



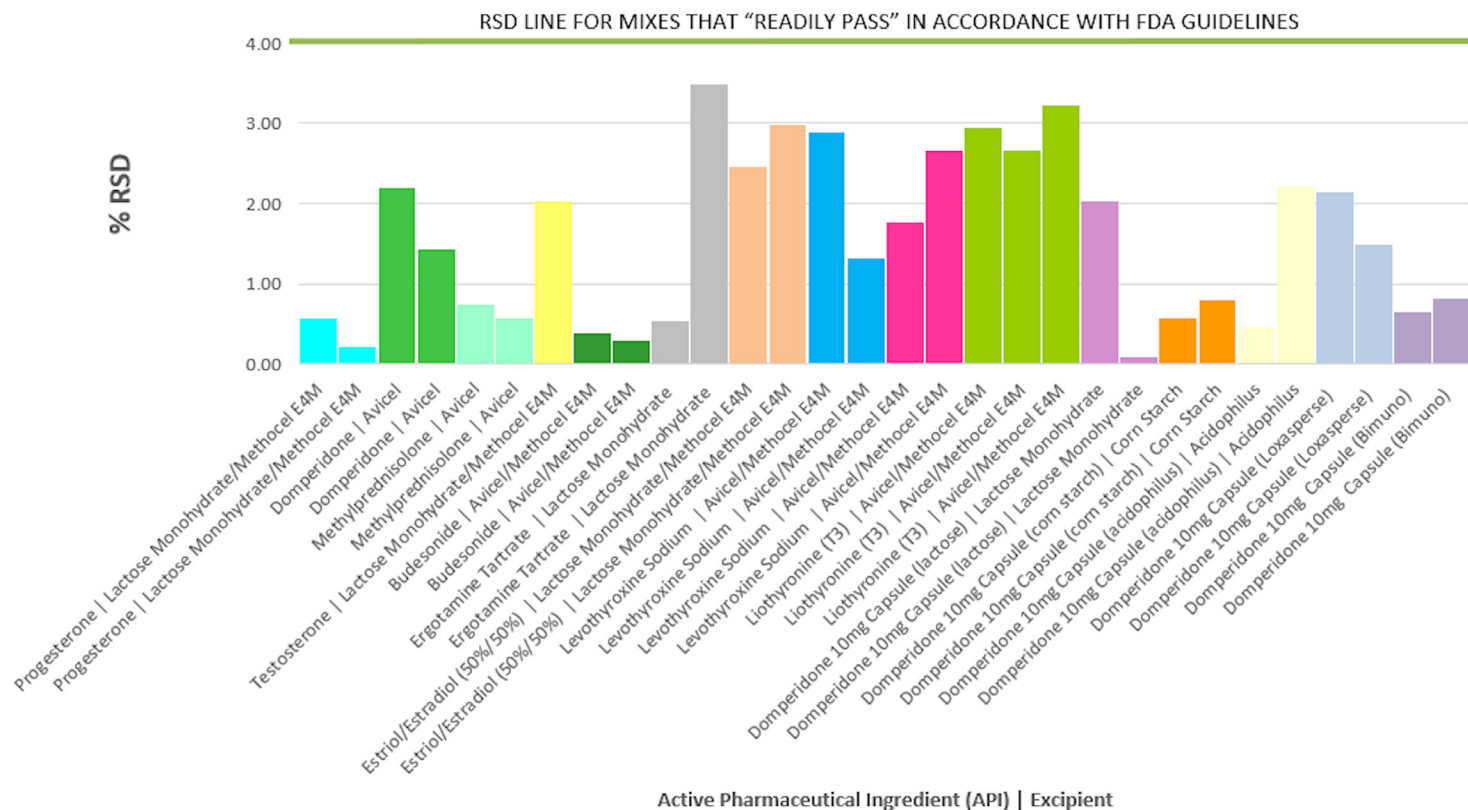
EXECUTIVE SUMMARY

BETTER PHARMA PRODUCTION

See how much uniformity, speed, and quality improves with a Resodyn ResonantAcoustic® Mixer.

Using the independent lab Eagle Analytical Services, we tested a variety of active ingredients and excipients to see just how well ResonantAcoustic® Mixing brings homogeneity to powder mixes. The goal was to get under the 4% relative standard deviation. At that point, the mix is considered to “readily pass” FDA guidelines. This results

in less rejected material, saving the associated time and cost. All of these mixes were done in six minutes or less. Some, like the combination of progesterone and lactose monohydrate/methocel E4M took only two minutes and had an amazing 0.21% RSD.



“The acoustic mixing approach represents a potential time savings of two orders of magnitude, facilitating the identification of a suitable nanosuspension formulation within the rapid timelines.”

From a study by Merck on drug discovery

SPEED

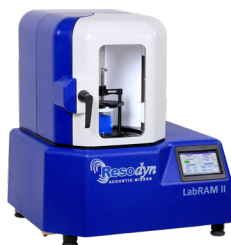
BETTER THAN CONVENTIONAL

In a batch test between a ResonantAcoustic® Mixer, a V-Blender and a commercial high-speed mixer, the Resodyn equipment knocked it out of the park. The machine was three times faster than its closest competition.

Method	Weighing	Mixing	Cleaning	Total
RAM	1:21	2:51	0:01	4:13
High Speed Mixer	1:21	5:41	5:40	12:42
V-Blender	1:21	41:53	5:48	49:02

12X FASTER THAN A V-BLENDER

LABRAM II



This lab-scale machine work perfectly for development, testing and production. It scales seamlessly into larger equipment, like the OmniRAM.

CONSISTENT

DOMINATING POTENCY TESTS

Experienced users know how important a uniform production is. This potency test used the notoriously difficult to mix T₃ material, also known as liothyronine sodium. Three mixers were used- a Resodyn mixer, a commercial high-speed mixer and a V-Blender.

Method	Sample 1	Sample 2	Sample 3	Average	RSD
RAM	94.7%	97.3%	98.0%	96.7%	1.7%
High Speed Mixer	86.9%	88.0%	87.3%	87.4%	0.6%
V-Blender	90.0%	92.2%	87.6%	89.9%	2.3%

Only the Resodyn mixer had all three samples pass the required uniformity. In fact, the high speed mixer failed all of the tests. The V-Blender didn't do much better, seeing a failure and a narrow success among the three tests.



Innovative Mixing Solutions

NEXT STEPS

- Contact our sales engineers.
- Rent a benchtop unit.
- Consult with our process engineer.
- Send us material to test.
- Get a customized quote for your ideal solution.

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