

GLOSSARY OF CONTAINER INDUSTRY TERMS

Adjustable Shank: Allows user to rotate the spout of the faucet after tightening in drum. This ensures that the spout always points down.

Aeration: During mixing, the process of putting air into a mixture. Depending on your application, this may or may not be a desired effect.

Air Pump Ratio: The ratio of inlet air pressure to product delivery pressure. High ratio pumps (40:1 or higher) will move thicker products over a longer distance, but at a reduced rate. Low ratio pumps (1:1, 2:1) handle thinner liquids at higher volumes or shorter distance.

Antistatic Agent: A chemical substance that can be applied to the surface of a plastic container or liner, or incorporated in the plastic from which the container or liner is to be made. Its function is to render the surface of the plastic article less susceptible to accumulation of electrostatic charges. Electrostatic charge attracts and holds fine dust on the surface of the container or liner. Static discharge may spark which may cause an explosion of flammable product.

Band Heater: Popular wrap around "belt" heater affixed to the exterior of the container.

Blow Molding: A method of fabrication in which warm plastic is placed inside between the two halves of a mold (cavity) and forced to assume the shape of that mold cavity by the use of air pressure. Examples of blow-molded containers are bottles and tight-head plastic pails and drums.

Bolt Ring: A closing device which requires a bolt and nut to secure the cover to the body of an open-head drum.

Bung: A threaded closure used on the head or body of a drum or tank.

Bung Adapter for Pumps: A coupling, usually threaded 2" NPS, that holds the pump securely in the drum bung opening. Also helps control product evaporation through the bung opening.

Bung Adapter for Coarse (Buttress) Threaded Drums: A buttress-threaded device that accepts an NPS threaded bung or other accessory.

Bung Entering: Mixer shaft and propellers that fit through the container's standard 2" bung opening.

Buttress Thread: A design of thread profile (cross-section) which takes the form of a right triangle or slight modification of that form. It is usually positioned so that the right angle is at the bottom of the thread cross-section and adjacent to the neck of the bottle or flange finish. The horizontal leg of the right triangle is the bearing surface for a matching cap thread. Commonly referred to as coarse thread, and used on large bottles and plastic drums and pails.

Cabinet Heater: Efficient method of evenly warming multiple containers at one time.

Carboy: A largeware container, typically 10 to 20 gallon capacity, used principally for acids and chemicals.

Capacity: The amount of space inside a container provided for a given amount of product.

Centipoise (cps): A common measure of the viscosity (thickness) of a liquid. It is important to know your product's cps when selecting items like mixers or pumps.

Centrifugal: Pump design that uses a spinning impeller (propeller) to drive the liquid.

Chime: The top or bottom edge of the drum formed when the body and head of the drum are joined.

Chugging (Spitting): Irregular product flow that pulses and splashes as it leaves the container. Caused by lack of air venting into container as product is drained.

Closure: A term used to describe a metal or molded cap or plug which effects a primary seal when properly applied to a container.

Coking: The process by which a product that is being heated is broken down in the absence of oxygen. Also called charring.

Collapse: Contraction of the walls of a container.

Copolymer: A material whose chemical structure is made up of long molecular chains of two different structured chemical units (monomers) which repeat a more or less regular pattern in the chain.

Counter: Device that shows the amount of product pumped by counting revolutions of the pump handle. Some models have a "totalizer" feature which shows cumulative usage. Because actual flow is not measured, a counter is not as accurate as a flowmeter.

Cradle Heater: Designed to accept and warm a drum horizontally. Allows the user to dispense product from a faucet.

Density: Weight per unit of volume of a substance, expressed in grams per cubic centimeter, pounds per cubic foot, etc.

Diaphragm: A rubber disk usually found inside a diaphragm pump housing. In an air-operated pump, the diaphragm expands and contracts when air is injected into the chamber. This pumping action causes liquid to be moved.

Diaphragm Pump: Air operated pump that uses a flexible diaphragm to separate the pumping chambers. Handles high viscosity liquids or liquids with suspended solids.

Direct Drive: A shaft directly coupled to a motor. The shaft will turn at the speed of the motor, typically 1725 RPM for an electric motor.

Discharge Head: The height of a column of water a pump will lift. Measured in inches or feet of water. Directly relates to the output pressure.

Double-Action: A piston pump that delivers product on both forward and backward strokes of the handle.

D.O.T.: Department of Transportation. A governmental body regulating the shipment of materials on public rights-of-way.

