

Heavy Duty Catalogue 2011/2012



■ Heating

■ Cooling

■ Ventilation

www.webasto.com



Webasto Heavy Duty presents you the new product catalogue containing the total range of efficient solutions around the subject of heating, cooling, ventilation for trucks, transport vehicles, buses, rail, special and defence vehicles.

Continuous investments in research, development, product and customer service are the reasons why Webasto has been developing and producing successful products for the automotive and commercial vehicles industry worldwide for 75 years. Today, Webasto is one of world's 100 largest suppliers to the automotive industry. Webasto transfers this know-how also to other markets, such as e.g., the rail, or construction machine vehicles market.

One of our strengths is customized customer engineering. Whatever may be your requirements, we develop the suitable application solution together with you over and above our standard offer.

Thanks to our worldwide presence as automotive and commercial vehicle suppliers in more than 43 countries, the nearest Webasto branch office or Webasto subsidiary cannot be far away.

Your Webasto Heavy Duty Team

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General and Technical Notes

General Notes

Our general sales and delivery terms will apply exclusively to all deliveries.

You will receive our products through our sales partners.

Please find a specialized workshop to guarantee a technically correct installation of the product.

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All information corresponds to the knowledge available on the date of printing. Deviations in colour and shape of the figures, mistakes and typographical errors are reserved. All information about equipment and technical data is based on the characteristics of the German market. Changes are reserved.

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Technical Notes

Important note for heaters in vehicles used to transport dangerous goods:

For the installation of heaters in vehicles used to transport dangerous goods, the requirements of ADR 2005 (GGVSE = Dangerous Goods Ordinance by Road/Railways) must be fulfilled in addition to the German Road Traffic Regulations (StVZO). These requirements are fulfilled by the heaters mentioned in the Heaters product catalogue - Air Top 2000 ST, Air Top Evo 3900, Air Top Evo 5500 and Thermo 90 ST, if the ADR-specific instructions of the installation instructions are observed during installation. The heaters may be installed in EX/II and EX/III vehicles only to heat the driver's cabin or the engine.

Important Note for the Installation of Roof-top Compact Air Conditioning Systems:

Roof-top compact systems can change the strength properties of vehicle cabins. DIN EN ISO 3471 (Roll-over protective structures) as well as the DIN EN ISO 3499 (Falling-object protective structures) must be considered, especially in case of earth-moving machines.

Other Useful Information Sources

Website

www.webasto.com

- Extensive information about all market segments and products
- Data sheets for download
- Videos and animations
- Installation graphics



Onsite Personal Contact Partner

Find out about the correct contact partner in your vicinity from our Dealer Locator at **www.webasto.com**.

Address and contact information of our subsidiaries worldwide can be found **from page 160**.

We offer the following services:

- Quotation creation
- Delivery information
- Technical consulting
- Hotline

Dealer Portal

<http://dealers.webasto.com>

- Access via protected login
- Documentation of all products for downloading
- Installation instructions
- Web-based training
- Access to technical data and applications
- Assistance in correct product selection (Heavy Duty Capacity Calculator)



Marketing Material

All advertising material is available for download on our media server at **<http://media.webasto.com>**.

- Brochures
- Data sheets
- Videos
- Installation graphics
- Advertisement templates
- Press articles



Engineering Service for Customer-specific Application Solutions

In addition to a large selection of standard products, Webasto Heavy Duty offers you an engineering service for system solutions that are developed and created especially according to customer requests.

Irrespective of whether your requirements deviate from the standard in areas like 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 you. In this context, you can fall back on our long-term experience in the areas of original equipment as well as retrofitting. You profit from our high process and quality level, and our know-how in system integration, mechatronics and software development.

We advise you in all the project phases – from the initial idea to after sales service.

1. Planning Phase

Get in touch in the early planning phase. Together we will define how the desired system solution is to be procured, with all interactions, interfaces and the components that are necessary for the operation of your Webasto heating or air-conditioning systems. This way we ensure that your system solution is coordinated optimally to the target vehicle.

2. Implementation Phase

We test your system solution extensively before the production and maturity phase. For example, we offer you tests in the A/C, acoustics and rain chamber as well as vibration tests and tests in endurance run systems. Production of your solution will take place according to the specifications of the automobile- or railway standards.

3. Maintenance and Service

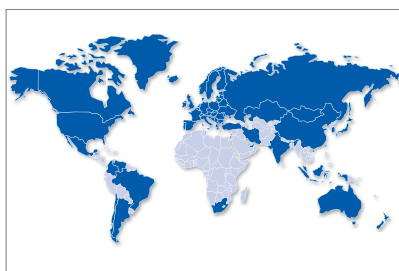
Even in after-sales service, you profit from our peak services. A worldwide network of subsidiaries, representations and contract dealers guarantees a competent contact partner in the vicinity at all times.

Advantages of the Webasto Engineering Service:

- Secure project workflow through long-term experience in the areas of original equipment and retrofitting
- High process and quality level in all project phases
- Utilization of the mechatronics expertise of Webasto
- High software quality through programming of control software internally at Webasto



Planning with customers



Worldwide service

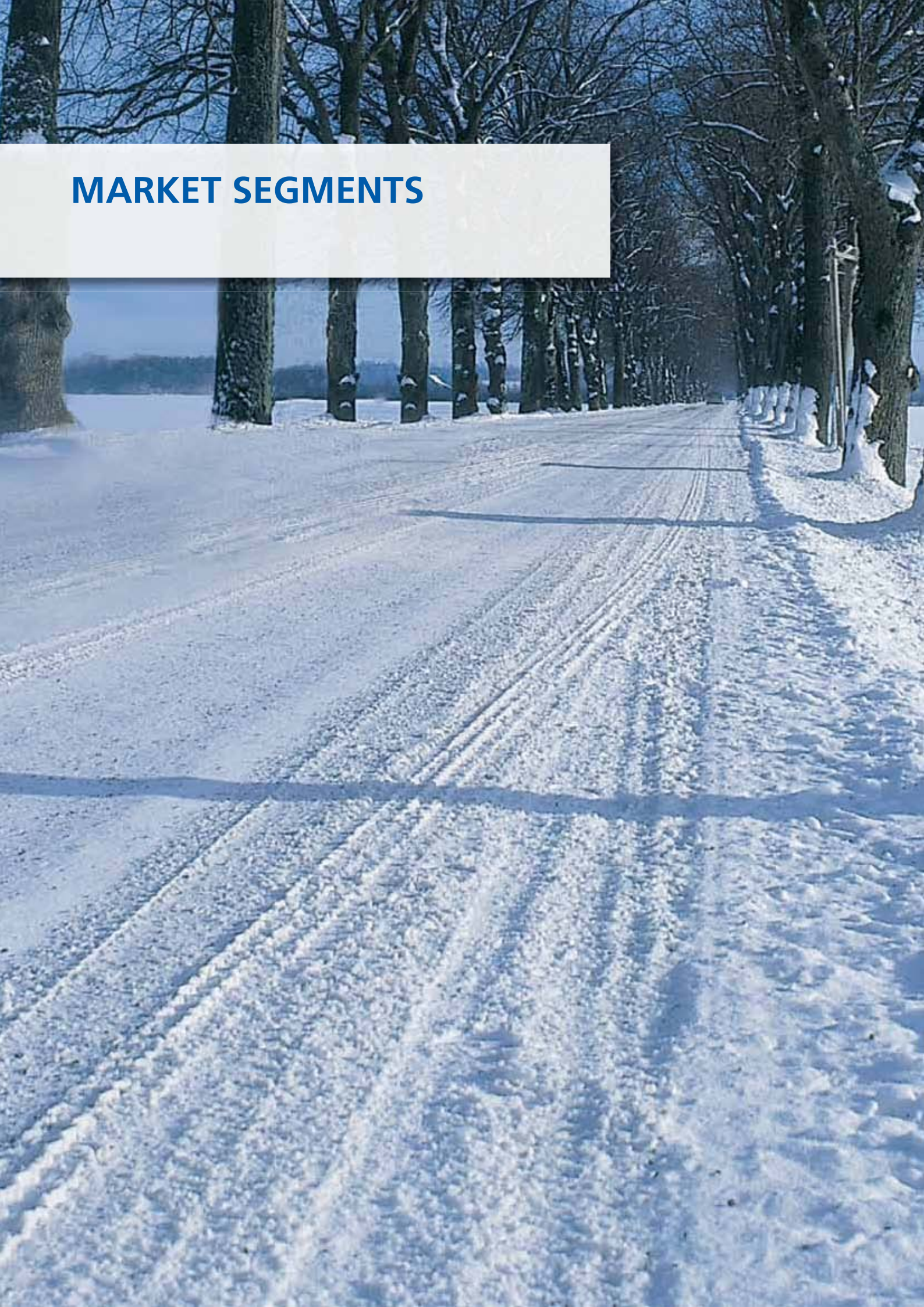


Testing

A possible process for the development of a customer-specific system solution, with all preconditions and requirements is given below:



MARKET SEGMENTS





Truck

page 10



Light-Duty Commercial Vehicles

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Bus

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Rail

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Defense

page 18



Construction and Agriculture

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Special Vehicles

page 22



Truck



Trucks are mobile workplaces that must be equipped with appropriate comfort. With Webasto solutions, pleasant temperatures rule in the driver's cabin. Thus, they form one of the preconditions for concentrated working and relaxed pauses.

Webasto parking heaters ensure the correct temperature in the driver's cabin and the loading area even in snow and ice. Water heaters heat up the engine beforehand and avoid cold starts which make the engines susceptible to damage. But also engine idle run times during pauses, traffic jams, waiting times during loading and unloading are reduced through the use of a parking heater. You profit from reduced fuel consumption and therefore, lower operating costs. Moreover, reduced engine idle run times contribute to environmental conservation.

Even at high outdoor temperatures, Webasto air-conditioning solutions guarantee comfort at the mobile workplace. Parking cooler solutions maintain optimum temperature in the cabin even when the engine is switched off.

With roof systems from the hatch to special solutions, Webasto offers the optimum roof for all requirements, even for retrofitting.

Your Advantages from Webasto Solutions for Trucks:

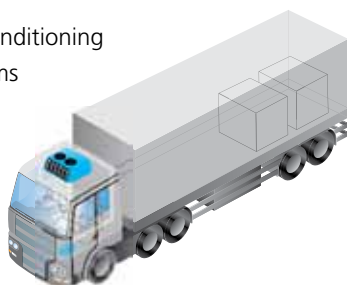
- Engine and environment-friendly pre-heating and heating
- Efficient parking cooler solutions increase comfort and economy
- Fuel and therefore operating cost reduction
- Fresh air delivery through roof systems

Application Examples

Heaters



Air-conditioning systems



Roof systems



	Heating capacity / cooling capacity (kW)	Page
Air heaters		
Air Top 2000 ST	2.0	32
Air Top Evo 3900	3.9	34
Air Top Evo 5500	5.5	36
Air Top System	to 22.0	38
HL 90	9.0	40
Water heaters		
Thermo 50	5.0	50
Thermo 90 ST	9.0	52
Thermo Pro 90	9.0	54
DBW 2010 / 2016	10.0 - 16.0	56
Air-conditioning systems		
Compact Cooler 5	5.0	136
Parking Cooler	Various	148
Roof systems		
Hollandia 100	-	154
Utility Hatch	-	156
Truck Top	-	157



Light-Duty Commercial Vehicles

Light-duty commercial vehicles and transporters must be ready for operation under all weather conditions. Besides comfort for the driver and the persons being transported, Webasto solutions can also ensure a plus point on safety and reduced operating costs.

No limits are set on the use of the heating systems: From engine heating through pre- and additional heating of driver cabins right up to the heating of loading and passenger compartments, everything is possible. Further, engine idle-run times during waiting periods, traffic jams, pauses during loading as well as unloading can be avoided with parking heaters. The reduced fuel consumption and reduced wear and tear lower your operating costs. For current vehicle models, Webasto offers vehicle-specific installation sets for quick, safe and easy installation.

Webasto air-conditioning systems ensure an optimum climate during the drive even at very high outdoor temperatures. In addition to the standard assortment, Webasto offers customized application solutions for all demands.

Even for the roof, Webasto has a matching system for every demand. Versatile roof systems are available to you even for retrofitting.

Your Advantages from Webasto Solutions for Light-duty Commercial Vehicles:

- Engine and environment-friendly pre-heating and heating
- Vehicle-specific installation sets for common models
- Reduction of operating costs through fuel savings and lesser wear and tear

Application Examples

Heaters



Air-conditioning systems



Roof systems



	Heating capacity / cooling capacity (kW)	Page
Air heaters		
Air Top 2000 ST	2.0	32
Air Top Evo 3900	3.9	34
Air Top Evo 5500	5.5	36
Water heaters		
Thermo Top Evo	5.0	46
Thermo Top C	5.0	48
Thermo 50	5.0	50
Thermo 90 ST	9.0	52
Thermo Pro 90	9.0	54
Air-conditioning systems		
Compact Cooler 5 Lite	5.0	136
Compact Cooler 5	5.0	136
Compact Cooler 8	8.5	136
E-Unit	Customer-specific	136
Parking Cooler	Various	148
Roof systems		
Hollandia 100	-	154
Hollandia 300	-	155
Utility Hatch	-	156



Bus

With its broad range of heaters, air-conditioning systems and roof hatches Webasto offers maximum comfort for bus drivers and passengers.

Thus, Webasto parking heater systems ensure optimum temperatures from the start. With engine pre-heating, you can avoid cold starts that are damaging to the environment and prone to wear and tear. Thanks to the efficient reduction of engine load, the guaranteed reliability and maximum service and maintenance friendliness, bus manufacturers of the entire world bank on Webasto.

Tailormade air-conditioning systems create pleasant temperatures in all bus types - from city bus to luxury tourist bus - in all kinds of weather and in each climate zone. The product portfolio stretches from the air-conditioning of the driver's seat to compact air-conditioning systems for city buses to modular air-conditioning solutions for use all over the world. You receive a holistic solution under one roof. Whatever solution you may choose: You can rest assured that Webasto uses only environment-friendly refrigerants.

The wide roof hatch program contributes to safety and thanks to optimum ventilation, to superb comfort in your buses.

Your Advantages from Webasto Solutions for Buses:

- Feel-good climate at all seats
- Cost-efficiency through reduction of fuel consumption and of wear and tear
- Engine-saving and environment-friendly heating

Application Examples

Heaters



Air-conditioning systems



Roof systems



	Heating capacity / cooling capacity (kW)	Page
Air heaters		
Air Top Evo 3900	3.9	34
Air Top Evo 5500	5.5	36
Air Top System	to 22.0	38
Water heaters		
Thermo 90 ST	9.0	52
Thermo Pro 90	9.0	54
DBW 2010 / 2016	10.0 - 16.0	56
Thermo 230 / 300 / 350	23.0 - 35.0	58
Thermo S 230 / 300 / 350 / 400	23.0 - 40.0	60
Air-conditioning systems		
Compact Cooler 4 E	3.5	136
Compact Cooler 8	8.5	136
E-Unit	Customer-specific	136
Parking Cooler	Various	148
Bus A/C systems	Various	149
Roof systems		
Customer-specific roof systems	-	152



Rail

Comfort, efficiency, sustainability and energy saving are the salient features of Webasto air-conditioning solutions for rail vehicles. Passengers expect a pleasant climate in the compartment. Drivers require constant climatic conditions at the driver's seat to help their concentration, whatever the outdoor temperature.

Webasto offers a suitable air-conditioning solution for nearly all rail vehicle types. Thanks to the modular platform principle, the systems can be adapted quickly and cost-efficiently to individual requirements.

Moreover, Webasto has proven water heaters, that pre-heat diesel-driven engines to start temperatures and therefore, guarantee the operational readiness of locos and coaches at high cost-efficiency. Our solutions protect the environment through the use of sustainable materials.

Whatever requirements you may have for heating and air-conditioning systems, our Engineering Department will develop the optimum customized solution for you. Get in touch with us.

Your Advantages from Webasto Solutions for Rail Vehicles:

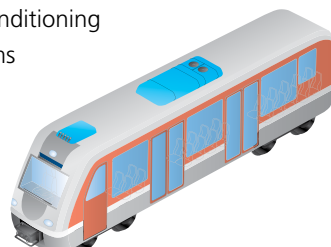
- Feel-good climate around all seats in passenger coaches and driver's cab
- Cost-efficiency through pre-heating of diesel engine and fuel
- Environment protection through the use of sustainable materials
- Competent engineering enables customized solutions
- Standardized basic products guarantee cost-effective customization options

Application Examples

Heaters



Air-conditioning systems



	Heating capacity / cooling capacity (kW)	Page
Water heaters		
Thermo 230 / 300 / 350	23.0 - 35.0	58
Thermo S 230 / 300 / 350 / 400	23.0 - 40.0	60
Air-conditioning systems*		
Compact Cooler Rail 4 E	4.0	142
Compact Cooler Rail 4 H	4.0	142
Compact Cooler Rail 7 E	6.5	142
Compact Cooler Rail 7 H	6.5	142
RailCool R 5	5.5	143
RailCool R 7	7.0	143
RailCool S 236	36.0	145

*Platform-based passenger roof-top air-conditioning systems on request

Defense



Operational readiness under unfavourable conditions or even extreme climatic conditions is a main requirement of defense vehicles – irrespective of the model and size of the vehicle. Webasto offers individually adjusted as well as standardized and certified solutions.

With different heaters for heating driver cabins, cargo areas and engines, vehicles as well as electronic equipment remain ready for operation even under extremely cold conditions with the engine switched off. Vision remains free through complete de-icing and dehumidification. Engine pre-heating prevents wax deposits or humidity in the diesel fuel or hydraulic fluids.

Webasto air-conditioning systems – now also for containers and box superstructure – enable use in tropical weather conditions, because they ensure optimum temperatures for crew and equipment. We offer easy-to-install retrofitting air-conditioning systems as well as tailor-made products according to customer requests.

Webasto roof systems ensure a safe operational environment. A robust roof hatch developed especially for utility vehicles supports more precise usage.

Your Advantages from Webasto Solutions for Defense Vehicles:

- Operational readiness of vehicles and equipment in all weather conditions and in every climate zone
- Efficient parking heating systems avoid expensive engine idle run times
- Safe operational environment through customized roof system solutions
- Cost savings through reduction of fuel consumption and of wear and tear

Application Examples

Heaters



Air-conditioning systems



Roof systems



	Heating capacity / cooling capacity (kW)	Page
Air heaters		
Air Top 2000 ST	2.0	32
Air Top Evo 3900	3.9	34
Air Top Evo 5500	5.5	36
Air Top System	to 22.0	38
HL 90	9.0	40
Water heaters		
Thermo 50	5.0	50
Thermo 90 ST	9.0	52
Thermo Pro 90	9.0	54
DBW 2010 / 2016	10.0 - 16.0	56
Thermo 230 / 300 / 350	23.0 - 35.0	58
Thermo S 230 / 300 / 350 / 400	23.0 - 40.0	60
Air-conditioning systems for container cooling*		
Breeze Split	5.5	146
Iglo Compact	4.5	146
KMWP 9 Compact	9.0	146
KMWP 18 Compact	18.0	146
Roof systems		
Utility Hatch	-	156
Truck Top	-	157

*Tailormade vehicle air-conditioning systems on request



Construction and Agriculture

A pre-heated engine increases the operational readiness of construction and agricultural machines and ensures higher utilization throughout the year. Optimum working temperatures in the driver's cabin increase the comfort and therefore the concentration capacity of the driver.

Webasto offers heaters and equipment which produce a safe working climate even at extremely low outdoor temperatures. Engine idle run time can be avoided through the use of a parking heater for pre-heating and heating; wear and tear can also be reduced considerably. Hydraulic fluids remain at the optimum start temperature.

The robust and retrofittable air-conditioning systems of Webasto create pleasant working conditions through optimum temperatures and therefore, more safety.

Thanks to the long-term experience in the roof and body area of the automobile sector, Webasto has the know-how to deliver and install a fitting roof system for every surface or roof size.

The Webasto Heavy Duty Engineering develops customized roof- and air-conditioning systems for you. Please contact us.

Your Advantages from Webasto Solutions for Construction and Agricultural Machines:

- Increased operational readiness of the vehicles through parking heaters and air-conditioning
- Fuel savings through reduced engine idle run times and engine pre-heating.
- More driver safety through improved working conditions

Application Examples

Heaters



Air-conditioning systems



Roof systems



	Heating capacity / cooling capacity (kW)	Page
Air heaters		
Air Top 2000 ST	2.0	32
Air Top Evo 3900	3.9	34
Air Top Evo 5500	5.5	36
Air Top System	to 22.0	38
Water heaters		
Thermo Top C	5.0	48
Thermo 50	5.0	50
Thermo 90 ST	9.0	52
Thermo Pro 90	9.0	54
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Thermo 230 / 300 / 350	23.0 - 35.0	58
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Air-conditioning systems*		
Compact Cooler 4 E	3.5	136
Compact Cooler 5	5.0	136
Compact Cooler 8	8.5	136
E-Unit	Customer-specific	136
Parking Cooler	Various	148
Roof systems		
Hollandia 100	-	154
Utility Hatch	-	156
Truck Top	-	157

*Tailormade air-conditioning systems on request



Special Vehicles

Special vehicles may be very individualistic and different, but Webasto offers heating, air-conditioning and roof systems for nearly every requirement. In ambulances, fire brigade and police deployment vehicles they ensure appropriate comfort and increased operational readiness even under unfavourable climatic conditions.

Webasto water heaters are integrated in the engine circuit and they take the engines to the optimum temperatures even before the start. Idle run times are reduced and fuel saved through the independent functioning. The easy-to-install air heaters keep the loading and passenger areas at constant temperatures even during waiting times.

Retrofittable Webasto air-conditioning systems create optimum conditions for drivers, passengers and resources and can be integrated easily in the on-board air-conditioning system.

We can fulfil your wishes with the versatile Webasto roof systems – from Utility Hatch to Panorama roof.

Your Advantages from Webasto Solutions for Special Vehicles:

- Operational readiness of the vehicles in any weather
- Engine and environment-friendly pre-heating and heating
- Efficient parking cooler solutions avoid expensive engine idle run times
- Safer operating environment, thanks to better access on the roof and enlarged viewing range, through retrofittable roof systems

Application Examples

Heaters



Air-conditioning systems

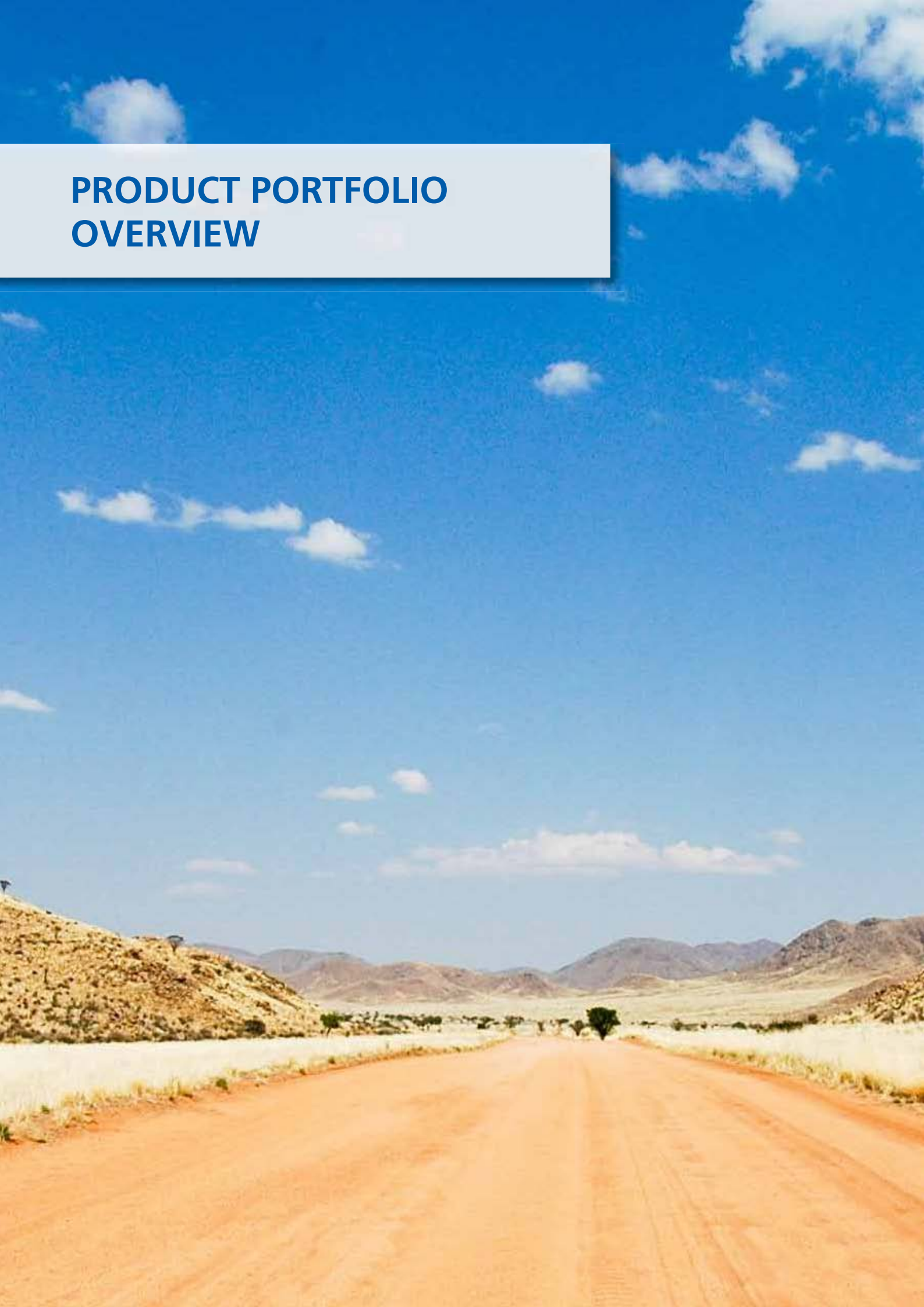


Roof systems



	Heating capacity / cooling capacity (kW)	Page
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Compact Cooler 5 Lite	5.0	136
Compact Cooler 5	5.0	136
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Roof systems		
Hollandia 100	-	154
Hollandia 300	-	155
Utility Hatch	-	156
Truck Top	-	157

PRODUCT PORTFOLIO OVERVIEW





								
	Heating capacity / cooling capacity (kW)	Truck	Light-Duty Commercial Vehicles	Bus	Rail	Defense	Construction and Agriculture	Special Vehicles
HEATING SYSTEMS								
page 28	Air heaters	Heating cap.						
	Air Top 2000 ST	2.0	■	■		■	■	■
	Air Top Evo 3900	3.9	■	■	■	■	■	■
	Air Top Evo 5500	5.5	■	■	■	■	■	■
	Air Top System	to 22.0	■		■	■	■	■
	HL 90	9.0	■			■		■
page 42	Water heaters							
	Thermo Top Evo	5.0		■				
	Thermo Top C	5.0		■			■	■
	Thermo 50	5.0	■	■		■	■	■
	Thermo 90 ST	9.0	■	■	■	■	■	■
	Thermo Pro 90	9.0	■	■	■	■	■	■
	DBW 2010 / 2016	10.0 - 16.0	■		■	■	■	■
	Thermo 230 / 300 / 350	23.0 - 35.0			■	■	■	■
	Thermo S 230 / 300 / 350 / 400	23.0 - 40.0			■	■	■	■
	Cargo space heating	Various	■					
page 132	AIR-CONDITIONING SYSTEMS	Cooling cap.						
	Compact Cooler 4 E	3.5			■		■	■
	Compact Cooler 5 Lite	5.0		■				■
	Compact Cooler 5	5.0	■	■			■	■
	Compact Cooler 8	8.5		■	■		■	■
	E-Unit	Custom. spec		■	■		■	■
	Compact Cooler Rail 4 E	4.0			■			
	Compact Cooler Rail 4 H	4.0			■			
	Compact Cooler Rail 7 E	6.5			■			
	Compact Cooler Rail 7 H	6.5			■			
	RailCool R 5	5.5			■			
	RailCool R 7	7.0			■			
	RailCool S 236	36.0			■			
	Breeze Split	5.5				■		
	Iglo Compact	4.5				■		
	KMWP 9 Compact	9.0				■		
	KMWP 18 Compact	18.0				■		
	Parking Cooler	Various	■	■	■		■	■
	Bus A/C systems	Various			■			
page 150	ROOF SYSTEMS							
	Hollandia 100	-	■	■			■	■
	Hollandia 300	-		■				■
	Utility Hatch	-	■	■		■	■	■
	Truck Top	-	■			■	■	■

HEATING SYSTEMS





Which Heating Is Right for your Vehicle?

The parking heater product portfolio of Webasto is based on two parking heater types: air and water heaters with different functional and heating capacity ranges. Different models are available, depending on customer preference.

The burner technology developed by Webasto guarantees that the fuel consumption of all heaters is very low.

To enable you to select the correct switches for a cost-effective and meaningful solution in the early project phase, we would be glad to advise you extensively at the start of the project.

Contact your Webasto sales officer.

Air Heating System Suitable for:



- Cabin heating with customized air supply
- Cargo space and storage area heating

or

Water Heating System Suitable for:



- Engine pre-heating
- Cabin heating through vehicle fan
- Cargo space heating
- Residual heat utilization

Advantages of Air Heating Systems at a Glance

Reduction of Operating Costs

- Fuel savings through reduction of engine idle run times
- Reduced and predictable maintenance expenditure through the Diagnosis functionality

More Safety and Better Comfort

- Comfortably heated cabins with low operational noise promotes recovery during idle periods
- Best view through thawed and mist-free panes at start of drive
- Receipt of a constant temperature in the passenger compartment through intelligent temperature management
- Precise and continuously adjustable temperature control

A Worthwhile Investment

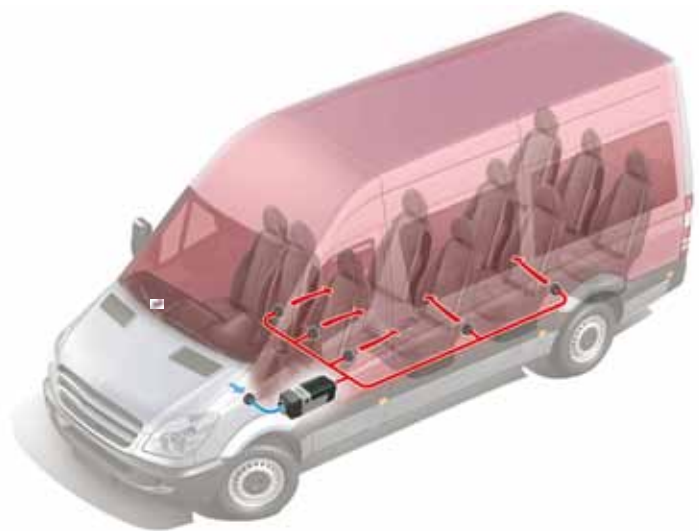
- Supports high operational readiness and availability of commercial vehicle
- Low procurement and installation costs
- High-value product available on a long-term basis
- Function and cost-optimized installation kit for different vehicles and application areas
- Optimum coordination of space and use requirement through customized application solutions

Environment-friendly Operation

- Reduction of engine idle run times during pauses and idle periods
- Efficient combustion technology leads to low energy consumption

Increased Operational Readiness

- High operational readiness even at extremely low temperature
- Application range at high altitudes too



Flexible Solutions for Cabin and Cargo Heating

- Cabin and cargo heating available in original equipment or retrofitting
- Complete system suitable also for sensitive cargo
- System solutions for heating different cargo space sizes
- Vehicle-specific application solutions

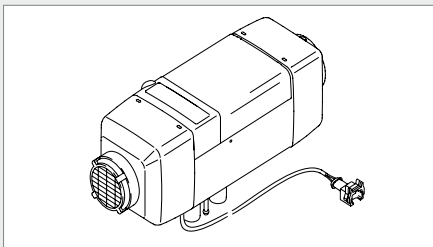
Application of an Air Heating System

Webasto air heating systems can be ordered in diverse delivery scopes. Depending on the requirements for use and installation location, you may need additional application material. You can supplement these from our extensive accessories program.

page 65

■ Heater

Select the suitable air heater from our extensive product program.



■ Air Intake and Exhaust System

The installation kit contains a standard system. Depending on the installation location and the length of the exhaust pipe, you will require additionally a condensed water drain and an insulation for the exhaust pipe.

■ Fuel Supply

A connection must be made with the fuel tank.
A dosing pump is part of the basic delivery scope.

■ Electrical Connection

The installation kit contains the wiring harness.

■ Air Distribution

Assemble your air distribution system from the additional hoses, distributors and outlets to achieve optimum heat distribution in the vehicle.

■ Installation Material

The installation kit contains standard installation material. Extra parts are required, depending on the installation location.

■ Heater Control

From simple rotary selectors for regulating heating capacity to function extension, such as fan and altitude-level adjustment, you can select from diverse models.

■ Product Documentation

You will receive installation and operating instructions with our heaters. Further information (such as spare part lists) is available on our dealer portal.

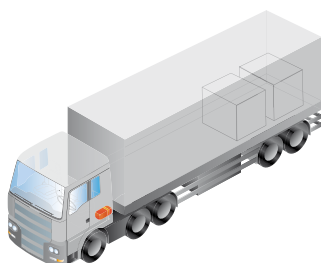
Application Examples

Which Air Heating System is Required?



