

# D-10 Series

Up to 8 gpm (30 l/min)



The D-10 Hydra-Cell is available with a motor adaptor flange for shaft coupler mounting to industry standard sized motor frames. See page 50.

## D-10 Specialized Designs



Hydra-Cell Slurry Duty pumps are specifically designed for abrasive slurry applications. See page 78 for complete specifications.



The D-10 Hydra-Cell can be equipped with welded flange pump heads for critical performance applications such as oil/gas installations and chemical process facilities. See page 50.



D-10 with polypropylene pump head



D-10 with brass pump head

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

# D-10 Series Performance

## flow

model	max flow		max input rpm
	gpm	l/min	
<b>D-10-X</b>	8	30.3	1450
<b>D-10-E</b>	8	30.3	1750
<b>D-10-S</b>	6	22.7	1750
<b>D-10-I</b>	4	15.1	1750

## pressure

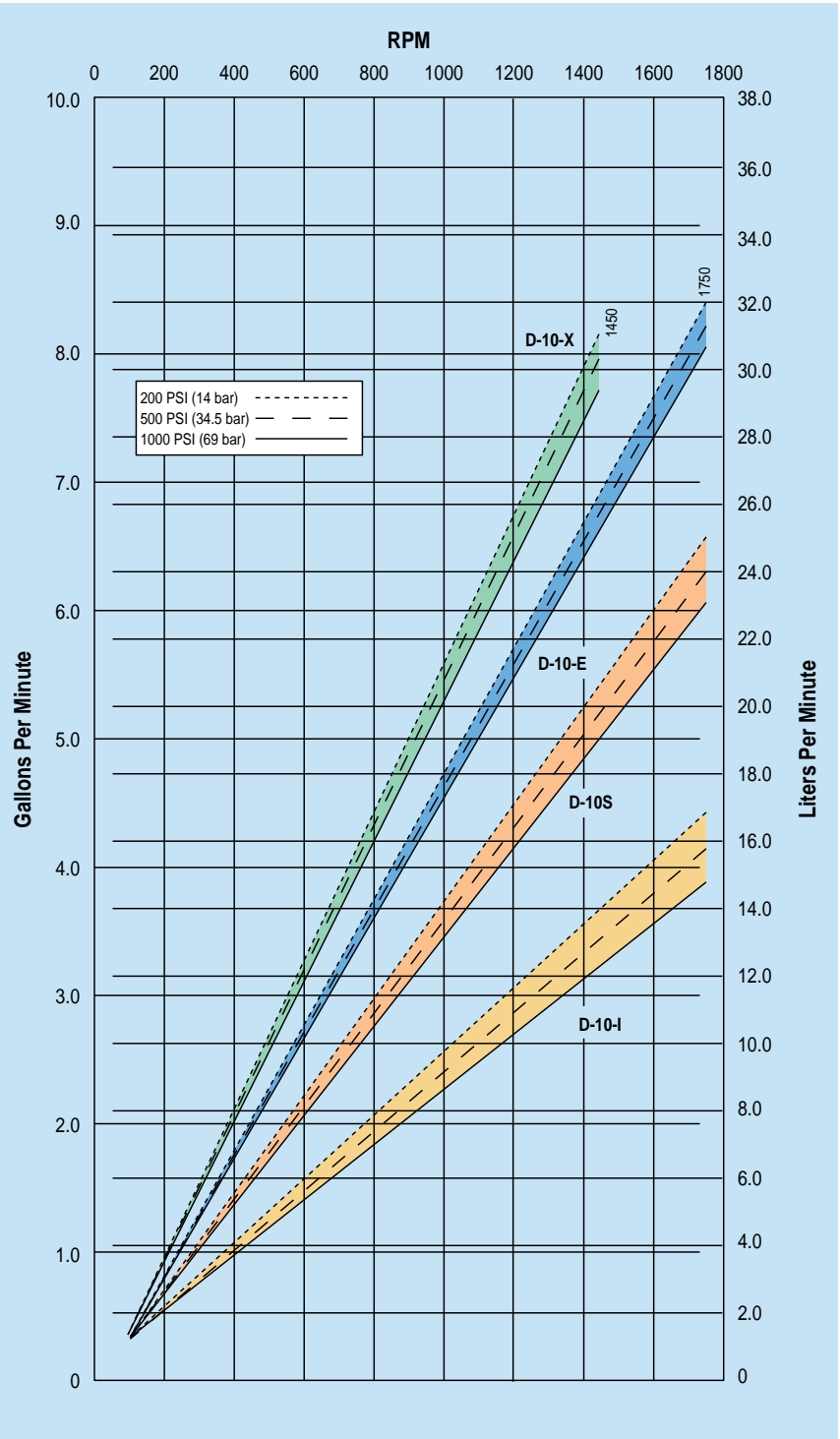
### Maximum Inlet Pressure:

250 psi (17.3 bar)

### Pressure Variable To:

Metallic Heads: 1000 psi (69 bar)

Non-Metallic Heads: 250 psi (17.3 bar)



# D-10 Series Specifications

## Maximum Capacity

	rpm	gpm	l/min
D-10-X	1450	8	30.3
D-10-E	1750	8	30.3
D-10-S	1750	6	22.7
D-10-I	1750	4	15.1

## Delivery @ max pressure

	revs/gal	revs/liter
D-10-X	185	49
D-10-E	219	58
D-10-S	292	78
D-10-I	437	115

**Max Inlet Pressure** 250 psi (17.3 bar)

**Pressure Variable to** Metallic Head: 1000 psi (69 bar)  
Non-Metallic Head: 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** 1 inch NPT

**Discharge Port** 3/4 inch NPT

**Shaft Diameter** 7/8 inch

**Shaft Rotation** Bi-directional

**Bearings** Tapered roller bearings

**Oil Capacity** 1.1 US quart (1.05 liters), see page 100 for oil selection and specification.

## Weight

Metallic Heads: 48 lbs (21.8 kg)

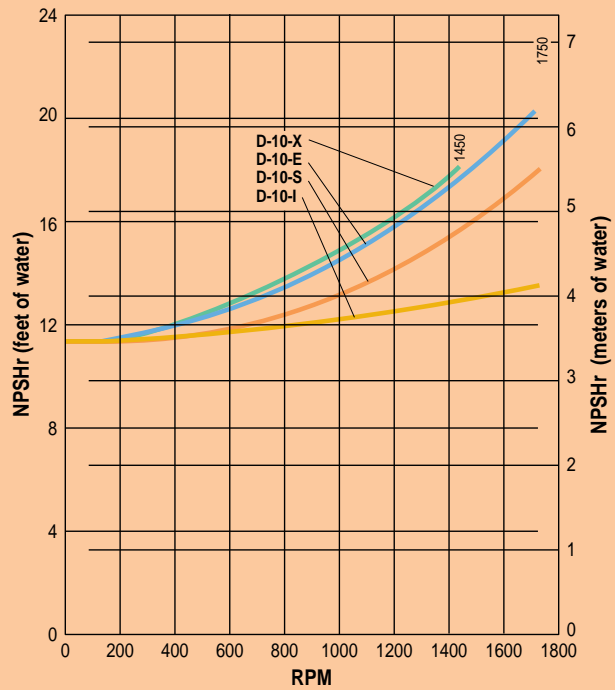
Non-Metallic Heads: 35 lbs (15.9 kg)

