

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.



### More comfort and safety in action

Heating and air-conditioning systems for special-purpose vehicles, mini and midi buses



Webasto Thermo & Comfort SE P.O. Box 1410 82199 Gilching

webasto.com

## When comfort and safety are with you in any situation.



#### A warm engine – a clear visibility

For every deployment, on every drive, it's important to be fully focused from the start. And here our parking heaters make no exceptions: They ensure that the windows are ice and fog free even before the drive begins. And that goes for small vehicles as well as large ones. Thanks to a preheated engine, wear and tear and fuel costs are also reduced. So with Webasto you experience more safety, comfort and a feel better driving experience with every passing kilometer.

#### A cool interior - there's a system at work

And you can also completely rely on our air-conditioning

expertise. We are sure to have the perfect solution available for your particular application. In addition to mini and midi buses, our product range enables us to equip ambulances and large-scale emergency vehicles such as fire engines. Whatever the case may be, you get a customized solution that is fast and hassle-free.

#### With Webasto your drive is safer and better

What sets us apart? The fact that we invest all our passion in the constant creation of mobility that is even more efficient, pleasanter and more eco-friendly. We perceive our success stories as an incentive to always think ahead, expand development and continue to work. For over 100 years this attitude has secured our reputation as an innovation leader. Then and now Webasto is acknowledged as a quality brand that you can trust.

#### Knowhow for markets - solutions for people

Decades of experience, developmental and manufacturing expertise acquired in the automotive sector and always receptive to the needs of our customers. All these attributes are important to us. That's the only way we can also provide workable, high-quality products for special applications. As original equipment or for retrofitting. As one of the leading systems suppliers, we are your onestop-shop for heating and air-conditioning solutions. That is our mission. And it is what Feel the Drive stands for.

#### You benefit from:

- Comfort for driver and passengers all year round
- Parking heaters for safe, pleasant efficient driving from the very first meter
- Efficient interior air-conditioning for any installation and application situation
- Premium brand quality for every application



## When our standard is to exceed your expectations.

#### A tradition of forward thinking

In the course of the over 100-year history of our company technology and market demands have undergone great changes. However, one thing has remained the same: At Webasto, your requirements and your satisfaction are the focal point of the work of each and every employee. Thus, we don't offer only cuttingedge technology, but a sophisticated quality management system so you can count on guaranteed reliability from the initial model on. From the individually manufactured air-conditioning system all the way to your retrofit solution in series production quality, you can expect a broad and flexible product range. To us this means that for every product and every customer only the perfect solution is good enough. And it fulfills auto motive standards just as it does specialized industry requirements, such as those of ambulance vehicles. That is what we aspire to every day – in our cooperation with international automobile and commercial vehicle manufacturers just as with your individual assignment.

#### Developed just for you – also together with you

For us, being a systems provider means, above all, to be prepared for any and every application. Whether you're upgrading your fleet by retrofitting it with heating or air-conditioning technology or you're outfitting a small series of vehicles. We are ready for you. And no matter what, attending to your individual requirements and providing high quality are our top priorities. In our development departments we put all our experience to work on your heating and air-conditioning solutions, from design concept to testing and validation, all the way to production and installation.

#### We are local worldwide

As family enterprise deeply rooted in our region, we have a special relationship to our origins. Our heaters are manufactured exclusively in Germany. Yet being close to our customers is just as important to us: Our specialists in 50 countries, along with a global service and dealer network guarantee short distances, competent contact persons and rapid coordination times.

### Step by Step to your customized solution.



Phase 1: Definition of customer requirements In a first step we define your specific requirements and work together with you to determine what

solution is right for you.

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Phase 3: Design
Once the solution has beer
established, we develop
both the mechanical and
the thermodynamic design.



Phase 5: Documentation General, approval-relevant or customized documents



Now it's time for the Webasto solution to really kick off. Even after completion of the project, we continue to look after you with our worldwide service.



### Phase 2: Concept development and simulation

Various concepts help us in our development. Thus, for example, we simulate the design of air ducts or the temperature distribution within the vehicle.



### Phase 4: Analyses and tests

From the analysis to EMC tests as far as vibration tests: We put the system to the acid test. And our products have to continuously prove their merit in the own Webasto climate chamber.



#### Phase 6: Production/ installation

After all instructions have been drawn up, the fully developed system can be used in actual practice. You get the support of our experts during installation as well as commissioning.