Light Commercial Vehicle

- Cabin and vehicle seating
- Air Top 2000 ST
- 1.5 - 2.0 kW heating capacity
- Simple hot air delivery (circulation air)
- Moderate climate zones



Special Vehicles / Truck

- Cabin heating
- Air Top Evo 5500
- 1.5 - 5.5 kW heating capacity
- Quick heating with Plus function
- Complex hot air delivery (fresh and circulating air)
- Cold and moderate climate zones
- Continuous heating



Container and Cargo

- Cargo space heating
- Modular Air Top System
- Up to 22 kW heating capacity
- Quick heating with Plus function
- Complex hot air delivery (fresh and circulating air)
- Cold and moderate climate zones up to 2,200 m altitude
- Continuous heating / defrosting heating

Our new calculating tool the "Heavy Duty Capacity Calculator" is provided on the dealer portal for your support (see page 5). Our technical workshops and personal contact partners in the local subsidiaries would be glad to answer any further questions about design and installation.

Air Heaters

Product Overview

Air Top 2000 ST

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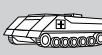
HL 90

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Air Heaters

Air Top 2000 ST

							
Air Top 2000 ST	■	■			■	■	■

The Simple and Cost-effective Solution

The compact air heater Air Top 2000 ST convinces through its versatile use options and its low fuel consumption. Thanks to its compact design, it can be installed without having to spend too much time. The installation can be done outside or inside the vehicle. The heater heats the air quickly and without any noise in the vehicle interior and cargo space, and keeps the individually desired working temperature constant. The user can select between circulating air and fresh air mode. Due to its maintenance and service-friendly design and low fuel consumption, the Air Top 2000 ST can be maintained cost-effectively.

- 2 kW heating capacity
- Quick heating times, uniform and soft heating process
- Robust heater with compact dimensions and low fuel consumption
- Maintenance and service-friendly, can be diagnosed
- Developed under observation of the latest OEM requirements and automobile standards
- Quality assurance according to ISO TS16949
- Suitable for use in vehicles for the transport of dangerous goods (ADR)

Technical Specifications:

Heater		Air Top 2000 ST	
Variants		Petrol	Diesel
ECE approval number	ECE R-122 (Heating)	E1 00 0216	
	ECE R10 (EMC)	--	
EC approval mark	(Heating)	e1*2001/56*2006/119*0022*__	
	(EMC)	e1*72/245*2009/19*1085*__	
Heating capacity (kW)	Control range	1.0 - 2.0	0.9 - 2.0
Fuel consumption (kg / h)	Control range	0.12 - 0.24	
Nominal voltage (V)		12	12 / 24
Nominal power consumption (W)	Control range	14 - 29	
Hot air volume flow (m³ / h)	against 0.5 mbar	93	
Fuels		Petrol EN 228	Diesel EN 590 PME EN 14214 Heating oil EL
Operating temperature range (°C)		-40 to +40	
Dimensions L x W x H (mm)		311 x 120 x 121	
Weight (kg)		2.6	



Standard delivery scope		
Name	Delivery scope contains	Order number
SOD Air Top 2000 ST Petrol 12 V Basic	Heater, dosing pump, product documentation	9022048A
SOD Air Top 2000 ST Diesel 12 V Basic		9022047A
SOD Air Top 2000 ST Diesel 24 V Basic		9022049A

Defense delivery scope		
■ Fulfills MIL-STD 461 F		
SOD Air Top 2000 ST Diesel 24 V Defense	Heater shielded in metal housing, dosing pump, heater control	4110228A

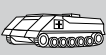
Installation kit – contains standard installation material for installation		
Installation kit, Air Top 2000 ST	Wiring harness, air intake and exhaust system, fuel extractor, installation material	9022050A
Installation kit, Air Top 2000 ST with tank extracting device	Wiring harness, air intake and exhaust system, tank extracting device, installation material	9024201A

System accessories – can be used with the heater, please order these separately		
Heater control rotary switch		82819B
Heater control digital timer 1531 12 V		88206A
Heater control digital timer 1531 24 V		88205A

Further accessories available from page 65.

Air Heaters

Air Top Evo 3900

							
Air Top Evo 3900	■	■	■		■	■	■

Evolution with More Power and Versatility

The heavy-duty Webasto air heater Air Top Evo 3900 is the first choice for cost-effective heating of driver cabins, cargo spaces or the vehicle interiors. With a maximum capacity of 3.9 kW, it offers maximum possible comfort through its soft and uniform heating process during the short quick heating times. In addition to temperature pre-selection with control thermostat or digital timer, the multi-comfort MC heater control provides a total of five functions. These include saving battery power during frequent use, short heating times at low outdoor temperature or adjustment of heating operation to the low air pressure at high altitudes.

- Max. heating capacity of 3.9 kW
- Performance-oriented, short heating times, uniform and soft heating process
- Developed under observation of the latest OEM requirements and automobile standards
- Quality assurance according to ISO TS16949
- Maintenance and service-friendly, can be diagnosed
- Suitable for use in vehicles for the transport of dangerous goods (ADR)
- Suitable for high altitudes of up to 2,200 m above sea level

Technical Specifications:

Heater		Air Top Evo 3900	
Variants		Petrol	Diesel
ECE approval number	ECE R122 (Heating)	E1 00 0255	
	ECE R10 (EMC)	E1 10R 03 5529	
EC approval mark	(Heating)	e1*2001/56*2006/119*0255*__	
	(EMC)	e1*72/245*2006/96*5529*__	
Heating capacity (kW)	Control range / Plus*	1.7 - 3.5 / 3.9	1.5 - 3.5 / 3.9
Fuel consumption (kg / h)	Control range / Plus	0.18 - 0.37 / 0.41	0.16 - 0.37 / 0.41
Nominal voltage (V)		12	12 / 24
Nominal power consumption (W)	Control range / Plus	15 - 40 / 55	
Hot air volume flow (m³ / h)	Control range / Plus against 0.5 mbar	132 / 139	
Fuels		Petrol EN 228	Diesel EN 590 PME EN 14214 Heating oil EL
Operating temperature range (°C)		-40 to +40	
Dimensions L x W x H (mm)		423 x 148 x 162	
Weight (kg)		5.9	

*Increased heating capacity „Plus“ possible with heater control Multi Comfort MC 04/05 (max. 60 min).



Standard delivery scope

- Extended function options through Multi Comfort MC 04/05 heater control
- Customized application adjustment e.g., connection of an external temperature sensor (rpm = 0)

Name	Delivery scope contains	Order number
SOD Air Top Evo 3900 Petrol 12 V Basic	Heater, dosing pump, product documentation	9019200B
SOD Air Top Evo 3900 Diesel 12 V Basic		9019198B
SOD Air Top Evo 3900 Diesel 24 V Basic		9019199B

Automatic delivery scope

- Integrated Autoboot function
- Automatic heating capacity control for high altitudes up to 2,200 m above sea level
- Extended function options through Multi Comfort MC 04/05 heater control
- Customized application adjustment e.g., connection of an external temperature sensor (rpm = 0)
- SOD Diesel can be extended to Air Top System (see page 38)

SOD Air Top Evo 3900 Petrol 12 V Automatic	Heater, wiring harness, air intake and exhaust system, air intake silencer, installation material, product documentation	9019263A
SOD Air Top Evo 3900 Diesel 12 V Automatic		9019264B
SOD Air Top Evo 3900 Diesel 24 V Automatic		9019265A

Automatic delivery scope

- Fulfills MIL-STD 461 F

SOD Air Top Evo 3900 Diesel 24 V Defense	Heater shielded in metal housing, dosing pump, heater control	4110288A
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Installation kit – contains standard installation material for installation

Installation kit Air Top Evo 3900/5500	Wiring harness, air intake and exhaust system, fuel extractor, installation material	9019428A
Installation kit Air Evo 3900/5500 with tank extracting device	Wiring harness, air intake and exhaust system, tank extracting device, installation material	9024202A

System accessories – can be used with the heater, please order these separately

Heater control rotary switch	82819B
Heater control digital timer 1531 12 V	88206A
Heater control digital timer 1531 24 V	88205A
Heater control Multi Comfort MC05 – eco-heating, comfort heating, plus heating, ventilation, altitude adjustment	1313212A
Heater control Multi Comfort MC04 – eco-heating, comfort heating, plus heating, ventilation	1313210B

Further accessories available from page 65.

Function Extension With Multi Comfort MC 04/05



-  **Eco Power saving mode:** Battery-saving and environment-friendly heating with economical 70 % of heating capacity
-  **Comfort heating:** Standard heating at desired temperature
-  **Plus mode for rapid heating:** Maximum heating capacity for reaching the desired temperature in still shorter time; limited heating time 60 min. (Air Top Evo 3900) or 30 min. (Air Top Evo 5500)
-  **Ventilation:** Delivers fresh air and supports quick, effective working of the air-conditioning system
-  **Altitude mode:** Optimum combustion conditions at altitudes up to 2,200 m above sea level

Air Heaters

Air Top Evo 5500

							
Air Top Evo 5500	■	■	■		■	■	■

Evolution with More Power and Versatility

The heavy-duty Webasto air heater Air Top Evo 5500 is the first choice for cost-effective heating of driver cabins, cargo space or the vehicle interior. With a maximum capacity of 5.5 kW, it offers maximum possible comfort through its soft and uniform heating process during the short heating times. In addition to temperature pre-selection with control thermostat or digital timer, the multi-comfort MC heater control provides a total of five functions. These include saving battery power during frequent use, short heating times at low outdoor temperature or adjustment of heating operation to the low air pressure at high altitudes.

- Max. heating capacity of 5.5 kW
- Performance-oriented, short heating times, uniform and soft heating process
- Compact dimensions – quick and easy installation
- Developed under observation of the latest OEM requirements and automobile standards
- Quality assurance according to ISO TS16949
- Maintenance and service-friendly, can be diagnosed
- Suitable for high altitudes of up to 2,200 m above sea level

Technical Specifications:

Heater		Air Top Evo 5500	
Variants		Petrol	Diesel
ECE approval number	ECE R122 (Heating)	E1 00 0256	
	ECE R10 (EMC)	E1 10R 03 5529	
EC approval mark	(Heating)	e1*2001/56*2006/119*0256*__	
	(EMC)	e1*72/245*2006/96*5529*__	
Heating capacity (kW)	Control range / Plus*	1.7 - 5.0 / 5.5	1.5 - 5.0 / 5.5
Fuel consumption (kg / h)	Control range / Plus	0.18 - 0.52 / 0.57	0.16 - 0.52 / 0.57
Nominal voltage (V)		12	12 / 24
Nominal power consumption (W)	Control range / Plus	15 - 95 / 130	
Hot air volume flow (m³ / h)	Control range / Plus against 0.5 mbar	200 / 220	
Fuels		Petrol EN 228	Diesel EN 590 PME EN 14214 Heating oil EL
Operating temperature range (°C)		-40 to +40	
Dimensions L x W x H (mm)		423 x 148 x 162	
Weight (kg)		5.9	

*Increased heating capacity „Plus“ possible with heater control Multi Comfort MC 04/05 (max. 30 min).



Standard delivery scope

- Extended function options through Multi Comfort MC 04/05 heater control
- Customized application adjustment e.g., connection of an external temperature sensor (rpm = 0)

Name	Delivery scope contains	Order number
SOD Air Top Evo 5500 Petrol 12 V Basic	Heater, dosing pump, product documentation	9019206B
SOD Air Top Evo 5500 Diesel 12 V Basic		9019204B
SOD Air Top Evo 5500 Diesel 24 V Basic		9019205B

Automatic delivery scope

- Integrated Autoboot function
- Automatic heating capacity control for high altitudes up to 2,200 m above sea level
- Extended function options through Multi Comfort MC 04/05 heater control
- Customized application adjustment e.g., connection of an external temperature sensor (rpm = 0)
- SOD Diesel can be extended to Air Top System (see page 38)

SOD Air Top Evo 5500 Petrol 12 V Automatic	Heater, dosing pump, wiring harness, exhaust system, air intake silencer, installation material, product documentation	9019266A
SOD Air Top Evo 5500 Diesel 12 V Automatic		9019267B
SOD Air Top Evo 5500 Diesel 24 V Automatic		9019268A

Ambulance delivery scope

- Heater is coordinated with the requirements of EN 1789 (ambulances)
- Diverse functions integrated automatically (Autoboot, heat capacity regulation at altitudes of up to 2,200 m above sea level)
- No further function extension possible through heater control Multi Comfort MC 04/05

SOD Air Top Evo 5500 Petrol 12 V Basic Ambulance	Heater, dosing pump, wiring harness, installation material, product documentation	9019271A
SOD Air Top Evo 5500 Diesel 12 V Basic Ambulance		9019272B
SOD Air Top Evo 5500 Diesel 12 V Ambulance for sprinter	Full installation kit incl. heater, wiring harness, bracket, heater control for installation in vehicle	9020614A

Defense delivery scope

- Fulfills MIL-STD 461 F

SOD Air Top Evo 5500 Diesel 24 V Defense	Heater shielded in metal housing, dosing pump, heater control	4110120A
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Installation kit – contains standard installation material for installation

Installation kit Air Top Evo 3900/5500	Wiring harness, air intake and exhaust system, fuel extractor, installation material	9019428A
Installation kit Air Top Evo 3900/5500 with tank extracting device	Wiring harness, air intake and exhaust system, tank extracting device, installation material	9024202A

System accessories – can be used with the heater, please order these separately

Heater control rotary switch	82819B
Heater control digital timer 1531 12 V	88206A
Heater control digital timer 1531 24 V	88205A
Heater control Multi Comfort MC05 – 5 functions (eco-heating, comfort heating, plus heating, ventilation, altitude adjustment)	1313212A
Heater control Multi Comfort MC04 – 4 functions (eco-heating, comfort heating, plus heating, ventilation)	1313210B

Further accessories available from page 65.

Air Heaters

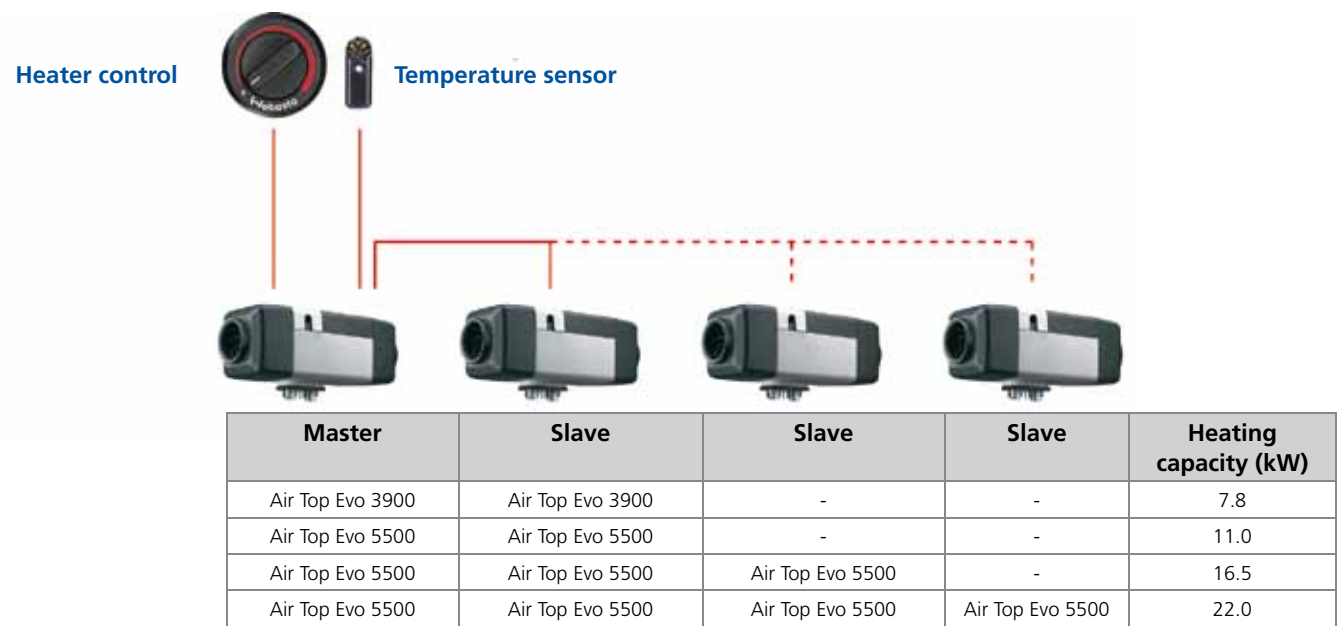
Air Top System

							
Air Top System	■		■		■	■	■

Modular and Expandable

The performance-oriented models Air Top Evo 3900 and Air Top Evo 5500 ensure economic heating of the driver's cabin and cargo space even at very low outdoor temperatures and at high altitudes. Thanks to the modular concept, up to four heaters can be operated in one system. In this context, Device 1 functions as the master heater and the other devices as slave heaters. Mutual communication between the devices takes place through a serial bus system. The combination of several heaters allows the system to be adjusted individually to the application. Only the required heaters are activated when the heat demand is low.

- Modular, individually expandable solution
- Scalable heating capacity from 7.8 to 22 kW
- Easy installation through configuration automation
- A master heater controls all the slave heaters
- Only one heater control and only one temperature sensor is required





Master delivery scope

- Integrated Autoboot function
- Automatic heating capacity control for high altitudes up to 2,200 m above sea level
- Extended function options through Multi Comfort MC 04/05 heater control

Name	Delivery scope contains	Order number
SOD Air Top Evo 3900 Diesel 12 V Automatic	Heater, dosing pump, wiring harness, air intake and exhaust system, installation material, product documentation	9019264B
SOD Air Top Evo 3900 Diesel 24 V Automatic		9019265A
SOD Air Top Evo 5500 Diesel 12 V Automatic		9019267B
SOD Air Top Evo 5500 Diesel 24 V Automatic		9019268A

Slave delivery scope

- Supplements the delivery scope of master - to build a system

SOD Air Top Evo 3900 Diesel 12 V Automatic Slave	Heater, dosing pump, wiring harness, slave, air intake and exhaust system, installation material, product documentation	1314412A
SOD Air Top Evo 3900 Diesel 24 V Automatic Slave		1314413A
SOD Air Top Evo 5500 Diesel 24 V Automatic Slave		1314344A
SOD Air Top Evo 5500 Diesel 12 V Automatic Slave		1314345A

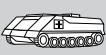
System accessories – can be used with the heater, please order these separately

Heater control rotary switch	82819B
Heater control Multi Comfort MC05 - 5 functions: Eco heating, comfort heating, plus heating, ventilation, altitude adjustment	1313212A
Heater control Multi Comfort MC04 - 4 functions: Eco heating, comfort heating, plus heating, ventilation	1313210B
External temperature sensor, 2.5 m cable length	9014694A

Further accessories available from page 65.

Air Heaters

HL 90

							
HL 90	■				■		■

Simple and Robust

The air heater HL 90 is a robust, reliable solution for rapid heating of driver's cabins, passenger compartments, containers and tents. In vehicles, it can also be used to heat cargo spaces and to defrost the vehicle window panes. The HL 90 can be used to transport cold-sensitive goods safely to the destination. The air heater persuades with its compact design, its maintenance-friendliness and its high performance which also enables the cost-effective heating of large spaces.

- 9 kW heating capacity
- Short heating times through high air throughput
- Efficient solution for heating big driver cabins
- Easy to install and maintain
- Compact, space-saving design

Technical Specifications:

Heater		HL 90
Variants		Diesel
EC approval mark	(Heating)	e1*2001/56*2004/78*0017*__
	(EMC)	e1*72/245*2006/96*1086*__
Heating capacity (kW)	Partial load / full load	6.5 / 9.0
Fuel consumption (kg / h)	Partial load / full load	0.7 – 1.0
Nominal voltage (V)		24
Nominal power consumption (W)	Partial load / full load	94 / 160
Hot air volume flow (m³ / h)	against 0.5 mbar	280
Fuels		Diesel EN 590
Operating temperature range (°C)		-40 to +40
Dimensions L x W x H (mm)		650 x 235 x 260
Dimensions of control unit with bracket L x B x H (mm)		97 x 102 x 36
Weight with control unit (kg)		13.3



Standard delivery scope		
Name	Delivery scope contains	Order number
SOD HL 90 Diesel 24 V Standard	Heater, wiring harness, dosing pump, covers, air intake and exhaust system	38622C

System accessories – can be used with the heater, please order these separately		
Heater control switch with function indicator - full 24 V		109999
Heater control digital timer 1531 24 V		88195A

Further accessories available from page 65.

Advantages of Water Heating Systems at a Glance

Reduction of Operating Costs

- Fuel savings through reduction of engine idle run times
- Low fuel consumption through efficient combustion technology
- Reduced and predictable maintenance expenditure through the Diagnosis functionality

More Safety and Better Comfort

- Comfortably heated cabin in idle times promotes recovery
- Best view through thawed and mist-free panes at start of drive
- Observation of cabin temperature during short idle times through residual heat function
- Sliding heating control

A Worthwhile Investment

- Supports high operational readiness and availability of the vehicle
- Low procurement and installation costs
- High-value product available on a long-term basis
- Function and cost-optimized installation kits for different vehicles and application areas
- Full system solutions for loading area heating
- Combined engine and cabin heating with one product technology

Environment-friendly Operation

- Environment-friendly exhaust gas values from the start through engine pre-heating
- Avoidance of engine idle run times during breaks and idle periods
- Use of engine heat to bridge short idle times without exhaust gas emission

Increased Operational Readiness

- High operational readiness and safe engine start even at extremely low temperatures
- Range of use from arctic environment to high altitudes



Flexible Solutions for Engine and Cabin Pre-heating

- Engine and cabin pre-heating available in original equipment or retrofitting
- Engine-independent additional heating of even large cabins
- Vehicle-specific application solutions for parking and auxiliary heating
- New function through engine heat utilization for cabin heating

Loading Area Heating to Protect Cold-sensitive Goods

- System solutions for heating different cargo space sizes
- Complete system suitable also for sensitive load

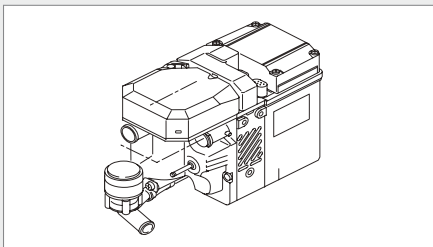
Application of a Water Heating System

Webasto water heating systems can be ordered in diverse delivery scopes. Depending on the requirements for use and the installation location, you may need additional installation material. You can supplement these from our extensive accessories program.

page 65

■ Heater

Select the fitting water heater from our extensive product program.



■ Air Intake and Exhaust System

The installation kit contains a standard system. Depending on the installation location and the length of the exhaust pipe, you will require additionally a condensed-water drain and insulation for the exhaust pipe.

■ Fuel Supply

A connection must be made with the fuel tank.
A dosing pump is part of the basic delivery scope.

■ Electrical Connection

The installation kit contains the wiring harness.

■ Installation Material

The installation kit contains standard installation material. Extra parts are required, depending on the installation location.

■ Product Documentation

You will receive an installation and operating instructions with our heaters. Further information (such as spare part lists) is available on our dealer portal.

■ Circulating Pumps

Select the suitable circulating pump from our range of accessories. A standard pump pump is included in our basic delivery scope of Thermo 50, Thermo 90 ST and Thermo Pro 90.

■ Heater Control

You may select from diverse models from simple rotary selectors for regulating heating capacity to function extensions, such as ventilation and altitude adjustment.

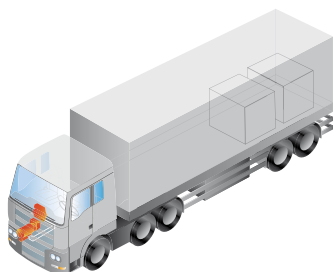
Application Examples

Which Water Heating System is Required?



Light-Duty Commercial Vehicles

- Cabin heating only
- Thermo Top Evo
- Additional operation or engine pre-heating
- 2.2 - 5.0 kW heating capacity
- Moderate climate zones



Special Vehicles / Truck (Medium and Large Engines)

- Cabins and/or engine pre-heating
- Thermo Pro 90
- 1.8 - 7.6 kW (Boost phase 9.1 kW) heating capacity
- Rapid heating
- Cold /moderate climate zones
- Altitude suitability up to 3,500 m above sea level
- Power control



Truck / Construction / Defense (Large Engines)

- Cabin and engine pre-heating
- Thermo Pro 90
- 1.8 - 7.6 kW (Boost phase 9.1 kW) heating capacity
- Rapid heating
- Cold /Arctic climate zones

Our new calculating tool the “Heavy Duty Capacity Calculator” is provided on the dealer portal for your support (see page 5). Our technical workshops and the local Webasto subsidiaries would be glad to answer any further questions about design and installation.

Water Heaters

Product Overview

Thermo Top Evo

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NEW



Thermo Top C *Thermo 50*

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Thermo 90 ST

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Thermo Pro 90

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NEW



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Thermo 230 / 300 / 350

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Thermo S *230 / 300 / 350 / 400*

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NEW



Water Heaters

Thermo Top Evo

							
Thermo Top Evo		■					

Quicker and Safer Start in Winter

The vehicle is ready to start quickly and safely with the Thermo Top Evo. Iced window panes are thawed in no time and the driver cabin is heated quickly. In the loading area of small transporters, the heater rapidly sets the optimum temperature for the transport of cold-sensitive goods. The optimum heat capacity is available even at low outdoor temperatures. The compact design of the Thermo Top Evo enables easy installation even in vehicle models with limited installation space. The light structure helps in keeping the vehicle weight low and also in reducing the emission of pollutants.

- Faster de-icing than in conventional solutions
- Optimum heating capacity even at low outdoor temperatures
- Rapid heating of driver cabin and loading area of small transporters
- Suitable for retrofitting in vehicle models with limited installation space

Technical Specifications:

Technical specifications:

Heater		Thermo Top Evo 5		Thermo Top Evo 5+	
Variants		Diesel	Petrol	Diesel	Petrol
ECE approval number	ECE R122 (Heating)	E1 00 0258			
	ECE R10 (EMC)	E1 03 5627			
EC approval mark	(Heating)	e1*2001/56*2006/119*0258*__			
	(EMC)	e1*72/245*2006/96*5627*__			
Heating capacity (kW)	Partial load / full load	2.5 / 4.0	2.8 / 5.0	2.5 / 5.0	2.8 / 5.0
Fuel consumption (kg / h) In a 20 min. heating phase*		approx. 0.21			
Nominal voltage (V)		12			
Nominal power consumption (W) without circulating pump	Partial load / full load	12 / 32	15 / 32	12 / 32	15 / 32
Fuels		Diesel EN 590	Petrol EN 228	Diesel EN 590	Petrol EN 228
Operating temperature range (°C)		-40 to +80	-40 to +60	-40 to +80	-40 to +60
Dimensions L x W x H (mm)		218 x 91 x 147			
Weight of heater (kg)		2.1			
Circulating pump U4847					
Volume flow (l / h)		500			
Dimensions L x W x H (mm)		96 x 75 x 80			
Weight		0.3			

*Approx. 20 - 40 % of the mentioned fuel consumption is compensated by the low consumption of the pre-heated engine.



Standard delivery scope		
Name	Delivery scope contains	Order number
SOD Thermo Top Evo 5 Petrol Basic	Heater, U4847 circulating pump, DP42 dosing pump, standard wiring harness with relay and fuses, product documentation	1314811A
SOD Thermo Top Evo 5 Diesel Basic		1314815A
SOD Thermo Top Evo 5+ Petrol Basic		1314810A
SOD Thermo Top Evo 5+ Diesel Basic		1314814A

Standard installation kit		
Standard kit Thermo Top Evo Trade	Water connection, installation material, device holder, connection, fan control, exhaust system with silencer, air intake system with silencer	1314818A

Vehicle-specific installation kits for light duty commercial vehicles can be found in "Vehicle-specific installation kits" on page 66.

System accessories – can be used with the heater, please order these separately		
Heater control digital timer 1533 12 V	Kits containing heater control with wiring harness, connection and installation material, product documentation	1301122C
Heater control Telestart T91 12 V, black		1314635A
Heater control Telestart T100 HTM 12 V, black		1314637A

Further accessories available from page 65.

Water Heaters

Thermo Top C

							
Thermo Top C		■				■	■

Protects Engine and Saves Fuel

The compact Thermo Top C water heater pre-heats the engine to the starting temperature. This considerably reduces the load on the engine with a cold start and thus increases the life span and operational readiness of the engine. Additionally, the parking heater Thermo Top C protects the environment, as avoiding engine idle run times reduces fuel consumption as well as CO₂-emission. Ice and mist-free panes ensure safety through clear vision during start.

- Engine and passenger compartment pre-heating of 12 V vehicles in original equipment or retrofitting
- Safer engine start even at low temperatures
- Fuel savings by avoiding engine idle run times during short idle times
- Vehicle-specific delivery scopes

Technical Specifications:

Heater		Thermo Top C	
Variants		Petrol	Diesel
ECE approval number	ECE R122 (Heating)	-	
	ECE R10 (EMC)	-	
EC approval mark	(Heating)	e1*2001/56*2006/119*0002*__	
	(EMC)	e1*72/245*2009/19*1232*__	
Heating capacity (kW)	Partial load / full load	2.2 / 5.2	
Fuel consumption (kg / h)	Partial load / full load	0.34 / 0.7	0.3 / 0.61
Nominal voltage (V)		12	
Nominal power consumption with circulating pump (W)	Partial load / full load	32 / 42	
Fuels		Petrol EN 228	Diesel EN 590 PME-mixture, with <50% PME share
Operating temperature range (°C)		-40 to +60	
Dimensions L x W x H (mm)		214 x 106 x 168	
Weight (kg)		2.9	
Circulating pump U4847			
Volume flow (l / h)		450	
Dimensions L x W x H (mm)		95 x 61 x 61	
Weight (kg)		0.3	



Standard delivery scope		
Name	Delivery scope contains	Order number
SOD Thermo Top C Petrol 12 V Basic	Heater, dosing pump, U4847 circulating pump, wiring harness with fuse holder, tank extracting device, exhaust system with exhaust silencer, heater bracket and extensive installation material, product documentation	9003167C
SOD Thermo Top C Diesel 12 V Basic		9003168C

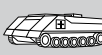
Vehicle-specific installation kits for lightweight commercial vehicles can be found in "Vehicle-specific installation kits" on page 66.

System accessories – can be used with the heater, please order these separately		
Heater control digital timer 1533 12 V	Kits containing heater control with wiring harness, connection and installation material, product documentation	1301122C
Heater control Telestart T91 12 V, black		1314635A
Heater control Telestart T100 HTM 12 V, black		1314637A

Further accessories available from page 65.

Water Heaters

Thermo 50

							
Thermo 50	■	■			■	■	■

Engine-friendly and Sustainable

The small and robust Thermo 50 water heater pre-heats the driver cabin and also the engine of small to medium vehicles to the starting temperature. This way it reduces the load on the engine from cold starts and increases its lifespan and operational readiness. Additionally, the parking heater protects the environment, as it reduces fuel consumption as well as CO₂ emission by avoiding engine idle runtimes.

- Engine and passenger compartment pre-heating of 24 V vehicles in original equipment or retrofitting
- Delivery scope adjusted individually to the corresponding vehicle type
- High operational readiness of vehicles through safe engine start even at low temperatures
- Fuel savings through reduction of engine idle run times

Technical Specifications:

Heater		Thermo 50
Variants		Diesel
ECE approval number	ECE R122 (Heating)	--
	ECE R10 (EMC)	--
EC approval mark	(Heating)	e1*2001/56*2004/78*0004*__
	(EMC)	e1*72/245*2006/28*1628*__
Heating capacity (kW)	Partial load / full load	2.2 / 5.0
Fuel consumption (kg / h)	Partial load / full load	0.3 / 0.61
Nominal voltage (V)		24
Nominal power consumption (W) (with circulating pump)	Partial load / full load	34 / 50
Fuels		Diesel EN 590 Arctic Diesel Heating oil (EL)
Operating temperature range (°C)		-40 to +80
Dimensions L x W x H (mm)		237 x 106 x 193
Weight (kg)		2.9
U4847 Circulating pump		
Volume flow (l / h)		500
Dimensions L x W x H (mm)		96 x 75 x 80
Weight (kg)		0.3



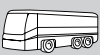
Standard delivery scope		
Name	Delivery scope contains	Order number
SOD Thermo 50 Diesel 24 V Standard	Heater, DP30 dosing pump, U4847 circulating pump, wiring harness with fuse holder, tank extracting device, exhaust system with exhaust silencer, heater bracket and extensive installation material, product documentation	67014A

System accessories – can be used with the heater, please order these separately		
Heater control switch with function indicator - 24 V		109999
Heater control digital timer 1531 24 V		88195A

Further accessories available from page 65.

Water Heaters

Thermo 90 ST

							
Thermo 90 ST	■	■	■		■	■	■

Longer Engine Lifespan and Simultaneous Fuel Saving

The multiple use and performance-oriented water heater Thermo 90 ST pre-heats the driver and sleeping cabins to a comfortable temperature and takes the engine in medium-to-large vehicles to the optimum start temperature. Cold starts are avoided this way – for a longer engine lifespan. During breaks, the Thermo 90 ST water heater ensures heat retention in the cabin even when the engine is switched off. Reduced engine idle run times contribute a significant lowering of fuel consumption and the associated costs besides CO₂ emission.

