032141A*[4] 9032129A*[5] + 1319724A
Mercedes												
Citan/ Citan 111	2013	Thermo Top Evo 5	Diesel	1314815B	1319288A	–	1322580A	9029783B[3]	–	1314635A	1314637A	9032141A*[4]
Vito	2009	Air Top 2000 ST	Diesel	Set 1324722A	1315777A included in Set	82819B	–	9030025B 9029784A	9010385A	1314635A + 1311194A	1314637A + 1311194A	9032141A*[4] 9032129A*[5]
Vito	2011	Thermo Top Evo 5	Diesel	1314815B	1317083B + with ACC 1317188B	–	1322580A + 70813B	9029783B[3]	–	1314635A	1314637A	9032141A*[4] 9032129A*[5]
Viano	2011	Thermo Top Evo 5	Diesel	1314815B	1317083B + with ACC 1317188B	–	1322580A + 70813B	9029783B[3]	–	1314635A	1314637A	9032141A*[4] 9032129A*[5]
Sprinter	2009	Air Top 2000 ST	Diesel	Set 1324721A	1315775A included in Set	82819B	–	9030025B 9029784A	9010385A	1314635A + 1311194A	1314637A + 1311194A	9032141A*[4] 9032129A*[5]
Sprinter	2009	Air Top Evo 40	Diesel	9027980A	1323403A	82819B	–	9030025B	9010385A	1314635A + 1319724A	1314637A + 1319724A	9032141A*[4] 9032129A*[5] + 1319724A
Nissan												
Primastar	2007	Thermo Top C	Diesel	9003168C	1303346C	–	1322580A	9029783B[3]	–	1314635A	1314637A	9032141A*[4] 9032129A*[5]
Primastar	2007	Air Top 2000 ST	Diesel	Set 1324723A	1312231B included in Set + optional air flow 1312232A	82819B	–	9030025B 9029784A	9010385A	1314635A + 1311194A	1314637A + 1311194A	9032141A*[4] 9032129A*[5]

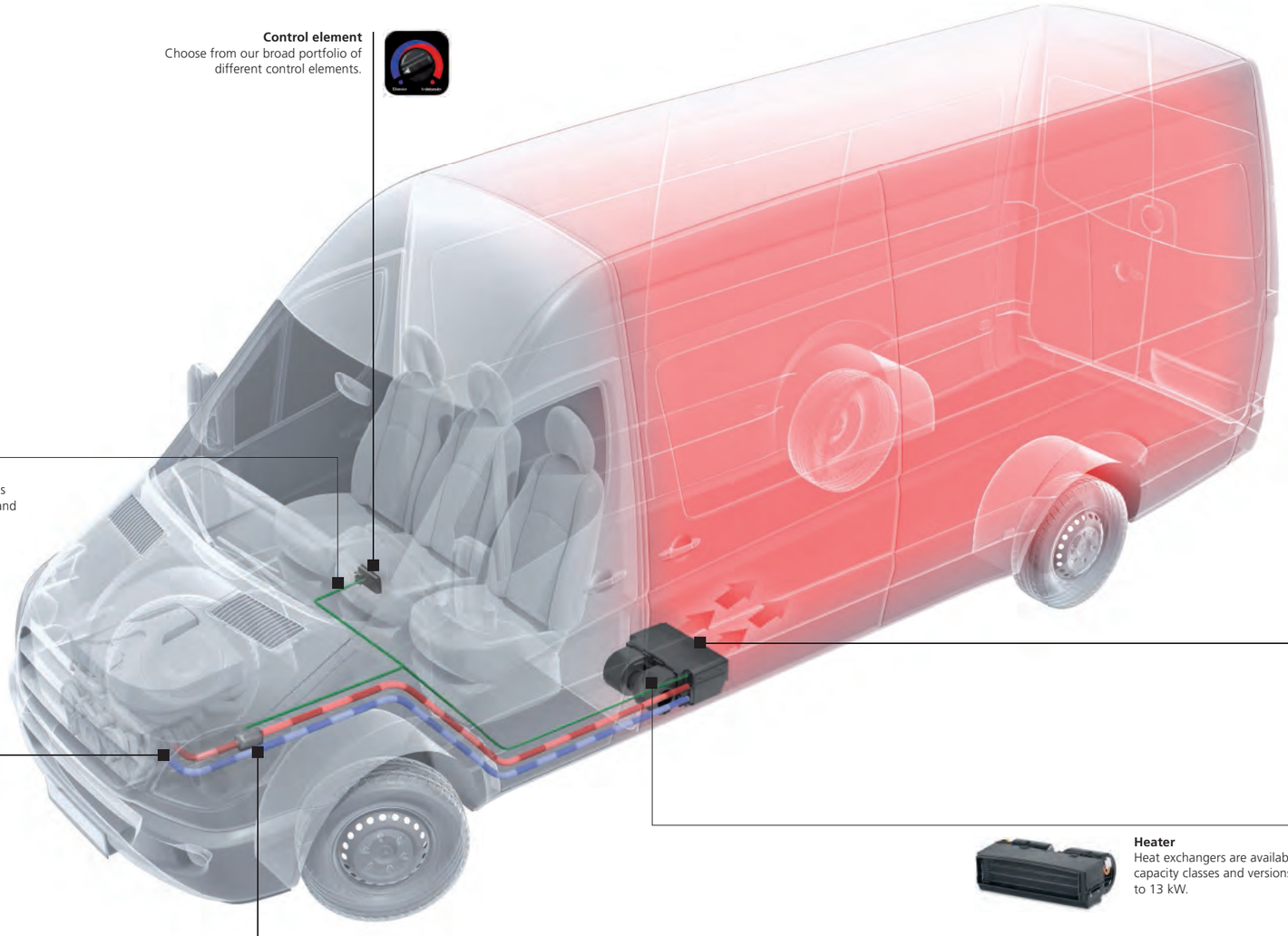
Heating Systems

Vehicle-specific installation kits for light-duty vehicles

Model	From model year	Heater model	Fuel	Order number		Heater control						
				Delivery scope, heater	Installation kit	 Rotary switch	 Digital timer	 MultiControl	 Combi timer[2]	 T91	 T100HTM	 ThermoCall / ThermoCall App[1]
Opel												
Vivaro	2007	Thermo Top C	Diesel	83344D	9002568J	–	1322580A	9029783B[3]	–	1314635A	1314637A	9032141A*[4] 9032129A*[5]
Vivaro	2001 Interior installation	Air Top 2000 ST	Diesel	1311064A	1312245A + air flow 1312246A	82819B	–	9030025B 9029784A	contained in kit	1314635A + 1311194A	1314637A	9032141A*[4] 9032129A*[5]
Vivaro	2009 Underfloor installation for passengers	Air Top 2000 ST	Diesel	1311064A	1311322C	82819B	–	9030025B 9029784A	contained in kit	1314635A + 1311194A	1314637A	9032141A*[4] 9032129A*[5]
Vivaro	2014	Thermo Top Evo 5	Diesel	1314815B	1323591B	–	1322580A	9029783B[3]	–	1314635A	1314637A	9032141A*[4]
Vivaro	2014	Air Top 2000 STC	Diesel	9032228A	1323785B + air flow 1323832A	82819B	–	9030025B	9010385A	1314635A + 1311194A	1314637A + 1311194A	9032141A*[4] 9032129A*[5] + 1319724A
Movano	2009	Thermo Top Evo 5	Diesel	1314815B	1316166C	–	1322580A	9029783B[3]	–	1314635A	1314637A	9032141A*[4] 9032129A*[5]
Movano	2010	Air Top Evo 40	Diesel	9027980B	1316147C (with partition wall)	82819B	–	9030025B 9029784A	9010385A	1314635A + 1311194A + 70813B	1314637A	9032141A*[4] 9032129A*[5]
Peugeot												
Bipper	2008	Thermo Top C	Diesel, Gasoline	Diesel: 9003168C Gasoline: 9003167C	1313749C	–	1322580A	9029783B[3]	–	1314635A	1314637A	9032141A*[4] 9032129A*[5]
Partner	2008	Thermo Top C	Diesel	9003168C	AC: 1313672C ACC: 1313673C	–	1322580A	9029783B[3]	–	1314635A	1314637A	9032141A*[4] 9032129A*[5]
Partner	2008	Thermo Top C	Gasoline	9003167C	AC: 1313670D ACC: 1313671D	–	1322580A	9029783B[3]	–	1314635A	1314637A	9032141A*[4] 9032129A*[5]
Partner	2012 + 2015	Thermo Top Evo 5	Diesel	1314815B	1318864C + with ACC 1318866B + for fuel 1324685A from MJ2015	–	1322580A	9029783B[3]	–	1314635A	1314637A	9032141A*[4] 9032129A*[5]
Partner	2013	Thermo Top Evo 5	Diesel	1314815B	1321507A	–	1322580A	9029783B[3]	–	1314635A	1314637A	9032141A*[4] 9032129A*[5]
Expert	2007	Thermo Top C	Diesel	9003168C	AC: 1313563C ACC: 1313585E	–	1322580A	9029783B[3]	–	1314635A	1314637A	9032141A*[4] 9032129A*[5]
Expert	2007	Auxiliary heater	Diesel	–	upgrade kit: AC: 1313104C ACC: 1313103E	–	1322580A	9029783B[3]	–	1314635A	1314637A	9032141A*[4] 9032129A*[5]
Boxer	2006	Thermo Top C	Diesel	9003168C	IK 1311342D + with ACC 1314416A	–	1322580A	9029783B[3]	–	1314635A	1314637A	9032141A*[4] 9032129A*[5]
Boxer	2009	Air Top 2000 ST	Diesel	Set 1324717A	1315904A included in Set	82819B	–	9030025B 9029784A	9010385A	1314635A + 1311194A	1314637A + 1311194A	9032141A*[4] 9032129A*[5]
Boxer	2012	Thermo Top Evo 5	Diesel	1314815B	1318462C + with ACC 1318504B	–	1322580A	9029783B[3]	–	1314635A	1314637A	9032141A*[4] 9032129A*[5]
Renault												
Kangoo	2008	Thermo Top C	Benzin	9003167C	1313591B	–	1322580A	9029783B[3]	–	1314635A	1314637A	9032141A*[4] 9032129A*[5]
Kangoo	2013	Thermo Top Evo 5	Diesel	1314815B	1321317B	–	1322580A	9029783B[3]	–	1314635A	1314637A	9032141A*[4] 9032129A*[5]
Trafic	2007	Thermo Top C	Diesel	9003168C	1303346C	–	1322580A	9029783B[3]	–	1314635A	1314637A	9032141A*[4] 9032129A*[5]
Trafic	2007	Air Top 2000 ST	Diesel	Set 1324723A	1312231B included in Set + optional air flow 1312232A	82819B	–	9030025B 9029784A	9010385A	1314635A + 1311194A	1314637A + 1311194A	9032141A*[4] 9032129A*[5]
Trafic	2014	Thermo Top Evo 5	Diesel	1314815B	1323591B	–	1322580A	9029783B[3]	–	1314635A	1314637A	9032141A*[4] 9032129A*[5]
Trafic	2014	Air Top 2000 STC	Diesel	9032228A	1323785B + air flow 1323832A	82819B	–	9030025B	9010385A	1314635A + 1311194A	1314637A + 1311194A	9032141A*[4] 9032129A*[5] + 1319724A
Master	2009	Thermo Top Evo 5	Diesel	1314815B	1316166C	–	1322580A	9029783B[3]	–	1314635A	1314637A	9032141A*[4] 9032129A*[5]
Master	2010	Air Top Evo 40	Diesel	9027980B	1316147C (with partition wall)	82819B	–	9030025B 9029784A	9010385A	1314635A + 1311194A + 70813B	1314637A + 1311194A + 70813B	9032141A*[4] 9032129A*[5]
Toyota												
Proace	2013	Thermo Top C	Diesel	9003168C	AC: 1313563C	–	1322580A	9029783B[3]	–	1314635A	1314637A	9032141A*[4] 9032129A*[5]
VW												
T5	2004	Auxiliary heater	Diesel	–	upgrade kit: AC: 9012103D ACC: 9012104E	–	1322580A	9029783B[3]	–	1314635A	1314637A	9032141A*[4] 9032129A*[5]
T5	2003	Thermo Top C	Diesel	9003168C	9014130A + with AAC: 9014133A	–	1322580A	9029783B[3]	–	1314635A	1314637A	9032141A*[4] 9032129A*[5]
T5	2010	Thermo Top C	Diesel	9003168C	1315558A	–	1322580A	9029783B[3]	–	1314635A	1314637A	9032141A*[4] 9032129A*[5]
T5	2004	Air Top 2000 STC	Diesel	9032228A	1324279B	82819B	–	9030025B	9010385A	1314635A + 1311194A	1314637A + 1311194A	9032141A*[4] 9032129A*[5]
T6	2016	Auxiliary heater	Diesel	–	upgrade kit: AC: 1324102A AAC: 1324103A	–	1322580A	9029783B[3]	–	1314635A	1314637A	9032141A*[4] 9032129A*[5]
T6	2016	Thermo Top Evo 5	Diesel	1314815B	1324236B	–	1322580A	9029783B[3]	–	1314635A	1314637A	9032141A*[4] 9032129A*[5]
T6	2016	Air Top 2000 STC	Diesel	9032228A	1324279B	–	–	9030025B	–	1314635A	1314637A	9032141A*[4] 9032129A*[5]
Caddy	2012	Thermo Top Evo 5	Diesel	1314815B	1319854C + with ACC 1319856A	–	1322580A	9029783B[3]	–	1314635A	1314637A	9032141A*[4] 9032129A*[5]

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 capacity variants (3.8 to 13 kW) and are integrated into the coolant circuit. An extensive range of accessories is available for the installation.



Control element
Choose from our broad portfolio of different control elements.

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

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.

Heater
Heat exchangers are available in various capacity classes and versions from 3.8 to 13 kW.

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.

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)	180 x 260 x 130	270 x 195 x 330	230 x 220 x 165	380 x 590 x 160	235 x 385 x 125	300 x 545 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

Stoccolma

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

Houston

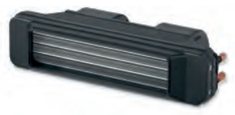
Model overview	Scope of delivery	Order number
Houston 12 V	Heating system	62U003CC017A
Houston 24 V		62U003CC018A

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	62U003CC019B
Phoenix 24 V		62U003CC020B



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	Housten	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 – 5.4		■			

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

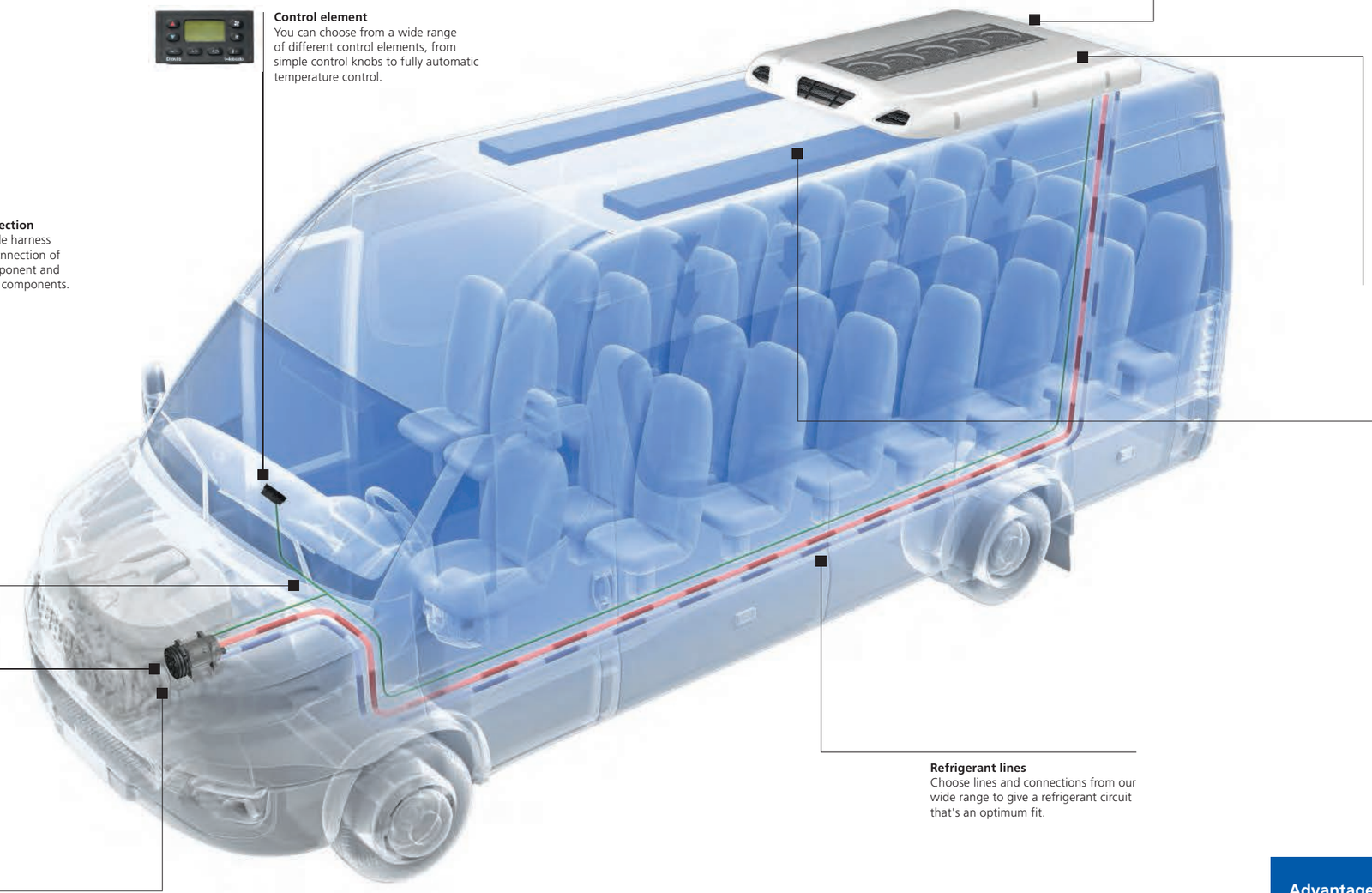
Application of a rooftop air-conditioning system

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 (4 to 36 kW).

