

D04 Series

Maximum Flow Rate: 2.9 gpm (11.2 l/min)

Maximum Pressure: 2500 psi (172 bar) for Metallic Pump Heads



D04 Shaft-driven with Stainless Steel pump head



D04 Shaft-driven with Brass pump head

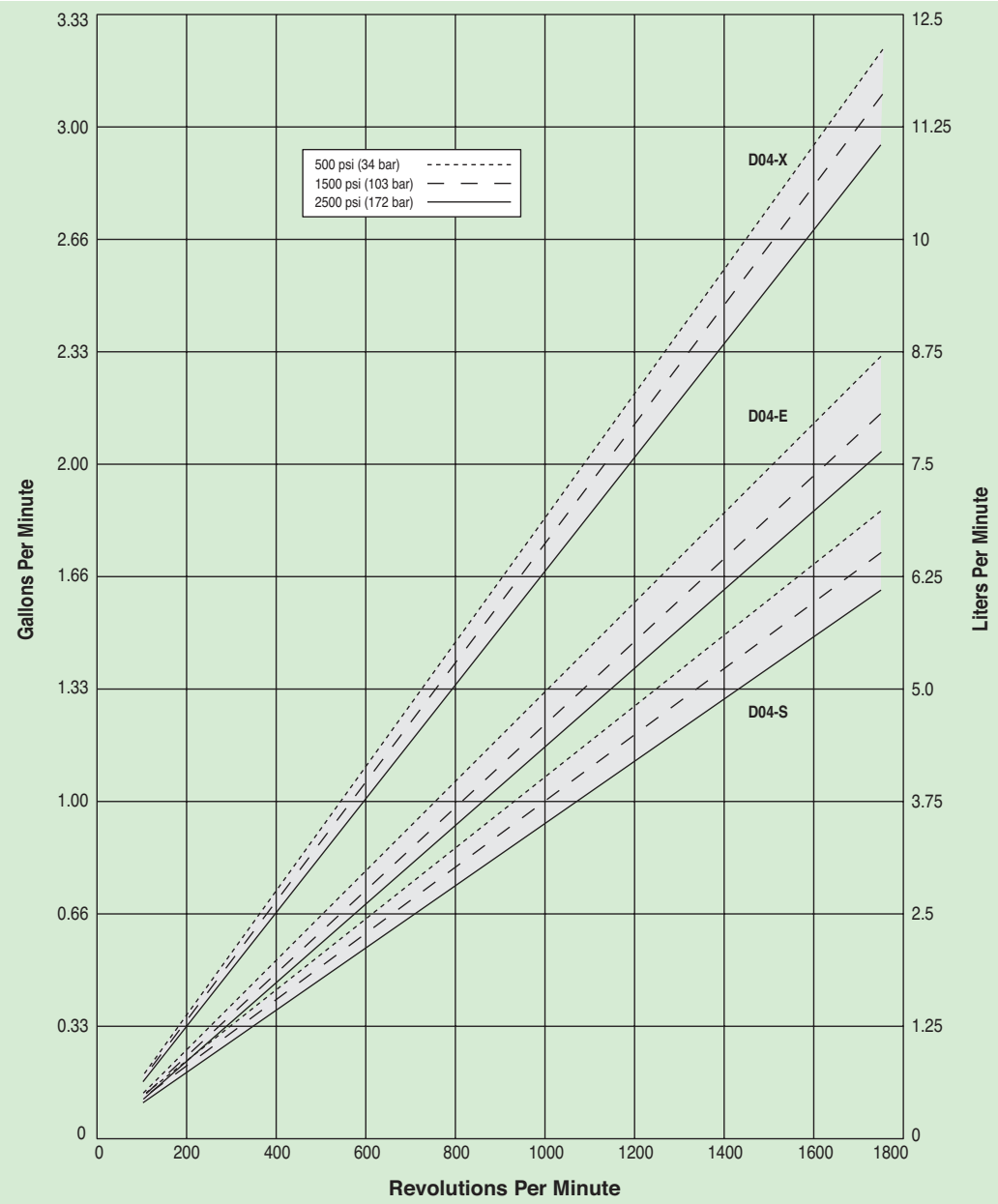
D04 Series Performance

Capacities

Flow				Pressure	
Model	Max. Input rpm	Max. Flow @ 2500 psi (172 bar)		Maximum Inlet Pressure	
		gpm	l/min	500 psi (34 bar)	
D04-X	1750	2.9	11.2	Maximum Discharge Pressure	
D04-E	1750	2.0	7.7	2500 psi (172 bar)	
D04-S	1750	1.6	6.2		

Performance and specification ratings apply to D04 configurations unless specifically noted otherwise.

