

HEAVY
PUMPS

TOYO
PUMPS



HNC SERIES

ROBUST | LOW MAINTENANCE | MODULAR | SUMP VACUUMING
VERTICAL CANTILEVER SLURRY PUMP

HEVVY PUMPS HISTORY



Where heritage meets imagination - the evolution of TOYO PUMPS.

In HEVVY PUMPS, we have created a product line that embodies both imagination and technological advancement. Over the course of our 40 year history as TOYO PUMPS, the company has progressively evolved. Our valued customers have helped to shape us, and from years of listening to their particular needs, dreams and continuous positive feedback - we created the HEVVY PUMPS product line to service these requirements. We don't believe in relying on past merits alone.

HEVVY pushes the limits of technology and design, to propel the future and challenge the industry to be more reliable, efficient and accountable to its customers and the environment. It is an exciting new future when "heritage" and "imagination" meet to benefit both worlds. With HEVVY and its new product lines, **we are ready to make a real impact globally.**

Make no mistake - the TOYO name has served us well. TOYO is a proven technology, despite being developed years ago. HEVVY is about embracing our proven technology and incorporating it into our new designs to both improve and create better products.

HEVVY PUMPS ADVANTAGE



HEVVY PUMPS are designed in-house by our engineers and crafted in North America using our own local workforce and know-how. HEVVY is our name and it signifies we are no lightweight.

HEVVY is a niche player in the solids handling market and knows the applications better than anyone else. This knowledge brings with it the following advantages:

- ▶ We can truly partner with our customers and consider ourselves an extension of our customer's operation.
- ▶ We are not trying to be everything to everybody and therefore do not have the unfocused range of product lines that most of our conglomerate competitors have. As a result we are able to move faster and adapt with technology.
- ▶ We realize that by gaining just five efficiency points, we can effectively save our customers thousands of dollars a year in electricity costs.
- ▶ We also realize that by not basing our business model on surviving off spare parts revenues, we can invest in designing pumps that actually last the test of time - thereby offering our customers a lower total cost of ownership.

We have named ourselves HEVVY - perfectly summing up who we are & the industries we serve.

HNC SERIES

A MODULAR, HEAVY DUTY, LOW MAINTENANCE, TRUE CANTILEVER SLURRY PUMP

- ▶ **True Vertical Cantilever-**
(no submerged bearings, bushings or seals)
- ▶ Motors easily accessible / outside of the sump
- ▶ **Direct Drive** or **Belt Drive** arrangements
- ▶ Wet end standard in **High Chrome** and **CD4** (other metallurgies available)
- ▶ Up to **8ft setting lengths**
(for longer setting needs, our underslung bearing housings and suction pipes can be explored)
- ▶ **Agitator, Chopper** and **Suction** packages available

