

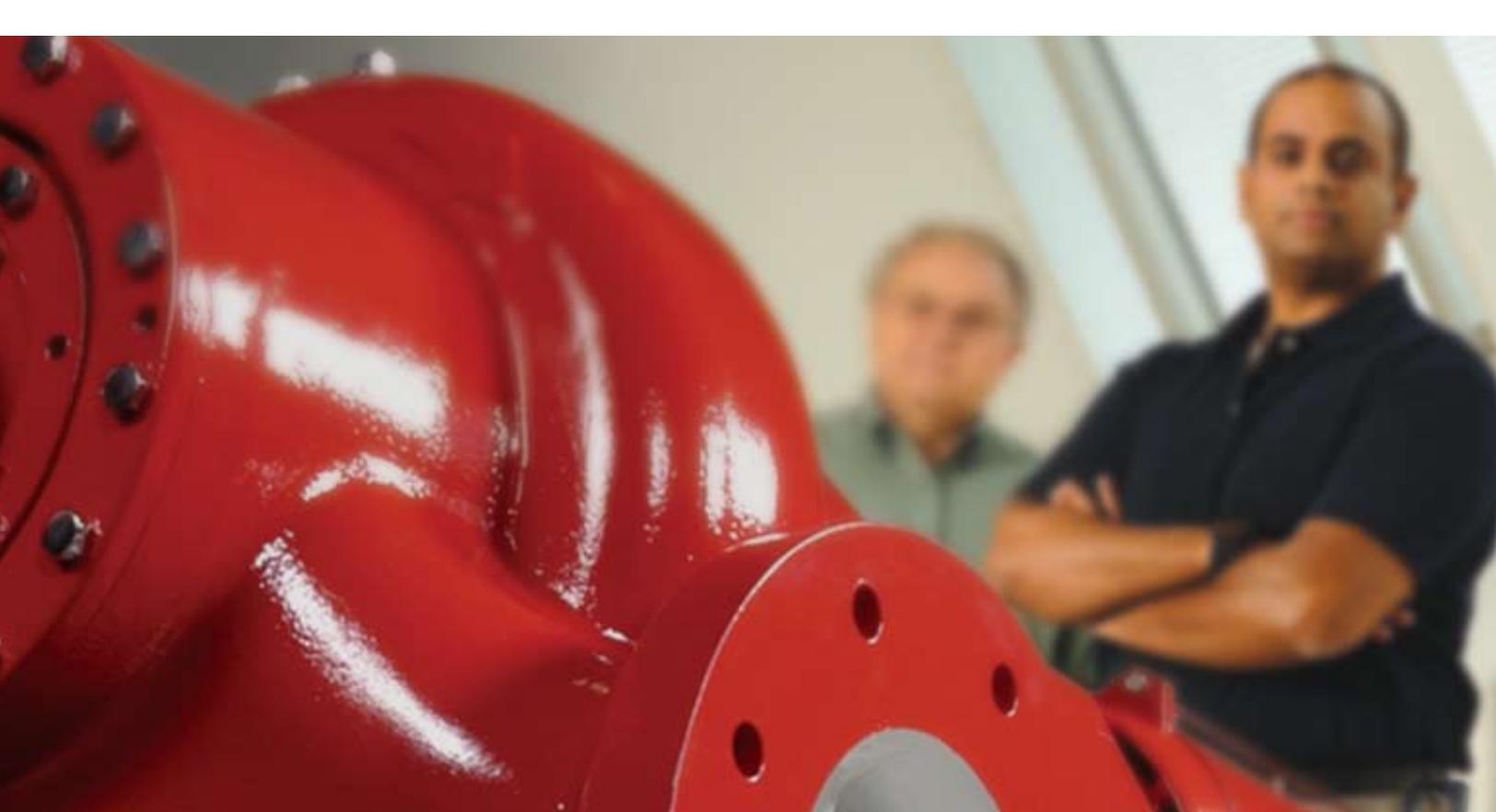
The world's first  
double-suction,  
split-case pump  
designed by you.

# VSX<sup>®</sup>

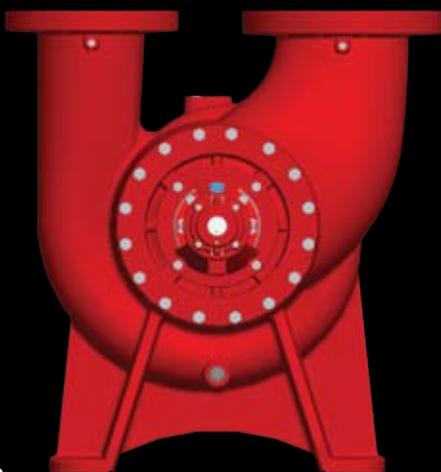
Revolution X is here.

