



Our Systems for Your System's Success

SWAGELOK APPLICATION SOLUTIONS

deliver unparalleled safety, performance, and economy, even in your most challenging operations

GAS DISTRIBUTION SYSTEMS



Our offerings enable you to get gases exactly where they need to go – from a high-pressure source to your facility at the expected pressure and flow rate your respective applications require.

SOURCE INLET CONNECTION

works to establish a secure linkage between the high-pressure gas source (gas cylinders or bottles) and your system.



POINT-OF-USE

provides the critical last stage of pressure control before gas is actually used.



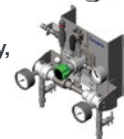
PRIMARY GAS PRESSURE CONTROL

completes the first pressure reduction of the source gas and ensures that such gas is delivered at the needed pressure within the required flow rates.



AUTOMATIC CHANGEOVER,

also known as continuous gas supply, is the first pressure control point and an uninterrupted gas supply.



GRAB SAMPLING SYSTEMS



Our GSM panels

employ a closed-loop methodology to pull from a positive-pressure process before returning to a process at a lower-pressure location – driving fluid via a differential pressure. Samples are deposited into durable, pressure-rated metal cylinders that prevent any sample escape or the likelihood of operator injury.

Our GSL panels

draw fluid into a non-pressure-containing bottle that has a self-sealing septum cap. Specifically for applications where process fluid is not at risk to fraction when stored at atmospheric pressure.



Always Exceeding Your Expectations,
our Grab Sampling Panels are **designed for:**

SAFETY We prevent overfilling or overpressure conditions.

EASE OF USE We reduce the number of required sequencing steps.

CONVENIENCE We offer fixed-volume versions of our GSM and GSL systems.

RELIABLE RESULTS We provide fresh samples to cylinders that hold samples at the same process conditions present at sampling.

LONG SERVICE LIFE We expertly custom-build and test panels to ideally support your specific sampling needs.

MECHANICAL SEAL SUPPORT SYSTEMS



Seal Plan Kits

- Bent tubing is used versus leak-prone threaded connections
- Can be designed to your specific site requirements
- Ensure installation of high-point vents and low-point drains
- Complete component packages available for **API Plans 11, 12, 13, 14, 21, 22, 23, 31, and 41**...and for **Atmospheric Side Plans 51, 62, 65A, and 65B**
- **API 682** standard design

Seal Plan Assemblies

- Panels, Seal Pots, or Skids
- Numerous configurations available to meet your specific site/application requirements
- Can be ordered separately or with an associated Field Installation Kit
- Available for **Side Plan 32**...and for **Between Seal Plans 52, 53A, 53B, 53C, 54, 55, 72, 74, 75, 76, and 72/76**
- **API 682** standard design

Premium-quality, leak-tight Swagelok Instrumentation Panels are designed and built **LOCALLY by our Swagelok-trained-and-certified master technicians. Our work is fully covered by the renowned Swagelok Limited Lifetime Warranty:**

- Gas Purge Panel and Enclosures
- Distribution Manifolds
- Custom Flex Hose Assemblies
- High-Volume Bent Tubing Assemblies
- Sample Cylinder Assemblies
- Standard Instrumentation Mounting Kits
- Ultra-High-Purity Welded Manifolds
- High-Pressure Test Stands
- Simple and Highly Complex Tube Bending
- Instrumentation and Transmitter Assemblies/Enclosures
- Heat Exchanger Tubing Coils
- Gauge Block-and-Bleed Valve Assemblies
- Automated Ball Valve Assemblies
- Pre-Set Relief Valves
- Maintenance Programs: Sample Cylinders and Flexible Hoses
- CAD and P&ID Design Assistance
- Orbital Welds

We can help you save time, money, and worry when your production schedule is tight.



5,000-square-foot Working and Staging Area



5-ton Overhead Crane, with 18-foot clearance

- Dedicated Swaging, Bending, Coiling, Orbital Welding, Kitting, Packaging/Wrapping, Inspection, Testing, and Cleaning Stations
- Climate-Controlled Environment

BE SAFER Next Year

There is a "right" way to keep your maintenance technicians safe, efficient, and always confident in their ability to construct a fluid system. That quest starts with a complete understanding of the latest tube fitting installation and tube bending best practices.

