

The Look Of Lean

Global cosmetics giant Shiseido operates a manufacturing facility in Ormes, France, that requires the daily transfer of up to four tonnes of products over three hours of continuous operation. This places strain on the pumps that are used to facilitate the product transfer because the volumes are large and any breakdowns and subsequent downtime will set back the strict production schedule. Because of these demands, Shiseido has chosen to outfit its facility with Mouvex Eccentric Disc Pump technology, specifically C12i Series models. The C12i pumps meet Shiseido's needs because they minimize product loss, produce very little shearing, have a very gentle pumping action and enable the products to maintain their desired quality, texture and feel.

It was 1872 when Arinobu Fukuhara, former head pharmacist for the Japanese Imperial Navy, had the foresight to introduce a new business model that separated Japan's medical and dispensary medicinal practices after realizing that the herbal medicines that were a core treatment at the time, were insufficient for the health and wellness needs of the Japanese people. At all of 23 years old, Fukuhara established Japan's first Western-style pharmacy in the Ginza district of Tokyo.

When looking for a name for his entrepreneurial company, he was searching for a moniker that was a combination of a forward-thinking blend of Western science and Eastern wisdom. For some inspiration, he turned to the Chinese Yi Jing, or Book of Changes, which is a foundational text in the teachings of Confucianism. From that book, Fukuhara chose the name Shiseido, which means, "Praise the virtues of great Earth, which nurtures new life and brings forth new values."

By strictly adhering to that tenet, along with a corporate mission that aims to "inspire a life of beauty and culture," nearly 150 years later Shiseido stands as the world's fifth-largest cosmetics manufacturer. The company's 10 brands and lines of cosmetics, fragrances

and personal/healthcare products are currently available in more than 120 countries and global sales exceeded 763 billion yen (€6.6 billion/US\$7.4 billion) in 2015.

Managing Cosmetic Costs

As a truly global company, Shiseido has a network of offices, factories, laboratories and distribution centers located around the world. In France alone, Shiseido operates two factories, one laboratory and three distribution hubs. One of the factories, which

functions under the name Shiseido International France SAS Unité du Val de Loire, is located in the heart of the Loire Valley in Ormes, France, about an hour's drive south of Paris.

"We produce alcoholic products for perfumes, cosmetic products like creams for the face and body, shower oil and gels, and liquid makeup removers," said Sophie Guermond, Lean Manager at the Ormes facility. "The products we are making in this plant are distributed all over the world."

As the facility's Lean Manager, Guermond,



Figure 1: After nearly 150 years in business, cosmetic manufacturer Shiseido continues to "inspire a life of beauty and culture," with 10 globally recognized brands available in more than 120 countries. A key factor in the company's success has been its adoption of a lean manufacturing process, and playing a part in keeping the company lean and successful are C12i Series Eccentric Disc Pumps from Mouvex.



Figure 2: The Shiseido International France S.A.S. Unité du Val de Loire facility produces alcoholic products for perfumes, cosmetic products like creams, shower oil and gels, and liquid makeup removers that are distributed all over the world.

who has been with Shiseido for six years, has two main responsibilities – minimize product loss and ensure that the products manufactured there meet strict guidelines for quality.

“In our process we need to have as little loss as possible because the product is really expensive,” she explained. “One kilo of product can cost €30 to €40 (US\$33 to \$44), so if in each batch we lose 50 kilos (110 pounds), the price adds up really fast. It’s also really important that there is very little shearing of the product because the creams need to have a specific texture.”

The importance of these demands become readily apparent when you realize that the Unité du Val de Loire facility transfers up to four tonnes per day of products within three hours of continuous pumping. This places strains on the pumps that are used to facilitate the product transfer because not only are the volumes large, but also because any breakdowns and accompanying downtime needed for repairs or pump replacement sets back the strict production schedule. The ultimate goal of a lean manufacturing operation is to realize higher yields while using fewer

resources without compromising the quality of the product. The ultimate weapon is to use the best equipment.

Made For Mouvex

As part of its 2020 strategy of “sustaining growth for the next 100 years,” Shiseido recognizes the importance of creating and implementing a lean manufacturing process that reduces product loss, optimizes transfer times and minimizes the need for equipment maintenance. Based on this strategy, Shiseido has chosen to outfit its facility in Ormes with eccentric disc pump technology from Mouvex, Auxerre, France, a product brand of PSG, Oakbrook Terrace, IL, USA, which is a Dover company.

