2 | PRE-HEATERS BUSES, TRAINS, TRANSPORTERS, COMMERCIAL VEHICLES AND SPECIAL-PURPOSE VEHICLES
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 thanks 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 from the outset. Furthermore, as opposed to electric heaters, our fuel-powered heating systems are not reliant on a power supply and can be easily activated by a timer switch or by radio remote control at the appropriate time.

In order to optimally comply with all requirements, Eberspächer has developed two different heating systems: Our Hydronic water heaters are integrated into the cooling water circuit. This means that they preheat the engine and the vehicle. The Airtronic air heaters work completely independently of the existing water circuit. They reach the desired temperature especially quickly. A combination of both systems is also possible.

A comprehensive air conditioning system needs cool air as well as just heat. In addition to our vehicle heater range, we also offer a comprehensive portfolio of air-conditioning systems (see page 23).
HEATING SYSTEMS FOR BUSES
ADDITIONAL PERFORMANCE FOR REGULAR SERVICE BUSES

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 thus good for the environment. And 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 minimizes operating costs and reduces the negative effect on the environment.

COMPACT DIMENSIONS MAKE THE SYSTEMS EASY TO INSTALL:
Small, light, compact and interface compatible; easy 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 with two sensing elements - no mechanical overheat switch, no safety fuse.

FOUR DIFFERENT OUTPUTS – ONE SIZE:
16, 24, 30 or 35 kW (with the same interfaces).

RELIABLE STARTING:
Even at extreme temperatures, thanks to nozzle holder pre-heating as standard.

NOISE OPTIMIZATION:
Noise optimization ensures a high degree of acceptance, e.g. from residents near bus stations.

HYDRONIC – IMPRESSIVE DETAILS:
- The small number of components makes the Hydronic long-lasting, maintenance-free and service-friendly.
- The flame monitor ensures that the flame is detected with a very high degree of reliability.
- The intelligent temperature difference evaluation of the two sensors allows the early identification of excessively low water flow rates.
- The low voltage monitor prevents the battery from discharging.
- 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.

Technical data from page 16
HEATING SYSTEMS FOR COACHES
ADDED COMFORT FOR YOUR PASSENGERS

Pleasant warmth from the very beginning – a winning argument in the face of strong competition! Passengers and drivers board a pre-heated coach. The windows are free of ice and do not fog up. The pre-heated engine saves fuel, starts more easily and is eco-friendly. And the ideal warmth is also guaranteed when the coach is waiting, during breaks, in traffic jams, and in stop-and-go situations. You too can benefit from our innovative technology.

LOWER OPERATING COSTS DUE TO EXCELLENT EFFICIENCY:
An outstanding level of efficiency minimizes operating costs and reduces the negative effect on the environment. The temperature inside the bus can be quickly raised to a comfortable level. While driving, the heating is inactive and can be switched on as required.

COMPACT DIMENSIONS MAKE THE SYSTEMS EASY TO INSTALL:
Small, light, compact and interface compatible; easy 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 sensor elements: no mechanical overheat switch or safety fuse needed.

FOUR DIFFERENT OUTPUTS — ONE SIZE:
16, 24, 30 or 35 kW (with the same interfaces).

RELIABLE STARTING:
A high degree of reliability, even at extreme temperatures — thanks to nozzle holder pre-heating as standard.

NOISE OPTIMIZATION:
Noise optimization ensures a high degree of acceptance, e.g. when waiting for passengers at ski resorts.

HYDRONIC — IMPRESSIVE DETAILS:
- The small number of components makes the Hydronic long-lasting, maintenance-free and service-friendly.
- The flame monitor ensures that the flame is detected with particular reliability.
- The intelligent temperature difference evaluation of the two sensors allows the early identification of excessively low water flow rates.
- The low voltage monitor prevents the battery from discharging.
- 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.

Technical data from page 16
Frost in the workshop, iced-up windows in the office, icicles in the staff room – simply unimaginable! But what about vehicles, where people are working and sensitive goods are being transported? Temperatures in these 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 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 features.

**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 advantage 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 warm 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. You will also never again need a running engine to generate heat.