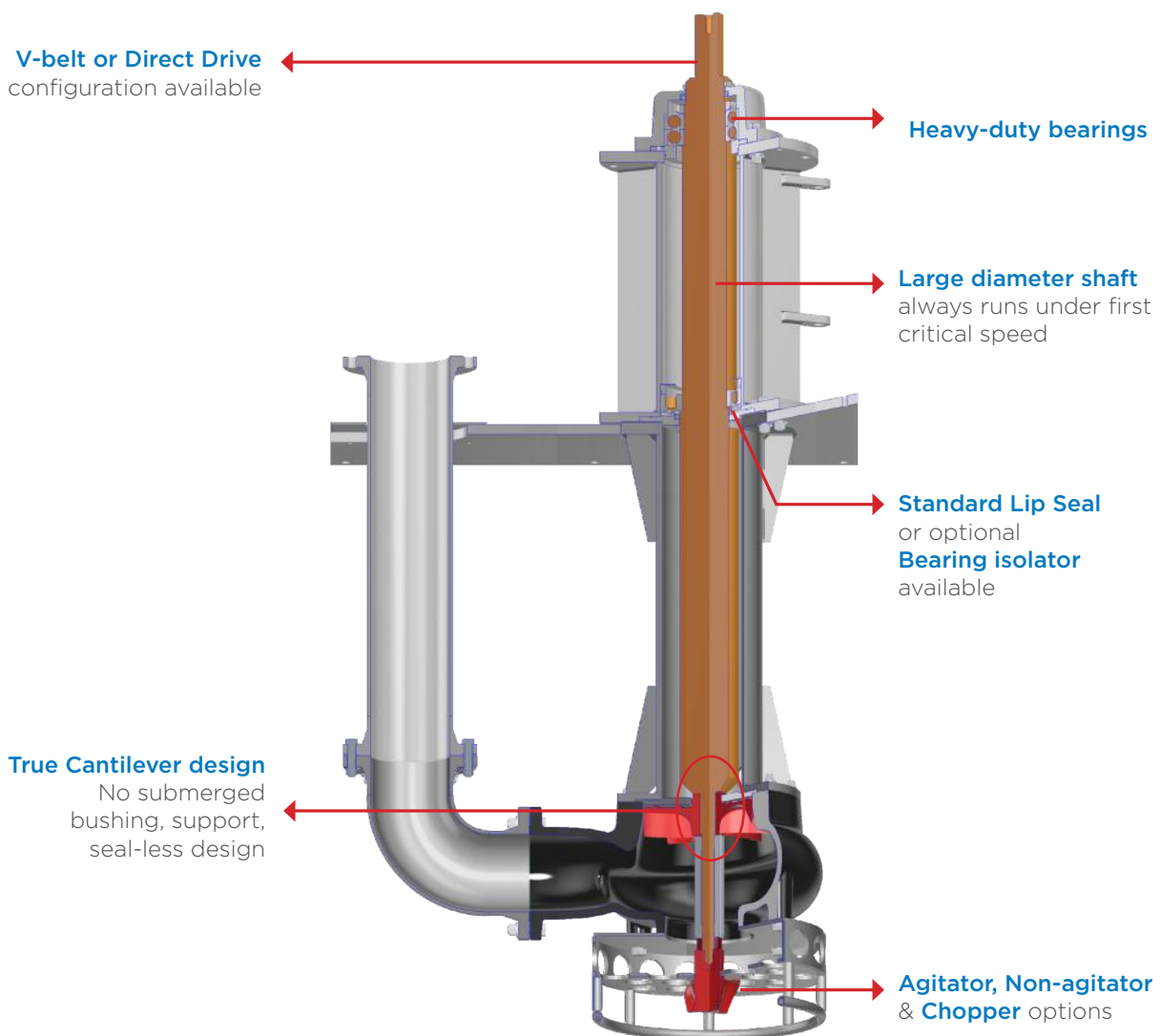


HNC SERIES

VERTICAL CANTILEVER SLURRY PUMP

MAIN FEATURES

TRUE CANTILEVER DESIGN: NO SUBMERGED BEARINGS



HNC OPTIONS

MAXIMIZING FLEXIBILITY & PRODUCTIVITY

SUSPENDORE™

THE EVOLUTION OF AGITATION & MIXING TECHNOLOGY



HEVVY PUMPS, the evolution of TOYO PUMPS, now brings you the next generation of agitator with far superior agitation, mixing and suspension abilities. **We introduced the world to its very first Agitator over 40 years ago and now we're very proud to introduce the patented Suspendore™.**

The best just got better:

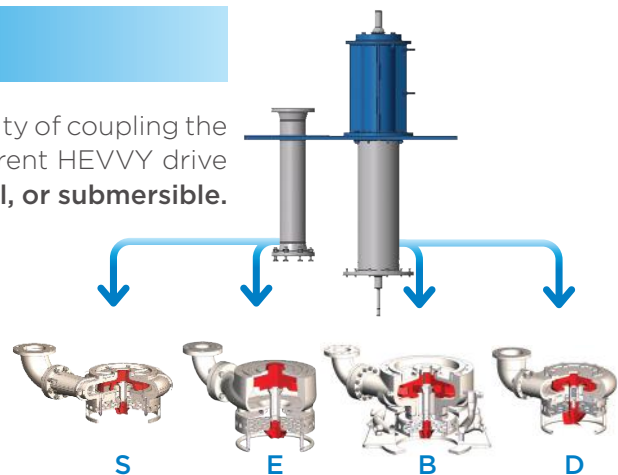
- ▶ **Optimized Thrust:** Like the wings of a fighter jet, Suspendore's™ blades have been engineered to provide the perfect combination of downward and outward thrust without sacrificing efficiency or degrading the suction performance of the pump.
- ▶ **Sump vacuuming ability:** Compound layers of blades are positioned to optimize the Suspendore's ability to lift resting solids into suspension so that they can be pumped rather than settle and collect. **The Suspendore™ helps our pumps act like a sump vacuum cleaner.**
- ▶ **Better wear characteristics:** The Suspendore™ is engineered to maintain its agitation capability for the longest period possible as it wears. We do this through the very intentional placement of our agitation blades and encapsulating shroud.
- ▶ **More modular design:** With our new design, **it's the application that drives the Suspendore's™ size not the pump alone.** If your application requires more agitation we can now fit your pump with a bigger sized Suspendore™ to ensure the most optimized mixing result. (some exceptions apply).

THE MODULAR ADVANTAGE

The HEVVY modular program allows you the flexibility of coupling the pumping ends below with either the same or different HEVVY drive configurations - be it **vertical cantilever, horizontal, or submersible.**

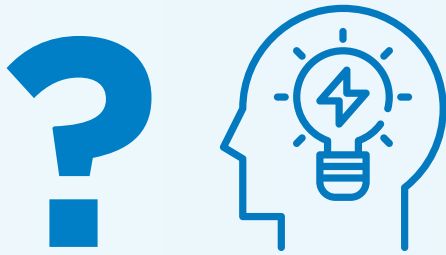
THE MODULAR ADVANTAGES:

- ▶ **Maximum Flexibility**
If your pump performance requirements change, **simply change the pumping end** to ensure you are always achieving maximum productivity and efficiency.
- ▶ **Cost Savings**
No need to buy a brand new piece of equipment when system requirements change. Just change the pump end. If you can standardize on the same pumping ends throughout your plant then you can greatly reduce the need for excessive spare parts inventory.
- ▶ **Increased Productivity**
Production is profit. When systems change the lead times of some custom drive units can not only be long but also expensive. If you can recycle your drive unit and simply change your pumping end you can get back into production quicker, cheaper, with less downtime required.



