

# ENERGY EFFICIENCY & COST SAVINGS...



## Energy Savings:

- Reduced Power Costs.
- Reduced Equipment Wear.
- Reduced Maintenance Costs.
- Energy Consumption Dictated by Process Requirements.
- Better Equipment Conformance.
- Increased Equipment Life
- LEEDS Certified.
- Federal & State Energy Savings Incentives Apply

## Inside this issue:

History, Testing & Results 1

Equipment Performance 1

Domestic Energy Savings Test Data 2

Mercedes Benz Success 3, 4, 5.

Overview of The Technology Consortium 6

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## *Having Your Process Dictate Energy Consumption:*

**History:** Following over four years of international development and installations, The Technology Consortium Limited (TTC) is proud to announce this Energy Savings equipment. TTC successfully installed, evaluated and validated this new technology in a domestic application.

**Operation:** This equipment reduces energy by monitoring and adjusting power based on process requirements.

**Testing:** The Energy Savings control system was installed onto a standard HVAC system. Return air temperature was monitored with a sensor and used to control the equipment. The electrical consumption data was recorded on a HIOKI 9625 energy monitoring device.

**Results:** Testing resulted in a reduction of **32.7% of normal operating Amperage, and a 51.4% reduction of kW consumption.**

This test data as well as other equipment application installations is available for review and evaluation.

