

Process technology services beyond plant installation and start-up

Committed to long-term customer success

Sulzer meets customer needs by developing and building process plants with guaranteed performance. But Sulzer’s customer dedication does not end when the plant is installed. The Process Technology business unit of Sulzer Chemtech provides a full scope of services after the start-up and supports customers throughout the whole lifetime of the plants.

Simple mistakes during processing can lead to serious problems and unscheduled production break-downs—the worst nightmare for process plant owners. One of Sulzer’s customers suddenly had to stop the operation of a thin-film evaporation unit because of

grinding noises coming from the vessel. This incident happened after the film evaporator had been cleaned and restarted. The working principle of this unit is to evaporate solvents or other liquids by applying a thin film of the feed on the heated wall of the vessel. A rotating

mechanical device with wipers that is installed inside the vessel supports the formation of a uniform thin film. These wipers were causing the grinding noise because the machine had been running accidentally for several days without a feed. The wipers were grinding the vessel

The after-sales team of the Process Technology business unit supports customers on site during the whole lifetime of process plants.



Service portfolio of the Process Technology business unit

The service offering of the Process Technology business unit is divided into three groups:

- One group covers equipment as specified by customers. Examples of this are heat exchangers, coolers, columns, evaporators, condensers, and various vessels such as reactors. These are fabricated based on specifications provided by the customers.
- Another group deals with the sales of spare parts for all of Sulzer Process Technology's proprietary process equipment such as thin-film evaporators, liquid-liquid extraction columns, and skid-mounted units and plants.
- The third group covers on-site services such as inspection, troubleshooting, expertise, supervision of installation, and refurbishment of polymeric and ceramic membranes modules.

The after-sales team relies on experienced staff, modern IT tools, and a database covering an archive of more than 40 years. In addition, it can count on a large network within Sulzer and provides its life cycle management services on a global scale.

More information: www.sulzer.com/PT_Lifecycle

wall, damaging both the surface of the vessel and the wipers (both were made of a nickel-chromium-molybdenum alloy C22, Figure 1).

In this emergency, the after-sales team of the Process Technology business unit immediately came to help. The Sulzer team arrived the very next day, inspected the plant,

and proposed a solution. The unit was transported straight from the plant's site to Sulzer's workshop in Allschwil, Switzerland. There, the vessel, also called the stator, was machined on a lathe to bring the surface state back to its original smoothness. However, through the lathing, the thickness of the stator wall was reduced. The remaining thickness was under the allowed tolerance for this type of equipment working under vacuum. Sulzer's solution was to reinforce the vessel by welding rings around the stator and to change the wipers from metal alloy C22 to polytetrafluoroethylene (PTFE), which is a softer material and does not damage the vessel surface. All the while, the customer was following the repair of its equipment by paying visits to the workshop. The customer appreciated Sulzer's efforts and commitment to recovering its key vessel. The full repair and restart of the evaporation unit was completed in less than two weeks.

Prerequisites for competent service

Solving problems in such a short time requires extensive experience in a broad range of areas. The after-sales team of Process Technology was created in 2010, following the acquisition and integration

of the company Kühni into Sulzer's portfolio. The team was built upon the extensive experience of the former installation

