

G20 Series

Maximum Flow Rate: 3.8 l/min (1.0 gpm)

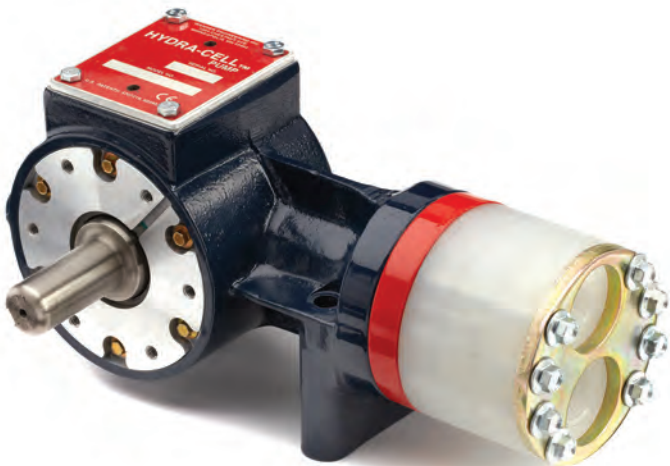
Maximum Pressure: 103 bar (1500 psi) for Metallic Pump Heads
24 bar (350 psi) for Non-metallic Pump Heads



WANNER
Hydra-Cell[®]
Seal-less Pump Technology



G20 Close-coupled with Brass pump head



G21 Shaft-driven with Polypropylene pump head



G22 Flexible-coupled with Stainless Steel pump head

G20 Series Performance

Capacities

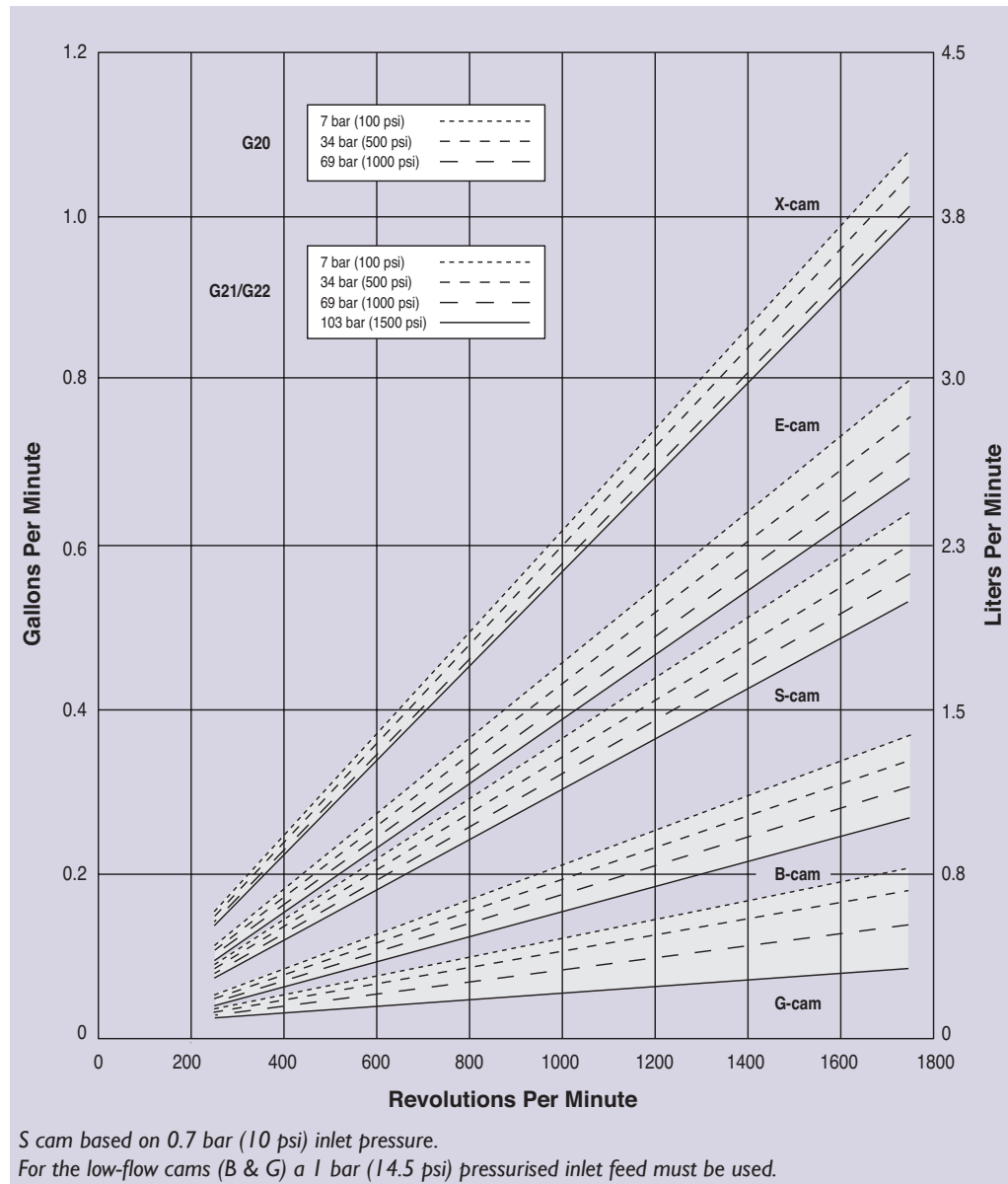
Flow				Pressure	
Model	Max. Input rpm	Max. Flow @ 69 bar (1000 psi)		Maximum Inlet Pressure	
		gpm	l/min	17 bar (250 psi)	
G20-X	1750	1.01	3.82	Maximum Discharge Pressure Metallic Pump Heads: G20 to 103 bar (1500 psi) G21 to 103 bar (1500 psi) G22 to 103 bar (1500 psi) Non-metallic Pump Heads: 17 bar (250 psi) Polypropylene 24 bar (350 psi) PVDF	
G20-E	1750	0.71	2.69		
G20-S	1750	0.56	2.12		
G20-B	1750	0.31	1.17		
G20-G	1750	0.20	0.76		

