

Selecting the Correct Plumbing System in your Priming Station

Your priming station is designed to deliver a constant, metered supply of primer to your substrate. The priming station equipment consists of a coating cylinder (gravure or smooth), a rubber backing roll, and a recirculation system for an open pan or enclosed doctor blade applicator. The main purpose of the recirculation system is to return unused primer to the holding pan (sump) and then recirculate it back to the coating applicator to ensure it stays full. Choosing the appropriate materials for the recirculation system that do not chemically react with water-based primers can prevent quality issues like primer discoloration, and other contaminations that may cause adhesion issues or delays in production.

Choosing a Plumbing System

When choosing or upgrading a plumbing system for your priming station, it is imperative to keep in mind that most water-based primers have high pH solutions that chemically react to many metals. Pipes, fittings, pumps, clamps, holding pans, hose barbs, and auxiliary handling equipment, such as buckets, should not be metal, unless they are high-grade stainless steel. It is recommended that plastic parts and tubing are used wherever possible to limit potential exposure to metals that react with the primer solution. The added benefit is that they are more cost-effective than metal parts.

Choosing a Pump

We recommend positive displacement pumps, such as peristaltic and double diaphragm pumps. These pumps can be ordered with inert materials to prevent chemical or metal interaction with primers. A benefit of a peristaltic pump is that you can easily replace the tubing used to pump primer through the recirculation system, while the pump itself never contacts liquid. Double diaphragm pumps have wet parts in contact with the primer, but replacement parts, known as Wet Kits, are usually available. Wet Kits include diaphragms and sealing gaskets. It is recommended to use either PTFE or Viton materials for the Wet Kits. These materials are resistant to aggressive solutions such as acids and bases. The Viton has better suction and the PTFE has a better flex life. These pumps, when used at low speeds, will help prevent the development of foaming in the solution.



Peristaltic Pump



Double Diaphragm Pump

Measuring and Maintaining Flowrates

It is important to maintain a steady flowrate of primer through the recirculation system. This will help the priming station run smoothly and efficiently. The flow of primer should be slow and gentle. A quick visual measurement of the flowrate is to look at the return into the sump; the fluid should be only half of the diameter of the tube.

Contact Us

If you have questions about any of the equipment or methods mentioned above, or need further assistance with your plumbing system, please contact your Mica Technical Sales Representative directly, or call us at (203) 922-8888.