

## *“The Price of Quality is Eternal Vigilance”*



...that's a direct quote made some 40 years ago by Swagelok's Founder, Fred A. Lennon. And it's as true today as in any point in Swagelok's almost 80-year proud and proven past. Mr. Lennon was referring to the finest-quality materials, state-of-the-art machinery and tools, and the exceptional equipment operator skills involved and inherent in each Swagelok Tube Fitting and Component produced in Solon, Ohio, and other Swagelok manufacturing centers.

*He also stated that we...*

*“must make the best product possible to help customers succeed – and then keep making it better.”*

Any wonder where, and from whom, Swagelok Pittsburgh | Tri-State Area inherited its relentless commitment to deliver ultimate customer care, support, and service each and every transaction/interaction with you?

Headquarters - Solon, OH



## *A few key Swagelok Milestones:*

- **1969** Astronaut Rusty Schweikart stepped out of the Apollo IX lunar module orbiting 119 miles above the Earth, wearing a breathing pack that contained Swagelok valves and fittings.
- **1970** Swagelok components were heavily employed on Alvin, the world's most advanced submersible that operated at depths in excess of 6,000 feet.
- **1975** Viking I lands on Mars and collects soil samples using Swagelok tube fittings.
- **2007** A vehicle powered by compressed natural gas circumnavigates the globe with a fuel system consisting of Swagelok valves, hose, and tubing to demonstrate that fuels other than gas could power transportation.
- **2021** Swagelok completed its new, state-of-the-art 124,000 sq.ft. Global Headquarters and Innovation Center in Solon, Ohio.
- **2024** Swagelok announced plans to build a new 200,000 sq.ft. Distribution Center, equipped with advanced technology and logistics, on its Global Campus – as part of an ongoing commitment to ensure product availability to Swagelok customers around the world.

**Swagelok Company and Swagelok Pittsburgh | Tri-State Area:**

**We'll never rest in our ongoing quest to always be your first-choice supplier for premier fluid-system solutions!**

# You Have Our Word



## The Swagelok Core Values

*are the solid foundation upon which we conduct our business – in Paris, Perth, and Pittsburgh:*

### CUSTOMER FOCUS:

We will create value for you each and every interaction and transaction



### CONTINUOUS IMPROVEMENT

We will relentlessly pursue new and better ways to be your strategic partner, not simply another component provider



### INTEGRITY:

We will always do the Right Thing, with courage, conviction, and character



### INNOVATION:

We will continue to build upon the industry-changing success of our revolutionary two-ferrule tube fitting design – and in all we develop and do to improve your future safety and profitability



### QUALITY:

We will not disappoint in the performance of our people, products, and services



### RESPECT FOR THE INDIVIDUAL:

We welcome and appreciate the contributions of every Swagelok associate in our ongoing pursuit to deliver an optimal customer experience for you



Since 1947, one brand has delivered unparalleled leak-tight, ultra-reliable, cost-effective performance in even the world's most challenging fluid system applications and operating environments: **Swagelok**

### FOR ALMOST 80 YEARS...

...our people, products, and support services have helped significantly improve the safety, productivity, and profitability of global Oil-and-Gas, Chemical, Power, Semiconductor, Steel, General Industrial, Clean Energy, and Applied Research customers – especially as you have had to:



- Replace the knowledge of skilled/retiring workers
- Secure or balance resources to meet ever-changing business needs
- Optimize your overall fluid-system results

### WE'VE PROVEN...

...that our expertise in materials science and product design/manufacture/supply makes us your first choice for trusted insight and superior solutions that will protect your workers and assets – while giving you a healthier Bottom Line.

### WE ARE COMMITTED...

...to help you get more done and out the door – while keeping you safe, on-time, on-plan, and on-budget!

## Something Extra

**Tube supports** greatly limit the negative effects of system impulse and vibration. They should be employed near tubing bends to isolate movement caused by changes in flow direction. Fluid density and tube size are also critical considerations for total number of necessary, stabilizing supports. Lastly, always use resilient types/styles and remember to mount instruments independently.

Swagelok offers Cushioned Clamp, P Clamp, and Tube Support Strips



**Call 412.761.3212 for more details.**

# ✓ **FACTS** *that truly matter*

Why Swagelok Componentry and Strategic Support Services can help you be more productive and profitable:



**Swagelok**

**200**

Sales and Service Centers  
in 70 Countries

**20**

Manufacturing  
Facilities

**300+**

Scientists  
and Engineers

**5**

Tech Centers

**450+**

Patents Owned

**Swagelok**

Swagelok Pittsburgh | Tri-State Area

**55+ years**

of proven reliability and performance

**3,000**

SKUs always  
in stock

**99%+**

shipping  
accuracy

**7**

on-staff  
Engineers

**30+**

Rental  
Tools

**10-strong**

dedicated Technical  
Support Team

**5,000 sq.ft.**

climate-controlled  
Custom Fabrication &  
Staging Center

**20+**

Safety/Technical Training  
course offerings

**Expertise**

Our Field Engineer and Sales  
Reps provide proven fluid-system  
technical know-how, including  
product selection per application

ALSO...

