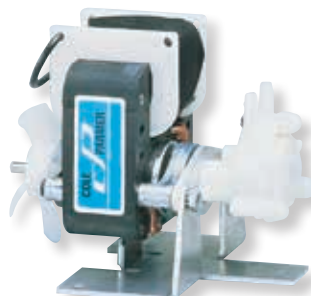


### Miniature Gear Pumps

## Achieve effective low-flow with a complete system

- Maximum flow rates up to 2.52 L/min
- Choose from nonenclosed OEM, lab, and fully enclosed lab versions

**What's included:** models 07012-00, -02 have 12" (30.4-cm) leads with no plug; models 07012-30, -32 have an aluminum enclosure and a 7-ft (2.1-m) cord with grounded plug and in-line switch; model 07012-20 has an 8-inch (20.3-cm) cord with no plug.



OEM pump 07012-00



Fully enclosed pump 07012-30



Pump 07012-20 fits in the palm of your hand and weighs only 10 oz!

#### Specifications

|  |                               |
|--|-------------------------------|
| <b>Max viscosity:</b> 200 cp, max                        | <b>Duty cycle:</b> continuous |
| <b>Particulates:</b> no                                  | <b>Run dry:</b> no            |
| <b>Suction lift:</b> 10 ft (3.0 m) wet, 4" (10.2 cm) dry | <b>Relief valve:</b> no       |

| Flow rates                      |       | Max psi (bar) | Port size hose barb | Wetted parts |                            |        |           |          |              | Max temperature   | Power                       | Catalog number | Price                       |
|---------------------------------|-------|---------------|---------------------|--------------|----------------------------|--------|-----------|----------|--------------|-------------------|-----------------------------|----------------|-----------------------------|
| GPM                             | L/min |               |                     | Body         | Gears                      | Seals  | Diaphragm | Shafting |              |                   |                             |                |                             |
| <b>Nonenclosed OEM pumps</b>    |       |               |                     |              |                            |        |           |          |              |                   |                             |                |                             |
| 0.43                            | 1.6   | 10 (0.69)     | 3/16"               | Acetal       | Delrin <sup>®</sup> acetal | Buna N | PTFE      | 304 SS   | 200°F (93°C) | 115 VAC, 60 Hz    | <a href="#">GY-07012-00</a> |                |                             |
| 0.358                           | 1.33  |               |                     |              |                            |        |           |          |              | 230 VAC, 50/60 Hz |                             |                | <a href="#">GY-07012-02</a> |
| <b>Fully enclosed lab pumps</b> |       |               |                     |              |                            |        |           |          |              |                   |                             |                |                             |
| 0.32                            | 1.2   | 10 (0.69)     | 3/16"               | Acetal       | Delrin <sup>®</sup> acetal | Buna N | PTFE      | 304 SS   | 200°F (93°C) | 115 VAC, 60 Hz    | <a href="#">GY-07012-30</a> |                |                             |
| 0.267                           | 1.0   |               |                     |              |                            |        |           |          |              | 230 VAC, 50/60 Hz |                             |                | <a href="#">GY-07012-32</a> |
| <b>12 VDC lab pump</b>          |       |               |                     |              |                            |        |           |          |              |                   |                             |                |                             |
| 0.67                            | 2.52  | 21 (1.4)      | 3/16"               | Acetal       | Delrin <sup>®</sup> acetal | Buna N | PTFE      | 304 SS   | 200°F (93°C) | 12 VDC            | <a href="#">GY-07012-20</a> |                |                             |

### Integrated-Drive Gear Pump Systems

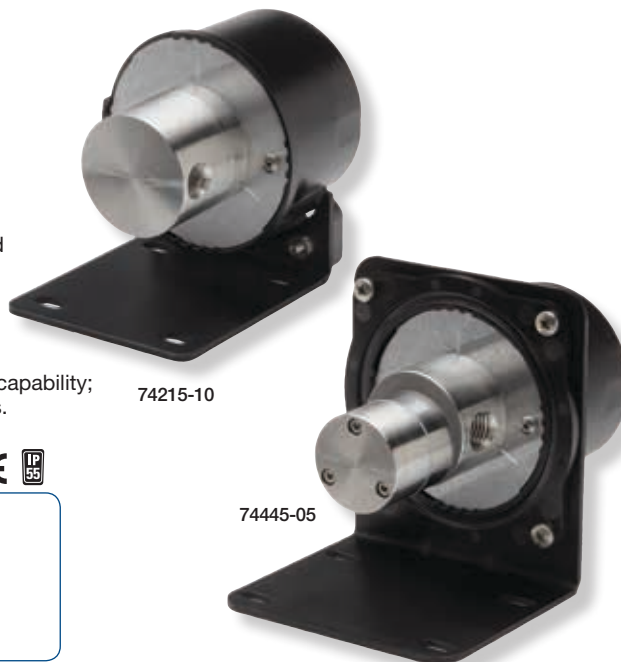
## No more pulsation

- Variable-speed electronic controller delivers smooth, pulseless flow
- Complete pumps include head, motor, and integrated drive
- Eliminate leaking with static seals

Drives feature thermal and overload protection with torque improvements and compact size achieved with NdFeB magnets. Control speed by using a 0 to 5 VDC input signal.

Choose a system with a suction shoe pump head to self compensate for wear, temperature, and pressure, and to maintain high volumetric efficiency. Cavity-style pump heads deliver higher lift capability and moderate pressure capability; an internal bypass is an integral safety feature of the cavity-style pump heads.

