

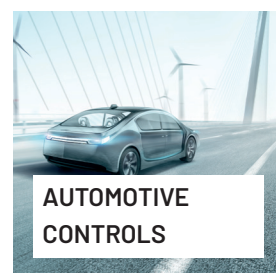


CLIMATE CONTROL SYSTEMS / AMBULANCE

ALWAYS THE OPTIMAL CLIMATE IN AMBULANCES

Heating & Air Conditioning Solutions –
Connected with Digital Services

EBERSPÄCHER GROUP



Enhanced application expertise for heating and cooling



Extensive product portfolio for heating and cooling



Accessories for a wide variety of applications



A/C and heating specialists

INNOVATIVE MARKET AND CUSTOMIZED SOLUTIONS





EXPERTS IN COOLING AND HEATING.

FOR SPECIAL VEHICLES

Heating, cooling and digital services – various solutions, one partner

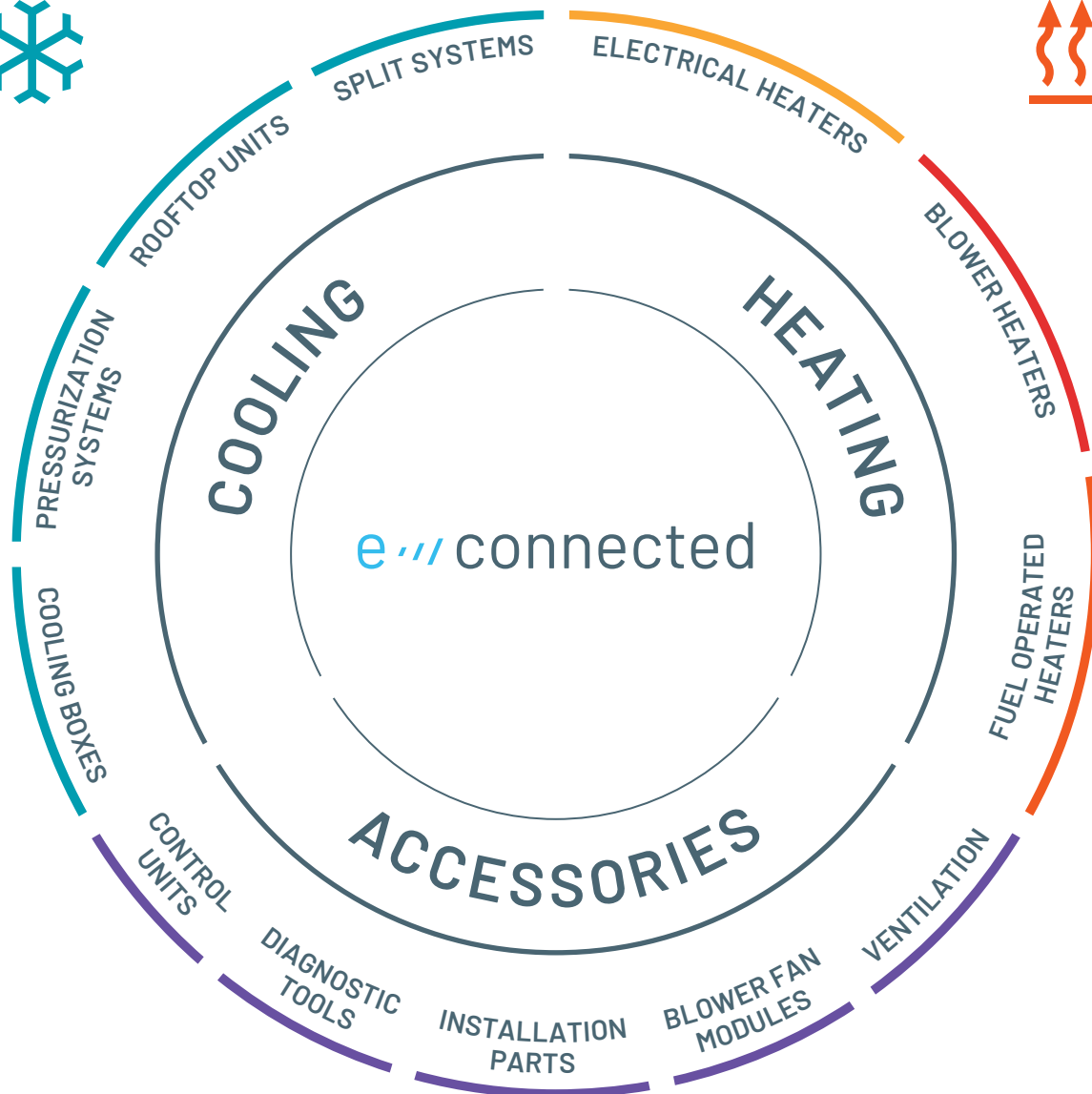
With customized heating and cooling solutions for the patient compartment and the driver's cab, Eberspächer meets the high thermal management standards set for emergency vehicles and fulfills the legal requirements for such applications. As experts in thermal management, we are continuously working to optimize our systems for the ambulance sector – so that passengers can be transported safely and paramedics perform their best. The climatization technology from Eberspächer combines heating and cooling solutions with innovative digital services. The portfolio ranges from rooftop air conditioners to pre-heaters and offers solutions that are suitable for both vehicles with combustion engines and those with electric drives.

