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COVER STORY:

EMILE EGGER

Delivering Swiss Engineered
Pumps Since 1947

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Seals & Bearings**

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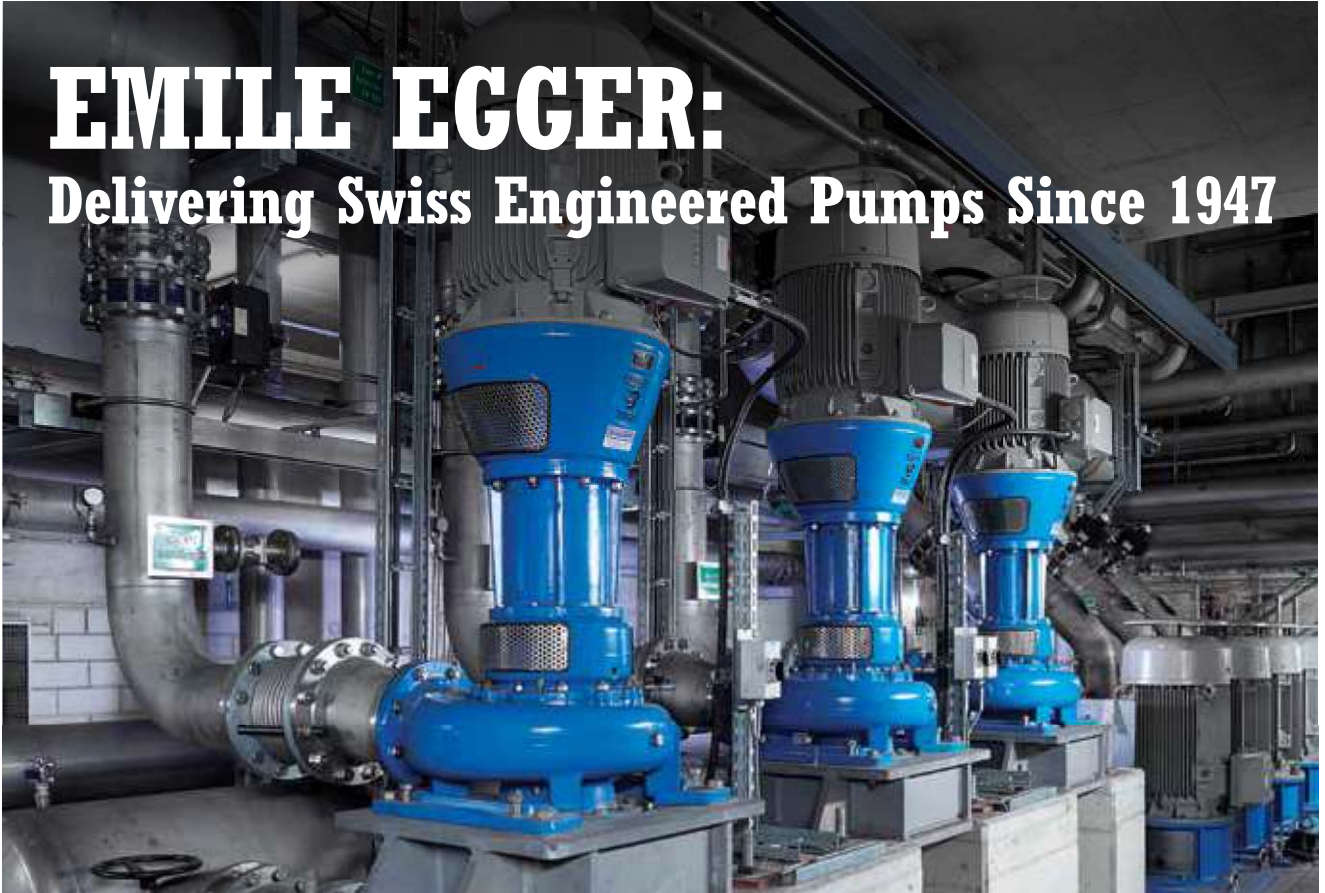
Volume 33, December 2021

www.pumpengineer.net



EMILE EGGER:

Delivering Swiss Engineered Pumps Since 1947



Located in the heart of Europe, Emile Egger & Cie SA combines high-tech machinery with craftsmanship to build pumps for the toughest of jobs. The company's engineered products can be found in challenging applications such as multiphase mixtures in wastewater, chemicals, and many other industries. "Our reputation is based on solving problems and delivering pumps that meet or exceed the customer's expectations for longevity and trouble-free performance," stated Marketing Manager, Thomas Bleif.

By David Sear

Today, Emile Egger is known as a global business with a team of highly qualified designers, engineers, and craftsmen who can design and build pumps to last in the most arduous of environments. The company's origins, however, are much humbler, and can be traced back to a potato processing facility in Switzerland in the 1940s. Noting a dysfunctional pump in a starch transfer line, managers tasked one of their application engineers – a certain Mr. Emile Egger - to find a quick solution. He identified the pump's impeller as the weak link, as it simply could not handle the complex combination of liquid, starch fibres, and gas, simultaneously. He also realized that no known pump or impeller would be up to the job. Mr. Egger therefore built a unique impeller and had that retrofitted into the existing pump housing. This solution worked perfectly and the backlog of potatoes from the bumper harvest was soon cleared.

