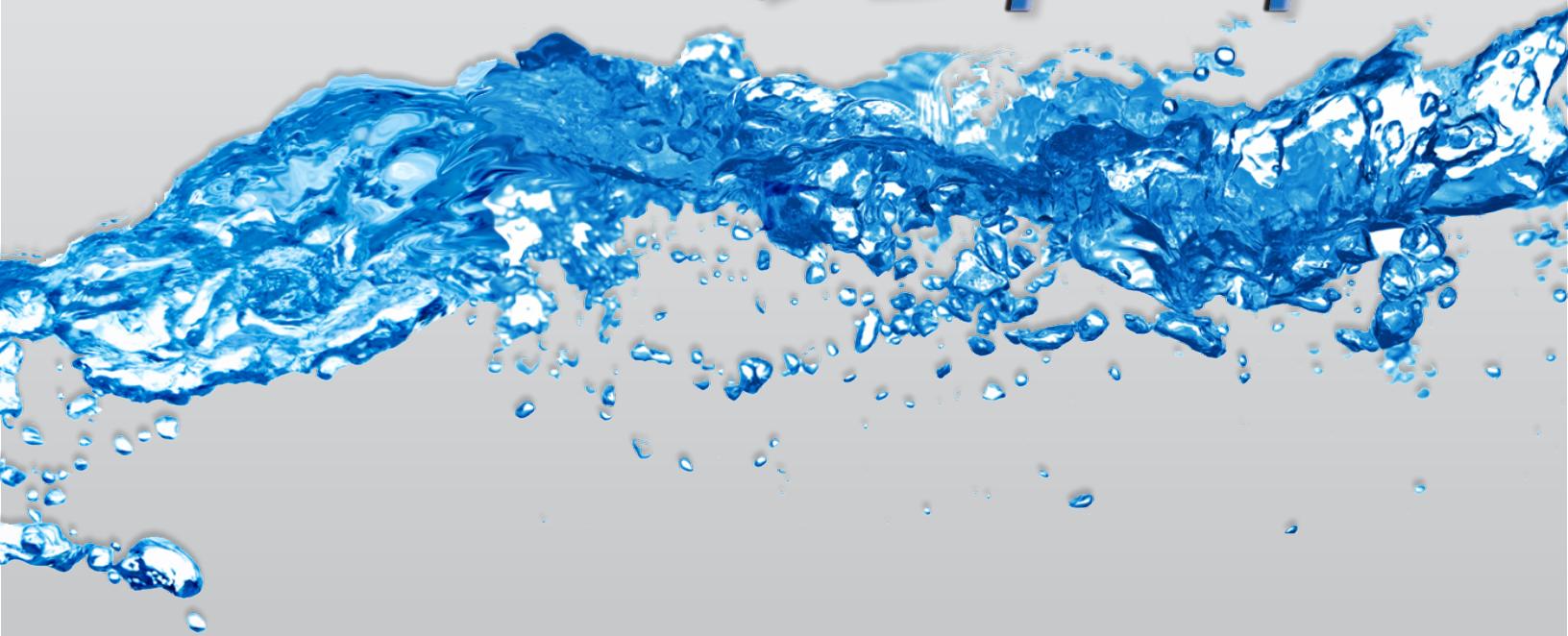


# *Hydroflo* pumps



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A detailed cross-sectional view of a vertical turbine pump assembly. The central shaft is made of polished stainless steel and runs vertically through the center. It is supported by two large, off-white polymer bearings, one near the top and one near the bottom. The shaft is surrounded by a complex, multi-layered stainless steel housing. In the middle section, there is a large, multi-bladed impeller. The background features a stylized blue water splash effect.

## THE POWER OF STAINLESS

# THE NEW LEADER IN VERTICAL & SUBMERSIBLE TURBINE PUMPS

### EXCLUSIVE FEATURES

- STANDARD STAINLESS IMPELLERS
- ALL INVESTMENT CAST STAINLESS PUMPS
- DUCTILE IRON DISCHARGE HEADS
- STAINLESS STEEL SPIDERS
- HYDROFLO POLYMER BEARINGS
- CUSTOM MACHINED ADAPTERS
- CHLORINE RESISTANT
- BEST IN LOW PH
- LEAD FREE
- BEST IN SALTWATER
- LONGER LIFE CYCLES
- ABRASIVE RESISTANT

The background of the entire page is a high-speed photograph of water splashing, creating a dynamic and textured blue and white pattern. This image serves as a visual backdrop for the text blocks.

