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

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

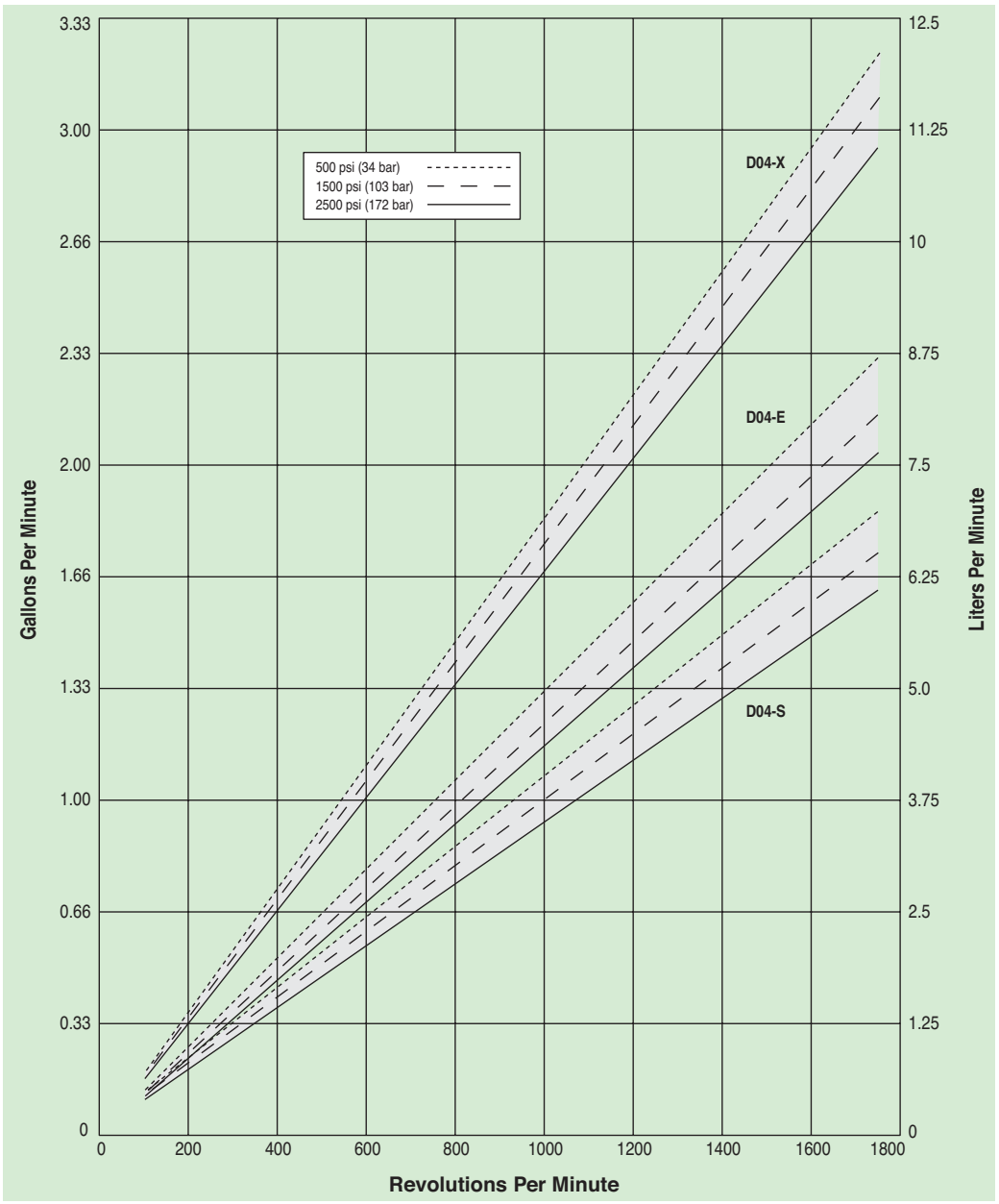
Pressure

Maximum Inlet Pressure
500 psi (34 bar)

Maximum Discharge Pressure
2500 psi (172 bar)

