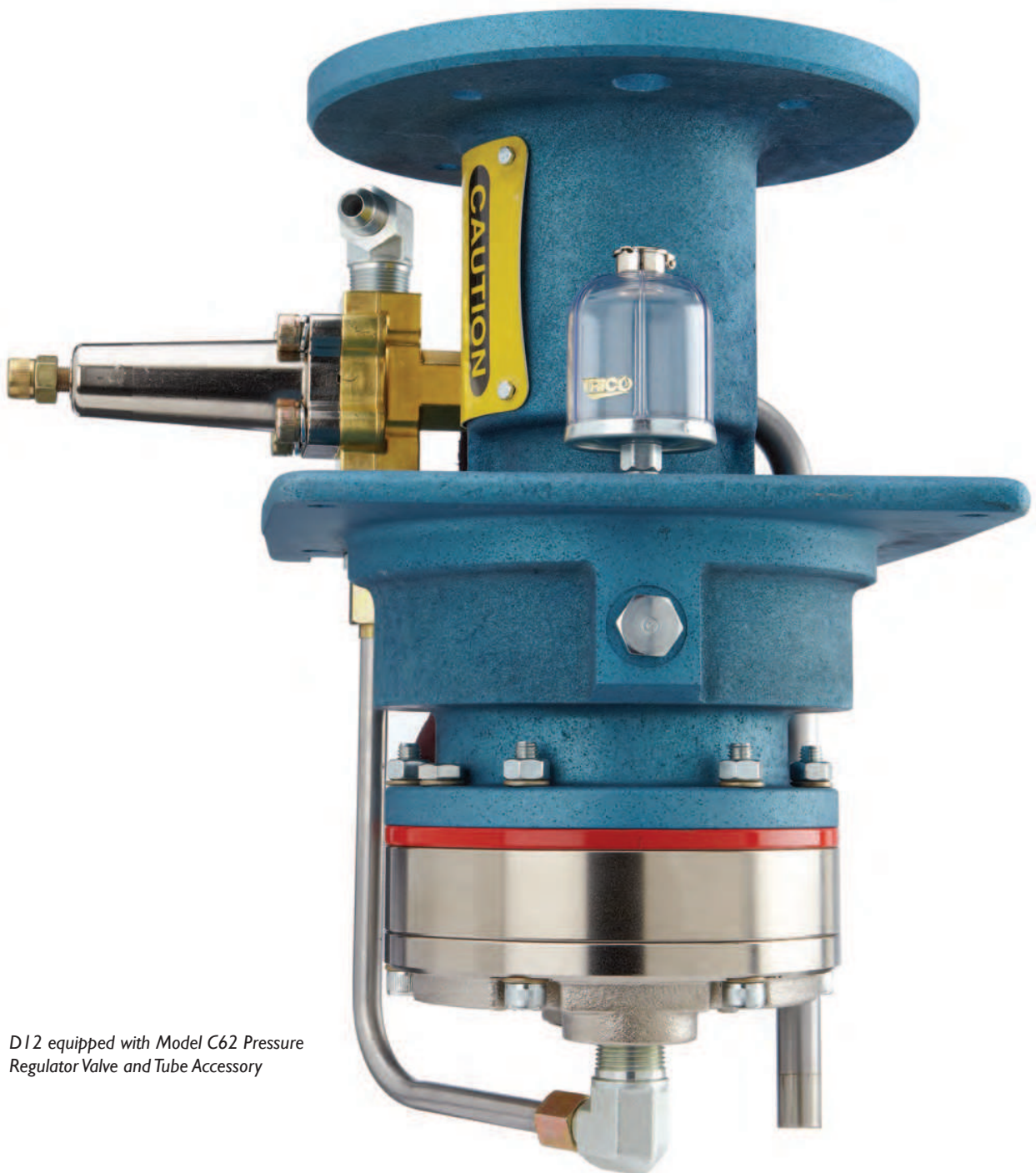


D12 Series

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

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



D12 equipped with Model C62 Pressure Regulator Valve and Tube Accessory

D12 Series Performance

Capacities

Flow

model	Max. Input rpm	Max. Flow @ 1000 psi (69 bar)	
		gpm	l/min
D12-X	1450	8.1	30.6
D12-E	1750	8.8	33.4
D12-S	1750	6.0	22.7
D12-I	1750	4.0	15.0

