

M03 PRO SERIES MONO-BLOCK

Maximum Flow Rate: 3.1 gpm (11.7 l/min)
Maximum Pressure: 1000 psi (69 bar) for Metallic Pump Head

WANNER™ HYDRA-CELL® PRO
SEAL-LESS PUMP TECHNOLOGIES



UK
CA CE

*M03 Mono-Block close-coupled
(hollow shaft) with Brass pump head.*

A higher standard of pump performance and efficiency.

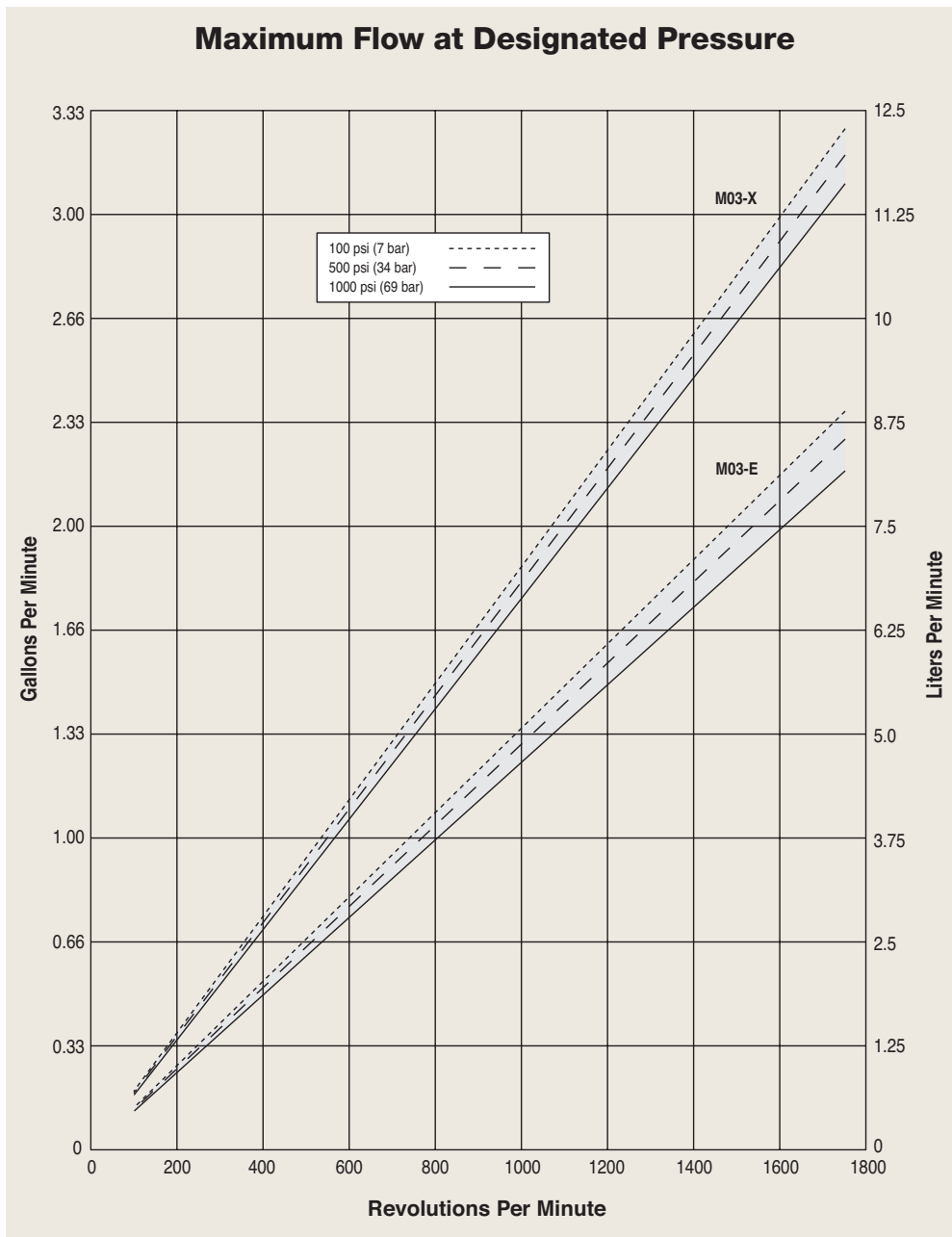
- Seal-less design API 674 pumps that also exceed API 675 standards for accuracy, linearity and repeatability.
- True positive displacement pumping action achieves overall efficiency of >90%, targeting improvements at lower speeds and higher pressures.
- No mechanical dynamic seals, packing, or cups to leak, wear or replace – reduces maintenance, costs and downtime.
- Pumped liquid is 100% contained – prevents degradation, contamination and environmental risks.
- Patented hydraulic oil management system protects diaphragms under closed or restricted inlet conditions.
- Can run dry indefinitely without damage to the pump.
- Reliably handles a wide range of viscosities and shear sensitivities, corrosive liquids, abrasives, slurries and particulates.
- Reduced ownership costs in acquisition, operation, service, maintenance, and energy use.

