

VACUUM FLANGES & FITTINGS

STAINLESS STEEL COMPONENTS FOR VACUUM SYSTEMS



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HIGH QUALITY COMPONENTS FOR A VARIETY OF APPLICATIONS

MKS offers a variety of vacuum fittings to meet all your process needs. These modular component systems are used in a variety of applications from process manufacturing to semiconductor fabrication, thin film deposition and research. Each family of fittings is made with quality stainless steel for high performance throughout the process. With extensive engineering capabilities, these industry-standard components provide quick and cost-effective system assembly.

- Custom-designed and manufactured shapes and sizes available
- High performance throughout a wide temperature range
- Modular building block method for easy system assembly
- Build high vacuum systems quickly
- ISO-standard flanges can be interchanged with components from other manufacturers
- Surfaces are carefully machined, inspected for defects, cleaned and packaged for shipment



ISO-KF Vacuum Flange Components

- Includes flanges, seals, clamps, reducers, adapters, elbows, tees, crosses, straight sections, tubing, bellows, thin and thick metal hoses
- Made with quality 304L or 316L stainless steel
- Used as modular building block method
- Quick and easy system assembly



CF UHV Flange Components and Fittings

- Includes flanges, adapters, elbows, tees, crosses, bellows, thin and thick wall metal hoses, and plate and nut sets
- Made with very high purity stainless steel
- Suitable for ultrahigh vacuum applications down to 10^{-13} Torr
- Rotatable and non-rotatable flanges are available



ISO-MF AND ISO-BF Vacuum Flange Components

- Includes flanges, seals, clamps, rings, reducers, adapters, elbows, tees, crosses, bellows, thin and thick wall metal hoses, and bolts and nut sets
- All flanges and components made of 304L and 316L stainless steel
- Quick operating modular system for vacuum construction
- Roughing and foreline plumbing for large vacuum systems



BUTT WELD Vacuum Components

- Includes elbows, tees, crosses, reducers, end caps and tubing
- All components made of 304L and 316L stainless steel
- Prepared for use in high vacuum processes or applications
- Low outgassing under vacuum
- Annealed for consistent leak free testing

ISO-KF Vacuum Flange Components

Our ISO-KF vacuum flange fitting and component system is a modular, building block method for creating 0.75 to 4 inch vacuum piping systems. Series 31 ISO-KF vacuum fittings provide several advantages. They use standardized dimensions allowing ISO KF elbows, tees, crosses or valves for a given size to be interchanged. ISO-KF flanges are also "sexless" and the seal is symmetrical so components can be rotated. The ISO-KF vacuum flange system allows the building of high vacuum systems quickly, without welding or brazing and supports quick and easy cleaning or modification of your vacuum system.

CF UHV Flange Components and Fittings

CF-style vacuum flanges and fittings are the standard for ultrahigh vacuum (UHV) applications. Also known as ConFlat® flanges, they use a copper flat gasket placed between two knife edges to provide an extremely leak-tight vacuum seal. Mating rotatable and non-rotatable flanges have identical profiles, i.e., they are sexless, eliminating the need to store two types or worry about compatibility. Made with very high purity stainless steel and meticulous cleaning procedures, Series 88 CF components are suitable for use in the ultrahigh vacuum applications down to 10^{-13} Torr pressure and in temperatures from -196° to 500°C . The material characteristics of the flanges, seals, screws, and nuts are selected to provide high performance throughout a wide temperature range. Rotatable and nonrotatable flanges in sizes from mini 1-1/3 to 4-5/8 inches are available with several bore sizes to fit a wide range of vacuum tube diameters.

ISO-MF and ISO-BF Vacuum Flange Components

ISO large flange vacuum fittings and components are commonly referred to as ISO-MF (multi-fastener flange), ISO-LF (large flange), ISO-K, ISO-BF (bolted flange) ISO Universal, or as plain "ISO" flanges. Our Series 76 ISO vacuum components are a quick operating modular system for vacuum construction with flanging ranging from 2.5 to 24 inches (NW63 to NW630). There are several advantages in the use of ISO flange components. One advantage is that the flange is "sexless." The seal is on a symmetrical centering ring that interfaces with two identical flanges. In addition, ISO vacuum flanges are more compact than ASA flanges, which were designed for pressure and are unnecessarily massive for vacuum use. Since these flanges are an ISO standard, they can be used with components from other manufacturers. Applications for the ISO components include piping for remote pumping systems and clean rooms, roughing and foreline plumbing for large systems, high vacuum/high conductance interconnections, and frequently changed systems.

Butt Weld Vacuum Components

Butt weld vacuum fittings, stainless steel tubing, and braided metal hose is designed to be used in conjunction with our full line of ISO-MF, ISO-KF and CF UHV flanges, and are easily welded to the flanges or each other during on-site installation. All Series 23 butt weld vacuum components are made of 304 stainless steel and are specifically prepared for use in high vacuum process or UHV applications.

Custom Vacuum Fabrication

MKS specializes in the manufacture and customization of precision mechanical assemblies that include gauge trees and complete vacuum forelines. These integrated systems, comprised of isolation valves, stainless steel manifolds, vacuum components and heater jackets, can be built to customer specifications or designed by our engineering professionals. We will work to improve vacuum system performance and uptime while providing the most cost effective solution available.

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.

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