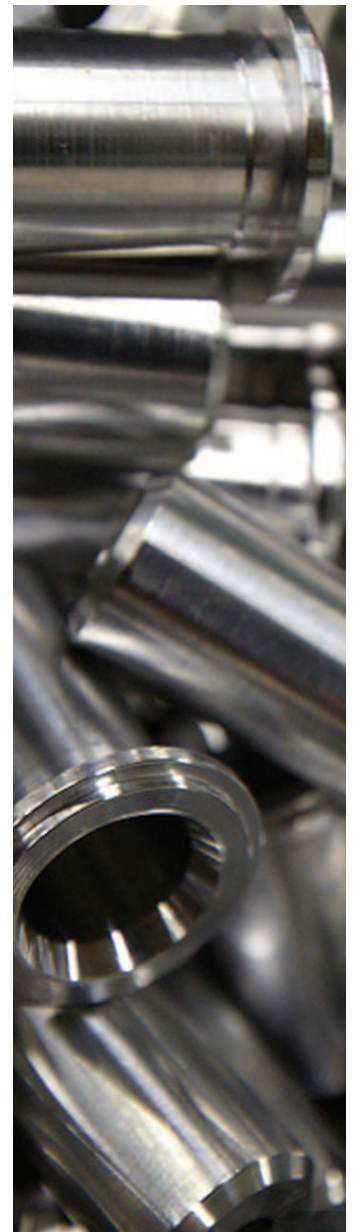
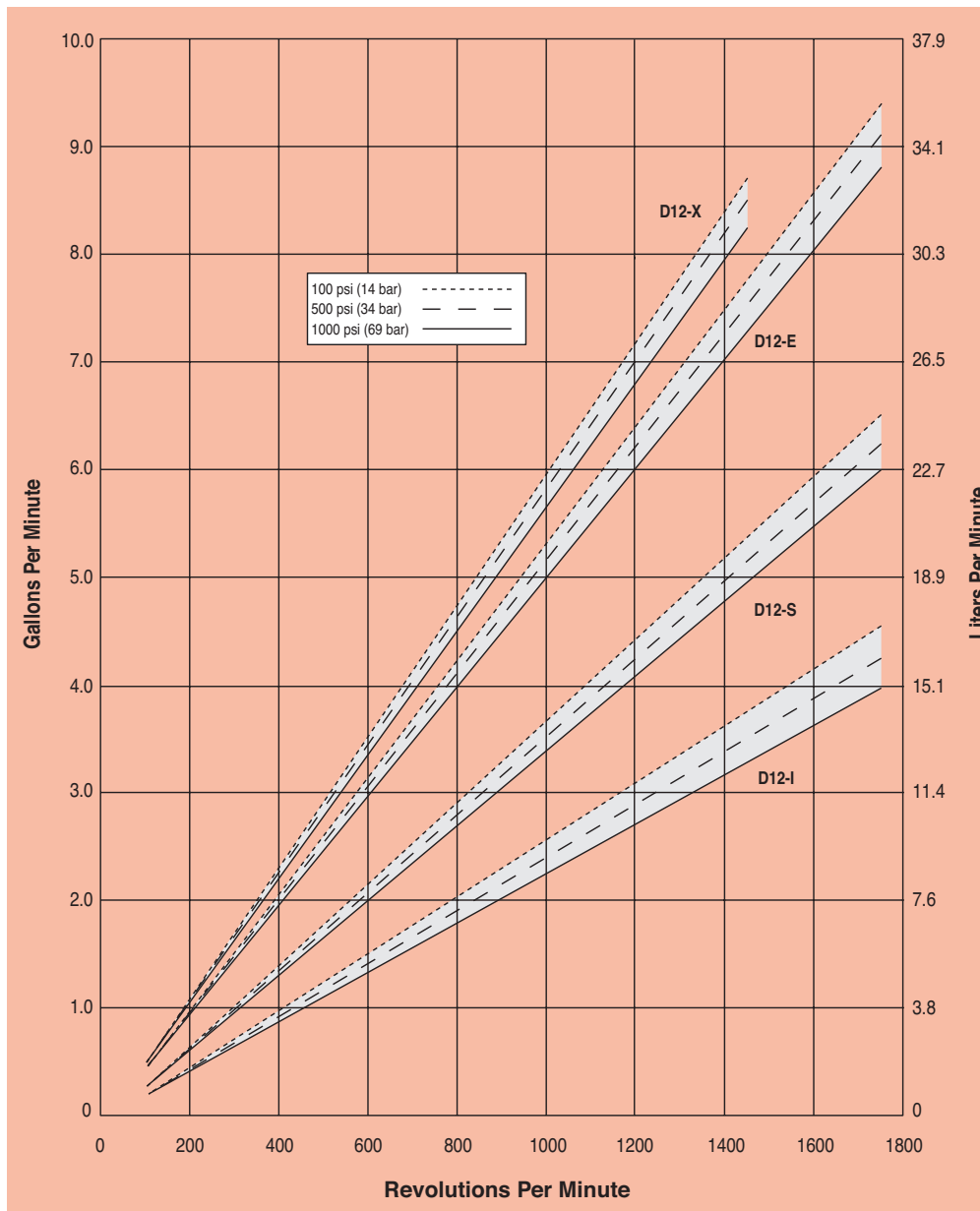
Pressure

