



**PRIME AIRE® &  
PRIME AIRE PLUS®**

Priming-Assisted  
Pumps



*The Pump People®*



**GR**  
GORMAN-RUPP  
PUMPS  
MANASSAS, VA, USA

**Prime Aire**

**SAFETY**  
WARNING

100000

# A History Of Innovation

Gorman-Rupp has been revolutionizing the pumping industry since 1933. Many of the innovations introduced by Gorman-Rupp over the years have become industry standards.

More than ever, we continue to update our factories, processes, research and development and engineering to ensure that our pumps and systems are among the most reliable and efficient in the world. One of our most successful and innovative lines of pumps has been our self-priming models.

Revolutionary improvements were made in 1963 with the introduction of our T Series® self-priming pumps. Since then, continuous improvements to head, flow and efficiency have been made.

In 1996, we introduced our Prime Aire® line of priming-assisted (dry prime) pumps for the construction industry.

Today, Gorman-Rupp priming-assisted pumps are a leading choice for contractors, municipalities and industrial operators throughout the world handling the toughest jobs from sewage bypass to large volume dewatering.

Gorman-Rupp's commitment to our original philosophy of innovation, continuous improvement, unparalleled quality and customer service continues to set us apart from others.

## A Leading Choice

**Introduced in 1996, the Prime Aire® pumps were developed with the harsh construction environment in mind. Today they are used around the world across many municipal and industrial settings.**



# Delivering Decades Of Performance And Value

Gorman-Rupp is committed to meeting your fluid-handling requirements long after installation. The quality manufacturing and testing that goes into every Prime Aire® and Prime Aire Plus® pump guarantee long-lasting, trouble-free operation. And we provide a two-year warranty and fast parts service to back up our products and ensure your peace of mind.

Prime Aire® and Prime Aire Plus® pumps boast some of the lowest life cycle costs in the industry. Because of the quality manufacturing and testing that goes into every Gorman-Rupp product, you benefit

from minimal service interruptions and some of the lowest maintenance in the industry. Gorman-Rupp delivers the best ROI by ensuring low operating costs for the long haul.

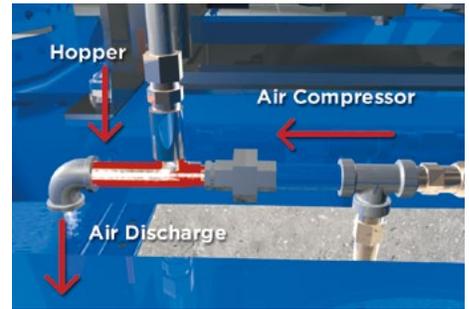
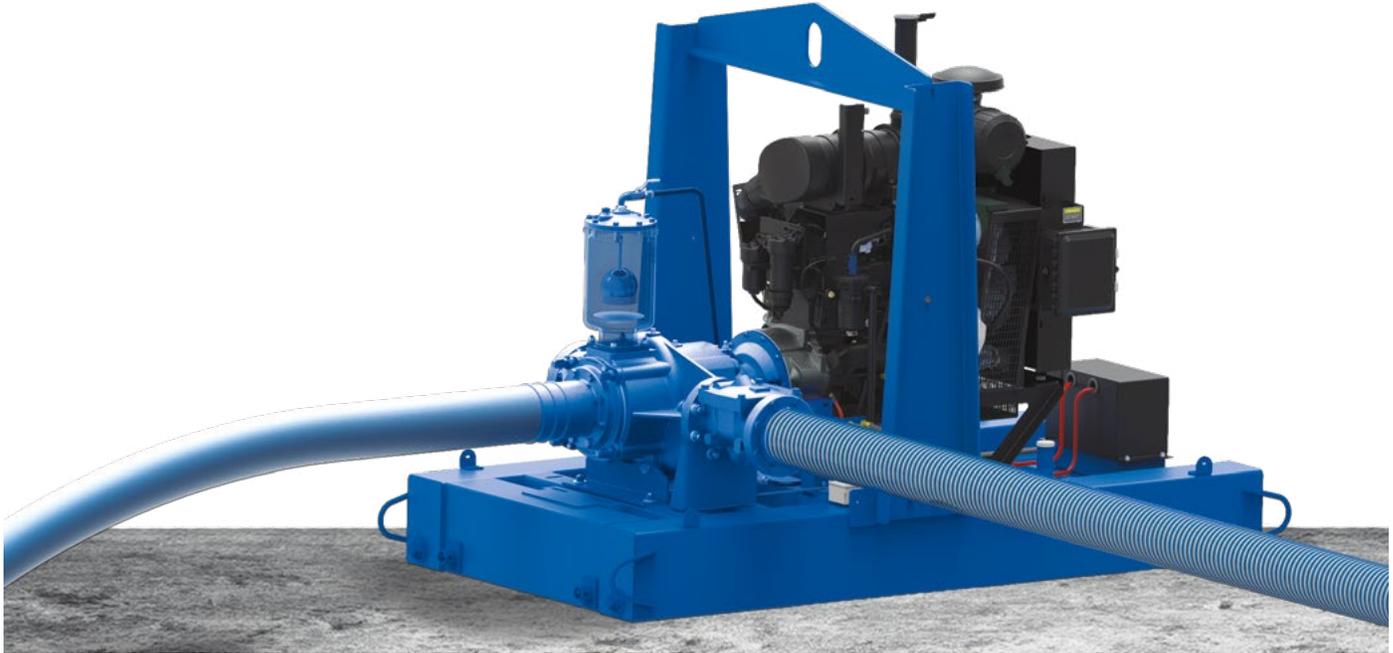
When you need a replacement part for your Prime Aire or Prime Aire Plus pump, you'll have it fast. With tens of thousands of genuine Gorman-Rupp parts and pumps on hand, we fill and ship most part orders within 24 hours. Should your PA Series® or PAH Series® pump require service, our worldwide network of factory-trained distributors are ready to quickly respond.

