

# G12 Series

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Maximum Flow Rate: 8.8 gpm (33.4 l/min)

Maximum Pressure: 1000 psi (69 bar) for Metallic Pump Heads



*G12 equipped with Model C62 Pressure Regulator Valve and Tube Accessory*

# G12 Series Performance

## Capacities

### Flow

model	Max. Input rpm	Max. Flow @ 1000 psi (69 bar)	
		gpm	l/min
G12-X	1450	8.1	30.6
G12-E	1750	8.8	33.4
G12-S	1750	6.0	22.7
G12-I	1750	4.0	15.0

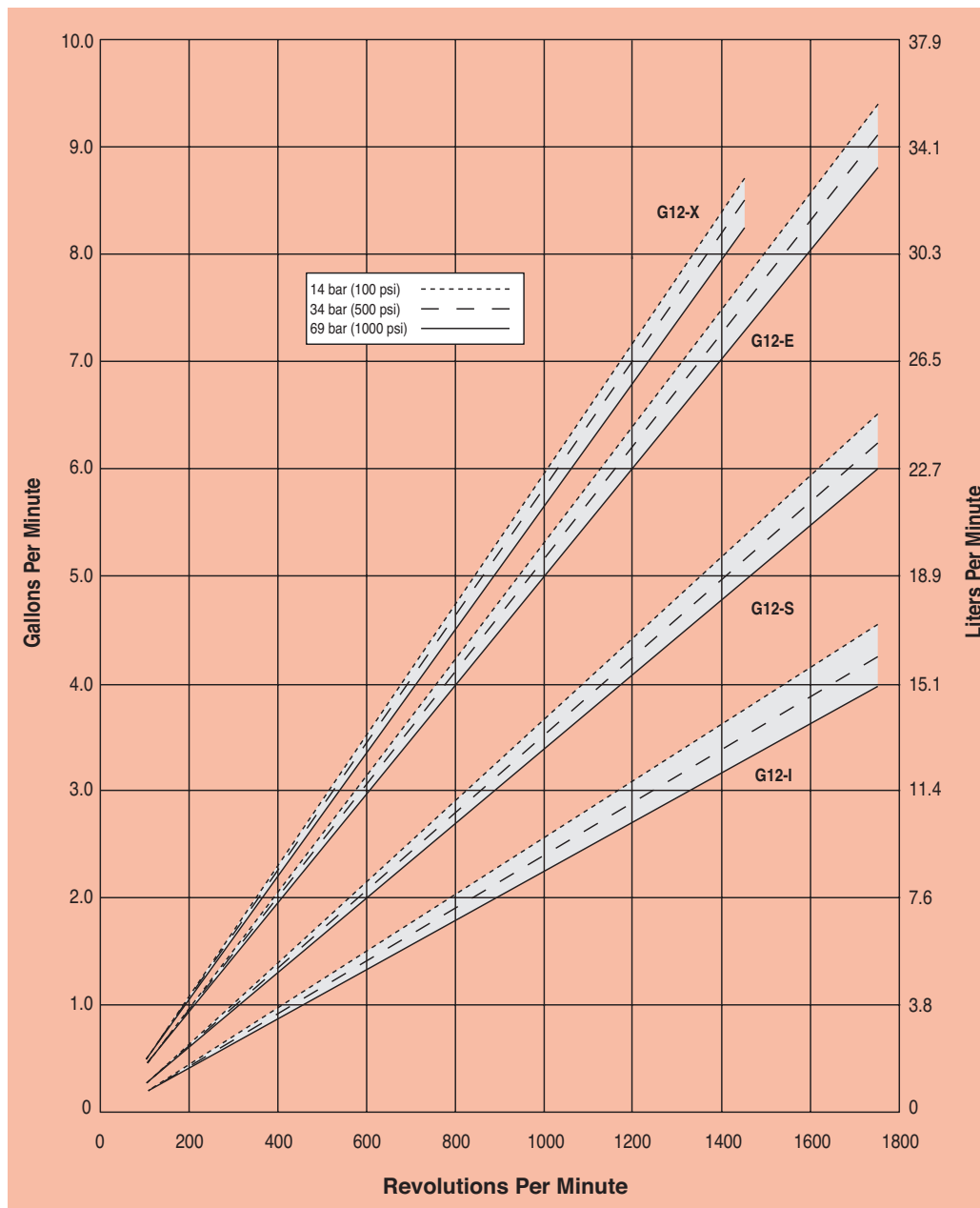
### Pressure

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

**Maximum Discharge Pressure**  
1000 psi (69 bar)

Performance and specification ratings apply to G12 configurations unless specifically noted otherwise.

## Maximum Flow at Designated Pressure



# G12 Series Specifications

## Flow Capacities @ 69 bar (1000 psi) 4-pole Motor @ 50 Hz

Model	rpm	gpm	l/min
G12-X	1450	8.10	30.6
G12-E	1450	6.63	25.1
G12-S	1450	4.96	18.8
G12-I	1450	3.30	12.5

## Flow Capacities @ 69 bar (1000 psi) 6-pole Motor @ 50 Hz

Model	rpm	gpm	l/min
G12-X	960	5.19	19.6
G12-E	960	4.39	16.6
