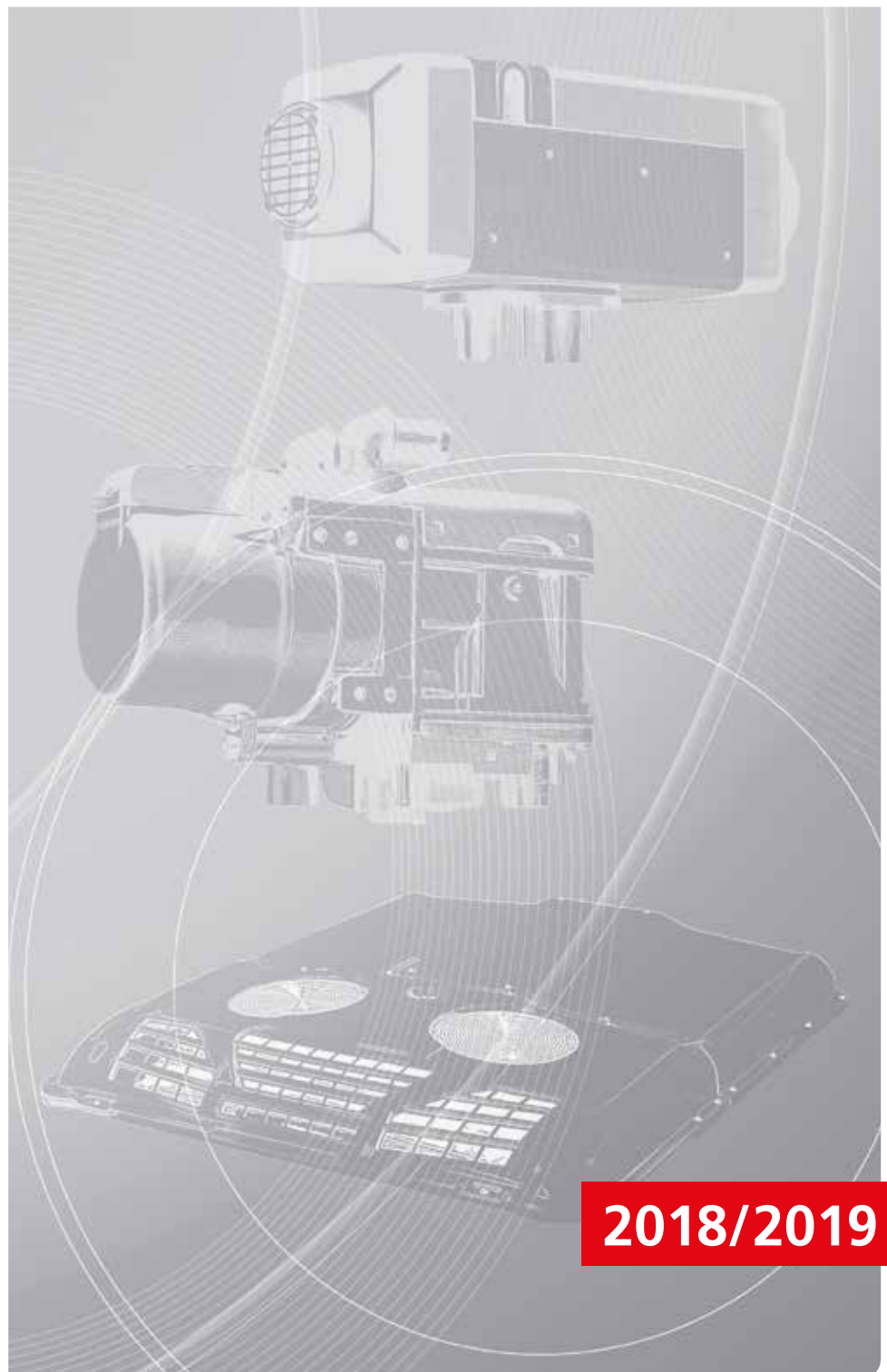


Product Catalog

Heating Solutions

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



2018/2019



Dear Customers, dear Webasto Partners,

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

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

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

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

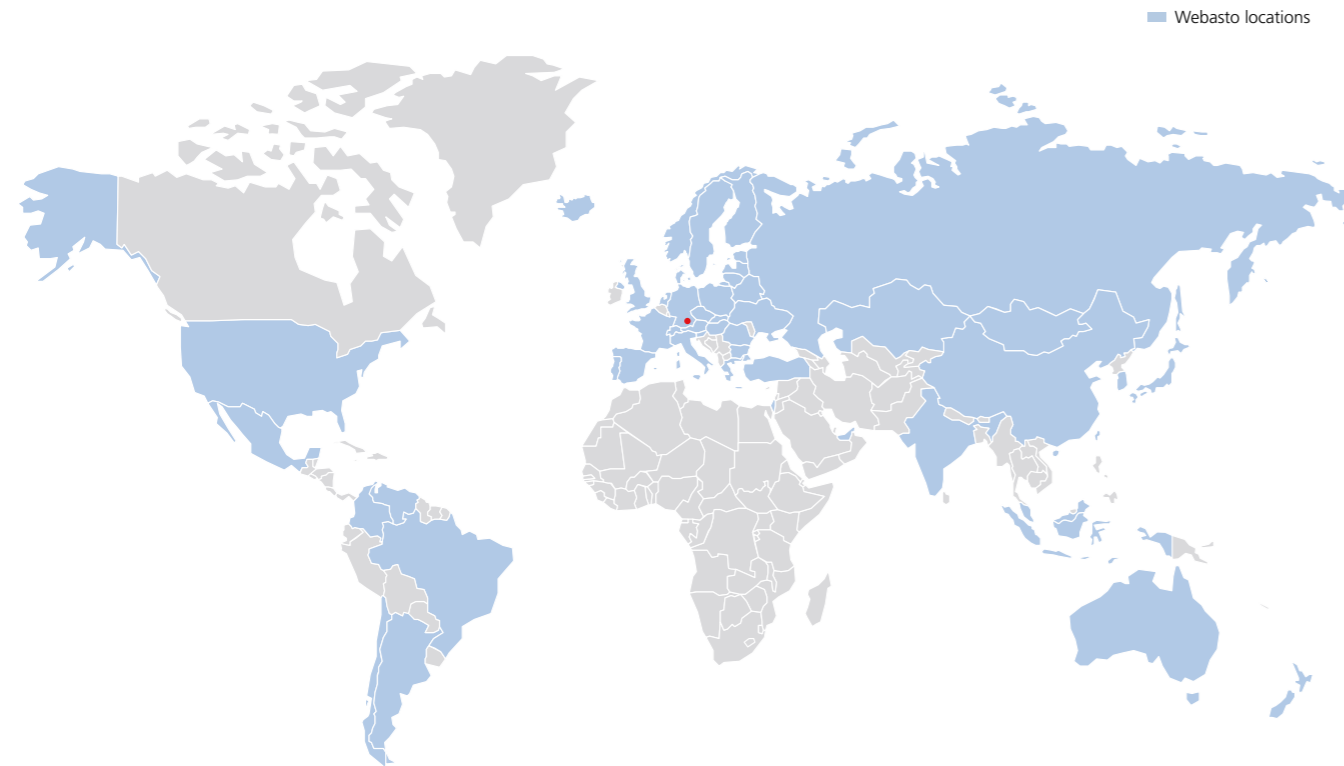
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Webasto Network

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



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

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

Webasto Services

Engineering Services

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

The development process of a customized system solution:

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



Technical Services

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

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



Marketing Services

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

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

Market Segments



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



Cars
Page 8



Trucks
Page 10



Light-duty vehicles
Page 12



Buses
Page 14



Rail
Page 16



Off-highway
Page 18

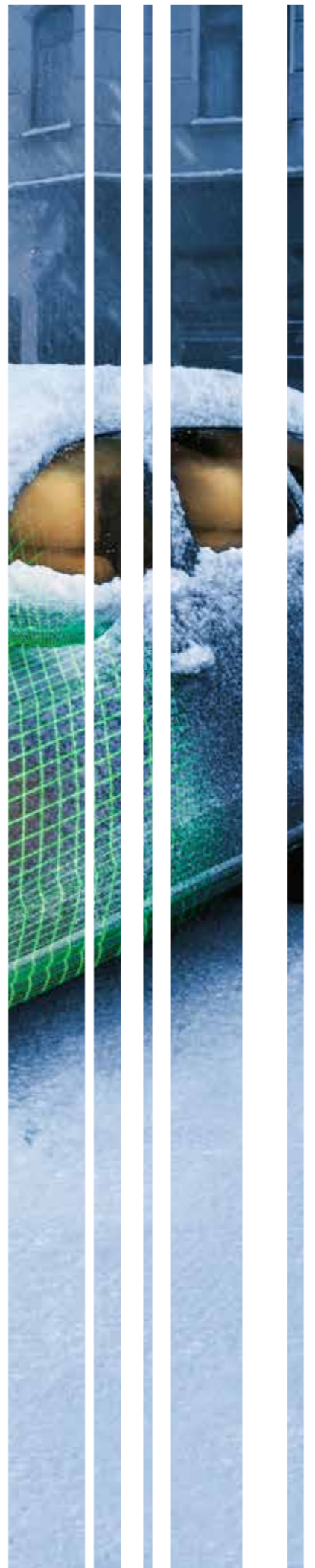
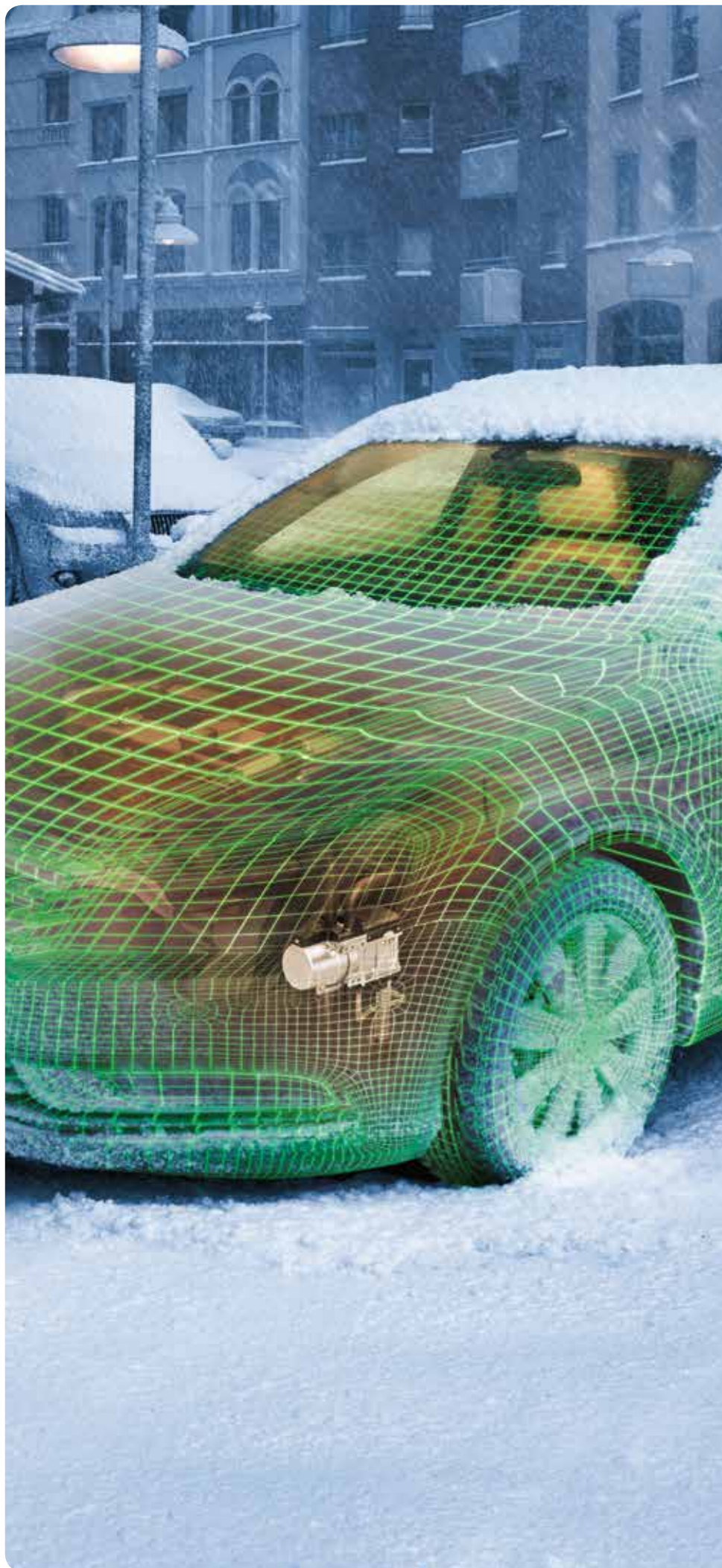


Defense
Page 20



Special vehicles
Page 22

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.

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

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

Benefits of the Webasto solutions for cars:

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

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

NEW

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



Electrically Operated Water Heater



Fuel Operated Water Heater



Trucks

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

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

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

Benefits of the Webasto solutions for trucks:

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

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



Air heater



Water heater



Parking Air-conditioning system



Light-duty Vehicles

From front to back: The perfect temperature all around

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

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

Benefits of the Webasto solutions for light-duty vehicles:

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

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

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



Air heater

Water heater

Air-conditioning system

Transport refrigeration system



Buses

Reliable climate comfort for a safe journey

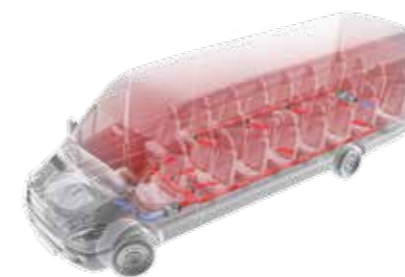
In order to ensure a safe journey, buses must be air-conditioned and ready for operation right from the beginning of the journey. For their climate control equipment, Webasto can draw on a vast product portfolio ranging from standard heaters through various heating solutions up to air-conditioning systems.

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

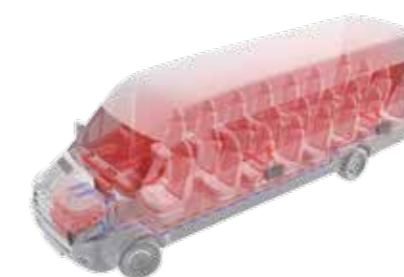
Benefits of the Webasto solutions for buses:

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

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



Air heater



Water heater



Air-conditioning system



Rail

Individual climate control solutions for every outdoor temperature

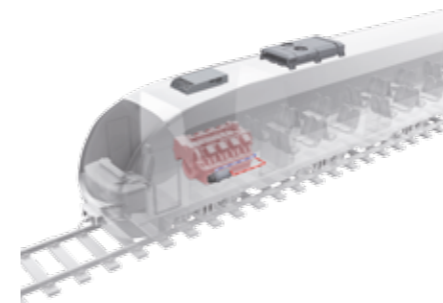
For more than 40 years, Webasto has been developing preheating systems for diesel locomotive engines.

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

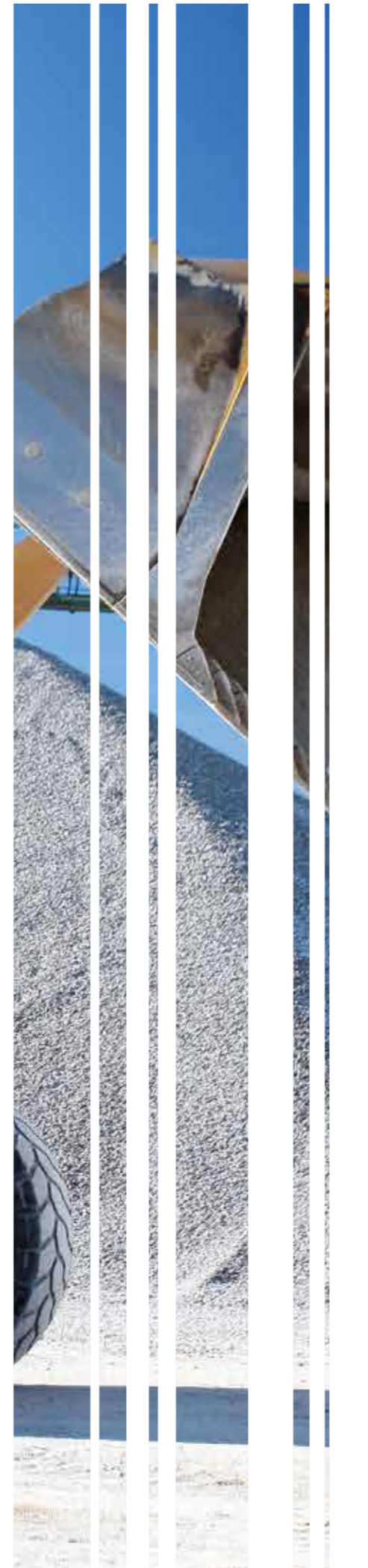
Benefits of the Webasto solutions for rail vehicles:

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

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



Water heater



Off-highway

Do your job more efficiently

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

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

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

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

Heating/Air-conditioning solution	Heating/Cooling capacity (kW)
Air heaters	
Air Top 2000 STC	2.0
Air Top Evo 40/55	4.0 – 5.5
Water heaters	
Thermo Top Evo 4/5/5+	4.0 – 5.0
Thermo Pro 50 Eco	5.0
Thermo Pro 90	9.1
Thermo Top Pro 120/150	12.0 – 15.0
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

Our solutions enables you to fulfill your mission even under the most extreme environmental conditions
 Defense vehicles have to function perfectly under all climatic conditions around world. Webasto helps to meet these demand with tailor-made and field proven solutions.