## Calculating Required Horsepower

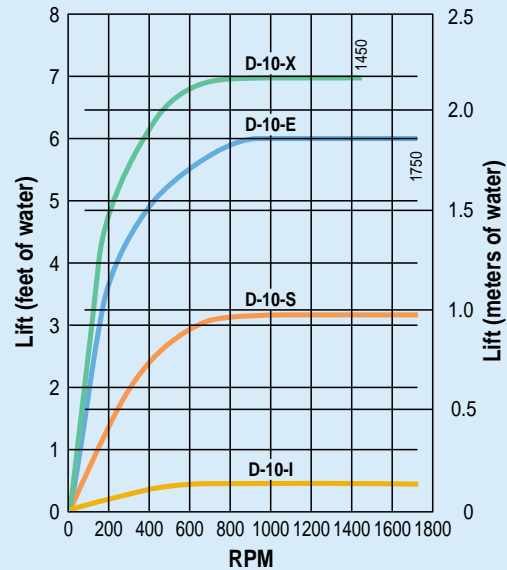
$$\frac{15 \times \text{rpm}}{63,000} + \frac{\text{gpm} \times \text{psi}}{1,460} = \text{electric motor HP}$$

For installation guidelines and other pump selection design considerations, refer to pages 107-111.

## Net Positive Suction Head (NPSHr)



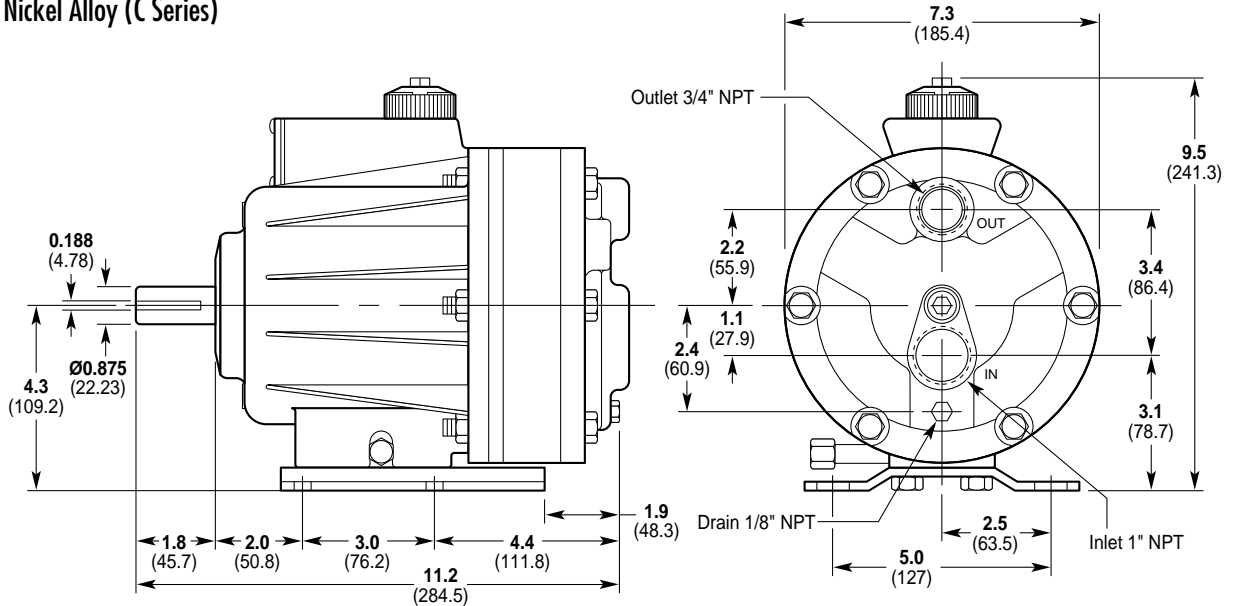
## Dry Lift



# D-10 Series Dimensions

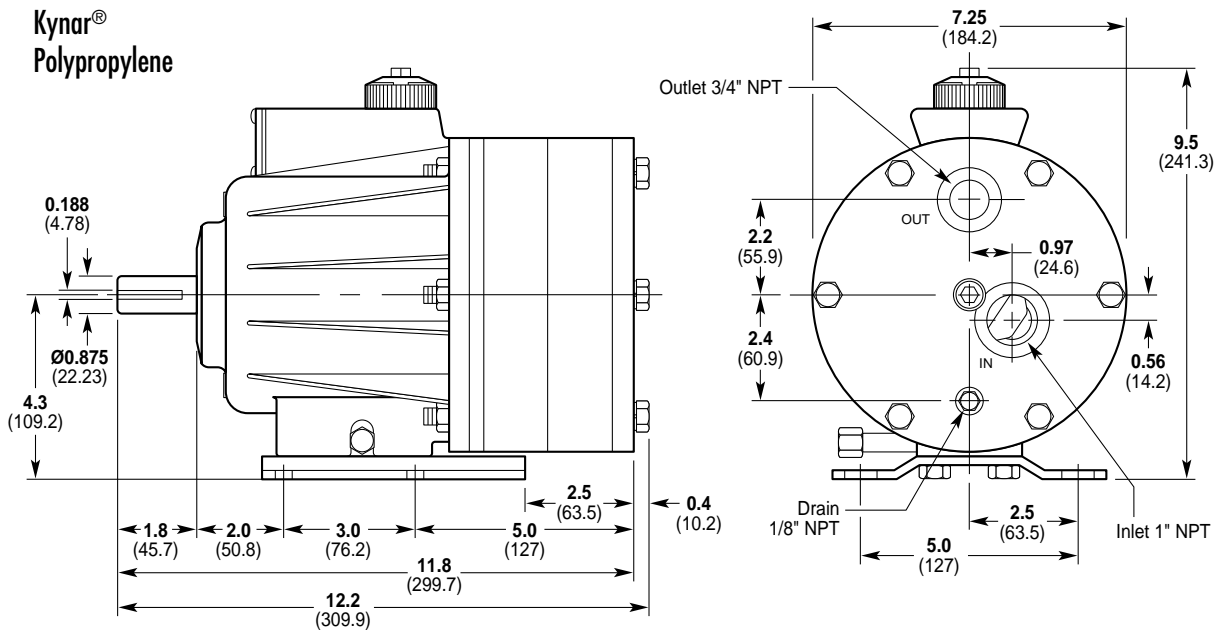
## D-10 Models with Metallic Pumping Head

Brass  
Cast Iron  
316 Stainless Steel  
Nickel Alloy (C Series)



## D-10 Models with Non-metallic Pump Head

Kynar®  
Polypropylene



# D-10 Series Options

## Materials of Construction

D-10 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  
Cast Iron  
Kynar®  
Nickel Alloy (Hastelloy Remelt, CMW12D)  
Polypropylene



### Valves

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



### Diaphragms & O-rings

Buna-N  
Buna-N-XS  
EPDM  
Neoprene  
Teflon®  
Viton®  
Viton®-XT



### Valve Springs

17-7 PH Stainless Steel  