G12-S	960	3.28	12.4
G12-I	960	2.19	8.3

## Delivery @ 69 bar (1000 psi)

Model	gal/rev	liters/rev
G12-X	0.0056	0.0211
G12-E	0.0051	0.0191
G12-S	0.0034	0.0130
G12-I	0.0023	0.0086

## Maximum Discharge Pressure

Metallic Heads: 69 bar (1000 psi)

## Maximum Inlet Pressure 17 bar (250 psi)

## Maximum Operating Temperature

Metallic Heads: 121 °C (250 °F) - Consult factory for correct component selection for temperatures from 71 °C (160 °F) to 121 °C (250 °F).

## Maximum Solids Size 500 microns

**Inlet Port**  
1 inch BSPT  
1 inch NPT

**Discharge Port**  
3/4 inch BSPT  
3/4 inch NPT

**Shaft Diameter** 22.2 mm (7/8 inch)

**Shaft Rotation** Reverse (bi-directional)

**Bearings** Tapered roller bearings

**Oil Capacity** 1.4 liters (1.5 US quarts) - See pages 96 and 97 for oil selection and specification.

## Weight

Metallic Heads: 28.6 kg (63 lbs.)

## Calculating Required Power

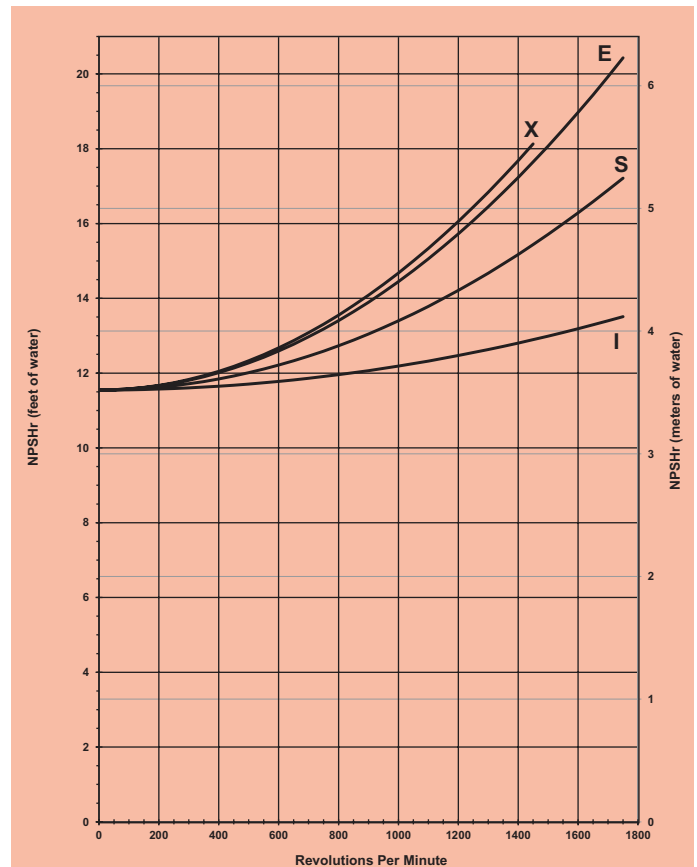
$$\frac{15 \times \text{rpm}}{63,000} + \frac{\text{gpm} \times \text{psi}}{1,460} = \text{electric motor hp}$$

