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ECO® GEARCHEM

RELIABLE & VERSATILE GEAR PUMPS

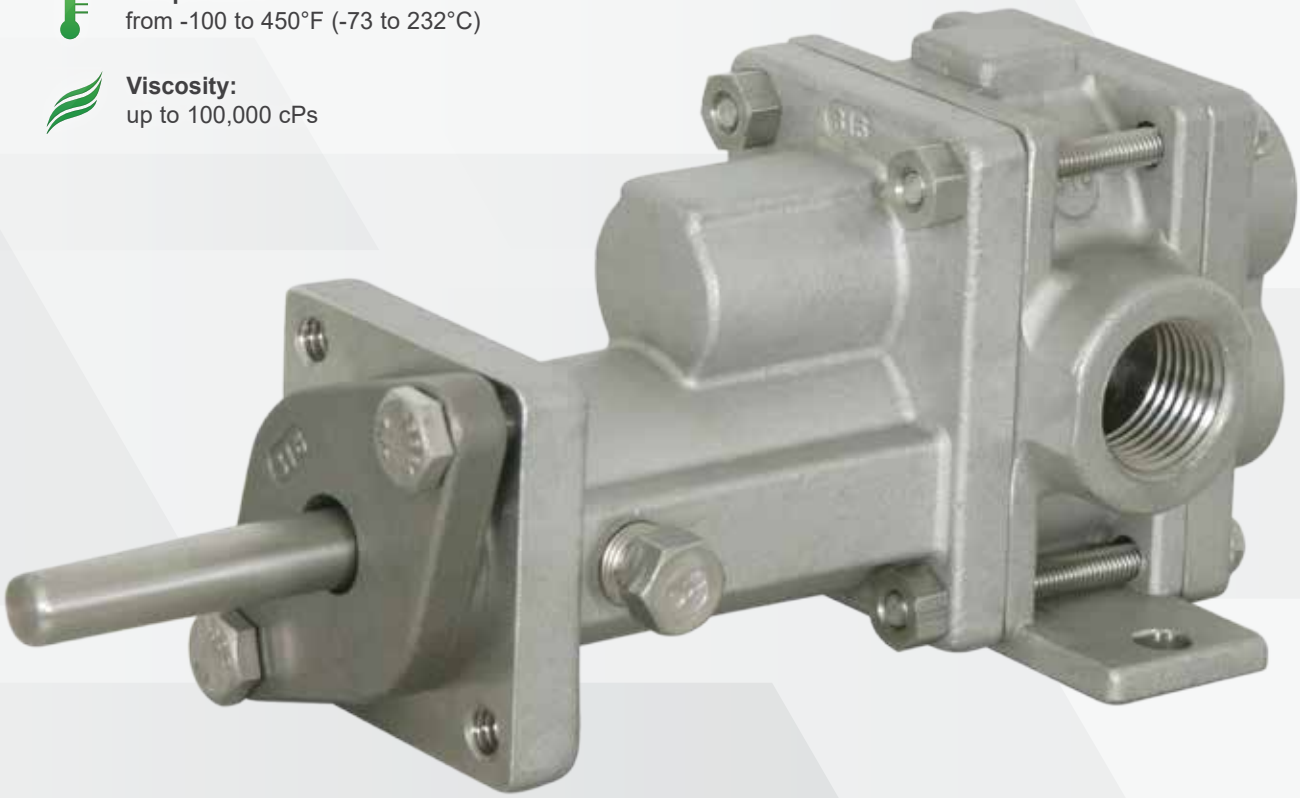
Flow:
up to 55 gpm (208 lpm)

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 or Double	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											
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	X
C	=	Alloy C	X	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	X
C	=	Alloy C (2)	X	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	X

Position 6		Wear Plate Material								
K	=	Carbon	X	X	X	X	X	X	X	X
T	=	TFE (Glass-filled)	X	X	X	X	X	X	X	X
Z	=	Ceramic (3)	X	X	X	X	X	X	X	X
E	=	PEEK	X	X	X	X	X	X	X	X

Position 7		Shaft and Bearing Material								
K	=	Standard Carbon	X	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	X
C	=	Extended Life Carbon 'CW' Shafts	X	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	X	
R	=	Grafoil®/Lantern	X		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	X	
Q	=	Single Seal: Teflon Rotary/TFE, Silicon CBD Seat/TFE		X		X	X	X		
U	=	Single Seal: Carbon Rotary/TFE, Silicon CBD Seat/TFE		X		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.

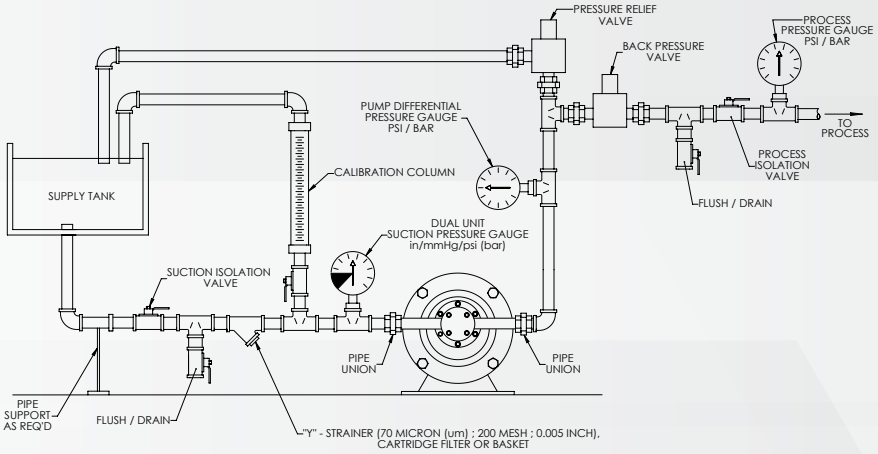
(4) Viton® U-cup lip seals are limited to 25 psi.

(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.



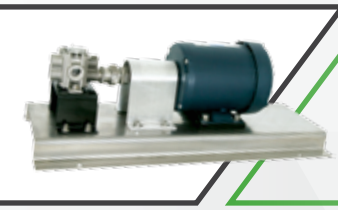
PUMP KOPKIT & ACCESSORIES

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).



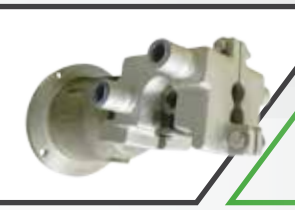
KOPKIT®

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.

PULSAFEEDER® ENGINEERED PRODUCTS

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