

The Monroe Igniter



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STRATEGY AND SUCCESS

Matthew Schneider

Several weeks ago I was visited by a sales executive from one of our industries top manufacturers. We had a meeting here in our office and then proceeded to a local restaurant for dinner. Casual conversation predictably turned into business talk and he asked me an interesting question that has been at the forefront of my thoughts since. "Who was the smartest person in the HVAC business?" I didn't know how to answer the question. I guess that I could scour my old text books and research who invented central air conditioning or what manufacturing engineer tinkered with secondary heat exchangers enough to achieve 90+% efficiencies. When I did not offer up a response, he lectured me for a while on his thoughts, but to be honest I had already checked out.

Ever since that dinner, I continually ponder this concept. What individual or organization is or was the "smartest". What giant of industry could I tap to model our business after? You could grab really well known individuals like Henry Ford for inventing the assembly line or Starbucks for convincing people to pay \$5 for a cup of coffee or who could beat Steve Jobs for developing products that people would wait in line for hours and even days to be the first ones to have them. There are many right answers to this question. There are countless individuals and organizations that thought outside of the box and marketed their products in different ways.

While I was contemplating these relatively unimportant concepts, I ran across a documentary piece on CNBC with regards to Costco and the facts presented nearly blew my mind. Costco makes no money on their groceries, even though they are the second largest retailer in the U.S. None. They make nearly no money on any of the items that they sell. Their annual sales cover their direct costs and overhead. Costco developed a business model where their profits come almost exclusively from memberships. They marketed and positioned themselves to consumers in such a manner that people pay them just to buy their goods. Stop and think about that for a second. Consumers pay them to travel long distances, wander around gigantic warehouses, grabbing items off of pallets. A quick stop on Wikipedia and some simple math tells the story. Costco had 71 million memberships

in 2013 at an average price of \$55 a membership for a total of \$3.9 billion in revenue from memberships alone.

So you are probably asking yourselves where I am going with this. So what, we are heating contractors, we aren't Costco. Unfortunately we are not Costco, but Costco is us. They have just recently entered the HVAC arena by offering HVAC systems through every one of their retail outlets and have quickly become an industry leader nationally in HVAC sales. Consumers line up to pay them money in order to be their customers while we struggle to explain diagnostic fees and up front pricing. Do you have a customer that would pay you, just to have access to what you are selling? I know I don't, but I sure want some.

I guess the moral of my sometimes illogical ramblings is that if you feel lost in your business or are struggling with how to grow, think less like contractors and more like retailers. Look around at successful businesses, regardless of the type and ask yourself (or them) what is their secret. There is no silver bullet in business but if you develop a product and market it consistently, intelligently and understandably it will be successful. Just look at the Starbucks and Costco examples. Starbucks convinced consumers to happily pay \$5 for a cup of coffee and Costco convinced consumers to pay \$55 for the opportunity to buy toilet paper in bulk. While outwardly these two corporations are diametrically opposite, their strategies and successes are remarkably similar.



 **3rd Annual**
CABELA'S
PRESEASON EVENT
September 10 & 11, 2014

This year we will be elevating the event by having it at local hunt club/sporting clay facilities. In addition to the vendor displays, we will have new product training from Armstrong Air and Honeywell generators, followed by a sporting clay shoot and open bar.

Although the plans are not 100% final, we intend to be in the Brown County/Fox Valley area on September 10th and at Milford Hills in Watertown on September 11th. Please save the dates. It should be an informative day followed by a little fun!

NEW HONEYWELL AQUAPUMP NOW AVAILABLE

Larry Bellman

The new Honeywell AquaPUMP is now available and in stock at Monroe Equipment. A single AquaPUMP can replace a wide range of competitive models, which means you can handle nearly all retrofits with just one brand.



- Check valve available for all pumps
- Impeller engineered for quieter, more efficient operation
- Stainless steel plate and can for durability
- Threaded conduit connection for quick hookups
- Ceramic bearings and shaft for high corrosion resistance and longer pump life

Watch for other new Honeywell water products coming soon.

HONEYWELL GENERATORS

Matthew Schneider

Monroe Equipment is proud to announce a new partnership with Honeywell and Generac to distribute whole house generators to Wisconsin Heating Contractors. Generac previously provided these products to Wisconsin heating contractors under an exclusive branding agreement with Carrier and Bryant, but when the licensing contract expired, they renewed with Honeywell. The Honeywell brand will be marketed exclusively through Monroe Equipment to heating contractors.

