REGENERATIVE
THERMAL OXIDIZERS

- Energy-Efficient
- Low Total Cost of Ownership
- Modular configurations
- Customized designs

PROCESS COMBUSTION CORPORATION
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The PCC Solution

Process Combustion has been engineering and providing the Industrial Sector with Combustion Technologies since 1969. PCC is committed to offering a SOLUTIONS option to meet most air pollution control requirements.

Auto Paint · 45,000 scfm · 2 Chamber unit

PCC RTO Advantages

PCC's goal is to assist industrial customers in meeting the toughest control demands faced today. We design solutions for industrial and commercial manufacturing processes designed to minimize waste and remove pollutants.

Regenerative Thermal Oxidizers

PCC offers a range of RTO designs and configurations to meet your needs and provide the best solution for your application.

- Engineered Designs to meet the end user's requirements
  - ✓ Modular configurations for quick installation
  - ✓ Customized designs to meet unique application requirements
- Proven Quick Switch Rotary Valve
  - ✓ Eliminates maintenance and leakage problems associated with poppet valves
  - ✓ Superior reliability of any RTO
- Low "Total Cost of Ownership"
  - ✓ Energy, Maintenance & Life Cycle Capital Cost
- Energy-Efficient.
  - ✓ Up to 95% thermal efficiency resulting in low energy expenditures
- Up to 99% VOC destruction efficiency

Our RTO's are designed for low (3,000 scfm) to high (300,000 scfm) volume air flows with high thermal and VOC destruction efficiencies. In many applications, the system will run in a self-sustaining mode whereby no additional fuel is required to destroy VOCs.

Our Aftermarket group is prepared to provide the end user with continuous service and technical support to ensure optimal performance and minimal downtime.

The PCC Difference

How PCC's RTO Works

1. Heat is extracted from the hot purified gas and stored in the reheat recovery chamber as it leaves the combustion chamber.
2. After a period of time, the inlet/outlet valves switch positions and the contaminated process gas is redirected through the hot heat sink recovery chamber, where it is preheated to within 5% of the combustion temperature before it enters the combustion chamber.
3. In the combustion chamber, the burner supplements the 5%, bringing its temperature to 1500°F, at which the VOC is converted to harmless CO_2 and water vapor.

- Sets the bar for BACT requirements for gaseous waste streams.
- Waste stream feed forward control ensures stability and prevents nuisance shutdowns.

The PCC Difference

Compare the PCC RTO with any others and you'll find these distinct advantages:

Mechanical Valve Drives

The heart of our RTO is the patented electro-mechanical, 4-way poppet valve system. This valve and control system is designed to eliminate the continuous maintenance brought about by the endless movement and slamming of the disk in typical poppet valve RTOs.

Our proven patented mechanical valve drive system operates the flow control dampers smoothly in both two-chambers and larger, multi-chamber designs. The two valve disks are concurrently reversed by a common camshaft that intermittently, but consistently moves the valve disks between seats in less than 1/2 second.

Advantages:

- Virtually no pressure spikes and contaminant bypass as the valves are tied to one camshaft and operate in unison.
- No leaky/erratic hydraulics that change frequency as the weather dictates.
- No moisture freezing pneumatic lines and cylinders.
- No need for maintenance intensive pneumatic or hydraulic operators. This feature alone will substantially increase your savings by minimizing maintenance and equipment downtime.

PCC's patented electromechanical drive system provides the highest up-time percentage for RTOs

Integrated Manifolding

The PCC RTO assembly incorporates the inlet and outlet exhaust manifolds into the RTO's overall shell configuration, rather than fabricating the typical network of bulky, exterior space-consuming manifolds. This eliminates external RTO ductwork and insulation, enabling the system to sit flat on a concrete pad without legs.

This streamlined assembly design decreases maintenance costs and creates a compact footprint that is cost-effective to manufacture and install.

Heat Recovery Media

PCC utilizes a patented ultra low pressure drop media specifically designed for use in PCC RTOs. The combination of high heat recovery with low pressure drop results in significantly lower gas and electric usage, as well as higher VOC destruction efficiency, making it one of the most environmentally responsible pollution control units available today.