

# M-03 Series

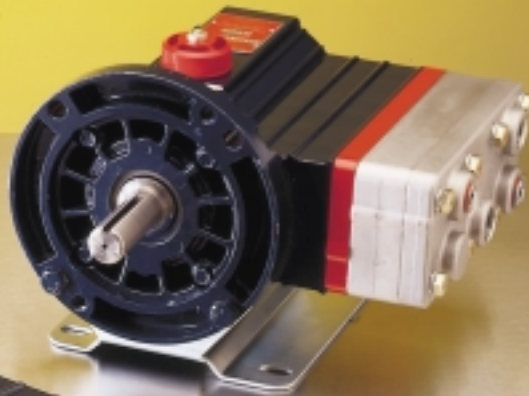
*Up to 3 gpm (11.4 l/min)*

## M-23 Integral Gas Engine Powered System

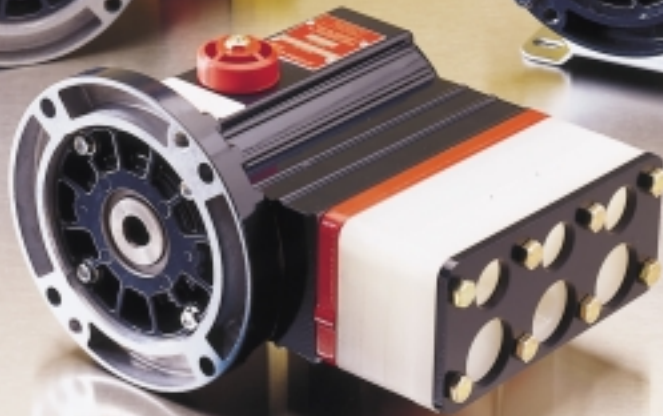
The M-23 model is a direct drive system designed to be close coupled with a Honda engine (Model GX160K1LX) 5.5 HP with 2:1 gearbox.



