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ISOCHEM®

RELIABLE & VERSATILE GEAR PUMPS

Flow:
up to 55 gpm (208 lpm)

Differential Pressure:
up to 200 psi (13.8 bar)

Working Pressure:
up to 250 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

ISOCHEM®

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.

ISOCHEM GEAR PUMPS

ISOCHEM magnetically driven sealless 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. ISOCHEM gear pumps are well suited for pilot plants, vacuum systems, and metering applications.

PRODUCT SPECIFICATIONS

GENERAL SPECIFICATIONS MODEL SERIES	GMC1	GMC2	GMC4	GMC6	GMC8	GMH6	GMH8	GM12	GM16
Port Size & Type	1/4" NPT or BSPT	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	Side Inlet & Outlet
Direction of Rotation	Bidirectional	Bidirectional	Bidirectional	Bidirectional	Bidirectional	Bidirectional	Bidirectional	Bidirectional	Bidirectional
Theoretical Displacement	.03 gal / 100 rev (1.1 cc / rev)	.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	N/A	3/8"	3/8"	1/2"	1/2"	3/4"	3/4"	1"	1"
Maximum Differential Pressure	100 psi (6.9 bar)	100 psi (6.9 bar)	100 psi (6.9 bar)	100 psi (6.9 bar)	50 psi (3.4 bar)	200 psi (13.8 bar)	100 psi (6.9 bar)	100 psi (6.9 bar)	100 psi (6.9 bar)
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)	0.1 mm Hg (abs)
Maximum System Pressure	300 psi (20.7 bar)	150 psi (10.3 bar)	150 psi (10.3 bar)	150 psi (10.3 bar)	150 psi (10.3 bar)	250 psi (17.2 bar)	150 psi (10.3 bar)	150 psi (10.3 bar)	150 psi (10.3 bar)
Maximum Speed	1725 rpm	1725 rpm	1725 rpm	1725 rpm	1725 rpm	1725 rpm	1725 rpm	1150 rpm	1150 rpm
Capacity at Max Speed, 0 psi, 1 cPs	0.75 gpm 2.8 lpm	1.5 gpm 5.7 lpm	3 gpm 11 lpm	10 gpm 38 lpm	22 gpm 83 lpm	10 gpm 38 lpm	22 gpm 83 lpm	28 gpm 106 lpm	55 gpm 208 lpm
Max Viscosity at Reduced Speed	1,000 cP	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	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)	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)	-100°F (-73°C)
Fluid pH Range	0 - 14	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	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	By Pumped Fluid
Motor frame sizes available	42C, 48C, 56C	56C, 143/5TC, 71, 80	56C, 143/5TC, 71, 80	56C, 143/5TC, 80, 90	56C, 143/5TC, 80, 90	143/5TC, 100L	143/5TC, 100L	Any. Base mount only	Any. Base mount only
Pump and casing HxWxL (in)	6.5 x 6.5 x 6.5	6.5 x 6.5 x 7.25	6.5 x 6.5 x 7.25	6.75 x 6.75 x 8.4	6.75 x 6.75 x 8.4	8.9 x 8.0 x 12.2	8.9 x 8.0 x 12.2	12.2 x 10 x 24.6	12.2 x 10 x 26.6
Approximate Weight, Pump Only	7 lbs (14.7 kg)	16 lbs (35.3 kg)	16 lbs (35.3 kg)	28 lbs (61.7 kg)	30 lbs (66.1 kg)	70 lbs (154 kg)	75 lbs (165 kg)	190 lbs (418 kg)	225 lbs (495 kg)

PUMP IDENTIFICATION NUMBER SELECTION GUIDE

Position 1 Gearchem External Spur Gear Pump			
GMC	=	For C Face, Foot Mounted Motor	1, 2, 4, 6, 8
GM	=	For C Face, Foot Mounted Motor	H6, H8
GM	=	For long coupled, Base / Motor Arrangement	12, 16

