

# COMBUSTION SYSTEMS CO INC

## Features:

- EPA Compliant for TRI Gases
- NFPA Area Classification
- Data Logger for EPA Compliance
- Active Thermal Combustion Control

## Fugitive Emissions Thermal Oxidizer For Destruction Of Fugitive Emissions & EPA Toxic Release Inventories Gases (TRI)

# Emission Rx™ Thermal Oxidizer



Thermal Oxidizer

## Applications:

- Natural Gas Processing Plants
- Analyzer Measurement Shelters
- Tank Farm
- Marine Gas Offloading
- Analyzer Vent Line Manifolds



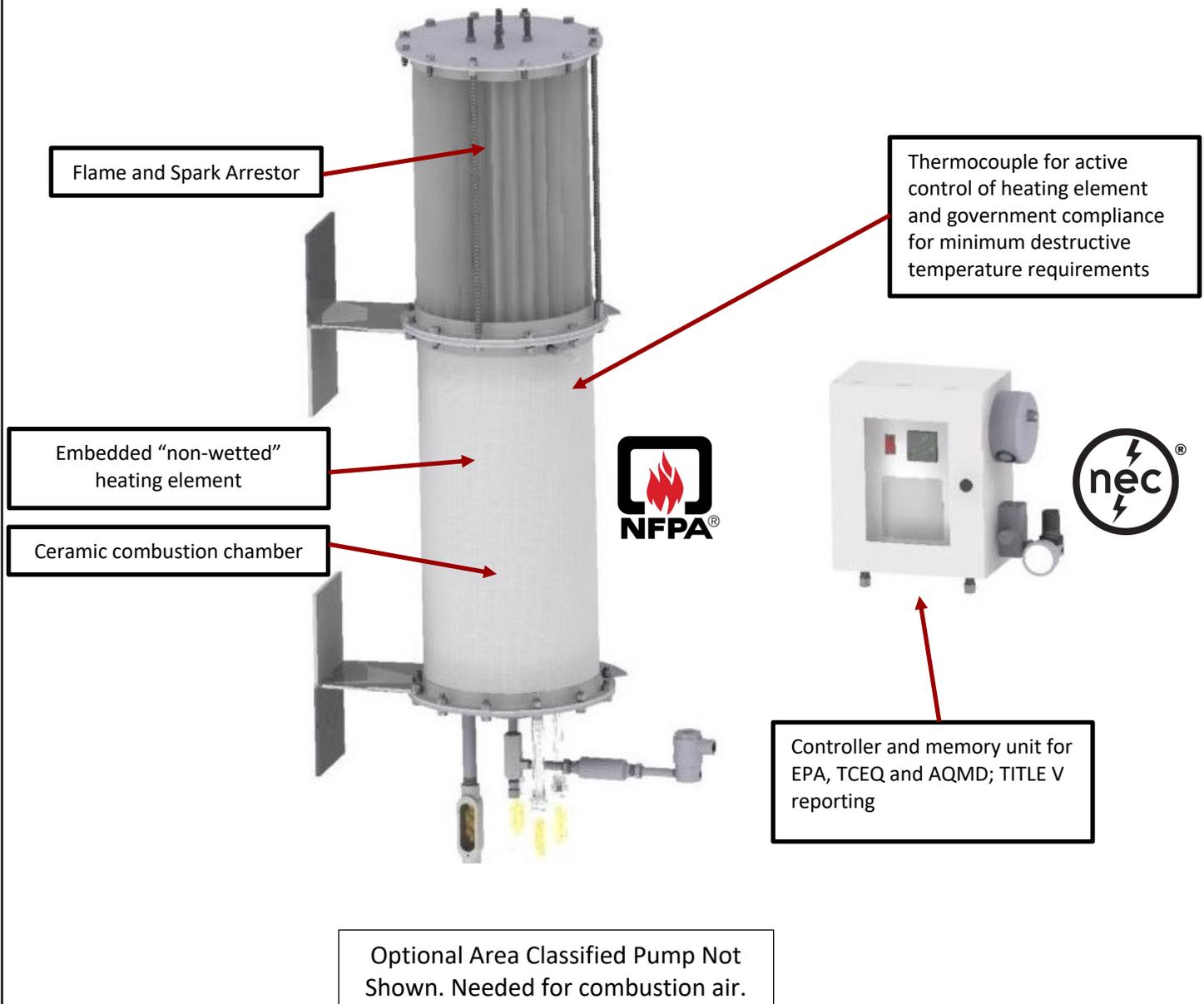
Controller with optional Z-Purge



Built to NEC and NFPA Standards for Thermal Oxidizers

# Methodology

Patent pending combustion chamber utilizing the Venturi effect along with a long life heater element that is not exposed to the combustion chamber to extend the life of the heating element (MTBF est. 3.3 yrs.), while being able to maintaining the minimum combustion temperature requirement of 1400°F [760°C] for the destruction of Fugitive Emissions & TRI gases at a 99% destructive efficiency. The Emission Rx™ Thermal Oxidizer will report the combustion temperature to comply with the regulatory requirements for a minimum combustion temperature to maintain at the 99% combustion efficiency needed to be in compliance. A data logger is used for governmental compliance reporting.