Factory Mutual (FM): Nationally recognized independent testing laboratory. Evaluates the ability of equipment to meet safety requirements under intended use.

Fill Point: The level to which a container must be filled to furnish a designated quantity of the contents.

Flange: A permanently installed drum component which receives a male threaded bung.

Flash Arrestor: Feature of most safety faucets and safety pumps that prevents "flashback" from an external fire through an open safety faucet or safety pump.

Flowmeters: Mechanical or electronic device that accurately measures the actual flow of product.

Fluorination: The process of bonding fluorine gas to plastic. Inhibits the attack of certain kinds of products, and prevents plastic container paneling and distortion, reduces chemical permeation, odor emission, or flavor loss.

Foaming: During mixing or filling, the undesired result of excessive aeration of a mixture.

Folding Props: A propeller that collapses when the shaft is not in motion. When shaft goes into motion, the propeller spins open. Allows the use of effective, larger diameter propellers than otherwise possible in a tight-head container.

Follower Plate: A metal plate that fits inside a container that constantly presses down on heavy products like grease. Used during pumping operations, prevents air pockets and ensures steady product flow.

Foot-Pound: A unit of torque, equal to one pound of force applied through a lever arm of one foot.

Full Length Heater: Completely covers exterior of drum. Most even and energy efficient method of applying heat.

Fusible Link: Soft, heat sensitive metal latch that holds a faucet or safety funnel open. In the event of a fire, the link melts, allowing the faucet or funnel to snap shut.

Gate Valve: Type of valve that uses a sliding "gate" across the face of the valve to control flow. Used with thick, heavy liquids.

Gauge: A standard measure of the thickness of steel sheet. The higher the number, the thinner the steel. 18-gauge steel is .0478", or 1.2mm thick.

Gear Driven: A term used to classify mixers or agitators that have an output speed (propeller speed) that has been reduced from the original input motor

speed. These units are typically 420 RPM. These "workhorse" mixers have larger diameter propellers and are ideal for mixing viscous products without including air.

Gear Pump: Special type of rotary pump. Uses step-down gearbox for pumping very viscous liquids.

GPM (Gallons Per Minute): The maximum flow output "under ideal conditions".

Hastelloy®: High nickel-content steel alloy with excellent resistance to acids.

Hazardous-Area Heater: Designed for use in specific hazardous areas when heating flammables. See also Red Label Area.

Head: The bottom and/or top of a tight-head drum or pail.

Head Space: The space between the level of the contents in the container and the underside of the head. It is intended to furnish space for expansion of product due to heat or other action after packing.

Immersion Heater: A heater that is dipped into the material to be heated, and transfers heat by direct contact. Provides quick heating of products with good "Heat Receptivity" (products which don't easily burn).

Impeller: Propeller-like device at base of shaft inside of a pump tube. Develops high pressure and low flow of liquids.

Lever Action Pump: Uses short stroke lever motion to operate pump. Short handle travel is often more convenient than up-and-down stroke pumps.

Lever Lock Ring: Closing device for securing the cover to the body of an open-head drum. Relies on a lever-activated mechanism to bring the ends of the ring together.

Lining: A coating, used in the interior of steel drums or pails, which protects the product from contact with the metal of the container.

Magnetic Drive: Pump design that magnetically couples the motor with the impeller shaft. The motor is chemically and electrically isolated from the liquid being pumped.

Mantle Heater: Similar to the concept of a "crockpot". A small metal container (usually 5 gallon or less) is placed down into an air bath of evenly distributed heat. Ideal for heat sensitive products because it applies heat very evenly.

Metering Pump: Precision pump that delivers an exact amount of liquid with each stroke or revolution of the handle.

Mold (Plastic): (V) To shape plastic parts or finished articles by heat and pressure. (N) The cavity into which the plastic composition is placed and from which it takes its form.

Neck: The part of a container where the bottle cross-section is decreased to form the finish.

Neck Finish (Glass and Plastic): The glass or plastic surrounding the opening of a bottle shaped to accommodate a specific closure.

Non-Sparking: Material that won't spark when struck against another object. Examples are brass, aluminum, and zinc.

NPS: National Pipe Straight threads used in steel drums. Most steel drums have both a 2" and a 3/4" NPS opening.

NPT: National Pipe Tapered are generally the male threads on faucets or other devices that screw into NPS female threads. They form a tight seal without requiring a gasket.

Open-Head: A drum with removable cover.

Padlockable: Provision for locking a faucet or pump closed with a small padlock, preventing unauthorized access to the contents of the drum.

