

TIPS ON EXTENDING HOSE LIFE

Introduction

Over the years we have been able to help customers increase their peristaltic hose life considerably and enjoy the many advantages of using a peristaltic pump over other pump designs.

Peristaltic Pump Design

Before looking specifically at extending hose life, we will quickly review the fundamental operation of the positive displacement pump under consideration.

The workings of a peristaltic pump are simple, consisting of only one relatively low speed rotating element known as a rotor. This rotor has generally 2 fixed shoes attached to the outer edge of the rim that are spaced 180 degrees apart.

The heart of the pump is the stationary hose, also known in the industry by the following terms:

Peristaltic hoses
Peristaltic tube
Peristaltic rubber

The hose is a stationary element that is compressed on the outside of its diameter as the rotor turns and this squeezing action along its outer surface creates the pumping action.

As you know if you have peristaltic pumps, one of their beauties is that the pumped product is not touched directly by the rotor, so that it is squeezed smoothly without interference.

Increasing Hose Life

It is important to identify at the start the factors that directly affect a peristaltic pumps Hose Life.

In addition, we will provide some thoughts at the end of each of these factors, illustrating briefly adjustments that can be made to increase your time between peristaltic pump hose replacement

Problem 1: Poor Quality Parts

Some people purchase poor quality hose, because it's cheaper. Their experience with time will show that the Hose fails prematurely and that they spend more money on buying extra lubricant and then have the additional cost and inconvenience of downtime.

Solution Hose

It is essential that you purchase hose and lubricant from a credible source. Our hose has taken many years to perfect and is typically of tri-laminar construction, providing an excellent life expectancy.

Not just experience, but sophisticated manufacturing technology also means that a World-class hose can be created each time, every time.

For the production of our hose we use a fully automated facility that ensures that dimensions are held to the tightest tolerances again and again. Just last year this facility had \$8 million invested into it to ensure that quality was at the highest and delivery times responsive to our Customers needs. Many of our Competitors still hand wind their hose.

Lubricant

As with the hose, our lubricant has been designed to work perfectly with the varying requirements within a Peristaltic Pump. The range of requirements within a pump, means that the lubricant needs to support not only hose cooling, but also have an inbuilt guard against freezing during Winter time. Our peristaltic pump lubricant fulfills all these requirements.

Problem 2: Pump Speed

Hoses for peristaltic pumps have a finite and often predictable life if all factors are consistent within a process and it will provide a number of compressions and returns in its operation before failure.

Pump speed has a direct effect on hose life, to the point where we could say as a guide, if you double your pump speed you will half your hose life. Conversely if you half your pump speed you will approximately double your hose life.

This simple guide has helped hundreds of pump installations to improve their hose life dramatically.

Solution

As you can see the pump speed has a dramatic impact on the life of a hose for peristaltic pump. This being the case it is essential that when you are considering purchase you contact us to discuss your application in detail to ensure the correct pump is selected from the start.

More often than not it is wiser to purchase a larger pump and run it slower, than to squeeze the duty onto a smaller pump running fast and then suffer the cost of more frequent hose replacement.

If you have already purchased a pump and do not want to upgrade to a bigger pump, please give us a call and we will talk through your application and make recommendations.

Problem 3: Incorrect Hose Materials

If your Pump hose is failing regularly, it would be appropriate for us to check the compatibility of the hose material with what you are pumping through it.

Solution

Our Peristaltic pump hose comes in a wide range of materials.

When we select a hose for peristaltic pumping, we consider many factors including the liquid that you are pumping, temperature involved and general duty expectations. In order to extend your current hose life, we would review the duty application and ensure that the optimum material was employed. Often we have found for example that natural rubber hose or natural rubber tubing has been selected for an application because of its excellent physical properties, only then to have the application changed to a more acidic product causing the rubber to rot away prematurely.

If you have a pump running whose hose life has reduced with time and is no longer acceptable, let us take a look at the application.

Problem 4: Suction Lift

If your application has a suction lift, many forces are placed on the Pump Hose that can lead to premature failure.

Solution

A major improvement can be seen in hose life, through the introduction of a correctly sized Damping device. Give us a call and we would be happy to advise.

Problem 5: High Pressure Discharge

For similar reasons to point 4, large pressure on the discharge can create considerable strain on the hose.

Solution

We are one of the few Companies who provide special Extra Long Life hoses for these types of application. In addition, we can provide a discharge pulsation damper to reduce pressure shock to the hose and once again increase hose life.

Problem 6: High Temperature Application

If you are pumping at a high temperature this can lead to early hose failure.

Solution

We would be happy to review your installation to consider ways that temperature can be reduced. We would also make sure that High Temperature hose is employed so that you can maximize your hose life expectancy.

PERIFLO

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