- Engine pre-heating and passenger compartment heating in medium-to-large vehicles
- Developed under observation of the latest OEM requirements and automobile standards
- Original equipment or subsequent installation possible
- Delivery scope adjusted individually to the corresponding vehicle type
- High operational readiness of vehicles even at low temperatures
- Fuel savings through reduction of engine idle run times

Technical Specifications:

Heater		Thermo 90 ST	
Variants		Petrol	Diesel
ECE approval number	ECE R122 (Heating)	E1 00 0217	
	ECE R10 (EMC)	--	
EC approval mark	(Heating)	e1*2001/56*2006/119*0019*__	
	(EMC)	e1*72/245*2006/28*4881*__	
Heating capacity (kW)	Partial load - Full load / Boost	2.0 - 7.6	1.8 - 7.6 / 9.1
Fuel consumption (kg / h)	Partial load - Full load / Boost	0.25 - 1.0	0.19 - 0.9 / 1.1
Nominal voltage (V)		12	12 / 24
Nominal power consumption (W) (with circulating pump)	Partial load - Full load / Boost	37 - 83	37 - 83 / 90
Fuels		Petrol EN 228 ROZ 91 / 95 / 98	Diesel EN 590 Arctic-Diesel Heating oil (EL)
Operating temperature range (°C)		-40 to +80	
Dimensions L x W x H (mm)		355 x 133 x 232	
Weight (kg)		4.8	
U4846 Circulating pump			
Volume flow (l / h)		700	
Dimensions L x W x H (mm)		180 x 74 x 112 (incl. connections)	
Weight (kg)		0.7	



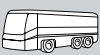
Standard delivery scope		
Name	Delivery scope contains	Order number
SOD Thermo 90 ST Petrol 12 V Standard	Heater, DP30 dosing pump, 4846 circulating pump, wiring harness with fuse holder, tank extracting device with fuel line, exhaust system with exhaust silencer, air intake silencer, water hoses, heater bracket and extensive installation material, product documentation	9007621A
SOD Thermo 90 ST Petrol 12 V Standard		9007622A
SOD Thermo 90 ST Petrol 24 V Standard		9007623A

System accessories – can be used with the heater, please order these separately	
Heater control switch with function indicator - 12 V	109995
Heater control switch with function indicator - 24 V	109999
Heater control digital timer 1531 12 V	88204A
Heater control digital timer 1531 24 V	88195A

Further accessories available from page 65.

Water Heaters

Thermo Pro 90

							
Thermo Pro 90	■	■	■		■	■	■

Performance-oriented and Robust

The engine-independent Thermo Pro 90 water heater is designed for use in large commercial and special vehicles as well as in minibuses. It pre-heats the vehicle engine very fast to the optimum start temperature. In the start phase, it reduces fuel consumption as well as the emission of pollutants. The heater ensures pleasant temperatures even during resting periods. The PME-suitable Thermo Pro 90 can be connected in vehicle bus systems such as high-speed CAN or LIN. Solutions are available for original equipment as well as for retrofitting.

- Robust, performance-oriented heater with 1.8 to 9.1 kW heating capacity
- Environment-friendly, PME-suitable, efficient combustion technology with high efficiency level
- Fastest heating times even under arctic conditions
- Highest product quality with long service life
- Standard automatic altitude adjustment up to 3,500 m above sea level

Technical Specifications:

Heater		Thermo Pro 90
Variants		Diesel
ECE approval number	ECE R122 (Heating)	E1 00 0320
	ECE R10 (EMC)	E1 03 6196
EC approval mark	(Heating)	--
	(EMC)	--
Heating capacity (kW)	Partial load - Full load / Boost	1.8 - 7.6 / 9.1
Fuel consumption (kg / h)	Partial load - Full load / Boost	0.15 - 0.90 / 1.1
Nominal voltage (V)		12 / 24
Nominal power consumption (W) (with circulating pump) (without circulating pump)	Partial load	20 - 83
	Full load	90
	Boost	61
Fuels		Diesel EN 590 up to 100% PME 14214 Arctic Diesel, Heating oil (EL) F34, F58, F63
Operating temperature range (°C)		-40 to +85
Storage temperature (°C)		-40 to +120
Dimensions L x W x H (mm)		352 x 131 x 188
Weight (kg)		4.8
Circulating pump U4846		
Volume flow (l / h)		700
Dimensions L x Ø (mm)		180 x 74 x 112 (incl. connections)
Weight (kg)		0.7



NEW

Delivery scope		
Name	Delivery scope contains	Order number
SOD Thermo Pro 90 Diesel 12 V Basic	Heater, DP42 dosing pump, circulating pump, product documentation	9023075A*
SOD Thermo Pro 90 Diesel 24 V Basic		9023076A*

Installation kit		
Standard kit Thermo Pro 90 12 V Trade	Wiring harness with fuse holder, Tank extracting device with fuel line, Exhaust system with exhaust silencer, air intake silencer, Water hoses, Heater bracket and extensive installation material	9024620A*
Standard kit Thermo Pro 90 24 V Trade		9024621A*

System accessories – can be used with the heater, please order these separately	
Heater control switch with function indicator - 12 V	109990
Heater control switch with function indicator - 24 V	109995
Heater control digital timer 1531 12 V	88204A
Heater control digital timer 1531 24 V	88195A

* Available in autumn 2011

Further accessories available from page 65.

Water Heaters

DBW 2010 / 2016

							
DBW 2010 / 2016	■		■		■	■	■

Engine, Environment-friendly and Cost-efficient

The DBW Series offers in the heavy duty performance class up to 16 kW, the optimum preconditions of heating driver cabins and large volume loading areas through its robust structure and technology. In medium-to-large engine vehicle types, engine and driver cabin can be heated simultaneously. Cost reduction through low fuel consumption and avoidance of engine idle run times increases the economic usage of vehicles and makes a contribution towards relieving the environment. The long lifespan of the heater and its components as well as the very low maintenance and repair expenditure ensure maximum utilization and operating time of the vehicle. Webasto offers installation solutions that are adapted to the relevant vehicle models.

- Safe operational readiness through low maintenance and repair expenditure
- Quick operational readiness through safe engine start even at low temperatures
- Fuel savings through reduction of engine idle run times
- Original equipment or subsequent installation possible
- Standard delivery scope available

Technical Specifications:

Heater		DBW 2010	DBW 2016
Variants		Diesel	Diesel
ECE approval number	ECE R122 (Heating)	--	
	ECE R10 (EMC)	--	
EC approval mark	(Heating)	e1*2001/56*2006/119*0006*__	e1*2001/56*2006/119*0001*__
	(EMC)	e1*72/245*2009/19*1087*__	e1*72/245*2006/96*4086*__
Heating capacity (kW)	Control range	11.6	16.0
Fuel consumption (kg / h)	Control range	1.3	1.5
Nominal voltage (V)		12 / 24	
Nominal power consumption (W) (without circulating pump) (with U4810 circulating pump)	Control range	60	90
		85	115
Fuels		Diesel EN 590 Heating oil (EL)	
Operating temperature range (°C)		-40 to +80	
Dimensions L x W x H (mm)		564 x 205 x 228	
Weight (kg)		14.5	
Circulating pump U4810			
Volume flow (l / h)	against 0.15 bar	1,600	
Dimensions L x W x H (mm)		95 x 61 x 61	
Weight (kg)		0.8	
Aquavent 5000 (U4814) circulating pump			
Volume flow (l / h)	against 0.2 bar	5,200	
Dimensions L x W x H (mm)		221 x 100 x 105	
Weight (kg)		2.1	



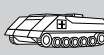
Delivery scope		
Name	Delivery scope contains	Order number
SOD DBW 2010 Diesel 12 V Standard	Heater, heater control switch with function indicator and accessories, fuel filter, standard wiring harness with fuse holder, product documentation	9023677A
SOD DBW 2010 Diesel 24 V Standard		9023678A
SOD DBW 2016 Diesel 12 V Standard		9012936A
SOD DBW 2016 Diesel 24 V Standard		9012935A

System accessories – can be used with the heater, please order these separately	
Heater control switch with function indicator - 12 V	109995
Heater control switch with function indicator - 24 V	109999
U4810 circulating pump 12 V	458384
U4810 circulating pump 12 V with stand	458414
U4810 circulating pump 24 V	458392
U4810 circulating pump 24 V with stand	458422
Aquavent 5000 (U4814) circulating pump 12 V (AMP)	43149B
Aquavent 5000 (U4814) circulating pump 24 V (AMP)	43150C
Aquavent 5000 S (U4854) circulating pump (AMP 6.2)	1301681A
Aquavent 5000 S (U4854) circulating pump (MB)	1302710A
Aquavent 5000 S (U4854) circulating pump (G+H 2.8)	1302711A

Further accessories available from page 65.

Water Heaters

Thermo 230 / 300 / 350

							
Thermo 230 / 300 / 350			■	■	■	■	■

Immediate Start Even at Low Temperatures

The high-efficiency water heaters take engines of high performance class to the operating temperature before the start. In public and tourist coaches, they establish a comfortable temperature level in the passenger compartments in a short time, when the engine is at rest. In traction vans or locos, the engines are pre-heated before the start. In addition to operational readiness, the water heaters also ensure a higher lifespan of the engine. The auxiliary heating function in the drive mode ensures a comfortable passenger compartment temperature even at very low outdoor temperatures. Besides the legal requirements, the water heaters also correspond to the high standards of the bus manufacturers. A special performance-oriented system with certification by the Federal Railway Office (Eisenbahnbundesamt) is available for application in the rail sector.

- Operational readiness even at very low outdoor temperatures
- Comfortable passenger compartment temperature through auxiliary heating during driving
- Pre-configured full system with low installation expenditure
- Optional fuel pre-heating
- Reduction of idle or failure times of the vehicle through integrated diagnosis function

Technical Specifications:

Technical Specifications:

Heater		Thermo 230	Thermo 300	Thermo 350
Variants		Diesel	Diesel	Diesel
ECE approval number	ECE R122 (Heating)	--	--	--
	ECE R10 (EMC)	e1*2001/56*2004/78*0007*_	e1*2001/56*2004/78*0008_	e1*2001/56*2004/78*0009*
Heating capacity (kW)	Control range	23.0	30.0	35.0
Fuel consumption (l / h)	Control range	2.5	3.3	3.7
Nominal voltage (V)		24		
Nominal power consumption (W) (without circulating pump)	Control range	65	110	140
Fuels		Diesel EN 590/ Heating oil (EL)		
Operating temperature range (°C)		-40 to +80		
Dimensions L x W x H (mm)		610 x 246 x 220		
Weight (kg)		19		
Aquavent 5000 (U4814) circulating pump				
Volume flow (l / h)	against 0.2 bar	5,200		
Dimensions L x W x H (mm)		221 x 100 x 105		
Weight (kg)		2.1		
Aquavent 5000 S (U4854) circulating pump				
Volume flow (l / h)	against 0.2 bar	5,200		
Dimensions L x W x H (mm)		173 x 81 x 77		
Weight (kg)		2.2		
Aquavent 6000 SC (U4856) circulating pump				
Volume flow (l / h)	against 0.4 bar	6,000		
Dimensions L x W x H (mm)		229 x 115 x 110		
Weight (kg)		2.55		



Heater		
Name	Delivery scope contains	Order number
HT Thermo 230 24 V	Heater without accessories	85782C
HT Thermo 300 24 V		84069C
HT Thermo 350 24 V		85783C

Delivery scope		
SOD Thermo 230 24 V	Heater plus fuel filter, water hoses, exhaust diversion	85312B
SOD Thermo 300 24 V		85313C
SOD Thermo 350 24 V		85314C

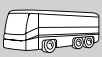
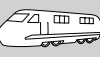
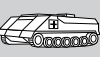
Delivery scope rail compact with accessories		
SOD Thermo 230 Rail Compact 24 V	Heater, fuel filter, pre-installed circulating pump	9016237B
SOD Thermo 300 Rail Compact 24 V		9016236B
SOD Thermo 350 Rail Compact 24 V		9016235B

System accessories – can be used with the heater, please order these separately	
Heater control switch with function indicator - 24 V	109999
Retrofitting of heating cartridge	86711B
Aquavent 5000 (U4814) circulating pump 24 V (AMP)	43150C
Aquavent 5000 S (U4854) circulating pump (AMP 6.2)	1301681A
Aquavent 5000 S (U4854) circulating pump (MB)	1302710A
Aquavent 5000 S (U4854) circulating pump (G+H 2.8)	1302711A
Aquavent 6000 SC (U4856) circulating pump (AMP 6.3) with stand	1311280A
Aquavent 6000 SC (U4856.01) circulating pump (AMP)	SPH2710194A
Aquavent 6000 SC (U4856.04) circulating pump (G+H)	SPH2710197A
Aquavent 6000 SC (U4856.06) circulating pump (PACKARD)	SPH2710199A

Further accessories available from page 65.

Water Heaters

Thermo S 230 / 300 / 350 / 400

							
Thermo S 230 / 300 / 350 / 400			■	■	■	■	■

Immediate Start Even at Low Temperatures

The high-efficiency water heaters of the Thermo-S series bring engines of high performance to the operating temperature before the start. In public or tourist coaches, they establish a comfortable temperature level in the passenger compartments after long rest periods without the engine running. Besides operational readiness, engine heating also ensures a higher life-expectancy for the engine. The auxiliary heating function in the drive mode ensures a comfortable passenger compartment temperature even at very low outdoor temperatures. Besides the legal requirements, the water heaters also correspond to the high standards of the bus manufacturers.

- Operational readiness even at very low outdoor temperatures
- Comfortable passenger compartment temperature from start and during driving
- Pre-configured full system with low installation expenditure
- Reduction of idle- or failure times of the vehicle through integrated diagnosis function
- Optional fuel pre-heating

Technical Specifications:

Heater		Thermo S 230	Thermo S 300	Thermo S 350	Thermo S 400
Variants		Diesel	Diesel	Diesel	Diesel
ECE approval number	ECE R122 (Heating)	0226*00	0227*00	0228*00	0225*00
	ECE R10 (EMC)	5266*00			
Heating capacity (kW)	Control range	23.0	30.0	35.0	40.0
Fuel consumption (l / h)	Control range	3.0	3.6	4.3	4.9
Nominal voltage (V)		24			
Nominal power consumption (W) (without circulating pump)	Control range	65	90	120	180
Fuels		Diesel EN 590 Heating oil (EL)			
Operating temperature range (°C)		-40 to +80			
Dimensions L x W x H (mm)		610 x 246 x 220			
Weight (kg)		19			
Aquavent 5000 (U4814)					
Volume flow (l / h)	against 0.2 bar	5,200			
Dimensions L x W x H (mm)		221 x 100 x 105			
Weight (kg)		2.1			
Aquavent 5000 (U4854)					
Volume flow (l / h)	against 0.2 bar	5,200			
Dimensions L x W x H (mm)		173 x 81 x 77			
Weight (kg)		2.2			
Aquavent 6000 SC (U4856)					
Volume flow (l / h)	against 0.4 bar	6,000			
Dimensions L x W x H (mm)		229 x 115 x 110			
Weight (kg)		2.55			



NEW

Heater		
Name	Delivery scope contains	Order number
HT Thermo S 230.004 Standard	Heater without accessories	SPH11112786A
HT Thermo S 300.002 Standard		SPH11111233A
HT Thermo S 350.022 Standard		SPH11113228A
HT Thermo S 400.003 Standard		SPH11113263A

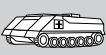
Delivery scope		
SOD HT Thermo S 230.004 Standard	Heater plus fuel filter, water hoses, exhaust diversion	SPH11112787A
SOD HT Thermo S 300.002 Standard		SPH11111294A
SOD HT Thermo S 350.022 Standard		SPH11113095A
SOD HT Thermo S 400.003 Standard		SPH11113264A

System accessories – can be used with the heater, please order these separately		
Heater control switch with function indicator - 24 V		109999
Aquavent 5000 (U4814) circulating pump 24 V (AMP)		43150C
Aquavent 5000 S (U4854) circulating pump (AMP 6.2)		1301681A
Aquavent 5000 S (U4854) circulating pump (MB)		1302710A
Aquavent 5000 S (U4854) circulating pump (G+H 2.8)		1302711A
Aquavent 6000 S (U4855) circulating pump (AMP 6.3) with stand		1315175B
Aquavent 6000 S (U4855.01) circulating pump (AMP)		SPH2710185A
Aquavent 6000 S (U4855.04) circulating pump (G+H)		SPH2710188A
Aquavent 6000 S (U4855.06) circulating pump (PACKARD)		SPH2710189A
Aquavent 6000 S (U4855.08) circulating pump (AMP DC)		SPH2710191A
Aquavent 6000 SC (U4856) circulating pump (AMP 6.3) with stand		1311280A
Aquavent 6000 SC (U4856.01) circulating pump (AMP)		SPH2710194A
Aquavent 6000 SC (U4856.04) circulating pump (G+H)		SPH2710197A
Aquavent 6000 SC (U4856.06) circulating pump (PACKARD)		SPH2710199A

Further accessories available from page 65.

Water Heaters

Cargo Space Heating

							
Cargo Space Heating	■						

Plug & Heat KM 23

High-performance Heating Solution for Trailers

The new high-performance Plug & Heat KM 23 board wall heater ensures optimum heating of the trailer loading area. With this unit you can transport cold-sensitive goods at the desired temperature, and thus ensure the quality of the goods. The fully pre-installed heater set is based on a Webasto water heater with 23 kW capacity including heater control by thermostat and eco-switch. The set is available as an optional extra with a 230 V connection and converter, so that the trailer can be heated over long periods independently of the battery.

- Optimum temperature for cold-sensitive goods
- Low purchase price
- Economic fuel consumption, low maintenance costs
- Low weight due to lightweight design
- Easy operation through heater control with thermostat and eco switch

Thermo 90 ST, DBW 2010 / 2016

Soothing Heat for Sensitive Cargo

The water heating system solutions on the basis of the Thermo 90 ST or DBW 2010 / 2016 persuade at high air capacity through the combination of a moderate air blow-out temperature and a good humidity. Sensitive cargo like plants, flowers and animals are heated optimally. The system consists of a stainless steel floor plate with pre-installed Webasto water heater, a heat exchanger with fan and a water expansion tank. The DBW 2016 can be adjusted to different heat exchanger models.

- Moderate air blow-out temperature protects the cargo
- Large air capacity, ideal for heating large loading areas
- Two independently adjustable room temperatures in DBW 2010 / DBW 2016
- Easy installation through pre-assembled components

Technical Specifications:

Type	Heating system solution		Board wall heater
Heating capacity (kW)	6.5	11.6 / 16.0*	23.0
Nominal power consumption (W)	203	328 / 358	Full load 490 / Eco level 290
Nominal voltage (V)	12 / 24	24	24
Hot air volume flow at 0.5 bar counter pressure (m³ / h)	250	500	1,100 (free-blowing)
Dimensions L x W x H (mm)	720 x 420 x 340	900 x 530 x 320	1,905 x 1,310 x 365
Weight (kg)	36	45	147 (full unit)

* The heating system DBW 2016 has a heat exchanger with 11.6 kW and connection points for an additional heat exchanger (not included in delivery scope normally). 12 V on request. Further data available under heaters.



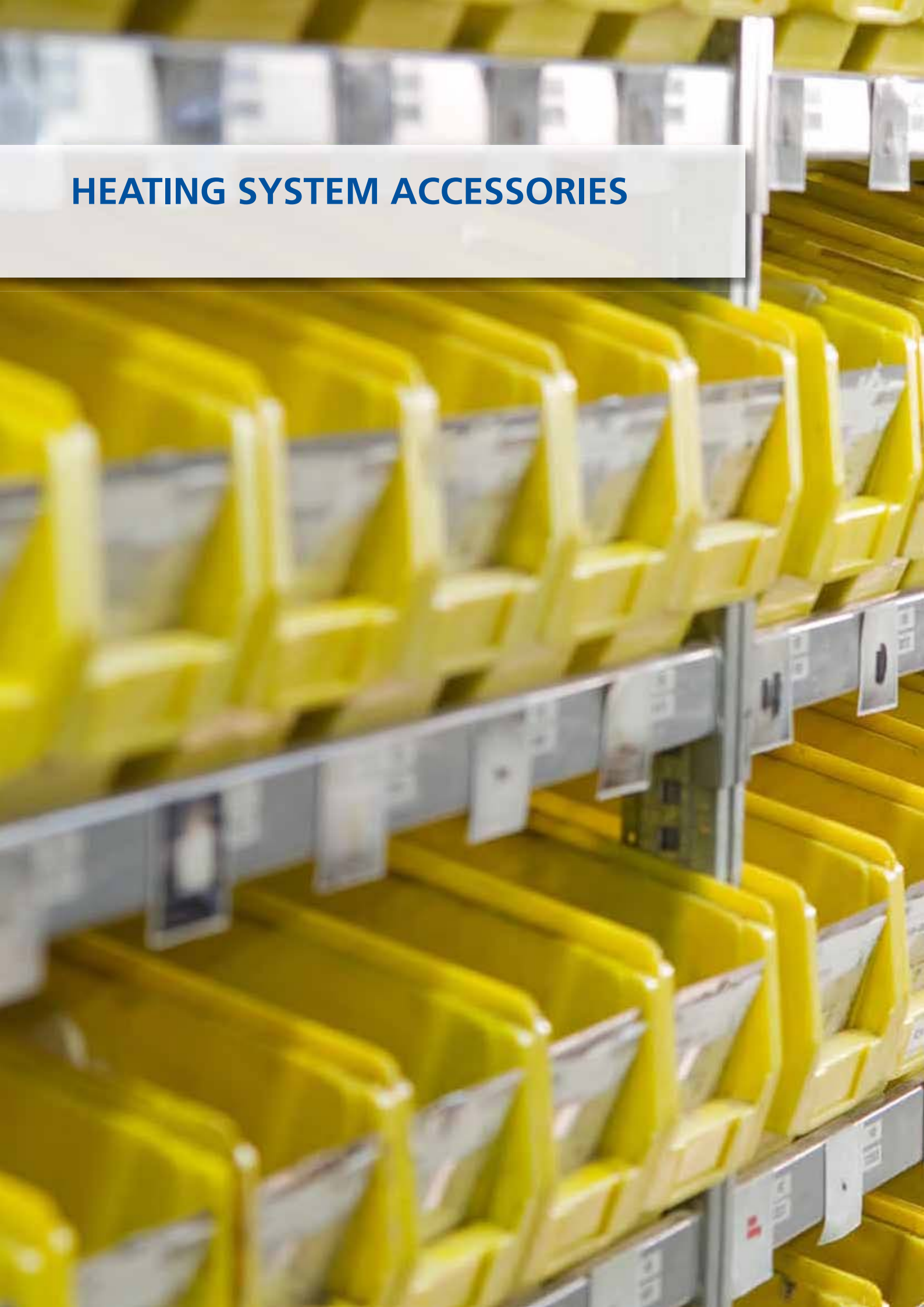
	Delivery scope	Delivery scope contains	Order number
	Heating system solution Thermo 90 ST - Diesel 12 V	Heater On/Off switch	77054894A
	Heating system solution Thermo 90 ST - Diesel 24 V	fuel system exhaust system heat exchanger fan installation material	77054898
	Heating system solution DBW 2010 - Diesel 24 V	Heater On/Off switch	77056500A
	Heating system solution DBW 2016 - Diesel 24 V	fuel system exhaust system heat exchanger 2x fan installation material	77057000A
	Bulk Head heater Plug & Heat KM 23 - Diesel 24 V	Complete system including heater control	3391780A

System accessories – can be used with the heater, please order these separately

Thermostat	79000652
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Further accessories available from page 65.

HEATING SYSTEM ACCESSORIES





■ *Overview of Heating System Accessories*

Vehicle-specific installation kits for light commercial vehicles	66
Circulating pumps	70
Heater controls	73
Combustion air system	78
Exhaust system	80
Fuel supply	84
Heating air system	90
Heating water system	98
Installation parts	110
Electrical accessories	116
Testing devices	128
Special tools	130

Vehicle-specific Installation Kits for Light Commercial Vehicles

				Order Number		Heater control				
Model	From model-year	Heater model	Fuel	Delivery scope, heater	Installation kit					
						Rotary switch	Digital timer	Combi timer	T91	T100HTM
Citroën										
Nemo	2008	Thermo Top C	Diesel, petrol	Diesel - 9003168C Petrol - 9003167C	1313749C	-	1301122C	-	1314635A	1314637A
Berlingo	2008	Thermo Top C	Diesel	9003168C	AC - 1313672C ACC - 1313673C	-	1301122C	-	1314635A	1314637A
Berlingo	2008	Thermo Top C	Petrol	9003167C	AC - 1313670D ACC - 1313671D	-	1301122C	-	1314635A	1314637A
Jumpy	2007	Thermo Top C	Diesel	9003168C	AC - 1313563A ACC - 1313585B	-	1301122C	-	1314635A	1314637A
Jumpy	2007	Auxiliary heater	Diesel	-	Upgrade kit AC - 1313104B ACC - 1313103C	-	1301122C	-	1314635A	1314637A
Jumper	2006	Thermo Top C	Diesel	9003168C	1311342D + ACC - 1314416A	-	1301122C	-	1314635A	1314637A
Jumper	2009	Air Top 2000 ST	Diesel	9022047A + 9022050A	1315904A	82819B	-	9010385A	1314635A + 1311194A	1314637A + 1311194A
Opel										
Vivaro	2007	Thermo Top C	Diesel	83344D	9002568H	-	1301122C	-	1314635A	1311328A (with Opel logo)
Vivaro	2001 Interior installation	Air Top 2000 ST	Diesel	1311064A	1312245A + with partition: 1312246A	82819B	-	contained in kit	1314635A + 1311194A	1311328A (with Opel logo)
Vivaro	2001 Underfloor installation for passengers	Air Top 2000 ST	Diesel	1311064A	1311322B	82819B	-	contained in kit	1314635A + 1311194A	1311328A (with Opel logo)
Movano	2004	Thermo Top C	Diesel	83344D	9009282D	-	1301122C	-	1314635A	1303704C (with Opel logo)

				Order Number		Heater control				
Model	From model-year	Heater model	Fuel	Delivery scope, heater	Installation kit					
						Rotary switch	Digital timer	Combi timer	T91	T100HTM
Opel										
Movano	2007	Air Top Evo 3900	Diesel	1311388B	1311389C	82819B	-	Contained in SOD	1314635A + 1311194A + 70813B	1311328A (with Opel logo)
Movano	2009	Thermo Top Evo 5	Diesel	1314815A	1316166A	-	1301122C	-	1314635A	1303704C (with Opel logo)
Movano	2010	Air Top Evo 3900	Diesel	9019198B	1316147A (with partition wall)	82819B	-	9010385A	1314635A + 1311194A + 70813B	1311328A (with Opel logo)
Peugeot										
Bipper	2008	Thermo Top C	Diesel, petrol	Diesel - 9003168C Petrol - 9003167C	1313749C	not possible	1301122C	-	1314635A	1314637A
Partner	2008	Thermo Top C	Diesel	9003168C	AC - 1313672C ACC - 1313673C	not possible	1301122C	-	1314635A	1314637A
Partner	2008	Thermo Top C	Petrol	9003167C	AC - 1313670D ACC - 1313671D	not possible	1301122C	-	1314635A	1314637A
Expert	2007	Thermo Top C	Diesel	9003168C	AC - 1313563A ACC - 1313585B	not possible	1301122C	-	1314635A	1314637A
Expert	2007	Auxiliary heater	Diesel	-	Upgrade kit AC - 1313104B ACC - 1313103C	not possible	1301122C	-	1314635A	1314637A
Boxer	2006	Thermo Top C	Diesel	9003168C	1311342D + ACC - 1314416A	not possible	1301122C	-	1314635A	1314637A
Boxer	2009	Air Top 2000 ST	Diesel	9022047A + 9022050A	1315904A	82819B	-	9010385A	1314635A + 1311194A	1314637A + 1311194A
Renault										
Kangoo	2008	Thermo Top C	Diesel	9003168C	1313682B	not possible	1301122C		1314635A	1314637A
Kangoo	2008	Thermo Top C	Petrol	9003167C	1313591B	not possible	1301122C		1314635A	1314637A
Trafic	2007	Thermo Top C	Diesel	9003168C	1303346B	not possible	1301122C		1314635A	1314637A
Trafic	2001 Interior installation	Air Top 2000 ST	Diesel	9022047A + 9022050A	1312232A	82819B +1312231B	-	9010385A	1314635A + 1311194A	1314637A + 1311194A
Master	2007	Thermo Top C	Diesel	9003168C	1303350A	-	1301122C		1314635A	1314637A

Vehicle-specific Installation Kits for Light Commercial Vehicles

				Order Number		Heater control				
Model	From model-year	Heater model	Fuel	Delivery scope, heater	Installation kit					
						Rotary switch	Digital timer	Combi timer	T91	T100HTM
Renault										
Master	2007	Air Top Evo 3900	Diesel	9019198B + 9019428A	without partition wall: 1312622C with partition wall: 1311959C	82819B	-	9010385A	1314635A + 1311194A + 70813B	1314637A + 1311194A + 70813B
Master	2009	Thermo Top Evo 5	Diesel	1314815A	1316166A	-	1301122C	-	1314635A	1314637A
Master	2010	Air Top Evo 3900	Diesel	9019198B + 9019428A	1316147A (with partition wall)	82819B	-	9010385A	1314635A + 1311194A + 70813B	1314637A + 1311194A + 70813B
Nissan										
Primastar	2007	Thermo Top C	Diesel	9003168C	1303346B	not possible	1301122C		1314635A	1314637A
Primastar	2007	Air Top 2000 ST	Diesel	9022047A + 9022050A	1312232A	82819B	-	9010385A	1314635A + 1311194A	1314637A + 1311194A
Interstar	2007	Thermo Top C	Diesel	9003168C	1303350A	not possible	1301122C		1314635A	1314637A
Interstar	2007	Air Top Evo 3900	Diesel	9019198B + 9019428A	without partition wall: 1312622C with partition wall: 1311959C	82819B	-	9010385A	1314635A + 1311194A	1314637A + 1311194A
Ford										
Connect	2003	Thermo Top C	Diesel, petrol	Diesel - 9003168C Petrol - 9003167C	1312556A	not possible	1301122C		1314635A	1314637A
Transit	2007	Thermo Top C	Diesel, petrol	Diesel - 9003168C Petrol - 9003167C	1311724A	not possible	1301122C		1314635A	1314637A
Transit	2007	Air Top 2000 ST	Diesel	9022047A + 9022050A	1311683B	82819B	-	9010385A	1314635A + 1311194A	1314637A + 1311194A
Transit	2008	Thermo Top C	Diesel	9003168C	1314798A	not possible	1301122C		1314635A	1314637A
VW										
T5	2004	Auxiliary heater	Diesel	-	Upgrade kit AC 9012103D ACC 9012104D	not possible	1301122C		1314635A	1314637A
T5	2003	Thermo Top C	Diesel	9003168C	9014130A + with AC: 9014133A	not possible	1301122C		1314635A	1314637A
T5	2010	Thermo Top C	Diesel	9003168C	1315558A	not possible	1301122C		1314635A	1314637A
T5	2003	Air Top 2000 ST	Diesel, petrol	Diesel - 9022047A Petrol - 9022048A + 9022050A	9014156A + for model without auxiliary heater: 1300823C	82819B	-	9010385A	1314635A + 1311194A	1314637A + 1311194A

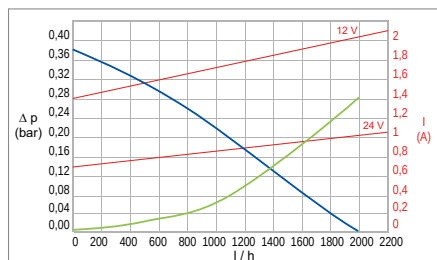
				Order Number		Heater control				
Model	From model-year	Heater model	Fuel	Delivery scope, heater	Installation kit					
						Rotary switch	Digital timer	Combi timer	T91	T100HTM
VW										
Crafter	2009	Air Top 2000 ST	Diesel	9022047A	1315777A	82819B	-	9010385A	1314635A + 1311194A	1314637A + 1311194A
Crafter	2009	Air Top Evo 3900	Diesel	9019198B	1315776A	82819B	-	9010385A	1314635A + 1311194A	1314637A + 1311194A
Mercedes										
Vito	2009	Air Top 2000 ST	Diesel	9022047A	1315777A	82819B	-	9010385A	1314635A + 1311194A	1314637A + 1311194A
Sprinter	2009	Air Top 2000 ST	Diesel	9022047A	1315775A	82819B	-	9010385A	1314635A + 1311194A	1314637A + 1311194A
Sprinter	2009	Air Top Evo 3900	Diesel	9019198B	1315776A	82819B	-	9010385A	1314635A + 1311194A	1314637A + 1311194A
Fiat										
Fiorino	2008	Thermo Top C	Diesel, petrol	Diesel - 9003168C Petrol - 9003167C	1313749C	not possible	1301122C	-	1314635A	1314637A
Doblo	2007	Thermo Top C	Diesel, petrol	Diesel - 9003168C Petrol - 9003167C	1300633D	not possible	1301122C	-	1314635A	1314637A
Doblo	2010	Thermo Top Evo 5	Diesel	1314815A	1315993B	not possible	1301122C	-	1314635A	1314637A
Scudo	2007	Thermo Top C	Diesel (RHK - 88 kW)	9003168C	AC 1313563A ACC 1313585B	not possible	1301122C	-	1314635A	1314637A
Scudo	2007	Auxiliary heater	Diesel (9HU, RHK, RHR)	-	Upgrade kit AC 1313104B ACC 1313103C	not possible	1301122C	-	1314635A	1314637A
Ducato	2006	Thermo Top C	Diesel	9003168C	1311342D + ACC 1314416A	not possible	1301122C	-	1314635A	1314637A
Ducato	2006	Air Top 2000 ST	Diesel	9022047A + 9022050A	1315904A	82819B	9010385A	-	1314635A + 1311194A	1314637A + 1311194A

Circulating Pumps

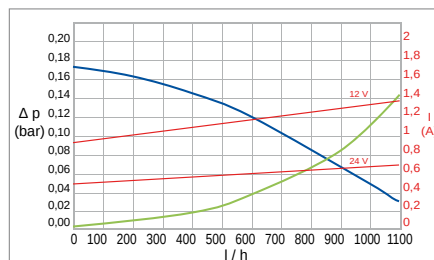
Product Overview and Technical Data:

Model	Nominal voltage (V)	Max. nominal power consumption (W)	Volume flow (l / h)	Dimensions L x W x H (mm)	Ø Coolant connection (mm)	Weight (kg)
U4846	12 / 24	28	700	180 x 74 x 112	20	0.70
U4847	12 / 24	28	500	96 x 75 x 80	20	0.30
Aquavent 5000 / U4814	12 / 24	104	5,200	221 x 100 x 105	38	2.10
Aquavent 5000 S / U4854	24	104	5,200	249 x 100 x 105	38	2.20
Aquavent 6000 SC / U4856	24	210	6,000	229 x 115 x 110	38	2.55

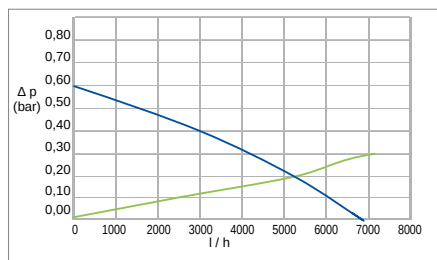
U4846



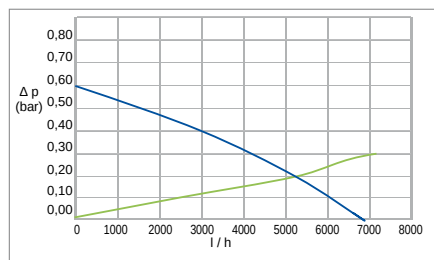
U4847



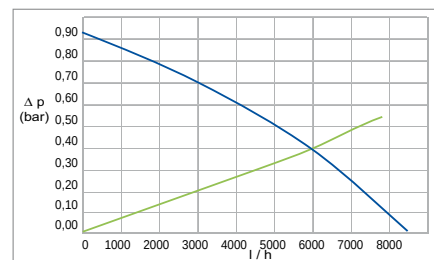
Aquavent 5000



Aquavent 5000 S



Aquavent 6000 SC



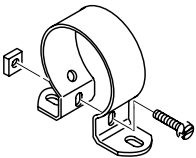
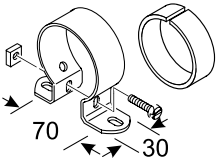
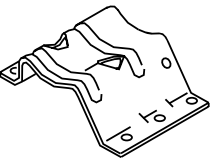
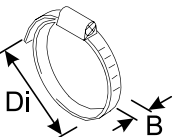
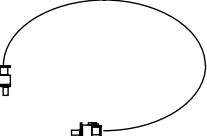
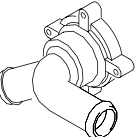
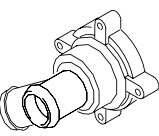
Legend: — Volume flow with water at 20 °C

— Flow resistance when pump is stationary



U4847	Order number
U4847 circulating pump 12 V 130° connection piece	9002514B
U4847 circulating pump 24 V axial connection piece	98237A
U4846	
U4846 circulating pump 12 V	35897A
U4846 circulating pump 24 V	35919A
U4810 – available on request	
U4810 circulating pump 12 V	458384
U4810 circulating pump 12 V with stand	458414
U4810 circulating pump 24 V	458392
U4810 circulating pump 24 V with stand	458422
Aquavent 5000 (U4814)	
Aquavent 5000 (U4814) circulating pump 12 V (AMP)	43149B
Aquavent 5000 (U4814) circulating pump 24 V (AMP)	43150C
Aquavent 5000 S (U4854)	
Aquavent 5000 S (U4854) circulating pump (AMP 6.2)	1301681A
Aquavent 5000 S (U4854) circulating pump (MB)	1302710A
Aquavent 5000 S (U4854) circulating pump (G+H 2.8)	1302711A
Aquavent 6000 S (U4855)	
Aquavent 6000 S (U4855) circulating pump (AMP 6.3) with stand	1315175B
Aquavent 6000 S (U4855.01) circulating pump (AMP 6.3)	SPH2710185A
Aquavent 6000 S (U4855.04) circulating pump (G+H)	SPH2710188A
Aquavent 6000 S (U4855.06) circulating pump (PACKARD)	SPH2710189A
Aquavent 6000 S (U4855.08) circulating pump (AMP DC)	SPH2710191A
Aquavent 6000 SC (U4856)	
Aquavent 6000 SC (U4856) circulating pump (AMP 6.3) with stand	1311280A
Aquavent 6000 SC (U4856.01) circulating pump (AMP 6.3)	SPH2710194A
Aquavent 6000 SC (U4856.04) circulating pump (G+H 2.8)	SPH2710197A
Aquavent 6000 SC (U4856.06) circulating pump (PACKARD)	SPH2710199A
Aquavent 6000 SC (U4856.08) circulating pump (AMP DC)	SPH2710201A

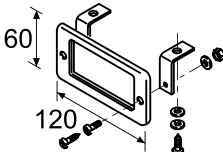
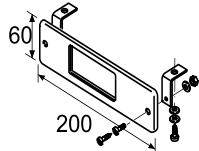
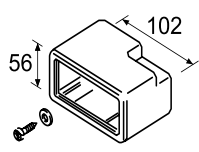
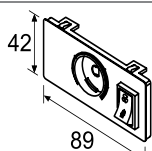
Circulating Pumps

		Thermo Top C	Thermo Top Evo	Thermo 50	Thermo 90 S/ST	DBW 2010/2016	Thermo 230/300/350	Order number
	Mounting bracket (base)							
	Di = 60 mm, for U4810, with bolt and nut				■			454311
	Mounting bracket (base)							
	Di = 50 mm, for U4846, with bolt and nut and sleeve (bag contains 454311)				■			83358A
	Stand							
	U4814 / U4854 and Aquavent 5000 / 5000 S					■		37269A
	U4855 / U4856 and Aquavent 6000 S / 6000 SC					■		233641
	Hose clamp							
	Di = 60 - 80; B = 12 for U4814 / U4854 and Aquavent 5000 / 5000 S					■		1310877A
	Di = 98 - 120; B = 14.3 for U4855 / U4856 and Aquavent 6000 S / 6000 SC					■		67373A
	Cable of Econ circulating pump U4847							
	L = 240 mm	■	■					9023389A
	L = 400 mm	■	■					1314285A
	L = 475 mm	■	■					9023388A
	L = 1,500 mm	■	■					1314286A
	Pump housing							
	With sealing andbolts, 193°	■	■					93011C
	Axial	■	■					93012C

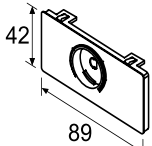
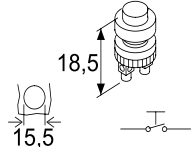
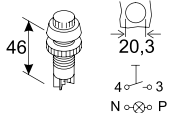
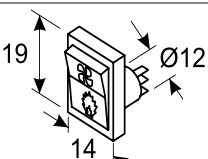
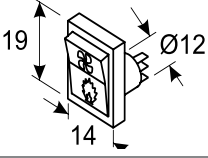
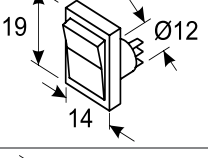
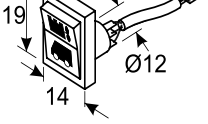
Heater Controls

		Air Top 2000 ST	Air Top Evo 3900 / 5500	Thermo Top C	HL 90	Thermo Top Evo	Thermo 50	Thermo 90 ST	DBW 2010 / 2016	Thermo 230 / 300 / 350	Order number
     	Air Top Evo MC 04 / 05 heater controls 12/24 V-Version – Can be used only in combination with Air Top Evo heaters – Multi-mode operation for adapting to its customised heating capacity requirement Eco Power saving mode: Battery-saving and environment-friendly heating with economical 70% of heating capacity Comfort heating: Standard heating at desired temperature Plus mode for rapid heating: Maximum heating capacity for reaching the desired temperature in still shorter time; limited heating time 60 min. (Air Top Evo 3900) or 30 min. (Air Top Evo 5500) Ventilation: Delivers fresh air and supports quick, effective working of the air-conditioning system Altitude mode: Optimum combustion conditions at altitudes up to 2,200 m above sea level		■								1313212A 5 functions
			■								1313210B 4 functions, no altitude mode
	Heater control rotary switch	■	■								82819B
	Heater control rotary switch with ventilation switch For Air heaters Additional adapter wiring harness for Air Top Evo heaters required – Dimensions: Cutout: L = 74 mm, H = 55 mm Visible: L = 120 mm, H = 82 mm	■	■								82422B 1313908A
	Heater control digital timer 1531, air 12 V 24 V – Three programmable activation times, 7 days – Visible: L = 120 mm, H = 82 mm	■	■								88206A 88205A
	Heater control digital timer 1531, water 12 V 24 V – Customized alarm function, three programmable activation times, 7 days – Installation dimensions including connector (L x W x H) 84 x 40 x 51 mm – Continuous heating possible For DBW 2010 / 2016 and Thermo 230/300/350 only in connection with relay			■	■		■	■	■		88204A 88195A
	Electronic room thermostat For vehicle fan 10 to 30 V – Installation dimensions (L x W x H): 89 x 44 x 42 mm – Only in connection with relay				■		■	■	■	■	34875A

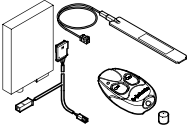
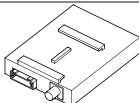
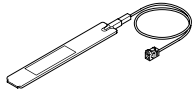
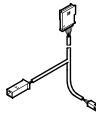
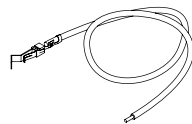
Heater Controls

		Air Top 2000 ST	Air Top Evo 3900 / 5500	Thermo Top C	HL 90	Thermo Top Evo	Thermo 50	Thermo 90 ST	DBW 2010/2016	Thermo 230/300/350	Order number
	Digital timer 1533										
	12-V digital timer, heating time 1.0 h; 3 selection times	■	■	■		■					1301122C
	Heater control switch with function indicator										
	12 V, 15 A front glass, green, 6.3 mm 24 V, 7.5 A front glass, green, 6.3 mm	■	■	■		■	■	■	■	■	109995 109999
	Signboard										
	For 109995 and 109999	■	■	■	■	■	■	■	■	■	116389
	Installation frame										
	For combination timer, digital timer and electronic room thermostat	■	■		■		■	■	■	■	474630
	Installation frame										
	For combination timer, digital timer and electronic room thermostat	■	■		■		■	■	■	■	476404
	Installation set (housing)										
	For combination timer, digital timer and electronic room thermostat	■	■		■		■	■	■	■	475866
	Panel										
	Panel with ventilation switch Adapter wiring harness for ventilation, required for Air Top Evo 3900/5500	■	■		■						92240A 1313908A

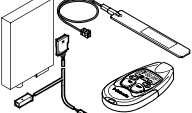
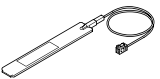
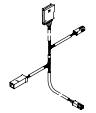
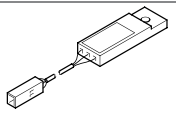
Heater Controls

		Air Top 2000 ST	Air Top Evo 3900 / 5500	Thermo Top C	HL 90	Thermo Top Evo	Thermo 50	Thermo 90 ST	DBW 2010 / 2016	Thermo 230 / 300 / 350	Order number
 42 89	Panel Panel without ventilation switch	■	■								82422B
 18,5 15,5	Pushbutton	■	■	■	■	■	■	■	■	■	375004
 46 20,3 4 0 3 N 0 3 P	Pushbutton switch with light Pushbutton switch with green 12 V light	■	■	■	■	■	■	■	■	■	15733A
 19 14 Ø12	Switch Summer/winter changeover contact			■							84587A
 19 14 Ø12	Switch Fan/heater changeover contact	■									84586A
 19 14 Ø12	Switch Changeover contact without imprint Without accessories	■	■	■	■	■	■	■	■	■	84142A
 19 14 Ø12	Switch Changeover contact for Thermo Top C 300 motor caravan Bag with adapter wiring harness			■							9011485B

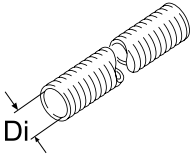
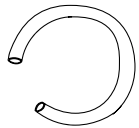
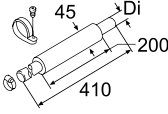
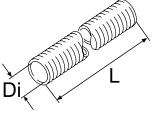
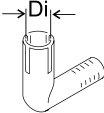
Heater Controls

		Air Top 2000 ST	Air Top Evo 3900 / 5500	HL 90	Thermo Top C	Thermo Top Evo	Thermo 50	Thermo 90 S / ST	DBW 2010 / 2016	Thermo 230 / 300 / 350	Order number
Telestart T91											
	Telestart Set T91 With 1 hand-held transmitter, feedback and Y-adaptor (bag). For equipping devices with digital timer. Range of remote control 1,000 m – Feedback signal – The smallest remote control of the world				■	■					1314635A
	T91 Transmitter With feedback. Including battery.				■	■					1314636A
	Battery 1 piece, 3 V Lithium for transmitter (bag)				■	■					9014840A
	Battery compartment cover For T91				■	■					9016157A
	T91 Receiver With feedback.				■	■					9013799A
	Adhesive disk antenna For T80 / T91 / T100 HTM				■	■					9013619B
	Y-adaptor wiring harness For T91 timer and wiring harness of heater				■	■					67089A
	Wire for ventilation Bag				■						9001558A

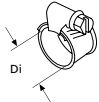
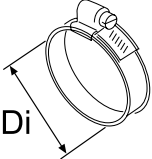
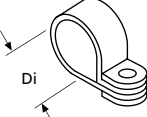
Heater Controls

		Air Top 2000 ST	Air Top Evo 3900 / 5500	HL 90	Thermo Top C	Thermo Top Evo	Thermo 50	Thermo 90 S / ST	DBW 2010 / 2016	Thermo 230 / 300 / 350	Order number
Telestart T100 HTM											
	Telestart Set T100 HTM With 1 hand-held transmitter, HTM temperature sensor, ESV-adapter, feed-back. Automatic heating time calculation Range of remote control 1,000 m Digital display with display of current temperature				■	■					1314637A
	Transmitter T100 HTM With battery (bag)				■	■					1314638A
	Battery For transmitter T100 HTM				■	■					9011356B
	Battery compartment cover For T100 HTM				■	■					9016158A
	T100 HTM Receiver Adapter for receiver, sensor and digital timer				■	■					9010123B
	Adhesive disk antenna For T80 / T91 / T100 HTM				■	■					9013619B
	ESV Adapter T100 HTM Adapter for receiver, sensor and digital timer				■	■					9010951A
	Temperature sensor For T100 HTM				■	■					9023181A

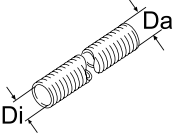
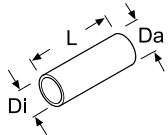
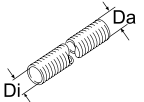
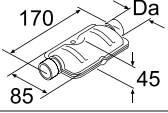
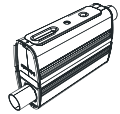
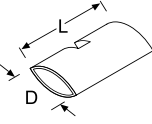
Combustion Air System

		Air Top 2000 ST	Air Top Evo 3900 / 5500	HL 90	Thermo Top C	Thermo Top Evo	Thermo 50	Thermo 90 S / ST	DBW 2010 / 2016	Thermo 230 / 300 / 350	Order number
 PAK: Paper, Aluminium, Plastic – black, without logo KAK: Plastic, Aluminium, Plastic TPE: Thermoplastic elastomer	Flexible tube										
	Di = 18; L = 1,000 mm						■				19733C
	Di = 22; PAK (per m)	■									466115
	Di = 25; PAK (per m)		■								91562A
	Di = 30; PAK (per m)			■				■			357901
	Di = 30.5; KAK (per m)										21446A
	Di = 55; PAK (per m)										441376
	Di = 80; PAK (per m)		■	■							398519
	Di = 55; TPE (per m)									■	88729A
	Di = 60; PAK (per m)							■			398497
	Di = 70; PAK (per m)	■	■	■							398500
	Moulded hose										
	Di = 18; L = 2,000 mm, PER-EPDM				■	■					1314856A
	Intake silencer, mounting set										
	Di = 22 Bag with mounting parts	■									1313514A
	Intake silencer										
	Di = 22; L = 800 PAK	■									83174A
	Di = 25; L = 650 PAK / PAKL with protective cap		■								90416D
	Di = 30; L = 1,160 PAK / PAKL			■				■			22931B
	D1a = 23; D2a = 52; plastic With mounting socket and installation manual				■	■	■				98141A
	Protective cap										
	Di = 27 plastic	■									29516B
	Di = 36 plastic		■								29517A
	Di = 39 plastic							■			29519A
	Elbow for combustion air										
	Di = 22 plastic	■									65000A
	Di = 25 plastic		■								91563A

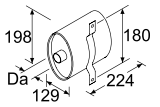
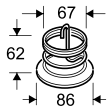
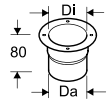
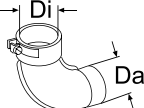
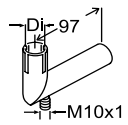
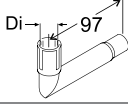
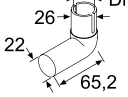
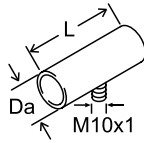
Combustion Air System

		Air Top 2000 ST	Air Top Evo 3900 / 5500	HL 90	Thermo Top C	Thermo Top Evo	Thermo 50	Thermo 90 S / ST	DBW 2010 / 2016	Thermo 230 / 300 / 350	Order number
	Hose clamp										
	Di = 20 ... 27; stainless steel	■			■	■	■				1303080A
	Di = 28 ... 35; stainless steel		■	■				■			9014771A
	Screw thread, steel										
	Hose clamp										
	Di = 40 ... 47; stainless steel	■	■	■	■	■	■	■	■	■	67370A
	Di = 48 ... 55; stainless steel	■	■	■	■	■	■	■	■	■	67371A
	Di = 70 ... 90; stainless steel	■	■	■	■	■	■	■	■	■	92659A
	Di = 32 ... 39; stainless steel	■	■	■	■	■	■	■	■	■	67369A
	Screw thread, steel										
	Pipe clamp										
	Di = 25; stainless steel (bag with 10 pieces)	■				■	■				9023007A
	Di = 29; steel		■								362891
	Di = 33; stainless steel			■				■			499021

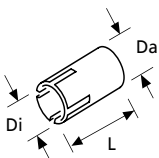
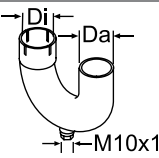
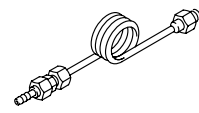
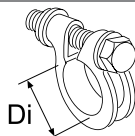
Exhaust System

		Air Top 2000 ST	Air Top Evo 3900 / 5500	HL 90	Thermo Top C	Thermo Top Evo	Thermo 50	Thermo 90 S/ST	DBW 2010 / 2016	Thermo 230 / 300 / 350	Order number
	Flexible exhaust pipe (inox), 2-layer										
	Di = 22, Da = 26 (per m), stainless steel	■			■	■	■				9021447A
	Di = 22, Da = 26 1,000 mm stainless steel	■			■	■	■				1315481A
	Di = 24, Da = 27.8 (per m), stainless steel		■								90394A
	Di = 30, Da = 34 (per m), stainless steel			■				■	■		141488
	Di = 38, Da = 42 (per m), stainless steel			■				■	■		353221
	Di = 70, Da = 75 (per m), stainless steel									■	479721
	Heat protection hose										
	Di = 72, Da = 120; L = 1,250 mm; fibreglass	■	■	■	■	■	■	■	■		9016230A
	Di = 72, Da = 120; L = 1,700 mm; fibreglass	■	■	■	■	■	■	■	■		9016231A
	Di = 72, Da = 120; L = 1,850 mm; fibreglass	■	■	■	■	■	■	■	■		1313978A
	Flexible heat protection tube										
	Di = 28, Da = 32 (per m) aluminium/fibreglass	■			■	■	■				21543A
	Di = 43, Da = 45 (per m) aluminium/fibreglass		■	■				■	■		20463B
	Flexible heat protection tube										
	Di = 28, Da = 38; L = 324 fibreglass	■			■	■	■				64568A
	Exhaust silencer										
	Di = 24, Da = 54; L = 1,800 mm; fibreglass	■	■		■		■				9014067A
	Di = 38, Da = 54; L = 1,000 mm; fibreglass							■	■		92642A
	Exhaust silencer										
	Da = 22; steel	■			■	■	■				20844E
	Da = 22; stainless steel	■			■	■	■				86450C
	Da = 24; steel		■								90378C
	Da = 38; stainless steel			■					■		19562E
	Da = 22, TT1250 V	■			■	■	■				9001800D
	Insulation for exhaust silencer										
	L = 120; D = 108; for Da = 22 / 24 fibreglass	■			■	■	■				31371A

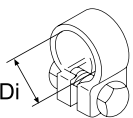
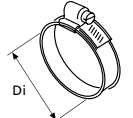
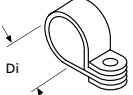
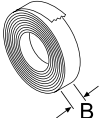
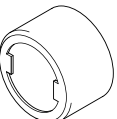
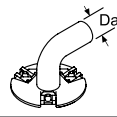
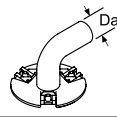
Exhaust System

		Air Top 2000 ST	Air Top Evo 3900 / 5500	HL 90	Thermo Top C	Thermo Top Evo	Thermo 50	Thermo 90 S / ST	DBW 2010 / 2016	Thermo 230 / 300 / 350	Order number
	Exhaust silencer Di = 38 Stainless steel with bracket							■	■		9012440A
	Exhaust deflection, complete Stainless steel									■	84970A
	Exhaust deflection, complete Di = 70; Da = 70									■	97386A
	Elbow Di = 71; Da = 67; 90°							■	■		465380
	Di = 24 stainless steel, with condensed water drain		■								91564B
	Di = 24 stainless steel, without condensed water drain		■								92643A
	Di = 22 aluminium	■			■	■	■				28472C
	Connecting pipe Da = 24; L = 50; stainless steel Da = 24; L = 65; with condensed water drain, stainless steel Da = 38; L = 65; with condensed water drain, stainless steel		■					■	■		92264A 92164A 92644A

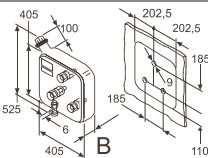
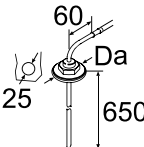
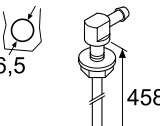
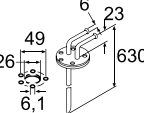
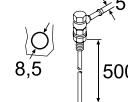
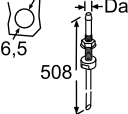
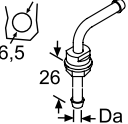
Exhaust System

		Air Top 2000 ST	Air Top Evo 3900 / 5500	HL 90	Thermo Top C	Thermo Top Evo	Thermo 50	Thermo 90 S / ST	DBW 2010 / 2016	Thermo 230 / 300 / 350	Order number
	Exhaust reducer sleeve										
	Di = 22; Da = 24; L = 40 Stainless steel	■	■		■	■	■				92641A
	Exhaust elbow										
	Di = 38, Da = 38; 180°; stainless steel with condensed water drain		■	■				■	■		370169
	Condensed water drain										
	For 91564A and 92164A Bag For installation in flexible tube Stainless steel		■								92621A
Without figure	Thermo exhaust, bag										
	Bag with basic parts of Thermo Top Evo					■					1314853B
	Pipe clamp										
	Di = 39 ... 42; galvanized steel			■				■	■		9002255B
	Di = 24 ... 27; galvanized steel	■			■	■	■				1312409A
	Di = 30 ... Da = 33; galvanized steel		■								9011844B
	Di = 33 ... Da = 36; galvanized steel							■			9003647B
	Di = 30 ... Da = 33; stainless steel	■									9024062A

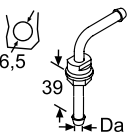
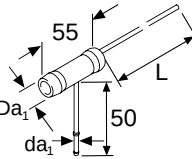
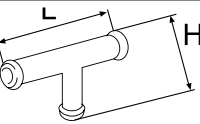
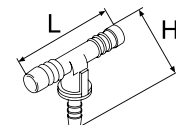
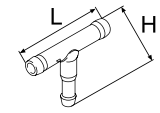
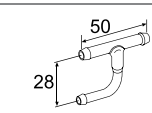
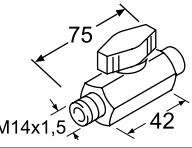
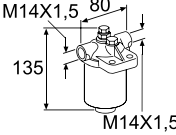
Exhaust System

		Air Top 2000 ST	Air Top Evo 3900 / 5500	HL 90	Thermo Top C	Thermo Top Evo	Thermo 50	Thermo 90 S / ST	DBW 2010 / 2016	Thermo 230 / 300 / 350	Order number
	Pipe clamp										
	Di = 24 ... 26; stainless steel	■			■	■	■				70910C
	Di = 27 ... 30; stainless steel		■								91383B
	Hose clamp										
	Di = 70 ... 90; screw thread, stainless steel		■	■						■	92659A
	Pipe clamp										
	Di = 25; stainless steel (10 x)	■			■	■	■				9023007A
	Di = 28; galvanized steel		■								91384A
	Di = 42; stainless steel			■				■	■		126830
	Insulation tie										
	B = 60; L = 1 m; fibreglass	■	■	■	■	■	■	■	■	■	9015393A
	B = 60; L = 50 m; fibreglass	■	■	■	■	■	■	■	■	■	9015392A
	Stainless steel protective cap, edge protection										
	Di = 26.3	■			■	■	■				24048A
	Di = 28.3		■								90411A
	Di = 42.3							■			24046A
	Exhaust gas pass-through with insulation										
	Da = 22; stainless steel. For fixing and insulation of exhaust pipe; bag with mounting parts (bolts and exhaust hose clamp)	■			■	■	■				9000383A
	For underbody protection in plastic design										

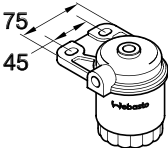
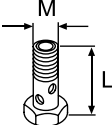
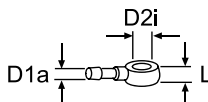
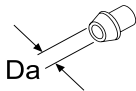
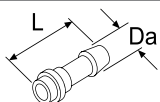
Fuel Supply

		Air Top 2000 ST	Air Top Evo 3900 / 5500	HL 90	Thermo Top C	Thermo Top Evo	Thermo 50	Thermo 90 S / ST	DBW 2010 / 2016	Thermo 230 / 300 / 350	Order number
	Fuel tank										
	12 litre; B = 100; plastic	■	■	■	■	■	■	■			1316134A
	24 litre; B = 200; plastic	■	■	■	■	■	■	■			9001307C
	With mounting parts. Use only as extra tank for heaters with single wire system! Comply with legal provisions.										
	Cover with sealing										
	Spare part of fuel tank 12 litre, No. 1316134A	■	■	■	■	■	■	■			9017340A
	Tank extracting device (bag)										
	Da = 5.5	■	■	■	■	■	■	■	■		35320A
	Only for installation in metal vehicle fuel tank										
	Tank extracting device										
	Da = 5; M6 thread	■	■	■	■	■	■	■			1300823C
	For plastic fuel tank; also suitable for installation in metal vehicle fuel tank, bag with clamps and hose piece, bolt must be tightened from below										
	Tank extracting device with return										
	Da = 6								■	■	394157
	With sealing, only for installation in metal vehicle fuel tank										
	Tank extracting device										
	Da = 5; M8 thread	■	■	■	■	■	■	■			98605C
	Installation only in metal vehicle fuel tank										
	Tank extracting device										
	Da = 5; M6 thread	■	■	■	■	■	■	■			1300494D
	For plastic vehicle fuel tank, also metal										
	Tank extracting device										
	Da = 5; short connection piece	■	■	■	■	■	■	■			1301553A
	For plastic fuel tank (with longitudinal expansion)										

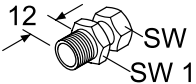
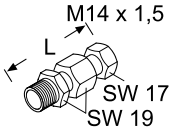
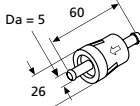
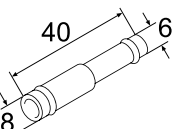
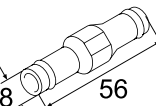
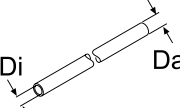
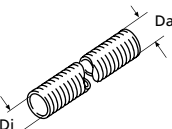
Fuel Supply

		Air Top 2000 ST	Air Top Evo 3900 / 5500	HL 90	Thermo Top C	Thermo Top Evo	Thermo 50	Thermo 90 S/ST	DBW 2010 / 2016	Thermo 230 / 300 / 350	Order number
	Tank extracting device Da = 5; long connection piece For plastic fuel tanks (with longitudinal expansion) Bag with installation parts.	■	■	■	■	■	■				9008021A
	Tank extracting device (through tank ventilation) Da1 = 15; da1 = 5.0; L = 500 mm, without accessories bag Da1 = 18; da1 = 5.0; L = 730 mm, without accessories bag Da1 = 20; da1 = 5.0; L = 750 mm, without accessories bag	■	■	■	■	■	■				1315205A 1315204A 1315203A
	Fuel extractor T-piece, copper 6 x 5 x 6; L = 50; H = 26 8 x 5 x 8; L = 50; H = 28 8 x 6 x 8; L = 50; H = 28 12 x 6 x 12; L = 50; H = 35	■	■	■	■	■	■				211532 211540 137952 293741
	Fuel extractor T-piece, plastic 6 x 5 x 6; L = 50; H = 36 8 x 5 x 8; for PME L = 50; H = 38, with hoses and clamps 10 x 5 x 10; L = 50; H = 39 12 x 5 x 12; L = 50; H = 40	■	■	■	■	■	■				66944A 31277B 66946A 98052A
	5 x 5 x 5; L = 50; H = 36.5 6 x 5 x 6; L = 50; H = 36.5 8 x 5 x 8; L = 50; H = 36.5 10 x 5 x 10; L = 50; H = 36.5 12 x 5 x 12; L = 50; H = 36.5	■	■	■	■	■	■				9023478A 1310349B 1310350B 1310351B 1310352B
	6 x 5 x 6; L = 50; H = 28 8 x 5 x 8; L = 50; H = 28 10 x 5 x 10; L = 50; H = 28 12 x 5 x 12; L = 50; H = 28	■	■	■	■	■	■				1310367B 1310368B 1310369B 1310370B
	Fuel cock Low-pressure ball cock, operating pressure maximum 2 bar								■	■	88028C
	Fuel filter With removable filter Connection parts (bag)								■	■	140708 219495

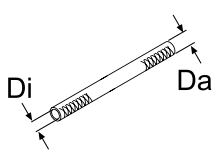
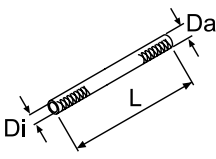
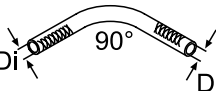
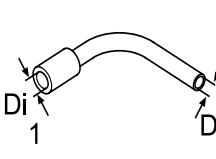
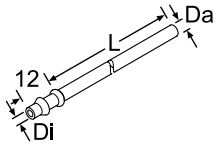
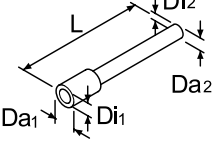
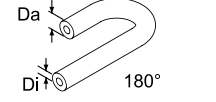
Fuel Supply

		Air Top 2000 ST	Air Top Evo 3900 / 5500	HL 90	Thermo Top C	Thermo Top Evo	Thermo 50	Thermo 90 S / ST	DBW 2010 / 2016	Thermo 230 / 300 / 350	Order number
	Removable filter Spare part of fuel filter; A = 690 cm ² ; n = 3-5 µm								■	■	97457A
	Full fuel filter without heat adapter For diesel, biodiesel and fuel oil A = 1,461 cm ² n = 3-5 µm								■	■	9010929A
	M 10 x 1 hollow screw ; L = 25	■	■	■	■	■	■	■	■	■	1310712A
Without figure	Bag containing connection parts for fuel filter For 140708, 93075A, 9001819A, 9002975B, 9001818B							■	■	■	219495
	Ring hose piece Da1 = 5; Di2 = 10; L = 10 Da1 = 5; Di2 = 12; L = 10 Da1 = 6; Di2 = 10; L = 10 Da1 = 6; Di2 = 14; L = 14	■	■	■	■	■	■	■	■	■	89574 289566 277312 85785A
	Sealing cone Da = 6 Of 140708, 88028C								■	■	217824
	Hose sealing cone Da = 5; L = 30 Da = 6; L = 30 Da = 8; L = 32								■	■	247030 247049 247057
	Union nut M 14 x 1.5 / SW 19								■	■	1310760A
	Sealing ring D = 12 x 17; copper D = 14 x 18; copper Bag with 12 pieces								■	■	9024081A 9024082A

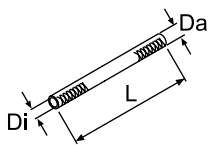
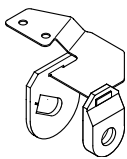
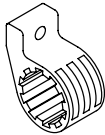
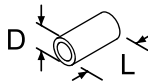
Fuel Supply