**With just one number to call for parts and service, it's easy and convenient to keep your equipment performing as it should.**



# Positive Reliable Priming – Time After Time

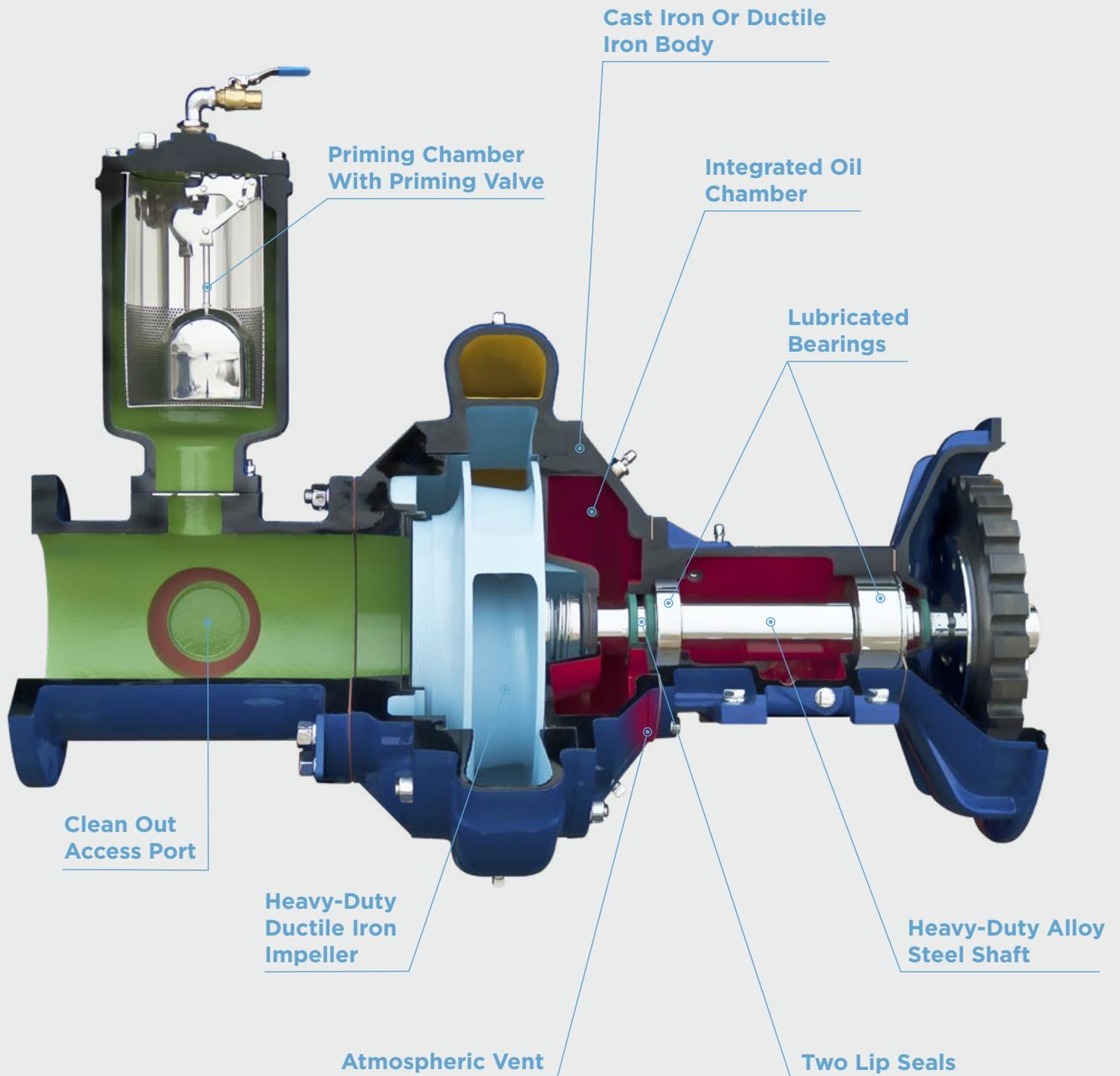
Dry-run capability is designed into Gorman-Rupp's unique priming-assisted system. An oversized, oil-lubricated seal allows the pump to run dry continuously without causing any damage.



## Dry Priming

The Prime Aire® and Prime Aire Plus® pump systems use a venturi compressor priming chamber and priming valve which eliminates the leaks associated with traditional priming-assisted pumps. Compressed air is forced through the venturi by the air compressor to create a vacuum. The air in the pump casing and suction line are then evacuated with the compressed air to the atmosphere. The pump begins to prime as atmospheric pressure causes water to replace the evacuated air.

This unique system reduces environmental concerns on sewage bypass operations and also enables the pump to operate under flooded suction conditions without leaking. The positive priming capabilities of the PA Series® and PAH Series® make them the perfect choice for applications where large volumes of air is in the liquid being pumped, there are intermittent flows or there are long or oversized suction lines.



## Specifications

Pump Size: 3" (75 mm), 4" (100 mm), 6" (150 mm), 8" (200 mm), 10" (250 mm), 12" (300 mm), 14" (350 mm), 16" (400 mm)

Max Capacity: 15400 GPM (972 lps)

Max Head: 540' (165 m)

Max Solids: 4" (102 mm)

Materials of Construction: Cast Iron, Ductile Iron, CD4MCu - Duplex Stainless Steel



All PA Series® and PAH Series® pumps come standard with a two-year warranty.

# Configured To Suit Your Pumping Requirements

## Optional Accessories

Configured to suite your pumping requirements, Gorman-Rupp priming-assisted pumps will tackle a variety of fluids including clear liquids, tough solids and slurries. For sewage bypass operations, construction site dewatering and remediation or other applications where intermittent flow can be a problem, these dependable, versatile performers help move large volumes of water quickly, even when sticks, stones and debris would normally present a problem.



### Air Compressor Over The Pump

Popular Prime Aire® and Prime Aire Plus® models are equipped with a “compressor-over-pump” arrangement. This innovative configuration option provides a self-contained, compact, flexible design and allows for ease of operation and service if necessary.



### Diaphragm Priming System

As an alternative to the venturi/compressor priming system, Gorman-Rupp offers an integrally mounted diaphragm vacuum pump for the priming assembly on select Prime Aire pump models. The diaphragm primer pump offers up to 60 CFM and vacuum to 30'. Consult factory for details.



### Abrasive-Handling Seal

Most priming-assisted models use oversized, oil-lubricated mechanical seals that are specifically designed for abrasive and/or solids-handling service. Consult the factory for additional seal configurations.



### Auto-Start Controls

These controls allow the pump to turn on and off in response to fluctuating liquid levels. A state-of-the-art microprocessor-based digital engine control monitors all engine functions, including alarms. The control panel features an easy-to-read 32-character display. It is ideal for conserving fuel, avoiding engine overhauls and comes standard on priming-assisted pump models.





1a



1b



1c



1d

## Impeller Options

Priming-assisted pumps utilize a variety of impeller types based on your specific application. Many models feature rugged, two vane, ductile iron, semi-open solids handling impellers (**1a or 1b**) that handle up to 4" (101.6 mm) diameter solids. For clean water applications, pump models use higher-efficiency enclosed impellers (**1c or 1d**).



## Aggressive Self-Cleaning Wearplate

Equipped with the Eradicator® solids management technology, the aggressive self-cleaning wearplate utilizes grooves, notches and a lacerating tooth to breakup stringy materials and pass them through the pump without impacting performance or interrupting service. Many Prime Aire Plus® models include a side port which allows easy access to pump interior for inspection and clean out, should a clog occur.



