

Hydra-Cell[®]

Seal-less Pumps

Versatile, Reliable Pumps for a Wide Range of Applications



D66 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.

D66 Series

Maximum Flow Rate: 62.5 gpm (236.6 l/min) 2142 BPD
Maximum Pressure: 1000 psi (69 bar) for Metallic Pump Head
250 psi (17 bar) for Non-metallic Pump Heads



D66 with Brass pump head and SAE flanged ports.



D66 with Brass pump head and NPT ports.



D66 with Stainless Steel pump head.



D66 with Polypropylene pump head.

D66 Series Performance

Capacities

Flow

Model	Max. Input rpm	Max. Flow @ 1000 psi (69 bar)		
		gpm	l/min	BPD
D66-X	1000	62.5	236.6	2142

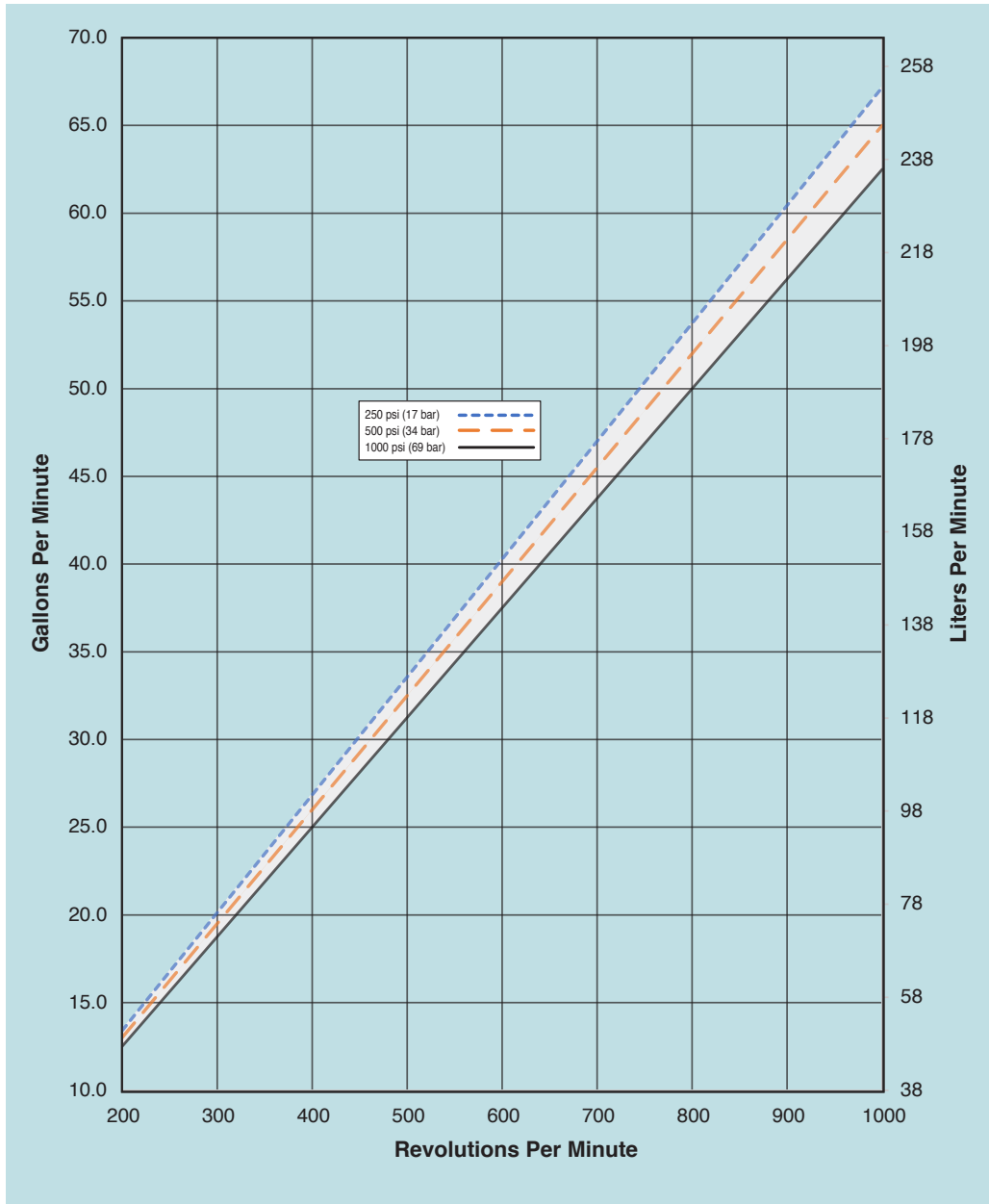
Pressure

Maximum Inlet Pressure
 Metallic Pump Heads: 250 psi (17 bar)
 Non-metallic Pump Heads: 50 psi (3.4 bar)

Maximum Discharge Pressure
 Metallic Pump Heads:
 1000 psi (69 bar)
 Non-metallic Pump Heads:
 250 psi (17 bar)

Performance and specification ratings apply to D66 configurations unless specifically noted otherwise.