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

Maximum Flow at Designated Pressure



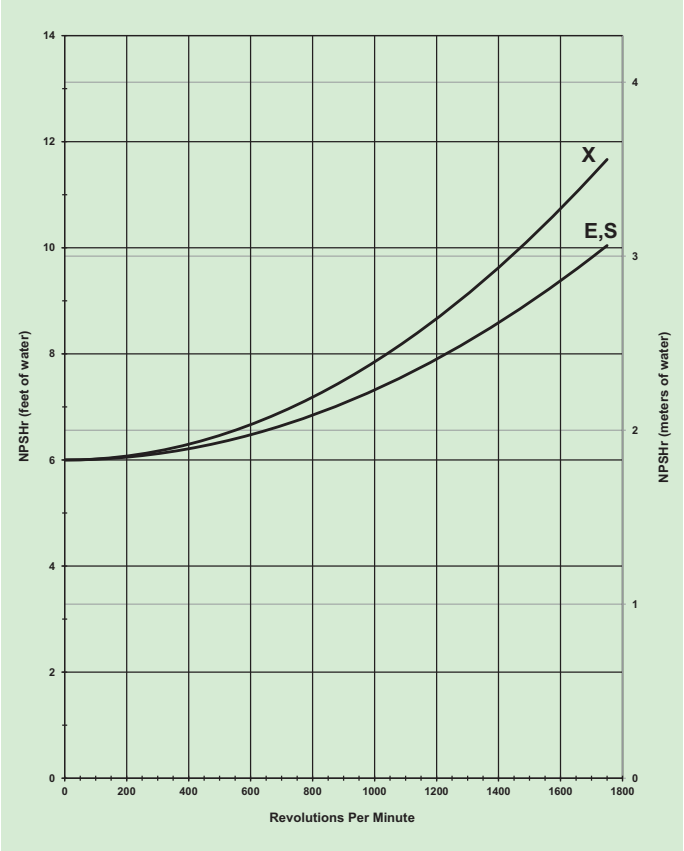
D04 Series Specifications

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			
	gal/rev		
Model	**@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
	liters/rev		
Model	**@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

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

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

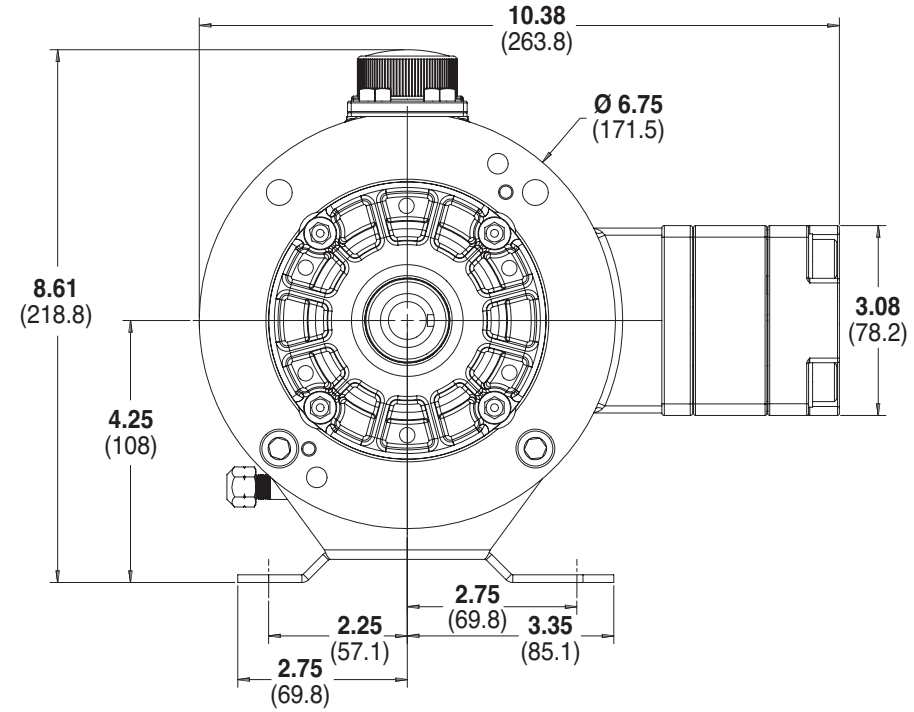
See page 168 for calculating pulley size.

