Good measurement, good yoghurt

The yoghurt producer La Fageda has been proving every day for 25 years that a business run by a team of people including persons with disabilities can be successful. The recipe for this is a mix of solid personal commitment, local raw materials and a clever marketing concept.

The goal: Produce the tastiest yoghurt. But how do you do that? Well, there is a way to do it, and it's much different from the methods of the big market leaders in the food industry. La Fageda, located in the Garrotxa district, is one of the region's largest employers. Of the 310 employees, 180 have access needs, learning difficulties, or mental health conditions. Hardly anyone here can handle eight-hour workdays, yet management provides an appropriate job for everyone. Since 2009, the company's turnover has grown by an average of 5% annually. In 2017, it was about 20 million euros. The company, whose product portfolio includes not only yoghurt but also ice cream, jams and desserts, has long since made a name for itself outside Catalonia. International delegations come every day to get informed about the plant. There are now around 40,000 visitors per year. Although La Fageda also benefits from public grants and the cooperation with private companies, these account less than 10% of total revenue.

Guided radar measurement for strict hygiene requirements

The decisive factor for success was that La Fageda professionalised its production and marketing at an early stage. As a consequence, La Fageda's production is subject to the same standards of productivity and hygiene that are common in the food industry.

Strict requirements are placed especially on the filling equipment, which has to function like clockwork. This is where the yoghurt is fed into the filling machine. Here, the filling level is continuously measured in a small feed container during the filling of the various yoghurt and dessert varieties. A constant level is necessary to ensure that the filling machine does not come to a standstill. Every hour, 12,000 yoghurt cups are filled in the one machine, and another 20,000 in two other machines. Until recently, there was no continuous level measurement here. The capacitive sensors that were installed for maximum and minimum level detection are now being used as "alarm sensors". However, the company wanted to optimize the filling process, so it was looking for a continuous measuring system. Ultimately, an engineering company recommended the guided radar sensor VEGAFLEX 81, which is appreciated in many industries for its reliability and versatility. The big advantage of VEGAFLEX is its independence from temperature, pressure and vacuum.

VEGA sensors control the level to keep the yoghurt filling process running smoothly.

Level measurement and point level detection in the supply tank of a filling machine

Yoghurt is stored in the supply tank of the filling machine. Reliable level measurement and point level detection are important for maintaining the filling process. A point level sensor is also used to prevent dry running of the supply to the machine.

Measuring task

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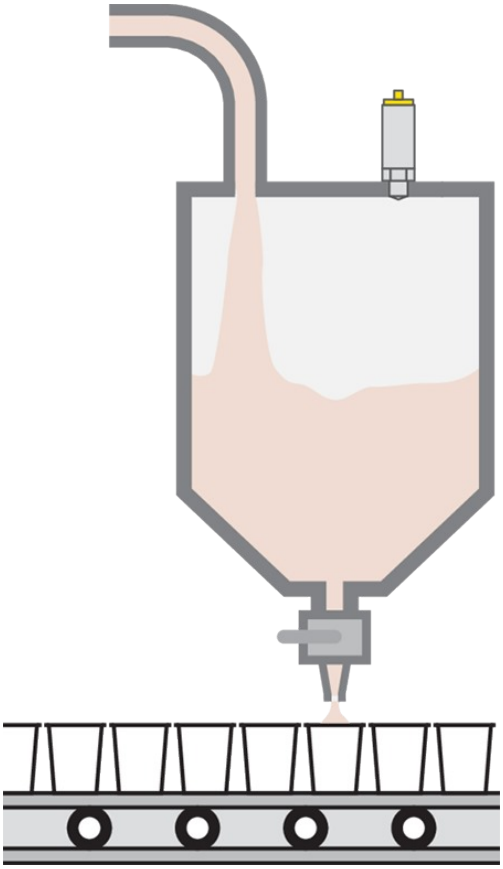

Level measurement and point level detection

Measuring point
Vessel

Measuring range up to
1 m

Medium
Yoghurt

Process temperature
+4 … +60 °C

Process pressure
0 … +2.5 bar

Special challenges
Aseptic process fittings, small container

Reliable

Certified materials according to FDA and EC 1935/2004 regulations

Cost effective

Continuous filling process, thanks to a reliable measurement

User friendly

Simple installation and setup

See all recommended products

VEGAFLEX is non-sensitive to foam, buildup, pressure, vacuum and high temperatures

