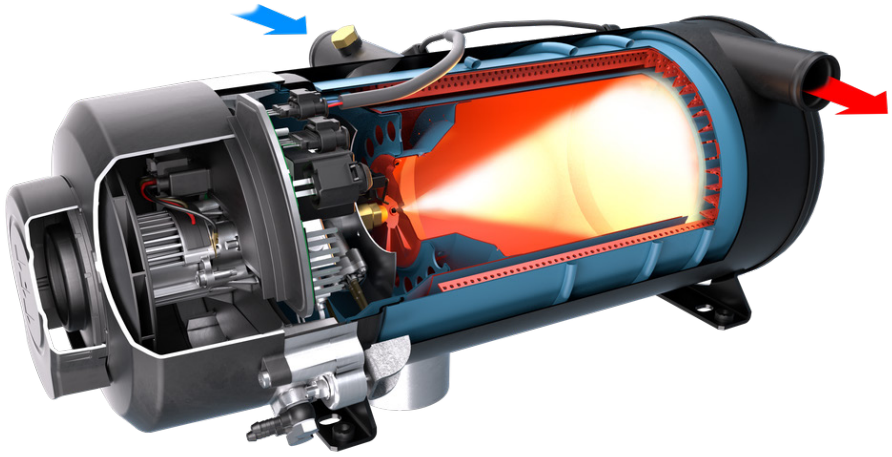
PRODUCT INFORMATION

HYDRONIC L3 : TECHNOLOGY



HYDRONIC L3 FUNCTIONS:

- Combustion air is conveyed to the combustion chamber by the fan motor and impeller.
- A gear pump delivers fuel from the vehicle's tank and builds up pressure against the closed solenoid valve.
- The solenoid valve opens and the fuel is atomized by the fuel nozzle in the combustion chamber / flame tube.
- The ignition spark monitor ignites the fuel-air mix.
- The resulting flame detection by an optical flame sensor switches off the ignition spark monitor, transfers the heat to the cooling water via the convector, and diverts exhaust gas via the exhaust silencer.
- The cooling water circulation pump conveys cool water to the heater, where it is warmed by the convector and then routed to the vehicle's own convector and combustion engine.

PRODUCT INFORMATION - Hydronic L3 heaters

EBERSPÄCHER HYDRONIC

Heater		Hydronic L16	Hydronic L24	Hydronic L30	Hydronic L35
Product package		Heater	Heater	Heater	Heater
Techn. designation		Hydronic L3 (HL3-16)	Hydronic L3 (HL3-24)	Hydronic L3 (HL3-30)	Hydronic L3 (HL3-35)
Order no. for heater		25.3042.02.0000	25.3043.02.0000	25.3040.02.0000	25.3041.02.0000
Order no. for compact heater		––	25.3043.05.0000	25.3040.05.0000	25.3041.05.0000
Fuel		Diesel, fuel oil, HVO #	Diesel, fuel oil, HVO #	Diesel, fuel oil, HVO #	Diesel, fuel oil, HVO #
Voltage	V	24	24	24	24
Heating medium		Mixture of water and anti-freeze (Proportion of antifreeze at least 10 % up to 50 % maximum)			
Heat output	W	16,000	24,000	30,000	35,000
Fuel consumption	l / h	2	2.9	3.65	4.2
Power consumption, heater	W	65	85	95	110
Power consumption, water pump	W	104 – 210*	104 – 210*	104 – 210*	104 – 210*
Minimum water throughput	l / h	1,400	2,000	2,600	3,000
Lower voltage limit	V	20.4	20.4	20.4	20.4
Upper voltage limit	V	32	32	32	32
Dimensions L x W x H	mm	544 x 230 x 221	544 x 230 x 221	544 x 230 x 221	544 x 230 x 221
Weight empty**	kg	16	16	16	16

* depending on the coolant pump model
# Hydrogenated Vegetable Oil

EBERSPÄCHER COOLANT PUMPS FOR HYDRONIC L3

Water pumps		Flowtronic 5000	Flowtronic 6000 SC
Order no. for water pump		25.2488.26.0000	25.2488.25.0000
Coolant		Water-glycol mix with up to max 50 % glycol	Water-glycol mix with up to max 50 % glycol
Delivery rate	l / h	5,200 at 0.2 bar	6,000 at 0.4 bar
Operating pressure	bar	max. 2	max. 2
Nominal voltage	V	24	24
Elec. power consumption	W	104	210
Protection class		IP5K4	IP25 (potted electronics)
Dry running		No	Yes – motor switches itself off after 45 minutes
Shaft-impeller connector		Mechanical seal	Magnetic coupling
Weight empty*	kg	2.04	2.5

