

Break Through to NexGen RAM Technology



how you think about
mixing and processing



Up to \$8,400 credit when
upgrading to a LabRAM II H

Up to \$8,400 in Exchange
Credit for LabRAM Original
by upgrading to

- LabRAM I
- LabRAM II
- LabRAM II H



Second-generation
LabRAM I - Powerful, Quiet, Effective

***As announced in September of 2018, Resodyn will end product support
for the LabRAM Original by the end of 2025.***

Because the second generation of LabRAM systems has become an essential tool to the RAM community, Resodyn believes that all RAM users should have access to the Second Generation of the technology. To that end, Resodyn will offer credit for your LabRAM Original toward the purchase of a LabRAM I, LabRAM II, or LabRAM II H, as shown in the table below. Resodyn will cover the cost of shipping the Original LabRAM to Resodyn in Butte, MT. Depending on the model you choose, you save on each of the LabRAM Models.

This offer is valid for 90 days , June 1 through September 30, 2021

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Asia-Pacific sales contact: Tibor Egervary, 406-497-5401 tibor.egervary@resodyn.com



LabRAM II



LabRAM I



LabRAM II H



130 North Main Street, Suite 630
Butte, MT USA 59701 (406) 497-5333
info@ResodynMixers.com
www.ResodynMixers.com

Smaller, Quieter, Vacuum, Temp Monitor, Digitized HMI,
Recipe Development and Storage,
and more . . .

Exchange Credit

for *LabRAM* Original Upgrade to *LabRAM* I, *LabRAM* II or *LabRAM* II H

The Original *LabRAM* is making way for the advanced *LabRAM* I. Sleek, super-quiet insulation and housing, integrated hood lift, and more of what you use *LabRAM* for: high quality, repeatable, unbeatably fast mixing of liquids, powders, pastes and virtually everything in between.

Review the table below to compare

- *LabRAM* Original and *LabRAM* I, II and II H characteristics:
500 gram *LabRAM* I - 1 kg *LabRAM* II - 1 kg *LabRAM* II H for hazardous materials
- Review the Product Sheets included with this offer to choose the *LabRAM* that best suits your needs
- Match your savings up to \$8,400 in the table on the front of this sheet
- Tell us your *LabRAM* upgrade choice and we'll process your NexGen *LabRAM* order for shipment
- We'll take care of *LabRAM* Original's return freight charge too

LabRAM I features compared to the LabRAM Original (R2D2)		
Feature/Characteristics	LabRAM Original	LabRAM I
Components	Three pieces: Mixer, Hood, Control Box	One-piece fully-integrated assembly
Dimensions	16" W x 16 3/8" D x 24" H (Mixer only) (407mm x 416mm x 610mm)	18" W x 26" D x 25" H (entire system) (458mm x 661mm x 635mm)
Operating Sound	82.2 db @ 100 g	65.7 db @ 100 g
Internal Protection	None	Bellows
Cover	Separate, hand-removable	Integral Pneumatic Lift
Machine Operations	LED Screen with RAMware	Integrated HMI OS touchscreen
Recipe Storage	None (Optional with RAMware ²)	Up to 100 recipes
Vacuum Capability	External manual operation	Integrated HMI operation
Temperature Monitoring	Off-board, separate Thermocouple	Integrated, HMI monitored, RTD Assembly

When you receive your new LabRAM, sign up for live webcast training sessions, mix tests, and processing guidance. Join the NexGen of ResonantAcoustic® Mixing today.

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Slide-out Handles

ResodynAcoustic® Mixers' **LabRAM I™** features operational and control features for mixing and processing a broad range of applications. Many difficult-to-mix materials can be processed faster, better, more efficiently, and more productively using the **LabRAM I™**.

Designed for Dynamic Processing Requirements

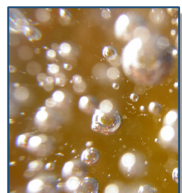
The **LabRAM I™** design and features upgrade the original **LabRAM™** with a substantive power increase compared to the first generation. Upgrades include sound level below 70 db, on-board accessory operation, recipe development and data download, while maintaining the speed, quality, and laboratory-to-production scaling on which ResonantAcoustic® Mixing's (RAM) reputation is built.

