Hydra-Cell® Seal-less Pumps

Versatile, Reliable Pumps for a Wide Range of Applications

G04 Series

- Pumps the full spectrum of low-to-high viscosity fluids.
- Features a seal-less design and horizontal disk check valves that enable the pump to handle abrasives and particulates that might damage or destroy other types of pumps.
- Simple, compact design reduces initial investment and lowers maintenance costs.
- Operational efficiencies reduce energy costs.
- Tolerates non-ideal operating conditions.
- Minimizes maintenance and downtime because there are no mechanical or dynamic seals, packing, or cups to leak, wear, or replace.

Wanner Engineering, Inc.

G04 Series

Maximum Flow Rate: 2.9 gpm (11.2 l/min)
Maximum Pressure: 2500 psi (172 bar) for Metallic Pump Heads

G04 shaft-driven with 316L Stainless Steel pump head.

G04 shaft-driven with Brass pump head.

G04 Series Performance

Capacities

Flow

Model	Max. Input rpm	Max. Flow @ 2500 psi (172 bar) gpm	l/min
G04-X	1750	2.9	11.2
G04-E	1750	2.0	7.7
G04-S	1750	1.6	6.2

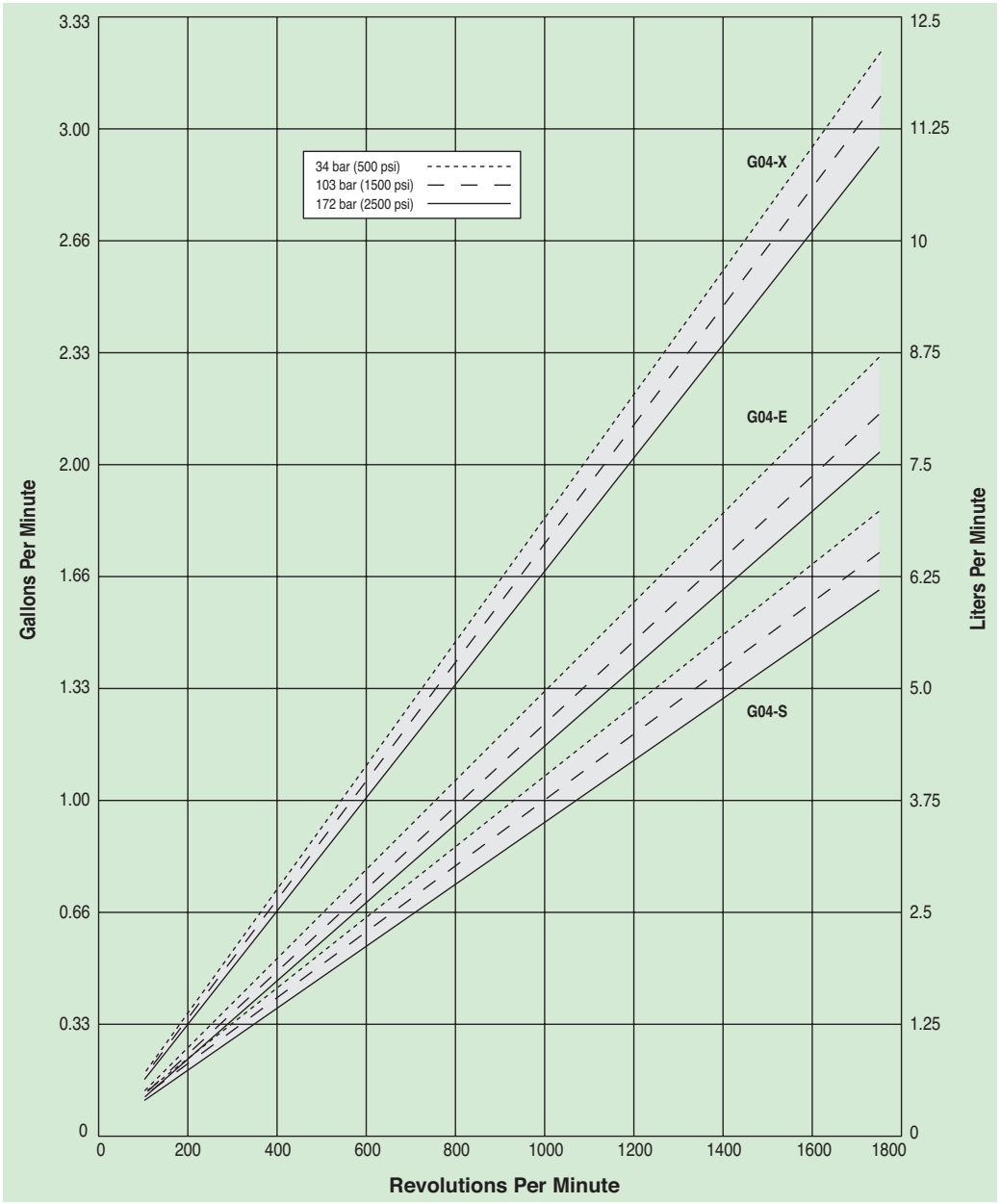
Pressure

Maximum Inlet Pressure
500 psi (34 bar)

Maximum Discharge Pressure
2500 psi (172 bar)

Performance and specification ratings apply to G04 configurations unless specifically noted otherwise.