[Ambulance]



OUR PRODUCT PORTFOLIO

COOLING



HEATING



ACCESSORIES & CONTROLS



PRODUCTS FOR AMBULANCE VEHICLES



SPLIT HVAC SYSTEMS



ROOFTOP HVAC SYSTEMS



ROOF VENTILATOR



CONDENSER



CONTROL UNIT



MOBILE FUEL OPERATED HEATER



FUEL OPERATED WATER HEATER



230-V ELECTRICAL WATER HEATER



HIGHT-VOLTAGE COOLANT HEATER



230-V ELECTRICAL AIR HEATER



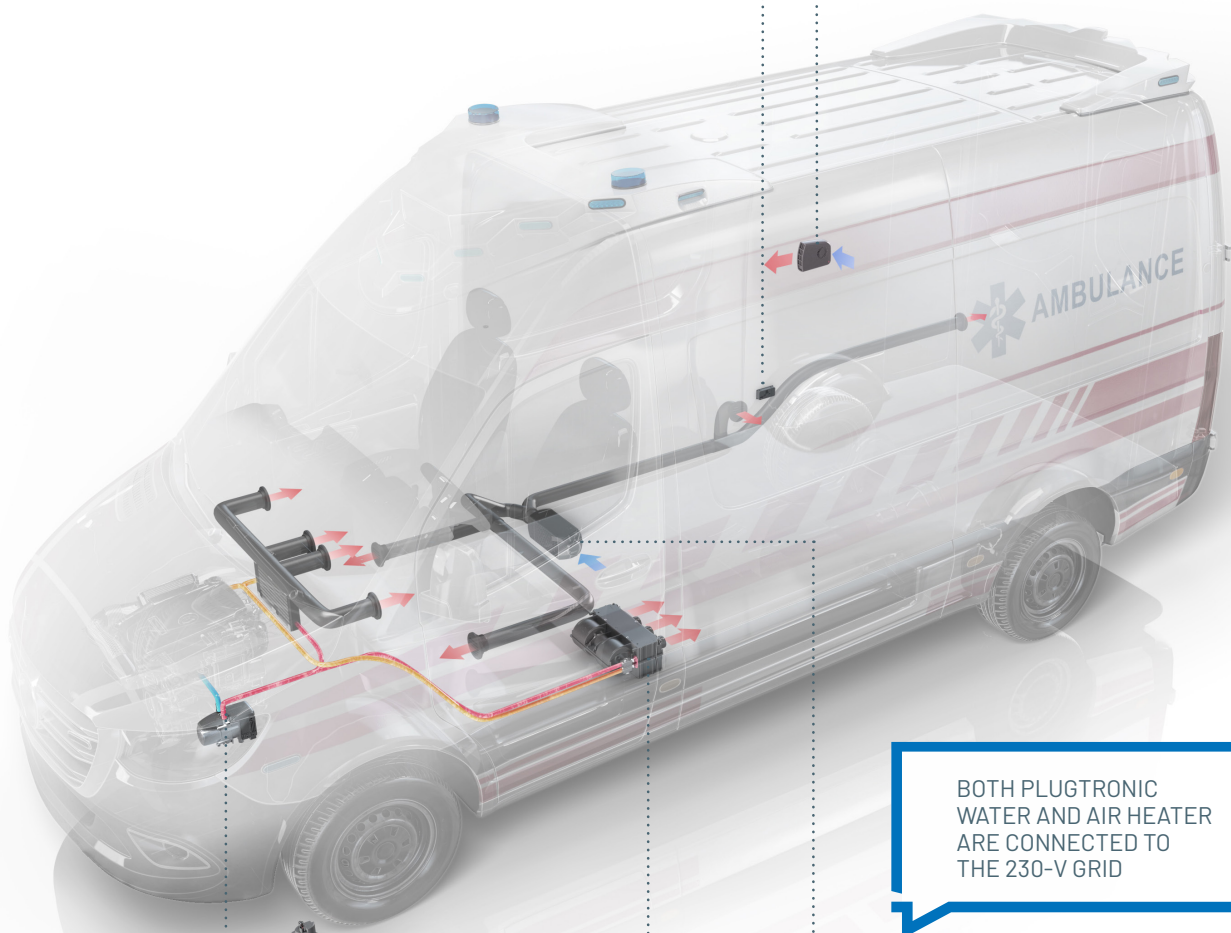
FUEL OPERATED AIR HEATER

HEATING SOLUTIONS

HEATING SOLUTIONS FOR FUEL OPERATED AMBULANCES
WITH WATER BLOWER HEATER OR FUEL OPERATED AIR HEATER

CONTROL UNIT

PLUGTRONIC
AIR HEATER



