

Hydra-Cell[®]

Seal-less Pumps

Versatile, Reliable Pumps for a Wide Range of Applications



G03 Mono-Block 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.
- Able to run dry without damage (or additional maintenance) to the pump in case of accident or operator error.
- 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.

G03 Mono-Block Series

Maximum Flow Rate: 3.1 gpm (11.7 l/min)

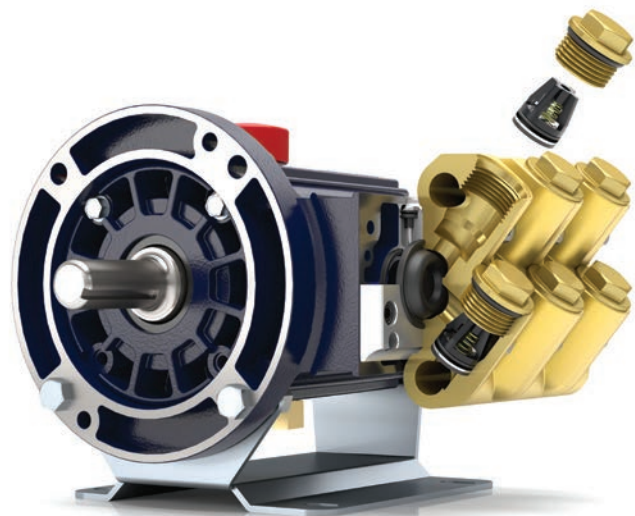
Maximum Pressure: 1000 psi (69 bar) for Metallic Pump Heads



G13 Mono-Block close-coupled (hollow shaft) with 316L Stainless Steel pump head.



G03 Mono-Block external shaft-driven with Brass pump head.



The Mono-Block pump head combines the valve plate and manifold into one component for servicing without disassembly or removal of plumbing.

G03 Mono-Block Series Performance

Capacities

Flow

Model	Max. Input rpm	Max. Flow @ 1000 psi (69 bar)	
		gpm	l/min
G03-X	1750	3.1	11.7
G03-E	1750	2.2	8.3

