

ECO[®] GEARCHEM

RELIABLE & VERSATILE GEAR PUMPS



Flow:
up to 55 gpm (208 lpm)



Differential Pressure:
100 psi (7.4 bar)



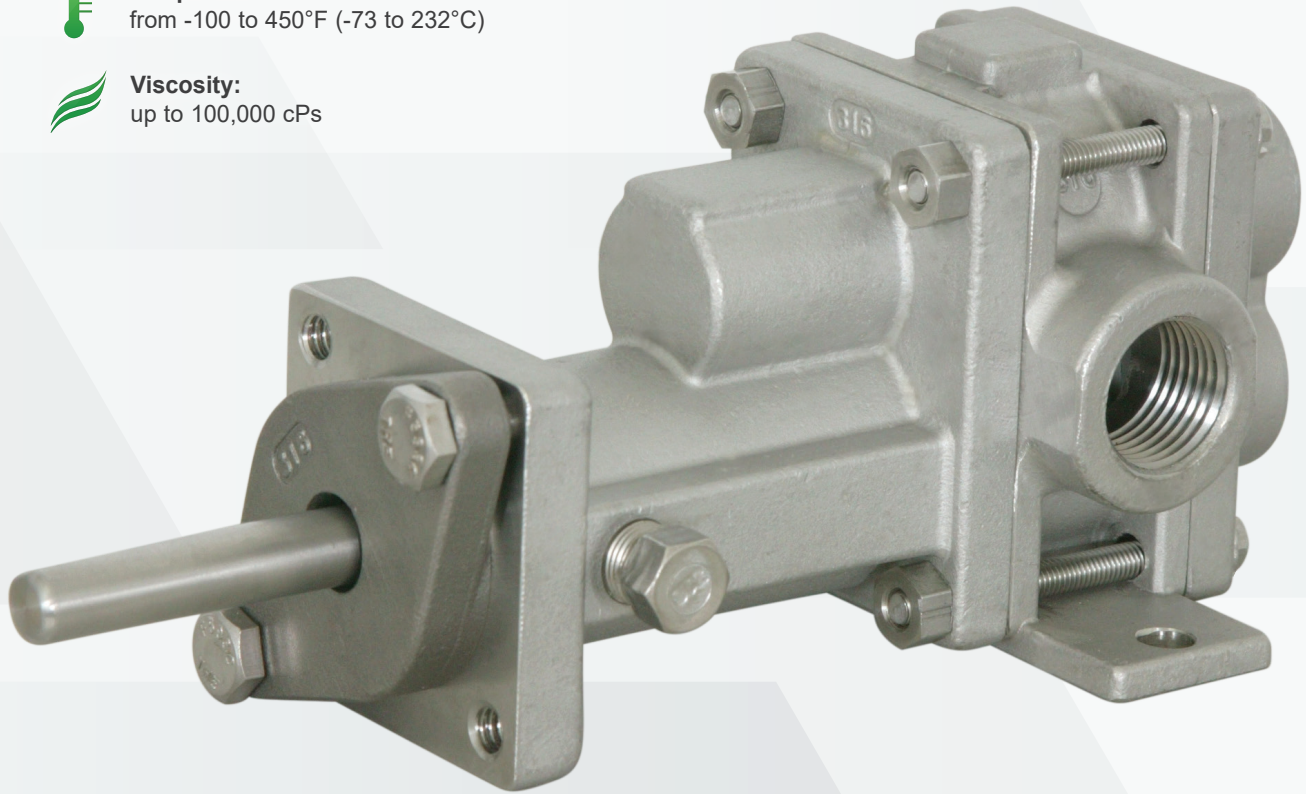
Working Pressure:
200 psi (13.8 bar)



Temperature:
from -100 to 450°F (-73 to 232°C)



Viscosity:
up to 100,000 cPs



75
Years
EXCEEDING EXPECTATIONS
SINCE 1942



PULSAFEEDER[®]
ENGINEERED PRODUCTS

ECO[®] GEARCHEM

PULSAFEEDER EXPERTISE

For over 75 years, Pulsafeeder, Inc. continues to be a global leader in chemical dosing innovation and fluid handling technology. With extensive experience in providing fluid handling solutions, our pumps and systems are designed to handle your toughest applications. Known for their rugged construction and dependable performance, our products are of the highest level of manufacturing excellence and quality control.

ECO GEAR PUMPS

ECO gear pumps offer the reliability you need to safely handle clear lubricating and non-lubricating liquids. Extensive material options provide versatility for pumping low or high viscosity fluids over a broad range of temperatures, pressures, and corrosive service.

Typical applications include chemical transfer, cyclic operation and continuous production systems, both open ended and closed-loop. ECO gear pumps are well suited for pilot plants, vacuum systems, and metering applications.

