

Emission Rx™ Thermal Oxidizer

Thermal Oxidation Systems for destruction of VOC gases or liquids that eliminates emissions and permitting headaches

Features:

- ASTM Standard D8750 Compliant
- EPA Thermal Oxidizer Compliant
- AQMD, TCEQ Air Quality Compliant
- ASME, NEC, NFPA, UL ICP Compliant
- Class 1, Div. 2 Options

Vented & Fugitive Emissions Thermal Oxidizer For Destruction Of EPA, AQMD, TCEQ Gases and Liquids without new permitting or reporting



Thermal Oxidizer

optional liquid vaporizer not shown

U.S. Patent 11,391,458 & 12,405,003

Applications:

- ✓ Natural Gas Processing Plants
- ✓ Analyzer Measurement Shelters
- ✓ Tank Farms
- ✓ Marine Gas Offloading
- ✓ Fume Hoods & Laboratory
- ✓ Natural Gas Compressor stations
- ✓ Specialty Gas & Chemical Production
- ✓ Oil and Gas Wells
- ✓ Oxidation of VOC, HAP, TRI & BTEX



Controller with optional Z-Purge



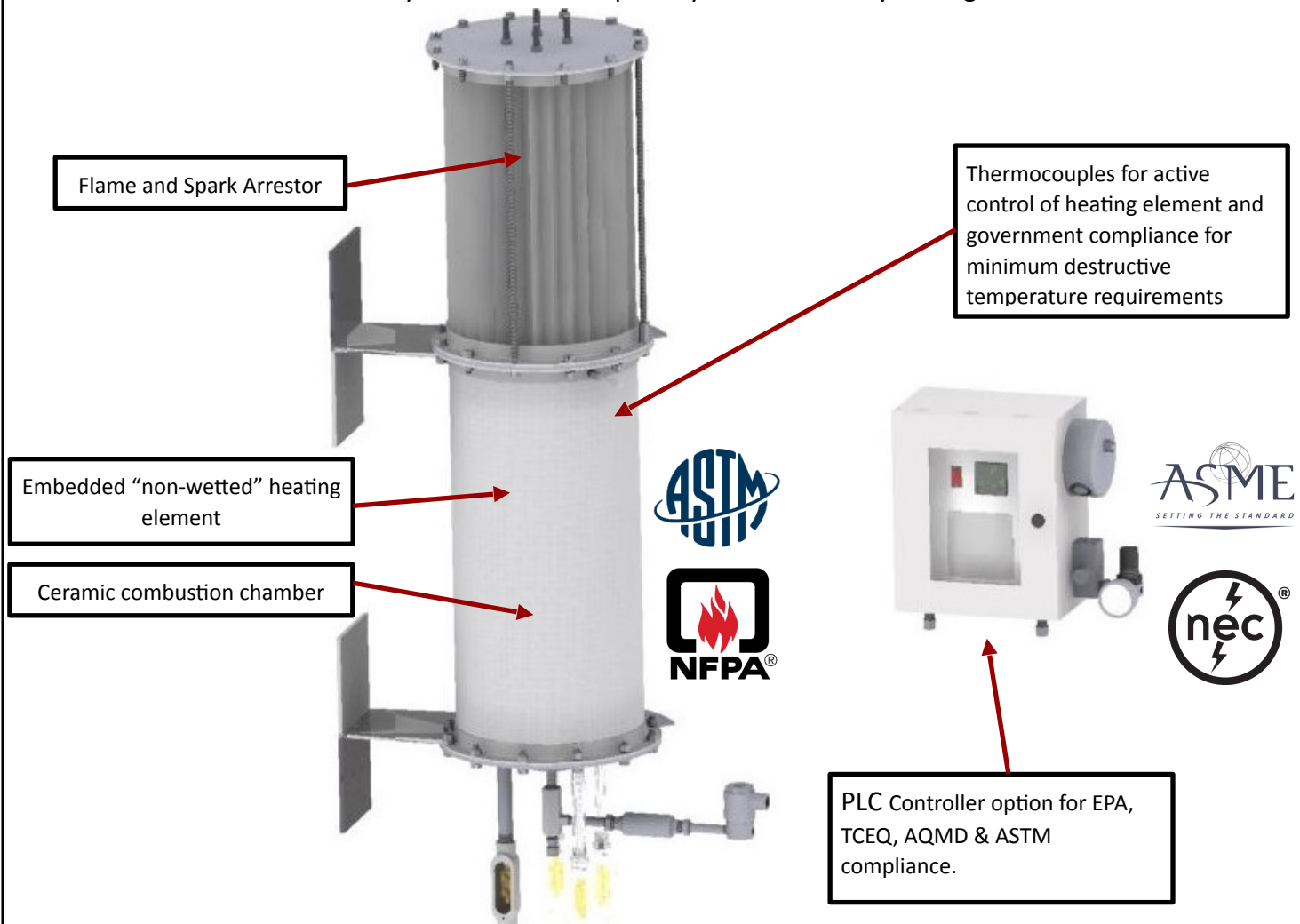
Built to NEC, NFPA, ASTM and ASME Standards for Thermal Oxidizers