Maximum Flow at Designated Pressure



D66 Series Specifications

Flow Capacities @ 250 psi (17 bar)

Model	rpm	gpm	l/min	BPD
D66-X (Non-metallic)	1000	66.9	253	2293

Flow Capacities @ 500 psi (34 bar)

Model	rpm	gpm	l/min	BPD
D66-X (Metallic)	1000	65.0	246	2228

Flow Capacities @ 1000 psi (69 bar)

Model	rpm	gpm	l/min	BPD
D66-X (Metallic)	1000	62.5	237	2142

Delivery @ 250 psi (17 bar)

Model	gal/rev	liters/rev
D66-X (Non-metallic)	0.0669	0.253

Delivery @ 500 psi (34 bar)

Model	gal/rev	liters/rev
D66-X (Metallic)	0.0650	0.246

Delivery @ 1000 psi (69 bar)

Model	gal/rev	liters/rev
D66-X (Metallic)	0.0625	0.237

Maximum Discharge Pressure

Metallic Heads:	1000 psi (69 bar)
Non-metallic Heads:	250 psi (17 bar)

Maximum Inlet Pressure	Metallic Heads:	250 psi (17 bar)
	Non-metallic Heads:	50 psi (3.4 bar)

Maximum Operating Temperature

Metallic Heads:	200 °F (93.3 °C) - Consult factory for correct component selection for temperatures from 160 °F (71 °C) to 200 °F (93.3 °C).
Non-metallic Heads:	120 °F (49 °C) - Consult factory for temperatures above 120 °F (49 °C).

Maximum Solids Size	800 microns
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Inlet Port	3 inch NPT (Metallic) 2-1/2 inch SAE J518 Flange (Non-metallic) 3 inch SAE J518 Flange (Metallic)
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Discharge Port	1-1/2 inch NPT 1-1/2 inch SAE
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Shaft Diameter	2 inch (50.8 mm)
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Shaft Rotation	Reverse (bi-directional)
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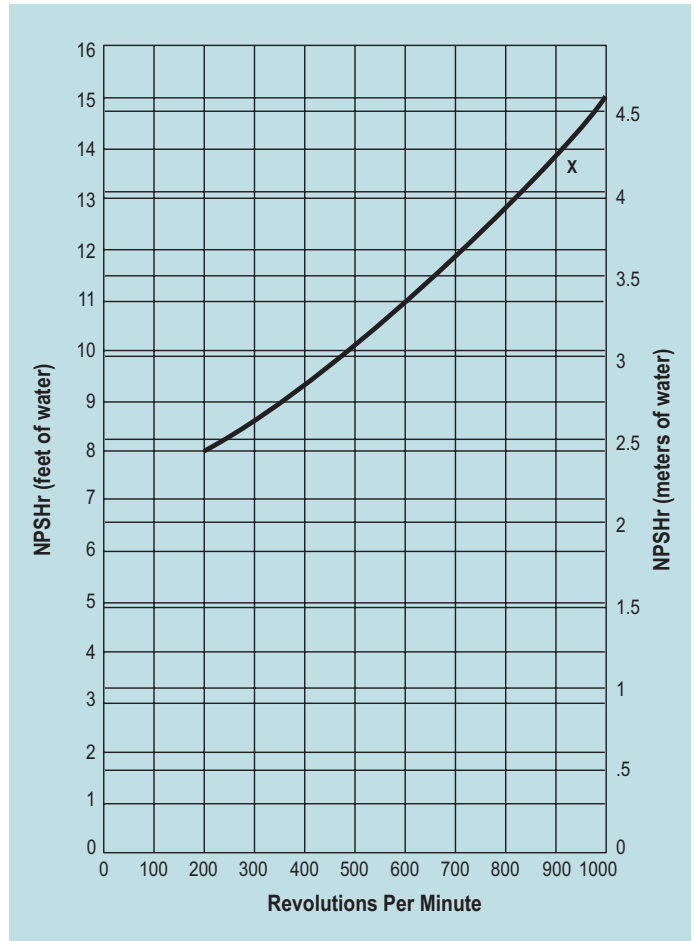
Bearings	Tapered roller bearings
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Oil Capacity	11 US quarts (10.4 liters)
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Weight

