



Using renewable fuels today: Benninghoven EVO JET burners can also burn biomass to liquid fuels or wood dust.

IMAGE SOURCE: WIRTGEN GROUP

Benninghoven | The fuels of the future are carbon neutral

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Benninghoven burners enable reliable use of renewable and therefore sustainable energy sources

Many markets are phasing out coal as a fuel, while systems running on oil are subject to increasingly more stringent regulations and restrictions. With **Benninghoven** technologies, plant owners can be sustainable and secure the future of their plant site. EVO JET multi-fuel burners, which can use renewable fuels such as biomass to liquid (BtL) and wood dust, contribute to this. Both have a carbon neutral footprint.

Carbon neutral instead of fossil fuels

Climate agreements and more stringent regulations issued by governments and authorities worldwide also pose challenges for the asphalt industry with respect to reducing greenhouse gases such as CO₂. Owners of asphalt mixing plants have to reduce emissions to help secure the future of the plant site. When it comes to mixing asphalt in a cleaner and more sustainable way, changing from oil or coal dust to gas is a major step: Natural gas or liquid gas already halve the CO₂ emissions.

The outcome for the renewable fuels wood dust and biomass to liquid is even more impressive: They are carbon neutral. The fuels of the future are also attractive when it comes to their availability, as fossil fuels are not only limited, but are becoming increasingly more difficult to produce. This makes it even more important that plant owners use the right technologies to be prepared for the future by using alternative fuels.

Wood dust burners are carbon neutral

Wood is a renewable raw material that can be grown with sustainable methods and is therefore a carbon neutral fuel. With the EVO JET wood dust burner, Benninghoven has made it possible to use wood dust in asphalt mixing plants – adding another product to the portfolio of burner technologies developed in-house. For plant owners, the wood dust burner is a sustainable option for preparing their plant for the future.

The development engineers at Benninghoven have identified the ideal particle size of the wood dust, which is produced mainly from scrap wood and wood waste. The optimum grading curve of the fuel is crucial for the flame geometry of the burner, and therefore for the effectiveness of heating the virgin mineral or recycling material. Several Benninghoven customers are already successfully using the EVO JET wood dust burner.

BtL burners for using biomass as a sustainable alternative

The use of BtL fuels is an important development on the energy market. BtL fuels can be produced from plant waste such as straw and wood or from energy plants such as maize and oilseed rape. Benninghoven also offers an innovative solution for using biomass as a fuel: the EVO JET BtL burner. Just like wood dust, BtL fuels are carbon neutral. And like all EVO JET models, Benninghoven BtL burners can also be run with other fuels such as oil, coal dust and gas. This means that the new Benninghoven burners give plant owners the option of still using fossil fuels today, but then changing to renewable fuels when the time comes – a future-proof investment.



"We always think ahead and develop solutions for tomorrow. In addition to the fuels of the future such as wood dust or BtL fuels, we also focus on direct energy savings," says Steven Mac Nelly, Head of Development & Engineering at Benninghoven.

IMAGE SOURCE: WIRTGEN GROUP

Benninghoven develops zero emissions technologies

Benninghoven tackled the medium-term and long-term challenges in the asphalt industry early on, focusing on developing appropriate solutions. "One question stands out: Is hydrogen, which burns with zero emissions, the fuel of the future? When it comes to fuels, the main issues are availability and direct energy savings. In the short term, we offer solutions for gas as well as the wood dust burner and BtL burner, which can already save large amounts of CO₂ and other emissions," explains Steven Mac Nelly, Head of Development & Engineering at Benninghoven.

Benninghoven follows a clearly defined process for new developments and enhancements. That also applies to the burner technology, which is one of the company's core strengths. The development team has access to a state-of-the-art infrastructure, from modern simulation programs to a burner test rig.

The development of sustainable fuels is an essential building block, allowing the asphalt mixing plant specialist to offer solutions for sustainable, clean and efficient asphalt production. This also includes the Benninghoven hot-gas generator and REVOC system, which allow for a high content of recycled material and low emissions.

Source: WIRTGEN GROUP