

ROTATING RIGHT

## D/G-03 HYDRA-CELL PUMP

### D/G-03 Series

*Up to 3 gpm (11.3 l/min)*

#### M-23 Integral Gas Engine Powered System

The M-23 is designed for close coupling with a Honda engine (Model GX160K1LX2) 5.5 HP with 2:1 gearbox.



D/G-03 shaft-driven

M-03/G-13 hollow shaft design for close coupling with NEMA 56C C-Face and IEC 80 B5 Flange motors

**Hydra-Cell**  
SIMPLY BUILT TO LAST

# D/G-03 Series Performance

## flow

| model*          | max flow |       | max input rpm |
|-----------------|----------|-------|---------------|
|                 | gpm      | l/min |               |
| <b>D/G-03-X</b> | 3.0      | 11.3  | 1750          |
| <b>D/G-03-E</b> | 2.2      | 8.3   | 1750          |
| <b>D/G-03-S</b> | 1.8      | 6.8   | 1750          |
| <b>D/G-03-B</b> | 1.1      | 4.2   | 1750          |
| <b>D/G-03-G</b> | 0.5      | 1.9   | 1750          |

## pressure

**Maximum Inlet Pressure:**  
250 psi (17 bar)

### Pressure Variable To:

Metallic Heads:

D/G-03-X: 1000 psi (69 bar)

D/G-03-E: 1200 psi (83 bar)

D/G-03-S: 1200 psi (83 bar)

D/G-03-B: 1200 psi (83 bar)

D/G-03-G: 1200 psi (83 bar)

Non-Metallic Heads:

All Models: 250 psi (17 bar)

### \* Note

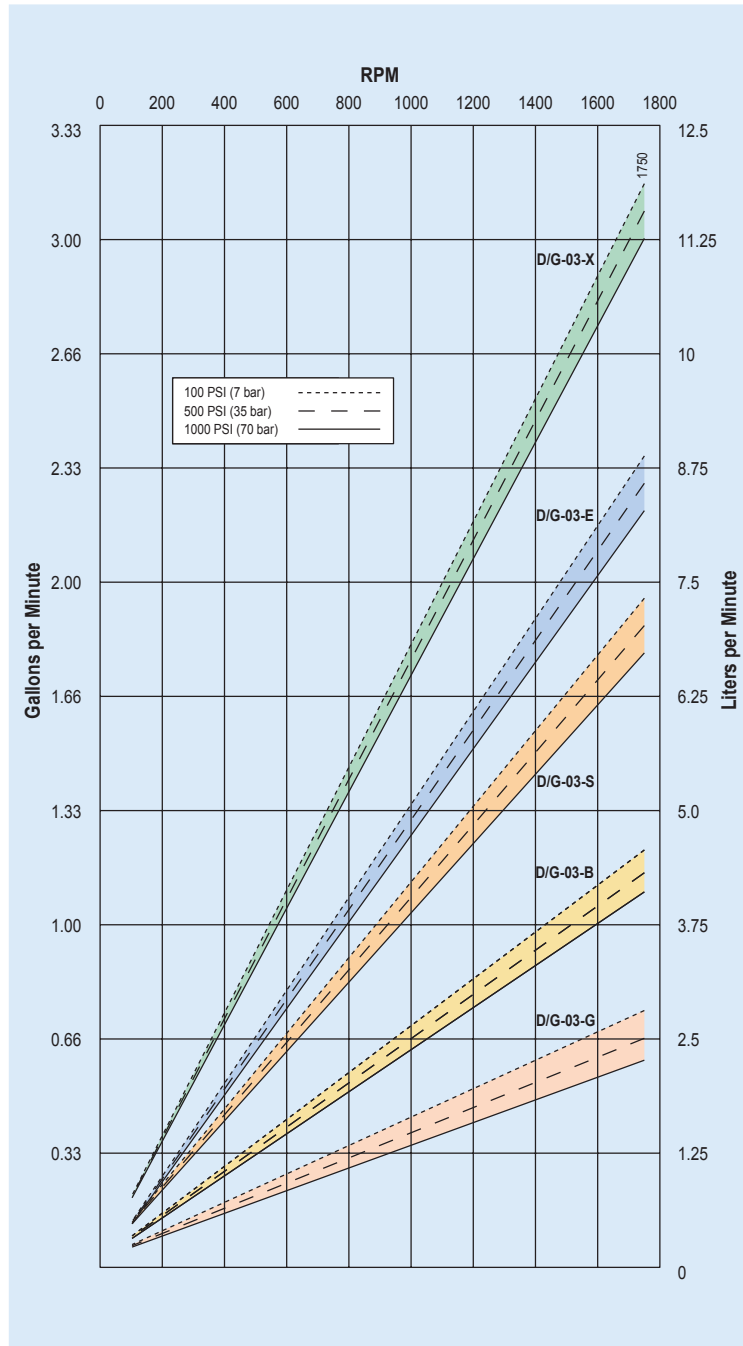
Performance and specification ratings apply to all configurations unless specifically noted otherwise.