Performance and specification ratings apply to G20, G21 and G22 configurations unless specifically noted otherwise.

Metering & Dosing

API 675 Performance Characteristics of Steady State Accuracy $\pm 1\%$, Linearity $\pm 3\%$ and Repeatability $\pm 3\%$ can be achieved at speeds up to 1050 rpm and pressures up to 24 bar (non-metallic pump heads) or up to 103 bar (metallic pump heads) for X-cam pumps only.

Maximum Flow at Designated Pressure



G20 Series Specifications

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

Model	rpm	gpm	l/min
G20-X	1450	0.83	3.14
G20-E	1450	0.60	2.29
G20-S	1450	0.45	1.72
G20-B	1450	0.27	1.03
G20-G	1450	0.16	0.63

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

Model	rpm	gpm	l/min
G20-X	960	0.55	2.08
G20-E	960	0.40	1.51
G20-S	960	0.30	1.14
G20-B	960	0.18	0.68
G20-G	960	0.10	0.41

Delivery @ 69 bar (1000 psi)

Model	gal/rev	liters/rev
G20-X	0.0006	0.0022
G20-E	0.0004	0.0015
G20-S	0.0003	0.0012
G20-B	0.0002	0.0007
G20-G	0.0001	0.0004

Maximum Discharge Pressure

Metallic Heads:	G20 to 103 bar (1500 psi)
	G21 to 103 bar (1500 psi)
	G22 to 103 bar (1500 psi)
Non-metallic Heads:	17 bar (250 psi) Polypropylene
	24 bar (350 psi) PVDF

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).
Non-metallic Heads:	60 °C (140 °F)

Maximum Solids Size 200 microns

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

Discharge Port	3/8 inch BSPT
	3/8 inch NPT

Shaft Diameter	G20: 19 mm (3/4 inch) hollow shaft
	G21 & G22: 19 mm (3/4 inch)

Shaft Rotation	Reverse (bi-directional)
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Bearings	Precision ball bearings
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Oil Capacity	0.12 litres (0.125 US quart)
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Weight

Metallic Heads:	5.5 kg (12 lbs.)
Non-metallic Heads:	4.1 kg (9 lbs.)

Calculating Required Power

$$\frac{\text{rpm} + 1000}{7000} + \frac{\text{gpm} \times \text{psi}}{1,460} = \text{electric motor hp}$$

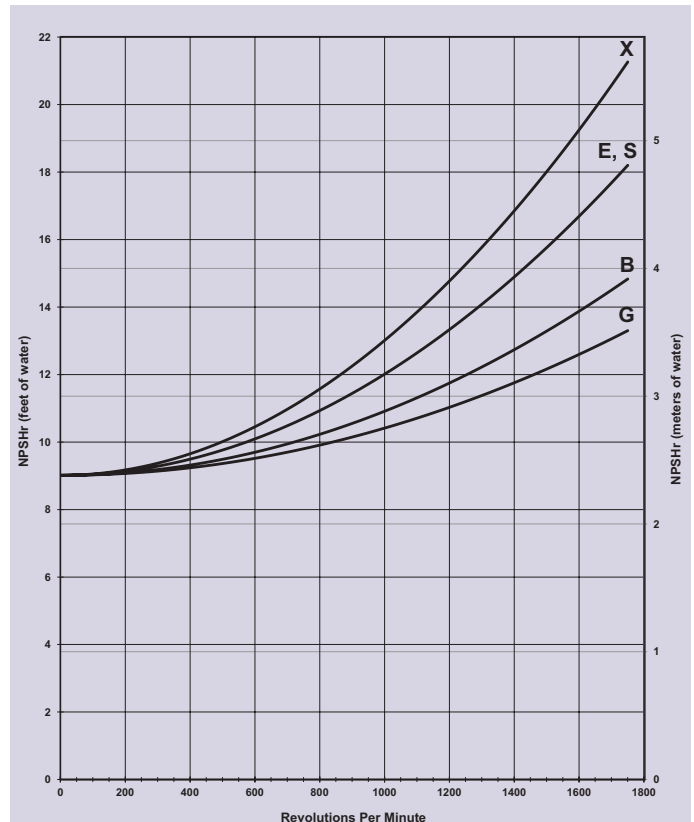
$$\frac{\text{rpm} + 1000}{9383} + \frac{\text{l/min} \times \text{bar}}{511} = \text{electric motor kW}$$

Calculating Pulley Size

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

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.

