PROMACH

PHARMAWORKS™

TECHNICALLY Speaking

Service News and Tips

Autumn Edition

November 2021

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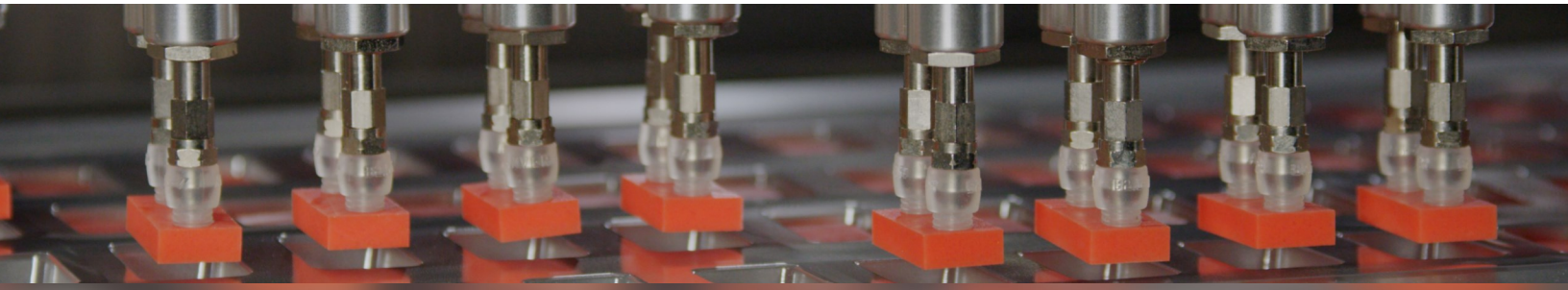

Becker Vacuum Pump Maintenance

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"Without a well-maintained vacuum pump, machine performance can suffer..."

Vacuum Pumps play an important role in the blister process but are often overlooked. Blister machines equipped with a Lowerator depend on the vacuum pump for suction to keep a firm grip on those freshly die-cut blister packs as they're being lowered onto the outfeed conveyor. Pick and place feeders need vacuum to pick blisters and feed them into formed blister pockets. Without a well-maintained vacuum pump, the performance of these stations can suffer. Not to mention that without routine maintenance, the vacuum pump itself may experience catastrophic failure.

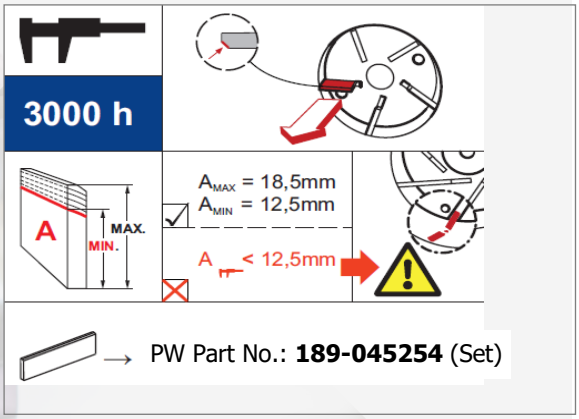
Most of our machines rely on the Becker VT 4.8 or 4.10 model pumps to provide the vacuum needed. Theses pumps can lose performance over time if not regularly maintained. Each of our machines equipped with a Becker vacuum pump comes with the Becker manual, which fully illustrates how to maintain your pump. The maintenance procedures in the Becker manual should be followed during your routine preventative maintenance.

Rotary Vanes

It is imperative to inspect the height of the rotary vanes in each pump after 3,000 hours of operation. After that, inspect the vane height once a week until the vanes are replaced to prevent a pump malfunction.