HNC OPTIONS

MAXIMIZING FLEXIBILITY & PRODUCTIVITY



WE THRIVE OFF NEW IDEAS!

HEVVY specializes in working with our customers to help them **create custom solutions** to solve their toughest applications.

JET RING



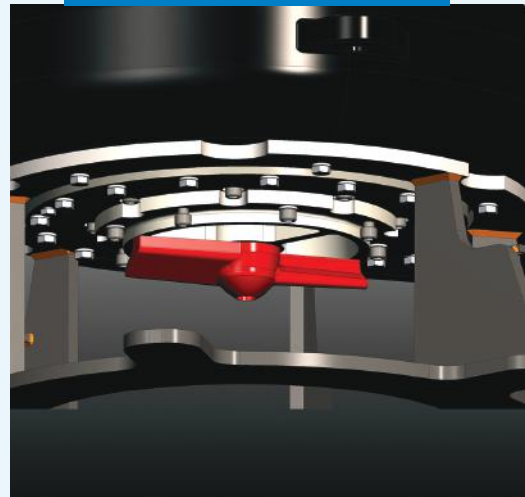
The jet ring **delivers high pressure water** through nozzles to loosen up compacted and heavy solids and thus fluidizing dense solids mixtures into the intake of the pump.

CONTROL PANELS



HNC pumps are available with fully tailored DOL (direct on line) or **Soft Starter** control panels. Available in 380/460/575V configurations in either 50/60Hz. **VFD configurations also available.**

CHOPPER



This wholly independent chopper unit features heavy duty blades, located in front of the pump's suction. Best of all, because the chopper unit is independent of the impeller, as the unit dulls or wears, **it can be replaced without having to replace the whole impeller assembly.**

Available for S and E wet ends.

HNC OPTIONS

MAXIMIZING FLEXIBILITY & PRODUCTIVITY

CUSTOM BASEPLATES & SUCTION PIPES WITH JET OPTION



Any shape and any size can be considered to mirror or retrofit existing or tough fit installations.

UNDERSLUNG BEARING HOUSING



When in need of a little extra length, the bearing housing can be configured below the baseplate allowing you to go reach a little deeper into the sump **when critical speeds become an issue.**

CUSTOM PAINT



Although Hevvy's standard epoxy paint has been carefully selected for tough industrial applications and suitable for immersion, **HEVVY can work with many custom paint specifications or color.**

RUBBER COATED PARTS

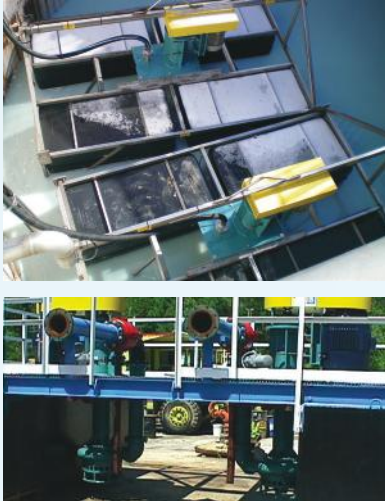


When corrosion or abrasion present a challenge **HEVVY can rubber line key critical components for longer lasting life.**

HNC OPTIONS

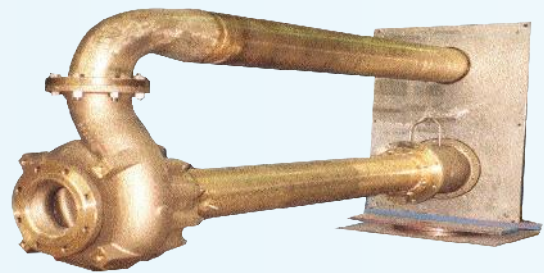
MAXIMIZING FLEXIBILITY & PRODUCTIVITY

PONTOONS



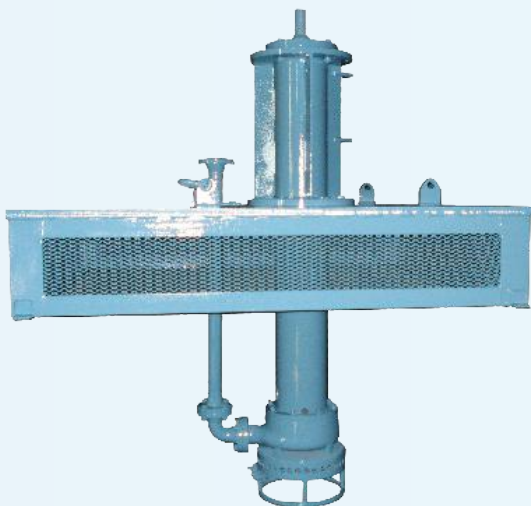
Custom pontoons can be designed to fit any of HEVY's product lines.

