Critical Components

Swagelok Tubing, Tube Fittings, and overall Tubing Expertise: Your first choices for safe, leak-tight, ultra-performing fluid systems

Swagelok
TUBING

- Made of instrumentation-grade seamless stainless steel
- Available in fractional, metric, and imperial sizes, most commonly ¼", ⅜", ½", and ¾" OD
- Offered in numerous wall thicknesses
- Chemically cleaned and passivated to ASTM G93 Level A and CGA 4.1 standards
- Thermocouple-cleaned per ASTM A632-S3 standards
- Marked for size, material, specification, and heat number

We are also your local source for
premium-quality Ultrahigh Purity, High-Purity Stainless Steel, Welded, Cone and Thread, Medium-Pressure, Jacketed, Insulated, Electric-Traced, and Steam-Traced Tubing!
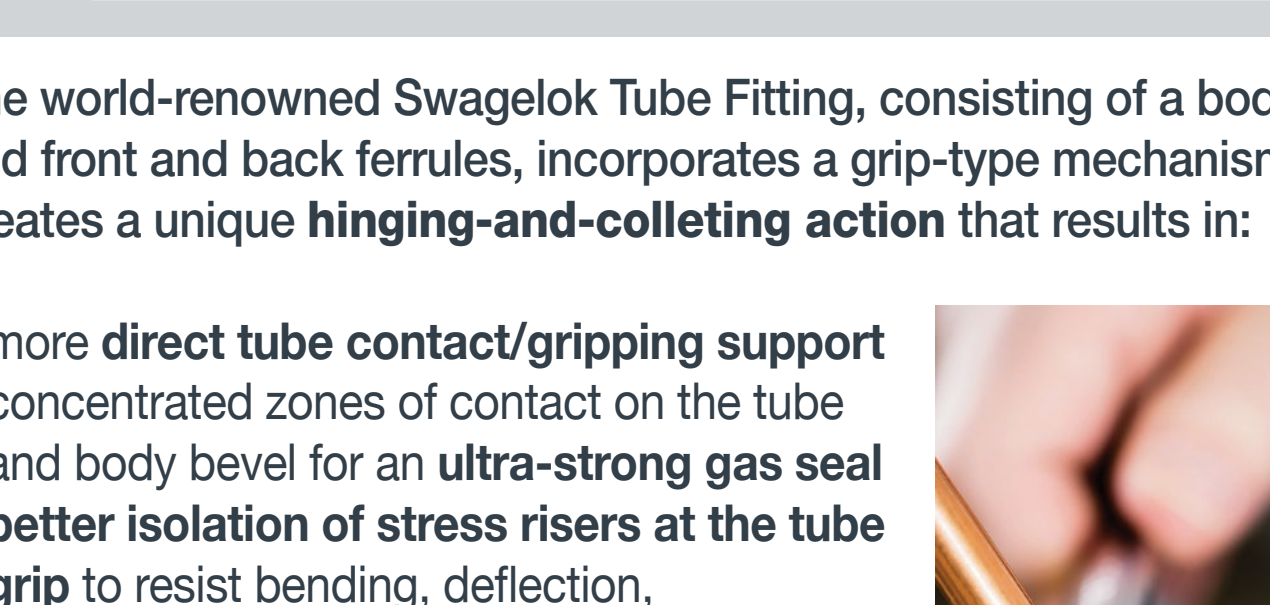
Swagelok
TUBE FITTINGS

Count on reliable, leak-tight performance as a result of our proven design, manufacturing excellence, and superior raw materials.