**For sewage bypass operations, construction site or mine dewatering or any other application where intermittent flow can be a problem, these dependable, versatile performers help contractors and municipalities move large volumes of liquid — fast.**

# Gorman-Rupp Priming-Assisted Pumps

## Prime Aire®



**PA Series®**  
Engine Driven



**PA Series®**  
Electric Driven



**PA Series®**  
Sound-attenuated Modular  
Enclosure

## Experience Performance

With a variety of sizes and operating ranges, Gorman-Rupp's extensive line of Prime Aire® priming-assisted pumps are hard-working, dependable and ready to tackle the toughest applications including large solids and slurries.

The Prime Aire system uses a venturi compressor priming chamber and priming valve which eliminates the leaks associated with traditional priming-assisted pumps. This unique system reduces environmental concerns on sewage bypass operations and also enables the pump to operate under flooded suction conditions

without leaking. The positive priming capabilities of the PA Series® make it the perfect choice for applications where a large volume of air is in the liquid being pumped, there are intermittent flows or there are long or oversized suction lines. Prime Aire pumps may be purchased as individual pump ends or configured with EPA Tier compliant engines.



### Configured For Your Pumping Needs

Already have an engine? PA Series pump ends can be SAE mounted for direct connection to flywheel housings.

## Features

- Dry-run capability
- Oversized, abrasive-handling mechanical seal
- Standard auto-start control
- A variety of impeller options
- Sound-attenuated and electric-driven configurations available on some models
- Dual-suction side capability (PA6C60 model only)
- Fuel level monitoring system (on Tier IV engine-driven models)



**PA Series®**  
Sound-attenuated Clamshell  
Enclosure



**ReliaPrime®**  
Sound-attenuated Back-up  
System



**ReliaSource®**  
Packaged Pumping Stations

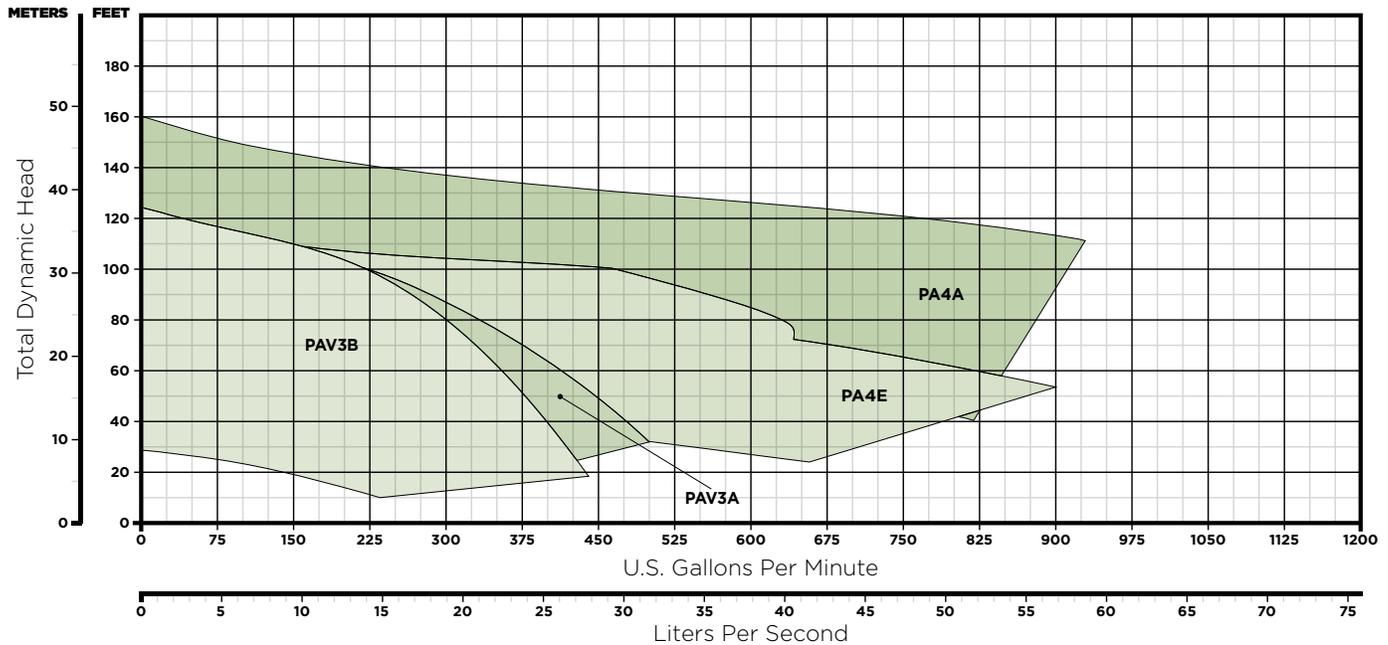


The modular design, featured on several PA Series® pump models, enables the addition/removal of a lightweight, aluminum, acoustically-treated enclosure to the standard fuel base. The enclosure provides excellent corrosion resistance and offers a significant reduction in sound levels.