		Air Top 2000 ST	Air Top Evo 3900 / 5500	HL 90	Thermo Top C	Thermo Top Evo	Thermo 50	Thermo 90 S/ST	DBW 2010 / 2016	Thermo 230 / 300 / 350	Order number
	Intermediate piece M14 x 1.5								■	■	87681B
	Ring connection piece For use with low-pressure ball cock								■	■	89615A
	Non-return valve M14 x 1.5; SW 17 / 19; L = 52 0.2 bar For diesel and RME								■	■	65063C
	Fuel filter Da = 5; plastic, transparent	■	■	■	■	■	■				487171
	Reducer 8 x 6 brass								■	■	19593A
	Connecting pipe 8 x 8 plastic PME-resistant								■	■	9001334B
	Mecanyl hose, transparent Di = 2 Da = 5 (per m) Di = 2 Da = 5; L = 3,000 mm Di = 2 Da = 5; L = 5,000 mm Di = 2 Da = 5; L = 7,000 mm	■	■	■	■	■	■				483931
		■	■	■	■	■	■				492353
		■	■	■	■	■	■				20688A
		■	■	■	■	■	■				483958
	Flexible tube for heat protection Di = 14.5, Da = 16.5 (per m) glass fabric with aluminium lamination Di = 28, Da = 32 (per m) glass fabric with aluminium lamination Heat protection hose for fuel lines	■	■	■	■	■	■	■	■	■	15570A
		■	■	■	■	■	■	■	■	■	21543A

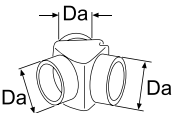
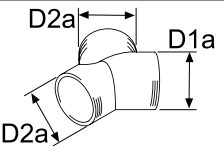
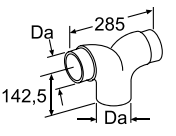
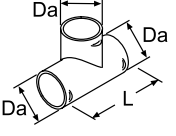
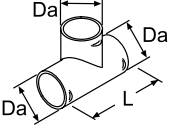
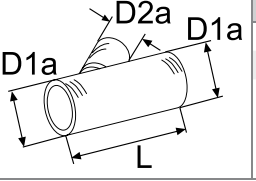
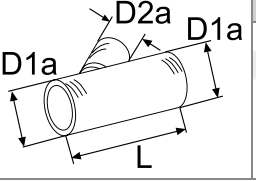
Fuel Supply

		Air Top 2000 ST	Air Top Evo 3900 / 5500	HL 90	Thermo Top C	Thermo Top Evo	Thermo 50	Thermo 90 S / ST	DBW 2010 / 2016	Thermo 230 / 300 / 350	Order number
	Fuel hose										
	Di = 4.5; Da = 9.0 (per m) for tube Di = 5.0	■	■	■	■	■	■	■	■		379611
	Di = 5.0; Da = 10.0 (per m) for tube Di = 6.0	■	■	■	■	■	■	■	■		370177
	Di = 6.0; Da = 11.0; (per m)								■	■	465364
	Di = 8.0; Da = 13.0; (per m)								■	■	322237
	Di = 14.0; Da = 20.0; (per m)								■	■	320161
	PME-resistant fuel hose										
	Di = 4.5; Da = 10.5; (per m)	■	■	■	■	■	■	■			85770B
	Di = 6.0; Da = 12; 2,000 mm	■	■	■	■	■	■	■	■	■	66636A
	Di = 7.5; Da = 13.5; 2,000 mm	■	■	■	■	■	■	■	■	■	9001336B
	Di = 7.5; Da = 13.5; L = 70 (bag with 20 pieces)	■	■	■	■	■	■	■	■	■	9023322A
	Di = 4.5; Da = 10.5; (bag with 10 pieces)	■	■	■	■	■	■				9023160A
	Di = 4.5; Da = 10.5; (bag with 10 pieces) PME-resistant	■	■	■	■	■	■				9023384A
	Fuel hose										
	Di1 = 7.5; Di2 = 4.5;	■	■	■	■	■	■	■			67365A
	Di1 = 4.5; Di2 = 3.5 RME-resistant	■	■	■	■	■	■	■			65201B
	Standpipe										
	Di = 3.0; Da = 6.0; L = 322 plastic; Use for fuel hose 67365A	■	■	■	■	■	■	■			67366A
	PME-resistant fuel hose										
	Di1 = 4.5; Di2 = 3.5; L = 50	■	■	■	■	■	■	■			65190B
	PME-resistant moulded hose										
	Di = 4.5; Da = 10.5	■	■	■	■	■	■	■			104709

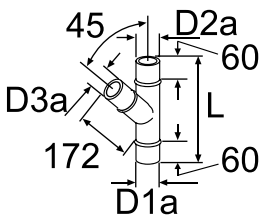
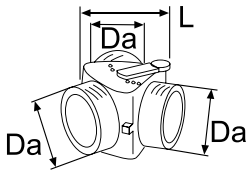
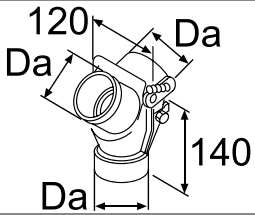
Fuel Supply

		Air Top 2000 ST	Air Top Evo 3900 / 5500	HL 90	Thermo Top C	Thermo Top Evo	Thermo 50	Thermo 90 S / ST	DBW 2010 / 2016	Thermo 230 / 300 / 350	Order number
	Fuel hose kit, PME-resistant Di = 4.5; Da = 10; L = 50 5 x hose, 10 x pipe clamp	■	■	■	■	■	■	■			72116A
	Bag containing dosing pump accessories With 2 mountings for dosing pump; for mounting on original stud bolts (DC)	■	■	■	■	■	■	■			92296A
	Dosing pump mounting Bag with 3 pieces Full rubber, very soft suspension. Observe installation position as shown. Bag with 10 pieces	■	■	■	■	■	■	■			9023386A 9007921A
	Supporting sleeve (to reinforce plastic lines) D = 6 mm; L = 15 D = 7 mm; L = 36 D = 8 mm; L = 15	■	■	■	■	■	■	■	■	■	65142A 67584B 9004951A
	Dosing pump damper mini jacket Protective device for the dosing pump damper, according to ISO 7840 required for protection of the dosing pump damper during installation of the fuel delivery system in the engine room.	■	■	■	■	■	■	■			1311330A
	Fuel line kit, metal 5000 for boat installation With screw fittings, hoses and clamps, EN ISO 7840	■	■	■							66958B
	Fuel connecting hose made of rubber Fire-proof; Di = 5 mm; L = 50 EN ISO 7840	■	■	■							64891A
	Fuel line made of stainless steel Di = 1.5; Da = 5; L = 5,000 mm EN ISO 7840	■	■	■							64892A

Heating Air System

		Air Top 2000 ST	Air Top Evo 3900 / 5500	HL 90	Order number
Distributor					
	Y-piece				
	Da = 55; plastic, black	■			429627
	Da = 80; plastic, black		■		100548
	Y-piece				
	D1a = 80; D2a = 55; plastic, black		■		495689
	Use only for bypass!				
	Da1 = 60; Da2 = 60; plastic, black		■	■	1312124B
	Da1 = 90; Da2 = 80; plastic, black		■		91000A
	Da1 = 90; Da2 = 90; plastic, black		■	■	9009261D
	90° T-piece				
	Da = 100; galvanized steel			■	129232
	90° T-piece				
	Da = 60; L = 110; plastic, black	■	■	■	9009266C
	Da = 90; L = 110; plastic, black		■	■	9009265C
	90° T-piece with thread				
	Da = 60, 60, 60; plastic, black	■	■	■	9009268B
	End cap				
	Da = 60; plastic, black	■	■	■	9009319D
	Da = 90; plastic, black		■	■	9009271D
	45° branch piece				
	Da1 = 60; Da2 = 60; L = 145	■	■	■	9009264B
	Da1 = 90; Da2 = 60; L = 146		■	■	9009263B
	Plastic, black				

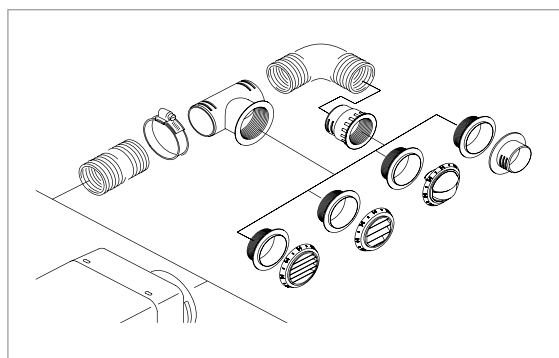
Heating Air System

		Air Top 2000 ST	Air Top Evo 3900 / 5500	HL 90	Order number
	Branch piece				
	Da1 = 80; Da2 = 60; Da 3 = 60; L = 350 Use only in secondary flow!		■		252727
	Da1 = 80; Da2 = 80; Da 3 = 60; L = 350		■		252778
	Da1 = 80; Da2 = 80; Da 3 = 80; L = 370		■		252786
	Da1 = 100; Da2 = 100; Da 3 = 80; L = 320 Galvanized material			■	252824
	Distributor with remote-controlled butterfly valve				
	Da = 55; L = 95	■			101374
	Da = 80; L = 124 Plastic		■		100567
	Flap valve				
	Da = 100; plastic			■	252514

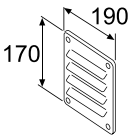
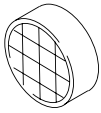
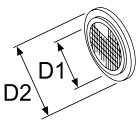
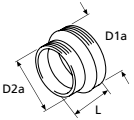
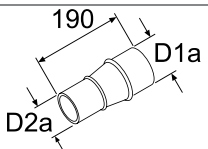
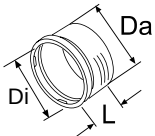
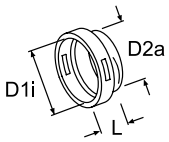
Webasto Hot Air Distribution (HADS):

- High temperature resistance of -40 °C to +140 °C
- Fibreglass-reinforced plastic PA 6 GF30
- Very easy to install, no tools or bolts required
- Numerous combination options, suitable for all fields of application.

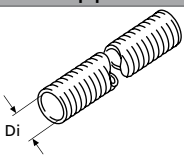
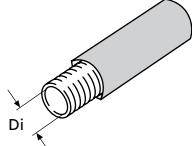
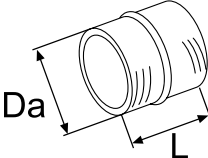
Webasto delivers perfectly fitting, high-value components, that can be installed easily and flexibly



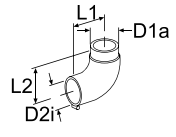
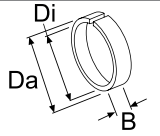
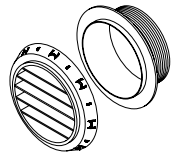
Heating Air System

		Air Top 2000 ST	Air Top Evo 3900 / 5500	HL 90	Order number
Air inlet grid					
	Air supply grid				
	W = 170; L = 190 Aluminium	■	■	■	128228
	Grid for intake and outlet openings of heaters				
	Di = 60; plastic Di = 90; plastic	■	■		67492A 89141A
	Protective grill Di = 60; Rubber For intake side of heaters	■			84937A
	Air grid				
	Di1 = 80; Da2 = 112; Chrome steel Di1 = 100; Da2 = 135; Chrome steel		■	■	252441 252468
	Reducer for air hose				
	Da1 = 60; Da2 = 55; L = 35; plastic Da1 = 90; Da2 = 80; L = 45 Da1 = 80; Da2 = 55; L = 82	■	■	■	29852A 89075A 495654
	Reducer				
	D1a = 80; D2a = 60; plastic Da1 = 100; D2a = 80 Use only in bypass.		■	■	252565 252581
	Connection for intake				
	Da = 55; Di = 55; L = 20 Da = 55; Di = 60; L = 32 Da = 80; Di = 82; L = 42	■	■	■	82315A 101377 101381
	Adapter				
	Di1 = 60; Da2 = 75; L = 40; plastic Di1 = 90; Da2 = 80; L = 40	■	■		82378A 89111B

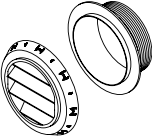
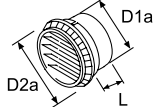
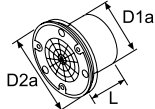
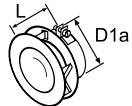
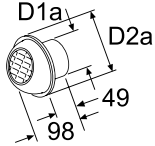
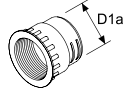
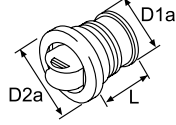
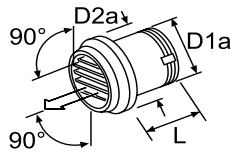
Heating Air System

		Air Top 2000 ST	Air Top Evo 3900 / 5500	HL 90	Order number
 APK: Aluminium, paper, plastic – black, with white Webasto logo PAK: Paper, aluminium, plastic – black, without logo PAPK: Paper, aluminium, paper, plastic – gray with red-blue Webasto logo, extra-reinforced 4-layer design AA: Aluminium, aluminium – silver	Conduit pipe				
	Flexible tube				
	Di = 55; APK: black, logo (per m)	■			1311862A
	Di = 60; APK: black, logo (per m)	■	■	■	1311884A
	Di = 80; APK: black, logo (per m)		■	■	1311885A
	Di = 90; APK: black, logo (per m)		■	■	1311886A
	Di = 55; APK: black, logo (25 m roll)	■			1311891B
	Di = 60; APK: black, logo (25 m roll)	■	■	■	1311892B
	Di = 80; APK: black, logo (25 m roll)		■	■	1311893B
	Di = 90; APK: black, logo (25 m roll)		■	■	1311894B
	Di = 60; Da = 75; APP / APK (1,750 mm)*	■	■	■	9002178B
	Di = 60; PAHK (per m)	■	■	■	85866B
	Di = 55; PAPK, gray, logo (per m)	■			1311895A
	Di = 60; PAPK, gray, logo (per m)	■	■	■	1311897A
	Di = 80; PAPK, gray, logo (per m)		■	■	1311899A
	Di = 90; PAPK, gray, logo (per m)		■	■	1311901A
	Di = 55; PAPK, gray, logo (25 m roll)	■			1311896B
	Di = 60; PAPK, gray, logo (25 m roll)	■	■	■	1311898B
	Di = 80; PAPK, gray, logo (25 m roll)		■	■	1311900B
	Di = 90; PAPK, gray, logo (25 m roll)		■	■	1311902B
	Di = 100; PAK, black (per m)			■	398527
	Di = 100; AA, silver (per m)			■	254533
	Di = 55; AA (per m)	■			428035
	Di = 80; AA (per m)		■	■	254517
	*2-tube for underfloor installations, insulated				
	Insulated hoses				
	Di = 80; PAK, L = 12 m roll		■		9021059C
	Di = 90; PAK, L = 12 m roll		■		9021082C
	Equipped with a 10 mm EPDM-insulated "Armaflex" for minimizing heat loss. Saves up to 150 W heat energy per 1 m hose length.				
	Air inlet adapter				
	For extension of hot air intake line. Is to be installed in the heater in connection with 29848F. Plastic	■			31290B
	Double connection piece				
	Da = 60; L = 50	■	■	■	9009258C
	Da = 80; L = 75		■	■	495646
	Da = 90; L = 50		■	■	9009259C
	Plastic				

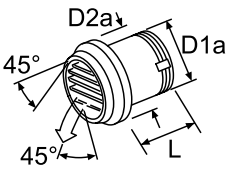
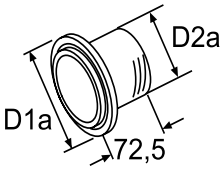
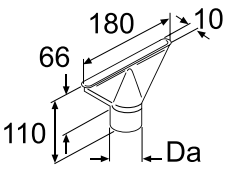
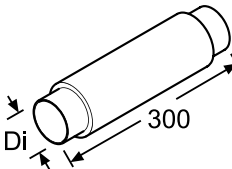
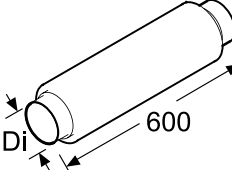
Heating Air System

		Air Top 2000 ST	Air Top Evo 3500 / 5500	HL 90	Order number
	Reducer of adapter				
	Di = 90; Da = 80		■	■	9009270B
	Di = 90; Da = 60		■	■	9011011C
	Plastic, black				
	90° elbow				
	Da = 90		■	■	9009260C
	Plastic, black				
	90° bend				
	D1a = 79; D2i = 80.5; L1 = 115; L2 = 120; galvanized steel		■	■	128503
	D1a = 99; D2i = 102.5; L1 = 142; L2 = 142; galvanized steel		■	■	128643
	Wall fitting				
	Da = 60; plastic, black	■	■	■	9009249C
	Da = 90; plastic, black		■	■	9009250C
	Adapter ring				
	Di = 55; Da = 60; B = 17	■	■		92971A
	Di = 70; Da = 80; B = 17		■		366153
	for 429570 and 92966A				
	Plastic, black				
	Closable air outlet				
	Da = 60 black	■	■	■	9012300A
	Da = 60 white	■	■	■	9012301A
	Da = 60 gray	■	■	■	9012302A
	Da = 90 black	■	■	■	9012291A
	Da = 90 white	■	■	■	9012292A
	Da = 90 gray	■	■	■	(9012293A)
	Plastic; bag with wall fitting				
	90° air outlet				
	D60 black	■	■	■	9012297A
	D60 white	■	■	■	9012298A
	D60 gray	■	■	■	9012299A
	D90 black		■	■	9012288A
	D90 gray		■	■	9012290A
	D90 white		■	■	9012289A
	Plastic; bag with wall fitting				

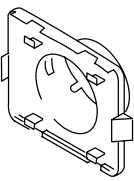
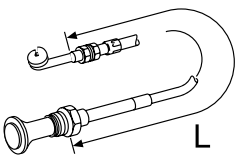
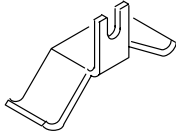
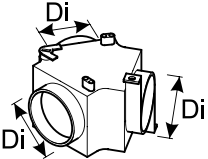
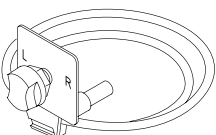
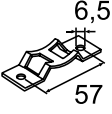
Heating Air System

		Air Top 2000 ST	Air Top Evo 3900 / 5500	HL 90	Order number
	45° air outlet				
	D60 black	■	■	■	9012294A
	D60 white	■	■	■	9012295A
	D60 gray	■	■	■	9012296A
	D90 black		■	■	9012285A
	D90 gray		■	■	9012286A
	D90 white		■	■	9012287A
	Plastic; bag with wall fitting				
	Air outlet				
	Da1 = 90; Da2 = 120; L = 65; 45° plastic, rotatable		■		91569C
	Da1 = 60; Da2 = 92; L = 65 plastic	■			87389A
	Da1 = 100; L = 74			■	130621
	Air outlet, rotatable				
	Da1 = 60; Da2 = 92	■			398551
	Da1 = 80; Da2 = 120		■		264091
	For hot air inlet, plastic				
	Union nut for air outlet				
	Da = 60; L = 30; plastic, black	■	■	■	9009239B
	Da = 90; L = 30; plastic, black		■	■	9009240B
	Air outlet, pluggable				
	Da1 = 55; Da2 = 100; L = 65	■			1311639A
	Da1 = 70; Da2 = 100; L = 65		■		92966A
	Use only in secondary flow. Plastic				
	Air outlet (insertion grid)				
	Da1 = 55; Da2 = 87; L = 65; 90°	■			101625
	Da1 = 80; Da2 = 110; L = 65; 90°		■		107976
	Plastic, rotatable				

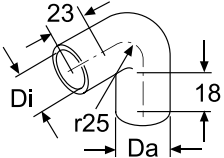
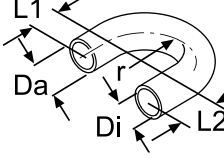
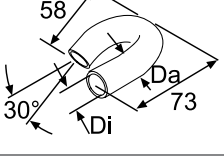
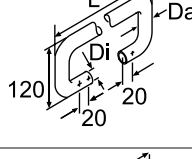
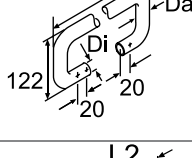
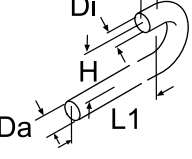
Heating Air System

		Air Top 2000 ST	Air Top Evo 3500 / 5500	HL 90	Order number
	Air outlet				
	Da1 = 55; Da2 = 87; L = 65; 45°	■			107836
	Da1 = 80; Da2 = 110; L = 65; 45° Plastic, rotatable				107984
	Wall mounting				
	Da1 = 87; Da2 = 55	■			492884
	Da1 = 110; Da2 = 80 Plastic		■		495425
	Defroster vent				
	Da = 55	■			492299
	Intake silencer for hot air inlet				
	Di = 80; L = 300 Plastic – Aluminium – Plastic		■		1313512A
	Heat silencer for hot air inlet				
	Di = 90; L = 600 Bitumen – Aluminium – Plastic		■		67789A

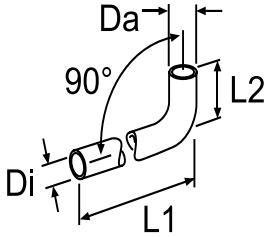
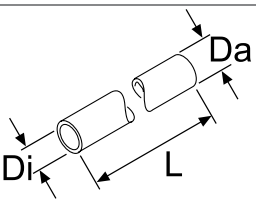
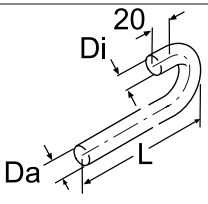
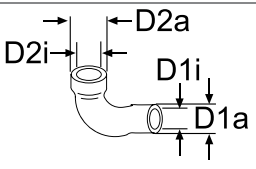
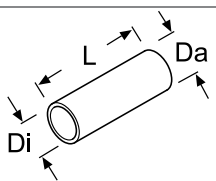
Heating Air System

		Air Top 2000 ST	Air Top Evo 3900 / 5500	HL 90	Order number
	Hot air inlet and outlet Transfer piece from heater to D 60, plastic.	■			29848F
	Bowden cable L = 850 mm L = 1,500 mm For 252514, 101374, 100567 Plastic	■	■	■	107812 108932
	Clamp For 107812, 108932 Plastic	■	■	■	109006
	Distributor with butterfly valve Da = 60 Da = 90 Plastic	■	■	■	9009642A 9009641A
	Control device for distributor with butterfly valve Bowden cable, 2 m long For 9009641A (90 mm), 9009642A (60 mm) Plastic	■	■	■	9008255A
	Console Of 107812, 108932	■	■	■	1310915A

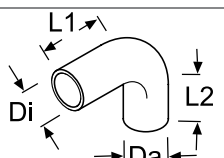
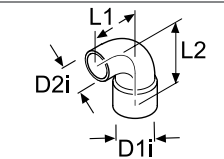
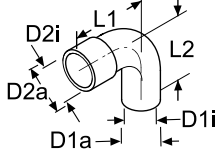
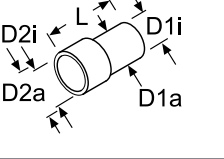
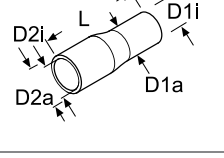
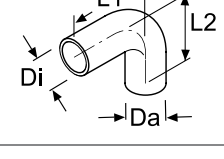
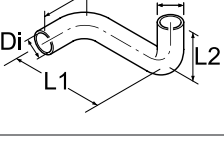
Heating Water System

		Thermo Top C	Thermo Top Evo	Thermo 50	Thermo 90 S / ST	DBW 2010 / 2016	Thermo 230 / 300 / 350	Order number
	90° moulded hose Di = 18; Da = 25	■	■	■	■	■		431397
	180° moulded hose Di = 18, Da = 25; L1 = 18, L2 = 18; r = 25 Di = 20 / Da = 27; L1 = 88 / L2 = 64; r = 23.5	■	■	■	■	■		403474 29938A
	Moulded hose Di = 18 / Da = 25	■	■	■	■	■		431400
	Hose Di = 18 / Da = 25; L = 2,200 mm Di = 18 / Da = 25; L = 3,000 mm Di = 20 / Da = 27; L = 2,200 mm	■	■	■	■	■		472433 105698 126840
	Di = 20 / Da = 29; L = 2,230 Wall thickness = 4.5 mm; especially for trucks	■	■	■	■	■		33894A
	Hose Di = 15; Da = 22; L1 = 50; L2 = 20, H = 75 Di = 15, Da = 25; L1 = 580, L2 = 17, H = 75 Di = 18, Da = 25; L1 = 580, L2 = 17, H = 75 Di = 18, Da = 25; L1 = 1,100, L2 = 17, H = 75 Di = 20, Da = 29; L1 = 89, L2 = 20, H = 98	■		■	■	■		1313783A 249416 436267 29420A 84926A

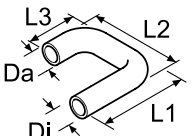
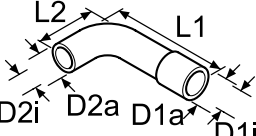
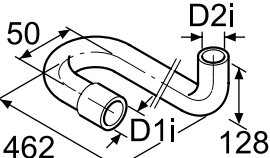
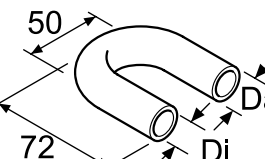
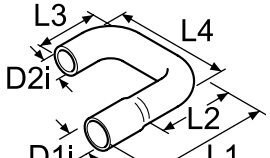
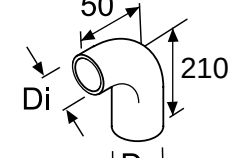
Heating Water System

		Thermo Top C	Thermo Top Evo	Thermo 50	Thermo 90 S / ST	DBW 2010 / 2016	Thermo 230 / 300 / 350	Order number
	Hose							
	Di = 15, Da = 22; L1 = 1,020, L2 = 50	■	■	■	■	■		248371
	Di = 18, Da = 25; L1 = 125, L2 = 90	■	■	■	■	■		9001322A
	Di = 18, Da = 25; L1 = 500, L2 = 47.5	■	■	■	■	■		98453A
	Di = 18, Da = 27; L1 = 1,020, L2 = 50	■	■	■	■	■		436259
	Di = 20, Da = 27; L1 = 70, L2 = 56.5	■	■	■	■	■		9004570B
	Di = 20, Da = 27; L1 = 130, L2 = 56.5	■	■	■	■	■		65696C
	Di = 20, Da = 27; L1 = 187, L2 = 46.5	■	■	■	■	■		98450A
	Di = 20, Da = 27; L1 = 360, L2 = 46.5	■	■	■	■	■		98451B
	Di = 20, Da = 27; L1 = 615, L2 = 56.5	■	■	■	■	■		9003479B
	Di = 22, Da = 29; L1 = 225, L2 = 57	■	■	■	■	■		9001918A
	Di = 22, Da = 29; L1 = 1,020, L2 = 50	■	■	■	■	■	■	21488A
	Hose							
	Di = 15, Da = 22; L = 2,400	■	■	■	■			406074
	Di = 18, Da = 25; L = 58	■	■	■	■	■		65187B
	Di = 18, Da = 27; L = 2,000	■	■	■	■	■		369136
	Di = 20, Da = 27; L = 380	■	■	■	■	■		98414B
	Di = 38, Da = 50; L = 82					■	■	19621A
	Hose							
	Di = 18, Da = 25; L = 110	■	■	■	■	■		9003810B
	Di = 20, Da = 27; L = 70	■	■	■	■	■		9003400B
	Di = 20, Da = 27; L = 190	■	■	■	■	■		65697B
	D1i = 15 / D1a = 22; D2i = 18 / D2a = 25	■	■	■	■	■		403482
	Hose							
	Di = 38, Da = 47 L = 65						■	87820A
	Di = 38, Da = 47 L = 82						■	89242A
	Di = 38, Da = 47 L = 110						■	65082A
	Di = 38, Da = 47 L = 130						■	9006271A
	Silicone							

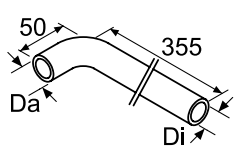
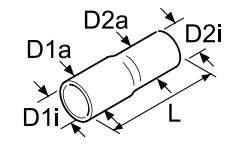
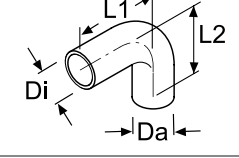
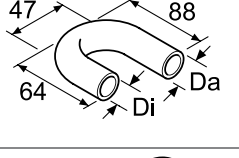
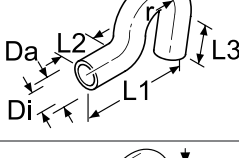
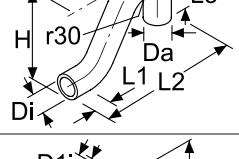
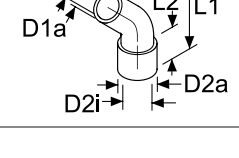
Heating Water System

		Thermo Top C	Thermo Top Evo	Thermo 50	Thermo 90 S/ST	DBW 2010/2016	Thermo 230/300/350	Order number
	Moulded hose							
	Di = 38; Da = 47; L1 = 70; L2 = 90						■	91917A
	Di = 38; Da = 47; L1 = 70; L2 = 105						■	91916A
	Di = 38; Da = 47; L1 = 80; L2 = 90 Silicone						■	87817A
	Moulded hose							
	Di1 = 38 / Di2 = 32; L1 = 90 / L2 = 70; Da = 47 Reducer elbow, silicone						■	9002086A
	Di1 = 38 / Di2 = 35; Da1 = 47 / Da2 = 44; L1 = 80 / L2 = 80 Reducer elbow, silicone						■	65217A
	Di1 = 28 / Di2 = 38; Da1 = 37 / Da2 = 47; L = 100 Reducer						■	90916A
	Di1 = 32 / Di2 = 38; Da1 = 41 / Da2 = 47; L = 70 Reducer, silicone						■	92561A
	Di = 38 / Da = 47; L1 = 70 / L2 = 105 silicone						■	91916A
	Di = 38 / Da = 47; L1 = 80 / L2 = 90 silicone						■	87817A
	Di = 38 / Da = 45; L1 = 150 / L2 = 65 / L3 = 84 silicone						■	9007397A

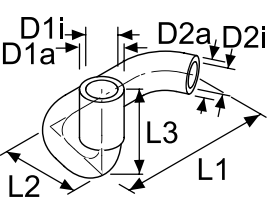
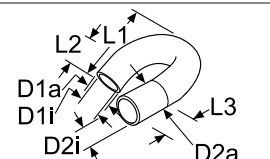
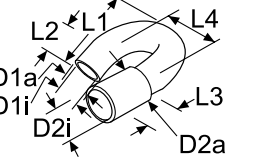
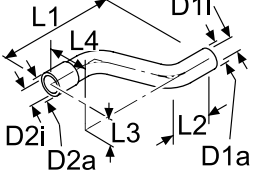
Heating Water System

		Thermo Top C	Thermo Top Evo	Thermo 50	Thermo 90 S/ST	DBW 2010/2016	Thermo 230/300/350	Order number
	Moulded hose							
	180°; Di = 20; Da = 27 L1 = 135 / L2 = 120 / L3 = 70	■	■	■	■	■		98452A
	180°; Di = 20; Da = 27 L1 = 190 / L2 = 120 / L3 = 70	■	■	■	■	■		65697B
	90° Di1 = 20 / Da1 = 27; Di2 = 18 / Da2 = 25 L1 = 151 / L2 = 55	■	■	■	■	■		9007982A
	90° Di1 = 20 / Da1 = 27; Di2 = 18 / Da2 = 25 L1 = 70 / L2 = 70	■	■	■	■	■		65578B
	Di1 = 20 / Di2 = 15; Da1 = 27 / Da2 = 22 180° / 90°	■	■	■	■	■		9007981A
	180° Di = 20 / Da = 27	■	■	■	■	■		9007778A
	Moulded hose							
	Di1 = 20 / Di2 = 15; Da1 = 27 / Da2 = 22 L1 = 55 / L2 = 20 / L3 = 55 / L4 = 65; 180°	■	■	■	■	■		89116A
	Di = 15 / Da = 25 Silicone	■	■	■	■	■		67225B

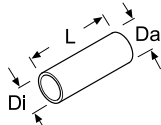
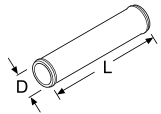
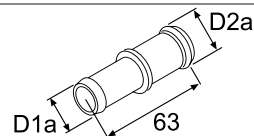
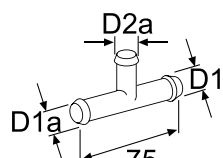
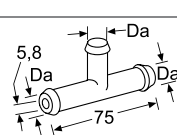
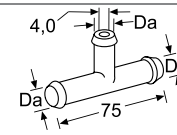
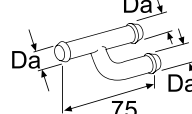
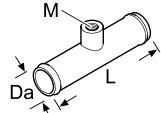
Heating Water System

		Thermo Top C	Thermo Top Evo	Thermo 50	Thermo 90 S/ST	DBW 2010/2016	Thermo 230/300/350	Order number
	Moulded hose							
	Di = 15; Da = 25 Silicone	■	■	■	■	■		97002A
	Moulded hose							
	Di1 = 20 / Di2 = 18; Da1 = 27 / Da2 = 25 L = 60 Di1 = 25 / Di2 = 20; Da1 = 33 / Da2 = 28 L = 60	■	■	■	■	■		64788B 89168A
	90° Moulded hose							
	90° Di = 20 / Da = 27; L1 = 59 ; L2 = 54	■	■	■	■	■		64999A
	180° Moulded hose							
	180°; Di = 20 / Da = 27	■	■	■	■	■		9002292B
	Moulded hose							
	Di = 18; Da = 25; r = 30; L1 = 95; L2 = 25; L3 = 20	■	■	■	■	■		84958A
								
