

GVT GRAMMER VACUUM TECHNOLOGIES, INC.

New & Used Process Equipment, Supplies & Energy Systems



Energy Optimization by Peak Power Trimming from *dibalog*

Your monthly power bill consists of two parts: Consumption (kWh) and Demand (kW) (or Peak). We offer a system that will monitor and control your electrically heated devices in such a way as to minimize peak power usage and reduce your peak power bill by up to 30-40%. The payback period for this system is typically around 1 to 2 years. Beyond the payback period the savings is purely increased profit.

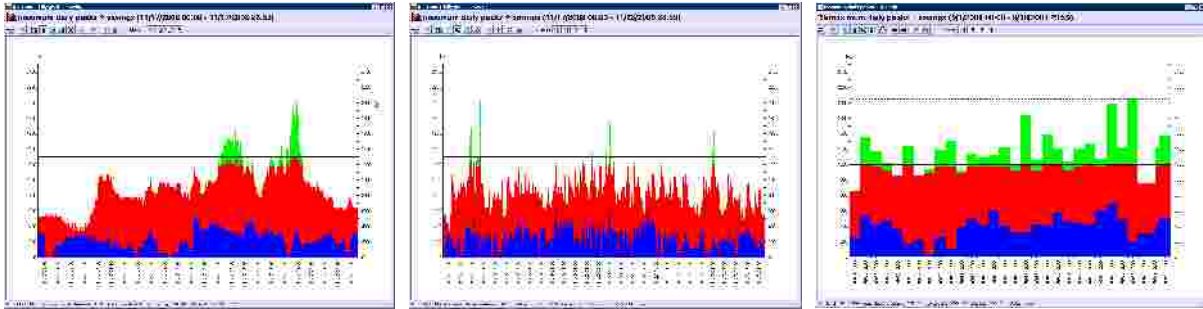
Important to know: The peak is measured in discrete periods of time, 15 or 30 minutes. The energy provider is only billing based on the highest observed period in a month. So a single 15 or 30 minute period determines up to 50% of your overall monthly electrical cost!

Here's how it works: Each furnace in your shop has a temperature controller that signals to the power control unit for heat when it is desired to raise the temperature in the furnace. We place our small dibalog modules between the temperature controller and the power control that reads that signal and either allows the signal to proceed to the power supply or causes it to be changed or decreased in relation to the total peak in your shop at that time. In effect it is a gateway. These dibalog modules all are tied into a dibalog central unit over a bus connection that is watching total power usage and controlling accordingly. No operator interaction is required during the operation of this system.

By controlling when and how much power each heating zone can receive, we can prevent your total peak load from exceeding pre-set limits that would trigger a higher power bill. The delay or reduction in power is typically very short in duration and a very small reduction in power- only as much as is need to accomplish the job. We only do this during the "ramp-up" part of your heating program (if SCR or VRT controlled), so that we do not interfere with the critical "soak" part of your cycle. Other electrical consumers like washers, oil bath, and so on are easier to handle and also can have a big effect in peak reduction.

The system monitors total power usage but does not control other power consuming equipment in your shop such as motors, lights, etc. It is strictly limited to your electrically heated equipment (except induction heated equipment). And since these are generally by far the largest power users, the end result is good control over your peak power usage.

On the following page is an example of actual results from North American customer showing the uncontrolled power (blue), the controlled power (red) and the predicted power (green) that would have resulted without the systems in place. The green part of the curve represents the cost savings.



Daily graph of energy usage

Weekly graph of energy usage

Monthly graph of energy usage

Shown below is an “FM” module that is installed between your temperature controller and the power control. This device communicates with the EOS Central Unit and acts as a gateway to signals driving the power control input. The second picture shows a “GWG” module which is specially used for SCR or VRT power controls.



Field Module FM2



Analog Module GWG

Any improvements from *dibalog*'s research and development department are automatically available over the cost-free software updates we send out 2-3 times per year to our customers.

There is no charge and minimal effort required to find out what a *dibalog* Energy Optimization System specifically tailored for your plant would cost and what the energy cost savings and payback period would be.

This is a very simplified discussion meant to give you an idea of the system and what it can do. We will be happy to assist you in fully evaluating the possible cost savings and payback period for your shop. Getting a quote and cost savings projections is easy. Just let us know, and we'll tell you what is needed.

Best Regards,
 Bob Grammer, Manufacturer's Representative for *dibalog* North America, Inc.

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