# Gorman-Rupp Prime Aire® Pumps

## Delivering Excellence

### 3" & 4" Solids-Handling Models



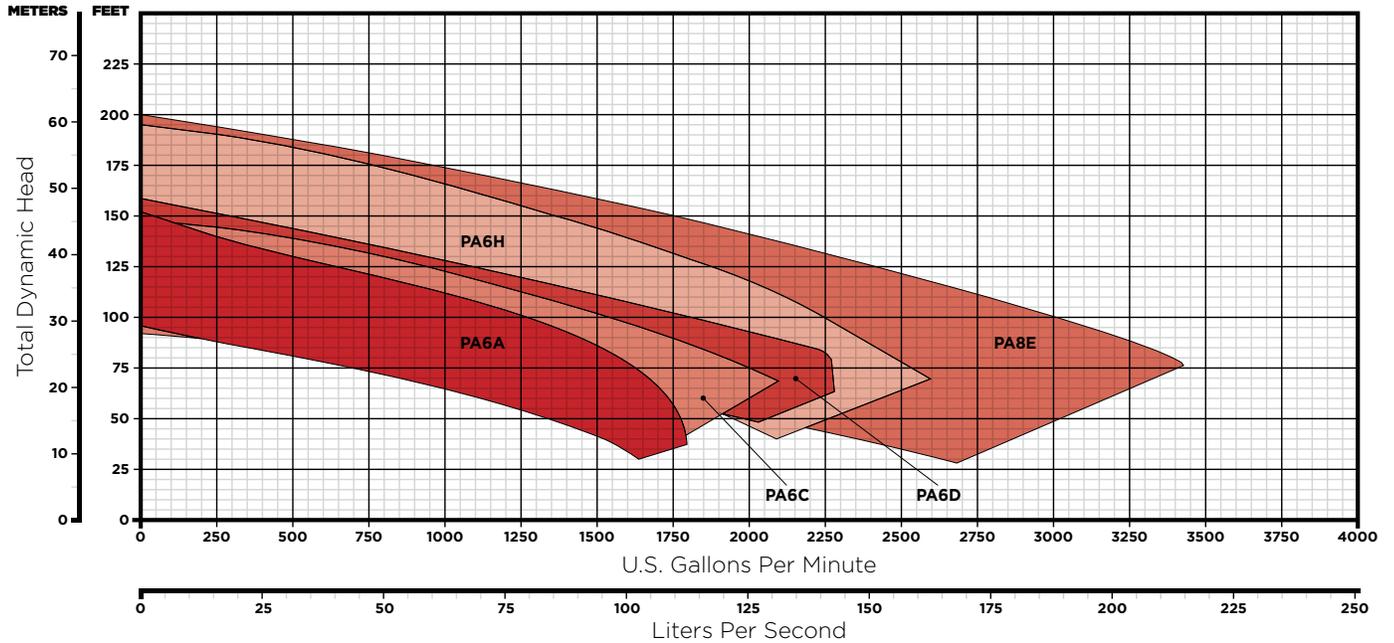
## Operating Ranges

Model	Size (Suc. x Dis.)	Max. Capacity	Max. Head	Max. Solids	Construction	Enclosure
<b>PAV3A</b>	3" x 3" (75 mm x 75 mm)	500 GPM (32 lps)	117' (36 m)	3" (76 mm)	Cast Iron	N/A
<b>PAV3B</b>	3" x 3" (75 mm x 75 mm)	440 GPM (28 lps)	124' (38 m)	3" (76 mm)	Cast Iron	N/A
<b>PA4A</b>	4" x 4" (100 mm x 100 mm)	930 GPM (59 lps)	160' (49 m)	3" (76 mm)	Cast Iron	Sound-attenuated
<b>PA4E</b>	4" x 4" (100 mm x 100 mm)	900 GPM (57 lps)	120' (37 m)	3" (76 mm)	Cast Iron	Sound-attenuated Clamshell

Gorman-Rupp Prime Aire® pump models can be driven by products from the following engine manufacturers: Deutz, Isuzu, John Deere, Yanmar. Consult Gorman-Rupp factory for product availability.



## 6" & 8" Solids-Handling Models



## Operating Ranges

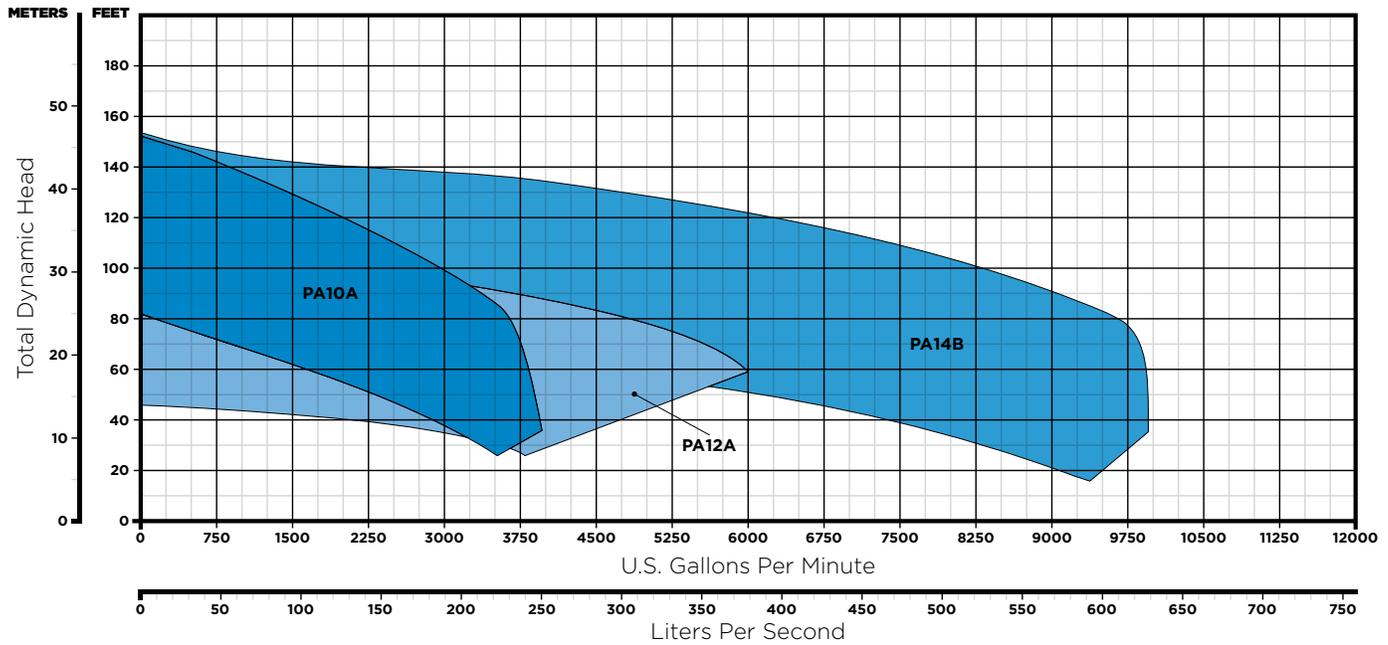
Model	Size (Suc. x Dis.)	Max. Capacity	Max. Head	Max. Solids	Construction	Enclosure
PA6A	6" x 6" (150 mm x 150 mm)	1800 GPM (114 lps)	152' (46 m)	3" (76 mm)	Cast Iron	N/A
PA6C*	6" x 6" (150 mm x 150 mm)	2100 GPM (133 lps)	148' (45 m)	3" (76 mm)	Ductile Iron	Sound-attenuated
PA6D	6" x 6" (150 mm x 150 mm)	2280 GPM (144 lps)	158' (48 m)	3" (76 mm)	Cast Iron	Sound-attenuated
PA6H	8" x 6" (200 mm x 150 mm)	2600 GPM (164 lps)	195' (59 m)	3" (76 mm)	Ductile Iron	Sound-attenuated
PA8E	8" x 8" (200 mm x 200 mm)	3440 GPM (217 lps)	200' (61 m)	3" (76 mm)	Ductile Iron	Sound-attenuated

*Gorman-Rupp Prime Aire® pump models can be driven by products from the following engine manufacturers: Deutz, John Deere. Consult Gorman-Rupp factory for product availability.*

\*Dual side suction capability feature a removable coverplate and adjustable/replaceable wearplate.