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

See page 164 for calculating pulley size.

When using a variable frequency drive (VFD) calculate the hp or kW at minimum and maximum pump speed to ensure the correct hp or kW motor is selected. Note that motor manufacturers typically de-rate the service factor to 1.0 when operating with a VFD.

## Net Positive Suction Head (NPSHr)



Positive inlet pressure required for:

- A) All pumps with PTFE diaphragms
- B) Pumps with I-cam (consult factory)

## Self-priming:

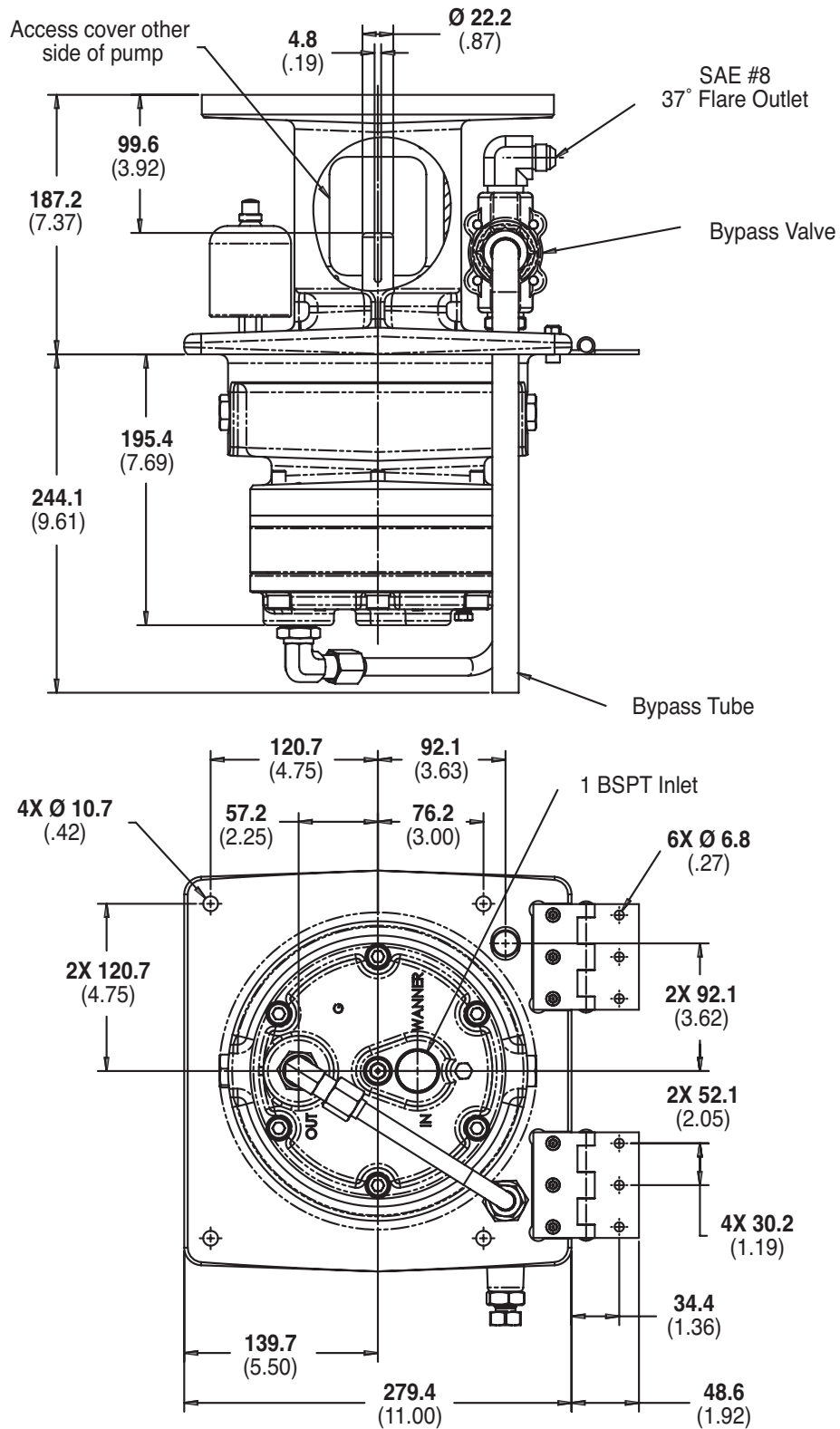
Each Hydra-Cell pump has different lift capability depending on model size, cam angle, speed, and fluid characteristics. To ensure that your specific lift characteristics are met, refer to the inlet calculations regarding friction, and acceleration head losses in your Hydra-Cell Installation & Service Manual. Compare those calculations to the NPSHr curves above.

