A Mix Of Requirements

By Todd Hutchinson

Function. Form. Reliability. In the chemical processing industry, these three elements drive purchasing decisions, including industrial mixer selection.

Chemical companies are faced with increasingly global supply chains, shorter delivery timelines and tighter product specifications at a time when production costs are rising across the board, from raw materials to energy. A mixer's job, ultimately, is to operate as designed, while increasing output and reducing costs.

Your Bottom Line

If only it were that simple. Process optimization and reliability are paramount to engineers and plant operators responsible for a plant's overall performance. These individuals are likely to buy a mixer based on the specifics of its design, its proven lifespan and its ability to meet output demands.

Procurement specialists, however, must answer to the company's bottom line. While recognizing the importance of function and reliability, they are more likely to make price a significant factor in mixing equipment decisions. The result, unfortunately, is often an investment in mixing technology that doesn't meet either party's long-term needs-even though both parties are working towards the same ultimate goal.

The New Middle Ground

Traditionally, the only way for engineers, plant operators and procurement departments to agree on a capital mixing system purchase was for each party to compromise its requirements. In today's complex market, however, technology manufacturers are tailoring products and services to better meet the needs of the entire chemical plant-a more holistic approach.

The ultimate solution, then, is no longer a question of design over price or vice versa; it's a matter of partnering with a technology and manufacturing vendor that provides cutting-edge design and engineering while measurably reducing the total cost of ownership. To help guarantee that your next mixing equipment purchase satisfies all key decision-makers, be sure that your vendor can answer the following questions:

- 1. How will your mixers optimize my processes?

  All mixing solutions providers promise process optimization, but few can describe exactly how or to what degree. That's because they don't know your specific processes and product characteristics. They are selling an off-

the-shelf mixer tested under general conditions.

The only way for a vendor to answer the optimization question truthfully is to take the time to understand your processes and challenges early in the sales process; simulate your exact basins and/or vessels; test those exact conditions on a scalable, repeatable basis; and either select a mixer from their product line that provides the solution you're looking for or design a new one.

Your mixing solutions partner should provide scale-down/scale-up test services that test power and torque levels, along with geometric ratios and impeller design. Without this testing capability, mixer providers are making promises based primarily on generalities and guesswork. This may enable them to appeal to the procurement team, but the investment is less likely to perform as expected on the plant floor.

- 2. What isn't covered by your guarantee?

  Most mixing solutions providers offer some kind of guarantee; the danger, however, lies in the fine print, which exonerates the provider from failures based on variables in your unique processes.

  A mixing partner should back up all mechanical components of its mixers. If the partner has done the legwork to properly test and analyze your specific processes prior to recommending a mixer, the guarantee tends to be far more useful and reliable in your environment.

- 3. What quality assurance standards do you meet?

  ISO 9000 is generally accepted as the quality standard for industrial mixers. When it comes to weighing costs against performance, however, both procurement departments and engineers/plant operators should expect more. Look for a mixing partner that not only complies with ISO 9000, but Nuclear Quality Assurance (NQA-1) standards as well.

  NQA-1 standards were established to maintain the safety of the U.S. nuclear industry by mandating the highest quality possible. If your partner's mixers meet NQA-1 standards, you can be certain that you're investing in the quality, reliable products, which would have been through the most rigorous testing and assembly audits available.

  Your mixing partner should be able to provide traceable quality data to verify all standards compliance.

- 4. How reliable are your mixers?

Along with a mechanical component guarantee, any mixing partner should provide a reliability and performance guarantee based on the mixer design's performance in specific test environments, including product quality, product throughput, energy savings, the elimination of unplanned downtime and the reduction of planned service-based downtime.

Ideally, the vendor has a plan in place to manage and maintain the mixer's health throughout the equipment's lifespan. That plan should also include 24-hour on-call service with engineers who can answer questions and respond to any emergencies, and a guarantee that in the event of an unexpected incident, you can be back in business within 24 to 72 hours.

- 5. Can you repair and maintain all of my existing mixer equipment-even if it's manufactured by another vendor?

  This question is especially relevant for procurement personnel who maintain vendor relationships. Those that work with multiple mixing vendors and local gear repair shops are left to deal with the hassle of multiple service contracts, turnaround times and prices-the coordination of which wastes precious resources and can result in unplanned downtime, thus devaluing the investment.

  A mixing solutions partner should service all equipment brands with guaranteed turnaround times regardless of make or model. Therefore, you can plan for predictive and preventive maintenance, and respond quickly to unplanned interruption of your processes.

As the global processing market expands and becomes more complex, chemical manufacturers must focus on stabilizing their output, improving efficiencies and maintaining profit margins-not on internal battles of procurement vs. engineering, sticker price vs. quality.

By working with a mixing solutions provider that can design a solution specific to your processes; guarantees its mechanical components and performance promises; meets all available quality standards (not just the basics); provides 24/7 on-call service with guaranteed 24- to 72-hour turnaround times; and can repair and maintain all mixing equipment (not just the equipment it sells), then companies can ensure that their mixing equipment meets the needs of both their engineers/plant operators and procurement departments-and, most importantly, their customers and shareholders.
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