

The VIPP System

Four steps to clean power and heat

The VIPP system is the natural choice for small-scale biofuel cogeneration systems. It allows the production of electric power and heat at significantly higher conversion efficiencies than the direct combustion of biomass. We offer a financially attractive and renewable energy source for use in industry and power companies.

The VIPP system is designed to process fuel as pellets or small particles, such as sawdust. Tests are also being carried out on other types of biomass fuels, including branches and roots, bark, straw, rice husks and other locally available feeds. Meva Energy provides a true “multifuel” electric power and heat system. Depending on your requirements, the system can be divided into separate parts. We always tailor the system to the fuel and the needs and preferences of the user.

The VIPP

	Electric	Thermic	
VIPP	1,2 MW	2,2 MW	Small industries or small residential areas with approx. 400 homes
Side by side	2,4 MW	4,4 MW	Large industries and larger communities with approx. 900 homes

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Step 1: Biofuel handling system



Step 2: Fuel gas production in a cyclone reactor



Step 3: Absolute gas cleaning in a multi-stage process



Step 4: Heat recovery from the gasification process and from the engine. Power production from the generator.



Result: Clean electric power and heat for local use or in district heating systems.



Bio Fuel Handling

Making the best fuel for gasification

The first step of the VIPP system is preparing the materials.

The biofuel handling system receives pellets or raw materials like wood, rice husks and agricultural solid residue and powderizes the biomass fuel to millimeter sized particles. These particles are then mixed with streaming air in order to provide a continuous flow of fuel. Since gasification as such always is sensitive to changes in fuel/air ratios, the achievement of a well-dispersed fuel flow is a key enabler in the VIPP-process.

Meva's VIPP system is a small-scale gasification process that extracts power and heat from bio energy. It consumes 960 kg of pellet per hour and gives 1,2 electric MW and 2,4 heat MW per hour. Beneficial to investors and essential for the global environment.

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Vortex Gasification System

From fuel to biogas

The heart in gas production is the cyclone reactor, a newly developed technology for efficient gasification of biofuels. In the cyclone, the fuel flow is heated and partly combusted with a deficit of air. The process is taking step gradually in a vortex-shaped flow that ensures an even process. The result is a syngas with substantially higher calorific content than conventional gasification principles. Also, the fast flow of fuel particles and air in the cyclone enables a second major advantage: almost immediate load changes. The VIPP system is hence suitable in energy systems where balancing power is important.

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Gas Cleaning System

Makes gas clean and powerful

The gas cleaning system is a unique and patented optimal cleaning process that achieves the standards required to produce syngas friendly to engine combustion. The process consists of three steps: the raw gas passes a cyclone body for the rough separation of particles; a bio-scrubber operates using an organic oil; and a system for particle removal helps to obtain a pure syngas. The gas cleaning system also includes heat recovery as a part of the VIPP System.

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Power and Heat Production

Gas engine guarantees high efficiency

This step includes heat recovery from the gasification process and from the engine. Power production comes from the generator. In order to produce a high level of electrical and recover as much heat as possible, the combined heat and power installations based on the VIPP system are built with gas engines. Meva Energy has been selected by Cummins Inc., one of the worlds largest engine manufacturer as a strategic provider of gasification technology. The VIPP system supplies both electric power and district heating for multiple uses.

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