**What's included:** 2-ft (0.6-m) power cord and screwdriver.



74215-10

74445-05

#### Specifications

|  |  |
|--|--|
| <b>Port size:</b> 1/8" NPT(F)                              | <b>Speed Control:</b> 0 to 5 VDC   |
| <b>Viscosity:</b> 0.5 to 1500 cp                           | <b>Reversible:</b> Suction shoe pump heads: no<br>Cavity-style pump heads: yes         |
| <b>Suction lift:</b> 24" of H <sub>2</sub> O (at 3450 rpm) | <b>Internal bypass:</b><br>Suction shoe pump heads: no<br>Cavity-style pump heads: yes |
| <b>Duty cycle:</b> continuous                              |  |
| <b>Power:</b> 10 to 38 VDC                                 |  |

| Flow Rates                                  |         |          | Max psi (bar) |            | Wetted Parts |       |       | Max temperature | Max speed (rpm) | Catalog number              | Price | Service kits                |       |
|---|---------|----------|---------------|------------|--------------|-------|-------|-----------------|-----------------|-----------------------------|-------|-----------------------------|-------|
| mL/rev                                      | 500 rpm | 5000 rpm | Diff          | System     | Body         | Gears | Seals |                 |                 |                             |       | Cat. no.                    | Price |
| <b>Systems with suction shoe pump heads</b> |         |          |               |            |              |       |       |                 |                 |                             |       |                             |       |
| 0.092                                       | 46      | 460      | 75 (5.2)      | 300 (20.7) | 316 SS       | PPS   | Viton | 248°F (120°C)   | 6000            | <a href="#">GY-74215-10</a> |       | <a href="#">GY-74215-95</a> |       |
| <b>Systems with cavity-style pump heads</b> |         |          |               |            |              |       |       |                 |                 |                             |       |                             |       |
| 0.32  | 160     | 1600     | 80 (5.5)      | 300 (20.7) | 316 SS       | PPS   | PTFE  | 248°F (120°C)   | 5500            | <a href="#">GY-74445-05</a> |       | <a href="#">GY-74445-91</a> |       |
| 0.64  | 320     | 3200     |               |            |              |       |       |                 |                 | <a href="#">GY-74445-15</a> |       | <a href="#">GY-74445-93</a> |       |
| 0.91  | 455     | 4550     |               |            |              |       |       |                 |                 | <a href="#">GY-74445-25</a> |       | <a href="#">GY-74445-95</a> |       |

## Cole-Parmer® Console Drive

### Optimize performance of long-term applications

- 100:1 speed-control range controls flow over a wide range
- Separate on-off switch maintains speed (flow) setting when drive is powered down
- Maximum continuous-duty flow rates possible with Micropump® A-mount pump heads below
- Gradual, one-second acceleration for smooth flow rate changes

Simple variable speed control provides flow control for many fluid handling applications from filtration to chemical injection.

**What's included:** a 6-ft (1.8-m) modular line power cord; the 115 VAC model has a US standard plug and the 230 VAC model has an IEC 320/CEE 22 connector (specify country to obtain correct plug).



#### Specifications

**Duty cycle:** continuous      **Remote control (output):** none  
**Remote control (input):** none      **Max system temperature:** 104°F (40°C)

| Motor      |      |      | Power      |                | Catalog number   | Price |
|------------|------|------|------------|----------------|--|-------|
| rpm        | hp   | Type | VAC        | Hz             |  |       |
| 50 to 5000 | 0.07 | PMDC | 115<br>230 | 50/60<br>50/60 | <a href="#">GY-75211-10</a><br><a href="#">GY-75211-15</a> |       |

## A-Mount Gear Pump Heads

### Achieve leak-free, pulseless flow

Magnetic drive and static seals keep fluids securely inside and potential contaminants out. Chemical resistant materials handle a wide range of materials (due to wetted parts). Pump heads are compact and easy to service. Modular design offers flexibility—configure to your specific needs.

**Cavity-style pump heads** are designed to handle higher inlet pressures. Models without internal bypass are reversible.

**Suction shoe pump heads** provide higher delivery pressures and temperatures, plus increased efficiency.



73011-00

73004-00

#### Specifications

**Port size:** 1/8" NPT(F)      **Suction lift:** Cavity style: 24" of H<sub>2</sub>O (at 1750 rpm)  
**Max viscosity:** 0.2 to 1500 cp      Suction shoe: 12" of H<sub>2</sub>O (3450 rpm)      **Duty cycle:** continuous

