

THE RIGHT HEATER FOR EVERY REQUIREMENT





EBERSPÄCHER – PROVIDING TRUE COMFORT AT THE WORKPLACE

Are you looking for a heating system that provides optimum comfort? That ensures safety by supplying heat for mobile workplaces? That actively protects the environment and reduces consumption due to pre-heated engines? That is easy to install and inexpensive to maintain? Are you looking for an expert partner who not only provides heat but also the ideal climate for every challenge? Then Eberspächer is just the partner you need.

Robust design, high-performance, sophisticated technology: Eberspächer fuel heaters "made in Germany" have made a name for themselves around the world. For every application, our innovative heating technology ensures an extremely comfortable degree of warmth as soon as the vehicle is entered, pleasant temperatures in mobile workplaces and optimum temperature control in storage compartments. The safety and time-saving aspects of pre-heated vehicles are also not to be ignored. For example, the windows of delivery vans no longer have to be de-iced – the driver saves time and effort and his view is unobstructed – this can be easily activated by a timer switch or by radio remote control at the appropriate time.

Not only do they provide heat, they also actively protect the environment. For example, most of the systems enable heat to be produced without having to run the engine – which is actually forbidden in a lot of countries. This saves fuel and money and reduces emissions.

In order to be able to optimally comply with all the requirements, Eberspächer has developed two different heating systems. Our Hydronic water heaters are integrated into the coolant circuit, they therefore pre-heat the engine and the vehicle. The Airtronic air heaters work completely independently of the existing water circuit. They supply the required heat especially quickly. A combination of both systems is also possible.

A comprehensive air conditioning system needs cold air as well as heat. In addition to our vehicle heater range we also offer numerous auxiliary products for perfect air conditioning.





HEATING SYSTEMS FOR BUSES AND COACHES

ADDED COMFORT FOR YOUR PASSENGERS

Comfortable warmth for your passengers – even for the difficult daily routine of service buses. Our high-performance heating systems heat the bus to a pleasant temperature, even in urban situations when doors are constantly being opened. The windows are kept free of ice and do not fog up, despite numerous passengers and the humidity and moisture they generate. The pre-heated engine saves fuel, is easier to start and is good for the environment. The ideal warmth is also guaranteed in traffic jams and in stop-and-go situations.

LOWER OPERATING COSTS DUE TO EXCELLENT EFFICIENCY:

An outstanding level of efficiency minimises operating costs – and reduces the negative effect on the environment.

COMPACT DIMENSIONS MAKE THE SYSTEMS EASY TO INSTALL:

Small, light, compact and interface-compatible – simple to retrofit or as a trouble-free replacement for an existing system.

EASY TO SERVICE AND SAFE:

Comprehensive diagnostic options for easier service – modular design and fewer components so that fewer spare parts have to be stocked. The intelligent, electronic control and safety concept operates with two sensing elements – no mechanical overheat switch, no safety fuse.

SEVEN DIFFERENT OUTPUTS – ONE SIZE:

- **L Range:** 16, 24, 30 or 35 kW (with the same interfaces).
- **M Range:** 8, 10 or 12 kW (with the same interfaces).

RELIABLE STARTING:

Even at extreme temperatures – thanks to nozzle holder pre-heating as standard.

NOISE OPTIMISATION:

Noise optimisation ensures a high degree of acceptance – e.g. from residents near bus terminals.

HYDRONIC – IMPRESSIVE DETAILS:

- Low number of components: durable, maintenance-free and easy to service.
- The flame monitor ensures that the flame is detected with a very high degree of reliability.
- Early detection of inadequate water throughputs by means of intelligent analysis of the temperature difference between the two sensors.
- The low voltage monitor prevents the battery from discharging too much.
- Both temperature sensors are placed in waterproof sleeves and are therefore not positioned directly in the water circuit.
- Due to the rotatable air scoop, combustion air can also be aspirated externally, which allows the system to be ideally adapted to the installation situation.