	Di = 18; Da = 25; r = 30; L1 = 140; H = 70 L2 = 20; L3 = 25	■	■	■	■	■		88383A
								
	Di1 = 18; Da1 = 25; Di2 = 15; Da2 = 22; L1 = 62; L2 = 31.5	■	■	■	■	■		65581A

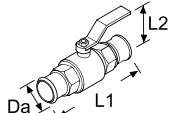
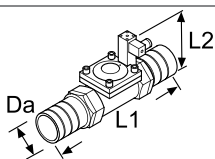
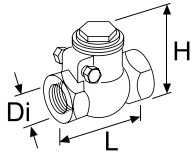
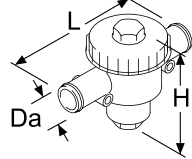
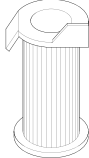
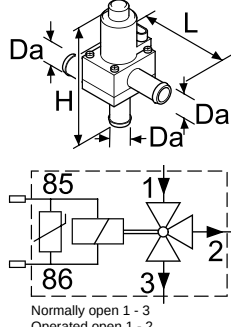
Heating Water System

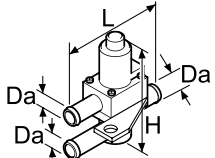
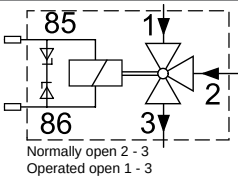
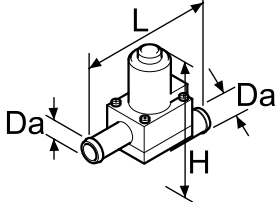
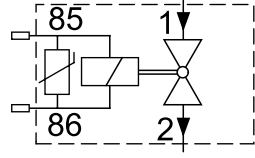
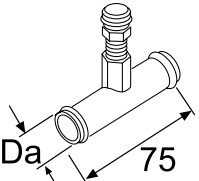
		Thermo Top C	Thermo Top Evo	Thermo 50	Thermo 90 S / ST	DBW 2010 / 2016	Thermo 230 / 300 / 350	Order number
	Moulded hose Di1 = 20; Da1 = 27; Di2 = 18; Da2 = 25; L1 = 70; L2 = 30; L3 = 40	■	■	■	■	■		63640A
	Di1 = 20; Da1 = 28; Di2 = 20; Da2 = 28; r = 70; L1 = 110; L2 = 60; L3 = 65; 180° Di1 = 20; Da1 = 27; Di2 = 15; Da2 = 22; r = 50; L1 = 170; L2 = 20; L3 = 30; 180°	■	■	■	■	■		67058A
	Di1 = 15; Da1 = 22; Di2 = 20; Da2 = 27; L1 = 95; L2 = 30; L3 = 45; L4 = 40; 180°	■	■	■	■	■		89117A
	Di1 = 18; Da1 = 25; Di2 = 20; Da2 = 27; L1 = 175; L2 = 54; L3 = 25; L4 = 58	■	■	■	■	■		92242A

Heating Water System

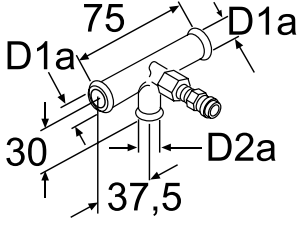
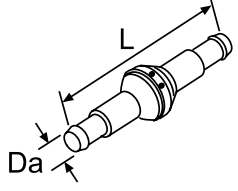
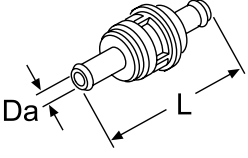
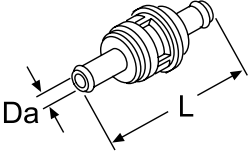
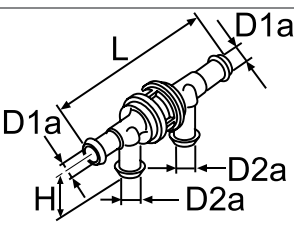
		Thermo Top C	Thermo Top Evo	Thermo 50	Thermo 90 ST	DBW 2010/2016	Thermo 230/300/350	Order number
	Hose Di = 28, Da = 37; L = 180 Silicone						■	65216A
	Connecting pipe Da = 15; L = 75 Da = 38 x 1.5, L = 70 Da = 38 x 1.5, L = 150	■	■	■		■	■	131650 9003617B 97029A
	Plastic connecting pipe Da1 = 17; Da2 = 20 Da1 = 18; Da2 = 22 Da1 = 20; Da2 = 22 Aluminium	■	■	■	■	■		64738B 66932A 19867B 67822B
	T-piece Da1 = 15; Da2 = 18 Da1 = 18; Da2 = 15 Da1 = 18; Da2 = 18 Da1 = 20; Da2 = 8 Da1 = 20; Da2 = 10 Da1 = 20; Da2 = 15 Da1 = 20; Da2 = 20	■	■	■	■	■		138207 138215 1315657A 64769B 9006023A 138223 21081A
	T-piece with throttle Da = 20	■	■	■	■	■		9000545A
	T-piece with throttle Da = 18	■	■	■	■	■		88593A
	Connecting piece Da = 18	■	■	■	■	■		123858
	Pipe socket, thermostat Da = 19; L = 100; with M22x1.5 thread Da = 38; L = 100; with M22x1.5 thread D = 15, L = 65, with M4 thread D = 18, L = 65, with M4 thread	■	■	■	■	■	■	369632 138169 119064 1310365

Heating Water System

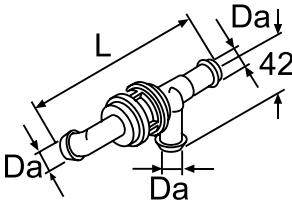
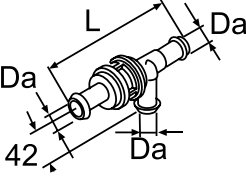
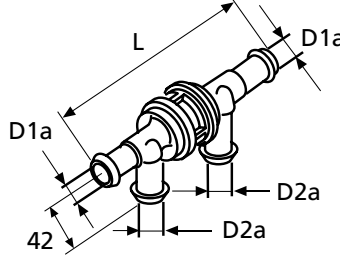
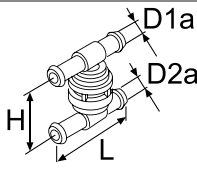
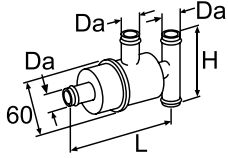
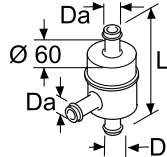
		Thermo Top C	Thermo Top Evo	Thermo 50	Thermo 90 ST	DBW 2010/2016	Thermo 230/300/350	Order number
	Manual shut-off valve Da = 38; L1 = 165; L2 = 85 Brass housing, chrome-plated						■	90736A
	Solenoid valve Da = 32; L1 = 187; L2 = 95 For 24 V, 2/2-way Housing and screw-in connecting piece BRS						■	93207A
	Non-return valve Di = 1"; L = 75; H = 74 With leakage hole, bronze						■	210412
	Shut-off valve with filter Da = 38; H = 131 2/2-way coolant filter, plastic shell						■	91800C
	Intake filter Da = 38 For 2 / 2-way coolant filter						■	66532B
 Normally open 1 - 3 Operated open 1 - 2	Solenoid valve Da = 18; H = 101; L = 84 For 12 V, 3 / 2-way; plastic housing Opened without power; bag with electrical installation parts	■	■	■	■			9014606A

		Thermo Top C	Thermo Top Evo	Thermo 50	Thermo 90 ST	DBW 2010/2016	Thermo 230/300/350	Order number
	Solenoid valve 12 V, Da = 18; H = 149 ; L = 111 3/2-way; plastic housing, open without power	■	■	■	■	■		19819A
								
	Solenoid valve 12 V, Da = 20; H = 90 ; L = 106 Plastic housing, open without power	■	■	■	■	■		492701
								
	Venting valve Da = 15	■	■	■	■			112392
	Da = 18	■	■	■	■			105848
	Da = 20	■	■	■	■			98464B

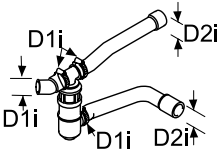
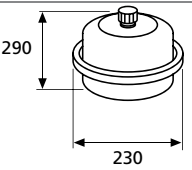
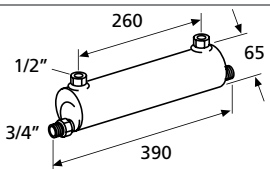
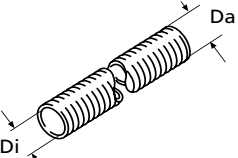
Heating Water System

		Thermo Top C	Thermo Top Evo	Thermo 50	Thermo 90 ST	DBW 2010/2016	Thermo 230/300/350	Order number
	T-piece with venting valve							
	Da1 = 15; Da2 = 15	■	■	■	■			488526
	Da1 = 18; Da2 = 15	■	■	■	■			488534
	Non-return valve							
	Da = 18; L = 90	■	■	■	■			453137
	Da = 20; L = 120 Without leakage hole	■	■	■	■			15685A
	Non-return valve							
	Da = 15; L = 104 With leakage hole Plastic	■	■	■	■	■		12781A
	Non-return valve							
	Da = 15; L = 104	■	■	■	■	■		12754A
	Da = 18; L = 90	■	■	■	■	■		109557
	Da = 18; L = 100	■	■	■	■	■		12706A
	Without leakage hole Plastic							
	Non-return valve							
	Da1 = 18, Da2 = 18; L = 146 Plastic	■	■	■	■	■		12780A
	Da1 = 20, Da2 = 20; L = 162	■	■	■	■	■		19873A
	Steel / brass							
	With leakage hole							

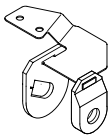
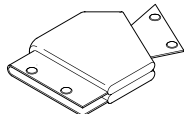
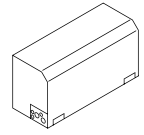
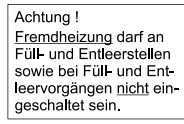
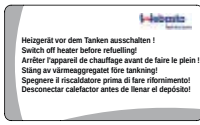
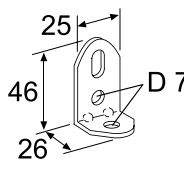
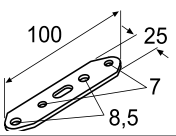
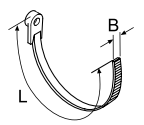
Heating Water System

		Thermo Top C	Thermo Top Evo	Thermo 50	Thermo 90 ST	DBW 2010/2016	Thermo 230/300/350	Order number
	check valve Da = 18; L = 104 Without leakage hole, plastic	■	■	■	■	■		121476
	Da = 18; L = 120 Without leakage hole, plastic			■		■		12785B
	check valve D1a = 18 / D2a = 18; L = 146; H = 42 plastic Da1 = 20 / Da2 = 20; L = 162; H = 42 Steel / brass with leakage hole Da1 = 18 / Da2 = 18; L = 146; H = 42 Without leakage hole Da1 = 22 / Da2 = 20; L = 162; H = 46 Plastic, with bypass	■	■	■	■	■		12780A 19873A 12751A 87072A
	Da1 = 18 / Da2 = 18; L = 82; H = 82 Plastic, without leakage hole	■	■	■	■	■		115472
	Thermostat Da = 18; H = 70; L = 108 Ms Da = 20; H = 70; L = 108 Ms 100 ... 160 L/h / 0.003 Nm; opens at 59 +2 / -1 °C. Without leakage hole	■	■	■	■	■		15394A 19872A
	Da = 20; L = 112 opens at 70 ± 2 °C Ms	■	■	■	■	■		98992A

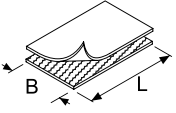
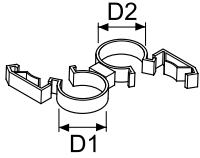
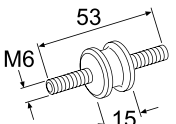
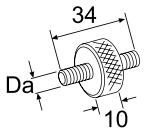
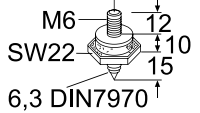
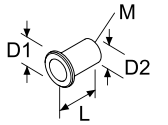
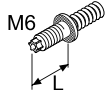
Heating Water System

		Thermo Top C	Thermo Top Evo	Thermo 50	Thermo 90 ST	DBW 2010/2016	Thermo 230/300/350	Order number
	Combination valve Di1 = 18; Di2 = 22 Thermostat >40 opening, without coolant hoses	■	■	■	■	■		37915A
	Pressure expansion tank 8 litre, pre-pressure.; volume of total system: 157 litre maximum	■	■	■	■	■	■	351725
	Instant water heater with insulation shell Max. 23.3 kW; max. 10 bar; 2 kg Copper with brass pipe fitting Max. 23.3 kW; max. 10 bar; 2 kg Without pipe fitting	■	■	■	■	■	■	434043 434035
	Flexible tube (heat protection hose) GA-A28; Di = 28 / Da = 35 L = (MW) For insulation and kink-free routing. Gf / Aä	■	■	■	■	■	■	21543A

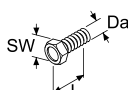
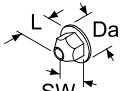
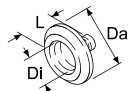
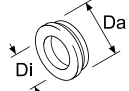
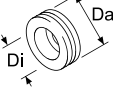
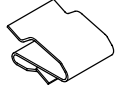
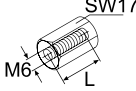
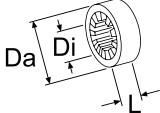
Installation Parts

		Air Top 2000 ST	Air Top Evo 3900 / 5500	HL 90	Thermo Top C	Thermo Top Evo	Thermo 50	Thermo 90 S / ST	DBW 2010 / 2016	Thermo 230 / 300 / 350	Order number
	Dosing pump bracket, rubber-mounted										
		■	■	■	■	■	■	■			92296A
	Mini - jacket for dosing pump mounting										
		■	■	■	■	■	■	■			1311330A
	Installation box										
	Contains metal box, outlet, air inlet adapter, installation material	■									86032A
	Signboard (for TRS)										
	Cellophane transfer figure	■	■	■	■	■	■	■	■	■	317616
	Signboard										
	Signboard "Switch off heater before refuelling" Self-adhesive. D / DK / EN / F / I / NL / S	■	■	■	■	■	■	■	■	■	1314523A
	Angle										
	Steel	■	■	■	■	■	■	■	■	■	242780
	Stainless steel	■	■	■	■	■	■	■	■	■	9000802B
	Perforated bracket										
	Steel	■	■	■	■	■	■	■	■	■	242888
	Stainless steel	■	■	■	■	■	■	■	■	■	9000801B
	Cable tie										
	L = 400; B = 7.6; bag with 10 pieces	■	■	■	■	■	■	■	■	■	9007917A

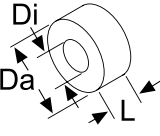
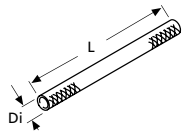
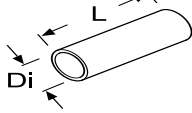
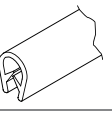
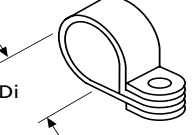
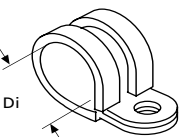
Installation Parts

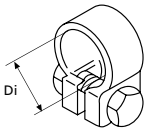
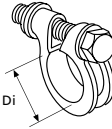
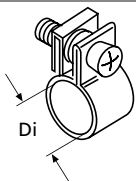
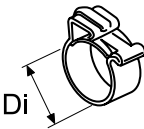
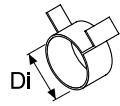
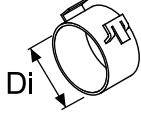
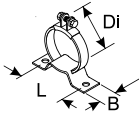
		Air Top 2000 ST	Air Top Evo 3900 / 5500	HL 90	Thermo Top C	Thermo Top Evo	Thermo 50	Thermo 90 S/ST	DBW 2010/2016	Thermo 230/300/350	Order number
	Dual lock fastening (velcro tape)										
	B = 25; L = 50; plastic, black	■	■	■	■	■	■	■	■	■	9009555A
	B = 25; L = 100; plastic, black	■	■	■	■	■	■	■	■	■	9009556A
	Hose- and cable tie										
	D1 = 27; D2 = 27 can be locked; bag with 5 pieces	■	■	■	■	■	■	■	■	■	9010997A
	D1 = 7.2 - 7.5; D2 = 22 - 24 bag with 15 pieces	■	■	■	■	■	■	■	■	■	9010998A
	D1 = 10 - 12; D2 = 19 - 24.5 bag with 5 pieces	■	■	■	■	■	■	■	■	■	9010999A
	D1 = 22 - 24; D2 = 22 - 24 bag with 5 pieces	■	■	■	■	■	■	■	■	■	9011000A
	D1 = 25 - 28; D2 = 21.5 - 24 bag with 5 pieces	■	■	■	■	■	■	■	■	■	9011001A
	Rubber buffer										
	For dosing pump	■	■	■	■	■	■	■			9014765A
	Silent block										
	Da = M6 bag with 5 pieces	■	■	■	■	■	■	■			9023020A
	Da = M8 for dosing pump	■	■	■	■	■	■	■			15500B
	Silent block										
	With self-tapping screw. Bag with 8 pieces	■	■	■	■	■	■	■			9024084A
	Blind rivet nut										
	M8, hex. perforation. Bag with 5 pieces	■	■	■	■	■	■	■	■	■	9009017A
	Riveting nut										
	D1 = 13; D2 = 9; L = 14.5; M 6 x 15.5	■	■	■	■	■	■	■	■	■	9011635A
	Aluminium										
	Bag with 20 pieces										
	EJOT stud bolt										
	L = 15.5; M6 bag with 10 pieces				■	■	■				9006446A
	L = 30.5; M6 bag with 10 pieces				■	■	■				9009025A

Installation Parts

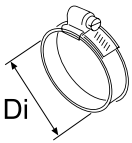
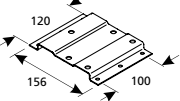
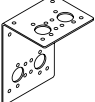
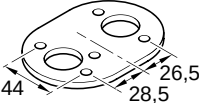
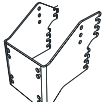
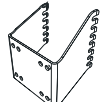
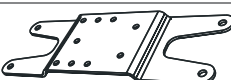
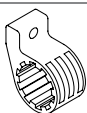
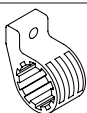
		Air Top 2000 ST	Air Top Evo 3900 / 5500	HL 90	Thermo Top C	Thermo Top Evo	Thermo 50	Thermo 90 S/ST	DBW 2010 / 2016	Thermo 230 / 300 / 350	Order number
	EJOT PT bolt L = 22; SW = 10; Da = 6; bag with 10 pieces				■	■	■				9011669A
	Plastic nut Da = 16; L = 10; SW = 10 for M6 bolt; bag with 20 pieces	■	■	■	■	■	■	■	■	■	9011649A
	Pin lock Da = 12.5; L = 0.25; for M6 thread; spring steel, bag with 10 pieces	■	■	■	■	■	■	■	■	■	9011659A
	Rubber grommet Da = 40; Di = 20; L = 24	■	■	■	■	■	■	■	■	■	9008254A
	Membrane grommet Da = 18; Di = 11	■	■	■	■	■	■	■	■	■	113952
	Cable grommet Da = 23; Di = 14	■	■	■	■	■	■	■	■	■	174807
	Cable clamp Fastening of (fuel) lines	■	■	■	■	■	■	■	■	■	88895C
	Spacer nut M6; L = 20 galvanized steel M6; L = 30 galvanized steel M6; L = 40 galvanized steel M8; L = 15	■	■	■	■	■	■	■	■	■	1310148A 1310149A 1310150A 28897B
	Rubber ring (rub protection) Di = 13.5 Da = 31; L = 15 Di = 20.5 Da = 40; L = 20 Di = 22 Da = 46.5; L = 20 Di = 25.5 Da = 45; L = 20 Not for exhaust system	■	■	■	■	■	■	■	■	■	410896 387045 9000920A 9000919A

Installation Parts

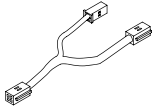
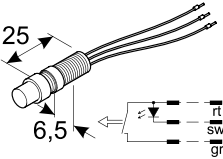
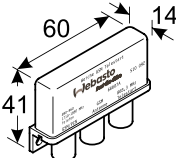
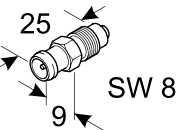
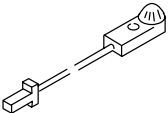
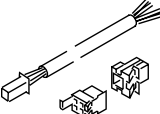
		Air Top 2000 ST	Air Top Evo 3900 / 5500	HL 90	Thermo Top C	Thermo Top Evo	Thermo 50	Thermo 90 S/ST	DBW 2010/2016	Thermo 230/300/350	Order number
	Shim										
	Di = 7 / Da = 18; L = 8										1314712A
	Di = 8 / Da = 20; L = 5	■	■	■	■	■	■	■	■	■	1314706A
	Di = 8 / Da = 20; L = 8	■	■	■	■	■	■	■	■	■	1314711A
	Di = 8 / Da = 20; L = 10	■	■	■	■	■	■	■	■	■	1314705A
	Di = 8 / Da = 20; L = 15	■	■	■	■	■	■	■	■	■	1314710A
	Di = 8 / Da = 20; L = 20	■	■	■	■	■	■	■	■	■	1314707A
	Di = 8 / Da = 20; L = 30	■	■	■	■	■	■	■	■	■	1314708A
	Di = 8 / Da = 20; L = 40	■	■	■	■	■	■	■	■	■	1314709A
	Di = 9 / Da = 25; L = 14	■	■	■	■	■	■	■	■	■	1314713A
	Braided protection hose (rub protection for polyester coolant hoses)										
	Di = 26 - 30; L = 1,500 mm				■	■	■	■			1301317B
	Di = 26 - 30; L = 2,000 mm										9014361B
	Heat shrink hose										
	Di = 38 / 19; L = 100	■	■	■	■	■	■	■	■	■	65899A
	Di = 38 / 19; L = 250	■	■	■	■	■	■	■	■	■	70891A
	Di = 38 / 19; L = per m For fixing the braided protection hose				■	■	■				92101A
	Edge protection with wire coil										
	For plate thickness 1-4 mm; L = 500	■	■	■	■	■	■	■	■	■	87184B
	For plate thickness 1-4 mm; L = 700	■	■	■	■	■	■	■	■	■	1315351B
	Pipe clamp										
	Di = 12.5; steel	■	■	■	■	■	■	■	■	■	316199
	Di = 18; steel	■	■	■	■	■	■	■	■	■	374199
	Di = 25; chrome steel (bag with 10 pieces)	■	■	■	■	■	■	■	■	■	9023007A
	Di = 33; chrome steel	■	■	■	■	■	■	■	■	■	499021
	Di = 42; chrome steel	■	■	■	■	■	■	■	■	■	126830
	Di = 52; chrome steel	■	■	■	■	■	■	■	■	■	9002762B
	Pipe clamp										
	Di = 5; chrome steel, rubber coated pipe clamp	■	■	■	■	■	■	■	■	■	9002439A
	Di = 25; chrome steel	■	■	■	■	■	■	■	■	■	242950
	Di = 29; chrome steel	■	■	■	■	■	■	■	■	■	362891
	Di = 34; Steel; for automobile	■	■	■	■	■	■	■	■	■	242942
	Di = 34; steel; for truck	■	■	■	■	■	■	■	■	■	476188
	Di = 48; steel (bag with 5 pieces)	■	■	■	■	■	■	■	■	■	9023387A
	Di = 15; chrome steel	■	■	■	■	■	■	■	■	■	63538A
	Di = 35; galvanized steel (bag with 5 pieces)	■	■	■	■	■	■	■	■	■	9022835A

		Air Top 2000 ST	Air Top Evo 3900 / 5500	HL 90	Thermo Top C	Thermo Top Evo	Thermo 50	Thermo 90 S/ST	DBW 2010 / 2016	Thermo 230 / 300 / 350	Order number
	Stainless steel pipe clamp										
	Di = 24 ... 26	■			■	■	■				70910C
	Di = 26 ... 28		■								91383B
	Pipe clamp										
	Di = 39 ... 42; galvanized steel			■				■	■		9002255B
	Di = 24 ... 27; galvanized steel	■			■	■	■				1312409A
	Di = 30 ... Da = 33; galvanized steel		■								9011844B
	Di = 33 ... Da = 36; galvanized steel							■			9003647B
	Di = 30 ... Da = 33; stainless steel		■								9024062A
	Hose clip with hexagon										
	Di = 8; steel	■	■	■	■	■	■	■	■	■	1310761A
	Di = 9; steel	■	■	■	■	■	■	■	■	■	1310771A
	Di = 10; steel (bag with 50 pieces)	■	■	■	■	■	■	■	■	■	9023037A
	Di = 12; steel	■	■	■	■	■	■	■	■	■	1310763A
	Di = 14; steel	■	■	■	■	■	■	■	■	■	1310762A
	Di = 14; stainless steel	■	■	■	■	■	■	■	■	■	1312775A
	Cailleau hose clip										
	Di = 5.2 ... 6.2; corrosion-resistant steel; bag with 10 pieces, ear clamp	■	■	■	■	■	■	■	■	■	9011638A
	Di = 6.2 ... 7.5; corrosion-resistant steel; bag with 5 pieces, ear clamp	■	■	■	■	■	■	■	■	■	9011639A
	Di = 8 ... 9; corrosion-resistant steel (bag with 10 pieces)	■	■	■	■	■	■	■	■	■	9011660A
	Di = 9.5 ... 11; corrosion-resistant steel (bag with 10 pieces)	■	■	■	■	■	■	■	■	■	9011661A
	Di = 10 ... 12.5; corrosion-resistant steel (bag with 10 pieces)	■	■	■	■	■	■	■	■	■	9011656A
	Di = 16 ... 24; steel	■	■	■	■	■	■	■	■	■	1312025A
	Di = 16 ... 27; corrosion-resistant steel	■	■	■	■	■	■	■	■	■	1303080A
	Di = 28 ... 35; corrosion-resistant steel	■	■	■	■	■	■	■	■	■	9014771A
	Di = 32 ... 50; steel	■	■	■	■	■	■	■	■	■	1312026A
	Spring clip Type B										
	Di = 25 light gray; bag with 10 pieces	■	■	■	■	■	■	■	■	■	9009019A
	Di = 27 dark gray; bag with 10 pieces	■	■	■	■	■	■	■	■	■	9009018A
	Di = 30 black; bag with 10 pieces										9009026A
	Spring clip Type E2 black										
	Di = 22; bag with 10 pieces	■	■	■	■	■	■	■	■	■	9011662A
	Di = 25; bag with 10 pieces	■	■	■	■	■	■	■	■	■	9009022A
	Di = 27; bag with 10 pieces	■	■	■	■	■	■	■	■	■	9009023A
	Di = 28 with stop piece; bag with 10 pieces	■	■	■	■	■	■	■	■	■	9014607A
	Tensioning clamp										
	Di = 86; L = 111; B = 25	■	■	■	■	■	■	■	■	■	253685

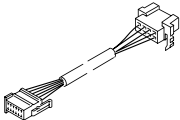
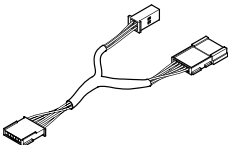
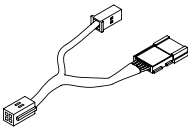
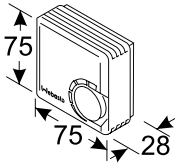
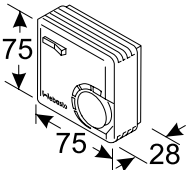
Installation Parts

		Air Top 2000 ST	Air Top Evo 3900 / 5500	HL 90	Thermo Top C	Thermo Top Evo	Thermo 50	Thermo 90 S / ST	DBW 2010 / 2016	Thermo 230 / 300 / 350	Order number
	Hose clamp										
	Di = 27 ... 35; chrome steel	■	■	■	■	■	■	■	■	■	67859A
	Di = 40 ... 47; chrome steel	■	■	■	■	■	■	■	■	■	67370A
	Di = 48 ... 55; chrome steel	■	■	■	■	■	■	■	■	■	67371A
	Di = 70 ... 90; chrome steel	■	■	■	■	■	■	■	■	■	92659A
	Di = 72 ... 79; chrome steel	■	■	■	■	■	■	■	■	■	67372A
	Di = 80 ... 87; chrome steel	■	■	■	■	■	■	■	■	■	67475A
	Di = 80 ... 100; chrome steel	■	■	■	■	■	■	■	■	■	1313201A
	Di = 98 ... 120; chrome steel	■	■	■	■	■	■	■	■	■	67373A
	Heater bracket										
	Stainless steel							■			9009203A
	Heater bracket										
	Stainless steel	■	■								92223C
	Retainer plate										
	Stainless steel reinforcing place for installation in thin-walled body plates.	■	■	■							1311119A
	Bracket, Thermo Top Evo										
	For horizontal installation					■					1313999A
	Bracket, Thermo Top Evo										
	For vertical installation					■					1313986A
	Standard bracket										
	Standard bracket					■					1314948A
	Bracket, Thermo Top Evo										
	Bracket, water connection piece (bag)					■					1314851A
	Bracket, Thermo Top C universal										
	Enables additional installation variants				■		■				9023158A
	Dosing pump mounting										
	Bag with 3 pieces	■	■	■	■	■	■				9023386A
	Bag with 10 pieces	■	■	■	■	■	■				9007921A
	Very soft suspension. Note installation position.										

