

# DYNAMIC FLUIDITY

More than 60 years of precise  
fluid control

**MICROPUMP®**



## MICROPUMP

Experts in pump and drive  
technology - so you don't have  
to be.

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# EXPERTISE

Established in 1960, Micropump Inc. is the originator of magnetic drive gear pump technology.

Today, more than six decades later, Micropump still is the market go-to for industry-leading gear pumps whether customers need standard models, configure-to-order options, and custom solutions.

Specializing in OEM and industrial pump applications where precise fluid control is required, Micropump combines the highest quality of manufacturing with unparalleled engineering expertise to meet our customers' ever-changing fluid handling needs.

Micropump delivers a higher standard in performance and total confidence in your system design.

Yesterday  
Today  
Tomorrow  
Micropump delivers

# PUMP TECHNOLOGY

60+ YEARS OF EXPERTISE

## 01

### Suction Shoe

Our patented suction shoe gear pump solution delivers reliable and high-volumetric efficiency.

This innovative pump provides a reliable solution for accurate, pulseless flow control in high pressure, high temperature environments beyond the range of traditional cavity-style gear pumps.

The suction shoe pump, unlike any other gear pump on the market, self adjusts on the job for wear, offers near zero slip for accurate metering, and stable performance as components wear or thermally expand. Due to this the suction shoe gear pump features easier maintenance with less downtime than standard pumps.

This market exclusive suction shoe gear pump is available only from Micropump.

## 02

### Cavity Style

Our cavity style pumps are highly versatile for fluid movement applications. This style of pump can handle a wide range of operating conditions, including pumping abrasive fluids, and can even be designed for reverse pumping.

Our cavity style pumps deliver exceptional pumping performance for any high-precision application. These compact, magnetically driven gear pumps feature a cavity style design with no dynamic seals for applications that cannot tolerate leaks.

Micropump's cavity style pumps boast hydraulically efficient positive displacement design for minimum change in flow over a wide range of differential pressures and temperatures. Additionally, the continuous pulseless flow often eliminates the need for pulse dampening components, minimizes the impact on fluid system components, and minimizes formation of bubbles from dissolved gases or cavitation.