BX-875

 **Bell & Gossett**  
a xylem brand



**YOU ASKED FOR  
THE IMPOSSIBLE.  
SO WE BUILT IT.**



VSC



VSCS



VSH

At Bell & Gossett, we have over 88 years of experience in designing pumps and knowing how they work in complex systems. But when it comes to the challenges specifiers and contractors face every day in the field, no one knows pumps better than our customers. So when we began designing our new VSX pump, we knew we needed to talk to the experts. **We needed to talk to you.**

## **We took a revolutionary approach to design.**

**We listened to you.** You told us what you wanted: a truly innovative pump. One that saves space, is highly efficient and installs easily. You asked for advanced hydraulic design, total reliability and enough flexibility to suit nearly any application.

Our new VSX platform retains the innovative and time-proven space saving VSC design. The VSC model has reduced your pump room footprint by up to 40% when compared to traditional split-case and vertical inline pumps. The time-proven VSC design now becomes even better within the new VSX platform. The high-efficiency VSX hydraulic design and robust construction deliver proven Bell & Gossett reliability, and the unique platform design provides complete installation versatility. Simply select your hydraulic requirements and then pick any one of three different suction and discharge flange orientations that best suit your installation requirements. In short, VSX is everything you asked for, and then some.

## **Here's what you told us.**

“Mechanical room space keeps shrinking. I need one pump that can provide me with the flexibility to meet my space challenges.”

“We want a pump that was engineered using today's technology, not something that was designed 40 years ago and adapted for today's uses.”

“Serviceability and minimal downtime are important to us in our operations. Simplicity of maintenance is absolutely our number one issue.”

“Labor is the only item I can control, so installation time is critical to me.”

“Hydraulic performance and efficiency are the key points that we look at when selecting the right pump to match up with the chillers and towers. Why can't we have a pump that runs at 1750 RPM but acts like it is at 1150 RPM to match up with our real-world application requirements?”



# You asked for a completely new hydraulic design. We gave it to you.

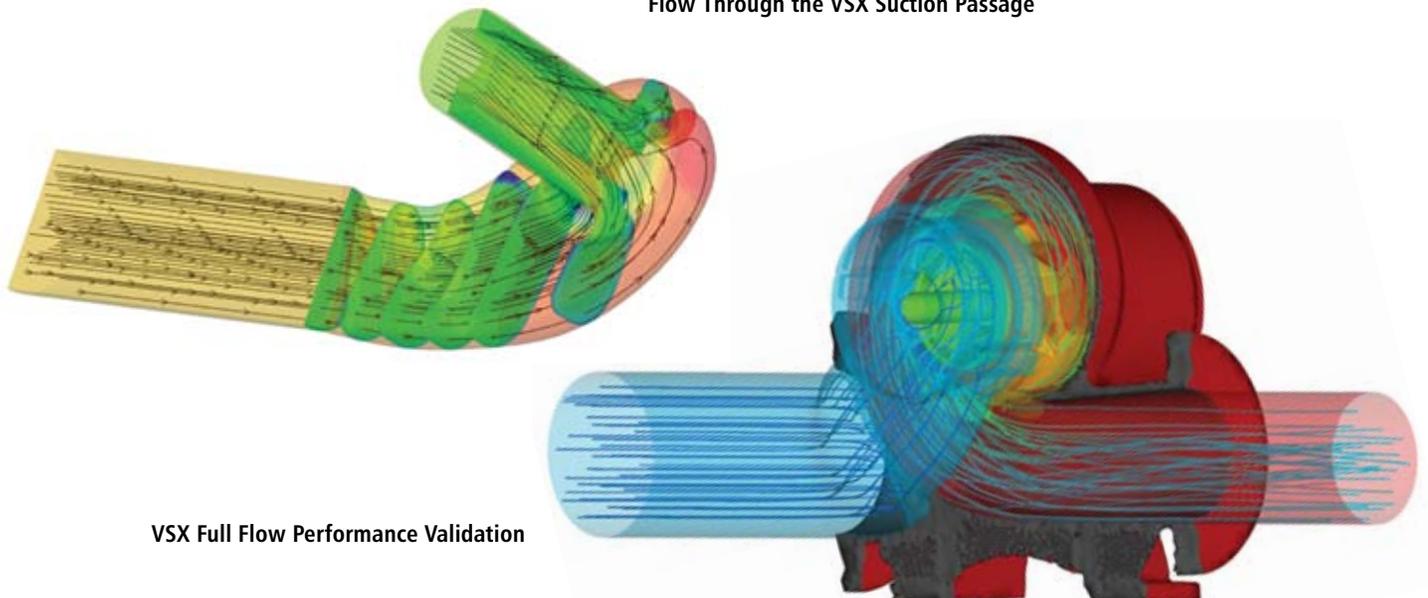
Until now, pump flow in traditional split-case pumps was maximized in the industry by pushing extreme velocities through the same 50-year-old pump volute.