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HEATING SYSTEMS FOR TRANSPORTERS

OPTIMUM WARMTH IN MOBILE WORKPLACES

Frost in the workshop – iced-up windows in the office – icicles in the staff room. Unthinkable! But what about vehicles, where people are working and sensitive goods are being transported? Temperatures in vehicles should be just as pleasant as in any other place of work.

ADDED WARMTH FOR DRIVERS AND GOODS:

With an Eberspächer pre-heater you can ensure that the vehicle, the working area and the goods compartment are always heated perfectly – completely independently of the engine.

WORK SAFELY, PRODUCTIVELY AND COMFORTABLY:

Frozen windows are defrosted in advance and they do not fog up. The driver does not have to de-ice the vehicle and dangerous restricted views are prevented. Working in the stationary vehicle is also made much easier. Furthermore, goose bumps are a thing of the past during waiting periods – working time lost due to colds is also reduced. Operation is easy and simple to regulate using the various control elements.

INCREASE THE LEVEL OF SATISFACTION:

If you transport passengers, they can take their seat in comfort from the outset – which will undoubtedly be very well received. Another plus point is that our new systems work more quietly than ever before – which, along with smoke-free operation, is very important especially when making deliveries to customers or when running snack bars.

REDUCE COSTS:

The service life of the engine is increased thanks to trouble-free hot starts. And frost damage to valuable freight is a thing of the past – thus saving you money.

PROTECT THE ENVIRONMENT:

Starting the engine when it is pre-heated uses less fuel and generates fewer emissions – thus protecting the environment. Furthermore, you no longer need to have the engine running to warm up the vehicle.

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*Handwash system
on page 19*



HEATING SYSTEMS FOR SPECIAL-PURPOSE VEHICLES WELL-EQUIPPED FOR EVERY JOB

There is a heavy frost outside and the landscape is covered in ice – but the driver is sitting in a warm cab. No problem thanks to Eberspächer. Even at extremely low temperatures, our heating systems provide pleasant warmth in the cab – for everything from mobile cranes to ambulances. This helps concentration and the risk of illness is reduced.

ADDED WARMTH FOR DRIVERS AND PATIENTS:

With an Eberspächer pre-heater you can ensure that the cab is always heated perfectly – completely independently of the engine. For example, the cab of a mobile crane can be heated, which would be impossible without a pre-heater. In ambulances, it is also easy to heat the patient compartment, which helps compliance with DIN EN 1789.

WORK SAFELY, PRODUCTIVELY AND COMFORTABLY FROM THE OUTSET:

The vehicle is pre-heated when the shift starts and work can begin without a warming-up phase. This makes cold starting possible. Frozen windows are defrosted in advance and they do not fog up – thus enhancing safety. Operation is easy and simple to regulate using the various control elements.

REDUCE COSTS:

The service life of the engine is increased thanks to trouble-free hot starts. And staff time lost due to colds is also reduced significantly – thus saving you money.

PROTECT THE ENVIRONMENT:

Starting the engine when it is pre-heated uses less fuel and generates fewer emissions. And you no longer need to have the engine running to warm up the vehicle.

WATER OR AIR – THE CHOICE IS YOURS:

In order to meet the varying requirements perfectly, Eberspächer also supplies two different heating systems in this sector too.

- Water heating – Eberspächer Hydronic.
- Air heating – Eberspächer Airtronic.

Our water heaters are integrated into the coolant circuit. They therefore pre-heat the engine and the vehicle. The air heaters work completely independently of the existing temperature regulation system. They supply the required heat quickly.

A combination of both systems is also possible.

Technical data see page 12







HEATING SYSTEMS FOR TRAINS

FULL STEAM AHEAD FOR AN INDEPENDENT, LOW-COST HEATING CONCEPT

Whether it be a shunting engine, a mainline locomotive or a railcar – the engine driver can only start driving when the engine has been pre-heated sufficiently. This is where the Eberspächer Hydronic water heater comes in. In diesel railcars, it ensures that the engines are ready for operation and the passenger compartments are pre-heated to a pleasant temperature. Diesel-driven shunting and mainline locomotives also benefit from the advantages of the Hydronic – warm engine, light weight, space-saving compact size and lower costs than with conventional systems. By pre-heating driver's cabs using the Airtronic air heater, you ensure that the locomotive does not need an external power supply – a real advantage in comparison to electric systems.