### Calculating Required Horsepower (kW)\*\*

$$\frac{6 \times \text{rpm}}{63,000} + \frac{\text{gpm} \times \text{psi}}{1,460} = \text{electric motor HP}$$

$$\frac{6 \times \text{rpm}}{84,428} + \frac{\text{lpm} \times \text{bar}}{511} = \text{electric motor kW}$$

\*\*rpm equals pump shaft rpm. HP/kW is required application power. Use caution when sizing motors with variable speed drives.



# D/G-03 Series Specifications

## Max Pressure\*

|                     |                                      |
|---------------------|--------------------------------------|
| Metallic Heads:     | D/G-03-X: 1000 psi (69 bar)          |
|                     | D/G-03-S, E, B, G: 1200 psi (83 bar) |
| Non-Metallic Heads: | All models: 250 psi (17.3 bar)       |

## Maximum Capacity\*

|          | <b>rpm</b> | <b>gpm</b> | <b>l/min</b> |
|----------|------------|------------|--------------|
| D/G-03-X | 1750       | 3.0        | 11.3         |
| D/G-03-E | 1750       | 2.2        | 8.3          |
| D/G-03-S | 1750       | 1.8        | 6.8          |
| D/G-03-B | 1750       | 1.1        | 4.2          |
| D/G-03-G | 1750       | 0.5        | 1.9          |

## Delivery @ Max Pressure\*

|          | <b>revs/gal</b> | <b>revs/liter</b> |
|----------|-----------------|-------------------|
| D/G-03-X | 584             | 155               |
| D/G-03-E | 795             | 204               |
| D/G-03-S | 972             | 258               |
| D/G-03-B | 1591            | 415               |
| D/G-03-G | 3500            | 906               |

## Max Inlet Pressure

250 psi (17.3 bar)

## Max Temperature

|                     |                                                                                                     |
|---------------------|-----------------------------------------------------------------------------------------------------|
| Metallic Heads:     | 250°F (121°C) – Consult factory for correct component selection for temperatures above 160°F (71°C) |
| Non-Metallic Heads: | 140°F (60°C)                                                                                        |

## Inlet Port

D-03, M-03, M-23: 1/2 inch NPT  
G-03, G-13: 1/2 inch BSPT

## Discharge Port

D-03, M-03, M-23: 3/8 inch NPT  
G-03, G-13: 3/8 inch BSPT

## Shaft Diameter

D/G-03: 7/8 inch (22.22 mm) shaft-driven  
M-03: 5/8 inch hollow shaft for NEMA 56C C-Face motor  
G-13: 24 mm hollow shaft for IEC 90 B5 Flange motor  
M-23: 20 mm hollow shaft for use with Honda engine

