

DOWNFIRED SALT THERMAL OXIDIZER



BURNERS | FLARES | THERMAL OXIDIZERS | VAPOR CONTROL | RENTALS | AFTERMARKET



ZEECO Downfired Salt Thermal Oxidizer

Engineers worth their salt.

As the global authority in thermal oxidizer solutions, Zeeco is the company to trust for Downfired Salt Thermal Oxidation Systems. Our engineers have decades of experience in designing these systems for petrochemical plants around the globe, helping our clients destroy salt based wastes efficiently and effectively. Zeeco's experienced engineering groups exceed client expectations with every Downfired Salt system designed.

Smarter design, better results.

We know salt can be a caustic foe. That's why Zeeco's engineers developed smart, preemptive measures to minimize salt attack and maximize system life. Our proprietary systems incorporate low-porosity refractory materials, minimize molten salt contact with refractory walls, and "freeze" molten salts prior to contact with downstream equipment. The result? A system that performs better and lasts significantly longer.

The same commitment to excellence applies to our product development process. Our Combustion Research and Test Facility was the first in the world to become ISO 9001-2000 certified, and our staff stays ahead of rapidly changing emission requirements. With 15 full-scale test furnaces, Zeeco is capable of testing a wide variety of combustion systems under simulated field conditions. A multi-stream incineration system allows us to test the most complex situations in a controlled environment.

In addition to combustion testing, we also use advanced Computational Fluid Dynamics (CFD) to model specific process conditions against the actual equipment design, allowing us to accurately predict how our equipment will perform in real-world situations.

The Zeeco difference.

Our only business is the combustion business. By concentrating on what we do best, Zeeco has grown into a worldwide leader in combustion solutions. We are a privately held company whose ownership stays highly involved in daily operations, with upper management comprised of the world's leading combustion experts.

When you call Zeeco, we answer. When you make a request, you'll receive a quick response. Our sales, engineering, and purchasing groups work hand-in-hand to deliver highly competitive quotes and heroic turnaround times. We stand ready and willing to travel anywhere in the world to discuss upcoming projects firsthand, and to ensure that every existing project runs seamlessly.

Product Description

Downfired Salt Thermal Oxidizers are incineration systems that typically treat wastes containing inorganic salts (NaCl, K₂SO₄, Li₂S, etc.), organic salts (acetates and oxalates of alkali metals), caustic liquids, and non-combustible solid materials. They are called “downfired” because of the vertically-oriented burners located at the top of the incinerator that fire downward. Zeeco’s proprietary design promotes longer refractory life and easy removal of the non-combustible solids and particulates typically contained in the waste streams.

Typical Performance

- Residence time = 2.0 seconds
- Operating temperature = 1650 - 2000°F (900 - 1200°C)
- Waste Destruction Efficiency (DRE) > 99.99%
- Particulate emissions rates = 0.005 - 0.08 grains/DSCF

Typical Applications

- Spent caustic waste streams
- Organic/Inorganic salt solutions
- Wood products waste streams
- Biomass-to-Energy processes
- Catalyst applications

We are confident that you will thoroughly enjoy the many advantages of working with the flexible, innovative company that is Zeeco. Call or email us today to request a quote or to learn more about our proprietary combustion systems.

Design Features

- Refractory materials selected for low porosity to minimize salt attack
- Proprietary design minimizes molten salt contact with refractory walls to promote maximum refractory life
- Proprietary design “freezes” molten salts prior to contact with downstream heat recovery/particulate removal equipment
- Particulate removal equipment may include baghouses, multi-clone filters, electrostatic precipitators, or venturi scrubbers



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When you call Zeeco, we answer. When you make a request, you get a quick, efficient response. We are lean and efficient, able to make decisions quickly, without bureaucracy and red tape. Our sales, engineering, and purchasing groups work hand-in-hand to deliver highly competitive quotes and heroic turnaround times. We stand ready and willing to travel anywhere in the world to discuss upcoming projects firsthand, and to ensure that every existing project runs seamlessly.

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learn more about our proprietary
combustion systems.