- Available in tube sizes ¹⁄₁₆" to 2" and 2mm to 50mm
- Wide variety of materials and configurations
- Consistent gaugeability upon initial installation
- Easy to disassemble and reassemble

Types: Swagelok mechanical grip-type, hinging colleting™ tube fittings, weld, tube adapters, biopharm, dielectric, fine thread flare, flange, pipe, vacuum
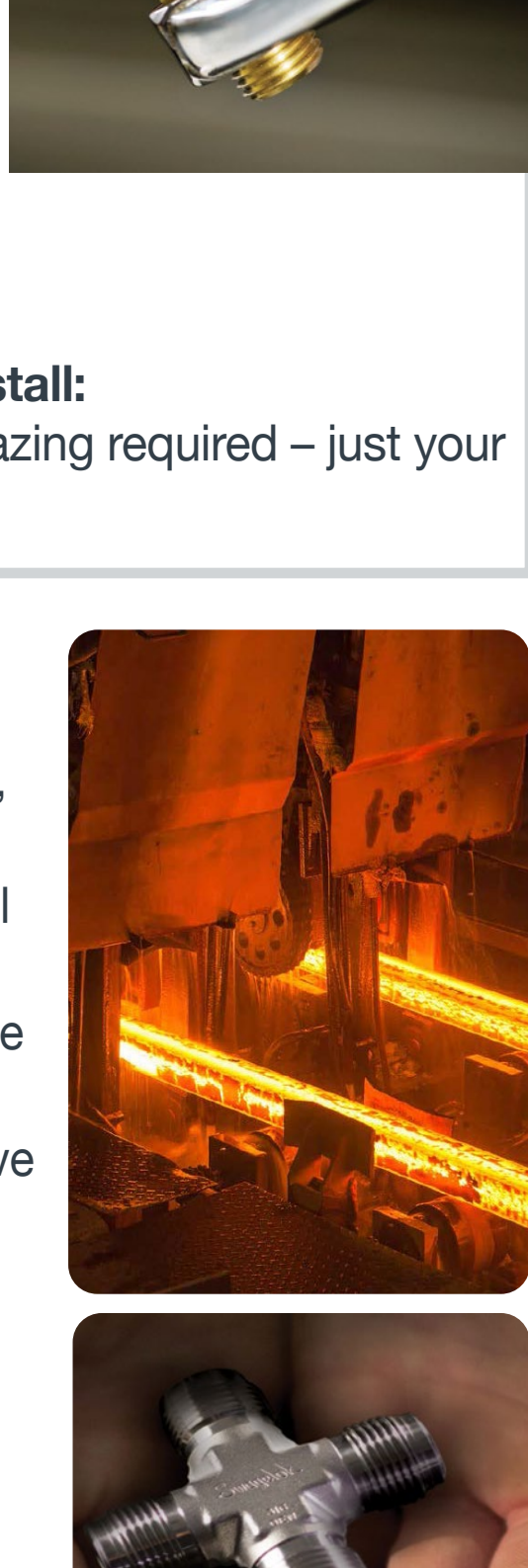
Better by Design

Back Ferrule · Front Ferrule · Nut · Body
Hinge Point · Tube Grip · Gas Seal
Colleting Region · Tube Wall

The world-renowned Swagelok Tube Fitting, consisting of a body, nut, and front and back ferrules, incorporates a grip-type mechanism that creates a **hinging-and-colleting action** that results in:

- more **direct tube contact/gripping support**
- concentrated zones of contact on the tube and body bevel for an **ultra-strong gas seal**
- better isolation of stress risers at the tube grip to resist bending, deflection, and vibration

