

## Engineering custom-made pumps & compressors for chemical industry

By Shivani Mody, January 7, 2022



**Michael Romano, Global Strategic Account Leader, Sundyne** talks at length about the material advancement and how customers are looking for specific custom-made, 'engineered solutions' in the pumps & compressors industry.

### **Advancement in chemical industry impacting the pumps & compressors industry.**

We are seeing growth – for both inquiries and orders for pumps & compressors in the chemical & petrochemical markets. In the petrochemical space, activity has returned to (and even exceeded) pre-COVID levels. We're seeing increased interest in "engineered solutions" i.e. pumps & compressors that are designed & built to a customer's specific requirements (using certain materials of construction, and built to perform at highly specific flows, temperatures & pressures). We continue to see demand for sealed pumps – and the demand for sealless pumps is increasing even faster for certain CPI applications.

### **Trends and development in the pumps & compressors segments.**

Our compressors are widely used as fuel-gas boosters (increasing gas pressure from pipeline pressures to the levels required by gas turbines). We're seeing significant demand for the company's PPI line of diaphragm compressors, which are used to transport hydrogen and also to boost hydrogen to higher pressures required by dozens of applications.

In chemical processing, we're seeing increasing demand for sealless pumps. And

across the board, we are focusing on the following segments of the CPI:

- Chlor-Alkali
- Agricultural chemicals
- Polycarbonates
- Isocyanates
- Plastics & polymers
- Inorganic Specialty chemicals
- Pharma & biotech and
- Petrochemical

In each of these eight areas, our business model is evolving. We're working with large CPI companies at a highly strategic level. We provide custom-engineered pumps & compressors, with all the aftermarket services, on a single P.O – making it easier for customers to get more of what they need from a single equipment provider.

### **Growth potential for pumps & compressors in Asia Pacific & India.**

India is a strategic region for the company. We recently announced an expansion to our office in India. We've been adding headcount aggressively in this region – not just to support local demand, but also to bolster the company's engineering services to all of its global customers. Our staff in India plays a key role in the company's growth around the globe.

### **Strategies to maintain a competitive edge over peers.**

Lead time for deliveries is always a priority. The company makes customized, engineered solutions, so there is a lead time built into the: conceptual design, procurement, construction, testing & commissioning, and delivery stages. As an added advantage our testing is rigorous – and this is designed to ensure that there are no surprises for the customer once the equipment is installed onsite.

Despite this highly customized process, we strive to reduce delivery times by manufacturing products on several continents. Our facilities in Arvada-Colorado, Dijon-France, Illescas-Spain and Eastbourne-England are continuously ramping up capacity in order to meet delivery schedules.

On the compressor side, the company has always provided a wide range of condition monitoring capabilities (both internal tech and third-party solutions). We're investing resources to bring this same level of conditioning monitoring to our pumps. For our customers (who are some of the world's largest refineries & chemical manufacturers), security – and integration with a plant's existing monitoring systems are always priorities that influence our thinking when it comes to condition monitoring solutions for pumps & compressors.

## Engineering custom-made pumps & compressors for chemical industry

By Shivani Mody, January 7, 2022

### ***Segments in pumps & compressors that are seeing increased demand.***

Sealless pumps (both HMD and ANSIMAG) are seeing significant growth – for several reasons. Safety, EHS & ESG concerns all influence our customer's criteria, and sealless pumps have a great track record when it comes to handling harsh & aggressive chemicals. In addition to the sealless designs, Sundyne's pumps feature secondary containment capabilities that lead the market – offering customers an unmatched level of safety & security.

On the compressor side, hydrogen applications are permeating several markets. Diaphragm compressors are the preferred type of compressor for hydrogen, and the company's PPI line is seeing significant growth in terms of inquiries, and sales.

### ***Material advancement in manufacturing of pumps & compressors.***

ANSIMAG pumps are a great example. They are ETFE lined pumps, with a Kevlar-fibre secondary containment shell. This combination provides unmatched resistance to harsh chemicals that are being used widely today. For example – the chemical polymers that coat electrodes in

lithium ion batteries are extremely harsh in nature, and these polymers corrode the internal linings in most types of pumps. It takes combinations like ETFE, and Kevlar to stand up to these materials.

For extremely high temperature applications, our HMD line offers a wide range of metal alloys (that are each specifically designed to handle different substances). It takes a comprehensive portfolio to be able to meet a wide range of customer needs.

### ***After sale services offered by the company.***

The company takes a proactive approach to rerates and exchanges. Our global service centers (and our global channel partner network) do not wait for problems to arise before proactively engaging with customers. The company's exchange programs have been aggressively expanded and promoted in recent months. The channel partners make sure that customers are aware of their options to keep our equipment running at peak performance.

### ***Factors affecting the life cycle costs of pumps & compressors.***

About 10 percent of the cost for equipment is the initial purchase. Another 10 percent comes from the installation. Approximately

50 percent of the total cost (over the life of the pump or compressor) comes from the operation costs (ie. the power bill). Roughly 30 percent is the maintenance costs. The company equipment is highly engineered to run at BEP – which helps minimize operational costs. Hundreds (if not thousands) of the company's pumps & compressors have been reliability running in the field for 20 years or more (in some cases, 30 years). Vibration monitoring, and other sensors play an important role in helping maintenance teams stay on top of maintenance activities – however, the initial design and the construction of the equipment ultimately plays a bigger role helping customers maximize the total lifecycle value of the equipment.

### ***Challenges faced by the pumps & compressors manufacturers.***

Today, everyone, in every business is facing supply chain delays. In the CPI, additional challenges form when a plant's process conditions change. For two years now, plants have either reduced capacity, or quickly ramped up capacity. As process conditions change, equipment needs to be tuned, and re-rated. It's important for pump & compressor manufacturers to make flexible equipment that can be easily adapted to address changing plant requirements.