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.

Wanner Engineering, Inc.

D66 Series

Maximum Flow Rate: 65.7 gpm (248.7 l/min)
Maximum Pressure: 700 psi (48 bar) for Metallic Pump Heads
250 psi (17 bar) for Non-metallic Pump Heads

D66 with Stainless Steel pump head.

D66 with Brass pump head.

D66 with Polypropylene pump head.

D66 Series Performance

Capacities

Flow

Model	Max. Input rpm	Max. Flow @ 700 psi (48 bar) gpm	l/min
D66-X	1000	65.7	248.7

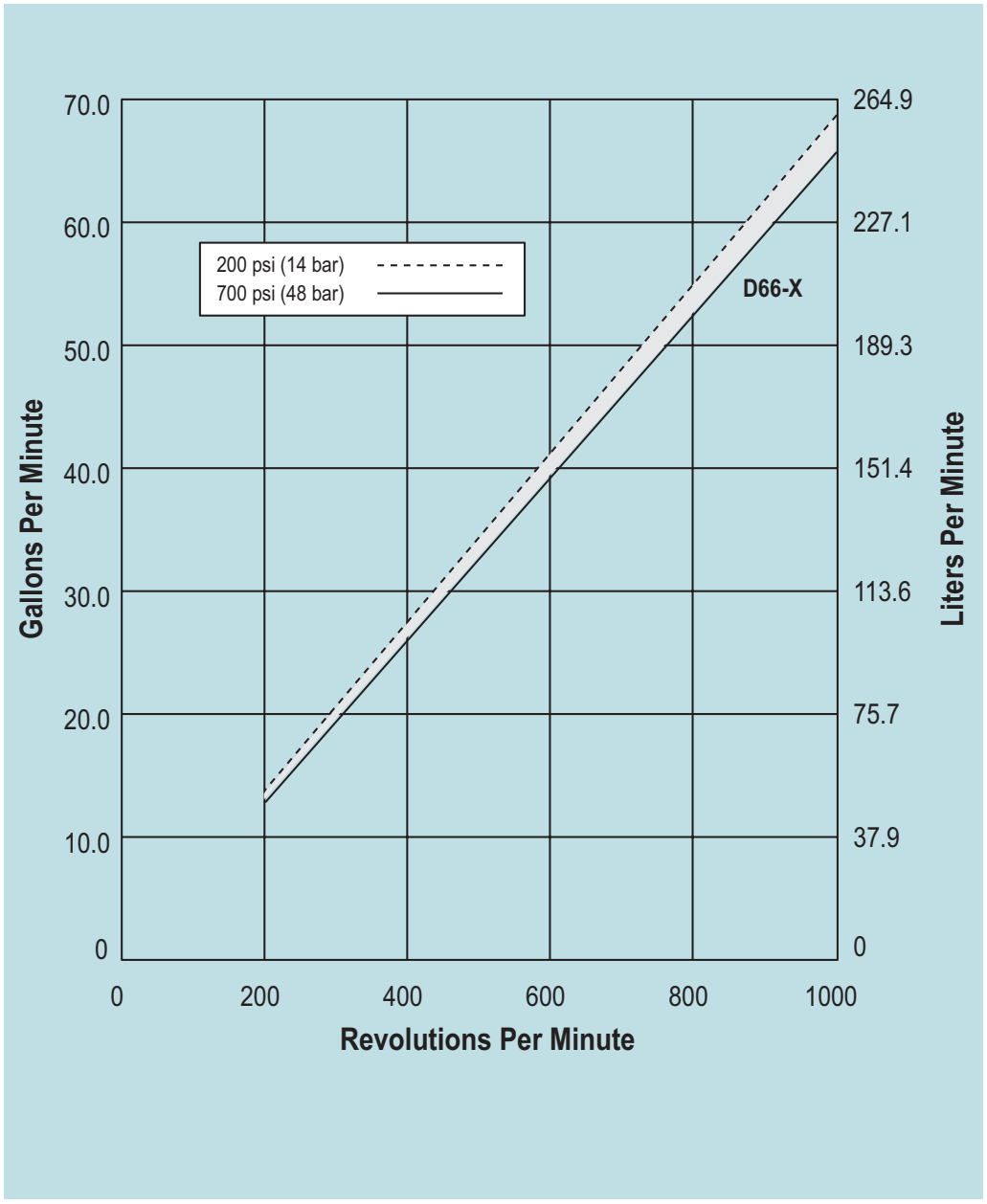
Pressure

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:
700 psi (48 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 @ 200 psi (14 bar)

Model	rpm	gpm	l/min
D66-X (Metallic)	1000	67.8	256

Flow Capacities @ 250 psi (17 bar)

Model	rpm	gpm	l/min
D66-X (Non-metallic)	1000	67.5	255

Flow Capacities @ 700 psi (48 bar)