M03 Pro Series Mono-Block | Performance

Capacities

Model	Max. Input rpm	Max. Flow Capacities @1000 psi (69 bar)		Max. Inlet Pressure		Max. Discharge Pressure Metallic Heads	
		gpm	l/min	psi	bar	psi	bar
M03-X	1750	3.1	11.7	250	17	1000	69
M03-E	1750	2.2	8.3	250	17	1000	69

Performance and specification ratings apply to M03 and D03 Mono-Block configurations unless specifically noted otherwise.



Due to the Wanner Engineering Continuous Improvement Program, specifications and other data are subject to change.

M03 Pro Series Mono-Block | Specifications

Flow Capacities @1000 psi (69 bar)

Model	rpm	gpm	l/min
M03-X	1750	3.10	11.73
M03-E	1750	2.18	8.25

Delivery @1000 psi (69 bar)

Model	gal/rev	liters/rev
M03-X	0.0018	0.0067
M03-E	0.0013	0.0047

Maximum Discharge Pressure

Metallic Heads: 1000 psi (69 bar)

Maximum Inlet Pressure 250 psi (17 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

Discharge Port 1/2 inch NPT

Shaft Diameter

M03: 5/8 inch hollow shaft
D03: 7/8 inch (22.2 mm)

Shaft Rotation Reverse (bi-directional)

Bearings Precision ball bearings

Oil Capacity 1.0 US quart (0.95 liters)

Weight

Metallic Heads: 28 lbs. (12.7 kg)

Calculating Required Power

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

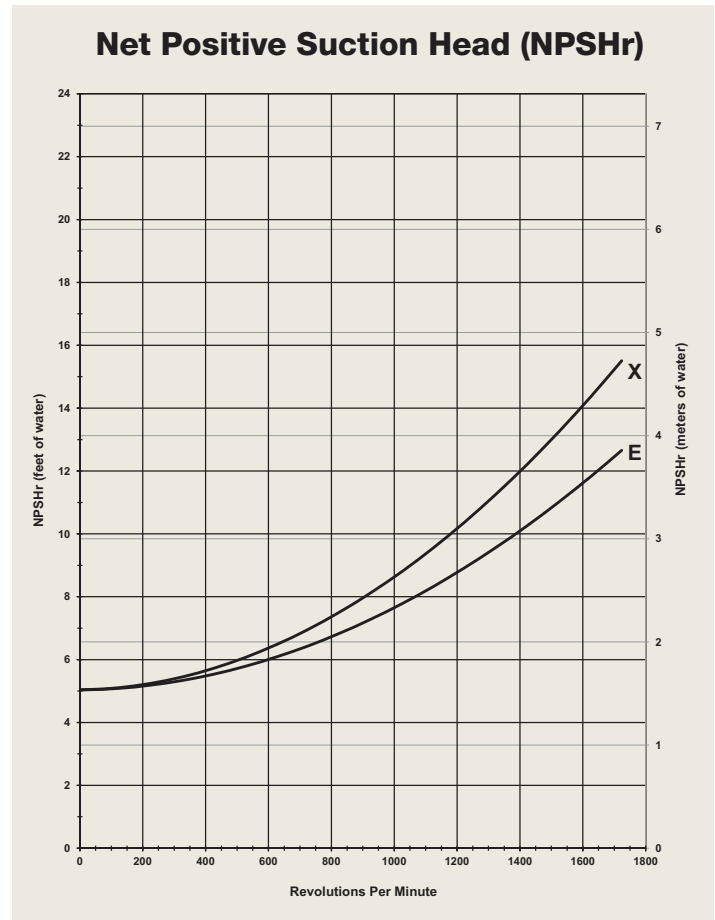
$$\frac{6 \times \text{rpm}}{84,428} + \frac{\text{l/min} \times \text{bar}}{511} = \text{electric motor kW}$$

Attention!