**M-03** with brass pump head  
(close coupled) for 56C frame motors



**D-03** (shaft-driven)



**M-03** with polypropylene pump head  
(close coupled) for 56C frame motors

*Hydra-Cell*<sup>®</sup>  
SIMPLY BUILT TO LAST

# M-03 Series Performance

## flow

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

## pressure

**Maximum Inlet Pressure:**  
250 psi (17.3 bar)

### Pressure Variable To:

#### Metallic Heads:

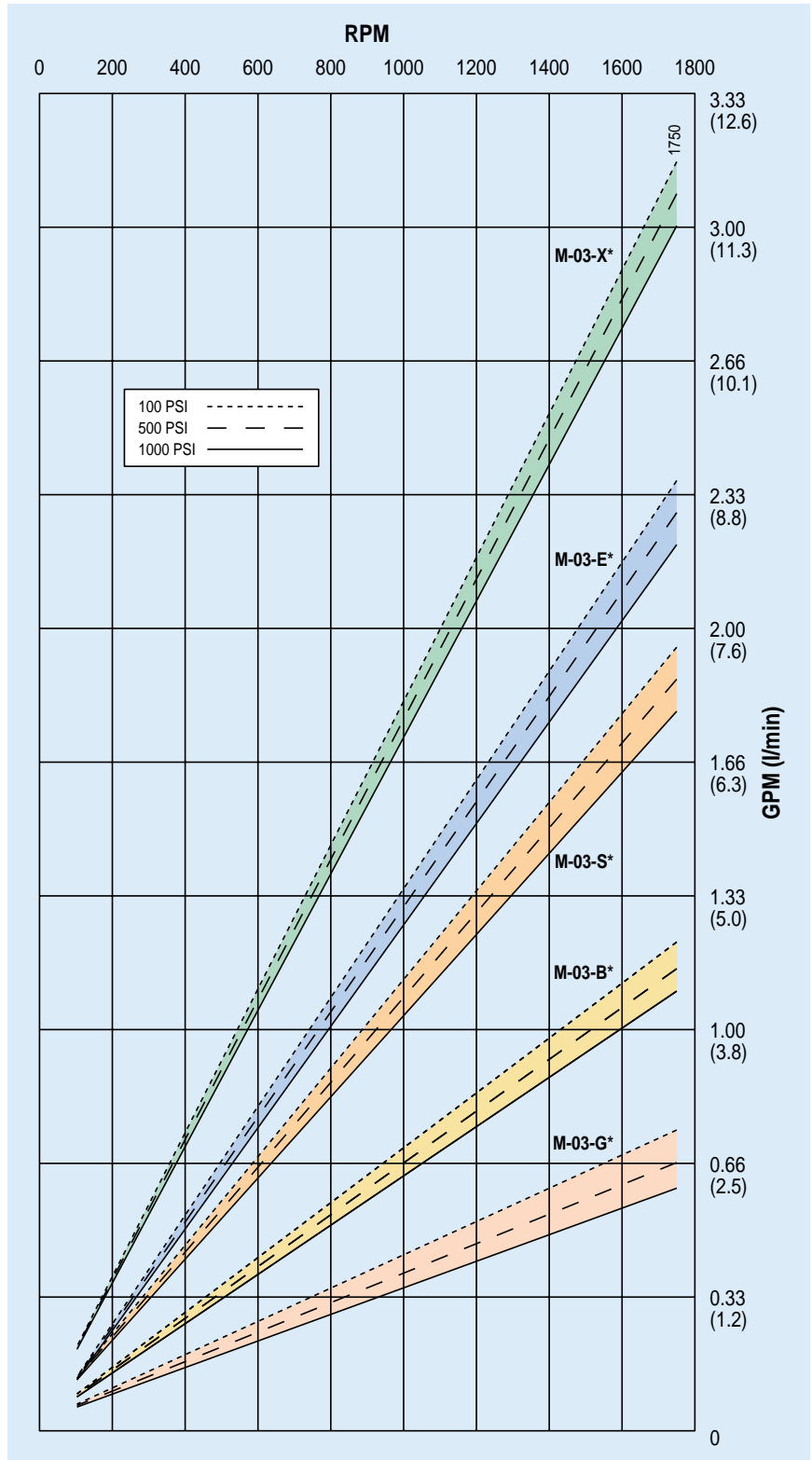
- M-03-X: 1000 psi (69 bar)
- M-03-E: 1200 psi (83 bar)
- M-03-S: 1200 psi (83 bar)
- M-03-B: 1200 psi (83 bar)
- M-03-G: 1200 psi (83 bar)

#### Non-Metallic Heads:

- All Models: 250 psi (17.3 bar)

### \* Note

Performance and specification ratings apply to M-03, D-03 and M-23 configurations unless specifically noted otherwise.



# M-03 Series Specifications

Maximum Capacity*			
	rpm	gpm	l/min
M-03-X	1750	3.0	11.3
M-03-E	1750	2.2	8.3
M-03-S	1750	1.8	6.8
M-03-B	1750	1.1	4.2
M-03-G	1750	0.5	1.9

Delivery @ max Rated Pressure*		
	revs/gal	revs/liter
M-03-X	584	155
M-03-E	795	211
M-03-S	972	258
M-03-B	1591	417
M-03-G	3500	921

Max Inlet Pressure	250 psi (17.3 bar)
<b>Pressure Variable to</b>	
Metallic Heads	M-03-X: 1000 psi (69 bar) M-03-S, E, B, G: 1200 psi (83 bar)
Non-Metallic Heads	All models: 250 psi (17.3 bar)
<b>Max Temperature</b>	250°F (refer to engineering section, page 94 for temperatures above 180°F)
<b>Inlet Port</b>	1/2 inch NPT
<b>Discharge Port</b>	3/8 inch NPT
<b>Shaft Diameter</b>	M-03: 5/8 inch D-03: 7/8 inch M-23: 20 mm hollow shaft
<b>Shaft Rotation</b>	Bi-directional
<b>Bearings</b>	Ball bearings
<b>Oil Capacity</b>	1 US quart (0.95 liters), see page 88 for oil selection and specification.
<b>Weight</b>	
Metallic Heads:	28 lbs (12.7 kg)
Non-Metallic Heads:	19 lbs (8.6 kg)