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

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

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 4 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 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 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 4.0 kW to 9.9 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 4.0 kW to 9.9 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	Turin
Nominal cooling capacity (kW)	3.5	4.0	5.0	5.0	6.2	8.4
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	15.0	20.0	29.5
Max. total current absorption at 24 V (A)	68.0	–	–	–	–	–
Max. volume flow of evaporator blower (m^3/h)	550	400	450	630	550	760
Dimensions L x W x H (mm)	1,110 x 774 x 215	900 x 600 x 190	460 x 505 x 145	750 x 760 x 165	800 x 605 x 165	830 x 730 x 170
Weight (kg)	52.0	15.5	6.0	23.0	23.5	29.0
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	–	Additional mount, 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	9023838A
Compact Cooler 4E 24 V	Air-conditioning system with control element, air distributor plate, Electric thermostat, Standard installation kit without 6 m hoses	9023839A

Portofino

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

Minsk

Model overview	Scope of delivery	Order number
Minsk 12 V	Evaporator unit	62U003FF083EC
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	9023843A
Compact Cooler 5 24 V		9023842A
Compact Cooler 5 12 V	Air-conditioning system with control element, air distributor plate, electronic thermostat	9023845A
Compact Cooler 5 24 V		9023844A
Compact Cooler 5 12 V	Air-conditioning system with control element, air distributor plate, Standard installation kit with 6 m hoses	9023841A
Compact Cooler 5 24 V		9023840A
Compact Cooler 5 24 V	Air-conditioning system with control element, air distributor plate, electronic thermostat, external refrigerant lines	9023846A
Compact Cooler 5 24 V	Air-conditioning system	9022993B
Accessories		
E-Unit	With electric motor and compressor	9004866B

Rimini

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

Turin

Model overview	Scope of delivery	Order number
Turin 12 V	Air-conditioning system with internal connections	62U003FF047EG
Turin 24 V		62U003FF051EF
Turin 12 V	Air-conditioning system with external connections	62U003FF102EC
Turin 24 V		62U003FF103EC

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 10.0 kW to 18.0 kW cooling capacity

Perfect air-conditioning in small and medium-sized buses

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 RTC, Madrid and Santana models have an optional heating function.

- Air-conditioning systems with a cooling capacity of 10.0 kW to 18.0 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		Santana	
		110 RT-CS	140 RT-C				L	XL
Cooling performance nominal (kW)	8.5	11.0	14.0	11.7	15.5		18.0	
Heating performance (kW)	7.5	12.0		–	20.0		20.0	
Refrigerant	R134a							
Nominal voltage (V)	12/24							
Max. current absorption (A) at 12/24 V (with forced fresh air)	30.0	56.0		35.0	58.0	90.0	110.0	
Max. air flow evaporator blower (m³/h)	1,300	1,200		1,100	2,100	2,500	4,000	
Dimensions L x W x H (mm)	1,025 x 970 x 197	1,600 x 1,152 x 225		1,045 x 930 x 170	1,790 x 1,280 x 185		2,150 x 1,600 x 200	2,150 x 1,800 x 200
Weight (kg)	32.0	44	46	33.5	59.0		74.0	79.0
Nominal roof radius (mm)	–	5,200		–	7,000		6,000	10,000
Compressor displacement (cm³)	150	150		150	160		160	160
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	16		–	16			
Expansion valve	Block valve							
Accessories	for variants see table			–	Heating kit		Fresh air kit Heating kit	

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 with product documentation. Unless stated otherwise, the control element is not included.

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

Cool Top 110 RT-CS / 140 RT-C

Model overview	Scope of delivery	Order number
Cool Top 110 RT-CS, 12 V	Air-conditioning system without automatic control	6237878A
Cool Top 110 RT-CS, 12 V	Air-conditioning system with automatic control	6238282A
Cool Top 140 RT-C, 12 V	Air-conditioning system without automatic control	6237944A
Cool Top 140 RT-C, 12 V	Air-conditioning system with automatic control	6237945A
Cool Top 140 RT-C, 24 V	Air-conditioning system without automatic control	6238286A
Cool Top 140 RT-C, 24 V	Air-conditioning system with automatic control	6238285A
Accessories		
Heating kit	Available for Cool Top 110 RT-CS/140 RT-C	62A031080A
Fresh air/recirculation kit	Available for Cool Top 140 RT-C	62U003AA145A (12 V) 62U003AA150A (24 V)
Internal air grid	Available for Cool Top 110 RT-CS/140 RT-C	62U003AA140A (black) 62U003AA141A (grey)

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	62U003FF116EF
Madrid 24 V		62U003FF117EF
Madrid 12 V	Air-conditioning system with 2,500 m³/h volume flow	62U003FF118EF
Madrid 24 V		62U003FF119EG
Accessories		
Heating kit		62A031033A

Santana L/XL

Model overview	Scope of delivery	Order number
Santana L 12 V	Air-conditioning system	62U003FF120EG
Santana L 24 V		62U003FF106EF
Santana XL 12 V		62U003FF121EG
Santana XL 24 V		62U003FF107EF
Santana XL 24 V	Air-conditioning system, heating section, fresh air flap	62U003CF071EF
Accessories		
Heating kit		62A031085A
Fresh air/recirculation kit		6231075A

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 250 RT-C	Cool Top 300 RT-C	Cool Top 360 RT-C
Cooling performance nominal (kW) Max. possible power of the evaporator	25.0	30.0	36.0
Heating performance (kW)	30.0	30.0	35.0
Refrigerant	R134a		
Nominal Voltage (V)	24		
Max. current absorption (A) at 24 V (with forced fresh air)	76/(89)	85/(97)	101/(114)
Max. air flow evaporator blower (m³/h)/ (free blowing)	4,000/(4,800)		6,000/(7,200)
Dimensions L x W x H (mm)	2,500 x 1,988 x 210		
Weight (kg)	138	143	154
Nominal roof-radius (mm)	(*) 15,000/18,000		
Compressor displacement (cm³)	470	560	
Connection inlet	ORFS 1"1/4		
Connection outlet	ORFS 2"		
Connection water (mm)	22		
Expansion valve	Angle valve		
Accessories	Heating Kit		

(*) from 8,500 mm with adaptation plate

Cool Top 250/300/360 RT-C

Model overview	Scope of delivery	Order number
Cool Top 250 RT-C	Air-conditioning system, heating section, fresh air flap	6236688A
Cool Top 300 RT-C	Air-conditioning system, heating section, fresh air flap	6237953A
Cool Top 360 RT-C	Air-conditioning system, heating section, fresh air flap	6236082A
Accessories		
Heating kit Cool Top		6238404A
Condense discharger kit		6238405A
Hoses extension kit (10 m)		6238414A
Hoses extension kit (15 m)		6238415A
Adaptation kit r = 8,500 mm		6238408A
Adaptation kit r = 11,000 mm		6238409A
Lifting tools		6238413A
Front box kit		6238406A
Wiring harness Kit		6238411A
Power circuit Kit		6236700A

Rooftop air-conditioning systems

Cool Top RTE 10

An ideal climate with the 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. 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.

- High-quality and powerful parking cooler system with
- high energy efficiency
- Optimum air distribution and quiet operation
- The low-voltage cutoff ensures that the engine will start
- Very easy to control via control panel or remote control
- Wide choice of vehicle-specific mounting kits

Control elements

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

Installation kit

- Remote control, power cabel, technical documentation

Technical data

	Cool Top RTE 10
Nominal cooling capacity (W)	950 (Turbo), 650 (Standard)
Refrigerant	R134a
Nominal voltage (V)	24
Max. total power consumption at 24 V (A)	14.5 (Turbo), 7.5 (Standard)
Max. operation temperatur (°C)	45
Max. volume flow of evaporator blower (m^3/h)	450
Dimensions condenser L x W x H (mm)	605 x 865 x 199
Dimensions evaporator L x W x H (mm)	387 x 349 x 165
Installation height (mm)	205 (depending on cabin type)
Weight (kg)	25.0

Model overview	Scope of delivery	Order number
Cool Top RTE 10	Remote control, power cabel, technical documentation	9033216A

Installation kit vehicle-specific	Order number
DAF XF 105 (Space Cab) DAF XF CF 65/75/85 (Space Cab)	9033217A
DAF XF 105 (Super Space Cab)	9033218A
Iveco Stralis Cube with additional metal frame	9033219A
Iveco Stralis AT, AD, AS Iveco Eurocargo MLL High roof	9033220A
MAN TGX XXL (with/without deflector) MAN TGX XL* MAN TGX XLX (only without deflector) MAN TGA MAN TGS M/L, LX MAN TGL L, LX MAN TGM L, LX	9033221A
Mercedes-Benz Actros MP3	9033222A
Mercedes-Benz Actros MP4	9033223A
Mercedes-Benz Atego, Axor (L-Cab)	9033224A
Renault Premium	9033225A
Renault T, C, K, D	9033226A
Scania R, P, G	9033227A
Volvo FH13/FH16 (L2H3 with electronically controlled hatch)	9033228A

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

Installation kit universal	Order number
Iveco Eurocargo MLL flat roof* Iveco Stralis HI-STREET cab with flat roof* Iveco Eurostar* Renault Magnum (old version) Renault Magnum Classic E Multipass-Cab	9033229A

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

Rooftop air-conditioning systems

Control elements

		Compact Cooler 4 E	Portofino	Minsk	Compact Cooler 5	Rimini	Turin	Compact Cooler 8	Smirne	Madrid	Santana L/XL	Cool Top 110 RT-CS	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
	– 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
	– 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
	– 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		■		■	■	■		■	■	■	■	■	■	■	■	6236084A
	– Dimensions 73 x 54 x 23 mm – External air monitoring – Temperature regulation – Internal temperature detector – Extenal temperature detector – On/Off switch, air-conditioning system – Water valve (only HVAC version) – Fan speed/automatic and manual – Fresh air/recirculated air control																

		Compact Cooler 4 E	Portofino	Minsk	Compact Cooler 5	Rimini	Turin	Compact Cooler 8	Smirne	Madrid	Santana L/XL	Cool Top 110 RT-CS	Cool Top 140 RT-C	Cool Top 250 RT-C	Cool Top 300 RT-C	Cool Top 360 RT-C	Order number
	**Air-conditioning control element**																
	12 V, horizontal									■	■						62A031003B
	24 V, horizontal									■	■						6240304A
	12 V, vertical									■	■						6240301A
	24 V, vertical									■	■						62A031073A
	– 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
	– 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																
	**Air-conditioning control element**																
	12 V, horizontal		■							■	■						62A031065A
	24 V, horizontal		■							■	■						62A031069A
	12 V, vertical		■							■	■						62A031067A
	24 V, vertical		■							■	■						6240303A
	– 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

		Compact Cooler 4 E	Portofino	Minsk	Compact Cooler 5	Rimini	Turin	Compact Cooler 8	Smirne	Madrid	Santana L/XL	Cool Top 110 RT-CS	Cool Top 140 RT-C	Cool Top 250 RT-C	Cool Top 300 RT-C	Cool Top 360 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**																
	Horizontal		■	■		■	■		■		■	■	■				62A03997B
	Vertical		■	■		■	■		■		■	■	■				62A03996B
	– 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
	**Heating control switch**																
	– 12/24 V – Mechanical temperature regulation – Backlight							■									67638A

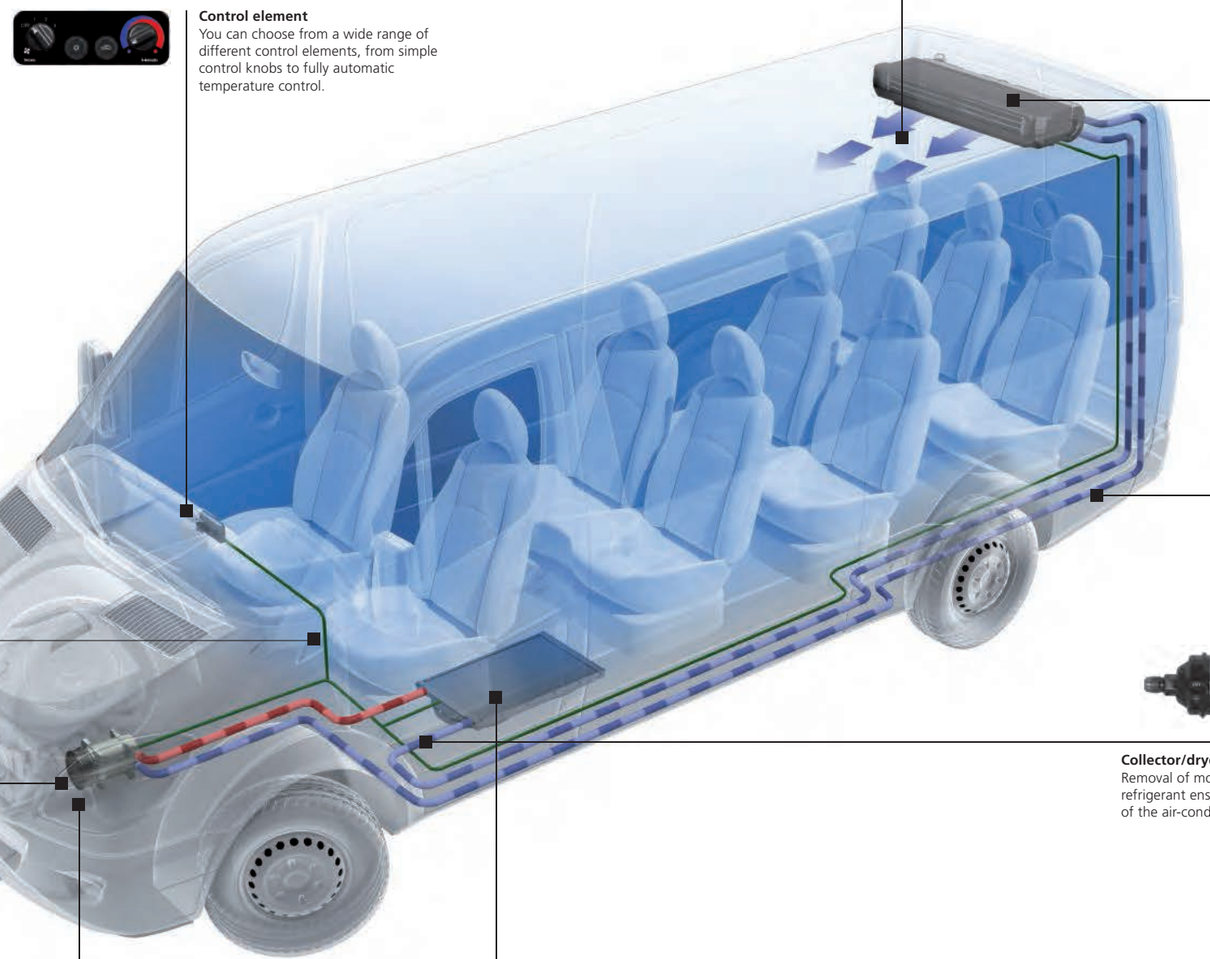
		Compact Cooler 4 E	Portofino	Minsk	Compact Cooler 5	Rimini	Turin	Compact Cooler 8	Smirne	Madrid	Santana L/XL	Cool Top 110 RT-CS	Cool Top 140 RT-C	Cool Top 250 RT-C	Cool Top 300 RT-C	Cool Top 360 RT-C	Order number
	**Thermostat switch**																
	– 12/24 V – Mechanical temperature regulation – 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

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.

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 136.



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

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 easierand ensure reliable operation of the compressor.

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

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.

