



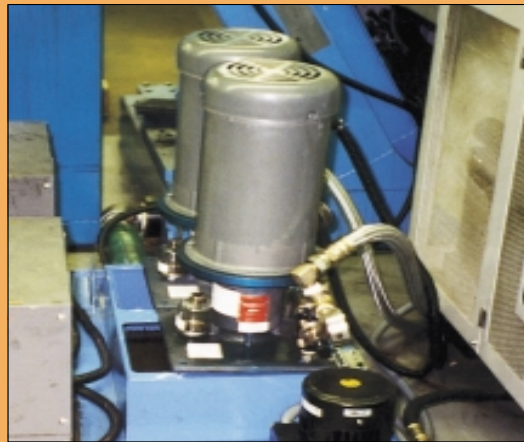
D/G-12 HYDRA-CELL DIAPHRAGM PUMP

D/G-12 Series

Up to 8 gpm (30.3 l/min)

D/G-12 Vertical Applications

The D/G-12 is specifically designed for vertical pumping installations such as machine tool cooling applications.



D/G-12 shown with
Hydra-Cell Valve, Valve/Tube
Accessory and motor

Hydra-Cell[®]
SIMPLY BUILT TO LAST

D/G-12 Series Performance

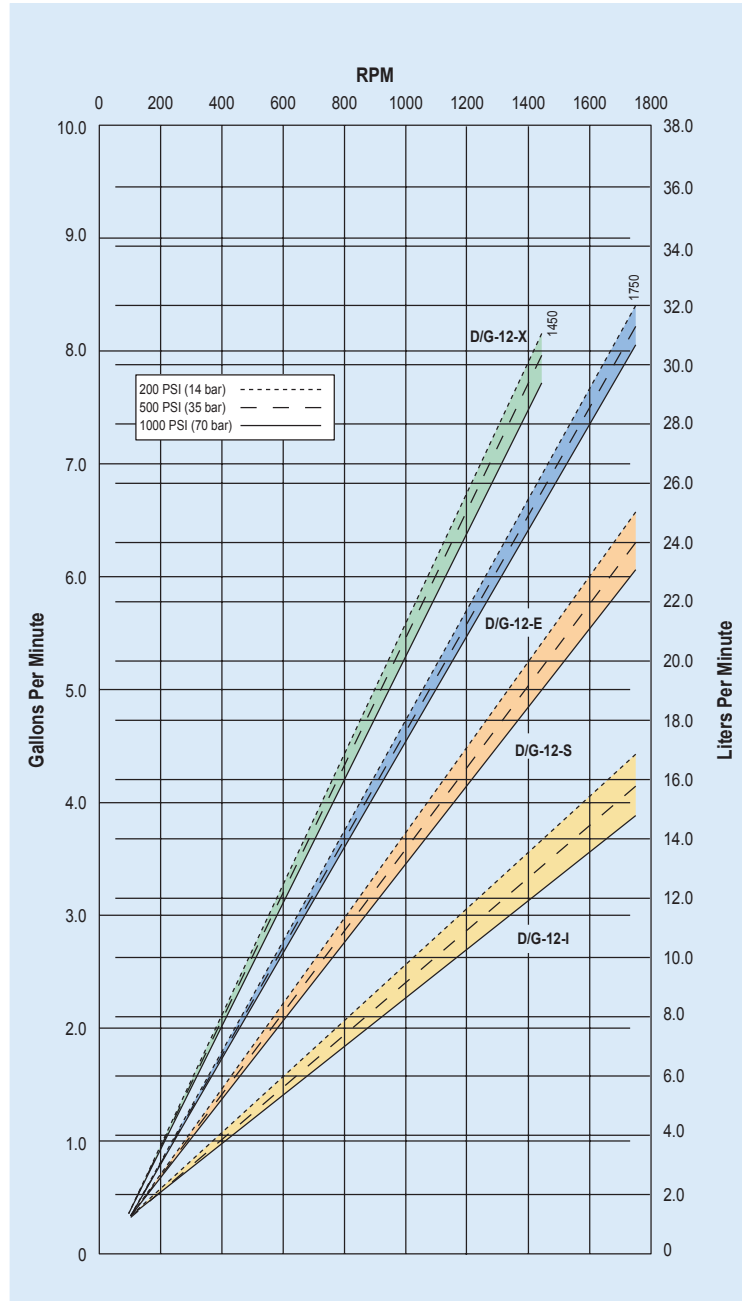
flow

model	max flow gpm	max flow l/min	max input rpm
D/G-12-X	7.8	29.0	1450
D/G-12-E	8.0	30.3	1750
D/G-12-S	6.0	22.7	1750
D/G-12-I	3.9	14.9	1750

pressure

Maximum Inlet Pressure:
250 psi (17 bar)