| Flow rates (mL/min) <sup>†</sup>  |           |             | Max pressure psi (bar) |            | Wetted parts |          |        | Temperature range           | Internal bypass | Max speed (rpm) | Catalog number              | Price                       | Service kits                |       |                             |                             |                             |
|---|-----------|-------------|------------------------|------------|--------------|----------|--------|-----------------------------|-----------------|-----------------|-----------------------------|-----------------------------|-----------------------------|-------|-----------------------------|-----------------------------|-----------------------------|
| mL/rev  | at 50 rpm | at 5000 rpm | Diff                   | System     | Body         | Gears    | Seals  |                             |                 |                 |                             |                             | Cat. no.                    | Price |                             |                             |                             |
| <b>Cavity-Style Pump Heads</b> reversible units without internal bypass                           |           |             |                        |            |              |          |        |                             |                 |                 |                             |                             |                             |       |                             |                             |                             |
| 0.32  | 16        | 1600        | 80 (5.5)               | 300 (20.7) | 316 SS       | PEEK     | PTFE   | -45 to 170°F (-73 to 77°C)  | No              | 10,000          | <a href="#">GY-73011-00</a> |                             | —                           | —     |                             |                             |                             |
|   |           |             | 80 (5.5)               |            |              | PTFE     |        |                             | Yes             |                 |                             |                             |                             |       | <a href="#">GY-73011-02</a> | —                           | —                           |
|   |           |             | 50 (3.4)               |            |              | PTFE     |        |                             | Yes             |                 |                             |                             |                             |       | <a href="#">GY-07002-17</a> | <a href="#">GY-07144-38</a> | —                           |
| 0.64  | 32        | 3200        | 50 (3.4)               | 300 (20.7) | 316 SS       | PTFE     | PTFE   | -45 to 130°F (-43 to 54°C)  | Yes             | 10,000          | <a href="#">GY-73011-23</a> |                             | —                           | —     |                             |                             |                             |
|   |           |             | 75 (5.2)               |            |              | PPS      |        |                             |                 |                 |                             |                             |                             |       | -45 to 170°F (-43 to 77°C)  | <a href="#">GY-07001-80</a> | <a href="#">GY-07001-89</a> |
| 0.64  | 32        | 3200        | 80 (5.5)               | 300 (20.7) | 316 SS       | PEEK     | PTFE   | -45 to 170°F (-73 to 77°C)  | No              | 10,000          | <a href="#">GY-73011-08</a> |                             | —                           | —     |                             |                             |                             |
|   |           |             | 80 (5.5)               |            |              | PTFE     |        |                             | Yes             |                 |                             |                             |                             |       | <a href="#">GY-73011-10</a> | <a href="#">GY-73011-84</a> | —                           |
| 0.91  | 45.5      | 4550        | 80 (5.5)               | 300 (20.7) | 316 SS       | PEEK     | PTFE   | -45 to 170°F (-43 to 77°C)  | No              | 10,000          | <a href="#">GY-73011-16</a> |                             | —                           | —     |                             |                             |                             |
|   |           |             | 80 (5.5)               |            |              | PTFE     |        |                             | Yes             |                 |                             |                             |                             |       | <a href="#">GY-73011-18</a> | —                           | —                           |
|   |           |             | 50 (3.4)               |            |              | PTFE     |        |                             | Yes             |                 |                             |                             |                             |       | <a href="#">GY-07001-40</a> | <a href="#">GY-07001-41</a> | —                           |
| <b>Suction Shoe Pump Heads</b> provide higher delivery pressures and superior priming performance |           |             |                        |            |              |          |        |                             |                 |                 |                             |                             |                             |       |                             |                             |                             |
| 0.017   | 0.85      | 85          | 20 (1.4)               | 300 (20.7) | 316 SS       | Graphite | PTFE   | -50 to 250°F (-46 to 120°C) | No              | 8000            | <a href="#">GY-07002-25</a> |                             | <a href="#">GY-07144-42</a> | —     | —                           |                             |                             |
| 0.042   | 2.10      | 210         | 40 (2.8)               |            |              |          |        |                             | No              | 8000            | <a href="#">GY-07002-26</a> | —                           | —                           |       |                             |                             |                             |
| 0.084   | 4.20      | 420         | 40 (2.8)               |            |              |          |        |                             | No              | 8000            | <a href="#">GY-07002-27</a> | <a href="#">GY-07144-47</a> | —                           | —     |                             |                             |                             |
| 0.092   | 4.60      | 460         | 75 (5.2)               | 300 (20.7) | 316 SS       | PEEK     | PTFE   | -50 to 250°F (-46 to 120°C) | No              | 8000            | <a href="#">GY-73003-14</a> |                             | —                           | —     |                             |                             |                             |
|   |           |             | 75 (5.2)               |            |              | PPS      |        |                             |                 |                 |                             |                             |                             |       | <a href="#">GY-07002-14</a> | <a href="#">GY-07144-34</a> | —                           |
| 0.261   | 13.05     | 1305        | 125 (8.6)              | 300 (20.7) | 316 SS       | PEEK     | Viton® | -50 to 250°F (-46 to 120°C) | Yes             | 10,000          | <a href="#">GY-73004-00</a> |                             | —                           | —     |                             |                             |                             |
| 0.58  | 29.00     | 2900        | 125 (8.6)              | 300 (20.7) | 316 SS       | PEEK     | Viton  | -50 to 250°F (-46 to 120°C) | Yes             | 10,000          | <a href="#">GY-73004-02</a> |                             | —                           | —     |                             |                             |                             |
|   |           |             | 75 (5.2)               |            |              | PPS      |        |                             |                 |                 |                             |                             |                             |       | <a href="#">GY-07003-02</a> | <a href="#">GY-07003-12</a> | —                           |
| 1.17  | 58.50     | 5850        | 60 (4.1)               | 300 (20.7) | 316 SS       | PEEK     | Viton  | -50 to 250°F (-46 to 120°C) | Yes             | 10,000          | <a href="#">GY-73004-04</a> |                             | —                           | —     |                             |                             |                             |
|   |           |             | 60 (4.1)               |            |              | PPS      |        |                             |                 |                 |                             |                             |                             |       | <a href="#">GY-07003-04</a> | <a href="#">GY-07003-14</a> | —                           |

**NOTE:** Viscosity for all models is dependent on the parameters (flow rate, pressures, etc.) of the specific application.  
<sup>†</sup>Flow rates based on water at room temperature and no back pressure.

### Ismatec® Analog Drive with Remote Control

#### Ensure accurate pumping

- Three-digit, push-button potentiometer allows you to set 1000:1 turndown ratio
- Four analog signal ranges and on/off control allow peripheral instruments to adjust speed and actuate drive (remote cable required)
- Electronic feedback system compensates for changes in load to maintain ±1% speed accuracy

**What's included:** an adapter plate for mounting Micropump® standard pump heads, a driving magnet, and a 6-ft (1.8-m) power cord with US standard plug.



