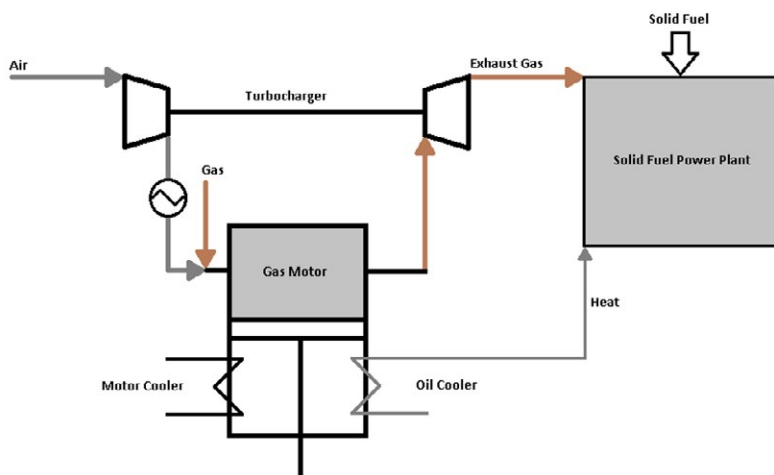


Highly efficient Incineration Plant and Method for Operation of an Incineration Plant

Reference No: B80026

CHALLENGE

The ongoing energy transition will most likely result in an increased demand for efficient gas power plants. Wind and sun are volatile, and gas power plants are a very promising way to provide electricity at times when there is insufficient wind and sunlight. Certain types of gas power plants, such as combined cycle power plants, are very efficient, but they lack flexibility, which means they are very slow to boot. Gas motors, on the other hand, can adapt their power output in a flexible way, but are less efficient.



INNOVATION

The present invention provides a unique way to integrate a gas motor into a solid fuel power plant such as an incineration power plant or a biomass power plant. This way, the gas motor can be operated in a way that is both efficient and flexible.

COMMERCIAL OPPORTUNITIES

The invention allows utilities to exploit synergies between incineration and power generation in an unprecedented and low-cost way by common incineration power plants. Thus, energy cannot only be provided very efficiently, but also flexibly enough to take advantage of the high energy prices that come along with unexpected peaks in demand and/or availability. The technology is also particularly suitable to upgrade existing incineration and biomass fired power plants with minimal interference in existing plant components.

DEVELOPMENT STATUS

According to the calculations of the inventor, a motor that would normally provide 9500 kW of electrical power can add approximately 11000 kW to an existing incineration power plant when integrated with the incineration power plant as detailed in the invention. This allows about 3000 more households to be supplied with electricity compared to if the motor was operated as a stand-alone machine. In addition, the waste heat of the motor can be distributed through the heating network together with the heat generated by the incineration plant to heat houses.



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