



AUTOMATION & CONTROL MKS provides automation solutions consisting of distributed I/O devices, fieldbus gateways, multi-zone temperature control, EtherCAT® enabled controllers, fully programmable automation control (PAC) platforms, programmable safety systems, edge analytics systems, and software solutions for diagnostics, system tuning, GUI/HMIs, and programming of process logic and recipes. Off the shelf solutions are also available to seamlessly automate many MKS devices such as Baratron® capacitance manometers, mass flow controllers, and vacuum gauges.



CUSTOM VACUUM MKS specializes in the manufacture, cleaning, assembly and customization of precision machined components and electromechanical assemblies including vacuum chambers, complex welded manifolds and chambers, gauge manifold kits, subsystems and full instrument build, including complete system test for the scientific, semiconductor and life science industries.



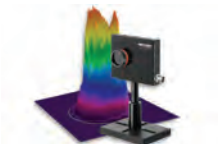
FLOW/GAS DELIVERY Accurate, reliable gas flow delivery and control is crucial to many of today's advanced processes. The MKS family of flow delivery products includes mass flow controllers (MFCs), in-situ mass flow verifiers, and flow ratio controllers that accurately and repeatedly divide gas flows into precise flow streams to multiple points in the process. MFCs are available in thermal and pressure based sensor technologies, analog and digital communication, and metal or elastomer seals.



HEATERS, TRAPS & EFFLUENT MANAGEMENT CE compliant, cleanroom-compatible heaters, with advanced control create a complete "Thermal Management System" designed for use on stainless steel tubing and process components to ensure consistent and uniform heating. MKS effluent management solutions combine traps, heaters, process components and process expertise to create higher yields and tool uptime while managing shorter maintenance times.



LASERS & LIGHT SOURCES MKS provides light sources to address microelectronics, medical, bio-imaging, bio-instrumentation, industrial manufacturing, scientific research and other photonic requirements. Products and solutions include ultrafast, Q-switched DPSS, CW, quasi-CW, high-energy pulsed, tunable and fiber lasers, low power laser diode modules, HeNe lasers, incoherent sources, laser diode instrumentation, laser diode reliability and burn-in test systems, electro-optic modulators and accessories. Includes ILX Lightwave, New Focus™, Newport, Oriel® Instruments, and Spectra-Physics® brands.



LIGHT ANALYSIS MKS offers industry leading tools for measuring the power or energy of an optical beam, profiling a laser, locating the position of a beam, spectral analysis, or characterizing a laser pulse. Products include optical meters, optical sensors, photo-receivers, spectroscopy and beam characterization instrumentation. Includes New Focus, Newport, Ophir® Photonics, and Oriel Instruments brands.



MASS SPECTROMETRY MKS provides a powerful range of mass spectrometry based solutions from high vacuum residual gas analyzers (RGAs) to in-situ process monitoring systems and atmospheric pressure mass spectrometers. These systems provide capabilities for essential vacuum monitoring, contaminant detection, advanced analytical applications, to full integration and process monitoring in manufacturing environments. Custom hardware and software engineering solutions are available for a wide range of applications.



MICROWAVE SUBSYSTEM & COMPONENTS MKS is a leader in microwave with power levels from 300W to 6kW. Solutions include integrated microwave plasma subsystems, solid state microwave generators, microwave plasma sources, microwave components and accessories.



MOTION CONTROL MKS offers manual positioning and motion control products, including linear stages, rotation and tilt stages, alignment stages, adjusters and actuators, hexapods, controllers and industrial motion control. Includes New Focus and Newport brands.



OPTICAL GAS ANALYZERS FTIR (Fourier Transform Infrared) real-time gas analysis instruments are capable of monitoring multiple gas species including NH₃, NO, NO₂ and N₂O down to ppb levels with as much as 40% moisture and CO₂ present for combustion emission and other monitoring. NDIR (non-dispersive infrared) and the Precise® TFS (Tunable Filter Spectroscopy) real-time gas sensors and analyzers are capable of ppm to percent level measurements in hydrocarbon processing industries, gas-to-power markets and SEMI applications.



OPTICAL TABLES & VIBRATION ISOLATION SYSTEMS MKS provides leading vibration control and vibration isolation solutions including optical tables, isolation systems, and vibration control products. Includes Newport brand.



OPTICS MKS offers the highest quality optics and optical coatings that cover the UV, visible, NIR and IR wavelengths as well as a selection of lenses, mirrors, filters, beam splitters, polarizers, OEM and custom optics, optical systems, optic sets and accessories, windows, prisms, gratings, and fiber optics. Includes Corion®, Newport, Ophir Optics, and Richardson Gratings™ brands.



OPTO-MECHANICS MKS provides a comprehensive line of optical mounts and positioners including mounts, posts, bases and brackets, breadboards, rails, beam routing, lab supplies and custom components. Includes New Focus and Newport brands.



PRESSURE/VACUUM MEASUREMENT MKS is the leader in pressure and vacuum measurement. The MKS family of pressure and vacuum measurement instruments includes Baratron® capacitance manometers, pressure sensors, pressure switches, pressure control subsystems, vacuum and pressure gauges, transducers, and controllers; as well as Granville-Phillips® indirect vacuum gauge transducers and modules, vacuum gauges, vacuum gauge controllers, and vacuum quality monitors.



REACTIVE GAS MKS provides a complete spectrum of ultra clean, highly reliable ozone generation, delivery and accessory products including compact, high concentration ozone generators, closed-loop controlled ozone gas delivery subsystems, state-of-the-art, high concentration dissolved ozone liquid delivery subsystems and ozone accessories for flow mixing and ozone destruction.



REMOTE PLASMA SOURCES MKS designs and manufactures RF toroidal plasma sources to energize and dissociate gases. Fluorine based gases such as NF_3 are used to clean unwanted deposits from the walls of vacuum process chambers. Plasma sources for process chemistries include oxygen, nitrogen, and hydrogen.



RF & DC POWER MKS offers leading high reliability, compact, solid state, low to very high (VHF) frequency RF power generators, impedance matching networks and plasma metrology products, RF amplifiers for MRI equipment, and pulsed and continuous DC power generators.



VACUUM & STAINLESS STEEL COMPONENTS MKS offers a broad range of fittings and accessories for vacuum applications including stainless steel, aluminum, ISO-KF, ISO-Universal, CF and butt weld vacuum fittings, vacuum flanges and components, elbows, reducers, tees, crosses, viewports, adapters, flexible metal hoses, tubing, gaskets, seals, clamps and custom manifolds.



VACUUM ISOLATION & PRESSURE CONTROL VALVES The MKS family of vacuum isolation valves includes butterfly pressure control valves, bellows-sealed isolation valves, and gate valves. Valve sizes range from 20mm to 250mm and include manual, pneumatic and electro-pneumatic actuators. Unheated and heated configurations are also available. Pressure control valves are available with a range of I/O interface options to meet specific pressure control needs.