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

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

Benefits of the Webasto solutions for defense vehicles:

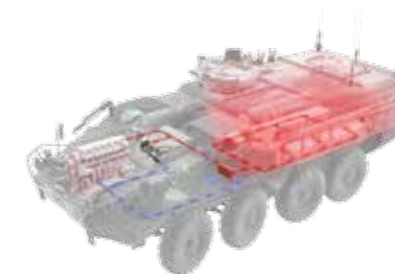
- Mission ready under all climatic conditions
- Fuel and cost efficient heating systems
- Reduced fuel supply in the field
- Optimal temperature for crew and equipment even with the engine switched off
- Reduced thermal signature
- Reduced fuel consumption and wear

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

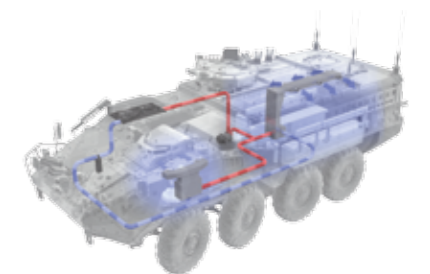
We are at your disposal for the development of individual air-conditioning systems.



Air heater



Water heater



Air-conditioning system



Special Vehicles

Perfect environmental conditions – when every second counts

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

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

Benefits of the Webasto solutions for special vehicles:

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

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

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



Air heater



Water heater



Air-conditioning system



Heating Systems

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

Safety and greater comfort

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

Worthwhile investment

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

Environment-friendly

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

The tailor-made Webasto heating solution for every area

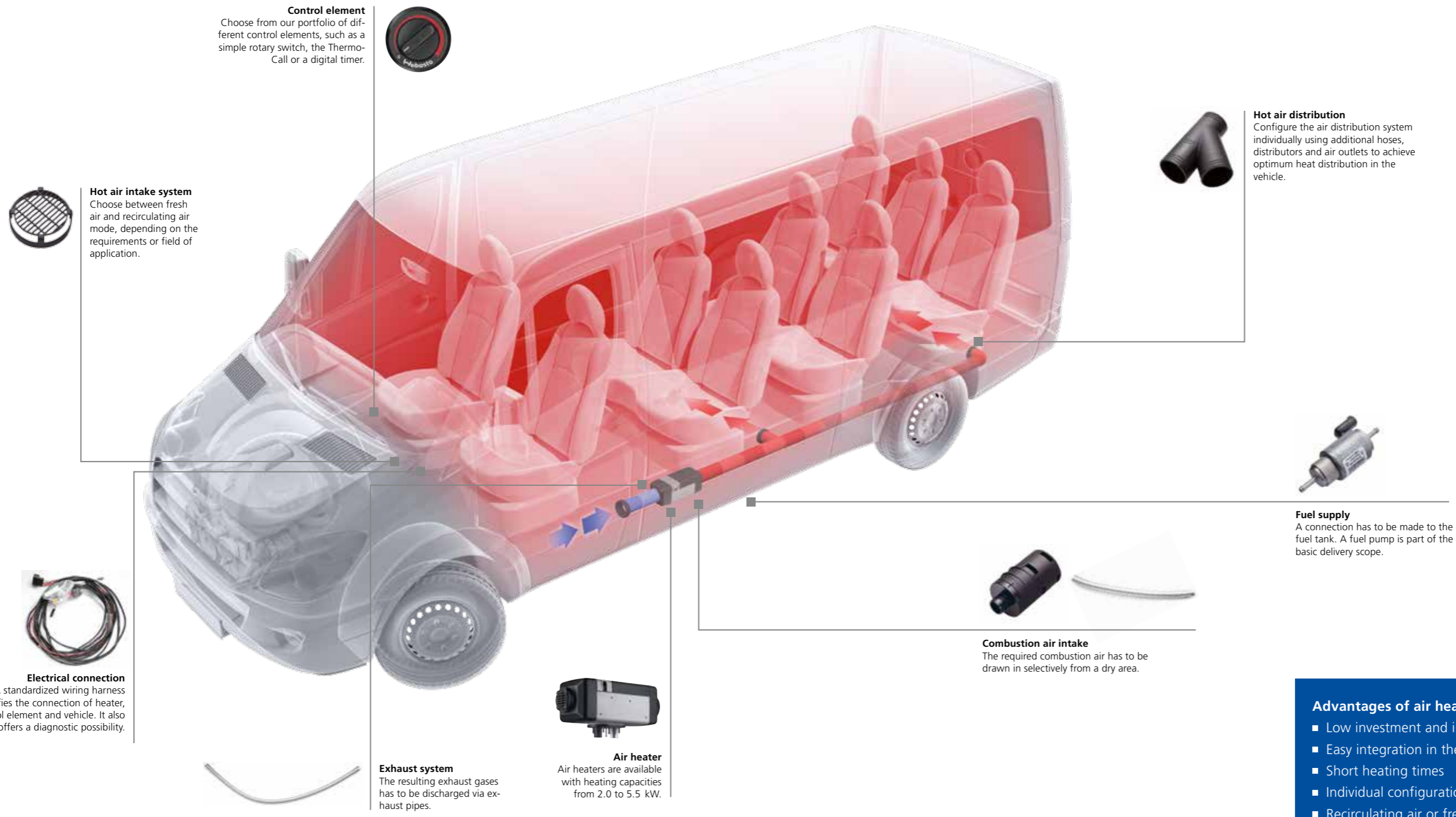
	Heating capacity (kW)								
Air heaters									
Air Top 2000 STC	2.0		■	■	■		■	■	■
Air Top Evo 40/55	4.0 – 5.5		■	■	■		■	■	■
Water heaters									
eThermo Top Eco	2.0 – 3.0	■							
Thermo Top Evo 4/5/5+	4.0 – 5.0	■		■			■		■
Thermo Pro 50 Eco	5.0		■	■			■	■	■
Thermo Pro 90	9.1		■	■	■		■	■	■
Thermo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

Air heaters
Water heaters
Integrated heat exchangers

Application of an air heating system

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

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



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

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

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

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

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

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 is part of the basic delivery scope.

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

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

Air heaters

Air Top 2000 STC



The simple and cost-effective solution

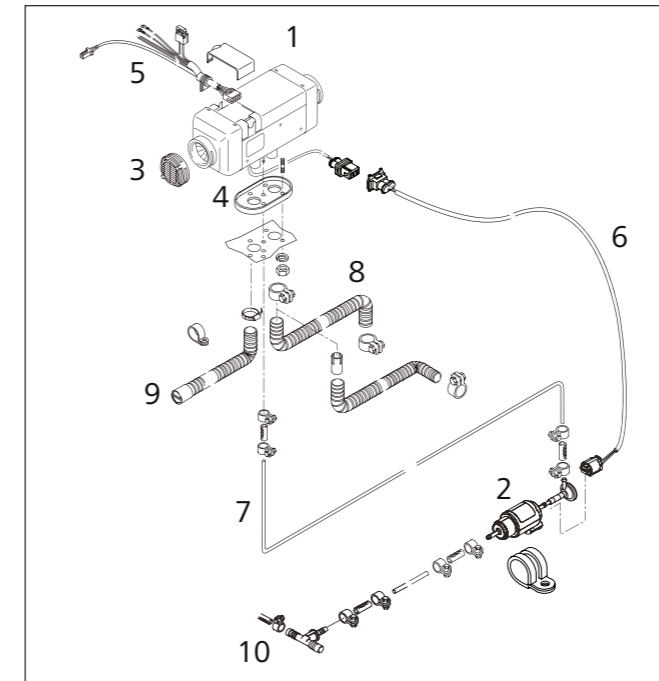
The compact Air Top 2000 STC air heater is an impressive performer thanks to its versatility and low fuel consumption. Its compact construction means that it can be installed quickly either inside or outside the vehicle. The Air Top 2000 STC heats the air in the interior or cargo space quickly and quietly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

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

Technical data

Model overview	Air Top 2000 STC		
	Diesel		Gasoline
ECE approval number ECE R122 (heating)	E1 00 0216		E1 00 0216
ECE approval number ECE R10 (EMC)	E1 04 1085		E1 04 1085
Heating capacity, control range (kW)	0.9 – 2.0		1.0 – 2.0
Fuel consumption, control range (l/h)	0.12 – 0.24		0.14 – 0.27
Nominal voltage (V)	12	24	12
Rated power consumption, control range (W)	15 – 30	13 – 28	15 – 30
Heating air volume flow against 0.5 mbar, control range (m³/h)	93		93
Fuels*	Diesel EN 590, B100 FAME EN 14214		E0-E10 EN 228
Operating temperature range (°C)	-40 to +40		-40 to +40
Dimensions L x W x H (mm)	310 x 120 x 118		310 x 120 x 118
Weight (kg)	2.6		2.6

* Information about further fuels on request



Contents Scope of delivery/Installation kit

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

Air Top 2000 STC

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

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

Control element not included. Separate order required.