- Comprehensive Gas/Air Leakage Evaluations
- Extensive Industrial Hose Advisories
- Mobile Safety Training classes
- ... and SO much more

All products and our  
Design & Build work covered  
by the Swagelok Limited  
Lifetime Warranty

**14-seat**

leading-edge Customer  
Training Center

*The Numbers don't lie: Swagelok offers MORE - to help you get more done safely, quickly, and effectively!*



# NEXT-GEN SAMPLING

*We offer two levels of advanced Sampling System training that will help you avoid process errors, while achieving timely, accurate results:*

## Sampling System Problem-Solving and Maintenance (SSM)

**Duration: 2 Days**  
**Class Level: 1**

**Target Audience:** Sampling System Technicians and Reliability/Maintenance Personnel

**Top 3 Learnings:** Understand sample system components (valves, regulators...) and their roles, diagnose errors and troubleshoot, plus learn maintenance techniques

**Expected Outcomes:** Acquire skills for sampling system maintenance, troubleshooting, and corrective action

**Overall Agenda:** Performance of Sample Systems; Diagnosing and Fixing Time-Delay Problems; System Components; Sample Conditioning Techniques

## Process Analyzer Sampling Systems (PASS)

**Duration: 5 Days**  
**Class Level: 2**

**Target Audience:** Analytical System Engineers, System Design/Instrumentation Engineers

**Top 3 Learnings:** Introduce key sampling system components for process analyzers; Define three performance goals; Identify common causes of suboptimal performance

**Expected Outcomes:** You'll become fully versed in design fundamentals and principles of sampling systems

**Overall Agenda:** Introduction to Sampling; Sampling Hardware; Sample Transport; Phase Change; Complete System Design

## Process Analyzer Sampling Systems (PASS-SubSystems)

**Duration: 5 Days**  
**Class Level: 2**

**Target Audience:** Analytical System Engineers, System Design/Instrumentation Engineers

**Top 3 Learnings:** Identify five common subsystems in analyzer sampling systems; Optimize subsystem setup variations; Examine sample functions in each subsystem

**Expected Outcomes:** Confidently build and design five of the most common subsystems in a sampling system

**Overall Agenda:** Key Principles of Sampling; Basic Calculations for Sampling Systems; Introduction to Sampling Subsystems; The Sample Extraction Subsystem; The Field Preconditioning Subsystem; The Sample Conditioning Subsystem; The Calibration and Switching Subsystem; The Sample Disposal and Utility Subsystem; Team Design Project

## Process Analyzer Sampling Systems (PASS Plus)

**Duration: 5 Days**  
**Class Level: 2**

**Course Specifics/Description:** Combines traditional PASS concepts with evaluation and advisory services, addressing customer-identified issues onsite. Enables deep exploration of daily challenges, with classroom instruction on overcoming them through system design and component selection

**Expected Outcomes:** Upon completion, attendees gain a comprehensive understanding of sampling system terminology, concepts, and principles. They also develop awareness of how these ideas directly relate to site challenges. Participants gain experience in developing field-based solutions, connecting classroom concepts with practice. Swagelok offers design recommendations and aids in creating onsite issue resolution plans



## YOUR DIGITAL TOOLBOX

Visit [pittsburgh.swagelok.com](http://pittsburgh.swagelok.com) to use two handy and simple – and **FREE** – electronic resources to select and optimize Swagelok componentry for your specific applications:

### Cv CALCULATOR

Use to help select the proper valve with enough liquid or gas flow capacity for your desired application – across a wide range of fluids and process parameters.

1. Pick a medium
2. Enter your specifications
3. Our tool completes the process

Calculation type: ☒ Cv ☐ Flow

Medium Type: ☐ Liquid ☒ Gas

Inlet pressure (P1):  PSIA

Outlet pressure (P2):  PSIA

Flow rate (Q):  SCFM

Temperature:  Fahrenheit

System medium:  Acetylene

Specific gravity:  0.907

**CALCULATE**

*Try the Cv Calculator:*

[pittsburgh.swagelok.com/en/resources/cvcalculator](http://pittsburgh.swagelok.com/en/resources/cvcalculator)

### Regulator Flow CURVE GENERATOR

Get a unique flow curve based on your set of application parameters for Swagelok RHPS Regulators.