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

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

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

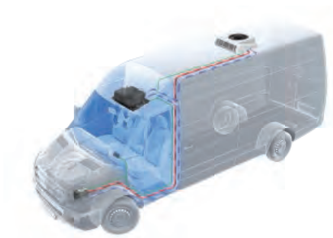
Possible positions for the condenser
- On the roof
- On the underbody
- At the front of the vehicle

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

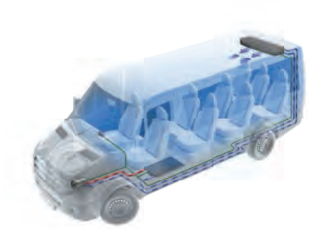


Evaporator integrated into the roof

Evaporator vertical on the side at the rear

Evaporator vertical

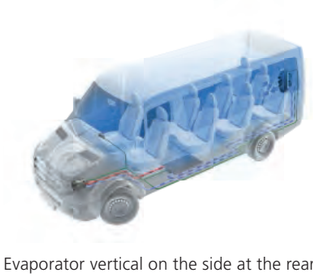
Condenser mounted on the underbody



Evaporator under the roof

Evaporator under the dashboard

Evaporator integrated into the roof



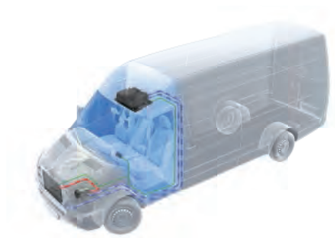
Evaporator vertical on the side at the rear

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			roof liner		under the dashboard
Refrigerant	R134a							
Nominal voltage (V)	12/24					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		450		450
Dimensions L x W x H (mm)	235 x 365 x 130		165 x 410 x 320	185 x 370 x 330	160 x 370 x 350	380 x 590 x 185		328 x 414 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

Baltimore

Model overview	Scope of delivery	Order number
Baltimore 12 V	Air-conditioning system, black, with adjustable heating function	62U003CF072EC
Baltimore 24 V		62U003CF088EB
Baltimore 12 V	Air-conditioning system, black, for vertical 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 minibuses, 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 (m^3/h)	650			634	
Dimensions L x W x H (mm)	360 x 400 x 170		225 x 425 x 440	340 x 580 x 135	
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 (m^3/h)	800				
Dimensions L x W x H (mm)	180 x 640 x 355		400 x 550 x 180	420 x 175 x 560	365 x 400 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	14.0	16.0	14.0	16.0
Nominal heating capacity (kW)	–		11.5	–	14.6		–	
Installation position	under the dashboard							
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 (m^3/h)	1,350		1,000		1,300			
Dimensions L x W x H (mm)	320 x 1240 x 175		380 x 890 x 170	335 x 856 x 170	400 x 920 x 170		385 x 925 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
	– 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										
	**Air-conditioning control element**										
	Horizontal	■	■	■	■	■	■	■	■	■	62A03995A
	Vertical	■	■	■	■	■	■	■	■	■	62A03994A
	– 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: – 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
	– 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										
	**Thermostat switch**										
	– 12/24 V – 51 x 50 x 5 mm (W x H x D) – Mechanical control of air-conditioning system – Length of thermostat cable 1,500 mm	■	■	■	■	■	■	■	■	■	62A03999A
	**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

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	Miliano	Zurigo II	Paris	Ibiza	London	Oxford	Kiev	Monterrey	Order number
	**Automatic control element**											
	12 V, HVAC	■	■	■	■	■	■	■	■	■	■	62A04043A
	24 V, HVAC	■	■	■	■	■	■	■	■	■	■	62A04040A
	– 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	■	■	■	■	■	■	■	■	■	■	62A04054A
	24 V	■	■	■	■	■	■	■	■	■	■	62A04055A
	– 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**											
	Horizontal	■	■	■	■	■	■	■	■	■	■	62A03993B
	Vertical	■	■	■	■	■	■	■	■	■	■	62A03992B
	– 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	Miliano	Zurigo II	Paris	Ibiza	London	Oxford	Kiev	Monterrey	Order number
	**Air-conditioning control element**											
	12 V, horizontal	■	■	■	■	■	■	■	■	■	■	62A031065A
	24 V, horizontal	■	■	■	■	■	■	■	■	■	■	62A031069A
	– 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											
	**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 5 x 50 mm (W x H x D) – Mechanical control of the water valve of 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

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

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	System
Citroën												
Berlingo 1.6 HDI	Euro 4	from 2006	1560	75	4		621CI13300EB	623CI49EA			2)	IN
Jumper 2.0 HDI – 2.2 HDI	–		1997	84	4	7)	621FI33500EA	62A03898A		Webasto	2)	IN
Jumper 2.0 HDI – 2.2 HDI	–		1997	84	4		621FI33500EA	62A03915A		Original	2)	IN
Jumper 2.0 HDI – 2.2 HDI	–		1997	84	4	8)	621FI33500EA	62A03955A	62A03898A	Webasto	2)	IN
Jumper 2.0 HDI – 2.2 HDI	–		1997	84	4	8)	621FI33500EA	62A03955A	62A03915A	Original	2)	IN
Jumper 2.2 HDI	Euro 4	from 2006	2198	101/120	4	5)	621FI34400EB	62A031020B	62A031017A	Original		IN
Jumper 2.2 HDI	Euro 4	from 2006	2198	101/120	4	5)	621FI34400EB	62A031020B	62A031018A	Webasto		IN
Jumper 2.2 HDI	Euro 5	from 2010	2198	100	4		621CI13601EA			Webasto		
Jumper 2.2 HDI	Euro 5	from 2010	2198	100	4		621CI13701EA			Original		
Jumper 2.8 HDI (series 244)	–	from 2001 – 2006	2798	127	4		621FI30400EB	62A03898A		Webasto	2)	IN
Jumper 2.8 HDI (series 244)	–	from 2001 – 2006	2798	127	4		621FI30400EB	62A03915A		Original	2)	IN
Jumper 3.0 HDI	Euro 4	from 2006	2999	157	4	6)	621FI34300EB	62A031019A	62A031017A	Original		IN
Jumper 3.0 HDI	Euro 4	from 2006	2999	157	4	6)	621FI34300EB	62A031019A	62A031018A	Webasto		IN
Jumper 3.0 HDI	Euro 4	from 2006	2999	157	4	5)	621FI34300EB	62A031020B	62A031017A	Original		IN
Jumper 3.0 HDI	Euro 4	from 2006	2999	157	4	5)	621FI34300EB	62A031020B	62A031018A	Webasto		IN
Jumper 3.0 HDI	Euro 5	to 2010	2998	157	4		621FI36001EA			Webasto		
Jumper 3.0 HDI	Euro 5	to 2010	2998	157	4		621FI36101EA			Original		
Jumper 33-35 2.8 HDI (series 230)	–	from 2000	2798	127	4	9)	621FI30400EB	62A03864B			2)	IN
Jumpy 1.6 HDI	–	from 2006	1560	90	4		621FI34801EA					
Jumpy 2.0 HDI	Euro 4	from 2007	1997	120	4		621FI34501EA				2)	IN
Jumpy 2.0 HDI TD	–	from 2000	1997	95/109	4	3) 4)	621CI13300EB	623CI49EA			2)	IN
Jumpy 2.0 MJ	Euro 5		1997	128	4		621FI35501EB				2)	IN
NEMO 1.3 HDI	Euro 4	from 11/2000	1248	75	4	1)	621FI35401EA				2)	IN
NEMO 1.4 HDI	Euro 5	from 2008	1399	70	4		621CI13501EA			Webasto	2)	IN
Fiat												
Ducato 2.3 JTD (series 244)	–	from 2001	2286	110	4		621FI32400EB	62A03898A		Webasto	2)	IN
Ducato 2.3 JTD (series 244)	–	from 2001	2286	110	4	30)	621FI32400EB	62A03915A		Original	2)	IN
Ducato 2.8 JTD (series 244)	–	from 2001	2798	127	4		621FI30400EB	62A03898A		Webasto	2)	IN
Ducato 2.8 JTD (series 244)	–	from 2001	2798	127	4	30)	621FI30400EB	62A03915A		Original	2)	IN
Ducato 10 -14 2.8 TD	–	to 03/1999	2800	122	4		621FI285120EA				2)	IN
Ducato 10-14 2.5 D – 2.5 TDI	–	from 1994	2500	85/116	4		621FI223120EC				2)	IN
Ducato 10-14 2.8 D	–		2800	87	4		621FI285120EA				2)	IN
Ducato 10-14 2.8 JTD (series 230)	–	from 2000	2800	122	4	9)	621FI30400EB	62A03864B			2)	IN
Ducato 10-14 2.8 TDI (series 230)	–	from 03/99	2800	122	4	10)	621FI30400EB	62A03865B			2)	IN
Ducato 2.0 JTD	–	from 05/2004	1997	84	4	7)	621FI33500EA	62A03898A		Webasto	2)	IN
Ducato 2.0 JTD	–	from 05/2004	1997	84	4	7)	621FI33500EA	62A03915A		Original	2)	IN
Ducato 2.0 JTD	–	to 05/2004	1997	84	4	8)	621FI33500EA	62A03955A	62A03898A	Webasto	2)	IN
Ducato 2.0 JTD	–	to 05/2004	1997	84	4	8)	621FI33500EA	62A03955A	62A03915A	Original	2)	IN
Ducato X250 2.0 MJT	Euro 5	from 2010	1956	116	4		621FI35601EA			Original		IN
Ducato X250 2.0 MJT	Euro 5	from 2010	1956	116	4		621FI35701EA			Webasto		
Ducato X250 2.2 MJT	Euro 4	from 2006	2198	101	4	5)	621FI34400EB	62A031020B	62A031017A	Original		IN

Model	Emissions standard	Model year	Engine Displacement	Horse Power	Cylinders	Notes	Order number			Kit characteristics		
										Control	Notes	System
Ducato X250 2.2 MJT	Euro 4	from 2006	2198	101	4	5)	621FI34400EB	62A031020B	62A031018A	Webasto		IN
Ducato X250 2.3 MJT	Euro 4 / 5	from 2006	2287	120	4	6)	621FI34200EB	62A031019A	62A031018A	Webasto		IN
Ducato X250 2.3 MJT	Euro 4 / 5	from 2006	2287	120	4	6)	621FI34200EB	62A031019A	62A031017A	Original		IN
Ducato X250 2.3 MJT	Euro 4 / 5	from 2006	2287	120	4	5)	621FI34200EB	62A031020B	62A031017A	Original		IN
Ducato X250 2.3 MJT	Euro 4 / 5	from 2006	2287	120	4	5)	621FI34200EB	62A031020B	62A031018A	Webasto		IN
Ducato X250 2.3 MJT	Euro 5	from 2010	2286	120-150	4	5)	621FI35801EA			Webasto		
Ducato X250 2.3 MJT	Euro 5	from 2010	2286	120-150	4	5)	621FI35901EA			Original		
Ducato X250 3.0 MJT	Euro 4 / 5	from 2006	2999	157	4	6)	621FI34300EB	62A031019A	62A031018A	Webasto		IN
Ducato X250 3.0 MJT	Euro 5	from 2010	2998	157	4		621FI36001EA			Webasto		
Ducato X250 3.0 MJT	Euro 4 / 5	from 2006	2999	157	4	6)	621FI34300EB	62A031019A	62A031017A	Original		IN
Ducato X250 3.0 MJT	Euro 4 / 5	from 2006	2999	157	4	5)	621FI34300EB	62A031020B	62A031017A	Original		IN
Ducato X250 3.0 MJT	Euro 4 / 5	from 2006	2999	157	4	5)	621FI34300EB	62A031020B	62A031018A	Webasto		IN
Ducato X250 3.0 MJT	Euro 5	from 2010	2998	157	4		621FI36101EA			Original		
Fiorino 1.3 MJT 16v	Euro 4	from 2008	1248	75	4	1)	621FI35401EA			Original		IN
Scudo 1.6 Mj	–	from 2006	1560	90	4		621FI34801EA				2)	IN
Scudo 2.0 JTD (not prepared)	–	from 2004	1997	109	4	12), 14)	621FI31200EA				2)	IN
Scudo 2.0 MJ	–	from 2007	1997	120	4		621FI34501EA				2)	IN
Scudo 2.0 MJ	Euro 5	from 2007	1997	128	4		621FI35501EB				2)	IN
Scudo EL 2.0 JTD (engine RHX) (not prepared)	–	from 2006	1997	75	4	12), 14)	621FI31200EA				2)	IN
Ford												
Transit connect 1.8TDCI (not prepared)	–	from 2004	1753	90	4		621FO27997EA		621FO27997EA		2)	IN
Isuzu												
NLR-NMR-NLS 85 (small cabin)	Euro 4 / 5	from 2008	2999	150	4		621IS02111EB				2)	IN
NPR 75 5.2 TDI	–	from 2007	5193	190	4		621IS02211EA				2)	IN
NPR 75 5.2 TDI RHD	–	from 2007	5193	190	4		621IS02301EA				2)	IN
NPR85 L gsx (large cabin)	Euro 4 / 5	from 2008	2999	150	4		621IS02011EB				2)	IN
NPR85 (large cabin)	Euro 5 / 6	from 2014	2999	150	4		621IS02611A				2)	IN
NPR85 (narrow cabin)	Euro 5 / 6	from 2014	2999	150	4		621IS02711A				2)	IN
Series F FS120 12T J533005259	–					31)	621IS02400EA					
Iveco												
Daily 2.3 HPT	Euro 5	to 05-2014	2286	106/145	4		621IV02518EA			Original	2)	IN
Daily 2.3HPI	–	from 2006 – 2009	2286	116	4		621IV02217EA			Original	2)	IN
Daily 2.3HPI	–	from 1999 – 2005	2286	96/116	4		621IV01816EB			Original	2)	IN
Daily 2.8D / TD / JTD	–	from 1999 – 2005	2798	125/146	4		621IV01916EC			Original	2)	IN
Daily 3.0 HPT	Euro 5	to 2005-2014	2998	145/170	4		621IV02418EA			Original	2)	IN
Daily 3.0 HPT	Euro 4	from 2006 – 2009	2998	177	4		621IV02117EA			Original	2)	IN
Daily 3.0 JTD 16V (also for enigne 169HP) (Euro 3)	–	from 2004	3000	136	4		621IV02016EB			Original	2)	IN
Daily 3.0 JTD 16V (also for enigne 169HP) (Euro 3)	–	from 2006	3000	136	4		621IV02016EB	62A031010A		Original	2)	IN
ECO Daily 2.3 HPI	–	to 2010	2286	116	4		621IV02218EA			Original	2)	IN

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	System
ECO Daily 35C 3.0 Hpi	–	from 2010 – 2011	2998	177	4		621IV02118EA			Original	2)	IN
Eurocargo 120 E18 – 130 E18 – 150 E18	–		5861	177	6		621FI199109EA				2)	IN
Eurocargo 120 E23 – 130 E23	–		5861	227	6		621FI197109EA				2)	IN
Eurocargo 120 E23 – 130 E24	–		5861	227	6		621FI197109EA				2)	IN
Eurocargo 60E – 65E – 75E 12/14	–		3908	116/136	4		621FI199109EA				2)	IN
Eurocargo 80E 15/18 – 100E 15/18	–		5861	143/177	6		621FI199109EA				2)	IN
Eurocargo TECTOR E17	–	to 2006	3920	170	4		621IV00908EA				2)	IN
Eurocargo TECTOR E18	–	to 2006	5880	182	6		621IV00908EA				2)	IN
Eurocargo TECTOR E21	–	to 2006	5880	209	6		621IV00908EA				2)	IN
Eurocargo TECTOR E24	–	to 2006	5880	240	6		621IV00908EA				2)	IN
Eurocargo TECTOR E28	–	to 2006	5880	275	6		621IV00908EA				2)	IN
Eurocargo TECTOR E13 E15	Euro 3 / 4	from 2006	3920	150	4		621IV02318EA				2)	IN
Eurocargo TECTOR E13 E15	Euro 2	to 2006	3920	150	4		621IV00908EA				2)	IN
Eurocargo TECTOR E17	Euro 3 / 4	from 2006	3920	170	4		621IV02318EA				2)	IN
Eurocargo TECTOR E18	Euro 3 / 4	from 2006	5880	182	6		621IV02318EA				2)	IN
Eurocargo TECTOR E21	Euro 3 / 4	from 2006	5880	209	6		621IV02318EA				2)	IN
Eurocargo TECTOR E24	Euro 3 / 4	from 2006	5880	240	6		621IV02318EA				2)	IN
Eurocargo TECTOR E28	Euro 3 / 4	from 2006	5880	275	6		621IV02318EA				2)	IN
Mercedes-Benz												
Actros 1831 L	–		11946	313	6V	18)	621MB298110EB				2)	IN
Actros 1835 L	–		11946	354	6V	18)	621MB298110EB				2)	IN
Actros 1840 L	–		11946	394	6V	18)	621MB298110EB				2)	IN
Actros 1840 L with e/magnetic radiator fan	–		11946	394	6V	18)	621MB298110EB				2)	IN
Actros 1843 L	–		11946	428	6V	18)	621MB298110EB				2)	IN
Sprinter 2.2 CDI	–	from 2006	2148	150	4	20)	621MB32400EA	62A031028A			2)	IN
Sprinter 2.2 CDI (also for RHD drive)	–	from 2006	2148	150	4	17)	621MB32400EA	62A031029A			2)	IN
Sprinter 208-308 CDI (engine OM 611)	–	from 2000	2150	82	4		621MB311116ED			original	2)	IN
Sprinter 211-311 CDI (engine OM 611)	–	from 2000	2150	109	4		621MB311116ED			original	2)	IN
Sprinter 213-313 CDI (engine OM 611)	–	from 2000	2150	129	4		621MB311116ED			original	2)	IN
Sprinter 216-316-416 (engine OM 612)	–		2686	156	5		621MB311116ED			original	2)	IN
Sprinter 3.0 DCI	–	from 2006	2987	184	6	17)	621MB32400EA	62A031061A			2)	IN
Sprinter 308 CDI (engine OM 611)	–	from 2000	2150	79	4		621MB311116ED			original	2)	IN
Sprinter 316 2.2 CDI (Euro 5) OM651	Euro 5	from 2009	2143	163	4	20)	621MB32400EA	62A031117A			2)	IN
Vito 108 2.2 CDI (engine OM611) (cab only)	–	from 1994 – 2000	2151	82	4	16)	621MB307114ED			original	2)	IN
Vito 108 2.3 D (cab only)	–	from 1994 – 2000	2299	79	4		621MB296108EB				2)	IN
Vito 109-111-115 2.2CDI	–	from 2003	2148	108	4		621MB322121EA				2)	IN
Vito 110 2.2 CDI (engine OM 611) (cab only)	–	from 1994 – 2000	2151	102	4	16)	621MB307114ED			original	2)	IN
Vito 110 2.3 TD (cab only)	–	from 1994 – 2000	2299	98	4		621MB296108EB				2)	IN
Vito 112 2.2 CDI (engine OM 611) (cab only)	–	from 1994 – 2000	2151	122	4	16)	621MB307114ED			original	2)	IN