Air heaters

Air Top Evo 40/55



Evolution with more power and versatility

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

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

The advantages of the Air Top Evo 40/55

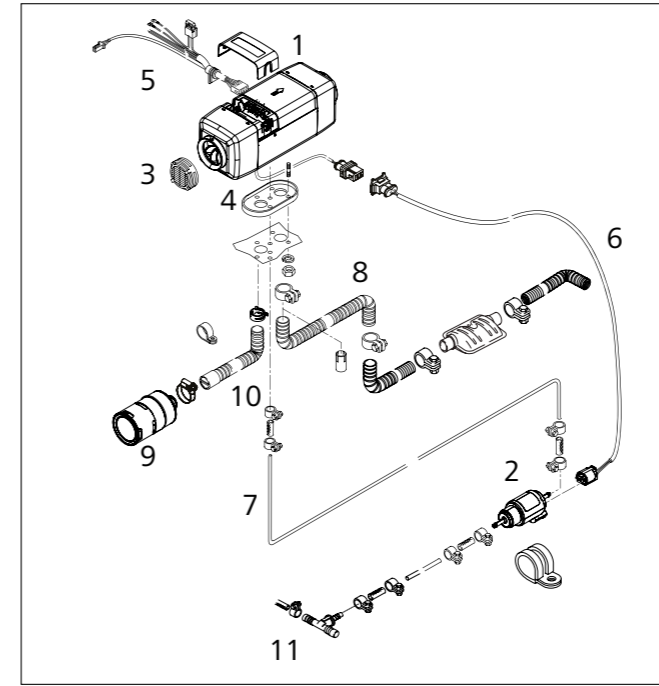
- Up to 4.0 / 5.5 kW heat output
- Very low electrical power consumption thanks to Intelligent Blower Control
- Silent operation thanks to adapted blower speed and silent fuel pump (DP42)
- Flame detection through exhaust gas temperature sensor
- Automatic altitude adjustment till 2,200 m above sea level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

Technical data

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

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

*** Information about further fuels on request



Contents Scope of delivery/Installation kit

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

Air Top Evo 40

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

Air Top Evo 55

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

Installation kit

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

Air Top Evo 40 High Altitude

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

Air Top Evo System

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


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

Control element not included. Separate order required.










Air heaters

Control elements

		Air Top 2000 5TC	Air Top Evo 40/55	Order number
Wireless 	ThermoConnect – 12/24 V – Incl. GSM module, cable harness, GSM Antenna, GPS Antenna and pushbutton – Operating via App for iOS and Android and WebApp my.webastoconnect.com	■	■	9035344A
	Remote control by phone ThermoCall TC4 ThermoCall TC4 – 12/24 V – Incl. GSM module, cable harness, GSM antenna and pushbutton – Operation via App. for iOS and Android	■	■	9032141A
	External temperatur sensor For ThermoCall	■	■	1319921A

Wired





	Kit UniControl – 12 / 24 V – Cover panel dimensions (L x W): 88,6 x 41,3 mm, installation depth: 30,6 mm – Quick start button – Switch input (for analog push button) – Instrument lighting (KI.58) – Ignition plus (terminal 15, for ad hoc continous heating) – ADR Including wiring harness adapter UniControl – 9034555A	■	■	9034520B
	Kit UniControl - replacement set standard timer 1531 – 12 / 24 V – Cover panel dimensions (L x W): 88,6 x 41,3 mm, installation depth: 30,6 mm – Quick start button – Switch input (for analog push button) – Instrument lighting (KI.58) – Ignition plus (terminal 15, for ad hoc continous heating) – ADR Including adapter cable timer 1531 – 9034596A	■	■	9034521B
	Wiring harness adapter UniControl Connection cable UniControl – 10-pole (UniControl) to 4-pole standard plug – Cable length 0.13 m	■	■	9034555A

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




Air heaters


Control elements

Wired

		Air Top 2000 5TC	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 – 3 preselectable on-times per day, programmable for 7 days in advance – Internal temperature sensor/display of room temperature on display – Diagnostic interface for W-bus heaters and Thermo Test – Including adhesive pad	■	■	9030025D
	SmartControl – 12 / 24 V – Cover panel dimensions (L x W): 68 x 48 mm, installation depth: 15 mm – Quick and intuitive operation thanks to a large TFT display and multifunction button – Status display of operating states via multicolored LED – Self-explanatory menu control for heating and ventilation – Diagnostic interface for W-bus heaters and Thermo Test – ADR – Including adhesive pad	■	■	9030026D
	Multi-/SmartControl holding frame – Fastened by screws at the mounting point – Multi-/SmartControl is clicked into the holding frame	■	■	9030077A
	Adhesive pad – Included in kit 9030025D and 9030026D	■	■	9029618A

Switches

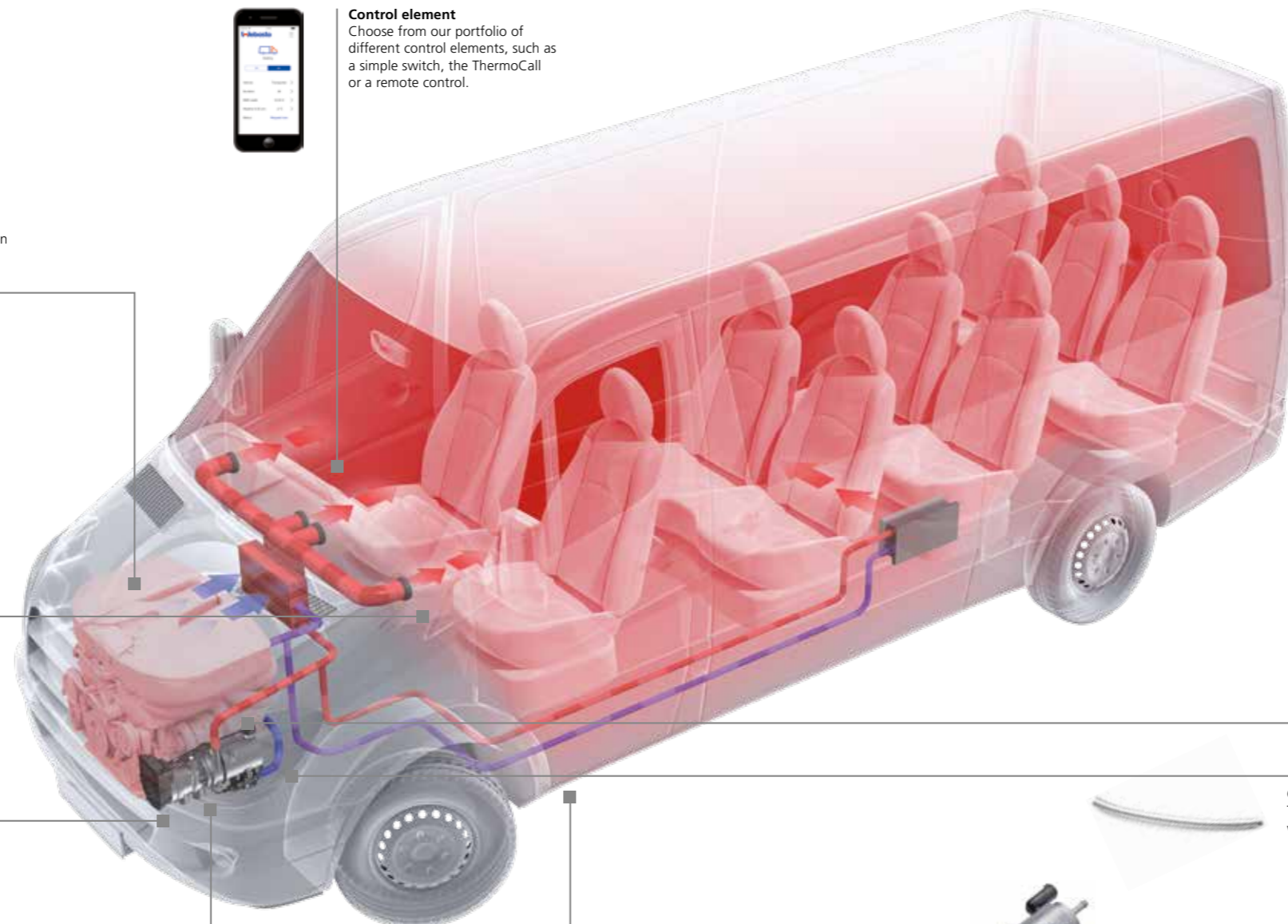
	Rotary selector switch – 12/24 V – With switch function and light – Cover panel Ø 49 mm – Installation depth including plug: 55 mm	■	■	1322581A
	Installation cover panel – For rotary selector switch (1322581A) – Black plastic – Cover panel dimensions (L x W): 84 x 41,6 mm	■	■	1319733A
	Installation cover panel with rocker switch for heating and ventilation mode – For rotary selector switch (1322581A) – Black plastic – Cover panel dimensions (L x W): 84 x 41,6 mm	■	■	92240A