Technical data from page 16

Eberspächer air-conditioning products from page 23
HEATING SYSTEMS FOR SPECIAL-PURPOSE VEHICLES
READY FOR EVERY MISSION

There is 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 increases concentration and the risk of illness is reduced. Thanks to comfortable workplace temperatures, employees are always ready and willing to get down to work.

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. Heating the patient compartment in ambulances is also easy, 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 features.

REDUCE COSTS:
The service life of the engine is increased thanks to trouble-free warm starts. And staff time lost due to colds is also reduced, thus saving you money.

PROTECT THE ENVIRONMENT:
Starting the engine when it is pre-heated uses less fuel and generates fewer emissions. You will also never again need a running engine to generate heat.

WATER OR AIR – THE CHOICE IS YOURS:
In order to meet the varying requirements perfectly, Eberspächer also supplies two different heating systems in this area.
- Water heating – Eberspächer Hydronic
- Air heating – Eberspächer Airtronic

Our water heaters are integrated into the cooling water circuit. This means that they preheat the engine and the vehicle. The air heaters work completely independently of the existing temperature regulation system. They reach the desired temperature especially quickly. A combination of both systems is also possible.

Technical data from page 16

Eberspächer air-conditioning products from page 23
MANAGE YOUR FLEET BY SMARTPHONE AND APP:
Large fleets of agricultural and forestry machinery (e.g. harvesters) can be operated by the new Eberspächer app by simply pressing a button or using the timer function. This means you can easily control two pools with a maximum of five vehicles each from your home. This makes it possible to pre-heat all vehicles before starting work. Useful additional feature: weather alert for the vehicles’ locations.
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. Shunting and mainline locomotives with diesel power units also benefit from the plus points of Hydronic: a warm engine, low weight, space savings through a compact size, and lower costs than conventional models. By pre-heating driver’s cabs using the Airtronic D4 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 heater – Eberspächer Hydronic L16 – L35 (have EBA approval of the Federal Railway Authority)
- Air heating – Eberspächer Airtronic

Our water heaters are integrated into the cooling 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.
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 we also offer the Airtronic D3, a system that works 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. In short: you do not have to do without 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
- Extreme comfort due to a broad 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 ECE type approval
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 cooling water circuit. Heat is drawn off from the vehicle’s own convector. Finely dosed hot air is distributed throughout the vehicle via the existing air ducts. Our diverse and completely redesigned range of control elements rounds out your comfort.

**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 cooling water circuit. Heat is drawn off from the vehicle’s own convector. Finely dosed hot air is distributed throughout the vehicle via the existing air ducts. Our diverse and completely redesigned range of control elements rounds out your comfort.

**EBERSPÄCHER HYDRONIC:**
- Twice the benefit: 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-optimized 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 ECE type approval

**NEW: HYDRONIC 2 COMFORT – INNOVATIVE PRE-HEATER FOR CARS:**
With its intelligent thermal management system, the new Hydronic 2 Comfort very rapidly clears windows and heats the vehicle to a pleasant temperature. We have been able to slash the heating time by around 60% compared with the previous Hydronic 1 model! This very brief lead time means that the Hydronic 2 Comfort can also be activated at short notice. Therefore it is absolutely ideal for short-distance drivers, as the short heating time puts less load on the vehicle battery.
- Approx. 60% shorter heating time
- Approx. 60% lower fuel consumption
- Approx. 60% less CO₂ emissions
- Approx. 60% lower power consumption

**SPECIAL PLUS POINTS OF HYDRONIC M:**
- Service life twice as long (6,000 operating hours)
- Automatic height adjustment of the Hydronic M10/M12 up to 3500 m
# TECHNICAL DATA

**AIRTRONIC – THE RIGHT HEATER FOR EVERY NEED**

## EBERSPÄCHER AIRTRONIC

<table>
<thead>
<tr>
<th></th>
<th>Airtronic D2</th>
<th>Airtronic D3*</th>
<th>Airtronic B4</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Gasoline version</strong></td>
<td>B</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Diesel version</strong></td>
<td>D</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Voltage</strong></td>
<td>12/24</td>
<td>12</td>
<td>12</td>
</tr>
<tr>
<td><strong>Control</strong></td>
<td>low</td>
<td>medium</td>
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<tr>
<td><strong>Heat output</strong></td>
<td>W</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Air flow volume</strong></td>
<td>kg/h</td>
<td></td>
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</tr>
<tr>
<td><strong>Electrical power consumption</strong></td>
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<td></td>
<td></td>
</tr>
<tr>
<td><strong>Fuel consumption</strong></td>
<td>l/h</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Dimensions L x W x H</strong></td>
<td>mm</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Weight</strong></td>
<td>kg</td>
<td></td>
<td></td>
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### Airtronic D4*  