EBERSPÄCHER PRE-HEATERS – EFFICIENT, FAST AND RELIABLE:

- The heaters are supplied by the locomotive's own fuel tank – virtually no power is taken from the battery and they are more efficient than electric heaters.
- The systems are totally independent of power supplies.
- The units can be activated by a timer switch or radio remote control; therefore heating can be switched on before the shift starts.
- Eberspächer pre-heaters also defrost the windows and pre-heat the passenger compartment during the starting-up phase – for increased safety and added comfort.

WATER OR AIR – THE CHOICE IS YOURS:

In order to meet your customers' requirements perfectly, Eberspächer supplies two different heating systems in the train sector.

- Water heating – Eberspächer Hydronic.
- Air heating – Eberspächer Airtronic.

Our water heaters are integrated into the coolant water circuit.

Therefore they pre-heat the engine and – with railcars – the passenger compartments as well. The air heaters work completely independently of the existing temperature regulation system. They supply the heat required in the driver's cab particularly quickly.

A combination of both systems is also possible.

ON THE RIGHT TRACK WITH EXPERT PARTNERS:

Eberspächer is one of the world's leading producers of heating systems for all types of vehicles. Numerous renowned vehicle manufacturers rely on our comprehensive development and production expertise for their original equipment. Contact us to discuss our tailor-made, future-oriented solutions.

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AIRTRONIC

EBERSPÄCHER AIR HEATERS – INSTANT HEAT

Air heaters provide the required heat very quickly and are therefore especially well-suited for transporters, personnel carriers and workshop vehicles – as well as for freight compartments and driver's cabs on trucks. Our product portfolio is suitably wide-ranging. In addition to the tried-and-tested Airtronic models for various different outputs that work extremely quietly and with very low consumption. The Airtronic D4 Plus has been specially developed for vehicles with long heating air routes and complex heat control systems. To put it briefly, Eberspächer Airtronic – comfort in any vehicle.

EBERSPÄCHER AIRTRONIC:

- Extremely fast compartment air heating after a hot start.
- Low energy consumption – ideal for long heating periods in stationary vehicles.
- Low fuel consumption.
- Pre-selectable compartment temperature.
- High degree of comfort due to wide control range and the lowest Low setting on the market.
- Continuously variable compartment temperature control.
- Very low noise levels due to continually adjustable control of the blower speed.
- Internal and external installation possible.
- Constant function monitoring.
- Safety and diagnostic system.
- Low maintenance and easy to service.
- All Eberspächer heaters have EU type approval and are also GS-inspected.





HYDRONIC

EBERSPÄCHER WATER HEATERS – THE RIGHT HEAT WHERE YOU WANT IT

The advantage of Eberspächer water heaters is that they pre-heat both the vehicle interior and the engine. They are usually installed in the engine compartment and integrated into the coolant circuit. Heat is drawn off from the vehicle's own heat exchanger – finely dosed hot air is distributed throughout the vehicle via the existing air ducts. A timer switch to pre-programme the start of the heating phase and a radio or telephone-operated remote control provide additional convenience.