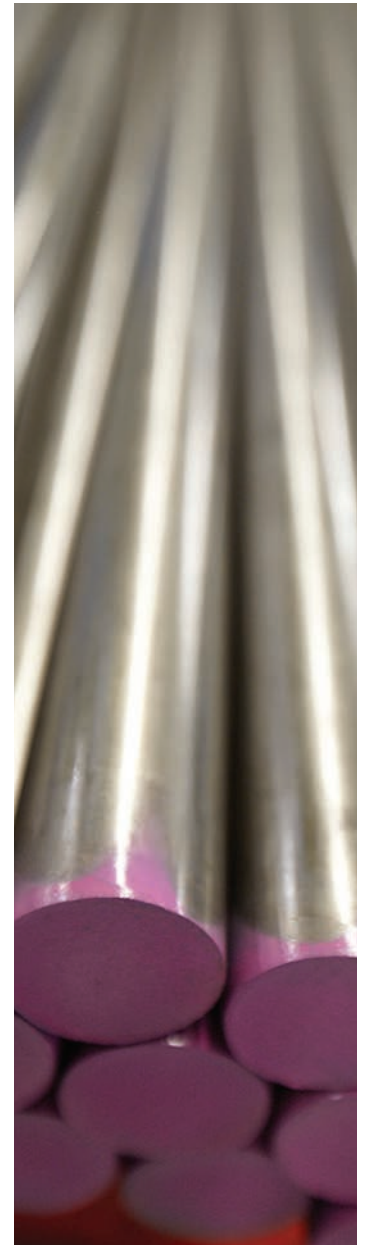
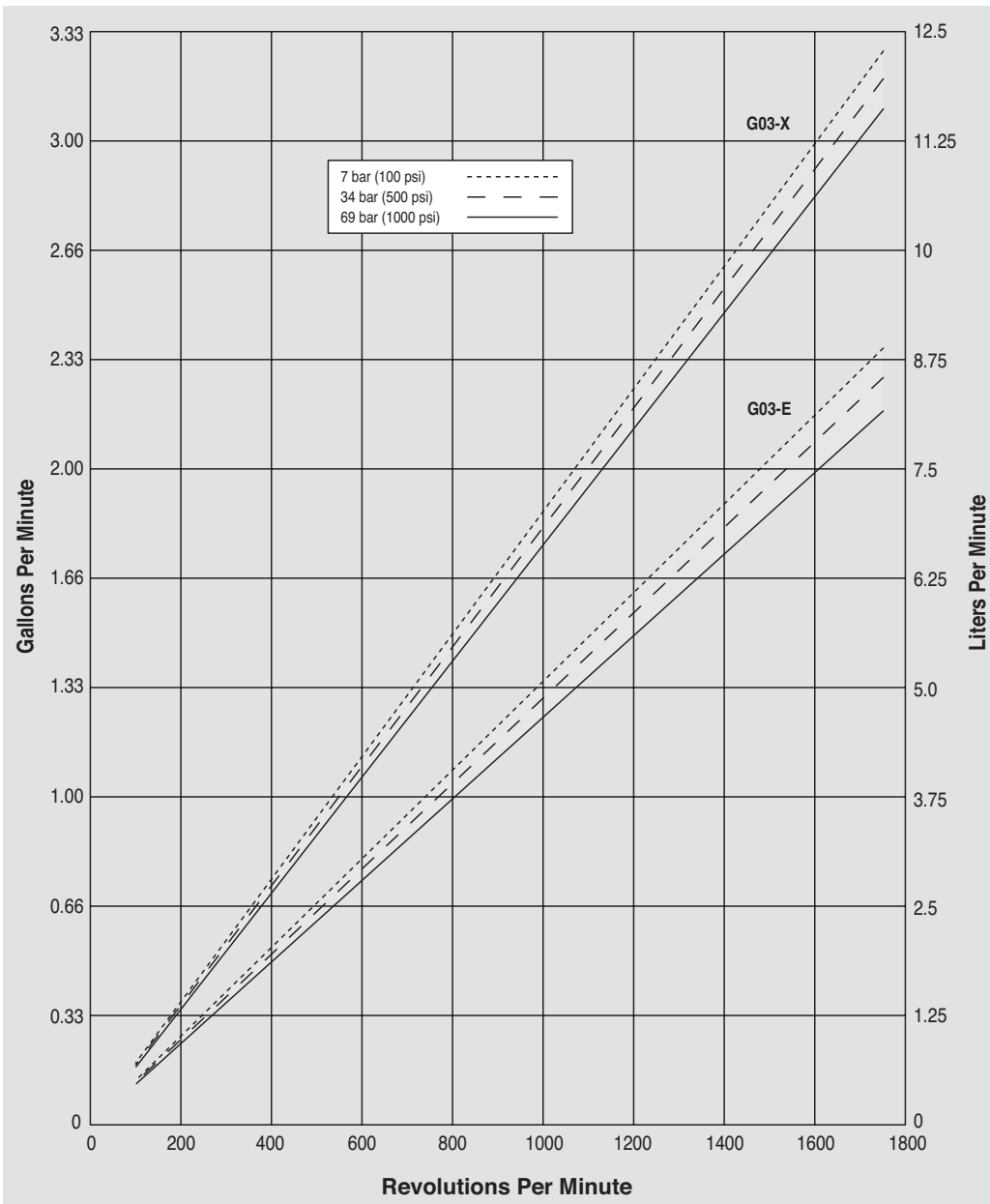
Pressure

Maximum Inlet Pressure
250 psi (17 bar)

Maximum Discharge Pressure
1000 psi (69 bar)

Performance and specification ratings apply to G03 Mono-Block configurations unless specifically noted otherwise.

Maximum Flow at Designated Pressure



G03 Mono-Block Series Specifications

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

Model	rpm	gpm	l/min
G03-X	1450	2.45	9.3
G03-E	1450	1.80	6.8

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

Model	rpm	gpm	l/min
G03-X	960	1.64	6.2
G03-E	960	1.18	4.5

Delivery @ 69 bar (1000 psi)

Model	gal/rev	liters/rev
G03-X	0.0018	0.0067
G03-E	0.0013	0.0047

Maximum Discharge Pressure

Metallic Heads: G03-X, E to 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 200 microns