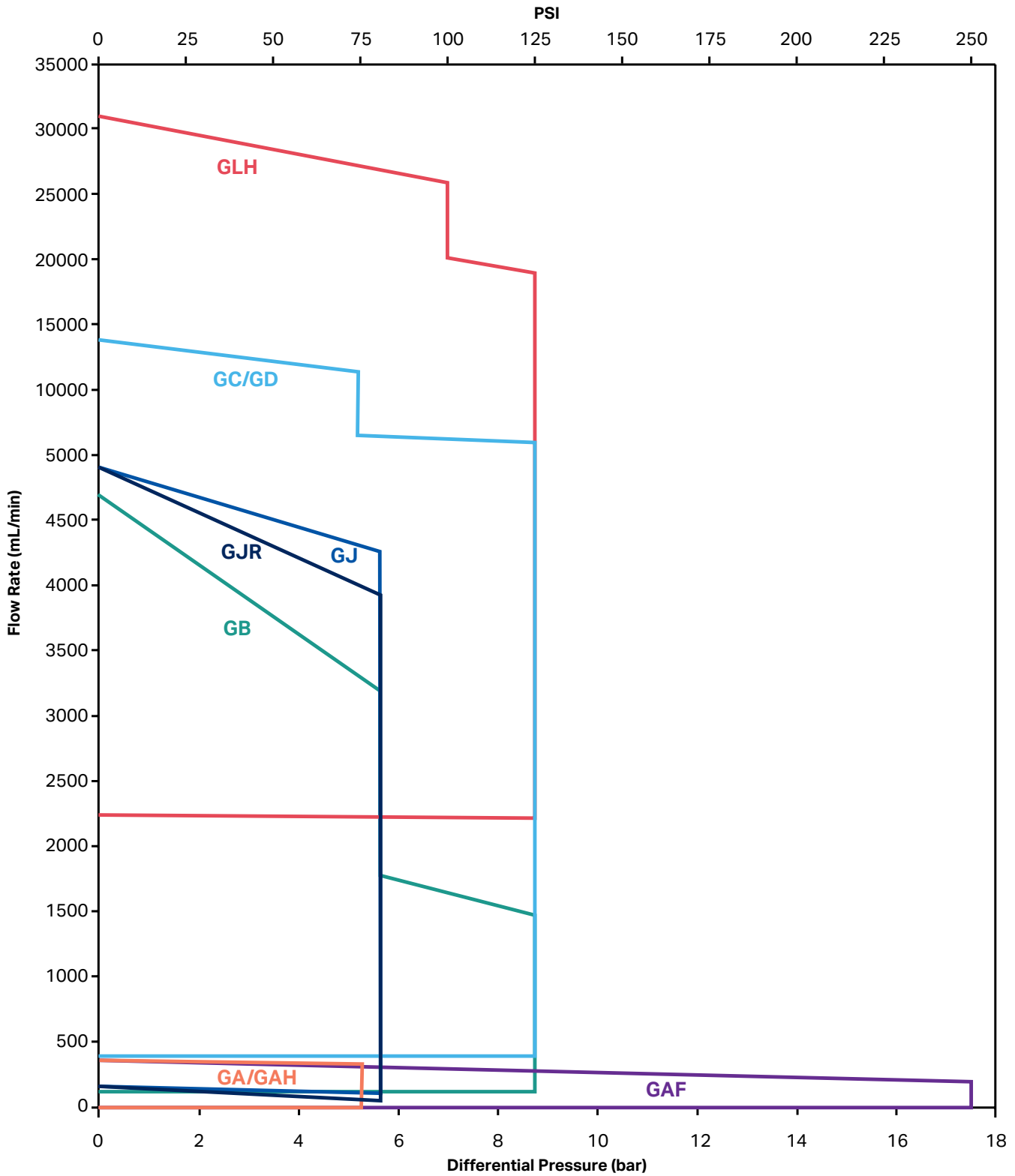
## 03

### Centrifugal

Our centrifugal pumps utilize integrated impeller and magnet assemblies reduce the number of rotating parts to maximize pump life. Using the unique magnetic drive technology, centrifugal pumps provide excellent chemical resistance and energy-efficient fluid delivery. Centrifugal pumps offer a reliable, simple, long-lasting design for higher flow applications.

Centrifugal pumps consist of an impeller rotating within a casing. Liquid directed into the center of the rotating impeller is picked up by the impeller vanes and accelerated to a high velocity. When the liquid in the impeller is forced away from the center of the impeller, a reduced pressure is produced and consequently more liquid flows forward. There is no closed volume, as in a positive displacement pump, therefore producing a steady flow through the impeller. The pump basically increases the Bernoulli head of the flow between the eye and the exit of the pump.

# PUMP SERIES PERFORMANCE COMPARISON



PRODUCT FLOW RANGES BASED ON CONSTANT SPEED CURVES.



## GA SERIES

SUCTION SHOE DESIGN

Displacement: 0.017 ml/rev (X21)  
0.042 ml/rev (V21) | 0.092 ml/rev (T23)  
Differential Pressure (max):  
5.2 bar | 75 psi  
System Pressure (max):  
21 bar | 300 psi



## GAF SERIES

SUCTION SHOE DESIGN

Displacement: 0.092 ml/rev (T23)  
Differential Pressure (max):  
17.2 bar | 250 psi  
System Pressure (max):  
21 bar | 300 psi  
*Standard with an EagleDrive™  
High Differential Pressures*



## GAH SERIES

SUCTION SHOE DESIGN

Displacement: 0.017 ml/rev (X21)  
0.042 ml/rev (V21) | 0.092 ml/rev (T23)  
Differential Pressure (max):  
5.2 bar | 75 psi  
System Pressure (max):  
345 bar | 5000 psi  
*High Pressures*

WE INVENTED MAGNETICALLY COUPLED GEAR PUMP TECHNOLOGY, AND

## PATENTED SUCTION SHOE DESIGN

SELF-COMPENSATES FOR WEAR.

