

Isolation Valves

Freeze dryers / lyophilizers use butterfly style isolation valves to separate the product chamber from the condenser.

At Millrock Technology, we use a wafer butterfly valve for most of our applications. It consists of a 316L stainless steel disk that rotates on a shaft at right angles to the fluid flow. When open, the disk is 'edge on' to the flow allowing the fluid to pass by with limited resistance. Butterfly isolation valves take up little room, are fast acting, and can be used for barometric pressure rise testing.

As one of the key components in a freeze drying system, isolation valves are what protect the product from contamination should any type of electrical problems occur. During a power outage the isolation valve shuts maintaining a vacuum in the product chamber and prevents water vapor from returning to the product for the condenser. In a clean room configuration it is essential to prevent the clean room from being exposed to the dirty side.

Isolation valves can be electrically or pneumatically operated. A spring return ensures that the valve will close when power is lost.



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