



# Engineered for control from tap to transmitter

When it comes to Process Instrumentation, one company stands behind you to minimize risks and maximize productivity

Swagelok

CONTINUE





## Going from tap to transmitter just got easier

Out there on the front lines of your processing applications, you are faced with a changing landscape. Industries like yours are balancing increased operating expenses, reductions in the number of qualified workers, and strong competition. How to do more with less? The key is capturing the process data that helps you analyze and refine your processes for maximum throughput of on-spec products and increased profitability.

A system is only as good as the sum of its individual components. The quality of your data is dependent on the quality of the input to the measuring device. And when you need precise control, Swagelok Process Instrumentation components are integral—from tap to transmitter. From the ease of installation of the process interface valve to the leak-tight connections to the integrity of the manifold, Swagelok can help you fine-tune and optimize your process instrumentation loop.







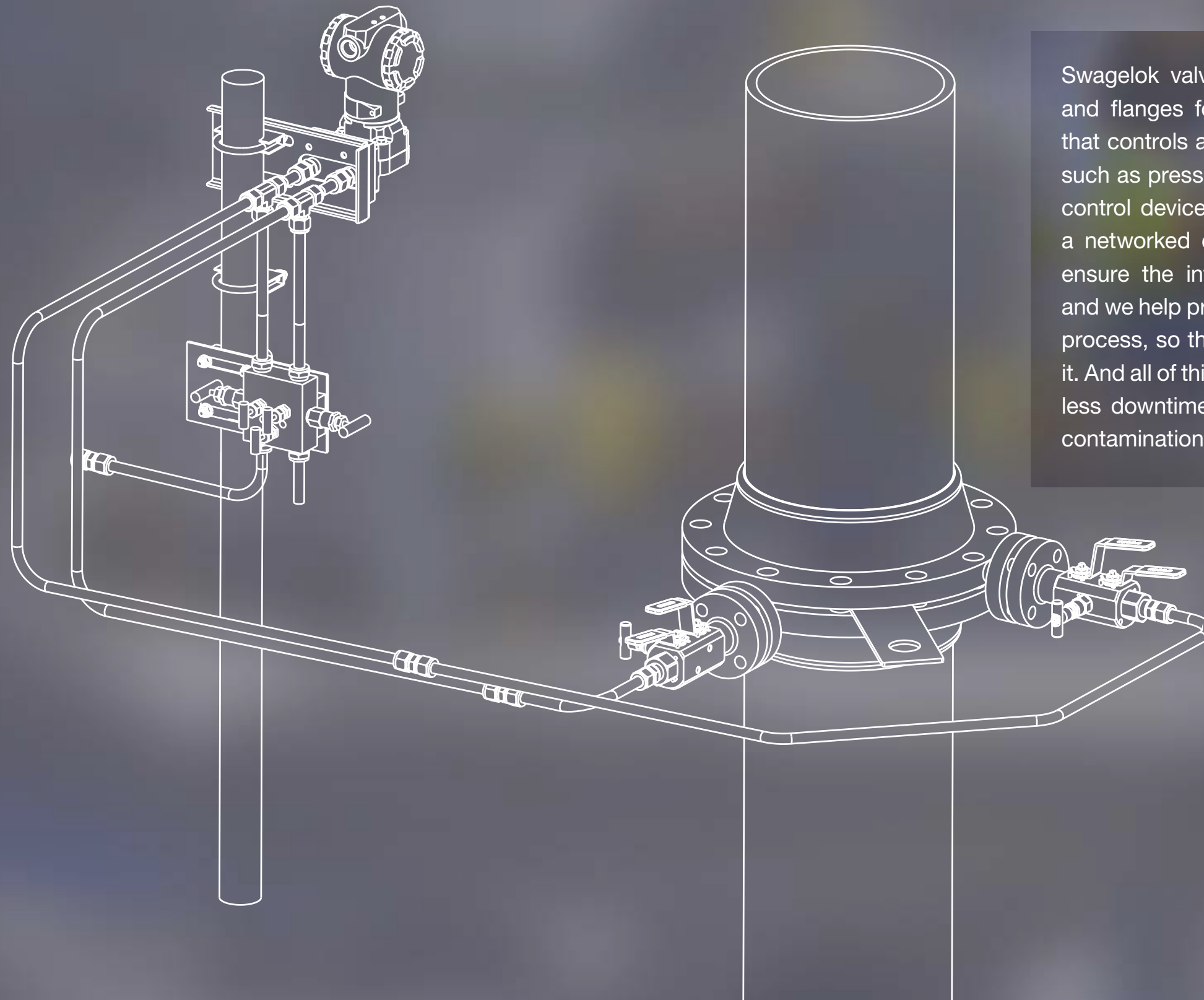
# Application support

Swagelok's Process Instrumentation solutions can work for you in applications such as:

- **Flow Measurement**  
Accurately measure fluid flow rates to ensure fluid system integrity
- **Pressure Measurement**  
Measure gauge, absolute, or differential air and fluid pressure to trace and monitor system pressures
- **Temperature Measurement**  
Measure process and material temperatures for conformance to specifications
- **Liquid Level Measurement**  
Monitor liquid levels to prevent spillage or for volume control
- **Concentration Measurement**  
Measure concentrations of gas or liquids in an application to ensure compliance or reduce fugitive emissions
- **Tank Blanketing**  
Apply an inert gas to the empty space in a storage container, such as a fuel tank, for added protection



# What is the measure of system performance?



Swagelok valves, tubing, manifolds, plugs and flanges form an instrumentation loop that controls and reports rates of variables, such as pressure and flow, back to either a control device or a controller overlaid with a networked communication protocol. We ensure the integrity of your fluid system, and we help provide reliable data about your process, so that you can control and refine it. And all of this leads to in-spec production, less downtime, and less threat of process contamination or environmental damage.





# Process Instrumentation Loop



## Instrumentation Valves

Control flow for process instrumentation loops



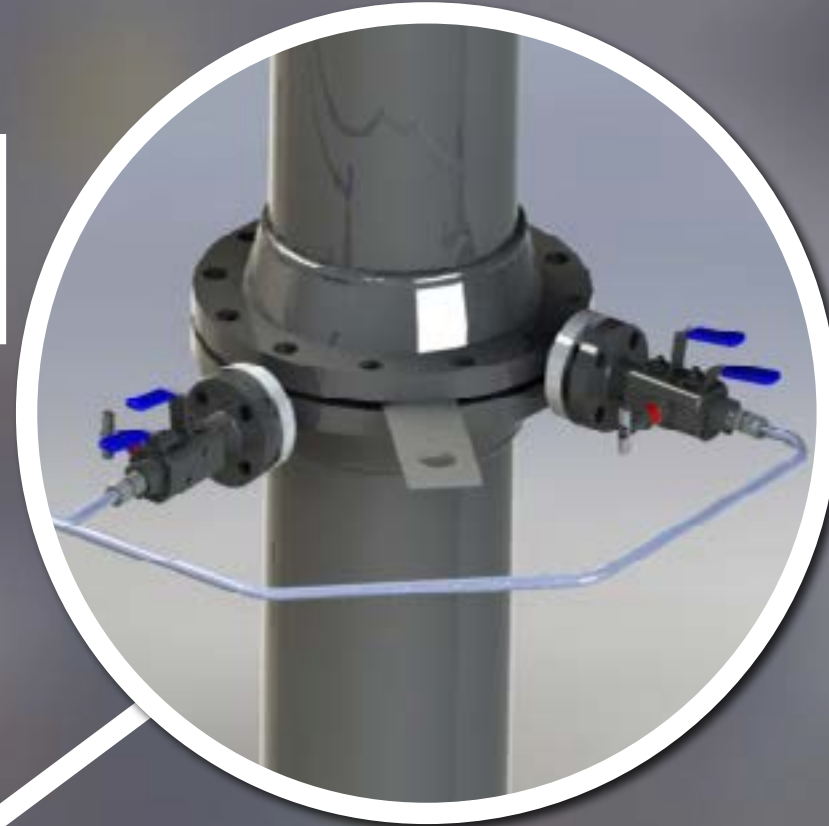
## Manifolds

Ensure reliable fluid distribution



## Fittings

Ensure leak-tight fluid system connections



## Process Interface Valves

Transition from process to process instrumentation loop



# Process Interface Valves



## VB04 and VB03 series valves

Transition smoothly from the process piping system to instrumentation in a single configuration

- Fewer potential leak points
- Bore sizes from 3/8 to 2 in. (9.5 to 50 mm)
- Variety of end connections including Swagelok Tube Fittings

## Monoflanges

Reduce loading and vibration stress with compact, lightweight design

- Replace multi-valve assemblies with single, flange-mounted configurations
- Fewer potential leak points

## VB05 series valves

Reduce fugitive emissions in process instrumentation loops

- High density graphite packing for fugitive emissions service
- Adjustable packing

## VB0451 series valves

Control the flow of particulate-containing liquids efficiently in process instrumentation loops