EBERSPÄCHER HYDRONIC:

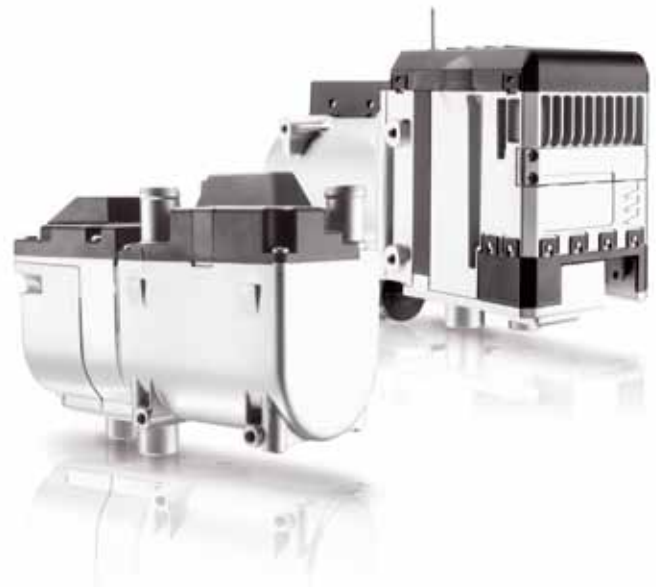
- Two-fold benefits: pre-heated interior plus pre-heated engine – the engine start is more gentle on the engine, uses less fuel and is more environmentally friendly.
- Heat distribution via the vehicle's own air ducts.
- Low fuel consumption.
- Noise-optimised and energy-saving.
- Pleasant cab ventilation in the summer (Hydronic 4 / 5, optional).
- Fully-electronic function sequence control.
- Constant function monitoring.
- Safety and diagnostic system.
- Low maintenance and easy to service.
- All Eberspächer heaters have EU type approval and are also GS-inspected.

SPECIAL PLUS POINTS OF HYDRONIC 2 COMMERCIAL:

- Extra long service life of 5,000 operating hours.
- Multi-fuel capability up to 100% FAME.
- Guaranteed to start in temperatures as low as -40°C.
- Extremely quiet due to optimised casing insulation and 1.2 kW low output setting.
- Fast heating using the power setting.

SPECIAL PLUS POINTS OF HYDRONIC M:


- Service life twice as long (6,000 operating hours).
- Automatic altitude adjustment of the Hydronic M10 / M12 up to 3,500m.





TECHNICAL DATA

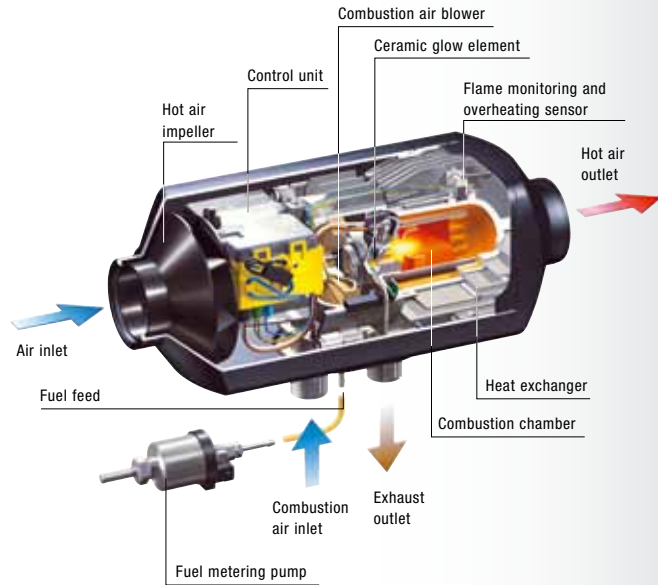
AIRTRONIC – THE RIGHT HEATER FOR EVERY NEED

EBERSPÄCHER AIRTRONIC													
Gasoline Version	B	Airtronic D2 with 60mm Hood				Airtronic D4* with 90mm Hood				Airtronic D4 Plus* with 75mm Hood			
Diesel Version	D												
Voltage	Volt	12 / 24				12 / 24				12 / 24			
Controls		Low	Medium	High	Power	Low	Medium	High	Power	Low	Medium	High	Power
Heat Output	Watt	850	1,200	1,800	2,200	900	2,000	3,000	4,000	900	2,000	3,000	4,000
Air Flow Volume	kg / h	40	60	90	105	60	110	150	185	55	100	140	175
Electrical Power Consumption	Watt	8	12	22	34	7	13	24	40	7	16	30	55
Fuel Consumption	l / h	0.10	0.15	0.23	0.28	0.11	0.25	0.38	0.51	0.11	0.25	0.38	0.51
Dimensions L x W x H	mm	310 x 115 x 122				376 x 140 x 150				376 x 140 x 150			
Weight	kg	2.7				4.5				4.5			

*100% biodiesel-compatible in accordance with FAME DIN EN 14214.

