



Combustor Technology Description

Brief Description:

Green Earth Technologies International along with its teaming partners. Design and manufacture enclosed combustors that combust multiple fuel sources simultaneously in a single stack chamber. Our combustors are some of the most versatile combustors on the market. We work with our clients to engineer the best solution for reducing their carbon footprint and providing 99%+ destruction efficiency of all gas vapors on their well-site. This assurance allows them to pass **permitting requirements of 98%** destruction efficiency. By doing so, it saves the client thousands of dollars over time and creates a cleaner environment.

What Makes Green Earth's Proprietary Design Different:

Green Earth combustors are engineered to our client's specific needs. They are not "one size fits all" applications.

Crimson's design is proprietary to the combustor market for the following reasons:

1. We combust multiple fuel sources simultaneously in a single stack chamber.
2. We size the stack(s) according to the heat capacity of the BTU content of the gas and the maximum expected volumes of gas. In doing so, we design a layout that minimizes downtime and allows for quick routine maintenance of the combustor(s). This saves the client money and allows the client to reduce their carbon footprint.
3. The manifold and burners are engineered to combust multiple fuel sources simultaneously at different pressures and different volumes of gas vapors.
4. Some burners are universal. By manually opening or closing a ball valve, the burner can be used for combusting either high pressure or low-pressure gas vapors. This adjustment helps to dial in the optimal number of burners needed.
5. The engineered burner design includes spring loaded check valves that are staged to open as specific pressures, specific orifice sizes, specific orifice spacing, specific orifice locations and a specific quantity of orifices to provide the best air / fuel ratio for combustion.
6. The manifold and burner design for each combustor is based on our client's gas analysis for each well site.
7. We have optional controls that allow the introduction of pilot fuel gas into the burners. If used, this helps spread the flame and keeps a constant pressure / flame at the burner orifices. This design assists with low pressure and low volumes of gas. It creates a positive air / fuel mixture for smokeless combustion.
8. We have automatic and manual controls that are built in to provide greater control of the fluctuating gases and / or upset conditions that may occur. This allows for a quick response to abate any conditions where smoke may be present. This is critical to the environment and allows the client to make adjustments throughout the lifetime of the wellsite.
9. The air inlet arrestors at the base of our combustors are designed for both the maximum and minimum amounts of air required to create an effective venturi flow of air. This creates a natural draft while restricting excess air from getting into the stack chamber. This design is critical to help reduce high Nox and CO2 levels and create a better overall destruction efficiency of the combusted gases.



10. We build a range of combustors that are sized to combust from 10 mscfd up to 3MMSCFD+ in a single stack chamber. There are very few enclosed combustors on the market that burn multiple fuel sources simultaneously and combust up to 3MMSCFD+ in a single stack. Our largest combustor is 14' diameter x 53' tall.
11. Our combustors are designed to achieve up to 99% destruction efficiency. All of the independent 3rd party testing has resulted in 99% to 100% destruction efficiency.
12. Our combustors meet the requirements of EPA 40 CFR Part 60 subpart OOOOa/b/c and Colorado Regulation No. 7. Colorado Regulation No. 7 is considered the stricter of the two. When Subpart OOOOb comes into effect, it will bring the new EPA standards closer to Colorado Reg. 7.

Conclusion:

Green Earth Technologies International, Inc. & its teaming partners design specific types of combustors that are engineered to our client's gas analysis and well site conditions. The air inlets and burners are engineered to create the optimal air / fuel ratios for smokeless combustion. In addition, the automatic and manual built-in controls help assist with fluctuating gas pressures and volumes. This also provides clients with the ability to make field adjustments and abate any issues in the field when upset conditions occur. With a range up to 3MMSCFD+ and a 99% destruction efficiency, our multiple fuel source combustors are some of the most versatile combustors on the market.

If you have any questions or would like additional information, you can contact us by email at contactus@green-earth-tech.com or call 832-390-2699



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