Net Positive Suction Head (NPSHr)



Positive inlet pressure required for:

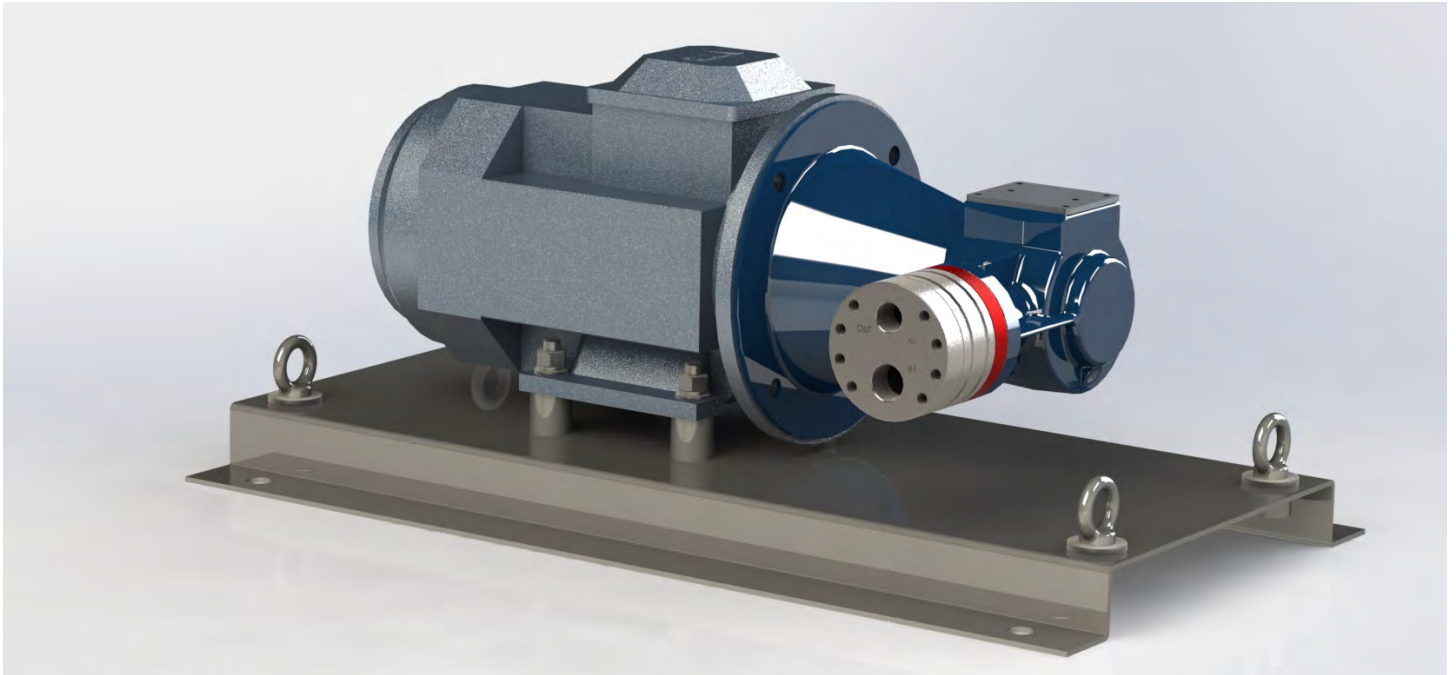
- A) All pumps with PTFE diaphragms
- B) Pumps with B-cam or G-cam (consult factory)

Self-priming:

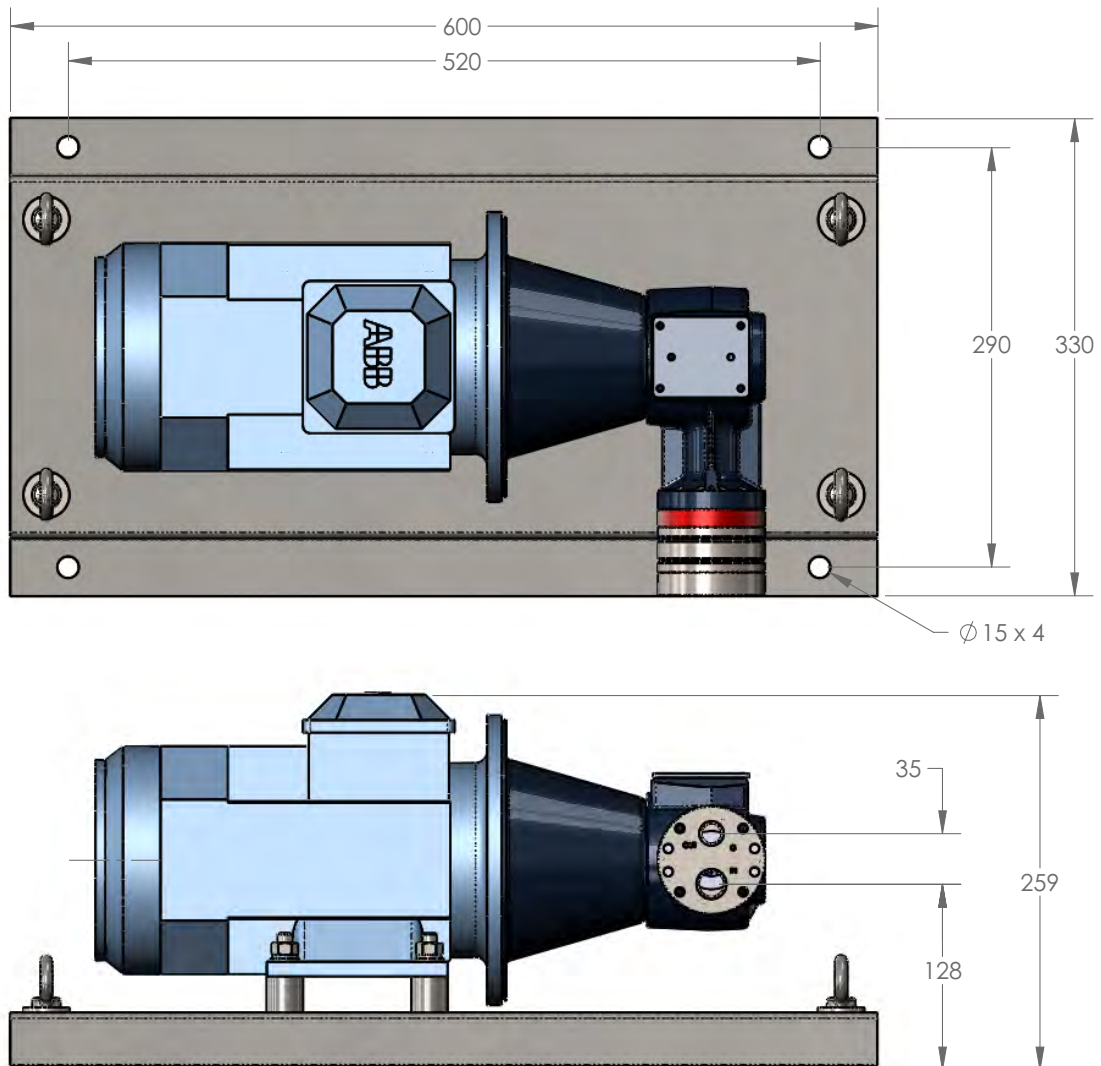
Each Hydra-Cell pump has different lift capability depending on model size, cam angle, speed, and fluid characteristics. To ensure that your specific lift characteristics are met, refer to the inlet calculations regarding friction, and acceleration head losses in your Hydra-Cell Installation & Service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

