

Mass Flow Controllers

Enabling our customers to bring their products and processes to market faster, more reliably, and more cost effectively is at the heart of our mass flow controller (MFC) design philosophy. The MKS family of MFCs measure and control the flow of critical gases in a wide variety of applications, such as semiconductor manufacturing, optical coatings and flat panel display manufacturing. With features, functionality and performances to meet virtually any need, customers can expect reduced cost of ownership and better tool and process performance.

ALTA™ Series Digital Mass Flow Controller ●●●

Designed for the most challenging semiconductor and high purity thin-film applications, the ALTA™ Series of digital MFCs has several technological enhancements, including multi-range, multi-gas capability to improve cost of ownership and to increase tool throughput in a variety of applications.



●●● π MFC Pressure-Insensitive MFC

This next generation controller includes technology improvements in functionality and performance to increase tool throughput in semiconductor and high purity thin-film applications. Real-time flow control that is insensitive to upstream and downstream pressure disturbances is provided through advanced digital algorithms. Complimentary Ethernet interface is used for e-diagnostics.



Mass-Flo® Series Mass Flow Controller ●●●

Configuration flexibility is coupled with superior performance in the MKS family of Mass-Flo® MFCs. Field-proven to provide users with cost effective, precise flow control, these MFCs are widely used in a variety of diverse, general purpose gas delivery applications and feature robust, reliable designs to reduce system downtime while lowering overall costs.



Application-Specific Integrated Solutions

Innovation and expertise combine to derive unique solutions to lower cost, reduce complexity, and improve process productivity—without sacrificing performance. Drawing upon breadth of process expertise and multi-disciplinary technical excellence, MKS works closely with customers to understand their needs and to develop the right solutions at the right time.



●●● DPC Dual-Zone Pressure Controller

Designed to reduce the overall cost of ownership of pressure control subsystems, MKS' DPC integrates the necessary components into a single package. This pressure controller provides the needed functionality—-independent pressure control and mass flow metering of two distinct volumes—in a reduced size, less complex and more cost-effective form.

Tru-Flo® Mass Flow Verifier ●●●

The Tru-Flo® Mass Flow Verifier is a fully integrated diagnostic instrument that measures a pressure rate-of-rise to determine mass flow to within $\pm 1\%$ of Reading. This model consists of a small gas volume, an MKS Baratron® pressure sensor, shut off valves, and control electronics combined into a single compact package. The Tru-Flo MFV can be easily incorporated into a process tool gas panel and communicates with a tool host computer via an RS-232 interface.



●●● π PC Integrated Pressure Controller

The π PC90 Pressure Controller is a pressure control system designed for a wide range of pressure and flow conditions. It contains a capacitance manometer, normally closed or normally open control valve, and closed-loop control electronics. The π PC99 with Integral Mass Flow Meter provides pressure measurement and control while monitoring mass flow rates for critical process applications.



π MFV Mass Flow Verifier ●●●

The π MFV is a compact diagnostic instrument that integrates MKS' leading flow calibration and pressure measurement technologies by combining a Baratron® pressure sensor, a small gas volume, and control electronics into a compact package. The π MFV can be seamlessly incorporated into a process tool gas panel and communicates with a tool host computer via DeviceNet™ communication. An Ethernet port is also available for diagnostics and TOOLweb® communication.



Advanced Materials Delivery Solutions

Combining process knowledge with best-in-class process monitoring and pressure based flow control technologies allows MKS to quickly and cost effectively develop unique solutions to meet even the most demanding material delivery challenge. With the broadest range of advanced material delivery products available, we have the solution needed to optimize process performance.



●●● DELTA™ II Flow Ratio Controller

The DELTA™ II flow ratio controller, with its advanced performance and compact design, is the second generation of MKS industry-leading DELTA controllers. At ratios specified by the user, the DELTA II divides and controls mixed process gas flows within a process chamber to maximize process uniformity and repeatability.

VoDM™ Vapor on Demand Module ●●●

Designed to reliably deliver precise amounts of water vapor into photoresist strip and post-metal etch passivation processes, the VoDM™ offers increased functionality with reduced system complexity and maintenance over discrete, multi-component systems.



●●● 1150C and 1152C Vapor Pressure Source Delivery System

The 1150 Series products provide controlled amounts of vapor from a low vapor pressure liquid source precursor to the process chamber at rates consistent with high throughput requirements. Suitable for advanced CVD precursors, the 1150 Series does not require carrier gas to deliver the precursor vapors, lowering cost of ownership and reducing system complexity.