PRODUCT SPECIFICATIONS

| GENERAL SPECIFICATIONS MODEL SERIES | G2 / GA / GC | G4 / GA / GC | G6 / GA / GC | G8 / GA / GC | GH6 | GH8 | GA12 | GA16 |
|--|--|--|--|---|--|---|---|---------------------------------------|
| Port Size & Type | 1/4" NPT or BSPT | 1/2" NPT or BSPT | 3/4" NPT or BSPT | 1" NPT or BSPT | 3/4" NPT or BSPT | 1" NPT or BSPT | 1 1/2" FNPT or BSPT: 150# ANSI RF flange | 2" 150# ANSI RF flange |
| Port Locations | Side Inlet & Outlet | Side Inlet & Outlet | Side Inlet & Outlet | Side Inlet & Outlet | Side Inlet & Outlet | Side Inlet & Outlet | Side Inlet & Outlet | Side Inlet & Outlet |
| Direction of Rotation | Bidirectional | Bidirectional | Bidirectional | Bidirectional | Bidirectional | Bidirectional | Bidirectional | Bidirectional |
| Theoretical Displacement | .108 gal / 100 rev (4.10 cc / rev) | .189 gal / 100 rev (7.16 cc / rev) | .684 gal / 100 rev (25.89 cc / rev) | 1.368 gal / 100 rev (51.79 cc / rev) | .684 gal / 100 rev (25.89 cc / rev) | 1.368 gal / 100 rev (51.79 cc / rev) | 2.792 gal / 100 rev (105.7 cc / rev) | 5.584 gal / 100 rev (211 cc / rev) |
| Drive Shaft Diameter | 3/8" | 3/8" | 1/2" | 1/2" | 3/4" | 3/4" | 1" | 1" |
| Maximum Differential Pressure | 100 psi (700 kPa) | 100 psi (700 kPa) | 100 psi (700 kPa) | 50 psi (350 kPa) | 200 psi (1380 kPa) | 100 psi (700 kPa) | 100 psi (700 kPa) | 100 psi (700 kPa) |
| Minimum System Pressure | 0.1 mm Hg (abs) | 0.1 mm Hg (abs) | 0.1 mm Hg (abs) | 0.1 mm Hg (abs) | 0.1 mm Hg (abs) | 0.1 mm Hg (abs) | 0.1 mm Hg (abs) | 0.1 mm Hg (abs) |
| Maximum System Pressure | 200 psi | 200 psi | 150 psi | 150 psi | 210 psi | 200 psi | 200 psi | 200 psi |
| Maximum Speed | 1725 rpm | 1725 rpm | 1725 rpm | 1725 rpm | 1725 rpm | 1725 rpm | 1150 rpm | 1150 rpm |
| Capacity at Max Speed, 0 psi, 1 cPs | 1.5 gpm 5.68 lpm | 3 gpm 11.36 lpm | 10 gpm 37.85 lpm | 22 gpm 83.28 lpm | 10 gpm 37.85 lpm | 22 gpm 83.28 lpm | 28 gpm 106 lpm | 60 gpm 227.12 lpm |
| Max Viscosity at Reduced Speed | 100,000 cP | 100,000 cP | 100,000 cP | 100,000 cP | 100,000 cP | 100,000 cP | 100,000 cP | 100,000 cP |
| Minimum Viscosity | none | none | none | none | none | none | none | none |
| Maximum Fluid Temperature | 450°F (232°C) | 450°F (232°C) | 450°F (232°C) | 450°F (232°C) | 450°F (232°C) | 450°F (232°C) | 450°F (232°C) | 450°F (232°C) |
| Minimum Fluid Temperature | -100°F (-73°C) | -100°F (-73°C) | -100°F (-73°C) | -100°F (-73°C) | -100°F (-73°C) | -100°F (-73°C) | -100°F (-73°C) | -100°F (-73°C) |
| Fluid pH Range | 0 - 14 | 0 - 14 | 0 - 14 | 0 - 14 | 0 - 14 | 0 - 14 | 0 - 14 | 0 - 14 |
| Bearing Type | Internal Sleeve | Internal Sleeve | Internal Sleeve | Internal Sleeve | Internal Sleeve | Internal Sleeve | Internal Sleeve | Internal Sleeve |
| Bearing Lubrication | By Pumped Fluid | By Pumped Fluid | By Pumped Fluid | By Pumped Fluid | By Pumped Fluid | By Pumped Fluid | By Pumped Fluid | By Pumped Fluid |
| Packing Arrangements | Standard or Lantern Ring Box | Standard or Lantern Ring Box | Standard or Lantern Ring Box | Standard or Lantern Ring Box | Lantern Ring Box | Lantern Ring Box | Lantern Ring Box | Lantern Ring Box |
| Mechanical Seals | Single Internal, Double or External | Single Internal, Double or External | Single Internal, Double or External | Single Internal, Double or External | Single Internal, Double or External | Single Internal or Double | Single Internal or Double | Single Internal or Double |
| Approximate Weight, Pump Only | 4.2 lbs (1.9 kg) | 4.2 lbs (1.9 kg) | 7 lbs (3.2 kg) | 10 lbs (4.5 kg) | 11.2 lbs (5.1 kg) | 14 lbs (6.3 kg) | 39 lbs (17.6 kg) | 80 lbs (36 kg) |