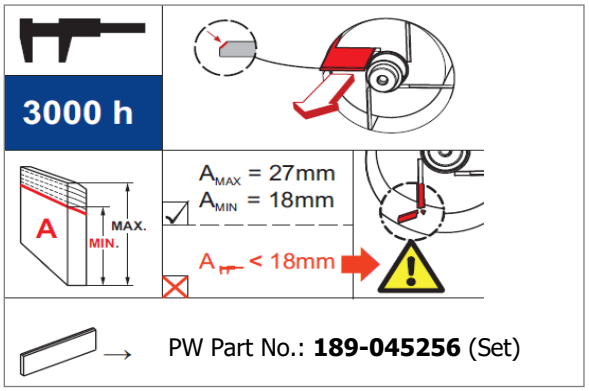
VT 4.8 Rotary Vane Replacement

For the Becker vacuum pump model VT4.8, if the vanes are close to or less than 12.5mm, it is time to replace them.



VT 4.10 Rotary Vane Replacement

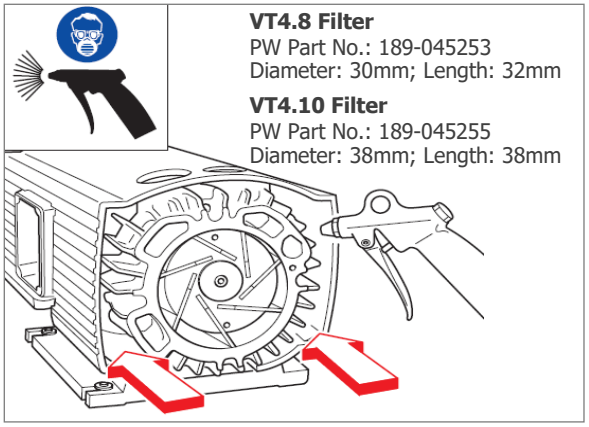
For the Becker vacuum pump model VT4.10, if the vanes are close to or less than 18mm, it is time to replace them.



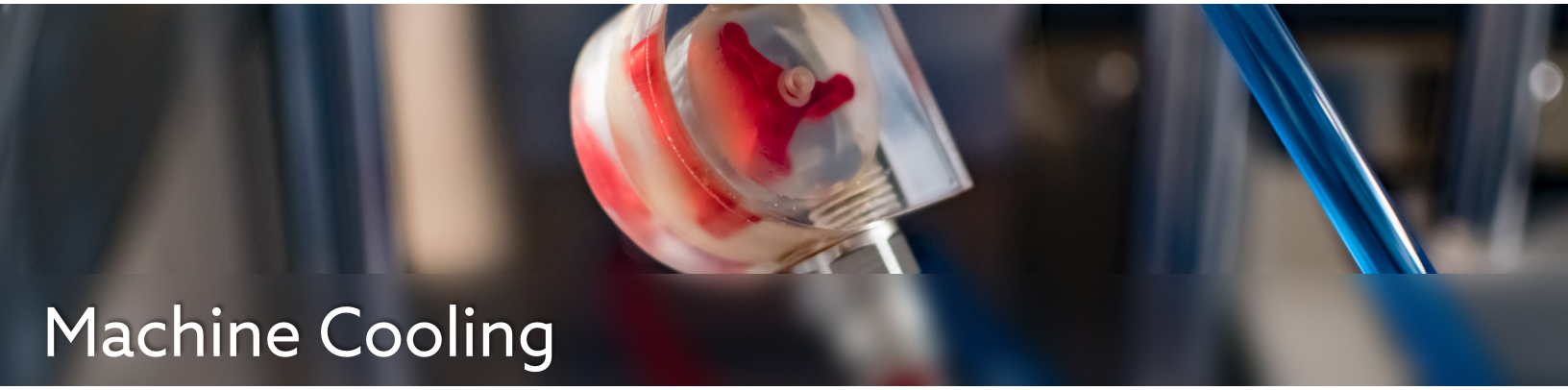
Air Filters and Blowing Out the Pump Housing

It is also important to check the pump air filters. Remove the filter and thoroughly blow off any dust or particles using compressed air. If the filter is still saturated with dirt and dust, replace it.