Maximum Flow at Designated Pressure



D04 Series Specifications

Flow Capacities @2500 psi (172 bar)

Model	rpm	gpm	l/min
D04-X	1750	2.95	11.16
D04-E	1750	2.04	7.71
D04-S	1750	1.63	6.19

Delivery

Model	gal/rev		
	@500 psi (34 bar)	@1500 psi (103 bar)	@2500 psi (172 bar)
D04-X	0.0019	0.0018	0.0017
D04-E	0.0013	0.0012	0.0012
D04-S	0.0011	0.0010	0.0009

Model	liters/rev		
	@500 psi (34 bar)	@1500 psi (103 bar)	@2500 psi (172 bar)
D04-X	0.0070	0.0067	0.0064
D04-E	0.0050	0.0047	0.0044
D04-S	0.0041	0.0039	0.0035

Maximum Discharge Pressure

Metallic Heads: 2500 psi (172 bar)

Maximum Inlet Pressure 500 psi (34 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 200 microns

Inlet Port 1/2 inch NPT
600lb ANSI RF flange

Discharge Port 1/2 inch NPT
2500lb ANSI RF flange

Shaft Diameter 7/8 inch (22.2 mm)

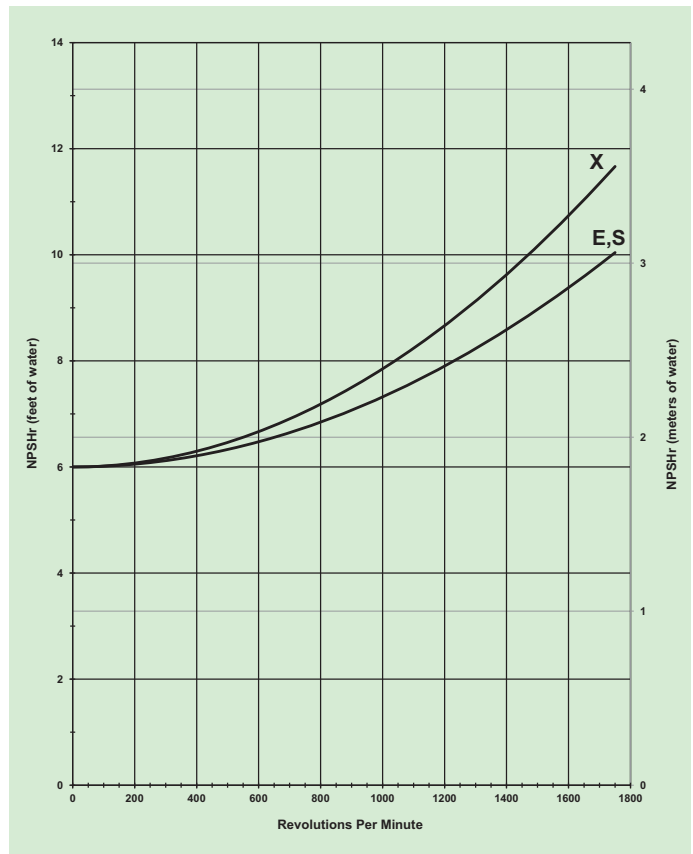
Shaft Rotation Reverse (bi-directional)

Bearings Precision ball bearings

Oil Capacity 1.1 US quarts (1.05 liters) - See pages 104 and 105 for oil selection and specification.

Weight 37 lbs. (16.8 kg)

Net Positive Suction Head (NPSHr)



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.