HOW THE AIRTRONIC D2 AIR HEATER WORKS

Combustion air from the environment and fuel from the vehicle tank are mixed and ignited in the combustion chamber. Fresh or recirculated air is heated by the thermal energy and fed into the cab.



Airtronic B4
with 90mm Hood



Airtronic D5*
with 90mm Hood



D8 LC
with 100mm Hood

12				12 / 24				12 / 24	
Low	Medium	High	Power	Low	Medium	High	Power	Low	High
1,300	2,100	3,200	3,800	1,600	2,700	4,800	5,500	3,500	8,000
85	120	160	185	155	190	275	280	310	310
9	15	29	40	25	35	80	85	115	115
0.18	0.29	0.46	0.54	0.20	0.34	0.58	0.66	0.40	1.05
376 x 140 x 150				530 x 170 x 185				653 x 260 x 250	
4.5				9.3				14	

*100% biodiesel-compatible in accordance with FAME DIN EN 14214.

We are certified in accordance with ISO TS 16949,
DIN / ISO 9001 and DIN / ISO 14001.



TECHNICAL DATA

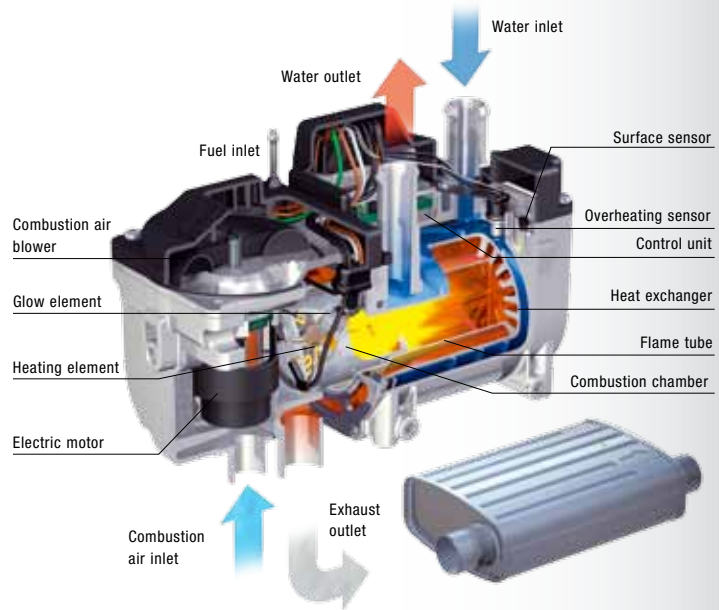
HYDRONIC – THE RIGHT HEATER FOR EVERY NEED

EBERSPÄCHER HYDRONIC

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HOW THE HYDRONIC 2 COMMERCIAL WATER HEATER WORKS

Combustion air from the environment and fuel from the vehicle tank are mixed and ignited in the combustion chamber. The heat exchanger transfers the heat energy to the vehicle's own cooling water system.

