



## Department of Tourism and Special Events

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TO: The Honorable Mayor and City Council

FROM: Doug McCarty, Director of Tourism and Special Events

DATE: April 9, 2019

SUBJECT: Variable Frequency Drive for Well Pump w/Ameren Incentive

**DISCUSSION:** These Drives are a system used on pumps that prolongs the pump life and saves energy by matching the amount of pressure needed with the demand. The current system does not have a way to properly regulate the pressure of the water causing line breaks due to pressure spikes, unnecessary energy usage and wear on the pump. Ameren is currently running an incentive program for purchase of VFD devices. The current incentive is \$125 per Horsepower (up to 80% of project cost). That equates to an eligible incentive of \$6,250 (see below). Final project cost after incentive will be \$3,377, paid in the 2019-20 budget from Grounds Maintenance. This Drive will provide a payback from energy savings and fewer line break repairs. There is also an Ameren Early Completion Bonus of 10% if the project is completed by June 30. There were two other bids (Laser Electric - \$10,662.43) and (AMP Electric - \$11,975).

**RECOMMENDATION:** Approve the purchase of the VFD in the amount of \$9,627 from Specialized Services.

Technical Information		Incentive
Manufacturer	Pentair	\$125 per hp (up to 80% of project cost) (A)
VFD Model Number	Nema 1	Calculated Incentive (A)x(B)
HP Controlled by VFD (500 hp max) (B)	50	\$6,250
Annual Operating Hours (minimum 2,000 hrs)	3,000	Incentive cap : Capped at 80% of the VFD total cost (materials and labor.) 80% x (C) \$7,048.00
Sensor below: <input type="text"/>		<b>Eligible Incentive:</b> (Lesser of Calculated Incentive and Incentive Cap) \$6,250.00

**RESOLUTION NO. 1819-157**

**East Peoria, Illinois  
\_\_\_\_\_, 2019**

**RESOLUTION BY COMMISSIONER \_\_\_\_\_**

**RESOLUTION APPROVING PUMP EQUIPMENT UPGRADE FOR  
IRRIGATION SYSTEM AT EASTSIDE CENTRE**

**WHEREAS**, the current well and irrigation system at EastSide Centre does not have a way to properly regulate the pressure of the water within the system, which causes line breaks from pressure spikes, as well as unnecessary energy usage and wear on the system pump; and

**WHEREAS**, Variable Frequency Drives (“VFD”) prolong the life of pumps and save energy by matching the amount of pressure need with the demand; and

**WHEREAS**, EastSide Centre Officials seek the installation of a VFD and associated equipment to prolong the life of the irrigation system pumps at EastSide Centre, thereby saving energy consumption by the irrigation system pumps, providing proper regulation of water pressure within the irrigation system, and reducing wear on these pumps and potential line breaks within the irrigation system (the “VFD Upgrade Project”); and

**WHEREAS**, Ameren is currently offering an incentive program for the purchase of VFD devices; and

**WHEREAS**, City Officials have obtained bids for the VFD Upgrade Project; and

**WHEREAS**, the City received the lowest responsible bid from Specialized Services (“Specialized Services”) for the VFD Upgrade Project in the amount of \$9,627.00; and

**WHEREAS**, the estimated Ameren incentive for the project is \$6,250.00, resulting in an estimated total project cost of \$3,377.00 for the VFD Upgrade Project; and

**WHEREAS**, the City seeks now to accept the lowest responsible bid for the VFD Upgrade Project from Specialized Services as specified at “Exhibit A” (the “Low Bid”), attached hereto and incorporated herein by reference;

**NOW, THEREFORE, BE IT RESOLVED BY THE COUNCIL OF THE CITY OF EAST PEORIA, TAZEWELL COUNTY, ILLINOIS, THAT** the Low Bid from Specialized Services for the VFD Upgrade Project at EastSide Centre is hereby accepted and approved, and the Mayor or his designee is hereby authorized and directed to enter in a contract with Specialized Services for the Low Bid together with such modifications therein as the Mayor in his discretion may approve; provided, however, that the City shall have no obligation under the terms of this Resolution until an executed original of the contract for the Low Bid has been delivered to Specialized Services.

