

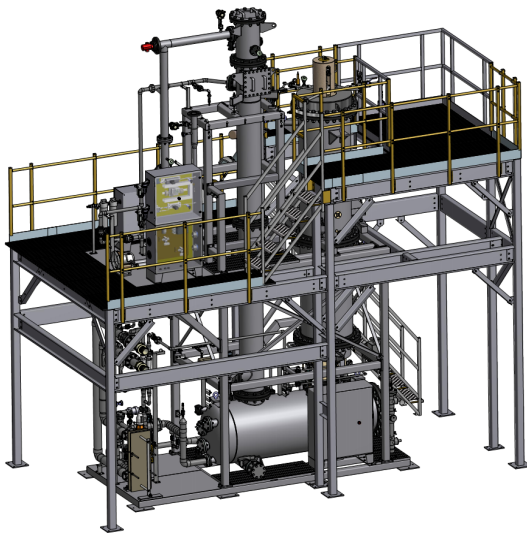
SPARC™ **(REFRIGERANT WASTE DESTRUCTION SYSTEM)**

“Uses Plasma Technology Platform already deployed by the US Navy and other demanding customers worldwide.”

Our system, the Steam Plasma Arc - SPARC™, destroys ozone depleting substances and other environmentally noxious chemicals (CFC, HCFC, HFC, PFC) with a **99.9999 efficiency destruction**.

Our system offers:

- **Flexibility:** Processes CFC, HCFC, HFC, halons, PFCs and other halogenated hydrocarbons
- **Compliance:** Far exceeds UNEP TEAP Guidelines destruction regulations
- **Low Operating Cost:** Uses steam as main plasma-forming gas
- **Is Not Incineration:** Process uses Steam Plasma Hydrolysis-low flue gas volume, excellent chemistry for complete destruction (guaranteed > 99.999%; expected > 99.99999%)
- **A Small Physical and Carbon Footprint:** Compact plasma technology runs on electricity, no fossil fuels
- **Carbon Offset** projects in both the regulated and voluntary markets
- **Safety, an Ease to Operate and Maintain:** All hallmarks of PyroGenesis' engineered systems



SPARC-50™ installation at Canadian refrigerator recycling facility

HIGH DRE > 99.99999%

UN TEAP COMPLIANT

LOW OPERATING COST

SAFE, EASY TO OPERATE

**AVAILABLE IN 2 CAPACITIES
10 & 50 KG/H (R-12 BASIS)**

CARBON OFFSET PROJECT READY

**DESTROYS CFC, HCFC, HFC,
HALONS, PFC, AND OTHERS**

Applications:

Refrigerant Waste Destruction

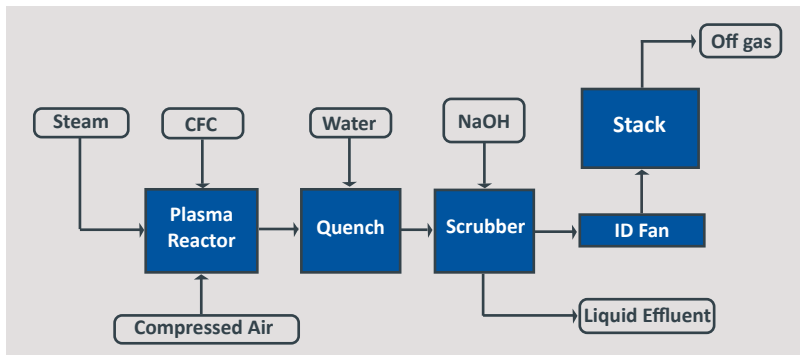
**Other Environmentally Noxious
Chemicals Destruction**

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SPARC™ OVERVIEW



Unit	SPARC-10™	SPARC-50™
Rated Capacity (R-12 Basis)	10 kg/h	50 kg/h
Expected Capacity (R-12 Basis)	12 kg/h	60 kg/h
Footprint	15 m ²	23 m ²
Height	3.7 m	8.2 m

Independent Emissions Testing at customer facility		R-11	R-12	R-22	R-134a	
CAPACITY	<i>Guaranteed</i>	50 kg/h	50 kg/h	40 kg/h	30 kg/h	
	<i>Expected</i>	60 kg/h	60 kg/h	48 kg/h	36 kg/h	
Ozone Depleting Potential (ODP)		1.0	1.0	0.055	0	
Global Warming Potential, GWP 100 yrs		4,660	10,200	1,760	1,300	
Performance Qualification	TEAP Guidelines	R-11	R-12	R-22	R-134a	
	DRE	> 99.99%	99.999983	99.9999	99.999987	99.999998
Dioxins/Furans*		< 0.2 ng TEQ/Nm ³	0.0033	0.0030	0.0075	0.0091
HCl/Cl ₂ *		< 100 mg/Nm ³	1.5	5.6	1.1	0.3
HF*		< 5mg/Nm ³	0.02	0.05	0.07	0.23
Particulates*		< 50 mg/Nm ³	37.2	35.7	35.5	9.3
CO*		< 100 mg/Nm ³	21	17.5	8	33

* Corrected to 11% O₂ @ 101.325 kPa & 25°C, dry basis.

PyroGenesis Canada Inc. is a world-renowned high-tech company operating in the field of high temperature processing of materials and waste, which counts the US Navy and the US Air Force amongst its discerning client base.



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