

# G SERIES

*Positive Displacement  
Rotary Gear Pumps*

**GR**<sup>®</sup>  
**GORMAN-RUPP**  
**PUMPS**

*The Pump People*<sup>®</sup>



## 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.

When you purchase a Gorman-Rupp product, you buy more than just a pump. You benefit from our worldwide network of factory-trained distributors, knowledgeable engineers and helpful customer service team.

The Gorman-Rupp G Series line of positive displacement rotary gear pumps is designed to provide unmatched performance, serviceability and adaptability.

G Series pumps are versatile enough to handle virtually any pumping application and liquid type. They are manufactured with unique features that enable them to last longer than other gear pumps in the industry.

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



**G Series positive displacement rotary gear pumps are available in a variety of drive configurations, including: direct, VFD, gear reducer, v-belt, engine or as part of an engineered packaged pump station.**

# GORMAN-RUPP DELIVERS RELIABLE, LONG-LASTING EQUIPMENT

*The quality manufacturing and testing that go into every G Series pump guarantee long-lasting, trouble-free operation. If you need a replacement part for any of our products, you'll have it fast. We fill and ship 99% of parts orders within 24 hours keeping you up and operating and ensuring your peace of mind.*

## Longer Lasting

All G Series pumps are designed with features that are only available on Gorman-Rupp rotary gear pumps. The quality manufacturing and testing that go into each pump ensure reliable pumping long after installation. Additional features include:

- **Rigid Rotating Elements**

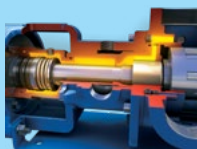
Optimum bushing locations provide high pressure operation while reducing overhung loads. On both packed box and mechanical seal models, the bushings are located as close as possible to the applied loads, providing maximum shaft support.



High strength gear material eliminates the need for special steel fitted pump components traditionally required for viscous applications.

- **Internal Seal Vent**

Venting provides continuous flow of liquid through seal cavity, ensuring cooling. The seal cavity maintains low pressure, reducing seal face load and increasing seal life.



## Engineered Sealing Solutions

G Series pumps offer the widest selection of sealing options available in the industry.

- **Flexible Sealing**

Gorman-Rupp rotary gear pumps are engineered to allow installation of industry-standard cartridge, compression packing or standard component mechanical seals.



## Easy To Service

Intelligent design makes servicing G Series pumps faster, easier and more cost effective. Features common to medium, heavy and extreme duty pumps are:

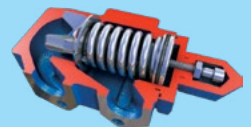
- **Back Pull-Out Design**

The back pull-out design provides the ability to perform service and maintenance without disconnecting pump housing from piping.



- **Adjustable No-Leak Pressure Release Valve**

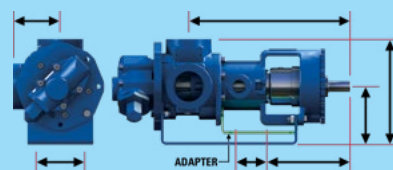
Innovative o-ring design on the relief valve allows for adjustment during operation, without leakage.



## Fully Adaptable

Gorman-Rupp gear pumps are designed for maximum application flexibility and include built-in features that make them completely interchangeable with other gear pump manufacturers.

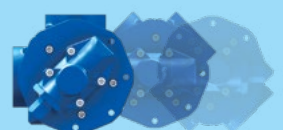
- **Rigid Pump Support**



Foot brackets are centrally located under pump ports to provide stability to the pump and piping. Pumps can be configured to fit any piping configuration making them extremely versatile.

- **Multiple Port Positioning And Configurations**

Interchangeable 90° or 180° housings with multiple port sizes on most models. Suction and discharge ports are available in threaded or flanged configurations.