G20 Series General Assemblies

Baseplate Assembly with Motor Adaptor for IEC 80 Motor Frame

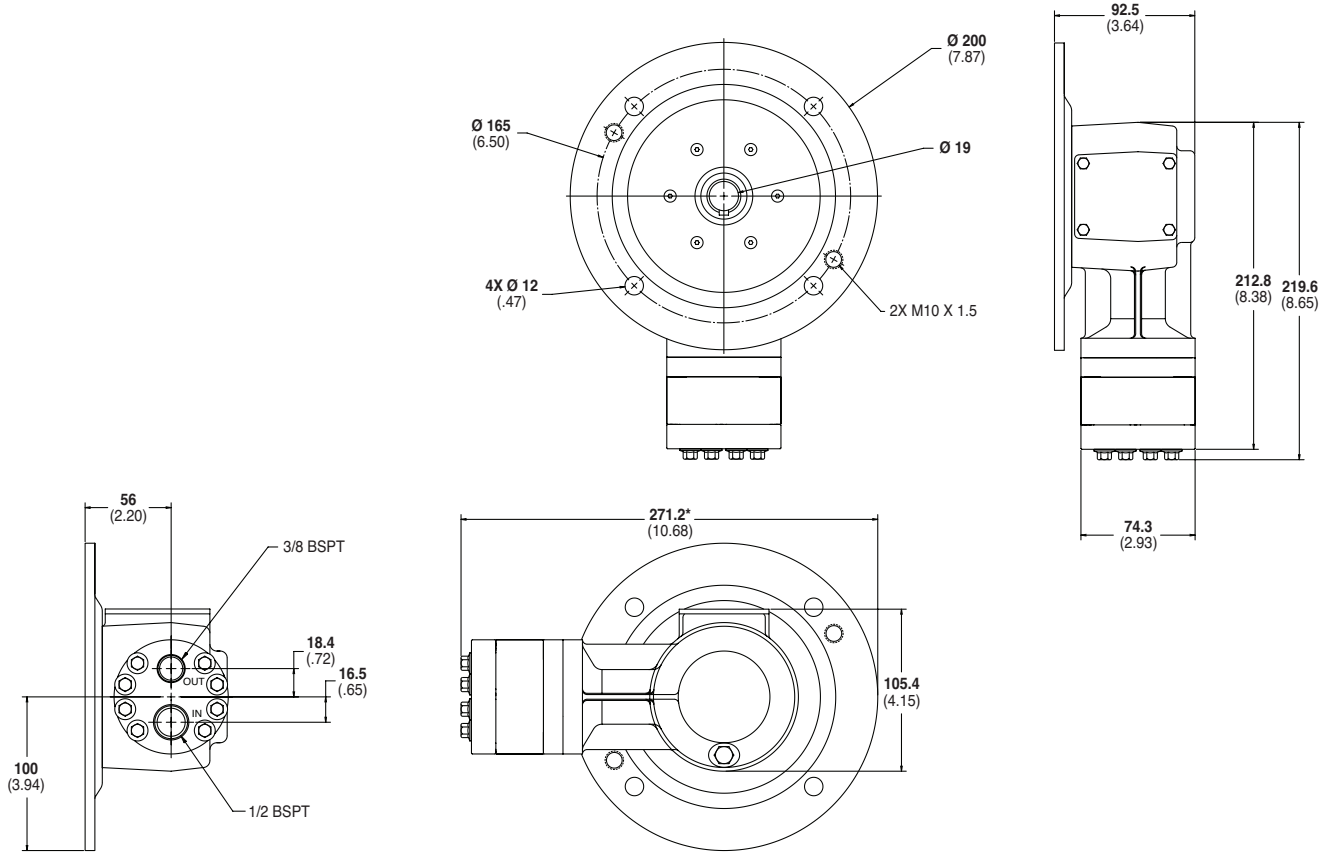


Dimensions in mm

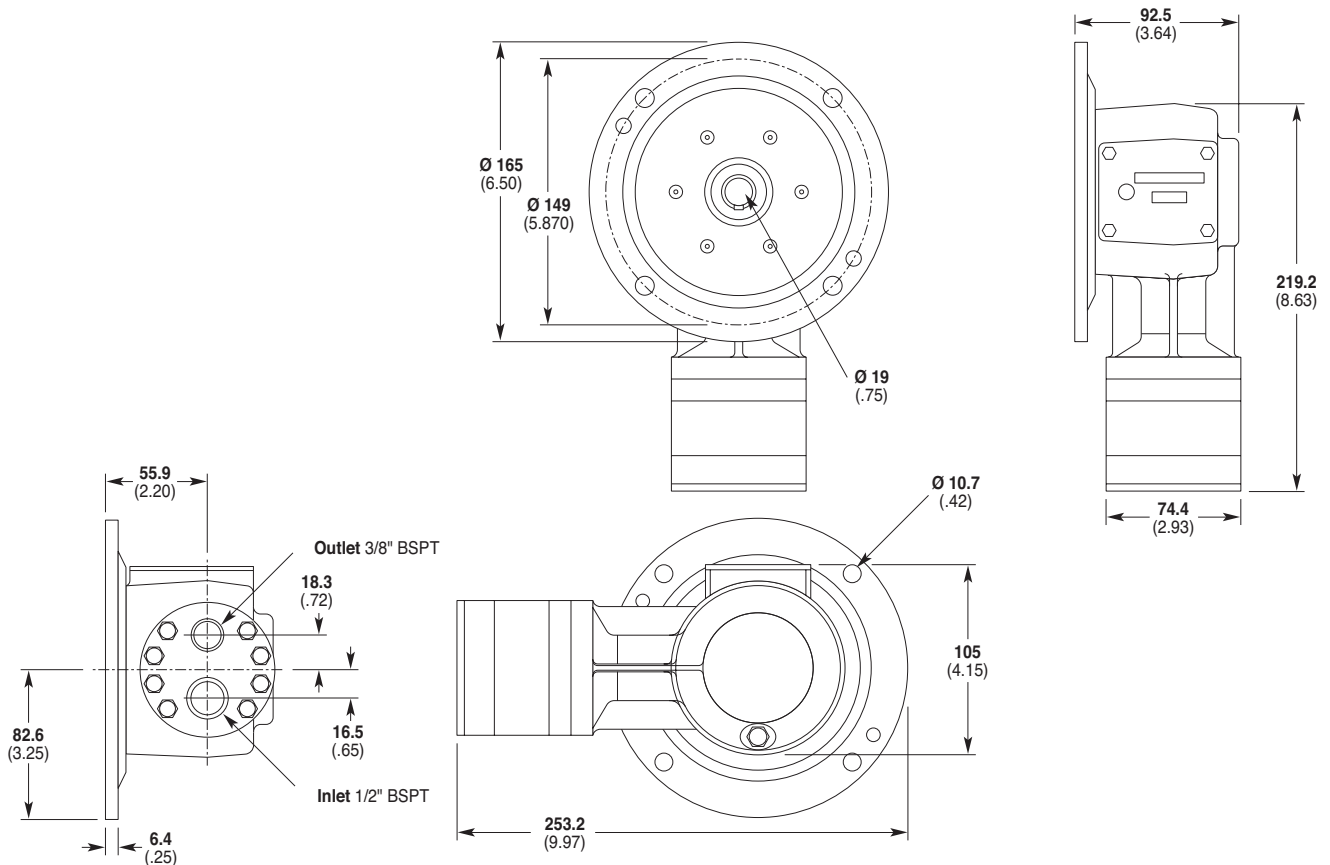


G20 Series Representative Drawings

G20 Models with Metallic Pump Head mm (Inches)



