

PLASMA DESTRUCTION OF ...

**REFRIGERANTS
OZONE DEPLETING SUBSTANCES
HAZARDOUS SUBSTANCES**



SPARC

The power of
STEAM PLASMA HYDROLYSIS

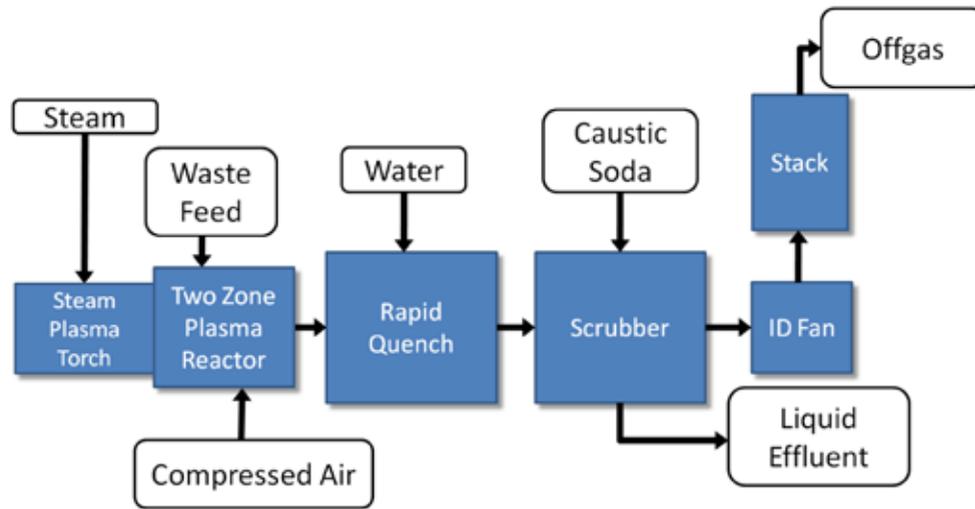
- Compact, efficient destruction
- Easy to operate
- Highly cost effective
- Mobile



PYROGENESIS
ENERGY FROM INNOVATION

What is SPARC?

SPARC is a highly efficient, patented process for the destruction of chemical wastes, such as refrigerants, ozone depleting substances, and other gaseous wastes. Operating with a steam plasma plume temperature of more than 5000°C at its hottest point, the waste is fed continuously to the two-zone plasma reactor. With a reactor temperature of over 1300°C, the steam plasma hydrolysis reaction quickly and efficiently breaks down the waste into carbon dioxide (CO₂) and water (H₂O). The gas stream is then rapidly quenched to prevent any formation of dioxins and furans. Acid gases generated by the process are readily scrubbed out of the stream and neutralized, resulting in an offgas that easily meets environmental regulations.



- Capacities available: 2 to 50 kg/h
- One-touch start-up and shut down
- Refrigerants: Destruction Efficiency of 99.9999%
- Small footprint, can be containerized for mobile application
- Inherently safe, remote operation

Why SPARC?

LOW CAPITAL COST - This compact, purpose-built waste destruction system is designed uniquely for the specific waste streams to be treated, as opposed to a one-size fits all conventional incineration system.

LOW OPERATING COST - Typical hazardous waste incineration systems are overdesigned, requiring massive amounts of air to complete the combustion reaction. In hydrolysis, lower air requirements means smaller scrubbing and ventilation, thus reducing consumable and electrical consumption in the offgas abatement process. In addition, incinerators typically need to be operated at well under their normal operating capacities to be able to scrub acid gases from chemical destruction, rendering large incineration systems highly inefficient.

MOBILE/IN SITU DESTRUCTION - With its small footprint and ease-of-operation, SPARC can easily be deployed as a mobile system or be bolted on to an existing industrial operation. This feature allows the operator to process its waste stream at the point of generation, resulting in a much lower operating cost as compared to 3rd party waste destruction service providers.

PROVEN TECHNOLOGY PLATFORM - SPARC is based on two proven technology platforms, namely PyroGenesis' Air Plasma Torch (APT) and its patented Plasma Arc Waste Destruction System (PAWDS). Both technologies have met the stringent requirements of the US Navy and is currently being installed on an aircraft carrier.

PYROGENESIS' EXPERIENCE AND WORKMANSHIP - With over 20 years of experience in the thermal processing of materials using plasma, our company's staff of highly dedicated engineers, scientists and technicians are more than well-equipped to address the challenges facing our customers.

For more information

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