#### Specifications

**Duty cycle:** continuous from 1200 to 5000 rpm

#### Remote control (input)

Speed control: 0 to 5 or 0 to 10 VDC; 0 to 20 or 4 to 20 mA (DB15 F)  
On/off control: TTL contact (DB15F)

**Remote control (output):** 0 to 10 VDC or 0 to 12 kHz (for speed monitoring)

**Max temperature:** 104°F (40°C)

| Motor rpm | Power   |       | Dimensions (L x W x H)                 | Catalog number              | Price |
|-----------|---------|-------|--|-----------------------------|-------|
|           | VAC     | Hz    |  |                             |       |
| 6 to 6000 | 115/230 | 50/60 | 9½" x 6⅞" x 10¼" (24.1 x 15.5 x 26 cm) | <a href="#">GY-78004-12</a> |       |

#### Wait! There's More...

For A-mount pump heads to use with any of the drives on this page, see page 773.

### Cole-Parmer® Console Drive with External Control

#### Integrate easily with your other instruments

- Compact size and stackable housing maximize valuable bench space
- Local/remote switch lets you control pump via the front control panel or rear 9-pin connector
- 10-turn potentiometer enables precise manual control of flow rate
- Remotely control flow rate with an external 4 to 20 mA or 2 to 10 VDC signal

Rear-mounted 9-pin connector allows quick and easy hookup for your external equipment. Compatible with all A-mount pump heads on page 773.

**What's included:** a 6-ft (1.8-m) modular line power cord; the 115 VAC model has a US standard plug and the 230 VAC model has an IEC 320/CEE 22 connector (specify country to obtain correct plug.)



#### Specifications

**Duty cycle:** continuous

**Remote control (input):** 4 to 20 mA or 2 to 10 VDC, on/off by contact closure

**Remote control (output):** none  
**Max system temperature:** 104°F (40°C)

| Motor rpm  | Power      |       | Dimensions (L x W x H)                     | Catalog number   | Price |
|------------|------------|-------|--|--|-------|
|            | VAC        | Hz    |  |  |       |
| 72 to 3600 | 115<br>230 | 50/60 | 11½" x 8" x 7¼"<br>(29.2 x 20.3 x 18.4 cm) | <a href="#">GY-75211-50</a><br><a href="#">GY-75211-55</a> |       |

[GY-77595-35](#) Optional foot switch for remote start/stop control



# Wait!

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Browse **100,000+** products plus find **Technical Resources** to help you choose

## Cole-Parmer® Modular Gear Pump Drive

### Position unit where you need it

- Modular format enables efficient use of available space—locate the pump controller for convenient operation
- “Soft-start” feature allows gradual, one-second acceleration for smooth flow rate changes
- Continuous-duty drive features ±2% line/load regulation
- Controller features IP23-rated housing and single-turn potentiometer for speed control



IP21-rated motor features a welded base for mounting or for free-standing use. Compatible with all Micropump® A-mount pump heads on pages 773.

**What's included:** a 6-ft (1.8-m) cable for controller-to-motor connection and a 6-ft (1.8-m) modular line power cord; the 115 VAC model has a US standard plug and the 230 VAC model has an IEC 320/CEE 22 connector (specify country to obtain correct plug).

#### Specifications



**Duty cycle:** continuous  
**Remote control (input):** none  
**Remote control (output):** none  
**Max system temperature:** 104°F (40°C)

| Motor      |      |      | Power |       | Catalog number              | Price | Replacement controller      |       | Replacement motor           |       |
|------------|------|------|-------|-------|-----------------------------|-------|-----------------------------|-------|-----------------------------|-------|
| rpm        | hp   | Type | VAC   | Hz    |                             |       | Catalog number              | Price | Catalog number              | Price |
| 40 to 3600 | 1/10 | PMDC | 115   | 50/60 | <a href="#">GY-75211-20</a> |       | <a href="#">GY-75211-21</a> |       | <a href="#">GY-75211-22</a> |       |
|            |      |      | 230   | 50/60 | <a href="#">GY-75211-25</a> |       | <a href="#">GY-75211-26</a> |       | <a href="#">GY-75211-27</a> |       |

## Ismatec® Compact Programmable Digital Drive

### Dispense by flow rate, volume, time, or number of cycles

- No more dripping—program pump to draw back fluid
- Control via a PC with RS-232 interface
- Get more accuracy with calibration of flow rate and dispensing volume

IP44-rated housing protects internal components from damage. Multiple operating modes allow for continuous pumping by drive speed, flow rate, volume, time, volume within a pre-set time or interval dispensing by volume with a pause or time with a pause. The number of dispensing cycles may also be into the pump. Pump is capable of reversible rotation (only with cavity style pump heads that indicate reversible operation). Both dispensing and pause time settings are from 0.1 seconds up to 999 hours.

**What's included:** an adapter plate for mounting Micropump® A pump heads (except 07003-02, 07003-04, 73004-00, 73004-02, and 73004-04), a driving magnet and a 6-ft (1.8-m) power cord with US standard plugs.

#### Specifications



**Duty cycle:** continuous from 50 to 5000 rpm  
**Remote control (input):** Speed control: RS-232 (DB9F) for pump control via PC. 9600 baud, 8 bit, 1 stopbit, no parity  
 On/off control: TTL contact (for footswitch) 0 to 10 kHz for speed monitoring  
**Remote control (output):** RS-232 (DB9M) for cascading of up to 8 pumps  
**Max temperature:** 104°F (40°C)



Programmable, digital drive 78008-10 with Micropump pump head 07002-14 (pump head not included)

#### Wait! There's More...

For Micropump® A-mount pump heads to use with the Ismatec® drive on this page, see page 773.

| Motor rpm  | Power     |          | Catalog number              | Price |
|------------|-----------|----------|-----------------------------|-------|
|            | VAC       | Hz       |                             |       |
| 50 to 5000 | 90 to 264 | 47 to 63 | <a href="#">GY-78008-10</a> |       |



[GY-07617-90 Replacement adapter plate](#); for mounting Micropump A-mount pump heads (except models 07003-02, 07003-04, 73004-00, 73004-02, 73004-04)

### Ismatec® Programmable Digital Drive with RS-232

#### Control dispensing and metering remotely

- Features time, volume, and intermittent dispensing modes
- Control up to eight drives through one computer—requires software 16550-13 and RS-232 interface 78098-22
- Serial, analog, and valve-control interfaces simplify connections to peripheral devices

Easily set all operating parameters (calibration, speed, dispense and pause times, and fluid direction) using the front-panel keypad. The LED display indicates flow rate or drive speed.