Presenting our highly hands-on Safety Essentials Training:

In just one day, we'll teach you how to safely and properly pull up tube fittings, bend tubing of various materials and diameters, and master overall system knowledge to ensure operational integrity and performance...with absolutely minimized leakage.

In addition, you'll prepare, cut, and debur tubing; inspect tubing; and discuss in-depth your common/everyday system challenges, errors, and issues.



YOU WILL PRACTICE, PRACTICE, PRACTICE –

graduating with the confidence that you can now do your job better and more safely than ever!



Plus, we supply ALL training materials... and can conduct your session **at your work or project site**.

We can start/stop at your hours of convenience. And, best of all, students receive Swagelok certification in each discipline: Swaging and Bending.

We can even customize our content to your specific applications and challenges.



Our full library of productivity-boosting Customer Training class titles:

- Tube Fitting Installation & Tube Bending Safety Essentials
- Tube Fitting Inspection Essentials
- Advanced Tube Bending
- Hose Essentials
- Valve Essentials
- Orbital Welding
- Process Analyzer Sampling Systems
- Sampling System Problem-Solving & Maintenance
- Analyzer Technician Essentials
- Steam & Condensate Essentials
- Materials Science

FROM A FEW RECENT PARTICIPANTS:

"The training was put into layman's terms; the instructor held my interest the entire day...and the hands-on learning experience was exceptional."

"I know now that I can do any bending required in our shop."

"This class enabled me to truly understand WHY things are done a certain way, not just HOW."

"Talk about learning how to greatly reduce scrap and waste!"

"I think everyone can gain valuable maintenance insights from this class – no matter what your current skill level."

DON'T DELAY...SIGN UP TODAY:

CALL OR TEXT 412.439.1706 OR EMAIL RUDY.FRANK@SWAGELOK.COM

LEAKS = LOSS...

...of fluids, uptime, output, product integrity, workplace safety...

Even the smallest, seemingly innocuous leakage can lead to major operational issues, including total system shutdowns for maintenance and/or inspections.

Here are six ways and means to stay safe, stay running, to stay ahead of demand:

- Our premium-quality **Componentry** is globally renowned for unparalleled performance in even the most challenging Oil and Gas, Chemical, Steel, Clean Energy, Power, General Industrial, and Research-and-Development applications



- Our **Design-and-Build Shop** produces instrumentation panels, sub-assemblies, skids, and enclosures that are leak-tight, tested, inspected, and professionally packaged for simple installation and maintenance



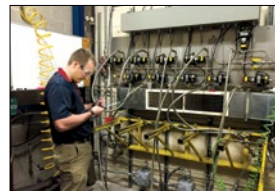
- Our **Customer Safety Training** programs ensure that your technicians – new hires to veterans – know how to safely and properly pull up tube fittings and bend tubing of various lengths and materials



- Our **Energy-Loss Evaluations** provide you a comprehensive snapshot of faulty connections and dangerous leak points in your lines – with expert recommendations on how to quickly remedy the issues that are costing you the most time, money, and worry



- Our **Industrial Hose Advisories** will give you an accurate assessment of current sizing, routing, and storage practices and concerns, plus offer ideal going-forward suggestions on which types of hoses to use for which applications



- Our vast **Technical Application Know-How**, through your local Swagelok representative or our inside sales and service team, will help you consider and choose the “right” tool for the job



PRODUCT SPOTLIGHT

Quick-Connects

Enable quick, simple operation without twisting, turning, or wrenching



- Design minimizes spillage and air inclusion
- Push-to-connect design enables easy operation
- Wide variety of configurations, end connections, and stem and body connectors
- **Types:** Instrumentation, single-end shutoff, double-end shutoff, full-flow, miniature, PTFE-sealed

