Fluids 3

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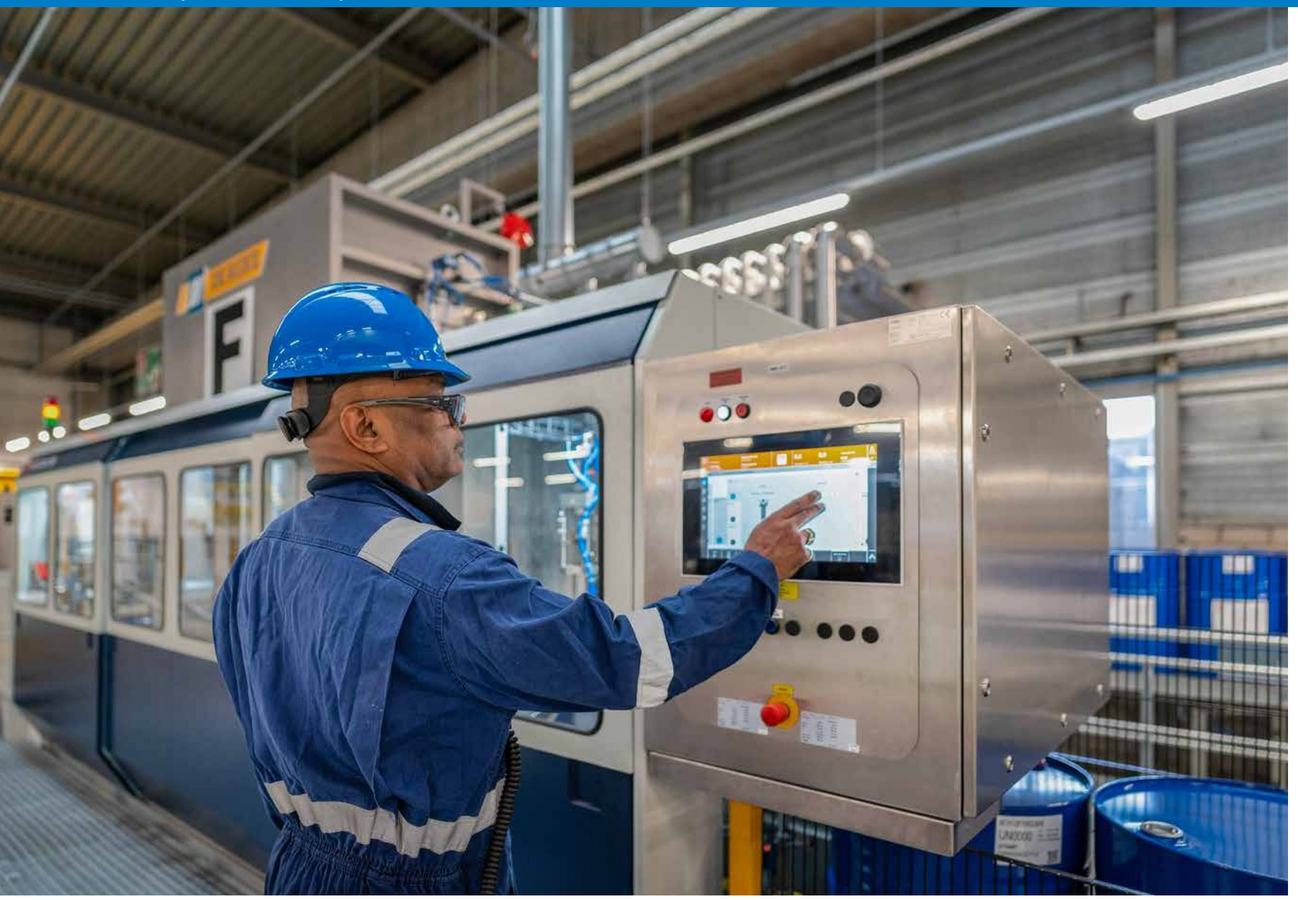
FILL
De Rijke fills drums so fast that tanker driver can wait for it

BLOWERS
Calculation tool helps calculate best blower configuration

PUMPS
Peristaltic pump best choice for variable flow rates

FILLING | Text: Martijn Kroese | Photography: De Rijke



Feige T86 filling machine for drums, with 6 filling stations.

