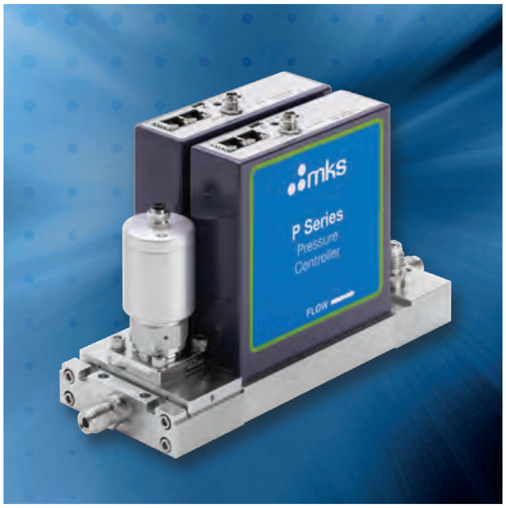
PRESSURE CONTROLLERS

INTELLIGENT, INTEGRATED AND PRECISE PROCESS CONTROL



PRESSURE CONTROLLERS

BEST-IN-CLASS VACUUM CONTROL SOLUTIONS

MKS Instruments understands the critical role of maintaining precise pressure in various industrial applications. Our innovative Pressure Controllers provide exceptional accuracy and stability for regulating gas flow in vacuum chambers. These controllers integrate seamlessly with your vacuum system, featuring Baratron® pressure measurement technology for highly reliable pressure sensing. Intelligent, integrated pressure control is ideal for applications demanding high performance and simple integration into process tools.

- Precise pressure control in various applications
- Exceptional accuracy and stability for gas flow in vacuum chamber
- Highly effective backside wafer cooling
- Seamless integration for efficient and reliable processes

PPCA

High Performance Pressure Controller

- Backside wafer cooling
- Fast response to set point with minimal overshoot
- DeviceNet™ or EtherCAT® communications
- Metal-sealed, cleanroom manufactured units meet critical high purity application needs
- Temperature compensation maintains device accuracy over its operating temperature range
- Integral Baratron® capacitance manometer technology for pressure measurement

GPCA

General Purpose Pressure Controllers

- Percent of set point accuracy enables precise process control
- Temperature compensated pressure sensor maintains tight accuracy
- DeviceNet™, EtherCAT®, or RS485 communications
- Embedded user interface
- 10µ inch electropolished 316L surface finish and metal seals for high purity applications

PPCMA

High Performance Downstream Pressure Controller with Mass Flow Meter

- Fast response to set point with minimal overshoot
- Metal-sealed, cleanroom manufactured for high purity applications
- DeviceNet™ or EtherCAT® communications
- Integral Baratron® capacitance manometer technology
- Integral pressure measurement and control with flow metering in a single package

GPCMA

General Purpose Downstream Pressure Controller with Mass Flow Meter

- Percent of set point accuracy enables precise process control
- Temperature compensated pressure sensor maintains tight accuracy
- DeviceNet™, EtherCAT®, or RS485 communications
- Embedded user interface
- 10µ inch electropolished 316L surface finish and metal seals for high purity applications
- Patented mass flow sensor provides exceptional long-term accuracy and zero stability

Integrated Upstream & Downstream Pressure Controllers

MKS Instruments understands the critical role of maintaining precise pressure in various industrial applications. Our innovative pressure controllers provide exceptional accuracy and stability for regulating gas flow in vacuum chambers.

The pressure controllers offer a comprehensive solution for precise pressure regulation when paired with solenoid flow control valves and integrated control electronics while using Baratron® pressure measurement technology. The pressure controllers integrate seamlessly into your vacuum system leading to more efficient and reliable processes.

Helium Wafer Cooling Pressure Controllers

MKS offers state of the art pressure and flow control solutions that allow for highly effective backside wafer cooling, improving yield and throughput.

PDPCA

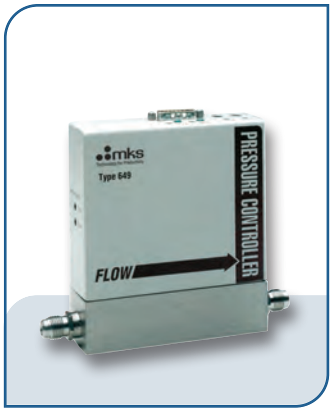
Dual-zone Pressure Controllers with Mass Flow Meter

- Complete backside wafer cooling subsystem in a compact package
- Two independent channels of pressure control, each with mass flow metering
- Available with EtherCAT® or DeviceNet™ communications
- Tunable response for fast time to set point without pressure overshoot
- Control stability of ±0.1% of set point

640B/641B

Integrated Pressure Controllers

- Full Scale ranges as low as 10 Torr for low pressure processes
- Can be used with upstream or downstream controller applications
- Two alarm trip points for process limit control
- Integral Baratron® capacitance manometer technology (640B/641B)
- Controls absolute pressure (640B) or gauge pressure (641B)



649B

Downstream Pressure Controllers with Mass Flow Meter

- Integral Baratron® capacitance manometer technology
- Metal-sealed, cleanroom manufactured for critical high purity applications
- Fast response to set point with minimal overshoot
- Two alarm trip points for process limit control
- Patented mass flow sensor for exceptional long-term accuracy and zero stability

WHY MKS?

CRITICAL TECHNOLOGIES

World-class technology and development capabilities for leading-edge processes

PROVEN PARTNER

Recognized leader delivering innovative, reliable solutions for our customers' most complex problems

OPERATIONAL EXCELLENCE

Consistent execution across all aspects of our business

COMPREHENSIVE PORTFOLIO

Extensive offering of products and services for the markets we serve

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MKS INSTRUMENTS, INC. enables technologies that transform our world. We deliver foundational technology solutions to leading edge semiconductor manufacturing, electronics and packaging, and specialty industrial applications.

We apply our broad science and engineering capabilities to create instruments, subsystems, systems, process control solutions and specialty chemicals technology that improve process performance, optimize productivity and enable unique innovations for many of the world's leading technology and industrial companies.

Our solutions are critical to addressing the challenges of miniaturization and complexity in advanced device manufacturing by enabling increased power, speed, feature enhancement, and optimized connectivity. Our solutions are also critical to addressing ever-increasing performance requirements across a wide array of specialty industrial applications.

Additional information can be found at **www.MKS.com**.