NEAR ZERO SLIP.

LONGER PUMP LIFE.



## GB SERIES

SUCTION SHOE DESIGN

Displacement: 0.26 ml/rev (P23)  
0.58 ml/rev (P25) | 1.17 ml/rev (P35)  
Differential Pressure (max):  
8.6 bar | 125 psi  
System Pressure (max):  
21 bar | 300 psi



## GC SERIES

SUCTION SHOE DESIGN

Displacement: 0.811 ml/rev (M23)  
1.82 ml/rev (M25) | 3.48 ml/rev (M35)  
Differential Pressure (max):  
8.6 bar | 125 psi  
System Pressure (max):  
103 bar | 1500 psi



## GJ SERIES

CAVITY DESIGN

Displacement: 0.316 ml/rev (N21) |  
0.64 ml/rev (N23) | 0.91 ml/rev (N25) |  
1.23 ml/rev (N27)  
Differential Pressure (max):  
5.5 bar | 80 psi  
System Pressure (max):  
21 bar | 300 psi



## GJR SERIES

CAVITY DESIGN

Displacement: 0.316 ml/rev (N21) |  
0.64 ml/rev (N23) | 1.23 ml/rev (N27)  
Differential Pressure (max):  
5.5 bar | 80 psi  
System Pressure (max):  
21 bar | 300 psi  
*Abrasive Fluids*

**MICROPUMP  
PUMPS SUPPORT  
FOUR MAJOR  
APPLICATION  
CATEGORIES FOR  
FLUID HANDLING.**

**DOSING.  
METERING.  
CIRCULATION.  
TRANSFER.**

WE CONTINUE TO LEAD IN DESIGN AND INNOVATION.



## GD SERIES

CAVITY DESIGN

Displacement: 3.48 ml/rev (M35)  
Differential Pressure (max):  
6.9 bar | 100 psi  
System Pressure (max):  
103 bar | 1500 psi



## GLH SERIES

CAVITY DESIGN

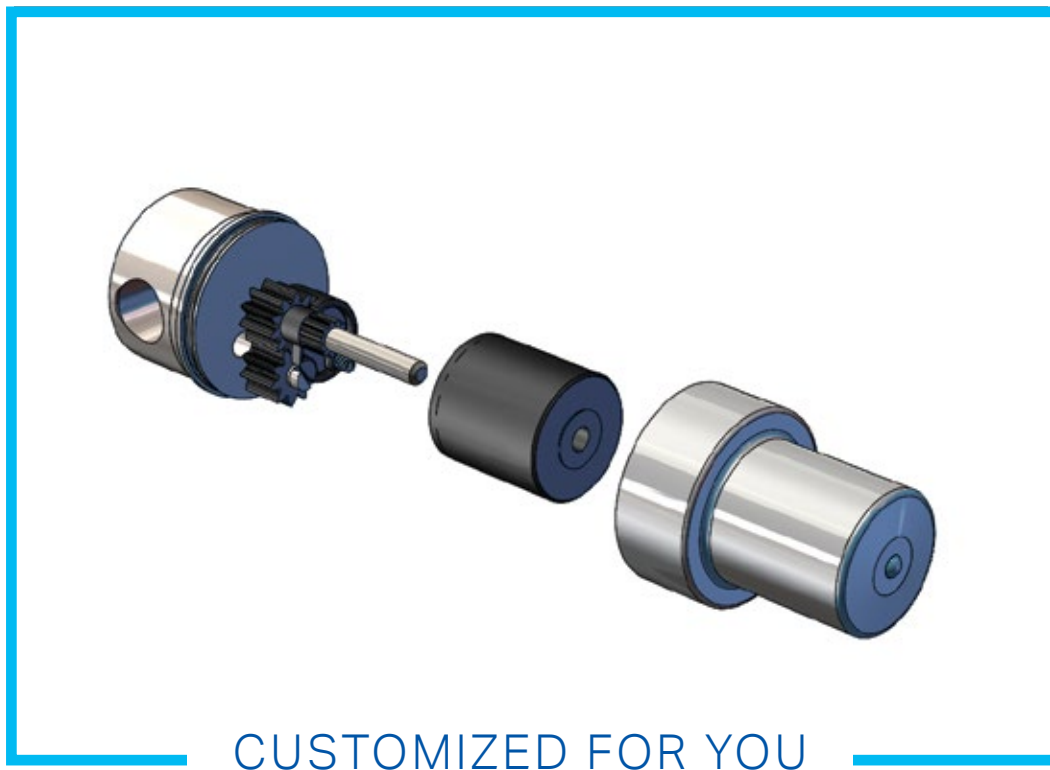
Displacement: 4.6 ml/rev (H21)  
6.2 ml/rev (H23) | 7.7 ml/rev (H25)  
Differential Pressure (max):  
8.6 bar | 125 psi  
System Pressure (max):  
103 bar | 1500 psi  
*High Pressures*



