



KVA Ultra-High Purity Valves & Fittings





COMPANY PROFILE

Products for Semiconductor Applications

Kavya Valve (Chengdu) Co., Ltd. (brand name: KVA), as the subsidiary of Kavya (NanTong) Hygienic Materials Co., Ltd. is primarily engaged in the production and sale of High-Purity and Ultra-High Purity Diaphragm Valves, Regulators, Filters, Check Valves, Ball Valves, Bellows-Sealed Valves, Bellows-Sealed Metering Valves, Metal Gasket Face Seal VCR Fittings, Micro Welded Fittings, and more. Our aim is to meet your needs in the semiconductor application field with more professional products and services.

We Kavya have self-built modern factory of more than 11,000 square meters. As a member of International Semiconductor Association (SEMI), we have certificates such as TS, ASME BPE, 3A, ISO9001, ISO14001, ISO45001 etc.

Our Advantages:

- 1. Industry Focus:** We are dedicated to the instrumentation valves & fittings industry, with years of in-depth experience, accumulating rich design and manufacturing expertise. KVA products are widely used in many countries and regions globally, covering five major product lines to meet your various industrial needs.
- 2. Strong R&D Capability:** We have a great R&D team and have earned numerous patents for our innovations.
- 3. Rigorous and Reliable Quality Management:** The product quality is ensured to be stable through multiple internationally recognized management systems and product certifications.
- 4. Rapid Response and Efficient Delivery:** With a global operational network, we guarantee quick product delivery and a prompt response to customer requirements.

Our Mission: To provide high-quality products and professional services to our clients.

We meticulously control custom materials, production, and testing, strictly adhering to industry requirements and standards to ensure product performance throughout the manufacturing process. We offer one-step solutions for fluid systems in the semiconductor industry, providing components such as High-Purity Valves, Fittings, and EP Tubing, as well as Integrated Systems, from system design to on-site installation services.



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Diaphragm Valves

D1V Series

- 316L SS Body
- Working pressures up to 3500 psig (241 bar)
- Temperature Range From -10 to 150 °F (-23 to 65 °C) by PCTFE Seat or -10 to 250 °F (-23 to 121 °C) by Polyimide Seat
- Flow Coefficient (Cv) 0.8
- Spring type design
- Max. Differential Back Pressure is 150 psig
- Manual and pneumatic actuators available
- Position sensors optional for pneumatically actuator valves, normally closed or normally open position sensors optional for pneumatically actuator valves



D2V Series

- 316L SS, 316L VAR Body
- Working pressures up to 300 psig (20.6 bar)
- Temperature Range From -10 to 150 °F (-23 to 65 °C) by PCTFE Seat or -10 to 250 °F (-23 to 121 °C) by Polyimide Seat
- Flow Coefficient (Cv) 2.8
- Manual and pneumatic actuators available
- Position sensors optional for normally closed pneumatically actuator valves, normally closed or normally open position sensors optional for pneumatically actuator valves
- Purge Port faces available



D3V Series

- 316L SS, 316L VAR Body
- Working pressures : Vacuum to 250 psig
- Temperature Range From -10 to 150 °F (-23 to 65 °C) by PCTFE Seat or -10 to 302 °F (-23 to 150 °C) by PFA Seat
- Flow Coefficient (Cv) 0.27
- Facilitates purging
- Multiple flow type available
- Manual and pneumatic actuators available
- Position sensors optional for normally closed pneumatically actuator valves, normally closed or normally open position sensors optional for pneumatically actuator valves
- Purge Port faces available



D3V Derivative Series

In addition to the basic characteristics mentioned above, its derivative products have the following features

- D3VD Dual piston design to provide a soft start for equipment by rapidly switching between low and high flow modes
- D3VR Easily replaceable valve seat, without need for special tools
Service kits are available , Flow Coefficient (Cv) 0.3



Diaphragm Valves

D4V Series

- 316L SS, 316L VAR Body
- Working pressures up to 3500 psig (241 bar)
- Temperature Range From -100 to 250 °F (-73 to 121 °C) by PCTFE Seat or -100 to 320 °F (-73 to 160 °C) by Polyimide Seat
- Flow Coefficient (Cv) Round handle is 0.3, Straight handle is 0.14 and Pneumatic Actuators is 0.20
- Bottom mounting and panel mounting standard
- Multiple flow type available
- Manual and pneumatic actuators available
- Position sensors available assembled on normally closed valves, normally closed or normally open position sensors optional for pneumatically actuator valves