Maximum Inlet Pressure
250 psi (17 bar)

Maximum Discharge Pressure
1000 psi (69 bar)

Performance and specification ratings apply to D12 configurations unless specifically noted otherwise.

Maximum Flow at Designated Pressure



D12 Series Specifications

Flow Capacities @1000 psi (69 bar)

Model	rpm	gpm	l/min
D12-X	1450	8.10	30.6
D12-E	1750	8.83	33.4
D12-S	1750	6.00	22.7
D12-I	1750	3.96	15.0

Delivery @1000 psi (69 bar)

Model	gal/rev	liters/rev
D12-X	0.0056	0.0211
D12-E	0.0051	0.0191
D12-S	0.0034	0.0130
D12-I	0.0023	0.0086

Maximum Discharge Pressure

Metallic Heads: 1000 psi (69 bar)

Maximum Inlet Pressure 250 psi (17 bar)

Maximum Operating Temperature

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

Maximum Solids Size 500 microns

Inlet Port 1 inch NPT

Discharge Port 3/4 inch NPT

Shaft Diameter 7/8 inch (22.2 mm)

Shaft Rotation Reverse (bi-directional)

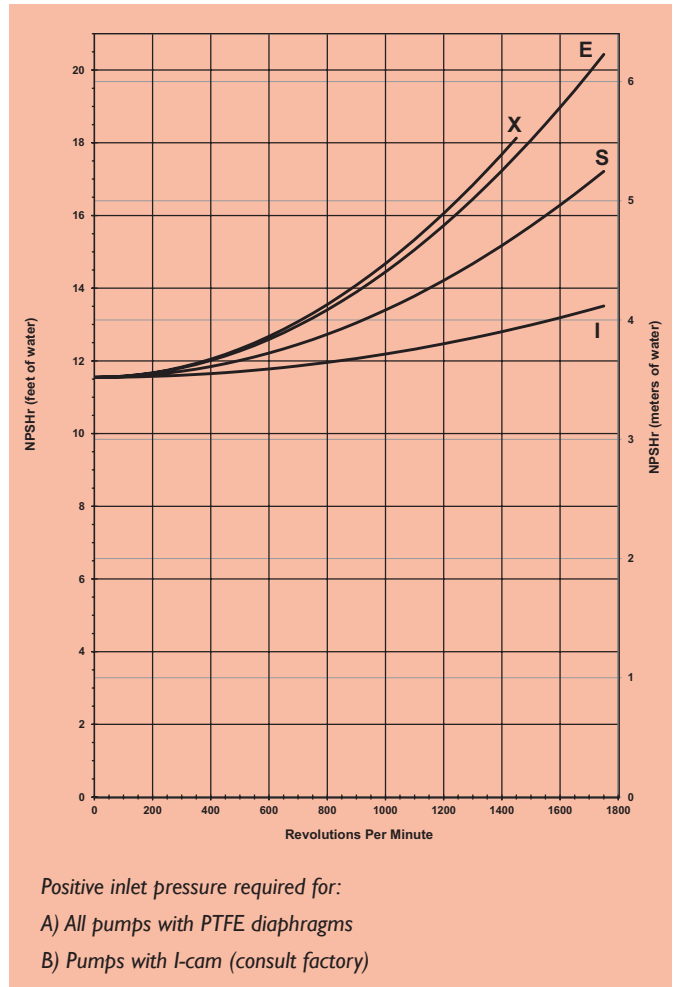
Bearings Tapered roller bearings

Oil Capacity 1.5 US quarts (1.4 liters) - See pages 104 and 105 for oil selection and specification.