Key Processing Capabilities

- Mixing and processing up to 1.1 lbs. (500 grams)
- Up to 100 g of acceleration for fast, effective, easy processing
- Any combination of Solids/Powders from nano-scale and up, Liquids/Gases, and Viscous/Slurry Materials
- Coating, milling, grinding capability
- Adjustable vessel holder accepts many mixing vessel types
- Manual or automatic/programmable vacuum operation (optional, see back of this sheet)
- Vacuum control before, during, and after mixing and curing (optional)
- Temperature sensor - precision resistance temperature detector (RTDs) with m12 connector, (optional, see back of this sheet)
- Monitor and collect vessel content's processing data while mixing
- Monitor mixing parameters in real-time
- Multiple level security and access control
- Develop, store, and secure up to 100 recipes for permanent recording of operations and measured results
- Fully integrated operating system with touchscreen interface and data download
- Acoustic housing dimensions 26"H x 19"W x 26"D (cm: 66.1 x 48.3 x 66.1)
- **LabRAM I™** weighs 155 lbs (70.3 kg)
- Intense, but gentle acoustic mixing for rapid, highly repeatable, ultra-high quality results



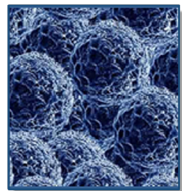
Solids/Powders



Liquids/Gasses



Viscous/Slurry



Coating/Nano



Mill/Grind

Global Mixing and Processing Technology

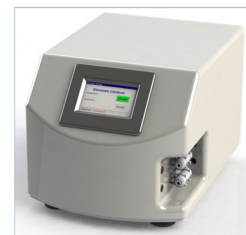
Since its introduction to the marketplace in 2007, ResonantAcoustic® Mixers' (RAM) mixers technology has become the choice for many commercial mixing and processing applications. RAM's unique combination of features and performance has proven successful at Fortune 500 laboratories and production facilities in 30+ countries across a broad range of industries.





Automatic Vacuum System

- Control operation and settings through *LabRAM's*™ operating system
- Integrate vacuum function in recipes
- Operate manually for development, reaching 10 Torr
- Vacuum lids available for a variety of vessel sizes
- Manual Vacuum System also available



Auto Vacuum



Vacuum Lid



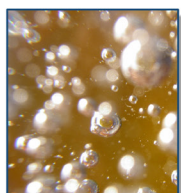
Vacuum Lid with RTD

Temperature Monitoring

- Resistance Temperature Detector (RTD) feature and fixture available
- Monitor and record temperature changes within a mixing vessel equipped with an optional RTD Port Lid
- Retrieve mixing processing, vacuum, and temperature data with provided **RAMTools** and **RAMViewer** software



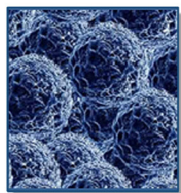
Solids/Powders



Liquids/Gasses



Viscous/Slurry



Coating/Nano



Mill/Grind

ResonantAcoustic® Mixing (RAM) Product Line Features

LabRAM I™ performance extends across the **RAM** product line, enabling new product development and break-through results not possible with traditional mixing methods. All **RAM** products use *low* frequency acoustic mixing at up to 100 *g* of acceleration for intense but low-shear mixing resulting in:

- 10 - 100x faster processing
- Highly reliable repeatability
- Direct scaling from laboratory to production without increases in processing time
- Capacities for:
 - LabRAM I*™ 1.1 lbs./500 grams
 - LabRAM II*™ 2.2 lbs./1 kg
 - OmniRAM*™ 11.0 lbs./5 kg
 - RAM 5**™ 80.0 lbs./36.3 kg
 - RAM 55**™ 920.0 lbs./417.3 kg
- Exceptional ingredient distribution
- Hazardous material compatible options



Witness **RAM** Technology first-hand with **YOUR** materials. Arrange a **FREE RAM** demonstration and mixing text at your facility.
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info@resodyn.com

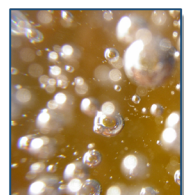




Slide-out Handles



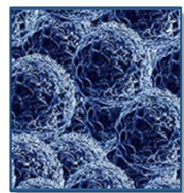
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Mill/Grind

ResodynAcoustic® Mixers' **LabRAM II™** features operational and control features for mixing and processing a broad range of applications. Many difficult-to-mix materials can be processed faster, better, more efficiently, and more productively using the **LabRAM II™**.

Designed for Dynamic Processing Requirements

The **LabRAM II™** design features reflect users' critical needs, delivering twice the capacity of the **LabRAM I™**, intense but low frequency mixing power, exceptional sound reduction below 70 db, integrated accessory operation, recipe development, and the speed, quality, and the lab-to-production scaling on which ResonantAcoustic® Mixing's (RAM) reputation is built.