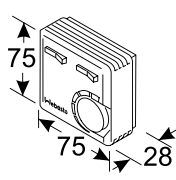
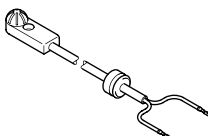
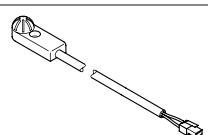
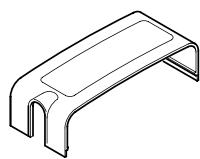
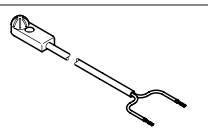
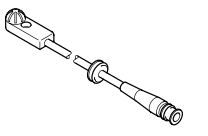
Electrical Accessories

		Air Top 2000 ST	Air Top Evo 3900 / 5500	HL 90	Thermo Top C	Thermo Top Evo	Thermo 50	Thermo 90 S/ST	DBW 2010/2016	Thermo 230/300/350	Order number
	Y-adapter wiring harness Retrofitting of Thermo Call in existing Telestart				■						9001505A
	Pushbutton, white For TC 1.1 / TC 2; with fastening material (bag)				■						9004278A
	GSM Telestart switch D-network, FME screw fitting (bag)				■						66607A
	Antenna coupling FME / EISI click adapter. For 66607A. Order 2x.				■						9000396A
	Room thermostat, sensor Use for electronic room thermostat 34875A (bag)	■	■	■							82356A
	Wiring harness of room thermostat L = approx. 3,000 mm	■	■	■							31916C
Without figure	Coding connector For 34875A	■	■	■				■	■	■	35158A

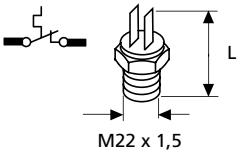
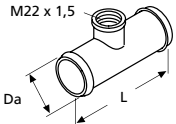
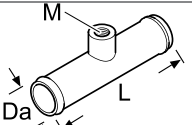
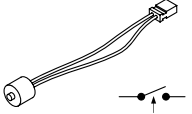
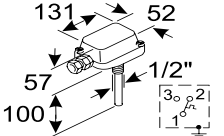
Electrical Accessories

		Air Top 2000 ST	Air Top Evo 3900 / 5500	HL 90	Thermo Top C	Thermo Top Evo	Thermo 50	Thermo 90 S/ST	DBW 2010/2016	Thermo 230/300/350	Order number
	Adapter wiring harness										
	For 34875A			■				■	■	■	34169B
	Y-adapter wiring harness										
	Connection of Telestart digital timer 1533 and W-bus receiver				■						9010325B
	Y-adapter										
	Telestart T 70 / digital timer 1533 (W-bus)				■						9007267A
	Room thermostat										
	Mechanical Changer for vehicle fan			■				■	■	■	25011C
	Room thermostat										
	With On/Off switch, changer			■				■	■	■	70947A

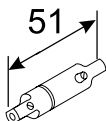
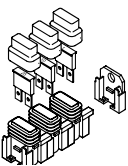
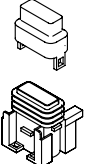
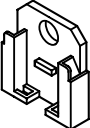
Electrical Accessories

		Air Top 2000 ST	Air Top Evo 3900 / 5500	HL 90	Thermo Top C	Thermo Top Evo	Thermo 50	Thermo 90 S/ST	DBW 2010/2016	Thermo 230/300/350	Order number
	Room thermostat With On/Off switch, changer			■							70948A
	Temperature sensor, external L = approx. 5 m (bag)	■									9005008A
	L = 5 m for Air Top 2000 ST Marine	■									9005004B
	Cover with hole For Air Top 2000 ST	■									29718B
	External temperature sensor for Air Top 2000 ST Marine L = 2.5 m	■									9014694A
	Temperature sensor, external L = 5 m L = 20 m	■	■								93205A 92649B

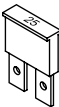
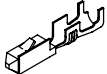
Electrical Accessories

		Air Top 2000 ST	Air Top Evo 3900 / 5500	HL 90	Thermo Top C	Thermo Top Evo	Thermo 50	Thermo 90 S / ST	DBW 2010 / 2016	Thermo 230 / 300 / 350	Order number
	Thermostat (control thermostat)										
	35 - 42°C; L = 38; 6.3 mm blade-type plug, opener							■	■		408298
	62 - 70°C; L = 39.5; 6.3 mm blade-type plug, opener							■	■		261130
	71 - 76°C; L = 39.6; 6.3 mm blade-type plug, opener							■	■		43292A
	73 - 78°C; L = 39.6; 6.3 mm blade-type plug, opener							■	■		43308A
	83 - 88°C; L = 39.6; 6.3 mm blade-type plug, opener							■	■		89558A
	83 - 98°C; L = 39.6; 6.3 mm blade-type plug, opener							■	■		35824A
	Sealing ring										
	22 x 27 copper							■	■		217336
	Pipe socket										
	Da = 38 L = 100									■	138169
	Da = 19 L = 100				■	■	■	■	■		369632
Without figure	Thermo switch										
	2 °C				■						9023147A
	10 °C				■						9023146A
	Closer; auxiliary heating function of parking heater at low outdoor temperature										
Without figure	Thermo switch holder										
					■						9023145A
	Full pipe socket										
	Da = 15, M4, L = 65, steel				■	■	■	■	■		119064
	Da = 18, M4, L = 65, steel				■	■	■	■	■		1310365A
	With threaded insert, for fan thermostat										
	Thermostat										
	40 °C				■	■	■	■	■		109867
	Thermostat (control thermostat)										
	Adjustable from 15 - 95°C. See info 07 / 2003							■	■		9007198A

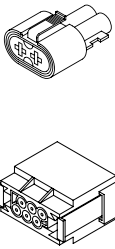
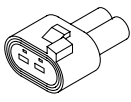
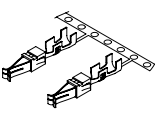
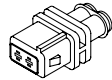
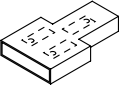
Electrical Accessories

		Air Top 2000 ST	Air Top Evo 3900 / 5500	HL 90	Thermo Top C	Thermo Top Evo	Thermo 50	Thermo 90 S/ST	DBW 2010/2016	Thermo 230/300/350	Order number
	Light (operation indicator), with cable										
	LED 12 V red	■	■	■	■	■	■	■	■	■	9010633A
	LED 12 V yellow	■	■	■	■	■	■	■	■	■	9013101A
	Fuse holder with fuse										
	Maximum 16 A red	■	■	■	■	■	■	■	■	■	250848
Without figure	Extra fuse with connector (bag)										
	For blade-type fuses, water-proof. 6.3 mm blade-type plug connection, SAE J1284	■	■	■	■	■	■	■	■	■	1301682A
	Replacement kit containing MTA fuse holder without fuses										
	For blade-type fuses. Replacement for 15711B / 14878A. 6.3 mm. Blade-type plug connection, SAE J1284	■	■	■	■	■	■	■	■	■	9008710C
	MTA fuse holder										
	1 A, black	■	■	■	■	■	■	■	■	■	66439A
	5 A, beige	■	■	■	■	■	■	■	■	■	67290A
	7.5 A, brown	■	■	■	■	■	■	■	■	■	66440A
	10 A, red	■	■	■	■	■	■	■	■	■	66441A
	15 A, blue	■	■	■	■	■	■	■	■	■	66442A
	20 A, yellow	■	■	■	■	■	■	■	■	■	66443A
	25 A, white	■	■	■	■	■	■	■	■	■	66444A
	30 A, green	■	■	■	■	■	■	■	■	■	66445A
	For blade-type fuses, water-proof. 6.3 mm blade-type plug connection, SAE J1284										
	Socket for MTA fuse holder										
	Mounting for fuse holder. Bag with bolts.	■	■	■	■	■	■	■	■	■	66446A

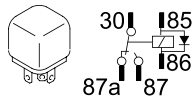
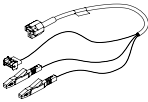
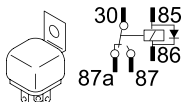
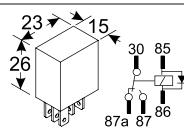
Electrical Accessories

		Air Top 2000 ST	Air Top Evo 3900 / 5500	HL 90	Thermo Top C	Thermo Top Evo	Thermo 50	Thermo 90 S / ST	DBW 2010 / 2016	Thermo 230 / 300 / 350	Order number
	Double flat spring contact										
	0.5 - 1.5	■	■	■	■	■	■	■	■	■	9011645A
	2.0 - 3.0	■	■	■	■	■	■	■	■	■	9011647A
	4.0 - 6.0	■	■	■	■	■	■	■	■	■	9009029B
	For MTA fuse holder. Bag with 10 pieces										
	Blade-type fuse SAE J1284										
	1 A, black	■	■	■	■	■	■	■	■	■	9023140A
	7.5 A, brown, 20 pieces	■	■	■	■	■	■	■	■	■	9024083A
	15 A, blue	■	■	■	■	■	■	■	■	■	9023139A
	20 A, yellow	■	■	■	■	■	■	■	■	■	9023141A
	25 A, white	■	■	■	■	■	■	■	■	■	9023142A
	Single wire sealing										
	0.35 - 1.0; blue, bag with 20 pieces	■	■	■	■	■	■	■	■	■	9011626A
	0.5 - 0.75; green, bag with 20 pieces	■	■	■	■	■	■	■	■	■	9011955A
	1.5 - 2.5; white, bag with 10 pieces	■	■	■	■	■	■	■	■	■	9011627A
	2.5; red, bag with 20 pieces for MTA fuse carrier	■	■	■	■	■	■	■	■	■	9011631A
	0.5 - 1.5; white, bag with 5 pieces	■	■	■	■	■	■	■	■	■	9009028A
	2.0 - 4.0; yellow, bag with 5 pieces	■	■	■	■	■	■	■	■	■	9009027A
	Blade-type plug										
	2.8 mm blade-type plug. 0.5 - 1.0 mm. Bag with 2 pieces With seal and connectors. For waterproof connector.	■	■	■	■	■	■	■	■	■	9011628A
	2.8 mm blade-type plug. 1.5 - 2.5 mm; bag with 10 pieces with seal and connectors. For waterproof connector sleeve housing.	■	■	■	■	■	■	■	■	■	9011664A
	Flat spring contact										
	4 - 6 mm. Bag with 10 pieces with seal and connectors. For waterproof connectors.	■	■	■	■	■	■	■	■	■	9011969A
	Socket contact										
	0.75 mm. Bag with 10 pieces for waterproof connector sleeve housing, 6-pin.	■	■	■	■	■	■	■	■	■	9011666A

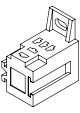
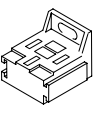
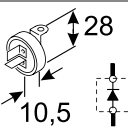
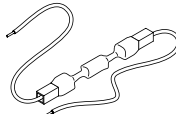
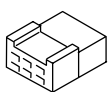
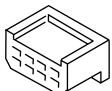
Electrical Accessories

		Air Top 2000 ST	Air Top Evo 3900 / 5500	HL 90	Thermo Top C	Thermo Top Evo	Thermo 50	Thermo 90 S/ST	DBW 2010/2016	Thermo 230/300/350	Order number
	Repair bag with Thermo Top C wiring harness Complete, for 2- and 6-pin connector of heater. Consisting of: 6-pin socket housing, Socket contact, Flat spring contact, Single wire sealing				■	■					9011968A
	Blade-type plug housing 2-pin, waterproof	■	■		■	■	■	■		■	82168A
	Connector sleeve housing 2-pin, 2.8 mm, waterproof, bag with 5 pieces. e.g., for dosing pump or extensions.	■	■	■	■	■	■	■	■	■	9011633A
	Junior Power Timer 0.5 - 1.0 white; bag with 10 pieces Also for 2.8 mm blade-type plug	■	■	■	■	■	■	■	■	■	9011634B
Without figure	Relay (changer) with fastening strap 12 V, 30 / 50A. With connector sleeve housing and tab receptacle. Plastic housing.	■	■	■	■	■	■	■	■	■	9023375A
	Connector sleeve housing 2.8 mm. Bag with 5 pieces 2-pin, waterproof.	■	■	■	■	■	■	■	■	■	9011632B
	3x Wire connector 6.3 mm. Bag with 5 pieces	■	■	■	■	■	■	■	■	■	9011959A

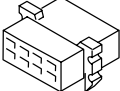
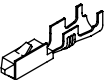
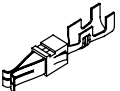
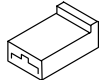
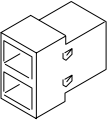
Electrical Accessories

		Air Top 2000 ST	Air Top Evo 3900 / 5500	HL 90	Thermo Top C	Thermo Top Evo	Thermo 50	Thermo 90 S / ST	DBW 2010 / 2016	Thermo 230 / 300 / 350	Order number
	Relay (changer)										
	24 V, 10 / 20 A metal housing	■	■	■	■	■	■	■	■	■	248401
	12 V, 30 / 50 A plastic housing	■	■	■	■	■	■	■	■	■	9016500A
	12 V, 20 / 40 A plastic housing	■	■	■	■	■	■	■	■	■	9005553A
	24 V, 10 / 20 A metal housing, built-in diode	■	■	■	■	■	■	■	■	■	340987
	Connector sleeve housing for relay (relay socket)										
	5-pin. For 248398, 248401, 15752A, 80267A, 9005553A, 98525A.	■	■	■	■	■	■	■	■	■	216542
Without figure	IPCU kit										
	Consisting of 9011674B, 9013174B and 9011069A.				■	■	■	■			9013645A
	IPCU control unit										
	400 Hz				■	■	■	■			9011674B
	Wiring harness										
	For fan control				■	■	■	■			9013174B
	For programming				■	■	■	■			9011069A
	Relay (changer, in-built diode)										
	12 V, 20 / 30 A, 6.3 mm, with separate fastening strap For 216542. Plastic housing.	■	■	■	■	■	■	■	■	■	98525A
	12 V, 25 A, 6.3 mm / 5 mm, for 66466A. Plastic housing.	■	■	■	■	■	■	■	■	■	98560A

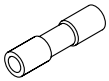
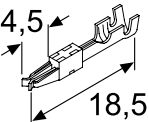
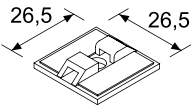
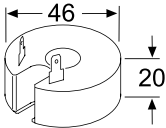
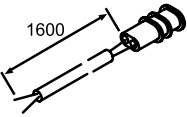
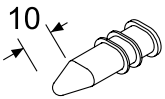
Electrical Accessories

		Air Top 2000 ST	Air Top Evo 3900 / 5500	HL 90	Thermo Top C	Thermo Top Evo	Thermo 50	Thermo 90 S/ST	DBW 2010/2016	Thermo 230/300/350	Order number
	Connector sleeve housing for relay 5-pin, for 98560A	■	■	■	■	■	■	■	■	■	66466A
	Connector sleeve housing for relay 5-pin, for 476382, 340987, 261483, 261491, 97158A.	■	■	■	■	■	■	■	■	■	255572
	Diode capsule Maximum 1 A Maximum 3 A 6.3 mm connector	■	■	■	■	■	■	■	■	■	210536 424560
	Blocking diode 3 A including connector	■	■	■	■	■	■	■	■	■	1313644A
	Connector sleeve housing 6.3 mm for 210536 and 424560	■	■	■	■	■	■	■	■	■	178713
	6.3 mm 6-pin, for 178837	■	■	■	■	■	■	■	■	■	178780
	Tab connector housing 6.3 mm 6-pin, for 178780	■	■	■	■	■	■	■	■	■	178837
	Connector sleeve housing 6.3 mm 8-pin, for 342777	■	■	■	■	■	■	■	■	■	178764

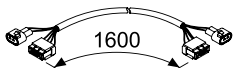
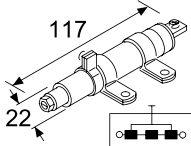
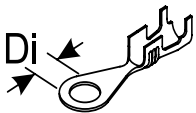
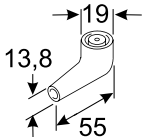
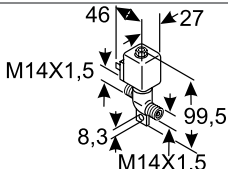
Electrical Accessories

		Air Top 2000 ST	Air Top Evo 3900 / 5500	HL 90	Thermo Top C	Thermo Top Evo	Thermo 50	Thermo 90 S/ST	DBW 2010/2016	Thermo 230/300/350	Order number
	Blade-type plug housing 6.3 mm 8-pin, of 178764	■	■	■	■	■	■	■	■	■	342777
	2.8 mm socket contact 0.75 mm, 10 pieces	■	■	■	■	■	■	■	■	■	9011666A
	2.8 mm flat spring contact 1.5 - 2.5 mm, 10 pieces	■	■	■	■	■	■	■	■	■	9011664A
	Connector sleeve housing Mounting housing. 1-pin, connection, of 178799	■	■	■	■	■	■	■	■	■	178705
	Mounting housing. 2-pin, for 6.3 mm blade-type plug connection	■	■	■	■	■	■	■	■	■	178721
	6.3 mm blade-type plug housing 2-pin (connector housing)	■	■	■	■	■	■	■	■	■	178802
	Blade-type plug housing 4-pin (connector housing)	■	■	■	■	■	■	■	■	■	178810
	6.3 mm blade-type plug receptacle 0.5 - 2.5 1.0 - 2.5 1.5 - 2.5 of 178713 4.0 - 6.0 Bag with 10 pieces	■	■	■	■	■	■	■	■	■	9011641A 9011652A 176613 9014955A

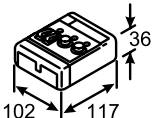
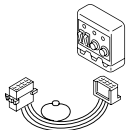
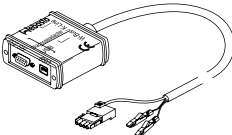
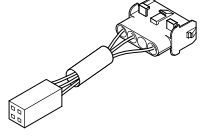
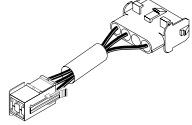
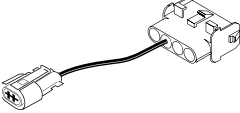
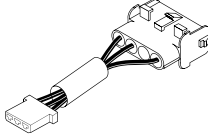
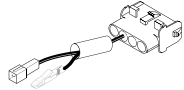
Electrical Accessories

		Air Top 2000 ST	Air Top Evo 3900 / 5500	HL 90	Thermo Top C	Thermo Top Evo	Thermo 50	Thermo 90 S/ST	DBW 2010/2016	Thermo 230/300/350	Order number
	6.3 mm tab connector										
	0.5 - 1.0	■	■	■	■	■	■	■	■	■	9011636A
	0.8 - 2.5	■	■	■	■	■	■	■	■	■	9011640A
	4.0 - 6.0	■	■	■	■	■	■	■	■	■	9014955A
	Bag with 10 pieces for 178799, 178802, 178810, 178837, 342777										
	Connector, insulated										
	0.5 - 1.0	■	■	■	■	■	■	■	■	■	9011667A
	1.5 - 2.5	■	■	■	■	■	■	■	■	■	9011668A
	3.0 - 6.0	■	■	■	■	■	■	■	■	■	9006456A
	Bag with 10 pieces										
	Micro-timer contact VW in Climatronic, for fan control. Bag with 10 pieces.				■	■					9011644A
	Mounting socket For fastening electrical wires with cable tie. 4.8 mm wide, bag with 10 pieces	■	■	■	■	■	■	■	■	■	9009030A
	Resistance kit 0.9 Ohm; 40 W. Bag with connectors and mounting parts				■	■		■			97981A
	Adapter cable For circulating pump				■						91743D
	Adapter In case circulating pump is not applicable, with resistance				■						64025A

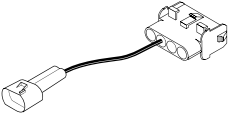
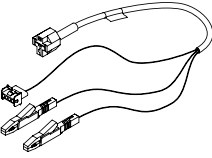
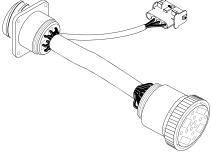
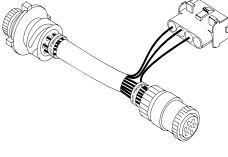
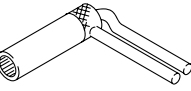
Electrical Accessories

		Air Top 2000 ST	Air Top Evo 3900 / 5500	HL 90	Thermo Top C	Thermo Top Evo	Thermo 50	Thermo 90 S/ST	DBW 2010 / 2016	Thermo 230 / 300 / 350	Order number
	Wiring harness extension										
	Extension for standard wiring harness of Thermo Top C				■		■				67744A
	Interference suppression filter										
	For heater							■			476595
	Claw cable lug										
	Di = 5 mm; 0.5 - 1.0 bag with 50 pieces	■	■	■	■	■	■	■	■	■	9011657A
	Di = 5 mm; 1.5 - 2.5 bag with 50 pieces	■	■	■	■	■	■	■	■	■	9011621A
	Di = 5 mm; 2.5 - 6.0 bag with 10 pieces	■	■	■	■	■	■	■	■	■	9011654A
	Di = 5 mm; 1.5 - 2.5 bag with 20 pieces	■	■	■	■	■	■	■	■	■	9011653A
	Di = 5 mm; 2.5 - 6.0 bag with 20 pieces	■	■	■	■	■	■	■	■	■	9011622A
	Interference suppression connector										
								■			176478
	Solenoid valve (for fuel)										
	24 V; 5 W; M 14 x 1.5 blade-type plug connection 6.3 mm	■	■	■	■		■	■	■	■	465674

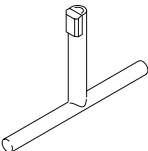
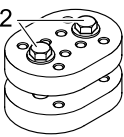
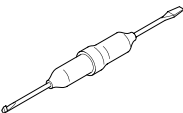
Testing Devices

		Air Top 2000 ST	Air Top Evo 3900 / 5500	HL 90	Thermo Top C	Thermo Top Evo	Thermo 50	Thermo 90 S / ST	DBW 2010 / 2016	Thermo 230 / 300 / 350	Order number
	Testing device 12 V / 24 V, German. With control unit.								■		440280
	Adapter wiring harness For 440 280, see info 258. With control unit 1563 / 64, see info 258 and TM E4-3								■		116274
	PC diagnosis update kit (USB) For Windows operating system. USB and serial interface. Including adapter cable for Air Top 2000 ST	■	■	■	■	■	■	■	■	■	9009064D
	PC Diagnosis adapter cable Also for upgrade kit (1533 timer or Teletstart)		■		■						1301783B
	Adapter wiring harness, Thermo 90							■			83661B
	For Thermo 90 S / Thermo 90 ST / Thermo 50 MAN							■			92556B
	Adapter wiring harness DW80										21333B
	Also for Air Top 2000 S				■						92566B

Testing Devices

		Air Top 2000 ST	Air Top Evo 3900 / 5500	HL 90	Thermo Top C	Thermo Top Evo	Thermo 50	Thermo 90 S / ST	DBW 2010 / 2016	Thermo 230 / 300 / 350	Order number
	PC Diagnosis adapter cable	■	■								92555B
	For Thermo 230 / 300 / 350									■	88336D
	IPCU programming cable										
	For Thermo Top C				■	■					9011069A
	PC Diagnosis adapter cable										
	For Thermo 230 / 300 / 350 (Van Hool)									■	92637A
	For Thermo 230 / 300 / 350 (MB / Citaro)									■	66265A
	Nozzle wrench										
	for atomizing fuel for fuel nozzle							■			66971A

Special Tools

		Air Top 2000 ST	Air Top Evo 3900 / 5500	HL 90	Thermo Top C	Thermo Top Evo	Thermo 50	Thermo 90 S / ST	DBW 2010 / 2016	Thermo 230 / 300 / 350	Order number
	Socket wrench For holding the blade wheel with shaft								■		218375
	Gauge For ignition electrodes								■		310646
	Adjusting device For fuel line			■							86645A
SW22 	Flat drawing tool Auxiliary installation tool for bead levelling	■	■								82229A
	Dismantling tool For connector, Thermo 90 STw							■			84279A
Without figure	Isoflex grease LDS 18 special										
	1,000 g	■	■	■	■	■	■	■	■	■	143847
	45 g	■	■	■	■	■	■	■	■	■	143820
	For transmission and ball bearings										
	Sealing varnish, red										
	20 ml for bolts and nuts	■	■	■	■	■	■	■	■	■	154245

Special Tools

		Air Top 2000 ST	Air Top Evo 3900 / 5500	HL 90	Thermo Top C	Thermo Top Evo	Thermo 50	Thermo 90 S/ST	DBW 2010/2016	Thermo 230/300/350	Order number
Without figure	Protective wax (transparent)										
	600 ml for corrosion protection	■	■	■	■	■	■	■	■	■	111329
	Special contact spray										
	250 ml for elastic connections	■	■	■	■	■	■	■	■	■	101322
	Sealing compound silicone Type 1209										
	30 ml	■	■	■	■	■	■	■	■	■	23730A
	310 ml	■	■	■	■	■	■	■	■	■	21113A
	Adhesive sealing compound Loctite 5398										
	310 ml bottle	■	■	■	■	■	■	■	■	■	9023149A

AIR-CONDITIONING SYSTEMS



Advantages of Air-Conditioning Systems at a Glance

Versatile Air-Conditioning Systems for Retrofitting

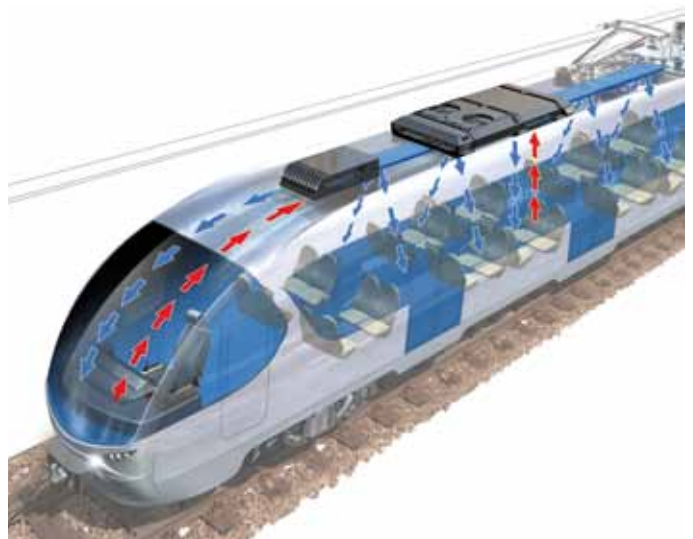
Webasto offers an extensive product portfolio of versatile and robust air-conditioning solutions for nearly every application and every vehicle. For the Heavy Duty area there are roof-top compact air-conditioning systems, split-systems or integratable evaporator units on offer. The program is rounded off through accessories such as compressors.

The fast and cost-effective retro-fitting solutions ensure an optimum climate in the mobile work place or in the passenger area. An air-conditioned workplace contributes to a better concentration capacity and longer driver endurance. Passengers enjoy increased comfort on hot days.

Individual Air-Conditioning Systems for Every Demand

On demand Webasto develops customer-specific solutions to vehicle integration. On the basis of long-term experience in the bodywork and thermal area, we engage in product development as early as during the planning phase of your vehicles and accompany the development and production process up to the maturity phase of your special air-conditioning solution.

Therefore please contact us early during the start phase of a project. We look forward to the challenge.



Application Examples

Which Air-Conditioning System is Required?



Light-Duty Commercial Vehicles, Construction Machines

- Passenger compartment air-conditioning
- Compact Cooler 8
- Air-duct system, optional
- 8 kW cooling capacity, extra heating option possible
- Moderate climate zones
- Manual control possible



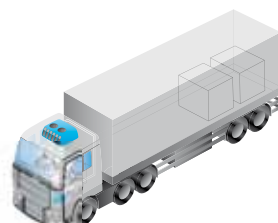
Construction Machines

- Air-conditioning of the driver's cab
- Special customer-specific application (HVAC)
- 4.0 - 8.0 kW cooling capacity according to customer specification
- Climate zone design according to customer specification
- Automatic climate control possible



Rail

- Air-conditioning of the passenger compartment
- Special customer-specific application
- Climate zone design according to customer specification
- Fully integrated air-duct system
- Automatic control possible



Truck

- Parking cooler in the resting area

Our new calculating tool the "Heavy Duty Capacity Calculator" is provided on the dealer portal for your support. Our technical workshops and the local Webasto subsidiaries would be glad to answer any further questions about design and installation.

Air-Conditioning Systems

Product Overview

Compact Cooler

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Compact Cooler 4 E
Compact Cooler 5 Lite
Compact Cooler 5
Compact Cooler 8
E-Unit
Accessories of Compact Cooler



Compact Cooler Rail

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Compact Cooler Rail 4 E
Compact Cooler Rail 4 H
Compact Cooler Rail 7 E
Compact Cooler Rail 7 H



RailCool

page 144

RailCool R 5
RailCool R 7
RailCool S 236



Container Cooling

page 146

Breeze Split
Iglo Compact
KMWP 9 Compact
KMWP 18 Compact



Other A/C Systems

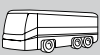
page 148

Parking Cooler
Bus A/C systems



Air-Conditioning Systems

Compact Cooler 4 E / 5 Lite / 5 / 8 / E-Unit

							
Compact Cooler 4 E			■			■	■
Compact Cooler 5 Lite		■					■
Compact Cooler 5	■	■				■	■
Compact Cooler 8		■	■			■	■
E-Unit		■	■			■	■

The Optimum Retrofitting Solution for Air-Conditioning

The Compact Cooler Series is a space-saving, retrofittable roof-top air-conditioning system for cooling the driver's cab and passenger compartment of all vehicles with cabin volumes up to 10 m³.

The **Compact Cooler 4 E** represents an independent solution with integrated electric motor which drives the system's own compressor with the help of a V-belt. Thus, it only needs to be connected to the vehicle battery. The **Compact Cooler 5 Lite** is conceived for integration in the primary cooling circuit of the vehicle and it distinguishes itself through an especially compact structure, which was implemented by avoiding the condenser including fan. Additional compressors are preferably installed in the vehicle for the **Compact Cooler 5 and 8**. This guarantees the full system capacity at all times, and operation independently of the primary cooling circuit of the vehicle is also possible. **E-Unit** means the electric motor / compressor unit installed on a robust metal frame including plastic housing. The electric motor drives the compressor over a belt. For example, the Compact Cooler 5 can be switched simultaneously with the E-Unit.

Thanks to the robust structure and the use of latest technologies, the Compact Coolers fulfil all common quality requirements of the vehicle manufacturer and correspond to the current EU directives. Essential characteristics of the robust design are the basic metal frame and the existing refrigerant circuit made fully of aluminium. The customer profits from an increased life span and reliability as well as from reduced maintenance expenditure.

Technical Specifications:

Compact Cooler	4 E (electric)	5 Lite	5	8
EC Approval No. (EMC)	e1*72/245*2009/19*1443*__			
Cooling capacity (kW)	3.5	5.0	5.0	8.5
Heating capacity Q80 (kW)	-	-	-	7.5
Refrigerant	R134a, CFC-free			
Nominal voltage (V)	24	12 / 24		
Maximum total current consumption (A)	68	13	30	30
Operating temperature range (°C)	max. +45			
Evaporator fan volume flow (m³ / h)	550 (with air distributor plate)	400 (with air distributor plate)	630 (with air distributor plate)	1.300 (free-blowing)
Dimensions L x W x H (mm)	1,110 x 774 x 215	500 x 760 x 165	750 x 760 x 165	1,025 x 970 x 197
Weight (kg)	52.0	17.0	23	32



Compact Cooler 4 E

- 3.5 kW cooling capacity
- Fully independent, system pre-filled with refrigerant
- Routing of refrigerant hoses not required
- Compressor drive operated by 24-V electric motor
- Available optionally with electronic room thermostat
- Low weight due to all-aluminium cooling circuit



Compact Cooler 5 Lite

- Developed especially for cooling small spaces / cabins (e.g., loading area in ambulances)
- Low power consumption
- Tested specially according to DIN EN 1789 for ambulances
- Low maintenance expenditure
- Low weight



Compact Cooler 5

- 5 kW cooling capacity for compact model
- Available optionally with electronic room thermostat
- Extensive program of compressors and further installation accessories
- Low maintenance expenditure
- Low weight due to all-aluminium cooling circuit



Compact Cooler 8

- 8.5 kW cooling capacity for compact model
- Available optionally with electronic room thermostat
- Extensive program of compressors and further installation accessories
- Available with fresh air and heating option
- Available optionally with air-duct system
- Low weight due to all-aluminium cooling circuit

Air-Conditioning Systems

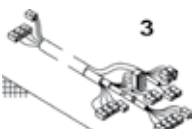
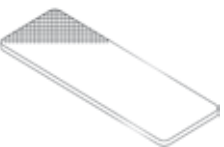
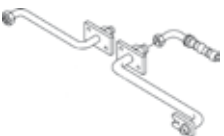


Compact Cooler 4 E / 5 Lite / 5 / 8 / E-Unit

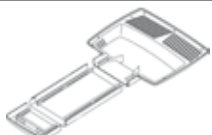
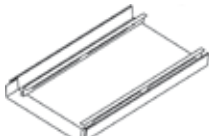
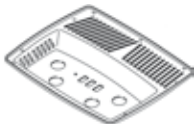
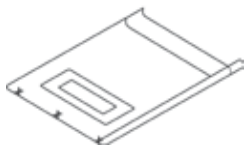
		Comment	Voltage		Air distributor plate	Electr. Thermostat	Standard installation kit		Hot part	Fresh air flap
Order number	Delivery scope		12 V	24 V			Without 6 m hoses	With 6 m hoses		
9023839A	Compact Cooler 4 E			■	■	■	■			
9023838A	Compact Cooler 4 E			■	■		■			
9023837A	Compact Cooler 5 Lite		■		■			■		
9023843A	Compact Cooler 5		■		■					
9023845A	Compact Cooler 5		■		■	■				
9023841A	Compact Cooler 5		■		■			■		
9023842A	Compact Cooler 5			■	■					
9023844A	Compact Cooler 5			■	■	■				
9023840A	Compact Cooler 5			■	■			■		
9023846A	Compact Cooler 5	With external refrigerant pipes		■	■	■				
9022993B	Compact Cooler 5	Without control switch		■						
9023857A	Compact Cooler 8		■			■			■	■
9023856A	Compact Cooler 8		■			■			■	
9023855A	Compact Cooler 8		■						■	
9023853A	Compact Cooler 8		■			■				■
9023851A	Compact Cooler 8		■			■				
9023849A	Compact Cooler 8		■							
9023848A	Compact Cooler 8		■		■			■		
9023854A	Compact Cooler 8			■		■				■
9023852A	Compact Cooler 8			■		■				
9023850A	Compact Cooler 8			■						
9023847A	Compact Cooler 8			■	■			■		
9022638B	Compact Cooler 8			■		■			■	■
9004866A	E-Unit	With electric motor and compressor		■						

Accessories for the system are shown on page 139.

Installation Kits

		Compact Cooler 4 E	Compact Cooler 5	Compact Cooler 5 Lite	Compact Cooler 8	Order number
	Cable set					
	Cable set for heater control, external 10.80 m	■	■	■		66277A
	Cable set for heater control, external 13.00 m				■	67043C
	Circulating air filter					
	Circulating air filter of Compact Cooler	■	■	■		64049A
	Circulating air filter of Compact Cooler 8				■	64053B
	Electronic room thermostat					
	24 V for Compact Cooler 5 retrofitting kit	■	■			98900A
	12 V for Compact Cooler 5 retrofitting kit		■			98899A
	Compressor bracket					
	Universal compressor bracket		■	■	■	87723C
	Installation kit					
	Hose routing installation kit, external		■			64519C
Without figure	Installation kit with 2 x 6 m refrigerant hose		■	■		64497C
	Installation kit with 2 x 11 m refrigerant hose		■	■		65362C
	Standard installation kit with 2 x 6 m refrigerant hose				■	67041E
	Standard installation kit with 2 x 11 m refrigerant hose				■	67042E
	Installation kit of Compact Cooler 8 with 2 x 11 m refrigerant hose				■	98700E
Without figure	Further accessories					
	Roof cutout template Compact Cooler 8				■	98500A
	12 V, 70 A relay				■	9000458A
	Receptacle housing for 9-pin relay, white				■	39879B

Air Ducting System

		Compact Cooler 4 E	Compact Cooler 5	Compact Cooler 5 Lite	Compact Cooler 8	Order number
	Air-duct system kit, Compact Cooler 8 814 mm middle and end piece				■	98502D
	Air distributor plate of Compact Cooler 8 Assembly				■	66280B
	Add-on kit for air-duct extension 569 mm max. 4 extension kits possible				■	98868D
	Air-duct end piece of Compact Cooler 8 With preparation for illumination				■	9001288A
	Add-on kit for air-duct extension 569 mm with preparation for illumination (max. 4 extension kits possible)				■	9001161A

Compressor

		Compact Cooler 4 E	Compact Cooler 5	Compact Cooler 5 Lite	Compact Cooler 8	Order number
	Seltec compressor					
	TM-13HD horizontal 24 V		■	■		40153B
	TM-16HD horizontal 12 V				■	67045A
	TM-16HD horizontal 24 V				■	67046A
	TM-13HD vertical 12 V		■	■		80755B
	TM-13HD vertical 24 V		■	■		80700B
	TM-16HD vertical 24 V				■	64035A
	TM-16HD vertical 12 V				■	64040A
	TM-13HD 8PVK vertical 12 V		■	■		67478A
	TM-16HD 8PVK vertical 24 V				■	98561A
	TM-16HD 8PVK vertical 12 V				■	98536A
	TM-13HD 8PVK horizontal 24 V		■	■		88139B
	TM-16HD 8PVK horizontal 12 V				■	9000678A
	TM-16HD 8PVK horizontal 24 V				■	9000679A

Air-Conditioning Systems



Compact Cooler Rail 4 E / 7 E

							
Compact Cooler Rail 4 E / 7 E				■			

Proven and Compact

The roof-top air-conditioning system Compact Cooler Rail Versions 4 E and 7 E with a 4 or 6.5 kW cooling capacity ensure optimum climate in the driver's cabin of electric trains, diesel vans and other rail vehicles. Thanks to the modular HVAC concept, customer-specific requirements can be implemented quickly and cost-effectively. The pre-filled, compact device runs independently of the vehicle drive and is easy to install. Subsequent installation is also smooth and without any problem. The Compact Cooler Rail 4 E and 7 E fulfil the European railway standards. For a customized offer, please contact our Rail Competence Centre directly.