## CA SERIES

DYNAMIC DESIGN

Head (max):  
8 m | 26.25 ft  
Recommended Max Speed:  
6,000 RPM  
System Pressure (max):  
14 bar | 200 psi



Micropump products are configured with many material options, including high strength, chemical-resistant advanced-engineered composites. Numerous wetted material options are available to ensure our products' compatibility with the extensive range of fluids used in the many markets we serve.

Additionally, our pumps can be designed to withstand extreme environments such as intense heat, abrasives or freezing conditions. Overall, the materials from which we construct our pumps help deliver precise and durable performance.

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## MICROPUMP INCORPORATES DESIGNS TO MEET SAFETY, REGULATORY AND COMPLIANCE CERTIFICATIONS



Find out about our ATEX and UKEX certification and which products are rated for explosive environments.



Our products have been assessed and deemed to be compliant with all current CE and UKCA regulations for incorporation into customers' systems, applications, and facilities within the EU & UK.





## Adapter kits - Flexibility when you need it.

Our adapter kits feature separate components - available for versatile interface with NEMA 56C, 143/145TC and IEC (metric) frame motors. These adapter kits allow for the greatest flexibility when it comes to matching the best pump to your motor choice.

By utilizing an adapter kit, users can select a Micropump pump to improve systems without needing to change out existing motors. Even more, in the future, the lifetime of the pump can be extended with the ability to swap a replacement motor.

Now pumps or motors are easily interchangeable and allows customers to make the installation of the adaptor with a few simple bolts and screws provided with the kit.

The new adapter kits utilize standard product numbers to streamline and simplify ordering. Also, by offering a compatible solution with separate components, the adapter kit allows for easy replacement of specific parts if needed and removes the potential of having to pay for unnecessary parts.

# SOLUTIONS APPLICATIONS

## INDUSTRY EXPERTISE

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AEROSPACE.  
AGRICULTURE.  
AVIATION.  
AUTOMOTIVE.  
BIOTECHNOLOGY.  
CHEMICAL & PETROCHEM.  
ELECTRONICS.  
ENVIRONMENTAL.  
FOOD & BEVERAGE.  
MEDICAL.  
METALS.  
MINING.  
OIL & GAS.  
PHARMACEUTICAL.  
POWER.  
PAINTS, INKS AND DYES.  
REFINING.  
TRANSPORTATION.  
WATER & WASTEWATER.

### **Precise and critical fluid handling**

Micropump brings more than six decades of industry and application solutions to help our customers meet the ever-changing demands of their industries.