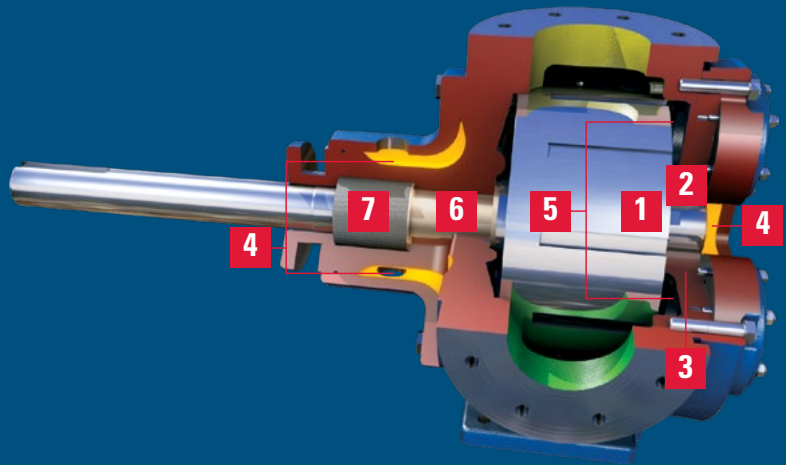




# MEDIUM-DUTY GEAR PUMPS

*The flexible, economical solution for demanding applications.*

- 01** | High Strength Iron Gears
- 02** | Internal Idler Pin Lubrication
- 03** | Hardened Idler Pin  
*Optional hardened bushing*
- 04** | Thermal Jackets For Temperature Control
- 05** | Deep End Feed
- 06** | High Performance Shaft Bushing  
*Optional hardened bushing*
- 07** | Flexible Seal Feature Allows For Multiple Sealing Solutions



## High Strength Thrust Washer

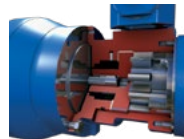
A large, replaceable thrust washer supports higher loads and extends pump life.

## Compact, C-Face Mounted GMC

For high performance in a small package, the GMC can be close coupled to motors as large as the NEMA 215TC frame.

## Automatic Idler Pin Lubrication System

Unique internal pressure lubricated idler pin reduces wear by continuously cooling and lubricating the idler pin and bushing. Available on GMC, GMS, GHC and GHS models (unless equipped with silicon carbide bushings).