Weight

Metallic Heads: 63 lbs. (28.6 kg)

Net Positive Suction Head (NPSHr)



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 168 for calculating pulley size.

When using a variable frequency controller (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.

Self-priming:

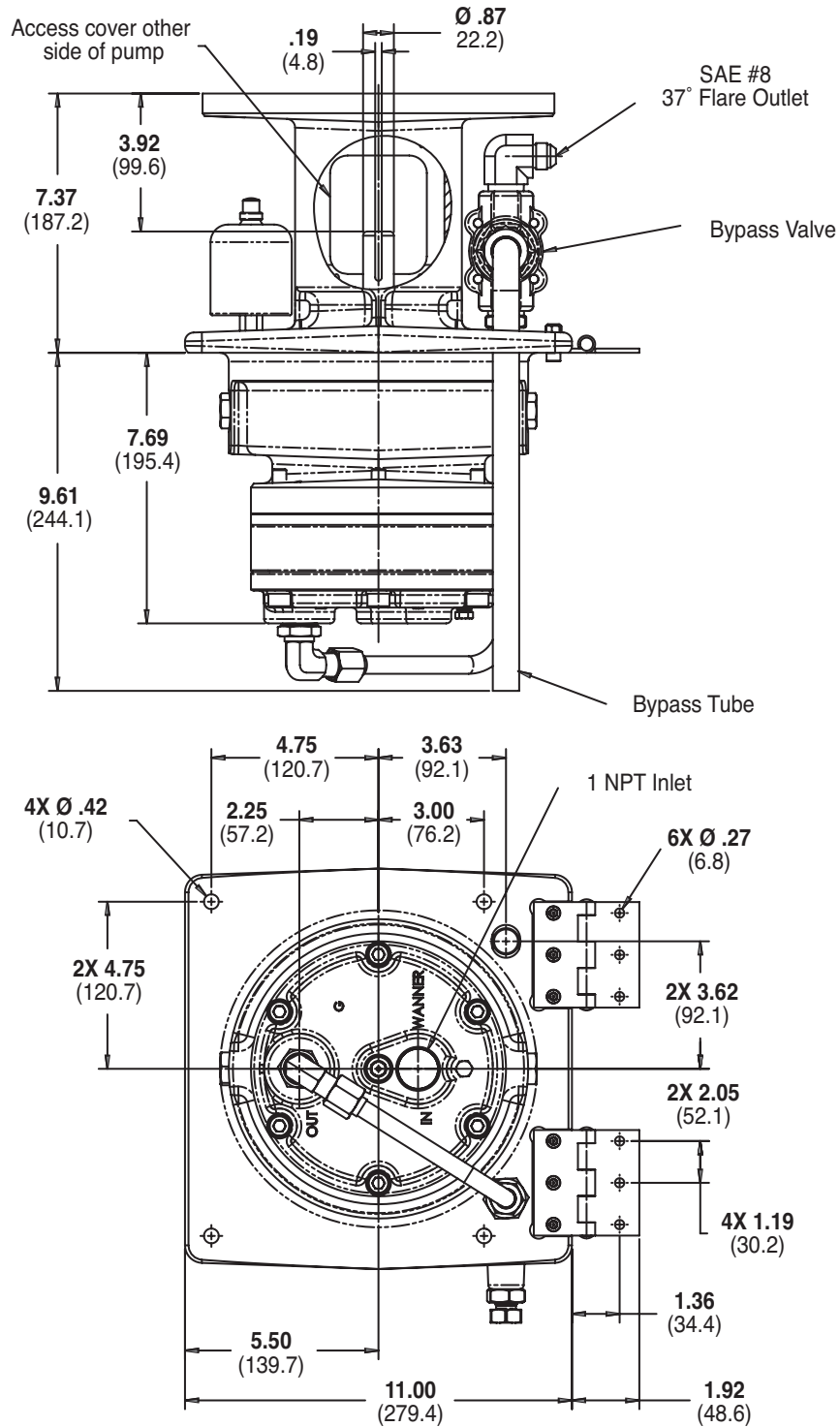
Each Hydra-Cell pump has different lift capability depending on model size, cam angle, speed, and fluid characteristics. To ensure that your specific lift characteristics are met, refer to the inlet calculations regarding friction, and acceleration head losses in your Hydra-Cell Installation & Service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