Inlet Port 1/2 inch BSPT 1/2 inch NPT

Discharge Port 1/2 inch BSPT 1/2 inch NPT

Shaft Diameter G03: 22.2 mm (7/8 inch) G13: 24 mm hollow shaft

Shaft Rotation Reverse (bi-directional)

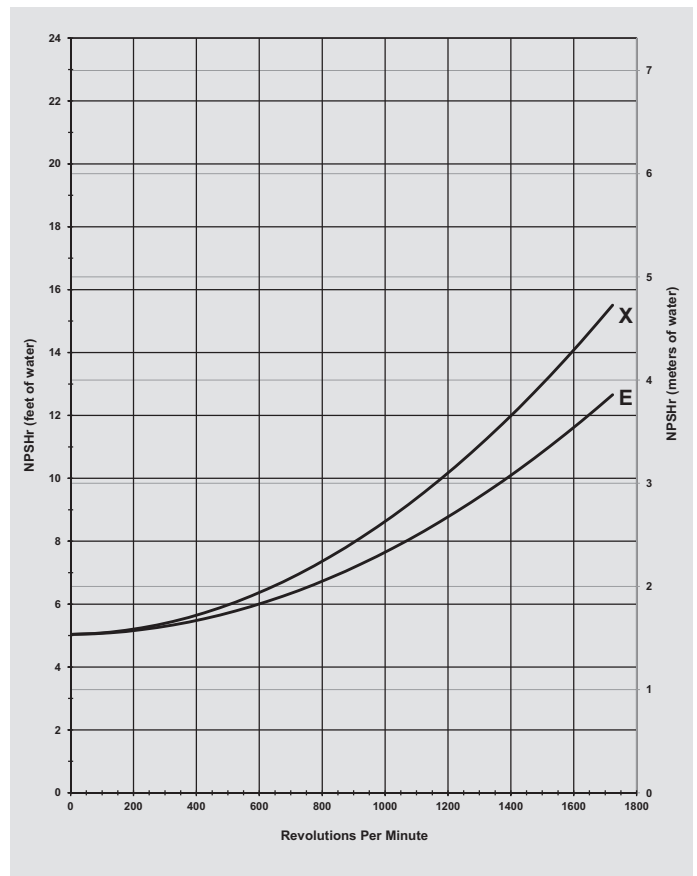
Bearings Precision ball bearings

Oil Capacity 0.95 liters (1.0 US quart)

Weight

Metallic Heads: 12.7 kg (28 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

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

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

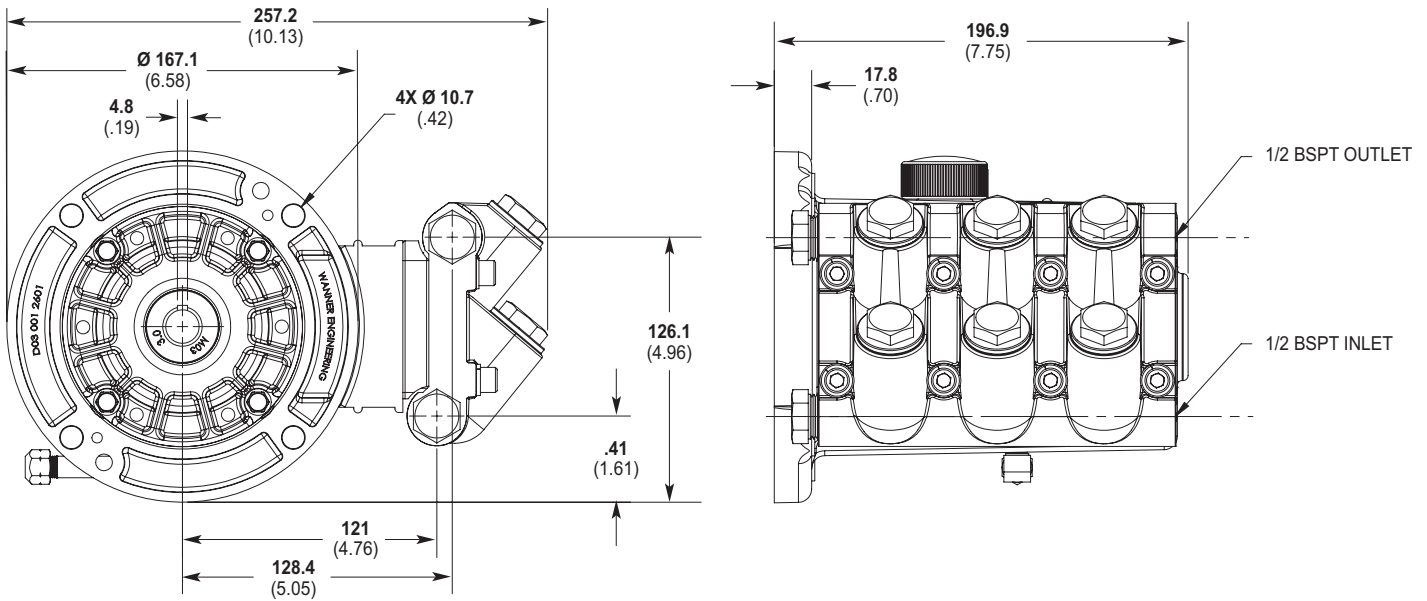
When using a variable frequency drive (VFD) controller calculate the hp or kW at minimum and maximum pump speed to ensure the correct hp or kW motor is selected. Note that motor manufacturers typically de-rate the service factor to 1.0 when operating with a VFD.

