

# D35 PRO SERIES

Maximum Flow Rate: 36.5 gpm (138 l/min)

Maximum Pressure: 1500 psi (103 bar) for Metallic Pump Heads

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

UK  
CA CE*D35 Pro with 316L Stainless  
Steel pump head.*

### A higher standard of pump performance and efficiency.

- Integrates **Wanner Hydra-Cell® Pro** seal-less pump technologies for the highest levels of volumetric and energy efficiencies across a full rpm range.
- 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 ADPC (Advanced Diaphragm Position Control) and 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.



WANNER ENGINEERING, INC.



HYDRA-CELL.COM

# D35 Pro Series | Performance

## Capacities

Model	Max. Input rpm	Max. Flow Capacities @1200 psi (83 bar)		Max. Inlet Pressure		Max. Discharge Pressure Metallic Heads	
		gpm	l/min	psi	bar	psi	bar
D35-X	1050	36.5	138	500	34	1200	83
D35-E	1150	34.0	129	500	34	1200	83

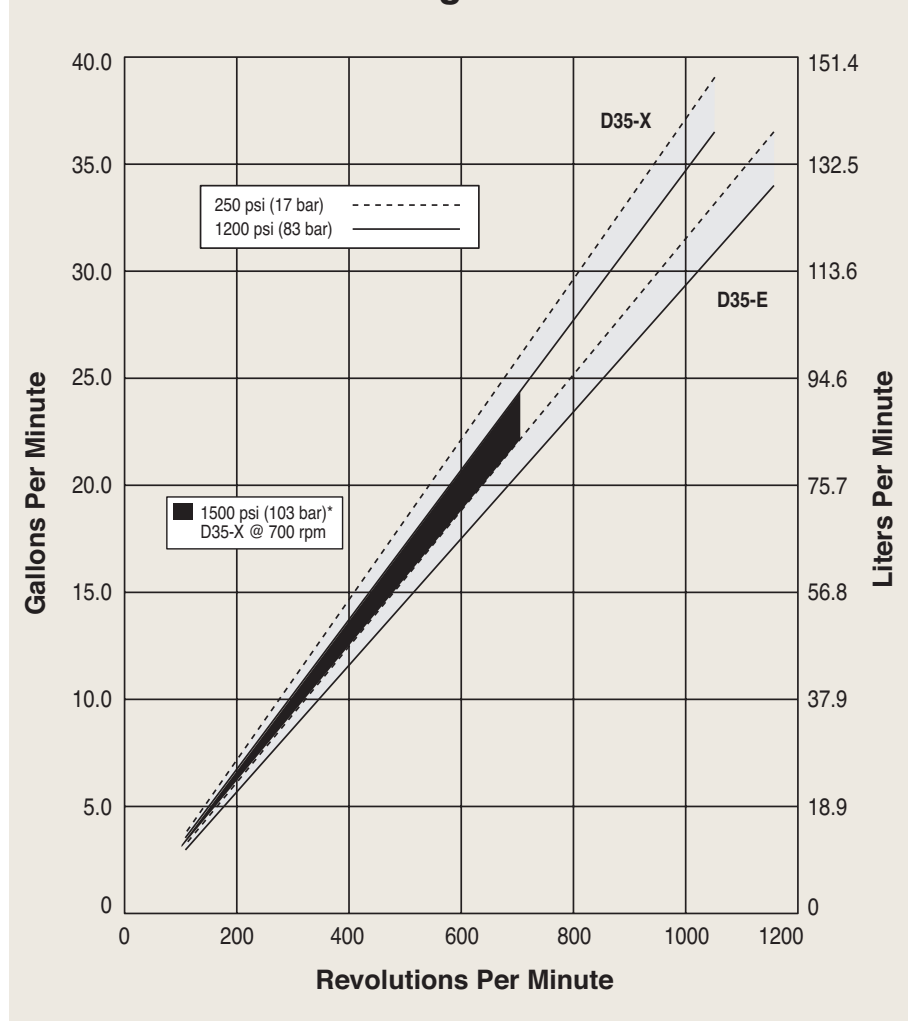
  

Model	Max. Input rpm	Max. Flow Capacities @1500 psi (103 bar)		Max. Inlet Pressure		Max. Discharge Pressure Metallic Heads	
		gpm	l/min	psi	bar	psi	bar
D35-X	700	23.1	87.5	250	17	1500	103

Performance and specification ratings apply to D35 configurations unless specifically noted otherwise.

