

ADMIXTURE

The Newsletter of Mixing Technology for Sanitary Processors

VOLUME 6 , NUMBER 1

A Look at the New Admix Technical Services Center

Our recently constructed facility in Manchester, New Hampshire offers sales, customer service, engineering, production, research and testing. Within the facility is a 2,000 square foot pilot plant and customer test lab, designed to provide our customers the opportunity to "test drive" our equipment and fine tune production techniques prior to purchasing. Most process applications can be simulated in either small benchtop volumes (from 1 to 8 liters), medium size 30 to 100 gallon production vessels and up to 300 gallons for large scale production modeling. Jackets are available on some test vessels for temperature control and all mixers offer variable speed control.

Microbiological testing and particle size examination, viscosity and specific gravity

measurements are all available. Our pneumatic vacuum feeders and ingredient eductors provide easy, dust-free introduction of all powders into any of the test vessels. A 100 gallon VacuShear with temperature control is available for demonstrating how typical ingredients can be quickly conveyed and fed into a vacuum tank without aeration or dusting.

Finally, a 2,500 gallon "proving" tank is available for conducting and verifying power draw and pumping capacity on all of our mixing heads and blade designs.

We are confident that our new test lab and overall facility will improve our ability to assist you in developing the highest quality formulations, using the most innovative, sanitary design mixing technology available.

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Lets Get Technical!

Sanitary Finishes

Specifying the proper surface finish for Sanitary equipment can often become a frustrating situation, as one person's or company's view of a specific finish may vary considerably from another's. For example, calling out a typical #4 Polish may qualify the appearance of the piece, but may not provide the actual desired surface finish (typically in Ra) that is necessary. Specifying a surface roughness does not necessarily qualify the amount of mechanical polishing or buffing, and electropolishing is also altogether different from the above. The table below is a synopsis of how different surface finishes can be qualified. While specifying a #4 or #7 polish is still widely used, a more accurate description has become either grit # or a Ra (Microinch) designation. An RMS designation (Root Mean Square) has sometimes been used, but appears to have been dropped in favor of the more acceptable Ra designation. Any of the mechanical finishes in the chart below can be further enhanced by Electropolishing. This will improve the surface finish from 2-15 microinches (depending upon the initial finish) and will enhance the reflectivity, corrosion resistance and cleanability of the surface. Cleanability can also be improved through Passivation, which is a treatment to remove free iron oxides present from welding, wire brushing, sanding and buffing.

Admix is pleased to have the capability to provide any of the above finish levels, including Electropolishing, and can verify the exact Ra finish with our Surface Roughness Gauge Profilometer. We will furnish you a written, traceable record of the recorded finish upon request.



The Rotostat Emulsifier, originally introduced in 1985, has always been our "flagship" product at Admix. It's very innovative design is still the only "rotor/stator" style high shear mixer featuring a single shaft assembly (no obtrusive guide bars) and a unique revolving stator. This design provides superior performance characteristics when compared one on one to conventional fixed stator designs. As novel and innovative as the original design was, Admix has made over 30 improvements to the Rotostat product line over the past 10 years, ranging from major changes such as the all stainless steel bearing frame and motor, to more subtle "hidden" improvements like changing the internal motor coupling and bearing surfaces to 316SS instead of carbon steel. Other changes included upgrading from teflon bushings to a more durable Rulon material, and developing a substantial array of options to enhance Rotostat performance, including low profile belt drives to reduce headroom, and sanitary intank couplings. We have also added gas flush, non contact mechanical seals and a complete series of mobile and wall mount lift stands.

The Rotostat emulsifier is like no other high shear mixer, and features what we refer to as Optishear® performance. The unique patented revolving stator, when combined with the close clearance rotor, and high efficiency lower propeller, optimizes shear rates, pumping rates and particle size reduction. By carefully controlling all 3 characteristics, the Rotostat will never overshear sensitive materials or formulas.

For a complete look at the Top to Bottom Sanitary features of the Rotostat, please call for our newly updated brochure, or look us up on the web at www.admix.com.