**What's included:** an adapter plate for Micropump® pump heads, a driving magnet, and a 5-ft (1.5-m) power cord with US standard plug.  



#### Specifications

**Duty cycle:** continuous

#### Remote control (input)

Speed control: 0 to 5 or 0 to 10 VDC;  
0 to 20 or 4 to 20 mA (DB15F)  
On/off control: TTL contact (DB15F) RS-232: 9600  
or 1200 baud, 8 bit, 1 stopbit, no parity (DB9F)

**Remote control (output):** two valve control outputs (DB15F), additional RS-232 output for cascading (DB9F)

**Max temperature:** 104°F (40°C)

| Motor rpm  | Power   |       | Dimensions (L x W x H)                | Catalog number              | Price |
|------------|---------|-------|---------------------------------------|-----------------------------|-------|
|            | VAC     | Hz    |                                       |                             |       |
| 60 to 6000 | 115/230 | 50/60 | 6" x 10¼" x 9½" (15.2 x 26 x 24.1 cm) | <a href="#">GY-78004-02</a> |       |

[GY-78002-92 RS-232 interface cable](#) for connecting drive to computer, DB9 female to DB9 male

[GY-16550-13 Software](#). Monitor measurements from eight different drives/devices.

For use with Window® computers

[GY-78098-22 RS-232 interface](#), eight port. Use with software above

### Economical Drives

#### Achieve dependable pumping affordably

- Hundreds of hours of dependable leakproof service
- Magnetic coupling minimizes friction— all horsepower is transmitted directly to the gears
- Choose either an explosion-proof or air-powered model for safe pumping in hazardous areas

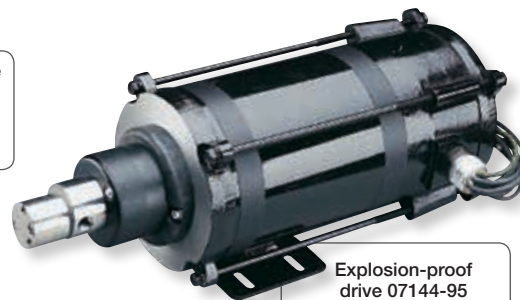
#### Specifications

**Duty cycle:** continuous

**Max system temperature:** 104°F (40°C)



Air-powered drive 07144-97 (pump head not included)



Explosion-proof drive 07144-95 (pump head not included)

| Motor   |              |             |         | Power requirements                     | Termination             | Catalog number              | Price |
|---|--------------|-------------|---------|--|-------------------------|-----------------------------|-------|
| rpm   | hp           | Type        | Frame   |  |                         |                             |       |
| <b>AC motor drives</b>  |              |             |         |  |                         |                             |       |
| 1725  | 0.05         | Shaded pole | TEFC    | 115/230 VAC, 1.5/0.75 A                | 12" (30.5 cm) leads     | <a href="#">GY-07002-58</a> |       |
| 3000  | 0.05         | Shaded pole | TEFC    | 115 VAC, 1.9 A                         | 6-ft (1.8-m) cord       | <a href="#">GY-07144-93</a> |       |
| <b>DC motor drives</b>  |              |             |         |  |                         |                             |       |
| 300 to 4000   | 0.02         | PM brush    | TENV    | 0 to 12 VDC, 4 A                       | 13" (33 cm) wire leads  | <a href="#">GY-07144-91</a> |       |
|   | 0.09         |             |         | 0 to 24 VDC, 3 A                       |                         | <a href="#">GY-07003-90</a> |       |
| <b>Explosion-proof drive</b> ; rated for NEMA Class 1, Groups C and D locations |              |             |         |  |                         |                             |       |
| 3150  | 0.17         | PSC         | NEMA 42 | 115/230 VAC, 1.8/0.9 A                 | 6" (15.2 cm) wire leads | <a href="#">GY-07144-95</a> |       |
| <b>Air-powered drive</b> <sup>†</sup>   |              |             |         |  |                         |                             |       |
| 500 to 8000   | 0.13 to 0.29 | Vane        | TENV    | 5 to 11 scfm, 5 to 80 psi <sup>†</sup> | ¼" NPT(F)               | <a href="#">GY-07144-97</a> |       |

<sup>†</sup>Requires the use of an air lubricator and air filter/regulator—order separately below.

#### Accessories for air-powered drive 07144-97

[GY-07042-70 Air lubricator](#), ¼" NPT(F)

[GY-75300-77 Filter](#), 0.3 µm; ¼" NPT(F)

[GY-75300-45 Regulator](#)

#### Wait! There's More...

For A-mount pump heads to use with any of the drives on this page, see page 773.

## Cole-Parmer® Digital Gear Drive with Remote Control

### Easier setup and operation

**NEW**

- Graphical LCD shows four operating modes: continuous run, timed dispense, copy dispense, volume dispense
- Get pulse-free flow in combination with Micropump® A-mount head
- Maximize bench space by stacking up to three drives
- Control speed, direction, and more remotely via DB25 female connector on drive



Analog remote control options and simple programming make this drive ideal for automated process applications. Drive features set time interval between dispense cycles for hands-free dispensing. Batch count function counts down and displays batches completed. Cumulative volume function enables you to track total volume dispensed over multiple cycles.

**What's included:** 6-ft (1.8-m) line cord with IEC 320/CEE22 socket. These models are shipped with country specific plug/cord set; please specify ultimate destination when ordering.