\* Consult factory if operating above 1200 psi (83 bar).

## Maximum Flow at Designated Pressure



**Illinois Location:**

(847) 841-7867

860 Church Rd Elgin, IL 60123

**Minnesota Location:**

(651) 758-7867

330 Mill Bay South Suite 1511 Afton, MN 55001

PumpSupplyInc.com

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

# D35 Pro Series | Specifications

## Flow Capacities @1200 psi (83 bar)

Model	rpm	gpm	l/min
D35-X	1050	36.5	138
D35-E	1150	34.0	129

## Delivery @1200 psi (83 bar)

Model	gal/rev	liters/rev
D35-X	0.0347	0.1314
D35-E	0.0296	0.1120

## Delivery @1500 psi (103 bar)

Model	gal/rev	liters/rev
D35-X	0.0330	0.1250

## Maximum Discharge Pressure

Metallic Heads: 1200 psi (83 bar) @ 1150 rpm max.  
1500 psi (103 bar) @ 700 rpm max. –  
Consult factory if operating above 1200 psi (83 bar).

## Maximum Inlet Pressure

250 psi (17 bar) with 1500 psi (103 bar) maximum discharge pressure  
500 psi (34 bar) with 1200 psi (83 bar) maximum discharge pressure

## 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

800 microns

## Inlet Port

2-1/2 inch NPT  
150lb or 600lb ANSI RF flange  
3 inch SAE flange

## Discharge Port

1-1/4 inch NPT  
600lb or 1500lb ANSI RF flange  
1-1/4 inch SAE flange

## Calculating Required Power

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

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

### 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

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

## Shaft Diameter

2 inch (50.8 mm)

## Shaft Rotation

Reverse (bi-directional)

## Bearings

Tapered roller bearings

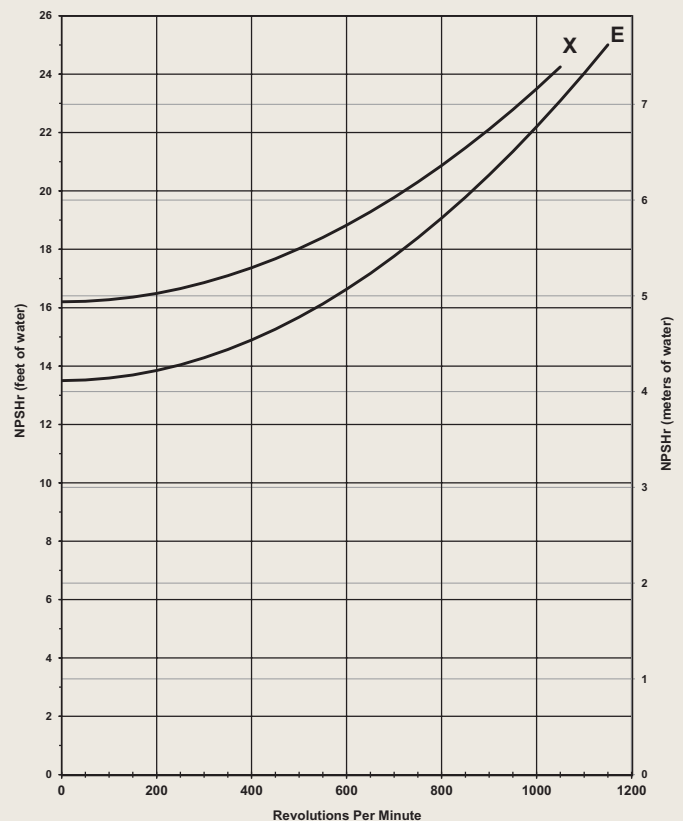
## Oil Capacity

7.75 US quarts (7.3 liters)

## Weight

Metallic Heads: 257 lbs. (116.6 kg)

## Net Positive Suction Head (NPSHr)



Note: Positive inlet pressure required with PTFE diaphragms.