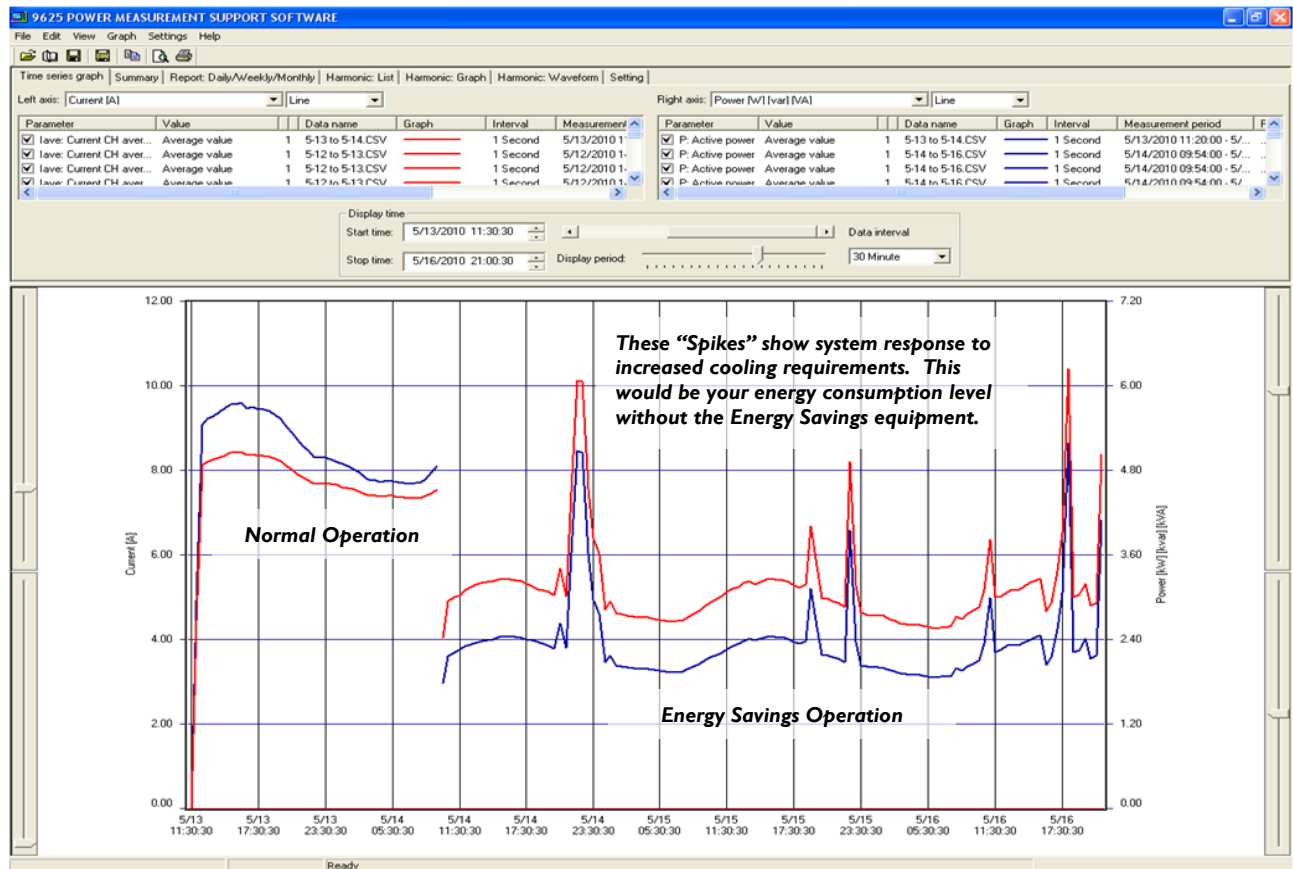


**This patented motor control equipment is an augmentation to existing equipment.**

## *How The Energy Savings Equipment Performs:*

Our patented motor control equipment is an augmentation to existing equipment. No additional changes or modifications need to be performed. We monitor and evaluate motor conditions and requirements and adjust electrical input accordingly. By supplying the optimum amount of power required by the motor, we achieve correspondingly lower energy consumption and cost.

Contact The Technology Consortium, Ltd., [Engineering@4TTC.net](mailto:Engineering@4TTC.net) for additional information, or to schedule a free site/equipment evaluation.



**Actual Energy Savings Equipment Data Gathered from May 13 to May 17, 2010**  
**Normal Equipment Operation (8.177 Amps, 5.492 kW) vs. Energy Savings Mode**  
**(5.201 Amps, 2.337 kW) Resulting in a Reduction of 36.39% of Amperage, as well as a**  
**Reduction of 57.45% of kW Consumption.**



Installation of the Energy Savings Equipment onto a standard (Unmodified) "Carrier" HVAC System

### *Domestic Installation Information.*

**Our Energy Savings Equipment was installed onto a standard "Carrier" HVAC unit. The installation was monitored with an HIOKI 9625 energy data logger as well as other process monitoring devices. Installation data showed a reduction in compressor temperature as well as an elimination of equipment "Start-up" energy spikes. Both conditions reduce mechanical wear. While the energy consumption was significantly reduced, the actual operational area temperature was held to a significantly tighter tolerance.**

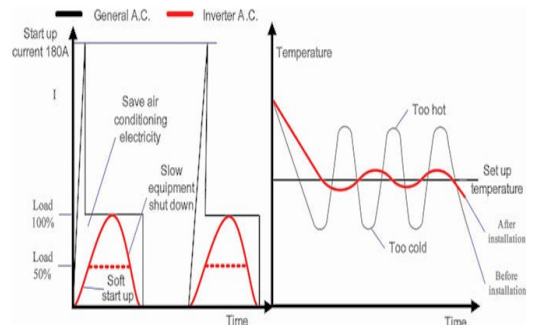
**Mercedes Benz Success**

**This energy saving equipment installation is a secondary chilled water pump in the NanGang office of Mercedes Benz.**

**None of the existing circuits were changed during the installation. We simply added our energy saving system to the original circuit and attached a electric monitoring device for savings measurement.**

**We accurately monitored and recorded the data in real time. As the numbers shown in chart below indicate, the power consumption is considerably lower after installing the energy saving equipment.**

Electricity saving and constant temperature comparison table



Example: 10 HP operation current is around 28A. Start up current is around 183 A.

**This Graphic shows the comparison between Normal and Energy Savings Operation. This Energy Savings equipment also maintains a closer temperature profile as shown in the Temperature Chart.**

**Energy Savings Data: Mercedes Benz**

**Existing Equipment Data:**

<b>Date:</b>	<b>Adv. Temperature °C.:</b>	<b>Average KWH/H:</b>
2009/10/20	23.6° C.	20.37665672
2009/10/21	23.9° C.	20.39646711
2009/10/22	23.3° C.	20.34006716
2009/10/23	22.8° C.	20.32758719
2009/10/24	22.8° C.	20.41683299
2009/10/25	23° C.	20.41010569
2009/10/26	22.3° C.	20.36107925

**Data Following Energy Saving Installation:**

<b>Date:</b>	<b>Adv. Temperature °C.:</b>	<b>Average KWH/H:</b>
2009/11/26	22.8° C.	10.13372534
2009/11/27	22.8° C.	9.995348659
2009/11/28	20.2° C.	9.976651306
2009/11/29	20.2° C.	10.01799515
2009/11/30	18.8° C.	10.03387723
2009/12/1	17.7° C.	9.989688716
2009/12/2	20.4° C.	9.98878626

### **Energy consumption before the installation.**

The total power consumption of these two pumps for the week is 1922.6661 KWH. Average is 274.67 KWH/day and 20.38 KWH/ hour.