- With electric drive
- Easy installation and maintenance
- Standard control or modern electronic control system
- Continuous regulation of evaporator fan air volume
- Compliance with European railway standard
- Optimum climate in driver's cabin through 4 or 6.5 kW cooling capacity

Technical Specifications:

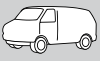
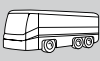
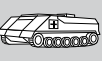
	Compact Cooler Rail 4 E	Compact Cooler Rail 7 E
Cooling capacity (kW)*	4.0	6.5
Number of independent cooling circuits	1	
Water heating capacity Q80 (kW)	4.0	
Electrical heating capacity (kW)	2.0	
Operating temperature (°C)	-20 to +40	-25 to +45
Power supply (U _{AC})	400 ±10% (3ph + N 50 Hz)	
Nominal voltage (V)	24 (18 - 32)	
Max. electrical power consumption in cooling mode (kW)	3.0	4.1
Max. electrical power consumption in Heating mode (kW) with electric heater	2.2	
Max. control power consumption (W)	50	
Starting current (A)	1.3	
Volume flow (m³ / h)	600	
Fresh air (m³ / h)	No fresh air option	
Noise emission (dB(A))	approx. 67	
Refrigerant	R134a	
Dimensions L x W x H (mm)	1.400 x 790 x 230	
Weight (kg)	125	130
Order Number	60ACB7367A	60ACB7392B

*Performance data at 40 °C / 40% r. h., Tin evaporator = 35 °C / 50% r. h. The indicated performance data is valid for 3-phase power supply, 50 Hz. Other voltages are available on request. A tolerance of 10% is valid for the performance data.

Air-Conditioning Systems



Compact Cooler Rail 4 H / 7 H

							
Compact Cooler Rail 4 H / 7 H				■			

Proven and Compact

The roof-top air-conditioning system Compact Cooler Rail Versions 4 H and 7 H with a 4 or 6.5 kW cooling capacity ensure optimum climate in the driver's cabin of electric trains, diesel vans and other rail vehicles. Thanks to the modular HVAC concept, customer-specific requirements can be implemented quickly and cost-effectively. The pre-filled, compact device runs independently of the vehicle drive and is easy to install. Subsequent installation is also smooth and without any problem. The Compact Cooler Rail 4 H and 7 H fulfil the European railway standards. For a customized offer, please contact our Rail Competence Centre directly.

- With hydrostatic drive
- Easy installation and maintenance
- Standard control or modern electronic control system
- Continuous regulation of evaporator fan air volume
- Compliance with the European railway standards
- Optimum climate in driver's cabin through 4 or 6.5 kW cooling capacity

Technical Specifications:

	Compact Cooler Rail 4 H	Compact Cooler Rail 7 H
Cooling capacity (kW)*	4,0	6,5
Number of independent cooling circuits	1	
Water heating capacity Q80 (kW)	4.0	
Electrical heating capacity (kW)	2.0	
Operating temperature (°C)	-20 to +40	-25 to +45
Power supply (U _{AC})	hydrostatic	
Nominal voltage (V)	24 (18 - 32)	
Max. electrical power consumption in cooling mode (kW)	0.5	
Max. electrical power consumption in Heating mode (kW) with electric heater	2.2	
Max. control power consumption (W)	50	
Starting current (A)	1.3	
Volume flow (m³ / h)	600	
Fresh air (m³ / h)	No fresh air option	
Noise emission (dB(A))	approx. 67	
Refrigerant	R134a	
Dimensions L x W x H (mm)	1.400 x 790 x 230	
Weight (kg)	110	
Order Number	60ACB7418A	60ACB7457A

*Performance data at 40 °C / 40% r. h., Tin evaporator = 35 °C / 50% r. h. The indicated performance data is valid for 3-phase power supply, 50 Hz. Other voltages are available on request. A tolerance of 10% is valid for the performance data.

Air-Conditioning Systems



RailCool R 5 / R 7

							
RailCool R 5 / R 7				■			

Proven and Compact

The roof-top air-conditioning systems RailCool R 5 and R 7, with their 5.5 or 7 kW cooling capacity ensure optimum climate in the driver's cabin of electric trains, diesel vans and other rail vehicles. By virtue of their design with soldered tubes and hermetically sealed compressor, these systems have long life spans and long maintenance intervals. Thanks to the modular HVAC concept, customer-specific requirements can be implemented quickly and cost-effectively. The pre-filled, compact device runs independently of the vehicle drive and is easy to install. The RailCool R 5 and R 7 fulfil the European railway standards. For a customized offer, please contact our Rail Competence Centre directly.

- Especially for original equipment
- Soldered components
- Easy installation and maintenance
- Standard control or modern electronic control system
- Continuous regulation of evaporator fan air volume
- Compliance with the European railway standards
- Optimum climate in driver's cabin through 5.5 or 7 kW cooling capacity

Technical Specifications:

	RailCool R 5	RailCool R 7
Cooling capacity (kW)*	5.5 (R407C)	7.0 (R407C)
Number of independent cooling circuits	1	
Water heating capacity Q80 (kW)	3.0	
Electrical heating capacity (kW)	3.0	
Operating temperature (°C)	-20 to +40	-25 to +45
Power supply (U _{AC})	400 ±10% (3ph + N 50 / 60 Hz)	460 ±10% (3ph + N 50 / 60 Hz)
Nominal voltage (V)	24 (18 - 32)	
Max. electrical power consumption in cooling mode (kW)	3.5	4.5
Max. electrical power consumption in Heating mode (kW) with electric heater	3.2	
Max. control power consumption (W)	200	
Starting current (A)	< 50	< 60
Max. air volume flow (m³ / h)	800	1,000
Fresh air (m³ / h)	90	
Noise emission (dB(A))	approx. 67	
Refrigerant	R134a / R407C / R410A	
Outer dimensions L x W x H (mm)	1,400 x 800 x 290	
Weight (kg)	130	150
Order Number	60ACB7427A	60ACB7458A

*Performance data at 40 °C / 40% r. h., Tin evaporator = 35 °C / 50% r. h. The indicated performance data is valid for 3-phase power supply, 50 Hz. Other voltages are available on request. A tolerance of 10% is valid for the performance data.

Air-Conditioning Systems



RailCool S 236

RailCool S 236				■			

Compact and Adjustable

The split air-conditioning system RailCool S ensures perfect air distribution and maximum air-conditioned air supply in driver's cabins of railroad cars. Thanks to its compact, modular structure, the RailCool S can be integrated individually in any design and can also be retrofitted easily. It can also be installed in rail vehicles with extremely limited construction space in the roof area without significant expenditure. The RailCool S represents the most cost-effective solution for the air-conditioning of passenger compartments and it fulfills the European standards. For a customized offer, please contact our Rail Competence Centre directly.

- Optimum air distribution in the passenger compartments
- Continuous regulation of evaporator fan air volume
- High degree of reliability through double or four-fold, independent cooling and heating circuits
- Compliance with the European railway standards
- 36 kW cooling capacity

Technical Specifications:

	RailCool S 236
Cooling capacity (kW)*	36 (R407C)
Number of independent cooling circuits	2
Water heating capacity Q80 (kW)	On request
Electrical heating capacity (kW)	24
Operating temperature (°C)	max. -25 to +45
Power supply (U _{AC})	400 ±10% (3ph + N 50 Hz)
Nominal voltage (V)	24 (18 - 32)
Max. electrical power consumption in cooling mode (kW)	20
Max. electric power consumption in heating mode (kW) with electric heater	26
Max. control power consumption (W)	400
Starting current (A)	max. 80
Max. air volume flow (m³ / h)	4,000
Fresh air (m³ / h)	-
Noise emission (dB(A))	< 67 (at 7.5 m)
Refrigerant	R134a / R407C / R410A
Outer dimensions of evaporator unit	2 x 1,370 x 1,250 x 260
Condenser unit L x W x H (mm)	2 x 1,360 x 550 x 550
Weight (kg) per evaporator unit	2 x 93
per condenser unit	2 x 225
Order number	60ACB7347B

*Performance data at 40 °C / 40% r. h., Tin evaporator = 35 °C / 50% r. h. The indicated performance data is valid for 3-phase power supply, 50 Hz. Other voltages are available on request. A tolerance of 10% is valid for the performance data.

Air-Conditioning Systems

Container Cooling

							
Breeze Split					■		
Iglo Compact					■		
KMWP 9 Compact					■		
KMWP 18 Compact					■		

Ready for Operation in Hot Climate

With the systems Breeze, Iglo and KMWP, Webasto offers solutions for the air-conditioning of box superstructure and containers. The robust systems distinguish themselves through a simple structure and low maintenance and service expenditure. Breeze is a split air-conditioning system which consists of three modules of evaporator, condenser and compressor. Iglo is a compact air-conditioning system for installation on the container wall. A special sliding mechanism enables the stowage of the system within the containers during operation breaks. This mechanism protects the system from damage even during transport. Iglo is also suitable for vehicles with the structure of a container. The Breeze and Iglo controls can also be used optionally to operate a heater. The KMWP systems are available with a cooling capacity of 9 kW. The 18 kW solution offers more safeguard against total system failure through the operation of two independent cooling systems. KMWP Systems are equipped with a coarse dust filter, which can be extended optionally with an ABC protection filter.



Breeze Split

- 5.5 kW cooling capacity
- Low power consumption
- Light design
- Very little noise development
- Control for the operation of a heater prepared

Technical Specifications:

	Breeze Split	Iglo Compact	KMWP 9 Compact	KMWP 18 Compact
Cooling capacity (kW)	5.5	4.5	9	18 (2 x 9)
Heating capacity (kW)	-	optional	optional	optional
Refrigerant	R134a, CFC-free			
Nominal voltage (U _{AC})	230 / 400	230	400	
Mode	Circulating air	Circulating air	Circulating air (optional fresh air)	
Maximum total current consumption (A)	4.4	9.8	4.2	8.3
Operating temperature range (°C)	max. +50	max. +55	max. +49	max. +49
Volume flow (m³ / h)	350	700	1,000	2,000
Dimensions L x W x H (mm)	Evaporator 858 x 455 x 170 Compressor 825 x 513 x 290 Compressor 364 x 257 x 232	755 x 632 x 444	1,440 x 700 x 1030	
Weight (kg)	Evaporator 14 Compressor 26 Compressor 42	81	180	290



Delivery scope	Delivery scope contains	Order Number
Breeze Split*	Evaporator for Versions 230 V and 400 V	DFC.0601
Breeze Split*	Evaporator for Versions 230 V and 400 V	DFC.0602
Breeze Split*	Compressor semi-hermetic Copeland for Version 230 V	DFC.0603
Breeze Split*	Compressor semi-hermetic Copeland for Version 400 V	DFC.0604
Iglo Compact	without heating option	DFC.0501
Iglo Compact	with heating option	DFC.0501H
KMWP 9 Compact	Complete system	DFC.090
KMWP 18 Compact	Complete system	DFC.180

*Fittings and exhaust pipe must be ordered separately.



Iglo Compact

- 4.5 kW cooling capacity for compact model
- Fully independent, system pre-filled with refrigerant
- Routing of refrigerant hoses not required
- Sliding mechanism for mounting the air-conditioning unit inside the container during transport
- Control for the operation of a heater prepared



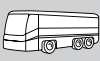
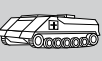
KMWP 9 Compact

- 9 kW cooling capacity for compact model
- Robust metal base frame
- Fully independent, system pre-filled with refrigerant
- Routing of refrigerant hoses not required
- Split version with two modules possible: evaporator module and compressor / condenser module available on request

KMWP 18 Compact

- 18 kW cooling capacity for compact model
- Robust metal base frame
- Fully independent, system pre-filled with refrigerant
- Routing of refrigerant hoses not required
- Two mutually independent cooling circuits
- Split version with two modules possible: evaporator module and compressor / condenser module available on request

Bus A/C Systems

							
Spheros			■				

To expand our product portfolio for buses, we offer the air-conditioning products of Spheros.

Detailed information about these systems as well as information on the total assortment is available directly from Spheros.

www.spheros.de

Product	Name	
 Aerosphere Midi	Aerosphere Midi Aerosphere World Aerosphere Tropical	
 CC 200	CC 145 CC 170 CC 200	
 Citysphere	Citysphere	

Compact systems on the basis of innovative module design for global use in mini, city, inter-urban and tourist coaches

Roof-top systems for the reliable climate comfort in mini and midi buses

Electrically driven roof-ton system with windchill effect for the city bus

ROOF SYSTEMS





Advantages of Roof Systems at a Glance

Bright Heads Want Light

Feel-good factor number one is and remains light. A sliding roof gives all the occupants more light immediately and opens the vehicle passenger compartment optically. This immediately creates a much more pleasant atmosphere.

Ensure Correct Ventilation, Even During the Drive

With plenty of fresh air, the atmosphere is a lot more relaxed, more concentrated and therefore, more secure. There is no draught from a sliding roof unlike when the side window is open. The air supply is much more uniform and pleasant from the top.

Hatchway as Retrofitting Solution

In the commercial vehicle area, the focus is on the optimum use of the vehicle. An additional spacious roof hatch enables access to the roof surface for an extended operating environment.

Quality for Your Roof

5 million Webasto roof systems are installed ex-factory every year. Know-how and innovations from the OEM market flows seamlessly into our retrofitting offer.

Webasto roof systems for retrofitting are, without exception, TÜV-tested quality products with a 3-year warranty.



Application Examples

Which Roof System is Required?



Light-Duty Commercial Vehicles

- Light and fresh air supply in the driver's cab
- Hollandia 300 Spoiler roof
- Tilt and opening function
- Electrical operation, auto close as well as auto retract (optional)



Construction / Special Vehicles

- Especially large roof opening
- Utility hatch
- Robust construction made of ABS material
- Save and long-lasting closing mechanism
- Easy to install



Truck

- Light and fresh air supply in the driver's cab
- can be dismantled in original equipment
- Truck top
- Easy operation

Our technical workshops and personal contact partners in the local subsidiaries will be glad to answer any further questions about installation.

Roof Systems

Product Overview

Hollandia 100

page 154



Hollandia 300

page 155



Utility Hatch

page 156



Truck Top

page 157



Roof Systems



Hollandia 100

							
Hollandia 100	■	■				■	■

Simple and Cost-effective

The classic Hollandia 100 sunroof offers fresh air comfort at a favourable price. The sunroof is built from safety glass with heat and UV protection. The Hollandia 100 can be opened and closed comfortably by a latch handle with the help of three settings.

- Cost-effective solution for fresh air supply
- Simple and robust mechanism
- Can be retrofitted for nearly every vehicle model
- Special safety glass protects against heat and UV radiation



Function principle: Sunroof

Technical Specifications:

Hollandia 100	DeLuxe
Size of glass area L x W (mm)	748 x 378
Visible glass area L x W (mm)	702 x 335
Tilt height / sliding opening (mm)	85
Operation and accessories	Latch handle ■

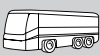
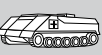
Name	Order number
Hollandia 100 DeLuxe latch handle	33H1L13100B

Accessories of Hollandia 100	Order number
RSR system (roof stiffener) H100 / 300 / 500	33SSLR0000

Roof Systems



Hollandia 300

							
Hollandia 300 DeLuxe Large		■					■
Hollandia 300 DeLuxe Medium		■					■
Hollandia 300 Classic Large		■					■
Hollandia 300 Classic Medium		■					■

Versatile and Adjustable

The Hollandia 300 is one of the most popular Webasto sunroofs. A special shape of the spoiler ensures good ventilation of the driver's cabin without unpleasant draughts. The variants with soft-touch operation ensure fresh air supply through an automatic mechanism, without distracting the driver. Thanks to its special design, the Hollandia 300 is also suitable for heavily curved vehicles.

- Variants for manual, electric and Soft-Touch operation are available
- The variant with Soft-Touch operation opens and closes the roof fully automatically
- Special safety glass protects against heat and UV radiation
- Suitable also for vehicle models with strong roof curvature



Function principle: Tilting- sliding roof

Technical Specifications:

Hollandia 300		DeLuxe Large	DeLuxe Medium	Classic Large	Classic Medium
Dimensions of glass area L x W (mm)		820 x 453	768 x 335	803 x 462	748 x 378
Visible glass area L x W (mm)		662 x 332	625 x 261	666 x 300	612 x 339
Tilt height / slide opening (mm)		47/270	52/250	48/290	43/195
Operation and accessories	Electrical	■	■	■*	■*
	Hand crank			■	■
	Soft Touch	■*	■*		
	Rain sensor	■*	■*		
	Roller blind	■	■		

* Optional

Name	Order number
DeLuxe Large Soft Touch incl. roller blind	33H3L10101
DeLuxe Large Soft Touch incl. rain sensor	33H3L16101
DeLuxe Medium Soft Touch incl. roller blind	3391300A
DeLuxe Medium Soft Touch incl. rain sensor	3391301A
Classic Large electrical	33H3CL11100
Classic Large hand crank	33H3CL12100
Classic Medium electrical	33H3CM11100
Classic Medium hand crank	33H3CM12100

Accessories of Hollandia 300	Order number
RSR system (roof stiffener) H100 / 300 / 500	33SSLR0000

Roof Systems



Utility Hatch

							
Utility Hatch	■	■			■	■	■

Spacious, Versatile and Robust

The Utility Hatch sliding roof enables fast and easy access to the roof surface. It offers a spacious hatch, which is available for the most varied of applications and purposes. Thanks to its compact structure, it can also be used on vehicles with small roof dimensions. The robust, retrofitting solution uses aluminium for the roof frame and guide rails and impact and scratch-proof ABS for the panel. For a customized offer, please contact our Roof Competence Centre directly.

- Size of opening max. 0.7 m² (870 x 800 mm)
- Double-walled, impact and scratch-proof ABS panel
- Robust solution for retrofitting
- Low noise opening and closing
- Easy operation

Technical Specifications:

Utility Hatch	Manual	Electrical
Frame material	Aluminium black anodized	
Panel	Acrylonitrile butadiene styrene (ABS) – double-layer – white/gray	
Size L x W (mm)	1,995 x 1,010	
Roof cutout size L x W (mm)	994 x 940	
Height (roof closed) (mm)	88	
Height (roof tilted) (mm)	117	
Maximum opening L x W (mm)	800 x 870	
Weight (kg)	23	25
Operation	Lever mechanism	12 V Motor with control knob

Name	Order number
Utility Hatch, manual, standard	3392437
Utility Hatch, manual, customer-specific	On request
Utility Hatch, electric, customer-specific	On request

Roof Systems



Truck Top

							
Truck Top	■				■	■	■

Spacious, Versatile and Robust

The roof system Truck Top enables a supply of fresh air during the drive as well as when the vehicle is stationary. As compared to ventilation through the side window, Truck Top offers a big advantage; the uniform air supply from the top prevents draughts. The opened roof extracts the consumed air in no time. The passenger compartment of the vehicle looks bigger, brighter and friendlier due to the additional daylight. This feel good factor improves the concentration of the driver. The Truck Top is operated with the help of an electrical drive, which can be activated by pressing a button.

- Fresh air in optimal circulation
- More light in the driver's cabin improves the concentration of the driver
- New, unique space feeling
- Easy operation of roof system through the press of a button

Technical Specifications:

Truck Top	Manual	Electrical
Roof cutout L x W (mm)	468 x 786	
Frame dimensions L x W (mm)	512 x 812	
Glass / Aluminium panel L x W (mm)	435 x 812	
Tilt opening (mm)	60	40
Opening system (mm)	3-position latching mechanism	24 V motor with control button

Name	Order number
Manual Truck Top	3393102A
Electric Truck Top	3393103A

Terms of Use

1. Validity

1) Quotations, deliveries and services shall be based exclusively on the present General Terms of Sale and Delivery. This shall also apply for all future business relations, even if the validity of these Terms is not explicitly renewed. The present Terms shall be accepted by the Customer, at the latest, upon receiving delivery without objection. The Customer's general terms of business shall only apply insofar as they concur with the present General Terms of Sale and Delivery; in all other respects, the Customer's general terms of business shall not apply even if not explicitly rejected by Webasto.

2) Divergences from the present General Terms of Sale and Delivery shall only be effective if confirmed by Webasto in writing.

2. Quotation and contract

1) Quotations shall be given without obligation, unless explicitly described as binding by Webasto in writing. Acceptance declarations and all orders shall only be legally valid if confirmed by Webasto in writing. The same shall also apply for amendments or supplements to an order.

2) Drawings, illustrations, dimensions, weights and other performances shall only be binding if this is explicitly agreed in writing.

3. Prices

1) Unless agreed otherwise, the prices quoted by Webasto shall remain valid for 90 days as from submission of the quotation. Orders shall be based on the prices specified in the current price lists.

2) Prices shall apply ex delivery works unless agreed otherwise. The cost of shipment by a carrier of Webasto's choice including packaging shall be borne by the Customer. If return of the packaging has been agreed, the Customer shall return the packaging to the delivery works and shall be liable for accidental loss of the packaging until it has been returned.

4. Transfer of risk

The risk shall pass to the Customer, at the latest, when the consignment is handed over to the carrier or other person responsible for transport. The risk shall also pass to the Customer if goods are stored by Webasto on its premises at the Customer's request.

5. Warranty and liability

1) Insofar as delivery is effected within the framework of commercial business, the Customer shall examine the goods delivered by Webasto immediately upon receipt and shall report any defects and incorrect quantities in writing within eight days of receiving the goods. If defects which could not be revealed despite stringent incoming inspection are subsequently discovered during the limitation period, they shall be reported to Webasto in writing without delay following their discovery, but in all cases before expiry of the limitation period.

2) In the case of justified complaints, the actual defects shall be repaired or the defective or unserviceable parts replaced free of charge by faultless parts at Webasto's discretion. The defective goods shall be returned to Webasto free of charge for postage and carriage. If a defect is confirmed, Webasto shall bear the cost of returning goods to the Customer by the cheapest means. If such subsequent performance (repair or replacement) is impossible or fails twice for reasons beyond the Customer's control, the Customer shall be entitled to demand rescission of the contract or a reduction in price. Repair or replacement shall be effected without acknowledgement of any legal duty and shall not interrupt the lapse of the warranty for defects for the goods.

3) The warranty period for Webasto heaters and rooftop air-conditioners, as well as for Webasto replacement parts for such equipment and systems, shall equal 12 months. The warranty period shall run as from the day on which the equipment is installed or on which the vehicle in which the new equipment is installed is licensed for the first time, and shall in all cases end 18 months after delivery of the equipment, systems or replacement parts.

4) Warranty claims may only be asserted against Webasto if the warranty card has been completed by the workshop installing the equipment and is returned to Webasto together with the parts forming the subject of the complaint. Moreover, the duplicate of this warranty card (control card) must have been sent to Webasto immediately following installation of the equipment. Notwithstanding these warranty provisions and without acknowledging any legal duty, Webasto may, at its discretion, bear the costs of installation and removal of the equipment within the framework of its workshop reference times. The costs for removal and installation

shall only be borne by Webasto if the work is carried out by Webasto or by a customer service centre authorized by Webasto.

5) No liability whatsoever shall be assumed for defects due to natural wear and tear, inappropriate or incorrect use, incorrect storage, non-compliance with the installation and operating instructions, faulty or negligent treatment, the use of unsuitable operating media, as well as climatic or other effects, unless Webasto may be blamed for these circumstances. Liability shall not be assumed for defects attributable to faulty design or the use of unsuitable materials if use of the design or materials has been specified by the Customer despite prior notice by Webasto.

6) All other warranty claims, regardless of their nature, shall be excluded, with the exception of claims for damages limited in accordance with section 6.

7) A guarantee shall only exist if explicitly declared by Webasto in writing.

6. Restriction of liability

6.1 Regardless of the underlying legal foundations, Webasto shall only be liable for losses or damage if

- a) Webasto has culpably (i.e. at least through negligence) committed a fundamental breach of contract (violated a cardinal duty) in a manner jeopardizing the object of the contract or
- b) the loss or damage has been caused by gross negligence or wilful intent on the part of Webasto or
- c) Webasto has given a guarantee.

6.2 Webasto's liability shall be limited to the typical foreseeable loss or damage in the following cases:

- a) Culpable fundamental breach of contract (violation of a cardinal duty) due to neither gross negligence nor wilful intent;
- b) Violation of other duties due to gross negligence by Webasto's employees or representatives excluding executive bodies and executive employees;
- c) If a guarantee is given, unless the condition of the goods has explicitly been guaranteed.

6.3 In the cases pursuant to paragraph 6.2, Webasto shall not be liable for indirect losses or damage, consequential losses and lost profit, such as living of replacement vehicles.

Terms of Use

6.4 Paragraphs 6.1 to 6.4 shall also apply if the goods have only be defined according to their type.

6.5 Paragraphs 6.1 to 6.5 shall also apply if the Customer claims damages against Webasto's employees or representatives.

7. Delivery period

1) Binding delivery dates or periods shall only be valid if agreed in writing. If delivery is delayed for reasons for which the Customer is responsible or for other reasons beyond Webasto's control, the agreed delivery period or delivery date shall be extended or postponed accordingly.

2) Delivery shall have been effected punctually if the goods have left the delivery works prior to expiry of the delivery period.

3) If Webasto defaults on delivery, the Customer shall be entitled to withdraw from the contract and demand repayment of any advances paid, provided that a reasonable period of grace of at least two weeks has been set and expired fruitlessly.

8. Reservation of title

1) The goods delivered by Webasto shall remain the property of Webasto until all Webasto's claims against the Customer have been satisfied.

2) If the delivered goods are mixed or combined with other objects, the Customer shall assign to Webasto its claims for surrender and its right of full or joint ownership of the resultant articles when concluding the contract for delivery and shall hold the resultant articles in safekeeping on Webasto's behalf with due commercial care.

3) The Customer shall not be entitled to pledge the reserved goods to third parties nor to assign them by way of security. However, it shall be entitled to resell the reserved goods within the ordinary course of business, provided that reservation of title is simultaneously agreed. In this context, the Customer shall herewith assign all claims arising from the resale or any other associated legal reason to Webasto in full and by way of security. However, the Customer shall be entitled, until further notice, to collect the assigned claim on its own behalf for the account of Webasto; this power shall only be revoked by Webasto if the Customer defaults on its payment obligations.

4) If the reserved goods are seized by third parties, the Customer shall draw attention to Webasto's ownership of the goods and shall inform Webasto without delay. Costs and losses incurred in this context shall be borne by the Customer.

5) If the Customer acts in breach of contract, in particular if it suspends payments or if bankruptcy proceedings are instituted against its assets,

a) Webasto shall be entitled to take back or identify the reserved goods and to enter the Customer's company premises for this purpose, and /or

b) Webasto shall be entitled to inform the purchaser of the reserved goods of the assignment of claims and to collect such assigned claims. Upon information of the purchaser of the reserved goods of the assignment of claims by Webasto, the Customer's entitlement to collect the assigned claims shall automatically end. Webasto shall use the collected amounts of the claims to cover its claims against the Customer and shall pay to the Customer any amounts not necessary to cover such claims.

6) If the nominal value of the security given for Webasto exceeds Webasto's claims by more than 50%, Webasto shall release the excess security at its discretion when requested by the Customer.

9. Terms of payment

1) Unless agreed otherwise, Webasto's invoices shall be payable at the latest within 10 days of the invoice date and delivery. The Customer shall be deemed to have defaulted without requiring further reminder if this payment period is exceeded. If the Customer defaults on payments, Webasto shall be entitled to charge interest at a rate 1,5 % above. Insofar as cheques or bills are accepted by Webasto, they shall only be accepted in lieu of performance; Webasto reserves the right to return bills if necessary and instead to demand immediate payment or the provision of other security if there is reason to fear that the bills do not provide sufficient security. Discount and bill charges shall be borne by the Customer and shall be payable immediately.

2) If Webasto acquires knowledge of any circumstances indicating that the Customer's financial standing has significantly deteriorated since concluding the contract, in particular if the Customer fails to settle Webasto's due claims

and Webasto's entitlement to payment appears to be at risk, Webasto shall be entitled to deliver only in return for full or partial payment or in return for security. If the Customer becomes insolvent or bankrupt or if a request is filed for the institution of bankruptcy proceedings against the Customer's assets, Webasto shall be entitled to withdraw from all outstanding contracts.

3) The Customer shall only be entitled to set off claims if the counter-claim is undisputed or has been unappealably established by a court of law.

10. Concluding provisions

1) If the Customer is a fully qualified merchant, Webasto's head office shall be place of performance and jurisdiction for all obligations under the contract.

2) If any of these provisions prove or become invalid, this shall not affect the validity of the remaining provisions.

Webasto Subsidiaries and Representatives

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Abbreviations

Delivery Scopes and Technical Specifications

SOD	Delivery scope	OEM	Original Equipment Manufacturer
HT	Heater	FCKW	Fluoro-chloro hydrocarbons
P	Petrol	ABC	Atomic, Biological and Chemical dangers
D	Diesel	TÜV	German Technical Inspection Association (Technischer Überwachungsverein); Experts' organization
PME	Palmoil methyl ester = Biodiesel	UV	Ultra-Violet radiation
AC	Manual air-conditioning system		
ACC	Automatic air-conditioning system / automatic A/C		
HVAC	Vehicle-integrated A/C system (Heating, Ventilating and Air-Conditioning)		
EMC	Electromagnetic compatibility		
ECE	Economic Commission for Europe		

Measuring Units

L	Length (mm)	m	Meter
W	Width (mm)	mm	Millimeter
H	Height (mm)	h	Hour
De	Depth (mm)	Sea level	Sea level; height above the sea level
D	Diameter (mm)	SW	Spanner opening
Di	Inner diameter (mm)		
Da	Outer diameter (mm)		
kg	Kilogram		

Electrical Units

A	Ampere	rpm	Revolutions per minute (rotations per minute)
V	Volt	dB	Decibel
W	Watt	U _{AC}	AC Voltage
kW	Kilowatt		

Used Symbols



Truck



Rail



Construction and Agriculture



Light-Duty Commercial Vehicles



Defense

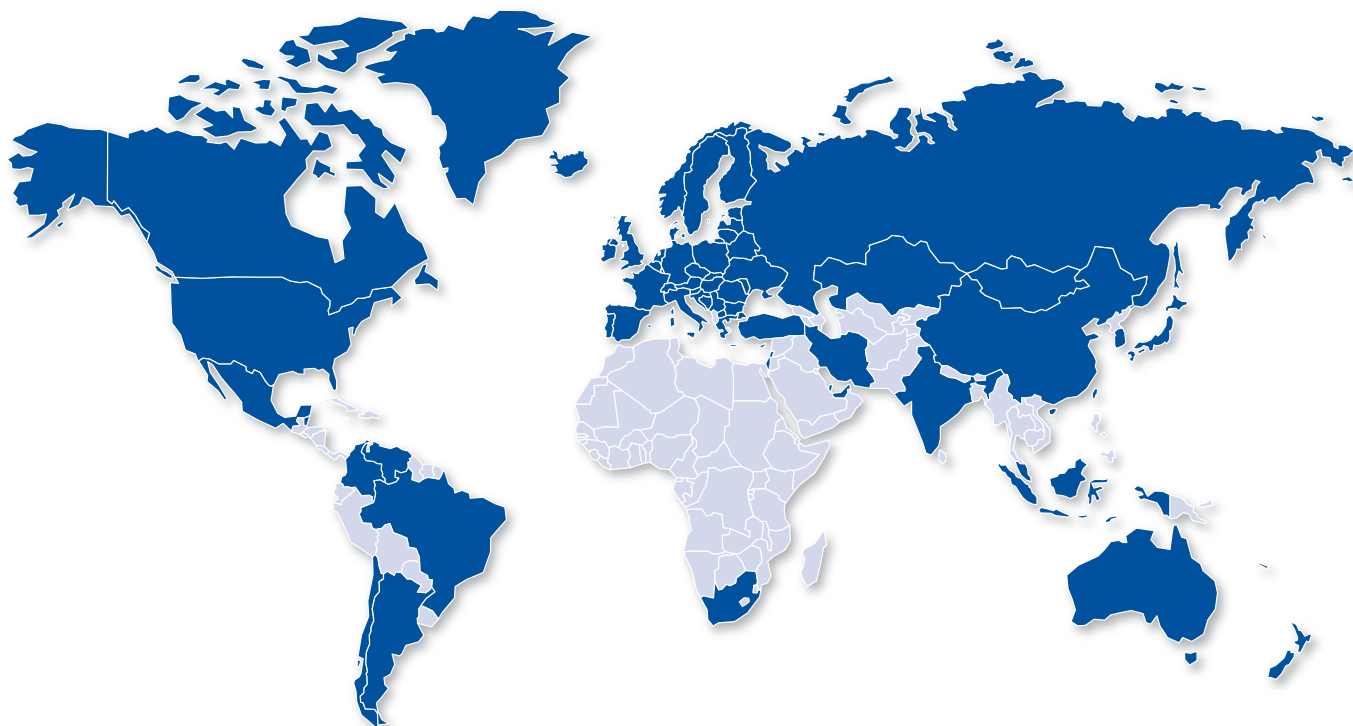


Special Vehicles



Bus / Midibus

Webasto, a Feel-good Climate – World-wide



Whether OEM or aftermarket: our products improve the comfort in vehicles. With our company motto „Feel the drive“, the name Webasto stands for innovative, economic and environmentally sound heating, cooling and ventilation systems for cars, commercial vehicles, motorhomes and boats. Our success is based on our wide range of products and high quality standard. An outstanding network of dealers guarantees top quality fitting and services around the globe.

We have been setting standards in technology for over one hundred years and are now amongst the 100 biggest suppliers to the automotive industry world-wide. Webasto operates in two business units: Convertible, Roof & Body (CRB) systems as well as Global Comfort Solutions (GCS) for heating, cooling and ventilation systems.