## Suction Lift

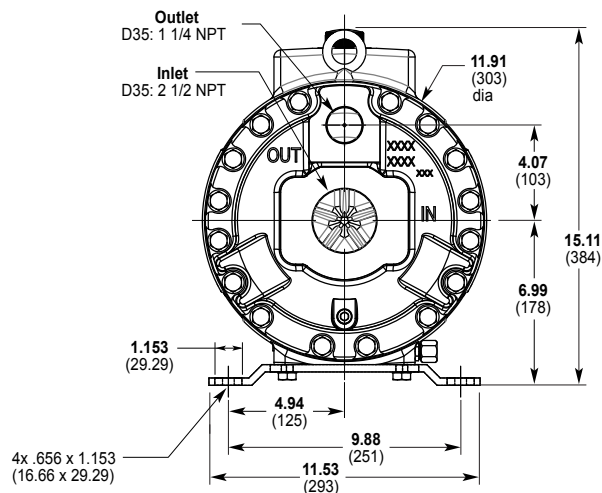
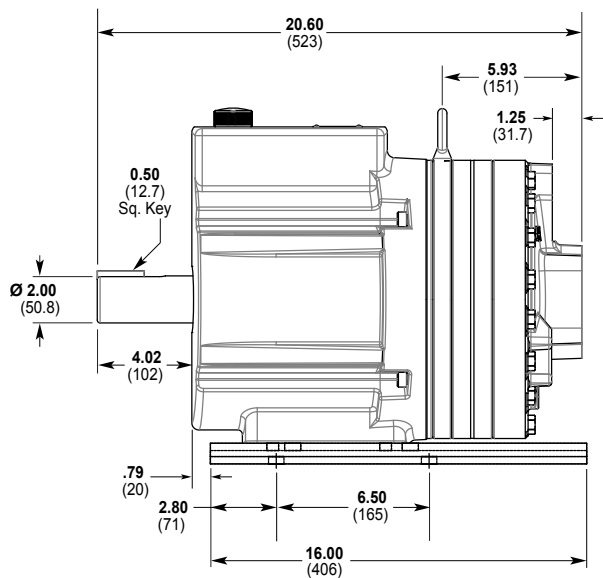
Each Hydra-Cell pump has different lift capability depending on model size, cam angle, speed, and fluid characteristics. To ensure that your specific lift characteristics are met, refer to the inlet calculations regarding friction, and acceleration head losses in your Hydra-Cell Product Manual. Compare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



