

Sweet challenge **optimally mastered**



Nestlé Cailler chocolate factory

Cailler is the oldest chocolate brand still in existence. Now part of Nestlé, its headquarters are located in Broc in Switzerland.

The family-run company in West Switzerland is responsible for the entire production process, from the cocoa bean through to the packaged chocolate creations. The chocolate factory also houses a museum, attracting thousands of visitors every year.

To produce chocolate that satisfies the most demanding of sweet-toothed connoisseurs over many decades, robust and high-quality equipment is needed. At the same time, the EHEDG requirements also need to be met.

The Vitalobe type series from KSB features pumps that are well-equipped to take on any challenge. They fulfil the hygienic requirements, handle the product gently, are robust and so flexible that they can be optimally adjusted to the process conditions – qualities that play an important role for a long-standing company like Nestlé Cailler.

Having produced chocolate for over 200 years, the company has a wealth of experience in the best way to process raw materials and ingredients. Maison Cailler creates exquisite chocolates made with fresh milk from the region, sustainably sourced cocoa and selected ingredients. Every day, around 300,000 of these sweet temptations are shipped from the factory in Broc. Cailler is one of the few chocolate manufactures in the world that adds lightly condensed milk instead of milk powder to the cocoa mass. This method gives Cailler chocolate products their unmistakable flavour and unique texture.

In terms of production, processing the cocoa mass is anything but simple. In particular the transfer of the cocoa with sweetened condensed milk repeatedly posed new challenges for the chocolate maker. Outdated equipment with a poor level of reliability meant that a change of pump was very much necessary. Based on its positive relationship with KSB Switzerland, the company decided to opt for a Vitalobe rotary lobe pump. Having worked together with KSB for three years, the customer was very satisfied with the cooperation so far, especially with regard to KSB's fast response times. An Etanorm pump and a number of valves, such as the BOAX butterfly valve, were already in operation at the Broc factory to the full satisfaction of the customer.

The Vitalobe range comprises rotary lobe pumps for handling high-viscosity, solids-laden fluids and fluids that require gentle handling – precisely the conditions at the chocolate factory. Although the cocoa mass is highly viscous and contains abrasive cocoa particles, it nevertheless needs to be handled gently. The positive displacement pump from KSB can pump fluids with a viscosity of up to 200,000 mPas and can be operated in reverse mode as well. It can also be configured to suit different requirements by using interchangeable rotary lobes. The rotary lobes are made of stainless steel 1.4404 (AISI 316L) as standard. Alternatively, depending on the size and type of the rotor, other material variants are available, such as a so-called anti-seizure alloy (CY5SnBiM) or a plastic-coated metal variant

It is this flexibility in particular which is highly valued by the user, as the pump can be configured to the process conditions with a high level of precision. As the production of chocolate is a hygienically relevant process, initial validation was required by Cailler, but this posed no problems for KSB thanks to its EHEDG-certified products. The team first of all opted for a test run with the Vitalobe pump in which the challenges of the viscous chocolate mass were clearly illustrated. Thanks to the flexibility and positive spirit of collaboration, the perfect solution was quickly found by using a rotor in the form of a gear wheel. In addition to reliable operation, another result was that the production line was stopped far less often and therefore required less frequent manual cleaning of the pump – a process which, thanks to quick and easy dismantling, does not hold up processes at the factory for long. The pump can also be cleaned and sterilised by CIP and SIP processes without leaving any residues.

After the test phase, the pump was put into permanent operation in February 2018. Not only does KSB's Vitalobe ensure perfectly sterile processes, it is also flexible, robust and reliable and can be cleaned very easily without leaving any residues. As the customer was very impressed by these properties in its daily operations, the chocolate experts decided to install four additional Vitalobe pumps in the process area at the Nestlé factory in Broc over the next two years. Vitalobe is therefore helping to ensure greater reliability and smooth-running processes in the production of the company's mouth-watering delights, mastering these sweet challenges in every way.



Maison Cailler in Broc attracts thousands of visitors every year



KSB's Vitalobe reliably pumps cocoa mass to produce the finest chocolate

Scope of supply

1 x Vitalobe VLBB 105/0074

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Technical data

Flow rate: 0.5 m³/h
Head: 13 m

Flow rate: 0.5 m³/h
Head: 22 m

More information

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