### When our air heater quickly generates warmth and clear perspectives.

With an Air Top air heater you can get your vehicle up to a feel-good temperature, because the heat is available after a short time. Whether in very cold weather or in high mountain regions: Your air heater ensures fast and continuous heat.

#### Maximum performance – minimum consumption

Our air heaters are not only inexpensive to purchase, but because they are based on a flexible modular concept, they can be perfectly integrated into just about any interior. That is ideal for long heating periods for parked vehicles without the engine running. And we have the appropriate and cost effective solution for every type of vehicle and application. The Air Top Evo System allows linking up to two devices and thus provides a maximum performance level of 11 kW.

#### You benefit from:

- Low procurement and installation costs
- Short heating times
- Individual configuration of the air distribution
- Circulating air or fresh air mode



Air heaters: Example of integration

#### Air heaters:

	Air Top 2	2000 STC					
	Diesel	Gasoline					
Heating capacity, control range (kW)	0.9 – 2.0	1.0 – 2.0					
	Air Top Evo 40						
	Diesel	Gasoline					
Heating capacity, control range/boost (kW)	1.5 – 3.5/4.0*	1.7 – 3.5/4.0*					
	Air Top	Evo 55					
	Diesel	Gasoline					
Heating capacity, control range/boost (kW)	1.5 – 5.0/5.5**	1.7 – 5.0/5.5**					

<sup>\*</sup> Increased heating power "Boost" available with heater control Multi Comfort MC 04 (max. 6 h)

\*\* Increased heating power "Boost" available with heater control Multi Comfort MC 04 (max. 30 min.)

Air Top Evo System: Under controlled operation, up to 2 heaters can be operated in parallel to produce a higher heating power of up to 11 kW.



## When a water heater not only keeps you comfortable, but also protects the engine.

Deployments in the ice and snow and frosty temperatures of winter are always endurance tests. With a water heater by Webasto you've already overcome some of them. Because thanks to a parking heater function, the engine is preheated and immediately ready to go even at the lowest of temperatures. You avoid cold starts while consumption, wear and tear and emission values are all reduced. So you can drive with a clear conscience — and clear visibility. The system of engine, heat exchanger and fan brings the interior to a pleasant temperature. The windshield de-iced even before you drive off. The performance range is also quite impressive: from 4 to 40 kW you are guaranteed to find the ideal product for your own application.

#### You benefit from:

- 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	Thermo Top C/E		Thermo Top Evo 4		Thermo Top Evo 5		op Evo 5+*	
	Diesel	Gasoline	Diesel	Gasoline	Diesel	Gasoline	Diesel	Gasoline	
Heating capacity, part load/full load (kW)	4.2	2/5.2	2.5/4.0	2.8/4.0	2.5/5.0	2.8/5.0	2.5/5.0	2.8/5.0	
		Thermo Pro 50 Eco							
	Diesel								
Heating capacity, part load/full load (kW)	2.5/5								
		Thermo Pro 90							
	Diesel								
Heating capacity, part load/full load/boost (kW)	t (kW) 1.8/7.6/9.1								
				DBW 20	10/2016				
				Die	esel				
Heating capacity (kW)				11.6	- 16.0				
			Sphe	eros, Thern	no 230/300	/350			
	Diesel								
Heating capacity (kW)	23.0 – 35.0 Spheros, Thermo S 230/300/350/400								
Diesel									
Heating capacity (kW)		23.0 – 40.0							

 $<sup>^{\</sup>star}$  The Thermo Top Evo 5+ unit has an innovative system for controlling the coolant circuit.

#### Smart at the start

The minute you switch it on, the Webasto parking heater ensures comfort, and can be pre-programmed via a timer, remote control or telephone. Moreover, we now offer Smartphone users the added option of setting the temperature and service time with the ThermoCall at any time and from everywhere. It's easy: by making a call, sending a text message or via App. All you need is a phone and the ThermoCall control unit that is installed in the car along with the parking heater.



The ThermoCall control unit is available in two new versions:

#### ThermoCall Entry

With the basic model you control your parking heater with the on / off function.

#### ThermoCall Advanced

The comfort model gives you totally individual control of the operation of your parking heater via a variety of control functions:

- Preprogramming for seven days in advance
- Choose from heating, ventilation and automatic settings
- Weather alert when the weather is unpleasant
- Display of account balance on the ThermoCall SIM card\*
- Control several vehicles
- Search for the nearest Webasto partners

For the App to communicate with the parking heater, you need the ThermoCall control unit. It is built into your car along with the parking heater.