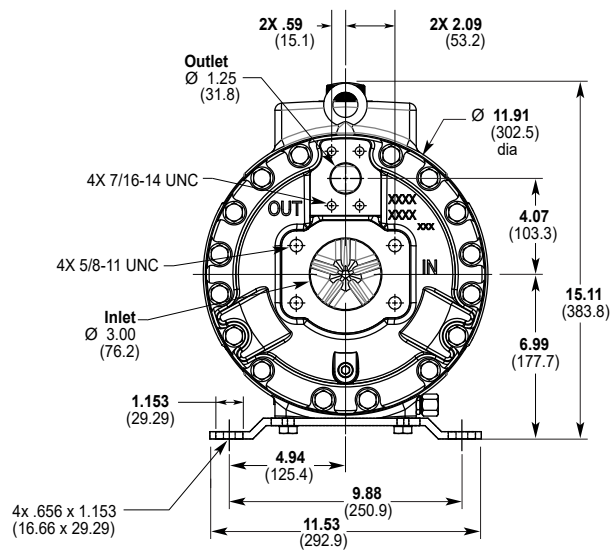
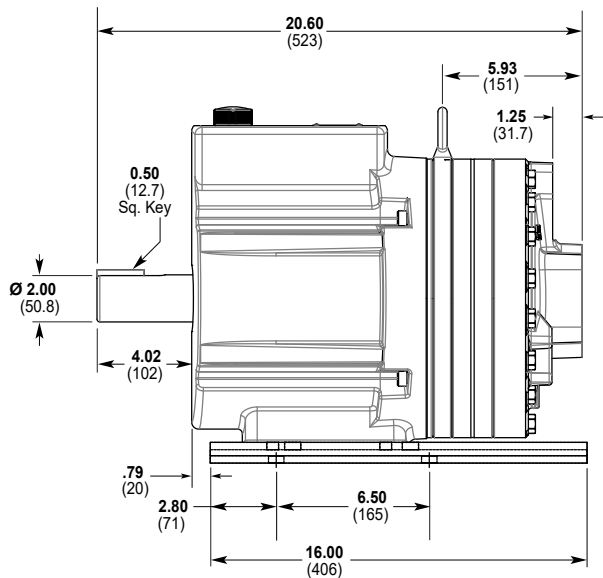
Due to the Wanner Engineering Continuous Improvement Program, specifications and other data are subject to change.

# D35 Pro Series | Representative Drawings

## D35 Models with NPT Inlet/Outlet Ports Inches (mm)



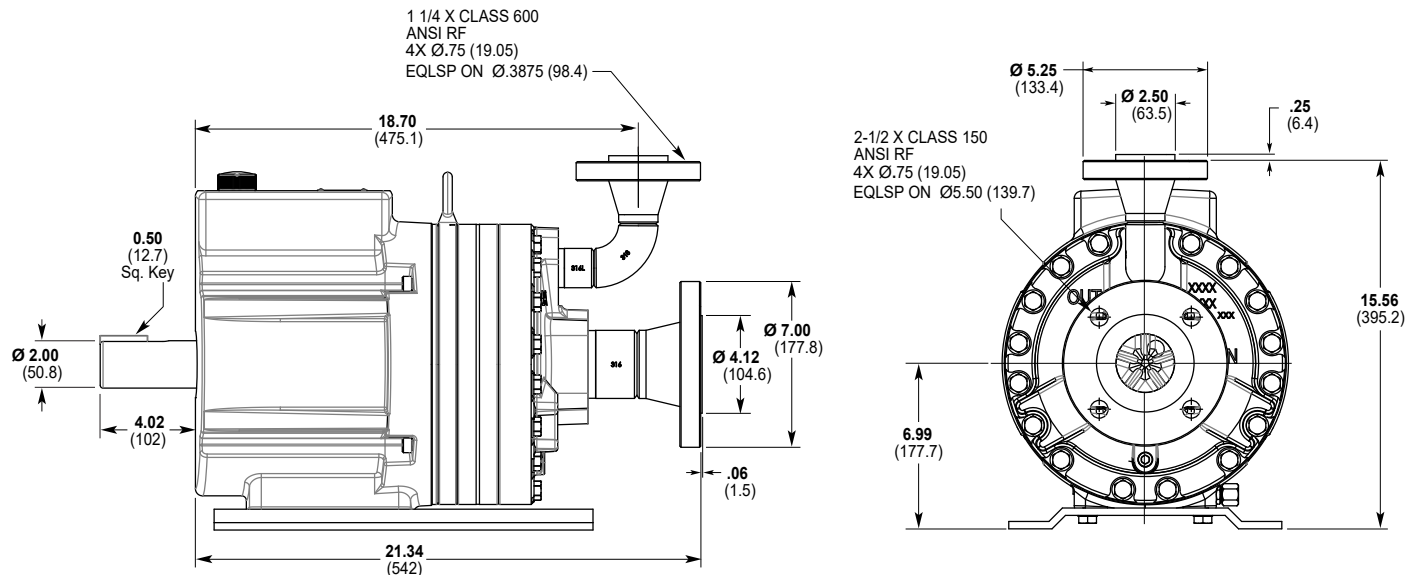
## D35 Models with SAE Flange Inlet/Outlet Ports Inches (mm)



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

# D35 Pro Series | Representative Drawings / Valves / Skids

## D35 Models with ANSI Flange Inlet/Outlet Ports Inches (mm)



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

### Valve Selection

A seal-less **C64 Pressure Regulating Valve** is recommended for Hydra-Cell Pro D35 pumping systems, especially for high-pressure requirements or when handling dirty fluids.