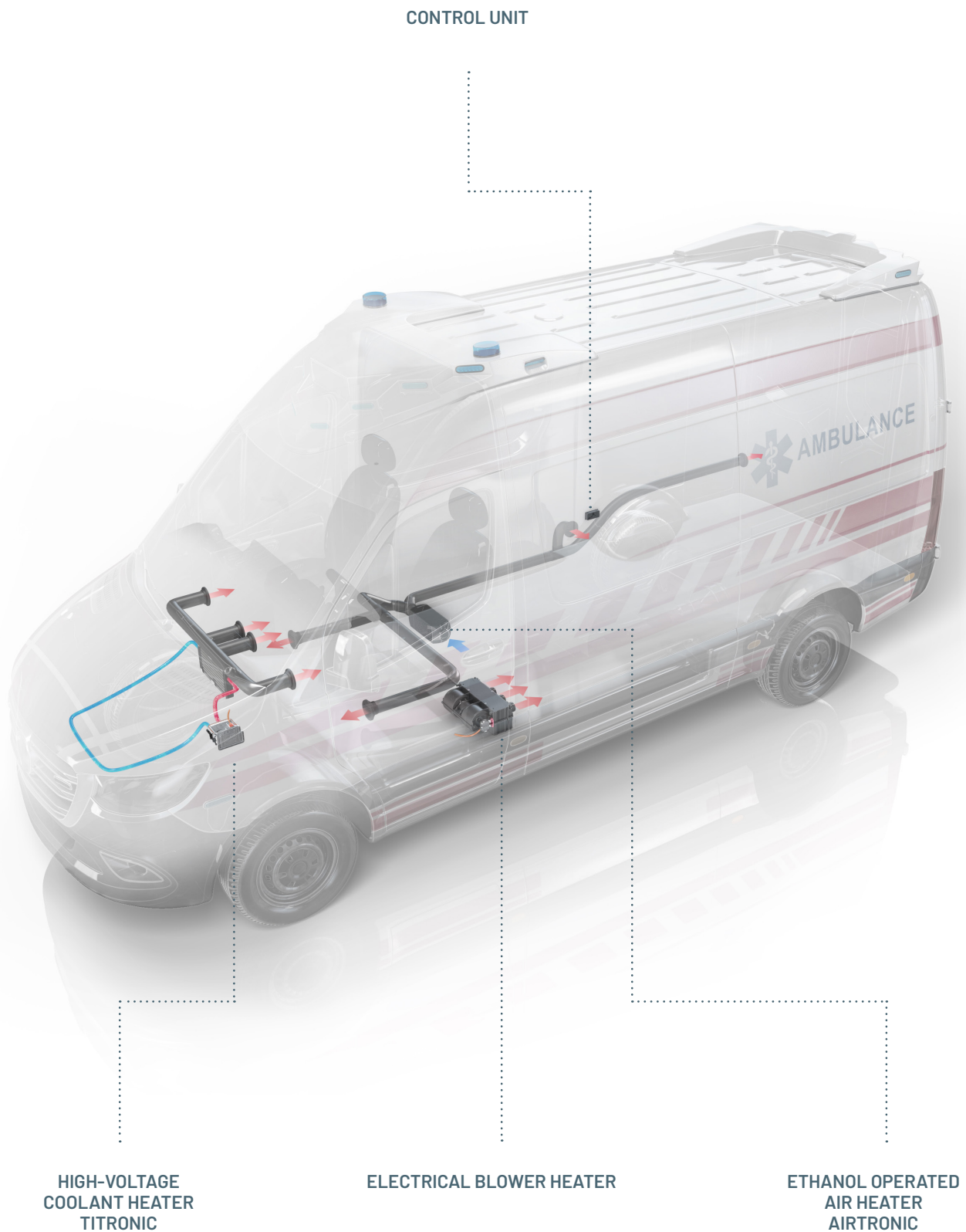
FUEL OPERATED
WATER HEATER
HYDRONIC

ELECTRICAL WATER HEATER
PLUGTRONIC - ALTERNATIVE
TO THE HYDRONIC

WATER BLOWER HEATER

FUEL OPERATED
AIR HEATER
AIRTRONIC

HEATING SOLUTIONS FOR ELECTRIC AMBULANCES
WITH ELECTRICAL BLOWER HEATER OR ETHANOL OPERATED AIR HEATER



FUEL OPERATED HEATING SOLUTIONS

FUEL OPERATED AIR HEATERS

AIRTRONIC S3/M3/L3



- Fast and reliable heating of the patient area
- Brushless motor ensures a long lifetime of 5,000 hrs
- Low energy consumption – ideal for pre-heating or heating when the engine is off
- Suitable for EN1789 approval

