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**August 2021**

**THE NEWSLETTER FOR THE MICHIGAN AG INDUSTRY**

## **FINDING A SILVER LINING**

While we are accustomed to challenges, the first half of 2021 will be remembered for a multitude of factors that have influenced our business. Weather, politics, and a pandemic top the list.

The impacts of the covid pandemic on the supply chain and associated price increases have been felt all too often since we turned the page from 2020 to 2021. A warm dry spring moved up field work and planting schedules across our state. Continued dry weather started the watering season well ahead of schedule.

The recent spike in commodity prices has added to optimism about investing in equipment and infrastructure for operations. Capital costs have remained low, but with a change in the Whitehouse, increased fear of inflation is prevalent. Continued government unemployment benefits have reduced workers seeking employment.

What does this mean for Michigan Valley Irrigation? We have high demand for product that is later than usual arriving. There has also been interest in watering beyond our historical customer base. This means we have more work, a tighter window, and an unforgiving spring for potential drought related crop stress.

As with farming, there are things we cannot control. Working closely with our customers for many years we know well what you folks are doing; Digging in and getting to work. Thank you for putting your trust in Michigan Valley, and may your crops prosper in 2021!

**JOHN M. MCGEE**  
**PRESIDENT**

# **VFD'S FOR FARM APPLICATIONS / BENEFITS OF THE MAGIC WHITE BOX**

Mike Jeske From Electro Power, LLC here. We have had the privilege of being MVI's VFD (Variable Frequency Drive) partner for over 10 years. I thought I'd take the time to share some well-known and some lesser-known benefits of VFDs in the AG world.

If we are all doing our job out here, it's common knowledge that VFDs are able to create Three-Phase power where only Single-Phase power exists in the field. The other popular attribute is the VFDs ability to control the motor speed based on water demand and reduce your energy consumption, more importantly LOWER YOUR POWER BILL! For those whose knowledge stops there, let's dig deeper.

A relatively inexpensive device called a transducer, communicates water pressure to the VFD with an electrical signal. The VFD compares that signal to a target pressure programmed in. A pump/motor set has to be sized for greatest potential demand. Lowest head level, highest pivot elevation point, greatest flow requirement, etc. Much of the watering time is spent in less than the maximum demand, yet without a VFD, the motor can only be run at full speed using full energy consumption. When the VFD lowers the speed of a motor/pump, the energy draw drops quickly. Following the affinity law, a speed reduction of only 5% saves nearly 15% of energy. Here's the math:

**5% speed reduction = 95% usage**

**Affinity law for centrifugal loads-  $.95 \times .95 \times .95 = 85.7\%$  of energy used**

**10% speed reduction = 90% usage**

**Affinity law for centrifugal loads-  $.90 \times .90 \times .90 = 72.9\%$  of energy used**

**Over 29% energy savings!**

Depending on power cost, peak demand charges, and other factors, many VFD installations have paid for themselves from 1-5 years just by the electrical savings alone. The nature of a VFD design provides automatic power factor correction (PFC) too. For those unfamiliar, PFC ensures that the power of the motor's energy consumption is done so as efficiently as possible by making almost all of the power "usable". Add to that, many power companies have rebate programs to help offset your investment due to lower peak power use and reduce motor start up demands.

Alternately, when water demand becomes so great that full speed cannot get the job done, a VFD allows the motor to be pushed beyond its design point in many cases. It will cost more energy in that scenario, but your field can get the water it needs.

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Mechanically, since a VFD can manipulate speed, your motor can be started at a crawl and slowly rise to the speed needed. This both avoids the “in-rush” current a motor typically experiences. Without a VFD, the motor draws 300-700% of its rated amps during a startup. That burst of current is hard on the motor windings. That slow speed incline also introduces water into the pipeline much more gently, reducing physical stress on your pivot at startup.

A VFD even uses its technology to carefully watch the electrical status of a motor more closely than circuit breakers and overloads, so it can warn you that problems are starting to show. This can lead to a less costly repair as opposed to a more catastrophic event that went unnoticed.

I hope I managed to demystify that fancy computer box a little here today. If you have any other questions on the topic, the team at MVI is among our most elite Authorized Service Partners, so they can clear up anything or reach out to me anytime.

**MIKE JESKE**  
**GENERAL MANAGER FOR ELECTRO POWER, LLC**



**ABOUT THE AUTHOR**

Mike has been in the industry over 18 years with extensive experience ranging from field service, panel design, training, sales engineering and several others.

**MICHIGAN VALLEY IRRIGATION** | **Come out and see us!**  
**will be exhibiting at the** | **August 17-18**  
**AGRO EXPO!** | **Booth #E609**

**EMPLOYEE SPOTLIGHT**

**Jordan Honsinger** began working summers for Michigan Valley in 2010. Since his early days on the build crew, he has done extensive layout and design work along with other sales support functions. Now fully involved in a sales role, he is responsible for projects from concept to completion. Jordan graduated from Saginaw Valley State University with a business degree in 2016. He is an avid sports fan and enjoys hunting and golf in his free time.



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# MVI Newsletter Summer Edition 2021



# ACT NOW

THE PROMO ENDS AUGUST 31<sup>ST</sup>!

## NEW SPRINKLERS = MORE EFFICIENT + BETTER UNIFORMITY

MVI will help you update with **25% off** and a chance to win a free package!



\*This promo ends **August 31st**.



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