

# 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

ISOICHEM 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. ISOICHEM gear pumps are well suited for pilot plants, vacuum systems, and metering applications.

## PRODUCT SPECIFICATIONS

| GENERAL SPECIFICATIONS<br>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<br>BSPT: 150# ANSI RF<br>flange | 2" 150# ANSI<br>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<br>(1.1 cc / rev) | .108 gal / 100 rev<br>(4.10 cc / rev) | .189 gal / 100 rev<br>(7.16 cc / rev) | .684 gal / 100 rev<br>(25.89 cc / rev) | 1.368 gal / 100 rev<br>(51.79 cc / rev) | .684 gal / 100 rev<br>(25.89 cc / rev) | 1.368 gal / 100 rev<br>(51.79 cc / rev) | 2.792 gal / 100 rev<br>(105.7 cc / rev)        | 5.584 gal / 100 rev<br>(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<br>2.8 lpm                 | 1.5 gpm<br>5.7 lpm                    | 3 gpm<br>11 lpm                       | 10 gpm<br>38 lpm                       | 22 gpm<br>83 lpm                        | 10 gpm<br>38 lpm                       | 22 gpm<br>83 lpm                        | 28 gpm<br>106 lpm                              | 55 gpm<br>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,<br>71, 80               | 56C, 143/5TC,<br>71, 80               | 56C, 143/5TC,<br>80, 90                | 56C, 143/5TC,<br>80, 90                 | 143/5TC, 100L                          | 143/5TC, 100L                           | Any.<br>Base mount only                        | Any.<br>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

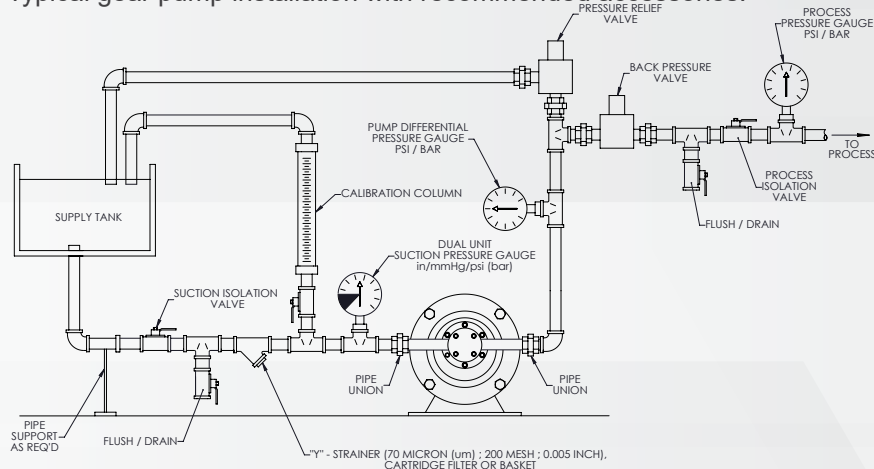
| Position 1 Gearchem External Spur Gear Pump                                                      |   |                                                   |               |       |       |       |       |       |       |       |       |
|--------------------------------------------------------------------------------------------------|---|---------------------------------------------------|---------------|-------|-------|-------|-------|-------|-------|-------|-------|
| 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     | X     | X     | X     | X     |
| T                                                                                                | = | TFE (Glass-filled) (1)                            |               | X     | X     | X     | X     | X     | X     | X     | X     |
| E                                                                                                | = | PEEK (1)                                          |               | X     | X     | X     | X     | 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     | X     | X     | X     | X     |
| K                                                                                                | = | Carbon                                            |               | X     | X     | X     | X     | X     | X     | X     | X     |
| T                                                                                                | = | TFE (Glass-filled)                                |               | X     | 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     | X     | X     |
| T                                                                                                | = | TFE (Glass-filled)                                |               | X     | 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     | 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 available 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, Inc.

2883 Brighton Henrietta Town Line Rd

Rochester, NY 14623

Phone: +1 (585) 292-8000

pulsa@idexcorp.com

www.pulsa.com