Model	Emissions standard	Model year	Engine Displacement	Horse Power	Cylinders	Notes	Order number			Kit characteristics		
										Control	Notes	System
Nissan												
INTERSTAR 2.2/2.5 DCI (not prepared)	–	from 2004	2500	120	4	20) 35)	621RE20100EA	62A03967A			2)	IN
INTERSTAR 2.2/2.5 DCI (not prepared)	–	from 2004	2500	120	4	21) 35)	621RE20100EA	62A03968A			2)	IN
INTERSTAR 2.5 DCI	Euro 4	from 2006	2464	120	4	19)	621RE20200EA	62A031030A			2)	IN
Primastar 2.0 DCI	–	from 2006 – 2008	1995	90-115	4		621RE20397EA				2)	IN
Primastar C27 – C29 1.9 DCI (not prepared)	–	from 2003	1870	82/101	4		621OP27776EA				2)	IN
Primastar C27 – C29 2.5 DCI	–	from 2003	2463	133	4		621NI02319EA				2)	IN
Rear evaporator for Primastar 2.0 + air duct kit (suitable only with Webasto solution)	–						62U003FF058EB	623RE89EA			2)	IN
Opel												
Movano 2.2/2.5 DCI (not prepared)	–	from 2003 – 2006	2500	120	4	20) 35)	621RE20100EA	62A03967A			2)	IN
Movano 2.2/2.5 DCI (not prepared)	–	from 2003 – 2006	2500	120	4	21) 35)	621RE20100EA	62A03968A			2)	IN
Movano 2.5 DCI	Euro 4	from 2006	2464	120	4	20)	621RE20200EA	62A031030A			2)	IN
New Combo 1.7 DTI (engine Y17DT)	–		1686	75	4		621OP28300EA			original	2) (b)	IN
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)	IN
Vivaro 2.0 CDTi	–	from 2006 – 2008	1995	90-115	4		621RE20397EA				2)	IN
Vivaro 2.5 DTI	–	from 2003	2463	133	4		621NI02319EA				2)	IN
Peugeot												
Bipper 1.3 HDI	Euro 4	from 11/2008	1248	75	4	1)	621FI35401EA				2)	IN
Bipper 1.4 HDI	Euro 4	from 2008	1399	70	4		621CI13501EA				2)	IN
Boxer 2.0 HDI (version 244)	–	from 05/2004	1997	84	4	7)	621FI33500EA	62A03898A		Webasto	2)	IN
Boxer 2.0 HDI (version 244)	–	from 05/2004	1997	84	4	7)	621FI33500EA	62A03915A		Original	2)	IN
Boxer 2.0 HDI (version 244)	–	to 05/2004	1997	84	4	8)	621FI33500EA	62A03955A	62A03898A	Webasto	2)	IN
Boxer 2.0 HDI (version 244)	–	to 05/2004	1997	84	4	30)	621FI33500EA	62A03955A	62A03915A	Original	2)	IN
Boxer 2.2 HDI	Euro 4	from 2006	2198	101/120	4	5)	621FI34400EB	62A031020B	62A031017A	Original		IN
Boxer 2.2 HDI	Euro 4	from 2006	2198	101/120	4	5)	621FI34400EB	62A031020B	62A031018A	Webasto		IN
Boxer 2.2 HDI	Euro 5	to 2010	2198	100	4	5)	621CI13601EA			Webasto		
Boxer 2.2 HDI	Euro 5	to 2010	2198	100	4	5)	621CI13701EA			Original		
Boxer 3.0 HDI	Euro 4	from 2006	2999	157	4	6)	621FI34300EB	62A031019A	62A031017A	Original		IN
Boxer 3.0 HDI	Euro 4	from 2006	2999	157	4	6)	621FI34300EB	62A031019A	62A031018A	Webasto		IN
Boxer 3.0 HDI	Euro 4	from 2006	2999	157	4	5)	621FI34300EB	62A031020B	62A031017A	Original		IN
Boxer 3.0 HDI	Euro 4	from 2006	2999	157	4	5)	621FI34300EB	62A031020B	62A031018A	Webasto		IN
Boxer 3.0 HDI	Euro 5	to 2010	2998	158	4	5)	621FI36001EA			Webasto		
Boxer 3.0 HDI	Euro 5	to 2010	2998	158	4	5)	621FI36101EA			Original		
Boxer 330-350 2.8 HDI	–		2798	127	4	15)	621FI30400EB	62A03864B			2)	IN
Expert 1.6 HDI	–	from 2006	1560	90	4		621FI34801EA				2)	IN
Expert 2.0 HDI	Euro 4	from 2007	1997	120	4		621FI34501EA				2)	IN

Integrated air-conditioning systems

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

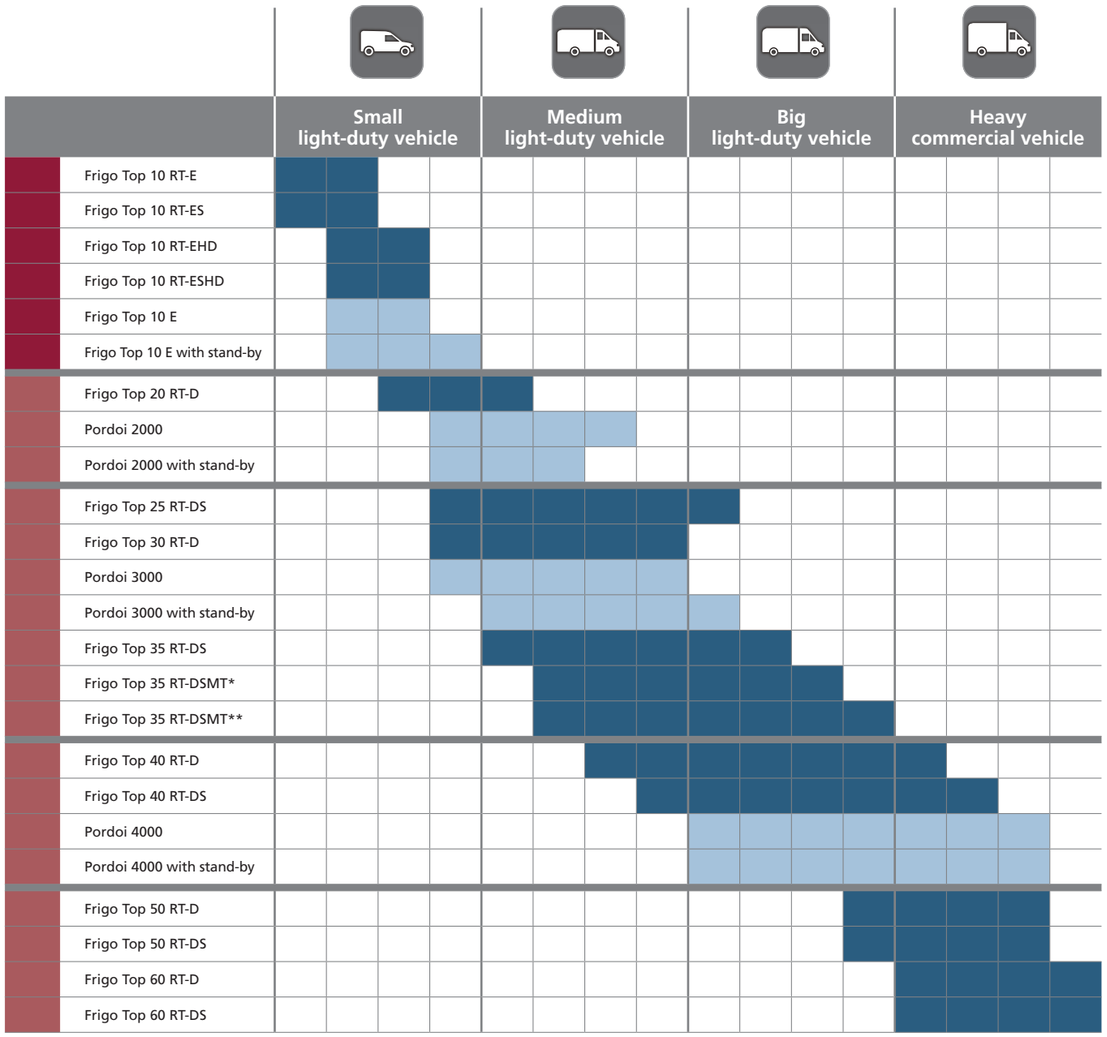
Model	Emissions standard	Model year	Engine Displacement	Horse Power	Cylinders	Notes	Order number			Kit characteristics		
										Control	Notes	System
Expert 2.0 MJ	Euro 5		1997	128	4		621FI35501EB				2)	IN
Expert 220/230 2.0 HDI	–		1997	94	4	22)	621FI31200EA				2)	IN
Partner / Ranch 1.6 HDI	Euro 4	from 2006	1560	75	4		621CI13300EB	623CI49EA				
Renault												
Kangoo 1.5 DCI	Euro 4	from 2008					621RE20401EA				2)	IN
Master 2.2/2.5 DCI (not prepared)	–	from 2004	2500	120	4	20) 35)	621RE20100EA	62A03967A			2)	IN
Master 2.2/2.5 DCI (not prepared)	–	from 2004	2500	120	4	32) 35)	621RE20100EA	62A03968A			2)	IN
Master 2.3 DCI with PTO	Euro 5	from 2010	1998	125	4	20) 33) 36)	621RE20501EA				2)	IN
Master 2.5 DCI	Euro 4	from 2006	2464	120	4	20)	621RE20200EA	62A031030A			2)	IN
Master/Mascott 3.0 DCI (transversal engine)	–	from 2004	2953	136	4	35)	621RE20100EA	62A03988A				
Trafic 1.9 DCI TD (engine F9Q76)	–	from 2001	1870	80/100	4		621OP27776EA				2)	IN
Trafic 2.0 DCI	Euro 4	from 2006 – 2008	1995	90-115	4		621RE20397EA				2)	IN
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)	IN
Volkswagen												
Caddy 1.6 (engine FSI, BAG-BLG)	–	from 2004	1390	115	4	23)	621VW22400EA	62A03956B			2)	IN
Caddy 1.9/2.0 TDI (engine BKC/BRU/BJB)	–	from 2008	1390	90/ 105/140	4	27)	621VW22800EA	62A03958A	62A031027B	62MAN057A	2)	IN
Caddy 1.9/2.0 TDI (engine BKC/BRU/BJB)	–	from 2008	1390	90/ 105/140	4	27)	621VW22800EA			62MAN057A	2)	IN
Caddy 1.9/2.0 TDI (engine BKC/BRU/BJB)	–	from 2008	1390	90/ 105/140	4	27)	621VW22800EA	62A031027B			2)	IN
Caddy 1.9/2.0 TDI (engine BKC/BRU/BJB)	–	from 2004	1390	90/105	4	24) 29)	621VW22600EA	62A03958A	62A031027B	62MAN057A	2)	IN
Caddy 1.9/2.0 TDI (engine BKC/BRU/BJB)	–	from 2004	1390	90/105	4	25) 27)	621VW22600EA			62MAN057A	2)	IN
Caddy 1.9/2.0 TDI (engine BKC/BRU/BJB)	–	from 2004	1390	90/105	4	26) 27)	621VW22600EA	62A031027B		62MAN057A	2)	IN
Caddy 2.0 TDI (engine BKC/BRU/BJB)	–	from 2004	1984	140	4	24) 27)	621VW22600EA	62A03958A	62A031027B	62MAN057A	2)	IN
Caddy 2.0 TDI (engine BKC/BRU/BJB)	–	from 2004	1984	140	4	25) 27)	621VW22600EA			62MAN057A	2)	IN
Caddy 2.0 TDI (engine BKC/BRU/BJB)		from 2004	1984	140	4	26) 27)	621VW22600EA	62A031027B		62MAN057A	2)	IN
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)	IN
LT35 2.5 SDI (engine AGX, AVR)	–	from 1999	2459	75/102	5		621VW19051ED				2)	IN
LT35 2.5 TDI (engine AHD, ANJ, BBF, BBE, APA, AVR)	–	from 1999	2459	75/102	5		621VW19051ED				2)	IN
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					IN
Transporter 1.9 TDI T5 (engine BRS, BRR)	–	from 2003	1898	80	4	34)	621VW21956EC					IN
Transporter 2.4 D T4	–	from 1996	2370	78	5	28)	621VW17400EB	62A03706C		62MAN047A	2)	IN
Transporter 2.4 D T4	–	from 1999	2370	78	5	28)	621VW17400EB	62A03706C		62MAN048A	2)	IN
Transporter 2.4 D T4	–	from 1996	2370	78	5	29)	621VW17400EB	62A03712B		62MAN047A	2)	IN
Transporter 2.4 D T4	–	from 1999	2370	78	5	29)	621VW17400EB	62A03712B		62MAN048A	2)	IN
Transporter 2.5 TDI T4	–	from 1996	2459	102	5	28)	621VW17500EB	62A03706C		62MAN047A	2)	IN
Transporter 2.5 TDI T4	–	from 1999	2459	102	5	28)	621VW17500EB	62A03706C		62MAN048A	2)	IN
Transporter 2.5 TDI T4	–	from 1996	2459	102	5	29)	621VW17500EB	62A03712B		62MAN047A	2)	IN
Transporter 2.5 TDI T4	–	from 1999	2459	102	5	29)	621VW17500EB	62A03712B		62MAN048A	2)	IN
Transporter 2.5i T4	–	from 1996	2461	110	5	28)	621VW17400EB	62A03706C		62MAN047A	2)	IN
Transporter 2.5i T4	–	from 1999	2461	110	5	28)	621VW17400EB	62A03706C		62MAN048A	2)	IN
Transporter 2.5i T4	–	from 1996	2461	110	5	29)	621VW17400EB	62A03712B		62MAN047A	2)	IN
Transporter 2.5i T4	Euro 5	from 1999	2461	110	5	29)	621VW17400EB	62A03712B		62MAN048A	2)	IN
Transporter T5 2.0 TDI	–	from 2010	1968	102	4		621VW22056EA					IN

Notes

1) For the Euro 5 version separately belt with code 62013716EA needed
2) AC unit with manual control
3) Additional control wiring kit for Jumpy 2.0 HDI TD
4) Only for cars without prepared oil pump
5) Wiring harness for not prepared vehicles
6) Wiring harness for prepared vehicles
7) Kit suitable for new engines with back side power steering pump are identified by chassis number from 7431721dd 04.05.2004
8) Kit suitable for old engines with front side power steering pump (old 1FI32300E)
9) Additional control wiring kit for Jumper 2.8 HDI series 230
10) Additional control wiring kit for Ducato 2.8 JTD series 231
11) Vehicles with crankshaft pulley with one groove
12) Additional control wiring kit for Scudo 2.0 HDI TD
13) Only for cars with prepared oil pump
14) Only for cars without prepared oil pump
15) Additional control wiring kit for Boxer 2.8 HDI
16) Additional kit for cars without REC
17) For kit with V5 compressor
18) Only vehicles with hydraulic coupling system
19) Kit with SP15 (154cc) compressor (included in the A031030)
20) Kit with SP15 (154cc) compressor
21) Kit with SP10 (110cc) compressor
22) Control wiring kit for Expert 2.0 HDI
23) Compressor mounting kits for Caddy Gasoline
24) Additional kits for vehicle with one radiator fan
25) Kit for vehicle with double radiator fan and with Engine Coolant Temperature sensor (G83) situated at the radiator hose
26) Kit for vehicle with double radiator fan and with Engine Coolant Temperature sensor (G83) situated behind the alternator
27) Unified version (Euro 3, Euro 4)
28) Additional kit for vehicles with low original cooling radiator (height 380 mm)
29) Additional kit for vehicles with high original cooling radiator (height 477 mm)
30) Original AC panel kit with A/C switch and rear heater switch
31) Necessary original p/n: compressor 62183532328A and thermostat 628980474290A
32) Is necessary only for cabin application, not necessary with a second compressor application
33) Power steering, alternator bracket and hoses
34) Belt 62013687A must be added
35) Only for vehicles with heating BEHR
36) Front-Wheel Drive

Transport refrigeration systems

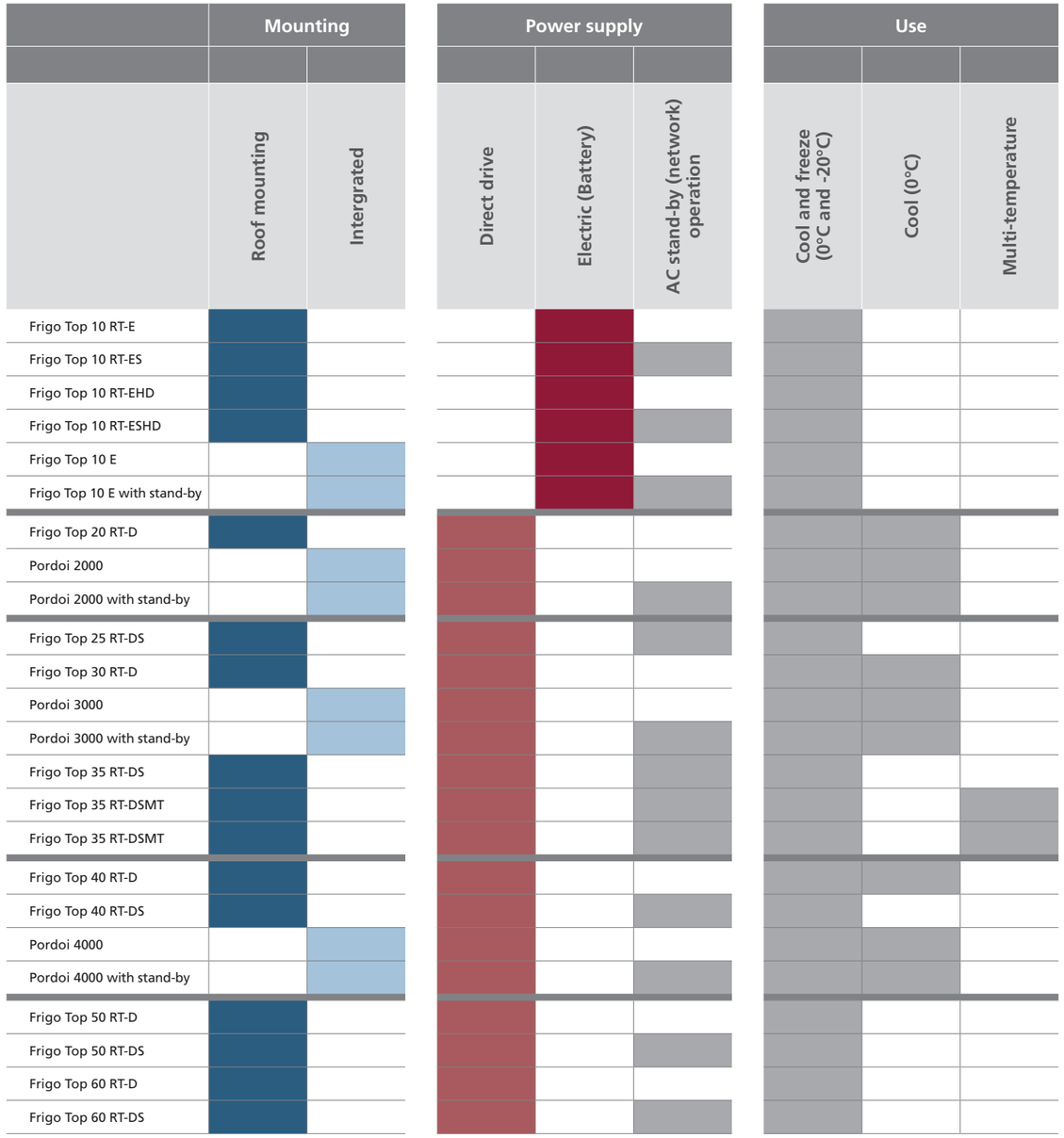
The appropriate refrigeration systems for your commercial transport vehicle