Metallic Heads:	400 lbs. (181 kg)
Non-metallic Heads:	275 lbs. (125 kg)

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

$$\frac{100 \times \text{rpm}}{63,000} + \frac{\text{gpm} \times \text{psi}}{1,460} = \text{electric motor hp}$$

$$\frac{100 \times \text{rpm}}{84,428} + \frac{\text{l/min} \times \text{bar}}{511} = \text{electric motor kW}$$

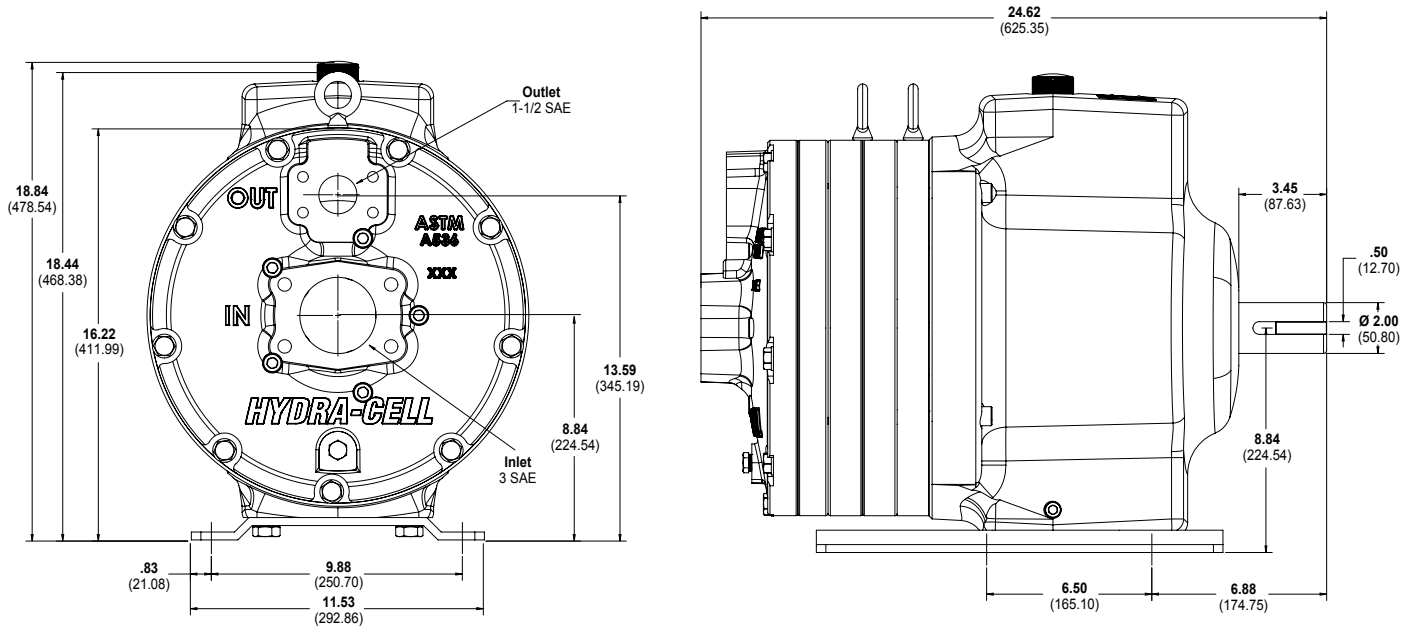
When using a variable frequency drive (VFD) controller, calculate the hp or kW at minimum and maximum pump speed to ensure the correct hp or kW motor is selected. Note that motor manufacturers typically de-rate the service factor to 1.0 when operating with a VFD.

