GPN Agitator Pumps

The GPN agitator series of high-powered, heavy-duty pumps deliver strong agitation to facilitate efficient suction of settled materials such as slurry, mud, and sand, according to pump manufacturer Tsurumi (America), Inc. The pumps offer high-head and high-volume discharge suited for hefty work conditions such as quarries and mines.

The GPN submersible pumps are driven by a four-pole motor, equipped with a high-chromium cast iron agitator for smooth suction. The impeller and suction cover are made of wear-resistant materials. The side discharge spiral design allows for smoother passage of the solid materials. The pump features forced motor cooling that is achieved by a water jacket, which assures the motor is cooled even when it is exposed to air. The pump incorporates seal pressure relief ports that prevent pressure from affecting the shaft seal.

The GPN agitator series was recently used at an aggregate plant, which creates gravel from larger rocks for use in landscaping and construction projects. Tsurumi GPN agitator pumps were used throughout the plant to collect sand and gravel for the transferring and processing of aggregate. The combination of rocks and other abrasive materials makes this a particularly harsh application, making it essential to have a pump that can endure this environment. The GPN boasts wear parts made of fine metal, allowing the pump to withstand these conditions. Other applications the GPN is often used in are underground mining, construction, and tunneling.

Delicate, quiet operations for Twin Screw Pump

Designed for use in hygienic applications in the dairy, food and beverage, and personal care industries, the Alfa Laval Twin Screw Pump handles sensitive, abrasive, and either high or low viscosity fluids. Additional benefits are that it is quiet and virtually pulse-free, as well as smooth and gentle during operation. Its low pulsation and solids-handling capabilities reduce the risk of product damage.

According to Alfa Laval, the two-in-one operation of the twin screw pump provides easy handling of process media of varying viscosities as well as cleaning-in-place (CIP) fluids. This simplifies piping and pump control, while cutting costs and minimizing contamination risks. Its suction performance with excellent lift capability and low net positive suction head required (NPSHR) provides installation flexibility and increases product recovery. Quick and easy seal replacement, with the pump in place, is due to a cartridge seal with a front-loading, self-setting design. This maximizes process uptime and minimizes maintenance costs. An optional seal service kit program adds maintenance flexibility and cuts operating costs. The Alfa Laval Twin Screw Pump features a clean, external stainless-steel finish, with profiled elastomers and mechanical seals fully surrounded by the product. Designed for maximum cleanability using materials that adhere to guidelines from the United States Food and Drug Administration (FDA), the pump is certified by both the European Hygienic Engineering Design Group (EHEDG) and 3-A. An optional atmosphere-explosive (ATEX) version enables use in hazardous zones.

Hospital water supply relies on Vesconite bearings

Vertical turbine booster pumps are often used to maintain adequate water pressure in high-rise buildings. When equipment at a large metropolitan hospital failed repeatedly, Municipal Well & Pump of Waupun, Wisconsin, United States, was called in to engineer a state-of-the-art solution that includes Vesconite bearings – which were chosen to ensure reliability and prolong service life. The company engineers, builds, installs, and maintains a broad range of pump stations along with well and irrigation systems.

The hospital invested considerable labor hours repairing the equipment. Municipal Well & Pump Sales and Project Manager Marty Van Ells explains, "because of how the system was set up, the pumps would run at full speed with little to no flow, often at dead head. They were just eating up the bronze bushings."

The company engineered a solution that uses standardized equipment and variable frequency drives. It installed four skids with several new Vesconite-equipped Goulds pumps and retrofitted 10 existing units with the polymer. Hospital staff noticed that the system operated much quieter following the retrofit.

Low-friction, abrasion-resistant Vesconite does not swell in water like nylon. It offers up to ten times the useful life of bronze. Unlike metal bearings that can contain lead, the internally lubricated polymer does not need to be greased. It's a safer solution for use in potable water supplies and is approved by the National Safety Foundation (NSF) and Water Regulations Advisory Scheme (WRAS) for cold and hot up to 65.6 degrees Celsius (150 degrees Fahrenheit).

Caprari solves water collection problem in Spain

Inclined submersible pumps manufactured by Caprari of Modena, Italy, have solved water collection challenges in an installation at a site in Zamora, Spain, that requires the capability to manage varying water levels – particularly during the dry season when complications in maintaining continuous operations increase. Designed for water collection from rivers and lakes for irrigation and other purposes, the system replaces other solutions on rafts or that use vertical turbine pumps.

The installation uses a special system with wheels used to block the pump, thereby avoiding vibrations while easily pushing the pump inside the pipe. Initially, floats are used to keep pumps in a horizontal position, but when the water level drops the water collection pipe acquires a certain degree of inclination with the pump fixed inside – facilitating and guaranteeing the collection of water. In this way, it is possible to take full advantage of the tank capacity so the pump and the motor, which are always immersed, can operate in any weather condition. According to Caprari, the advantages of its inclined submersible pumps are their reliability, simple installation, and compact size – which avoids problems with intermediate bearings and maintenance of the long shaft pump alignment. Caprari's horizontal 2 E8R40 / 7 + MC835 units were installed in a short time and without the need for building works. In fact, the submersible pump can be moved easily with specific devices. In the Zamora installation, the ascent pipes follow the natural slope of the bank. The Caprari pumping system does not require large-scale structural work, thereby saving considerable installation costs. In addition, noise levels are reduced as the electric pump in installed underwater and requires less maintenance.