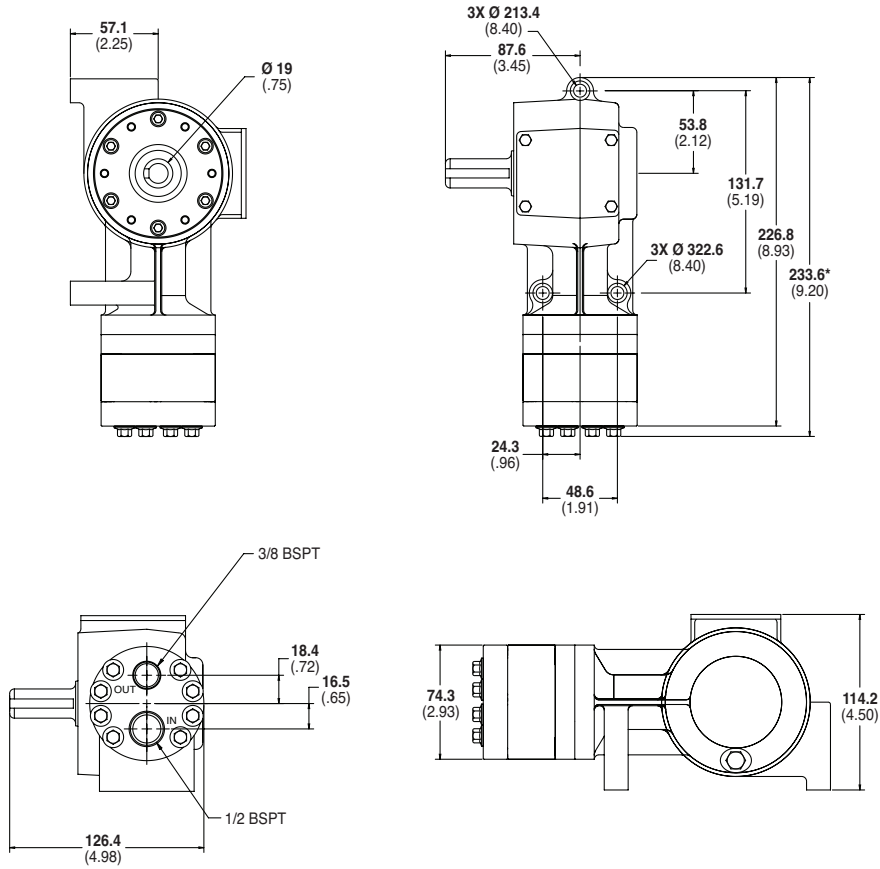
G20 Models with Non-Metallic Pump Head mm (Inches)



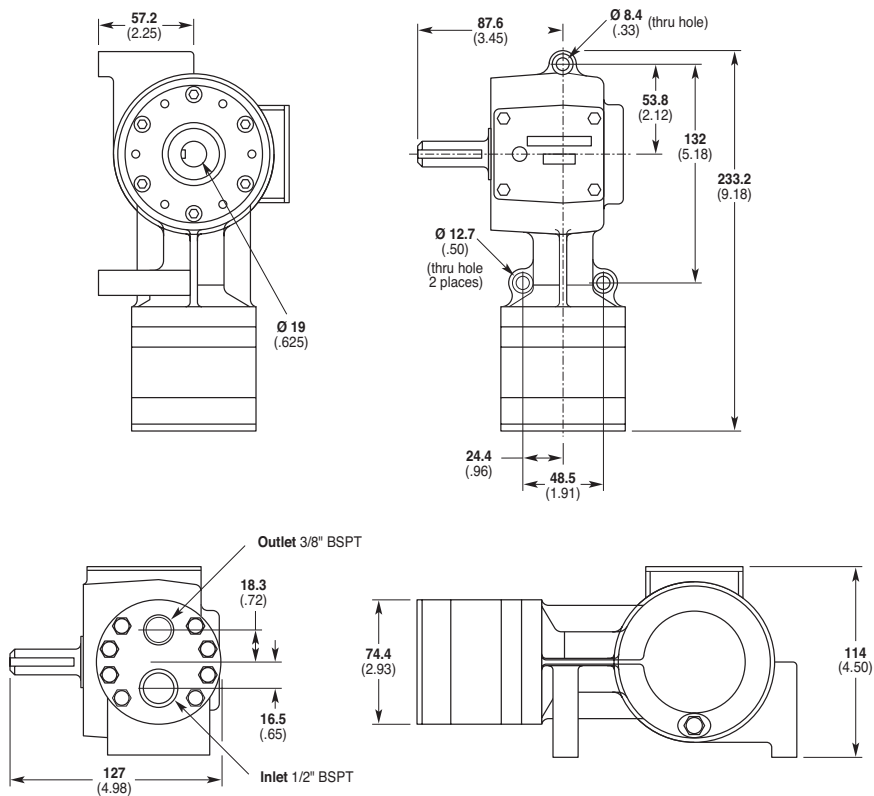
Note: Contact factory for additional drawings of specific models and configurations.