Model	rpm	gpm	l/min
D66-X (Metallic)	1000	65.7	248

Delivery @ 200 psi (14 bar)

Model	gal/rev	liters/rev
D66-X (Metallic)	0.0678	0.256

Delivery @ 250 psi (17 bar)

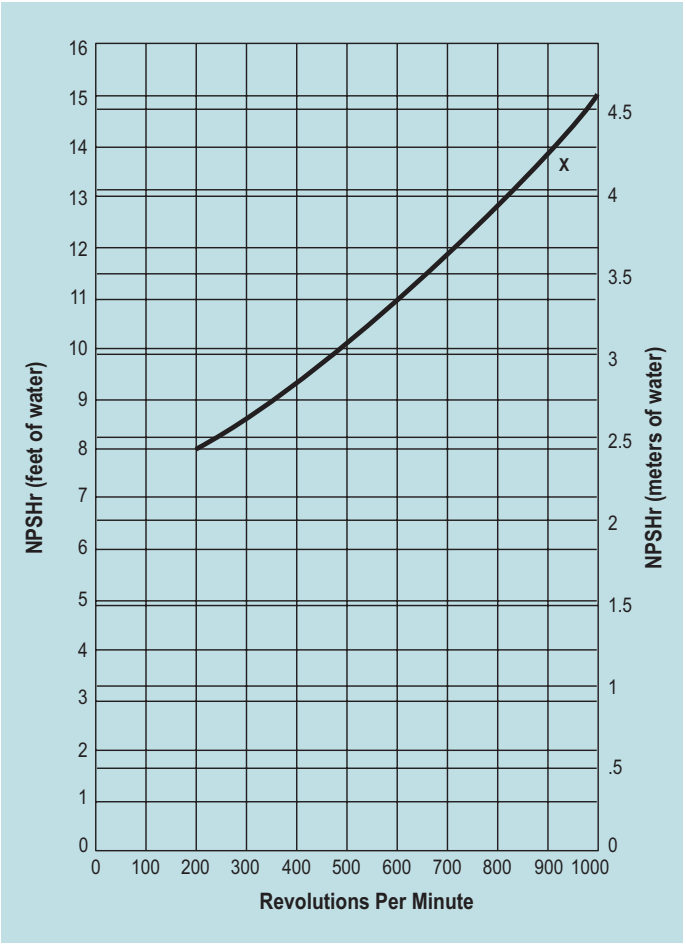
Model	gal/rev	liters/rev
D66-X (Non-metallic)	0.0675	0.255

Delivery @ 700 psi (48 bar)

Model	gal/rev	liters/rev
D66-X (Metallic)	0.0657	0.248

Maximum Discharge Pressure		
Metallic Heads:	700 psi (48 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	
Inlet Port	3 inch NPT 2-1/2 inch SAE J518 Flange (Non-metallic) 3 inch SAE J518 Flange (Metallic)	
Discharge Port	1-1/2 inch NPT 1-1/2 inch SAE	
Shaft Diameter	2 inch (50.8 mm)	
Shaft Rotation	Reverse (bi-directional)	
Bearings	Tapered roller bearings	
Oil Capacity	8 US quarts (7.5 liters)	
Weight		
Metallic Heads:	500 lbs. (226 kg)	
Non-metallic Heads:	295 lbs. (133 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