- View the performance of one regulator in up to four different applications
- Compare the output of up to four different regulators in the same application
- See any combination of regulators/applications, up to four total, on one graph

Report Type: ☐ Back-Pressure ☒ Pressure Reducing

Number of Regulators to Compare:  1

Temperature used to define a standard volume of gas: 68 (F)

Standard Pressure: 0 (psig)

Pressure Units:  psig

Flow Units:  scfm

Line Velocity Units:  Fractional

Temperature Units:  Fahrenheit

*Try the Regulator Flow Curve Generator:*

[pittsburgh.swagelok.com/en/resources/regulator-flow-curve-generator](http://pittsburgh.swagelok.com/en/resources/regulator-flow-curve-generator)



# FINEST IN THE FIELD

(10TH IN A SERIES)

## Customer Challenge:

A large Oil and Gas customer faced a major and urgent issue: A stainless steel 316 fitting had been intermixed with a 2507 material tube during a turnaround – and significant site worker injuries resulted. A company-conducted investigation showed that maintenance personnel had been inadequately trained on fluid-system installation...AND that the similarity of the high-pressure and low-pressure tube fittings used at the location caused confusion around safe/proper hardware swaps.

## Our Solution:

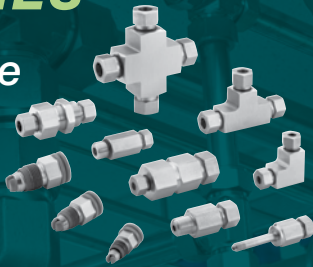
Swagelok FK Series Tube Fittings were immediately put into service to replace all existing high-pressure and intermixed styles. In addition, we provided expert and hands-on technical and installation support, including day-long Safety Essentials training to ensure that all relevant workers fully understood how to safely and correctly pull up a tube fitting. Swagelok Field Engineers were also highly involved to guide our customer through the component-selection and instructional processes.



**Bottom Line:** Our customer, due to our training and overall assistance, ultimately improved the safety and reliability of its products because it could create and enforce different design requirements for all tube fittings (low-pressure and high-pressure) across existing and new construction projects.

### FK SERIES

#### Gaugeable Tube and Adapter Fittings



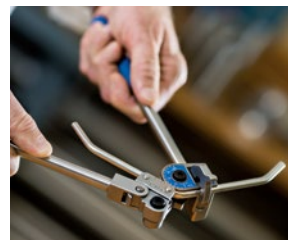
- 316 stainless steel construction
- for temperatures up to 1,000° F
- **for working pressures up to 20,000 psig**
- available in sizes from 1/4" to 1"
- two-piece design consists of a female fitting body and a preassembled cartridge containing the male nut and color-coded front and back ferrules to facilitate simple and proper installation

### SWAGELOK TUBE FITTING INSTALLATION & TUBE BENDING SAFETY ESSENTIALS



**In our comprehensive, all-day class – available at your location or at our Pittsburgh Training Center – students will learn how to safely and properly:**

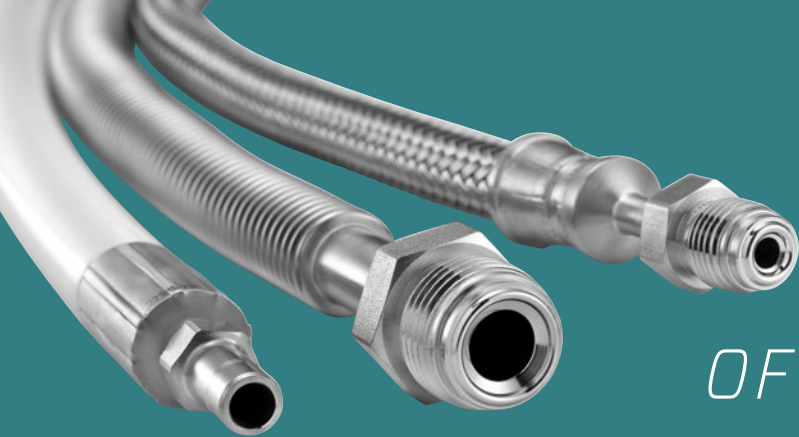
- assemble a Swagelok tube fitting
- select, handle, prepare, cut, and debur tubing
- use a hand tube bender to make tube bends of 45°, 90°, 180°, plus offsets



We provide training manuals, benders, fittings, tubing, electrical boxes, and lunch. We can start/stop at your desired times, and return multiple times to accommodate large-size groups.

All graduates receive **TWO** Swagelok Certificates of Completion for just one day of technical training! Plus, all Swagelok classes earn Continuing Education credits.

