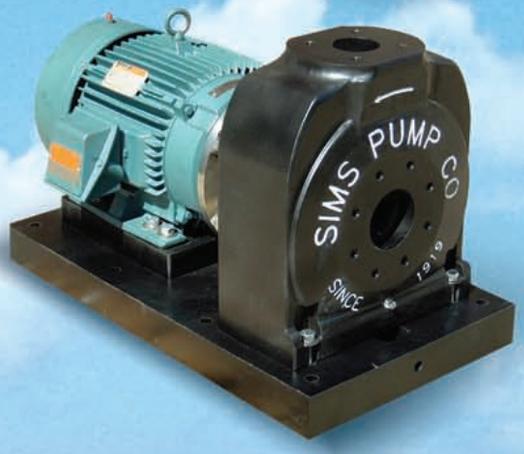
Sims Pump Company

Since 1919

Simsite,® Structural Composite Pumps

VERTICAL- IN-LINE

VERTICAL PIT



SERIES 10000
MARINE &
INDUSTRIAL

SERIES 6000
VERTICAL-IN-LINE

NAVY STANDARD

VERTICAL TURBINE

HORIZONTAL VORTEX

"The only Pump that is Impervious to Salt Water Corrosion"

SIMS Pumps

"The only Pump that is Impervious to Salt Water Corrosion"

SIMSITE® Structural Engineered Composite Pumps

No longer do you have to tolerate a pump which was designed to wear, or accept a pump which was designed for a range of services. Now, the **SIMS** Pump offers the best of both worlds – it is Corrosion, Erosion and Cavitation Resistant and is specifically designed to meet your performance requirements resulting in a pump which offers High Efficiency and Longevity. All **SIMS** Pumps are engineered to meet the Customer's specific design and operating performance requirements. **SIMS** Pumps are **100%** machined as opposed to being cast. They are machined on the inside, as well as the outside, from solid blocks of **SIMSITE®,** a patented structural graphite composite, which **NEVER CORRODES** in salt water, waste water, or chlorinated water. **SIMS** manufactures pumps to meet **YOUR** needs as opposed to trying to match a general range pump to meet your requirements.

SIMS Pumps and Impellers are custom engineered for high efficiency. All **SIMS** products are precision machined from solid blocks of **SIMSITE®** structural graphite composite using state-of-the-art CAD/CAM/FEA/CFD engineering analysis and techniques, and they are designed to maximize performance, efficiency, longevity, and ease of use by maintenance personnel.

KEY BENEFITS of Using **SIMSITE®** Pumps and Pump Parts:

- **Simsite®** is a patented family of superior structural engineered Composite Pumps and Pump Parts approved by the US Navy, for Navy, Marine, Chemical, Industrial and Waste water applications.
- **Simsite® Pump Casings** are 100% machined on the inside as well as the outside from solid blocks of the structural composite which offers Superior Mechanical Strength, Perfect Balance, Better Performance, and Longer Life. **Simsite®** Impellers, Open or Enclosed, are Precision machined from one piece.
- **Simsite® Impellers** are perfectly balanced, and remain perfectly balanced for the life of the pump. The Seal chambers can be enlarged for better seal life & performance.
- **Simsite® Mechanical Seals** offer superior sealing with silicon carbide against silicon carbide seal faces.

- **Corrosion Resistant and Chemical Resistant. *NEVER CORRODES* in salt water, waste water or chlorinated water! And is excellent with most acid and alkaline solutions.**
- **Superior to all metallic pumps in Salt Water, Waste Water and Chlorinated Water.**
- **Light Weight. 1/6 the weight of bronze or stainless steel.**
- **Increased Performance, Longevity and Reliability!**
- **Cavitation & Erosion Resistant.**
- **Higher Efficiency.**
- **NO Electrolysis.**

Sims

Custom engineers pumps to meet your specific requirements.

Sims SINCE 1919

Pump Valve Company is pleased to introduce the following:

SIMS Marine & Industrial Pumps

Inspired by Corrosion problems from pumping Salt Water and Chemicals, **SIMS** Pump Company has developed a line of **SIMSITE®** Structural Composite Engineered Pumps, which **NEVER** corrode in Salt Water, Waste Water, or Chlorinated Water, and are corrosion resistant to most acid and alkaline solutions. These pumps are 100% machined, on the inside as well as the outside, from solid blocks of **SIMSITE®** a patented structural graphite composite with multidirectional continuously interwoven fibers. These pumps are NAVY shock and vibration qualified! **SIMS** Pumps are approved by Lloyds, ABS and many other certifications. This unique manufacturing process eliminates casting defects, rough surfaces, internal voids & cracks, expensive patterns, and balance problems. Alignment issues, corrosion, erosion, and cavitation problems are **all eliminated**, which reduces turbulence and increases efficiency, performance and longevity. **SIMSITE®** Pumps are far Superior to metallic pumps and only 15% the weight!

SIMS Series 10000, Shock Qualified, Marine & Navy Pumps

Under incentives to develop Commercial-Off-The-Shelf pumps (COTS) for Navy applications, **SIMS** Pump Company designed and developed the first structural composite pumps to pass the rigorous shock qualification and vibration testing per Mil Spec 901D and Mil Std-167-1. These pumps were machined from solid blocks of **SIMSITE®**, a structural multidimensional interwoven graphite composite developed by **SIMS** specifically for NAVY applications. The pumps also incorporate **SIMSITE®**, Cartridge Mechanical Seals, **SIMSITE®** Sleeves and **SIMSITE®** Guide Bearings.

SIMS Close Coupled Horizontal Pumps for Marine or Industrial Applications

SIMSITE® Pumps and Impellers are custom engineered for high efficiency. Because the products are completely machined from solid blocks of structural composite, state-of-the-art CAD/CAM/FEA/CFD analysis and techniques are used to maximize performance, efficiency, longevity, and ease of use by maintenance personnel.

Because **SIMS** Pumps are constructed utilizing **Simsite®** Patented Structural Graphite Engineered Composite materials, they have excellent mechanical and physical properties, wear characteristics, and unsurpassed corrosion and electrolysis resistance. Simsite® Pump Casings, Base Plates, and Pump Parts are custom engineered for high efficiency and unlike metallic components, will not corrode or deteriorate in a salt-water environment. Combined with our "heavy duty" marine service, sealed bearing motors, the SIMS pumping systems will provide years of maintenance free service.

