



## Comparison of Tank Degassing Units Process Characteristics During a Typical Tank Degassing Event

Equipment TYPE <sup>1</sup>	Initial Flow Rate Degassing a Typical Gasoline Tank SCFM <sup>3</sup>	End of Job Flow Rate <i>Inlet LEL</i> < 50% SCFM <sup>4</sup>	VOC Destruction Capacity LB/HR <sup>5</sup>	Time to Degas Typical Tank to 20% LEL (80,000 Bbls) Hours <sup>6</sup>	Make-up Fuel (LPG) Required Gallons/HR <sup>7</sup>	Typical Cost \$/LB VOCs Destroyed <sup>8</sup>
Thermal Oxidizer 1,000 SCFM - Low Btu Unit	72	1,000	80	42	4.7	\$2.25
Thermal Oxidizer 2,000 SCFM, such as EMTOS-20	144	2,000	160	16	8.7	\$1.55
Thermal Oxidizer 2,500 SCFM, such as EMTOS-25	180	2,500	200	14	10.9	\$1.50
Thermal Oxidizer 3,500 SCFM, such as EMTOS-35	252	3,500	280	9	15.5	\$1.45
Thermal Oxidizer 4,500 SCFM, such as EMTOS-45	324	4,500	360	6	19.2	\$1.40
Thermal Oxidizer 22,000 SCFM, 42 MMBtu	650	650	980	20	96.0	\$2.10
Internal Combustion Engines <sup>2</sup> 1-Engine Unit	34	200	30	336	1.5	\$8.33
Internal Combustion Engines <sup>2</sup> 2-Engine Unit	68	400	60	168	3.0	\$8.33

1. Comparison of Degassing Units, including small SVE thermal oxidizers converted for degassing, Envent EMTOS units, and High BTU vapor destructors converted for degassing.
2. Internal combustion engine data based on Remediation Service International datasheet - <http://www.rsi-save.com/v4.htm>
3. Based on average vapor concentrations from a typical gasoline AST with unit at maximum Btu loading for stoichiometric operation.
4. End of job flow rate based on system blower capacities or engine throughput at maximum RPM (engine data courtesy of Remediation Service International Datasheet).
5. VOC destruction capacity based on stoichiometric combustion at max capacity, expressed in MMBtu/HR and LB/HR based on heat release data for typical gasoline.
6. Assuming a typical gasoline AST with average RVP, drain dry,
7. Makeup fuel required for degassing under typical average conditions - at midpoint of degassing process. Based on EMTOS turn-down capacities (40 to 1).
8. Typical cost per lb of VOCs removed based on industry average hourly rates of degassing units vs unit capacity and supplemental fuel usage.

For demonstrational purposes only, based on typical conditions only. Actual conditions will vary by product degassed and required degassing completion criteria.  
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