## Calculating Required Horsepower

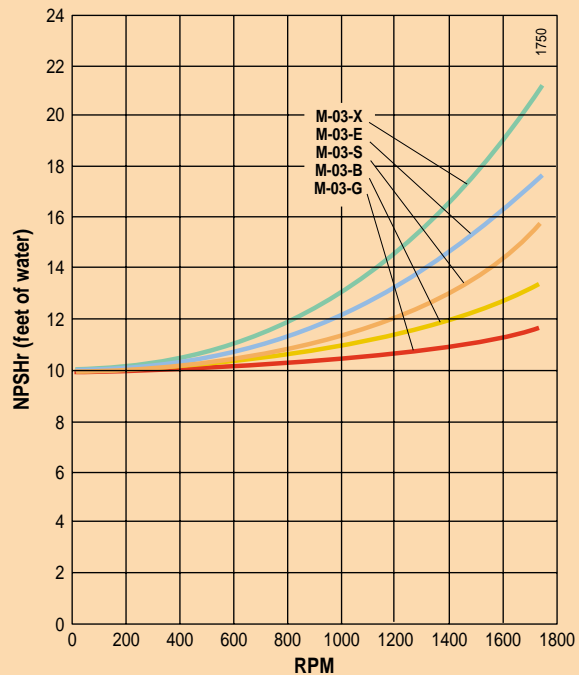
$$\frac{6 \times \text{rpm}}{63,000} + \frac{\text{gpm} \times \text{psi}}{1,460} = \text{electric motor HP}$$

### \* Note

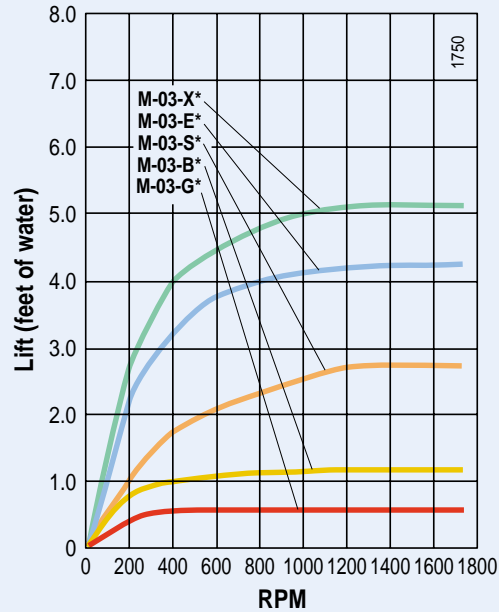
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For installation guidelines and other pump selection design considerations, refer to pages 92-95.

## Net Positive Suction Head (NPSHr)



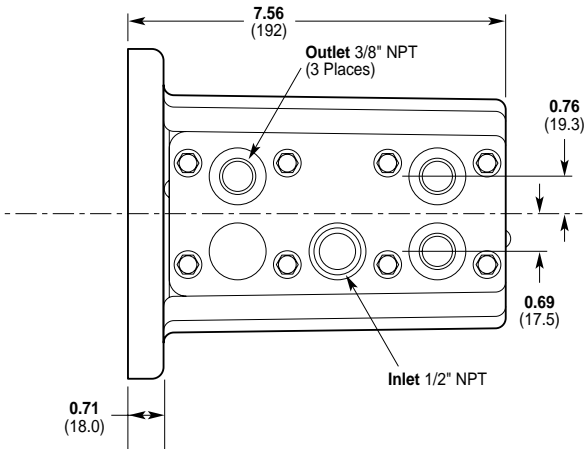
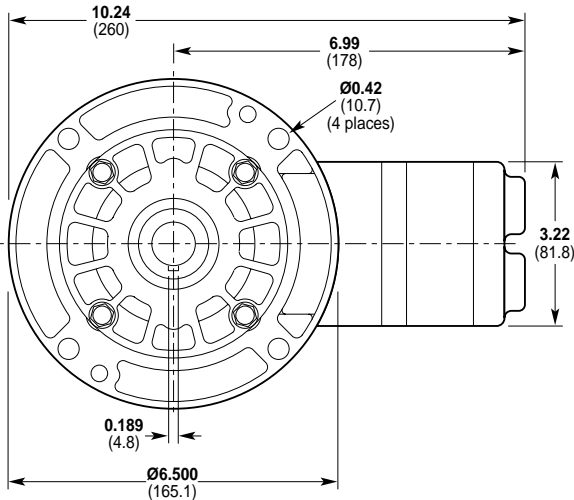
## Dry Lift