**APPROVED:**

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Mayor

**ATTEST:**

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City Clerk



**Specialized Services**  
1422 Lake Santa Fe Dr.  
Metamora, IL. 61548

Phone: (309) 657-6600  
jkeyser@mtco.com

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*Irrigation Technical Services - Irrigation Pumping Systems*

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Joel Rieker  
East Side Sports Centre  
1 East Side Drive  
East Peoria, IL. 61611

02/07/2019

## ***60 HP Irrigation Pump VFD Quotation***

### **Features:**

VFD Drive for 60 HP - 460 VAC in NEMA 1 Enclosure  
Output Power Filter V1K80A03 in NEMA 3R enclosure  
Pressure Transducer 4-20ma / 0-250PSI

**Total Quotation (Materials Only) \$8,571.00**

### **Labor:**

Price includes start-up, programming, pressure transducer installation, and pressure regulation valve modifications. Does not include VFD and Power Filter installation

**Total Labor Quotation \$1,056.00**

### **Notes:**

The heaters on the existing motor starter are 72 amps. That is why we have quoted a VFD for a 60 HP Motor. The Output Filter reduces the spikes that VFD Drives create to prolong motor life. The Pressure Transducer will be installed by existing pressure gauge. The pressure tank is still required for VFD applications. The Cla-Val pressure regulation valve will be left installed, but disabled.

Please contact me with any question.

Sincerely,

Jim Keyser  
309-657-6600

*This Quotation is valid for 30 days. Please add State Sales Tax if applicable.*



PENTEK INTELLIDRIVE™

# A POWERFUL DRIVE MADE SIMPLE

PENTEK INTELLIDRIVE™ XL



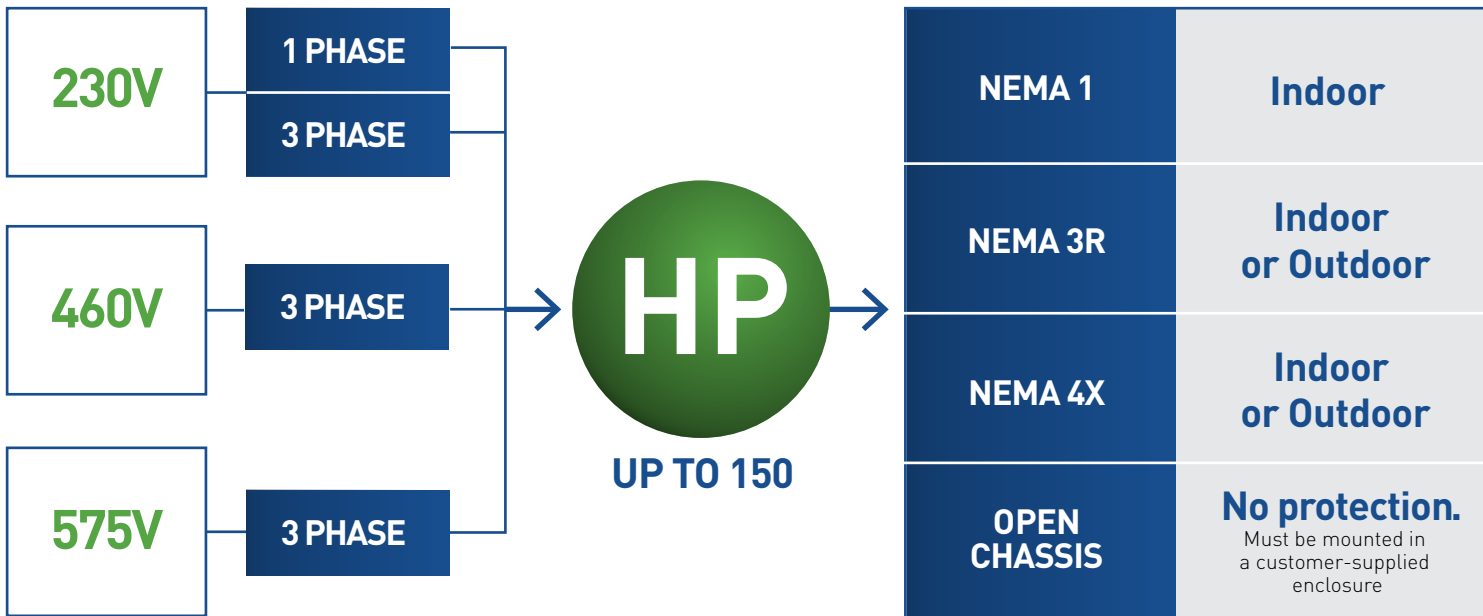
**XL** EXTRA POWER UP TO 150 HP  
EXTRA APPLICATIONS

# AN EASY WAY TO MANAGE WATER AND ENERGY

Pentek Intellidrive™ XL, the latest addition to our line of our variable frequency drives, is designed for large horse-power pumping applications. Selection is easy. Setup is simple. And you have powerful opportunities to customize as needs arise. All backed by expert, dedicated tech support, available to quickly and efficiently resolve any issues.