Maximum Flow at Designated Pressure



G04 Series Specifications

Flow Capacities @ 172 bar (2500 psi) 4-pole Motor @ 50 Hz			
Model	**rpm**	**gpm**	**l/min**
G04-X	1450	2.40	9.1
G04-E	1450	1.74	6.6
G04-S	1450	1.35	5.1

Flow Capacities @ 172 bar (2500 psi) 6-pole Motor @ 50 Hz			
Model	**rpm**	**gpm**	**l/min**
G04-X	960	1.58	6.0
G04-E	960	1.16	4.4
G04-S	960	0.87	3.3

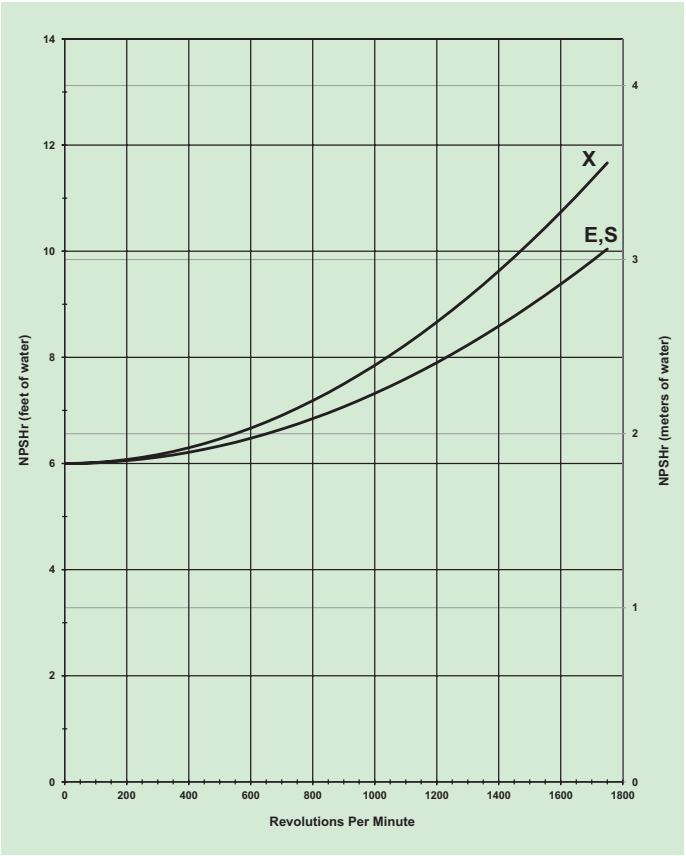
Delivery

Model	**gal/rev @34 bar (500 psi)**	**@103 bar (1500 psi)**	**@172 bar (2500 psi)**
G04-X	0.0019	0.0018	0.0017
G04-E	0.0013	0.0012	0.0012
G04-S	0.0011	0.0010	0.0009

Model	**liters/rev @34 bar (500 psi)**	**@103 bar (1500 psi)**	**@172 bar (2500 psi)**
G04-X	0.0070	0.0067	0.0064
G04-E	0.0050	0.0047	0.0044
G04-S	0.0041	0.0039	0.0035

Maximum Discharge Pressure	
Metallic Heads:	172 bar (2500 psi)
Maximum Inlet Pressure	34 bar (500 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	200 microns
Inlet Port	1/2 inch BSPT 1/2 inch NPT 600lb ANSI RF flange
Discharge Port	1/2 inch BSPT 1/2 inch NPT 2500lb ANSI RF flange
Shaft Diameter	22.2 mm (7/8 inch)
Shaft Rotation	Reverse (bi-directional)
Bearings	Precision ball bearings
Oil Capacity	1.05 liters (1.1 US quarts)
Weight	16.8 kg (37 lbs.)