## Medium-Duty Applications

### Hydrocarbons, Petrochemicals and Similar Liquids:

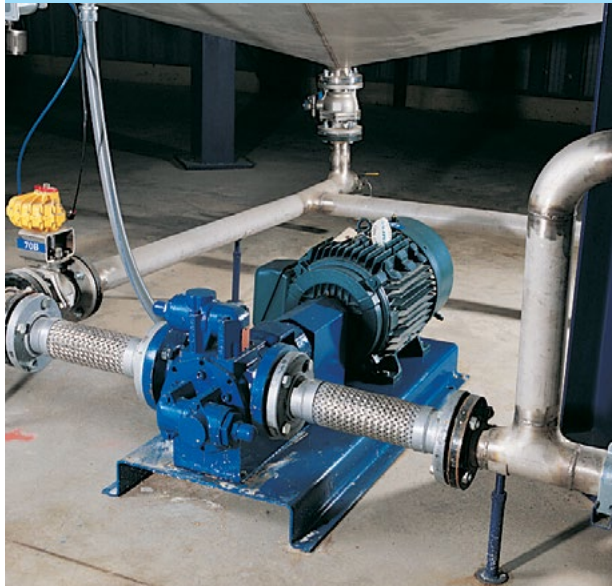
- Fats
- Fuels
- Oils

### Viscous Liquids and Polymers:

- Asphalt
- Grease

### Thermosensitive Liquids:

- Resins
- Tar



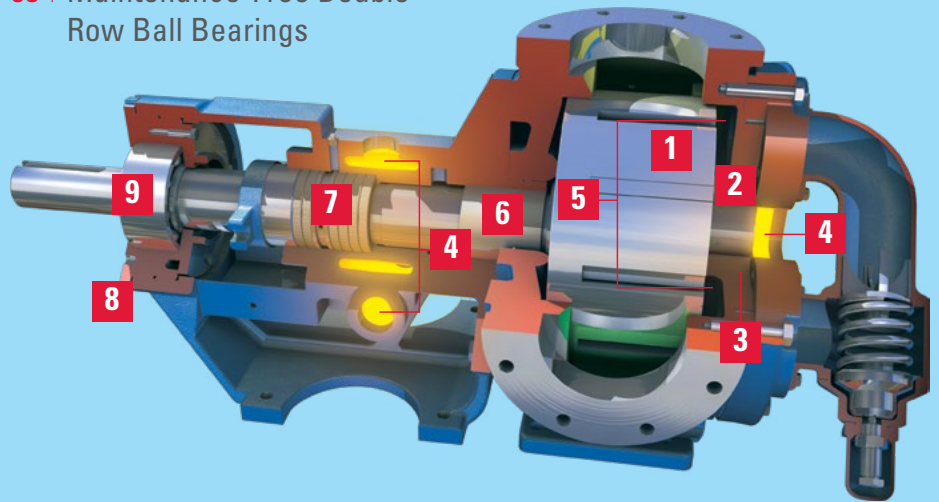
# HEAVY-DUTY GEAR PUMPS

*The most capable, versatile gear pump in the industry.*



- 01** | High Strength Iron Gears
- 02** | Internal Idler Pin Lubrication
- 03** | Hardened Idler Pin  
*Optional hardened bushing*
- 04** | Thermal Jackets For Temperature Control  
*Optional backhead and/or head*
- 05** | Deep End Feed
- 06** | High Performance Shaft Bushing  
*Optional hardened bushing*
- 07** | Flexible Seal Feature Allows For Multiple Sealing Solutions

- 08** | Externally Adjustable Clearance
- 09** | Maintenance-Free Double Row Ball Bearings



## Heavy-Duty Applications

### Hydrocarbons, Petrochemicals and Similar Liquids:

- LPG
- Fuels
- Fats
- Oils

### Viscous Liquids and Polymers:

- Adhesives/Glue
- Styrenes
- Asphalt
- Varnish
- Grease

### Thermosensitive Liquids:

- Resins
- Tar

### Acids:

- Acetic
- Phosphoric

### Solvents:

- Acetone
- Ketones

### Salts and Caustics:

- Soda Ash
- Viscose

### Papermill Liquids:

- Black Liquor
- Kaolin
- Tall Oil

### Heat Transfer Liquids:

- MobilTherm
- DowTherm

### Food Products:

- Chocolate
- Vegetable Oil
- Glucose
- Syrups

## Externally Adjustable Clearance

The externally adjustable clearance and three piece design provide easy and precise rotor adjustment. Sealed double row bearings are maintenance-free and provide thrust control.

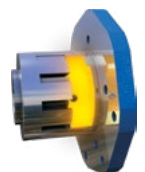
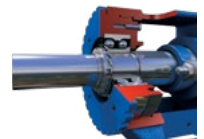
## Deep End Feed Area

The deep end feed area offers superior priming performance and overall better pumping efficiency under low inlet pressure conditions and/or high viscosity liquids. Available on GMS, GHS and GHA models.

## Engineered Sealing Solutions

Gorman-Rupp offers the widest range of sealing solutions for the G Series line of rotary gear pumps.

- *Minimum leak- and abrasive-resistant packing*
- *Cartridge single seal with hard faces (requires steam quench)*
- *Cartridge double seal with hard faces (requires pressurized barrier fluid)*
- *Triple lip cartridge seal (requires steam or hot oil quench)*