CUSTOM METAL SELECTION



HEVY ENGINEERING can work with you to help select the **most appropriate materials** for your tough applications.

CUSTOM STRUCTURES



Custom structures can be manufactured to provide **safe support for elevated installations** when wash down water needs to be managed.

ANTI-VORTEX SCREEN



Breaks swirl and helps present a laminar flow to the suction inlet which **reduces chance of cavitation.**

HNC SERIES

FROTH PUMP SYSTEM

Your **all in-one-unit** of seal-less pump, sump, and driver designed to separate air from slurry prior to pumping for **maximum pumping ability**.

- ▶ Utilizing HEVVY's **proven, robust yet low maintenance cantilever technology** - with no submerged seals and patented axial spiral hydraulic design - to maximize pumping efficiency
- ▶ Conical tank optimized using **computational fluid dynamics** to create a vortex that allows the air entrained in the slurry to escape prior to pumping
- ▶ Designed for **ease of install and connectivity**
- ▶ High efficiency, recessed, **vortex inducing wet end** capable of pumping high concentrations of entrained air
- ▶ All designs run under **1st critical speed** for added **robustness of the shaft/bearing assembly and for flexible operating speeds**
- ▶ **Semi-Open wet end** available for higher solids concentration
- ▶ Metal, rubber, and a **wide range** of metal/polymer options available on request

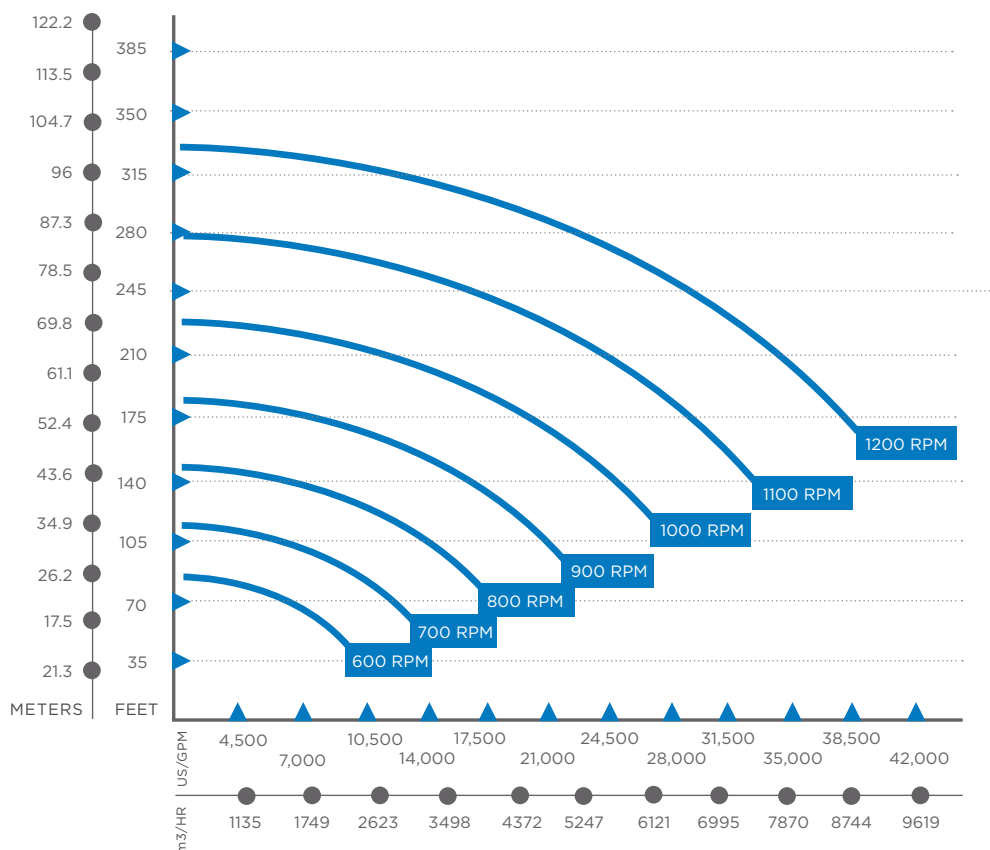
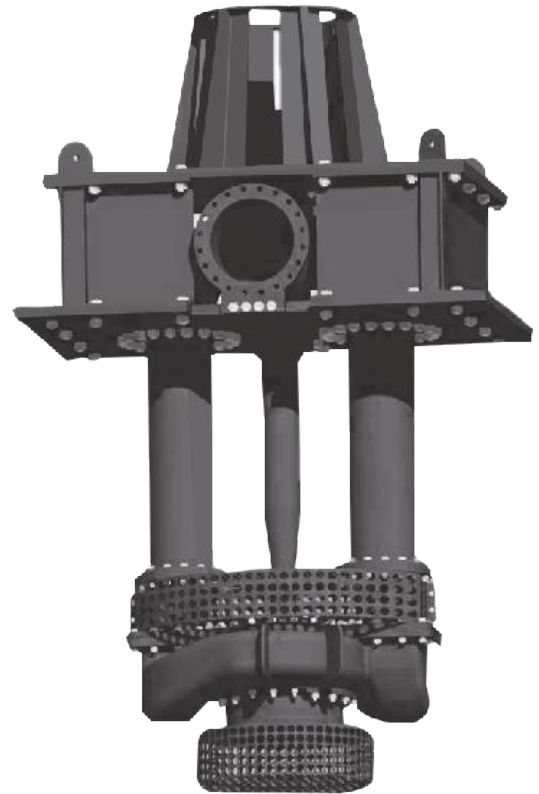