		Air Top 2000 5TC	Air Top Evo 40/55	Order number
	Rocker switch for heating and ventilation mode – Printed with flame and fan symbol – Cover panel dimensions (L x W): 19 x 14 mm – Switching current 3 amps – With connection materials	■	■	1320434A
	Expansion kit 4-pole standard plug – Expansion cable for 4-pole standard plug – For Rotary selector switch, UniControl, MultiControl, SmartControl, ThermoCall TC4 & ThermoConnect – Cable length 3m	■	■	9031988A

Application of a water heating system

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

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



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



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



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



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



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



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



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



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

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

Water heaters

New: eThermo Top Eco



Fast, Powerful, Electrical

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

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

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

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

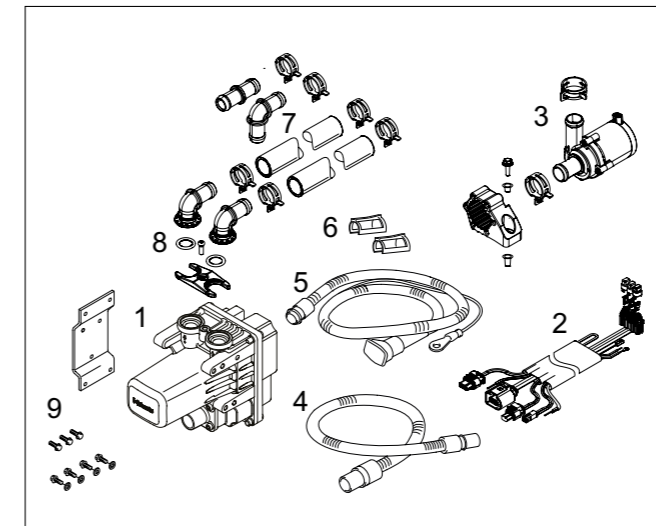
eThermo Top Eco 20 P (2 kW) for home connection with fuse protection of ≥ 10 A
eThermo Top Eco 30 P (3 kW) for home connection with fuse protection of ≥ 16 A

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

Technical data

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

NEW



Contents Scope of delivery/Installation kit

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

eThermo Top Eco 20 P/eThermo Top Eco 30 P

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

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

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

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

Water heaters

Thermo Top Evo



Quick and reliable starting in winter

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

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

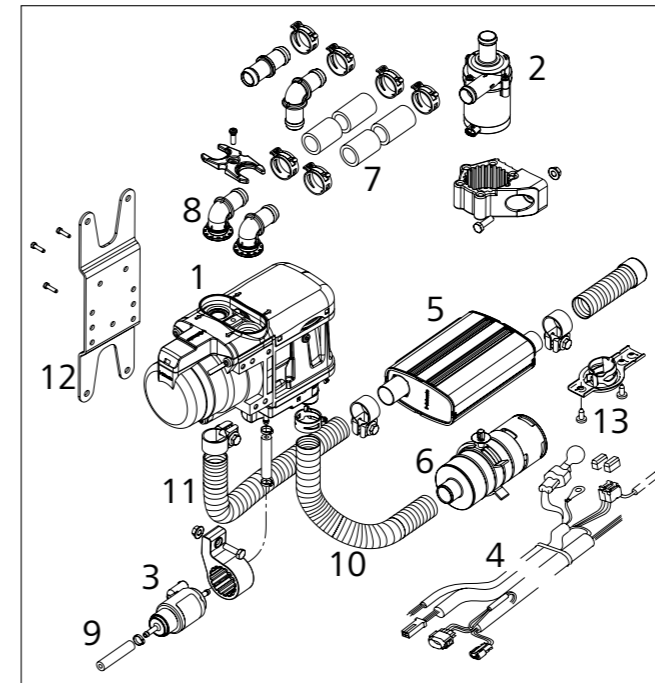
- Extremely small and a great space saver
- Weighting 2.1 kg, this is the lightest heater in its class
- Efficient and stable heating capacity
- Low fuel consumption and minimal emissions in operation
- Available in various heating capacities
- Vehicle-specific installation kits for the most common models

Technical data

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

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

** Information about further fuels on request



Contents Scope of delivery/Installation kit

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

Thermo Top Evo 4

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

Thermo Top Evo 5

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

Thermo Top Evo 5+

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

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

Control element not included. Separate order required.

Water heaters

Thermo Pro 50 Eco



Light and powerful

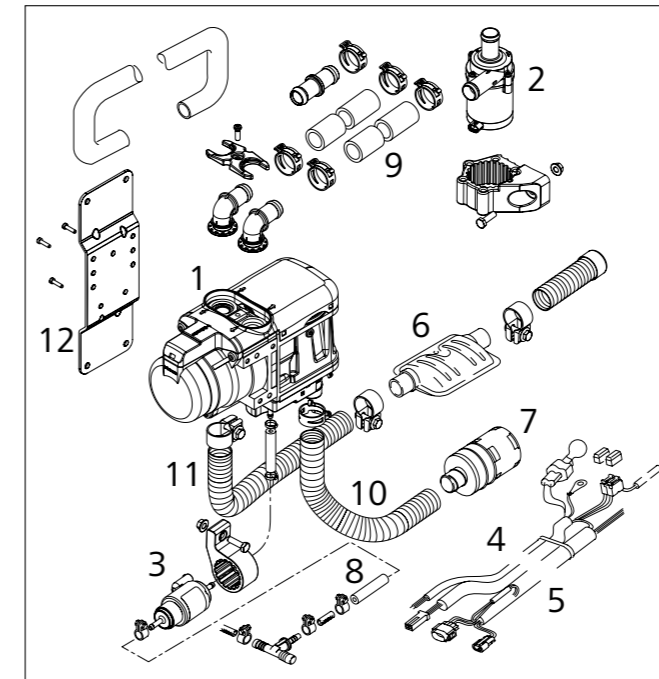
The Thermo Pro 50 Eco is designed especially for use in light trucks and small to medium-sized commercial and special vehicles. Its compact dimensions and low weight enable it to be installed even in restricted space conditions. The engine can be raised to the operating temperature even before starting,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

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

Technical data

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

* Information about further fuels on request



Contents Scope of delivery/Installation kit

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

Thermo Pro 50 Eco

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

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

Control element not included. Separate order required.

Water heaters

Thermo Pro 90



Light and robust

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

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

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

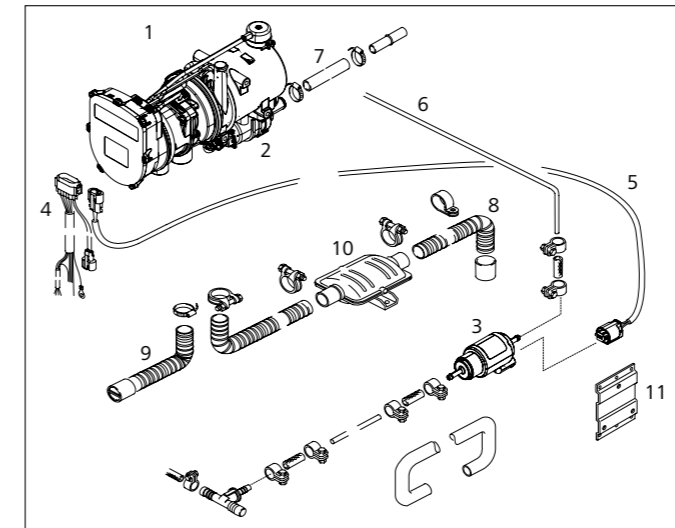
Technical data

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

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

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

*** Information about further fuels on request



Contents Scope of delivery/Installation kit

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

Thermo Pro 90

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

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

Control element not included. Separate order required.

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

Thermo Pro 90 High Altitude

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

Thermo Pro 90 HDD

Optimized product for industrial and construction sectors.