SIMS Navy Standard, Shock Qualified Pumps

Inspired by NAVSEA directives for innovative technology and MACHALT 536, SIMS Pump Company continues to be the leader in the composite industry; producing the first "production ready" SIMS Navy Standard Shock and Vibration qualified Composite Pumps. Machined entirely from **SIMSITE®** Structural Engineered Composite material on 5 to 8 axis CNC machinery, SIMS Navy Standard Composite Pumps are lighter in weight, precision balanced and remain perfectly balanced, and most importantly, they **NEVER Corrode** and are built to last! Improved reliability and reduced maintenance results in an excellent Return on Investment (ROI) and an estimated savings of Millions of Dollars ($$) annually when implemented Fleet-wide.

All of the **SIMS Navy Standard Pumps** come standard with **SIMSITE® Cartridge Style** Mechanical Seals. These superior seals incorporate **SIMSITE®** Glands and Sleeves which never corrode and protect the shaft and pump casing from electrolysis, corrosion, erosion, and excessive wear. The seals come standard with silicon carbide vs. silicon carbide graphite loaded faces and hastalloy C springs, which are isolated from the fluid.

SIMS MARINE Vertical Pumps

The **SIMS** Vertical Marine Pump is a **Compact, Light Weight, Corrosion Free, and High Efficiency** pump that **NEVER CORRODES** in salt water, waste water, or chlorinated water. This unique pump is maintenance free, because it is 100% machined on the outside as well as the inside from our Patented **SIMSITE®** Structural Engineered Composite material.

These **SIMS** pumps are close coupled eliminating the need for couplings, coupling guards, and additional bearings. This design eliminates any possible misalignment, which is always a problem with coupled pumps. **SIMS Marine Pumps** incorporate **SIMSITE® Impellers, Casings, Casing Rings, Mechanical Seals, Sleeves, Bushings, Backplates**, and **Frame Adaptors** with an easy back **"pull-out"** design, for ease of disassembly and assembly. The **SIMS** pump is disassembled by lifting the motor, frame adaptor, backplate and rotating element together as one unit.

SIMSITE® Impellers are mechanically and hydraulically balanced reducing axial and radial thrust in the pump. Because these unique SIMSITE® Impellers are balanced, and remain balanced for the life of the pump, vibration is greatly reduced and the longevity of the entire pump is substantially increased.

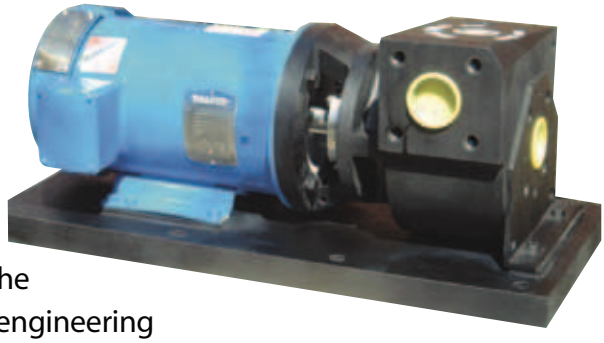
SIMS Series 6000, Maintenance Free, Vertical In-Line Pumps

Designed by SIMS to be a "drop-in" replacement for Vertical-In-Line pumps, the SIMS Series 6000 Pump is virtually maintenance free with permanently lubricated sealed bearings and the flexibility for installation as Vertical-In-Line, Vertical Offset, or Vertical Suction configurations. These pumps incorporate **SIMSITE®** Volute Casings, Casing Rings, Guide Bearings, and Frame Adaptors with an easy back "pull-out" design for ease of disassembly and assembly. The pump is disassembled by lifting the motor, frame adaptor, and rotating element together as one unit.

All **SIMS** Vertical-In-Line Pumps are 100% precision machined on the outside as well as the inside from solid blocks **SIMSITE®** Structural Graphite Composite using state-of-the-art engineering programs to maximize performance while minimizing down time.

Featuring: SIMSITE® Structural Composite Pump Assembly, Closed Coupled, Sealed Bearing, Heavy Duty Marine TEFC Motor w/ 316SS Shaft, and a **SIMSITE®** Mechanical Seal.

SIMS Horizontal Vortex Pumps



SIMS Vortex pumps are the solution for the harsh abrasion of shipboard sewage systems. The recessed impeller design eliminates close internal tolerances, nearly eliminating contact between the impeller and solids. **SIMS** Vortex Pumps are constructed utilizing **SIMSITE®** Patented Structural Graphite Composite materials with excellent mechanical and physical properties, wear characteristics, and unsurpassed corrosion resistance. **SIMS** Vortex Pumps combine the excellent qualities of our **SIMSITE®** Composite material and superior engineering to produce the longest lasting non-clogging pump on the market today.

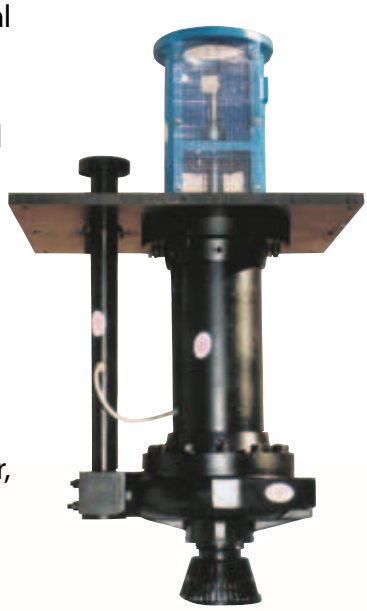
SIMS Horizontal Chemical, Marine, or Industrial Pumps – ANSI Standard

SIMS ANSI Chemical Pumps

SIMS Chemical ANSI Style Pumps and Wet Ends are machined from several different grades of **SIMSITE®,** depending on the solution that is being pumped. **SIMS** offers phenolic, epoxy, and polyimide hybrid resin systems with several different multi-directional continuously interwoven fiber reinforcing systems. The casing Volutes are completely machined on the inside as well as the outside eliminating casting defects, internal voids, cracks, and "weak spots."
All of our pumps are computer designed, engineered, and machined allowing for increased performance and high efficiency. These pumps are lightweight with superior strength and reliability. Since these pumps are machined, they can be adapted for any piping system. All **SIMS** pumps and wet ends are unique in that they are engineered and designed for the customer's specific operational requirements, which makes all **SIMS** Pumps more efficient, and enables them to outlast and outperform other pumps.