SERVICES SPOTLIGHT

Bench Top Tube Benders

Features

- Rugged, lightweight aluminum construction
- 1° to 180° bending range ¼" to 1 ¼" outside diameter (0.028" to 0.120" wall thickness) and 6mm to 30mm outside diameter (0.8mm to 3.0 mm wall thickness) tubing range
- Steel shoes included
- Includes grease gun and metal carrying case for storage
- Manual model can be operated with a ½" drill motor using optional torque clutch and support arm
- CE marked
- UKCA marked





PRODUCTIVITY POINTER



Expert advice on exactly which Sampling methodology you'll require **IF:**

Floor space is limited:
GRAB SAMPLING

WHY? Online analyzers require housing, generally taking up significant real estate, with ambient environmental conditions tightly controlled.



Budget is limited:
GRAB SAMPLING

WHY? Online analyzers require a substantial investment to build shelters and sophisticated sampling systems to prepare samples for analysis.



Large fluid system requiring numerous sampling points:
GRAB SAMPLING

WHY? Grab sampling panels can be easily installed directly onto the process line wherever samples must be taken. No tube or piping routing to the analyzer required.



Process rate of change is exceptionally slow:
GRAB SAMPLING

WHY? If a lengthy amount of time between process draw and lab analysis is acceptable/common due to a slow rate of change of conditions at your facility, grab sampling is far more cost-effective.



Your sample has a heavy particulate load:
GRAB SAMPLING

WHY? Online analyzers require filtration to ensure accuracy and eliminate clogs. If your process is particularly dirty, that's a special challenge.



Field atmospheric conditions vary: **GRAB SAMPLING**

WHY? Grab sampling enables samples to be conveniently tested in a highly regulated and controlled lab environment.



Hazardous materials are involved; human exposure must be limited:
ONLINE ANALYZERS

WHY? Grab sampling requires operators manually collecting media in bottles or cylinders.



Time delay must be minimized:
ONLINE ANALYZERS

WHY? Online analyzers can analyze samples in real time... often within a minute – crucial when system media could quickly change phase or be otherwise compromised.



Maintaining sample temperature is a high priority:
ONLINE ANALYZERS

WHY? Simply, no method exists to maintain sample temperature inside cylinders. But, tubing involved with an online analyzer can be heat-traced to regulate temperature.



Floor space is limited:
EITHER

WHY? Contamination could occur in either method; it's imperative that your system is safely and properly designed and a rigid maintenance schedule is administered and followed.





Making Our Case(s)

More recent examples of how Swagelok Products and Services helped make a genuine difference in customer safety, productivity, efficiency, and profitability:



Challenge

A maker of industrial and environmental machinery took on a major project that incorporated assembled premium-quality nitrogen purge panels. But designing and choosing components for such were not this OEM's core business nor competency.

Solution

Customized leak-tight panels were outsourced to our Local Swagelok Design & Build team, enabling our customer to redeploy its limited internal resources to other critical aspects of the project. Our assemblies drastically reduced leakage potential by minimizing the total number of threaded connections involved – resulting in the ultimate end user's greatly enhanced efficiency.



Challenge

A major refinery was spending excessive time, money, and effort to control fugitive emissions (Volatile Organic Compounds). Its pumps – with complex seal systems that included numerous pipe attachments with multiple joints – were simply leaking far too much, overextending the site's maintenance budget and labor crews.

Solution

Swagelok customized 4" and 6" Extended Male Connectors were substituted for the pipe joints, enabling one-piece linkages between the gland and the tubing run – thus eliminating numerous potential leak points via a single fitting.



Challenge

A major maker of pumps and compressors for the global mining, chemical, and power generation industries needed to find new Check Valves and more that would ensure stable and reliable compressor operations in harsh industrial environments. Overall, our customer was determined to identify and deploy multiple products – manifolds, instrumentation valves, tube fittings... -- for significantly improved pressure control on its panels.