Honeywell generators have three key components that will allow our sales professionals to stand out from the competition:

- #1 Honeywell generators feature an aluminum exterior case to make them less susceptible to rust and corrosion as well as make them lighter for delivery and installation
- #2 Honeywell generators feature a 5-year comprehensive warranty
- #3 Honeywell residential generators come equipped with the Mobile Link Cellular Monitoring System that allows the homeowner to check the status of their generator or receive vital messages with regards to their home power status to their cell phone, tablet or computer

Everyone at Monroe Equipment is excited about this new partnership. There will be training and marketing opportunities coming soon. Please see your territory manager for further details.

OSHKOSH BRANCH

DOG DAYS OF SUMMER EVERY WEDNESDAY

JUNE 18TH - AUGUST 27TH, 2014

FREE Hot Dogs, Chips, Soda and Water!

ELECTRICITY - VOLTAGE DEVIATION

Ken Jung

Wires are hooked up, disconnect is closed to power up the equipment, everything is up and running. Then a week later a call comes in, “The unit you just installed isn’t working.” Out to the job site and that brand new air conditioner already has a compressor that failed...hmmm?

Did you ever check the voltage and amp drawn when the system was first commissioned? Was this information documented or written down anywhere for future reference? Did the electrician pull the proper size wire for the equipment that was installed? Was the voltage within tolerance and measured to be within the specifications listed on the manufacturer’s rating label?

Voltage deviation along with voltage and current unbalance can play a huge role in the proper operation or pre-mature failure of compressors and motors (i.e.: blower motors, both 1Ø & 3Ø). This article will address the proper ways to measure and assess voltage deviation along with voltage unbalance and current unbalance in single and 3-phase applications.

A specific voltage must be applied to force electron movement though the load it is attached to. A voltage variation of +/- 4% is the maximum allowed deviation between power legs... L1 to L2 on single-phase or between L1, L2 & L3 on three-phase power applications.

Single-Phase power: Measure voltage to ground - L1 to Grd, L2 to Grd; take the lowest reading x 4%. Next, subtract the smaller voltage measured from the larger measurement. The voltage difference must be less than the 4% calculation.

Example 1: Single Phase Power

L1 to Grd measurement of **117 vac** (lowest voltage)
L2 to Grd measurement of **123 vac**

$$117 \times 4\% = 4.68 \text{ vac}$$

$$123 - 117 = 6 \text{ vac}$$

In this example the voltage deviation of 6 vac exceeds the calculated value of 4.68 vac and **is not** acceptable.

Three-Phase power: Measure voltage to ground on all three legs - - L1 to Grd, L2 to Grd, L3 to Grd; take the lowest reading x 4%. Next, subtract the smallest voltage measured from the largest voltage measured. The voltage difference must be less than the 4% calculation.

Example 2: 3-Phase Power

L1 to Grd measurement of **115 vac** (lowest voltage)
L2 to Grd measurement of **122 vac**
L3 to Grd measurement of **124 vac**

$$115 \times 4\% = 4.60 \text{ vac}$$

$$124 - 115 = 9 \text{ vac}$$

In this example the voltage deviation of 9 vac exceeds the calculated value of 4.60 vac and **is not** acceptable.

Example 3: 3-Phase Power

L1 to Grd measurement of **121 vac** (lowest voltage)
L2 to Grd measurement of **122 vac**
L3 to Grd measurement of **124 vac**

$$121 \times 4\% = 4.84 \text{ vac}$$

$$124 - 121 = 3 \text{ vac}$$

In this example the voltage deviation of 3 vac is less than the calculated value of 4.84 vac and **is** acceptable.

Next, evaluate Voltage Unbalance. Voltage unbalance is similar to voltage deviation, but is measured across the power legs rather than to ground. The American National Standard for Electric Power Systems and Equipment ANSI C84.1 recommend that “electric supply systems limit the maximum voltage unbalance to less than 3% when measured under no-load conditions at the service disconnect.” **Most utilities stress that any unbalance greater than 2% is not acceptable.**

Electricity - Voltage Deviation Continued from page 3

Unbalances greater than 1% may contribute to unsatisfactory motor or compressor performance.

To calculate voltage unbalance, first measure the voltages between each phase (L1 – L2, L1 – L3, L2 – L3) and record the data. Next, calculate the average voltage based on the three values measured. Third, subtract the measured voltages from the average. (re-arrange the numbers so that all values are positive numbers)

The % Unbalance is the maximum unbalance divided by the average voltage x 100. This value can be no greater than 3%.

Example 4:

L1 to L2 measurement of **215** vac
L1 to L3 measurement of **221** vac
L2 to L3 measurement of **224** vac

$$\frac{215 + 221 + 224}{3} = \frac{660}{3} = 220$$

$$\begin{aligned} 220 - 215 &= 5 \\ 221 - 220 &= 1 \\ 224 - 220 &= 4 \end{aligned}$$

5 volts is the maximum unbalance

% unbalance = $(5 / 220) \times 100 = 2.27 \%$
This unbalance is larger than 2% and **is not** acceptable.