OPTIONAL Field Certifications for CSA or UL

METHODOLOGY

Patented oxidation system 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 maintain the minimum combustion temperature requirement of 1400°F [760°C] for the destruction of Vented and Fugitive Emissions gases or optionally liquids at a 95 to 99.9% destructive efficiency per ASTM D8570 for Oxidation of VOC, HAP, TRI and BTEX. 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 95 to 99.9% combustion efficiency required to be in compliance with ASTM D8570 and the EPA governmental compliance reporting all without a new permitting requirement or reporting as this is considered a “small” ($\leq 150,000$ BTU/hr) Thermal Oxidizer as defined by NFPA and as adopted by local Air Quality Management bodies*.



U.S. Patent 11,391,458 & 12,405,003

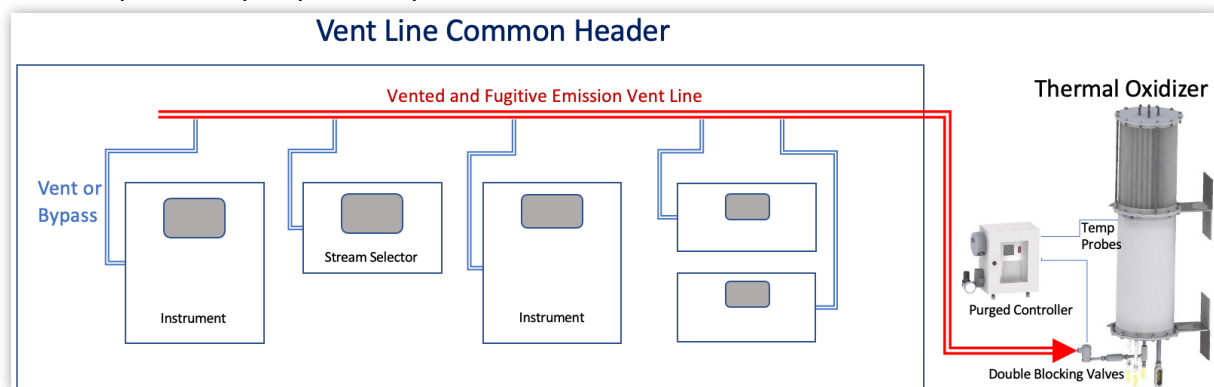
Optional Area Classified Pump Not Shown. Needed for combustion air.
Optional Field Certification for CSA and UL, Typically not required when ordering the Area Classified C1D2 ASTM compliant configuration.
Optional Liquid Phase Vaporizer Not Shown. Needed for liquid destruction.


