



Serving the Pacific Northwest

PumpTech Pipeline

Providing Knowledgeable Solutions

Cornell Names PumpTech Its Top Industrial Distributor

Cornell Pump Company

(Clackamas, Oregon) has named PumpTech its number one industrial pump distributor in the US. Cornell manufactures a wide line of clear water, solids handling, hot oil and food processing pumps for numerous industrial applications.

Mike Shoemaker, PumpTech's Industrial Products Manager, accepted the award at the annual distributor's meeting in Chicago. Our industrial sales team covers Idaho,

Oregon and Washington and focuses on the food processing, petrochemical, oil & gas, lumber, pulp & paper, power generation, and aluminum industries.



In addition to Cornell, PumpTech represents a number of other manufacturers of specialty industrial products. Congratulations to our industrial sales team !

PumpTech Named NW Master Distributor for Grundfos

Grundfos Pumps (Olathe, Kansas) has selected PumpTech as the Pacific Northwest master distributor for its Grundfos Dosing line of chemical metering pumps.

The product line includes a wide range of diaphragm metering pumps with flows to 1050 GPH and pressures up to 3000 PSI. Grundfos Dosing pumps offer a variety of metering technologies including digital dosing. Digital dosing pumps utilize stepper-motors that allow 1000:1 turn

down. In addition to dosing pumps, Grundfos offers a complete line of measurement & disinfection equipment including one of the best chlorine generators on the market.



Per this agreement PumpTech will stock \$100,000 of Grundfos Dosing pumps to support sales in the Pacific Northwest. This inventory will be centrally located in our Canby, OR branch and will allow quick delivery to other distributors, end users, and OEM's. Additionally, this inventory will support our MeterMan division which manufactures chemical metering systems in our Canby facility and functions as the Grundfos Key Systems provider for the entire western United States.



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Washington State Parks Lift Station Replacements

The Washington State Parks system is in the process of replacing a number of its antiquated lift stations with new ones built by PumpTech's Hydronix division in Canby Oregon.



Ed Smith (PumpTech Moses Lake) worked with engineers Tony Rapozo and Erik Folke out of the Wenatchee office to provide systems that would allow easy replacement and maintenance. Hydronix 180 series, UL listed, self priming stations were selected for most of the projects.

The 180 series stations are completely prefabricated and include pumps, piping, valves and controls which are all mounted in an above ground, gull wing vault. They allow complete accessibility and maintenance without the hassle of confined space entry. In addition, they can be mounted directly on top of the existing wet well. Our Canby facility has two, full time, design engineers who are licensed in Washington and Oregon. The state of the art manufacturing facility has the space and workforce to handle many projects concurrently. The photo at the bottom of this page shows the replacement in progress at Sun Lakes State Park.

To date, PumpTech has delivered stations for Meyers State Park, Lake Osoyoos State Park, Sportsman State Park, Sun Lakes State Park and Mary Hill State Park. These stations handle inflow from both restrooms and RV sites.

The pictures below show a recently installed packaged station at Mary Hill State Park. A second one is currently in production in Canby.



Astoria Energy Circulation Skid

SNC Lavalin is an international engineering and construction company and a major player in the power generation market. Their involvement in phase two of the Astoria Energy Project (NY), included pumping systems for a new 550MW natural gas fired power plant.



In addition to submitting bids for several Meterman chemical injection skids, Scott Bush (Meterman Manager) convinced SNC Lavalin to let PumpTech design and build a packaged, 24,000 GPM cooling water circulation system. The system included two 800 hp / 12,000 GPM Peerless pumps, 24" suction & discharge manifolds, valves, fittings and an integrated pump house.

The project was a challenge due to cross country shipping restrictions and the size (base 21' X 37') and weight (120,000 lbs) of the finished product.



PumpTech's engineering team designed a system

base that was split down the middle. On each section one pump & motor, half of the suction and discharge manifolds and half of the building were installed. The two halves were joined together at the job site. The entire system was delivered and installed in June and a successful startup was performed in early July.