## MINE DEWATERING PROJECTS

Gold, copper, zinc, and coal mining companies are using Hydroflo abrasive duty pumps for their dewatering needs. Our pumps built with standard stainless steel impellers, vesconite bearings, and 17-4PH shafting, allow the mines longer life cycles and less down time. Construction using all 316 stainless steel enables us to meet all of their engineering requirements for corrosive resistance.

## FIRE PROTECTION FOR OFF SHORE OIL PLATFORMS

Hydroflo Pumps has 316SS and 304SS pump parts in stock to build the pumps needed to protect oil company drill platforms. These are the same products used in other saltwater applications and high saline water wells. Distributors and contractors look to Hydroflo for quick delivery of these specialty pumps.

## NUCLEAR PLANT COOLING TOWERS

Hydroflo Pumps has provided over 140,000 GPM of cooling capacity to one of the largest nuclear plants in the USA. With individual pump capacities over 30,000 gallons per minute, Hydroflo has provided many industrial and municipal cooling tower projects. Steel mills to classrooms, our engineers have met the pumping requirements.

## CHICAGO AND DETROIT CHOSE HYDROFLO PUMPS

Hydroflo has engineered and sold pumps to both large and small cities. We have worked with the Corp of Engineers, Department of Natural Resources, and many city governments to provide specified pump projects. Hydroflo has designed and delivered sewage pumps, stormwater pumps, and potable water pumps for all of their engineered applications.

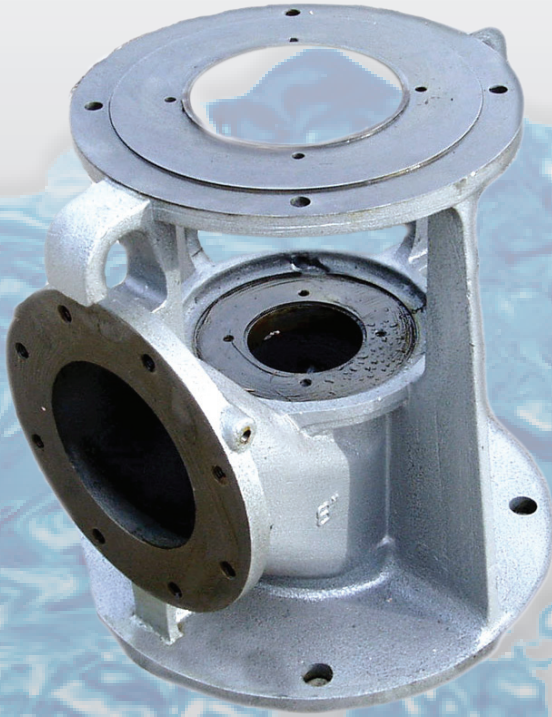
## STAINLESS STEEL IMPELLERS

Hydroflo provides investment cast stainless steel impellers in all of our vertical and submersible turbines to 9000 GPM. The stainless provides all customers with better abrasive and chlorine resistance in their pumps. Hydroflo builds better pumps for better service,



# ENGINEERING FACTS

## DUCTILE IRON DISCHARGE HEADS WITH IDENTICAL CENTERLINES



- Ductile Iron is a superior casting material over Class 30, Cast Iron.
- Ductile Iron Tensile Strength: 65,000 lbs  
Class 30 Cast Iron Tensile Strength: 30,000 lbs
- Because of this strength, Hydroflo Ductile Iron discharge heads can handle higher pressures and more hang weight.
- The porosity in Ductile Iron is much smaller, thus providing a better corrosive resistance than Cast Iron.
- Cast Iron is a brittle casting. Ductile Iron has a stretch factor and will not break or crack as easy as Cast Iron.
- Hydroflo provides 4", 6", 8" and 10" Ductile Iron discharge heads with identical centerlines. This allows different size pumps to connect into the same height header pipe.
- Hydroflo has a 4" and 6" Ductile Iron discharge heads with a 300lb ANSI discharge flange.