**GY-07523-92** Foot switch for momentary start/stop; 6-ft (1.8-m) cable  
**GY-07523-94** Male connector, DB25. Use to create your own cable

| Motor rpm  | Motor hp | Motor type | Power VAC | Power Hz | Catalog number              | Price |
|------------|----------|------------|-----------|----------|-----------------------------|-------|
| 36 to 3600 | 1/10     | PMDC       | 90 to 260 | 50/60    | <a href="#">GY-75211-70</a> |       |



## Cole-Parmer® Gear Pump Systems

### Order one part number, get a complete system—drive and pump head

**Benchtop Analog Drives** provide continuous-duty operation with Micropump® A-mount pump heads. Gradual, one-second acceleration offers smooth control of drive speed and flow rate. The permanent-magnet, direct-current (PMDC) drive is built to last—excellent for long-term applications.

**Benchtop Digital Drives.** Graphical LCD shows four operating modes: continuous run, timed dispense, copy dispense, and volume dispense. View pump performance continually. Systems deliver pulse-free flow in combination with Micropump® A-mount head. Retrieve displacement and flow values by pump head size. IP33-rated enclosure ensures splash and dust resistance. Drive has a DB25F connection to the optional foot switch for hands-free on/off control (order foot switch separately).



Benchtop analog system 74013-45

Benchtop digital system 74014-32



### Specifications

|  |  |  |
|--|--|--|
| <b>Viscosity:</b> 0.2 to 1500 cp                             | <b>Remote control:</b><br>Analog drives: none<br>Digital drives: (input) on/off by contact closure | <b>Max operating temperature:</b><br>60°C (104°F)                                |
| <b>Suction lift:</b> 0.6 m of H <sub>2</sub> O (at 1750 rpm) | 0 to 10 VDC, 0 to 20 mA,<br>4 to 20 mA, and remote output  | <b>Speed:</b><br>Analog drives: 50 to 5000 rpm<br>Digital drives: 36 to 3600 rpm |
| <b>Duty cycle:</b> continuous                                |  |  |
| <b>Port size:</b> 1/8" NPT(F)                                |  |  |

| Flow rates (mL/min) <sup>†</sup> |           |             | Max pressure |              | Wetted parts |          |        | Benchtop analog systems     |             |       | Benchtop digital systems    |             |       | Service kits                |       |
|----------------------------------|-----------|-------------|--------------|--------------|--------------|----------|--------|-----------------------------|-------------|-------|-----------------------------|-------------|-------|-----------------------------|-------|
| mL/rev                           | at 50 rpm | at 3600 rpm | Diff (bar)   | System (bar) | Body         | Gears    | Seals  | Catalog number              | Power (VAC) | Price | Catalog number              | Power (VAC) | Price | Catalog number              | Price |
| 0.017                            | 0.85      | 85          | 1.38         | 20.68        | 316 SS       | Graphite | PTFE   | <a href="#">GY-74013-70</a> | 115         |       | <a href="#">GY-74014-72</a> | 90 to 260   |       | <a href="#">GY-07144-42</a> |       |
|                                  |           |             |              |              |              |          |        | <a href="#">GY-74013-75</a> | 220         |       |                             |             |       |                             |       |
| 0.092                            | 4.60      | 331.2       | 5.17         | 20.68        | 316 SS       | PPS      | PTFE   | <a href="#">GY-74013-00</a> | 115         |       | <a href="#">GY-74014-02</a> | 90 to 260   |       | —                           | —     |
|                                  |           |             |              |              |              |          |        | <a href="#">GY-74013-05</a> | 220         |       |                             |             |       |                             |       |
| 0.092                            | 4.60      | 331.2       | 5.17         | 20.68        | 316 SS       | PPS      | PPS    | <a href="#">GY-74013-60</a> | 115         |       | <a href="#">GY-74014-62</a> | 90 to 260   |       | —                           | —     |
|                                  |           |             |              |              |              |          |        | <a href="#">GY-74013-65</a> | 220         |       |                             |             |       |                             |       |
| 0.261                            | 13.05     | 939.6       | 8.61         | 20.68        | 316 SS       | PEEK     | Viton® | <a href="#">GY-74013-50</a> | 115         |       | <a href="#">GY-74014-52</a> | 90 to 260   |       | <a href="#">GY-74012-52</a> |       |
|                                  |           |             |              |              |              |          |        | <a href="#">GY-74013-55</a> | 220         |       |                             |             |       |                             |       |
| 0.316                            | 15.8      | 1137.6      | 5.17         | 20.68        | 316 SS       | PPS      | PTFE   | <a href="#">GY-74013-10</a> | 115         |       | <a href="#">GY-74014-12</a> | 90 to 260   |       | —                           | —     |
|                                  |           |             |              |              |              |          |        | <a href="#">GY-74013-15</a> | 220         |       |                             |             |       |                             |       |
| 0.64                             | 32.0      | 2304        | 5.17         | 20.68        | 316 SS       | PPS      | PTFE   | <a href="#">GY-74013-20</a> | 115         |       | <a href="#">GY-74014-22</a> | 90 to 260   |       | <a href="#">GY-74012-22</a> |       |
|                                  |           |             |              |              |              |          |        | <a href="#">GY-74013-25</a> | 220         |       |                             |             |       |                             |       |
| 0.91                             | 45.5      | 3276        | 5.17         | 20.68        | 316 SS       | PPS      | PTFE   | <a href="#">GY-74013-30</a> | 115         |       | <a href="#">GY-74014-32</a> | 90 to 260   |       | —                           | —     |
|                                  |           |             |              |              |              |          |        | <a href="#">GY-74013-35</a> | 220         |       |                             |             |       |                             |       |
| 1.17                             | 58.5      | 4212        | 4.14         | 20.68        | 316 SS       | PPS      | Viton  | <a href="#">GY-74013-40</a> | 115         |       | <a href="#">GY-74014-42</a> | 90 to 260   |       | —                           | —     |
|                                  |           |             |              |              |              |          |        | <a href="#">GY-74013-45</a> | 220         |       |                             |             |       |                             |       |

<sup>†</sup>Flow rates in mL/min are based on water at room temperature and no back pressure.