Position 2 Pump Size	1	2	4	6	8	H6	H8	12	16
Port size	0.25"	0.25"	0.50"	0.75"	1.00"	0.75"	1.00"	1.50"	2.00"
Capacity (gpm max)	.03	1.5	3	10	20	10	20	26	55
Differential Pressure (psi max)	100	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	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	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	X
C	=	Alloy C	X	X	X	X	X	X	X	X	X
D	=	Alloy 20	X	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	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	(4)	X	X	X	X	X	X	X	X

Position 6 Wear Plate Material										
K	=	Carbon	(4)	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	(4)	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
B	=	Silicon Carbide with "Corrosion Wear" Shaft		X	X	X	X	X	X	X	X

Position 8 Mag Drive Mounting Arrangements										
STANDARD US MOUNTING										
F	=	56C Frame, Single Containment Can	(4)	X	X	X	X				
O	=	143TC - 184C Frame, Single Containment Can		X	X	X	X	X	X		
D	=	143TC - 184C Frame, Double Containment Can						X	X		
R	=	1.125 inch Input Shaft, Single Containment Can								X	X
T	=	1.125 inch Input Shaft, Double Containment Can								X	X
STANDARD METRIC MOUNTING										
J	=	71 Frame, Single Containment Can (85.0 mm B.C.)	(4)	X	X						
K	=	80 Frame, Single Containment Can (100.0 mm B.C.)		X	X	X	X				
L	=	90 Frame, Single Containment Can (115.0 mm B.C.)				X	X				
P	=	100 Frame, Single Containment Can (130.0 mm B.C.)						X	X		
Q	=	100 Frame, Double Containment Can (130.0 mm B.C.)						X	X		
U	=	28 mm Input Shaft, Single Containment Can								X	X
V	=	28 mm Input Shaft, Double Containment Can								X	X

Position 9, 10 and 11 Options: Consult your local distributor to meet your special requirements.

NOTES:

(1) Maximum differential pressure allowed for plastic/plastic gears is 50 psig

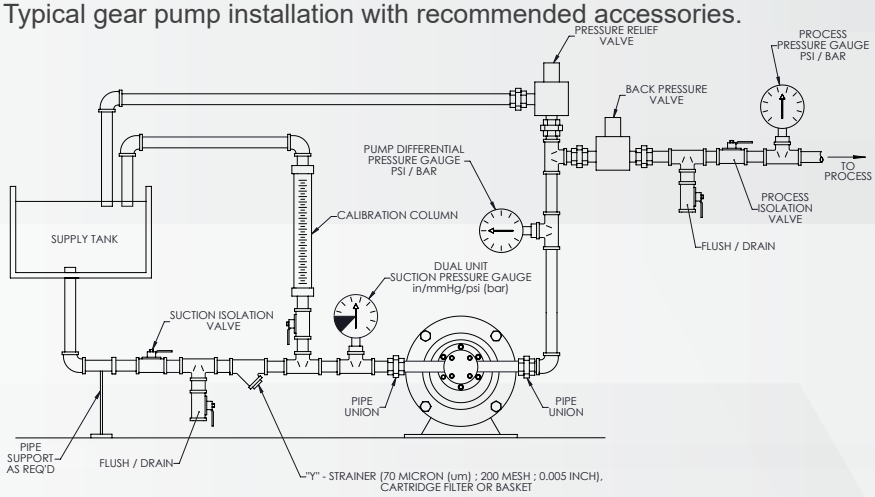
(2) Pumps with metallic drive and idler gears require minimum viscosity of 100 cPs and are limited to 1440 rpm maximum speed for GMC2-GMH8 pumps and 1150 rpm for GM12-16 pumps.

(3) Ceramic wear plates with metallic gears require minimum viscosity of 100 cPs.

(4) For GMC1 pump only: gears, wear plates and bearings are also available with indicated material or RYTON ®; also availbale for NEMA 42C, 45C and IEC 63 motor frames

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).



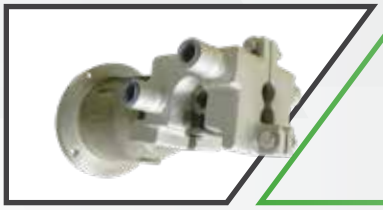
KOPKIT®

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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