Key Processing Capabilities

- Mixing and processing up to 2.2 lbs. (1 kg) mix capacity, double the capacity of the **LabRAM I™**
- Up to 100 g of acceleration for fast, effective, easy processing
- Any combination of Solids/Powders from nano-scale and up, Liquids/Gasses, and Viscous/Slurry Materials
- Coating, milling, grinding capability
- Adjustable vessel holder accepts many mixing vessel types
- Jacketed Vessel provides mixing vessel temperature control from 304°F (150°C) heating to 0°F (-18° C cooling (optional))
- Manual or automatic/programmable vacuum operation (optional, see back of this sheet)
- Vacuum control before, during, and after mixing and curing
- Temperature sensor - precision resistance temperature detector (RTDs) with m12 connector, (optional, see back of this sheet)
- Built-in strobe facilitates view of **RAM** mixing phases and progression (optional)
- Monitor and collect vessel content's processing data while mixing
- Monitor mixing parameters in real-time
- Multiple level security and access control
- Develop, store, and secure up to 100 recipes for permanent recording of operations and measured results
- Fully integrated operating system with touchscreen interface and data download
- Fully integrated **LabRAM II™** houses all electronics, power and control hardware, eliminating the need for a separately housed control component
- Acoustic housing dimensions 33"H x 29"W x 24 1/2"D (cm: 83.8 x 73.7 x 62.2)
- **LabRAM II™** weighs 260 lbs (117.9 kg)
- Intense, but gentle acoustic mixing for rapid, highly repeatable, ultra-high quality results

Global Mixing and Processing Technology

Since its introduction to the marketplace in 2007, ResonantAcoustic® Mixers' (RAM) mixers technology has become the choice for many commercial mixing and processing applications. RAM's unique combination of features and performance has proven successful at Fortune 500 laboratories and production facilities in 30+ countries across a broad range of industries.





Jacketed Vessel

- Up to 2.2 lbs (1 kg) payload
- Cooling system capable of temperature range for 302°F (150°C) to 0°F (-18°C)
- Free-standing chiller/heaters available



Jacketed Vessel

Spray System

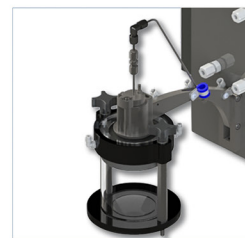
- Distribute or coat dry-ingredients with minute amounts of liquid without wetting or clumping
- Up to 2.2 lbs (1kg) payload
- Vacuum compatible reaching 10 Torr
- Syringe and Peristaltic pumps available



Heater/Chillers

Automatic Vacuum System

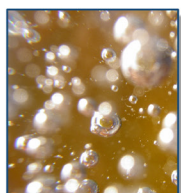
- Automatic vacuum controlled through LabRAM operating system
- Integrate vacuum function in recipes
- Can operate in manual mode for development reaching 10 Torr
- Manual Vacuum System also available



Integrated Spray and Vacuum System



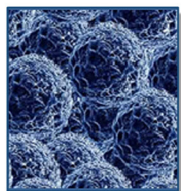
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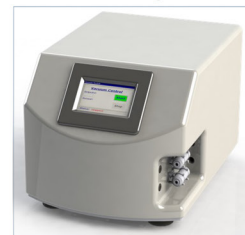


Mill/Grind

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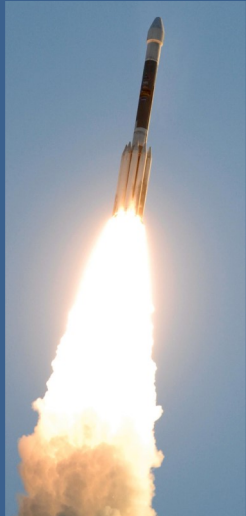


LabRAM™ II H

Second Generation Mixing
Technology of Choice for
Energetics Mixing



PYROTECHNICS



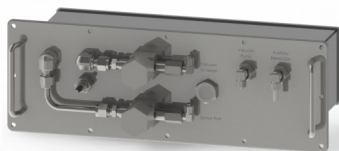
PROPELLANTS



MUNITIONS

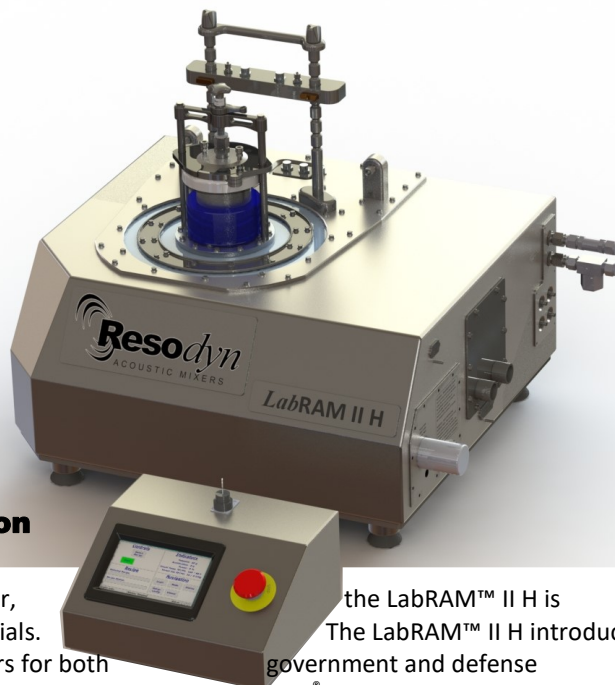
The industry standard in hazardous and energetic development and processing