For technical assistance in pump selection, see Frequently Asked Questions on page 166, Design Considerations on page 167, and Installation Guidelines on pages 168-169.

D12 Series Representative Drawings

D12 Standard Configuration (Metallic Pump Heads)

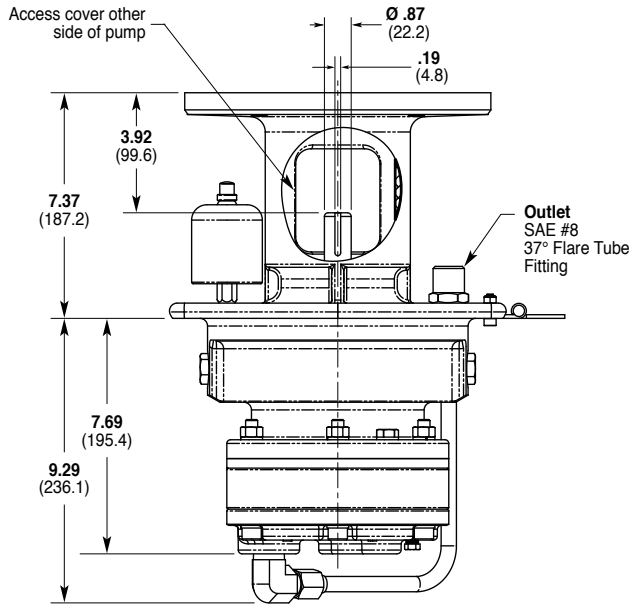
Inches (mm)



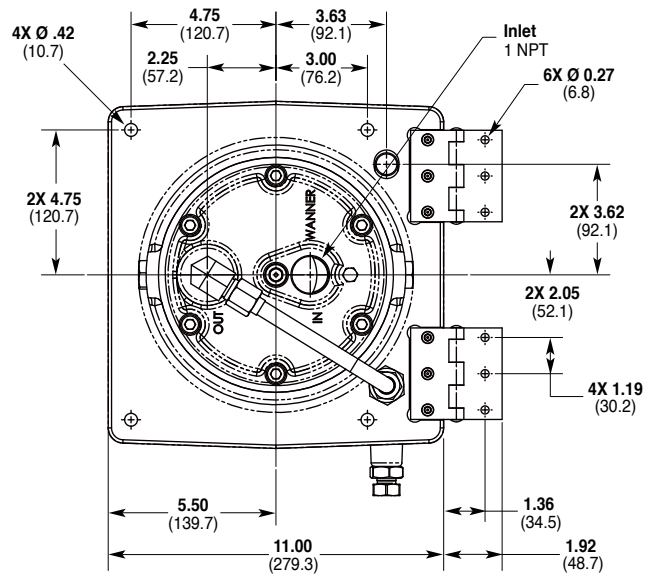
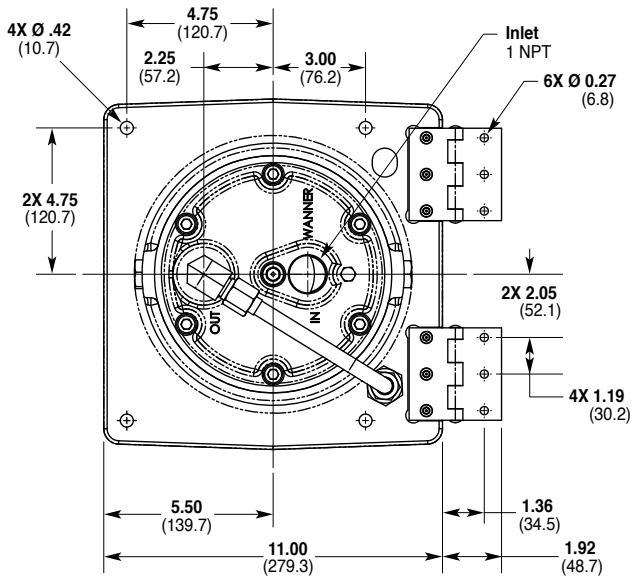
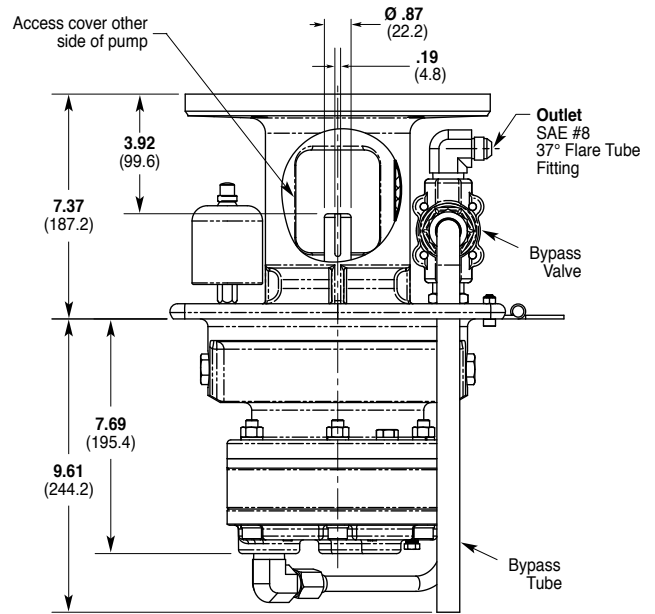
Note: Contact factory for additional drawings of specific models and configurations.