Solution

Local Swagelok Design & Build Services was contracted to help develop compressor control panels, each with five manifolds and 20 connections. All have maintained a virtually leak-free record. In addition, our account signed up for several Swagelok Tube Fitting Installation & Tube Bending Safety Essentials classes to ensure that all maintenance technicians knew the latest and most proper ways to build safe/ultra-reliable fluid systems.

INSIDE JOB



One of our Design & Build Shop's core competencies: *Orbital Welding.*

All three of our master technicians are Swagelok trained-and-certified.

Here, Nate Rothert, Fabrication Projects Coordinator (standing), and **Andy Tedesco, Services Specialist**, work together to ensure proper alignment of a valve and bent tube prior to a permanent weld. Such assembly was then placed into one of our leak-tight, premium-quality panels.

What We Want from You:

To be the fluid-system experts you rely on, especially in your toughest, most challenging applications

What You Should (Always) Expect from Us:

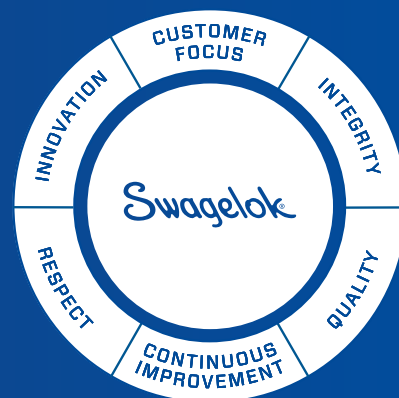
To be able to rely on our renowned, revolutionary, and leak-tight Tube Fittings, Valves, Pressure Regulators, Industrial Hoses, Gauges, Instrumentation Assemblies, Tubing, and other components for exceptional output in virtually any environment

To be able to tap into our deep system insights and analysis to learn how to rapidly decrease downtime, cut operational costs, and secure/maintain a safe workplace

To know that our components are made from the finest raw materials, on leading-edge manufacturing equipment, run by highly trained and fully certified technicians

To know that we will have the products right when and where you need them due to our supply chain commitments and strong supplier relationships and stocking positions

To know that collaboration with you is essential to our everyday endeavors – whether simple subassemblies or large, complex design and build projects



Your Productivity-Boosting Starting Lineup

Visit pittsburgh.swagelok.com/Resources to check out our new **LINE CARD**

YOUR TRUSTED PARTNER FOR FLUID-SYSTEM OPTIMIZATION
Put Our Team Alongside Yours

Swagelok Pittsburgh | Tri-State Area
OUR STRATEGIC SUPPORT SERVICES

Custom Fabrication Safety Training Tool Rel
Hose Advisories Energy-Loss Evaluations Relief Valve

MUST READS
Case Studies Email Blasts Tech Tips

OTHER RES
• CAD Files
• Cv Calculator
• Regulator Flow
• eDTR
Visit our website pittsburgh.swagelok.com