Ammonia Injection Skids

EPI (Energy Products of Idaho, Coeur d'Alene) is a "waste to energy" company that specializes in fluidized bed combustion, gasification and thermal oxidation technologies that are used in steam generation and heating applications. They are also a valued customer and have standardized on our Meterman packaged systems.



Fluidized bed combustion uses air jets to suspend solids during the combustion process and results in a large increase in combustion efficiency especially when fuels of high moisture content are used. Biomass is a high moisture content fuel and during the combustion process high volumes of sulfur dioxide (SO₂) and nitrogen oxides (NO_x) can be a byproduct of energy production. In fluidized bed systems, limestone is injected into the bed to reduce the formation of SO₂ while ammonia is

injected into the vapor area to reduce NO_x.

One of the popular Meterman skids used by EPI is an ammonia injection system that reduces NO_x levels through a process known as Selective Non-Catalytic Reduction (SNCR). In this process various nitrogen oxides are converted into molecular nitrogen through interaction with ammonia gas. One of the EPI units is pictured on the right.

These UL listed systems are designed for harsh conditions and are constructed entirely of stainless steel. They are also thoroughly tested prior to shipping from the PumpTech manufacturing facility in Canby.



Alberta Oil Sands Skids

SAGD or “Steam Assisted Gravity Drainage” is the technique used to harvest thick, “tar like” oil from the famous Oil Sands in Alberta Canada. It consists of a pair of horizontal wellbores with one located some distance above the other. Low pressure steam is injected into the upper bore which lowers the viscosity of the oil thus causing it to drain into the lower bore where it can be pumped to the surface.



BDR Engineering, located in Calgary, is intimately involved in the oil sands industry and is also a valued Meterman customer.



Recently BDR ordered 15 , multi-

pump injection skids for a new project at the Algar Divide SAGD facility in Northeastern Alberta.



Flows ranged from 1 to 28 GPD and pressures ranged from 29 to 1000 PSI. Products pumped included phosphates, polymers, reverse emulsion breakers, filming amines, DEHA, caustic and demulsifiers. The pictures show several of the designs ordered by BDR.



Maintenance Tips

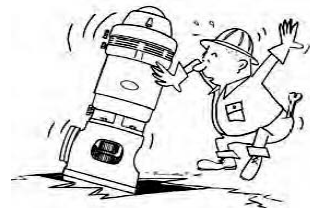
“Building a Solid Foundation’ Part 2

Ed Smith, PumpTech Moses Lake

In part 1 we discussed the importance of proper base plate design. Once the right base plate for the application is selected, the foundation that supports it is the next important design consideration.

The foundation should be sufficiently sized to absorb any vibration and permanently support the base plate at all points. This is essential to maintaining alignment and stability. The foundation should be made of reinforced concrete and should be 3-5 times the weight of the complete pump. It should be poured well in advance of the base plate installation to allow for proper curing. Foundation anchor bolts should be embedded in the concrete and located by using a drawing or template. Anchor bolts sizing and selection will be discussed in further detail in Part 3.

The base plate should be secured to the concrete foundation with an epoxy or cementitious grout. An epoxy grout is preferable and will bond to the concrete foundation with a tensile strength of 2000 psi, which is significantly greater than concrete. The base plate is effectively transformed into a monolithic structure with the concrete foundation dampening vibration and assuring alignment. Epoxy grout will also seal the concrete, preventing damage from moisture and lubricants. It has 8 times the damping effectiveness of concrete and 30 times that of steel.



In conclusion, a well designed pump base and foundation should have the required rigidity to withstand the axial, transverse and torsional loading associated with the rotating equipment. This will assure that there will be minimal problems associated with alignment and vibration.