D5V Series

- 316L SS, 316L VAR Body
- Working pressures up to 4500 psig (310 bar)
- Temperature Range From -10 to 150 °F (-23 to 65 °C) by PCTFE Seat or -10 to 250 °F (-23 to 121 °C) by Polyimide Seat
- Flow Coefficient (Cv) 0.17
- Compact design for minimized number of components
- Packless
- Multiple flow type available
- Manual and pneumatic actuators available
- Position sensors optional for normally closed pneumatically actuator valves, normally closed or normally open position sensors optional for pneumatically actuator valves



Pressure Reducing Regulators

PR1V Series

- 316L SS, 316L VAR Body
- Working pressures up to 3500 psig (241 bar)
- Temperature Range From -40 to 150 °F (-40 to 65 °C) by PCTFE Seat or -15 to 302 °F (-26 to 150 °C) by Polyimide Seat
- 3500 psig inlet : Cv 0.06
600 or 1000 psig inlet : Cv 0.15
- Outlet Pressure Range available : 0 to 30 psig. 0 to 60 psig.
0 to 100 psig. 0 to 150 psig
- Pressure gauge available
- Bottom mounting and panel mounting standard



Pressure Reducing Regulators

PR2V Series

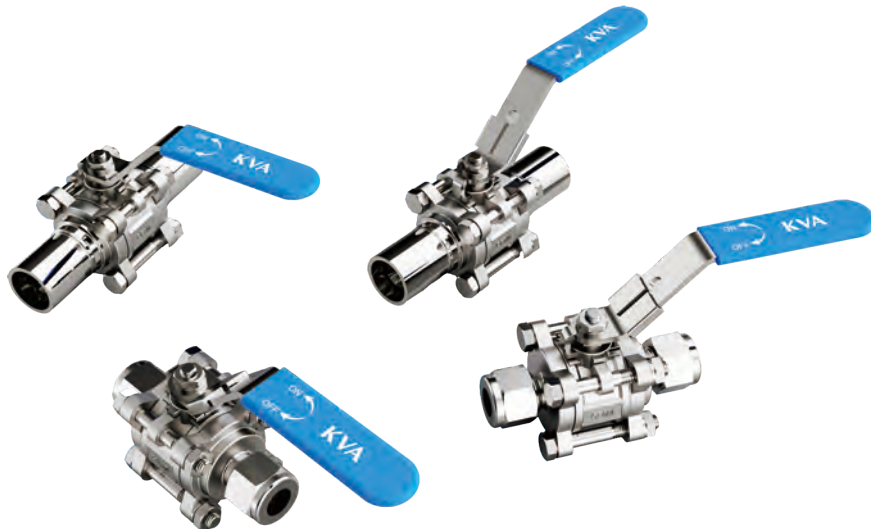
- 316L SS, 316L VAR, Brass and Alloy C-276 Optional
- Working pressures up to 4500 psig (310 bar)
- Temperature Range From -40 to 165 °F (-40 to 74 °C) by PCTFE Seat or -14 to 194 °F (-10 to 90 °C) by Polyimide Seat
- 3500 or 4500 psig inlet : Cv 0.09
500 or 1500 psig inlet : Cv 0.2
- Outlet Pressure Range available : 0 to 25 psig. 0 to 50 psig.
0 to 100 psig. 0 to 150 psig. 0 to 250 psig. 0 to 500 psig.
- Pressure gauge available
- Bottom mounting and panel mounting standard



Ball Valves

B1V Series

- CF8M, 316 SS and 316L SS Body
- Working pressure up to 1000 psig (69 bar)
- Temperature Range -20 to 450 °F (-28 to 232 °C)
- Orifice from 0.18 in. to 0.79 in. (4.6 mm to 20.0 mm)
- Locking Device and Low Dead Space Inserts available



Gas Filters

F1V Series

- 316L SS, 316L VAR and 316L VIM-VAR Body
- Working pressures up to 3000 psig (206 bar)
- Temperature 122 °F (50 °C)
- Flow rates to 300 std L/min
- Ultrahigh-Purity In-line Gas Filters
- Membralox Ceramic Element
- Exceptionally low particle shedding
- Superior moisture dry-down characteristic
- Outstanding chemical compatibility
- High differential pressure rating
- Inline, all-welded construction
- Particle Removal Rate greater than 99.999999% at 0.003 µm at max. flow rate



