

WHITE PAPER

Can You Live Without Air?

When asked this question, most people would respond by saying “No, of course not, I need air to breathe.” And they would be correct. But do you need air to run equipment which has typically been thought of as pneumatic-driven technology? The answer may surprise you.

As consumers, we've seen many costs of goods and services, such as the price of gasoline, greatly escalate within the past year. So much, that automotive manufacturers are looking for alternative ways to fuel our transportation. We hear messages on a daily basis of sustainability and recycling and reusing and the steps we can take to help our earth. These real-life issues have migrated into the businesses and organizations we work at and are a part of. These issues have made ALL MANUFACTURERS look at their own products and services and question, “can this product be manufactured to be more efficient and save “green”? (and by green, we're really talking about *both* money and planet).

When it comes to manufacturers of pneumatic-driven equipment, some are questioning if it needs to continue to be “pneumatic”. Sure there are some that say, “If it's not broke, why fix it”? But there are others that say, “If we can make it more efficient, why *not* fix it?”

For food, beverage, and consumer goods manufacturers (as well as other industries) that use label applicators or label print/apply machines on their production lines to affix labels to their products, containers, secondary cases, tray packs, or pallets, they are most likely using a labeling system that requires compressed air. And they're using these labeling machines with compressed air, truly, because that has been the standard. That's what they have been accustomed to. That's what label machine manufacturers have designed, engineered, built and sold. But just like the automobile manufacturer that historically has produced gasoline-powered autos and is today building hybrid vehicles, leading label machine manufacturers are also taking note that maybe there is a way to still put that label on the substrate, but in a more efficient method. A method that consumes fewer resources, requires less maintenance, is equal in price, improves throughput, is simplified, and is more efficient.

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“You Don’t Have to Compromise Savings or Performance. With An All Electric-Driven Label Applicator or Printer Applicator, You Can Have It All.”

Consider that the average cost of compressed air is \$0.02 per CFM per hour. Even with a low rate of 3 CFM for a labeling machine, this would equate to \$552 a year. Compare this to a machine which, instead of air, has been designed to use electricity only, at an estimated cost of \$0.10kWh (2008, US Government, Energy Information Administration). This translates to an annual utility bill of a low \$48. With over 90% savings, it's easy to see which is running more efficiently. And to put it into perspective, some electric label applicators and printer applicators have a running power less than a hair dryer!

Cost of Ownership

The myth that an electric-driven labeling machine must be greatly more expensive is just that...a myth. From some labeling equipment manufacturers, there is little difference in pricing between electric and pneumatic-driven label applicators and printer applicators. And even if you find a unit where the price is slightly more, the cost in many cases is negligible, and actually may likely **cost less** when you factor in the utility savings. Look for a manufacturer to help you in determining the total cost of ownership... a good business partner will do that for you.

Performance

Regarding performance, make sure to ask the manufacturer several questions regarding:

- Throughput rates
- Label size range / label dimension limitations
- Type of motor used in the labeling system
- Method of holding the label on the tamp pad

Throughput Rates

For example, ask the manufacturer if their electric-driven label applicator or printer applicator will be a direct replacement in performance for your current pneumatic labeler. Some manufacturers are building electric-driven labeling machines that are actually **faster** than pneumatic in throughput rates, and others are building units that can't keep up with the air-driven labelers.

Label Size Range / Label Dimension Limitations

Some electric-driven labelers have certain application limitations such as label sizes that it can print and apply, and for other manufacturers

there are very little limitations, or stated another way, are no different than the limitations of a pneumatic labeling system.

Type of Motor

Also, check to see what type of motor their electric label applicator or printer applicator has. If it's a brushless DC motor, that's a good thing. If it's a stepper motor, be concerned. Stepper motors are not well-suited for high speed reversal of direction, and therefore increase contact time with a product. A brushless DC motor, on the other hand, is built for this purpose. In fact, that's why brushless DC motors are more frequently found in missile defense systems, higher-end robotics, and electric vehicles.

Method of holding the label on the tamp pad

Since electric label applicators do not use air, ask the manufacturer how they are holding the label on the tamp pad. And more importantly, is it being held on the tamp pad throughout the entire transit/application (the time from when the label is peeled away from the liner to the time when it has been applied to your product, package or pallet. If the manufacturer is not using a counter rotating blade fan to hold the label in place on the tamp pad during the entire application, there is the potential for the label to be skewed on your product when it's applied.

So the long story short, in going to an electric-driven labeling system, you don't have to sacrifice capabilities or savings. But you do have to ask the right questions to make sure that you know what you're getting, because not all electric labelers are created equal...just like not all pneumatic labelers are created equal. And replacing your pneumatic labeler for an electric-driven machine should be highly based not just on which model you select, but also on which manufacturer you choose. Ask good questions to see what level of engineering has gone into the design of the electric label applicator or printer applicator that you are considering putting on your production line. In the end, you can be the hero if you choose wisely.

The Pressure of Dealing With Air

Another issue which we have yet to discuss, but is important to mention, are the common issues that come with running compressed air-driven equipment (i.e. location of the air drop in relation to where the equipment is placed, contaminated air with water or oil in the air lines, lack of portability to move otherwise modular equipment from one location to another due to the air hose connection, etc.) When you begin to look at

an apples-to-apples comparison, you may be quite surprised to see the potential savings and performance improvement that exist from saying goodbye to pneumatic-driven labeling machines and hello to certain electric-powered labeling systems. And if you already own a pneumatic label applicator or printer applicator, are not planning to upgrade anytime soon and think you're out of luck, think again. Certain manufacturers will be able to retrofit your existing label applicator or label printer applicator from a pneumatic system to an all-electric system. Check with them to see if this is a possibility and what is required.

A Breath of Fresh...well, you know

Finally, the answer to our original question...yes, you can live without air. Even though the air we breathe is free, the air used in pneumatic-driven equipment is not. And over time, the utility costs of compressed air add up and can become quite significant, not to mention the other headaches that come along with maintaining this utility as mentioned above. Look to tomorrow's electric-driven label applicators and printer applicators for affixing labels to your products, packages, containers, tray packs, and pallets. Some of the leading manufacturers are even offering it **TODAY**.

Lastly, and above all, remember that the manufacturers that are truly innovative and revolutionary are helping end users not only by providing them with new leading-edge products (like the all-electric labeler), but are helping them lower operating costs, reduce downtime, increase throughput and improve efficiency. Those are great things and that's really what it's all about. It helps companies get their business in shape, keeps them fit, and saves "green". And those are the manufacturers that are looking out for the best interest of their customers, their business, and their planet.



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