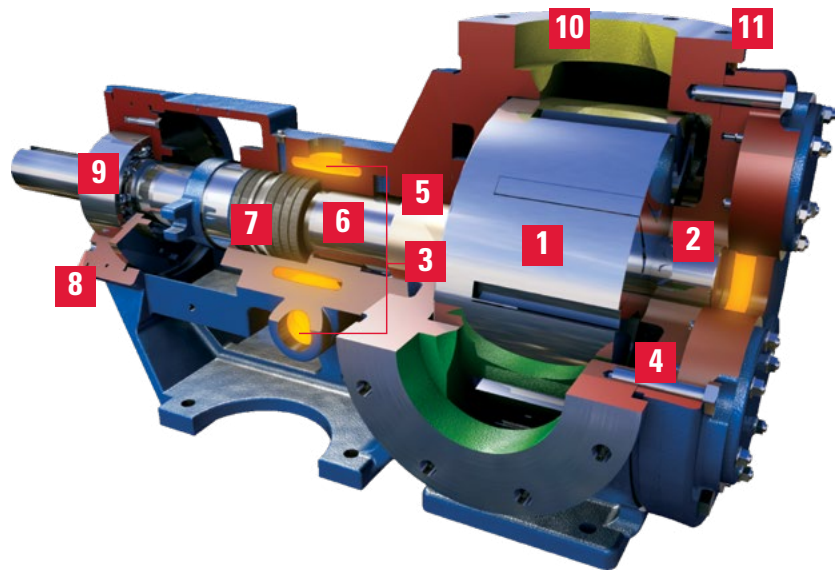


# EXTREME-DUTY/ABRASIVE GEAR PUMPS

*The most rugged, wear-resistant gear pump in the industry.*



- 01** | Hardened High Strength Iron Gears
- 02** | Carbide Idler Pin & Idler Bushing
- 03** | Thermal Jackets For Temperature Control  
*Optional backhead and/or head*
- 04** | Deep End Feed
- 05** | High Performance Shaft Bushing  
*Optional hardened bushing*
- 06** | Needle Bearing/Carbide Shaft Bushing Support
- 07** | Flexible Seals
- 08** | Externally Adjustable Clearance
- 09** | Maintenance-Free Double Row Ball Bearings
- 10** | Hardened Wear-Resistant Housing
- 11** | Hardened Wear-Resistant Head



## Extreme-Duty/Abrasive Applications

- Barium Sulfate
- Diatomaceous Earth
- Enamels/Paints
- Filled Asphalt
- Fish Solubles
- Iron Oxide, Titanium Dioxide, Zinc Oxide
- Paper Coatings
- Pitch
- Printing Ink
- Waste Oils
- Wax

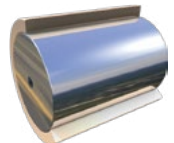
## Wear-Resistant Pump Head And Housing

Critical wear areas of both the head and housing are hardened to resist wear and maintain maximum pump efficiency.



## Carbide Idler Pin And Idler Bushing

Extremely hard carbide pin and bushing provide excellent wear resistance under the most severe abrasive applications.



## Needle Bearing Or Carbide Shaft Bushing Support

Depending on seal configuration, extreme duty pumps are available with carbide shaft bushing or our unique, precision needle bearing which provides exceptionally reliable high-load shaft support and better rotor shaft stability, extending the seal life and operational life of the pump.