In addition, our patented **SAT12® Low-Temperature Carburization Process,** recipient of the 2006 Engineered Materials Achievement Award, gives our front and back ferrules a tool steel–like hardness and strength without diminishing their ability to fight corrosion or to maintain ductility.
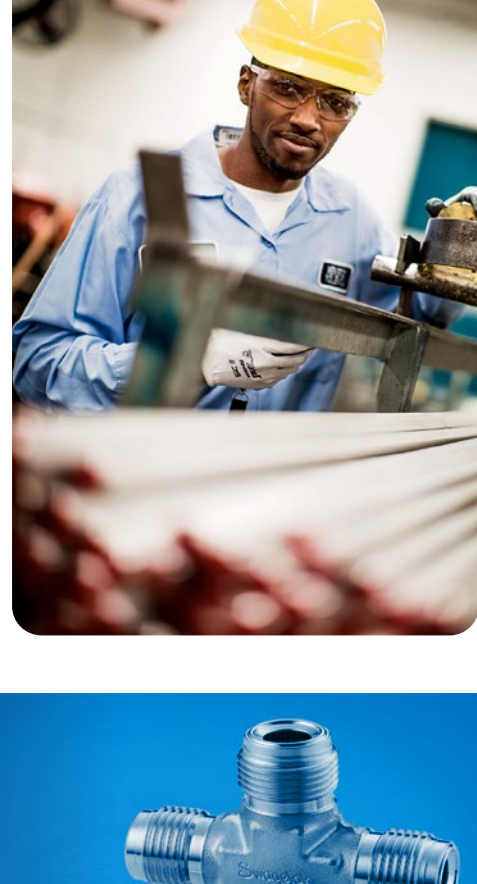
Plus, Swagelok Tube Fittings are easy to install: No threading, welding, soldering, flaring, or brazing required – just your standard wrenches!
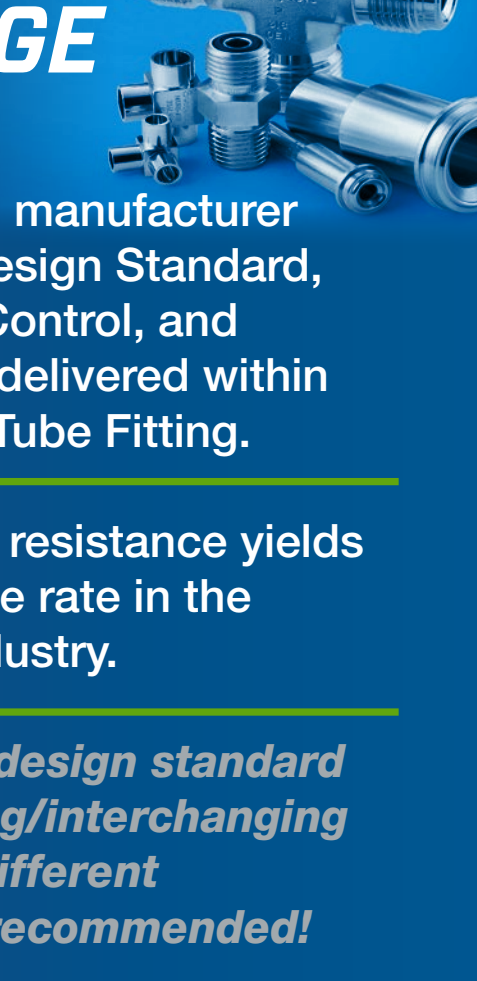
Superior Materials

Not all stainless steel is the same. Our premium, special-recipe "Swagelok" 316 stainless steel exceeds ASTM minimum requirements for nickel and chromium – resulting in optimum corrosion resistance and ductility. In our extensive Chloride Stress Corrosion Cracking (CSCC) test of 72 Swagelok nuts versus 110 of multiple competitive brands, Swagelok had ZERO visible cracking or leakage, yet 39% of the comparable fittings cracked or leaked.

Genuine Swagelok

We own our entire manufacturing process, including all forging, machining, electro-polishing, welding, assembly, and testing…with all activities done only by us – in our facilities. Raw material traceability is extremely critical and integral to Swagelok's unparalleled total quality system. In fact, we can track what lot of material makes up a part and which components are in an assembly. And all Swagelok tube fittings are fully backed by the Swagelok Limited Lifetime Warranty – a promise as strong as our products.
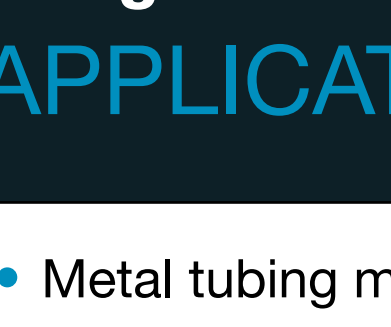
THE SWAGELOK
TUBE FITTING ADVANTAGE

No other global tube fitting manufacturer matches the Proprietary Design Standard, Raw Material Quality and Control, and Manufacturing Excellence delivered within each and every Swagelok Tube Fitting.