SIMS Vertical Pit Pumps

SIMS Vertical Pit Pumps are designed for versatility and longevity. The Pump Casing, Guide Bearings, Spider Bearings, Sleeves, Bushings, Column Pipe, Discharge Pipe, Base Plate, Motor Pedestal and Strainer are all manufactured from **SIMSITE®,** a structural graphite composite engineered specifically for these vertical pit applications. These **SIMSITE®** Vertical Pit Pumps are corrosion, erosion and chemical resistant. **SIMS** Pumps are impervious to salt water, waste water, river water, and chlorinated water corrosion. **SIMS** Vertical Pumps, like **SIMS** Chemical Pumps can withstand a wide range of pH, and therefore make excellent chemical waste treatment, or environmental pumps. These pumps will not corrode, clog, or foul from marine growth like metallic pumps. **SIMS**
Pumps are not affected by chlorine and are excellent for pumping in chlorinated water, or water treatment applications.



SIMS Vertical Pit Pumps have **SIMSITE®** Guide Bearings in these pumps, which can take dry running at start up and will not melt, deform, seize like bronze, rubber, or thermoplastic bearings. The **SIMSITE®** Guide Bearings are placed at strategic intervals along the shaft to reduce shaft deflection and increase the pump and guide bearing longevity.

"The only Pump that is Impervious to Salt Water Corrosion"

SIMS Vertical Turbine Pumps

SIMS Structural Composite Vertical Turbine Pumps are very different from any other pumps on the market. The suction bell, casing bowls, diffusers, casing rings, guide bearings, bushings, and sleeves are completely machined on the outside as well as the inside. All **SIMSITE®** Impellers are "keyed" on the pump shafts eliminating the need for collets which can "slip" causing severe problems. Casting imperfections, rough surfaces, alignment issues, corrosion and erosion problems are all eliminated with **SIMSITE®** Vertical Turbine pumps, which reduces turbulence and increases efficiency, performance, and longevity. Like the **SIMS** Vertical Pit Pumps, the **SIMS** Vertical Turbine Pump has **SIMSITE®** Guide Bearings in these pumps which can take dry running at start up and will not melt, deform, seize like bronze, rubber, or thermoplastic bearings.

SIMSITE® Pump Bowls can be added, or subtracted from these pumps to meet your specific performance requirements. Because **SIMSITE®** Pumps are machined (as opposed to being cast), they are engineered to meet the Customer's specific design and operating performance requirements. Each bowl and diffuser section is 100% precision machined from **SIMSITE®** insuring perfect alignment, and performance which increases efficiency and longevity. SIMS manufactures pumps to meet **YOUR** needs as opposed to trying to match a general range pump to meet your requirements.

Pump bowls can be added or subtracted from these pumps to meet your performance requirements. Because **SIMS** impellers are completely machined, design changes and modifications can easily be performed to meet the customer's specific design and pump performance requirements. **SIMS** manufactures pumps to meet your needs as opposed to trying to match a general range pump to your requirements.

SIMS Laundry Pump

SIMS Vortex Pump

SIMS Specialty Pumps

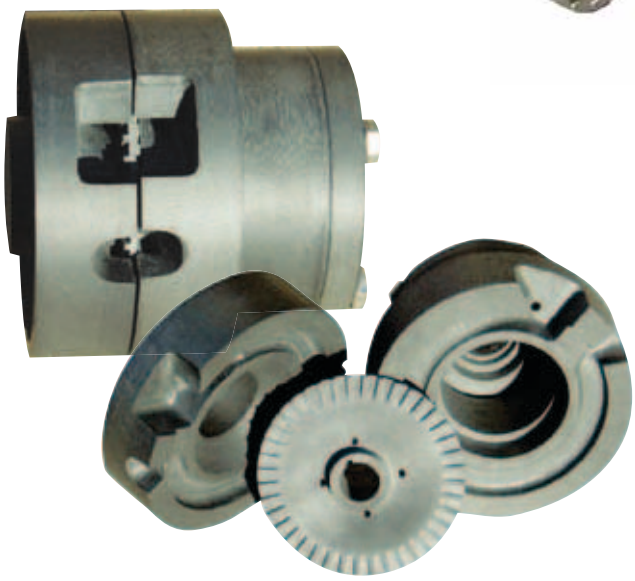
SIMS manufactures pumps to specific performance conditions for many different types of applications and designs. Since all **SIMS** pumps are completely machined on the outside as well as the inside from solid blocks of structural composite, **SIMS** can engineer and design a pump for a Customer's specific operational needs. No longer does a Customer have to accept a standard pump that most closely fits their operational needs. The Customer can have **SIMS** design and build a pump specifically for their operation where the Best Efficiency Point is the actual Operating Point.

The above laundry pump was designed, engineered, manufactured, assembled and tested by **SIMS** for the US Navy in less than (4) weeks! When a pump is designed for a specific application, the operating point becomes the best efficiency point of the pump. Therefore, the pump is not subject to high radial loading, and/or suction or discharge recirculation cavitation. The result is that the pump lasts much longer and costs substantially less to operate.

SIMS Multi-Stage Pumps

This **SIMS** 14-Stage Down-Hole Pump seen to the right is a pump engineered by **SIMS** specifically for a Bromine Chemical application. This pump lasted three times longer than any metal pump. Additionally, this pump operates with a much higher efficiencythan a metallic pump. **This SIMSITE® pump replaced ni-resist pumps that only lasted less than one year in service.**

SIMS 14 Stage Down-Hole Chemical Pump



SIMS Regenerative Turbine Pumps

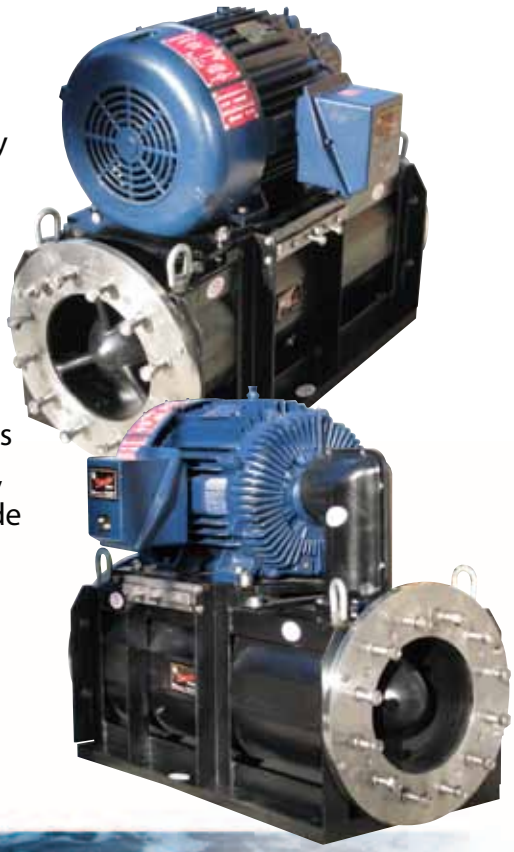
SIMS Regenerative Turbine Pumps are the solution for low flow, high head applications. **SIMS** is one of the few Companies that can custom engineer the performance for specific applications using this regenerative turbine technology. Unlike metallics, **SIMSITE®** components will maintain clearances and therefore performance for a much longer time because the structural graphite composite wears at a much slower rate.