DI2 Series Representative Drawings

DI2 with Tube Accessory Inches (mm)



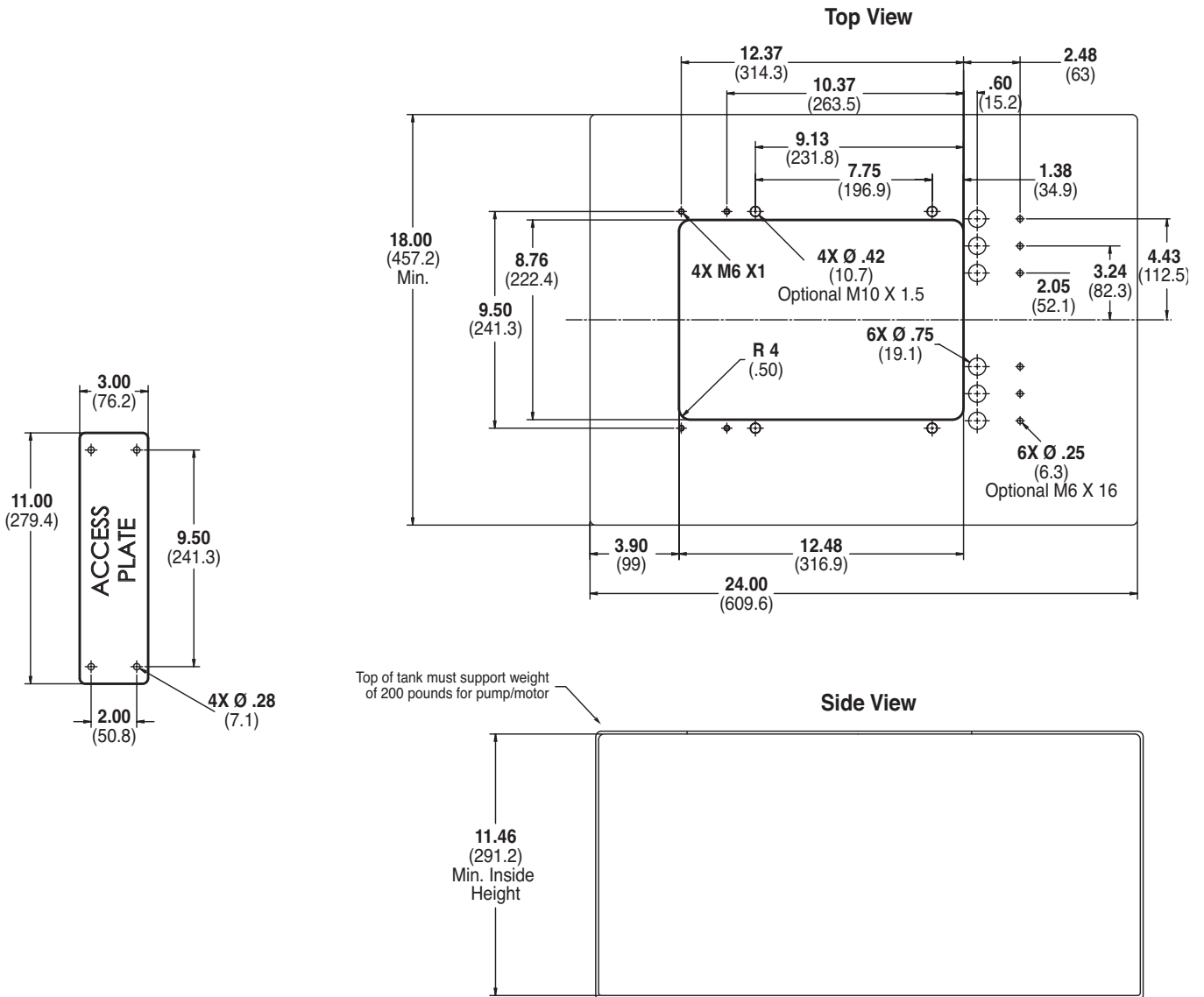
DI2 with Valve/Tube Accessory Inches (mm)