This success prompted Mr. Egger to form his own pump

company, which opened its doors in 1947. The company went from strength to strength, booking early growth in the pulp sector where challenges include fibre handling and gas handling issues.

Another big step forwards came in 1958 when Mr. Egger turned his attention to the poor performance of existing vortex pumps. His work resulted in a model with superior efficiency and beneficial features. For example, the low contact between the recessed impeller and the liquid made the pump ideal for sensitive materials, whilst fluids containing solid matter or stones could also be pumped.

This brief portrait of Emile Egger as a specialist company providing customized, engineered pumps for demanding applications most definitely applies today, stated Marketing Manager Thomas Bleif. "We identify two main customer groups. Firstly, clients who need purpose-built pumps for unique applications. Challenges can include

high temperatures, abrasive fluids, viscous media, etc. Secondly, we offer standard pumps for use in what may seem relatively benign applications, such as wastewater treatment. But do not be misled; wastewater can be a tricky medium to handle so our buyers demand pumps that are properly designed and built to a high standard, just like any other engineered product.”

Further discussing this latter group of customers, Mr. Bleif candidly noted that Emile Egger is often passed over during initial evaluations. “Standard pumps purchased elsewhere based on CAPEX considerations often cause headaches later on, once problems arise or extensive maintenance is required, etc. We regularly receive follow-up inquiries from companies wishing to invest in an Emile Egger pump to lower OPEX costs and safeguard the smooth operation of their facilities. It is not for nothing that we are known as the ‘sleep well’ pump company!”

Adapted Solutions

Since 1947, Emile Egger has established itself as a strong player in the wastewater and chemicals markets, amongst others, delivering solutions that can pump abrasive, viscous, high temperature, corrosive, and/or multiphase mixtures. Being a medium-sized company, Emile Egger can quickly respond to all incoming inquiries, customizing pumps where necessary for top performance in each application.

“We are not a volume manufacturer. In fact, we consider an order for two or three items as a pump series,” laughed Mr. Bleif. “Really, I would say that all our pumps are unique in one way or another. Of course, we avoid reinventing the wheel every time. Our modular system enables the quick adaptation of our existing, proven designs. Developing optimized solutions is our niche and that is the reason we are still in business.



75th anniversary. In 2022, all eyes will be on Emile Egger's Cressier, Switzerland location (image above) when the company celebrates its 75th anniversary. Incidentally, the production site in Italy marked its 50th year in 2020.



Service and support: Emile Egger can support customers throughout the lifetime of the pump, providing commissioning services, training, maintenance, revision, etc. Note the company's policy to always supply parts for heritage pumps.

We are much more flexible than larger companies, yet have a full scope of engineering expertise in house which enables us to tackle the most demanding of jobs.”

Over the years, Emile Egger has demonstrated tremendous flexibility and drive, quickly responding when an emerging sector required an ‘out of the box’ pump solution. “Take the solar industry as an example,” said Mr. Bleif. “About 10 years ago, manufacturers were desperate for a reliable pump for the highly-abrasive liquids used to cut wafers for solar panels. We adapted an existing pump design to good effect. We also responded when the automotive industry needed robust pumps to handle the coolant used in machining centers. This liquid contains sharp metallic chips, making it a very tricky medium to handle.”

Asked about the secret behind Emile Egger's successes in developing engineered products, Mr. Bleif said that the company always listens to and understands the client's needs. “From our frontline sales team to the R&D engineers, we all act as consultants. By that I mean we are not looking for a quick sale but aim to develop a pump that will fully meet the client's expectations.”





Five decades of service: The in-house museum at the Cressier, Switzerland, facility displays some of the earliest Emile Egger pumps, many of which ran for decades before being decommissioned.

Craftsmanship

At this stage, Mr. Bleif invited *Pump Engineer* on an impromptu factory tour. Initial impressions are of a very horizontal company that boasts a full suite of manufacturing and assembly activities on a single site. Mr. Bleif: “Of course we buy standard items, such as the motors, the seals etc whilst casting work is outsourced to leading foundries who can meet our requirements for quality and consistency. But the real magic happens right here in our factory in Cressier. We design, manufacture and assemble the complete pump, from the

CASE HISTORY: Egger EO Pumps Reducing Carbon Emissions

With the need to reduce carbon emissions more pressing than ever, it is encouraging to note the positive results being booked by a new carbon-capture technology in China. This process uses a fermentation vessel to convert carbon monoxide and carbon dioxide released in the steel industry into ethanol and other valuable chemicals. Pumps are a key challenge for this process given the high gas content plus the need to avoid the generation of large gas bubbles and the destruction of the microbes. Selected for trial at a pilot plant, Emile Egger’s semi-open impeller EO pump performed so well that the company were chosen to supply all the 25 critical large centrifugal pumps for the first full scale industrial plant. Launched in May 2018, that facility has reportedly met all expectations.