Today, hydraulic design begins with the end requirements in mind. When we engineered the VSX platform, we started by identifying your chiller, cooling tower and general pumping requirements. We matched the best efficiency points (BEP) to common chiller and tower sizes, and normal industrially-specified flows and head conditions.

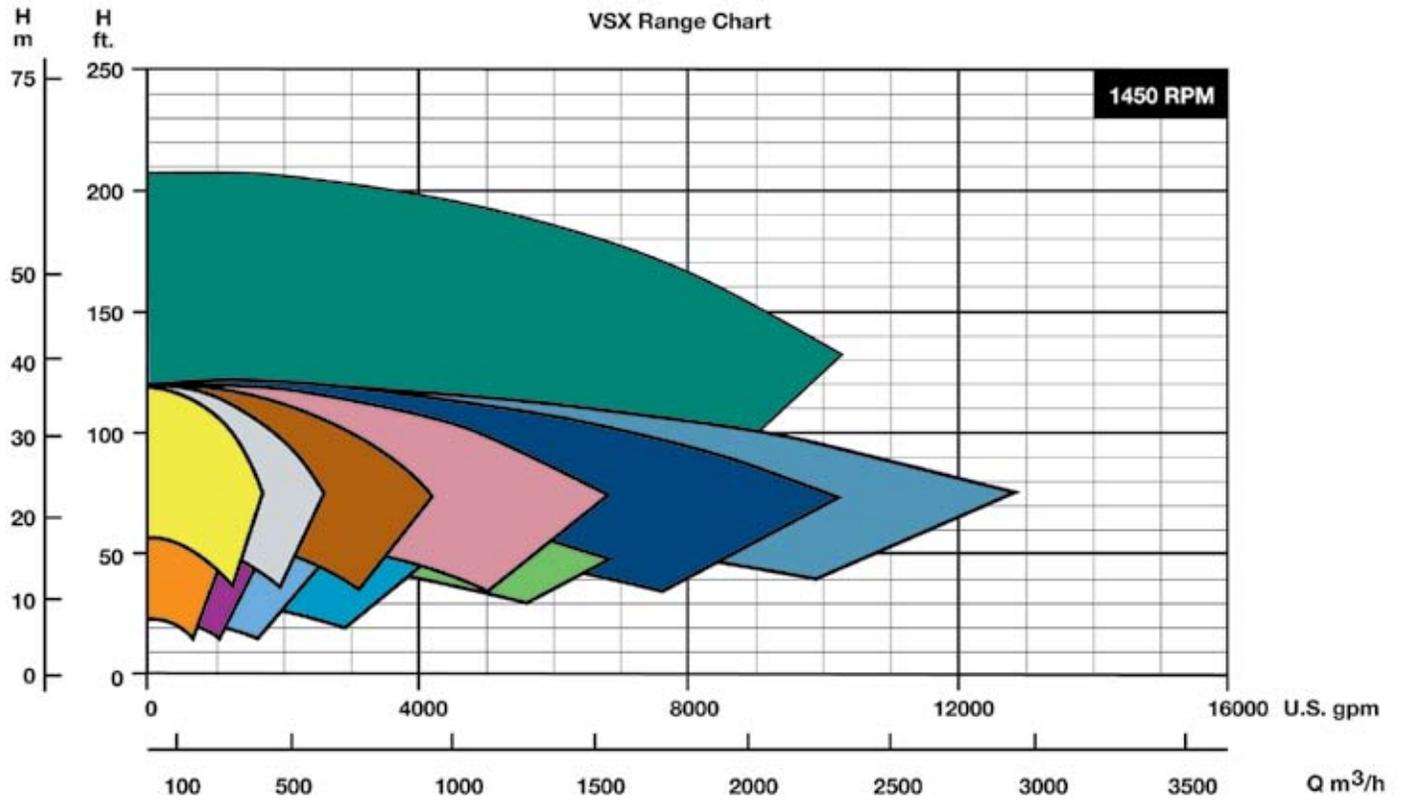
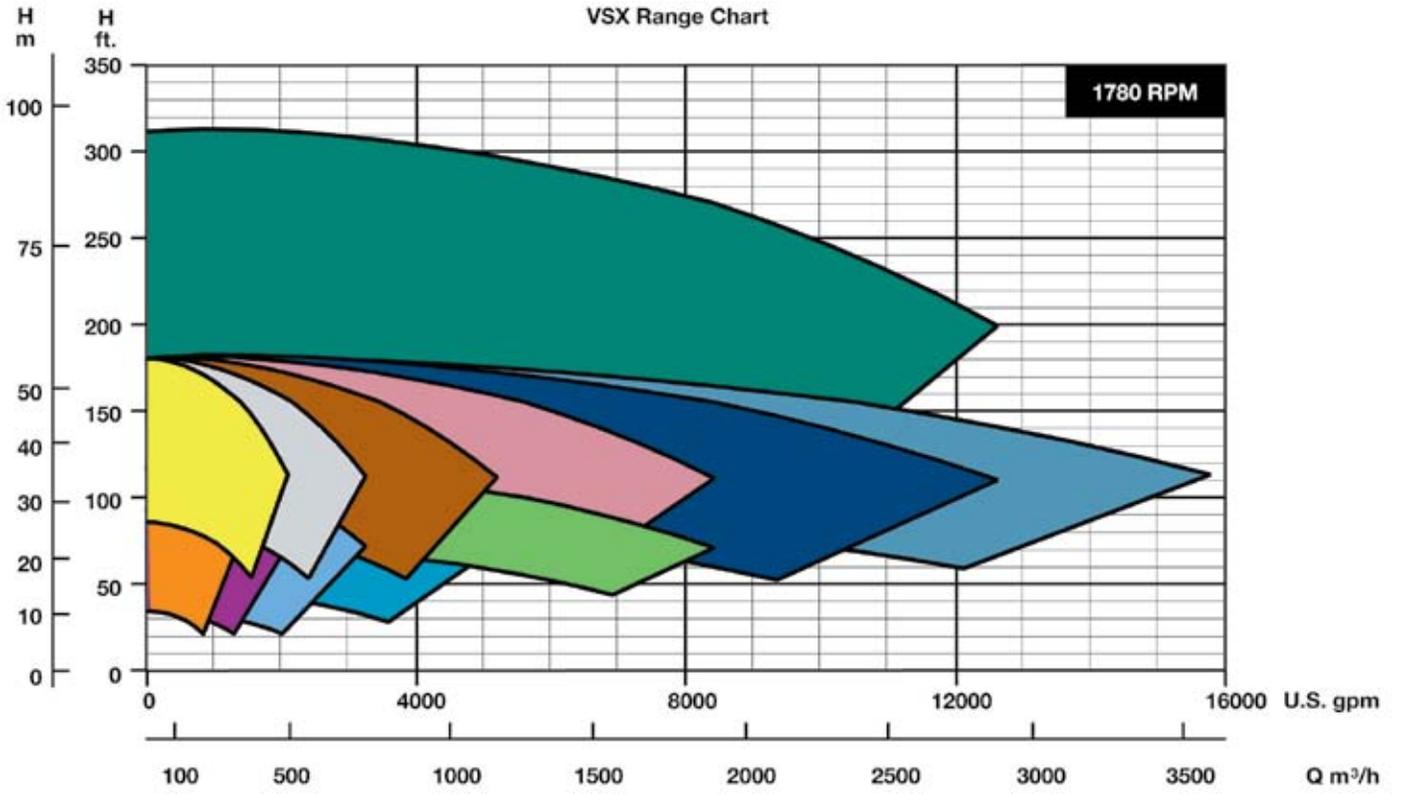
We took our tried-and-true design methods and digitized them by simulating the pumps using Computational Fluid Dynamics (CFD). CFD is no simple task; it takes a bank of 18 computers up to 30 hours to solve equations for just one hydraulic analysis. By using this technique, you can actually see the flows and pressures like never before. Where our engineers once relied solely on years of experience, CFD helps out by letting them see exactly what's going on inside the pump. They can analyze several different design ideas rapidly to bring the optimal design to the table for every pump, whether it is in the VSC, VSH or VSCS flange configuration.