**EBERSPÄCHER HYDRONIC**

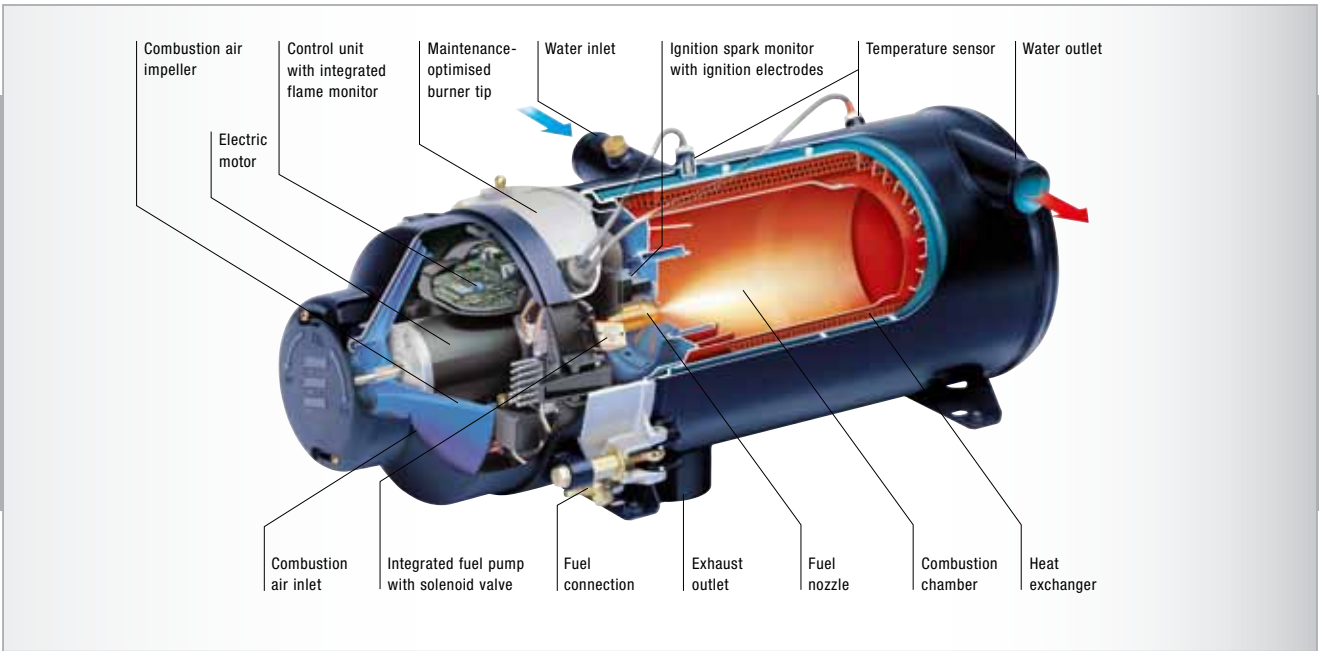
Diesel Version	Hydronic 2 Commercial*				Hydronic 2 Economy D4S			Hydronic 2 Economy D5S		
Voltage	Volt	12 / 24			12					
Control / Heat Settings		Low	High	Power	Low	High	Power	Low	High	Power
Heat Output	Watt	1,200	2,100	4,800	2,100	4,100	4,300	2,100	5,000	5,200
Water Throughput	l / h	12V – 680 at 0.1 bar / 24V – 1,600 at 0.1 bar			680 at 0.1 bar					
Electrical Power Consumption	Watt	18	23	48	12	21	27	12	37	40
Fuel Consumption	l / h	0.15	0.26	0.59	0.26	0.5	0.52	0.26	0.61	0.64
Dimensions L x W x H	mm	214 x 86 x 139			214 x 86 x 139					
Weight	kg	2.4			2.4					

*100% biodiesel-compatible in accordance with FAME DIN EN 14214.

**EBERSPÄCHER HYDRONIC**

Diesel Version		Hydronic M8 Biodiesel*				Hydronic M10				Hydronic M12					
Voltage	Volt	12 / 24				12 / 24				12 / 24					
Control / Heat Settings		Low	Medium	High	Power	Low	Medium	High	Power	Low	Medium 1	Medium 2	Medium 3	High	Power
Heat Output	Watt	1,500	3,500	5,000	8,000	1,500	3,500	8,000	9,500	1,200	1,500	3,500	5,000	9,500	12,000
Water Throughput	l / h	1,400 at 0.14 bar				1,400 at 0.14 bar				1,400 at 0.14 bar					
Electrical Power Consumption	Watt	35	39	46	55	35	39	60	86	34	35	39	46	86	132
Fuel Consumption	l / h	0.18	0.40	0.65	0.90	0.18	0.40	0.90	1.20	0.15	0.18	0.40	0.65	1.20	1.50
Dimensions L x W x H	mm	331 x 138 x 174													
Weight	kg	6.2				6.2				6.2					

*100% biodiesel-compatible in accordance with FAME DIN EN 14214.



