



“One Swagelok”

Worldwide and by your side

Our Global Reach with a Local Approach

What Swagelok Offers

1

Systems Support

- Grab Sample Systems
 - Engineering and CAD Modeling
 - Standardization of Design
 - Design Conformance (i.e. GP-15-08-06)
 - Custom Fabrication
 - In the Field Training for Use

Sample Conditioning Systems

- System Engineering
- Standardization of Design
- Custom Fabrication
- Pre-Integration for On-Site Install or at Analyzer Integrator

Sample Probes

- Specification Advisory Based on Fluid Velocity
- Flow Calculations to Mitigate Harmonics Issues
- Sub-assembly of Valve Trees
- Custom Tagging

Gas Distribution Systems

- Engineering and CAD Modeling
- Standardization of Design
- Design Conformance (from Bottle to Point of Use)
- Custom Fabrication
- In the Field Training for Use

Small Bore Tubing & Piping Systems

- P&ID Interpretation and Optimization
- DBB Optimization and Standardization
- Strength to Weight Mitigation
- Leak Point Optimization

2

Application Support

Modularization for I&E Applications

- P&ID Interpretation and Optimization
- Design Optimization (from Simple to Complex)
- Off-Site Pre-Engineering and Assembly for Installation

Process Instrumentation

- “Tap to Instrument” Engineering Support
- Standardization of Design
- Pre-Engineered or Custom Subsystems for Modularization Approach

Analytical Instrumentation

- Interpret System Requirements
- Support Package Development for Analyzer Integrator
- Design and Fabrication of Sample Condition Systems
- Specification Enforcement at Analyzer Integrator

3

Product and In-The-Field Support

Material Selection

- Pre-FEED/FEED Cost Estimates and Multipliers
- Chemical Compatibility
- Metallurgy and Elastomer SMEs
- Product Selection Optimization

Logistic Services

- Bulk Order Staging
- Construction Site Vendor Managed Inventory
- Startup and Operations Spare Parts Lists and Budgets

Global Training at the Local Level

- Fluid Systems Training
- Installation Training Focused on Risk Mitigation
- Applications Specific Training

6 Global Technical Centres

20 Manufacturing Facilities

70 Countries

270 Engineers

4 Construction Managers

40+ Local Construction Specialists

225 Sales + Service Centres

Swagelok Total Project Support

Engage with our vast global network of applications, systems, and products experts throughout every phase of your project, driving cost certainty through optimization and standardization.

	1 Feasibility	2 Pre - FEED	3 FEED	4 Detailed Design	5 Procurement	6 Construction & Commissioning
Customer	- Process Description - Cost Studies - Identify Potential Business Opportunity - Classify Risks	- Technical Requirement Development - Design Review - Initial Project Investment - Project Bidding Requirements for EPC - Risk Studies - Material Selection	- Finalize Scope and Execution - Capital Appropriation - Constructability Review - Equipment Specifications - Development of Value Improvement Practices	- Modeling and Design Review - Specification Adherence	- Contracting Strategy - Supplier Selection	- Manage Training for Operators at New Site/Unit - Complete Start-Up Work and Commissioning - Performance and Quality Testing
EPC	- Feasibility Studies - Concept Selection - Materials and Corrosion Studies - Control System Philosophy	- Permitting and Regulatory Compliance - Engineering Development - Material Selection - Preliminary Design Development - Engineering Support for Systems & Applications - Project AML/AVL Development - HAZID	- Major Equipment Procurement - P&ID Development - Documentation Management for Project - Schedule Development - Engineering - Environmental Regulation Adherence - Major Package Budget Development - HAZOP	- MTO Developed for Each Discipline - Major Packages Awarded - IFA/IFC Package Development - Schedules Finalized for Procurement, Construction Needs - System Optimization	- Budget and Project Management - Scheduling and Planning - Supplier Negotiations and Selection - Sub-Contractor Selection - Bulk Material Purchases - Equipment Rental or Purchases	- Review Installations Based on Drawings or Compliance Requirements - Coordinate all On-Site Activities - Safety and Site Supervision - Quality Oversight - Hand Off to Owner Company
Swagelok	- Preliminary Cost Data - Material Selection Strategy, JIP33 and NACE Compliance - Quality and Supply Chain Advisory	- Engineering Support for Systems, Applications, and Products - Metallurgy/Elastomer Compatibility/Product Selection - Design Review for Standardization (from Systems to Product) - Support Project Boundary Definitions for Analytical and Process Instrumentation - Collaboration on Operating Characteristics of the Analytical & Process Instrumentation - Economics of Material Specification and Selection - Define and Overcome Project Constraints for Analytical & Process Instrumentation - Project Frame Agreement for Cost Certainty and EPC Negotiation - Understand Project Requirements & Specifications for Further Work with EPC & Package Vendor Management	- P&ID Review and Interpretation - Modularization Approach to Process Instrumentation Package - Standardization for Large Systems - Sub-Assembly Design and Optimization - Sample Conditioning System Design and Optimization - Grab Sample Systems and Sample Probe Design and Optimization - Preliminary Design of Analytical and Process Instrumentation Modular Packages - Integration into Package Vendors as an Asset and Management of Change	- Take Offs of P&ID to Produce BOM and Further Estimation of Material - Detailed Design of Systems - Kitting Planning - Package Vendor Management for Analytical and Process Instrumentation - Identification of Long Lead Products and Fabrications for Analytical and Process Instrumentation - BOM Development	- Manage Analytical and Instrumentation Supply Chain to Off-Site Fabrication - De-Risk Project Constraints - Long Lead Items Risk Mitigation	- Staging and Delivery of Material According to Project Schedule - On-Site Language Installation Training of Contractor Installers - On-Site Hose Installation Training of Contractor Installers - On-Site Technical Presence at Construction Site - Field Engineering Support - Oversight of Package Installation - Local Vendor Managed Inventories for Shorts - Troubleshooting of Analytical and Process Instrumentation - Training of Operators on Use of Supplied Packages - Inspection Consulting Services for Analytical and Process Instrumentation - Product Failure Analysis
Impact to Customer	- Proactive Sourcing Approach - Compliance Risk Mitigation - Intelligent Estimating - Material Selection Expertise	- Proactive Sourcing Approach - Defined Project Constraints for Analytical and Process instrumentation - Cost Certainty - Prior Design Activity Efficiencies Realized	- Standardization of Product, Application, and System - Cost Optimization and Cost Certainty - Plant Model Inclusion of Designed Systems - Streamlined Specification of Systems - Simplified Part Numbers - Management of Change Support from Component to Application to System	- Global Compliance of Specifications Where Swagelok Products/Systems Involved - Swagelok Global Engagement for Supply Chain, Forecasting and Planning Needs - Specification Support and Adherence	- Consistent Quality Systems to Minimize Non-Conformances - Speeding up the Procurement Process via Pre-Approved T&Cs and Other Procurement Requirements - Standardization from Design to Install for Both Packaging Vendors & Swagelok	- Development of Spare Parts Lists for Operations/Warehousing - Labor Cost Savings Realized - Speed and Quality Installation in the Field Due to System Standardization - Faster Installation of Applications or Product - Just In Time Delivery of Systems and Components - Standardized Designs for Systems and Applications - On-Site Subject Matter Experts Supporting Construction/Commissioning