Pressure Variable To:
Metallic Heads: 1000 psi (70 bar)



Calculating Required Horsepower (kW)**

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

$$\frac{15 \times \text{rpm}}{84,428} + \frac{\text{lpm} \times \text{bar}}{511} = \text{electric motor kW}$$

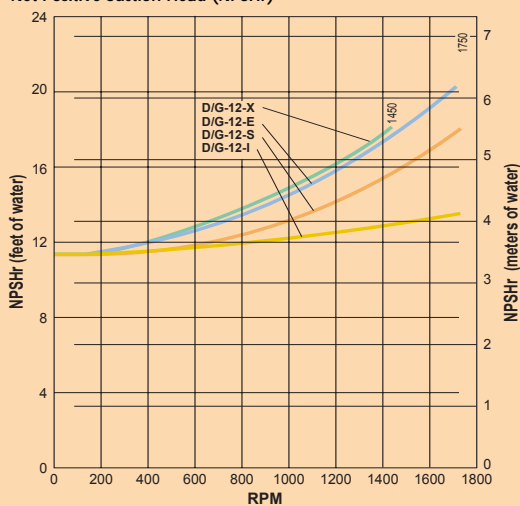
**rpm equals pump shaft rpm. HP/kW is required application power. Use caution when sizing motors with variable speed drives.

D/G-12 Series Specifications

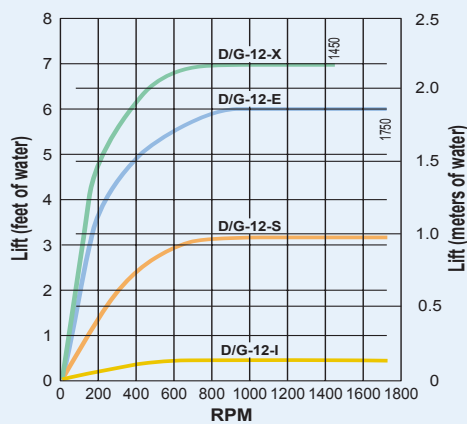
Max Pressure	1000 psi (70 bar)		
Maximum Capacity	rpm	gpm	l/min
D/G-12-X	1450	7.8	29.0
D/G-12-E	1750	8.0	30.3
D/G-12-S	1750	6.0	22.7
D/G-12-I	1750	3.9	14.9
Delivery @ max pressure			
	revs/gal	revs/liter	
D/G-12-X	185	50	
D/G-12-E	219	58	
D/G-12-S	292	77	
D/G-12-I	448	117	
Max Inlet Pressure	250 psi (17 bar)		
Max Temperature	250°F (121°C) – Consult factory for correct component selection for temperatures above 160°F (71°C)		
Inlet Port	D-12: 1 inch NPT; G-12: 1 inch BSPT		
Discharge Port	D-12: 3/4 inch NPT; G-12: 3/4 inch NPT		
Shaft Diameter	7/8 inch (22.22 mm)		
Motor Compatibility	D-12: Accepts NEMA 182/184TC and 213/215TC C-Face motors (without feet). G-12: Accepts IEC 100-112 B5 Flange motors (without feet).		
Shaft Rotation	Bi-directional		
Bearings	Tapered roller bearings		
Oil Capacity	1.5 US quarts (1.4 liters), see Accessories Section for oil selection and specification.		
Weight	64 lbs (29 kg)		

Refer to installation guidelines and design considerations section for additional information.