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

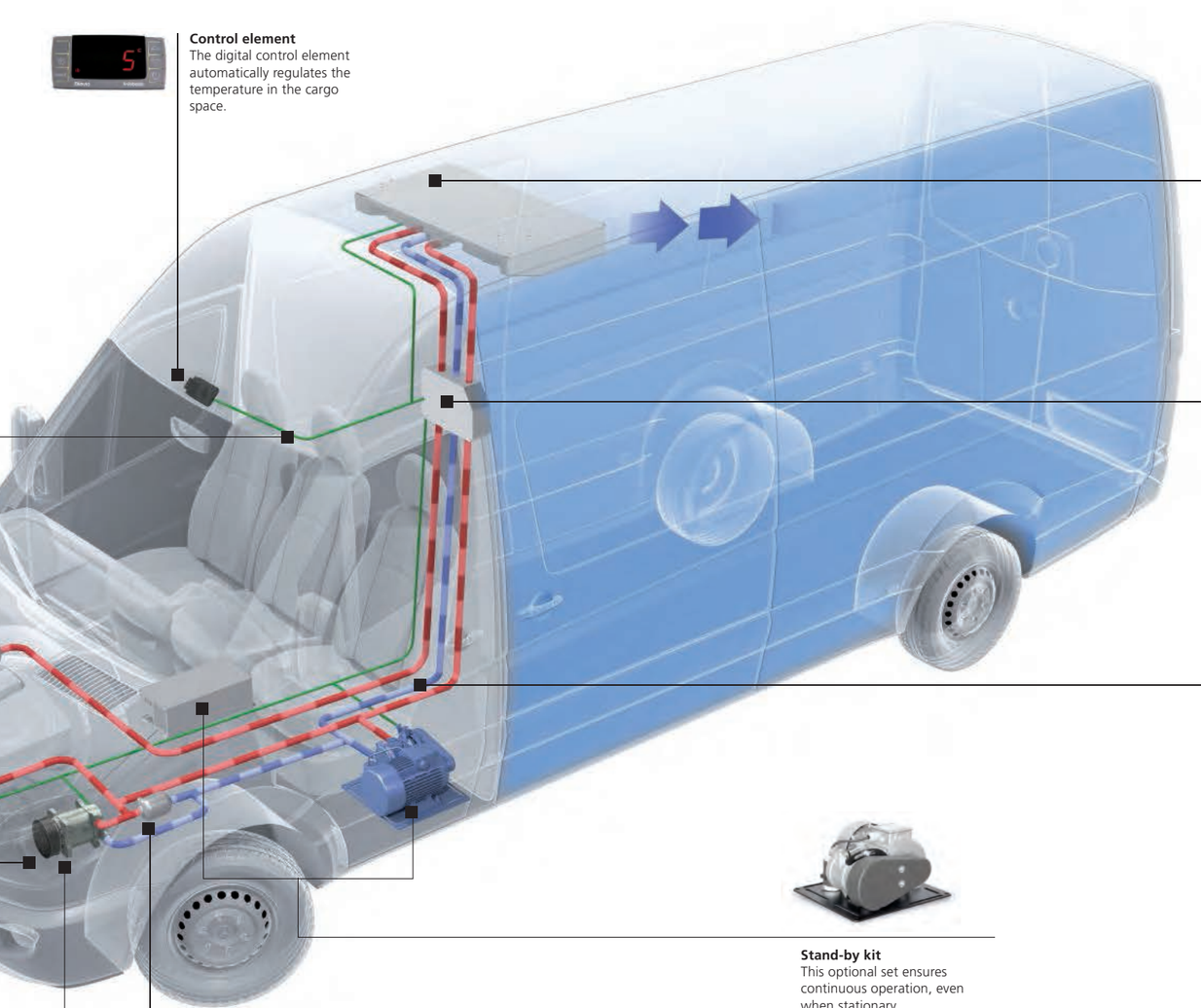
Roof Top Integrated Electric Direct Drive

Installation options, features and accessories



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.

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

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

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 a 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.

- 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

Technical data

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 (m³/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 Evaporator unit Motor, compressor	 481 x 265 x 124 660 x 530 x 158 465 x 455 x 240
Weight (kg) Condenser unit Evaporator unit Motor, compressor	 2.9 11.5 25.0

Frigo Top 10

Model overview	Scope of delivery	Order number
Frigo Top 10 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 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 blowers, they offer reliability and a long service 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.

- 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

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 certififation.

Technical data

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 (m³/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

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		■		622HDPE002FB	62U003FF108EC	
Berlingo 1.6 HDI	Euro 4	from 2006	1560	75	4			■	621HDCI003EB	62U003FF108EC	
Berlingo 1.9D	–	from 2003	1905	69	4			■	621HDCI002EA	62U003FF108EC	
Jumper 2.2 HDI	Euro 4	from 2006	2198	101	4			■	6231182A	62U003FF110EC	
Jumper 2.2 HDI	Euro 4	from 2006	2198	101	4			■	6231182A	62U003FF113EC	
Jumper 2.2 HDI R404A	Euro 4	from 2006	2198	101	4	1)		■	6231198A		62U003FF111EC
Jumper 2.2 HDI R404A	Euro 4	from 2006	2198	101	4	1)		■	6231198A		62U003FF112EC
Jumper 2.2 HDI R404A	Euro 4	from 2006	2198	101	4	1)		■	6231198A		62U003FF125EB
Jumper 2.2 HDI	Euro 4	from 2006	2198	101	4		■		622HDFI001FB	62U003FF110EC	
Jumper 2.2 HDI	Euro 4	from 2006	2198	101	4		■		622HDFI001FB	62U003FF113EC	
Jumper 2.2 HDI	Euro 5	from 2010	2198	100	4		■		622HDCI005FA	62U003FF110EC	
Jumper 2.3 MJT	Euro 4	from 2006	2287	120	4			■	621HDFI008EC	62U003FF110EC	
Jumper 2.3 MJT	Euro 4	from 2006	2287	120	4			■	621HDFI008EC	62U003FF113EC	
Jumper 2.8HDI	–	from 2001	2798	127	4			■	621HDFI002EA	62U003FF110EC	
Jumper 3.0 HDI	Euro 4	from 2006	2999	157	4			■	621HDFI009EC	62U003FF110EC	
Jumper 3.0 HDI	Euro 4	from 2006	2999	157	4			■	621HDFI009EC	62U003FF113EC	
Jumper 3.0 HDI	Euro 4	from 2006	2999	157	4		■		622HDFI003FB	62U003FF113EC	
Jumper 3.0 HDI	Euro 4	from 2006	2999	157	4		■		622HDFI003SB	62U003FF113EC	
Jumper 3.0 HDI	Euro 4	from 2006	2999	157	4		■		622HDFI003FB	62U003FF110EC	
Jumper 3.0 HDI	Euro 4	from 2006	2999	157	4		■		622HDFI003SB	62U003FF110EC	
Jumpy 1.6 HDI	Euro 4	from 2007	1560	90	4			■	621HDFI012EA	62U003FF108EC	
Jumpy 1.6 HDI	Euro 4	from 2007	1560	90	4			■	621HDFI012EA	62U003FF110EC	
Jumpy 2.0 HDI	Euro 4	from 2007	1997	120	4			■	621HDFI011EA	62U003FF110EC	
Jumpy 2.0 HDI	Euro 4	from 2007	1997	120/136	4		■		622HDFI004FA	62U003FF110EC	
Jumpy 2.0 HDI	Euro 4	from 2007	1997	120/137	4		■		622HDFI004SA	62U003FF110EC	
Jumpy 2.0 HDI	Euro 5	from 2010	1997	163	4		■		622HDFI011FC	62U003FF110EC	
Jumpy 2.0 HDI (prepared)	Euro 3	from 2000	1997	94	4		■		622HDFI018SA	62U003FF108EC	
Jumpy 2.0 HDI (prepared)	Euro 3	from 2000	1997	94	4		■		622HDFI018SA	62U003FF110EC	
Jumpy 2.0 HDI	Euro 5						■		6235589A	62U003FF110EC	
Jumpy 2.0 HDI	Euro 5						■		6235589A	62U003FF108EC	
NEMO 1.4 HDI	Euro 4	from 2008	1399	70	4			■	621HDCI004EB	62U003FF108EC	
FIAT											
Doblò 1.3 MJT 16 V 75HP	Euro 5		1248	75	4		■		622HDFI009FA	62U003FF108EC	
Doblò 1.3 MJ 69HP	–	from 2004	1248	69	4			■	621HDFI003EB	62U003FF108EC	
Doblò 1.3 MJ 90HP	Euro 4	from 2010	1248	90	4			■	621HDFI014EA	62U003FF108EC	
Doblò 1.6 MJ 105 HP	Euro 4	from 2010	1598	105	4			■	621HDFI015EA	62U003FF108EC	
Doblò 1.6 MJ 105 HP	Euro 4	from 2010	1598	105	4			■	621HDFI015EA	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			■	621HDFI007EB	62U003FF108EC	
Doblò Cargo 1.3 (69HP) MJ.	Euro 3 / 4	from 2004	1248	69	4		■		622HDFI012FA	62U003FF108EC	
Doblò cargo 1.4 (120HP) T-Jet Nat	Euro 5 / 6	from 2011	1368	120	4		■		622HDFI015FA	62U003FF108EC	
Doblò CARGO 1.4 (95HP) Benz.	Euro 4	from 2007	1368	95	4		■		622HDFI008FA	62U003FF108EC	
Doblò Cargo 1.6 (105HP) MJT	Euro 5		1598	105	4		■		622HDFI006FA	62U003FF108EC	
Doblò CARGO 1.9 (105HP) MJ.	Euro 4	from 2007	1910	105	4		■		622HDFI014FA	62U003FF108EC	
Doblò Cargo 2.0 (135HP) MJT	Euro 5		1956	135	4		■		622HDFI006FA	62U003FF110EC	
Ducato 2.0 MJ	Euro 5	from 2007	1956	115	4			■	621HDFI018EA	62U003FF110EC	
Ducato 2.0 MJ	Euro 5	from 2008	1956	115	4			■	621HDFI018EA	62U003FF113EC	
Ducato 2.0 Mjt (SP15)	Euro 5	from 2011	1956	115	4		■		622HDFI013FA	62U003FF110EC	
Ducato 2.0 Mjt (SP15)	Euro 5	from 2011	1956	115	4		■		622HDFI013FA	62U003FF113EC	
Ducato 2.0 Mjt (TM15)	Euro 5	from 2011	1956	115	4		■		622HDFI010FA	62U003FF113EC	
Ducato 2.2 MJ r134	Euro 4	from 2006	2198	101	4			■	6231182A	62U003FF110EC	
Ducato 2.2 MJ r134	Euro 4	from 2006	2198	101	4			■	6231182A	62U003FF113EC	
Ducato 2.2 MJ	Euro 4	from 2006	2198	101	4		■		622HDFI001FB	62U003FF110EC	
Ducato 2.2 MJ	Euro 4	from 2006	2198	101	4		■		622HDFI001FB	62U003FF113EC	
Ducato 2.2 MJ R404A	Euro 4	from 2006	2198	101	4	1)		■	6231198A		62U003FF111EC
Ducato 2.2 MJ R404A	Euro 4	from 2006	2198	101	4	1)		■	6231198A		62U003FF112EC
Ducato 2.2 MJ R404A	Euro 4	from 2006	2198	101	4	1)		■	6231198A		62U003FF125EB
Ducato 2.3 MJ	–	from 2006	2287	120	4			■	621HDFI008EC	62U003FF110EC	
Ducato 2.3 MJ	–	from 2006	2287	120	4			■	621HDFI008EC	62U003FF113EC	
Ducato 2.8JTD (serie 244)	–	from 2003	2798	127	4			■	621HDFI002EA	62U003FF110EC	
Ducato 3.0 MJ	–	from 2006	2999	157	4			■	621HDFI009EC	62U003FF110EC	
Ducato 3.0 MJ	–	from 2006	2999	157	4			■	621HDFI009EC	62U003FF113EC	
Ducato X 250 2.2 MJT	Euro 4	from 2006	2287	120	4L		■		622HDFI001FB	62U003FF110EC	
Ducato X 250 2.2 MJT	Euro 4	from 2006	2287	120	4L		■		622HDFI001FB	62U003FF113EC	
Ducato X250 2.3 MJT	Euro 4	from 2006	2287	120	4L		■		6234515A	62U003FF110EC	
Ducato X250 2.3 MJT	Euro 4	from 2006	2287	120	4L		■		6234515A	62U003FF113EC	
Ducato X250 3.0 MJT	Euro 4	from 2006	2999	157	4		■		622HDFI003FB	62U003FF110EC	
Ducato X250 3.0 MJT	Euro 4	from 2006	2999	157	4		■		622HDFI003SB	62U003FF110EC	
Ducato X250 3.0 MJT	Euro 4	from 2006	2999	157	4		■		622HDFI003FB	62U003FF113EC	
Ducato X250 3.0 MJT	Euro 4	from 2006	2999	157	4		■		622HDFI003SB	62U003FF113EC	
Fiorino 1.3 MJT 16 V	Euro 4	from 2008	1248	75	4			■	621HDFI013EB	62U003FF108EC	
Fiorino 1.3 MJT 16 V	Euro 5		1248	75	4		■		622HDFI009FA	62U003FF108EC	
Scudo 1.6 MJ	Euro 4	from 2007	1560	90	4			■	621HDFI012EA	62U003FF108EC	
Scudo 1.6 MJ	Euro 4	from 2007	1560	90	4			■	621HDFI012EA	62U003FF110EC	
Scudo 1.6 MJ	Euro 4	from 2007	1560	90	4	3)	■		622HDFI007FA	62U003FF108EC	
Scudo 1.6 MJ	Euro 4	from 2007	1560	90	4	3)	■		622HDFI007FA	62U003FF110EC	

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
Scudo 2.0 MJ	Euro 4	from 2007	1997	120	4			■	621HDFI011EA	62U003FF110EC	
Scudo 2.0 MJ	Euro 4	from 2007	1997	120/136	4		■		622HDFI004FA	62U003FF110EC	
Scudo 2.0 MJT	Euro 5						■		6235589A	62U003FF108EC	
Scudo 2.0 MJT	Euro 5						■		6235589A	62U003FF110EC	
Scudo 2.0JTD (prepared)	–	from 2000	1997	94	4		■		622HDFI018SA	62U003FF108EC	
Ford											
TRANSIT (CUSTOM) 2.2 TDCI	Euro 5	from 2012	2200	100-125	4		■		622HDFO003FA	62U003FF110EC	
TRANSIT (CUSTOM) 2.2 TDCI	Euro 5	from 2012	2200	100-125	4		■		622HDFO003FA	62U003FF113EC	
TRANSIT (CUSTOM) 2.2 TDCI	Euro 5	from 2012	2200	100-125	4			■	621HDFO006SA	62U003FF110EC	
TRANSIT (CUSTOM) 2.2 TDCI	Euro 5	from 2012	2200	100-125	4			■	621HDFO006SA	62U003FF113EC	
TRANSIT (CUSTOM) 2.2 TDCI	Euro 5	from 2012	2198	100-155	4		■		6237935A	62U003FF110EC	
under chassis condenser kit									62A031133B		
TRANSIT 2.2 TDCI	Euro 4	from 2006	2198	115/140	4L		■		622HDFO002SD	62U003FF110EC	
TRANSIT 2.2 TDCI	Euro 5	from 2012	2198	101	4	4)		■	621HDFO005EB	62U003FF110EC	
TRANSIT 2.2 TDCI	Euro 5	from 2012	2200	100-125	4		■		622HDFO003SA	62U003FF110EC	
TRANSIT 2.2 TDCI	Euro 5	from 2012	2200	100-125	4		■		622HDFO003SA	62U003FF113EC	
TRANSIT 2.4 TDCI	Euro 4	from 2006	2402	140	4L		■		622HDFO001SB	62U003FF110EC	
TRANSIT 2.4 TDCI	Euro 4	from 2006	2402	140	4L		■		622HDFO001SB	62U003FF113EC	
TRANSIT CONNECT 1.8 TDCI (not prepared)	–	from 2003	1753	90	4			■	621HDFO002EA	62U003FF108EC	
Iveco											
Daily 2.3 HPI	Euro 4	from 2006	2286	116	4			■	621HDIV004EA	62U003FF110EC	
Daily 2.3 HPI	Euro 4	from 2006	2286	116	4			■	621HDIV004EA	62U003FF113EC	
Daily 2.3 HPI	Euro 4	2003 – 2006	2286	116	4		■		622HDIV004SA	62U003FF110EC	
Daily 2.3 HPI	Euro 4	2003 – 2006	2286	116	4		■		622HDIV004SA	62U003FF113EC	
Daily 2.3 HPI	Euro 5	to 05-2014	2286	106/126	4		■		622HDIV005SA	62U003FF110EC	
Daily 2.3 HPI	Euro 5	to 05-2014	2286	106/126	4		■		622HDIV005SA	62U003FF113EC	
Daily 2.3 HPT	Euro 5	to 05-2014	2286	106/145	4			■	621HDIV008EA	62U003FF110EC	
Daily 2.3 HPT	Euro 5	to 05-2014	2286	106/145	4			■	621HDIV008EA	62U003FF113EC	
Daily 3.0	Euro 5	to 05-2014	2998	107/150	4		■		622HDIV006SB	62U003FF110EC	
Daily 3.0 HPT	Euro 5	to 05-2014	2998	145/170	4			■	621HDIV007EA	62U003FF110EC	
Daily 3.0 HPT	Euro 5	to 05-2014	2998	145/170	4			■	621HDIV007EA	62U003FF113EC	
Daily 3.0 JTD	–	from 2004	3000	170	4			■	621HDIV006EA	62U003FF110EC	
Daily 3.0 JTD	–	from 2004	3000	170	4			■	621HDIV006EA	62U003FF113EC	
Daily 3.0 JTD	–	2003 – 2006	3000	169/177	4		■		622HDIV001SB	62U003FF110EC	
Daily 3.0 JTD	–	2003 – 2006	3000	169/177	4		■		622HDIV001SB	62U003FF113EC	
Daily 3.1	Euro 5	from 2010	2998	107/150	4		■		622HDIV006SB	62U003FF113EC	