G20 Series Representative Drawings

G2I Models with Metallic Pump Head mm (Inches)



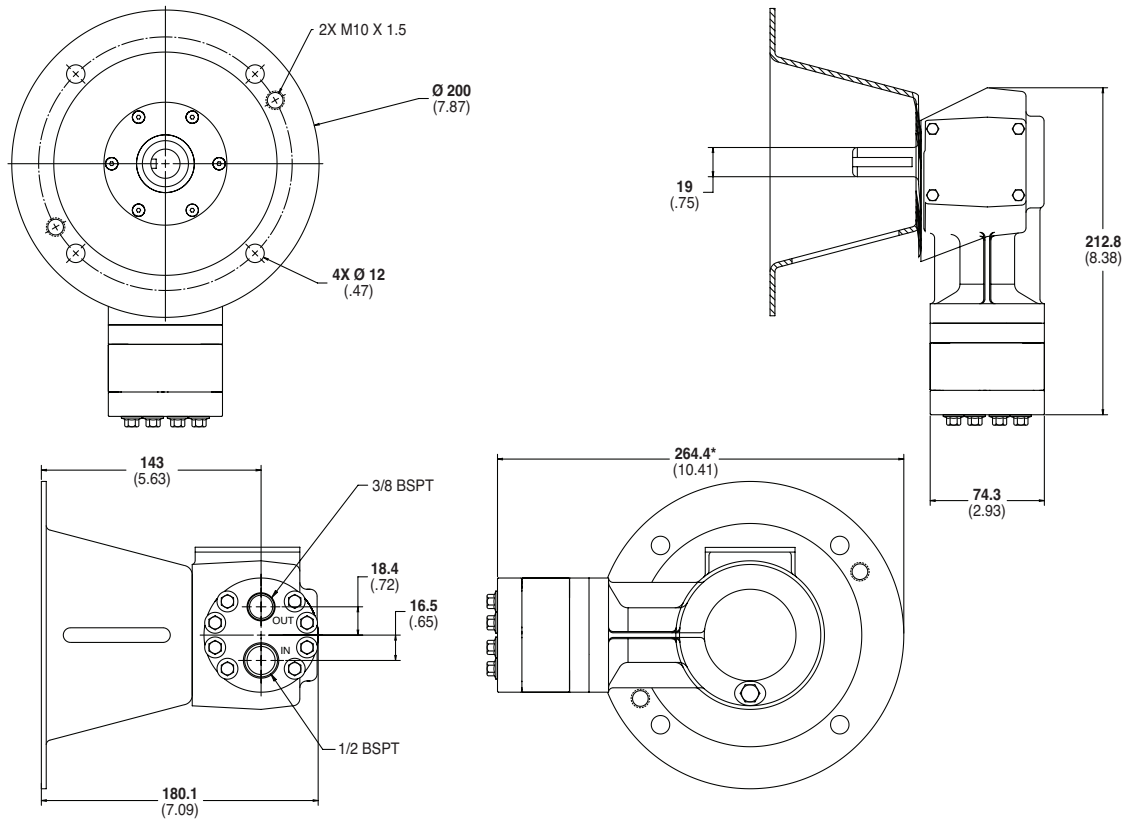
G2I Models with Non-Metallic Pump Head mm (Inches)



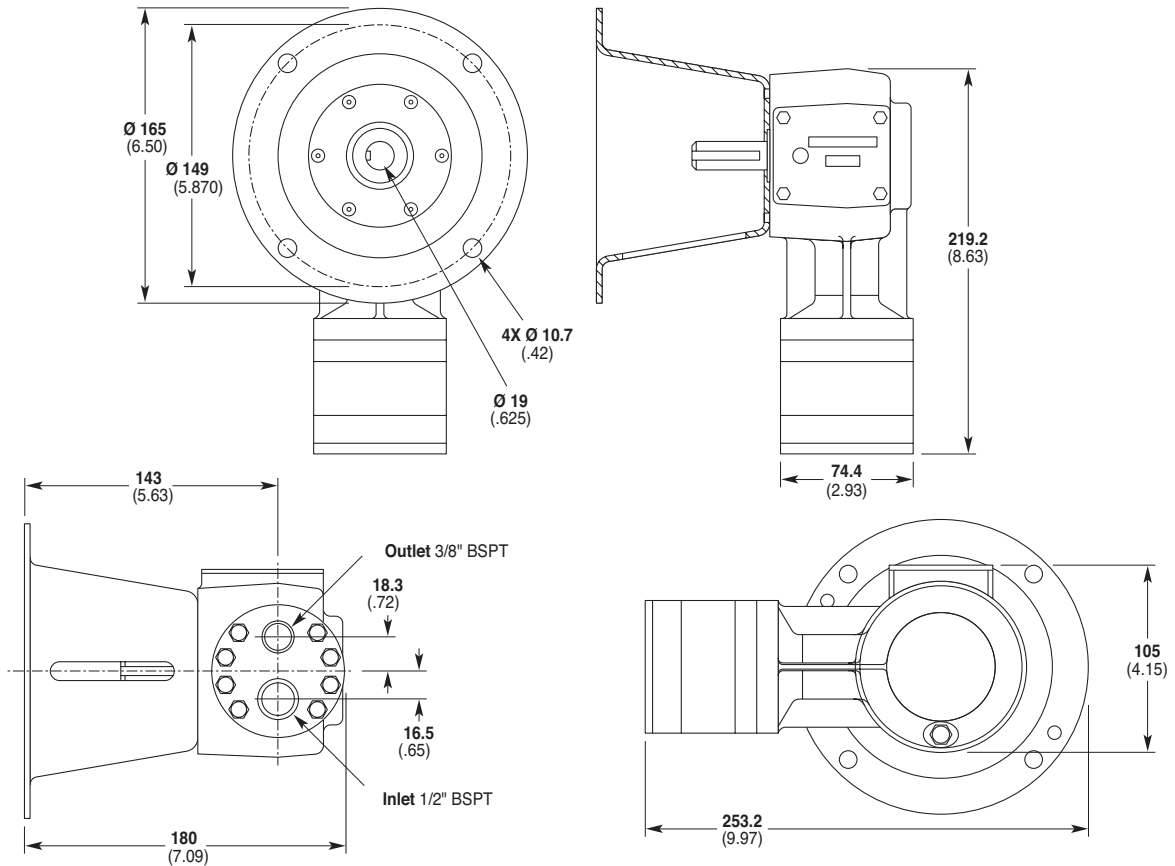
Note: Contact factory for additional drawings of specific models and configurations.