- **Hydraulic coverage to meet all your design requirements**
- **Flows from 500 to 15,000 GPM / 114 to 3410 m<sup>3</sup>/h**
- **Heads from 30 to 310 feet / 9 to 94 meters**
- **Working pressures of 175 and 300 psig / 12 and 20 Bar**
- **ANSI flange ratings of 125# and 250#**
- **Temperature 0 to 300° F / -17 to 148° C**

Flow Through the VSX Suction Passage



VSX Full Flow Performance Validation

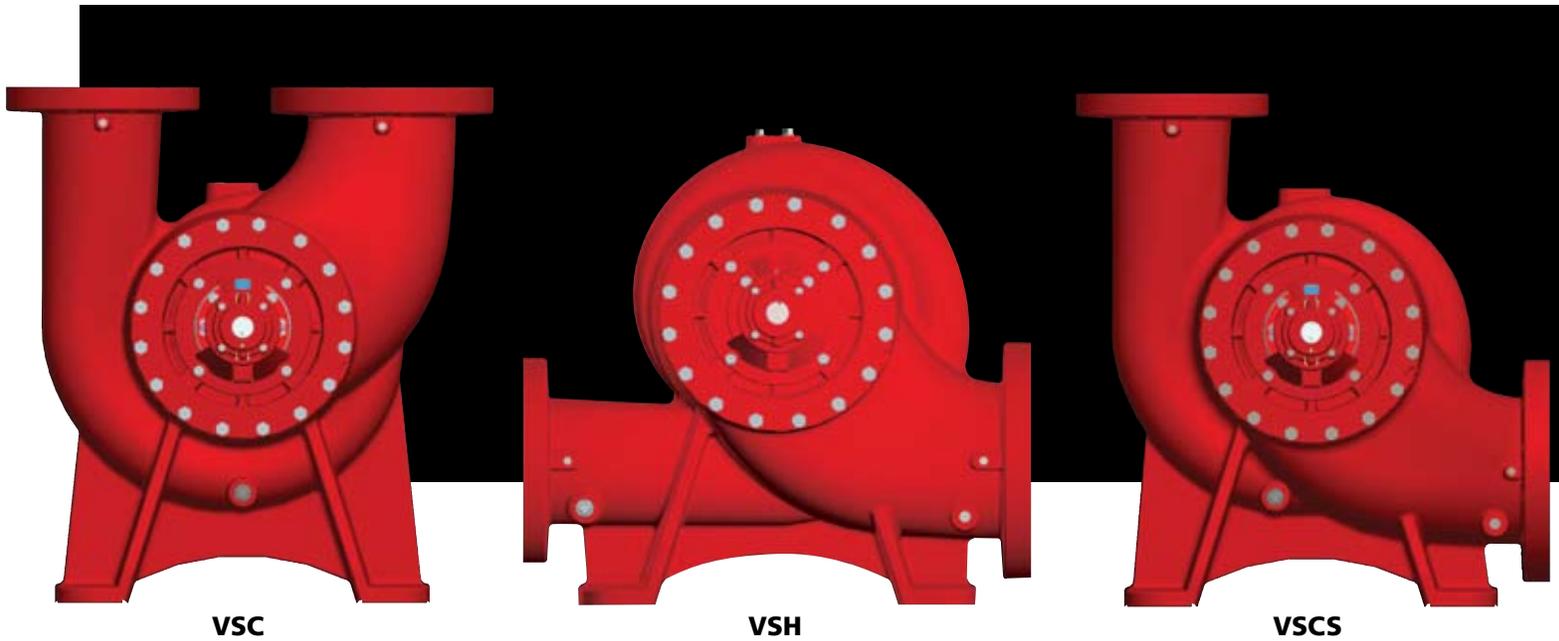


# You said you needed one pump that does it all.

When it comes to the VSX platform, our revolutionary approach to hydraulic design is just the beginning. This one-of-a-kind pump has what it takes to make your job easier, simplifying installation and minimizing service.

## Multiple suction and discharge flange orientations.

Only the VSX platform offers so many installation options, thanks to its revolutionary design. Using CFD technology, we can deliver identical performance in any flange configuration. The result is that you can maximize your piping possibilities and meet a broad hydraulic range for chillers, towers, distributive and general pumping requirements.