“Since the most important thing is to have as little loss as possible, when we use a pump in fabrication we need to take the maximum amount of cream out of the tank, and we have really low product loss with Mouvex,” said Guermond. “It is also really important that there is little shearing, that the pump be very gentle with the product, and the Mouvex pump enables the creams to maintain the desired texture.” There are many critical considerations

when producing sensitive and valuable fluids. Some factories are losing expensive materials down the drain because they are not familiar with the appropriate technology. This is not the case for Shiseido. Specifically, Shiseido deploys a Mouvex C12i Series Eccentric Disc Pump for product transfer at the Unité du Val de Loire facility. The C12i pump is ideal for this application because its seal-less design and method of operation allow it to run dry and offers high self-priming capability with a compressor effect that guarantees reliable stripping of suction and discharge lines. Moreover, it can ensure no slip, low pulsation, high volumetric consistency and the elimination of costly leakage. In fact, the pump’s product-recovery capabilities are so substantial that a recovery rate of as much as 80% or more can be realized when compared to competitive technologies.

C12i Series pumps have a maximum flow rate of 12,000 liters an hour (52.83 gallons per minute), can operate in temperatures ranging from -15°C to



Figure 3: As Lean Manager, it is the responsibility of Sophie Guermond to minimize product loss and ensure that the products meet strict guidelines for quality.

100° C (-5°F to 212°F), handle product viscosities up to 10,000 cSt (46,350 SSU), meet differential pressures up to 9 bar (130 psi) and inlet pressures up to 1 barg (14.5 barg), and, if necessary, handle solid particles to 2 mm (0.079") and soft particles to 10 mm (0.394").

When speaking about product quality, the gentle handling of shear-sensitive products inside the pump is an essential characteristic of Movex pumps when compared to other technologies. Since the eccentric shaft offers a uniform motion from the piston and cylinder, the velocity of the fluid inside the pump is very low, which reduces the shear of the product. This pump feature is what led Guermond to say, "The pump is really gentle with our product!"



Figure 4: The Shiseido facility in Ormes, France, has the ability to transfer up to four tonnes of products per day, and thanks to their Movex Eccentric Disc Pumps, the facility can expect a product recovery rate of as much as 80 per cent or more when compared to competitive technologies.

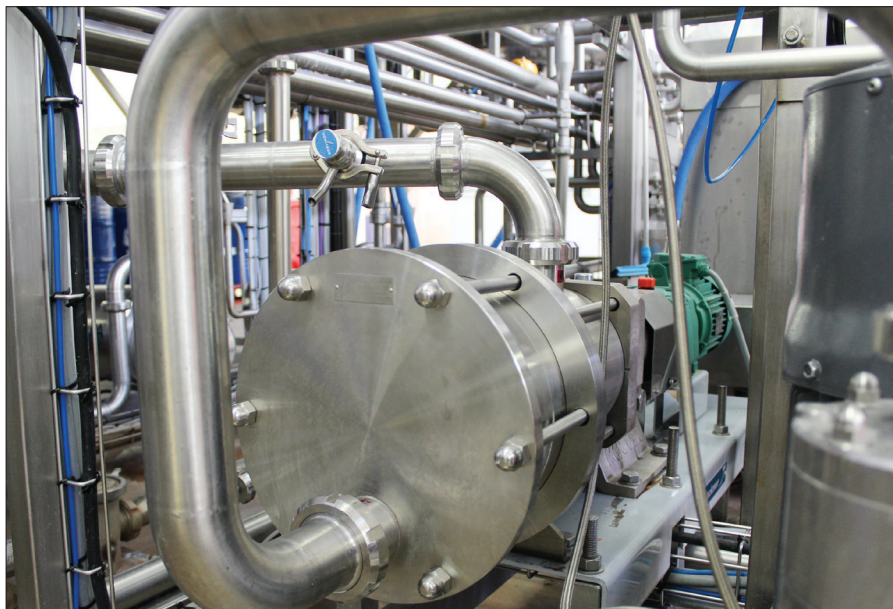


Figure 5: Movex® C12i Series pumps are the ideal choice for the Shiseido facility thanks to their ability to reduce product loss, optimize transfer times and minimize the need for pump maintenance.

Aside from its obvious operational benefits, another cost-saving aspect of the C12i Series pump for Shiseido is its low maintenance requirements.

"With the Movex pump, we only have to perform maintenance every two-and-a-half to three years, and when we do, it is very easy and fast to maintain," said Guermond.

Conclusion

Playing off the founding principle of the Shiseido name, Sophie Guermond is the person in charge of "nurturing" lean operation of cosmetic manufacturing at Shiseido's Unité du Val de Loire facility, so she "values" equipment that can enhance the company's mission and make her job – and life – easier. With the daily control of product loss a top-of-mind priority for her, along with the need to meet strict quality-control standards, Guermond has discovered the "virtues" of using Movex C12i Series Eccentric Disc Pumps in the plant's daily operations.

"My job as Lean Manager is to deploy lean operating techniques throughout the facility," she said. "So, when the cream is in the tank and after passing through the Movex pump we need the

least amount of loss as possible. Because of its operation and reliability, we don't have any daily worries with the Movex pump. ■



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