EBERSPÄCHER HYDRONIC



Version		Hydronic L16	Hydronic L24	Hydronic L30*	Hydronic L35*
Fuel		Diesel / Oil Fuel EL			
Voltage	Volt	24	24	24	24
Control / Heat Settings		–	–	–	–
Heat Output	Watt	16,000	24,000	30,000	35,000
Electrical Power Consumption	Watt	60	80	105	120
Fuel Consumption	l / h	2.00	2.90	3.65	4.20
Dimensions L x W x H		600 x 230 x 222			
Weight	kg	18	18	18	18

*100% biodiesel-compatible in accordance with FAME DIN EN 14214.






HYDRONIC COMPACT VERSION
The HYDRONIC heater range is also available in compact versions with the water pump, fuel filter and fuel shut-off components fitted. An economical version especially for tight installation spaces.






ACCESSORIES

CONTROL ELEMENTS AND HEAT EXCHANGERS

CONTROL ELEMENTS							
Model	Mini-Controller	701 Series Programmer	801 Series Modulator	Timer Switch EasyStart T	Radio Remote Control EasyStart R*	Radio Remote Control EasyStart R+	Calltronic Telephone Remote Control*
Heater Model	Airtronic	Airtronic / Hydronic	Airtronic	Airtronic / Hydronic	Airtronic / Hydronic	Airtronic / Hydronic	Airtronic / Hydronic
Description	To control the compartment temperature. With integrated heating / ventilation switch.	Controls room temperature. With integrated heating / ventilation option.	Controls room temperature. With integrated heating / ventilation option.	For installation in the vehicle interior. Innovative, intuitive menu navigation via the menu bar. 3 start of heating times within 7 days can be programmed.	Basic model, can be combined with EasyStart T. With feedback for heater function.	Convenience version. All functions of the EasyStart T included. With feedback for heater function.	GSM module with voice chip. The pre-heater can be operated via mobile or landline telephone (tone dialling).

* A control element for temperature pre-selection is required for operation with air heaters (Airtronic Mini-Controller or EasyStart T).

EBERSPÄCHER WATER PUMPS

					
		Flowtronic 5000	Flowtronic 5000 S*	Flowtronic 6000 SC**	Water Station***
Voltage	Volt	24	24	24	The water station is a customer-specific, ready for installation unit with a heater and individual components such as a water pump, control and check valves and water and fuel filters. Low installation costs, fixed interfaces for water, fuel, exhaust and electronic connections as well as easy handling due to clear arrangement of the components.
Electrical Power Consumption	Watt	104	104	210	
Dimensions L x W x H	mm	229 x 99 x 76	249 x 99 x 76	229 x 115 x 110	
Delivery Rate (Pump)	l / h	5,200 at 0.2 bar	5,200 at 0.2 bar	6,000 at 0.4 bar	

* With magnetic coupling.

** With magnetic coupling and integrated heat output diagnosis.

*** Built to customer specification.



AUXILIARY PRODUCTS

HOT OR COLD – THE RIGHT TEMPERATURE AT ALL TIMES

In addition to our vehicle heater range we also offer numerous auxiliary products for perfect air conditioning. Irrespective of whether you want to optimise your existing system or need an additional fuel heater or mobile heating unit, Eberspächer auxiliary products provide comfortable warmth.