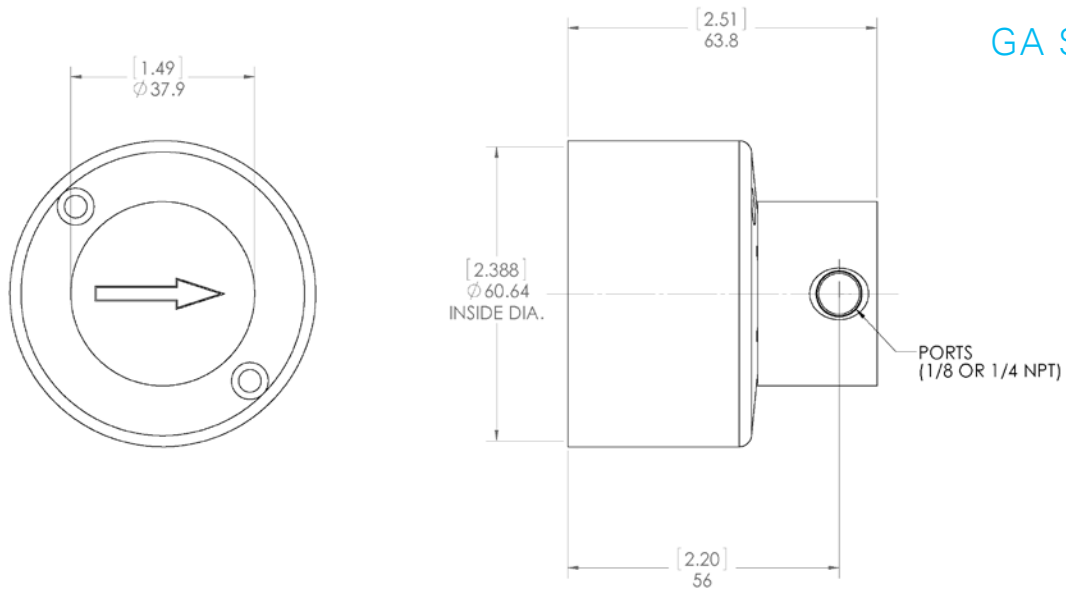
US-made with the highest of quality standards, reliable, and precise, our pumps are uniquely engineered to meet the world's most challenging pump application requirements. Even more, our pumps contribute superior fluid movement and hydraulic efficiency while requiring low power consumption for overall optimized wire-to-water efficiency.

Micropump has partnered with leading global companies. We are partners with our customers in every sense of the word. We work to understand your system goals, how our technology can create the greatest value, and the regulations that must be followed. We turn that knowledge into optimized systems designed specifically to meet your technical, operational, financial and business goals.

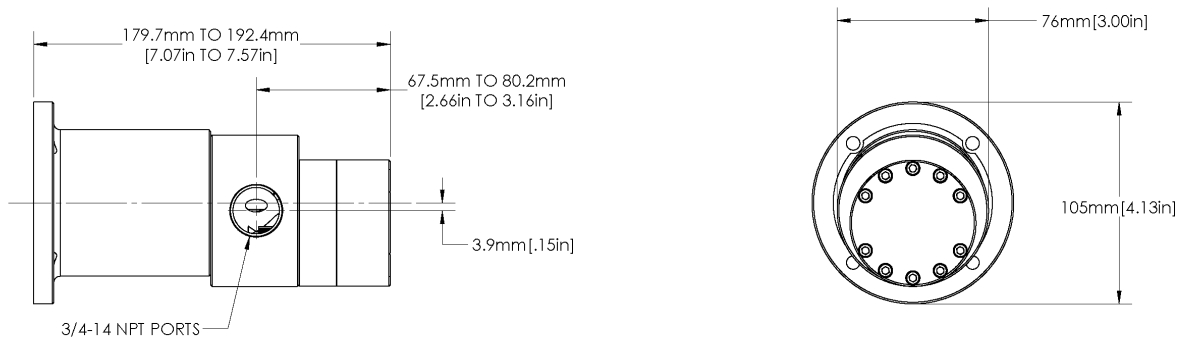
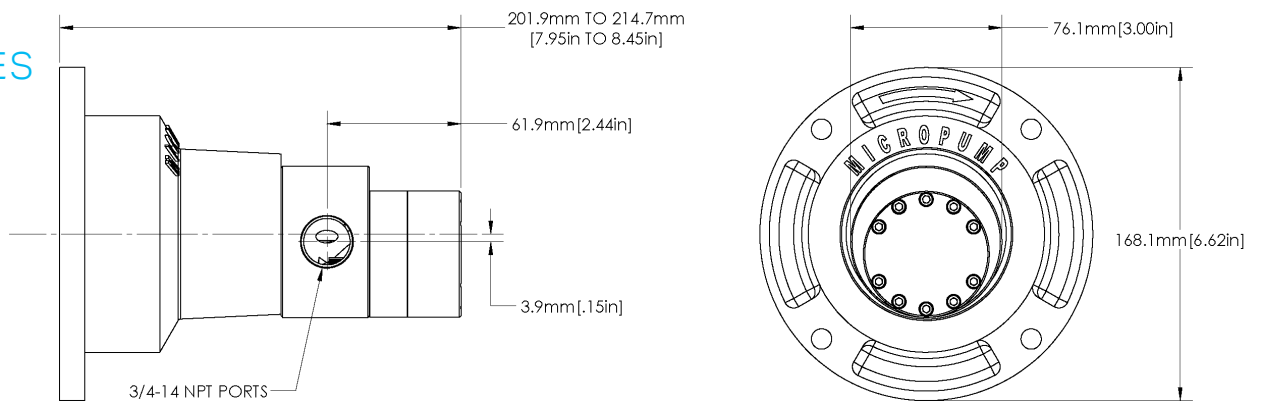
Allow our team to apply our industry and application experience to benefit your project. With our experience, we have unequaled expertise in matching pump technology to application needs. We have the expertise needed to help customers design the most optimized pumping solutions for their system needs.