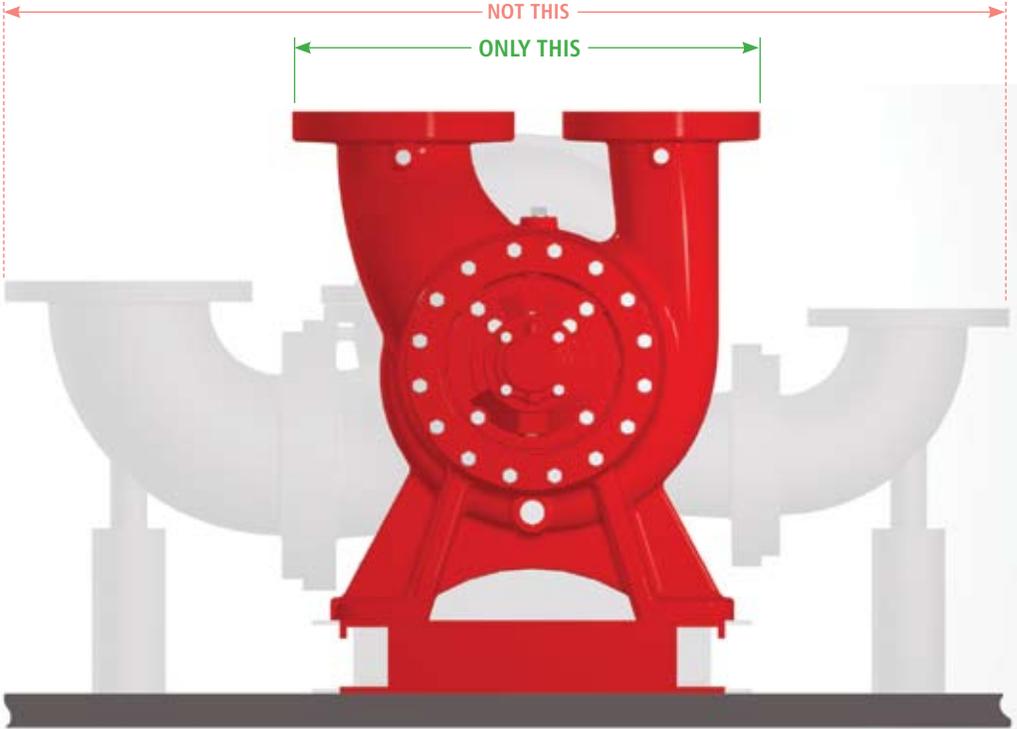
## Vertical Static Flange Loading

The vertical split-case volute design of the VSX provides optimum nozzle loading capability that others just can't match. In the vertical flange configuration (VSC model), the pump flanges easily support the weight of heavy piping directly on its nozzles. The pump flanges sit directly under the load – right where it's needed the most – without impairing pump operation.

