



TO3M – TO50M MOBILE THERMAL OXIDIZER SYSTEMS

APPLICATIONS

Evoqua's Thermal Oxidizer (TO) systems are designed to destroy volatile organic compounds (VOCs) and hydrocarbons in vapors. These systems are used to treat gases released in applications including:

- Pipeline degassing
- Pipeline decommissioning
- Aboveground storage tank degassing
- Strip and refill activities
- Odor control
- Aboveground storage tank refilling

TO systems control combustion conditions to ensure thorough VOC destruction and to monitor and control emissions. The TO systems maintain sufficient time, temperature, degree of mixing, and oxygen concentrations needed for a complete combustion reaction.

INSTALLATION, STARTUP AND OPERATION

The TO systems require minimal field assembly and site connections. The TO3M and TO10M systems are each self-contained on a trailer; TO25M and TO50M systems require an auxiliary generator or power source.

All TO systems require either a propane or natural gas fuel supply. All TO systems are stack source tested and meet or exceed 99.9% destruction removal efficiency (DRE) of hazardous pollutants. They can be operated in automatic or manual mode to suit operational needs.

Evoqua can provide a total service package that includes OSHA-trained personnel performing onsite grounding and bonding, operation and monitoring, compliance records, and reporting.

Features and Benefits

- Continuous monitoring system
- Dual-flame protection with flame and detonation arrestors
- Carbon steel reactor
- Process flow meter and totalizer logging
- Estimated mass destruction log
- PLC controls with a 15-in. HMI touch screen display
- Data logging
- UPS with surge protection
- Controlled combustion temperatures up to 1,700°F
- Sample ports
- Adjustable setpoints
- Dual-emergency stop buttons
- Automated auxiliary fuel addition to ensure continuous combustion

SPECIFICATIONS / TYPICAL PROPERTIES	TO50M*	TO25M	TO10MWEST	TO10M	TO3M
Dimensions (width x length)	8'6" x 53'	8'6" x 48'	8'6" x 53'	8'6" x 53'	8'6" x 34'-35'
Overall Height	13'3"	13'0"	13'3"	12'8"	12'1" to 12'8"
Generator Included?	N	N	Y	Y	Y
Process Inlet Connections	One 6" One 8"	Two 8" One 6"	Two 8" One 6"	One 10" One 8" One 6"	One 6" Two 4"
Electrical Requirements	480 V, 3-phase, 60 Hz, 300 A	480 V, 3-phase, 60 Hz, 300 A	Optional 480 V, 3-phase, 60 Hz, 200 A	Optional 480 V, 3-phase, 60 Hz, 150 A	Optional 480 V, 3-phase, 60 Hz, 45 A
Retention Time	≥ 1 second	≥ 1 second	≥ 1 second	≥ 1 second	≥ 1 second
Maximum Unit Heat Capacity (mmBtu/hr.)	50	25	10	10	3
Max. Total Flow (scfm)	15,000	7,500	5,400	4,900	1,480
Max. Process Flow (scfm)**	3,000	3,000	3,000	3,000	1,000
Destruction Removal Efficiency	>99.9%	>99.9%	>99.9%	>99.9%	>99.9%
NOx @ 3% O ₂ (ppmv)	<60	<60	<60	<180	<120
CO @ 3% O ₂ (ppmv)	<100	<100	<100	<100	<100
Process Blower (hp)	100	60	40	40	15
Dual Blower System	Yes	Yes	No	No	No
Dilution Blower (hp)	60	30	N/A	N/A	N/A
Continuous H ₂ S Monitoring	Yes	Yes	No	No	No
USCG Compliant	Yes	Yes	No	No	No
Auxiliary Fuel Requirements	LP, LPG, NG	LP, LPG, NG	LP, LPG	LP, LPG	LP, LPG, NG
LPG/NG Pressure Requirements (psi)	5 - 15	10 - 15	5 - 10	10	10

Contact your local Evoqua Sales representative to confirm vessel selection, verify appropriate flow rates and obtain detailed specifications, dimensional information or drawings.

* Unit in development, all specifications subject to change. Unit expected to release 1st quarter 2020.

** Maximum flow based on unit vacuum. In order to verify appropriate flow rates and unit sizes, contact your Evoqua representative.

Safety Note: Thermal oxidizers are used for combustion of organic compounds present at potentially flammable or hazardous concentrations.

Workers should follow all Evoqua and site-based safety protocols and have a predetermined emergency plan before starting work.

Compatibility of units with organic compounds must be verified before job start and all involved personnel must be trained in propane or natural gas safe handling procedures to prevent incident or injury.



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