# PA Series® – Setting A New Standard In Priming-Assisted Performance

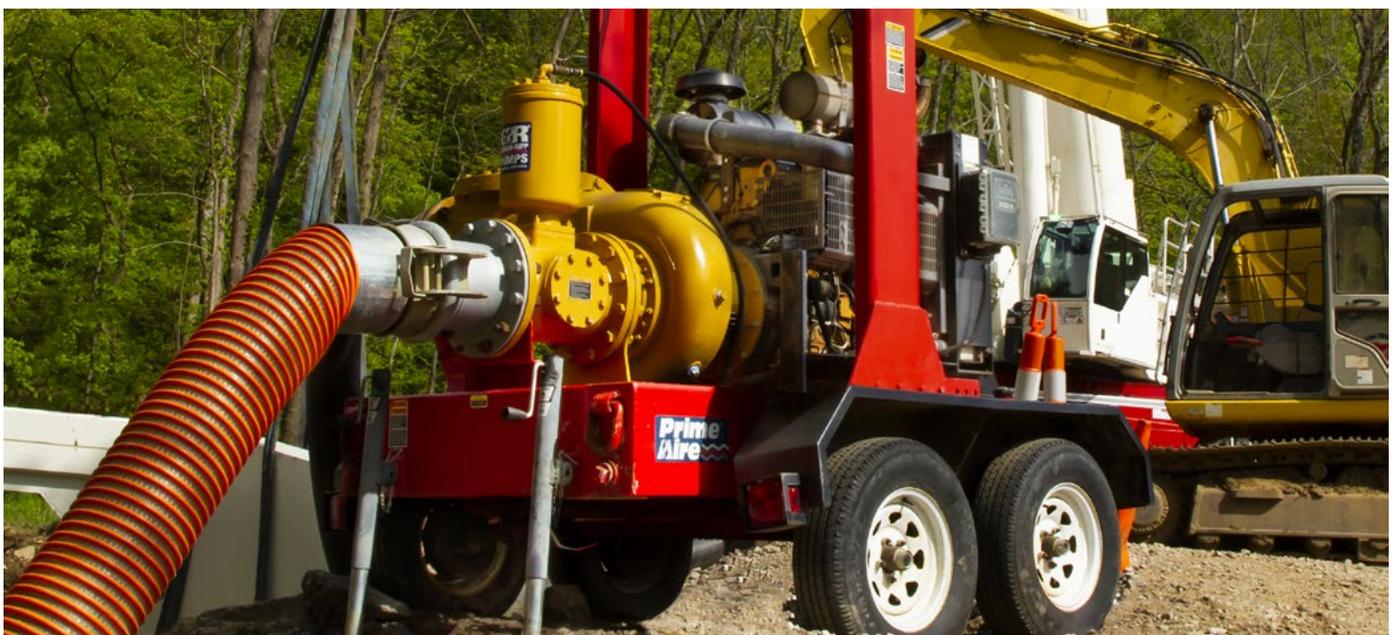
## 10", 12" & 14" Solids-Handling Models



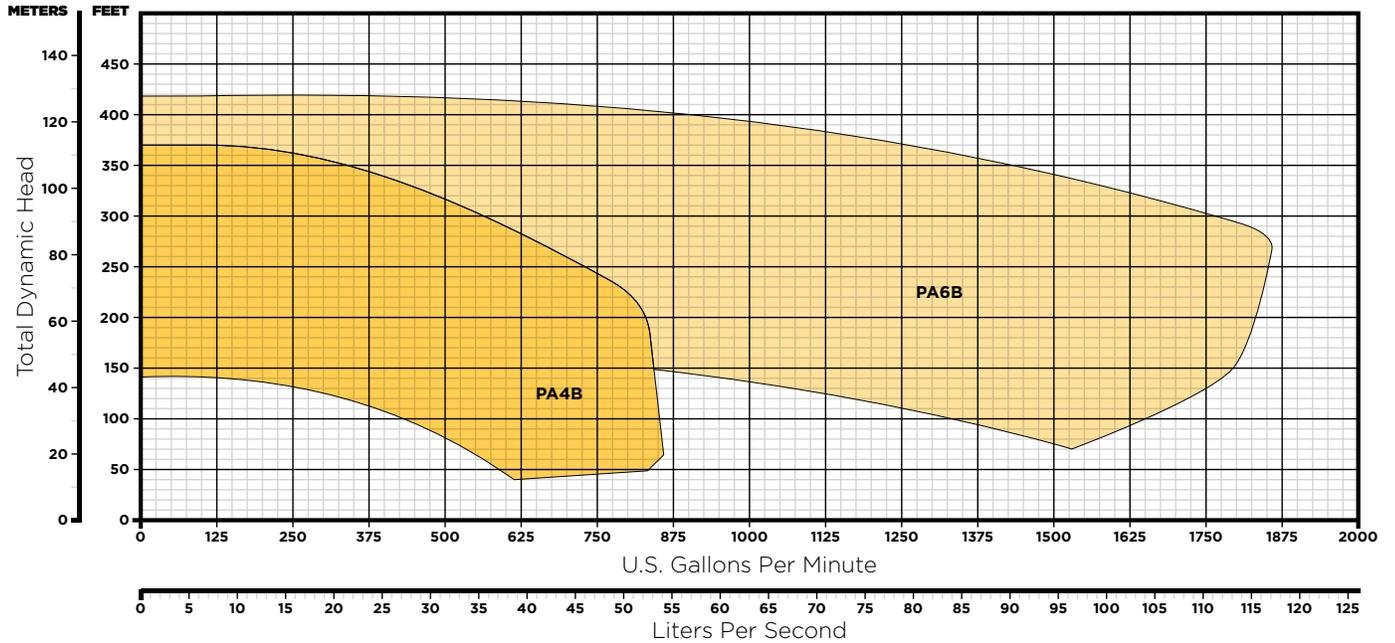
## Operating Ranges

Model	Size (Suc. x Dis.)	Max. Capacity	Max. Head	Max. Solids	Construction	Enclosure
<b>PA10A</b>	10" x 10" (250 mm x 250 mm)	3920 GPM (247 lps)	152' (46 m)	3.25" (82 mm)	Cast Iron	Sound-attenuated
<b>PA12A</b>	12" x 12" (300 mm x 300 mm)	6000 GPM (379 lps)	109' (33 m)	3" (76 mm)	Cast Iron	Sound-attenuated
<b>PA14B</b>	14" x 14" (350 mm x 350 mm)	9900 GPM (625 lps)	154' (47 m)	3.5" (88 mm)	Ductile Iron	Sound-attenuated

Gorman-Rupp Prime Aire® pump models can be driven by products from the following engine manufacturers: Caterpillar, John Deere. Consult Gorman-Rupp factory for product availability.