Piston Pump: Push-pull motion on the handle side of pump body moves a piston which pumps product. Higher output and better lift capability than stroke or lever-action pumps.

Plug: A closure with threads found on the head or body. See Bung.

Progressive Cavity: Pump design that uses "worm" or "screw" instead of spinning propeller. Handles thick, paste-like products and minimizes air entrapment within the product flow.

Red Label Area: An area designated for the storage, mixing, or dispensing of flammable products. Refers to the red color of the UN/DOT identification label found on containers of these products.

Reversible: A handy feature found on some pumps, which allows product to be pumped into a container as well as out of it.

Rolling Hoop: Reinforcement rings in the form of hooped expansions in the body of the drum. They strengthen the shell of the container.

Rotary Pump: Rotary handle action turns an impeller to pump product in a continuous flow. Higher output than stroke or lever action pumps.

Rotators: A special mixer which slowly rotates the container horizontally. Ideally suited for putting sediments and solids back into suspension.

Rotor: Corkscrew propeller-like device at base of shaft inside of a pump tube. Develops low pressure and high flow of liquids.

RPM (Revolutions Per Minute): Represents how fast the mixer's shaft and propellers turn.

Safety Faucet: Faucets that are Factory Mutual (FM) and/or Underwriters Laboratories (UL) approved for dispensing liquids classified as flammable.

Safety Pumps: Pumps that are Factory Mutual (FM) and/or Underwriters Laboratories (UL) approved for pumping liquids classified as flammable.

Sanitary Construction: Pump design that incorporates special materials and permits easy and complete disassembly of the pump for thorough cleaning. Used for pumping food products. Usually meets USDA/FDA regulations.

Seal-Less: Pump design without a mechanical, or lip seal to prevent product leakage around the pump shaft. Seal-less pumps can run dry without damage.

Seals/O-Rings: Critically important internal pump component that determines efficient pump operation and prevents leakage. Seals and O-rings must be chemically compatible with the product to be pumped.

Self-Closing: Faucet that closes automatically when the handle is released. Prevents accidental spills caused by leaving the faucet unattended in the open position.

Self-Venting: Faucet that automatically allows air into the container as product is drained out. This prevents "spitting" or "chugging".

Shakers: A type of agitator that shakes the container, rejuvenating the product inside. A typical application is "paint" cans.

Shearing: The de-homogenization, or breaking up, of a mixture by high-speed agitation. Can be a problem with polymers or other shear sensitive solutions. Use a low speed (RPM) mixer to minimize shearing.

Silk Screen Printing: A printing method, that uses a pattern of an insoluble material, in outline on a finely woven fabric (the silk screen), so that when the ink is drawn across it, it is able to pass through the screen to the print medium in the desired areas only.

Steam Heater/Cooler: A device in which hot or cold water, refrigerant or steam is allowed to pass through its embossed outer panel channels to warm or cool drum or pail.

Stroke Pump: Simple up-and-down handle action. Much like a hand operated bicycle tire pump. Inexpensive, but slow.

Suction Tube: Intake tube of a pump placed inside the container. Product is pulled into the pump through this tube. Some suction tubes contain strainers to prevent debris from clogging the pump. Telescoping tubes are adjustable in length to fit different height containers.

Surface Treating: Any method of treating a plastic so as to alter the surface and render it receptive to inks, lacquers and adhesives. Examples are chemical, flame, or corona (electronic) treating.

Siphon Pump: A pump that uses the principle that a liquid seeks its own level. The pump handle primes the pump, then the flow continues by itself until the liquid level in the supply container falls to the level in the delivery container.

Tight-Head: A type of drum or pail on which the cover does not come off. Access into the drum is accomplished through a threaded plug.

Torque: Force in a circular motion as applied to a closure on a container, either to attach or remove the closure. See Foot-Pound.

Transfer Pump: Another name for rotary or piston pump.

UDL (Uniform Distributed Load): Refers to the load capacity of a platform such as a spill containment pallet.

UN Specification: United Nations international standards for the transport of dangerous goods, adopted by the U.S. Department of Transportation (Title 49 of the Code of Federal Regulations).

Variable Speed: Handy feature found on air and some electric equipment such as pumps or mixers which allow for adjustment of the motor's speed for optimum mixing.

Viscosity: The flow characteristic of a fluid. High viscosity fluids are thicker and flow more slowly.

Vortexing: The whirlpool effect caused by a mass of fluid turning about an axis. This can be achieved by centering a mixer unit in the center of the tank and avoided by off-centering the mixer unit.