\* To operate the ThermoCall you need a SIM card with a sufficient balance. Depending on your contract type, the feedback function incurs text message costs.





#### There's a system to the installation

The systematic approach is also essential in our installation. Depending on the situation, the air-conditioning system can either be installed with a range of air outlets or with a modular ducting system. Our comprehensive selection of fittings and accessories also ensures perfect installation. They include, among other things, control units, vehicle-specific compressors and installation kits as well as condensers.

#### Superior quality

No matter which of our air-conditioning solutions is right for you, what all systems have in common is the high efficiency, superior reliability and optimum integration into the vehicle. For specialized requirements we have the appropriate products in every performance class and installation variant. And of course, that in top-notch quality with high-grade components sourced from automotive serial production. Upon request, the rooftop systems can also be painted in the color of the vehicle.

# When our air-conditioning technology facilitates your work.

Hot interior temperatures and stale air lower drivers' capacity to concentrate and increases the risk of having them nod off while driving. An air-conditioning system does more than generate feel-good atmoshpere in the vehicle. Aside from enhancing comfort, it goes a long way towards increasing safety in the workplace and on the road. And it does so year round.

#### Compact, multi-faceted, high-performance

Your system, your rules. That is the principle of our

air-conditioning program. If you're looking to equip mini or midi buses with air-conditioning technology, seeking the ideal system for ambulances, personnel carriers or fire department vehicles: With the diversity of our air-conditioning systems, we can put together the appropriate solution just for you. And we offer you the entire range of installation variations, sizes and performance categories. So you get your system from 4 kW all the way to high powered 18 kW, with the additional option of a heating feature.

#### You benefit from:

- Pleasant interior temperatures also when exterior temperatures are high
- Components can be combined flexibly for all applications areas
- Efficient structure and lightweight construction
- Minimal maintenance and high degree of reliability
- High-grade components sourced from serial production

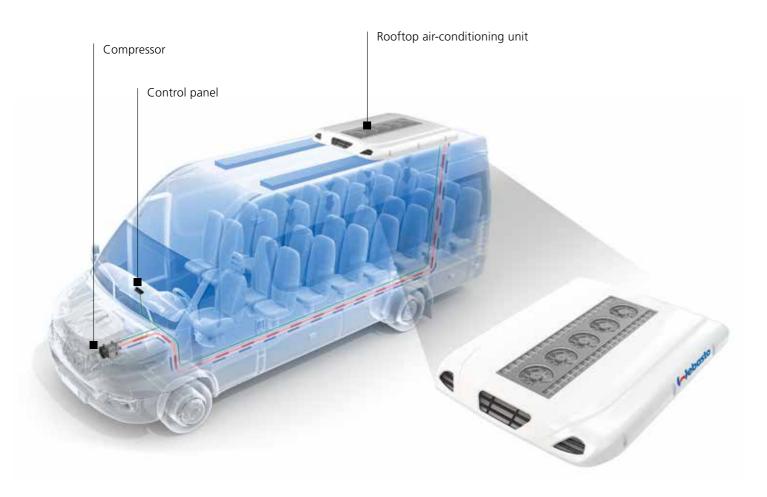


Rooftop air-conditioning system: flexible and for retrofitting

# When we have an appropriate solution available for any and every challenge.

#### The flexible modular system

We already have the appropriate solution available for your particular application. For regardless if original equipment or retrofitting: Our systems provide passengers with more comfort and enhance your mobile workplace, making it more pleasant. An integrated, customized air-conditioning solution can be built for each and every vehicle. And it comes with all the technological advances and innovations that you have come to expect from Webasto.



# When you can experience the quick and easy operation of all systems.

#### Air-conditioning units:

Rooftop units	Compact Cooler 4 E	Portofino	Minsk	Compact Cooler 5	Rimini	Turin	Compact Cooler 8
Nominal cooling capacity (kW)	3.5	4.0	5.0		6.2	8.4	8.5
Heating capacity (optional) (kW)	_	5.0	-		_		7.5

Rooftop units	Panama	Smirne	Madrid	Santana L/XL	Cool Top RTC 250	Cool Top RTC 300	Cool Top RTC 360
Nominal cooling capacity (kW)	10.5	11.7	15.5	18.0	25.0	30.0	36.0
Heating capacity (optional) (kW)	12.0	_	20.0	20.0	30.0	30.0	35.0

Integrated air-conditioning system	Baltimore	Oakland	Osaka	Quebec Montreal		Michigan		
Nominal cooling capacity (kW)	4.0		4.6	5.0		5.5		
Nominal heating capacity (kW)	2.0	_	-	6.7	_	6.3	2.8	