HYDRONIC L3
SERIES: 55,000, 82,000, 102,000, 120,000 BTU

HYDRONIC L3-16	
Basic Heater 24V	25.3042.02.0000
HYDRONIC L3-24	
Basic Heater 24 volt	25.3043.02.0000
Hydronic L3-24 **Compact**	
Water pump Flowtronic 5000 and fuel filter pre-assembled	25.3043.05.0000
HYDRONIC L3-30	
Basic Heater 24 volt	25.3040.02.0000
HYDRONIC L3-30 **Compact**	
Water pump Flowtronic 5000 and fuel filter pre-assembled	25.3040.05.0000
HYDRONIC L3-35	
Basic Heater 24 volt	25.3041.02.0000
HYDRONIC L3-35 **Compact**	
Water pump Flowtronic 5000 and fuel filter pre-assembled	25.3041.05.0000

Additional parts which have to be ordered separately

Water Pump, Flowtronic 5000	25.2488.26.0000
Water pump, Flowtronic 6000 SC	25.2488.25.0000
Water Pump, Flowtronic 5000S	25.1818.30.0000
Hose clip, ø 40-47 mm	152.09.017
Hose elbow, ø 38 mm	25.1799.80.0001
Connection pipe, ø 38 mm	25.1214.89.0021
T-piece, ø 38-38-38	25.1371.89.0400
Reducer, ø 38/28 mm	25.1214.89.0019
Hose clip, ø 32-39 mm	10.2067.03.2050
Pipe elbow, ø 38 mm	25.1214.89.0003
Water hose, ø 38 mm	360.75.413
Exhaust pipe socket, ø 70 mm	22.1000.40.0400
Exhaust pipe elbow, ø 70 mm	22.1000.40.0300
Fuel filter	25.2599.05.0100
Banjo bolt, M14 x 1.5	104.09.002
Sealing ring, A14 x 18	323.16.006
Fuel suction line, Ø 5 x 3, length: 800 mm	25.2488.05.0400
Screw, M14 x 1.5	266.42.004
Ball bushing	263.61.001
Union nut, M14 x 1.5	116.09.003
Fuel pipe, Cu, according to DIN 1786, Internal diameter Ø 6	- - - - - - - -
Fuel hose,	360.75.350
Fuel hose, ø 5 x 3	
Hose clip, Ø 11 mm	10.2068.01.1098
Screw, M14 x 1.5	266.09.005
Rubber buffer M6 x 10 Height: 15 mm	20.1607.65.0002
Fuel return line, Ø 5 x 3, length: 750 mm	25.1698.05.0400
Ball valve	25.2488.05.0200
Reducer coupling 8 / 6	266.00.026
Shroud with hose connection	22.1000.40.0600
1 m flexible hose, ø 60 mm	10.2114.31.0000
Hose clip 10.2067.05.0070	10.2067.05.0070
Air hose fixing kit	22.1000.50.0200
Plastic grille	25.1688.80.0600
Nozzle holder	22.1000.01.0035
Nozzle	10.2067.05.0070
Hose connection nozzle	22.1000.01.0005
Adapter	25.1226.89.0050

CABLES & CONNECTORS

1.	Connection parts electrical HL3	25.3040.89.0100.0A
2.	Adapter cable CAN operating unit	25.3040.89.0200.2A
3.	Adapter cable diagnose	25.3040.89.0300.2A
4.	Supplement kit	25.3040.89.0400.0A
5.	Adapter cable HL2 to HL3	25.3040.89.0500.2A
6.	Adapter cable waterpump Flow 5000/6000SC	25.3040.89.0600.2A

1. All mating connectors to the heater, no wires included
2. Adapter to EasyStart Pro connector with terminating resistor. Cannot be used on it's own. Requires 25.3040.89.0400 to wire in Power and Ground for the EasyStart Pro.
3. Diagnostic Y-cable. Installed between heater and controller cable to provide an EasyScan diagnostic port. Note: EasyScan will not be supplied with power and ground.
4. Connector required to build a CAN or LIN control cable and supply power and ground to the controller. Wires not included. To use an EasyStart Pro as the controller 25.3040.89.0200 is required in addition.
5. Cable for connecting HL3 into the old HL2 harness
6. Cable for connecting water pump into the heater.