# M-03 Series Dimensions

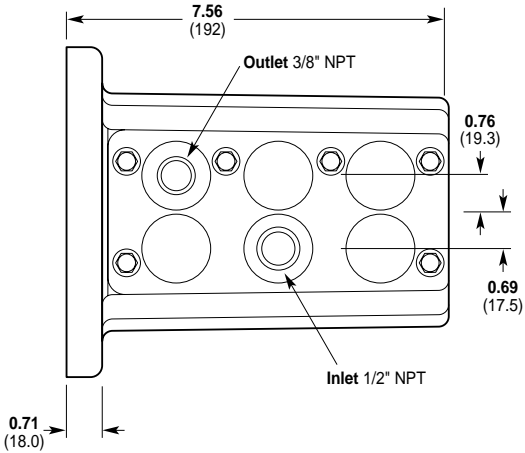
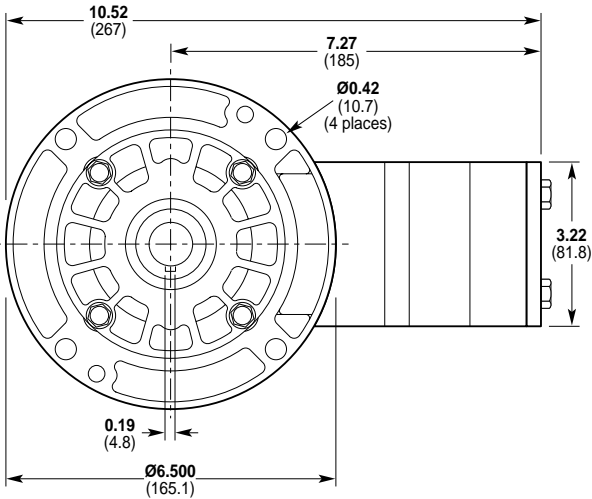
## M-03 Models with Metallic Pumping Head

Brass  
 316 Stainless Steel  
 Nickel Alloy (C Series)



## M-03 Models with Non-metallic Pump Head

Kynar®  
 Polypropylene

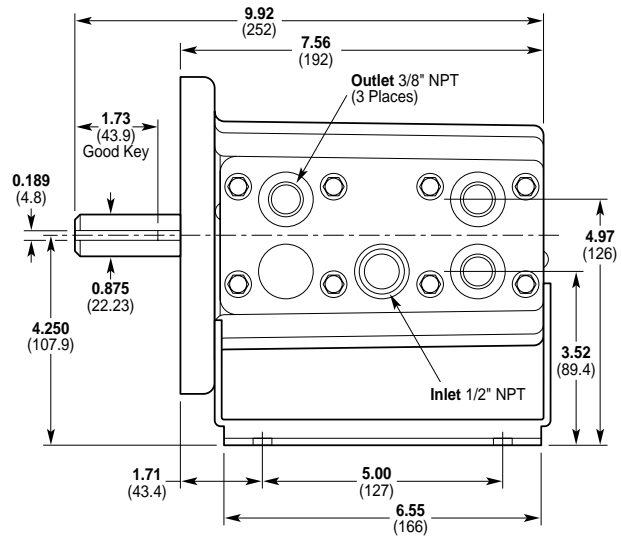
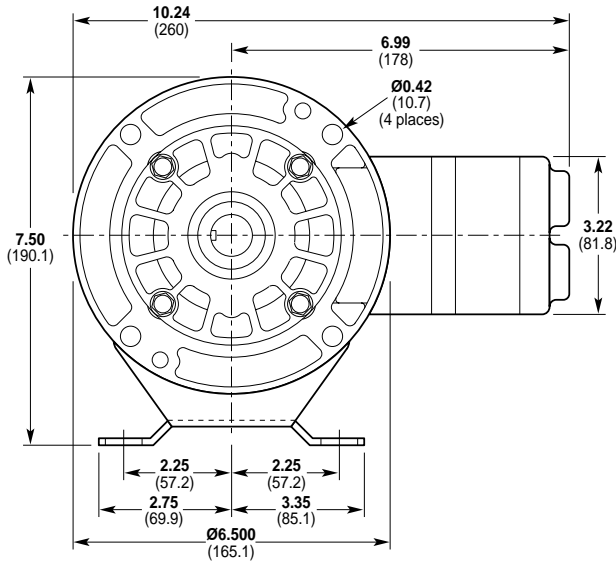