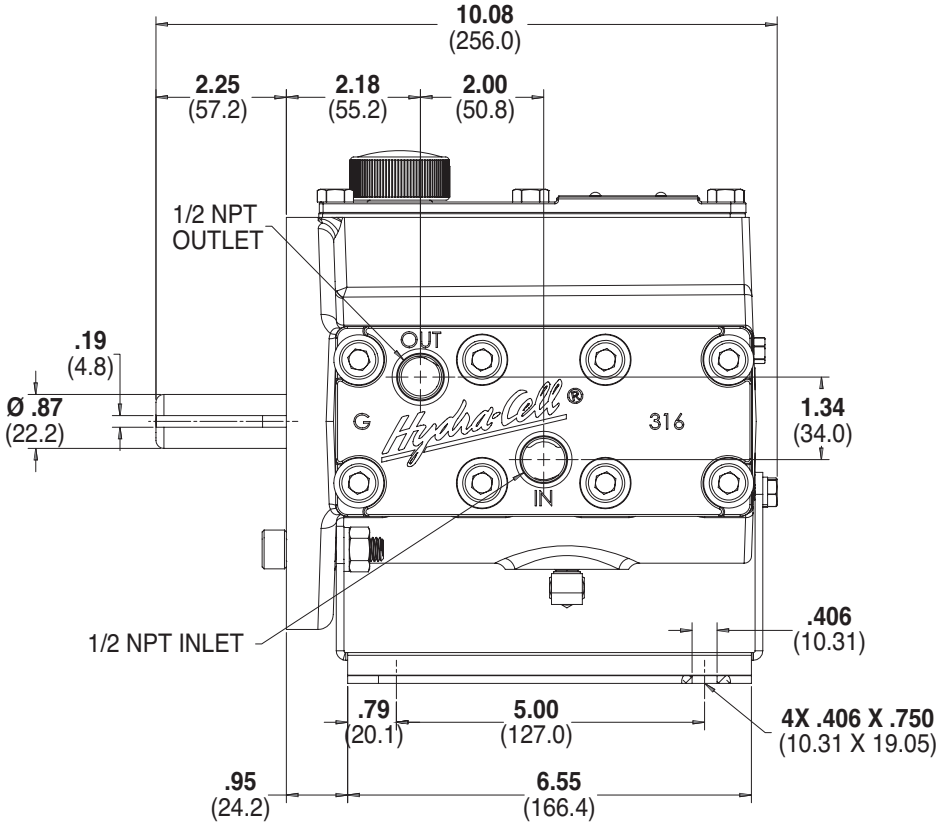
When using a variable frequency controller (VFD) calculate the hp or kW at minimum and maximum pump speed to ensure the correct hp or kW motor is selected. Note that motor manufacturers typically de-rate the service factor to 1.0 when operating with a VFD.

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 Series Representative Drawings

D04 Models with Metallic Pump Head Inches (mm)





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

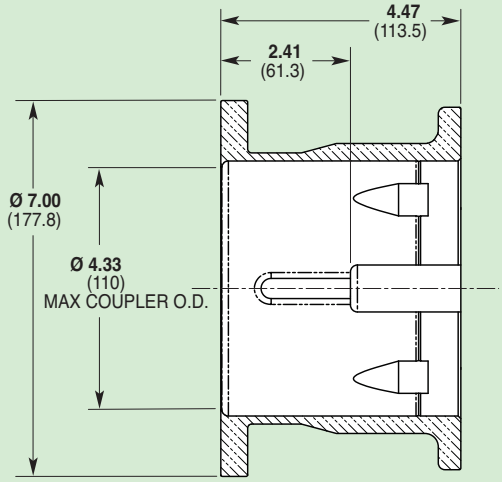
D04 Series Adapters/Valves

Pump/Motor Adapter Inches (mm)

Part Number: A04-001-1202

Must be ordered separately for D04 models for use with 56C, 143TC and 145TC frame motors.

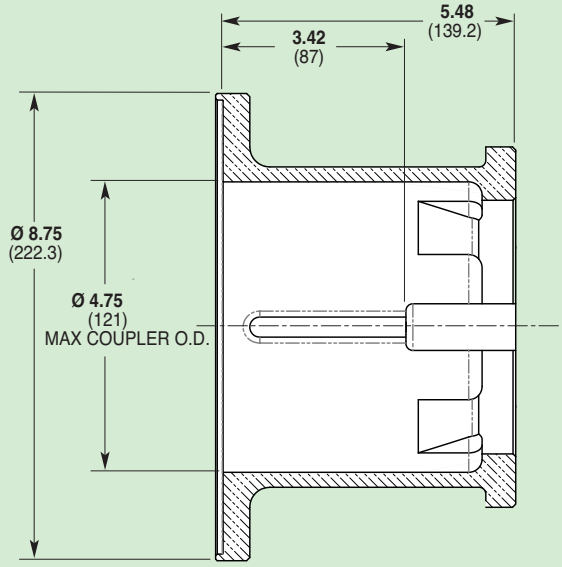
Metric adapter available - consult factory.



Part Number: A04-002-1202

Must be ordered separately for D04 models for use with 182TC, 184TC, 213TC and 215TC 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

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

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

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