Pump Ed 101– Calculating Energy Savings and Payback

By: Joe Evans, Ph.D

There are several ways to reduce energy costs in pumping applications. The first and probably most important is the application design. Well designed systems are usually far more efficient than poorly designed ones. Also, increasing pump hydraulic efficiency at the H/Q point reduces the BHP required and a reduction in BHP reduces the energy per gallon pumped. Motor efficiency can also have a significant impact. Increased motor efficiency reduces the energy required to produce a particular BHP. When taken together, application design and wire to water efficiency can significantly reduce electrical consumption.

That said, there are times when pump efficiency can take a back seat to other important issues. For example, the efficiency of a 4" vortex or recessed impeller sewage pump can be 25 points lower than a standard 4" non-clog pump with a similar flow and head (see my Aug 07 Pumps & Systems** article for more information on the features of vortex pumps). But , if plugging is a constant problem and you have to pull that non-clog weekly, your maintenance costs will far exceed the increased power cost of the vortex pump.

But, lets get back to the importance of efficiency. Below is a screen shot of my Excel based energy calculator that is available for download from the "Pump Sizing & Selection Tools" section of my educational web site PumpEd101. It will allow you to evaluate the electrical consumption of various pumps with the same motor, various motors with the same pump, or various combinations of each. It also provides a simple "payback" analysis when you compare two different pump and motor combinations.

After you enter the required data, the calculator will produce a number of results including BHP required, wire to water efficiency, cost and KW consumed per thousand gallons pumped, and the annual energy cost. When you compare two different pump / motor combinations and enter the cost of each, the calculator will produce a simple payback analysis that displays annual savings and payback in years. Although a present value analysis may be needed in some instances, simple payback will usually provide the information you need to make a good selection decision.

www.PumpEd101.com ** www.pump-zone.com
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Wire to Water Energy Calculator					
REQUIRED DATA	PUMP 1	PUMP 2			
Pump Operation - Hours / Day	8	8	Note: When comparing two pumps, place the lower efficiency pump/motor in the Pump 2 column.		
Pump Operation - Days / Year	365	365			
Pump Flow - GPM	1000	1000			
Pump Head - Feet	88	88			
Pump Efficiency - %	80%	74%			
Motor Efficiency - %	94.1%	87.5%			
Energy Cost in \$/KWH	\$0.10	\$0.10			
RESULTS			PAYBACK		
BHP At Design Point	27.8	30.0	Annual Savings - \$\$	\$1,045.73	
Wire to Water Efficiency - %	75%	65%	Annual Savings - %	13.99%	
Annual Energy Cost	\$6,430.28	\$7,476.00	Cost of Pump 1	\$9,000.00	
KW Per 1000 Gallons Pumped	0.367	0.427	Cost of Pump 2	\$7,200.00	
Cost Per 1000 Gallons Pumped	\$0.037	\$0.043	Payback - Years	1.7	

PumpTech – Moses Lake



PumpTech's Moses Lake (PTM) Industrial office opened in 2003 when Mike Shoemaker came on board. Mike operated from home for the first year and then from a small office leased from a wholesale plumbing operation in downtown Moses Lake. Ed Smith moved to Moses Lake from Colfax, WA to take advantage of the synergy of combining both Municipal and Industrial sales within one office. With steady growth over the next two years, PumpTech began construction of its own office, shop and warehouse in 2007 and moved in in April of 2008.

Jason Green and Nathan Stark round out the staffing by providing inside sales support and logistics for PumpTech Inc throughout the Northwest.

The facility houses a state of the art training center that provides on-going education for municipal and industrial engineering, operations and maintenance personnel. All courses are approved for CEU credit in Washington. The City of Moses Lake Maintenance & Engineering staff participated in our first formal training session.

Municipally, PTM is the sales and service center for Eastern Washington, Idaho and Western Montana.

Industrially, it is the headquarters for all PumpTech operations throughout the Northwest as well as the industrial service center for Eastern Washington, Eastern Oregon, Idaho, and Western Montana.

PTM is the largest stocking distributor for Cornell products and was recently recognized as the #1 Industrial Distributor for 2009. PTM also inventories product manufactured by Yamada, Gorman Rupp, Goulds, Peerless, Moyno, Abel, Durco, John Crane, Jabsco, Flowserve, Wilden, VerderFLEX and Pulsafeeder.