Net Positive Suction Head (NPSHr)



Suction Lift:

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

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

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

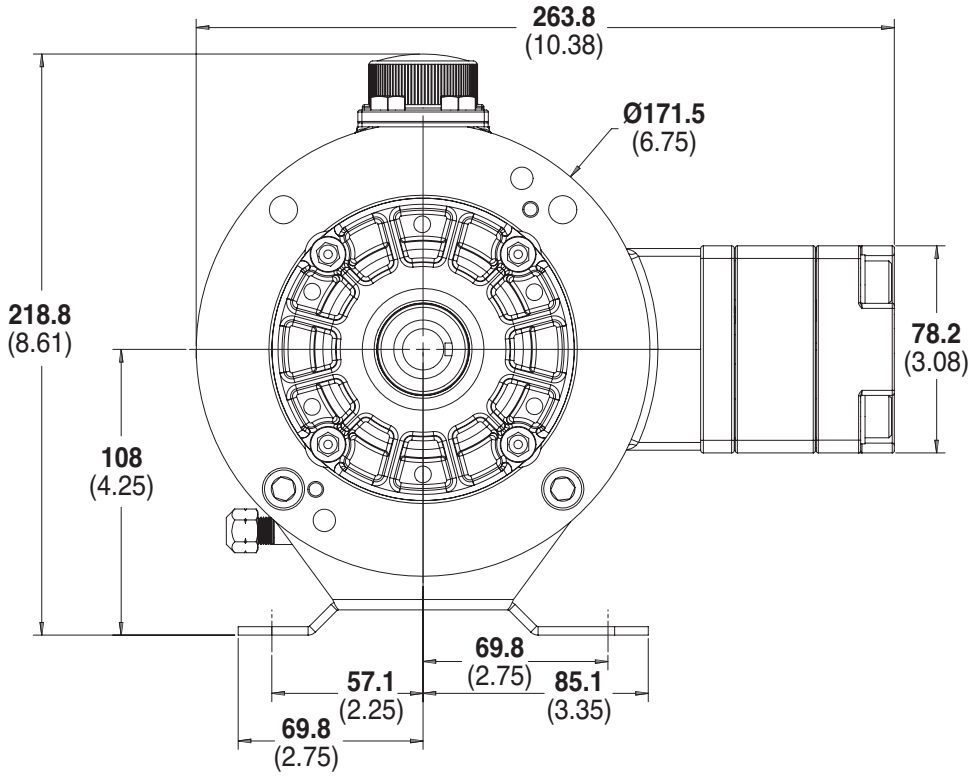
When using a variable frequency drive (VFD) controller calculate the hp or kW at minimum and maximum pump speed to ensure the correct hp or kW motor is selected. Note that motor manufacturers typically de-rate the service factor to 1.0 when operating with a VFD.