With the air filter removed, use compressed air to thoroughly blow out any dirt or debris from the filter housing and interior spaces of the pump. Be sure to follow all safety guidelines before blowing our the pump.



As always, if you need any assistance, we are here to help.



Machine Cooling

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The Chiller is an important component of your machine and to overall package quality. Ensuring that the chiller is inspected and maintained on a regular basis is critical to prevent production downtime.

Most of our machines end up connected to SMC chillers. SMC produces a reliable chiller that does well for a reasonable amount of time. They are, however, a wear item that may eventually fail.

If you have multiple machines, you should have at least one spare chiller on hand. If a chiller fails, this allows you to swap a good chiller with the bad one, giving your technicians the opportunity to work on it offline, and not in “crisis mode”.

Pump Reseal Kits

The SMC company offers pump reseal kits as well as replacement pumps. We would recommend that you replace the pump, and not rebuild it, simply because we have had customers in the past who did not have a thorough understanding of the rebuild and inspection process.

Replacing the pump itself is a straightforward procedure that the average technician will not have issues in completing.

Spare Parts

Have your spare parts on hand and available to reduce downtime and ensure continued productivity.

Temperature Differences

The only rebuild component on the chiller is the pump. The cooling system is not rechargeable or serviceable in any way other than cleaning the air filter, mat, and fins. **If you start noticing a difference between the set temperature and the actual temperature** (more than a few tenths of a degree), then you need to verify flow, flush the coolant, clean the filter mat and fins, and retest. If it still is not meeting the requested temperature, replacement is your only option. Typical operation for thermoforming is 17-19 C°.

Coolant Flow

Flow reduction in a forming tool can have a detrimental impact on production and can be a difficult issue to identify. Reduced flow in the forming tool can lead to it heating up over time, causing the base material to stretch slightly during each cycle. This can lead to several problems, such as misfeeds while using a dedicated feeder, crushed blisters in the Seal Station, print registration difficulties, or changes in the station adjust target (if equipped on your machine).

Most of our equipment has a digital flow meter installed and often flow gauges for tooling as well.

Some chillers have a flow bypass valve located at the rear of the chiller (shown left). When dealing with flow issues, ensure this valve is set to allow enough coolant to flow through the machine.

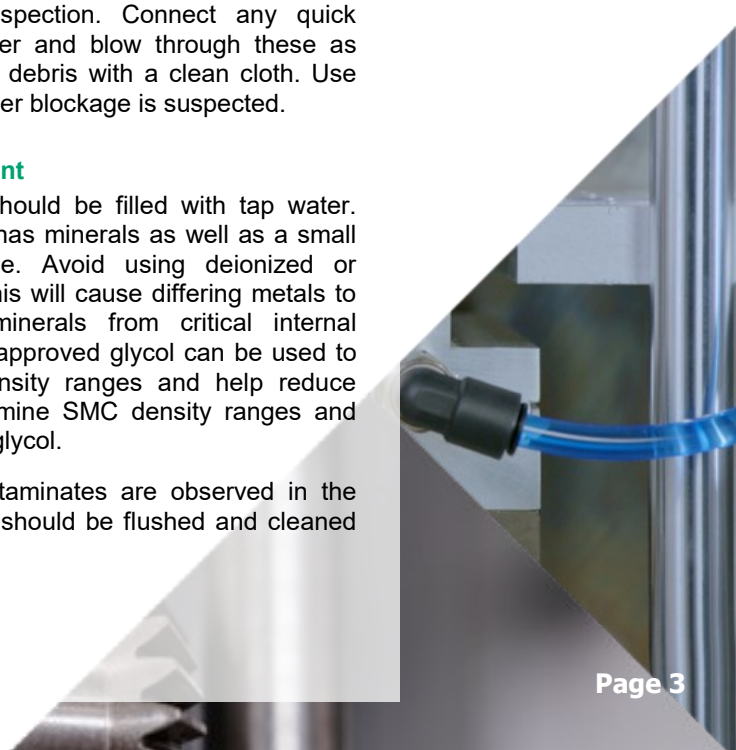
To clear a blockage, remove any tooling, hoses, or quick disconnects in question, and then use a metered amount of compressed air to blow through the cooling channels. Use a clean cloth to capture any debris for inspection. Connect any quick disconnects together and blow through these as well, capturing any debris with a clean cloth. Use this method wherever blockage is suspected.