Net Positive Suction Head (NPSHr)

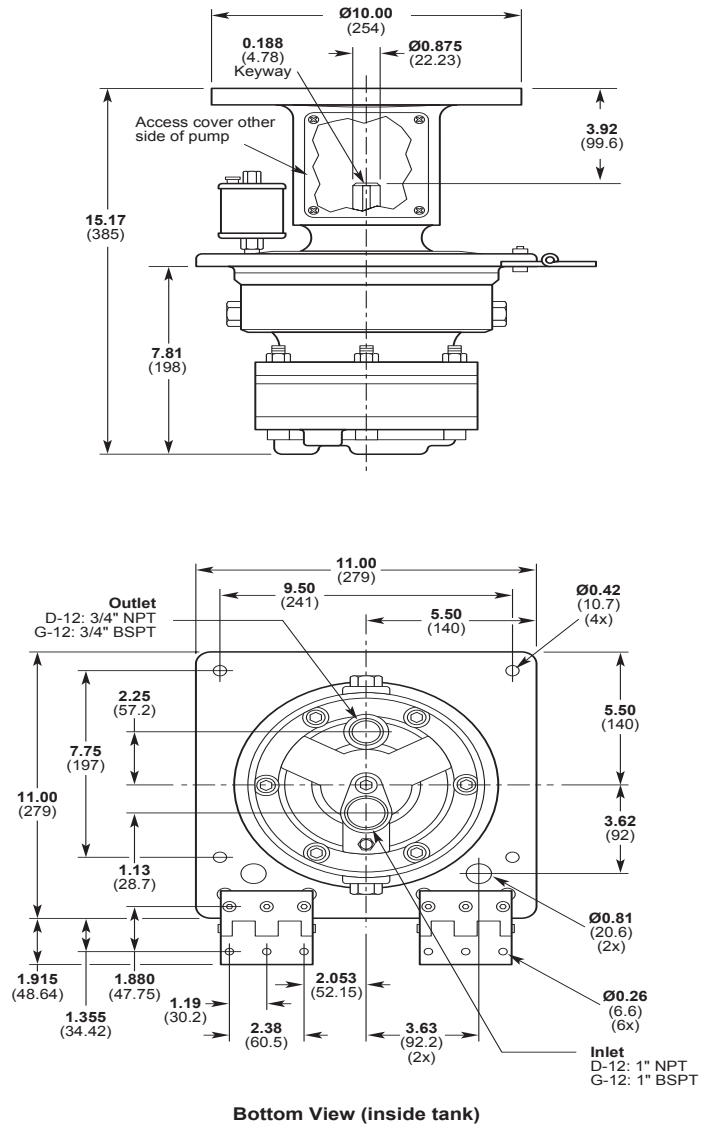


Dry Lift



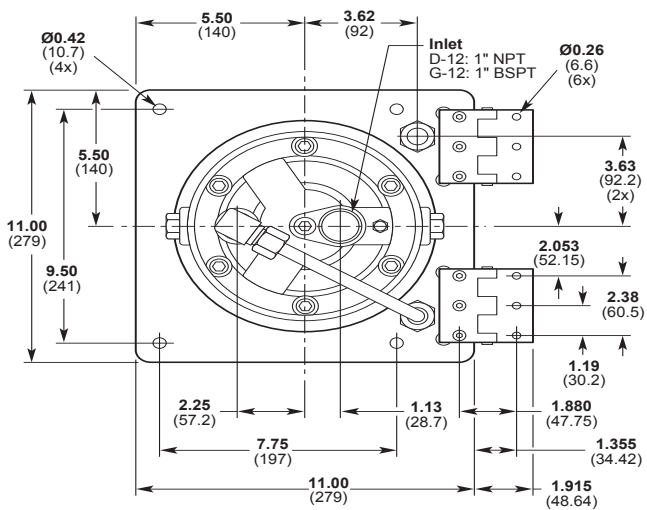
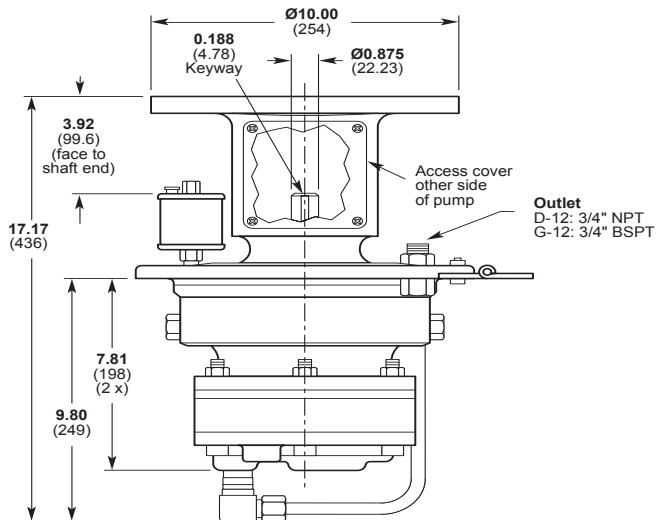
D/G-12 Series Dimensions