SIMS Anti-Heeling Pump

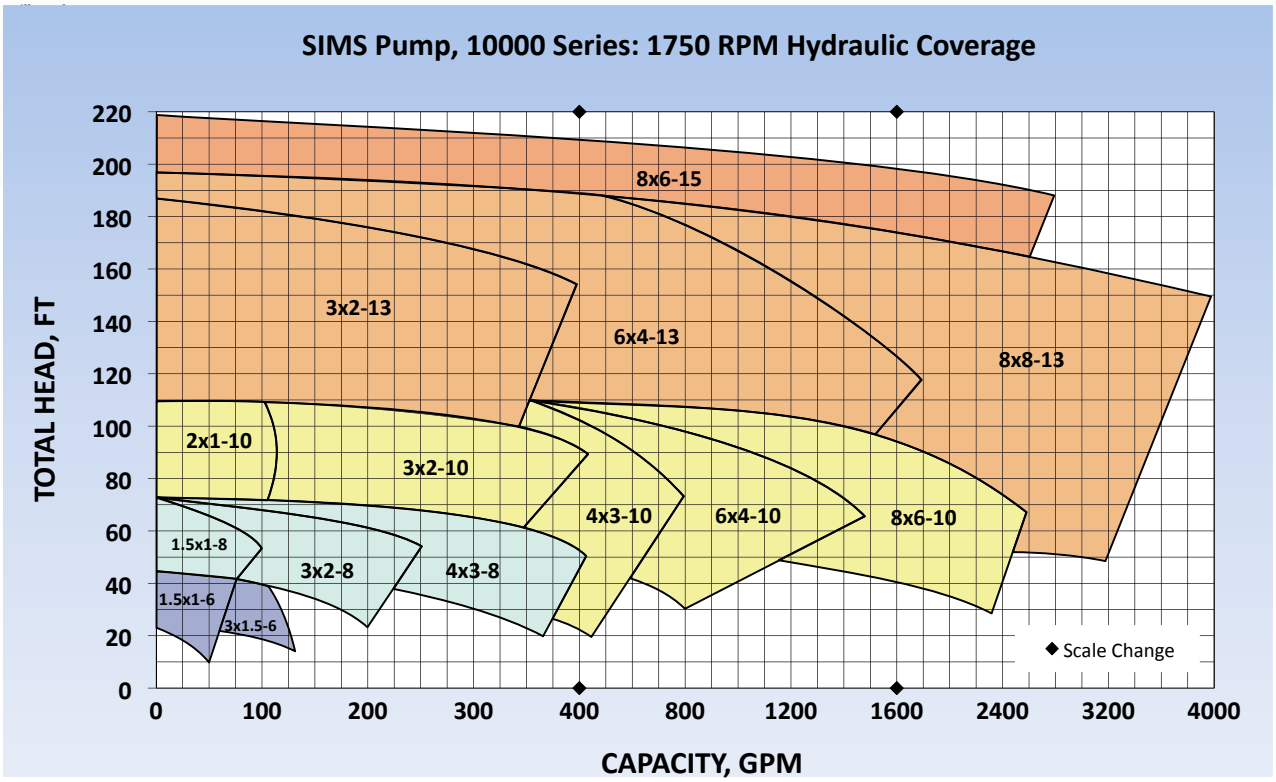
This **SIMS** Anti-Heeling Pump is designed to maintain the stability in a vessel by pumping the flow of water in either direction into ballast tanks located on each side of the ship.
This **SIMS** Pump is completely machined from a solid block of **SIMSITE®** Structural Graphite Composite, which will **NEVER** Corrode in Salt Water or Brackish Water.

The 50 HP , 690 Volt Motor seen to the right, is attached to the outside of the pump in a horizontal position eliminating problems that other brands of anti-heeling pumps have with vertical drives, or electric motors that are built into the pump casings. The outside frame and flanges are manufactured from Stainless Steel.

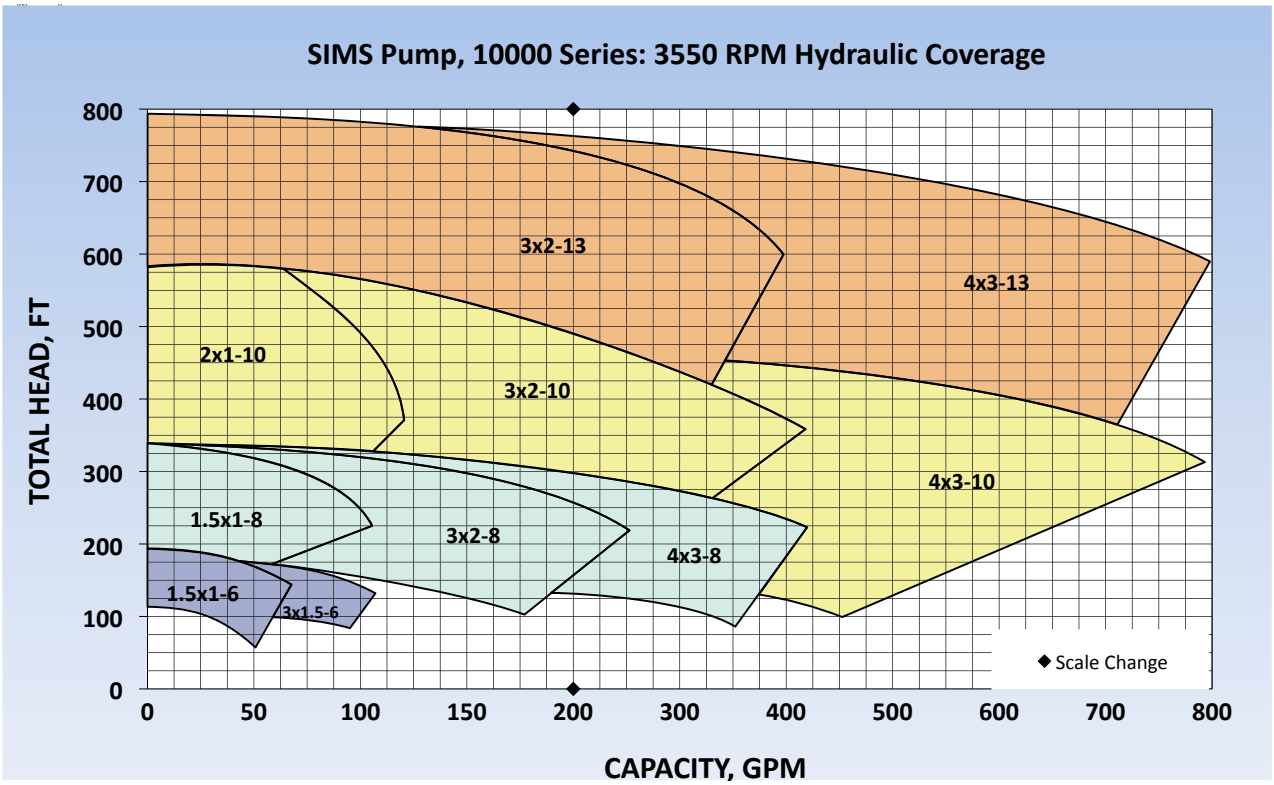
This Pump is designed to produce 500 M3/H at an 8 M Head turning 1750 RPM.