HNC SERIES

T500 CANTILEVER PUMP

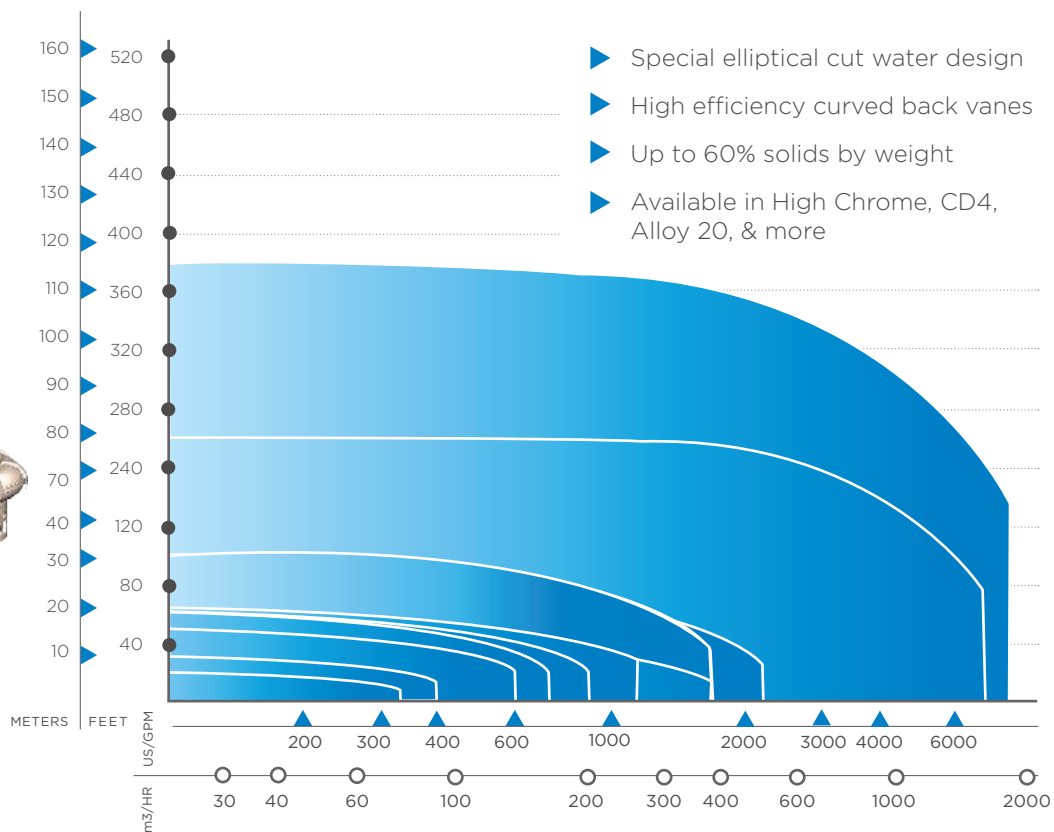
Discharge Size	20", 150# FF Flange
System Head	Heads to 77m (250 ft)
Capacity	Capacities to 6,800m ³ /hr (30 000 gpm)
Materials	Corrosion/erosion resistant metal alloys

- ▶ Double suction intake design for high capacities and balanced axial loading
- ▶ Cantilever design with no submerged bearings
- ▶ Impellar clearance is adjustable for wear without disassembling the liquid end
- ▶ Suction screens prevent entrance of large solids or debris into the impellar
- ▶ Twin volute for balanced radial loads
- ▶ Class 1 slurry, great for water reclaim applications



