Plasma Scrubber

Using high-energy decomposition of plasma to get rid of the exhaust gas. The processing effectiveness is excellent.

<table>
<thead>
<tr>
<th>Description</th>
<th>Specification</th>
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<tbody>
<tr>
<td>Abatement Type</td>
<td>P-300A</td>
</tr>
<tr>
<td>Scrubber Type</td>
<td>Plasma</td>
</tr>
<tr>
<td>Dimensions (mm)</td>
<td>900W * 950D * 1850H</td>
</tr>
<tr>
<td>Weight</td>
<td>500Kg</td>
</tr>
<tr>
<td>Total Flow rate</td>
<td>400LPM</td>
</tr>
<tr>
<td>Temperature (For Processing Gas)</td>
<td>1600°c</td>
</tr>
<tr>
<td>Max. No. of Inlet ports</td>
<td>NW50 * 4</td>
</tr>
<tr>
<td>Inlet Port Type option</td>
<td>ISO 100</td>
</tr>
<tr>
<td>Outlet Port Type</td>
<td></td>
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</tbody>
</table>
Application & DRE:

Target abatement gas

1. PFC gases: NF3, SF6, CF4, C2F6, C3F8 etc.
2. Flammable gases: SiH4, DCS, TEOS, H2, PH3 etc.
3. Water soluble gases: BCl3, Cl2, HF, HCl, NH3 etc.
4. SiO2>95%

Process:

• Waste gas abatement in processes such as dry-etch, LP, and PE-CVD; abatement of PFC gases such as CF4 and SF6.
• The Atmospheric Plasma point-of-use abatement system is a combination of a μ-wave plasma source with a wet scrubbing section to provide high treatment capability for PFC’s without burner gas.
• Solar, Thin Film, Etching, Diffusion
Advantage:

- Thermal or Equilibrium Plasma.
- High abatement efficiency for PFC gases (99%).
- Excellent safety interlock system.
- Minimizing moisture vapor exhaust.
- High corrosion resistance structure.
- Relatively lower utility and operation cost (Long torch life time/Long PM term)
- Simple operation and simple structure for easy maintenance.
- SEMI-S2 progressing.
- Removal of nano-particles.
- To solve the problem of white smoke.
- Vertical structure: Strong for powder clogging.
- Abatement system for persistent PFC gas using atmospheric plasma.
Advantage:

- Due to a stable high temperature from the direct current plasma, it can decompose and purify persistent PFC gas like SF6 and CF4, etc..
- No unnecessary fossil fuels. No unnecessary initial cost of construction of fossil fuel pipe and running cost of fossil fuel.
- Using direct current atmospheric plasma. Security from accidental fires due to stable discharges and protected electricity.
- Simple structure of reactor. Due to simple structure of reactor tank plasma generating portion, it realizes easy-maintenance and low-cost.
- Decomposes simultaneously. It is possible to handle PFC gas like CF4 and SF6 and halogen like HBr simultaneously.
- Scrubber system operate safely and completely abate oxidized gas including power. We can construct various types of system from 300LPM to 400LPM based on your request.
- Original abatement for gas including power.
- Excellent durability and corrosion resistance.
Advantage:

- Support flow fluctuation.
- Space-saving design for installation space.
- Plasma burner design (patent) provides a stable supply of plasma.
- Features 20% lower water and power consumptions than burning or thermal-type scrubber.
- The Thunder is compatible with PFC gases such as CF4 and SF6 that are difficult to abate with existing waste gas abatement systems. This state-of-the-art system minimizes running costs while maximizing abatement throughput.
- The basic concept of the Atmospheric Plasma Scrubber is the decomposition of PFCs and their reaction products in the remote plasma followed immediately by a wet scrubbing stage. There is no formation of undesired compounds after the plasma treatment, no risk of HF formation inside the vacuum pump, no corrosion risk and no risk of particulate back-diffusion into the process chamber.