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

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



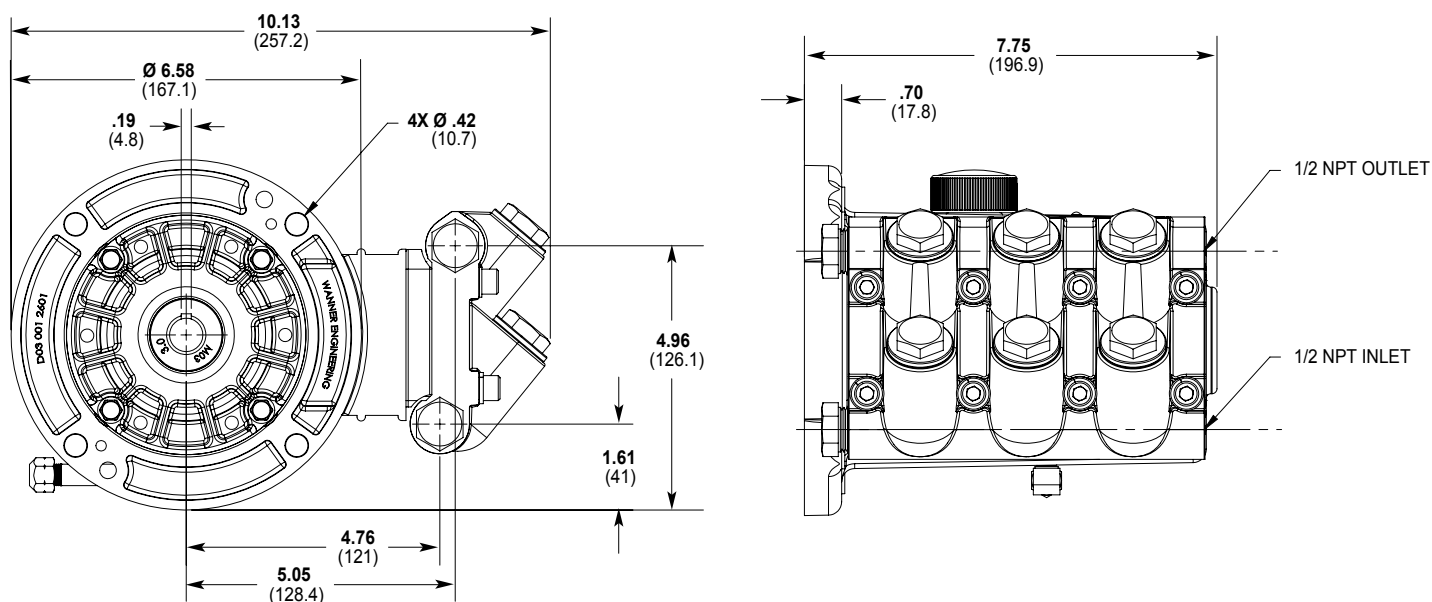
Suction Lift

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 Product Manual. Compare those calculations to the NPSHr curves above.