# M-03 Series Dimensions

## D-03 Models with Metallic Pumping Head

Brass  
316 Stainless Steel  
Nickel Alloy (C Series)

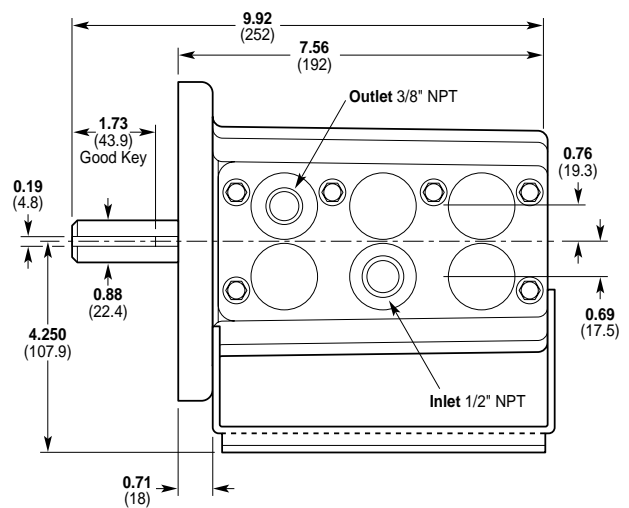
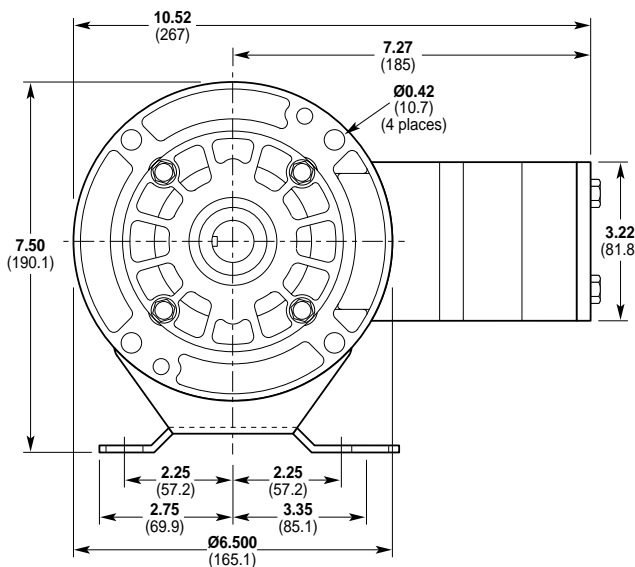
**Note**  
*M-03 Pump/Motor Adapter flange ordered separately (see accessories, page 38.)*



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

Kynar®  
Polypropylene

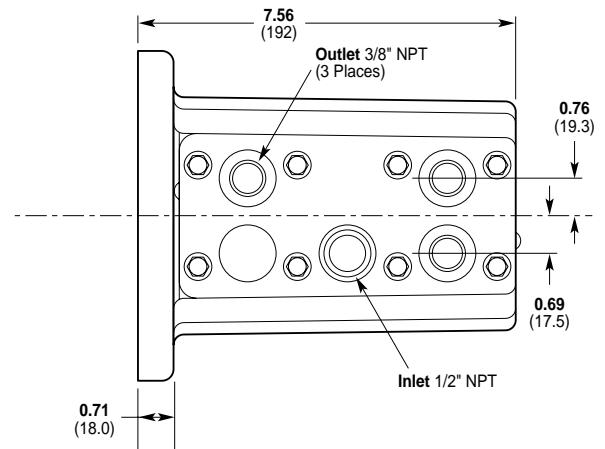
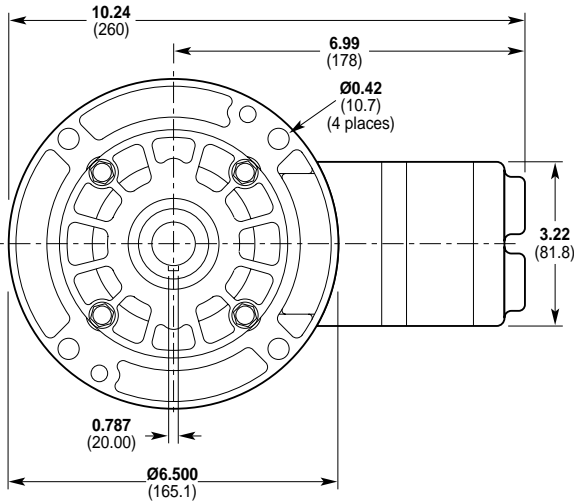
**Note**  
*M-03 Pump/Motor Adapter flange ordered separately (see accessories, page 38.)*