## Shaft Rotation

Bi-directional

## Bearings

Ball bearings

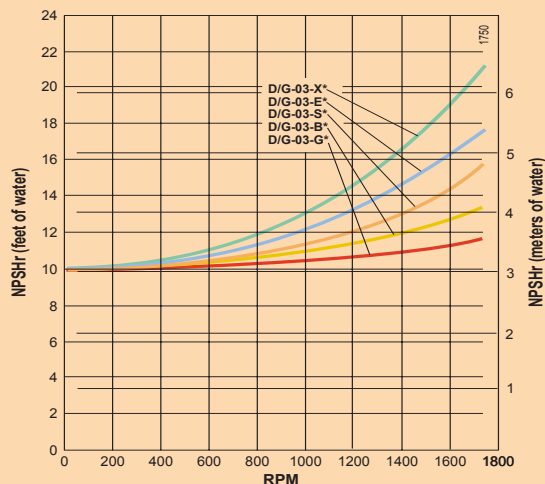
## Oil Capacity

1 US quart (0.95 liters), see Accessories Section for oil selection and specification.

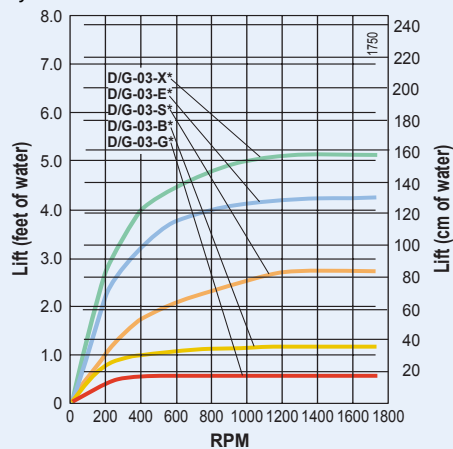
## Weight

|                     |                  |
|---------------------|------------------|
| Metallic Heads:     | 28 lbs (12.7 kg) |
| Non-Metallic Heads: | 19 lbs (8.6 kg)  |

## Net Positive Suction Head (NPSHr)



## Dry Lift



## \* Note

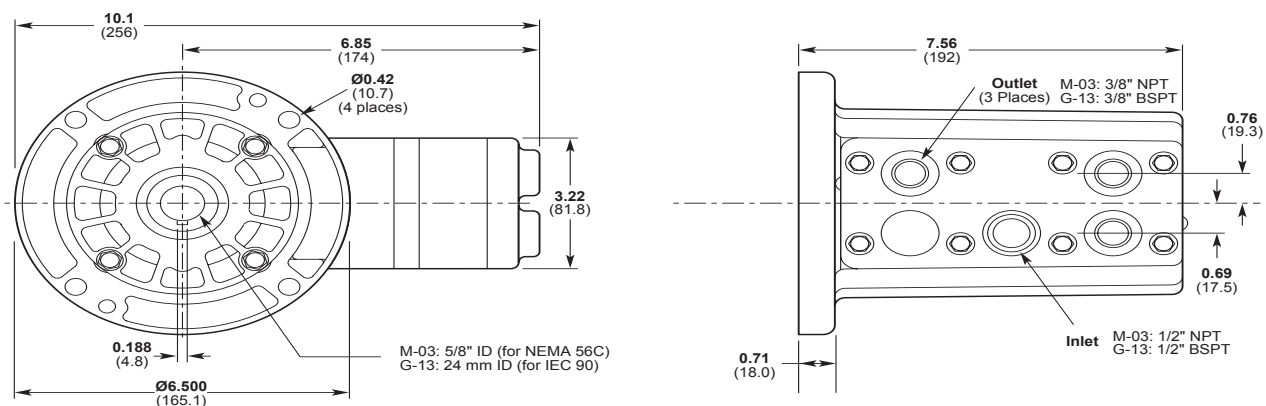
Performance and specification ratings apply to all configurations unless specifically noted otherwise.

Refer to installation guidelines and design considerations for additional information.

## D/G-03 Series Dimensions

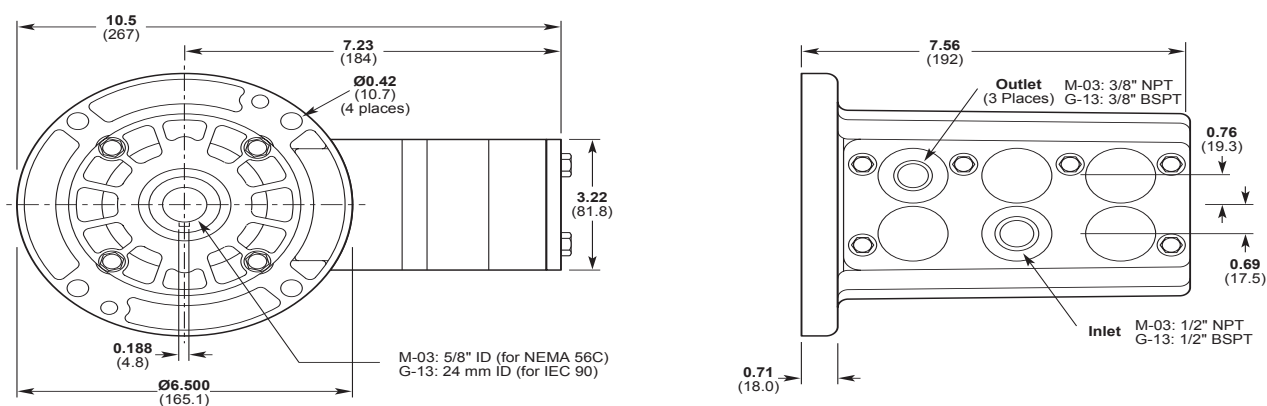
### M-03/G-13 Models with Metallic Pumping Head