SMC Chiller Coolant

The SMC chiller should be filled with tap water. Regular tap water has minerals as well as a small amount of chlorine. Avoid using deionized or distilled water as this will cause differing metals to react, removing minerals from critical internal components. FDA approved glycol can be used to maintain water density ranges and help reduce contaminants. Examine SMC density ranges and maintain it if using glycol.

If any kind of contaminates are observed in the coolant, the chiller should be flushed and cleaned immediately.

“... A vital part of your machine and your overall package quality...”



Troubleshooting Index Length Issues

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"By doing this, we can correct almost any print alignment issue we might run into..."

First Things First—Turn Print Registration OFF

Start examining base material length by turning Print Registration OFF. In this mode, the TF1/ TF1e/TF2 model blister machine pulls the index to the set length. To test the machine's forming and indexing accuracy, run the machine and then measure across ten indexes. Divide that number by ten (when possible, utilizing 20 indexes will provide even greater accuracy). The machine should be off by no more than 2 mm over 10 indexes. If it is off by greater than 2mm, then carefully troubleshoot possible causes.

Turn Print Registration ON

To ensure that the printed lidding length is matching the base material length, turn Print Registration ON. Ensure that the mark is being clearly read by the contrast sensor. With the print registration in place and holding, turn the Print Registration OFF for ten cycles, then turn it back ON. Observe the print registration location on your HMI as you transition. This number should be within 1-2 mm. If this is not the case, additional troubleshooting will be needed.

Measure Indexes

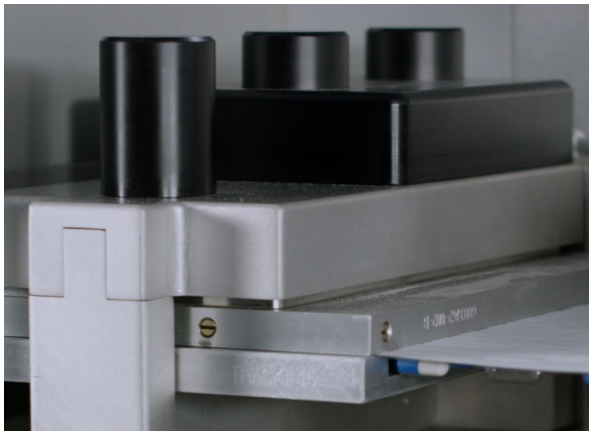
You can quickly pull and measure across ten indexes of the printed lidding. Carefully lay the material out and evenly tension it while measuring. Did this match your base material measurement?