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

Water heaters

Thermo Top Pro 120/150



Greater performance and innovation in terms of customer comfort & safety

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

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

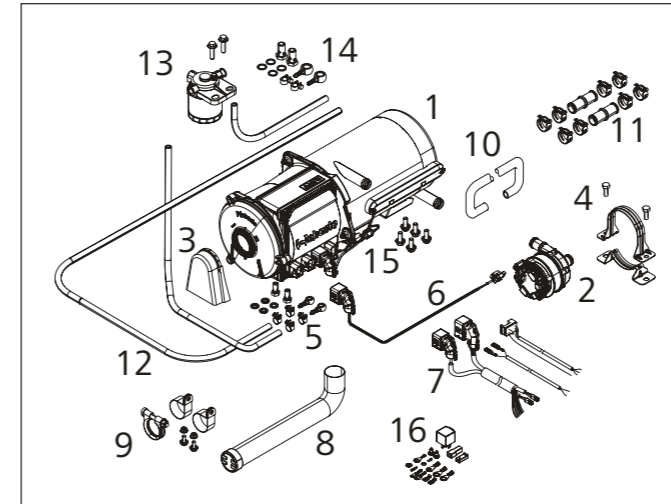
The new cooling pump U4850 provides a high volume flow and improved pressure resistance. Furthermore it does have an intelligent self-protection function and communicates to the control unit. The diagnosis process provides analysis of the heater as well as the cooling pump performances. The result: easy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

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

Technical data

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

* Information about further fuels on request



Contents Scope of delivery/Installation kit

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

Thermo Top Pro 120

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

Thermo Top Pro 150

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

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

Water heaters

Valeo, Thermo 230/300/350



Ready to start immediately, even at low temperatures

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

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

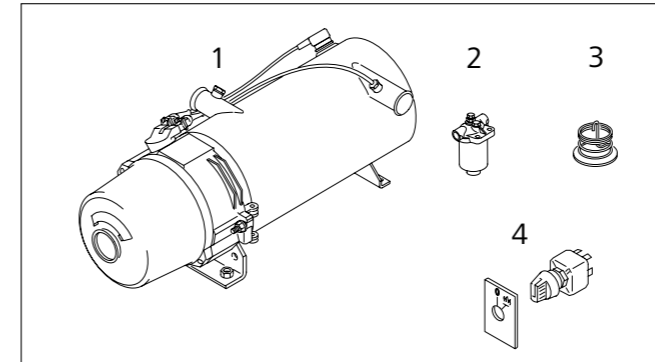
The Thermo water heaters will expire in 2020, the successor will be available in 2019.

Technical data

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

* Information about further fuels on request

Expire



Contents Scope of delivery

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

Thermo 230

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

Thermo 300

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

Thermo 350

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

Thermo Rail 230/300/350 heaters on request.

Water heaters

Valeo, Thermo S 230/300/350/400



Powerful and kind to the environment

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

- 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

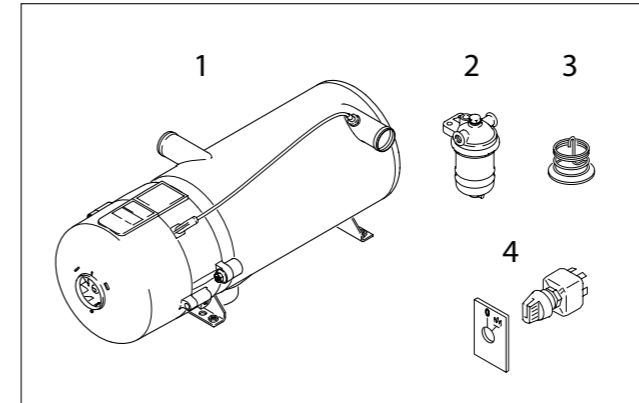
The Thermo S water heaters will expire in 2020, the successor will be available in 2019.

Technical data

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

* Information about further fuels on request

Expire



Contents Scope of delivery

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

Thermo S230

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

Thermo S300

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

Thermo S350







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









Thermo S400

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

Water heaters

Control elements

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







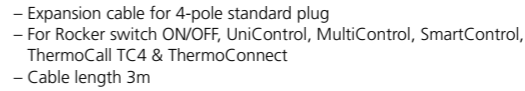
		Thermo Top Evo	Thermo Pro 50 Eco	Thermo Pro 90	Thermo Top Pro 120/150	Thermo 230/300/350	Thermo S 230/300/350/400	Order number
	Receiver T91/T100 HTM Included in kit 1314637A and kit 1314635A	■		■				1314639A
	Self-adhesive window antenna For remote controls Telestart T91/T100 HTM Included in kit 1314637A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

Water heaters

Control elements

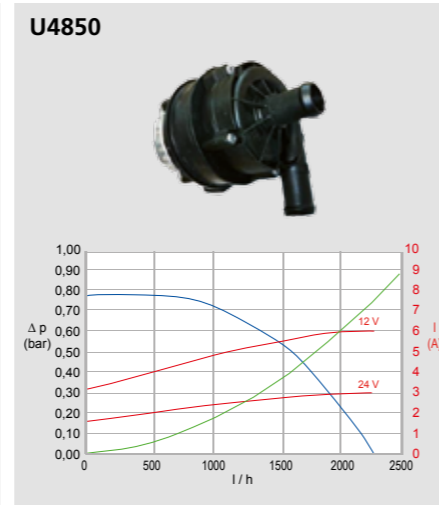
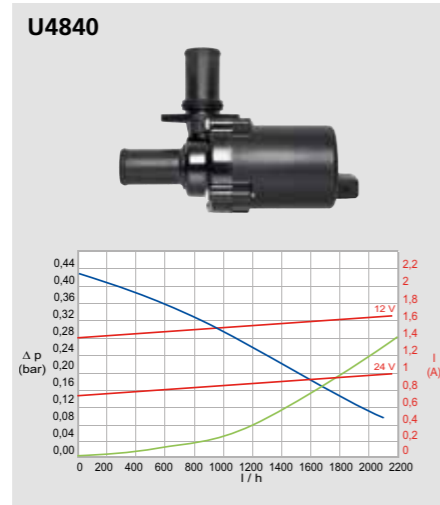
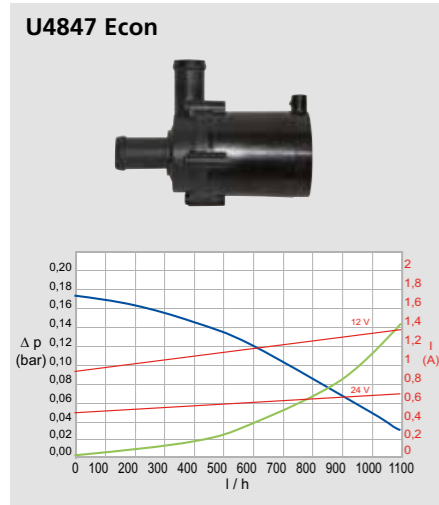
Wired

	Thermo Top Evo	Thermo Pro 50 Eco	Thermo Pro 90	Thermo Top Pro 120/150	Thermo 230/300/350	Thermo S 230/300/350/400	Order number
 <p>Kit UniControl</p> <ul style="list-style-type: none"> - 12 / 24 V - Cover panel dimensions (L x W): 88,6 x 41,3 mm, installation depth: 30,6 mm - Quick start button - Switch input (for analog push button) - Instrument lighting (KI.58) - Ignition plus (terminal 15, for ad hoc continuous heating) - ADR - Including wiring harness adapter UniControl – 9034555A 	■	■	■	■	■	■	9034520B
 <p>Kit UniControl - replacement set standard timer 1531</p> <ul style="list-style-type: none"> - 12 / 24 V - Cover panel dimensions (L x W): 88,6 x 41,3 mm, installation depth: 30,6 mm - Quick start button - Switch input (for analog push button) - Instrument lighting (KI.58) - Ignition plus (terminal 15, for ad hoc continuous heating) - ADR - Including adapter cable timer 1531 – 9034596A 	■	■	■	■	■	■	9034521B
 <p>Wiring harness adapter Unicontrol</p> <ul style="list-style-type: none"> - Connection cable UniControl - 10-pole (UniControl) to 4-pole standard plug - Cable length 0.13 m 	■	■	■	■	■	■	9034555A
 <p>Adapter cable UniControl - replacement standard timer 1531</p> <ul style="list-style-type: none"> - Adapter cable for replacement of pre-selection timer 1531 - 10-pole (UniControl) to 12-pole connector of preselection timer 1531 - Cable length 0.2 m 	■	■	■	■	■	■	9034596A
 <p>Expansion kit UniControl</p> <ul style="list-style-type: none"> - Expansion cable for additional wiring (e.g. switching input, terminal 15) - 5 single wires with one-sided crimped flat connector - Flat connectors can be pinned into the still vacant slots of the 10-pole UniControl plug - Including 5 butt connectors - Cable length 3 m 	■	■	■	■	■	■	9034597A
 <p>Installation frame kit, short</p> <ul style="list-style-type: none"> - For UniControl - Cover panel dimensions (L x W): 120 x 60 mm - With installation materials 	■	■	■	■	■	■	474630
 <p>Installation kit, long</p> <ul style="list-style-type: none"> - For UniControl - Cover panel dimensions (L x W): 200 x 60 mm - With installation materials 	■	■	■	■	■	■	476404

