



APPLICATION REPORT DEEP-FREEZING BAKED GOODS

Canned motor pumps for deep-freezing baked goods

Flake ice or ice water are often used to lower the temperature of baked goods, for example in the kneading process in bakeries. This counteracts the heating introduced into the dough by the kneading process. In the summer months, ice water is often no longer sufficient for cooling and flake ice makers are used. Thanks to the simplicity of cooling brine as a refrigerant, low-cost mechanical seal pumps are often used, but these are increasingly being replaced by canned motor pumps due to the vulnerability of the mechanical seals.

Your benefits

- Absolute tightness of the system even with crystallising refrigerants such as Tyfoxit
- Prevention of plant downtimes thanks to high maintenance cycles
- Emergency stock for quick replacement deliveries of the standard product range

Typical areas of application

- Bakeries
- Breweries
- Dairies
- Abattoirs
- Fish processing
- Frozen food production
- Freeze-drying
- Freezing tunnels
- Ice cream



Sealless Technology **Unlimited**



APPLICATION REPORT

Cooling of baked goods

Requirements

In this application, the focus was on replacing mechanical seal pumps with hermetically sealed canned motor pumps. The system included, for example, two flake ice makers connected in parallel with a total output of 100 kW. In the past, the use of Tyfoxit increasingly led to high failure rates in mechanical seals due to the crystallisation of the medium on contact with air. To ensure smooth operation without leaks and with low maintenance cycles, canned motors will be used in the future. The production of the dough can therefore take place without interruption and costly maintenance of the system can be reduced to a minimum.

Delivery rate: 15 m³/h

Pumping head: 29 m

Operating temperature: -30 °C

Refrigerant: Tyfoxit

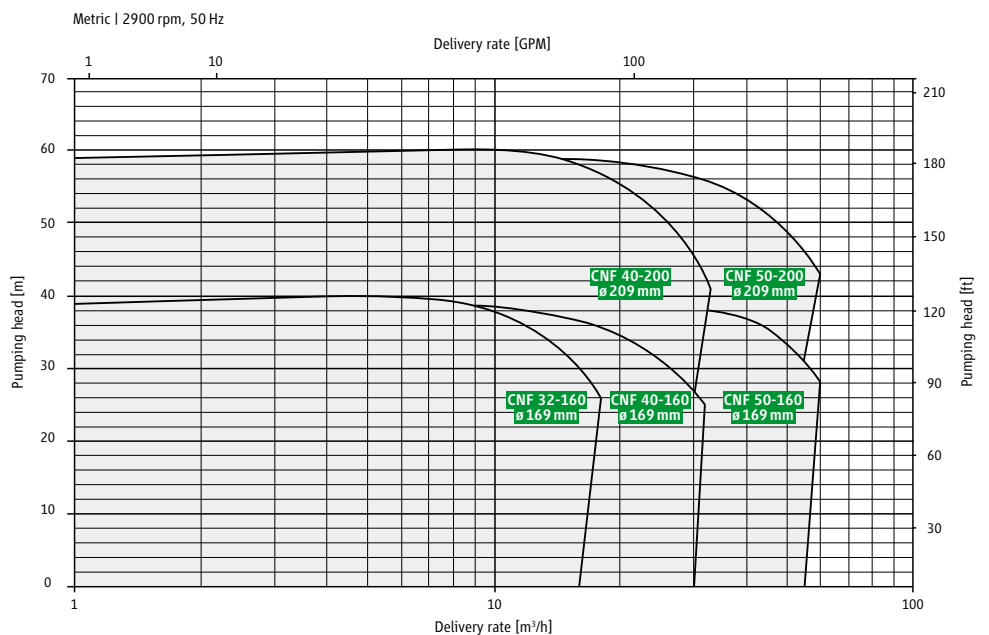
Plant type: Brine refrigeration system



The pump used

In addition to the pump housing, the rotor lining is a second safety shell in a canned motor pump providing optimum protection against crystallisation when using the Tyfoxit refrigerant. A standard HERMETIC canned motor pump of type CNF40-160 with AGX6.5 motor was used in the system. This is a single-stage canned motor pump available as a standard stock item in the case of emergencies. The single-stage pump series is particularly suitable for high delivery rates and medium pumping heads.

The customer was also particularly impressed by the long, maintenance-free service life and the stock availability in emergencies.



Medium / refrigerant

Cooling brine, also known as heat transfer fluid, is usually an aqueous salt solution used as a refrigerant at predominantly minus temperatures and thus retains its aggregate state throughout the entire cooling cycle. Additives in the brine can counteract any corrosion. Tyfoxit is based on potassium acetate and can be used at temperatures as low as -55°C depending on the concentration. Tyfoxit also has low viscosity, good refrigeration properties and is non-toxic.

We have the right pumps for your industry



CNF



CAM(R)



CAMh

Delivery rate:	max. 80 m ³ /h	max. 40 m ³ /h	max. 14 m ³ /h
Pumping head:	max. 70 m	max. 180 m	max. 120 m
Pressure rating:	PN25 and PN40	PN25 and PN40	PN52
Operating temperature:	-50°C to $+30^{\circ}\text{C}$	-50°C to $+30^{\circ}\text{C}$	-50°C to $+5^{\circ}\text{C}$
Speed:	2800 to 3500 rpm	2800 to 3500 rpm	2800 to 3500 rpm
Viscosity:	max. 20 mm ² /s	max. 20 mm ² /s	max. 20 mm ² /s

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Customisations

If you cannot find a suitable pump series? We are happy to help you with a customised solution regardless of the quantity. Please contact us.

[Contact now](#)



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EN 109 / 2022

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