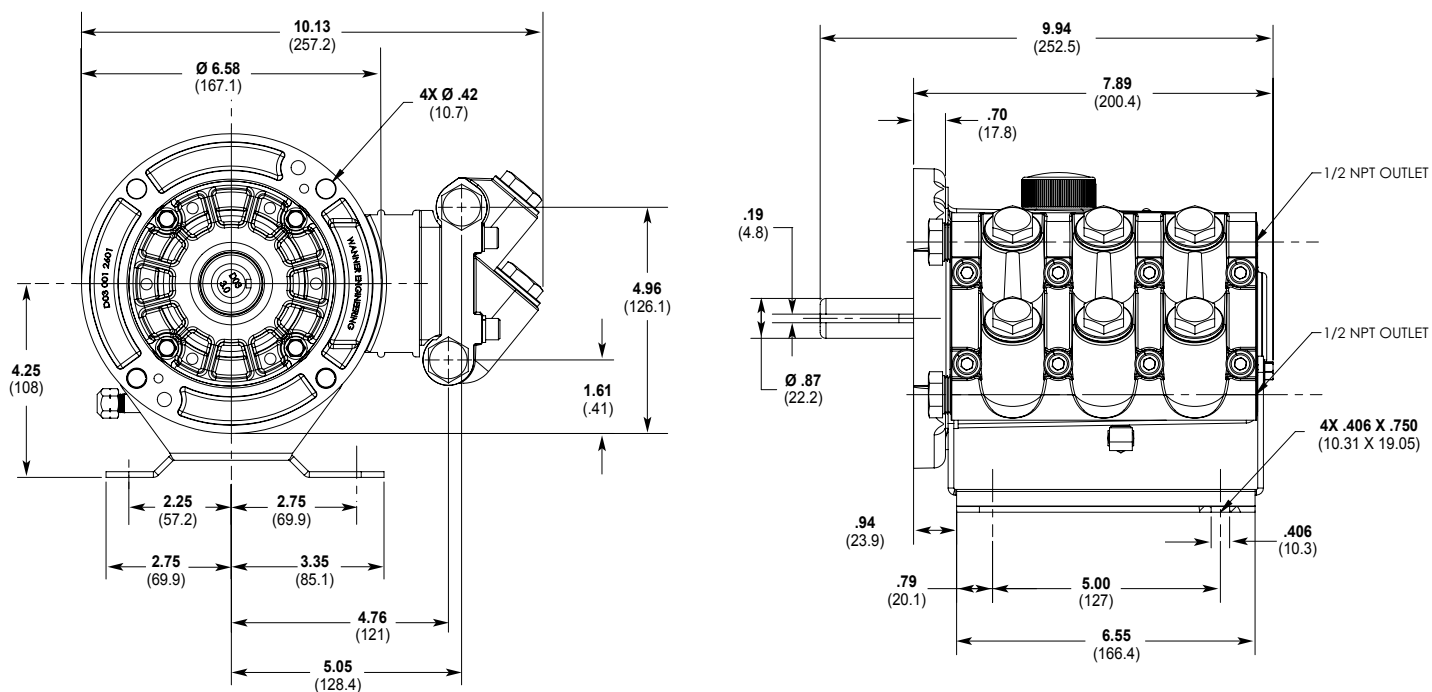
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M03 Pro Series Mono-Block | Representative Drawings

M03 Models with Metallic Pump Head Inches (mm)



D03 Models with Metallic Pump Head Inches (mm)



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

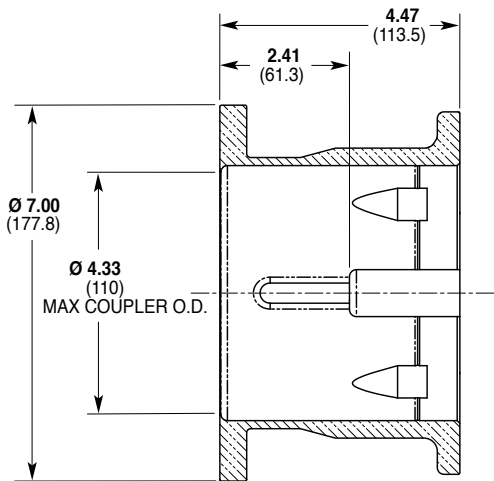
M03 Pro Series Mono-Block | Adapters / Valves

Pump/Motor Adapter Inches (mm)

Part Number: A04-001-1202

Must be ordered separately for D03 Mono-Block models for use with 56C, 143TC and 145TC frame motors.

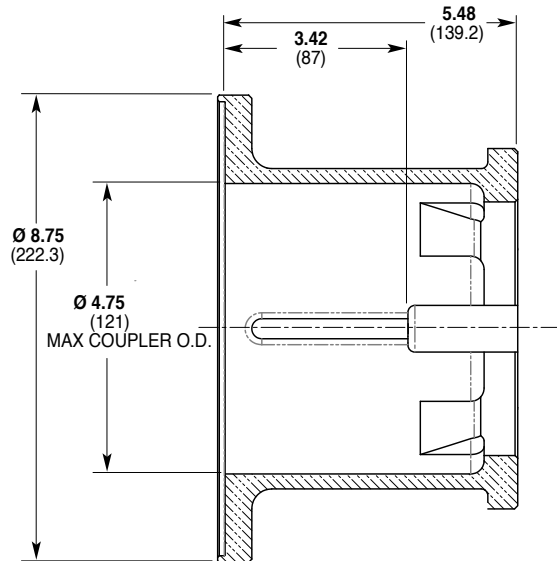
Metric adapter available - consult factory.



Part Number: A04-002-1202

Must be ordered separately for D03 Mono-Block models for use with 182TC, 184TC, 213TC and 215TC frame motors.

Metric adapter available - consult factory.