Fuel		Gasoline		Diesel		
Version	[12 V]	S3 Commercial B2L	M3 Commercial B4L	S3 Commercial D2L	M3 Commercial D4L	L3 Commercial D6L
Heating performance	kW	1.0 – 2.0	1.3 – 4.0	0.85 – 2.2	1.05 – 4.0	1.5 – 6.0
Fuel consumption	l/h	0.14 – 0.26	0.17 – 0.55	0.1 – 0.27	0.1 – 0.49	0.16 – 0.74
Weight	kg	2.5	4.5	2.5	4.4	6.8
Main dimensions*	l x w x h mm	310 x 115 x 122	376 x 140 x 150	310 x 115 x 122	376 x 140 x 150	438 x 160 x 170
Interfaces		CAN/ LIN/ S+				

* Air heater connection diameter ø 75 mm

AIRTRONIC 2 ETHANOL



- Fast and reliable heat for electric vehicles
- No impact on the vehicle's electric range
- Low-emission heating of the vehicle interior
- Constant, individually adjustable temperature
- Flexible installation in the interior, trunk or underfloor

Fuel		Ethanol
Version	[12 V]	S2 Commercial E2L
Heating performance	kW	0.9 – 2.2
Fuel consumption	l/h	0.16 – 0.49
Weight	kg	2.7
Main dimensions*	l x w x h mm	310 x 115 x 122
Interfaces		CAN/LIN/ S+

* Heating air connection diameter ø 75 mm

POLARN – MOBILE HEATER

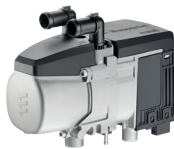


- Easy to transport and versatile
- High heating performance and ready for use quickly
- Low electricity and fuel consumption
- Maintenance-free

Fuel		Diesel	
Version	[12 V]	Polarn 4000	Polarn 8000
Heating performance	kW	0.9 – 4.0	0.35 – 8.0
Fuel consumption	l/h	0.11 – 0.51	0.4 – 1.05
Control stages		2	4

FUEL OPERATED WATER HEATER

HYDRONIC S3



- Preheating of the engine coolant and the vehicle interior when connected to an Eberspächer heat exchanger
- Long service life of 5,000 hrs and fewer spare parts due to robust components
- Cost savings and less downtime for end customers thanks to low fuel and energy consumption
- Heater operation integrated in the vehicle's control panel and integration in the vehicle's own diagnostics possible

Fuel		Gasoline		Diesel	
Version	[12 V]	S3 Economy B4E	S3 Economy B5E	S3 Economy D4E	S3 Economy D5E
Heating performance	kW	1.8 – 4.3	1.8 – 5.0	1.3 – 4.3	1.3 – 5.0
Fuel consumption	l/h	0.57	0.67	0.53	0.59
Weight	kg	2.0			
Main dimensions* l x w x h	mm	215 x 91 x 124			
Interfaces		CAN/S+ or CAN/LIN			

* With straight connection fittings

BLOWER HEATER SOLUTIONS

WATER BLOWER HEATER



- Ideal auxiliary heater for the patient compartment
- Can be combined with a Hydronic water heater for use when the engine is off
- Large portfolio of different sizes and power levels to fit every kind of ambulance
- Complete system including hoses, control units and air diffusion available

Version	[12 V]	Alizé 2 HV	Compact EV01	Compact EV02	Silencio 2 HV	Super K HV	Kool 2 HV	Falkon HV
Heating performance	kW	3.4	4.3	5.2	5.5	7.6	10	14.8
Airflow	m³/h	220	230	350	250	500	520	725
Electrical consumption	W	70	70	100	16	100	180	360
Main dimensions l x w x h	mm	189 x 175 x 132	114 x 255 x 189	114 x 279 x 106	152 x 321 x 125.5	216 x 368 x 130	261 x 384 x 158	296 x 430 x 167

ELECTRICAL BLOWER HEATER



- Fast and reliable heating solution for the patient compartment
- Heater is equipped with secured PTC element and safety thermal switch
- Large portfolio of different sizes and power levels to fit every kind of ambulance
- Complete system including control units and air diffusion systems available

Version	[12 V]	Alizé 2 EHV	Silencelek EHV	Kelec EV01	Kelec EV02	Kool 2 EHV	Falkon EHV
Heating performance	kW	up to 2.2	up to 0.5	up to 1.7	up to 2.2	up to 4	up to 6
Airflow	m³/h	210	95	230	350	520	411
Electrical consumption	W	from 18 to 33	510	from 11 to 74	from 7 to 74	depends on version	depends on version
Operating voltage range	V DC	48 - 120	-	24 - 80	24 - 300	48 - 750	48 - 800
Operating voltage range	V AC	230 - 480					
Main dimensions l x w x h	mm	189 x 175 x 132	210 x 80 x 156	114 x 255 x 114	196 x 273 x 114	261 x 384 x 158	297 x 432 x 167



ELECTRICAL HEATING SOLUTIONS

ELECTRICAL WATER HEATER 230 V - PLUGTRONIC



- Quick coolant circuit heating for a pre-heated engine
- Also available with a 230-V air heater
- Ideal temperature in the patient area when the vehicle leaves for an intervention
- Several installation positions possible
- Environmentally friendly heating solution for parked vehicles
- No fossil fuels, zero emissions
- One-handed, easy power cable plug-in

