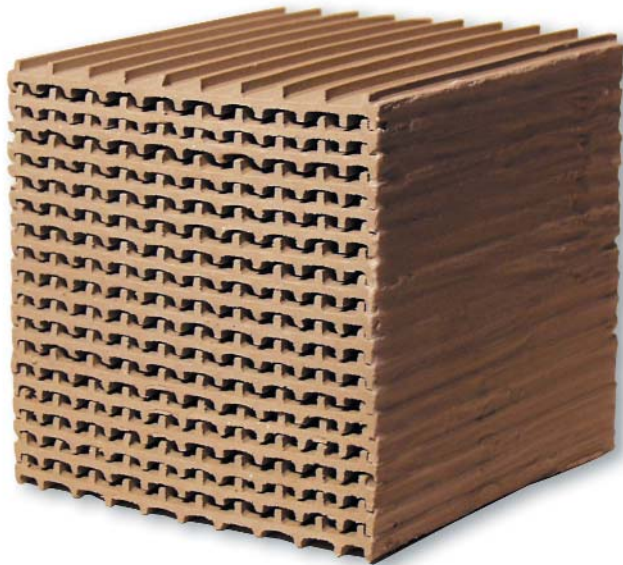


Multi-Layer Media[®]

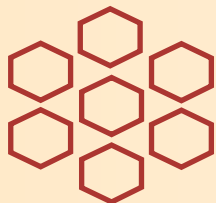
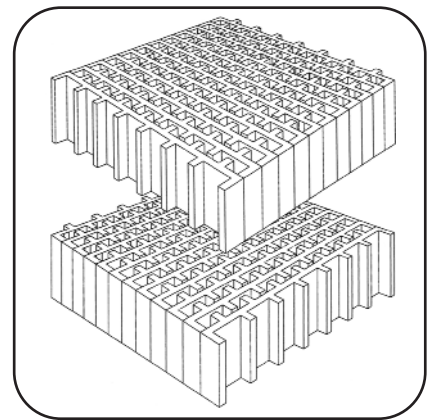
is the key to efficient heat recovery in **Regenerative Thermal Oxidizers**. MLM[®] is the heat-storage media installed most in RTOs worldwide.

Visit us online for MLM[®] data and case studies. Then call Lantec for **FREE RTO design assistance.**



*US Patent #6,071,593
Worldwide Patents Pending*

www.lantecp.com/mlm

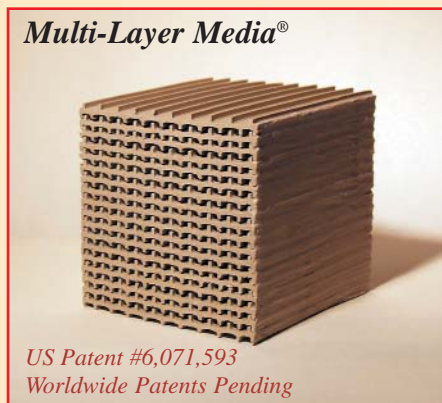


Lantec Products Inc.

Lantec has designed advanced tower packings for over 20 years.

Telephone: (617) 265-2171 Email: sales@lantecp.com

MLM[®] Works Wonders for RTOs



- ⬡ High heat capacity for shorter beds
- ⬡ High thermal efficiency reduces fuel costs
- ⬡ Low pressure drop allows for smaller fans, and lower electricity costs
- ⬡ Smaller beds lead to increased residence time in combustion chamber & lower stack emissions
- ⬡ High operating velocities allow capacity increases for existing RTOs
- ⬡ Best plugging resistance of any media
- ⬡ More resistant to thermal breakage than any other structured media
- ⬡ Standard 2-year thermal stress warranty

MLM[®] from Lantec Products provides the most comprehensive solution for efficient operation of regenerative thermal oxidizers (RTOs). MLM[®] is available in various configurations allowing units to be designed specifically to maximize thermal efficiency or resistance to plugging, or minimize bed height or pressure drop. Available versions include MLM-125, MLM-125-I, MLM-160, MLM-180, MLM-200, and MLM-S.



MLM's parallel-plate structure packs more ceramic material into each cubic foot (over 3 times more surface area than saddles) with less resistance to air flow. The result is a unique combination of high heat capacity, rapid heat transfer, low pressure drop, and great resistance to plugging by particulates. When MLM-S is used as the design basis rather than 1" saddles, heat recovery beds can be ~50% shorter.

