

# Gorman-Rupp Addresses Concerns for Higher Head, Greater Flow Through Research & Development



*The Pump People®*

Increasingly, end users in the construction, industrial and wastewater markets are realizing the need for higher heads or to pump liquids greater distances, over challenging topography.

Professional Engineers and municipal designers have previously had little choice but to overextend pump performance limits of conventional self-priming centrifugal trash pumps, potentially shortening the life of the pump and risking safety issues in the process.

Thousands of hours of research and development and years of experience have resulted in the introduction of Gorman-Rupp's new Ultra V Series®: self-priming centrifugal trash pump. The pump offers increased pressure/flow range, up to 170 feet of head in the allowable operating region, designed to meet the new challenges presented by end users.

For pressures that go beyond the improved capability of this new pump technology, an innovative straight centrifugal, the UltraMate®, has been developed to become an integral part of the Ultra V pumping system. This patent pending staged design allows the UltraMate to be mounted directly on top of the Ultra V pump. This is accomplished by using a unique transition chamber which reduces pressure loss, increases efficiencies, and minimizes the required footprint. The combination of



**Superior solids-handling and increased pressure capabilities make Ultra V Series® pumps ideal for a variety of municipal and industrial applications.**

the Ultra V and the UltraMate produces up to 325 feet of head, again within the allowable operating region.

## A Pump Unlike Anything Else

The new Ultra V and the UltraMate from Gorman-Rupp are designed from the ground up with increased performance and serviceability in mind. By featuring revolutionary new volute geometry, higher efficiency is achieved. An increased suction port size reduces friction losses, decreasing net positive suction head (NPSH) requirements. The pump also features improved impeller design geometry and nominally

increased shaft speed. All of these design features contribute to the pump's increased performance. At the same time, the pump has reduced the noise level over previous pumps while maintaining municipal solids handling requirements.

The results of thousands of test have shown unparalleled performance, achieving up to 60 percent increased pressure while offering up to 40 percent increased flow over any self-priming centrifugal solids handling pumps of the same size. Peak unit efficiency is also an improvement over current self-priming, centrifugal, solids handling pumps. Improved efficiency means lower horsepower that equates to reduced operating costs.

Available in 3", 4" and 6" models, the pump housing is made of cast iron. The impeller is ductile iron. The pumps can be fitted with Gorman-Rupp Hard Iron or stainless steel. The pump is designed for solids handling – dirty water, trash laden – applications.

## The Heart of Improvement

By incorporating a self-cleaning feature, total operating costs are reduced since the pump is kept at peak performance. The combination of specifically developed notches on the replaceable wear plate and matching grooves in the back cover plate ensures debris is cleared away and does not hang up on the impeller vanes, causing a clog.

The large back cover plate offers easy access for inspection and maintenance. The cover plate has external shimless adjustments, which also helps maintain the clearance between the impeller and wearplate, keeping the pump at peak efficiency.

To meet demands for ease of operation, an easily removable rotating assembly is also part of the pump's innovative design. This feature makes replacement easy - without disturbing the pump casing or piping, resulting in less downtime. Pusher bolt holes are provided to assist with removal. Additionally, the rotating assemblies are interchangeable between the upper and lower pump assemblies.

A positive sealing suction check valve is standard on the pump to reduce constant re-priming associated with some self-priming centrifugal pumps. An externally removable stainless steel cap can easily be removed and the check valve replaced without taking the pump out of service, or disconnecting any piping. A blowout center is provided to protect the pump should an internal pressure spike occur.



**The suction check valve on Ultra V Series pumps is externally removable eliminating the need to disconnect from piping for inspection or replacement.**

Each rotating assembly is supplied with Gorman-Rupp's patented cartridge seal, making installation easy. There is also extra large seal oil capacity that provides superior seal face longevity.

Within the seal chamber, anti-vortexing ribs to reduce internal wear are also featured. Additionally, the pump has a patented atmospheric isolation barrier to protect the bearings from contamination should pumpage move past the primary containment. Dual sight gauges allow for easy observation of oil condition and levels for both the seal and bearing chambers.



## The UltraMate® Companion

The Ultra V, with up to 168 feet of usable head, will satisfy approximately 80 percent of the application requirements that currently exist. When extreme head requirements are encountered, the UltraMate may be added to the configuration to reach up to 325 feet of usable head.

There are just two components the Ultra V and UltraMate do not share, which means parts inventories are kept to a minimum. The rotating and coverplate assemblies are interchangeable with the first stage.

The UltraMate is staged directly on top of the Ultra V, offering end users a space-saving footprint, which can be a significant point of savings. Further, optimizing floor space allows for several innovative motor arrangements powering the pump. It is, in essence, two pumps in one.

The transition chamber between the Ultra V and UltraMate pump is direct, minimizing friction loss and maximizing the unit efficiency. The second stage also has the patented



**The SmartScroll® discharge locator can be ordered in vertical or horizontal facing, left or right positions to fit your specific piping system.**

SmartScroll® discharge feature that allows it to be rotated in 90-degree increments to a variety of orientations, offering installation flexibility while easing plumbing restrictions.

New pump technology is designed to meet – and exceed – the new challenges in the construction, industrial and wastewater markets. Professional engineers and municipal designers now have more choices in pump applications.

## About The Gorman-Rupp Company

The Gorman-Rupp Company is a leading manufacturer of pumps and pumping systems for the municipal, water, wastewater, sewage, industrial, construction, petroleum and OEM markets. The company's Engineered Systems operation also manufactures a full line of water pressure booster stations including pumps, motors, valves and controls – all housed in weather-proof fiberglass enclosures – meeting about any municipal water supply need.

Ultimately, Gorman-Rupp prides itself on manufacturing and delivering the right pump for the job.



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