<table>
<thead>
<tr>
<th></th>
<th>Airtronic D4*</th>
<th>Airtronic D4 Plus*</th>
<th>Airtronic D5*</th>
<th>D8 LC</th>
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<tr>
<td><strong>12/24</strong></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td><strong>low</strong></td>
<td>900</td>
<td>60</td>
<td>7</td>
<td>371</td>
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<tr>
<td><strong>medium</strong></td>
<td>2,000</td>
<td>120</td>
<td>13</td>
<td>140</td>
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<tr>
<td><strong>high</strong></td>
<td>3,000</td>
<td>150</td>
<td>24</td>
<td>150</td>
</tr>
<tr>
<td><strong>power</strong></td>
<td>4,000</td>
<td>185</td>
<td>40</td>
<td>185</td>
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<tr>
<td><strong>fuel consumption</strong></td>
<td>l/h</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Dimensions L x W x H</strong></td>
<td>mm</td>
<td></td>
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<td></td>
</tr>
<tr>
<td><strong>Weight</strong></td>
<td>kg</td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

* 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.
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 interior.

THE NEW RANGE OF AIR VENTS:
The visible parts of our completely re-designed range of vents are impressive, featuring a streamlined and high-quality design that allows for a variety of flow directions. The vents are available in white and black, which allows them to be seamlessly integrated into all interiors.

- Clear, simple system thanks to the modular concept
- Plug-in connections between the cover and fitting or fitting and air hose for easy assembly
- Modern, attractive, timeless design
- Fittings available in 50, 60, 75 and 90 mm

WITH INNOVATIVE AIR CONTROL ELEMENTS:
In order to counteract the non-uniform distribution of warm air in multi-duct systems with several vents, we have developed innovative air flow regulating elements that are simply clipped into the hose connection fitting of the air vent. The regulating elements reduce the flow cross section as needed and thereby decrease the emerging air flow. Available for fitting diameters 60, 75 and 90 mm.
### TECHNICAL DATA

**HYDRONIC – THE RIGHT HEATER FOR EVERY NEED**

<table>
<thead>
<tr>
<th>EBERSPÄCHER HYDRONIC</th>
<th>Hydronic B4W S</th>
<th>Hydronic D4W S</th>
<th>Hydronic B5W S</th>
<th>Hydronic D5W S</th>
<th>Hydronic B4W SC</th>
<th>Hydronic D4W SC</th>
<th>Hydronic B5W SC</th>
<th>Hydronic D5W SC</th>
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<tr>
<td><strong>Gasoline version</strong></td>
<td>B</td>
<td>D</td>
<td>V</td>
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<td>12</td>
<td>12</td>
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<td>12/24</td>
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<tr>
<td><strong>Diesel version</strong></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Control/heat settings</strong></td>
<td>low</td>
<td>high</td>
<td>low</td>
<td>high</td>
<td>low</td>
<td>high</td>
<td>low</td>
<td>high</td>
</tr>
<tr>
<td><strong>Heat output</strong></td>
<td>W</td>
<td>1,500</td>
<td>4,300</td>
<td>2,400</td>
<td>4,300</td>
<td>1,500</td>
<td>5,000</td>
<td>2,400</td>
</tr>
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<td><strong>Water throughput</strong></td>
<td>l/h</td>
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<td>900 ± 100 at 0.1 bar</td>
<td>900 ± 100 at 0.1 bar</td>
<td>900 ± 100 at 0.1 bar</td>
<td>900 ± 100 at 0.1 bar</td>
<td>900 ± 100 at 0.1 bar</td>
<td>900 ± 100 at 0.1 bar</td>
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<tr>
<td><strong>Electrical power consumption</strong></td>
<td>W</td>
<td>10</td>
<td>35</td>
<td>10</td>
<td>35</td>
<td>10</td>
<td>37</td>
<td>10</td>
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<tr>
<td><strong>Fuel consumption</strong></td>
<td>l/h</td>
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<td>0.60</td>
<td>0.27</td>
<td>0.53</td>
<td>0.20</td>
<td>0.69</td>
<td>0.27</td>
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<tr>
<td><strong>Dimensions L x W x H</strong></td>
<td>mm</td>
<td>220 x 86 x 101.5</td>
<td>220 x 86 x 160</td>
<td></td>
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<tr>
<td><strong>Weight</strong></td>
<td>kg</td>
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<td>2.3</td>
<td>2.3</td>
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<table>
<thead>
<tr>
<th>EBERSPÄCHER HYDRONIC</th>
<th>Hydronic 2 Economy D4S*</th>
<th>Hydronic 2 Economy DSS</th>
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<td><strong>Diesel version</strong></td>
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</tr>
<tr>
<td><strong>Voltage</strong></td>
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</tr>
<tr>
<td><strong>Control/heat settings</strong></td>
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<td>high</td>
</tr>
<tr>
<td><strong>Heat output</strong></td>
<td>W</td>
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</tr>
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<td><strong>Water throughput</strong></td>
<td>l/h</td>
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<td><strong>Electrical power consumption</strong></td>
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<tr>
<td><strong>Fuel consumption</strong></td>
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<td><strong>Dimensions L x W x H</strong></td>
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<td><strong>Weight</strong></td>
<td>kg</td>
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</table>
**HOW THE HYDRONIC 2 COMFORT WATER HEATER WORKS**