PUMP IDENTIFICATION NUMBER SELECTION GUIDE

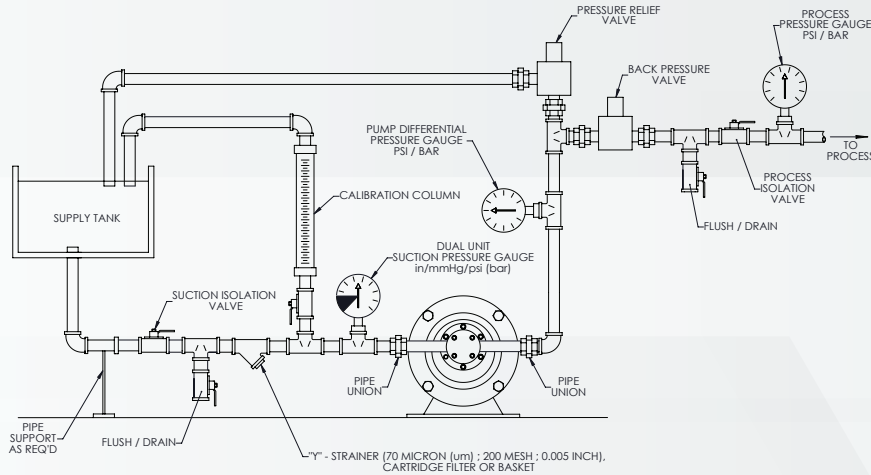
| Position 1 Gearchem External Spur Gear Pump | | | | | | | | | | |
|---|---|---|---------|---------------|-------|-------------|-------|-------|----------|---------------|
| G | = | Original Version, Foot Mounted Only | | | | | | | | 2,4,6,8 |
| GA | = | Mechanical Seal, Foot Mounted Only | | | | | | | | 2,4,6,8,12,16 |
| GC | = | Mechanical Seal, C-Face Motor Mounting Assembly | | | | | | | | 2,4,6,8 |
| GH | = | Higher Pressure Model, Foot Mounting Only | | | | | | | | 6,8 |
| Position 2 Pump Size | | | 2 | 4 | 6 | 8 | H6 | H8 | 12 | 16 |
| Port size | | | 0.25" | 0.50" | 0.75" | 1.00" | 0.75" | 1.00" | 1.50" | 2.00" |
| Capacity (gpm max) | | | 1.5 | 3 | 10 | 20 | 10 | 20 | 26 | 55 |
| Differential Pressure (psi max) | | | 100 | 100 | 100 | 50 | 200 | 100 | 100 | 100 |
| Position 3 Available Pump Metallurgies and Type port Connection | | | | | | | | | | |
| A | = | 316SS | FNPT | X | X | X | X | X | X | X |
| C | = | Alloy C | FNPT | X | X | X | X | X | X | X |
| D | = | Alloy 20 | FNPT | X | X | X | X | X | X | X |
| K | = | 316SS | FBSPT | X | X | X | X | X | X | X |
| M | = | Alloy C | FBSPT | X | X | X | X | X | X | X |
| N | = | Alloy 20 | FBSPT | X | X | X | X | X | X | X |
| U | = | 316SS | FLANGED | | | | | | X | X |
| V | = | Alloy C | FLANGED | | | | | | X | X |
| W | = | Alloy 20 | FLANGED | | | | | | X | X |
| Position 4 Drive Gear Material | | | | | | | | | | |
| A | = | 316SS | | X | X | X | X | X | X | X |
| C | = | Alloy C | | X | X | X | X | X | X | X |
| D | = | Alloy 20 | | X | X | X | X | | | |
| T | = | TFE (Glass-filled) (1) | | X | X | X | X | | | |
| E | = | PEEK (1) | | X | X | X | X | | | |
| Position 5 Idler Gear Material | | | | | | | | | | |
| A | = | 316SS | | X | X | X | X | X | X | X |
| C | = | Alloy C (2) | | X | X | X | X | X | X | X |
| D | = | Alloy 20 (2) | | X | X | X | X | | | |
| K | = | Carbon | | X | X | X | X | X | X | X |
| T | = | TFE (Glass-filled) | | X | X | X | X | X | X | X |
| E | = | PEEK | | X | X | X | X | X | X | X |
| Position 6 Wear Plate Material | | | | | | | | | | |
| K | = | Carbon | | X | X | X | X | X | X | X |
| T | = | TFE (Glass-filled) | | X | X | X | X | X | X | X |
| Z | = | Ceramic (3) | | X | X | X | X | X | X | X |
| E | = | PEEK | | X | X | X | X | X | X | X |
| Position 7 Shaft and Bearing Material | | | | | | | | | | |
| K | = | Standard Carbon | | X | X | X | X | X | X | X |
| T | = | TFE (Glass-filled) | | X | X | X | X | X | X | X |
| L | = | Extended Life Carbon | | X | X | X | X | X | X | X |
| C | = | Extended Life Carbon 'CW' Shafts | | X | X | X | X | X | X | X |
| 4 | = | Standard Carbon (Slotted) | | | | | | | X | X |
| Position 8 Seal Arrangement | | | G 2-4 | GA / GC / 2-4 | G 6-8 | GA / GC 6-8 | GH 6 | GH 8 | GA 12-16 | |
| PACKING | | | | | | | | | | |
| B | = | TFE Rings | | X | | X | | | | |
| G | = | Grafoil® Rings | | X | | X | | | | |
| J | = | Viton® Lip Seal H-C Spring (4) | | X | | X | | | | |
| N | = | TFE Rings/Lantern | | X | | X | | X | X | |
| R | = | Grafoil®/Lantern | | X | | X | | X | X | |
| MECHANICAL SEALS BELLOWS (5) | | | | | | | | | | |
| A | = | Single Seal: Carbon Rotary/Viton®, Ceramic Seat/Viton® | | | X | | X | | | |
| C | = | Double Seal: Carbon Rotary/Viton®, Ceramic Seat/Viton® (6) | | | X | | X | | | |
| P | = | Single Seal: Siliconized Rotary/EPR, Siliconized CBD Seat/TFE | | | X | | X | | | |
| WEDGE | | | | | | | | | | |
| E | = | Double Seal: Carbon Rotary/TFE, Silicon CBD Seat/TFE (6) | | | X | | X | X | X | |
| Q | = | Single Seal: Teflon Rotary/TFE, Silicon CBD Seat/TFE | | | X | | X | X | | |
| U | = | Single Seal: Carbon Rotary/TFE, Silicon CBD Seat/TFE | | | X | | X | X | X | |
| Position 9 Options: Consult your local distributor to meet your special requirements. | | | | | | | | | | |