“An efficient pump is one that does not require unexpected maintenance.”

Mr. Thomas Bleif,
Marketing Manager

baseplate upwards, delivering a plug and play pumping system to the customer.”

Also clearly evident from the factory tour is the company’s unique blend of ultra-modern equipment plus craftsmanship. In one workshop, for example, impellers are checked on a high-tech balancing machine following which a skilled worker carefully removes very small amounts of metal to ensure the impeller will run perfectly smoothly. Around the corner, a second workshop boasts an array of handheld woodworking tools that have been in use for decades. “Yes, in addition to 3D printing we continue to make quite a number of mother patterns from wood. These are ideal if subsequent design changes are needed,” explained Mr. Bleif.

Almost as an aside, Mr. Bleif points to a number of incongruous wooden shapes. “These are moulds for the risers and feeders needed during the casting process. You should never underestimate their importance as they ensure the mould is correctly filled, leaving enough metal in reserve to accommodate shrinkage. That is why we take charge of developing these components in house as well.”

Thanks to the close relations with leading foundries worldwide, Emile Egger can provide pumps in a range



More than meets the eye: These ‘gentle giants’ are actually engineering marvels. The shafts can withstand the massive forces associated with the cantilever design as well as the corrosive and erosive effects of brine and crystalized salt when used in the salt industry.

of materials, from cast iron and hard iron, to stainless steels and duplexes, right on to nickel-based alloys such as Hastelloy and Monel.

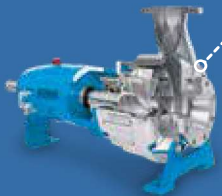
Future Plans

Asked about the future, Mr. Bleif indicated that he and his colleagues are working on various timescales. “The immediate focus is maintaining pump deliveries to our customers. The extensive stocks we hold of components and raw castings helps prevent delays that might otherwise be caused by issues upstream in the supply chain. Then next year, in 2022, we shall mark our 75th anniversary; a celebration we are all looking forward to. Plans are also underway to install a new test loop that will enable us to check the performance of even the largest pumps in-house.” Emile Egger’s commitment to the future is also visible from another laudable initiative; an apprenticeship scheme to help train the next generation of technicians and engineers. The four-year education combines school learning with real-life manufacturing in a purpose-built apprentices’ shop. Commented Mr. Bleif: “These youngsters absolutely absorb knowledge and can quickly make a real contribution to our business.

For example, manufacturing components for prototypes and small series. We take on two new apprentices every year and it is very pleasing to say that most continue their careers with us.”

When asked about possible new developments in pump designs, Mr. Bleif indicated that radical innovations are unlikely. However, he stated that problems will always emerge for which the team at Emile Egger will be delighted to find practical solutions. “Here is an example. Ten years ago, we started to see a spate of clogged pumps in the wastewater industry due to a combination of factors. These included municipalities disconnecting rainwater from sewage pipes, modern toilets using less water for flushing plus the increased use of hygienic tissues. The resulting high fibre content caused pumps which had run well for years to start clogging. We therefore developed a new impeller that has delivered major improvements. Right now we are working on a similar solution for larger pumps. As I have said, the whole team here thrives on solving challenges and delivering engineered pumps that will make our customers’ lives easier.”

EMILE EGGER’S PUMP AND VALVE PORTFOLIO AT A GLANCE



TURO VORTEX PUMPS T

Applications:

- Crystalline suspensions
- Abrasive fluids
- Corrosive fluids
- Viscous materials
- Fibrous suspensions
- Wastewater
- Sludge



ELBOW PUMPS RPP/RPG

Applications

- Crystallization plants
- Vaporisation plants
- Reactor loops
- Sludge recirculation
- Pumping stations

Features:

- Thick blade profiles for long service life
- Gentle transport of sensitive fluids



TURO VORTEX PUMPS TA

Applications:

- Raw sewage
- Wastewater
- Sludge with high fibre content
- Viscous media

Features:

- Vortex prevents clogging
- Recessed impeller for maximum free passage



IRIS® DIAPHRAGM CONTROL VALVE

Applications:

- Aeration in wastewater treatment
- Slurries and viscous materials
- Paper pulp and fibrous suspensions
- Gases
- Pellets > 0,5 mm
- Drinking water

Features:

- Precise control of the flow rate
- Energy-saving, low-noise valve
- Maintenance free



PROCESS PUMPS EO/EOS

Applications:

- Demanding fluids in chemicals and petrochemicals
- Multiphase mixtures
- Aerated fibre suspensions in pulp & paper
- Aggressive fluids in wastewater
- Abrasive fluids
- Corrosive fluids

Features:

- Varying impeller blades for specific particle sizes

SPECIAL PUMPS

In addition, Emile Egger offers a wide range of special pumps, including:

- Reactor pumps for high temp. and pressure
- Submerged sump pumps
- Cantilever pumps
- Pilot pumps for pilot plants
- Zone O pumps