Version		800	1,850
Heating performance	kW	0.8	1.85
Operating voltage range (HV)	V AC	230	
Weight	kg	0.8	
Main dimensions l x w x h	mm	151 x 131 x 81	
Interfaces	V DC	12 / 24	



HIGH VOLTAGE COOLANT HEATER - TITRONIC



- Powerful and reliable PTC technology offers high heating performance
- Precise and convenient heating of the patient area
- Battery conditioning extends battery life, shortens charging times and increases range
- Designed with high-voltage expertise for OEM installations

Version	CHHV 50 G3	
Heating performance	kW	5.0*
Operating voltage range (HV)	V	250 - 450 / 12
Weight	kg	2.0
Main dimensions l x w x h	mm	160 x 159 x 105
Interfaces	LIN 2.1	

* UN = 350 V, TCO = 60 °C, QCO = 10 L/MIN, COOLANT = 50:50

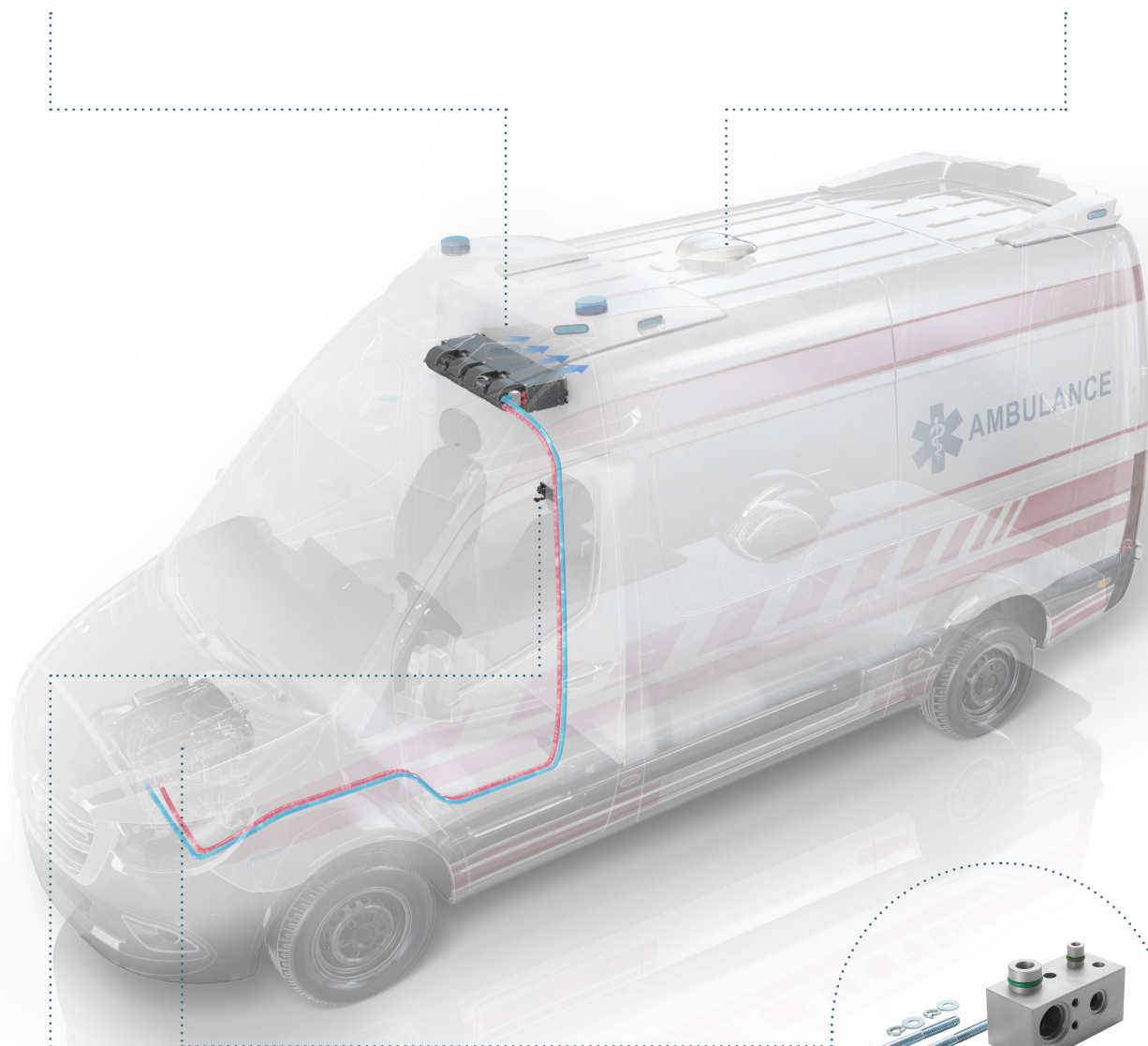


COOLING SOLUTIONS

COOLING SOLUTIONS WITH INTEGRATED ADAPTER SET

SPLIT A/C UNIT

ROOF VENTILATOR



CONTROL UNIT

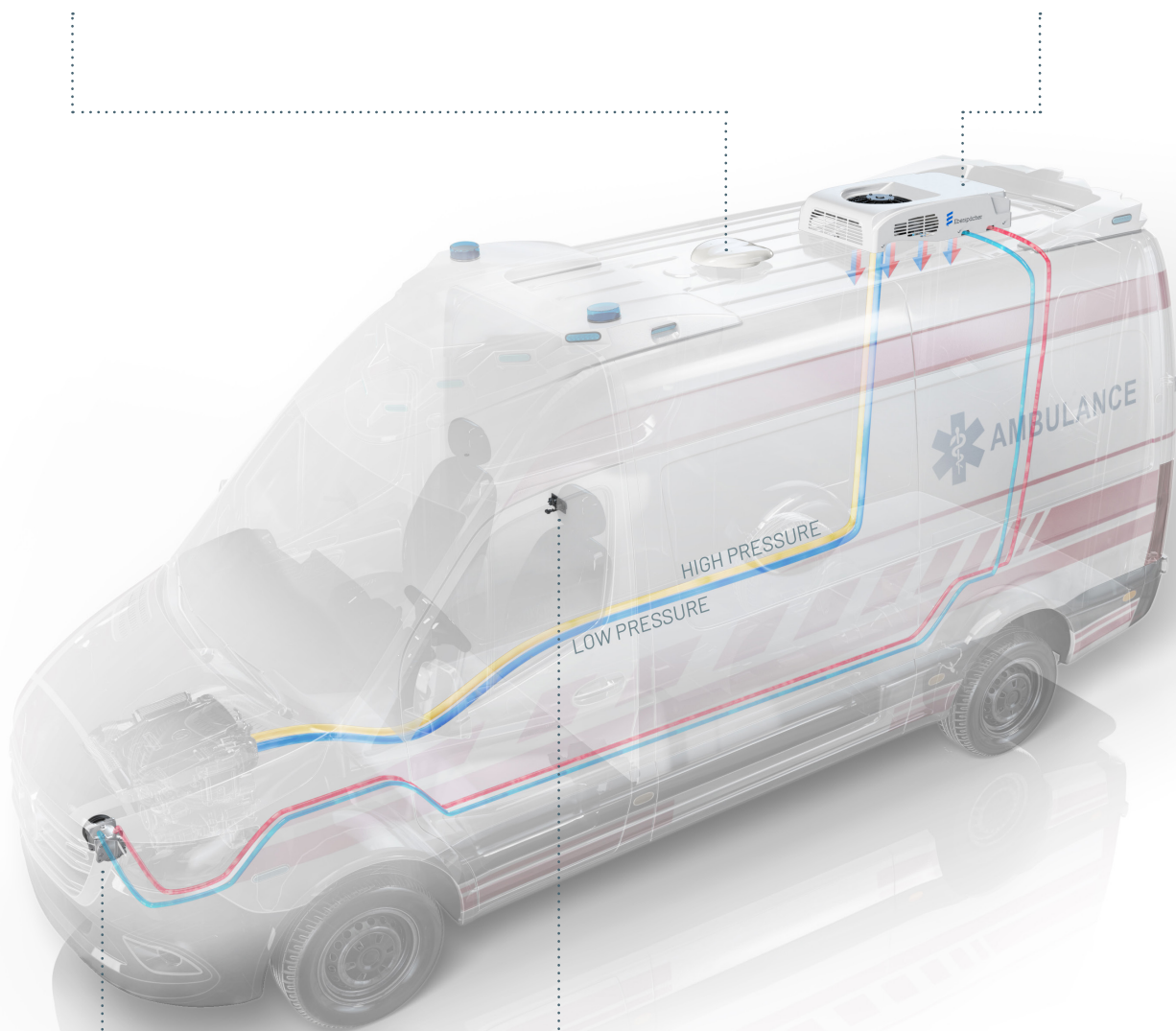
ADAPTER SET



COOLING SOLUTIONS WITH ADDITIONAL COMPRESSOR

ROOF VENTILATOR

ROOFTOP HVAC SYSTEM WITH
INTEGRATED CONDENSER



COMPRESSOR

CONTROL UNIT

SPLIT SYSTEMS

HORIZONTAL EVAPORATORS FOR SPLIT SYSTEMS

- Powerful evaporators provide climate control for the patient area
- Available as A/C only (VAC), HVAC or EHVAC version for electric ambulance
- Range of adapter sets available to extend original HVAC systems of main LCVs on the market
- Suitable for EN1789 approval
- Large portfolio of different sizes and power levels available to fit every kind of ambulance
- Complete system including hoses, control units and air diffusion systems available
- Can be combined with the Power K Reverse external condenser unit, which also includes an electric compressor and drier filter



VAC UNITS FOR BOTH FUEL OPERATED AND ELECTRIC AMBULANCES



Version	[12 V]	Super K VAC	Kool 2 VAC*	Falkon VAC**	HK EVO4 VAC*
Cooling performance	kW	up to 4	5.7	9	10.7
Airflow	m ³ /h	440	520	660	1,300
Electrical consumption	W	100	180	360	190
Main dimensions l x w x h	mm	216 x 368 x 137	261 x 384 x 158	297 x 432 x 167	780 x 334 x 120

* Available in FAI version with air diffusion and control unit included. ** Available in FA version with air diffusion included.