Elgiloy®  
Hastelloy®C



### Valve Seats

17-4 PH Stainless Steel  
316 Stainless Steel  
Ceramic  
Hastelloy®  
Tungsten Carbide



### Valve Spring Retainers

17-7 PH Stainless Steel  
Celcon®  
Hastelloy®C  
Kynar®  
Nylon (Zytel®)  
Polypropylene

# D-10 Series Accessories

## Options and Accessories

- Valves, page 84
- Couplings, page 95
- Pump/Motor Baseplates and Guards, page 96
- Hose Connectors, page 99
- Hydra-Oil, page 100
- Oil Cooler and Filtering System, page 102
- Oil Level Monitoring Kit, page 103
- Tool Kits, page 105

## Welded Flange Pump Heads

The D-10 Hydra-Cell can be equipped with welded flange pump heads for critical performance applications such as oil/gas installations and chemical process facilities.

### Design Features

- 316 stainless steel flanges
- Optional ductile iron pump housing
- 1" x 150# ANSI pipe flange inlet; 3/4" x 600# ANSI pipe flange outlet

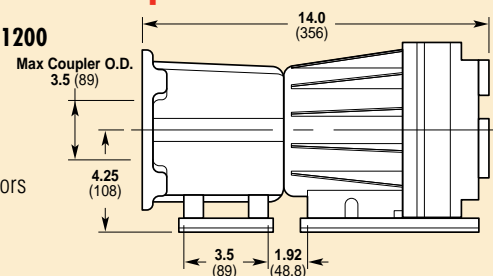
### Ordering Information

Contact factory for complete specifications and ordering information.