Valve Selection

A Hydra-Cell M03 Mono-Block Pro Series pumping system uses a **C46 Pressure Regulating Valve**.

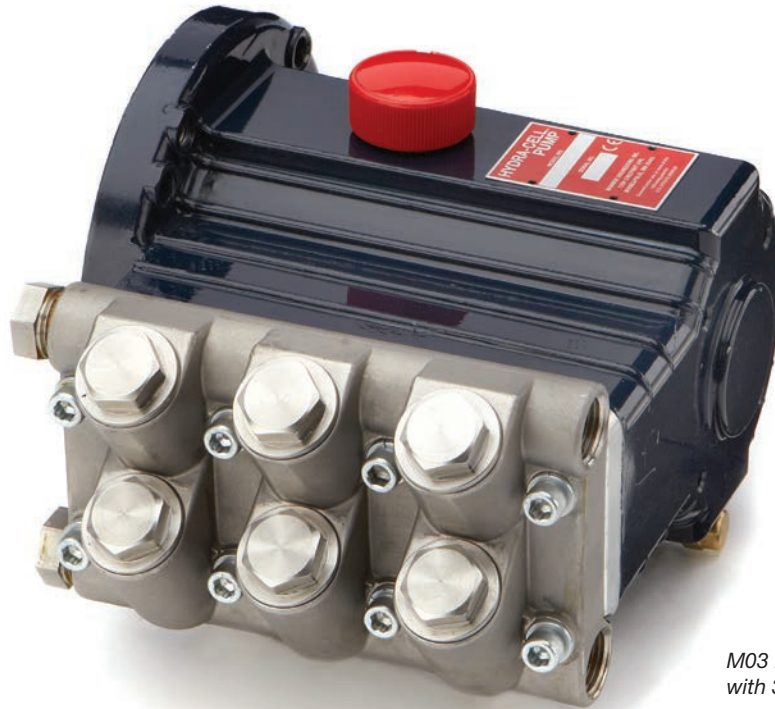


For complete specifications and ordering information, consult the Hydra-Cell Master Catalog.

M03 Pro Series Mono-Block | Options

Consult the Hydra-Cell Master Catalog for:

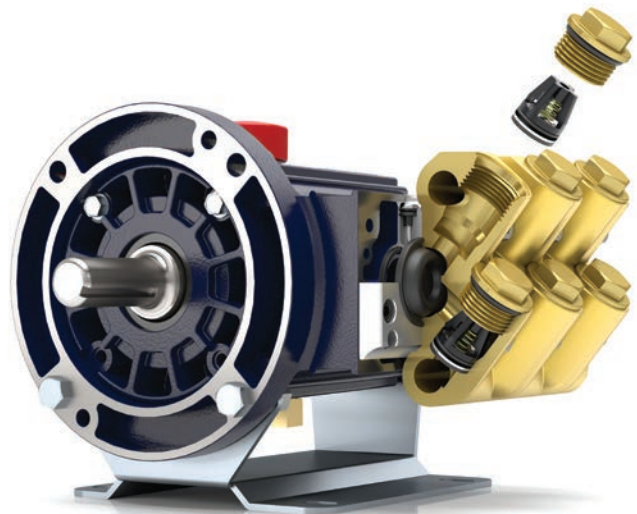
- Motors, bases, couplings and other pump accessories
- Hydra-Oil selection and specification information
- Design considerations, installation guidelines, and other technical assistance in pump selection



M03 Mono-Block close-coupled (hollow shaft) with 316L Stainless Steel pump head.



D03 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.

M03 Pro Series Mono-Block | How to Order

Ordering Information

A complete M03 Series Model Number contains 12 digits including 8 customer-specified design and materials options, for example: M03XMBTHFEMA.

1	2	3	4	5	6	7	8	9	10	11	12
	0	3		M					E		

Digit	Order Code	Description
1-3		Pump Configuration
	D03	Shaft-driven (NPT Ports)*
	M03	Close-coupled to NEMA 56C footed motor (NPT Ports) *Pump/motor adapters ordered separately. See page 5.
4		Hydraulic End Cam
	X	Max 3.1 gpm (11.7 l/min) @ 1750 rpm
	E	Max 2.2 gpm (8.3 l/min) @ 1750 rpm
5		Pump Head Version
	M	Mono-Block, Kel-Cell
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

Digit	Order Code	Description
10		Valve Springs
	E	Elgiloy
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	20-wt EPDM-compatible oil
	K	Food-contact oil

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