

# All the New Spray Booth Energy Saving Features on a budget!

*Over the last couple of years we have discussed new booth features, waterborne materials and getting back in touch with our shops and procedures. Outside of the big change in our paint materials, the other 'hot topic' has been energy saving.*

by Jim MacDonald, ontariospraybooth@bellnet.ca

Most of the major booth manufacturers have addressed this 'hot topic' with new features that we did not even dream of a few years ago. Variable Frequency Drives and soft start motors have become the desired way to control booth balance and ensure good paint booth conditions. The days of manually adjusting dampers and checking gauges on the side of booth are disappearing. VFDs not only use less power but they also allow the painter to do what he is paid to do – paint vehicles, NOT balance or fiddle with the booth.

We wrote an article about a year ago about the new generation control panels that were coming with the new booths: LCD touch screens, computer menus, adjustable parameters, and all kinds of things that are supposed to make our life simpler. We made a comment that we missed the days of

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On/Off, and Paint/Bake. All of these features are great and almost all of them have an energy-saving twist, however they can be a little intimidating.

So you have read all these articles and you look out



An example of a control panel installed by ControlMax on an older booth. Photo: Courtesy ControlMax

on the shop floor and see the booth you purchased JUST BEFORE all these energy saving features became available. How do you take advantage of all these new features? Do you have to spend another \$75K to \$100K to install a new booth? Do you find yourself wishing "if only I had waited another year or two, I could have VFDs, auto balance and all the other bells and whistles that I saw at NACE." Or perhaps you've heard your colleagues discussing these things.

We wondered the same thing, and in an effort to give our 'older' customers some TLC, we investigated how we might be able to help them out. Fortunately, we made

contact with a company that makes controls. This company has extensive experience with design and supply of control panels for paint spray booths. What's more, they helped one of the major manufacturers make the transition to PLC controls.

PLC controls are simply 'programmable' panels that, if you know a little about computers (that leaves me out!), you can program these panels to work with all kinds of accessories and additions to do things that even some of the top-end brand name booths cannot do.

We have known this company for years and have utilized their services to help us work through the PLC panels and by accident discovered the idea of 'retro-fit' panels that would give the older booths all the new features.

Control Max is located in Barrie Ontario (lucky for us, as we are too!) and company Owner/President Chris Wrobel is a controls guru who actually came from the audio/visual industry. Chris' company has been manufacturing control panels for all kinds of industries for 15 years (paint booths, air compressors, auto bug spray dispensers, just to name a few).

We had a customer who had a homemade booth for which we had supplied a new air make-up unit. This customer was VERY concerned about his operating cost going way up when he added this new 1 million BTU direct fire appliance. We put him in touch with Control Max and before long he was enjoying features new booths do not have. After making a few additions (dual VFDs, special air flow sensors, temp probes, timers, and one of Control Max's programmable PLC panels) our customer had a 2-speed (paint and bake), auto-balance cabin that would also kick into ½ speed mode when the booth was running but the gun was not being used. The dual VFDs (one on exhaust and one on air make-up unit) gave our customer the most efficient start-up AMP draws. No more hard AMP starts that show up on the utility bill at the end of the month.

The air make-up was a direct-fired unit with a 30:1 turn-down ratio, so it already was burning gas efficiently, however, with the addition of the VFDs and the air line flow sensor Control Max added a feature that when the painter exited the booth and left the booth running (this issue is a gas and money guzzler in the winter due to the gas that is consumed to maintain desired spray temperature), a timer would kick in and within a pre-set time period (3 minutes/painter gone to the washroom or took a break) the booth would kick into an energy saving ½ speed mode. This is a huge gas saving feature.

Our customer was soon extremely happy with the features, not to mention the control that he now has over his energy consumption! For a few thousand dollars he can operate knowing that he is NOT wasting electricity or gas and hopefully it will give him a few extra points on his bottom line!

**Our business is to help our customers put in new booths but we feel it is also our responsibility to help our customers find other ways to better their shops and this is one we have really come to believe in.**

We now have a joint package with Control Max that we offer to shops with older booths that are looking for an affordable alternative to buying and installing a whole new booth system. The cost of these systems is anywhere from a \$3000 to \$8000 (depending on booth make and features chosen), NOT the \$75K to \$100K it costs for a new booth.

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We would encourage you to contact your local booth supplier/service people to see if they have the same capability! If you would like to check out Control Max their web page can be found at [www.controlmax.com](http://www.controlmax.com).

Happy New Year, good luck and good 'energy efficient finishing' for 2010! ■



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