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

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**EBERSPÄCHER HYDRONIC**

<table>
<thead>
<tr>
<th>Version</th>
<th>Hydronic 2 Comfort B 5 SC**</th>
<th>Hydronic 2 Comfort D 5 SC*/**</th>
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<tbody>
<tr>
<td>Voltage</td>
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</tr>
<tr>
<td>Control/heat settings</td>
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<td>low medium high power</td>
</tr>
<tr>
<td>Heat output W</td>
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<td>2,100 5,000 5,200</td>
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<tr>
<td>Water throughput I/h</td>
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<td>250</td>
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<td>Electrical power consumption W</td>
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<td>22 47 50</td>
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<tr>
<td>Fuel consumption I/h</td>
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<tr>
<td>Weight kg</td>
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<td>2.9</td>
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* 20 % biodiesel compatible in accordance with FAME DIN EN 14214
** Special passenger-car development with approx. 60% shorter heating time, thereby also suitable for short-distance drivers

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**EBERSPÄCHER HYDRONIC**

<table>
<thead>
<tr>
<th>Diesel version</th>
<th>Hydronic M8 Biodiesel*</th>
<th>Hydronic M10</th>
<th>Hydronic M12</th>
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<td>12/24</td>
</tr>
<tr>
<td>Control/heat settings</td>
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<td>low medium high power</td>
<td>low medium high power</td>
</tr>
<tr>
<td>Heat output W</td>
<td>1,500 3,200 5,000 8,000</td>
<td>1,500 3,500 8,000 9,500</td>
<td>1,200 1,500 3,500 5,000 9,500 12,000</td>
</tr>
<tr>
<td>Water throughput I/h</td>
<td>1,400 at 0.14 bar</td>
<td>1,400 at 0.14 bar</td>
<td>1,400 at 0.14 bar</td>
</tr>
<tr>
<td>Electrical power consumption W</td>
<td>35 39 46 55</td>
<td>35 39 60 86</td>
<td>35 39 46 86 132</td>
</tr>
<tr>
<td>Fuel consumption I/h</td>
<td>0.18 0.40 0.65 0.90</td>
<td>0.18 0.40 0.90 1.20</td>
<td>0.15 0.18 0.40 0.65 1.20 1.50</td>
</tr>
<tr>
<td>Dimensions L x W x H mm</td>
<td>331 x 138 x 174</td>
<td>331 x 138 x 174</td>
<td>331 x 138 x 174</td>
</tr>
<tr>
<td>Weight kg</td>
<td>6.2</td>
<td>6.2</td>
<td>6.2</td>
</tr>
</tbody>
</table>

* 100 % biodiesel compatible in accordance with FAME DIN EN 14214
### EBERSPÄCHER HYDRONIC