# GORMAN-RUPP POSITIVE DISPLACEMENT ROTARY GEAR PUMPS

## G Series Basic Pumps



**GMC Series**  
Medium-Duty



**GMS Series**  
Medium-Duty



**GHC Series**  
Heavy-Duty



**GHS Series**  
Heavy-Duty



**GHA Series**  
Extreme-Duty – Abrasive

### OPERATING RANGES

MODEL	CONSTRUCTION	SIZE	MAX. CAPACITY	MAX. PRESSURE	MAX. VISCOSITY	TEMPERATURE RANGE
<b>MEDIUM-DUTY</b>						
<b>GMC Series</b>	Cast Iron	1" (25 mm) to 2" (50 mm)	38 GPM (143.9 lpm)	200 PSI (13.8 bar)	250000 SSU (54000 cSt)	-60° F (-51° C) to 300° F (149° C)
<b>GMS Series</b>	Cast Iron	1" (25 mm) to 6" (150 mm)	600 GPM (2271.3 lpm)	150 PSI (10.3 bar)	250000 SSU (54000 cSt)	-60° F (-51° C) to 450° F (232° C)
<b>HEAVY-DUTY</b>						
<b>GHC Series</b>	Cast Iron	1" (25 mm) to 3" (75 mm)	107 GPM (405.0 lpm)	300 PSI (20.7 bar)	50000 SSU (11000 cSt)	-60° F (-51° C) to 350° F (177° C)
<b>GHC Series</b>	Cast Steel	1" (25 mm) to 3" (75 mm)	107 GPM (405.0 lpm)	300 PSI (20.7 bar)	50000 SSU (11000 cSt)	-20° F (-29° C) to 350° F (177° C)
<b>GHC Series</b>	Stainless Steel	1" (25 mm) to 3" (75 mm)	107 GPM (405.0 lpm)	200 PSI (13.8 bar)	25000 SSU (5417 cSt)	-30° F (-34° C) to 350° F (177° C)
<b>GHS Series</b>	Cast Iron	1" (25 mm) to 6" (150 mm)	600 GPM (2271.3 lpm)	300 PSI (20.7 bar)	2000000 SSU (440000 cSt)	-60° F (-51° C) to 675° F (357° C)
<b>GHS Series</b>	Cast Steel	1.5" (40 mm) to 4" (100 mm)	295 GPM (1116.7 lpm)	300 PSI (20.7 bar)	2000000 SSU (440000 cSt)	-20° F (-29° C) to 675° F (357° C)
<b>GHS Series</b>	Stainless Steel	1" (25 mm) to 4" (100 mm)	295 GPM (1116.7 lpm)	200 PSI (13.8 bar)	2000000 SSU (440000 cSt)	-30° F (-34° C) to 675° F (357° C)
<b>GHS Series</b>	Ductile Iron	4" (100 mm) to 6" (150 mm)	500 GPM (1892.7 lpm)	200 PSI (13.8 bar)	2000000 SSU (440000 cSt)	-60° F (-51° C) to 500° F (260° C)
<b>EXTREME-DUTY</b>						
<b>GHA Series</b>	Cast/Hard Iron	1.5" (40 mm) to 4" (100 mm)	325 GPM (1230.3 lpm)	200 PSI (13.8 bar)	250000 SSU (54000 cSt)	-60° F (-51° C) to 500° F (260° C)

## G Series Options

### Various Port Sizes and Styles

- 180°/90°
- 1" (25 mm) to 6" (150 mm)
- NPT, ANSI FLANGE, BSP, DIN FLANGE

### Bidirectional Operation

### Various Bushing Materials

- Carbon graphite (low and high temp.)
- Siliconized graphite (low and high temp.)
- Tungsten carbide

### Gear Materials

- Ductile iron
- Hardened austempered ductile iron
- Bronze gears
- SST gears are also available

### Various Idler Pin Materials

- Hardened alloy steel
- Hardened tool steel
- Colmonoy coated
- Chromium oxide coated
- Tungsten carbide

### Sealing Options

- Single
- Double
- Tandem
- Various elastomers
- Hard faced
- Quench
- Flush
- Metal bellows
- High temperature
- Corrosion resistant
- Cartridge style
- Heavy-duty lip
- Cartridge PTFE lip
- Packing
- Seal pot

