

Alternative Fuels



Whether you build, use, or repair alternative fuel service trucks, buses, or stations, we understand that your reputation, **quality**, and profitability depend on the performance of your fluid handling systems.

Through the years, we know that you have come to depend on the consistent **reliability** of Swagelok® people, products, and services. And, as the **alternative fuels** market continues to grow,

Swagelok offers you more than ever. Today, Swagelok and a global network of authorized sales and service centers are **committed** to bringing you more products, more services, and more support than ever before.

Our aim is to deliver reliable **solutions** that meet your needs—whether you are looking to reduce system footprint or vehicle weight or to improve safety or environmental conditions.



This customized refueling nozzle control valve assembly—built from Swagelok components—is just one example of Swagelok's custom fabrication capability.

These tank packs are built with leak-tight Swagelok tube fittings. Courtesy of FAB Industries.



Superior Service

Swagelok authorized sales and service centers stock, sell, and service Swagelok products. Each center provides **local support**, including product and installation training, in your language and at your location—anywhere in the world. Wherever you are, you will find the support you need from a truly **global network** of more than 200 authorized Swagelok sales and service centers on 6 continents.

Local stock is based on local usage patterns, so you can reduce inventory and **increase savings**. Swagelok sales and service centers stock what you buy and supply the products you need—when you need them. Every sales and service center is backed by regional Swagelok distribution centers that stock thousands of products. Plus, you will receive a **quick response** on pricing and delivery quotes for many specialty products.

Rely on the **experience** of customer service and technical representatives to help you select products configured to meet regulatory requirements and government approval for your market.



Whatever your needs, every authorized Swagelok sales and service center offers a complete portfolio of eBusiness capabilities to support a wide range of procurement solutions. Use their online eStore, EDI/EDIFACT, even marketplace punchouts. And for the latest product information, go to Swagelok.com—your source for catalogs, CAD templates, technical papers, and more.



Incomparable Capabilities

From installation to operation, you get what you expect from Swagelok products.

Behind every Swagelok product is a global Swagelok team—scientists you rely on to identify and research materials; engineers who design products to exacting requirements; manufacturing professionals who develop lean, high-speed processes; quality teams to provide the product certifications you need; and logistics and distribution experts who ensure Swagelok products are globally available to you.



■ A commitment to materials science capabilities gives our products an edge. Material consistency helps Swagelok ensure that each and every product can be manufactured to the same exacting standard so that you receive a high-quality product each and every time.

■ Hundreds of Swagelok associates support a product development process that enhances current products, custom-engineers new solutions, and invents new products.

■ Through in-house laboratory testing facilities and quality procedures, we not only know that our products work, but we also know why they work. And, this knowledge helps us deliver products that meet your needs.



■ Swagelok quality systems and products are internationally recognized. The company has been audited and certified as meeting the full requirements of ISO 9001. We have earned additional recognition, approval, and certifications including:

- CRN (Canada)
- METI (Japan)

Industry-related compliances for hydrogen generation and production include:

- CSA/NGV 3.1 and 4.6, ECE R110
- PED
- ATEX
- ASME B31



■ Swagelok products can be marked with heat codes for complete material traceability.



Third-Party Verified Products for Alternative Fuel Service

The extraordinary consistency of Swagelok products comes from a culture of quality that is unique in the industry.



Swagelok tube fittings

- Proven, two-ferrule mechanical grip design
- Consistent, leak-tight installation and remake
- ECE R110 compliant for NGV and hydrogen applications



Swagelok alternative fuel service (AFS) high-flow ball valves

- Working pressures up to 6000 psig (413 bar)
- Flow coefficients up to 13.8
- AGA NGV 3.1, IAS NGV 4.6, and ECE R110 compliant



High-pressure ball valves (83 series)

- Compact, maximum flow-through valves for 2-way and 3-way service
- Working pressures up to 6 000 psig (413 bar)
- NGV 3.1 and ECE R110 compliant



Check valves (CH series)

- Fixed cracking pressures from 1/3 to 25 psi (0.02 to 1.7 bar)
- Working pressures up to 6 000 psig (413 bar)
- ECE R110 compliant

Other Products Offered by Swagelok

Tubing

- 316 stainless steel
- Variety of wall thicknesses

Stainless steel industrial pressure gauges

- Accurately monitor vacuum and positive system pressures up to 15 000 psig (1000 bar)
- Choice of end connections includes Swagelok tube adapters

Conductive core hose

- Single, twin, and vent hoses in custom lengths and assemblies
- Choice of end connections
- Working pressures up to 5000 psig (344 bar)

Pressure regulators

- Single- and two-stage models
- Choice of metal-to-metal convoluted diaphragm and piston-sensing designs

Sanitary couplings

- Large diameter couplings

VCO® O-ring face seal fittings

- Rapid make-up and easy installation—with no special tools
- Unique design seals with captive O-ring

VCR® metal gasket face seal fittings

- 1/16 to 1 in. and 6 to 18 mm sizes
- Proven, high-purity gas seal

Tee-type filters (TF series)

- Range of filter sizes
- Choice of sintered and strainer elements—replaceable without removing body from the system

These products have not received third-party approval for alternative fuel service. Review complete product catalog to determine whether these products meet your needs.





Headquartered in Solon, Ohio, U.S.A., Swagelok Company is a major developer and manufacturer of fluid system component technologies for the research, analytical instrumentation, process instrumentation, pharmaceutical, oil and gas, power, petrochemical, semiconductor, and alternative fuels industries.

Swagelok products are delivered through one of the world's largest manufacturing and industrial distribution networks. Swagelok manufacturing, research, technical support, and distribution facilities support a global network of more than 200 authorized sales and service centers on 6 continents. For more information about Swagelok, visit the company's Web site at www.swagelok.com.



Courtesy of FAB Industries



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Swagelok®