<table>
<thead>
<tr>
<th>Version</th>
<th>Hydronic L16</th>
<th>Hydronic L24</th>
<th>Hydronic L30*</th>
<th>Hydronic L35*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fuel</td>
<td>Diesel/heating oil EL</td>
<td>Diesel/heating oil EL</td>
<td>Diesel/heating oil EL</td>
<td>Diesel/heating oil EL</td>
</tr>
<tr>
<td>Voltage</td>
<td>V</td>
<td>24</td>
<td>24</td>
<td>24</td>
</tr>
<tr>
<td>Control/heat settings</td>
<td>—</td>
<td>—</td>
<td>24</td>
<td>24</td>
</tr>
<tr>
<td>Heat output</td>
<td>W</td>
<td>16,000</td>
<td>24,000</td>
<td>30,000</td>
</tr>
<tr>
<td>Electrical power consumption</td>
<td>W</td>
<td>60</td>
<td>80</td>
<td>105</td>
</tr>
<tr>
<td>Fuel consumption</td>
<td>l/h</td>
<td>2.00</td>
<td>2.90</td>
<td>3.65</td>
</tr>
<tr>
<td>Dimensions L x W x H</td>
<td>mm</td>
<td>600 x 230 x 222</td>
<td>600 x 230 x 222</td>
<td>600 x 230 x 222</td>
</tr>
<tr>
<td>Weight</td>
<td>kg</td>
<td>18</td>
<td>18</td>
<td>18</td>
</tr>
</tbody>
</table>

* 20% 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.
We redeveloped our EasyStart family so that you can quickly and conveniently enjoy the comforts of our pre-heaters. The most important aspects we asked our developers to keep in mind were ease of use and simplicity of design. The result is a new generation of control elements, which cannot fail to impress with their intuitive operation, attractive appearance and high-quality workmanship. That is why our new remote controls are true gems on your key ring. Moreover, EasyStart Call allows you to operate your pre-heater conveniently by smartphone app.

## CONTROL ELEMENTS

<table>
<thead>
<tr>
<th>Model</th>
<th>Room temperature</th>
<th>EasyStart Select Control unit</th>
<th>EasyStart timer</th>
<th>EasyStart Remote control</th>
<th>EasyStart Remote+ Premium remote control</th>
<th>EasyStart Call* Telephone remote control</th>
</tr>
</thead>
<tbody>
<tr>
<td>Heater model</td>
<td>Artronic</td>
<td>Artronic/Hydronic</td>
<td>Artronic/Hydronic</td>
<td>Artronic/Hydronic</td>
<td>Artronic/Hydronic</td>
<td>Artronic/Hydronic</td>
</tr>
<tr>
<td>Characteristics</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>For use in fresh air mode</td>
<td></td>
<td>Heating/ventilation on/off</td>
<td>Heating/ventilation on/off</td>
<td>Heating/ventilation on/off</td>
<td>Heating/ventilation on/off</td>
<td>Heating/ventilation on/off</td>
</tr>
<tr>
<td>Required temperature can be set using arrow keys (left/right)</td>
<td></td>
<td>Program/delete pre-select mode</td>
<td>Operating time adjustable Additionally with Airtronic:</td>
<td>Program/delete pre-select mode</td>
<td>Operating time adjustable</td>
<td>Program/delete pre-select mode</td>
</tr>
<tr>
<td>A second heater/ auxiliary device can be operated</td>
<td></td>
<td>Long-press function for immediate heating</td>
<td>The default target value must be set additionally with a separate control element (EasyStart Timer)</td>
<td>Long-press function for immediate heating</td>
<td>The default target value must be set additionally with a separate control element (EasyStart Timer)</td>
<td>The default target value must be set additionally with a separate control element (EasyStart Timer)</td>
</tr>
<tr>
<td>Additionally with Airtronic:</td>
<td></td>
<td>Required temperature can be set using arrow keys (left/right)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EBERSPÄCHER WATER PUMPS</td>
<td>Flowtronic 5000</td>
<td>Flowtronic 8000 SC*</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Voltage</td>
<td>V</td>
<td>24</td>
<td>24</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Electrical power consumption</td>
<td>W</td>
<td>104</td>
<td>210</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dimensions L x W x H mm</td>
<td></td>
<td>229 x 99 x 76</td>
<td>229 x 115 x 110</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Delivery rate (pump) l/h</td>
<td></td>
<td>5.200 at 0.2 bar</td>
<td>6.000 at 0.4 bar</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* SIM card: 1.8-V or 3-V SIM card/pre-paid card from a network operator supporting the GSM 900/1800 (GSM, E) standard in Europe; use outside of country of purchase may incur roaming fees for EasyStart Call for outgoing or incoming text messages or incoming calls. Roaming fees may also be incurred near borders due to network overlap. A separate control element for specifying the temperature setpoint is not required for operating with Airtronic. EasyStart Call is not designed for use in conjunction with other control elements.