# PUMP SIZING

FROM SMALLEST TO LARGEST - COMPACT DESIGN FOR EASY INTEGRATION



## GLH SERIES



# DRIVE TECHNOLOGY

MAGNETICALLY DRIVEN

OUR TECHNOLOGY IS SECOND TO NONE.

MICROPUMP DRIVES AUGMENT YOUR SYSTEM PERFORMANCE.

Micropump magnetic drive pumps, also known as magnetically coupled pumps, vary from the traditional direct mechanical shaft style with the elimination of any required shaft sealing.

Magnetic drive pumps consist of two magnets - a drive magnet placed on the motor shaft which initiates motion to a driven magnet completely sealed within the pump head and connected to the driving gear. The driven magnet is a wetted component and is totally encapsulated. The two magnets couple automatically such that the drive magnet turns the driven magnet and gears without physical contact.

Other benefits of magnetic drive pumps include better transfer of motor power to the pump and little to no heat transfer from the electric motor. Also, the use of magnetic coupling softens any shock or spike torques, and in instances where the load may become too great, magnetic couplings can temporarily de-couple instead of damaging the pump.

For many applications, magnetically driven gear pumps can provide a superior solution due to lack of dynamic seals, smooth flow, self priming capabilities, a direct relationship between pump rotational speed and flow, and small sizes for a variety of

applications. Due to the lack of dynamic seals, magnetically driven gear pumps are ideal in applications with no tolerance for leaks or potentially difficult to seal liquids. Additionally, the seal-less design doesn't require maintenance events such as flushes for difficult fluids, pump trips, replacement or other unscheduled downtime. The elimination of seals is a great improvement for performance, reliability and availability of our magnetically driven gear pumps.

Our magnetically driven gear pumps can be manufactured to meet tight tolerances to achieve optimal, repeatable performance.

Micropump's magnetically driven gear pumps can be driven by a variety of different means including AC motors, DC brush motors, DC brushless and stepper motors.





EagleDrive™ DEMSE  
Brushless DC Motor | SE mount  
10-38 VDC | 250-8,000 RPM  
70.62 mNm Torque (max)



EagleDrive™ DEELE  
Brushless DC Motor | LE mount  
10-38 VDC | 250-8,000 RPM  
141.23 mNm Torque (max)

## EAGLE DRIVE™

The Micropump EagleDrive™ was created to integrate the pump and motor for an optimized design. By eliminating the need for the hub assembly and adapter, the size envelope is reduced further and decoupling is eliminated. Reliability is even more improved with the lack of moving parts in the drive. The torque and power is even increased for higher flow rate capability.