Admix Finish Designation	Polish #	Grit #	Ra (Microinch)	Ra (Micron)
ADF1	#3	80	50	—
ADF2	#4	150	30-35	0.76-0.89
ADF3	#4	180	20-25	0.50-0.65
ADF4	#6	240	15-20	0.375-0.50
ADF5	#7	320	8-12	0.20-0.30
ADF6	#8	400	4-8	0.10-0.20



VACUSHEAR LIQUI-PROCESSOR EXPANDS

Our VacuShear Sanitary Vacuum Liqui-Processor has now grown to over 15 installations, ranging from 20 gallons to 1,200 gallons in volume. Applications include conveying and rapidly dissolving citrus powders, nonfat dry milk powder, salt slurries, sugar slurries, cocoa powders, marinades, mayo premixes, pudding emulsions, hair care premixes and other typically time-consuming and labor intensive operations. In addition to our experience with a wide range of working volumes, we have expanded our capabilities in designing and applying the powder receiver. We can work with you in providing the optimal method of introducing and conveying powders using wands, hoppers with vibrators or fluidizers, bag dump stations or loss-in-weight/gain-in-weight feeders. Our expertise in vacuum pump technology ranges from the sanitary, easy to clean pneumatic models to more conventional liquid ring type models.

If you are currently handling bulk powder from super sacs or bags, we can assist you on doing the following:

1. Reduce your feed, convey and mix time by over 50%!
2. Reduce labor required to load individual bags of powder
3. Increase safety while reducing strain on employeesmore ergonomic!
4. Produce a higher quality mixture with less aeration and dusting than with atmospheric mix stations

To find out more about the VacuShear principle, ask for the recently published article "Convey, feed and mix powders into liquids" or visit our website at www.vacushear.com.



Admix Team Members



In this newsletter Admix is adding a new feature called "Admix Team Members". Each issue will acknowledge the efforts of our employees in helping to make Admix, Inc. the leader in Sanitary Mixing and Blending.

Combining over 12 years experience at Admix, pictured above are Peter Leitner, *National Sales Manager* (top), Doug Zwirner, *VacuShear Product Manager* (middle), and George Nikolopoulos, *Applications Manager* (bottom).

What's New at Admix...

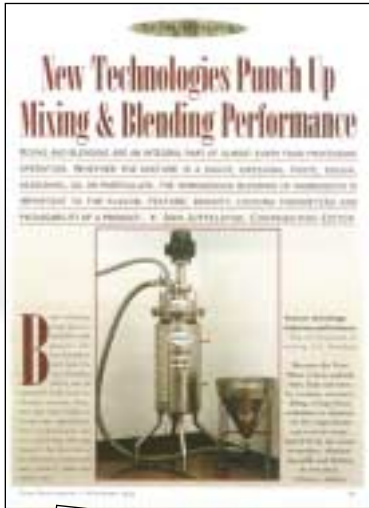


Recently introduced literature includes our DynaShear® brochure explaining the design, benefit and application of our sanitary inline high shear mixers. Other magazine articles have focused on the application of our VacuShear® liqui-processor.

Contact Our Experts

Admix has applications experts available to answer any and all of your Advanced Mixing Technology needs.

Call anytime:
Tel: 603-627-2340 or
1-800-466-2369
Fax: 603-627-2019
www.admix.com



Field Report

Convey, feed and mix powders into liquids... under Vacuum!

Vacuum processing has been around for many years, especially within the Pharmaceutical and Chemical industries. Food processors have likewise begun to see the tremendous benefits which a properly designed Vacuum Liqui-processing system can provide, such as offered by our VacuShear Sanitary Processor. Vacuum processing is really a simple concept, but potentially challenging to execute effectively without a firm understanding of how vacuum conveying and mixing differs from atmospheric or pneumatic positive-pressure or mechanical type conveying. Dense phase versus dilute phase operation, sequencing of valves to insure proper control, setting and maintaining proper vacuum levels, introduction of powders under vacuum, and balancing material feed with mixer intensity all require testing and verification. Admix is pleased to have both an extensive database of field installations under differing circumstances, and most importantly a sizable pilot plant at our facility to simulate up to a 1,500 lb. processing unit with optional ways of loading and conveying powders into the VacuShear Processor. Our field installations range from 20 gallons up through 1,200 gallons. Pick up and conveying methods range from trigger activated wands, fluidized hoppers, super sacs into loss-in-weight feeders and ventilated bag dump stations. Various vacuum pumps are available to suit your sanitation or capacity requirements. Mixing options range from our low speed Rotomixx to high shear dispersers and emulsifiers (Rotosolver and Rotostat).

If you would like to know more about how VacuShear processing can save you time and labor while producing a higher quality product, please call Doug Zwirner to review your application. We will then forward our VacuShear Starter Kit including brochures, process questionnaire, and typical installation alternatives.



Advanced Mixing Technologies

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