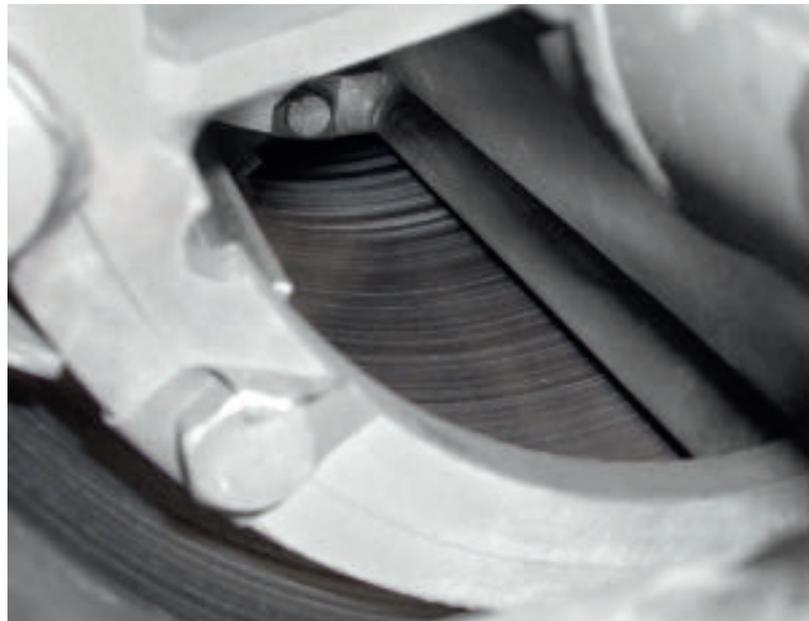
group. This group had installed more than 250 skid-mounted units worldwide in 20 years and had erected and serviced plants on site (mostly in Switzerland and Europe) for an even longer period of 80 years. From all those years of on-site experience, Sulzer had learned to understand the customers' needs and to anticipate and solve their requests. This after-sales support, combined with Sulzer's activities in the fine chemical, pharmaceutical, biofuels and petrochemical industry segments, gives the Process Technology business unit the opportunity to offer a unique range of services.

Avoiding production breakdowns

Sulzer develops service solutions even with challenging time schedules. A French customer called Sulzer's after-sales team because a condenser that Sulzer had provided seven years before for its wastewater recovery unit was leaking dramatically. A repair on site was not possible because the customer could not stop the production campaign at that stage. Checking in Sulzer's archives, the after-sales team was able to find the original drawing of the vessel. Sulzer proposed that it would fabricate a new condenser and then repair the damaged one after inspecting it. Upon customer's reply

The full repair and restart of the film evaporation unit was completed in less than two weeks.

1 After accidentally being operated for a number of days without feed, the thin-film evaporator was seriously damaged. The picture shows grinding marks (stripes) on the inside of the vessel.





2 One of Sulzer's after-sales team members supports installation of new equipment at a customer's site.

that it could stop production for three full days in five weeks' time, all concerned departments within the Process Technology business unit (construction, fabrication, purchasing) were immediately aligned and started the work required on this project. Thanks to their combined commitment, they even managed to deliver the vessel one week earlier than the planned installation. This example shows that Sulzer's after-sales team helps customers to minimize interruptions of their production. The team understands that unscheduled production breakdowns result in severe financial losses and may even undermine the customer's credibility to other parties.

Successful performance improvement

Sulzer's service team also improves the performance of plants. A Dutch company had installed a pervaporation unit using polymeric membranes. This unit was initially meant for bioethanol dehydration and was subsequently used to produce pharmaceutical-grade ethanol. The unit was composed of two vacuum vessels with four membrane modules installed inside each vessel. The customer approached Sulzer's after-sales team because the plant was not performing

according to the expectations, and the membranes seemed to need replacement. In Sulzer's opinion, it was too early to replace the membranes because they were not older than 18 months. Therefore, Sulzer sent an experienced process engineer to the facilities to check the performance of the unit and to investigate how to improve it.

On site, Sulzer's expert analyzed the data and proposed changing some parameters related to the feed and the operating temperatures. This brought good first results and gained the customer's confidence in Sulzer's membrane technology and know-how. The customer saw the opportunity to further improve the production and decided to replace the membranes initially in four modules. Sulzer replaced the membranes successfully, and the highly satisfied customer commissioned Sulzer to do the same on further modules.

Continuous services worldwide

By choosing the Sulzer Process Technology business unit, customers not only get the best from its innovative range of technologies (distillation, evaporation,

liquid-liquid extraction, crystallization, membrane separation, hybrid solutions, and polymer production). They also benefit from a process solution that is jointly developed from first concept and pilot testing to an installed plant with guaranteed performance. Furthermore, after the plant start-up and handover, Sulzer's

Sulzer replaced the polymeric membranes in the pervaporation unit and improved the ethanol production.

dedicated after-sales group continues to support all its customers, by providing spare parts and services during the whole lifetime of the plant, wherever the customers are located around the globe. The after-sales team reflects Sulzer's customer commitment and partnership. The team members contribute their experience and flexibility, and they provide quick and efficient services, so that the customers can optimally use Sulzer's plant solutions.

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