For technical assistance in pump selection, see Frequently Asked Questions on page 162, Design Considerations on page 163, and Installation Guidelines on pages 164-165.

# G12 Series Representative Drawings

## G12 Standard Configuration (Metallic Pump Heads)

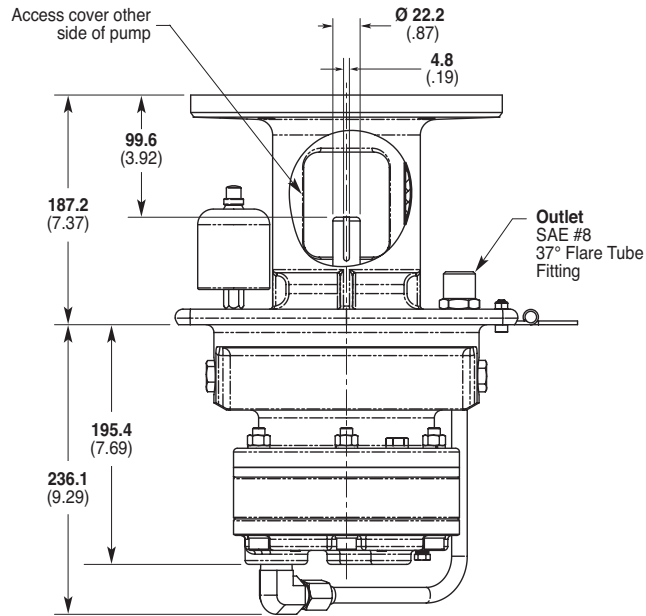
mm (Inches)