Brass  
316 Stainless Steel  
Nickel Alloy (Hastelloy CW12MW)



### M-03/G-13 Models with Non-metallic Pump Head

Kynar®  
Polypropylene

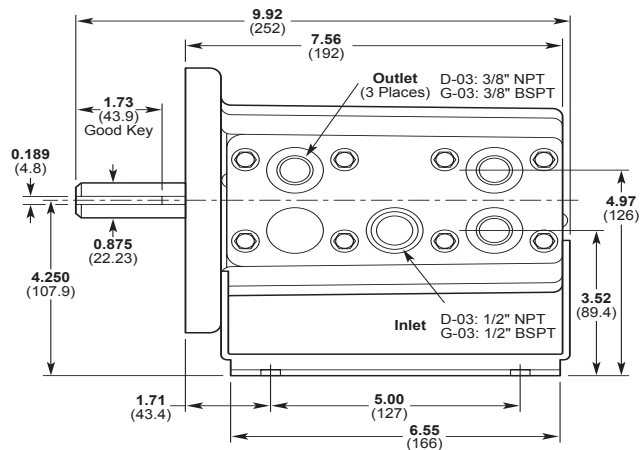
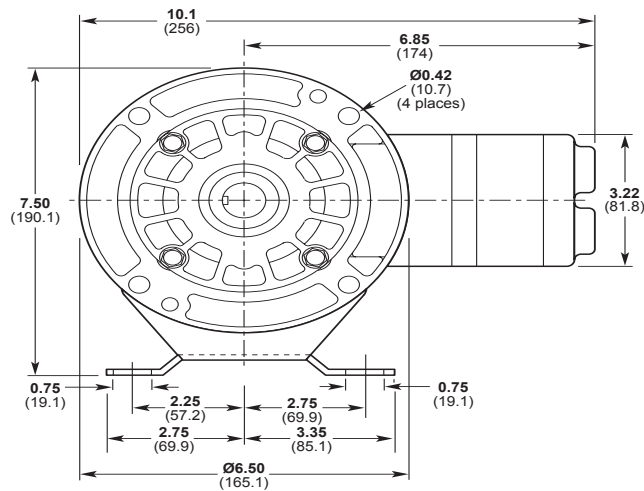


# D/G-03 Series Dimensions

## D/G-03 Models with Metallic Pumping Head

Brass  
316 Stainless Steel  
Nickel Alloy (Hastelloy CW12MW)

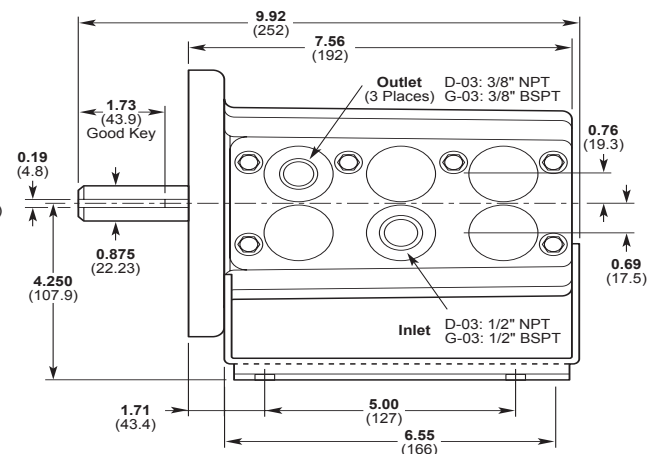
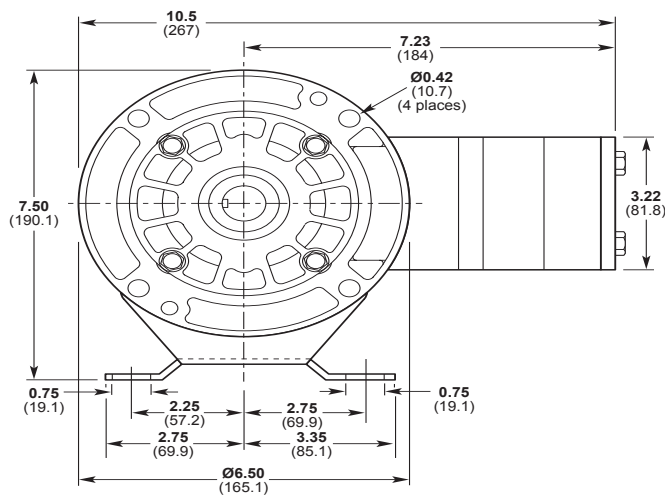
— Note  
D/G-03 Pump/Motor Adapter  
flange ordered separately  
(see accessories, page 40)



