

**Engine off. Climate on.
With Engine-Off Heating and Cooling Systems.**



Engine off.



Climate on.

Optimal work climate 365 days a year. Thanks to zero engine idling.

Heavy-duty vehicles must be in action all year round. But how can man and machine always stay at operating temperature, given the great variations in outdoor temperature? The most common solution in the past: Keep the engine running. The problem: fuel is wasted, engine wear-and-tear increased, operating costs increased.

The efficient alternative comes from Webasto. Thanks to its innovative Engine-Off Technology, the temperature stays constant in the optimum range for both man and technology, even with the engine switched off. Operational availability and driver convenience are ensured at all times. Best of all: cost savings are so enormous that the investment pays for itself within a single year.

Control panel

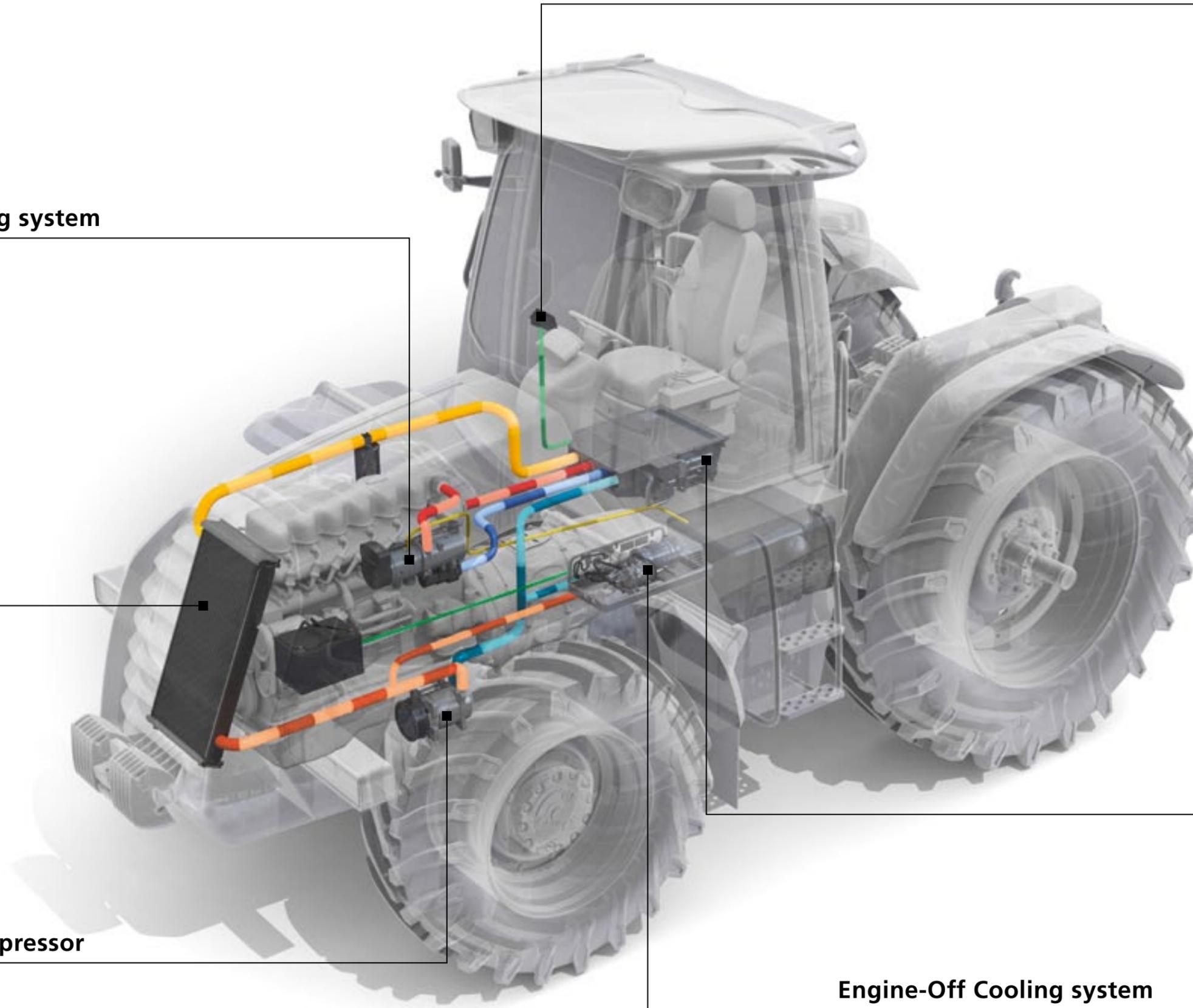
Engine-Off Heating system

Condenser

Compressor

HVAC system

Engine-Off Cooling system



The efficient alternative comes from Webasto.

1 Heating and cooling from a single source.

Webasto is the first and only provider of engine-independent heating and cooling solutions – all from a single source. Due to the acquisition of cooling specialist Diavia, Webasto has now doubled its climate competence. For both summer and winter.

2 A constant 21° C – 365 days a year.

Custom-made Engine-Off Climate solutions allow for efficient year-round use of heavy-duty vehicles. Man, machine and hydraulic liquids are always at operating temperature. Regardless of weather conditions.

3 A ready-for-duty driver at all times.

Extreme cold or extreme heat are exceptionally strenuous and exhausting for vehicle drivers. Engine-Off Heating and Cooling systems assure a pleasant work climate and maximum comfort.