Check Valves

C1V Series

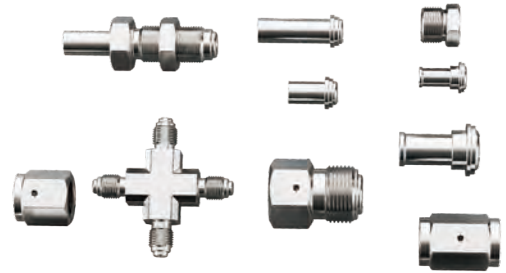
- 316L, 316L VAR Body
- Working pressures up to 3000 psig (206 bar)
- Temperature Range -10 to 400 °F (-23 to 204 °C)
- Flow Coefficient (Cv) 0.55 or 0.7 by port
- Cracking Pressure 2 psig (0.14 bar)
- Max. Pressure Drop 145 psig (10 bar)
- Internally threadless and all-welded design
- Rubber bonded stainless steel sealing structure



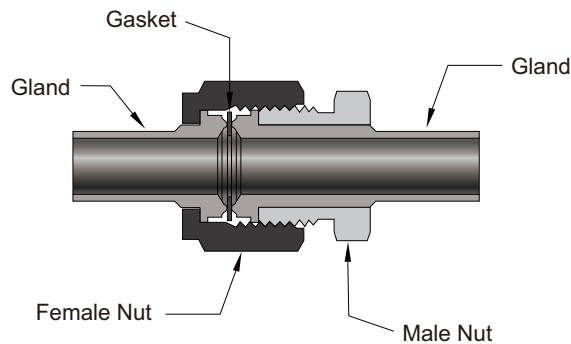
Metal Gasket Face Seal Fitting

VR Series

- Metal to metal seal to provide perfect leak-tight service for working. Conditions from critical vacuum to high pressure
- Test port at nut for easy leak testing
- Silver-plated female threads
- Standard surface roughness finished to an average of Ra 10 μm . (0.25 μm) or electropolished to Ra 5 μm . (0.13 μm) optional
- All seal faces and male threads protected with plastic caps
- Sizes range from : 1/16" to 1" and 6 mm to 18 mm



Installation Instructions



Coaxial Tubing and Fittings

- 316L SS and 316L VAR
- Process and safety tubes are completely isolated using inert gas/vacuum
- Leakage by process tubes can be sealed in a safe space
- Easy to installation
- Compatible with existing systems
- Except for the coaxial sleeve and coaxial ring, the products are cleaning and packaging according to the KVA **ultra-high purity process**, and filled with high-purity nitrogen (99.999%) in the inner bag
- The coaxial sleeve and coaxial ring adapt the **standard cleaning and packaging process** of KVA



Weld Fittings

316 SS, 316L SS and 316L VAR available

Micro Tube Weld Fittings

- Radius junction design with elbows to provide smooth flow path
- Precision machined diameter to match tube diameter
- Square, burr-free tube weld ends to enhance alignment
- Compact design
- Sizes range from 1/8" to 1/2 "and 6 mm to 12 mm Applicable to miniaturized tubing system



Normally Tube Weld Fittings

- Radius junction design with elbows to provide smooth flow path
- Precision machined diameter to match tube diameter
- Square, burr-free tube weld ends to enhance alignment



TB Series Fittings

- Radius junction design with elbows to provide smooth flow path
- Thin walls reduce welding heat input and ensure welding quality
- Uniform wall thickness, lightweight design, Manual or automatic welding equipment applicable



Cleaning and Packaging Process

Process Specification Item	Standard Cleaning and Packaging Special Clean and Packaging for Oxygen-rich Condition	Ultrahigh-Purity Processing
Materials	316 SS 316L SS	316L SS 316L VAR 316L VIM-VAR
Wetted Surface Roughness	Ra 10 μin. (0.25 μm)	Ra 5 μin. (0.13 μm)
Process	Machine polished	Electropolished

General Instrumentation

Double Ferrule Fittings



Threaded Fittings



Quick Connects



Instrument Ball Valves



Needle Valves



Check Valves



Proportional Relief Valves



Manifolds



Qualification Certificate