Calculating Pulley Size

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

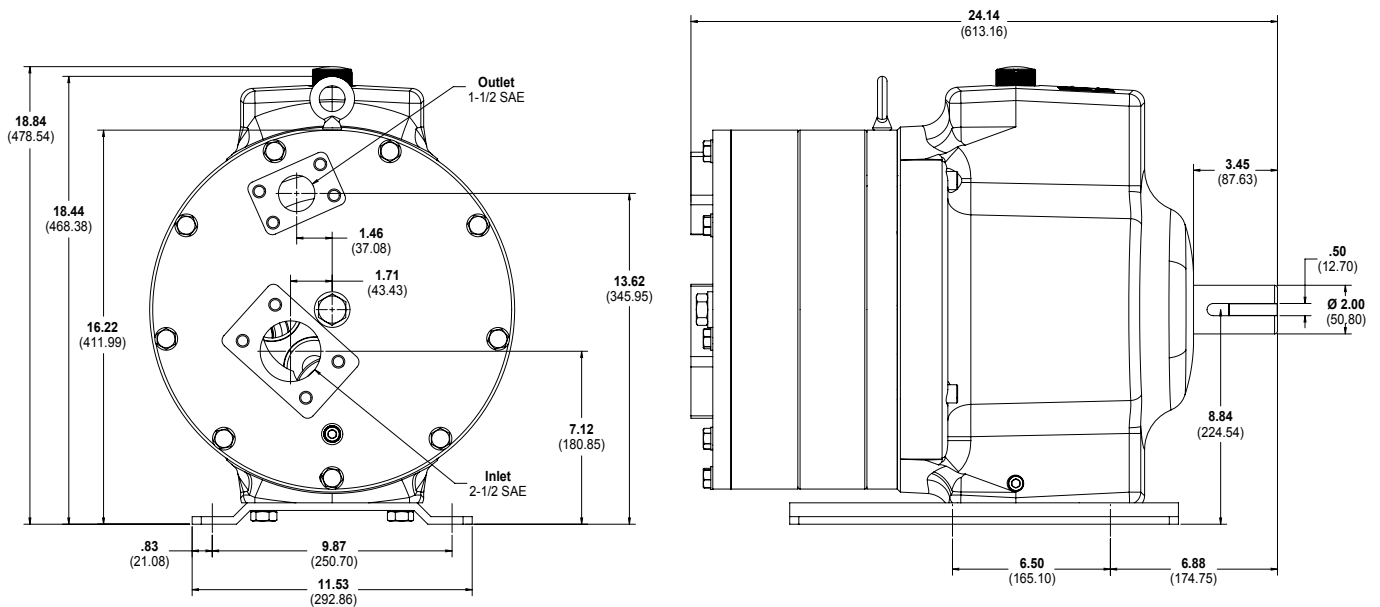
D66 Series Representative Drawings

D66 Models with SAE Flange Inlet/Outlet Ports Inches (mm)



Metallic pump head models shown.

D66 Models with SAE Flange Inlet/Outlet Ports Inches (mm)

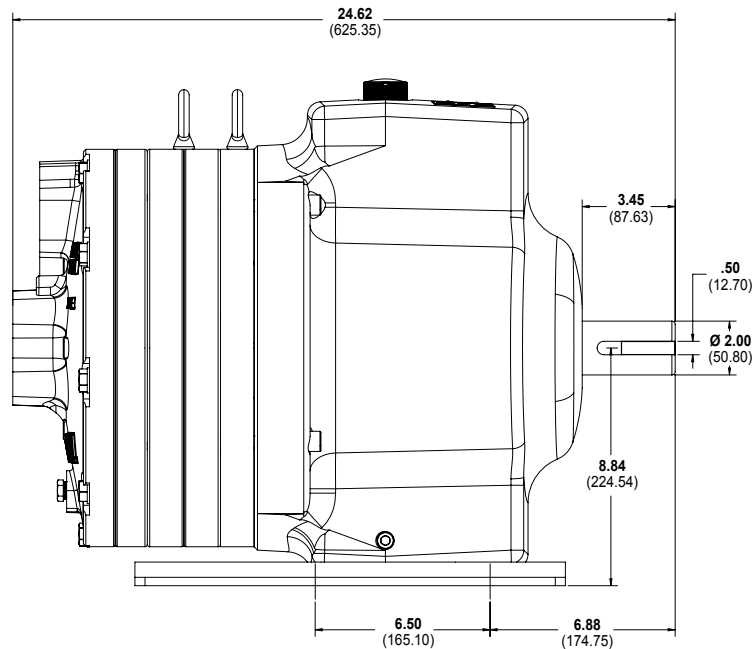
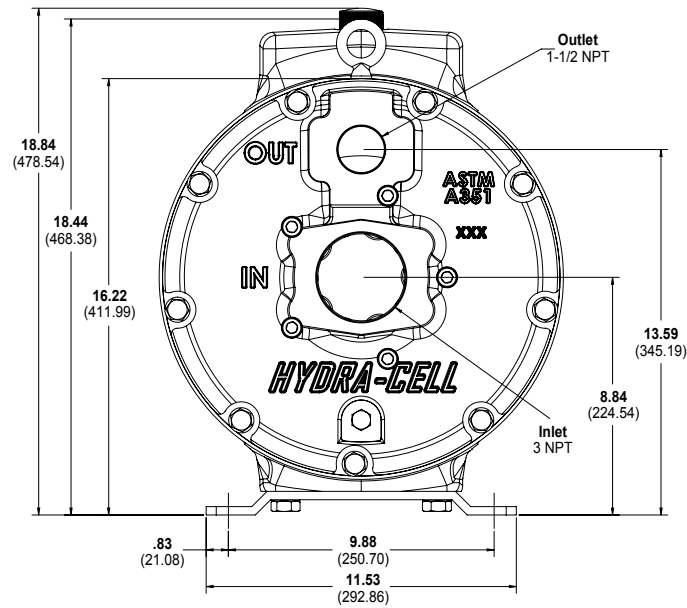


