



# Swagelok® Grab Sampling Systems

Safe, easy-to-use and maintain grab sample panels and supporting services to help you achieve representative samples.

## Grab Sampling Solutions Optimized for You

Grab sampling reliability is necessary to optimize your costs and ensure the quality of the products you sell, but finding the right system requires careful analysis of a variety of factors. Whether you need an analysis of your systems or sampling practices by fluid system experts or you simply need safe, easy-to-use grab sampling systems built to your specifications, we can help.

## We Offer:

### Reliable Grab Sampling Panels

Swagelok offers two types of grab sampling systems that provide gas and liquid non-slurry sampling service in consistent, reliable packages.

**The Swagelok® grab sample liquid (GSL)** is a liquid-only sampling system for drawing fluid into a non-pressure containing bottle with a self-sealing septum cap in applications where the process fluid is not at risk of fractionating when stored at atmospheric pressure.

- The GSL can use lower-cost glass or polyethylene laboratory bottles to draw and store samples. Using bottles provides immediate feedback on the visual quality of the sample stream.
- Samples can be drawn and transported without the risk of spillage or evaporation. A spring-return handle on the sample-drawing mechanism prevents unintentional dispensing.
- Fixed-volume Swagelok GSL systems use the same switching valve as a GSM system to provide simplified operation for complex tasks



Grab Sample Liquid (GSL)

**The Swagelok® grab sample module (GSM)** is a sampling panel that uses sealed, metal, pressure-containing cylinders to capture either liquid or gas.

- This closed-loop system uses differential pressure to drive fluid from the sampler to the process or flare. The GSM can be left in the bypass or sample position indefinitely, keeping transport lines fresh and ready for sample capture.
- A grab sampling cylinder (GSC) is docked, and process fluid is continuously circulated within to maintain process conditions. A GSC—available in various configurations—is required for every GSM system and should be ordered separately when purchasing a new GSM.
- GSM panels feature a switching valve configuration with two or three Swagelok® 40G series ball valves allowing for simultaneous control of fluid routing. These configurations reduce the number of sequencing steps required and give a clear indication of sequencing, reducing the likelihood of errors.



Grab Sample Module (GSM)

### Swagelok Provides:

- Standard designs built according to best practices
- Panel configuration to meet system requirements
- Assembly and testing by local certified technicians
- Sampling recommendations from subject matter experts
- Simple, effective sample capture and containment
- The ability to keep samples in their representative state
- Ease of installation, operation, and maintenance
- One supplier for all components and one part number for panels
- The backing of the Swagelok Limited Lifetime Warranty

## We Can:

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### Assess

Our team of highly trained and certified technicians and engineers will evaluate your current sampling system and assess your needs to help you receive repeatable, representative samples quickly and cost-effectively. If you would like deeper analysis of your sampling systems and practices, our grab sampling evaluation and advisory services team can visit your facilities to help you:

- Improve operational performance
- Eliminate potential safety and environmental concerns
- Achieve more representative samples on a regular basis



### Recommend

Our team will take you through a checklist of details to ensure you receive a sampling panel that meets your needs. Based on the established parameters, a certified Swagelok professional will review your information and recommend the right panel for you. We evaluate criteria including:

- Temperature
- Pressure
- Phase
- Compatibility
- Container type
- Materials of construction
- Installation location



### Configure

Using our standard panel designs as a platform, we can work with your team to customize your solution:

- Substitute comparable Swagelok and non-Swagelok products
- Add valves, flowmeters, and other products within the existing schematics
- Make changes in layout and structural changes/additions
- Convert to larger/smaller tube size (or metric)
- Suggest alternative materials of construction
- Discuss flow/pressure drop calculations
- Suggest sizing of sample coolers/heaters and enclosure heaters



### Assemble

We take the work of sampling system assembly off your team, fabricating the system and testing for reliability. Every local Swagelok technician undergoes comprehensive training and certification to ensure your sample panel adheres to strict guidelines and to your specifications, and our certified engineers will monitor each step of the process.

- Every Swagelok GSM and GSL is shell tested at the selected gauge pressure
- Additional testing is available upon request
- Fabrication inspectors perform first-piece, in-process, and final inspection of orders
- All Swagelok products are backed by the Swagelok Limited Lifetime Warranty



### Train

We provide hands-on training on grab sampling system use and maintenance for your technicians once your panels are assembled. We can also equip your team with the knowledge to prevent, diagnose, and eliminate costly issues with Swagelok® sampling system training that is based on the teaching of industry expert Tony Waters:

- [Process analyzer sampling system \(PASS\) training](#)
- [Process analyzer sampling system \(PASS\) subsystem training](#)
- [Sample system problem solving and maintenance \(SSM\)](#)



## Local Solutions. Global Support.

### Standard Assemblies Configurable to Meet Your Needs

Both GSM and GSL sampling system panel types are available in fixed-volume versions that separate the process pressure from the sample bottle and user, preventing overfilling and overpressure conditions.

Ordering Number	Pressurized Storage	Sample Receiver	Sample Phase	Continuous Flow	Purge	Fixed Volume	Back Purge
GSM - L - 1 (-N)	Yes	Cylinder	Liquid	No	No	Yes	No
GSM - L - 1 (-P)	Yes	Cylinder	Liquid	No	Yes	Yes	No
GSM - L - 2 (-N)	Yes	Cylinder	Liquid	Yes	No	Yes	No
GSM - L - 2 (-P)	Yes	Cylinder	Liquid	Yes	Yes	Yes	No
GSM - G - 1 (-N)	Yes	Cylinder	Gas	No	No	No	No
GSM - G - 1 (-P)	Yes	Cylinder	Gas	No	Yes	No	No
GSM - G - 2 (-N)	Yes	Cylinder	Gas	Yes	No	No	No
GSM - G - 2 (-P)	Yes	Cylinder	Gas	Yes	Yes	No	No
GSL1	No	Bottle	Liquid	No	No	No	No
GSL2	No	Bottle	Liquid	No	Yes	No	No
GSL3	No	Bottle	Liquid	Yes	No	No	No
GSL4	No	Bottle	Liquid	Yes	Yes	No	No
GSL5	No	Bottle	Liquid	No	Yes	No	Yes
GSL6	No	Bottle	Liquid	No	No	Yes	No
GSL7	No	Bottle	Liquid	Yes	No	Yes	No

Swagelok grab sampling systems can also be customized with a variety of accessories to suit your operations, including:

- Additional instrumentation (gauges, flowmeters, and transducers)
- Sample coolers
- Process connections (threaded and flanged)
- Enclosures and stands
- Automation
- Exotic alloys (certain components are available in alloy 400, alloy C-276, or alloy 600)
- Outage tubes
- Nonrotating stem needle valves
- Rupture disc units
- Relief valves
- Carrying handles

### Contact Us to Learn More

Whether you need reliable grab sampling assemblies, supporting services to optimize your sampling processes, or training to help you cost-effectively manage your sampling processes, we can help.

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