Calculating Pulley Size

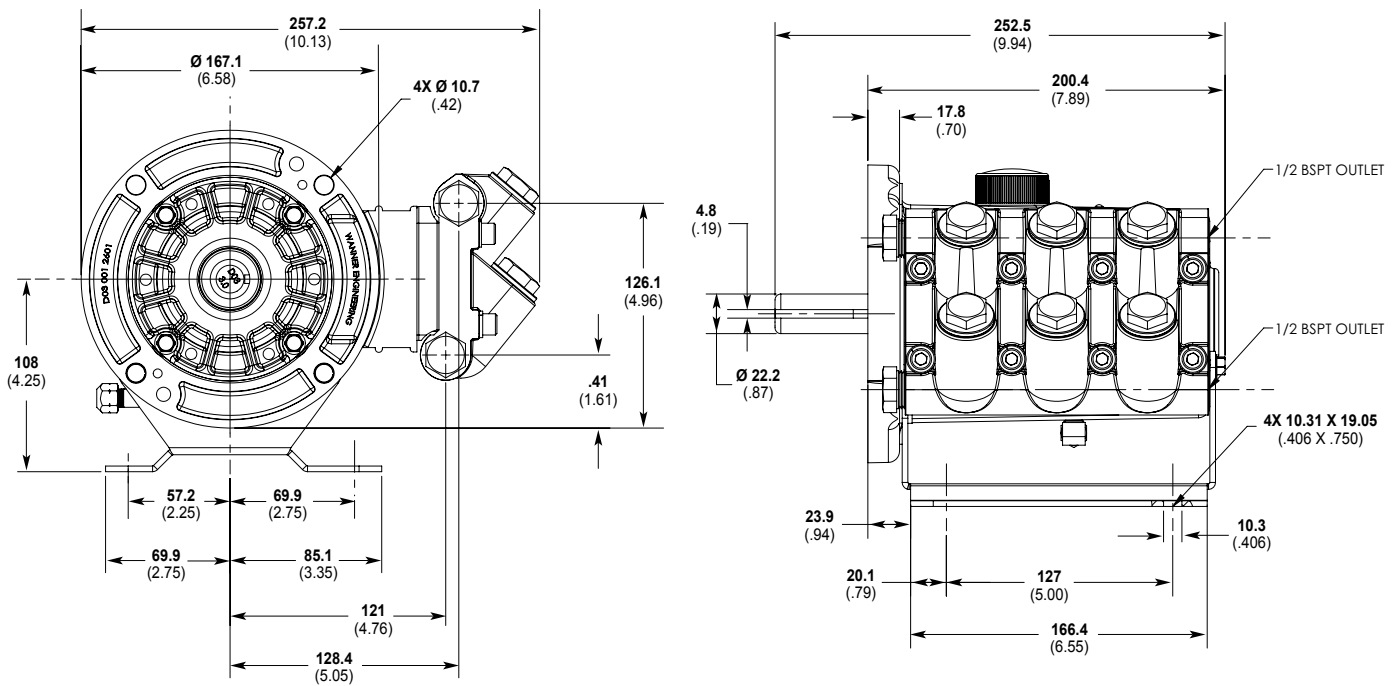
$$\frac{\text{motor pulley OD}}{\text{pump rpm}} = \frac{\text{pump pulley OD}}{\text{motor rpm}}$$