UNIQUE: FILLING 125 BARRELS PER HOUR WITH ONE FILLING MACHINE

How do you responsibly fill a tanker full of highly flammable liquid into 125 drums within an hour, sealed, palletised and strapped, ready for transport to the cargo ship? At De Rijke Warehousing in Rotterdam-Botlek, they no longer turn their hand to that. The company recently expanded the number of filling machines to seven, giving it a filling installation that is unique in the Netherlands.

Filling machines are used to fill drums and IBCs with liquids and prepare them for transport. This frequently involves flammable, toxic, corrosive or otherwise hazardous liquids. Such substances are delivered in bulk via tankers or tank containers. For De Rijke, it was important to be able to fill these tankers into drums as safely and efficiently as possible and get them ready for further transport.

VARIOUS FILLING LINES FOR ALL TYPES OF LIQUID

In 2016, De Rijke therefore installed the first Type 88 filling machines from manufacturer Feige, the fastest type of filling machine available in the market. More additional filling machines from the same manufacturer followed in 2020 and 2023. The filling machines have multiple filling lances and work together with automatic palletisers.

UNIQUE SET-UP WITH 7 FILLING MACHINES

The entire set-up currently consists of seven different machines, including types 71, 84, 86 and 88. This enables De Rijke to process every conceivable type of chemical in an appropriate, fast and effi- cient way, and to speed up the logistical process - the company also offers various transport solutions. The filling lines are unique in the Netherlands.

FILLING 125 BARRELS WITHIN AN HOUR

"Safe and fast filling is crucial for us," is how Berry van Loon, COO at De Rijke, explains the choice of Feige machinery. "With the Type 88 machines, we can fill 125 drums per hour. That includes unscrewing drums, pre-rinsing with nitrogen, filling, sealing, placing them on pallets and preparing them for transport. Our new Type 71 additionally fills a 1,000-litre IBC every 2 minutes."

MINOR WAITING

Speed is very important for two reasons. Firstly, a higher turnover rate increases capacity, thus growing poten- tial sales. But the high filling speed offered by the Type 88 filling machine provides a second advantage: "If you can fill an entire tanker into barrels within an hour, the driver can just wait for it," says Van Loon. "You hitch up the tanker truck, drink a cup of coffee and can get back on the road. With slower machines, the driver has to fill such a tank

'If you can fill a complete tank truck within an hour into drums, the driver can just wait'

Berry van Loon, COO at De Rijke Warehousing.

often leave it and pick it up later. So Feige's fast machines allowed us to take a step out of take away the process."

SAFETY FIRST: CLOSED

FILLING SYSTEM

Safety of personnel and the environment is paramount, especially when working with highly flammable, corrosive or toxic material. The latest filling machines therefore operate on

