

Pumps in lubricant production

A major business segment at Hermann Bantleon GmbH is the development, production, and sales of lubricants. At its plant in Ulm, Germany, this company starts with high-quality base oils and produces both universal and customized lubricants according to its own formulas. Customized products are often the best way to meet special requirements in cutting and non-cutting production processes. They can also make a big difference in terms of efficiency. Hermann Bantleon is the largest shareholder in the lubricant section of German company AVIA International and sells its products around the world, either through its own network of resellers (China, India, Brazil, Bulgaria, Turkey, and others) or through AVIA trade partners.

Bantleon mixes additives to a variety of base oils according to internally developed formulas. Its quality-assurance system ensures the customer a consistently high level of quality. Accordingly, retained samples are pulled from every batch and tested in Bantleon's own laboratory. They are then subjected to an additional approval procedure before filling into packages. After approvals, the products are placed into intermediate storage in a 3500 m² logistics center (built in 2006) until they are pulled for orders. With its own fleet of vehicles, Bantleon is able to deliver to customers within five working days of receiving an order, although a majority of orders are actually filled within about three working days. Fast reaction times and flexibility are additional elements of its customer service.

Pumps of several different types and sizes play a major role in the manufacturing processes at Bantleon. For nearly 30 years, this company has relied on Allweiler AG of Radolfzell, Germany for the pumps it needs. In fact, nearly 40 screw pumps of the "SNH" series have been in service in Bantleon's base-oil tank farm throughout this time. Incredibly, not one of the pumps has failed for an extended period of time or required repair during these three decades. Only the gland packing (no longer common as a type of gasket) occasionally required replacement. At Bantleon, a long service life, low investment costs, and high availability are major criteria for choosing a pump. Good past experiences are a major reason why this company continues to purchase new pumps from Allweiler. This is true for pumps needed to expand its own production as well as for plants that Bantleon constructs for its customers. In addition to product sales, the company also offers related systems and a complete fluid-management system. This includes systems for storing, filling, and metering lubricants. The company's motto is "the right lubricant in the right quantities in the right spot." Compliance with environmental and worker protection regulations is a natural part of doing business.

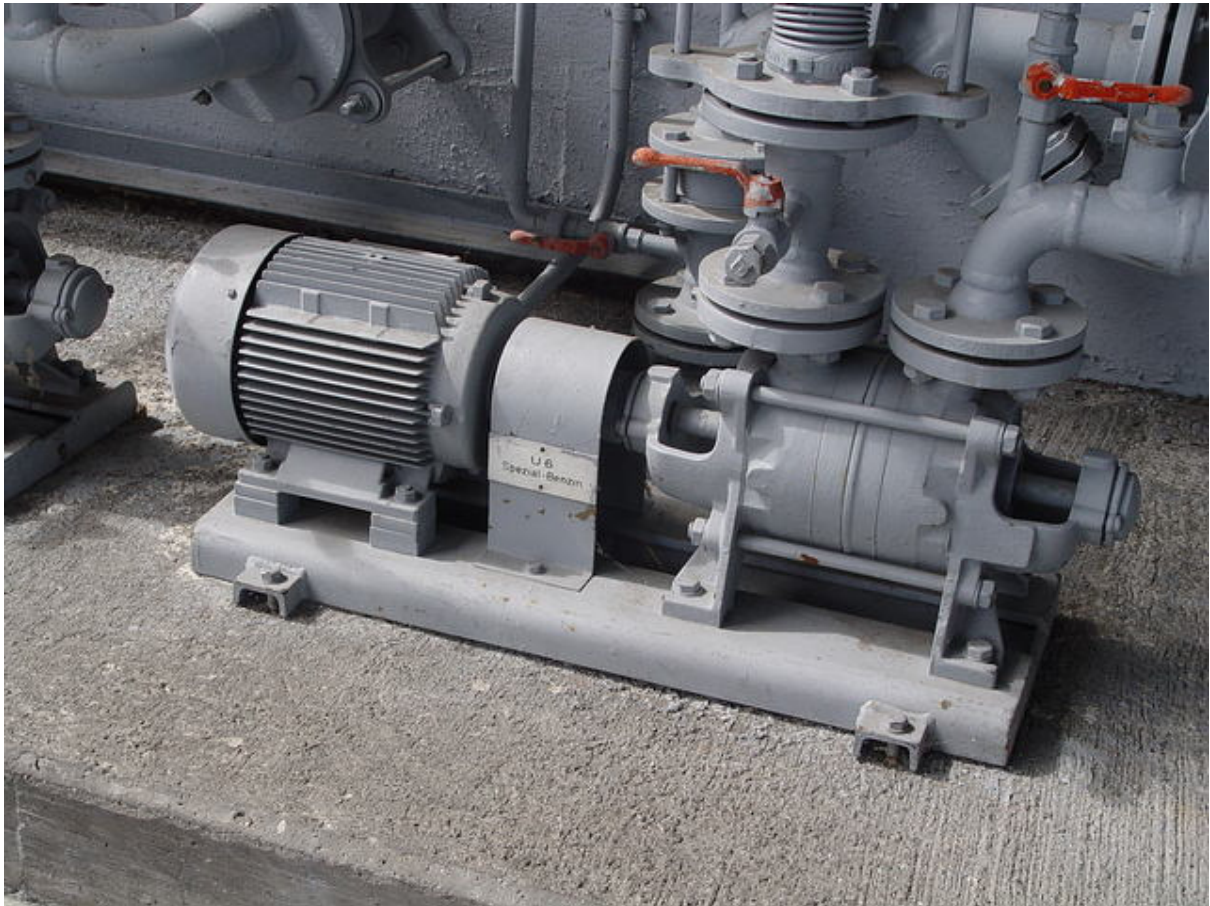
In both cases, it is not enough for the pump manufacturer to just deliver high quality pumps. Even more important is the use of standardized procedures with which Bantleon can quickly and easily select the right pump for the job. If specific cases still require calculations in order to find the very best pump and configuration, the manufacturer is happy to do this as a free service. For this reason, the company is