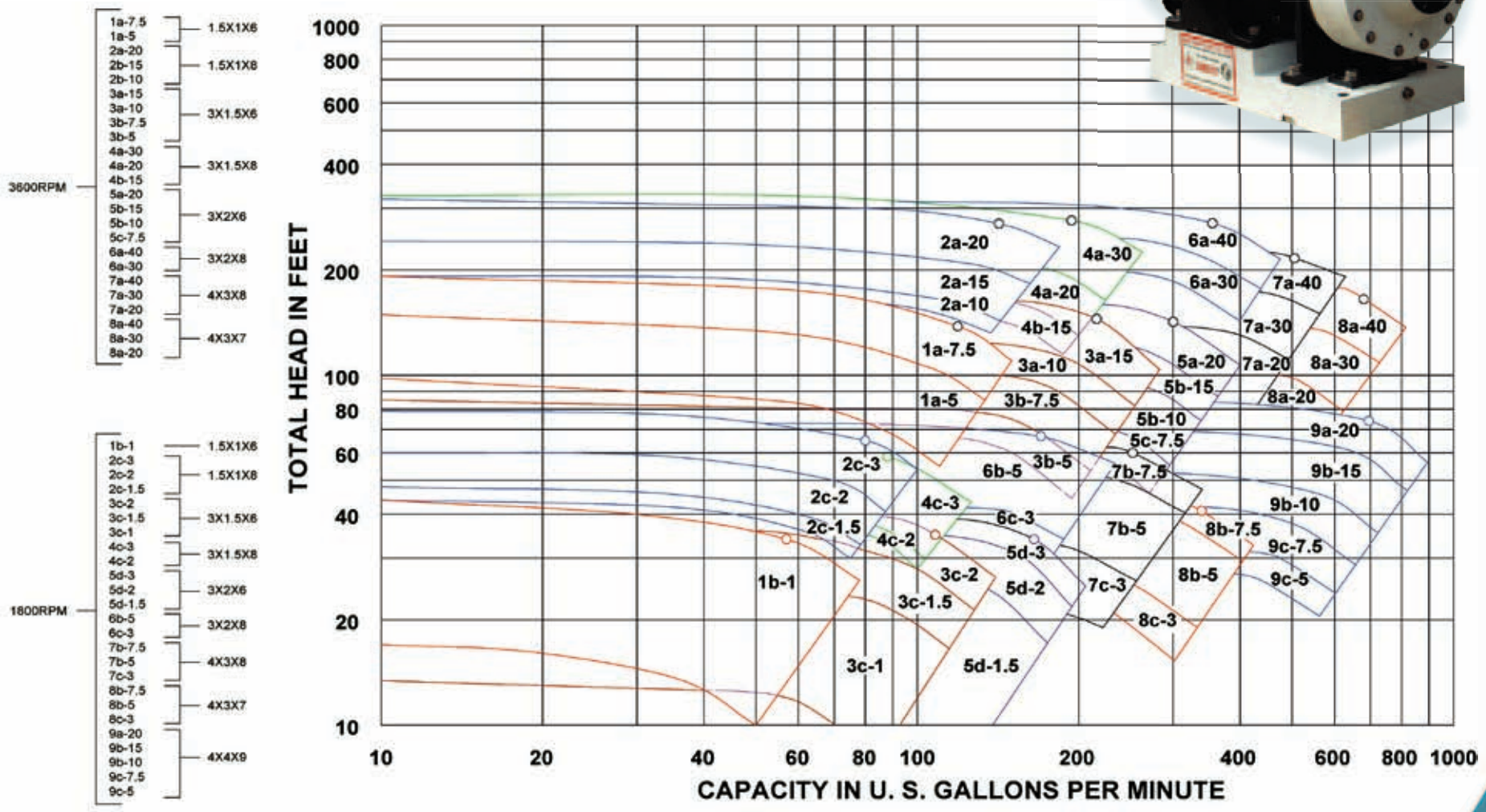
SIMS Pump, Series 10000 *1750 RPM Hydraulic Coverage*



SIMS Pump, Series 10000 *3550 RPM Hydraulic Coverage*



SIMS NAVY Pump, Series NS *1800 & 3600 RPM Hydraulic Coverage*



"The only Pump that is Impervious to Salt Water Corrosion"