### O-rings of Various Elastomers

- Viton®
- Buna
- EPDM
- PTFE encapsulated
- Kalrez®

### Hardened Wear-resistant Heads and Housings

### Jacketed Heads and Backheads

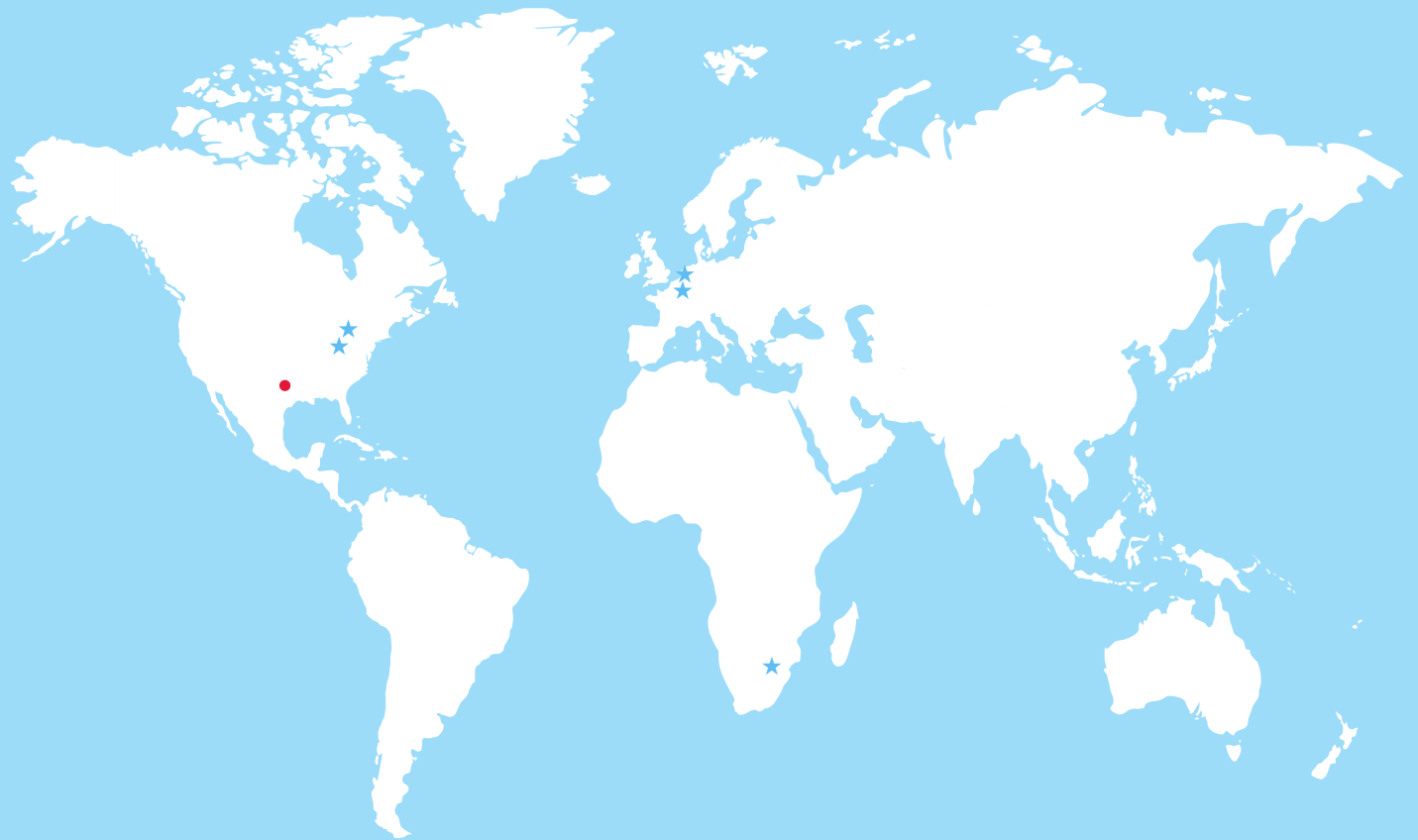
### Interchange Shafts/Housing Ports

### Multiple Centerline Foot Brackets

### Relief Valve Options

- Low/high pressure springs
- Return to tank style
- Various elastomers
- High temperature

# FLUID-HANDLING EQUIPMENT DESIGNED WITH YOUR NEEDS IN MIND



★ Manufacturing Facilities  
● Distribution Center

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.



**GORMAN-RUPP PUMPS**  
P.O. BOX 1217  
MANSFIELD, OHIO 44901-1217 | USA  
TEL: 419.755.1011 | FAX: 419.755.1251

**GRPUMPS.COM**



*The Pump People®*

Product information is subject to change; consult factory for details. All images are for illustrative purposes only. Actual product may vary from printed representation.  
© 2007-2023 The Gorman-Rupp Company. All rights reserved. Printed in the USA