NOTES:

- (1) Maximum differential pressure allowed for plastic/plastic gears is 50 psig
- (2) Pumps with metallic drive and idler gears require minimum viscosity of 100 cPs and are limited to 1440 rpm maximum speed for G2-GH8 pumps and 1150 rpm for GA12-16 pumps.
- (3) Ceramic wear plates with metallic gears require minimum viscosity of 100 cPs.
- (4) Viton® U-cup lip seals are limited to 25 psi.
- (5) Not all mechanical seals available in all metallurgies
- (6) Double mechanical seals must be pressurized with seal fluid 15 to 20 psig above the pump discharge pressure.

INSTALLATIONS

Typical gear pump installation with recommended accessories.



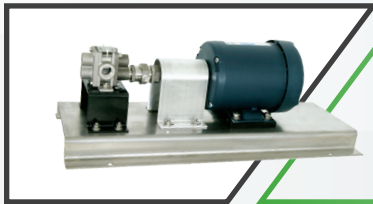
PUMP KOPKIT & ACCESSORIES

In addition to the material offerings for ECO pumps, there are a variety of options that allow you to customize your pump to meet the application specifications. Flush ports and pedestal assemblies are also available (not shown).



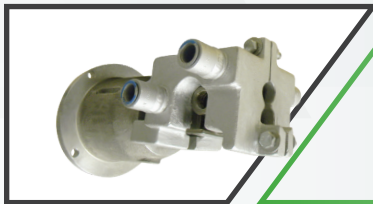
KOPKIT®

To guard against unnecessary down-time, we recommend you purchase an ECO KOPkit® (Keep-On-Pumping kit) with the purchase of your pump.



BASE MOUNTED UNITS

Pumps can be mounted on formed bases of heavy-gauge carbon or stainless steel. These complete units provide easy installation.



BOLT-ON JACKET

Bolt-on jackets enable the user to maintain close control of pumping temperatures.



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