HEAT EXCHANGERS – FIRST-CLASS HEATERS FOR FIRST-CLASS COMFORT:

Are you already enjoying the comfort of an Eberspächer Hydronic and want to distribute the warmth from the water heater more precisely throughout the vehicle? Then the Eberspächer water / air heat exchangers are an ideal supplement to the Eberspächer fuelled heating system. With this solution, the heat reaches even the most distant corners of your vehicle in no time.



AIR CONDITIONING COMFORT AND THERMAL MANAGEMENT:

By optimising the temperature conditions, air conditioning system ensure work and traffic safety even at high ambient temperatures, in the event of strong sunshine and when the vehicle is full. The variety of units means that there is an air-conditioning system suitable for installation in every vehicle. And our specialists will be happy to advise you as to whether a compact air conditioning roof-top unit or a split unit is the best choice. An extensive portfolio of accessories and user-friendly control elements complete the range. Furthermore, we also offer units that can cool as well as heat.

POLARN – MOBILE HEATING TECHNOLOGY:

The Polarn compact heater provides heat anywhere it is needed. The compact, diesel-fuelled heating system is easy to transport and is ready to use in a very short space of time. It is the ideal solution for rescue teams, service work and other similar purposes. Wherever heat is needed to dispel the cold in a flexible and uncomplicated way – for the well-being of people and to protect technical equipment and other goods.





AUXILIARY PRODUCTS

HEAT FOR FUEL LINES – HOT WATER TO WASH – FRIDGE CONTAINERS

Our high-performance refrigerated containers give safe transportation of sensitive products. In addition, our Handwash products, which offer clean hands for the mobile engineer and our ThermoLine fuel line heaters combine to offer the professional solutions to meet everyday needs.

COMPRESSOR REFRIGERATED CONTAINERS:

Our compressor refrigerated containers are the flexible, convenient solution for professional users who have to transport perishable goods in conventional vehicles or delivery vans, while still complying with food hygiene standards.

The high-strength containers are made of rotomoulded polyethylene and are easy to clean in accordance with 93/43/EEC (HACCP). The CFC-free gas R134a is used as the coolant. The digital temperature controller makes it easy to set the required interior temperature and to control the actual interior temperature.



THERMOLINE – FUEL PRE-HEATING FOR RELIABLE DIESEL OPERATION AT LOW TEMPERATURES:

At low temperatures, diesel fuel paraffin crystals are deposited and are suspended in the liquid. As the concentration increases, the fuel filter may become blocked and the engine could even stall (diesel waxing). The solution is ThermoLine, a diesel fuel pre-heater which is installed in the fuel line, where it melts the paraffin crystals before they reach the primary filter.



AUTOMOTIVE HANDWASH SYSTEMS:

Hot and cold water at any location is now an affordable reality. Eberspächer offer what is undoubtedly the most compact, easy to install and technologically advanced mobile handwash unit. We now feature fully automatic versions of both Handiwash and Miniwash, making installation even easier.

For anyone whose work brings them into contact with hazardous substances, or unhygienic conditions, it should be considered a necessity. Extensively used by major companies, Eberspächer handwash units can assist you in meeting occupational health and safety requirements.



Handiwash	
Fully automatic units are available.	
Water capacity – 8.5 litres	Water level sight glass
Hot and Cold water and taps	Low Power consumption
10 Amps @ 12 Volt	7.2 Amps @ 24 Volt

Miniwash	
Fully automatic units are available.	
Water capacity – 6.0 litres	Water level sight glass
Hot water and taps only	Low Power consumption
9.6 Amps @ 12 Volt	7.2 Amps @ 24 Volt

THE COMPREHENSIVE EBERSPÄCHER PRODUCT RANGE ALSO INCLUDES HEATING, AIR CONDITIONING AND REFRIGERATION SYSTEMS FOR COMMERCIAL VEHICLES, CARS, BUSES, COACHES, MOTORHOMES, CARAVANS, MARINE, OFF-HIGHWAY AND MILITARY APPLICATIONS.

MORE INFORMATION IS AVAILABLE FROM ONE OF OUR 5,000 SERVICE PARTNERS WORLDWIDE.

AUTHORISED DEALER