

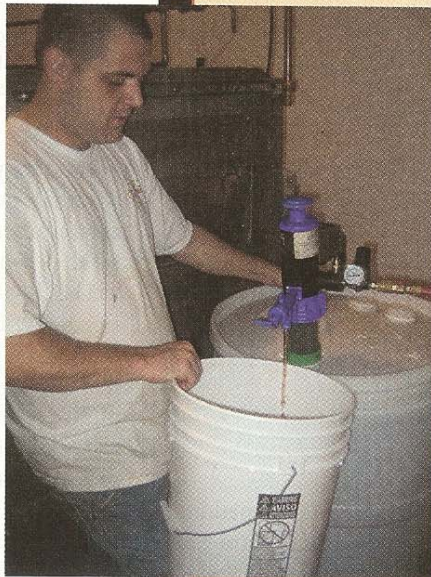
TECH UPDATE
Designer Pump Parts -
Diverse Food Markets
Demands
Diverse Solutions

back, adds Fristam's Verges. Besides keeping the rotor close to the bearings and gearbox to reduce maintenance, Fristam has altered oil-bath bearing design to facilitate oil changes. And incremental efficiency improvements are driving energy savings, particularly on large pumps. "A 5 percent efficiency improvement on a 50 HP pump can mean a huge savings over the life of the pump," he says.

Close-coupled pump drives are sometimes promoted as space savers, and they are becoming the norm in centrifugal pumps. Reduced seal replacement is a bigger benefit, with the elimination of the sanitary problem of an exposed shaft another plus. Through a partnership with Nord Gear Corp., WCB is bringing the benefits of close coupling to positive displacement pumps.

"A flange designed around a gear reducer is the next step in the evolution of PD pump drives," WCB's Rice says. The gear reducer replaces the firm's Integral Speed Reducer to step down rotational speed below 50 RPMs. The need for shaft alignment is eliminated, as is bacterial harborage.

The long, thin profile of progressive cavity pumps is not space efficient, a drawback manufacturers are working to temper. On the other hand, their ability to pump at pressures much higher than conventional PD pumps makes them an attractive alternative in continuous processes. "People are looking at equipment changes like scraped-surface heat exchangers to boost throughput while maintaining product integrity, and that means higher pressures to push product through," notes Moyno's Amburgey. seepex's Dillon seconds that, adding, "there are pumps



Diverse food market demands diverse technical solutions

While major manufacturers measure line production in thousands of gallons per hour, food processing entrepreneurs may only need a few gallons of a given ingredient every 60 minutes. Nonetheless, reliable pumping is a prerequisite, and corrosion- and abrasion-resistant pump components can contribute to product quality as their business builds.

A worker at the Stancato's plant in Canton, OH, uses a pressurized-action pump to extract red-wine vinegar from a 55-gallon drum. A Cleveland area restaurant, Stancato's began distributing its salad dressings and tomato sauces to area retail outlets in 2005. Source: GoatThroat Pumps.

Stancato's restaurant exemplifies the entrepreneurial category. A Cleveland area mainstay since 1938, Stancato's began bottling its spaghetti sauce and Italian salad dressings for diners who wanted to enjoy the toppings at home. Last year, the firm branched out into retail distribution and acquired a former cannery in Canton, OH, to meet growing demand. "We were pouring ingredients into a bucket from a 55-gal. drum weighing about 400 lbs.," recalls Scott Six, the plant's production manager. "It

was a two-man job, inconvenient, and hard work." Like many manufacturers before him, Six concluded a pump was the solution; the only question was, what level of complexity?

An air-pressurized pump powered by a shop-air compressor and equipped with a release valve to maintain drum pressure between 2 and 7 psi was the answer. "There's no pulsing, and at four gallons a minute, it is plenty of volume for our purposes," reports Six. Olive oil and red-wine vinegar are among the ingredients being transferred.

"I describe it as a beer tap for chemicals," says Nancy Westcott, president of New York-based Westcott Distribution Inc.—a description that makes her investors cringe but which quickly explains the spring-actuated pump's concept. Westcott purchased the molds and manufacturing rights to the 2-lb. polypropylene pump from a defunct South African firm, renamed it the GoatThroat and partnered with three comanufacturers to fabricate four food-grade versions. Stancato's is the first US food client, though Australia's Yalumbia Winery and other overseas companies have used the self-priming pumps since their introduction in 1997.

Easy cleanability and a replaceable O-ring make the units a good fit for food plants, though Westcott says any manufacturer dealing with drum transfer can use them. And material construction makes them appropriate in any application where chemical degradation is a concern.