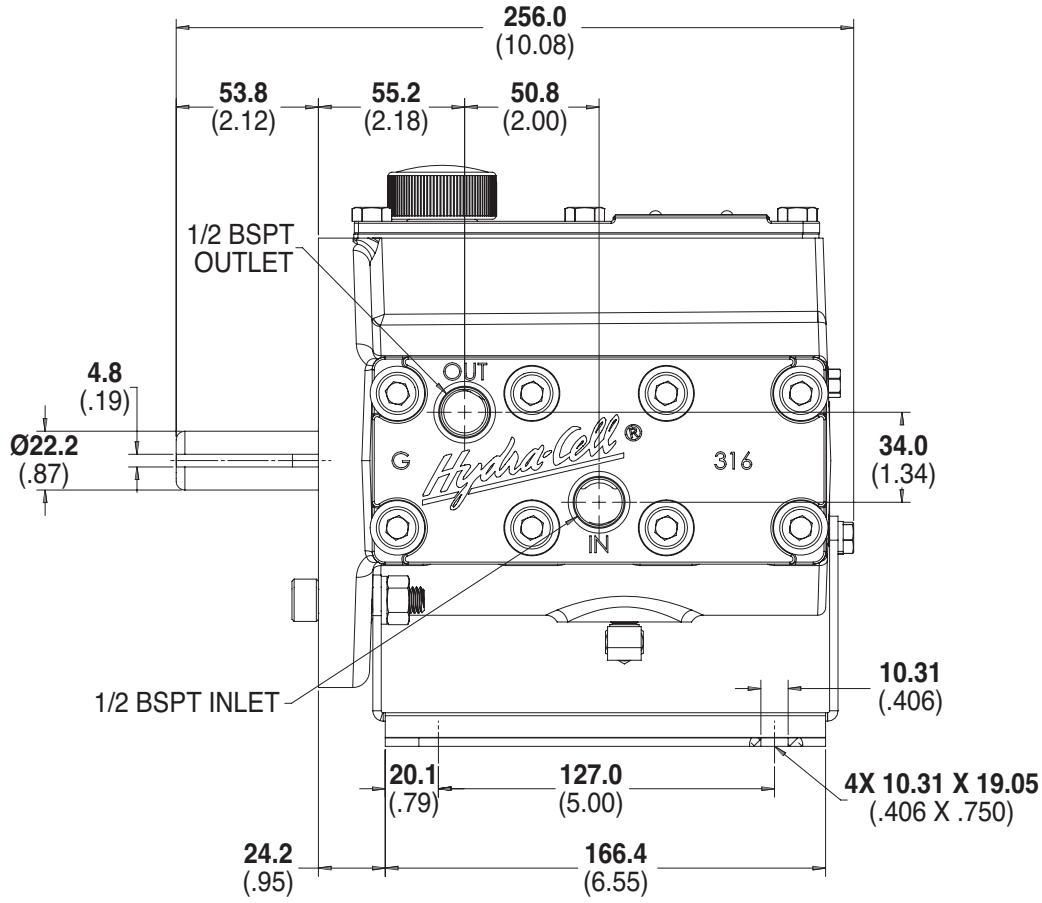
Calculating Pulley Size

$$\frac{\text{motor pulley OD}}{\text{pump rpm}} = \frac{\text{pump pulley OD}}{\text{motor rpm}}$$

G04 Series Representative Drawings

G04 Models with Metallic Pump Head mm (Inches)





Note: *Dimensions are for reference only. Contact factory for certified drawings.*

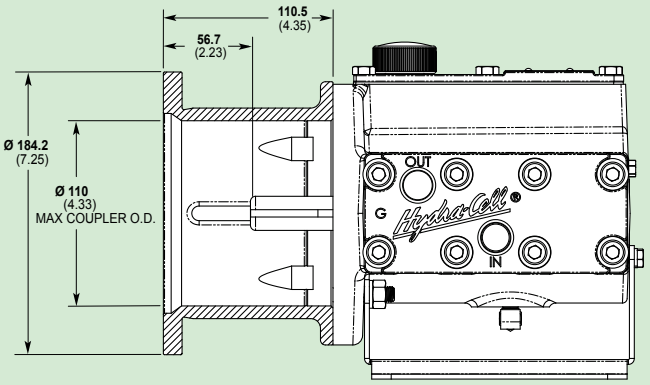
G04 Series Adapters/Valves

Pump/Motor Adapter mm (Inches)

Part Number: A04-003-1202

Must be ordered separately for G04 models for use with IEC 80 - 90 frame motors, B5 flange.

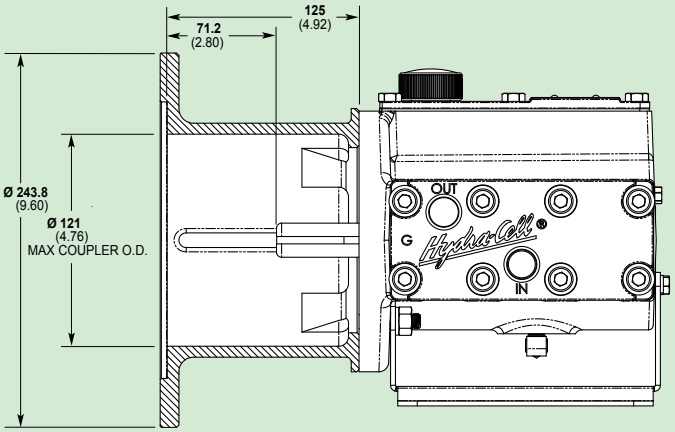
NEMA adapter available - consult factory.



Part Number: A04-004-1202

Must be ordered separately for G04 models for use with IEC 100 - 112 frame motors, B5 flange.

NEMA adapter available - consult factory.



Valve Selection

A seal-less C62 Pressure Regulating Valve is recommended for Hydra-Cell G04 pumping systems, especially for high-pressure requirements or when handling dirty fluids.

For complete specifications and ordering information, consult the Hydra-Cell Master Catalog.

G04 Series How to Order

Ordering Information

1	2	3	4	5	6	7	8	9	10	11	12
G	0	4		D							

A complete G04 Series Model Number contains 12 digits including 8 customer-specified design and materials options, for example: G04SDBTHFECG.

Digit	Order Code	Description
1-3		**Pump Configuration**
	G04	Shaft-driven (BSPT Ports)*
		*Pump/motor adapters ordered separately. See previous page.
4		**Hydraulic End Cam**
	X	Max 9.1 l/min (2.4 gpm) @ 1450 rpm
	E	Max 6.6 l/min (1.7 gpm) @ 1450 rpm
	S	Max 5.1 l/min (1.3 gpm) @ 1450 rpm
5		**Pump Head Version**
	D	BSPT 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 50
	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

Consult the Hydra-Cell Master Catalog for:

- Motors, bases, couplings and other pump accessories
- Hydra-Oil selection and specification information
- Design considerations, installation guidelines, and other technical assistance in pump selection

Hydra-Cell®
Seal-less Pumps

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