Original equipment costs are reduced with MLM[®]. Operating at a high gas velocity allows an RTO to be designed with reduced overall footprint. Designing for lower bed depths and pressure drops enables the use of smaller blower motors with less costly starters and controls, and less expensive control box and installation wiring.

Cost-cutting retrofits with MLM[®] can raise thermal efficiency to reduce RTO fuel consumption, lower the pressure drop to cut fan power use, or both. Operating cost savings often result in a payback period of less than 6 months.

Capacity-boosting retrofits with MLM[®] allow RTOs to operate at gas velocities of up to ~ 400 scfm/ft², with excellent heat recovery and moderate pressure drop. What would otherwise require a second RTO can be accomplished just by replacing media and upgrading the fan.

VOC destruction efficiency in existing RTOs improves with the use of MLM[®] by reducing bed depths to effectively enlarge the combustion chamber. Using MLM decreases back pressure, which results in less leakage through switch valves.

Maintenance costs are reduced by using MLM[®] in RTOs treating particulate-laden air streams. Random packing media are efficient particulate filters, causing them to plug and need frequent cleaning or replacement. The parallel flow channels of MLM[®] allow more particulates to pass through the canisters without having them accumulate. The result is less frequent shut-downs for media maintenance or replacement.

MLM® PERFORMANCE DATA



RTO Canister Design Example:

Design Basis

Air flow = 31,700 scfm (50,000 Nm³/hr)
 Inlet Air Temp. = 68° F (20° C)
 Combustion Temp. = 1500° F (816° C)
 Half Cycle Time - 1.5 min
 Burner Air / Inlet Air - 1:100
 Thermal Efficiency Required = 95%