Calculating Required Power

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

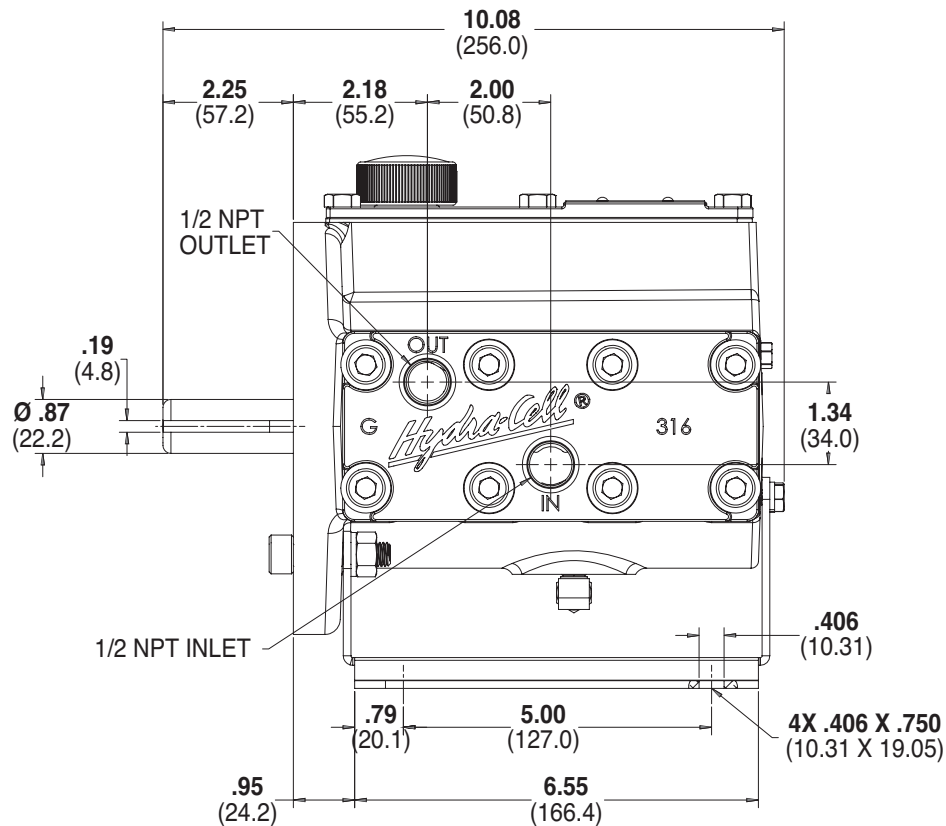
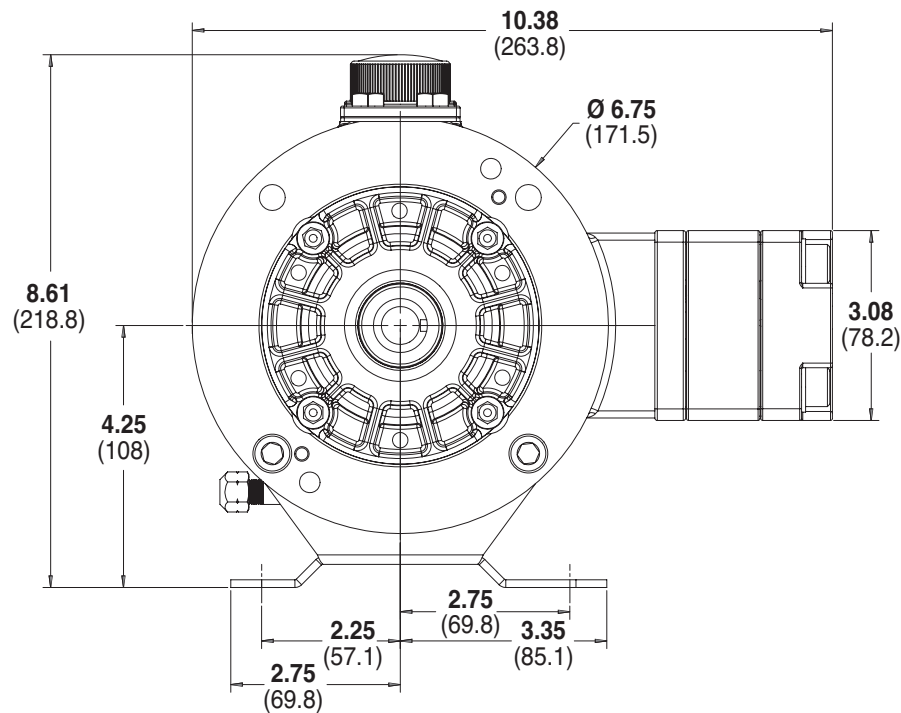
$$\frac{6 \times \text{rpm}}{84,428} + \frac{\text{l/min} \times \text{bar}}{511} = \text{electric motor kW}$$

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.