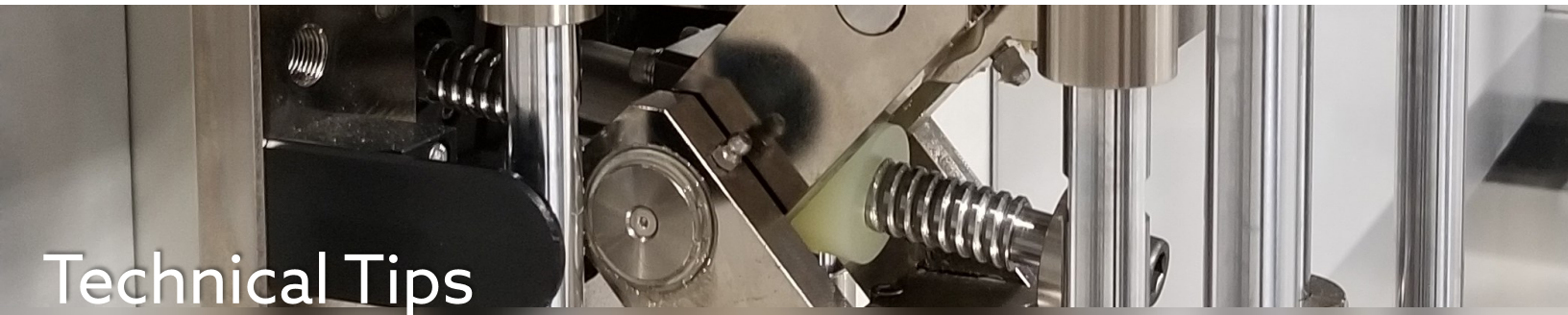
Why would they be off from one another?

- Printer length does not match the thermoformer – adjust the inline printer to correct.
- Preprinted material is of an inconsistent length – determine this by laying several long strips of lidding from different rolls lots out on the floor. Evenly tension line up the beginning print marks – they should be even at ten and twenty indexes. If these do not match, work with your material supplier to ensure quality is acceptable going forward.
- Temperature too high at preheat – formed material stretching due to insufficient cooling between indexes – more noticeable at higher speeds.
- Amount of cooling flow insufficient to form tool, allowing tooling to increase in temperature over time.
- Weight of product in a flood type feeder is inconsistent.
- Brushes in flood feeder or cross brush is bearing down into base material, causing it to stretch.
- Paddles in flood feeder are bearing down into base material or binding product up on the web, stretching the base material.
- Human interaction with machine is influencing web dimension by applying pressure to the web in an inconsistent manner (such as during hand feeding or leaning on the feed area).

Speed up troubleshooting by quickly gathering data as to what is happening. For print / forming index issues that are sporadic in nature, gather your base and lidding samples. Continue with your troubleshooting; when you find an issue, such as a flow problem or printer issue, take a sample after your correction and carefully lay it out next to your earlier sample, aligning the beginning index marks to see if they match. Your corrected issue will be visible in how the index lines and print marks are related to each other.

Feel free to call Pharmaworks Field Service and we will be glad to help you troubleshoot your forming or print length issues.





Technical Tips

Before Calling for Service Assistance

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While our customers have a great deal of expertise when it comes to troubleshooting machine issues, the question of when to call the OEM and what information should be provided does arise.

Have you reached the point in your troubleshooting where the problem is still unknown, and the team has no more ideas to test?

In most situations, this is a good time to call. Document your troubleshooting up to that point so key items aren't missed when discussing it later with the OEM. The service department does not have a crystal ball; however, our understanding of the machine and how each system works often leads to knowing which tests to run to locate the problem.

Since troubleshooting relies on good testing, please follow each step carefully. You should have a parts manual and machine schematic on hand so that we can go through it together, and if needed, be able to refer to specific drawings or page numbers. Often, Pharmaworks Service can share documents with you online to make sure we are discussing the correct part; or to ensure that you understand the troubleshooting steps using a schematic.

Be sure to have the correct machine model and

serial number when calling so that we can locate the correct documentation. While we do note that customers may call their machine "line 2", or something similar, we do not want to rely too heavily on that since line numbers may change, leading to confusion or faulty troubleshooting.

Also, do not hesitate to mention all the facts surrounding the current machine malfunction. It is relevant that "it ran fine before the preventative maintenance was performed on Sunday", or "yes, we took the station apart and now we have an axis fault". We are here to help you get the machine back into production, not to point fingers.

Keep track of all your troubleshooting and save it somewhere that can be added to and shared internally. Intermittent problems are tough to solve. Tracking these issues when they arise and recording each step of the troubleshooting process will help lead to a solution every time.

"At what point should we call Pharmaworks about this issue?"