* With solenoid coupling and electronically commutated
PRE-HEATERS, BUSES, TRAINS, TRANSPORTERS, COMMERCIAL VEHICLES, AND SPECIAL-PURPOSE VEHICLES
Effective vehicle air-conditioning includes both heating and cooling components. These are requirements for which Eberspächer provides efficient solutions, independent of the engine and in mobile applications. Intertwining the individual areas of the company ensures that Eberspächer possesses comprehensive air-conditioning expertise in diverse areas of mobility: from applications in agricultural machines to buses of all sizes.

As well as purely heating commercially used vehicles with our well-known heaters, the issue of air-conditioning is growing in importance.

At the same time, Eberspächer is a systems engineer and supplier of customized AC applications. We are one of very few suppliers capable of combining air-conditioning and heating elements in a single system, and controlling them together. Our own development engineers design individual AC system solutions – up to and including functional and quality tests at our own test centers. Following an analysis of the particular case and your specific requirements, we work out the system performance requirements and develop an economical complete solution – using vehicle-specific components if necessary. The diversity of the equipment and components available, combined with our development expertise, means that we achieve a solution for virtually every vehicle.

The Eberspächer air-conditioning portfolio is rounded out by innovative mobile products, such as our versatile and transportable refrigerated containers that make it possible to transport perishable goods in compliance with current legal regulations.

EBERSPÄCHER SÜTRAK –
THE SPECIALIST FOR BUS AIR-CONDITIONING:
Eberspächer Sütrak develops and manufactures innovative heating and air-conditioning products. As a system partner, it offers intelligent solutions for total temperature control in buses. For many years, numerous bus manufacturers and transport companies around the world have trusted in the company’s comprehensive development and application expertise.

Our air-conditioning units provide optimum comfort for drivers and passengers at all times, even under the most extreme climatic conditions. Eberspächer Sütrak places particular emphasis on the development and production of energy-efficient and environmentally friendly products. This ensures a high level of operating efficiency with reduced fuel consumption and lower vehicle emissions.

Integration in the independent, family-run Eberspächer business with more than 145 years of company tradition has brought Eberspächer Sütrak the benefits of numerous synergies with many advantages, such as a global service network, optimized process and project management, and a high level of development expertise.
AC APPLICATIONS

CONSTRUCTION AND AGRICULTURAL MACHINES:
Cooling systems for the cab are of primary importance in construction and agricultural machines. To ensure compliance with legislation on correct working conditions and enable drivers to maintain their performance longer, the cab is air-conditioned—which also has a positive effect on road safety.

Given the small space available, it is mostly impossible to install standard components. Therefore, we develop special design components requiring little space for each individual case, with options for vertical or horizontal installation of individual components.

TRANSPORTERS:
Where transporters are concerned, our focus is on system solutions for cooling and heating. This is the only way to ensure adequate cooling and temperature control in the supply chain for temperature sensitive products. Flower delivery firms, for example, must be able to maintain a constant temperature throughout transport in order to prevent damage to their plants and flowers. These vehicles are therefore equipped with both a pre-heater and an AC system. When a target temperature is programmed in, the system independently ensures that either the heater or the AC system is running, and the temperature is automatically regulated.
**EMERGENCY RESCUE VEHICLES AND PHARMACEUTICAL TRANSPORT:**
To ensure compliance with legal provisions on climate conditions and hygiene, emergency rescue vehicles can be fitted with both heating and AC systems. This creates good working conditions for emergency personnel and ensures that statutory temperature requirements are maintained in the patient interior – so they are ready for service in all types of weather and in all seasons! Also for pharmaceutical transporters, we ensure the constant required transport climate for temperature-sensitive drugs and active ingredients.