## SELECTION IS EASY

By knowing these four simple details, we've made it easy to select the drive that's right for you.



### SIMPLE SETUP

All it takes is a handful of simple steps and your drive is up and running for single pump, constant pressure applications.

## PUMP AND MOTOR SETTINGS

Above/Below Ground • Horsepower • Voltage, Current • Nominal Speed

## SYSTEM LEARNING

No Load • Sleep • No Flow

## READY TO GO!

That's it. The drive is now ready to use. Following those simple steps to configure your system has you ready to move to the next job.

# XL EXTRA POWER UP TO 150 HP EXTRA APPLICATIONS

## A DEGREE OF PROTECTION FROM:



HAZARDOUS PARTS



FALLING DIRT



HAZARDOUS PARTS



FALLING DIRT



WINDBLOWN DUST



RAIN



SNOW



SLEET/STORM



ICE



HAZARDOUS PARTS



FALLING DIRT



WINDBLOWN DUST



RAIN



SNOW



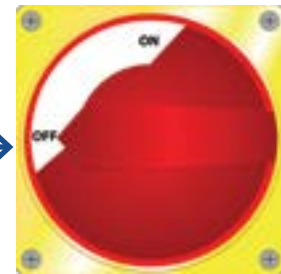
SLEET/STORM



SPLASHING HOSE DIRECTED



ICE



OPTIONAL FUSED DISCONNECT SWITCH

## MORE WAYS TO CUSTOMIZE

The offering is simple. Yet, you have plenty of ways to customize when you dig into the programming and the applications available. You can create the right drive for your needs. Configure drive details like multi-pump control, lead/lag operation, enclosure types, filters, communication methods, and various I/O options.



### DEDICATED TECH SUPPORT

With Pentek Intellidrive XL, you get a knowledgeable sales force and team of application specialists specifically dedicated to helping you. We want to make your experience a profitable one. You'll get your questions answered quicker and get up and running sooner.

Now it's simple to get a powerful drive. Visit [BerkeleyPumps.com](http://BerkeleyPumps.com) to view additional documents.



## HIGH LEVEL SPECIFICATIONS

Below is a list of high level specifications for the Pentek Intellidrive™ XL. The drive is designed to be used on submersible pumps with lead lengths up to 1,000 feet and with above ground pumps. Standard set-up is for constant pressure. However, the Pentek Intellidrive XL may be custom programmed for constant pressure, constant flow and level control. With a wider variety of applications, enhanced sleep mode, protection against dry runs, overcurrent and over pressure, the Pentek Intellidrive XL is the one drive to meet all of your needs.

<b>Power Ratings</b>	1 Phase 230V – 7.5 to 30 HP
	3 Phase 230V – 1 to 60 HP
	1 Phase 460V – 10 to 50 HP
	3 Phase 460V – 1 to 150 HP
	3 Phase 575V – 1 to 150 HP
<b>Enclosure Types</b>	IP20 Open / Chassis
	NEMA 1
	NEMA 3R
	NEMA 4X
<b>More Standard I/O</b>	Digital Inputs – 6
	Analog Inputs – 5
	Pulse Inputs – 2
	Digital Outputs – 2
	Analog Output – 4
	Relay Output – 2
<b>Communication</b>	Includes Modbus RTU. PROFIBUS, DeviceNet, PROFINET, EtherNet/IP, Modbus TCP available
<b>Other</b>	Real Time Clock Battery Back-up

**SELECTION IS EASY. SETUP IS SIMPLE.  
MORE WAY TO CUSTOMIZE. DEDICATED TECH SUPPORT.**

Now it's simple to get a powerful drive.

Visit **BerkeleyPumps.com** to view additional documents.

Be sure to see your Pentair sales professional for information on how to develop specification details on a drive that meets your needs.



293 WRIGHT STREET, DELAVAN, WI 53115 WWW.BERKELEYPUMPS.COM

PH: 866-973-6835 ORDERS FAX: 800-321-8793

Because we are continuously improving our products and services, Pentair reserves the right to change specifications without prior notice.

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