G20 Series Representative Drawings

G22 Models with Metallic Pump Head mm (Inches)



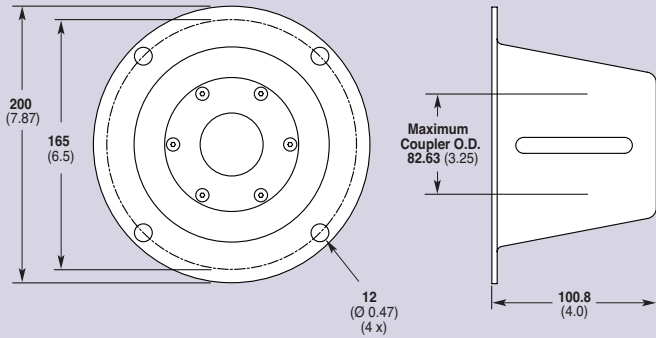
G22 Models with Non-Metallic Pump Head mm (Inches)



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

G20 Series Motor Adaptors / Valves

Pump/Motor Adaptor mm (Inches)



Part Number: A04-006-1200

Must be ordered separately for G22 models (optional for G21 models) for use with **IEC 80 and 90** frame motors, B5 flange.

NEMA adaptor available - consult factory.

Valve Selection

A Hydra-Cell G20, G21 or G22 pumping system uses a C46 Pressure Regulating Valve.



G20 Series How to Order

Ordering Information



A complete G20 Series Model Number contains 12 digits including 9 customer-specified design and materials options, for example: G20GAPGHFECCG.

Digit	Order Code	Description
1-3		Pump Configuration
	G20	Close-coupled to IEC 80 motor (BSPT Ports)
	G21	Shaft-driven (BSPT Ports)*
	G22	For use with pump/motor adaptor (BSPT Ports)* *Pump/motor adaptors ordered separately. See previous page.
4		Hydraulic End Cam
	X	Max 3.1 l/min (0.8 gpm) @ 1450 rpm
	E	Max 2.3 l/min (0.6 gpm) @ 1450 rpm
	S	Max 1.7 l/min (0.4 gpm) @ 1450 rpm
	B	Max 1.0 l/min (0.3 gpm) @ 1450 rpm
	G	Max 0.6 l/min (0.2 gpm) @ 1450 rpm
5		Pump Head Version
	D	BSPT Ports (for all G20, G21 & G22 pumps)
	-	ATEX 2014/34/EU Certified, Category 2, Zone 1, Hazardous Liquids
	-	ATEX 2014/34/EU Certified, Category 2, Zone 1, Non-Hazardous Liquids
	-	ATEX 2014/34/EU Certified, Category 3, Zone 2
		<i>Note: All options include Certificate, Oil Level Monitor or Sight Glass, Earth Stud & Secondary ATEX Label.</i>
6		Pump Head Material
	B	Brass
	M	PVDF
	P	Polypropylene
	S	316L Stainless Steel
	T	Hastelloy C
7		Diaphragm & O-ring Material
	A	Aflas diaphragm / PTFE o-ring
	E	EPDM (requires EPDM-compatible oil - Digit 12 oil code J)
	G	FKM
	J	PTFE (available with X and E cams only)
	P	Neoprene
	T	Buna-N
8		Valve Seat Material
	C	Ceramic
	D	Tungsten Carbide
	H	17-4 Stainless Steel
	S	316L Stainless Steel
	T	Hastelloy C

Digit	Order Code	Description
9		Valve Material
	C	Ceramic
	D	Tungsten Carbide
	F	17-4 Stainless Steel
	N	Nitronic 50
	T	Hastelloy C
10		Valve Springs
	E	Elgiloy
	T	Hastelloy C
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	20-wt EPDM-compatible oil
	K	Food-contact oil





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