# SPECIFICATIONS

## THERMODYNAMIC LOAD

- Base rated for 0 – 15,000 BTU/hr
- Optional load ranges up to 100,000 BTU/hr or more

## FLOW RATE

- 7 LPM for Methane [15,000 BTU/hr]
- 2.8 LPM for Propane [15,000 BTU/hr]
- Base rating flow rate for hydrocarbons is based on BTU/hr thermodynamic load – contact for your specific calculation

## BACK PRESSURE

- <3.0 in.W.C @ 1.9 LPM [4CFH]
- <6.0 in.W.C @ full capacity flow rate from source

## WETTED MATERIALS

- Stainless Steel
- Refractory Ceramic
- NACE compliance optional sleeve insert - minimal derating

## CONNECTION

- Gas Inlet: ¾”(in.) NPT

## AREA CLASSIFICATION

- Thermal Oxidizer has NFPA 86 rating
- Designed for: Class 1, Division 2, Groups B, C and D, Built to NEC and NFPA Standards for Thermal Oxidizers
- Electrical Panel Z-Purged option for Class 1, Division 2, Groups B, C and D (NEC classification without Z-Purge)
- Exterior Surface temperature rating T4 135°C [275°F]
- Optional Intertek Approval for Thermal Oxidizer and Control Panel: Class 1, Division 2, Groups B, C and D (Z-Purge Option Needed)
- Optional Pump has CSA, FM for Class 1, Division 2, Groups B, C and D

## UTILITY REQUIREMENTS

- POWER: 110Vac @ 15.6Amps for Thermal Oxidizer, 110Vac @ 4.5Amps for optional Pump
  - AIR: Instrument Air for optional Z-Purge Panel 20 psig (1.4 Bar) minimum, water and oil-free, - 40°F (- 40°C) dew point, particles <5µ, ISA grade and hydrocarbon free
- NOTE: With pump option, purge panel is using pump for supply.

## CONTROLLER

- LCD Display Interface
- Data Logger; data collection for EPA, TECQ and AQMD; TITLE V Reporting
- Optional web portal (cloud) data collection

## TEMPERATURE

- -10 TO +60°C (Controller)

## OUTPUTS

- RS-485 Modbus

## WARRANTY

- 12-month limited warranty against defects in materials and workmanship as delivered to original purchaser.

## WEIGHTS & DIMENSIONS

up to 15 K Btu/hr

Dimensions		Details	
O.D	13 " Diameter	Control Panel wt.	30 lbs
O.D. w/Heat Shield	17 " Diameter	Air Source By others	Yes
TO Unit Height	40.0 " Height	Manifold wt.	2 lbs
OAH	48.0 " Height	Max distance between C.P and T.O	50'
Wt	105 lbs		
Heat shield	18 lbs		

C.P. = Control Panel T.O. = Thermal Oxidizer

15K to 40 K Btu/hr

Dimensions		Details	
O.D	14.75 " Diameter	Control Panel wt.	30lbs
O.D. w/Heat Shield	19 " Diameter	Air Source By others	Yes
TO Unit Height	40.0 " Height	Manifold wt.	2 lbs
OAH	50.1 " Height	Max distance between C.P and T.O	50'
Wt	200 lbs		
Heat shield	30 lbs		

C.P. = Control Panel T.O. = Thermal Oxidizer

40K to 80 K Btu/hr

Dimensions		Details	
O.D	15.5 " Diameter	Control Panel wt.	40 lbs
O.D. w/Heat Shield	20 " Diameter	Air Source By others	Yes
TO Unit Height	55 " Height	Manifold wt.	2 lbs
OAH	66.8 " Height	Max distance between C.P and T.O	100'
Wt	300 lbs		
Heat shield	45 lbs		

C.P. = Control Panel T.O. = Thermal Oxidizer

Dimensions		Details	
O.D	17 " Diameter	Control Panel wt.	40 lbs
O.D. w/Heat Shield	22 " Diameter	Air Source By others	Yes
TO Unit Height	70 " Height	Manifold wt.	2 lbs
OAH	80.16 " Height	Max distance between C.P and T.O	100'
Wt	400 lbs		
Heat shield	65 lbs		

C.P. = Control Panel T.O. = Thermal Oxidizer

Combustion Systems Inc.  
5701 West Minnesota Street  
Indianapolis, IN 46241

P 317-390-1100

F 317-390-1111

Website: [www.combustionsystemsinc.com](http://www.combustionsystemsinc.com)

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