A **C24 Pressure Regulating Valve** provides a capable, lower-cost alternative to C64 valves for Hydra-Cell Pro D35 pumping systems.



Skid-mounted D35 Pro.

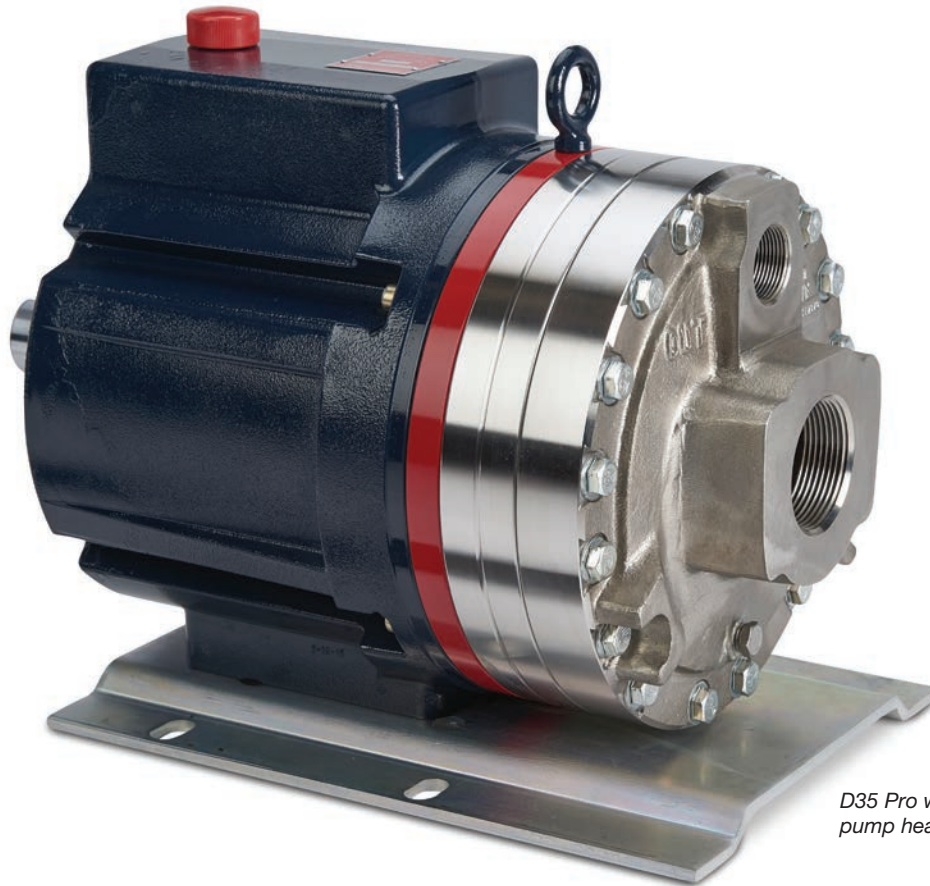


For complete specifications and ordering information, consult the Hydra-Cell Master Catalog.

# D35 Pro Series | 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



*D35 Pro with 316L Stainless Steel pump head.*



*D35 Pro with Cast Iron pump head.*



*D35 Pro with Brass pump head.*



*D35 Pro with 316L Stainless Steel pump head and ANSI flanges.*

# D35 Pro Series | How to Order

## Ordering Information

A complete D35 Series Model Number contains 12 digits including 9 customer-specified design and materials options, for example: D35XPBTHFECA.