G03 Mono-Block Series Representative Drawings

G13 Models with Metallic Pump Head mm (Inches)



G03 Models with Metallic Pump Head Inches (mm)



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

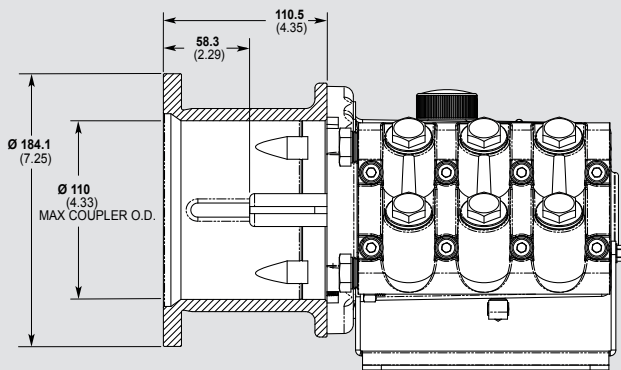
G03 Mono-Block Series Adapters/Valves

Pump/Motor Adapter mm (Inches)

Part Number: A04-003-I202

Must be ordered separately for G03 Mono-Block models for use with IEC 80 - 90 frame motors, B5 flange.

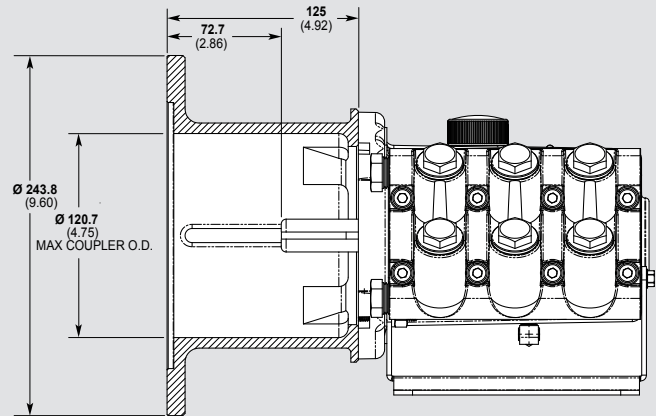
NEMA adapter available - consult factory.



Part Number: A04-004-I202

Must be ordered separately for G03 Mono-Block models for use with IEC 100 - 112 frame motors, B5 flange.

NEMA adapter available - consult factory.



Valve Selection

A Hydra-Cell G03 Mono-Block Series pumping system uses a C46 Pressure Regulating Valve.



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

G03 Mono-Block Series How to Order

Ordering Information



A complete G03 Mono-Block Series Model Number contains 12 digits including 9 customer-specified design and materials options, for example: G03EMBPSFEPG.

Digit	Order Code	Description
1-3		Pump Configuration
	G03	Shaft-driven (BSPT Ports)*
	G13	Close-coupled to IEC 90 footed motor (BSPT Ports)
		*Pump/motor adapters ordered separately. See previous page.
4		Hydraulic End Cam
	X	Max 9.9 l/min (2.6 gpm) @ 1450 rpm
	E	Max 6.8 l/min (1.8 gpm) @ 1450 rpm
5		Pump Head Version
	M	Mono-Block, Kel-Cell BSPT Ports
6		Pump Head Material
	B	Brass
	S	316L Stainless Steel
7		Diaphragm & O-ring Material
	E	EPDM (requires EPDM-compatible oil - Digit 12 oil code J)
	G	FKM
	P	Neoprene
	T	Buna-N
8		Valve Seat Material
	H	17-4 Stainless Steel
	S	316L Stainless Steel
9		Valve Material
	F	17-4 Stainless Steel
	N	Nitronic 50
10		Valve Springs
	E	Elgiloy
	S	316L Stainless Steel
11		Valve Spring Retainers
	M	PVDF
	P	Polypropylene
12		Hydra-Oil
	A	10W30 standard-duty 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

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