## 4" & 6" Clear Liquid-Handling Models



## Operating Ranges

Model	Size (Suc. x Dis.)	Max. Capacity	Max. Head	Max. Solids	Construction
PA4B	6" x 4" (150 mm x 100 mm)	860 GPM (54 lps)	370' (113 m)	.41" (10 mm)	Cast Iron
PA6B	6" x 6" (150 mm x 150 mm)	1860 GPM (117 lps)	420' (128 m)	.69" (17 mm)	Cast Iron

*Gorman-Rupp Prime Aire® pump models can be driven by products from the following engine manufacturers: John Deere. Consult Gorman-Rupp factory for product availability.*

# Gorman-Rupp Priming-Assisted Pumps

## Prime Aire Plus®



**PAH Series®**  
Engine Driven



**PAH Series®**  
Electric Driven

## Increased Head, Increased Flow

PAH Series® priming-assisted pumps are designed and engineered for the most rugged and demanding mining, construction, municipal, agricultural and industrial applications. All Prime Aire Plus® models are backed by an industry leading two-year warranty and are factory tested before they leave our facility.

Prime Aire Plus pumps utilize the same venturi/compressor priming system as the Prime Aire® product

line. Increased head, flow and enhanced maintenance features are additional benefits of the PAH Series line. Models feature sizes up to 16" and are suitable for clear liquids and liquids containing large solids. All Prime Aire Plus pumps may be purchased as individual pump ends or configured with EPA Tier compliant engines or premium efficiency motors.

## Features

- Integral seal oil chamber
- Two lip seals and atmospheric vent to assure bearing protection
- Ability to fit other pumping installations
- Fuel level monitoring system (on Tier IV engine-driven models)

## Built For Durability

CD4MCu, duplex stainless steel models are suitable for corrosive and abrasive liquids containing large solids.





**ReliaSource®**  
Packaged Pumping Station



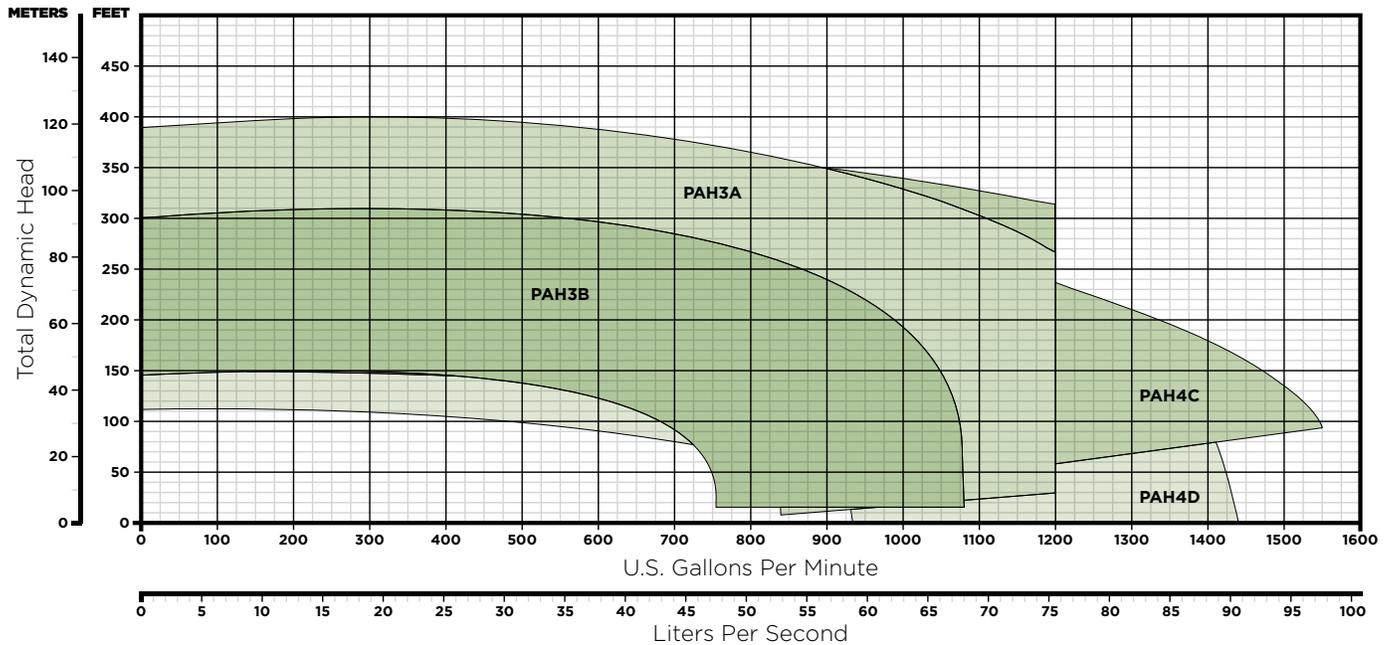
**PAH Series®**  
Pump End

**Prime Aire Plus® pumps are available in multiple drive variations including: basic, trailer-mounted engine-driven and skid-mounted electric-driven.**