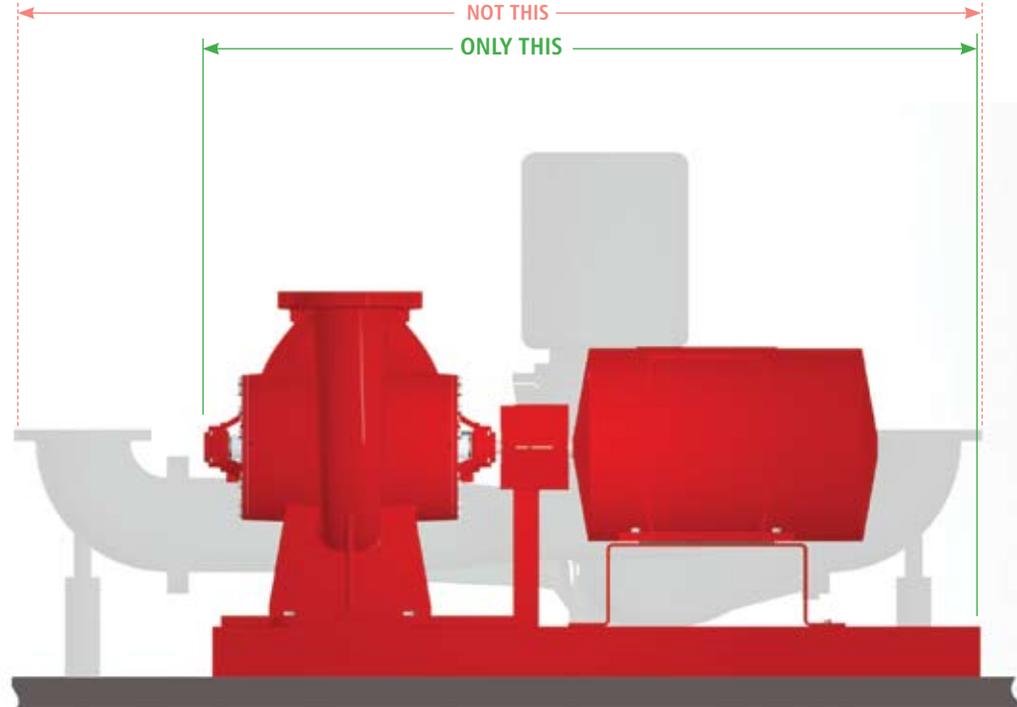


# Space-Saving Footprint

VSC lets you reduce the overall equipment footprint by up to 40 percent over horizontal double-suction and large inline pumps with the VSC configuration. The VSC pump optimizes the advantages of vertical piping applications by eliminating the space-robbing elbows, protruding accessories and pipe supports.



VSC Versus Traditional Horizontal Split-Case Pump



VSC Versus Traditional Vertical Inline Pump



# You were looking for simplicity So we found it.

One of the most remarkable things about the new VSX pump is how easy it is to install and maintain. Based on your input, we looked at every component of our pumps with the goal of streamlining and simplifying. Our goal: to make your life easier.

## Simplified Service

**A** No rigging or heavy-duty material handling equipment is necessary to gain access to the bearing, mechanical seals or shaft sleeves. Unlike older horizontal double-suction, split-case and larger vertical inline pumps, there are no heavy top casings or motors to lift off, saving cost, reducing risk and providing easy access to the rotating assembly.

The VSX platform makes bearing, mechanical seal and shaft sleeve inspection easy. The VSX design makes these components readily accessible from both sides of the pump, so that you can service from the inboard\* or outboard side without disturbing the piping or the motor. You can also replace just one bearing, mechanical seal or sleeve without disturbing the other side.

## Maintenance-Free Bearings

**B** Our maintenance-free bearings eliminate the need for regular maintenance, documentation logs, over-greasing problems and the risk of mixing greases that can cause early failure. This design not only reduces maintenance time and costs, but also helps extend pump life.

## New One-Piece Unitized Seal

**C** Bell & Gossett's new one-piece unitized seal eliminates multiple seal components and simplifies replacement. Because it uses a one-piece elastomeric bellows, it has fewer parts than competitive seals, resulting in significantly fewer installation errors.

## Groutless Base Plate

**D** Another industry first! Our new groutless baseplate design saves valuable time and money to speed installation. Advanced finite element analysis and design provides a modern state-of-the-art baseplate that is rock-solid.

## Alignment-Friendly Coupling

**E** Reduce installation time further by maximizing your alignment protection. Designed with finite element analysis to maximize performance and overall life. Easy two-piece element design avoids movement of hubs during inspection or replacement. Moreover, an ANSI/OSHA coupling guard surrounds the coupling to protect personnel.

\* Requires optional spacer-coupling



# VSX Operational Data

[Pump Size]      4x6x10.5      5x6x10.5      5x6x13.5      6x8x10.5      6x8x13.5

## CASING DATA

### 125# FF, ANSI Flanges Maximum 175 PSI Working Pressure Supplied with Unitized Seal

	4x6x10.5	5x6x10.5	5x6x13.5	6x8x10.5	6x8x13.5
Max. Suction pressure	175	175	175	175	175
Max. Working pressure	175	175	175	175	175
Max. hydrostatic test pressure	262	262	262	262	262
Casing material	Cast Iron				

### 250# FF, ANSI Flanges Maximum 300 PSI Working Pressure Supplied with Unitized Seal\*

	4x6x10.5	5x6x10.5	5x6x13.5	6x8x10.5	6x8x13.5
*Max. Suction pressure	175	175	175	175	175
Max. Working pressure	300	300	300	300	300
Max. hydrostatic test pressure	450	450	450	450	450
Casing material	Cast Iron				

### 250# FF, ANSI Flanges Maximum 300 PSI Working Pressure Supplied with Balanced Seal

	4x6x10.5	5x6x10.5	5x6x13.5	6x8x10.5	6x8x13.5
Max. Suction pressure	300	300	300	300	300
Max. Working pressure	300	300	300	300	300
Max. hydrostatic test pressure	450	450	450	450	450
Casing material	Cast Iron				

