

Application Note:

Filtering Winterized Extract

Filtering winterized extract is a game of time. You need to pull the crude oil and ethanol through the filter and leave behind the frozen lipids, fats, and waxes before they thaw. If they do thaw, a lot of time and money will be lost. Finding a pump that provides a strong vacuum in just the right range is a must.

Vacuum That's Just Right

Filtering winterized extract fast is critical to prevent frozen lipids, fats, and waxes from thawing and being collected with your crude oil and ethanol. Too little vacuum provides a weak pull and slow filtration. If the vacuum is too deep, then you will evaporate off the ethanol and it will be exhausted out the pump. Using a pump that delivers the right vacuum level with enough flow to overcome any leakage in the filtration process is what is needed to get the job done fast.

But, if the vacuum is too deep, solvents like ethanol, will start to evaporate off preventing any recovery or reuse. This can drive up your solvent expenses. In addition, getting the right vacuum performance is critical for an efficient filtration process. Chemical compounds like ethanol evaporate at specific temperature/pressure points. For example, ethanol evaporates at 78.4°C (173.12°F) at 1 atmosphere, or 1013.25 mbar. Under vacuum (i.e., at lower pressure), the same chemical will evaporate at a lower temperature. For example, ethanol evaporates at room temperature if you reduce the pressure to about 60 mbar. As the winterized extract inevitably begins to warm up, the ethanol is more and more susceptible to boiling off and being lost - that is if your pump is generating too much vacuum.

Pick a Dependable Workhorse

Filtering winterized extract is a critical step in every extraction process. It is done over and over every day, in every production run. Done well, it can accelerate production. Done poorly, it can become a bottleneck. So selecting a pump that is reliable is also a critical consideration. Your pump needs to be designed for extended periods of low- or no-maintenance operation.

Different pump technologies offer different advantages. But for filtration processes, the reliability and ease-of-use of diaphragm pumps cannot be matched. Diaphragm pumps can be constructed of chemical resistant wetted materials to provide outstanding durability. Look for wetted materials to include fluoropolymers like PTFE to maximize the life of the pump. Ask your pump manufacturer about maintenance requirements, service intervals, and the cost of maintenance. Considering the amount and frequency of preventative maintenance can help you to keep your production up and running and have a significant impact on throughput.

Solutions for Filtering Winterized Extract

VACUUBRAND offers many pumps that will filter winterized extract quickly and reliably. Our chemistry-resistant oil-free diaphragm pump technology provides the right level of vacuum in combination with high flow rates that are critical for short process times. Fluoropolymer wetted materials and a durable planar diaphragm design give our pumps industry-leading 15,000-hour typical service intervals, making them the lowest maintenance option on the market. And our intuitive, touch-screen VACUU-SELECT® controller allows you to fine-tune the vacuum level so you can use one pump for a variety of process steps.

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ME 4C NT

53 torr ult. vacuum, 72 LPM

- Strong vacuum for filtration process of any size
- Economical solution you can rely on
- Durable fluoropolymer wetted materials for unparalleled reliability

PC 3001 VARIO® select

1.5 torr ult. vacuum, 33 LPM

- VARIO® control holds ultra-precise vacuum
- Use the same pump for filtration and rotavaping/concentrating
- Automate processes at the touch of a button



Get the Right Pump for Filtering Winterized Extract

No two processes are exactly the same. VACUUBRAND will work with you to find the right pump to meet your technical and budgetary requirements. Contact our factory-trained technical team to find the best pump for you. Log onto use www.vacuubrand.com/vpsg or scan the QR code below.