## D/G-03 Models with Non-metallic Pump Head

Kynar®  
Polypropylene

— Note  
D/G-03 Pump/Motor Adapter  
flange ordered separately  
(see accessories, page 40)



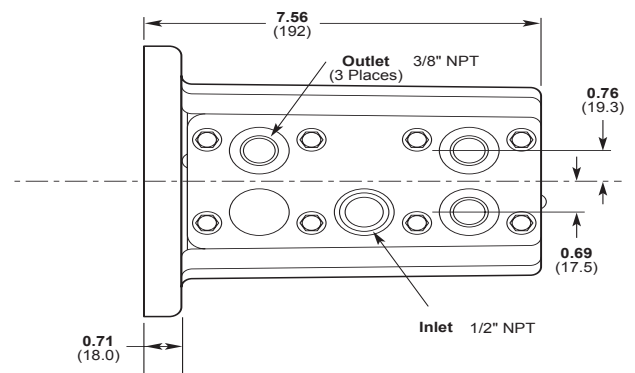
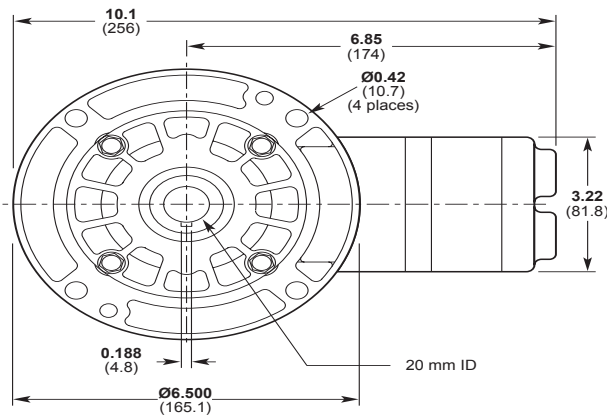
## D/G-03 Series Dimensions

## M-23 Models with Metallic Pumping Head

## Brass

### 316 Stainless Steel

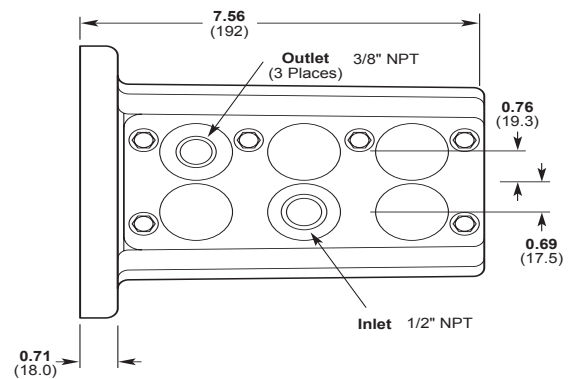
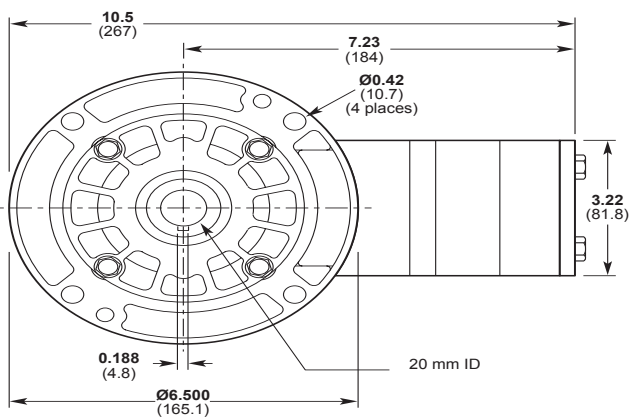
Nickel Alloy (Hastelloy CW12MW)



## M-23 Models with Non-metallic Pump Head

Kynar®

Polypropylene





## D/G-03 Series Options

### Materials of Construction

Hydra-Cell pumps are manufactured in a variety of heavy-duty materials to meet specific pumping needs. Refer to the design section for more information on appropriate material selection and chemical compatibility. Other customized materials are available by special order. Contact factory application engineering department for further information.