D/G-12 Standard Configuration

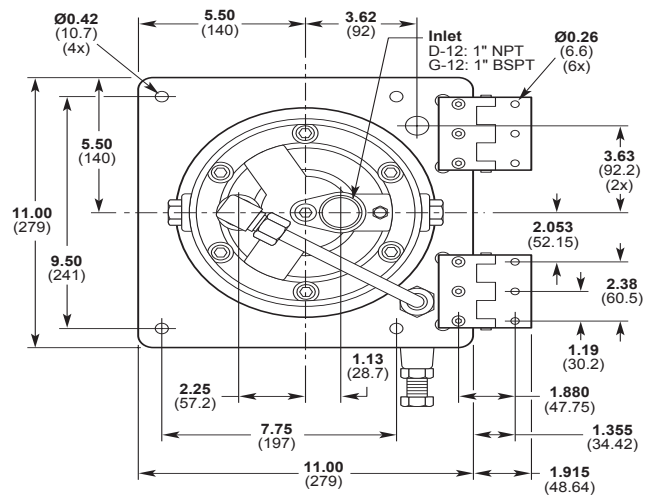
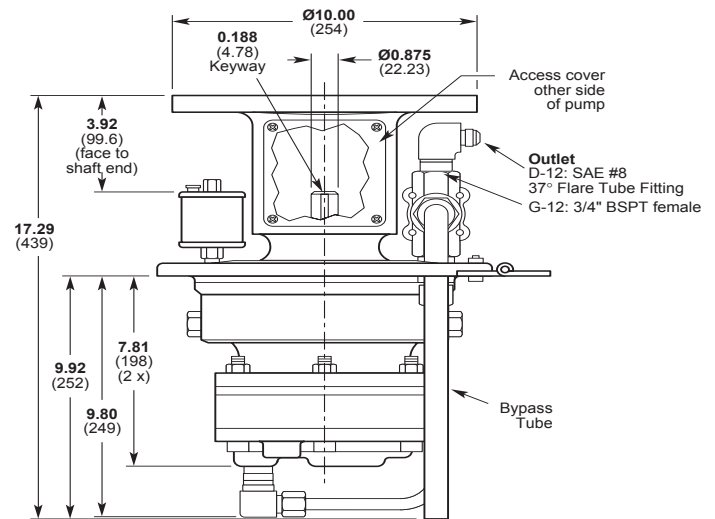


D/G-12 Series Dimensions

D/G-12 with Tube Accessory

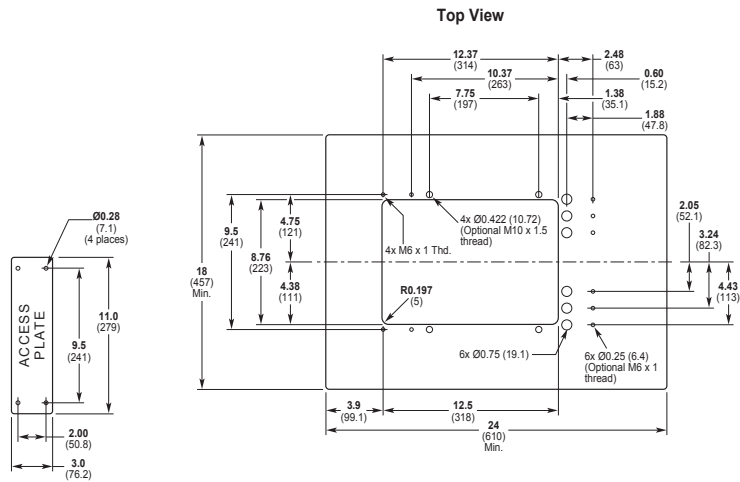


D/G-12 with Valve/Tube Accessory

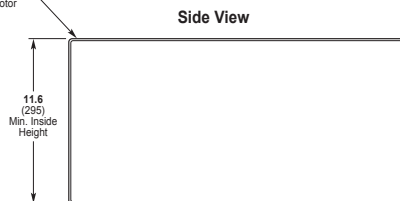


D/G-12 Series Dimensions

D/G-12 Models Minimum Tank Size and Critical Installation Dimensions



Top of tank must support weight of 200 pounds for pump/motor



D/G-12 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
Cast Iron (nickel plated)