- Class I Div I Class II Div I
- Vacuum System



• Jacketed
Vessel

• Remote
Operation



Resodyn Acoustic Mixers' hazardous location mixer, specifically designed for mixing of energetic materials. significant benefits to all developers and processors for both applications. The world's most demanding customers rely on ResonantAcoustic® Mixers technology for high quality and low cost processing of hazardous materials.

the LabRAM™ II H is
The LabRAM™ II H introduces
government and defense
technology for high

Mixing and Processing Technology of Choice

Since its introduction to the energetics marketplace in 2007, ResonantAcoustic® Mixers have become the processing technology of choice at many government and commercial facilities. The technology allows users to employ intense, low-frequency acoustic mixing at up to 100g's of acceleration, without the several inherent issues associated with the use of conventional mixing. The advanced design features incorporated into the LabRAM™ II H reflect design and operational considerations recommended to Resodyn by experts in the energetics community over the past several years.

Integrated Component Design

The LabRAM™ II H system integrates all electronic, power, accessory, hardware and analytical tools onboard, operated from a central, remote control panel. The LabRAM™ II H is fully functional with or without an optional acoustic housing (not shown). All enclosure and housing materials are 304L stainless steel.

Innovative New Features and Options

The LabRAM™ II H responds robustly to energetic users' dynamic and demanding requirements:

- Up to 2.2 pounds/1,000 gram capacity
- Designed and produced to be eligible for Class I Div I and Class II Div I Groups C-G environments
- Remotely mounted Purge and Pressurization System
- Jacketed Vessel for material temperature control 302°F / 150°C heating to 0°F / -18°C cooling (optional)
- Temperature sensor - 316L resistance temperature detectors (RTDs) with m12 connector (optional)
- Automatic or Programmable Mix Vacuum before, during, and after the processing/mixing cycle (optional)
- Remote control panel operations up to 25 miles
- Onboard programmable control of mixing operations and permanent recording of operations and measured results
- Sealed, hazardous rated, SS 304 mixing platform prevents entry of mixing materials into the enclosure
- Laptop-based human machine interface available
- Redundant ground paths mitigate static charge build-up



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LabRAM™ II H Specifications

Item	Description	LabRAM™ II H
1	Maximum Payload Capacity	2.2 lbs.
2	Enclosure Material	304L Stainless Steel
3	Sealed Enclosure	Yes
4	Sound Emitted	<70 dB at 3'
5	Purged Enclosure	Yes
6	Enclosure Ground	Yes
7	Resonator Grounded	Yes
8	Payload Fixture Grounded	Yes
9	Vessel Temperature Monitoring	2 RTD's monitored and recorded
10	Automatic/Programmable Vacuum	Yes
11	Data Logging	Yes
12	Remote Operation	Yes
13	Class I Div 1 Ratable	Yes
14	Class II Div 1 Ratable	Yes
15	Recommended for use in Hazardous environment	Yes
16	Onboard Programmable Control and Recording	Yes
17	Weight	350 lbs / 400 lb with enclosure (159 kg / 182 kg with enclosure)
18	Dimensions (Resonator) approximate clearance, including RTD and Vacuum line Bridge	35" W x 27" D x 28" H (0.89 m x 0.69 m x 0.71 m)
19	LabRAM II H Remote Box Clearance (width x depth x height)	13.5" x 12" x 8" (0.35 m x 0.31 m x 0.21 m)
20	Purge & Pressure Control Unit	9" x 6.5" x 14.5" (0.23 m x 0.16 m x 0.37 m)
21	Electrical @ 50/60 Hz, CE Certified	100-120 VAC / 200-240 VAC
22	Purge Air	20-120 psi (1.4-8.3 bar) at 12 SCFM (240 l/min)
23	Cooling Fluid	0.5 gpm (2 l/min) at 60°F (15.5°C) at 0-15 psi (0-1 bar)

PYROTECHNICS



PROPELLANTS



MUNITIONS



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