**Pumping Head**  
316 Stainless Steel  
Brass  
Kynar®  
Nickel Alloy (Hastelloy®)  
CW12MW)  
Polypropylene



**Valves**  
17-4 PH Stainless Steel  
17-7 PH Stainless Steel  
316 Stainless Steel  
Ceramic  
Hastelloy® C  
Nitronic 50  
Tungsten Carbide



**Diaphragms & O-rings**  
Buna-N-XS  
EPDM  
Neoprene  
Teflon®  
Viton®-XT



**Valve Springs**  
316 Stainless Steel  
Elgiloy®  
Hastelloy® C



**Valve Seats**  
17-4 PH Stainless Steel  
316 Stainless Steel  
Ceramic  
Hastelloy® C  
Tungsten Carbide



**Valve Spring Retainers**  
Celcon®  
Kynar®  
Nylon  
Polypropylene  
17-7 PH Stainless Steel  
Hastelloy® C

## D/G-03 Series Accessories

### Options, Accessories and Custom Designs

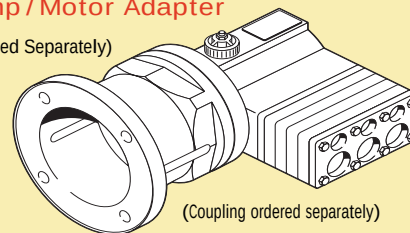
See the Accessories Section for complete information on these other products:

- Valves
- Couplings
- Hose Connectors
- Hydra-Oil
- Oil Cooler and Filtering System
- Oil Reservoir
- Tool Kits
- Pump/Motor Adapters



### Pump / Motor Adapter

(Ordered Separately)



**Part Number: A04-001-1202**

For D-03 for use with NEMA 56C, 143/145TC C-Face motors.

**Part Number: A04-002-1202**

For D-03 for use with NEMA 182/184TC, 213/215TC C-Face motors.

**Part Number: A04-003-1202**

For G-03 for use with IEC 80-90 B5 Flange motors.

**Part Number: A04-004-1202**

For G-03 for use with IEC 100-112 B5 Flange motors.

See the Accessories Section for dimensions.

# D/G-03 Series How To Order

## Ordering Information

A complete model number contains 12 digits of customer-specified design options: for example M03XABTHHECA.

|   |   |   |   |   |   |   |   |   |    |    |    |
|---|---|---|---|---|---|---|---|---|----|----|----|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|---|---|---|---|---|---|---|---|---|----|----|----|