Non-metallic pump head models shown.

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

D66 Series Representative Drawings/Valves

D66 Models with NPT Flange Inlet/Outlet Ports Inches (mm)



Metallic pump head models shown.

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

D66 Series How to Order

Ordering Information



A complete D66 Series Model Number contains 12 digits including 7 customer-specified design and materials options, for example: D66XKSGHFMMH.

Digit	Order Code	Description
1-3		Pump Configuration
	D66	Shaft-driven
4		Hydraulic End Cam
	X	Max. 62.5 gpm (236.6 l/min) 2142 BPD @ 1000 rpm
5		Pump Head Version
	K	Advanced Diaphragm Position Control (ADPC) NPT Ports (metallic heads only)
	E	Advanced Diaphragm Position Control (ADPC) SAE Flanged Ports
6		Pump Head Material
	B	Brass
	C	Ductile Iron (Nickel-plated)
	G	Duplex Alloy 2205 Stainless Steel (with Hastelloy C followers & follower screws)
	N	Polypropylene (with Hastelloy C followers and follower screws) - SAE only
	P	Polypropylene (with Hastelloy C followers & follower screws) - SAE only
	S	316L Stainless Steel
7		Diaphragm & O-ring Material
	E	EPDM (used with metallic heads only)
	R	EPDM (used with non-metallic heads only)
	G	FKM (used with metallic heads only)
	H	FKM (used with non-metallic heads only)
	T	Buna-N (used with metallic heads only)
	U	Buna-N (used with non-metallic heads only)
8		Valve Seat Material
	H	17-4 Stainless Steel
	N	Nitronic 50
	T	Hastelloy C
9		Valve Material
	F	17-4 Stainless Steel
	N	Nitronic 50
	T	Hastelloy C
10		Valve Springs
	E	Elgiloy
	H	17-7 Stainless Steel
	T	Hastelloy C

Digit	Order Code	Description
11		Valve Spring Retainers
	C	Celcon
	M	PVDF
12		Hydra-Oil
	C	EPDM-compatible oil
	H	15W50 high-temp severe-duty synthetic 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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Wanner Engineering, Inc.™

World Headquarters & Manufacturing

Wanner Engineering, Inc.
1204 Chestnut Avenue
Minneapolis, MN 55403 USA
Phone: 612-332-5681 • Fax: 612-332-6937
Toll-Free Fax (USA): 800-332-6812
Email: sales@wannereng.com
www.Hydra-Cell.com

Regional Office

207 US Highway 281
Wichita Falls, TX 76310 USA
Phone: 940-322-7111
Toll-Free: 800-234-1384
Email: sales@wannereng.com
www.Hydra-Cell.com

Latin American Office

Avenida Senador Vergueiro 608 - Centro
São Bernardo do Campo/São Paulo, Brazil
CEP 09750-000
Phone: +55 (11) 99582-1969
Email: mmagoni@wannereng.com
www.Hydra-Cell-Pumps.com.br



Wanner International Ltd.™

Wanner International, Ltd.
Hampshire - United Kingdom
Phone: +44 (0) 1252 816847
Email: sales@wannerint.com
www.Hydra-Cell.co.uk



Wanner Pumps Ltd.™

Wanner Pumps, Ltd.
Kowloon - Hong Kong
Phone: +852 3428 6534
Email: sales@wannerpumps.com
www.WannerPumps.com

Shanghai - China
Phone: +86-21-6876 3700
Email: sales@wannerpumps.com
www.WannerPumps.com