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
Mercedes-Benz											
Sprinter 2.2 CDI – GSX	Euro 4	from 2600	2148	150	4			■	621HDMB004EA	62U003FF110EC	
Sprinter 2.2 CDI – GSX	Euro 4	from 2600	2148	150	4			■	621HDMB004EA	62U003FF113EC	
Sprinter 2.2 CDI (MB N63)	Euro 4	from 2010	2143	163	4		■		622HDMB007SB	62U003FF110EC	
Sprinter 2.2 CDI (MB N63)	Euro 4	from 2010	2143	163	4		■		622HDMB007SB	62U003FF113EC	
Sprinter 2.2 CDI E4 OM 646 DELA	–	2006 – 2009	2148	150	4		■		622HDMB002SB	62U003FF110EC	
Sprinter 2.2 CDI E4 OM 646 DELA	–	2006 – 2009	2148	150	4		■		622HDMB002SB	62U003FF113EC	
Sprinter 3.0 CDI (Tend. Orig.) OM 642DELA	Euro 4	to 2006	2987	184	6		■		622HDMB009SA	62U003FF110EC	
Sprinter 3.0 CDI (Tend. Orig.) OM 642DELA	Euro 4	to 2006	2987	184	6		■		622HDMB009SA	62U003FF113EC	
Sprinter 316 2.2 CDI OM651 DE22LA (not fittable for vehicles BlueEfficiency)	Euro 5	to 2009	2143	163	4		■		622HDMB008SB	62U003FF110EC	
Sprinter 316 2.2 CDI OM651 DE22LA (not fittable for vehicles BlueEfficiency)	Euro 5	to 2009	2143	163	4		■		622HDMB008SB	62U003FF113EC	
Vito 109-111-115 2.2 DCI	Euro 4	from 2007	2148	95/116/150	4L			■	621HDMB005EA	62U003FF110EC	62U003FF125EB
Vito 109-111-115 2.2 DCI	Euro 4	from 2007	2148	95/116/152	4L			■	621HDMB005EA	62U003FF113EC	62U003FF125EB
Vito 111-115 2.2 CDI	–	from 2003	2148	110-150	4		■		622HDMB006SA	62U003FF110EC	
Vito 111-115 2.2 CDI	–	from 2003	2148	110-150	4		■		622HDMB006SA	62U003FF113EC	
Vito 2.2 CDI (engine OM 646) OM 651 (Euro 5)	Euro 4	from 2003	2148	109	4			■	621HDMB003EC	62U003FF110EC	
Vito 2.2 CDI (engine OM 646) OM 651 (Euro 5)	Euro 4	from 2003	2148	109	4			■	621HDMB003EC	62U003FF113EC	
Nissan											
Interstar 2.2/2.5 DCI (prepared)	–	from 2004	2463	114	4		■		622HDRE003SA	62U003FF110EC	
Interstar 2.5 DCI	Euro 4	from 2006	2464	120	4		■		622HDRE001SA	62U003FF110EC	
Interstar 2.5 DCI	Euro 4	from 2006	2464	120	4		■		622HDRE001SA	62U003FF113EC	
NV200 1.5 DCI	Euro 5	from 2010	1462	86	4		■		622HDNI003FA	62U003FF108EC	
NV400 2.3	Euro 4/5	from 2010	2298	125	4		■		622HDRE006SA	62U003FF110EC	
NV400 2.3	Euro 5B+	from 2010	2298	135-165	4		■	■	6235258A	62U003FF110EC	
Primastar 1.9 DCI	–	from 2001	1870	82	4		■		622HDRE005SA	62U003FF108EC	
Primastar 2.0 DCI	Euro 5	from 2010	1995	90-114	4	5)	■		622HDRE007SA	62U003FF108EC	
Primastar 2.0 DCI	Euro 5	from 2010	1995	90-115	4			■	621HDRE015NA		62U003FF111EC
Primastar 2.0 DCI	Euro 5	from 2010	1995	90-115	4			■	621HDRE015NA		62U003FF109EC
Primastar 2.0 DCI	Euro 5	from 2010	1995	90-115	4			■	621HDRE015A	62U003FF108EC	
Primastar 2.0 DCI	Euro 4	from 2006	1995	90-115	4			■	621HDRE010EB	62U003FF108EC	
Primastar 2.0 DCI	Euro 4	from 2006	1995	90	4	6)	■		622HDRE009SA	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
Opel											
COMBO 1.4 Metano Euro 5	Euro 5	from 2011	1368	120	4		■		622HDFI015FA	62U003FF108EC	
Opel Combo 1.6 MJT	Euro 5		1598	105	4		■		622HDFI006FA	62U003FF108EC	
Movano 2.2/2.5 CDTI (not prepared)	–	from 2003	2188/ 2463	90/114	4			■	621HDRE007EA	62U003FF110EC	
Movano 2.2/2.5 CDTI (prepared)	–	from 2004	2463	114	4		■		622HDRE003SA	62U003FF110EC	
Movano 2.3 DCI gas R134a	Euro 5	from 2010	2298	125	4			■	621HDRE013EA	62U003FF110EC	
Movano 2.3 DCI gas R404A	Euro 5	from 2010	2298	125	4	1)		■	621HDRE013NB		62U003FF111EC
MOVANO 2.3 TWIN TURBO	Euro 5B+	from 2010	2298	135-165	4		■	■	6235258A	62U003FF110EC	
Movano 2.5 DCI	Euro 4	from 2006	2464	120	4		■		622HDRE001SA	62U003FF110EC	
Movano 2.5 DCI	Euro 4	from 2006	2464	120	4		■		622HDRE001SA	62U003FF113EC	
Vivaro 1.9 DCI	–	from 2001	1870	82	4		■		622HDRE005SA	62U003FF110EC	
Vivaro 1.9 DI-DTI (engine F9Q) (not prepared)	–	from 2001	1870	80/100	4			■	621HDRE003EA	62U003FF110EC	
Vivaro 2.0 CDTI	–	from 2006	1995	90-115	4			■	621HDRE010EB	62U003FF110EC	
Vivaro 2.0 CDTI	–	from 2006	1995	90	4	6)	■		622HDRE009SA	62U003FF110EC	
Vivaro 2.0 DCI	Euro 5	from 2010	1995	90-115	4	5)	■		622HDRE007SA	62U003FF110EC	
Vivaro 2.0 DCI	Euro 5	from 2010	1995	90-115	4			■	621HDRE015NA		62U003FF111EC
Vivaro 2.0 DCI	Euro 5	from 2010	1995	90-115	4			■	621HDRE015A	62U003FF110EC	
Vivaro 1.6 CDTi Biturbo	Euro 5B+		1598	120-140	4		■		6234747A	62U003FF110EC	
Peugeot											
Bipper 1.4 HDI	Euro 4	from 2008	1399	70	4				621HDCI004EB	62U003FF108EC	
Boxer 2.2 HDI	Euro 4	from 2006	2198	101	4			■	6231182A	62U003FF110EC	
Boxer 2.2 HDI	Euro 4	from 2006	2198	101	4			■	6231182A	62U003FF113EC	
Boxer 2.2 HDI	Euro 4	from 2006	2198	101	4		■		622HDFI001FB	62U003FF110EC	
Boxer 2.2 HDI	Euro 4	from 2006	2198	101	4		■		622HDFI001FB	62U003FF113EC	
Boxer 2.2 HDI	Euro 5	from 2010	2198	100	4		■		622HDCI005FA	62U003FF110EC	
Boxer 2.2 HDI R404A	Euro 4	from 2006	2198	101	4	1)		■	6231198A		62U003FF111EC
Boxer 2.2 HDI R404A	Euro 4	from 2006	2198	101	4	1)		■	6231198A		62U003FF112EC
Boxer 2.2 HDI R404A	Euro 4	from 2006	2198	101	4	1)		■	6231198A		62U003FF125EB
Boxer 2.3 MJT	Euro 4	from 2006	2287	120	4			■	621HDFI008EC	62U003FF110EC	
Boxer 2.3 MJT	Euro 4	from 2006	2287	120	4			■	621HDFI008EC		62U003FF111EC
Boxer 2.3 MJT	Euro 4	from 2006	2287	120	4			■	621HDFI008EC	62U003FF113EC	
Boxer 2.3 MJT	Euro 4	from 2006	2287	120	4			■	621HDFI008EC		62U003FF112EC
Boxer 2.3 MJT	Euro 4	from 2006	2287	120	4			■	621HDFI008EC		62U003FF125EB
Boxer 3.0 HDI	Euro 4	from 2006	2999	157	4		■		622HDFI003FB	62U003FF110EC	
Boxer 3.0 HDI	Euro 4	from 2006	2999	157	4		■		622HDFI003SB	62U003FF110EC	
Boxer 3.0 MJT	Euro 4	from 2006	2999	157	4			■	621HDFI009EC	62U003FF110EC	
Boxer 3.0 MJT	Euro 4	from 2006	2999	157	4			■	621HDFI009EC		62U003FF111EC
Boxer 3.0 MJT	Euro 4	from 2006	2999	157	4			■	621HDFI009EC	62U003FF113EC	
Boxer 3.0 MJT	Euro 4	from 2006	2999	157	4			■	621HDFI009EC		62U003FF112EC
Boxer 3.0 MJT	Euro 4	from 2006	2999	157	4			■	621HDFI009EC		62U003FF125EB
Boxer 330-350 2.8HDI	–	from 2003	2798	127	4			■	621HDFI002EA	62U003FF110EC	
Boxer 330-350 2.8HDI	–	from 2003	2798	127	4			■	621HDFI002EA		62U003FF111EC
Expert 1.6 HDI	Euro 4	from 2007	1560	90	4			■	621HDFI012EA	62U003FF108EC	

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			■	621HDFI012EA		62U003FF109EC
Expert 1.6 HDI	Euro 4	from 2007	1560	90	4			■	621HDFI012EA	62U003FF110EC	
Expert 1.6 HDI	Euro 4	from 2007	1560	90	4			■	621HDFI012EA		62U003FF111EC
Expert 1.6 MJ HDI	Euro 5	from 2011	1560	90	4		■		622HDFI020FA	62U003FF108EC	
Expert 1.6 MJ HDI	Euro 5	from 2011	1560	90	4		■		622HDFI020FA	62U003FF110EC	
Expert 2.0 HDI	Euro 4	from 2007	1997	120	4			■	621HDFI011EA	62U003FF110EC	
Expert 2.0 HDI	Euro 4	from 2007	1997	120	4			■	621HDFI011EA		62U003FF111EC
Expert 2.0 HDI	Euro 4	from 2007	1997	120/136	4		■		622HDFI004FA	62U003FF110EC	
Expert 2.0 HDI	Euro 5	from 2010	1997	163	4		■		622HDFI011FC	62U003FF110EC	
Expert 2.0 HDI	Euro 5						■		6235589A	62U003FF110EC	
Expert 220-230 2.0 HDI (prepared)	–	from 2000	1997	94	4		■		622HDFI018SA	62U003FF108EC	
Partner 1.6 HDI	Euro 5		1560	75/92	4		■		622HDPE002FB	62U003FF108EC	
Partner 1600 HDI (KMD-131)	–	from 2008	1560	75/90	4		■		622HDPE001FA	62U003FF108EC	
Partner/Ranch 1.9D MY2003	–	to 09/2002	1905	69	4			■	621HDCI002EA	62U003FF108EC	
Renault											
Kangoo 1.5 DCI	Euro 5		1461	75	4			■	621HDRE014EA	62U003FF108EC	
Kangoo 1.5 DCI	Euro 5		1461	75	4			■	621HDRE014EA		62U003FF109EC
Kangoo 1.5 DCI (engine K9K)	Euro 4	from 2008	1461	68/86/105	4			■	621HDRE012EA	62U003FF108EC	
Kangoo 1.5 DCI (engine K9K)	Euro 4	from 2008	1461	68/86/105	4			■	621HDRE012EA		62U003FF109EC
Kangoo 1.5 DCI (engine K9K)	Euro 5	from 2011	1461	68/86/105	4		■		622HDRE010FA	62U003FF108EC	
Kangoo 1.5 DCI (engine K9K)	Euro 5	from 2011	1461	68/86/105	4		■		622HDRE010FA		62U003FF109EC
MASTER 2.2/2.5 DCI (not prepared)	–	from 2003	2188/ 2463	90/114	4			■	621HDRE007EA	62U003FF110EC	
MASTER 2.2/2.5 DCI (not prepared)	–	from 2003	2188/ 2463	90/114	4			■	621HDRE007EA		62U003FF111EC
MASTER 2.2/2.5 DCI (prepared)	–	from 2004	2463	114	4		■		622HDRE003SA	62U003FF110EC	
MASTER 2.3 DCI Rear-wheel drive	Euro 5	from 2010	2298	125	4		■		622HDRE008SA	62U003FF110EC	
MASTER 2.3 DCI WITH PTO gas R134a	Euro 5	from 2010	2298	125	4	10)		■	621HDRE013EA	62U003FF110EC	
MASTER 2.3 DCI WITH PTO gas R134a	Euro 5	from 2010	2298	125	4		■		622HDRE006SA	62U003FF110EC	
MASTER 2.3 DCI WITH PTO gas R404A	Euro 5	from 2010	2298	125	4	1) 10)		■	621HDRE013NB		62U003FF111EC
MASTER 2.3 TWIN TURBO	Euro 5B+	from 2010	2298	135-165	4		■	■	6235258A	62U003FF110EC	
MASTER 2.5 DCI	Euro 4	from 2006	2464	120	4		■		622HDRE001SA	62U003FF110EC	
TRAFIC 1.9 DCI	–	from 2001	1870	82	4		■		622HDRE005SA	62U003FF110EC	
TRAFIC 1.9 DCI TD (not prepared) (engine F9Q76)	–	from 2001	1870	80/100	4			■	621HDRE003EA	62U003FF110EC	
TRAFIC 1.9 DCI TD (not prepared) (engine F9Q76)	–	from 2001	1870	80/100	4			■	621HDRE003EA		62U003FF111EC
TRAFIC 2.0 DCI	Euro 5	from 2010	1995	90-115	4	5)	■		622HDRE007SA	62U003FF110EC	
TRAFIC 2.0 DCI	Euro 5	from 2010	1995	90-115	4			■	621HDRE015NA		62U003FF111EC
TRAFIC 2.0 DCI	Euro 5	from 2010	1995	90-115	4			■	621HDRE015A	62U003FF110EC	
TRAFIC 2.0 DCI (not prepared)	–	from 2006	1995	90-115	4			■	621HDRE010EB	62U003FF110EC	
TRAFIC 2.0 DCI (not prepared)	–	from 2006	1995	90-115	4			■	621HDRE010EB		62U003FF111EC
TRAFIC 2.0 DCI (not prepared)	–	from 2006	1995	90	4	6)	■		622HDRE009SA	62U003FF110EC	
TRAFIC 1.6 CDTi Biturbo	Euro 5B+		1598	120-140	4		■		6234747A	62U003FF110EC	