## Pump/Motor Adapters

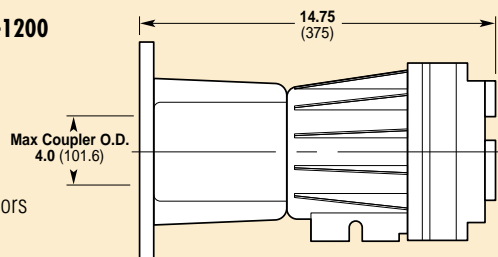
### A04-001-1200

For:  
56C  
143TC  
145TC  
frame motors



### A04-002-1200

For:  
182TC  
184TC  
213TC  
215TC  
frame motors



# D-10 Series How To Order

## Ordering Information

A complete D-10 Series Model Number contains 12 digits of customer-specified design options: for example D10XLBNHFCEA.

1	2	3	4	5	6	7	8	9	10	11	12
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Digit	Order Code	Description
<b>1-3</b>		<b>Pump Configuration*</b>
	<b>D10</b>	Shaft-driven *Pump/motor adapters ordered separately. See accessories section for selection.
<b>4</b>		<b>Hydraulic End Cam</b>
	<b>X</b>	Max 8 gpm (30.3 lpm) @ 1450 rpm
	<b>E</b>	Max 8 gpm (30.3 lpm) @ 1750 rpm
	<b>S</b>	Max 6 gpm (22.7 lpm) @ 1750 rpm
	<b>I</b>	Max 4 gpm (15.1 lpm) @ 1750 rpm
<b>5</b>		<b>Pump Head Version</b>
	<b>L</b>	Version L Pump Head
<b>6</b>		<b>Pump Head Material</b>
	<b>B</b>	Brass
	<b>C</b>	Cast Iron (nickel plated)
	<b>M</b>	Kynar® (with Hastelloy® C followers & follower screws)
	<b>N</b>	Polypropylene (with Hastelloy® C followers & follower screws)
	<b>P</b>	Polypropylene (with 316 stainless steel followers & follower screws)
	<b>R</b>	316 Stainless Steel ANSI flange weldment
	<b>S</b>	316 Stainless Steel
	<b>T</b>	Nickel Alloy (Hastelloy® Remelt, CMW12D)
<b>7</b>		<b>Diaphragm &amp; O-ring Material</b>
	<b>E</b>	EPDM (requires EPDM-compatible oil – Digit 12 oil code C or D)
	<b>G</b>	Viton®-XT
	<b>J</b>	Teflon® (available with E and S cams only; 1200 rpm max; cannot be used with non-metallic heads)
	<b>N</b>	Buna-N
	<b>P</b>	Neoprene
	<b>T</b>	Buna-N-XS
	<b>V</b>	Viton®
<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

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 – Stamped
	<b>N</b>	Nitronic 50
	<b>T</b>	Hastelloy® C
<b>10</b>		<b>Valve Springs</b>
	<b>E</b>	Elgiloy®
	<b>H</b>	17-7 PH 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>S</b>	316 Stainless Steel
	<b>T</b>	Hastelloy® C
	<b>Y</b>	Nylon (Zytel)
<b>12</b>		<b>Hydra-Oil</b>
	<b>A</b>	10W30 standard duty oil
	<b>B</b>	40-wt for continuous duty (use with 316 SST or Hastelloy® pump head (standard))
	<b>C</b>	30-wt EPDM-compatible oil
	<b>D</b>	40-wt high-temp EPDM-compatible oil
	<b>E</b>	30-wt food-contact oil
	<b>F</b>	40-wt high-temp food-contact oil
	<b>G</b>	5W30 cold-temp severe duty oil
	<b>H</b>	15W50 high-temp severe duty synthetic oil

### Replacement Hydraulic End Assembly

Complete D-10 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\*

**D10** 4\* **XX** 7\* **XXXX** 12\*

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