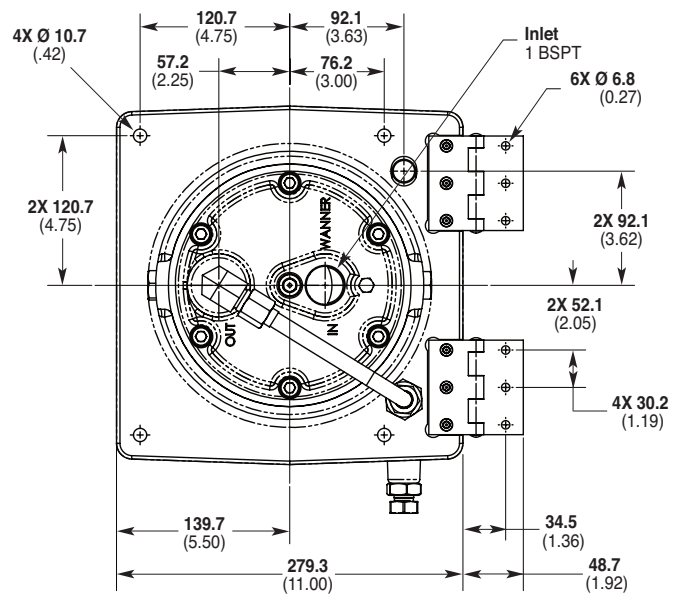
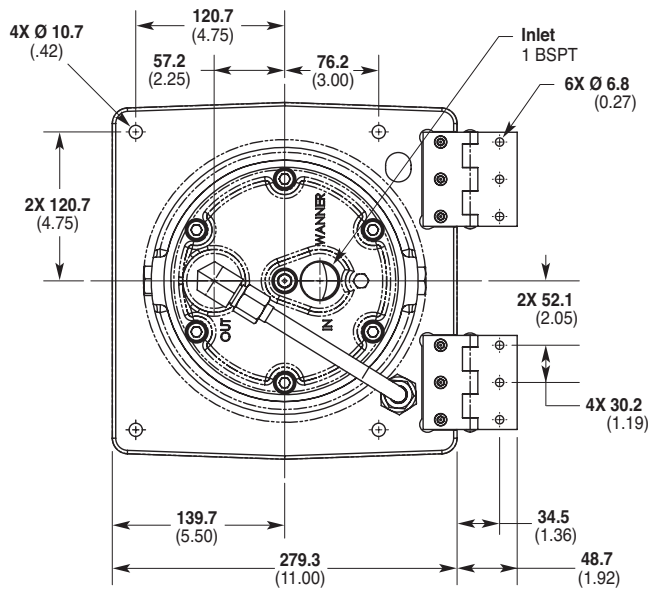
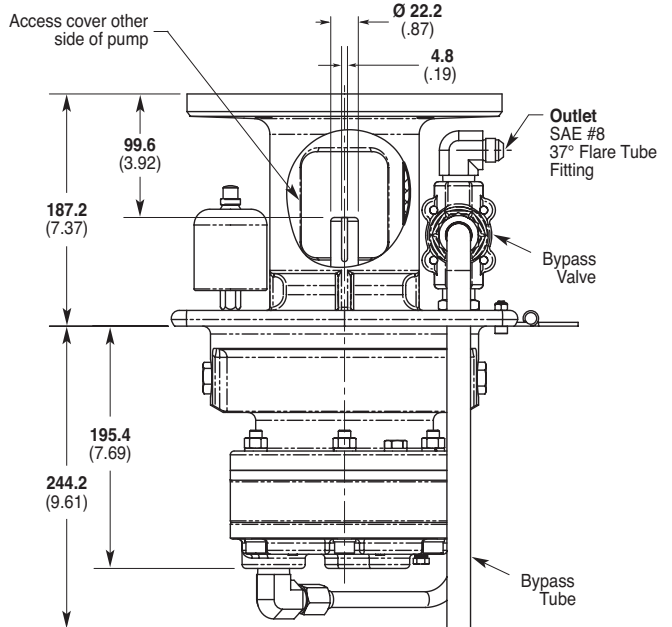
**Note:** Contact factory for additional drawings of specific models and configurations.