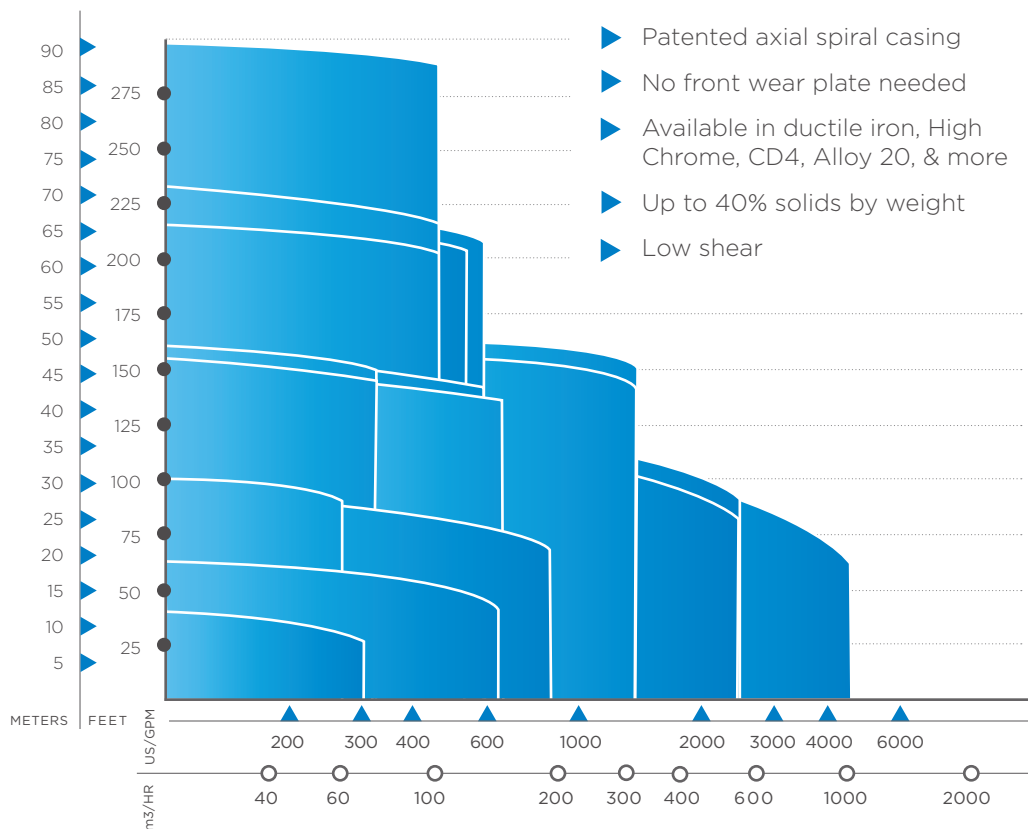
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SEMI-OPEN IMPELLER



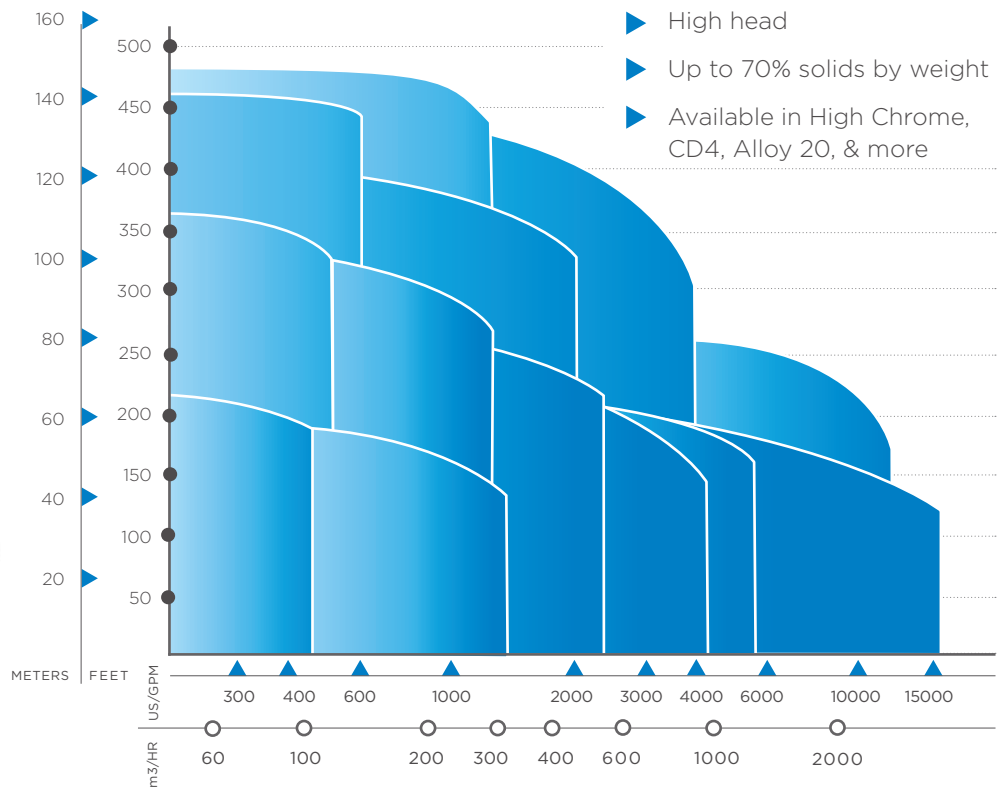
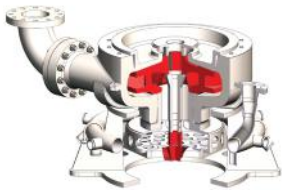
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VORTEX IMPELLER



