



**BACHMANN  
INDUSTRIES, INC.**

# Combustion Turbine Exhaust Systems

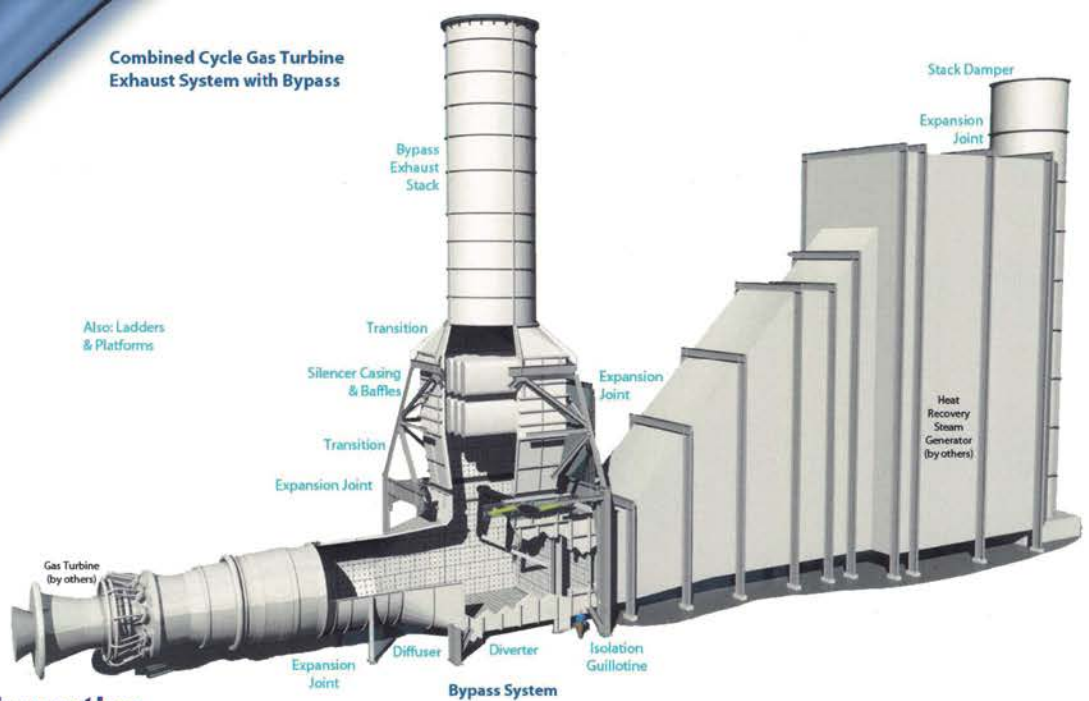
- Simple Cycle Exhaust Systems
- Combined Cycle Exhaust Systems
- Repowering Systems and Solutions



*"Defining the Leading Edge in Technology and Economy Worldwide"®*

 **BACHMANN**

## Combined Cycle Gas Turbine Exhaust System with Bypass



## Innovation and Expertise

Bachmann Industries offers the highest quality designs in Exhaust and Bypass solutions for combustion turbine installations. Our innovative approach assures the most leading edge, reliable equipment appropriate for your application.

Drawing upon decades of demonstrated capabilities, Bachmann designs, fabricates, and installs **high performance equipment built to withstand even the harshest operating environments**. Our exhaust systems can be found in power plants around the world with gas path sizes from 1m<sup>2</sup> to 6.8m<sup>2</sup> or more.

Each Bachmann design meets or exceeds customer's expectations, ensured by state-of-the art in-house engineering capabilities that include Finite Element Analysis (FEA), Computational Fluid Dynamics (CFD) and 3D computer modeling



## Full Systems or Individual Components

Bachmann provides equipment for small units to the largest combustion turbines on the market today. No matter the combustion turbine size or its global location, Bachmann will provide customers with the correct solution for the project's specific needs. The Scope of Supply can include:

- **Dampers:** diverters, guillotines, blanking plates, butterflies and louvers
- **Expansion Joints:** metallic and fabric
- **Stacks:** convertible and non-convertible
- **Other Equipment:** HRSG stack dampers, diffusers, transitions, silencers, ducting, ladders and platforms, and related components

**Gas Flow Diverter (GFD):** The patented Bachmann Gas Flow Diverter is optimized for performance to today's demanding standards. The primary function of a GFD damper is to provide and maintain 100% isolation of the HRSG or Bypass Stack from the CT exhaust flow under normal operating conditions and without system upset.

**The diverter must be designed to withstand** the thermal and mechanical loads of steady state turbine operation and the rigorous demands of thermal cycling during start up and shut down. Bachmann engineers, drawing upon decades of experience at hundreds of installations around the world, have studied every component to maximize operating longevity and optimize shipping sizes, as well as learned how to minimize cost by optimizing field assembly and commissioning time.

## Simple Cycle Systems

Bachmann designs and supplies simple cycle stacks for use with any combustion turbine on the market today. In addition to traditional simple cycle exhaust stacks, Bachmann can supply a simple cycle stack that incorporates the flexibility to permit easy and economical conversion to future combined cycle operation, commonly referred to as 'repowering'.



## Combined Cycle Systems

Bachmann's Gas Turbine Exhaust Systems and Components provide a complete "balance of plant" island solution for the combined cycle plant, from the combustion turbine exhaust flange to the heat recovery steam generator (HRSG) inlet flange.



## Repowering Systems

Converting a simple cycle system to a combined cycle system, aka '**Repowering**', can improve overall plant efficiency by fifty percent or more. Greater energy output is realized through additional processing of waste heat, with no additional fuel. In a typical repowering project, the existing simple cycle exhaust stack is often replaced (or the base converted) to incorporate a Gas Flow Diverter. This will allow for utilization of that stack when the system is required to run in simple cycle or bypass of it when the system is running in combined cycle.

**Bachmann has been repowering plants around the world since 2000**, gaining unparalleled expertise and experience at installations ranging from a single unit to the world's largest conversion project of 40 units.



## Aftermarket Sales & Service

Bachmann Industries stands ready to assist as a **trusted partner for responsive customer service**. A true solutions provider, Bachmann offers repair and upgrade services, as well as strategic spare parts for equipment supplied by all major combustion turbine exhaust system manufacturers.

Excellence with Experience,  
*from Design to Installation and Operation*



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