



Advanced Mixing Technologies

Pet Food Manufacturers Seek Balance

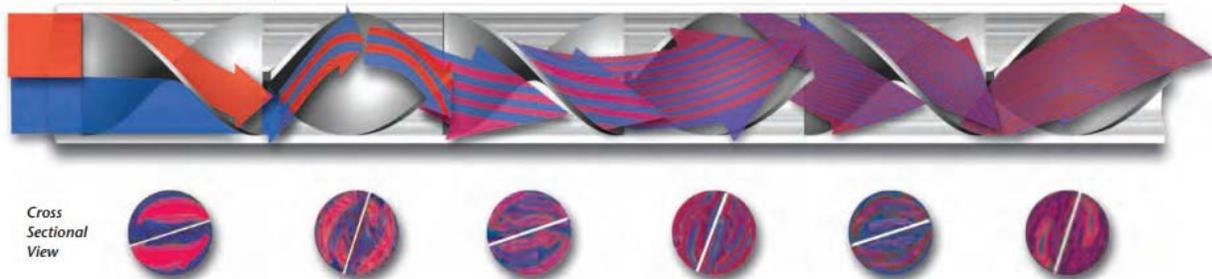
Trends and ingredients may change, but increasing efficiency is a constant in the mix room – how do you stack up?

One of our customers, a major pet food manufacturer, uses our popular sanitary static mixers as part of their process. It's ideal for processing miscible fluids regardless of flow rates, viscosity or density, and perfect for the instant dilution of flavors or colorants. The concept behind a static mixer is simple: fluid or semi-fluid flowing through a pipe is channeled through a geometric arrangement of mixing elements. The element geometry within the housing cases the flow of ingredients to divide, mix, divide again and mix again until complete. Static mixers are frequently used in pet food processing when manufacturers need to blend fats, oils, and vitamins, acidify, or blend to marble and striate a meat emulsion.

Turbulent Flow - Low Viscosity



Laminar Flow - High Viscosity



While the customer was happy with their static, they were having problems in another area. Like most food manufacturers that end up implementing our in-tank or in-line mixing equipment, their current systems were outdated, inefficient and costly to maintain. Sometimes the processors we work with don't realize just how inefficient their systems really are until they visit our lab and see for themselves how quickly their ingredients could be mixed to an agglomerate-free state, or they ship their ingredients to our lab for a mix test on our modern equipment. In this particular case, the pet food manufacturer was trying to completely dissolve large amounts of granular food colorant into 400 gallons of water with a conventional propeller mixer. The undissolved portions were clogging their lines, causing significant downtime and timely maintenance procedures to clean the lines out. Several problems were solved by implementing our patented Rotosolver high shear mixer and disperser. Hours were shaved off their process time, they saved money through significantly reduced product waste, and they saved time on labor and reduced maintenance costs. The savings opened opportunities to increase plant capacity.

We see significant process improvements in other plants, too, across multiple industries including pet food, human food, beverage, pharmaceutical and cosmetic products. Food safety and security are important for both human and pet food production which is why the same level of hygienic standards



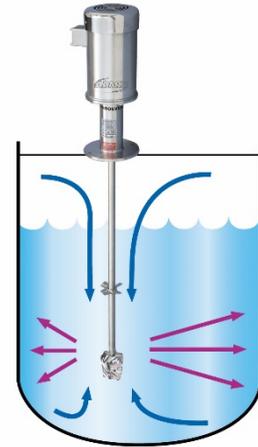
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are applied to both. As an equipment supplier, Admix products bear the 3-A Third Party Verification symbol and are USDA-AMC certified for meat and poultry processing. Safety and efficiency are key when creating gravy bases used in many canned, dry, semi-moist meals and treats for pets. Trending are a variety of nutrient rich purees and gravies sold as thick and delicious pet food toppers. Lower calorie, high fiber purees are often fortified and used as a meal replacement to promote weight loss in pets.

Manufacturers need to balance texture and mouthfeel requirements with maintaining the nutrient and ingredient functionality. Commercial production of proprietary recipes for both gravy bases and purees are efficiently mixed with advanced mixing technology from Admix, and with less air entrainment that aid a manufacturer's longer shelf-life objectives. The Rotosolver high shear in-tank mixer can do in minutes what takes hours with a conventional mixer, and with less power consumption – depending on the equipment, we have seen power reliance reduced by over 50%. The patented design of the Rotosolver ensures high shear rates and an optimal flow that delivers 3- to 5-micron emulsions for enriching pet foods with important vitamins, minerals probiotics and more. When a tighter emulsion droplet size (to 1 micron) is needed for gravies, purees or slurries, then they may use our inline mixing and milling equipment like the DynaShear or Boston Shearmill.



According to the American Pet Products Association, the overall industry-wide spending figure for 2017 topped out at \$69.51 billion with the food portion of that being \$29.07 billion¹. It is clear that one of the high growth sectors is premium dry pet food and treats made with protein and nutrient rich ingredients. While trends change, a constant that we see in plants is the need for high efficiency equipment that works well with current formulations and that is a core strength where we can help.

Contact Admix to learn more about improving your mix room efficiency.

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Reference:

¹Source: American Pet Products Association (APPA) www.americanpetproducts.org