**GY-07523-92** Foot switch for 74014 series only. Momentary start/stop, 1.8-m cable

**GY-06385-10** Male pipe adapter (straight); PP, 1/4" OD x 1/8" NPT(M). Pack of 10

**GY-30621-31** Male pipe adapter; HDPE, 1/8" NPT(M) x 1/4" ID. Pack of 10

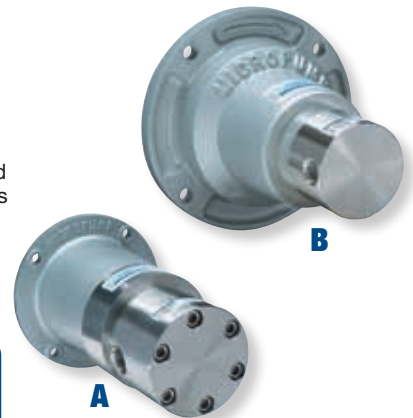
**GY-40610-36** Male pipe adapter; natural PP, 1/8" NPT(M) x 1/4" ID. Pack of 10

### Gear Pump Heads for NEMA 56C Motors Eliminate pulsation and leaking

- Compact size and easy to service

Magnetically driven, precision-geared cavity pump heads provide smooth, accurate, pulseless fluid delivery. The magnetic drive and a single seal keep fluids securely inside and potential contaminants out. Chemical-resistant materials handle a wide range of fluids.

- A. Cavity-Style Pump Heads** are designed to handle higher inlet pressures.
- B. Suction Shoe Pump Heads** give higher delivery pressures and superior priming performance.



#### Specifications

|   |   |   |
|---|---|---|
| <b>Viscosity range:</b><br>Cavity style: 0.2 to 2500 cp<br>Suction shoe: 0.2 to 1500 cp | <b>Suction lift:</b><br>Cavity style: 24" of H <sub>2</sub> O (at 1750 rpm)<br>Suction shoe: 6" of H <sub>2</sub> O (at 1750 rpm) | <b>Duty cycle:</b> continuous<br><b>Internal bypass:</b> no |
|---|---|---|

| Flow rate (mL/min) <sup>†</sup>   |            |              | Max speed (rpm) | Max pressure |          |            |            | Port size NPT(F) | Wetted parts |       |                    | Temperature range |                   | Reversible <sup>‡‡</sup> | Catalog number                          | Price     |
|-----------------------------------|------------|--------------|-----------------|--------------|----------|------------|------------|------------------|--------------|-------|--------------------|-------------------|-------------------|--------------------------|---|-----------|
| mL/rev                            | at 500 rpm | at max speed |                 | Diff psi     | Diff bar | System psi | System bar |                  | Body         | Gears | Seals              | °F                | °C                |                          |   |           |
| <b>A. Cavity-Style Pump Heads</b> |            |              |                 |              |          |            |            |                  |              |       |                    |                   |                   |                          |   |           |
| 3.15                              | 1575       | 12,600       | 4000            | 50           | 3.4      | 1500       | 103        | 3/8"             | 316 SS       | PTFE  | PTFE               | -50 to 130        | -45 to 54         | Yes                      | <a href="#">GY-73007-01<sup>‡</sup></a> |           |
| 3.48                              | 1740       | 13,920       |                 | 60           | 4.1      |            |            |                  |              | 100   | 6.9                | PEEK              | TEV <sup>††</sup> | -20 to 200               | -28 to 93                               | No        |
| 3.48                              | 1740       | 13,920       | 3450            | 50           | 3.4      | 300        | 21         | 3/4"             | 316 SS       | PTFE  | PTFE               | -50 to 130        | -45 to 54         | Yes                      | <a href="#">GY-73007-07</a>             |           |
| 6.2                               | 3100       | 21,390       |                 | 125          | 8.6      |            |            |                  |              | 1000  | 69                 | 316 SS            | PEEK              | Viton <sup>®</sup>       | -20 to 200                              | -28 to 93 |
| 12.2                              | 6100       | 21,350       | 1750            | 125          | 8.6      | 1000       | 69         | 3/4"             | 316 SS       | PEEK  | Viton <sup>®</sup> | -20 to 200        | -28 to 93         | Yes                      | <a href="#">GY-73007-13</a>             |           |
| <b>B. Suction Shoe Pump Heads</b> |            |              |                 |              |          |            |            |                  |              |       |                    |                   |                   |                          |   |           |
| 0.81                              | 405        | 2795         | 6000            | 75           | 5.2      | 1500       | 103        | 3/8"             | 316 SS       | PPS   | Viton <sup>®</sup> | -20 to 250        | -28 to 121        | No                       | <a href="#">GY-07003-41</a>             |           |
|                                   |            |              |                 | 125          | 8.6      |            |            |                  |              | PEEK  | TEV <sup>††</sup>  | -20 to 250        | -28 to 121        |                          | <a href="#">GY-73005-03</a>             |           |
| 1.82                              | 910        | 6279         | 4000            | 120          | 8.3      | 1500       | 103        | 3/8"             | 316 SS       | PEEK  | Viton              | -20 to 250        | -28 to 121        | No                       | <a href="#">GY-73005-09</a>             |           |
|                                   |            |              |                 | 120          | 8.3      |            |            |                  |              | PEEK  | TEV <sup>††</sup>  | -20 to 250        | -28 to 121        |                          | <a href="#">GY-73005-02</a>             |           |
| 3.48                              | 1740       | 12,006       | 4000            | 50           | 3.4      | 1500       | 103        | 3/8"             | 316 SS       | PEEK  | TEV <sup>††</sup>  | -20 to 250        | -28 to 121        | No                       | <a href="#">GY-73005-06</a>             |           |
|                                   |            |              |                 | 75           | 5.2      |            |            |                  |              | PEEK  | Viton              | -20 to 250        | -28 to 121        |                          | <a href="#">GY-73005-12</a>             |           |
|                                   |            |              |                 | 75           | 5.2      |            |            |                  |              | PEEK  | TEV <sup>††</sup>  | -20 to 250        | -28 to 121        |                          | <a href="#">GY-73005-13</a>             |           |