HVAC UNITS FOR FUEL OPERATED AMBULANCES



Version	[12 V]	Super K HVAC	Kool 2 HVAC*	Falkon HVAC**	HK EVO4 HVAC*
Cooling performance	kW	3.5	4.5	7.7	8.6
Heating performance	kW	4.3	6.6	10	9.5
Airflow	m ³ /h	440	520	660	1,300
Electrical consumption	W	100	180	360	190
Main dimensions l x w x h	mm	216 x 368 x 137	261 x 384 x 158	297 x 432 x 167	780 x 334 x 120

* Available in FAI version with air diffusion and control unit included. ** Available in FA version with air diffusion included.

EHVAC UNITS FOR ELECTRIC AMBULANCES



Version	[12 V]	Super K EHVAC	Kool 2 EHVAC	Falkon EHVAC
Cooling performance	kW	3.5	4.5	7.7
Heating performance	kW	up to 4	up to 4	up to 5
Airflow	m ³ /h	440	520	660
Electrical consumption	W	100	180	360
Operating voltage range	V DC	24 - 750		
Operating voltage range	V AC	230 - 480		
Main dimensions l x w x h	mm	216 x 368 x 137	261 x 384 x 158	297 x 432 x 167

EHVACs are also available in a hybrid version: evaporator + PTC heater + water heater.

VERTICAL EVAPORATORS FOR SPLIT SYSTEMS

VAC, HVAC AND EHVAC UNITS



Version	[12 V]	VK9 HVAC	VK9 HVAC FAI*	VK9 EHVAC
Cooling performance	kW	8	6.5	6.5
Heating performance	kW	10	7.5	3
Airflow	m³/h	670	520	670
Electrical consumption	W	300		
Main dimensions l x w x h	mm	174 x 414 x 335		

* FAI version with air diffusion and control unit included.

ROOFTOP EVAPORATORS FOR SPLIT SYSTEMS

- Powerful rooftop evaporator system
- Air diffusion with integrated control unit available
- Saves space in the vehicle
- Suitable for EN1789 approval
- Can be combined with the Power K Reverse external condenser unit, which also includes an electric compressor and drier filter
- Available as A/C only (VAC) or HVAC

VAC AND HVAC UNITS



Version	[12 V]	Klimatop VAC	Klimatop HVAC
Cooling performance	kW	5.5	5
Heating performance	kW	-	6
Airflow	m³/h	595	560
Electrical consumption	W	150	
Main dimensions l x w x h	mm	125 x 445 x 580	



ROOFTOP SYSTEMS

- Compact system, includes evaporator, condenser and drier filter
- Can be connected to a standard compressor
- Especially suitable for air conditioning in the passenger compartment
- Available as A/C only (VAC), HVAC or EHVAC version for electric ambulances

VAC AND HVAC SYSTEMS



Version	[12 V]	RK12 VAC	RK12 HVAC
Cooling performance	kW	11.5	11.5
Heating performance	kW	-	15
Airflow	m³/h	950	
Weight	kg	50	
Main dimensions l x w x h	mm	1,090 x 940 x 179	

EHVAC SYSTEM



Version	[12 V]	RK12 EHVAC CPF
Cooling performance	kW	up to 11
Heating performance	kW	up to 14
Airflow	m³/h	up to 1,380
Weight	kg	84.5
Main dimensions l x w x h	mm	1,504 x 890 x 250

COMPLETE READY-TO-USE-KITS – HVAC/VAC FOR AMBULANCES

The new Ambulance-Kit is designed for use on ambulances and commercial vehicles, including utility & cargo vehicles, minibuses and midibuses, and comprises a basic kit, an adapter kit and an optional controller. The Kit is also ideal for use by any vehicle body builders who convert standard vans into special vehicles. Instructions can of course also be provided for the installation of HVAC (including heating function) and VAC solutions (without heating). The basic kit is ordered by product type (Falkon, Kool 2 or HK EVO4), whilst the adapter kit is selected by vehicle type.