## MORE DUCTILE IRON PRODUCTS

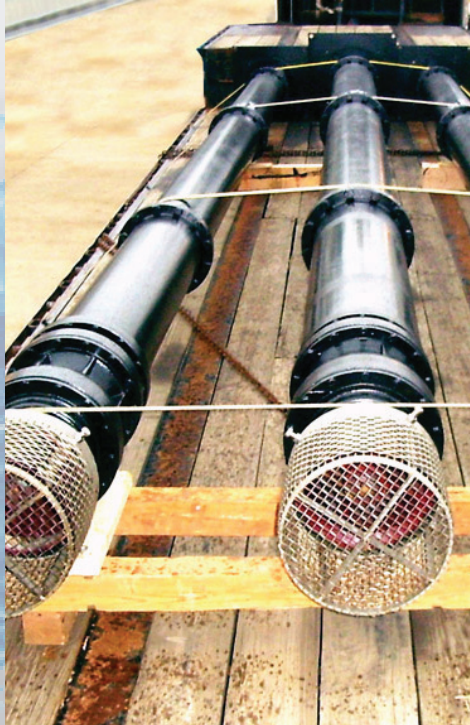
- 5", 6" & 7" Submersibles are all Ductile Iron castings.
- Hydroflo has pump models available in Ductile Iron Double Tapped and O-Ringed for High Pressure Applications.
- 12", 14" & 16" Ductile Iron Bearing Retainers.
- Ductile Iron Tube Adapters