Integrated air-conditioning system	Wyoming	Milano	Glasgow	Oslo	Norway	Paris
Nominal cooling capacity (kW)	5.	5.5		6.2		7.7
Nominal heating capacity (kW)	_	11.0	_	8.5	10.2	6.3

Integrated air-conditioning system	Monaco	Marbella	Ibiza	London	Oxford	Vancouver
Nominal cooling capacity (kW)	7.7	9.0				
Nominal heating capacity (kW)	-	-	12.0	13.0		

Integrated air-conditioning system	Ri	ga	Kiev	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		-		

For a solution, that exactly meets your needs, your Webasto partner supports you to get the best system of an air-conditioning unit. These rooftop or integrated systems include a compressor, mounting kit, air ducts, control unit and mounting accessories (refrigerant hoses and cable harness).



When the business utility of all types of commercial vehicles can be enhanced thanks to innovative climate systems, that's Feel the Drive.

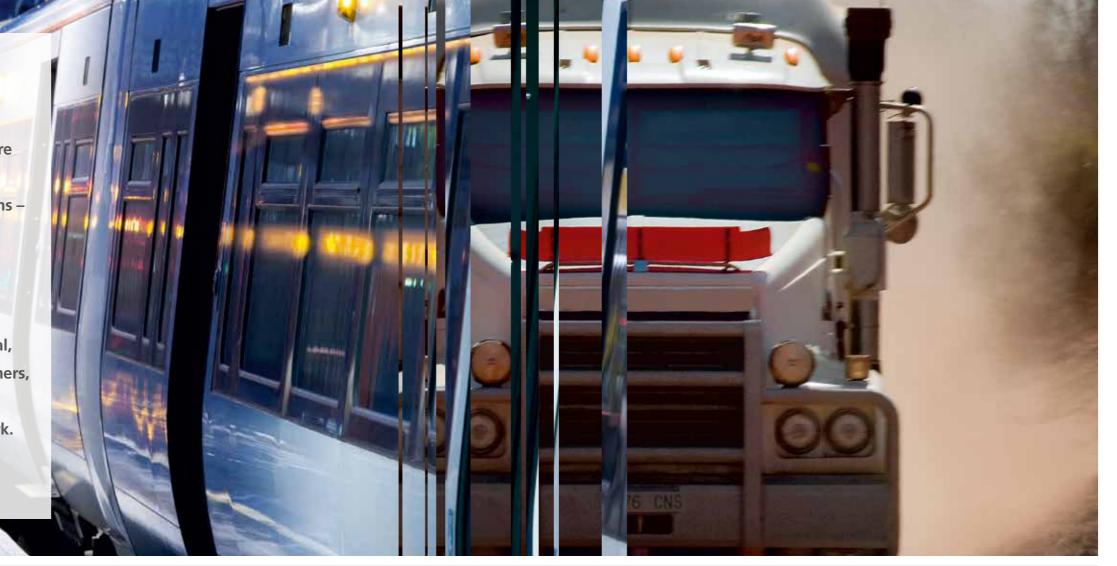
Vehicles change the world. And Webasto is changing vehicles and their world. Our solutions help trucks reach their destinations more economically. Buses and trains are more comfortable. Special and commercial vehicles are more efficient. Whether they are original parts or parts for retrofitting, our products provide sustainable solutions that benefit the environment as well as companies.

Our dedicated people support you all around the world.

Wherever commercial vehicles are planned, produced, redesigned or repaired, we are there for you. Professional, committed and helpful, we see to it that you, our customers, reach your destinations comfortably and efficiently.

This is what drives us as a company and inspires our work.

And that is what we call Feel the Drive.



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



#### Trucks

Efficient heating and compact air-conditioning systems maintain exactly the right temperature in the cabin interior, the engine compartment and the cargo area.



### Light-duty vehicles

We provide heating and airconditioning systems to match your individual requirements.



#### Buses

Our air-conditioning systems make driving more pleasant and safer.



#### Rail

Air-conditioning systems for passenger compartments and drivers' cabins, boosting efficiency and comfort the moment the vehicle enters operation.



#### Off-highway

We supply sturdy and efficient heating and air-conditioning systems for a pleasant working environment, whatever the weather.



#### Defense

We provide special heating and air-conditioning systems to ensure vehicles are always ready for action.



#### Special vehicles

Our solutions make your job more comfortable, safer and more profitable.