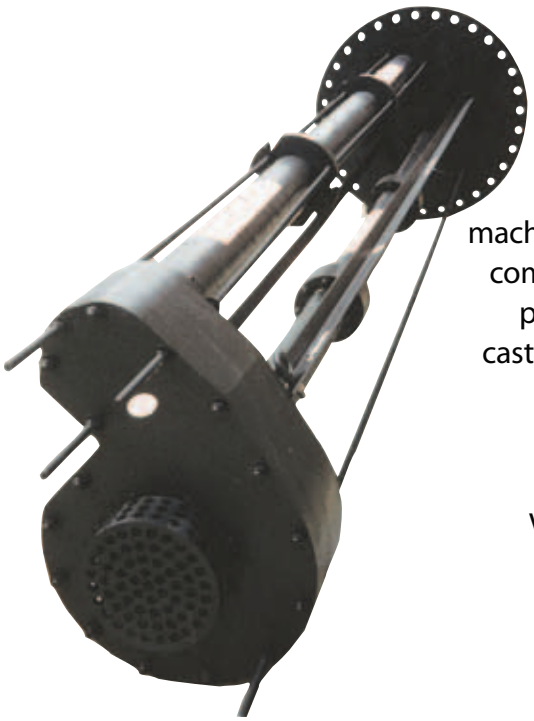
SIMSITE® Composite Pumps Defying Time And Environments

Take parts that are virtually impervious to wear and corrosion… add engineering know-how based on more than nine decades of experience… and the result is the ideal pump for marine, industrial, and utility applications. **SIMS** Pump Valve Company, a leading innovator of composite pump and bearing technology, offers **SIMSITE®** pumps and pump parts which defy the effects of salt water and most chemicals. These pumps can operate in a wide pH range. They run smoothly, dependably, day after day, year after year and require minimal maintenance. They can withstand high-flash temperatures and continuous running temperatures of 400°F.

SIMSITE® Pumps Are Engineered For High Efficiency

The **SIMSITE®** Pump is different from any other pump on the market because the casing volute and impeller are completely machined on the outside as well as the inside. Casing imperfections and rough surfaces are eliminated which reduces turbulence and increases efficiency. This offers the customer a high-efficiency pump that does not sacrifice wear or longevity. Additionally, **SIMSITE®** pumps are designed and engineered for your applications which translates into dependability and lower maintenance costs. No longer do you have to tolerate a pump which was designed to wear or accept a pump which as designed for a range of services. Now, the **SIMSITE®** pump offers the best of both worlds – it is specifically designed to meet your requirements and as a result, operates at a higher efficiency. The **SIMSITE®** Impeller is also designed to meet your requirements and the impeller diameter is engineered specifically for the casing volute resulting in better performance and longevity.

SIMS's Unique Design for Engineered Vertical Sump Pumps



The **SIMSITE®** casing utilizes a "solid block" design which eliminates structural problems found in other composite pumps. Because of this unique design, the **SIMSITE®** Pump can be mounted vertically or horizontally offering you tremendous flexibility. The casing volute is machined (as opposed to being cast) from a solid block of structural **SIMSITE®** composite enabling the pump to take pressures far beyond other composite pumps. Additionally, the casing volute is completely machined eliminating casting imperfections. The low coefficient of friction of the **SIMSITE®** material combined with its unique engineering design enables the pump to operate at higher efficiencies.

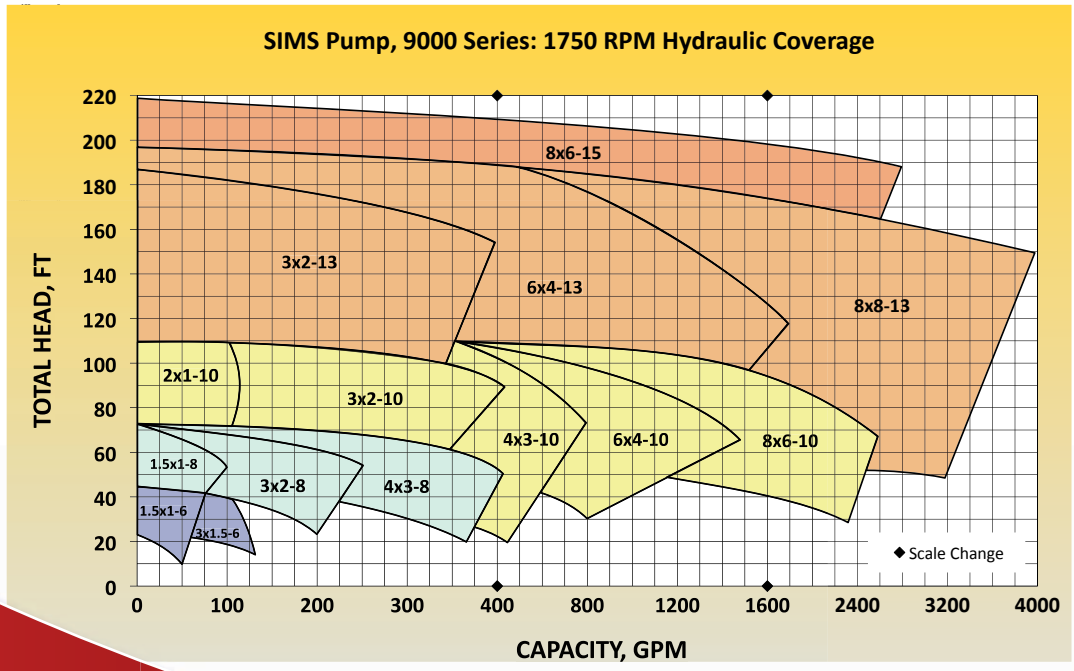
The **SIMS** Pump incorporates **SIMSITE®** Guide Bearings every 3 feet for Vertical Pumps eliminating the "shaft whip" found in other vertical pumps. **SIMS** also builds the discharge elbow into the casing volute design minimizing space requirements and insuring perfect alignment

"The only Pump that is Impervious to Salt Water Corrosion"