<sup>†</sup>Flow rates based on water at room temperature and no back pressure    <sup>‡</sup>Viscosity is 0.2 to 1500 cp    <sup>††</sup>TEV = PTFE Encapsulated Viton  
<sup>‡‡</sup>Reversible pumps operating in the reverse direction will see degradation in performance and a reduction in life.

### Gear Pumps

#### Dose, meter, and more with self-priming, bidirectional capabilities

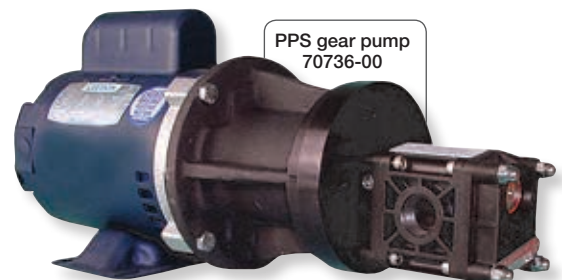
- Wear-resistant helical gears offer reduced noise levels of 10 dB
- Heavy-duty three-piece design combines bearings and wear plates to easily service pump in the field
- PPS or investment cast 316 SS provide excellent compatibility for applications involving corrosive chemicals

**PPS Gear Pumps** with mechanical seals provide a cost-effective option for pumping a variety of fluids.

**Investment Cast 316 SS Sealless Magnetic Drive Pumps** provide superior performance in continuous-duty applications. Sealless design is engineered to handle hazardous, toxic, or highly corrosive chemicals.

#### Specifications

|   |                        |
|---|------------------------|
| <b>Max viscosity:</b> 500 cp at 1725 rpm <sup>†</sup> | <b>Reversible:</b> yes |
| <b>Suction lift:</b> 18" Hg                           | <b>Run dry:</b> no     |
| <b>Duty cycle:</b> continuous                         |                        |



| Max flow GPM (LPM)  | Max diff psi (bar) | Port size                   | Max temperature | Motor                       |       | Power <sup>‡</sup> |    | Wetted materials  | Catalog number              | Price | Service kits                |                             |
|---|--------------------|-----------------------------|-----------------|-----------------------------|-------|--------------------|----|---|-----------------------------|-------|-----------------------------|-----------------------------|
|   |                    |                             |                 | Speed (rpm)                 | hp    | VAC                | Hz |   |                             |       | Cat. no.                    | Price                       |
| <b>PPS gear pumps with mechanical seals</b>                 |                    |                             |                 |                             |       |                    |    |   |                             |       |                             |                             |
| 1.5 (5.7)   | 100 (6.9)          | 1/2" NPT (F)                | 200°F (93°C)    | 1725                        | 1/3   | 115/230            | 60 | PPS gear pumps: PPS body and idler gear, chemical grade carbon bearings, 316 SS shaft and drive gear, Viton <sup>®</sup> mechanical seal, and PTFE encapsulating silicone O-rings | <a href="#">GY-70736-00</a> |       |                             |                             |
| 4.0 (15.1)  |                    |                             |                 |                             | 3/4   |                    |    |   | <a href="#">GY-70736-15</a> |       | <a href="#">GY-70736-16</a> |                             |
| 5.6 (21.2)  |                    |                             |                 |                             | 1     |                    |    |   | <a href="#">GY-70736-20</a> |       | <a href="#">GY-70736-21</a> |                             |
| 8.0 (30.3)  |                    |                             |                 |                             | 1 1/2 |                    |    |   | <a href="#">GY-70736-25</a> |       | <a href="#">GY-70736-26</a> |                             |
| 15 (56.8)   |                    |                             |                 |                             | 2     |                    |    |   | <a href="#">GY-70736-35</a> |       | <a href="#">GY-70736-36</a> |                             |
| 30 (113.6)  | 5                  | <a href="#">GY-70736-50</a> |                 | <a href="#">GY-70736-51</a> |       |                    |    |   |                             |       |                             |                             |
| <b>Investment cast 316 SS sealless magnetic drive pumps</b> |                    |                             |                 |                             |       |                    |    |   |                             |       |                             |                             |
| 2.0 (7.6)   | 110 (7.6)          | 1/2" NPT (F)                | 450°F (232°C)   | 1725                        | 1/2   | 115/230            | 60 | 316 SS body, shafts, drive gear and containment can; PTFE idler gear, bearings and PTFE encapsulating silicone O-rings  | <a href="#">GY-70737-05</a> |       |                             | <a href="#">GY-70737-06</a> |
| 5.6 (21.2)  | 110 (7.6)          | 1/2" NPT (F)                |                 |                             | 1     |                    |    |   | <a href="#">GY-70737-20</a> |       | <a href="#">GY-70737-21</a> |                             |
| 15 (56.8)   | 110 (7.6)          | 1 1/2" NPT (F)              |                 |                             | 3     |                    |    |   | <a href="#">GY-70737-35</a> |       | <a href="#">GY-70737-36</a> |                             |

<sup>†</sup>Contact your local dealer if your maximum viscosity requirements are higher.  
<sup>‡</sup>115/230 VAC models are single phase. Three-phase motors for variable-speed use with controllers are available; call your local office or dealer to order.