Our unparalleled corrosion resistance yields the absolute lowest leakage rate in the worldwide fluid-system industry.

There is NO global fitting design standard – precisely why intermixing/interchanging of fitting hardware from different manufacturers is NEVER recommended!

Swagelok
APPLICATION TIPS

- Metal tubing material should be softer than your fitting material; never, for example, use stainless steel tubing with brass fittings
- When tubing and fittings are made of the same material, make sure tubing is fully annealed
- Always use an insert with extremely soft or pliable plastic tubing
- Wall thickness extremes should always be checked against the suggested minimum and maximum limitations
- Surface finish is critical to gaining a proper seal; tubing with a depression, scratch, raised portion, or other defect will be difficult to seal
- Oval tubing will not easily fit through fitting nuts or ferrules; bodies should never be forced into a fitting
- Best handling practices are essential: Never drag tubing from rack or across a hard surface; tube cutters or hacksaws must always be sharp; tube ends should always be deburred
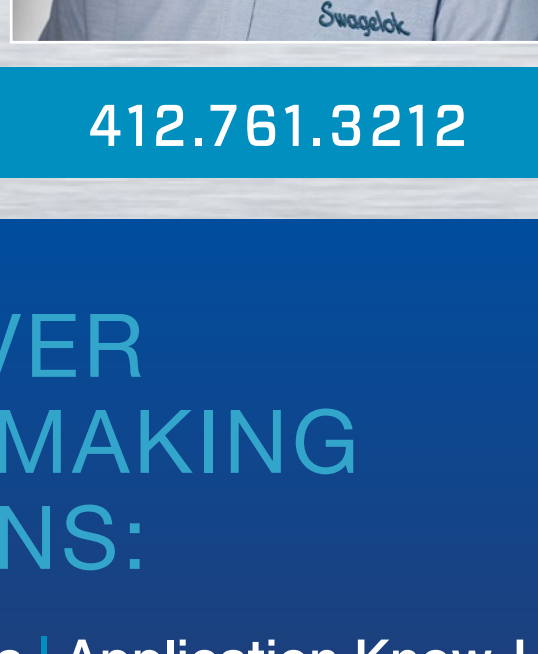
In our next issue next week, we'll discuss *Swagelok Tube Support Systems,* which can greatly reduce vibration and shock – and excessive stress on your system componentry.

Put our team alongside yours

For more details on globally renowned Swagelok Tube Fittings, accessories, and more, contact:

Tony Del Bianco,
Technical Sales Representative

tony.delbianco@swagelok.com   412.761.3212

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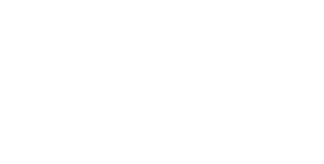
WE'RE YOUR SWAGELOK FLUID-SYSTEM SOLUTIONS PROVIDER
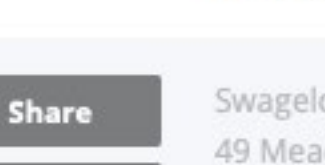
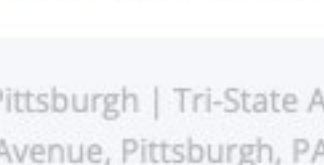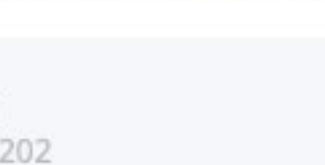Industry-Best Componentry · Masterful Custom Fabrication · Expert Safety Training · Extensive Energy Evaluations
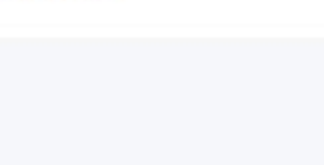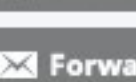
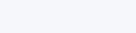Unparalleled Application Knowledge · Comprehensive Hose Advisories · Proven Inventory Management Support · Genuine Swagelok Tool Rentals

WE CAN HELP YOU SAVE TIME, MONEY, AND WORRY!

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