**MILITARY VEHICLES:**
In order to maintain the performance of both man and machine in the harshest ambient temperatures, robust, long-lasting system solutions are essential. While an AC system ensures soldiers’ operational readiness, a pre-heater makes sure the vehicle will always start in cold conditions and allows engine pre-heating in a way that reduces wear and is better for the environment. Here, too, we engineer the desired special design components exactly in line with your requirements and your application.

**MINIBUSES AND MIDIBUSES:**
In minibuses and midibuses, our products and solutions ensure a pleasant, comfortable climate for passengers and the driver. This also keeps the driver in top form, ensuring road and passenger safety and compliance with the legal provisions governing mobile workplaces. The systems can run both on the move and at a standstill.

**CITY AND TOUR BUSES (BUSES OVER 12 M):**
For more than 50 years, Eberspächer Sütrak is one of the world’s leading manufacturers of bus AC systems. As the AC competence center for buses in the Eberspächer Group of Companies, Eberspächer Sütrak offers a broad, fully developed product range for city buses and tour buses (buses longer than 12 m), ideally meeting customers’ diverse requirements.
THE RIGHT TEMPERATURE FOR EVERY REQUIREMENT

EVAPORATORS:
During the development process, quality has the utmost priority, enabling us to obtain ideal performance from a compact unit. Our evaporators therefore deliver maximum power with small dimensions. Eberspächer AC systems make sure that the ideal temperature will be maintained, even in direct sunlight or in a fully occupied bus.

COMPRESSORS:
From a large selection and an output range from 130 to 775 ccm, we select precisely the right compressor for an efficient air-conditioning solution.

CONDENSERS:
Our condensers are suitable for installation on the radiator, underfloor or on the roof, and are therefore suitable for a huge range of vehicle applications. Due to the minimal installation space when mounting on the radiator, extra thin micro-channel condensers with a housing only 16 mm wide, enhanced output and optimum refrigerant flow may be used, for example. Universal fitting and industrial standard installation are provided as a matter of course.

ROOF-MOUNTED AC SYSTEMS:
When there is sufficient space on top of the cab or passenger compartment, or insufficient space for installation in the interior, several components are installed together in a roof-mounted AC system. The simpler installation of this type of system, and the resulting space savings in the interior, are major advantages for you.

COOLTRONIC – AIR-CONDITIONING WITH THE ENGINE SWITCHED OFF:
Hot summer evenings in the cab can be extremely unpleasant. High temperatures and high humidity stop you from sleeping soundly and therefore affect your performance on the following day. The Cooltronic air-conditioning system removes the oppressive mugginess from the vehicle. And the particular advantage is that the system works completely independently of the engine – as opposed to conventional air-conditioning solutions.
COOLING & HEATING

VICES:
Our HVAC units combine the impressive cooling power of our evaporators with an additional convector, and supply heat to produce a perfect environment in all weather conditions. Dehumidified air guarantees mist-free windows and comfortable conditions. Heating and cooling functions can be controlled fully automatically with a digital controller.

VEHICLE HEATERS:
Our electric or fuel-operated vehicle heaters can pre-heat the engine, and heat the cab and passenger compartment or cargo area. We are one of very few suppliers able to combine air-conditioning and heating elements in a single system, and control them together. This way, you are guaranteed a constant temperature in the vehicle when you need it – all year round.

CONTROLS:
We have the right control unit for every application – we even offer mobile controls for pre-heaters, and heater operation via a smartphone app. We can incorporate both pre-heaters and AC systems for your specific application to guarantee constant temperatures. This thermal management system can be configured with just one control unit.

MOBILE REFRIGERATED CONTAINERS:
To guarantee a constant delivery temperature (e.g., Good Distribution Practice), our range includes a great many flexible applications – from mobile refrigerated containers with a capacity from 22 to 915 l to fully automated heating and cooling systems for the cargo area.
THE COMPREHENSIVE EBERSPÄCHER PRODUCT RANGE ALSO INCLUDES HEATING SYSTEMS FOR PASSENGER CARS, MOTORHOMES AND YACHTS.

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

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www.eberspaecher-klima.de

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