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
Volkswagen											
CADDY 1.6 TDI	Euro 5	from 2010	1598	102	4	7)		■	621HDVW006EA	62U003FF108EC	
CADDY 1.6 TDI	Euro 5	from 2010	1598	102	4	7)		■	621HDVW006EA		62U003FF109EC
CADDY 1.6 TDI	Euro 5	from 2010	1598	102	4	8)		■	621HDVW006EA	62U003FF108EC	
CADDY 1.6 TDI	Euro 5	from 2010	1598	102	4	8)		■	621HDVW006EA		62U003FF109EC
CADDY 1.6 BiFuel	Euro 4/5	to 09/2015	1598		4		■		6235704A	62U003FF108EC	
CADDY 1.9 TDI – 2.0SDI (engine BDJ)	–	from 2004	1968	69	4	7)		■	621HDVW001EA	62U003FF108EC	
CADDY 1.9 TDI – 2.0SDI (engine BDJ)	–	from 2004	1968	69	4	7)		■	621HDVW001EA		62U003FF109EC
CADDY 1.9 TDI – 2.0SDI (engine BDJ)	–	from 2004	1968	69	4	8)		■	621HDVW001EA	62U003FF108EC	
CADDY 1.9 TDI – 2.0SDI (engine BDJ)	–	from 2004	1968	69	4	8)		■	621HDVW001EA		62U003FF109EC
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		■		6235704A	62U003FF108EC	
CRAFTER 2.5 TDI	–	from 2006	2459	136	4L		■		622HDVW001SB	62U003FF108EC	
T5 1.9 TDI	Euro 4	from 2004	1896	86/105	4			■	621HDVW004EA	62U003FF108EC	
T5 1.9 TDI	Euro 4	from 2004	1896	86/105	4			■	621HDVW004EA		62U003FF109EC
T5 1.9 TDI	Euro 4	from 2004	1896	86/105	4			■	621HDVW004EA	62U003FF110EC	
T5 1.9 TDI	Euro 4	from 2004	1896	86/105	4			■	621HDVW004EA		62U003FF111EC
T5 1.9 TDI	Euro 4	from 2004	1896	86/105	4			■	621HDVW004EA	62U003FF113EC	
T5 1.9 TDI	Euro 4	from 2004	1896	86/105	4			■	621HDVW004EA		62U003FF112EC
T5 1.9 TDI	Euro 4	from 2004	1896	86/105	4			■	621HDVW004EA		62U003FF125EB
T5 2.0 TDI (engine CAA)	Euro 5	from 2010	1968	102	4L			■	621HDVW004EA	62U003FF108EC	
T5 2.0 TDI (engine CAA)	Euro 5	from 2010	1968	102	4L			■	621HDVW004EA		62U003FF109EC
T5 2.0 TDI (engine CAA)	Euro 5	from 2010	1968	102	4L			■	621HDVW004EA	62U003FF110EC	
T5 2.0 TDI (engine CAA)	Euro 5	from 2010	1968	102	4L			■	621HDVW004EA		62U003FF111EC
T5 2.0 TDI (engine CAA)	Euro 5	from 2010	1968	102	4L			■	621HDVW004EA	62U003FF113EC	
T5 2.0 TDI (engine CAA)	Euro 5	from 2010	1968	102	4L			■	621HDVW004EA		62U003FF112EC
T5 2.0 TDI (engine CAA)	Euro 5	from 2010	1968	102	4L			■	621HDVW004EA		62U003FF125EB
T5 2.0 TDI	Euro 5								6235578A	62U003FF113EC	
CRAFTER 2.0 TDI without A/C	Euro 5	from 2009	1968	106/163	4			■	621HDVW005EB	62U003FF110EC	
VW CRAFTER 2.0 TDI	Euro 5	2006-2011	1968	109-163	4		■		622HDVW004SC	62U003FF110EC	
VW CRAFTER 2.0 TDI	Euro 5	2006-2011	1968	109-163	4	1)		■	621HDVW005NB		62U003FF112EC
Under chassis condenser kit									62A031023C		
VW T5 2.0 TDI 6 gear box	Euro 5	from 2009	1968	140-180	4		■		622HDVW006SA	62U003FF110EC	
VW T5 2.0 TDI 5 gear box	Euro 5	from 2009	1968	82-102	4		■		622HDVW005SA	62U003FF110EC	
VW T5 2.0 TDI Automatic Transmission	Euro 5	from 2009	1968	140-180	4		■		622HDVW007SA	62U003FF110EC	
General											
Evaporator unit for frigo 2000 R134a prepared for hot gas defrosting function									62U003FF108EC		
Evaporator unit for frigo 2000 R404A prepared for hot gas defrosting function									62U003FF109EC		

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
Evaporator unit for frigo 3000 R134a prepared for hot gas defrosting function									62U003FF110EC		
Evaporator unit for frigo 3000 R404A prepared for hot gas defrosting function									62U003FF111EC		
Evaporator unit for frigo 4000 R404A prepared for hot gas defrosting function									62U003FF112EC		
Evaporator unit for frigo 4000 R134a prepared for hot gas defrosting function									62U003FF113EC		
Evaporator unit for frigo 4000 R404A prepared for hot gas defrosting function 24 V"									62U003FF099ED		
Evaporator unit for frigo 5000 R404A prepared for hot gas defrosting function 12 V									62U003FF125EB		
Evaporator unit for frigo 5000 R404A prepared for hot gas defrosting function 24 V									62U003FF126EB		
Hot gas defrost kit 12 V									62U003AA133A		
Hot gas defrost kit 24 V									62U003AA144A		
Hot gas "light" defrost kit for positive temperatures									62U003AA137A		
Low pressure switch kit									62U003AA132B		
Oil separator kit									62U003AA044A		
Liquid flow tracer									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									62U006SB04E		
Stand-by PS1000 12 V									62U006SB04E		
Accessories for new stand-by											
Oil separator									62U003AA044A		
Sight glass									62U003AA131A		
Hot gas defrost kit									62U003AA137A		
Low pressure switch									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 it is ordered separataley.

Kit de-icing

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

Low pressure switch

Swiches 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

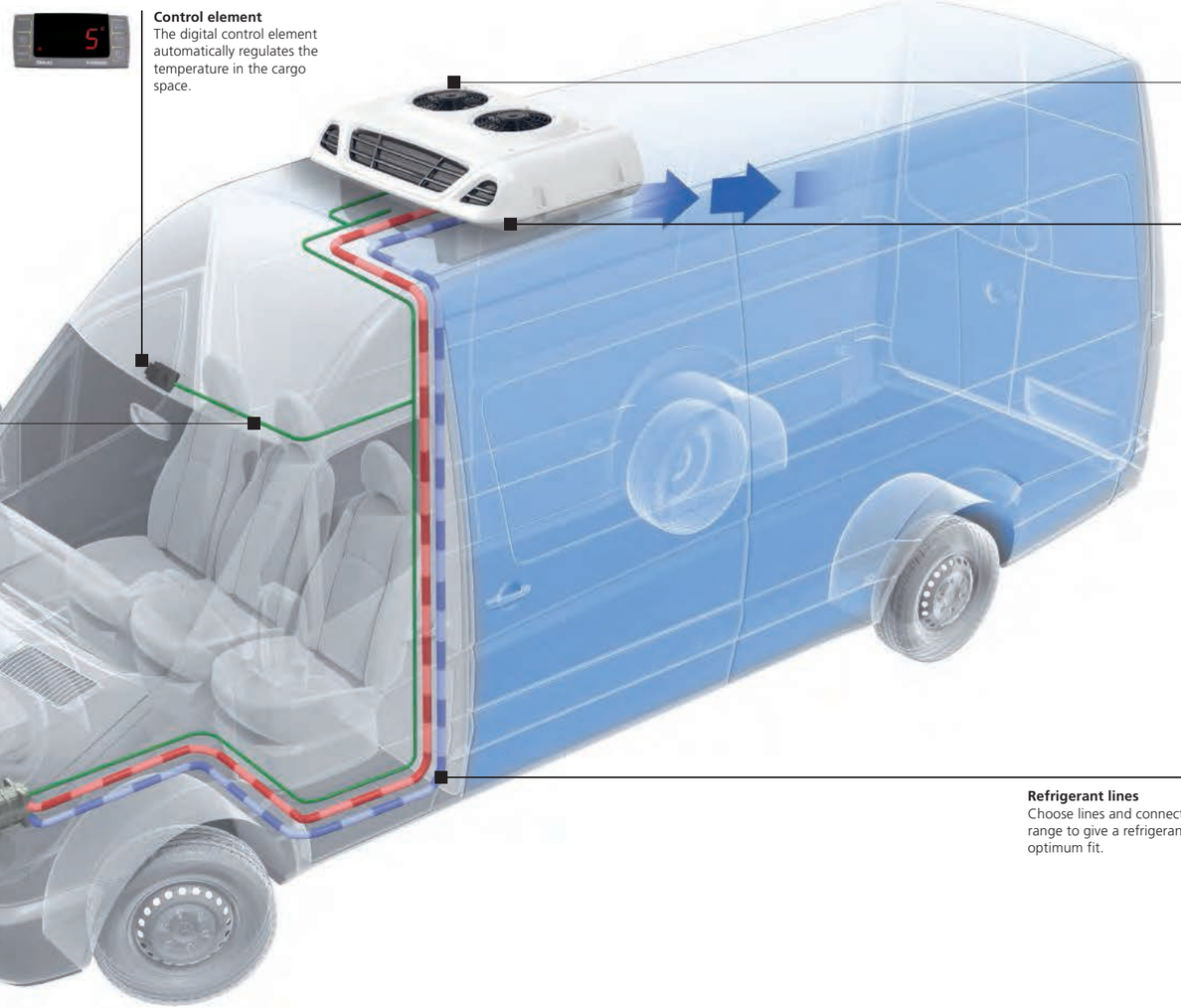
– For above-freezing temperatures: evaporator with refrigerant R134a
– For freezing temperatures: evaporator with refrigerant R404A

Notes

1) Only for freezing temperatures (R404A), the kit contains an oil separator, cable resistor and defrost
2) Hot gas defrost kit
3) For vehicles up to November 2010 with Euro 4 and with original compressor
4) Underbody condenser
5) Check in the connection instructions whether the engine block is suitable
6) Not for Euro 5 vehicles
7) Kit for vehicles with a radiator fan 62A01001A
8) Kit for vehicles with double radiator fan 62A01002A
9) Order underbody condenser kit for heavy duty applications 62A03966A separately
10) Front-Wheel Drive

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 1,011 and 5,638 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.



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.

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

Rooftop transport refrigeration system
The transport refrigeration system consists of a compact and a condenser for the cargo space. Capacities range from 1,011 to 5,638 W.

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

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

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

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

Advantages of rooftop transport refrigeration systems:

- Compact design
- Integrated compressor in the condenser unitof 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 18 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 blowers, they offer reliability and a long service 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.

- Transport refrigeration for commercial vehicles with cargo spaces up to 18 m³
- Cooling capacity of 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

Tonale

The transport refrigeration systems with direct drive, high capacity and very low maintenance requirements for vehicles with cargo spaces up to 18 m³. The flexible solutions are suitable for a very wide range of temperatures.

Technical data

Model overview	Tonale 2000		Tonale 3000		Tonale 4000	
	without stand-by unit					
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 (W)	2,493/–	1,565/–	2,799/–	2,203/–	3,660/–	2,616/–
Cooling capacity according to ATP standard, at ambient temperature of +30 °C and compartment temperature of -20 °C, in engine/stand-by operation (W)	1,206/–	–	1,332/–	–	1,926/–	–
Cooling capacity according to ATP standard, at ambient temperature of +30 °C and compartment temperature of -10 °C, in engine/stand-by operation (W)	1,836/–	1,029/–	2,016/–	1,437/–	2,773/–	1,817/–
Cooling capacity according to ATP standard, at ambient temperature of +30 °C and compartment temperature of +5 °C, in engine/stand-by operation (W)	–	1,895/–	–	2,714/–	–	3,101/–
Nominal voltage (V)	12					
Air flow (m³/h)	670		1,040		1,534	
Max. total current absorption at 12 V, in engine/stand-by operation (A)	21.5/–		36.0/–		40.0/–	
Dimensions L x W x H (mm) Condenser unit Evaporator unit	 799 x 448 x 176 660 x 500 x 157		 1,040 x 518 x 176 900 x 500 x 157		 1,040 x 518 x 176 1,000 x 500 x 157	
Weight (kg) Condenser unit Evaporator unit	 25 7.5	 24 7.5	 33 10.5	 32 10.5	 33 12.5	 32 12.5

Tonale 2000

Model overview	Scope of delivery	Order number
Tonale 2000	Transport refrigeration system for refrigerant R404A, including condenser, evaporator, installation kit, automatic temperature regulation, product documentation	621TNN2K01EE
	Transport refrigeration system for refrigerant R134a, including condenser, evaporator, installation kit, automatic temperature regulation, product documentation	621TNP2K02EC

Tonale 3000

Model overview	Scope of delivery	Order number
Tonale 3000	Transport refrigeration system for refrigerant R404A, including condenser, evaporator, installation kit, automatic temperature regulation, product documentation	621TNN3K01EF
	Transport refrigeration system for refrigerant R134a, including condenser, evaporator, installation kit, automatic temperature regulation, product documentation	621TNP3K01EF

Tonale 4000

Model overview	Scope of delivery	Order number
Tonale 4000	Transport refrigeration system for refrigerant R404A, including condenser, evaporator, installation kit, automatic temperature regulation, product documentation	621TNN4K01EF
	Transport refrigeration system for refrigerant R134a, including condenser, evaporator, installation kit, automatic temperature regulation, product documentation	621TNP4K01EF

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

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 blowers, they offer reliability and a long service life, 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 1,300 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 (m³/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 Evaporator unit	810 x 540 x 243 660 x 500 x 157		810 x 540 x 258 660 x 500 x 157	
Weight (kg) Condenser unit Evaporator unit	45 7.5	53 7.5	47 7.5	55 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	621TNP2K02ED

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 18 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 3,613 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) accreditation applies for all devices

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)	743	1,800	1,800
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 Evaporator unit	 906 x 715 x 262 660 x 530 x 158	 1096 x 725 x 278 1130 x 530 x 158	 1096 x 725 x 278 1130 x 530 x 158
Weight (kg) Condenser unit Evaporator unit	 52.5 11.5	 65.0 18.5	 65.0 18.5

Frigo Top 25 RT-DS

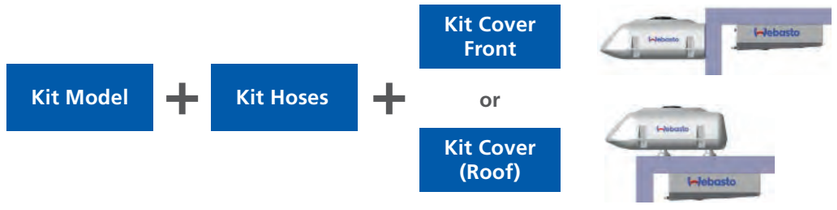
Description	Scope of delivery	Order number
Kit model FT25 12 V – 230 V single phase	Condenser unit (w/o plastic covers) evaporator unit, accessories box, drilling template, documents	6234554A
Kit model FT25 12 V – 400 V three phase	Condenser unit (w/o plastic covers) evaporator unit, accessories box, drilling template, documents	6234570A
Kit cover roof mounted FT25	Condenser unit (w/o plastic covers) evaporator unit, accessories box, drilling template, documents	6234632A
Kit cover front mounted FT25	Condenser unit (w/o plastic covers) evaporator unit, accessories box, drilling template, documents	6234633A
Kit hoses FT25	Hoses and joints	6234684A
Accessories		
Kit heating		6234860A
Kit de-icing 12 V FT25		6231058A

Frigo Top 35 RT-DS

Description	Scope of delivery	Order number
Kit model FT35 12 V – 230 V single phase	Condenser unit (w/o plastic covers) evaporator unit, accessories box, drilling template, documents	6234749A
Kit model FT35 24 V – 230 V single phase	Condenser unit (w/o plastic covers) evaporator unit, accessories box, drilling template, documents	6234770A
Kit model FT35 12 V – 400 V three phase	Condenser unit (w/o plastic covers) evaporator unit, accessories box, drilling template, documents	6234759A
Kit model FT35 24 V – 400 V three phase	Condenser unit (w/o plastic covers) evaporator unit, accessories box, drilling template, documents	6234781A
Kit cover roof mounted FT35-40 12 V	Upper/lower cover, grid and fans, accessories bag	6234642A
Kit cover roof mounted FT35-40 24 V	Upper/lower cover, grid and fans, accessories bag	6234653A
Kit cover front mounted FT35-40 12 V	Upper/lower cover, grid and fans, accessories bag	6234647A
Kit cover front mounted FT35-40 24 V	Upper/lower cover, grid and fans, accessories bag	6234678A
Kit hoses FT35-40	Hoses and joints	6234685A
Accessories		
Kit heating FT35 12 V		6234861A
Kit heating FT35 24 V		6234862A
Kit de-icing 12 V FT35-40		6231060A
Kit de-icing 24 V FT35-40		6231061A

Frigo Top 40 RT-DS

Description	Scope of delivery	Order number
Kit model FT40 12 V – 230 V single phase	Condenser unit (w/o plastic covers) evaporator unit, accessories box, drilling template, documents	6234784A
Kit model FT40 24 V – 230 V single phase	Condenser unit (w/o plastic covers) evaporator unit, accessories box, drilling template, documents	6234791A
Kit model FT40 12 V – 400 V three phase	Condenser unit (w/o plastic covers) evaporator unit, accessories box, drilling template, documents	6234788A
Kit model FT40 24 V – 400 V three phase	Condenser unit (w/o plastic covers) evaporator unit, accessories box, drilling template, documents	6234794A
Kit cover roof mounted FT35-40 12 V	Upper/lower cover, grid and fans, accessories bag	6234642A
Kit cover roof mounted FT35-40 24 V	Upper/lower cover, grid and fans, accessories bag	6234653A
Kit cover front mounted FT35-40 12 V	Upper/lower cover, grid and fans, accessories bag	6234647A
Kit cover front mounted FT35-40 24 V	Upper/lower cover, grid and fans, accessories bag	6234678A
Kit hoses FT35-40	Hoses and joints	6234685A
Accessories		
Kit heating FT40 12 V		6234863A
Kit heating FT40 24 V		6234864A
Kit de-icing 12 V FT35-40		6231060A
Kit de-icing 24 V FT35-40		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 Watts
- 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) accreditation for all devices

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 m³/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	22.0	31.0	31.0