SIMSITE® Structural Composite Pumps

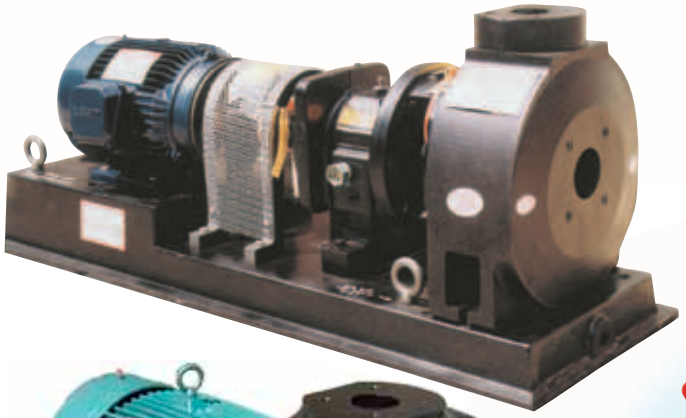
- ***Simsite® Pumps & Parts*** approved by the US NAVY, for Navy, Marine, Chemical, Industrial and Waste Water applications.
- ***Corrosion resistant*** - will not corrode in salt water, waste water, or chlorinated water.
- ***High Efficiency.*** Superior to metallic pumps. Chemical Resistant, Erosion Resistant.
- ***Cavitation Resistant.***
- ***Longer Life.***
- ***Light Weight.*** 1/6 the weight of stainless steel.
- ***NO electrolysis.***
- ***Increased performance.***
- ***Simsite® Casing.*** Machined from a solid block of structural composite. Superior strength. Better performance. Longer Life.
- ***Simsite® Impeller.*** Open or Enclosed. Precision machined from one piece of Simsite® insuring Perfect Balance, Smoother Surfaces, and Higher Efficiencies as a result of maximizing hydraulic designs.
- ***Simsite® Backplate.*** Incorporates an enlarged seal chamber for better seal life and performance.
- ***Simsite® Mechanical Seals.*** Hydraulically balanced, light weight, corrosion resistant with silicone carbide faces for better life.

SIMS Pump, Series 9000 *1750 RPM*



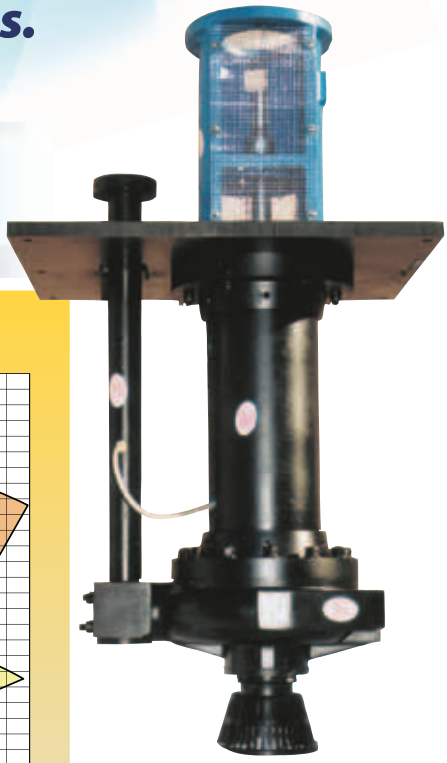
Sims Custom engineers pumps to meet your specific requirements.

The pump that lasts and lasts …You can achieve the ideal!