PumpTech PumpChat

From the President's Desk

During our 24 years of being in business, PumpTech has been best known for its knowledge and experience with large municipal pumps, particularly deep well turbine pumps. We are proud to say that our pumps provide drinking water to many of the Northwest cities and suburbs as well as fish hatcheries and industries. When PumpTech first started much of the ground water that was pumped was untreated and not chlorinated. As time passed we saw more and more chlorination equipment installed on the ground water we pumped and more filtration and treatment on the surface water systems we pumped. Over the years we have seen the chlorination systems go to using liquid hypochlorite, to gas and back to liquid and then to on site generation of low concentrations of hypochlorite, commonly known as OSGC which stands for On Site Chlorine Generation.

With our source water pumping experience and our overall knowledge of domestic and industrial water systems it was a logical step for us to expand our offering and services to cover the dosing pumps that provide the much needed additives to preserve and protect our drinking water. In order to supply this expanding market PumpTech acquired Meterman Pump Systems of Longview WA in 2004 and retained the original founder, Scott Bush, as the VP of the Meterman division. Meterman was known for building quality dosing pump packages for industrial and municipal service. Since 2005 we have provided dosing pump packages to various water districts and industries throughout the NW as well as the Midwest & East Coast of the United States, Canada and the Middle East.

In this edition of PumpTech Pipeline you will see articles about our dosing pump systems as well as our expanding relationship with Grundfos Dosing pumps to become a master distributor for the Grundfos dosing & disinfection products for the NW. In addition to the dosing products that Grundfos is known worldwide for they also offer a complete line of disinfection equipment and analyzers as well as equipment to generate on site chlorine or chlorine dioxide (CLO₂). Our recent success in securing the order for the first Grundfos Selcoperm, on site chlorine generation system in the U.S., puts us well on our way to becoming one of the premier suppliers of both dosing and disinfection equipment in the NW.

Over the years our pumps have literally pumped billions of gallons of high quality, pristine water for domestic consumption and industrial use to help manufacture the goods we all use and need. With our expanding relationship with Grundfos dosing and disinfection products we look forward to helping our communities and industries preserve the quality of our drinking water as well as our environment.

It is an exciting journey and we look forward to working with the Managers, Operators, Engineers and Service Technicians that are entrusted to provide us with quality drinking water and preserving our environment.

Doug Davidson ddavidson@pumptechnw.com

PumpTech Team Spirit Award

From time to time, an employee will stand out amongst their peers as a positive role model and valuable part of our company. It's nice when we can acknowledge people that go above and beyond in making our workplace a productive and enjoyable environment. **Sarita Buck** started her employment with PumpTech / Hydronix back in November of 1999. She started as a



receptionist and over the years has worn every hat we've asked her to wear. Receptionist, AR, AP, order entry, inventory control and now her latest roll in PumpTech's purchasing department. Sarita has always been someone her co-workers can count on to shed a positive light on the day to day life at PumpTech. She is someone management can count on to be there when times are tough and we need that extra effort. She eagerly volunteers to help coordinate activities and events at the PTO office. All of her efforts are very much noticed and appreciated. That is why Sarita is the recipient of PumpTech's Team Spirit Award!!! Congratulations Sarita!!!

Chris Suskie - Operations Manager

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PumpTech Pipeline

A Publication of



Upcoming PumpTech Participating Events

- 8/23 - 8/25 Umpqua Short School, Roseburg
- 9/15 - 9/17 WASWD Conference, Spokane
- 9/15 - 9/16 WETREC Training, Spokane
- 9/21 - 9/22 City of Spokane Training, Spokane
- 10/2 - 10/6 WEFTEC 2010, New Orleans
- 10/5 - 10/7 WETREC Training, Moses Lake
- 10/24 - 10/27 PNCWA Conference, Bend
- 11/18 - 11/20 Pacific Marine Expo, Seattle