Call Checklist

- ☐ Machine model and serial number
- ☐ Parts diagram
- ☐ Schematics
- ☐ Circumstances surrounding failure or issue
- ☐ Troubleshooting steps tried
- ☐ Are the right people on hand for the meeting?
- ☐ On follow-up, is all recommended testing done?

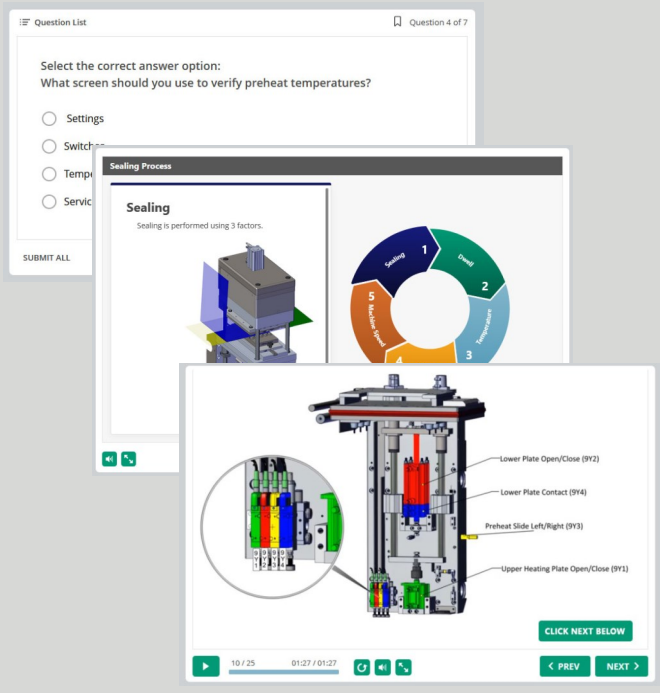
Training

Increasing Output and Efficiency Through Training

New! Online Training

Coming in 2022 TF2 online training!

- Online training for TF2 Blister Machine will be available first, with more machine models to follow
- Order multiple seats and track each trainee's progress individually
- 100% of the training created by Pharmaworks
- Interactive animations, easy to follow step-by-step procedures, and quizzes after each module provide top-quality instruction for your personnel
- The flexibility and convenience of logging in from a computer or mobile device



Increase the productivity of your staff with training from Pharmaworks. We offer a great formal training program with both classroom and on-the-floor training that allows operators, technicians, and engineers to gain a full understanding of both the thermoforming and cold-forming processes. Or, if you're already well-versed in running the machine, informal training is a great way to master advanced aspects of the packaging process.

Formal Training

Our training staff and technicians will not only teach you the basics, we will also provide many tips to increase efficiency when setting up and running your machine. Your more advanced staff will gain an understanding of the underlying issues that cause lost production time, as well as learn best practices for maintaining the machine properly to avoid unnecessary downtime.

Your technicians will learn to troubleshoot and isolate problems by increasing their understanding of electrical, mechanical, and controls functions, as well as learn common behaviors of materials, and how to spot material issues before they occur.

Informal Training

A better choice for customers who already understand the machine and have a good grasp of thermoforming and cold-forming may be our informal training. This is where we go directly to the floor and explain blister machine principles while running, testing, and creating faults, allowing your on-site technicians and operators to learn and increase their productivity. our professional technicians informal training .

Schedule Your Onsite Training Today!

Our expert trainers are standing by to help you set up your training session. Training sessions can be done on-site at your facility or even remotely!

Contact Us

Service Hours: 6AM to 10PM EST | 7 Days a Week

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Service Department Hours:
6AM to 10PM EST | 7 Days a Week

Call us any time during our normal service hours and one of our professional service technicians will assist you.

Call us after hours for emergency support:
Phone: (727)232-8200

Select the after hours support option and leave us a message that includes your machine information, location, and contact information. You will receive a response within a short amount of time.

We are here by your side when you need us most!

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