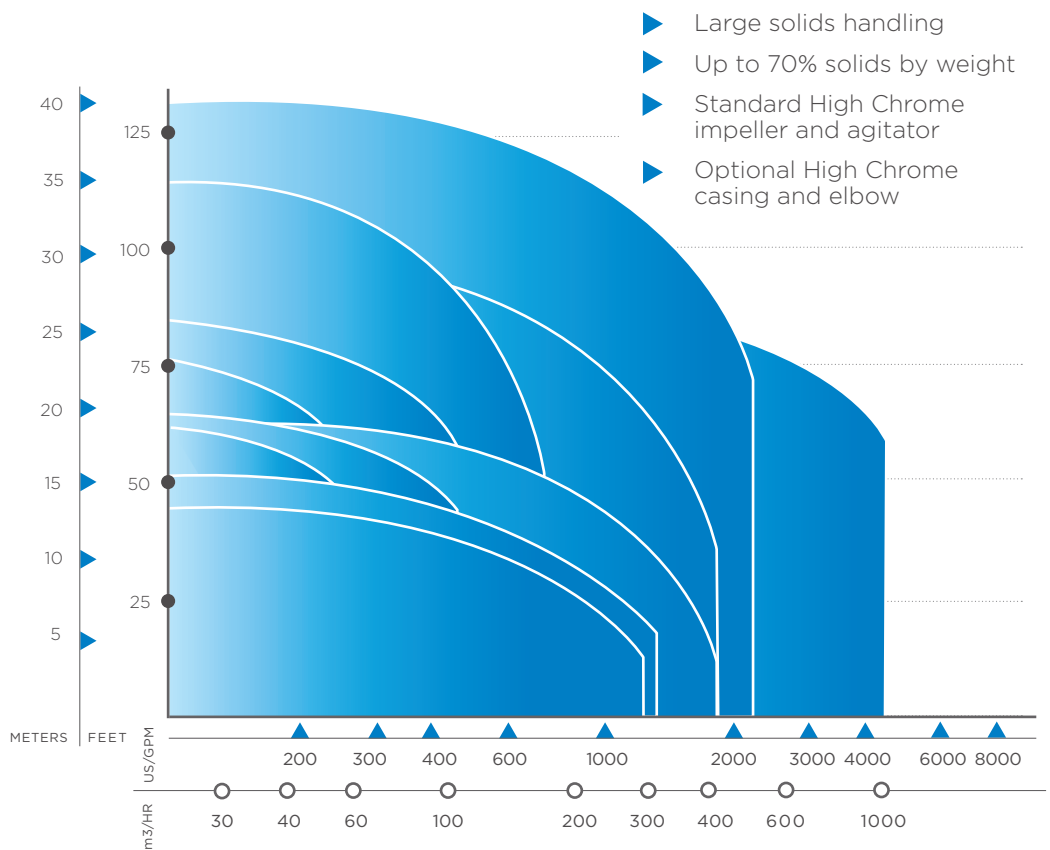
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CLOSED IMPELLER



