

REACTOR AND APPARATUS FOR TREATING EFFLUENT GAS STREAM

Abstract

A reactor for treating gaseous pollutants includes an inlet module, a
5 reaction module, one or more microwave modules, and a susceptor. The
inlet module includes one or more guiding conduits configured to guide an
effluent stream from a process. The reaction module is in fluid
communication with the inlet module and includes a body and a reaction
chamber. The guiding conduit is connected to the reaction chamber. The
10 microwave module includes a microwave generation unit and a waveguide
unit, wherein the waveguide unit is connected to the reaction chamber and
configured to transmit microwave radiation generated by the microwave
generation unit into the reaction chamber. The susceptor is disposed within
the reaction chamber and configured to receive the microwave radiation
15 from the waveguide unit and convert the microwave radiation into thermal
energy.

FIG. 3