1. BASIC KITS



Model	Falkon HVAC	Falkon VAC	Kool 2 HVAC	Kool 2 VAC	HK EVO4 HVAC	HK EVO4 VAC
Part number	8300700255440	830070025450	8300700255460	8300700255470	8300700255480	8300700255490

2. ADAPTER KITS



Model	Mercedes Sprinter (W907)	Ford Transit, Custom (V363/V362)	Peugeot Boxer, Fiat Ducato, Citroën Jumper (X2-50)	Renault Master, Nissan NV400 (X62)	Iveco Daily	VW Crafter, Man TGE (SY/SZ)
Part number	8300700014310	8300700014320	8300700014330	8300700014340	8300700014350	8300700014360

3. OPERATING DEVICE

(delivered with wiring harness)



Model	PCK3 VAC	PCK3 HVAC
Part number	8300340306500	8300340306510

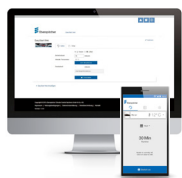
ACCESSORIES AND CONTROLS

BUILT-IN CONTROL UNIT FOR FUEL OPERATED HEATERS - EASYSTART PRO



- Intuitive timer setup
- Easy to use even while wearing work gloves
- Operation of two heaters with only one control unit possible
- Integrated temperature sensor makes installation very simple and reduces costs
- Quick servicing thanks to rapid troubleshooting

REMOTE CONTROL UNIT FOR FUEL OPERATED HEATERS - EASYSTART WEB



- State-of-the-art technology for operating multiple heaters with one account
- Central operation of heaters by fleet manager
- Responds to most common communication protocols such as CAN, LIN or S+
- Integrated antenna for time-saving installation in all vehicles
- Compatible with other operating devices (EasyStart Pro)
- Intuitive, user friendly app for iOS and Android

BUILT-IN CONTROL UNIT FOR FUEL OPERATED HEATERS AND A/C SYSTEM - PCK3 FOH



- Intuitive control of air conditioning system and Hydronic or Airtronic
- Simple and fast operation
- Robust, reliable and easily integrated
- Stepless heating performance control
- Easy to use even while wearing work gloves

DIAGNOSTIC TOOL - EASYSCAN



- Failure analysis of devices and components
- Comprehensive evaluation of current operating status
- Error code display including additional system parameters
- Easy optimization of control units such as EasyStart Pro or EasyStart Web including firmware updates

ROOF VENTILATOR



- Very flat roof ventilators
- Different designs and air outlets available
- Electric and non-electric versions
- Easy-to-fit roof adapter and air channel option

TEMPERATURE-CONTROLLED CABINET - AMBUTRONIC



- Highly robust design with a sturdy stainless-steel frame
- Visual and acoustic alarm function when temperature deviates by more than 1.5 °C
- Compact design with 7 l capacity
- Cooling unit can be separated by up to 1.5 m for greater flexibility (Top and Back version)

Version		Ambutronic Top	Ambutronic Back	Ambutronic Heat
Temperature range	°C	2 – 8		32 – 40
Electrical consumption	W	56 – 67		50
Refrigerant		R134a		-
Main dimensions l x w x h	mm	532 x 278 x 261	404 x 278 x 436	404 x 278 x 261

ADAPTER SET



- Enables an additional evaporator to be connected to the original A/C system
- Simple and low-cost solution
- Designed for every brand of vehicle
- Fast installation

ADAPTER SETS ARE AVAILABLE FOR THE FOLLOWING VEHICLE MODELS, AMONG OTHERS:

Vehicle models					
Citroën Jumpy	Mercedes Benz Sprinter	MAN TGE	Nissan Navara	Renault Master	Volkswagen Crafter
Ford Transit Custom	Mercedes Benz Vito	Iveco Daily	Peugeot Boxer	Renault Trafic	Volkswagen T6

AIR OUTLETS



- Huge range of outlets with different designs, functionalities and installation options
- Developed in house, designed for modern dashboards
- Durable elements, made of high-quality plastic
- Simple and easy to install

E-CONNECTED

DIGITAL SERVICES

Digital solutions for customer needs.



DIGITAL CLOUD PLATFORM

Technical infrastructure on which digital services are built to ensure their availability.

HARDWARE CONNECTIVITY

Networking of hardware and the gateway to make data accessible.



e///connected

PORTFOLIO

The specially developed e-connected platform forms the basis for all digital services from Eberspächer. GPS trackers or sensors collect data for transfer to the cloud via a gateway in each vehicle. Diverse data-based services can be developed for various customer segments using this intelligent network. They offer enhanced efficiency, transparency and safety such as cold chain monitoring.



GLOBAL FOOTPRINT






**FUEL OPERATED
HEATERS & A/C
PRODUCTION
OLAWA, POLAND**



**A/C
PRODUCTION
ZHONGSHAN, CHINA**



**ELECTRICAL HEATERS
PRODUCTION
TIANJIN, CHINA**



**BRANCHES
ESSLINGEN, GERMANY**

SUBSIDIARY

GENERAL AGENTS

EBERSPÄCHER CLIMATE CONTROL SYSTEMS
INTERNATIONAL GMBH
EBERSPÄCHERSTRASSE 24
73730 ESSLINGEN / GERMANY

PHONE: +49 711 939-00
FAX: +49 711 939-0634
info@eberspaecher.com
www.eberspaecher-climate.com