## MECHANICAL SEAL DATA

### Mechanical Seal on sleeve for 175 and 300 psi working pressure\*

	4x6x10.5	5x6x10.5	5x6x13.5	6x8x10.5	6x8x13.5
Type	Unitized	Unitized	Unitized	Unitized	Unitized
Material	EPR/Car/SiC	EPR/Car/SiC	EPR/Car/SiC	EPR/Car/SiC	EPR/Car/SiC
Min Temp - 0 deg. F	0 deg F	0 deg F	0 deg F	0 deg F	0 deg F
Max Temp - 300 deg. F	300 deg F	300 deg F	300 deg F	300 deg F	300 deg F

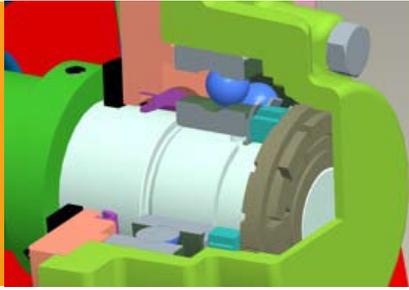
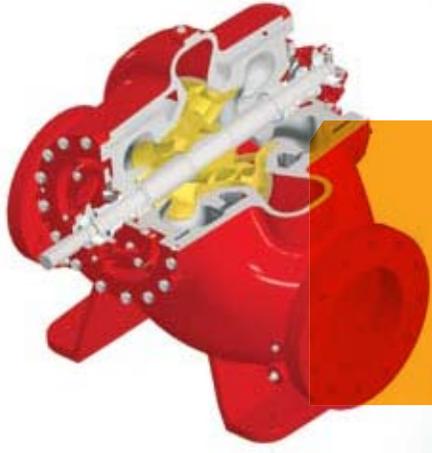
\* Refer to max. suction pressure limitation for 300psi working pressure rating.

### Mechanical Seal on sleeve for max. 300 psi working pressure

	4x6x10.5	5x6x10.5	5x6x13.5	6x8x10.5	6x8x13.5
Type	Balanced	Balanced	Balanced	Balanced	Balanced
Material	EPR/Graphite Loaded SiC				
Min Temperature	0 deg F				
Max Temp	300 deg F				

## IMPELLER DESIGN DATA

	4x6x10.5	5x6x10.5	5x6x13.5	6x8x10.5	6x8x13.5
Number of vanes	7	6	5	7	6
Maximum Impeller Diameter	10.5"	10.5"	13.5"	10.5"	13.5"
Minimum Impeller Diameter	7"	7"	9"	6.5"	10"
Maximum Sphere	.63"	.55"	1.00"	.70"	1.08"



**8x10x10.5**

**8x10x13.5**

**10x12x10.5**

**10x12x13.5**

**12x14x13.5**

**12x14x17.5**

**14x16x13.5**

175	175	175	175	160	125	160
175	175	175	175	175	175	175
262	262	262	262	262	262	262
Cast Iron						

175	175	175	175	160	125	160
300	300	300	300	300	300	300
450	450	450	450	450	450	450
Cast Iron						

300	300	300	300	300	300	300
300	300	300	300	300	300	300
450	450	450	450	450	450	450
Cast Iron						

Unitized						
EPR/Car/SiC						
0 deg F						
300 deg F						

Balanced						
EPR/Graphite Loaded SiC						
0 deg F						
300 deg F						

7	7	7	7	7	7	7
10.5"	13.5"	10.75"	13.5"	13.5"	17.5"	13.5"
7"	9.5"	8.75"	10"	10.5"	13"	11"
.57"	1.00"	.60"	.91"	.88"	1.12"	.83"

# Service & Support.

## Unsurpassed Bell & Gossett support

The Bell & Gossett name on the Series VSX pump is your assurance of the highest quality, backed by uncompromising support.

For us, customer service excellence is an 88-year tradition built upon innovation.

Your local Bell & Gossett representative is an experienced professional with a wealth of technical expertise available at your call. In addition to expert system and product application assistance, and a wide product inventory warehoused locally, we offer our award-winning ESP-PLUS® product selection tool.

ESP-PLUS is a special set of Bell & Gossett software that turns your personal computer into an electronic catalog. With the stroke of a few keys, you enter specifications. The system then calculates the requirements and selects the optimum pump for your needs.

It's fast. It's easy. And it's yours exclusively from Bell & Gossett.

With more than 88 years' experience as an industry leader, we know how to design, build, and support centrifugal pumps. Our hallmarks are excellence and dependability.



## Pump us for information

Our comprehensive Web site ([www.xylem.com/brands/bellgossett](http://www.xylem.com/brands/bellgossett)) makes it easier for you to find, specify and understand the VSX pump, fluid handling systems, parts, specifications and applications.

# Bell & Gossett. We make the difference. By design.



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