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

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

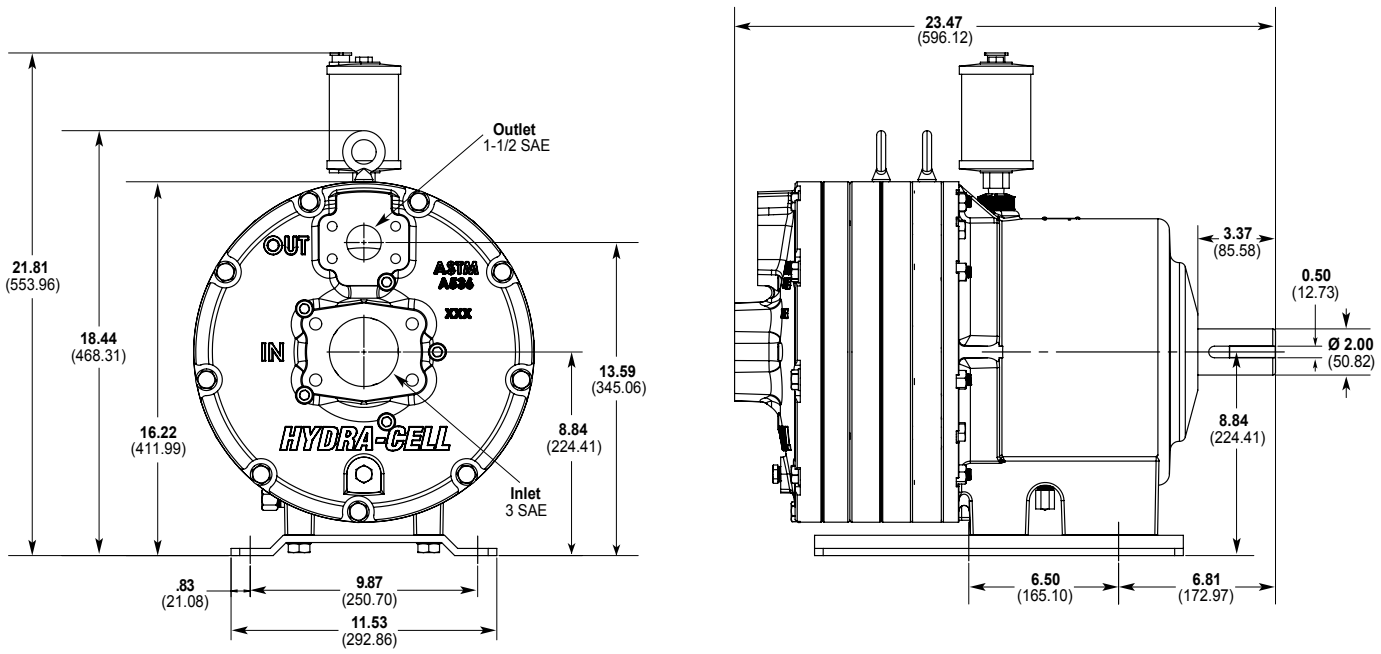
When using a variable frequency drive (VFD) controller, calculate the hp or kW at minimum and maximum pump speed to ensure the correct hp or kW motor is selected. Note that motor manufacturers typically de-rate the service factor to 1.0 when operating with a VFD.

Calculating Pulley Size

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

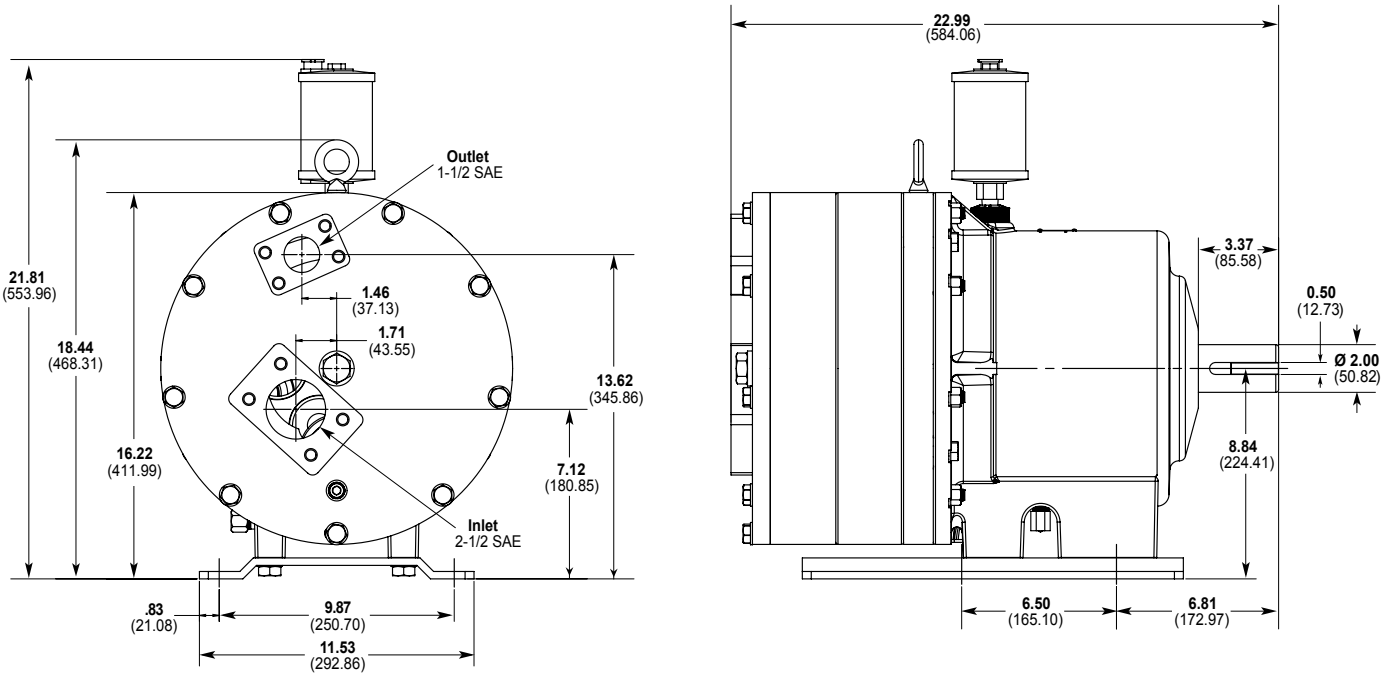
D66 Series Representative Drawings

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)