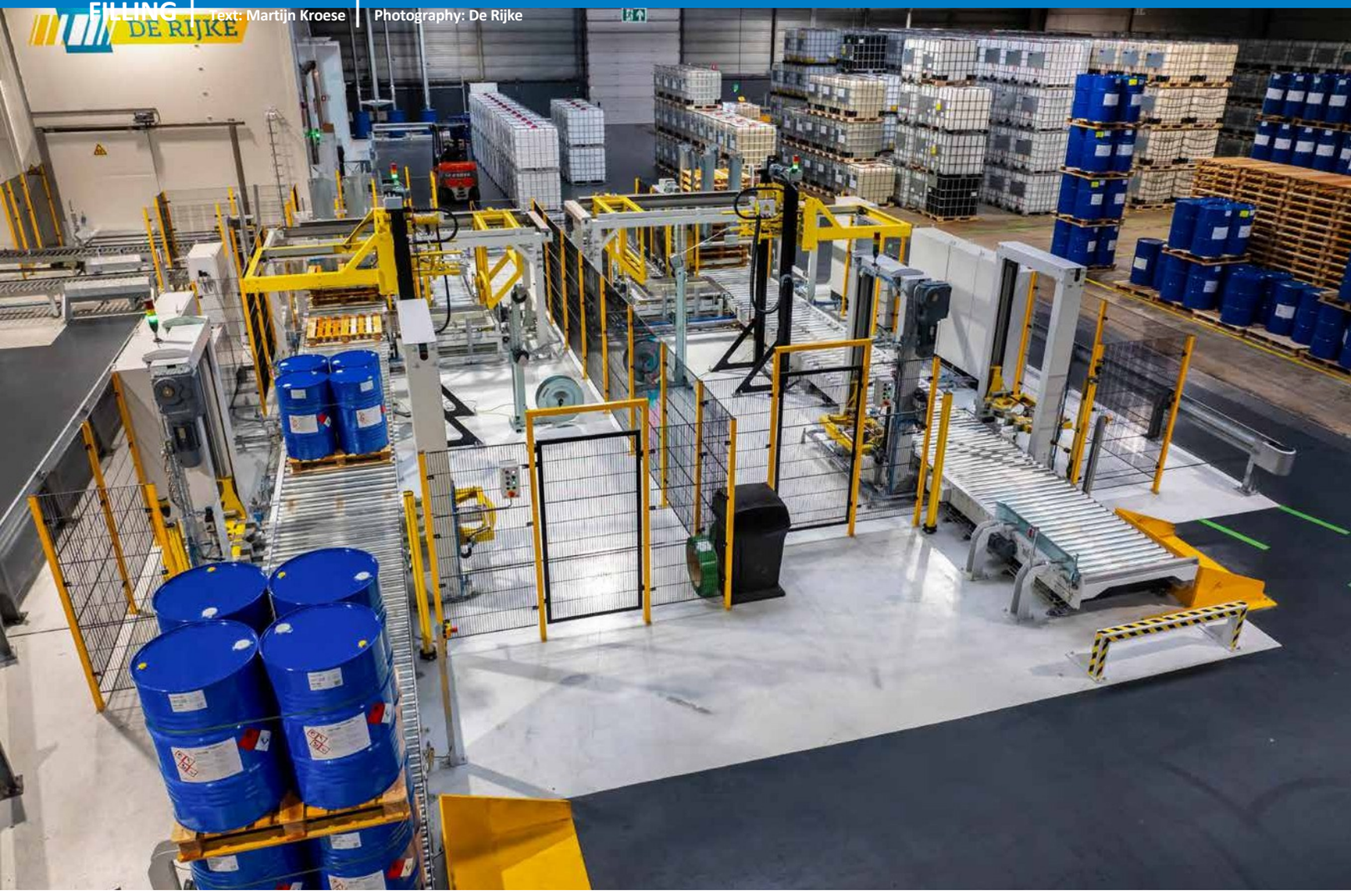
'closed cabinet' basis, where the liquid is introduced into the drums or IBCs in a completely sealed environment. Personnel then do not come into contact with the liquid or product vapour at all. All operations on and around the drums and IBCs are robotised.

100% CLOSED

"We are the only processor in the Netherlands that, for all filling machines in which hazardous substances are

Feige's T88 filling machine can fill 125 barrels per hour.

FILLING | Text: Martijn Kroese | Photography: De Rijke



After filling, the barrels are automatically placed on pallets by the Feige palletiser, ready for transport.

The Feige Type 71 fills a 1,000-litre IBC every 2 minutes.

are processed, operates 100 per cent closed," Van Loon said. "These safety and environmental aspects were the deciding factors for us to choose Feige machines again."
An additional practical advantage of a closed system is that the extraction and processing of pro- duct fumes can be properly controlled. Indeed, that vapour also remains within the closed system, w h i c h allows controlled vapour extraction and processing.

PERSONNEL TRAINING THROUGH VERMEULEN

De Rijke has been using Feige machines for many years. The new machines were therefore not unfamiliar territory, and uniform operation contributes to safety. But even for companies with no previous experience, Feige's filling machines are easy to install, user-friendly and easy to maintain. "We purchased the drum fillers through Vermeulen Ingenieursbureau. They have been an agent for Feige Filling in Ne- derland and, since 2010, also for Belgium. Vermeulen not only helped us with the technical installation

'We are the only processor in the Netherlands that operates 100%closed-loop at hazardous substancefilling machines'

- where to put the machines, how to prepare your premises, how to arrange extraction - but also provided training for our staff. That worked perfectly. During implementation, we faced as many as 0 incidents or problems!"

SUSTAINABLE CHOICE

Van Loon concludes by pointing out the sustainability aspect. "We want to make green choices at De Rijke. Feige's reliable machines not only last for decades, but are also very energy-efficient. And because it is a German supplier, the often universal spare parts do not have to come all the way from Asia. These are as- pects that help confirm for us that we have made a good choice." •