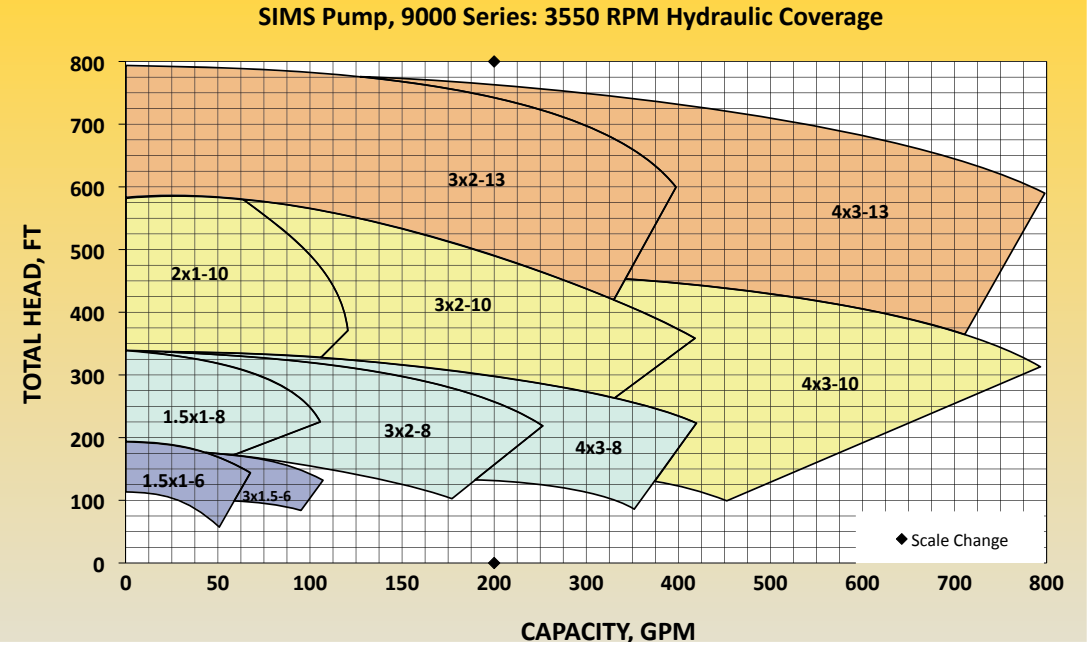


Sims SINCE 1919

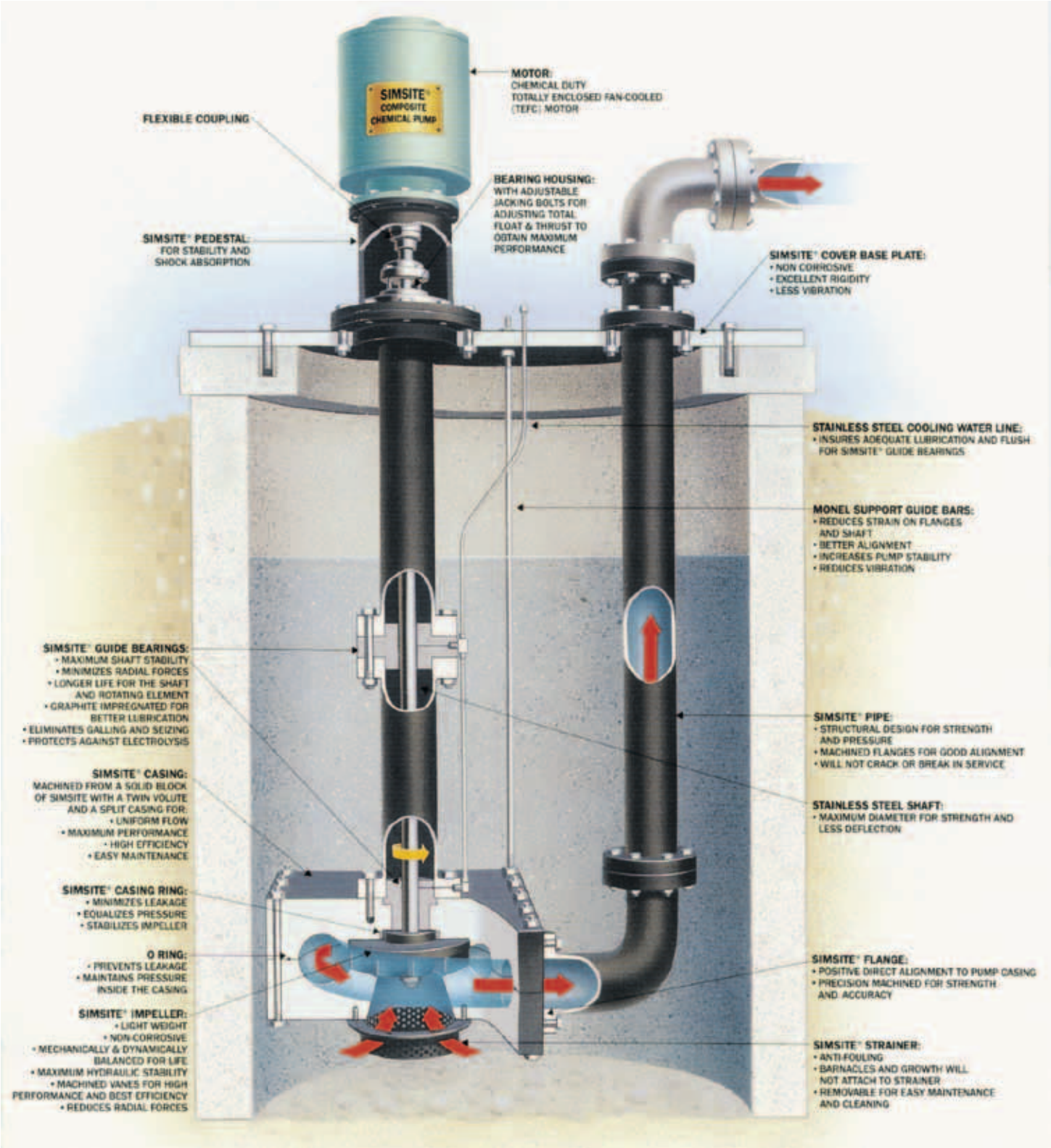
Manufactures a complete line of ANSI standard pumps! Custom engineered for your specifications.



SIMS Pump, Series 9000 *3600 RPM*



SIMSITE® Composite Pumps. The ideal Answer to Performance



"The only Pump that is Impervious to Salt Water Corrosion"

Sims Pump offers you:

- *Superior Pumps*
- *Superior Hydraulic Performance*
- *High Quality Pump Parts*
- *Fast Response…Fast Deliveries!!!*
- *Pump Trouble Shooting*

*We can re-engineer and re-design **any** centrifugal pump*

- *Specialists in solving cavitation problems*
- *Specialists in extending pump life*
- *Specialists in increasing efficiency*

DIFFUSER & IMPELLER MANUFACTURED FROM **SIMSITE®** GRADE **375**

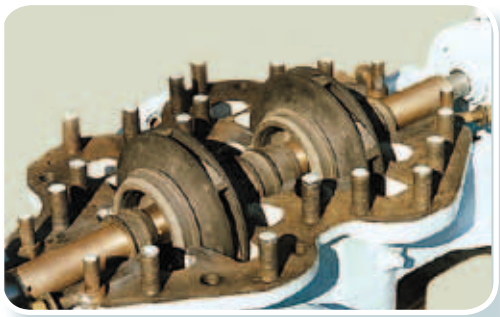
The following chart compares SIMSITE®

APPLICATION	GRP*	CAST IRON	BRONZE	STAINLESS STEEL	SIMSITE®
Resistance to salt water	Good	Poor	Fair	Good	Excellent
Resistance to chemicals	Good	Poor	Fair	Good	Excellent
Mechanical balance after six months service in salt water	No	No	No	No	Yes
Hydraulic balance after six months service in salt water	No	No	No	No	Yes
Method of manufacture	Cast	Cast	Cast	Cast	Precision Machined
Casting imperfections	Yes	Yes	Yes	Yes	No
Conducts electrolysis	No	Yes	Yes	Yes	No
Operates at 400° F	No	Yes	Yes	Yes	Yes
Subject to chloride stress corrosion	No	Yes	Yes	Yes	No
Subject to stress crack failure	Yes	Yes	Yes	Yes	No

SIMSITE® VERTICAL PIT PUMPS

SIMSITE® IMPELLER & RINGS MANUFACTURED FROM HIGH STRENGTH **SIMSITE®** GRADE **300**

SIMSITE® CHEMICAL PUMPS
SIMSITE® GRADE **380**



SIMSITE® IMPELLER & RINGS TWO STAGE PUMP FROM **SIMSITE®** GRADE **300**

Sims Pump Valve Company, Inc.
1314 Park Ave, Hoboken, New Jersey 07030 USA
Phone 1-800-746-7303 (201) 792-0600
Fax – (201) 792-4803 www.simsite.com

Sims

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SIMSITE® Structural Composite Pumps

- *Corrosion Resistant*
- *Lightweight*
- *High Strength*
- *No Electrolysis*
- *Always Balanced*
- *Precision Machined*

SIMSITE® VERTICAL PUMPS

SIMSITE® STRUCTURAL COMPOSITE IMPELLERS ARE FOR ALL CENTRIFUGAL PUMPS

SIMSITE® CASING RINGS

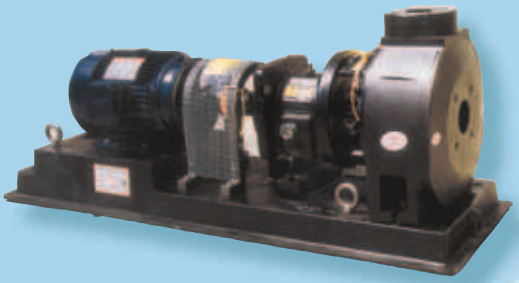
SIMSITE® GRAPHITE PACKING RINGS

SIMSITE® HORIZONTAL PUMPS

THE **SILENT** PRE-HEATER HUSHEATERS

SIMSITE® COMPOSITE BEARINGS

SIMS MANUFACTURES **SHAFTS, SLEEVES,** AND OTHER COMPONENTS. **(BRONZE, STAINLESS STEEL, MONEL, INCONEL, AND TITANIUM)**



SIMSITE® COMPOSITE PUMPS

"The only Pump that is Impervious to Salt Water Corrosion"