With the drive and pump integrated in a single, compact unit, the EagleDrive™ is an ideal solution to solve many of the previous shortcomings of separate units. The rotating electromagnetic field, which is induced in the fixed and stationary stator by a controller, couples with and turns the permanent magnet sealed inside the pump. The controller offers thermal and overload protection to the drive. It allows for an external control signal (0-5 VDC) to provide adjustable speed and as a result, regulate pump flow. With the built-in microprocessor control, fault signals and tachometer output allow for easy system integration.

The close coupling of the pump and motor is IP55 rated with static seals between the pump and drive to protect from water and dust. Our technology improves reliability under extreme temperature and vibrations. The EagleDrive™ also features low power consumption for minimal impact to your overall system operations.

The EagleDrive™ is available in DEMSE and DEELE models. Both are manufactured with Ryton® housing and standard cables are sealed with nylon pull-relief fitting. Both models are have options for open-frame, without housing or cable for optimal OEM installations.



### DB 380.A DRIVE

DC DRIVE

24DC brushless drive for GA, GB and GJ Series pumps.  
A mount  
Continuous duty  
0-5 VDC speed control  
Tach output  
500-4,600 RPM



### DB 380.B DRIVE

DC DRIVE

24DC brushless drive for GA, GB and GJ Series pumps.  
B mount  
Continuous duty  
0-5 VDC speed control  
Tach output  
500-4,600 RPM



### DC 331A.C DRIVE

DC DRIVE

Brush type, permanent magnet drive for GA and GJ (N21) Series pumps.  
C mount  
Intermittent duty  
0-12 VDC  
500-6,000 RPM

OUR QUALITY SYSTEMS ARE AMONG THE BEST IN THE BUSINESS.

WE ARE CERTIFIED TO ISO 9001:2015 STANDARDS.



### DC 306.A DRIVE

DC DRIVE

Brush type, permanent magnet drive for GA, GB, GJ (N21, N23, N25) Series pumps.  
A mount  
Continuous duty  
0-24 VDC  
500-4,000 RPM



### DJ 604.A DRIVE

AC DRIVE

Shaded pole drive for GA, GB, GJ, and CA Series pumps.  
A mount  
Continuous duty  
115/230 VAC  
3450 RPM



### DJ 605.A DRIVE

AC DRIVE

Shaded pole drive for GA, GB, GJ, and CA Series pumps.  
A mount  
Continuous duty  
115 VAC  
3450 RPM



### DC 332A.C DRIVE

DC DRIVE

Brush type, permanent magnet drive for GA and GJ (N21) Series pumps.

C mount  
Intermittent duty  
0-24 VDC  
500-6,000 RPM



### DC 336.C DRIVE

DC DRIVE

Brush type, permanent magnet drive for GA Series pumps.

C mount  
Intermittent duty  
0-24 VDC  
500-8,000 RPM



### DC 361.C DRIVE

DC DRIVE

Brush type, gear reduction drive for GA Series pumps.

C mount  
Intermittent duty  
0-24 VDC  
100-500 RPM

MICROPUMP DRIVES ARE DESIGNED TO MOUNT DIRECTLY TO OUR PUMPS AND INCLUDE ALL COMPONENTS AND HARDWARE NECESSARY TO SIMPLIFY YOUR PURCHASE.



### DN 519.A DRIVES

AC DRIVE

Explosion proof drive for GA, GB, GJ, and CA Series pumps.

A mount  
Continuous duty  
115/230 VAC  
3450 RPM

*Explosion Proof*



### DP 415A.A DRIVE

AC DRIVE

Universal drive for GA, GB, GJ, and CA Series pumps.

A mount  
Intermittent duty  
115 VAC  
500-9,000 RPM



### DV 955.A DRIVE

AIR MOTOR

Explosion proof. Air vane drive for GA, GB, GJ, and CA Series pumps.

A mount  
5-80 psi  
500-10,000 RPM

***MICROPUMP***<sup>®</sup>

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[www.micropump.com](http://www.micropump.com)

ACTUAL PERFORMANCE MAY VARY. Specifications are subject to change without notice.