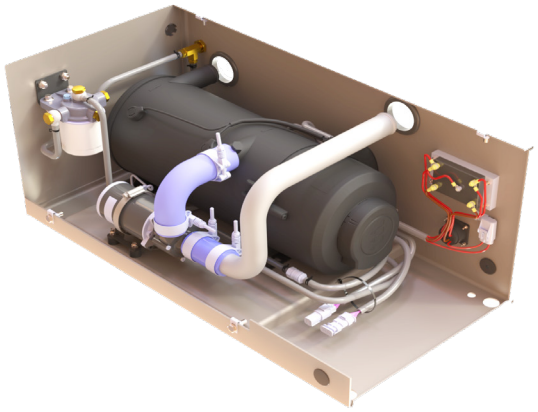
Connecting EasyStart Pro requires items 2 and 4.
Retrofitting HL3 into older HL2 setup without EasyStart PRO and diagnostic requires items 5 and 6.
New install with EasyStart PRO and diagnostic connector requires items 1, 2, 3, 4 and 6.

HYDRONIC L3

HYDRONIC L3 - BOXED KITS

HYDRONIC L3 boxed installation kit		Heater	Harness	Fuel System	Coolant pump	Power Convertor	Control Options / Timers	Fuel Pick-up Pipe	Hardware Kit	Exhaust Pipe	Intake pipe	Boxed enclosure	Portal Instructions
Installation Kit - Boxed HYDRONIC L3, 30kW, 12V	25.2800.10.3030	■	■	■	■	■			■	■		■	■

■ Items in the kit



Fuel

Hose Fuel 5 x 3mm black rubber	360.75.350
Single Pick-up Pipe 4.0 mm with Return (61 cm or 24")	20.2900.20.2059
Clamp 11mm, 4 qty.	10.2068.01.1098

Controls

EasyStart PRO	20.2800.70.2200
Programmable Switch	25.2800.70.1010
EasyStart Timer	22.1000.34.1500

- Packaged for Off-Highway and Oilfield applications
- Eliminate cold starts
- Minimize diesel exhaust emissions
- Rugged, compact
- Versatile fluid pre-heating
- Standard with pre-heated nozzle

CONTROL OPTIONS AND TIMERS

Control units




Model	EasyStart Pro	EasyStart Timer	EasyStart Select	Airtronic mini-controller
Order number	22.1000.35.2200	22.1000.34.1500	22.1000.34.1300	22.1000.32.0700
Interface	CAN	LIN, S+	LIN	S+
Control unit compatibility with heaters				
 Hydronic S3 12V CS Economy	CAN	S+ *	–	–
 Hydronic S3 24V CS Commercial	CAN	S+ *	–	–
 Hydronic S3 12V CL Economy	–	LIN	LIN	–
 Hydronic M II 12/24 V	–	LIN	LIN	–
 Hydronic L3 24V (16/24/30/35 kW)	CAN / E-Control	LIN	LIN	-
 Airtronic S3/M3/L3 12 V Commercial	CAN	LIN	LIN	S+ **
 Airtronic M3 12V Recreational	CAN	LIN	LIN	S+ **
 Airtronic S3/M3/L3/XL3 24V Commercial	CAN	S+ * No setpoint input possible	–	S+ **

* With restricted function: diagnostics cannot be run via the control unit

** With restricted function: no external temperature sensor possible

QUICK-REFERENCE GUIDE

The basic principle of pre-heaters is to heat the passenger compartment of all kinds of vehicles without having to depend on the heat given off by a running engine. That's a well-known fact. But at some point or other you must have asked yourself what the actual difference is between air and water heaters.

Air-based pre-heater – Eberspächer Airtronic:

Air-based pre-heaters are mostly installed inside the cab and directly heat the air inside it, which is sucked in via the unit's own fan. Their effects are noticeable almost instantly, as the heat in the form of hot gas, which is produced by a burner, does not have to heat up a water circuit first. Modern devices are very quiet, low on emissions and chiefly used to maintain the temperature in the cab of a truck or van at a pleasant level even while it is at a standstill (e.g. overnight).

Water-based pre-heater – Eberspächer Hydronic:

Water-based pre-heaters have a compact design and can be fitted almost anywhere in the engine compartment. They are therefore the pre-heater of choice for cars with interiors too cramped for additional installations. The heat generated by a burner is transferred to the vehicle's coolant.

An (additional) electric circulation pump distributes the hot coolant, even when the engine is switched off. Then, the interior fan is activated automatically – everything works as it does in normal heater operation. Water-based heaters therefore not only warm up the interior but, depending on the application, also the engine or the water used in boats or motor homes. Engines heated in this way can be started more easily in cold weather while also protecting the car battery from the effects of the cold, and producing fewer harmful emissions on starting, as the hotter exhaust temperature enables the catalytic converter to reach its operating temperature more quickly. The cold-starting phase, which produces mechanical stress and higher emissions, is dramatically reduced, as the oil reaches operating temperature fast when the engine is started. This saves fuel and money while lowering CO2 emissions at the same time.