4 Environmentally friendly to the power of 2.

The automatic Engine-Off Technology benefits the environment too. In a double sense. Thanks to the many engine pauses – and to the fact that only this new technology makes use of environment-friendly start-stop systems possible. With a constantly warm engine, restart comes off without a hitch.

5 Up to 90% less fuel consumption.

In comparison with idling, considerably less fuel is consumed when the engine is not running. This can pay off in savings of up to 90%.

6 Diesel particulate filters stay clean longer.

When idling, the combustion temperature for efficient operation of the filters is too low. So they soil and wear out much faster. Engine-Off Climate systems prolong the life of particulate filters.

7 Made-to-measure climate systems.

Every vehicle and every job is different. Webasto is a specialist for construction and agricultural machinery and delivers the climate solution tailored to your specific needs. Backed by a comprehensive modular system of integral components.

8 Up to 60% fewer operating hours.

Although man and machine take breaks, operating hours still add up when idling. If the engine is switched off during standing and waiting times, the number of operating hours is frequently cut by half.

9 Less wear-and-tear, less maintenance.

Less idling also means less engine wear-and-tear. Engine running times are reduced and, due to fewer operating hours (up to 60%), less maintenance is required while achieving higher resale value.

10 Save up to € 7,000 per vehicle and year.

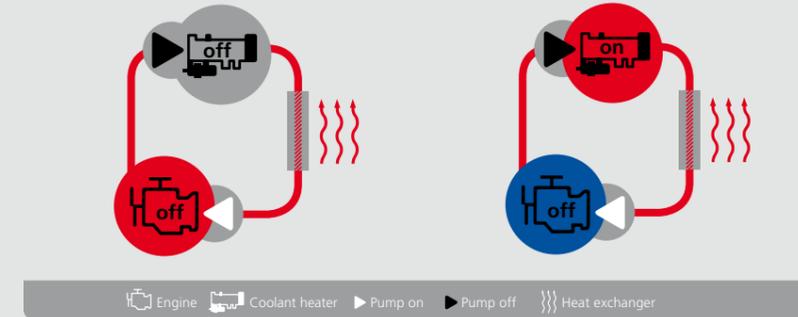
With the Webasto Engine-Off Climate systems, you can save twice – immediately on fuel consumption, and long-term on entire fleet costs.

In heat or cold, always on operating temperature. Here's how the Engine-Off Technology works:

When heating:

The Engine-Off Heating system starts up when the motor is switched off. The coolant heater is integrated into the water cycle and keeps engine and cabin at optimum temperature.

The engine-independent heater warms up even large interior spaces and cabins perfectly for hours and hours.



Engine off – with residual heat utilization:

The residual heat of the engine is used by the heating system since the Webasto circulating pump ensures transport of residual heat through the coolant circuit. Cabin temperature remains constant.

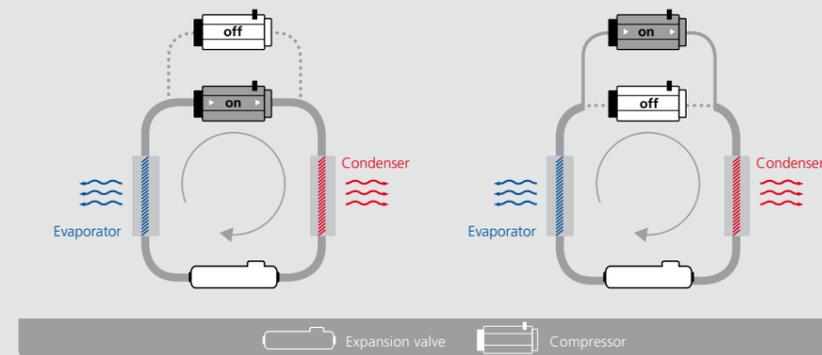
Engine off – with auxiliary heater function:

When the engine cools down, the coolant heater automatically switches on. Engine and cabin temperature remain constant.

When cooling:

The vehicle compressor switches off as soon as the engine stops running. An exterior compressor, however, receives energy via

the vehicle battery and is operated via an external motor. It starts up when the vehicle engine is turned off.



Engine on – vehicle compressor on:

The engine is running, the cabin is cooled by the vehicle HVAC plant.

Engine off – external compressor on:

The engine is switched off by the start-stop function of the vehicle. The external engine-off compressor replaces the vehicle compressor during the break.

Discover your savings potential!

The Engine-Off Climate systems from Webasto make it easy for you to manage your projects more cost-efficiently. Savings per vehicle average in the upper 4-digit range. How much you actually save in each case can be found online. With the Webasto Fuel Calculator you can estimate the savings for your construction and agricultural machines.

Calculate your personal savings potential here!



Idling time as related to total working time:

Rigid dump truck  30%	Articulated dump truck  60%	Articulated tractor  3%	Drilling truck  10%	Skid steer loader  5%	Wheeled loader  40%
Backhoe loader  30%	Crawler dozer  30%	Crawler loader  30%	Compact tracked loader  5%	Grader  5%	Scraper  5%
Rough terrain lift truck  25%	Compactor  15%	Asphalt paver  2%	Compact excavator  10%	Crawler excavator  25%	Wheeled excavator  30%
Wheeled crane  3%	Crawler crane  3%				