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

DI2 Series Representative Drawings

DI2 Models with Minimum Tank Size and Critical Installation Dimensions Inches (mm)



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

D12 Series Valve/Tube Accessories

The Hydra-Cell D12 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: A04-007-1200

Valve/Tube Accessory Part Number: A04-008-1200



Valve Selection

A seal-less C62 Pressure Regulating Valve is recommended for Hydra-Cell D12 pumping systems, especially for high-pressure requirements or when handling dirty fluids. See page 88 for more information.

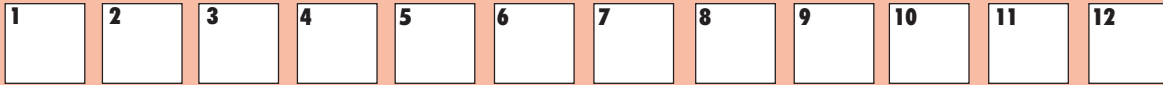


A C22 Pressure Regulating Valve provides a capable, lower-cost alternative to C62 valves for Hydra-Cell D12 pumping systems. See page 84 for more information.



D12 Series **How to Order**

Ordering Information



A complete D12 Series Model Number contains 12 digits including 9 customer-specified design and materials options, for example: D12XKCGHFECA.

Digit	Order Code	Description
1-3	D12	Pump Configuration Flanged for NEMA 182/184TC, 213/215TC (NPT Ports)* *Tube Accessory Kits ordered separately. See previous page.
4	X E S I	Hydraulic End Cam Max 8.1 gpm (30.6 l/min) @ 1450 rpm Max 8.8 gpm (33.4 l/min) @ 1750 rpm Max 6.0 gpm (22.7 l/min) @ 1750 rpm Max 4.0 gpm (15.0 l/min) @ 1750 rpm
5	K R	Pump Head Version Kel-Cell NPT Ports Kel-Cell Reduced Pocket
6	B C S	Pump Head Material Brass Cast Iron (Nickel-plated) 316L Stainless Steel
7	E G J P T	Diaphragm & O-ring Material EPDM (requires EPDM-compatible oil - Digit 12 oil code C) FKM PTFE (available with E and S cams only; 1200 rpm max.) Neoprene Buna-N
8	C D H S	Valve Seat Material Ceramic Tungsten Carbide 17-4 Stainless Steel 316L Stainless Steel
9	C D F N	Valve Material Ceramic Tungsten Carbide 17-4 Stainless Steel Nitronic 50
10	E	Valve Springs Elgiloy

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