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.

D04 Models with Metallic Pump Head Inches (mm)



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

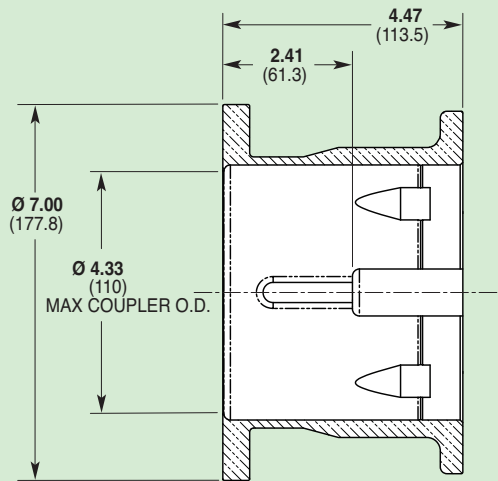
D04 Series **Adapters/Valves**

Pump/Motor Adapter Inches (mm)

Part Number: A04-001-I202

Must be ordered separately for D04 models for use with 56C, I43TC and I45TC frame motors.

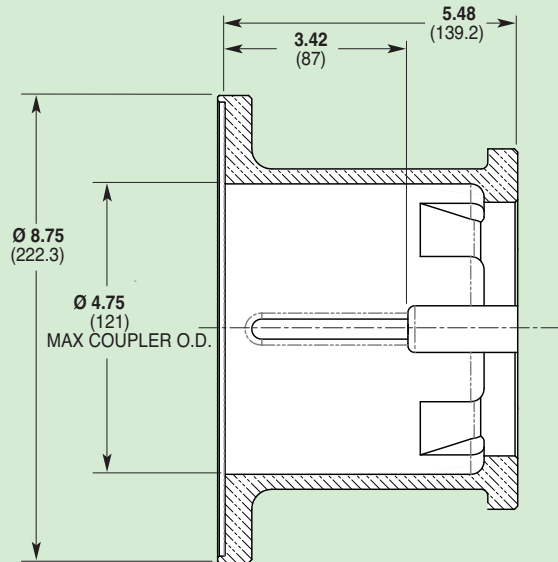
Metric adapter available - consult factory.



Part Number: A04-002-I202

Must be ordered separately for D04 models for use with I82TC, I84TC, 2I3TC and 2I5TC frame motors.

Metric adapter available - consult factory.



Valve Selection

A seal-less C62 Pressure Regulating Valve is recommended for Hydra-Cell D04 pumping systems, especially for high-pressure requirements or when handling dirty fluids.

See page 88 for more information.



D04 Series **How to Order**

Ordering Information

1	2	3	4	5	6	7	8	9	10	11	12
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A complete D04 Series Model Number contains 12 digits including 9 customer-specified design and materials options, for example: D04SABTHFECG.

Digit	Order Code	Description
1-3	D04	Pump Configuration Shaft-driven (NPT Ports)* *Pump/motor adapters ordered separately. See previous page.
4	X E S	Hydraulic End Cam Max 2.9 gpm (11.2 l/min) @ 1750 rpm Max 2.0 gpm (7.7 l/min) @ 1750 rpm Max 1.6 gpm (6.2 l/min) @ 1750 rpm
5	A	Pump Head Version NPT Ports
6	B R S T	Pump Head Material Brass 304 Stainless Steel 316L Stainless Steel Hastelloy C
7	E G J P T	Diaphragm & O-ring Material EPDM (requires EPDM-compatible oil - Digit 12 oil code J) FKM PTFE Neoprene Buna-N
8	D H N T	Valve Seat Material Tungsten Carbide 17-4 Stainless Steel Nitronic Hastelloy C
9	D F N T	Valve Material Tungsten Carbide 17-4 Stainless Steel Nitronic 50 Hastelloy C
10	E S T	Valve Springs Elgiloy 316L Stainless Steel Hastelloy C

Digit	Order Code	Description
11	C H M P T Y	Valve Spring Retainers Celcon 17-7 Stainless Steel PVDF Polypropylene Hastelloy C Nylon
12	G J K	Hydra-Oil 5W30 cold-temp severe-duty synthetic oil EPDM-compatible oil Food-contact oil

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