OUR PRODUCTS

- Fittings**
 - Tube Fittings and Adapters
 - Assembly-to-Torque (A/T)
 - Cone and Thread
 - O-Rings
 - Plug Adapters
 - Modular Pressure Tube Fittings
 - Plug Fittings
 - VCRP In-Line Face Seal
 - VCRP Metal Gasket Face Seal
 - Tubular Fittings (J&B)
 - Ultra-Tec Vacuum Fittings
 - Weld Fittings
- Hoses and Flexible Tubing**
 - Metal Core Hoses
 - PTFE Core Hoses, Smooth-Bore
 - PTFE Core Hoses, Corrugated
 - PTFE Core Hoses, Smooth-Bore
 - Plastic Core Hoses
 - Thermoplastic Hoses
 - Spare Parts and Accessories
- Regulators**
 - Back-Pressure, Corrosion-Resistant
 - Back-Pressure, Spring-Loaded
 - High-Pressure, High-Flow Gas Regulators
 - Pressure Reducing, Corrosion-Resistant
 - Pressure Reducing, Spring-Loaded
 - Pressure Reducing, Electrically-Loaded
 - Specialty Regulators
- Valves and Manifolds**
 - Electric-Actuated, Diaphragm (A/T) Valves
 - Ball and Quarter-Turn Plug Valves
 - Ball and Quarter-Turn Plug Valves
 - Check Valves
 - Diaphragm-Sealed Valves
 - Needle and Metering Valves
 - Relief Valves
 - 2-, 3-, and 4-Way Manifolds
 - Quick Connects
- Tubing and Tube Supports**
 - 304, 304L, and 316, 316L Stainless Steel
 - 304, 304L, Monel
 - 316L, Titanium Alloyed
 - Insulated and Jacketed Tubing
 - Support Systems
- Filters**
 - Gas-Liquid Filters
 - High-Purity Filters
 - Particulate Filters, In-Line and Tee-Type
- Analytical Instrumentation**
 - Gas Distribution Systems
 - Gas Sampling Systems
 - Mechanical Seal Support Systems
 - Miniature Modular Systems
- Pre-Engineered Subsystems**
 - Calibration and Switching Modules
 - Fuel Line Modules
 - Fixed Station Modules
 - Fluid Distribution Headers
 - Specialty Probe Modules
- Leak Detectors, Lubricants, Sealants**
 - Lubricants (Gloss®)
 - Sealants (PTFE, Teflon, Viton®, PTFE, PTFE-Free)
 - Soap® Liquid Leak Detector
- Tools and Accessories**
 - Tube Fitter's Kit
 - Tube Benders
 - Tube Cutting and Preparation
 - Deburring Tools
 - Inspection Gauges
 - Swaging Tools
 - Online Welding System

P: 412.761.3212 W: pittsburgh.swagelok.com
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Swagelok
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Our Team Alongside
delivers the proven best-practice Productivity, and renowned Technical Expertise, to meet your fluid-system needs and requirements.

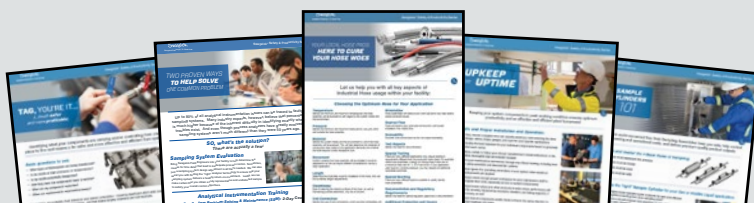
Since 1965, Swagelok Pittsburgh-Tri-State Area has been the region's local fluid-system resource.

Put our team alongside yours

Our new **LINE CARD** includes clickable links to all the Swagelok Componentry we stock and sell, plus our supplementary Swagelok Strategic Support Services and helpful digital tools!

YOUR REPOSITORY OF EXPERTISE

Read our continually updated online library of proven and trusted tips on how to significantly improve your system safety and productivity.



VIEW OUR TECHNICAL ARTICLES
pittsburgh.swagelok.com/en/resources/technical-articles



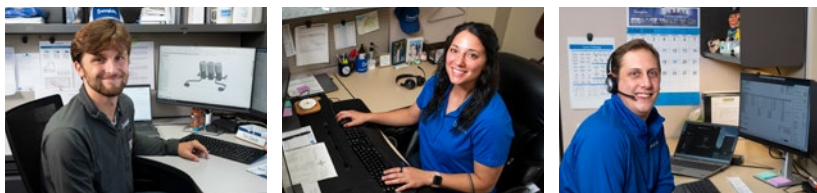
VIEW OUR CASE STUDIES
pittsburgh.swagelok.com/en/resources/case-studies

UP AGAINST YOUR WALL



Your local Swagelok Pittsburgh | Tri-State Area Sales Representative will make sure that you soon receive your 2026 Swagelok wall calendar.

For extra copies, please
text: **412.439.1706**
or email: **rudy.frank@swagelok.com**



Put our team alongside yours



**Best Wishes for a Safe and Prosperous 2026 from
Swagelok Pittsburgh | Tri-State Area!**

SWAGELOK PITTSBURGH | TRI-STATE AREA
YOUR LOCAL FLUID-SYSTEM EXPERTS

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