

100%

HYDROGEN

95%

EFFICIENCY

Zero

EMISSIONS

SOLUTION

From a first principles perspective, the DCC™ process is the most efficient way to convert H₂ and O₂ into industrial steam, and thermal energy.

The zero-emissions DCC boiler is a bold step in the evolution of hydrogen technology. This break-through innovation eliminates the smokestack from industrial boiler installations, solving critical permitting constraints at many sites. The DCC makes clean steam available in highly regulated environments, eliminating CO₂ and NO_x emissions.



Dynamic Combustion Chamber

DCC™ Key Performance Parameters:

- 6,000 kg/hr steam
- 4.7 MW thermal output
- 95%-plus fuel efficiency

For more information visit:

www.exogen.energy

PERFORMANCE

	DCC 3000	DCC 6000	DCC 30k*
Steam output, kg/hr max.	3,000	6,000	30,000
Heat output, MWh max.	2.3	4.7	24.3
Outlet pressure, Bar max.	12	12	40
Steam temperature, °C max.	189	189	254
H₂ fuel consumption, kg/hr	62	123	620
O₂ fuel consumption, kg/hr	496	984	4,960
Utilization horsepower, BHP	238	478	2,390

Source: Jericho Energy Ventures, * available Q4 2023

By combining pure Hydrogen and Oxygen in an exothermic reaction, the DCC™ achieves previously unattainable fuel efficiencies in the range of 95-98%. It is a closed-loop system with no smokestack that is free of all current air and emission regulations.

This adds up to a boiler that produces high-quality process steam at prices that compete with best-in-class natural gas boilers.

High-quality, clean process steam is largely consumed and utilized in Commercial, Industrial and Power end-market applications.

The highly energetic process steam is capable of turning a turbine genset before being distributed for its standard applications.

There are two fundamental issues with traditional fossil-fuel boiler systems used in commercial, industrial, and power end-markets ("CI&P").

First, the greenhouse gasses, such as CO₂, and air pollutants, such as NO_x, and SO_x, from these coal, natural gas, diesel, and oil-fired systems contribute heavily to the world's ever-increasing emissions profile.

And second, the current installed base of CI&P boilers are largely aged and inefficient – with efficiencies as low as 50% on 40+ year old equipment. Meanwhile, new product offerings fail to fully address the inherent inefficiencies, cost and emissions related issues.

Hydrogen Technologies developed the DCC™ from a clean sheet of paper to be the boiler of the future.