	Thermo Top Evo	Thermo Pro 50 Eco	Thermo Pro 90	Thermo Top Pro 120/150	Thermo 230/300/350	Thermo S 230/300/350/400	Order number
 <p>MultiControl Car</p> <ul style="list-style-type: none"> - 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 - Including adhesive pad - Diagnostic interface for W-bus heaters and Thermo Test 	■						9029783C
 <p>MultiControl HD</p> <ul style="list-style-type: none"> - 12/24 V - Cover panel dimensions (L x W) 68 x 48 mm, installation depth: 15 mm - Quick and intuitive operation thanks to a large TFT display and multifunction button - Status display of operating states via multicolored LED - 3 preselectable on-times per day, programmable for 7 days in advance - Internal temperature sensor/display of room temperature on display - Diagnostic interface for W-bus heaters and Thermo Test - Including adhesive pad 	■	■	■				9030025D
 <p>SmartControl</p> <ul style="list-style-type: none"> - 12 / 24 V - Cover panel dimensions (L x W): 68 x 48 mm, installation depth: 15 mm - Quick and intuitive operation thanks to a large TFT display and multifunction button - Status display of operating states via multicolored LED - Self-explanatory menu control for heating and ventilation - Diagnostic interface for W-bus heaters and Thermo Test - ADR - Including adhesive pad 	■	■	■				9030026D
 <p>Multi-/SmartControl holding frame</p> <ul style="list-style-type: none"> - Fastened by screws at the mounting point - Multi-/SmartControl is clicked into the holding frame 	■	■	■	■			9030077A
 <p>Adhesive pad</p> <ul style="list-style-type: none"> - Included in kit 9029783C, 9030025D and 9030026D 	■	■	■	■			9029618A
 <p>Rocker switch ON/OFF</p> <ul style="list-style-type: none"> - 12/24 V - Dimensions: 23 x 23 mm (drilling hole 20 mm) - LED to indicate heater operation - Incl. Wiring harness and information sheet with installation notes 	■	■	■	■	■	■	9032550A
 <p>Expansion kit 4-pole standard plug</p> <ul style="list-style-type: none"> - Expansion cable for 4-pole standard plug - For Rocker switch ON/OFF, UniControl, MultiControl, SmartControl, ThermoCall TC4 & ThermoConnect - Cable length 3m 	■	■	■	■	■	■	9031988A

Water heaters

Coolant pumps



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

Flow resistance when the pump is stationary

Rated power consumption

Technical data

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

U4847 Econ

Model overview	Order number
U4847 Econ coolant pump 12 V, 130° connection piece	90025148
U4847 Econ coolant pump 24 V	982378

U4840

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

U4850

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

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

Successor kits coolant pump U4846

Model overview	Order number
Kit U4840, 12 V (including U4840, 12 V with adapter cable and connection kit)	90241848
Kit U4840, 12 V (including U4840, 12 V with bracket, adapter cable and connection kit)	90241868
Kit U4840, 24 V (including U4840, 24 V with adapter cable and connection kit)	90241858
Kit U4840, 24 V (including U4840, 24 V with bracket, adapter cable and connection kit)	90241878

Successor kits coolant pump U4810

Model overview	Order number
Kit U4840, 12 V (including U4840, 12 V with adapter cable and connection kit)	90241848
Kit U4840, 12 V (including U4840, 12 V with bracket, adapter cable and connection kit)	90241868
Kit U4840, 24 V (including U4840, 24 V with adapter cable and connection kit)	90241858
Kit U4840, 24 V (including U4840, 24 V with bracket, adapter cable and connection kit)	90241878

Aquavent 5000/5000 S

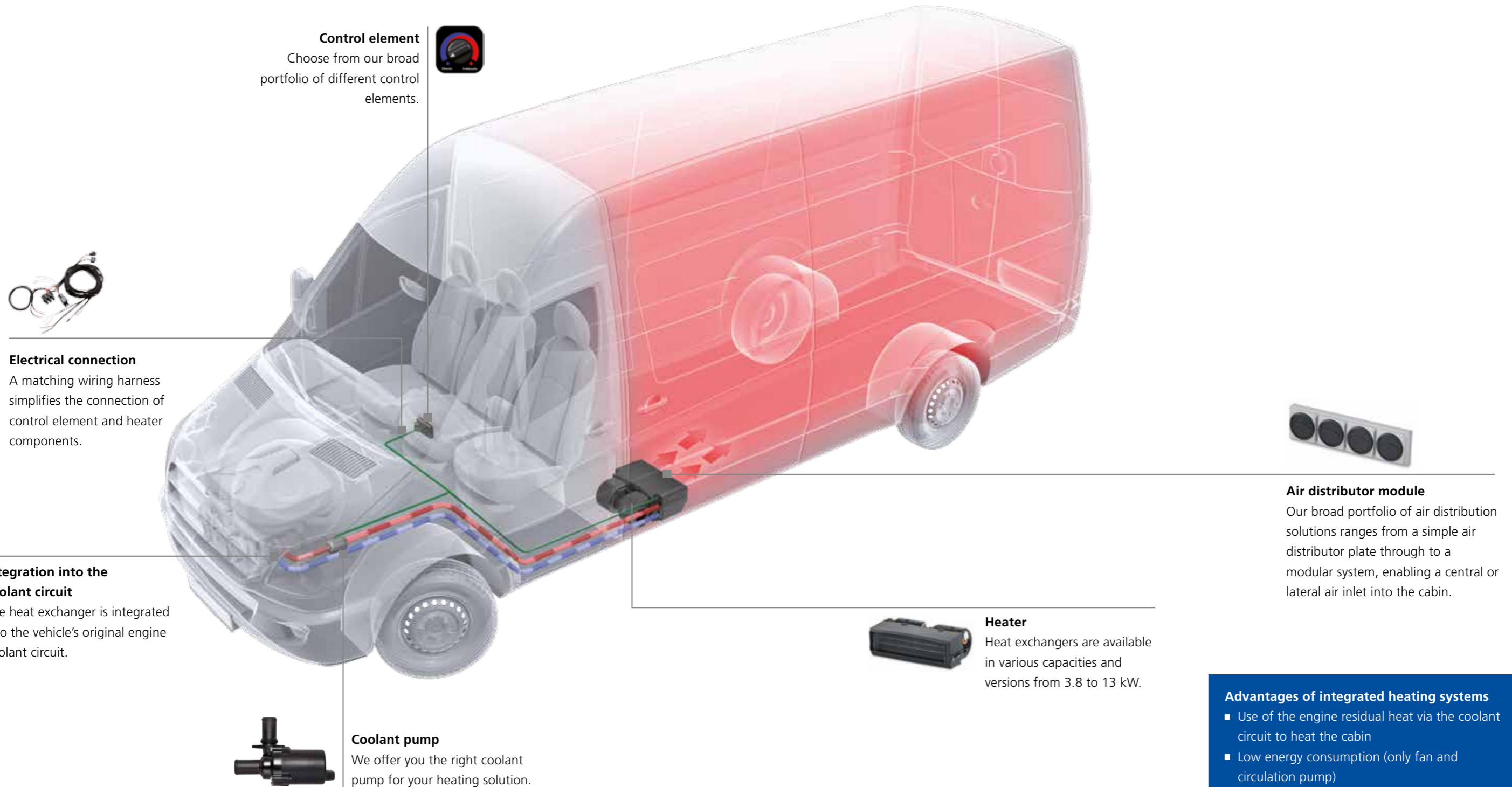
Model overview	Order number
Aquavent 5000 (U4814) coolant pump 24 V (JAEGER 1/2)	9810031A
Kit Aquavent 5000 (U4814) coolant pump 12 V (AMP 6.3), with bracket	9810032A
Kit Aquavent 5000 (U4814) coolant pump 24 V (AMP 6.3), with bracket	9810033A
Aquavent 5000 S (U4854) coolant pump 24 V (AMP 6.3)	9810179B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

Aquavent 6000 C/6000 SC

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

Application of an integrated heat exchanger

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



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	Stocolma	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 (m³/h)	170	420	450	450	800	
Dimensions L x W x H (mm)	260 x 177 x 130	276 x 183 x 191	230 x 220 x 175	590 x 380 x 160	385 x 233 x 128	545 x 300 x 175
Weight (kg)	1.3	2.5	2.8	4.2	3.0	4.0
Water connection, Ø (mm)	16					