Example 5:

L1 to L2 measurement of **219** vac
L1 to L3 measurement of **221** vac
L2 to L3 measurement of **224** vac

$$\frac{219 + 221 + 224}{3} = \frac{664}{3} = 221.3$$

$$\begin{aligned} 221.3 - 219 &= 2.3 \\ 221 - 221.3 &= .3 \\ 224 - 221.3 &= 2.7 \end{aligned}$$

2.7 volts is the maximum unbalance

% unbalance = $(2.7 / 221.3) \times 100 = 1.22 \%$
This unbalance is less than 2% and **is** acceptable.

The main effect of voltage unbalance is motor winding damage from excessive heat. A voltage unbalance can cause a current (amp draw) unbalance that is 6 to 10 times the value of the voltage unbalance. The current unbalance creates the heat in the motor windings that breaks down motor insulation causing damage to the motor and premature failure. The graph below shows the percentage of temperature rise as related to the voltage unbalance. The relationship is exponential and increases by approximately twice the square of the percent the voltage unbalance.

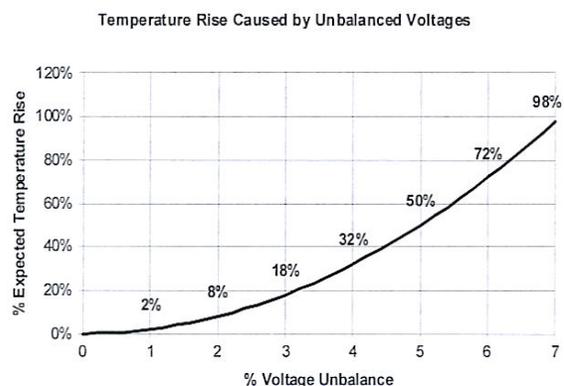


Figure 1: Percent Temperature Rise Due to Voltage Unbalance

Always perform and follow proper manufacturer start up and commissioning procedures.

A small difference in voltage, which has a direct effect on current draw and motor winding temperature, can have a significant effect on the overall proper operation, customer satisfaction and longevity of the equipment.

GETTING TO KNOW YOU

Barb Ortlieb

He's back! Some of you might remember Terry Royer, who previously worked at Monroe Equipment in the 90's. After moving to Oshkosh, the drive back to Menomonee Falls got to be too long so Terry took another job closer to home. When Monroe opened a second branch in Oshkosh, he was offered a position, which was a perfect fit for him since he lives just minutes away. We are happy to have him and his cheery disposition back.



Terry Royer

Terry has been working in this industry since 1988 when he got a job through a friend at Auer Steel. He started in the "will call" area and worked his way up to inside sales. Over the years he moved around and worked at a few different companies and found himself at Monroe for the first time in 1994.

Terry has a cat "Bleu", enjoys grilling out and drinking craft beers. Something interesting I learned about Terry...he won a seed spitting contest with a record spit of 30'? Wow!

Music has been a huge influence in his life also. Terry collects CD's, records (especially rare and out of print pieces) and music related equipment. He has about 4,000 CD's and 200-300 records. His most prized possessions are a CD autographed by Slayer guitarist Jeff Hanneman and the whole Beatles collection on vinyl.

If you haven't stopped in at the Oshkosh branch, now would be a great time to stop and see the new branch and say "welcome back" to Terry.

Up Coming Events

- JULY 16, 2014 - Oshkosh
DOG DAYS OF SUMMER 11 a.m. - 1 p.m.
- JULY 23, 2014 - Oshkosh
DOG DAYS OF SUMMER 11 a.m. - 1 p.m.
- JULY 30, 2014 - Oshkosh
DOG DAYS OF SUMMER 11 a.m. - 1 p.m.
- AUGUST 6, 2014 - Oshkosh
DOG DAYS OF SUMMER 11 a.m. - 1 p.m.
- AUGUST 13, 2014 - Oshkosh
DOG DAYS OF SUMMER 11 a.m. - 1 p.m.
- AUGUST 20, 2014 - Oshkosh
DOG DAYS OF SUMMER 11 a.m. - 1 p.m.
- AUGUST 27, 2014 - Oshkosh
DOG DAYS OF SUMMER 11 a.m. - 1 p.m.
- AUGUST 30, 2014 - Menomonee Falls
Parts CLOSED for Labor Day Weekend
- SEPTEMBER 1, 2014 - Menomonee Falls & Oshkosh
CLOSED for Labor Day
- SEPTEMBER 10, 2014 - CABELA'S PRESEASON Event
Fox Valley Area (Details coming soon!)
- SEPTEMBER 11, 2014 - CABELA'S PRESEASON Event
Milford Hills - Watertown (More details coming soon!)

The Monroe Igniter is a quarterly publication created exclusively for customers of Monroe Equipment, Inc.



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