D

CLOSED IMPELLER



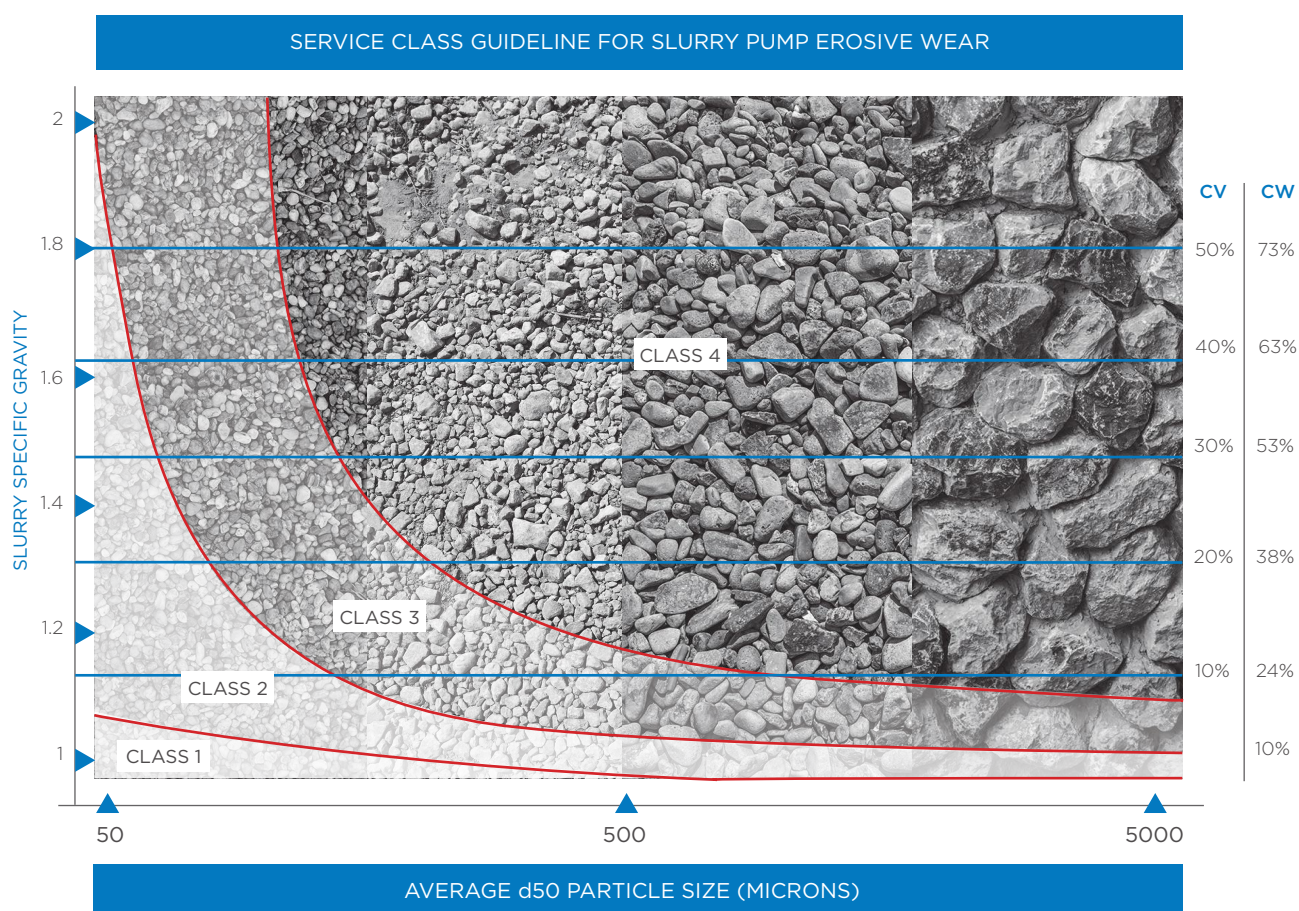
HEVVY SLURRY

CLASSIFICATIONS

At HEVVY PUMPS we were born out of our passion for pumping solids. The majority of pumping companies began life as a water pumping company. Therefore, if they now offer a “slurry” pump, they’ve simply adapted one of their water pumps to do a slurry pumps’ job. This is not always the ideal solution (similar to asking a pick-up truck to do a dump truck’s job).

To find the right solution for your application it is important to first understand what it is you are trying to pump. Slurries come in many shapes, sizes, weights, levels of abrasion or corrosion and consistency. For your convenience, **the industry defines slurries by classes.** We have included a very simplified chart (see below) to assist you in understanding what slurry class you might be dealing with. As always we are happy to help you choose the right solution for your application. Please give us a call if this is all as clear as well... slurry.

SLURRY TYPES: SILT | SAND | TAILINGS



The above chart is for use as a guide only. It assumes 2.65 Ss silica-based solids. Adjust rating to account for solids of different abrasivity using ASTM G75-95. The chart is based on the Hydraulic Institute's Slurry Class guideline. For more information about the HI Slurry Classes please visit <http://pumps.org> or call HEVVY PUMPS for assistance.

THE EVOLUTION OF OUR CANTILEVER PRODUCT'S IDENTITY

Currently we're in the process of giving some of our products a new identity. We're doing this for a few reasons:

- to continue our evolution from TOYO PUMPS to HEVVO PUMPS;
- in hopes of simplifying the product offering from an identity point of view;
- to highlight one of our products' greatest advantages – it's modularity. Meaning that you can couple most of any one of our pump ends on most of our drive ends be it submersible, vertical cantilever, or horizontal.

Rest assured, the products you know and love haven't changed even through you may be calling them a new name in the future. We continue to invest heavily in research and development, as well as follow our passion for technology and engineering design. At the same time, we are carefully building our HEVVO/ TOYO PUMP TEAM which allows us to continue our mission of continuously improving our product's overall life, performance, and ability to withstand the toughest applications on earth.

Many of you will have legacy products and may have concerns about the need to change product names or descriptions in the system. There really is no cause for concern, even if you want to order duplicate pumps or parts, under your traditional way of identifying it, we'll make the transition on our end and deliver you exactly what you've always ordered.

We want this process to be seamless and painless for you; please feel free to tell us how we can help.

For some period of time you will likely receive curves or other technical documentation with some legacy identity. This is also fine. It's all part of the journey.

For reference:

- ▶ DEC will be known as the HNC-E
- ▶ DBC will be known as the HNC-B
- ▶ DC will be known as the HNC-D
- ▶ Our newest semi-open impeller pump hydraulic is the HNC-S

For questions or assistance, please feel free to contact your local Regional Manager or: info@hevvypumps.com

GIVE US YOUR WORST



HEVVO PUMPS is proud to offer a **complimentary pump audit** of your four worst pumping applications, complete with a report.

HEVVO'S NO RISK TRIAL PROGRAM

Be confident that your **HEVVO PUMP** will work with our **No Risk Trial Program**. All we need is a little information about your application and a commitment from you - when our pump meets the expectations that we both agree on - that you will keep the pump.

Contact your Regional Manager or applications@hevvypumps.com for more information.



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