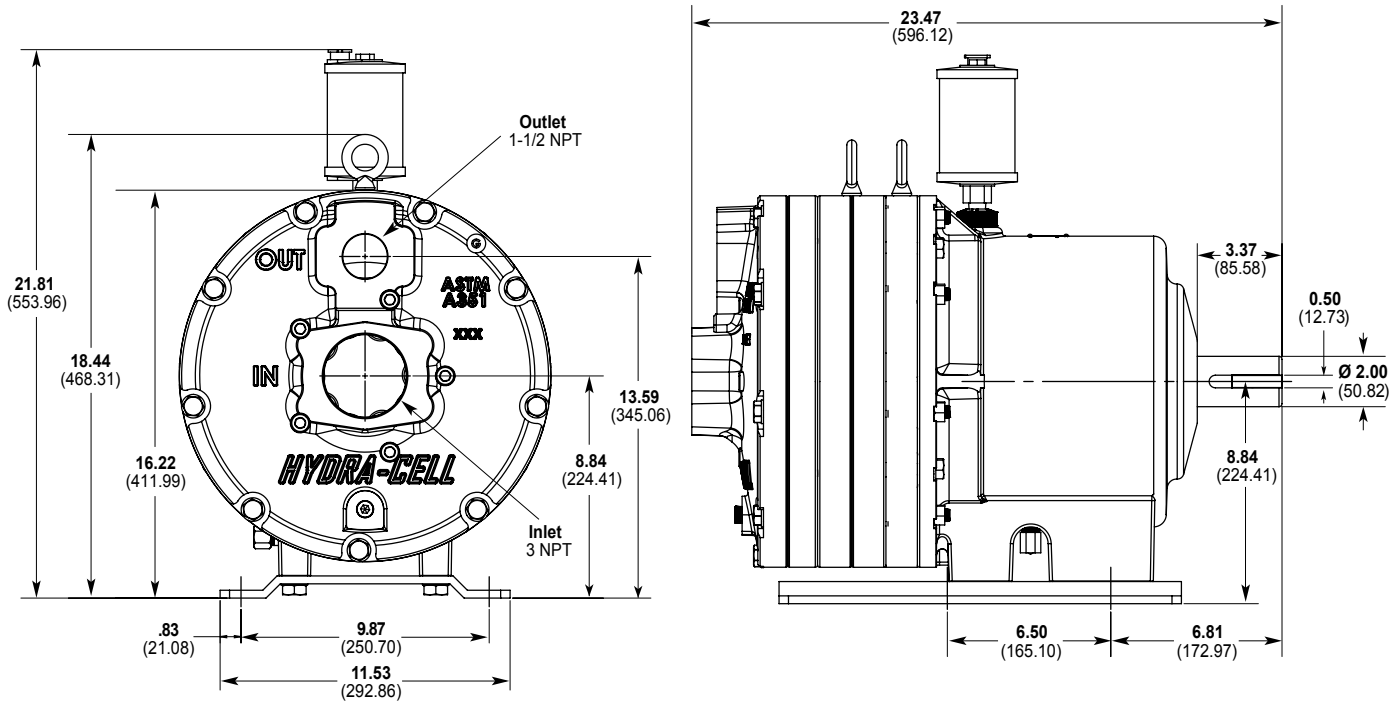


Non-metallic pump head models shown.

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

D66 Series Representative Drawings/Valves

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



Metallic pump head models shown.

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

Valve Selection

A C24 Pressure Regulating Valve is recommended for Hydra-Cell D66 pumping systems.

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

D66 Series How to Order

Ordering Information

1	2	3	4	5	6	7	8	9	10	11	12
D	6	6	X								H

A complete D66 Series Model Number contains 12 digits including 7 customer-specified design and materials options, for example: D66XKSGHFHMH.

Digit	Order Code	Description
1-3		**Pump Configuration**
	D66	Shaft-driven
4		**Hydraulic End Cam**
	X	Max 65.7 gpm (248.7 l/min) @ 1000 rpm
5		**Pump Head Version**
	K	Kel-Cell NPT Ports
	E	Kel-Cell SAE Flange 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)
	P	Polypropylene (with 316 SST followers and follower screws)
	S	316L Stainless Steel
7		**Diaphragm & O-ring Material**
	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
11		**Valve Spring Retainers**
	C	Celcon
	M	PVDF
12		**Hydra-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

FOR MORE INFORMATION CONTACT:

APPLIED PROCESS EQUIPMENT, INC. PUMPS AND TANKS

9332 N 95th Way
Scottsdale, AZ 85258
480-998-4097
sales@apewater.com