CUSTOM COMBUSTORS, GASIFIERS AND REFORMERS

Are you a planner, plant engineer or plant developer in need of technology to burn or gasify solid fuels? Is synthesis or fuel gas reforming essential to your process? Our solutions will enable you to complete your system with these technologies.

As your technology partner, we will engineer the process equipment that burns or gasifies solid fuels or reforms combustible gases for you.

From Detailed Engineering through Commissioning

We will provide you more than just the detailed engineering of the process equipment for combustion, gasification or reforming, which is modified for the type and quantity of fuel. We will also recommend reliable partners to build the process equipment and will provide you support when you commission it.

We will apply our technological expertise in
- fluidized bed combustion,
- fluidized bed gasification,
- entrained flow combustion,
- fixed bed catalysis and
- moving bed catalysis
to develop the right solution for your process.

Turn your disposal problem into an energy supply solution. Develop fuels with us, which could not be utilized before. After extensive technical testing in our laboratories and testing facilities, we will complete the basic engineering for a recovery concept. We will estimate the capital expenditure and conduct an economic feasibility study. That will validate your decision.

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Rely on Our Experience

The Fraunhofer IFF’s Process and Plant Engineering Business Unit has years of experience with custom combustors, gasifiers and reformers. Our core expertise is in fluidized bed combustion and gasification systems, entrained flow combustion systems and gas conversion systems. We have an extensive portfolio of test equipment with thermal outputs of 5 kW to 1 MW at our disposal for these technologies.

These technical options are supplemented by advanced simulation systems and special software applications. Rely on our top team of experts in process engineering, process equipment and plant engineering, instrumentation and control engineering and computer simulation to contribute their extensive project experience and their latest research findings to turn innovations into your success.

Use, Don’t Dispose of Waste

We have worked on technical solutions for combustion, gasification and reforming for numerous wastes from the widest variety of industries:

**Pulverized Fuel Burner Reference Plant**
- User: Powder coater
- Fuel: Waste powder (overspray)
- Properties: fusion point 60 °C, heating value 17 MJ/kg, hygroscopic, particle size <50 µm
- Quantity: 130 t/a
- Plant size: Thermal output of 100 kW
- Potential savings: Up to 100 % of disposal costs, up to 25 % of natural gas used in the process
- Use: pulverized fuel, thermal output of 50 kW - 1 MW, heat and power supplied by CHP

**Fluidized Bed Combustor Concept**
- User: Local energy supplier
- Fuel: Straw
- Properties (approximate): 10 % water by mass, 6 % ash by mass, heating value of 14.8 MJ/kg, 0.5 % chlorine by mass, 0.25 % sulfur by mass
- Quantity: 950 kg/h, maximum of 10% additives
- Plant size: Thermal output of 3.8 MW
- Use: Straw, culmiferous fuels, thermal output of 1 MW - 10 MW

Do you want to recover energy from fuel or waste? Then contact us.