Sydney

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

* Blower motor with only two speeds

Stocolma

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

Houston

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

Toronto

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

Phoenix

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



Cyprus

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

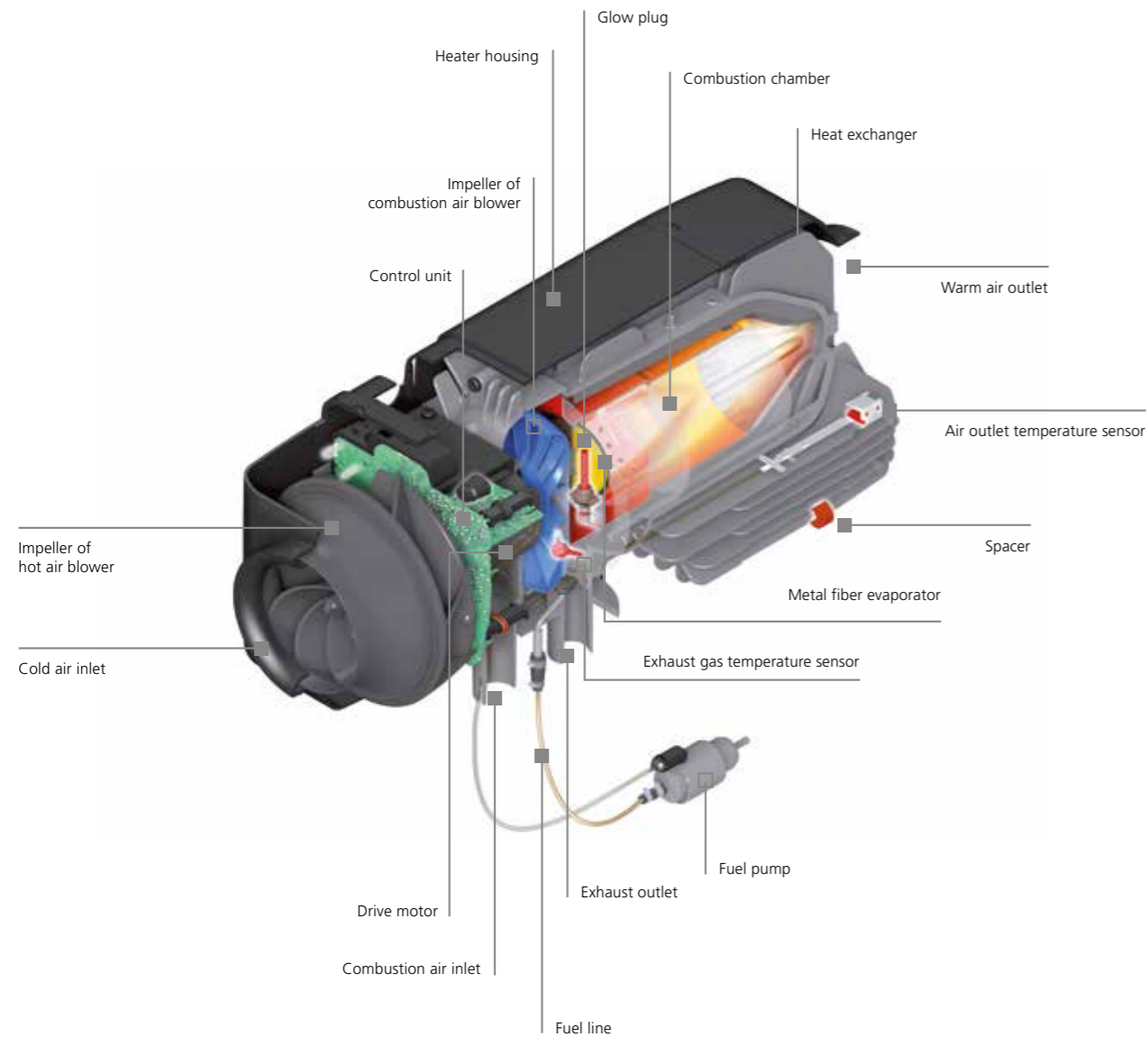
The performance data for your application may differ from the nominal values. These depend on various conditions, such as the air ducts and the climate. Products are supplied together with product documentation. Unless stated otherwise, the control element is not included.

Integrated heat exchangers

Control elements

	Sydney	Stoccolma	Houston	Toronto	Phoenix	Cyprus	Order number	
	Heating control switch							
		■		■		■	■	62A03998A
		■		■		■	■	620282129A
		■		■		■	■	620282102A
	3-position blower switch							
		■		■		■	■	62A04001A

Operation of an air heating system

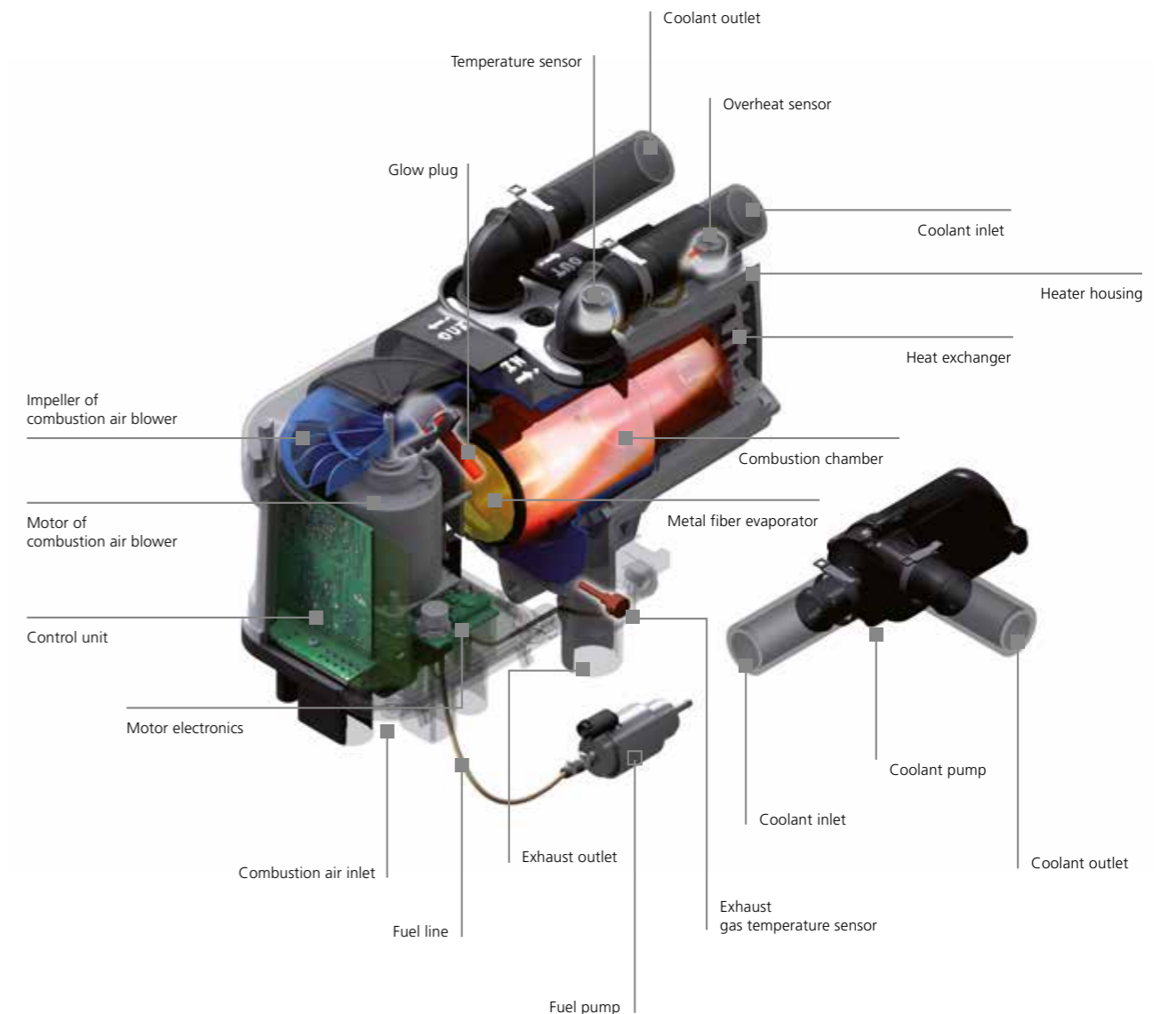


Our air heaters are integrated into the vehicles independently of the engine and, thanks to the small number of interfaces with the vehicle, are easy to install.

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

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

Operation of a water heating system



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

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

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

Abbreviations

Specifications

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

Units of measurement

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

Electrical units

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



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