Model overview	Scope of delivery	Order number
Kit model FT50 RT-D 12 V	Control unit, w/o stand-by unit, condenser unit, evaporator unit, wiring harness, hoses and fittings (*)	6238410A
Kit model FT50 RT-D 24 V	Control unit, w/o stand-by unit, condenser unit, evaporator unit, wiring harness, hoses and fittings (*)	6238758A
Kit model FT50 RT-DS 12 V – 400 V	Control unit, stand-by unit, condenser unit, evaporator unit, wiring harness, hoses and fittings (*)	6238077A
Kit model FT50 RT-DS 24 V – 400 V	Control unit, stand-by unit, condenser unit, evaporator unit, wiring harness, hoses and fittings (*)	6238089A
Kit model FT60 RT-D 12 V	Control unit, w/o stand-by unit, condenser unit, evaporator unit, wiring harness, hoses and fittings (*)	6238402A
Kit model FT60 RT-D 24 V	Control unit, w/o stand-by unit, condenser unit, evaporator unit, wiring harness, hoses and fittings (*)	6238649A
Kit model FT60 RT-DS 12 V-400 V	Control unit, stand-by unit, condenser unit, evaporator unit, wiring harness, hoses and fittings (*)	6238098A
Kit model FT60 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 service life. 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 3,266 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

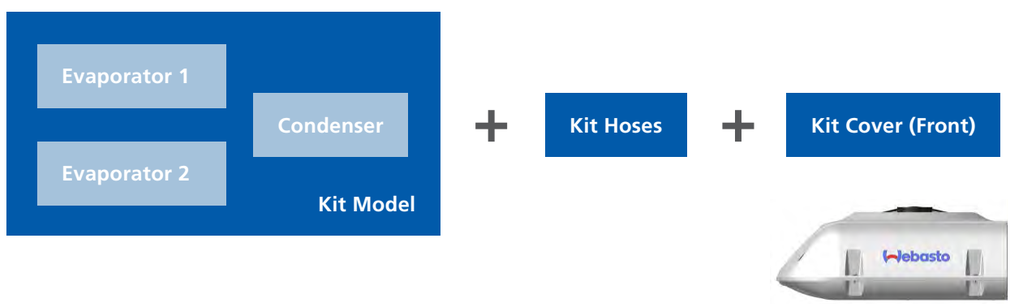
Technical data:

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)	12/24/230	12/24/230
Air flow in m³/h	730	1560
Max. current absorption (A) Engine operation 12 V/24 V	30/15	37.5/19
Max. current absorption (A) Stand-by operation 230/400 V	10.8/–	10.8/–
Dimensions L x W x H (mm) Condenser unit	1,096 x 655 x 278	1,096 x 655 x 278
Dimensions L x W x H (mm) Evaporator unit	660 x 530 x 158	1,130 x 530 x 158
Weight (kg) Condenser w/wo stand-by	65.0	65.0
Weight (kg) Evaporator unit	11.5	18.5

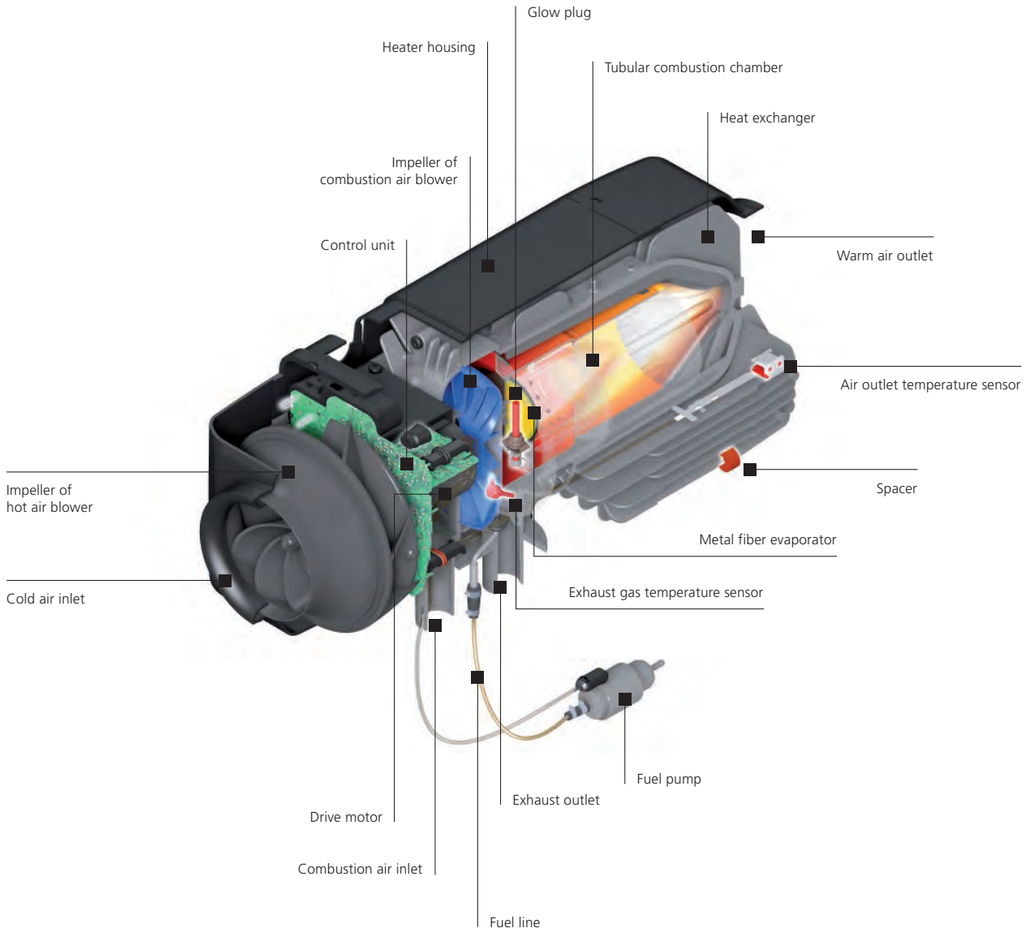
* With two evaporators Frigo Top 25. ** With evaporators Frigo Top 25 and Frigo Top 35.

Model overview	Scope of delivery	Order number
Frigo Top 35 RT-DSMT 12 V evap FT25+FT25	Condensing unit (w/o plastic covers) 2 evaporators, accessories box, drilling template, documents	6238287A
Frigo Top 35 RT-DSMT 12 V evap FT25+FT35	Condensing unit (w/o plastic covers) 2 evaporators, accessories box, drilling template, documents	6238288A
Frigo Top 35 RT-DSMT 24 V evap FT25+FT25	Condensing unit (w/o plastic covers) 2 evaporators, accessories box, drilling template, documents	6240736A
Frigo Top 35 RT-DSMT 24 V evap FT25+FT35	Condensing unit (w/o plastic covers) 2 evaporators, accessories box, drilling template, documents	6240738A
Kit cover (front mounting) 12 V	Upper/lower cover, grid and fans	6234647A
Kit cover (front mounting) 24 V	Upper/lower cover, grid and fans	6234678A
KIT hoses FT35 RT-DSMT evap FT25+FT25	Hoses and joints	6238289A
KIT hoses FT35 RT-DSMT evap FT25+FT35	Hoses and joints	6238290A
Accessories		
Kit de-icing FT35 RT-DSMT 12 V evap FT25+FT25		6231058A + 6231058A
Kit de-icing FT35 RT-DSMT 12 V evap FT25+FT35		6231058A + 6231060A
Kit de-icing FT35 RT-DSMT 24 V evap FT25+FT25		6231059A + 6231059A
Kit de-icing FT35 RT-DSMT 24 V evap FT25+FT35		6231059A + 6231061A
Extension kit 5-16 L = 4 m evap FT25+FT35		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

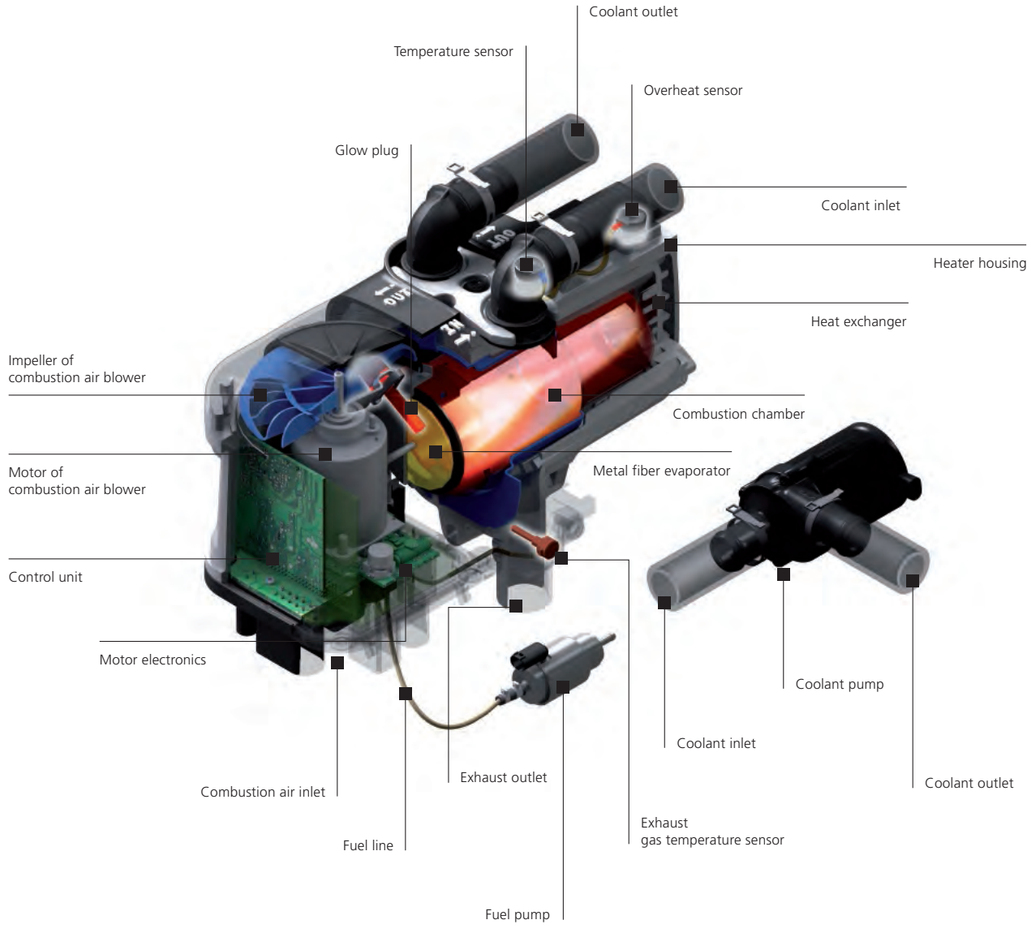


Our air heaters are integrated into the vehicles independently of the engine and, thanks to the small number of interfaces with the vehicle, are easy to install.

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

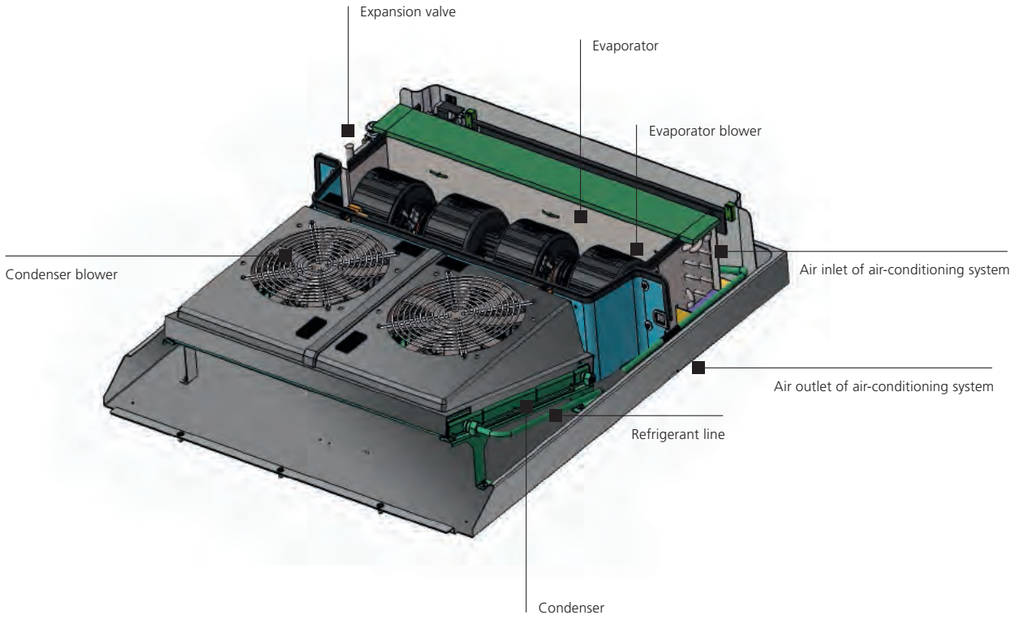


The water heater is incorporated into the vehicle's engine coolant circuit. In this circuit, it flows first through the heat exchanger of the heating system and then through the vehicle's engine.

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 heat exchanger 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

Scope of delivery and technical specifications

SOD	Scope of delivery
HT	Heater
G	Gasoline
D	Diesel
PME	Palm oil methyl ester = biodiesel
AC	Manual air-conditioning system
ACC	Automatic air-conditioning system/automatic air conditioner
HVAC	Air-conditioning system integrated into the vehicle (Heating, Ventilating, Air-conditioning)
EMC	Electromagnetic compatibility
ECE	Economic Commission for Europe
HDD	Heavy Duty Design
OEM	Original Equipment Manufacturer (original equipment manufacturer)
CFC	Chlorofluorocarbons
ABC	Atomic, biological and chemical hazards
TÜV	Technischer Überwachungs-Verein (German technical inspection agency); expert organisation
UV	Ultraviolet radiation
Info	Webasto Information
TM	Technical bulletin
VWZ	Selection times
RME	Rape seed methyl ester
Pkw	Car
Lkw	Truck

Units of measurement

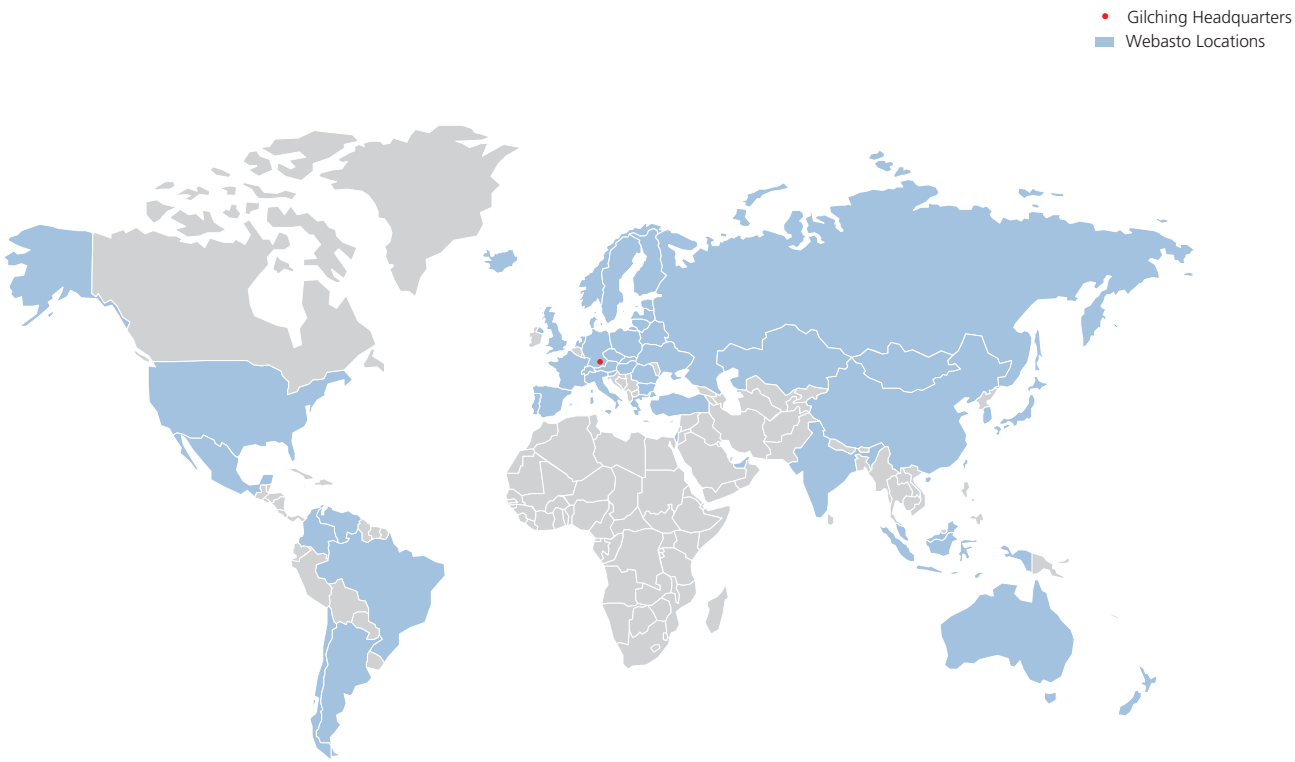
L	Length (mm)
W	Width (mm)
H	Height (mm)
D	Depth (mm)
D	Diameter (mm)
Di	Internal diameter (mm)
Da	External diameter (mm)
kg	Kilogram
m	Meter
mm	Millimeter
h	Hour
NN	Mean sea level; height above mean sea level
SW	Wrench size
MW	Goods by the meter

Electrical units

A	Ampere
V	Volt
W	Watt
kW	Kilowatt
rpm	Revolutions per minute (revolutions per minute)
dB	Decibel
U_{AC}	AC voltage
V_{DC}	DC voltage

(Composite) materials

Al	Aluminum
Cu	Copper
Gf	Glass fiber
Ms	Brass
St	Steel



For more than 75 years, the Webasto group has continued to set new technological standards – in both the original equipment sector and the aftermarket. As 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.

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