HYDROFLO ASSEMBLED SHORT SET PUMPS WITH 12" DISCHARGE HEADS

# ENGINEERING FACTS

## EXTENDING VERTICAL TURBINE LIFE

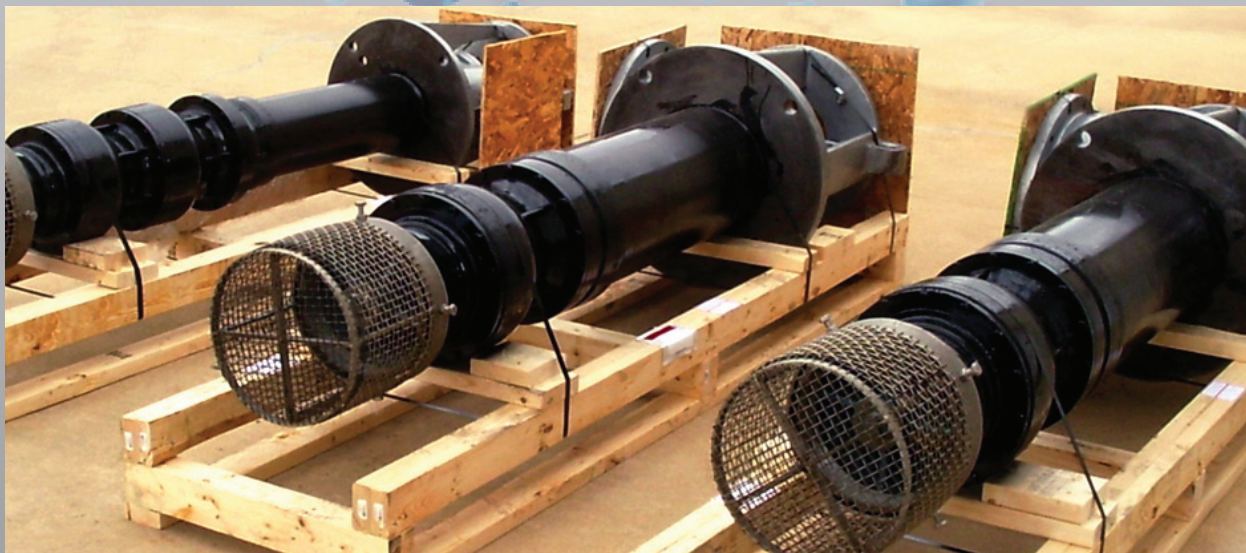


- **High Chlorine Content-** Upgrade shaft material to 17-4PH and upgrade to stainless steel impellers.
- **Low PH Water-** Upgrade to 316SS shaft material and 316SS impellers.
- **Effluent Water-** Upgrade to 17-4PH shaft material composite bearings, and 201SS impellers.
- **Brackish Water-** Upgrade to 316SS shaft, composite bearings, and stainless steel impellers.
- **Salt water-** upgrade to all 316SS construction with composite bearings.
- **Sand in Well Water-** Upgrade shaft to 17-4PH, use composite bearings, and 201SS impellers.
- **Cooling Tower Water-** Upgrade shaft to 17-4PH and 201SS impellers

When pumping abrasive water, also consider lowering pump speed. The wear curve is exponential; double the speed, four times the wear.

## HYDROFLO ENGINEERS JOB SPECIFIC TURBINES

- Offshore Fire Pumps
- Steel Mill Cooling
- Mine Dewatering
- Swimming Pool
- Brackish Boosters
- RO Treated Water
- Abrasive Raw Water
- Propane & Butane



HYDROFLO SHORT SET VERTICAL TURBINES



# ENGINEERING FACTS

## LOST WAX INVESTMENT CAST STAINLESS STEEL IMPELLERS

### 201 STAINLESS

- 201SS Brinell 215-280
- 304SS Brinell 212-277
- 316SS Brinell 150-190
- 316SS is the better material against corrosion, but 201SS is best in abrasive applications.

- Lost wax investment castings are superior to all other impeller castings.
  - A. The smoothness of the casting increases efficiencies.
  - B. The wax is injected into a stainless pattern, thus a perfect mold each injection.
  - C. Sand castings will have core shifts, increased void areas, and rough surfaces.
- Stainless is superior to bronze in all engineering applications.
  - A. Strength and Hardness are considered two of the most important physical properties when choosing pump impeller material. Stainless impellers have a Brinell Hardness Range of 212-280, the best choices in bronze are 60-159. Tensile Strength for stainless is 80,000-135,000 PSI, again bronze is only 26,000-85,000 PSI
  - B. Stainless steel is better against abrasion and corrosion. Stainless is the choice in high chlorine concentrations, salt water applications, and in low PH water.
  - C. Stainless should always be chosen for applications where the presence of sand or abrasion particles are known to be in the water.



# ENGINEERING FACTS

## NEW LEAD FREE LEGISLATION

- New state laws have been implemented to restrict the amount of lead in a component of a drinking water system to .0025% (1/4 of 1 percent)
- Hydroflo is offering standard “ZERO LEAD” pumps. Stainless steel impellers, Hydroflo Polymer bearings, cast iron lined bowls, and stainless steel hardware.
- Other pump manufacturers are offering “low lead” options. We offer no lead.
- Who assumes the liability? The installer.

## LAW SUMMARY

S. 3874 amends the Safe Drinking Water Act to exempt from prohibitions on the use or sale of lead pipes, solder, and flux:

- “Pipes or pipe or plumbing fittings or fixtures, including backflow preventers, that are used exclusively for nonpotable services, such as manufacturing, industrial processing, irrigation, outdoor watering or any other uses where the water is not anticipated to be used for human consumption or
- “Toilets, bidets, urinals, fill valves, flushometer valves, tub fillers, shower valves, service saddles, or water distribution main gate valves that are two inches in diameter or larger.”

In addition, S. 3874 redefines “lead free” under the Safe Drinking Water Act to mean: (1) not containing more than 0.2 percent lead when used with respect to solder and flux (current law) and (2) not more than a weighted average of 0.25 percent lead when used with respect to the wetted surfaces of pipes and pipe and plumbing fittings and fixtures. Lastly, the bill establishes a formula to calculate the weighted average lead content of a pipe or pipe or plumbing fitting or fixture.



STAINLESS STEEL SUBMERSIBLE PUMPS



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