| Digit      | Order Code | Description                                                                        |
|------------|------------|------------------------------------------------------------------------------------|
| <b>1-3</b> |            | <b>Pump Configuration</b>                                                          |
|            | <b>D03</b> | Shaft-driven (NPT ports)                                                           |
|            | <b>M03</b> | Close-coupled to NEMA 56C (NPT ports)                                              |
|            | <b>M23</b> | For use with 5.5 HP Honda Engine (Model GX160K1LX2 engine not included)            |
|            | <b>G03</b> | Shaft-driven (BSPT ports)                                                          |
|            | <b>G13</b> | Close-coupled to IEC 90 B5 (BSPT ports)                                            |
| <b>4</b>   |            | <b>Hydraulic End Cam</b>                                                           |
|            | <b>X</b>   | Max 3.0 gpm (11.3 lpm) @ 1750 rpm                                                  |
|            | <b>E</b>   | Max 2.2 gpm (8.3 lpm) @ 1750 rpm                                                   |
|            | <b>S</b>   | Max 1.8 gpm (6.8 lpm) @ 1750 rpm                                                   |
|            | <b>B*</b>  | Max 1.1 gpm (4.2 lpm) @ 1750 rpm                                                   |
|            | <b>G*</b>  | Max 0.5 gpm (1.9 lpm) @ 1750 rpm                                                   |
| <b>5</b>   |            | <b>Pump Head Version</b>                                                           |
|            | <b>A</b>   | Version A Pump Head (NPT ports)                                                    |
|            | <b>D</b>   | Version D Pump Head (BSPT ports)                                                   |
| <b>6</b>   |            | <b>Pump Head Material</b>                                                          |
|            | <b>B</b>   | Brass                                                                              |
|            | <b>M</b>   | Kynar®                                                                             |
|            | <b>P</b>   | Polypropylene                                                                      |
|            | <b>S</b>   | 316 Stainless Steel                                                                |
|            | <b>T</b>   | Nickel Alloy (Hastelloy® CW12MW)                                                   |
| <b>7</b>   |            | <b>Diaphragm &amp; O-ring Material</b>                                             |
|            | <b>E</b>   | EPDM (requires EPDM-compatible oil – Digit 12 oil code J)                          |
|            | <b>G</b>   | Viton®-XT                                                                          |
|            | <b>J*</b>  | Teflon® (available with X and E cams only; cannot be used with non-metallic heads) |
|            | <b>P</b>   | Neoprene                                                                           |
|            | <b>T</b>   | Buna-N-XS                                                                          |
| <b>8</b>   |            | <b>Valve Seat Material</b>                                                         |
|            | <b>C</b>   | Ceramic                                                                            |
|            | <b>D</b>   | Tungsten Carbide                                                                   |
|            | <b>H</b>   | 17-4 PH Stainless Steel                                                            |
|            | <b>S</b>   | 316 Stainless Steel                                                                |
|            | <b>T</b>   | Hastelloy® C                                                                       |

\* May require pressurized inlet.

| Digit     | Order Code | Description                               |
|-----------|------------|-------------------------------------------|
| <b>9</b>  |            | <b>Valve Material</b>                     |
|           | <b>C</b>   | Ceramic                                   |
|           | <b>D</b>   | Tungsten Carbide                          |
|           | <b>F</b>   | 17-4 PH Stainless Steel – Machined        |
|           | <b>H</b>   | 17-7 PH Stainless Steel                   |
|           | <b>N</b>   | Nitronic 50                               |
|           | <b>S</b>   | 316 Stainless Steel                       |
|           | <b>T</b>   | Hastelloy® C                              |
| <b>10</b> |            | <b>Valve Springs</b>                      |
|           | <b>E</b>   | Elgiloy®                                  |
|           | <b>S</b>   | 316 Stainless Steel                       |
|           | <b>T</b>   | Hastelloy® C                              |
| <b>11</b> |            | <b>Valve Spring Retainers</b>             |
|           | <b>C</b>   | Celcon                                    |
|           | <b>H</b>   | 17-7 PH Stainless Steel                   |
|           | <b>M</b>   | Kynar®                                    |
|           | <b>P</b>   | Polypropylene                             |
|           | <b>T</b>   | Hastelloy® C                              |
|           | <b>Y</b>   | Nylon                                     |
| <b>12</b> |            | <b>Hydra-Oil</b>                          |
|           | <b>A</b>   | 10W30 standard duty oil                   |
|           | <b>G</b>   | 5W30 standard & cold-temp severe duty oil |
|           | <b>J</b>   | 20-wt EPDM-compatible oil                 |
|           | <b>K</b>   | 20-wt food-contact oil                    |

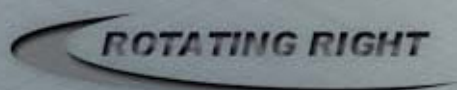
### Replacement Hydraulic End Assembly

Complete D/G-03 Hydraulic End Assemblies are available as replacement items. The Hydraulic End contains all drive end components from the drive shaft up to and including the diaphragms. All Hydraulic Ends are factory tested and shipped with oil. To order a Replacement Hydraulic End, specify the desired Cam (Digit 4), the Diaphragm and O-ring Material (Digit 7), and the Hydra-Oil (Digit 12).

### Part Number\*

**D03** 4\* **XX** 7\* **XXXX** 12\*      **G03** 4\* **XX** 7\* **XXXX** 12\*  
**M03** 4\* **XX** 7\* **XXXX** 12\*      **G13** 4\* **XX** 7\* **XXXX** 12\*  
**M23** 4\* **XX** 7\* **XXXX** 12\*

\* Order Code Digits 4, 7 and 12 must be filled in when ordering.



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