Both systems generally run on the vehicle's fuel, straight out of the fuel tank. Depending on the model, you can use a timer, remote control, smartphone, smartwatch, Alexa or a browser to control them.

QUICK-REFERENCE GUIDE

Hydronic S3 (5 kW):

Cab and engine heater

- Passenger cars (from 2.0 l displacement)
- Emergency vehicles
- Vans, large taxis, minivans
- Commercial vehicles, including tandem configurations with air heaters
- Construction and agricultural machines
- Motor homes

Hydronic M8 / M10 / M12 (8–12 kW):

- Commercial vehicles from approx. 150 kW engine power
- Cargo area heating
- Military vehicles
- Large agricultural and construction machines
- Motor homes

Hydronic L3 (16 / L24 / L30 / L35 (16–35 kW):

- Coaches and city buses
- Large freight compartments for goods that need to be kept warm
- Container setups
- Diesel locomotives

QUICK REFERENCE GUIDE

Airtronic S3 (2.2 kW):

Heating comfort for a variety of applications.

- Vans, small motor homes, small buses
- Truck cabs with sleeping cabins
- Construction and agricultural machines without engine-dependent heating
- Forklifts and other plant machinery
- Electric vehicles

Airtronic M3 (4 kW):

The high-performance, compact air heater for mid-range requirements.

- Large trucks – cabs with sleeping cabins
- Vans, small buses
- Large agricultural and construction machines
- Motor homes
- Minivans, and vehicles used for conferences and consultancy

Airtronic L3 (6 kW):

- Vans, workshop vehicles, personnel carriers, small buses (fast heating despite door opening frequently)
- Ambulances and emergency medics' vehicles (special heating and temperature requirements)
- Freight compartment and freight goods heating plus frost protection and dew point prevention

Airtronic XL3 (8 kW):

Continuously variable, pre-selectable heating performance regulation.

- Large freight compartments, containers
- Personnel carriers
- Coaches and city buses

QUICK REFERENCE GUIDE

INTRODUCTION PAGE

On the following pages you will find the entire offering of Eberspaecher heaters, heater kits, control options and accessories. Below are some tips on how to best choose the products you are looking for.

PAGE LAYOUT

The Product Catalog is a complete listing of the products we sell. In the heater section, you can trace the heater you are considering straight across to the dots in the columns on the right side of the page. These columns have a header row showing the items offered with the blue squares indicating which of them actually come in the kit being selected.In the accessory section, you trace the accessory across to the blue squares on the far right to see what heaters that component is used with.

HEATER CHOICES

Our heaters come in both 12 and 24 Volt offerings and in Gasoline (B prefix) and Diesel (D prefix) models. When selecting a heater model, be sure to begin with the right voltage and fuel type for your application. The "Basic" heaters shown are just that, a bare heater, and are usually used as replacements. If a heater price seems too low, compared to other models, be sure it's not a basic kit.

- RECOMMENDED

  There are a variety of kits and components in the catalogue that may look similar.

  When more than one item is listed, look for the label. PREFERRED

  This indicates that item is one of the more commonly sold products of those that are listed. However, we want to make sure you get the right equipment for the job so if you are in doubt please don't hesitate to contact your local regional sales manager or our tech service department at (1-800-387-4800) or to seek assistance, log on to Eberspaecher Service World at https://service.eberspaecher.com/EN/service/ and create a service ticket using the "My Ticket Management" link.

- EMMISSIONS

  Eberspaecher offers more EPA Verified / CARB Compliant heater choices than any other manufacturer. Look for the EPA label when selecting a heater for specific applications.

- AIRTRONIC HEATER KITS

  Unless specified otherwise these kits are usually sold as complete with installation components. The variables are usually limited to multiple controller and fuel Pick-up choices. These are all noted in the kit description and in the columns on the right side of the page.

- HYDRONIC HEATER KITS

  Unless otherwise noted these units are typically sold ala-carte – with the heater kit, timer/controller and even installation kits purchased separately to provide maximum installation flexibility. Always check the description and the kit component listing in the columns on the right side of the page.

- CONTROLLERS

  Eberspaecher offers a variety of controllers for almost every heater model and application combination. The most preferred controller is the EasyStart PRO controller for both the air and coolant heaters. Other controller types like the EasyStart timer, the programmable (school bus) timers, mini controller and the multi-function switch are also available for use based on the application and customer requirements.