# Prime Aire Plus® – Higher Head, Higher Flow Priming-Assisted Pumps

## 3" & 4" Clear Liquid-Handling Models



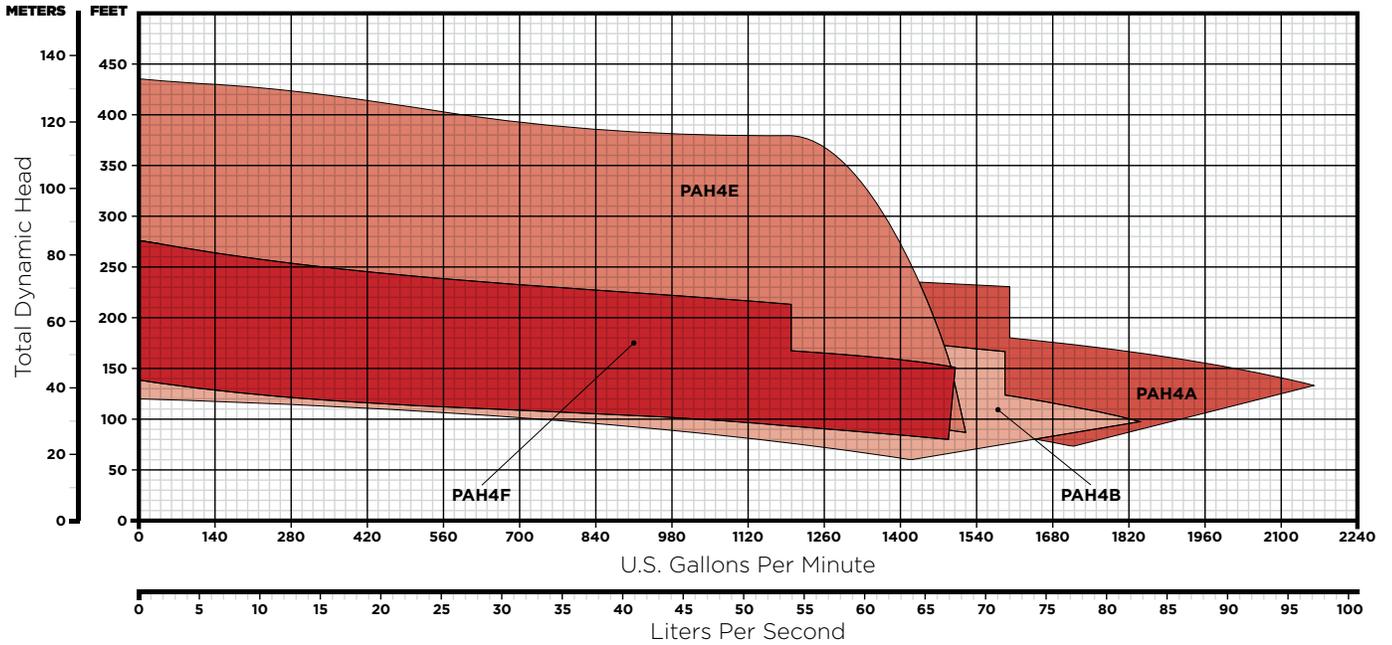
## Operating Ranges

Model	Size (Suc. x Dis.)	Max. Capacity	Max. Head	Max. Solids	Construction
<b>PAH3A</b>	6" x 3" (150 mm x 75 mm)	1200 GPM (76 lps)	392' (120 m)	.5" (12 mm)	Ductile Iron
<b>PAH3B</b>	6" x 3" (150 mm x 75 mm)	1080 GPM (68 lps)	300' (91 m)	.5" (12 mm)	Ductile Iron
<b>PAH4C</b>	6" x 4" (150 mm x 100 mm)	1550 GPM (98 lps)	380' (116 m)	.5" (12 mm)	Ductile Iron
<b>PAH4D</b>	6" x 4" (150 mm x 100 mm)	1440 GPM (91 lps)	282' (86 m)	.5" (12 mm)	Ductile Iron

Gorman-Rupp Prime Aire Plus® pump models can be driven by products from the following engine manufacturers: John Deere. Consult Gorman-Rupp factory for product availability.



## 4" Solids-Handling Models



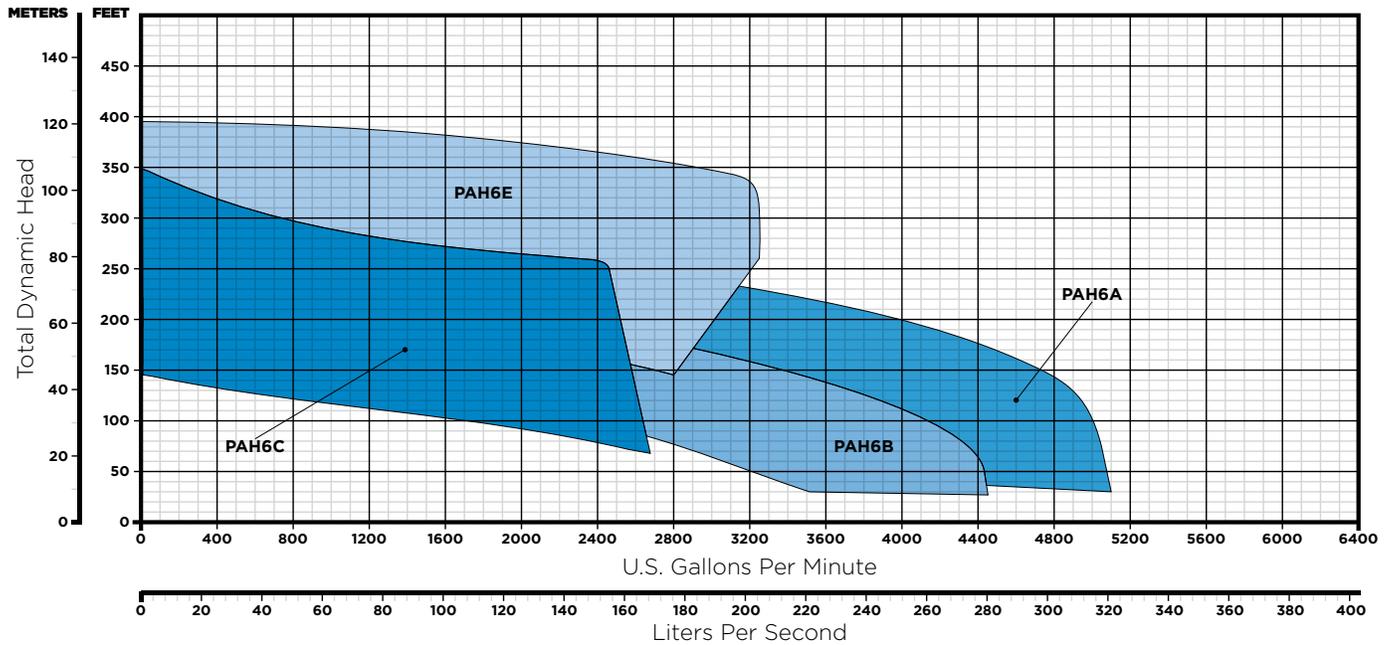
## Operating Ranges

Model	Size (Suc. x Dis.)	Max. Capacity	Max. Head	Max. Solids	Construction
PAH4A	6" x 4" (150 mm x 100 mm)	2160 GPM (136 lps)	308' (94 m)	3" (76 mm)	Ductile Iron, CD4MCu
PAH4B	6" x 4" (150 mm x 100 mm)	1840 GPM (116 lps)	245' (75 m)	3" (76 mm)	Ductile Iron, CD4MCu
PAH4E	6" x 4" (150 mm x 100 mm)	1520 GPM (96 lps)	436' (133 m)	3" (76 mm)	Ductile Iron
PAH4F	6" x 4" (150 mm x 100 mm)	1500 GPM (95 lps)	276' (84 m)	3" (76 mm)	Ductile Iron

Gorman-Rupp Prime Aire Plus® pump models can be driven by products from the following engine manufacturers: John Deere. Consult Gorman-Rupp factory for product availability.

