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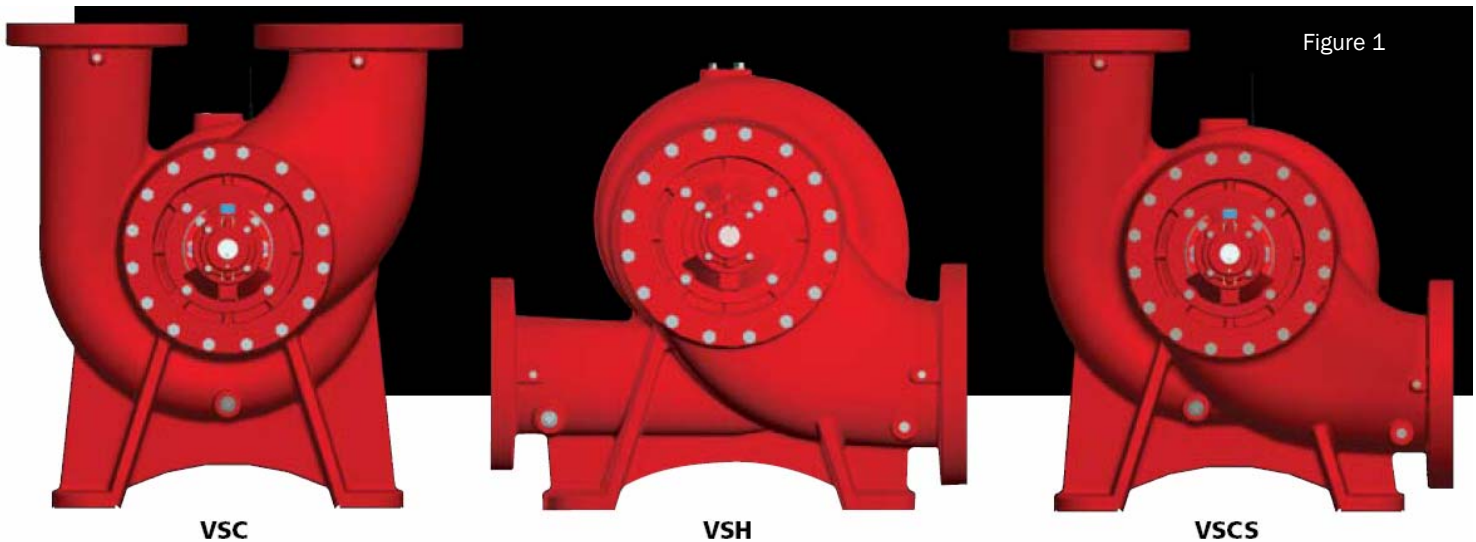
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Since 1929

MULCAHY MINUTE

ENGINEERED FLUID HANDLING AND HVAC SOLUTIONS

**YOU SAID YOU NEEDED ONE PUMP THAT DOES IT ALL
INTRODUCING THE REVOLUTIONARY VSX PUMP
BY CHRIS CROTTEAU**



How to build a better mouse trap...or at least a better pump. And you designed it!!

Bell & Gossett started a quiet revolution about three years ago when they started researching and planning to improve their Vertical Split Case (VSC) pump. To say that I was a little skeptical about why or how B&G was going to improve this industry leading pump is an understatement. This pump already seemed to have it all, and yet they wanted to make it better?

So how do you start the process of re-designing the best pump on the market? B&G started with a clean sheet of paper and then went out and asked over 300 consulting/specifying engineers, contractors, building managers, wholesalers, distributors, and other industry experts around the world what features were most important to them. The following were the most frequent and highest ranking needs that the surveyed group came up with:

- Pumps capable of efficiently meeting today's hydraulic requirements
- Design versatility to accommodate different piping layouts
- Smaller footprint
- Speedier Installation
- Pumps that are more forgiving of misalignment, miss installation, and capable of variable speed operation
- Inexpensive remote pump monitoring capability
- Maintenance free

With this information in hand they turned it over to their engineers and with the help of Computational Fluid Dynamics and a bank of computers they came up with the VSX.

- The new VSX was designed for the capacities of today's chillers and cooling towers, as well as heating applications. They didn't just push extreme velocities through the same 50 year old pump volute to get something that would "work." Rather they matched the capacity and typical head pressure of real world data to the sweet spot of the pumps.

- B&G designed their VSX such that once you select your model based on the required conditions, you can then decide how you would like the suction and discharge flanges to be orientated. This allows you to keep the foot print down while still matching up to your piping layout requirements (See Figure 1.) A selection of the VSC model presents the smallest pump footprint available. No need to take a 100 horsepower motor and put it vertically in the air...unless you have a vendetta to settle with maintenance personnel (See Figure 2.)

- The base plate was designed to the Hydraulic Institute's Class A. This means that you do not need to grout the base. Some competitors will tell you that you don't need to grout their bases, but not according to what the Hydraulic Institute would tell you for their base design. This robust base design also allows for some piping loads on the flanges.

- B&G also improved the coupler from past designs where the new configuration is made up of two hubs and an axially split urethane element. This coupler can actually handle up to 1/8" parallel offset, and is unaffected by VFD operations.

- B&G developed the Watchman Wireless System to monitor critical pump information. This predictive system automatically collects, trends, and displays data that can be used to avoid downtime and service calls. The Watchman System can monitor inboard and outboard pump bearing temperature and vibration, RPM, Pump suction or discharge pressure, as well as inboard motor bearing temperature and vibration. This data is then sent wirelessly to a communication module that relays it to a secure data storage facility. Alarm settings can be set such that the end-user can be notified via cell phone, pager, or email that there may be a problem. The data can also be reviewed anywhere in the world via the internet. This plug and play system can be ordered with the pump, or added in the future with ease.

- The standard mechanical seal is one-piece unitized silicon carbide, and is suitable for 300 F out of the box.

- The new design has maintenance free bearings. No more forgetting to grease the bearings on start-up, over-greasing, or mixing of grease. B&G has incorporated the use of a Polyrex grease that can handle high and low temperatures and is resistant to washout and condensation.

The current offering of the VSX is flows to 15,000 GPM, with head pressures to 310 feet. Working pressure is currently 175 psi or 300 psi, and fluid temperatures from 0 to 300 Fahrenheit. The next phase coming in the near future will increase the flow rates to 18,000 GPM, head pressures to 450 feet, and working pressure to 400 psi.

Bell & Gossett's new VSX pump also continues to use the key features that you have come to expect from the industry leader.

- Standard equipment includes a true ANSI and OSHA coupler guard that protects users from the rotating element completely.
- An enlarged and tapered seal chamber provides more flow across the seal than standard internally flushed pumps. This keeps debris clear from the seal faces and also allows the seal to run cooler and extends seal life. Texas A&M confirms in an independent study that an enlarged and tapered seal chamber provides the best environment extended life of a mechanical seal. Most older pump designs still in use today were designed for use with packing which required a non-tapered shaft to hold the packing in place. The non-tapered shaft should only be installed with external flush lines.

The bottom line is we have "The world's first double-suction, split-case pump designed by YOU." Well done....you did a great job.

Come see this truly revolutionary pump at ASHRAE in Chicago on January 23, 2006, or you can get more information at the following web page: <http://www.bellgossett.com/productPages/Commercial-Pumps-VSX.asp>