**Enroll today: [form.123formbuilder.com/2536539](http://form.123formbuilder.com/2536539)**



# THE WHY, WHEN, AND WHAT OF INDUSTRIAL HOSES

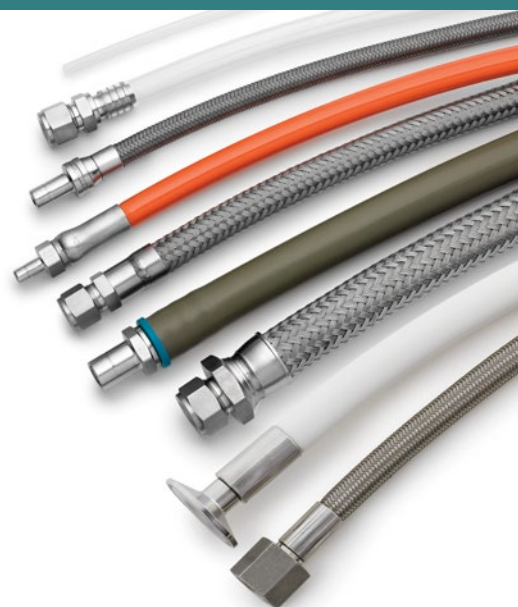
Incorporating flexible hose into your system design can save you major time and money around overall process performance. Employment of such component means fewer connections and less leakage. **Period.**

## RESULT EXPECTED:

A safer and far more efficient fluid system – with reduced inventory and labor costs, virtually no media entrapment or pressure drop, and, when required, easy cleaning.

## Ideally,

use hose in applications necessitating a flexible connection between stationary and moving equipment, when a connection is temporary or there are frequent disconnects, and to create isolation from high-vibration machinery.



## Swagelok supplies four premium-quality hose core types:

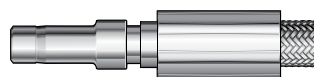
**All-Metal** for high-temperature, medium-pressure, vacuum, corrosive, or general-purpose work; **Fluoropolymer** for inert and flexible applications; **Thermoplastic** for high-pressure, low-temperature jobs; and **Rubber** for simple flexible applications. In addition, choose from 11 different Swagelok end connections...and multiple cover and tagging options.

And, by stocking a few Swagelok Tube Stub Adapters and some union Tees and Elbows, you can easily switch out end connections so that you can use the SAME hose for multiple applications – with the Adapters eliminating tricky alignment problems as well!

### All-Metal



### Fluoropolymer



### Thermoplastic/ Nylon



### Rubber



## 11 END CONNECTIONS

Tube Stub  
Tube Fittings  
VCR/VCO  
Tube Butt Weld  
Kwik Clamps  
Cam and Groove  
ISO/BSP  
KF  
Lap Joint Flange  
SAE 37 JICo (Male and Female)  
NPT (Male and Female)

## 4 TAGGING OPTIONS



**Lanyard**  
Attaches with a stainless steel lanyard and aluminum clamp



**Clamp**  
Attaches with two metal bands



**Mat**  
Attaches via an adhesive



**Perma**  
Attaches via an adhesive

## COVER OPTIONS

Fire Jacket



Armor Guard



Spiral Guard



Spring Guard



Thermal Wrap



Thermosleeve







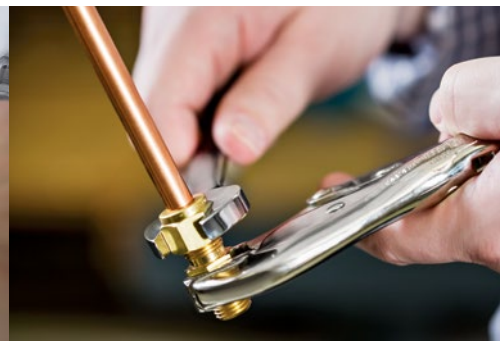
# ONE OF A KIND

***Since 1947,***

the Swagelok Tube Fitting has delivered unparalleled, ultra-reliable, leak-tight performance in even the most challenging applications and operating conditions. Others might claim that their products are interchangeable with ours....and that their hardware can be intermixed with ours... BUT there is a reason to employ just a single brand of tube fittings when building your systems – and there is an even more critical and timely reason to consider:

## ***THE SWAGELOK TUBE FITTING ADVANTAGE***

No other global manufacturer matches the proprietary design standard, raw material quality and control, and manufacturing excellence delivered within each and every Swagelok Tube Fitting. Our products provide unparalleled corrosion cracking resistance and the absolute lowest leak rate in the worldwide industry, especially in your most challenging applications.



Read: [www.swagelok.com/en/blog/tube-fitting-intermix-interchange-explained](http://www.swagelok.com/en/blog/tube-fitting-intermix-interchange-explained)

## **CONTACT US**

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