# PAH Series® Equipment Keep Liquids In Motion

## 6" Solids-Handling Models

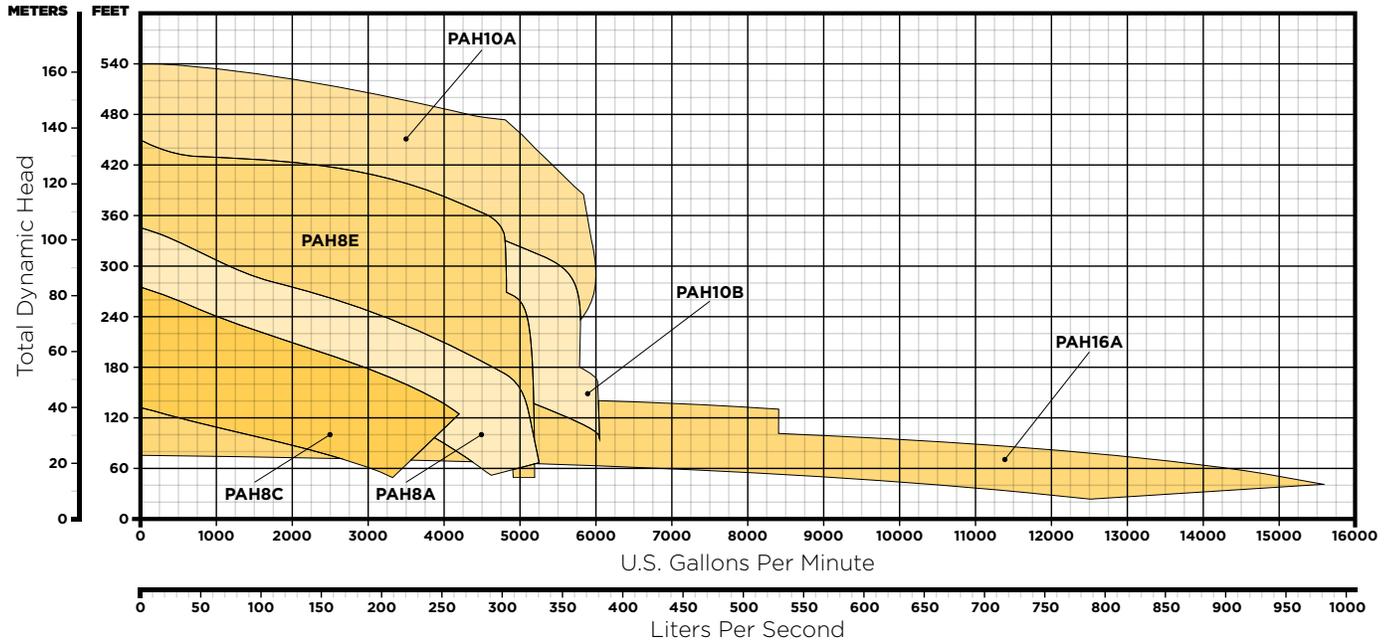


## Operating Ranges

Model	Size (Suc. x Dis.)	Max. Capacity	Max. Head	Max. Solids	Construction
PAH6A	10" x 6" (250 mm x 150 mm)	5100 GPM (322 lps)	356' (109 m)	3" (76 mm)	Ductile Iron, CD4MCu
PAH6B	10" x 6" (250 mm x 150 mm)	4450 GPM (281 lps)	257' (78 m)	3" (76 mm)	Ductile Iron, CD4MCu
PAH6C	8" x 6" (200 mm x 150 mm)	2680 GPM (169 lps)	348' (106 m)	3" (76 mm)	Ductile Iron
PAH6E	8" x 6" (200 mm x 150 mm)	3250 GPM (205 lps)	395' (120 m)	1.25" (31 mm)	Ductile Iron

*Gorman-Rupp Prime Aire Plus® pump models can be driven by products from the following engine manufacturers: John Deere. Consult Gorman-Rupp factory for product availability.*

## 8', 10" & 16" Solids-Handling Models



## Operating Ranges

Model	Size (Suc. x Dis.)	Max. Capacity	Max. Head	Max. Solids	Construction
PAH8A	10" x 8" (250 mm x 200 mm)	5250 GPM (331 lps)	344' (105 m)	3" (76 mm)	Ductile Iron, CD4MCu, Stainless Steel
PAH8C	10" x 8" (250 mm x 200 mm)	4200 GPM (265 lps)	275' (84 m)	3" (76 mm)	Ductile Iron
PAH8E	10" x 8" (250 mm x 200 mm)	5200 GPM (328 lps)	450' (137 m)	1.75" (44 mm)	Ductile Iron
PAH10A	12" x 10" (300 mm x 250 mm)	6000 GPM (379 lps)	540' (165 m)	2" (50 mm)	Ductile Iron
PAH10B	12" x 10" (300 mm x 250 mm)	6050 GPM (382 lps)	425' (130 m)	2" (50 mm)	Ductile Iron
PAH16A	18" x 16" (450 mm x 400 mm)	15400 GPM (972 lps)	162' (49 m)	4" (101 mm)	Ductile Iron

*Gorman-Rupp Prime Aire Plus\* pump models can be driven by products from the following engine manufacturers: Caterpillar, John Deere. Consult Gorman-Rupp factory for product availability.*



# After Sale Support

Gorman-Rupp products stand the test of time due to our quality manufacturing processes, rigorous product testing and extensive after sale support.

## Product Support

Every pump manufactured by Gorman-Rupp is supported with reference information. Pump operation and maintenance manuals (including parts lists), specification data sheets, performance curves and outline drawings in PDF and CAD formats are available on our website or through your distributor for every pump.

## Warranty

The warranties on Gorman-Rupp products are some of the best in the industry. Gorman-Rupp has you covered with warranties up to 60 months.

## Education & Safety

Gorman-Rupp is committed to remaining at the forefront of the industry with technology and safety. Training videos, demos and

in-person training sessions created for our distributors and end-users help to keep everyone up to date on the latest safety tips and pump maintenance.

## Parts

When you need a replacement part, you'll have it fast. Gorman-Rupp is fully committed to keeping your equipment running long after installation and ensuring your pump or lift station continues to meet your requirements year after year. We sell parts through our network of distributors. Find a distributor in your area for assistance.

## Service

Should your pump or lift station require service, our worldwide network of factory-trained distributors are ready to quickly respond. Our distributors have the expertise to support you and your pump or lift station long after installation.

## Manufacturing Facilities

**Gorman-Rupp USA**  
Mansfield, Ohio, USA

**Gorman-Rupp Canada**  
St. Thomas, Ontario, Canada

**Gorman-Rupp Europe**  
Waardenburg, Netherlands  
Namur, Belgium

**Gorman-Rupp Africa**  
Cape Town, South Africa  
Durban, South Africa  
Johannesburg, South Africa (Headquarters)

## Distribution Center

Grand Prairie, Texas, USA

Engineering and manufacturing superiority has been the hallmark of Gorman-Rupp since our inception in 1933. Today we bring our products to life in some of the most efficient, modern and state-of-the-art manufacturing facilities in the world. Gorman-Rupp has a selection of nearly 3,000 pump models, and our world-class team of distributors has worked closely with thousands of end users around the world. We have the proven expertise and the resources to specify, manufacture, test and service your pump, and to ensure reliable performance for the long haul.

[GRPUMPS.COM](http://GRPUMPS.COM)

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*The Pump People®*