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

Digit	Order Code	Description
1-3	<b>D35</b>	<b>Pump Configuration</b> Shaft-driven (NPT Ports or ANSI Flanges or SAE Flanged Ports)
4	<b>X</b> <b>E</b>	<b>Hydraulic End Cam</b> Max 36.5 gpm (138 l/min) @ 1050 rpm Max 34.0 gpm (129 l/min) @ 1150 rpm
5	<b>P</b> <b>E</b>	<b>Pump Head Version</b> Hydra-Cell Pro Hydra-Cell Pro SAE Flanged Ports
6	<b>B</b> <b>C</b> <b>G</b> <b>Q</b> <b>R</b> <b>S</b> <b>T</b>	<b>Pump Head Material</b> Brass Ductile Iron (Nickel-plated) Duplex Alloy 2205 Stainless Steel (with Hastelloy C followers & follower screws) 316L Stainless Steel ANSI flange class 600 x 1500 316L Stainless Steel ANSI flange class 150 x 600 316L Stainless Steel - threaded or SAE ports Hastelloy CW12MW
7	<b>A</b> <b>B</b> <b>E</b> <b>G</b> <b>J</b> <b>P</b> <b>T</b>	<b>Diaphragm &amp; O-ring Material</b> Aflas diaphragm / PTFE O-ring Butyl EPDM (requires EPDM-compatible oil – Digit 12 oil code D) FKM PTFE (available with E cam only; 1050 rpm max.) Neoprene Buna-N
8	<b>C</b> <b>D</b> <b>H</b> <b>N</b> <b>T</b>	<b>Valve Seat Material</b> Ceramic Tungsten Carbide (900 rpm max.) 17-4 Stainless Steel Nitronic 50 Hastelloy C
9	<b>C</b> <b>D</b> <b>F</b> <b>N</b> <b>T</b>	<b>Valve Material</b> Ceramic Tungsten Carbide (900 rpm max.) 17-4 Stainless Steel Nitronic 50 Hastelloy C

Digit	Order Code	Description
10	<b>E</b> <b>T</b>	<b>Valve Springs</b> Elgiloy Hastelloy C
11	<b>C</b> <b>H</b> <b>M</b> <b>P</b> <b>T</b> <b>Y</b>	<b>Valve Spring Retainers</b> Celcon 17-7 Stainless Steel PVDF Polypropylene Hastelloy C Nylon (Zytel)
12	<b>A</b> <b>B</b> <b>D</b> <b>E</b> <b>G</b> <b>H</b>	<b>Hydra-Oil</b> 10W30 standard-duty oil 40-wt for continuous-duty oil (use with 316L SST or Hastelloy CW12MW pump head - standard) 40-wt EPDM-compatible oil Food-contact oil 5W30 cold-temp severe-duty synthetic oil 15W50 high-temp severe-duty synthetic oil

**D35 Pump Housing is standard as Cast Aluminum.**

Upgrade to Ductile Iron available.



### Illinois Location:

(847) 841-7867

860 Church Rd Elgin, IL 60123

### Minnesota Location:

(651) 758-7867

330 Mill Bay South Suite 1511 Afton, MN 55001

PumpSupplyInc.com

**Partners in over 70 countries**






**WANNER™**  
Global Sales and Technical Support




**Americas**

-  Minneapolis, Minnesota USA
-  Wichita Falls, Texas USA
-  São Paulo, Brazil
-  Buenos Aires, Argentina




**EMEA | Australia**

-  Hampshire, United Kingdom
-  Cairo, Egypt
-  Remagen, Germany

**Asia | Pacific**

-  Kowloon, Hong Kong
-  Shanghai, China
-  Jakarta, Indonesia

**India**

-  Mumbai, India
-  New Delhi
-  Bangalore
-  Gujarat



**Illinois Location:**

(847) 841-7867

860 Church Rd Elgin, IL 60123

**Minnesota Location:**

(651) 758-7867

330 Mill Bay South Suite 1511 Afton, MN 55001

PumpSupplyInc.com