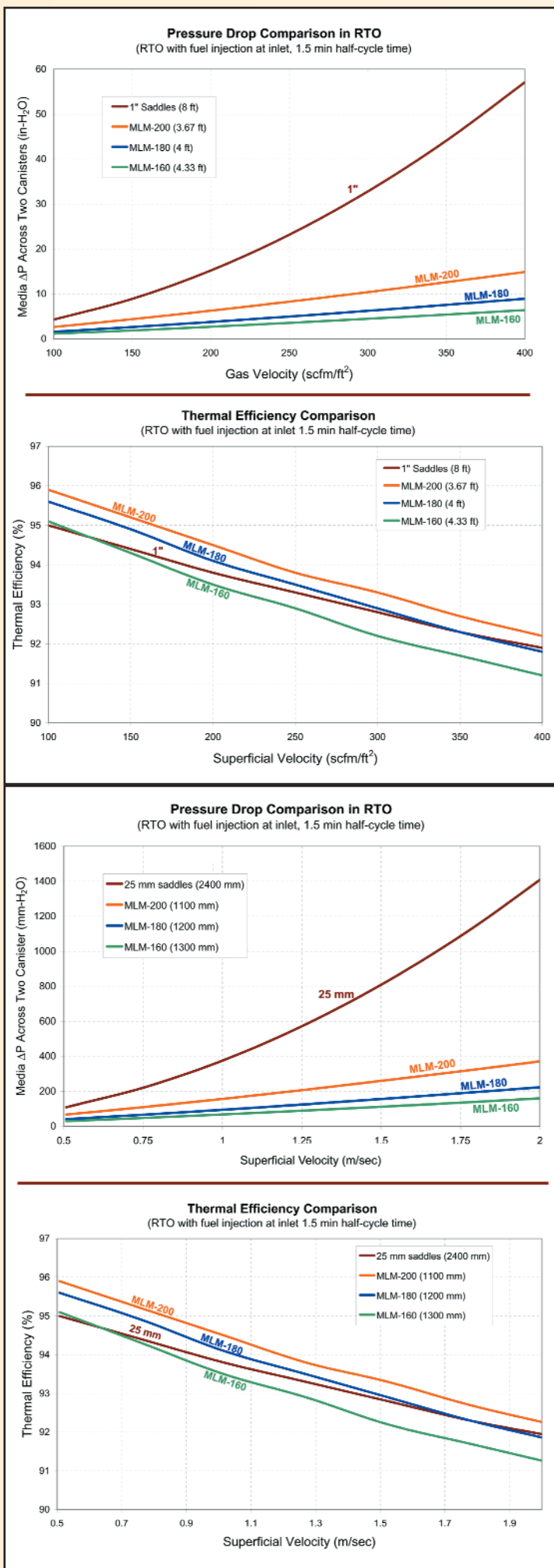
Recommended Design

Heat Recovery Media: **MLM-S®**
 Valve Switch Time: 1.5 min
 Burner Air / Fuel Gas ~ 10:1
 Thermal Efficiency ~ 95%
 Canister Size: 10' x 11' (3048 x 3353 mm)
 Design Gas Velocity: 288 scfm/ft² (1.46 Nm³/m²/s)
 Media Depth: 3.67' (1119 mm)
 Volume of media (2 canisters): 807 ft³ (22.9 m³)
 ΔP across Two Beds: 7.7 in WC (19 mbar)

Compare with: 1" (25 mm) Saddles

Canister Size: 10' x 15' (3048 x 4572 mm)
 Design Gas Velocity: 211 fpm (1.07 m/s)
 Media Depth: 9' (2743 mm)
 Volume of media (2 canisters): 2,700 ft³ (76.4 m³)
 ΔP across Two Beds: 19 in WC (47 mbar)

This design example illustrates how **\$50,000/year in operating costs savings** are achieved by using MLM, along with a 25-30% reduction in capital cost of the new RTO.

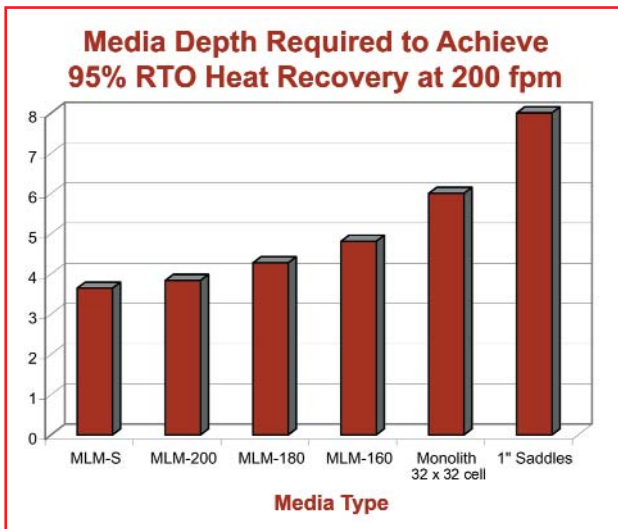


MLM®-RTO Case Studies Online:

- **\$1,000,000 Revenue Increase + \$40,000 Power Savings Per Year!**
Retrofit with MLM® boasts capacity, cuts operating costs at municipal WWTP.
- **Pollution Engineering MLM® Casebook Article**
Biosolids incinerator retrofits with MLM® to improve air flow.
- **Retrofit with MLM® in Biosolids RTO to Yield \$78,000/Year Savings**
Privatized biosolids facility upgrades its VOC control RTO with MLM®.
- **18 Hour Overtime Emergency Maintenance Events Eliminated**
RTO retrofit with MLM® solves plugging and pressure drop problems.
- **MLM® Increases Capacity 50% as Well as Thermal Efficiency**
Label printing plant increases capacity and meets emissions requirements with MLM®.
- **Autothermal RTO Retrofit with MLM® Yields \$100,000+ Savings Per Year**
MLM® and Rest-O-Cat® succeed where random heat recovery media failed.

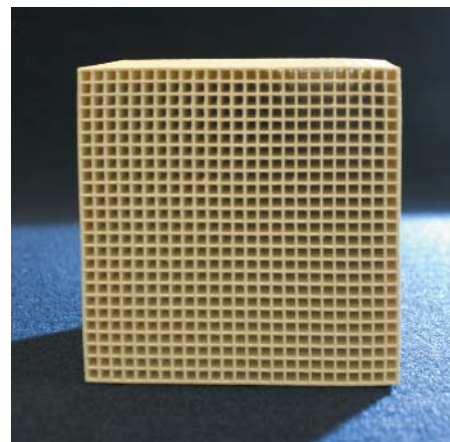
**Millions of Dollars
SAVED!**

These remarkable case histories can be viewed online at www.lantecp.com/casehistories.htm.



Also Available:

Monolith



Low-cost ceramic saddles



MLM®

LANTEC
PRODUCTS INCORPORATED

WWW.LANTECP.COM

sales@lantecp.com

Sales: 50 Redfield, Suite 207, Boston, MA 02122 617.265.2171