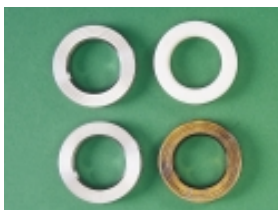
Valves
17-7 PH Stainless Steel
Ceramic
Hastelloy® C
Nitronic 50
Tungsten Carbide



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



Valve Springs
Elgiloy®
Hastelloy® C



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



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

D/G-12 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



Valve/Tube Accessories

The D/G-12 Hydra-Cell Tube and Valve/Tube Accessories provide a pre-fabricated plumbing package for simplified installation. (See page 56 for dimensions.)

Ordering Information

Tube Accessory A04-007-1200

Valve/Tube Accessory A04-008-1200
(Note: C-22 valve ordered separately, see Valve Section for specifications and ordering information.)



D/G-12 Series **How To Order**

Ordering Information

A complete model number contains 12 digits of customer-specified design options: for example D12XKBTHFECA.

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

Digit	Order Code	Description
1-3		Pump Configuration*
	D12	Flanged for NEMA 182/184TC, 213/215TC C-Face motor (NPT ports)
	G12	Flanged for IEC B5 Flange motor (BSPT ports)
*Tube & Valve/Tube Accessories ordered separately.		
4		Hydraulic End Cam
	X	Max 7.8 gpm (29.0 lpm) @ 1450 rpm
	E	Max 8.0 gpm (30.3 lpm) @ 1750 rpm
	S	Max 6.0 gpm (22.7 lpm) @ 1750 rpm
	I	Max 3.9 gpm (14.9 lpm) @ 1750 rpm
5		Pump Head Version
	K	Kel-Cell Version Pump Head
6		Pump Head Material
	B	Brass
	C	Cast Iron (nickel plated)
	S	316 Stainless Steel
7		Diaphragm & O-ring Material
	E	EPDM (requires EPDM-compatible oil – Digit 12 oil code C or D)
	G	Viton®-XT
	J*	Teflon® (available with E and S cams only; 1200 rpm max; cannot be used with non-metallic heads)
	P	Neoprene
8		Valve Seat Material
	C	Ceramic
	D	Tungsten Carbide
	H	17-4 PH Stainless Steel
	S	316 Stainless Steel
9		Valve Material
	C	Ceramic
	D	Tungsten Carbide
	F	17-7 PH Stainless Steel – Machined
	N	Nitronic 50
10		Valve Springs
	E	Elgiloy®
	T	Hastelloy® C

Digit	Order Code	Description
11		Valve Spring Retainers
	C	Celcon
	H	17-7 PH Stainless Steel
	M	Kynar®
	P	Polypropylene
	T	Hastelloy® C
12		Hydra-Oil
	A	10W30 standard duty oil
	B	40-wt for continuous duty (use with 316 SST pump head)
	C	30-wt EPDM-compatible oil
	D	40-wt high-temp EPDM-compatible oil
	E	30-wt food-contact oil
	F	40-wt high-temp food-contact oil
	G	5W30 cold-temp severe duty oil
	H	15W50 high-temp severe duty synthetic oil

Replacement Hydraulic End Assembly

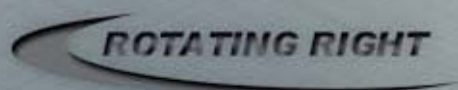
Complete D/G-12 Hydraulic End Assemblies are available as replacement items. The Hydraulic End contains all drive end components from the drive shaft up to and including the diaphragms. All Hydraulic Ends are factory tested and shipped with oil. To order a Replacement Hydraulic End, specify the desired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

Part Number*

D12 4* **XX** 7* **XXXX** 12* **G12** 4* **XX** 7* **XXXX** 12*

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

* May require pressurized inlet.



Head Office:
6120 Davies Road
Edmonton, AB
T6E 4M9

Phone: (780) 485-2010 • Toll Free: (866) 707-7867
Fax: (780) 485-1938
• Calgary • Drayton Valley • Lethbridge
www.rotatingright.com