

# HIGH-PRESSURE PUMP GLOSSARY

A GUIDE TO COMMON COMMERCIAL PUMP INDUSTRY TERMS

A good understanding of high-pressure pump terminology is helpful when selecting a pump or working with an engineer to design a system. Common industry terms are sometimes used interchangeably when, in fact, there are distinct differences that can significantly impact a pump's performance.

Use this high-pressure pump glossary to better understand features and performance indicators when choosing which pump system is right for your application.

- [20 High-Pressure Pump Terms](#)
- [Common Types of Pumps](#)
- [Common Pump Accessories](#)

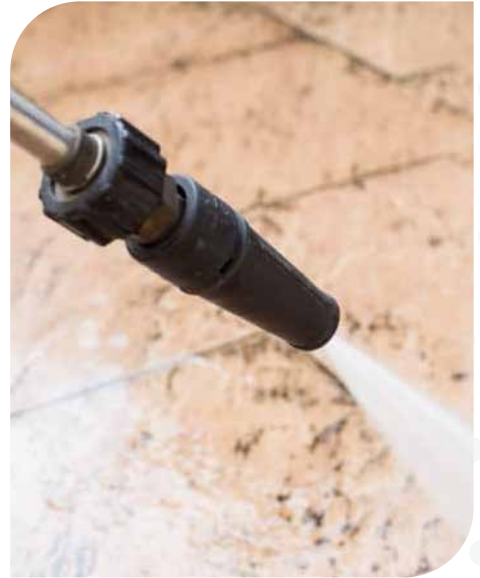
# TOP 20 HIGH-PRESSURE PUMP TERMS

## “I need more pressure!”

### DO YOU, REALLY?

There's a lot of confusion over the terms pressure and flow. If you can't get enough output or force from your pump no matter which nozzle you use, chances are, you need more flow. Pump pressure is a measure of resistance to flow. Without flow, there is no pressure.

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## Casing

A pump body or housing that contains the plunger or other internal components, typically made of anodized aluminum, stainless steel, PVC, polypropylene, or nylon.

## Cavitation

Implosions and collapsing of gaseous cavities (bubbles due to the rapid succession of released energy, causing noise and an intense rattling sensation that can damage a pump. [Learn About Cavitation](#) →

## Efficiency

The percentage of total power output compared to the total power input, typically indicating how much energy is wasted.

# Elastomers

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The seals or o-rings used to create a tight seal between components, such as Buna and Viton. [Learn About O-Rings →](#)

# Flooded Inlet

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A condition that exists when the source of fluid is above the centerline of the pump.

# Flow

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The amount of fluid that can pass through a pump system at a given rate, often measured in GPM.

# GPM

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Stands for “gallons per minute” — It is a defined measurement of a pump’s flow rate (some low-volume pumps calculate flow in gallons per hour).

# Head

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The part of the pump body that contains the valves.

# HP

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(Horsepower) Refers to the unit of measure that indicates how powerful an engine is; one HP is equivalent to 746 watts.

# Metering

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Typically refers to the precise dispensing or injection of chemicals into a reservoir or line. [Learn About Chemical Injection →](#)



ELASTOMERS



PUMP HEAD

# Nozzle

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An orifice that restricts flow to create pressure and helps to direct or modify the flow in various spray patterns. [Learn About Nozzle Selection](#) →

# Performance Curve

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A graph or chart provided by the pump manufacturer that shows a pump's GPM and amps based on the pump's rated PSI. [Learn About Performance Charts](#) →

# Plunger

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A smooth cylindrical plunger inside a plunger pump that reciprocates back and forth, forcing liquids through a set of valves.

# Pressure

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A measure of resistance to flow outlining how much resistance the pump is designed to withstand, typically measured in PSI.

# PSI

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(Pounds per Square Inch) A unit of measurement of pressure that a pump is rated at.

# Sealed Bearing

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A pump feature where oil or grease is contained in a sealed chamber and lubricates the ball bearings that drive the plunger in and out. [Learn About Oil Bath vs. Sealed Bearing Pumps](#) →



NOZZLE



PLUNGER



SEALED BEARING

# Self-priming

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The ability for a pump to generate a vacuum and draw up fluids without manual assistance. [Learn About Self-Priming](#) →

# Suction Lift

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A condition that exists when the source of fluid is below the centerline of the pump.

# Viscosity

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Refers to the thickness of a liquid, its resistance to flow, and its internal friction when moving through a pump system.

# Wetted Parts

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Parts of a pump that come into direct contact with fluids being pumped (any wetted parts should be chemically compatible).

## Volts, Amps, and Watts

### WHAT'S THE DIFFERENCE?

A pump's power source and rating directly correlates to its capabilities and performance. Dig deeper into the definitions of each and their significance in the pump industry.

[READ THE ARTICLE](#)





# COMMON TYPES OF HIGH-PRESSURE PUMPS

## POSITIVE

### Displacement Pumps

A high-pressure pump that traps a fixed amount of fluid and forces (displaces) it through an outlet.

**PLUNGER PUMP** — A reciprocating piston (or plunger) moves back and forth to move fluid from the inlet through a set of valves to the outlet.

[LEARN ABOUT PLUNGER PUMPS](#)

**DIAPHRAGM PUMP** — A flexible diaphragm flexes back and forth to force liquids through a set of valves.

**ROTARY VANE PUMP** — Vanes are mounted to a rotating rotor that draws liquid in behind each vane through the inlet port and outlet.

**GEAR PUMP** — Fluid moves from the inlet to the outlet through a set of gears.

**PERISTALTIC PUMP** — Liquid is moved through tubing by squeezing it with rollers (similarly to a tube of toothpaste).

## NON-POSITIVE

### Displacement Pumps

A lower-pressure pump that uses Newton's first law of motion to move fluid against the system's resistance.

**CENTRIFUGAL PUMP** — Moves liquid with a spinning impeller (similar to a propeller).

**ROLLER PUMP** — A set of rollers revolves inside a housing, forcing fluid through the outlet.



**PLUNGER PUMP**



**CENTRIFUGAL PUMP**

# COMMON PUMP ACCESSORIES



PULSE HOSE

**FLOW CONTROLLER** — A variable speed flow controller allows operators to control the flow rate of a pump with the turn of a knob, ideal for applications that require precise flow rates.

**PRESSURE REGULATOR** — Maintains an established maximum pressure in a pumps discharge outlet. [Learn About Pressure Regulators](#) →

**PRESSURE SWITCH** — Allows operators to start and stop a pump on demand by squeezing a spray gun, conserving energy. [Learn About Pressure Switches](#) →

**PRESSURE UNLOADER** — A special type of pressure regulator that also unloads the pump pressure during bypass.

**PULSE HOSE** — A specially manufactured hose that expands slightly to dissipate energy and built-up pressure, minimizing momentary pressure spikes. [Learn About Pulse Hoses](#) →

The pump experts at Pumptec are well versed in high-pressure pump terminology, fluid dynamics, material selection, and plunger pump engineering. Contact us today to help you determine ideal flow, pressure, materials, configuration, and more.

SPEAK WITH A PUMP EXPERT