# GI2 Series Representative Drawings

## GI2 with Tube Accessory mm (Inches)



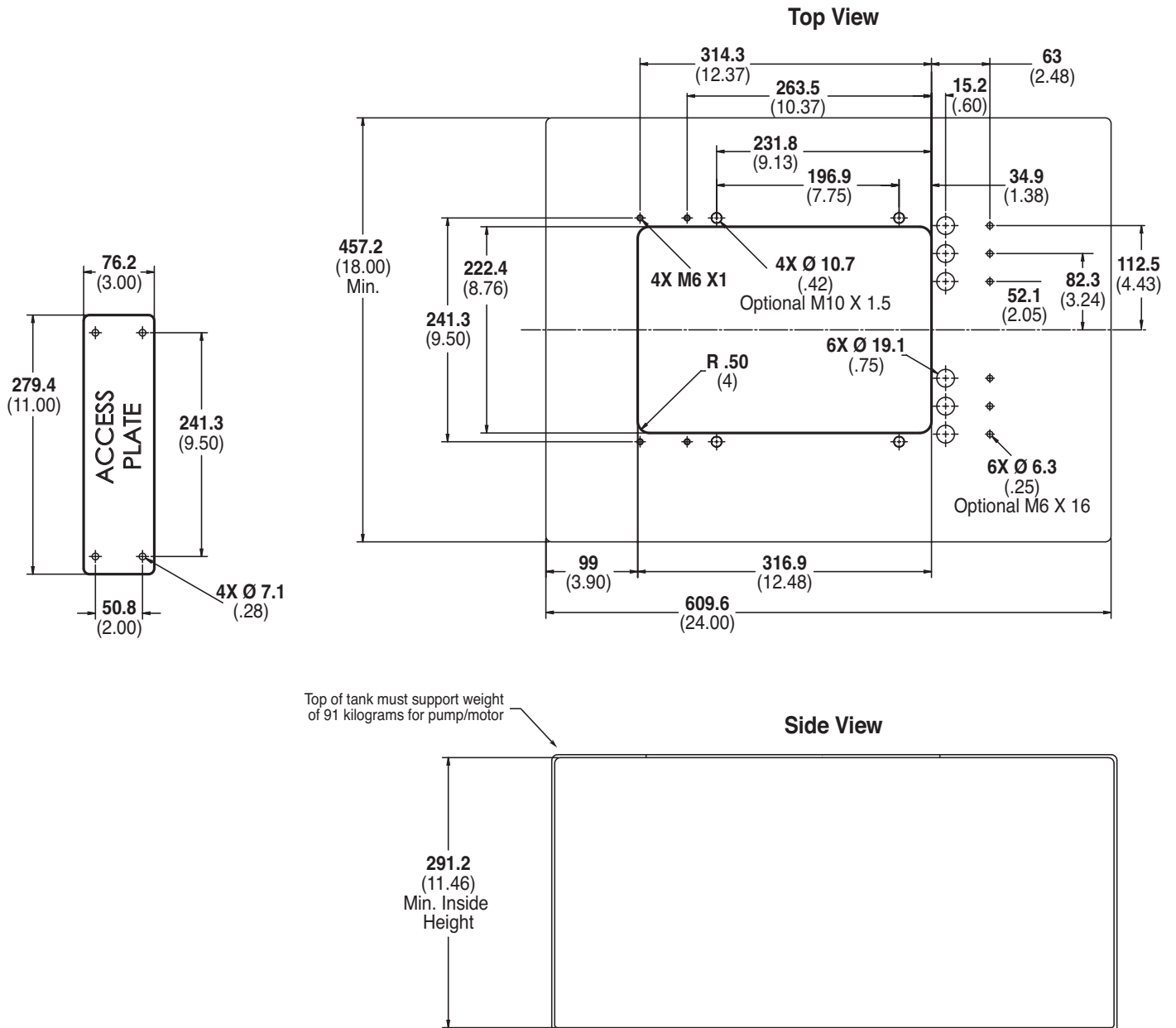
## GI2 with Valve/Tube Accessory mm (Inches)



**Note:** Contact factory for additional drawings of specific models and configurations.

# G12 Series Representative Drawings

## G12 Models with Minimum Tank Size and Critical Installation Dimensions mm (Inches)



**Note:** Contact factory for additional drawings of specific models and configurations.

# G12 Series Valve/Tube Accessories

The Hydra-Cell G12 Tube and Valve/Tube Accessories provide a pre-fabricated plumbing package for simplified installation. (See page 54 for dimensions.)