<b>Date:</b>	<b>Day:</b>	<b>Running Hours:</b>	<b>Pump Running:</b>	<b>KWH/H:</b>
2009/10/20	Tuesday	Approx. 13.4 hrs	7:11 - 20:35	20.37665672
2009/10/21	Wednesday	Approx. 13.53 hrs	7:13 - 20:45	20.39646711
2009/10/22	Thursday	Approx. 13.4 hrs	7:24 - 20:48	20.34006716
2009/10/23	Friday	Approx. 14.05 hrs	6:38 - 20:41	20.32758719
2009/10/24	Saturday	Approx. 14.43 hrs	7:01 - 21:27	20.41683299
2009/10/25	Sunday	Approx. 12.3 hrs	8:33 - 20:51	20.41010569
2009/10/26	Monday	Approx. 13.25 hrs	7:36 - 20:51	20.36107925

### **Energy consumption after the installation**

The total power consumption of these two pumps for the week is 901 KWH. Average is 128.71 KWH/day and 10.02 KWH/hour.

<b>Date:</b>	<b>Day:</b>	<b>Running Hours:</b>	<b>Pump Running:</b>	<b>KWH/H:</b>
2009/11/26	Thursday	Approx. 12.67 hrs	8:02 - 20:42	10.13372534
2009/11/27	Friday	Approx. 13.05 hrs	7:48 - 20:51	9.995348659
2009/11/28	Saturday	Approx. 13.02 hrs	8:03 - 21:04	9.976651306
2009/11/29	Sunday	Approx. 12.37 hrs	8:27 - 20:49	10.01799515
2009/11/30	Monday	Approx. 12.87 hrs	8:05 - 20:57	10.03387723
2009/12/1	Tuesday	Approx. 12.85 hrs	8:01 - 20:52	9.989688716
2009/12/2	Wednesday	Approx. 13.1 hrs	8:06 - 21:12	9.98878626

### **Efficiency after energy saving system installation**

Before the installation, the two secondary chilled water pumps consumed 20.3755423 KWH/hour. After the installation, the two secondary chilled water pumps consumed 10.01944 KWH/hour. The energy saving is up to 50.8%.

<b>Horse Power:</b>	<b>KWH:</b>	<b>Electricity Cost:</b>	<b>KWH Saving (50%):</b>	<b>Cost Saving per year (50%):</b>
Two 15 HP Secondary Chilled Water Pumps	100,254 KWH / Year	NT \$242,696 /Year (\$7,522.44 USD)	50,127 KWH / Year	NT \$121,348 / Year (\$3,761.22 USD)

### **Conclusion:**

**Our Projected energy saving was 25%, approximately 25,064 KWH/Year.**

**Following our installation and testing, the actual energy saving is 50.8%!**

**Based on this 50% of the energy saving rate, the ROI of the energy saving system is 1.7 years!**

**This ROI does not include any government Energy Savings incentives, or LEEDS (Carbon Reduction) credits!**



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The Technology Consortium; We Manufacture Solutions

### ***We Manufacture Solutions...***

***What keeps you awake at night?*** Do you have a process or equipment that is causing you problems? Maybe you want to increase your profits by decreasing your operational costs. At TTC, we specialize in services and system solutions that:

***Reduce your Manufacturing, Energy, & Equipment Expenditures...***

***Increase your Product Quality...***

***Make your Life Easier...***

***We provide you the most creative & cost effective solutions...***

TTC is an alliance of specialists in many diverse industries

We are able to assist you in all phases of your project

We offer the latest **Energy Reduction Equipment**

Please visit our website at [www.4TTC.net](http://www.4TTC.net) for the capabilities of The Technology Consortium, Ltd.

***We offer the following quality products and services...***

#### ***Energy Reduction Equipment:***

The Technology Consortium Limited (TTC) is proud to announce a new method of reducing energy costs. We have verified client savings between thirty and fifty percent (30% - 50%).

#### ***Automation / Machine Design & Fabrication:***

We offer unique solutions to manufacturing "Difficulties". We are experts at automating and designing solutions for existing and new equipment and robotic assembly systems.

We offer custom equipment and metal fabrication from stainless steel, ferrous, non-ferrous, plated and powder coated metals.

#### ***Industrial and Conveying Equipment & Systems:***

Material handling and conveying systems for both bulk and unit processes. We offer total system design, component selection, fabrication, and installation.

#### ***Thermography, Vibration Analysis, Ground Penetrating Radar***

#### ***Engineering Services:***

We are pleased to offer Engineering Services that encompass all disciplines. We have the experience and abilities to perform everything from simple design/concept studies, drawings, and analysis to full facility and system design and construction.

***Mechanical... Electrical... Structural...***