OPTIONAL Field Certifications for CSA & UL

APPLICATIONS

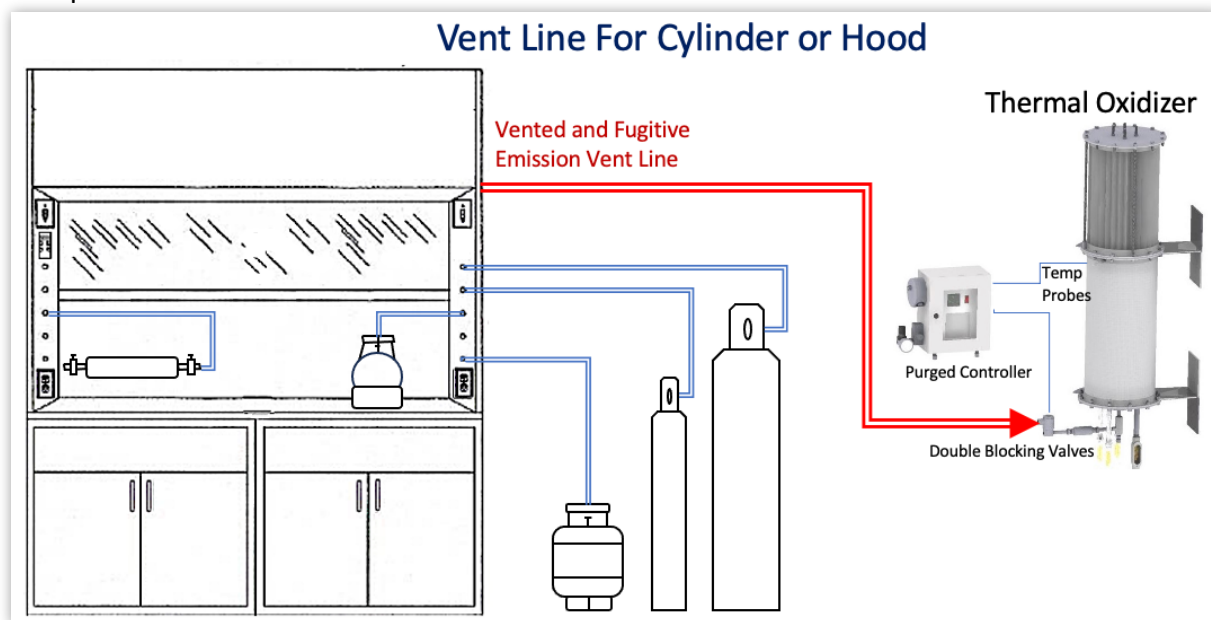
Measurement Shelters per ASTM D8570:

Thermal oxidation of vented and bypass gases from instruments and control devices typically mounted to or near shelter. Optional liquid phase vaporizer not shown.



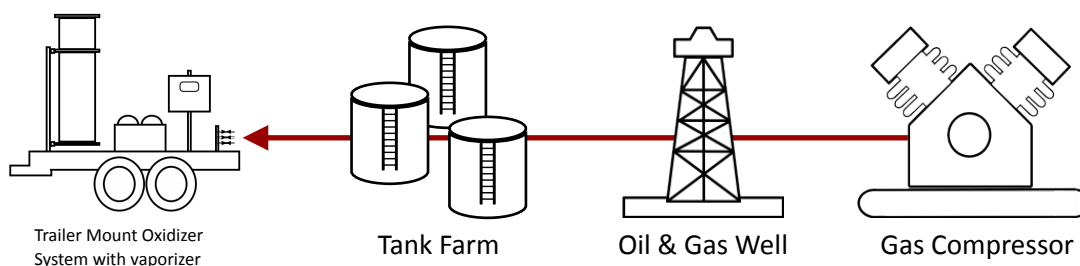
Laboratory Fume Hood per ASTM D8570:

Thermal oxidation of gases from cylinders and other gas sources typically mounted outside lab. Optional liquid phase vaporizer not shown.



Trailer Mounted Versions For Gas or Liquid Phase - ASTM D8570 and environmental body compliant:

Thermal oxidation of waste vented gases or optionally liquid sources of VOC, HAP, TRI and BTEX.



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 us 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, NFPA & ASTM 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 CSA or UL Site Approval for Thermal Oxidizer and Control Panel: Class 1, Division 2, Groups B, C and D (Z-Purge Option Needed)
- Optional Pump has CSA and FM approvals for Class 1, Division 2, Groups B, C and D area use

UTILITY REQUIREMENTS

- POWER: 110Vac @ 20Amps 60Hz 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, ISO grade and hydrocarbon free. Check for use with ambient air.
NOTE: With pump option, purge panel is using pump for supply.

CONTROLLER

- LCD Display Interface
- Data output for EPA, TECQ and AQMD; TITLE V Reporting and ASTM D8570 compliance with optional PLC controller
- Optional web portal (cloud) data collection

TEMPERATURE

- -10 to +60°C (Controller) – Extended -40°C available option

OUTPUTS

- RJ-45 Ethernet w/PLC, Optional RS-232/485 Modbus Card(s)

WARRANTY

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

REGULATORY & STANDARDS COMPLIANCE

- ASTM D8570
- ASME CSD-1
- NFPA 86
- EPA – TITLE V, NESHAP, NSPS, NAAQS, SIPS, Oxidation of VOC, HAP, TRI & BTEX
- NEC
- UL ICP 508A Certified

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

Manufactured under license by:
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