## Ordering Information

**Tube Accessory Part Number: A04-009-1200**

**Valve/Tube Accessory Part Number: A04-010-1200**



## Valve Selection

A seal-less C62 Pressure Regulating Valve is recommended for Hydra-Cell G12 pumping systems, especially for high-pressure requirements or when handling dirty fluids. See page 88 for more information.

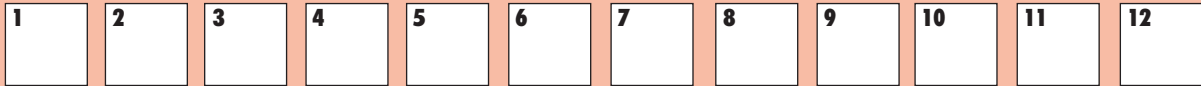


A C22 Pressure Regulating Valve provides a capable, lower-cost alternative to C62 valves for Hydra-Cell G12 pumping systems. See page 84 for more information.



# G12 Series **How to Order**

## Ordering Information



A complete G12 Series Model Number contains 12 digits including 9 customer-specified design and materials options, for example: G12XKCGHFECA.

Digit	Order Code	Description
<b>1-3</b>	<b>G12</b>	<b>Pump Configuration</b> Flanged for IEC 100 - 112, B5 (BSPT Ports)* <i>*Tube Accessory Kits ordered separately. See previous page.</i>
<b>4</b>	<b>X</b>	<b>Hydraulic End Cam</b> Max 29.0 l/min (7.7 gpm) @ 1450 rpm
	<b>E</b>	Max 25.1 l/min (6.6 gpm) @ 1450 rpm
	<b>S</b>	Max 22.7 l/min (6.0 gpm) @ 1750 rpm
	<b>I</b>	Max 15.0 l/min (4.0 gpm) @ 1750 rpm
<b>5</b>	<b>K</b>	<b>Pump Head Version</b> Kel-Cell BSPT Ports
	<b>R</b>	Kel-Cell Reduced Pocket
	<b>X</b>	ATEX <i>(Note: ATEX 94/9/EC Certified, Category 2, Zone 1. Includes certificate and oil level monitor.)</i>
<b>6</b>	<b>B</b>	<b>Pump Head Material</b> Brass
	<b>C</b>	Cast Iron (Nickel-plated)
	<b>S</b>	316L Stainless Steel
<b>7</b>	<b>E</b>	<b>Diaphragm &amp; O-ring Material</b> EPDM (requires EPDM-compatible oil - Digit 12 oil code C)
	<b>G</b>	FKM
	<b>J</b>	PTFE (available with E and S cams only; 1200 rpm max.)
	<b>P</b>	Neoprene
	<b>T</b>	Buna-N
<b>8</b>	<b>C</b>	<b>Valve Seat Material</b> Ceramic
	<b>D</b>	Tungsten Carbide
	<b>H</b>	17-4 Stainless Steel
	<b>S</b>	316L Stainless Steel
<b>9</b>	<b>C</b>	<b>Valve Material</b> Ceramic
	<b>D</b>	Tungsten Carbide
	<b>F</b>	17-4 Stainless Steel
	<b>N</b>	Nitronic 50

Digit	Order Code	Description
<b>10</b>	<b>E</b>	<b>Valve Springs</b> Elgiloy
<b>11</b>	<b>C</b>	<b>Valve Spring Retainers</b> Celcon
	<b>H</b>	17-7 Stainless Steel
	<b>M</b>	PVDF
	<b>P</b>	Polypropylene
	<b>Y</b>	Nylon (Zytel)
<b>12</b>	<b>A</b>	<b>Hydra-Oil</b> 10W30 standard-duty oil
	<b>B</b>	40-wt for continuous-duty (use with 316L SST pump head - standard)
	<b>C</b>	EPDM-compatible oil
	<b>E</b>	Food-contact oil
	<b>G</b>	5W30 cold-temp severe-duty synthetic oil

**Note:** For motors, bases, couplings and other pump accessories, refer to the Accessories section beginning on page 92.