# M-03 Series Dimensions

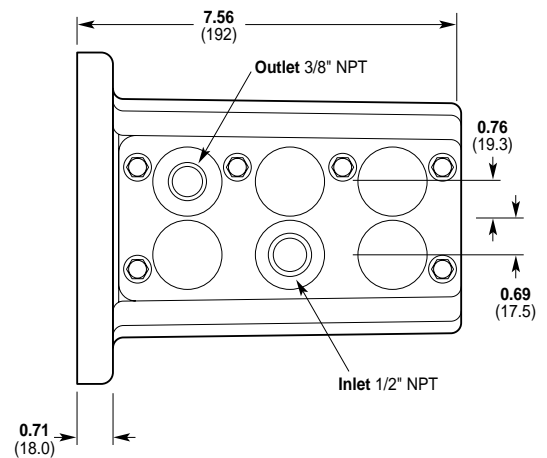
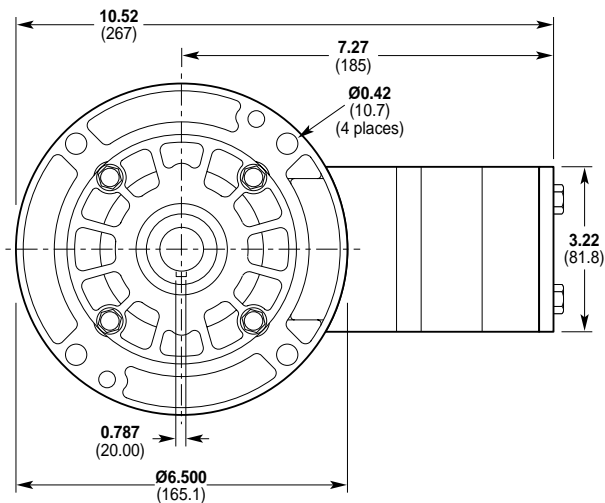
## M-23 Models with Metallic Pumping Head

Brass  
316 Stainless Steel  
Nickel Alloy (C Series)



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

Kynar®  
Polypropylene



# M-03 Series Options

## Materials of Construction

All M-03, D-03 and M-23 configurations of 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 Remelt,  
 CMW12D)  
 Polypropylene



**Valves**  
 17-4 PH Stainless Steel  
 316 Stainless Steel  
 Ceramic  
 Hastelloy® C



**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



**Valve Spring Retainers**  
 Celcon®  
 Kynar®  
 Nylon  
 Polypropylene

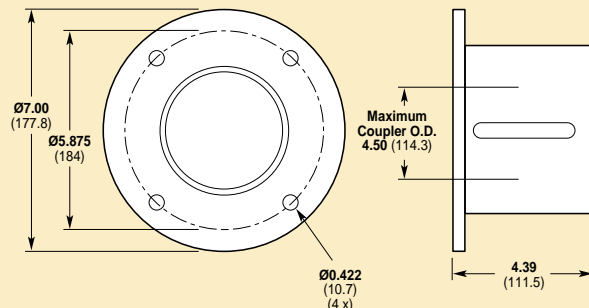
# M-03 Series Accessories

## Options, Accessories and Custom Designs

- Valves, page 78
- Hydra-Oil, page 88
- Couplers, page 87
- Hose Connectors, page 87
- Tool Kits, page 90



## Pump/Motor Adapter



**Part Number: A04-032-1000**

Must be ordered separately for M-03 models for use with 56C, 143TC and 145TC frame motors.

# M-03 Series How To Order