even willing to accept purchase prices that are higher than those offered by other pump providers. Rainer Janz, responsible for product and quality management at H. Bantleon GmbH, puts it this way: "The pumps we get from Allweiler exhibit consistently high quality; this gives us very high process stability and virtually no downtime." These benefits go straight to the company's bottom line because back-up pumps are unnecessary. Finally, Bantleon values superior design. Allweiler pumps have very good NPSH values (less than 3 m), so that long piping and deep tanks ensure adequate reserves for pressure losses.

According to Dieter Schrag, shop and production foreman, "Bantleon and Allweiler have had a very strong customer-supplier relationship for several decades. Our company started ordering Allweiler pumps back in the 1970s and 1980s. Obviously my colleagues made a good choice back then. Since then we have found no reason to switch suppliers. We have always been satisfied with the pumps and the support."

Bantleon GmbH needs different pump types depending on the specific pumping task. Sometimes the capacity is the critical factor, other times the type of liquid. When moving non-lubricating or poorly lubricating liquids like antifreeze, side-channel pumps are used. Centrifugal pumps are ideal for cleanly lubricating liquids. Progressing cavity pumps and peristaltic pumps are better for contaminated liquids like used oil. Peristaltic pumps are mostly used for moving used oil in systems at customer sites because they can run dry, making them suitable for unsupervised operation. Small progressing cavity pumps are ideally suited for precisely metering and adding (expensive) additives. All of these applications are present at Bantleon, either in its own production and filling plants or as part of its full line of services. Allweiler AG offers all of these pump types accompanied by a wide range of services, so Bantleon is able to obtain all of the pumps it needs from a single source and with just one contact for sales and service. One recent example is a new filling station, for which Bantleon needed two progressing cavity pumps of the "AEB" series to precisely meter high-viscosity additives (up to 6300 mm²/sec. at 65 °C liquid temperature) as well as four centrifugal pumps of the "NT" series capable of moving 30 m³ of base oils at a temperature of 20 °C. Depending on the liquid, pumps at Bantleon must be able to handle a viscosity range of between 2 and 10,000 mm²/sec.

In total, about 80 Allweiler pumps are installed at the company's Ulm location. 70 of those are screw pumps for lubricating liquids. Approximately 10 pumps used to move easily combustible liquids like solvents are installed in explosion-proof versions (ATEX). Nearly one million liters of lubricants are stored in the 80 tanks. Yearly pump throughput is about 15 million liters.



A horizontal self-priming centrifugal pump; liquid is a special grade of petroleum; capacity is about 50 m³/h, delivery heads up to 100 m.



Screw pump of the "SN" series for moving base oils with viscosity of between 2 and 500 mm²/s. Capacity is about 200 l/min with discharge pressure of about 10 bar.



Two of about 40 screw pumps of the "SNH" series that have been moving base oils in the tank farm for about 30 years without failure or modification.



Screw pump for moving base oils like Metacon. Viscosity between 2 and 500 mm²/s. Capacity is about 150 l/min with discharge pressure of about 10 bar.



Filling plant for special-grade petroleum. Capacity of about 200 m³/h with delivery head of about 100 m.