There is no buildup that could become a problem for VEGAFLEX 81, because the funnel has a self-cleaning system inside. However, the problem for many measuring principles is the foam that forms as the yoghurt passes through the funnel in the container. A small agitator at the bottom of the yoghurt container can also lead to inaccurate measurements. VEGAFLEX 81 is particularly non-sensitive to foam and buildup on the probe. That's why the instrument can cope with this "disturbance" and deliver reliable measuring results, ensuring that the filling system runs smoothly. Influence of condensate, buildup and foam | VEGAFLEX Series 80

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La Fageda gets its name from the huge beech forests that surround the property.

The strong focusing and wide dynamic range of VEGAPULS 64 ensure reliable measured values

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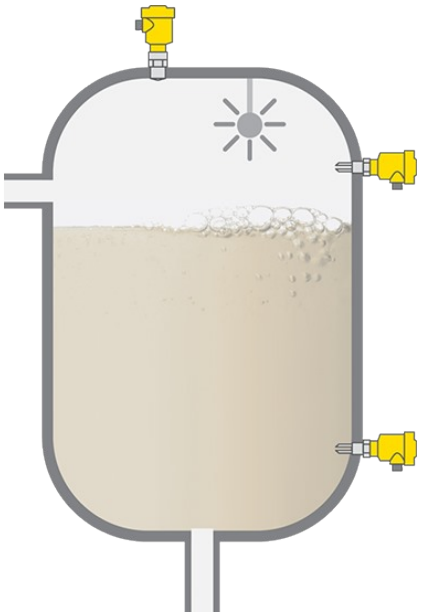
At another measuring point, the non-contact radar level sensor VEGAPULS 64 was used. These instruments are located in two CIP return tanks in another part of the facility. One of them contains water and soda (3% Na2CO3) and the other water and 3% acid to ensure CIP cleanliness. In the two tanks, VEGAPULS 64 continuously measures the level of the cleaning agent used for cleaning and sterilising the system. Here, the foam generated by the soda and the constant circulation of the liquid became a challenge. It can have an adverse effect on the level measurement.

The extremely tight focusing and high dynamics of the sensor enable precise, reliable measurement in the cleaning fluid tanks. Also at this measuring point, no continuous level measuring device had ever been used − only capacitive sensors that signalled the minimum and maximum level. These are still used as alarm sensors. However, the company wanted to optimize the process flow here too, and utilize the advantages of continuous level measurement.

CIP systems are essential for absolutely hygienic production. VEGA sensors continuously measure the level of the cleaning agent for the cleaning and sterilisation of the production equipment.

Level measurement and point level detection in the cleaning agent storage tank of the CIP system

The cleaning of process equipment in the food industry takes place within the framework of validated "Cleaning in Place (CIP)" processes that ensure aseptic conditions in production tanks. Sodium hydroxide or concentrated acid are frequently used as cleaning agents, which are stored in the storage tank of the CIP system and diluted in the production vessel. Level measurement enables optimal storage of these cleaning agents. Point level detection serves as overfill and dry run protection.



Measuring task
Level measurement and point level detection

Measuring point
Tank

Measuring range up to
3 m

Medium
Sodium hydroxide/acid

Process temperature
+5 ... +30 °C

Process pressure
0 ... +1 bar

Special challenges
Chemically aggressive medium

Reliable

Certified materials according to FDA and EC 1935/2004 regulations

Cost effective

Maintenance-free operation

User friendly

Simple mounting

See all recommended products

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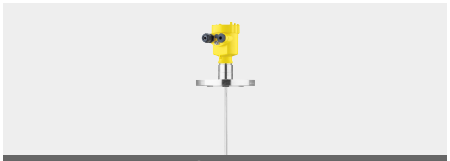
Only one of La Fageda's special features – company-owned cows deliver the milk for the yoghurt.

La Fageda was impressed by the reliability of the measuring instruments as well as the partner-like collaboration with VEGA. Thanks to the equipment and sophisticated technology with solvents, La Fageda's employees can concentrate on their main task – producing the tastiest yoghurt in Catalonia.

Related products



VEGAFLEX 81

VEGAPULS 64

Related industries

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