- Metal seated double-block and bleed design
- Extended temperature range

## VN03 HPHT series valves

Maintain performance in high-pressure, high-temperature services

- Integral hub options
- Especially suited for demanding applications

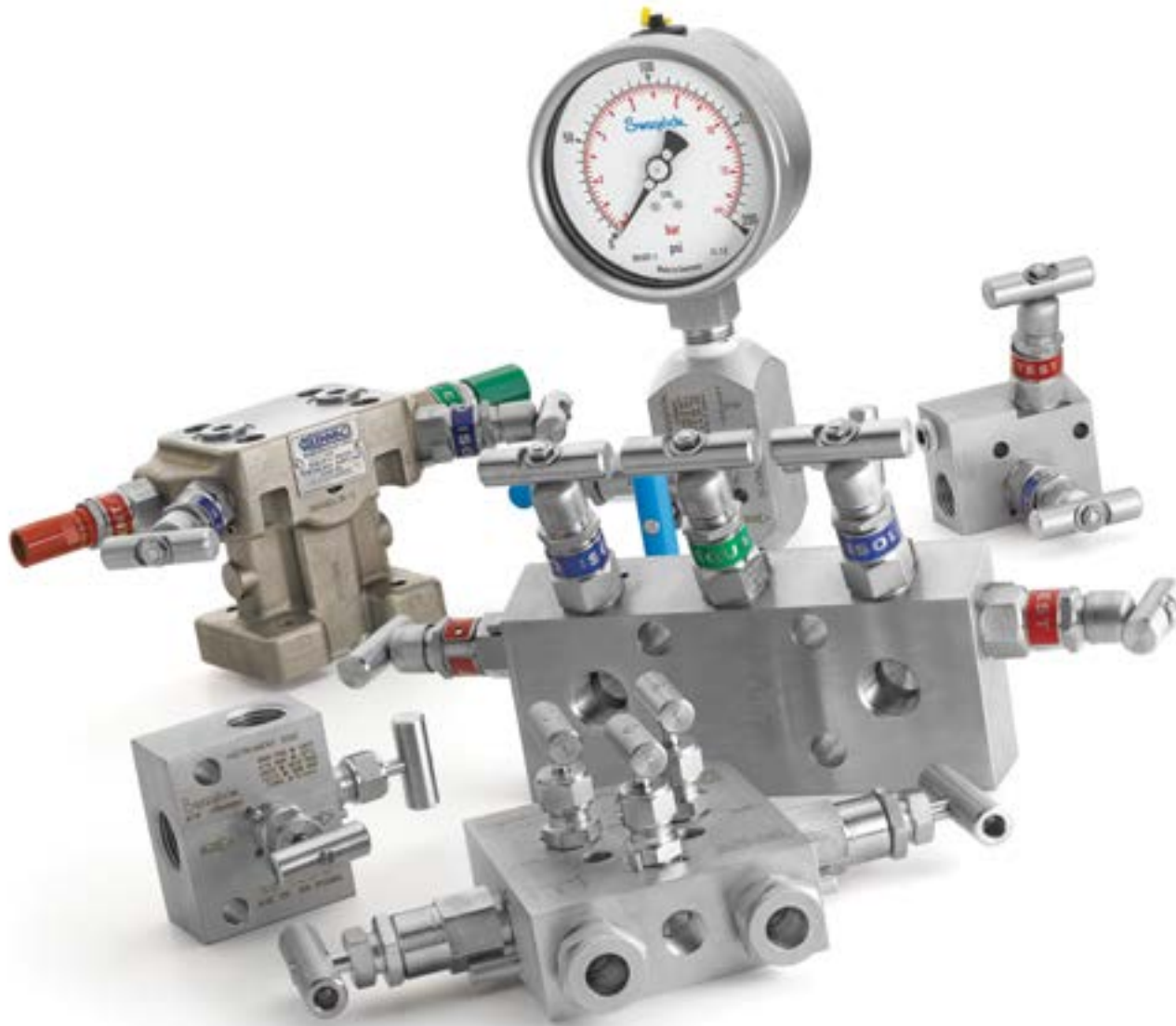
## VN01 series valves

Isolate and vent fluids and gasses for safety in process instrumentation loops

- Non-rotating isolation and vent needle valves
- Variety of end connections



# Manifolds



## V series instrument manifolds

Maintain stable pressure in process instrumentation loops

- 2-, 3-, and 5-valve manifolds
- V series in-line manifold in single block and double block configurations
- Direct and remote mount configurations
- ASME B31.1 compliance
- High-temperature service options

## VE series direct-mount manifold

Achieve accurate transmitter readings by reducing leaks with direct manifold mounting

- Anti-tamper handle options
- 2-, 3-, and 5-valve manifolds
- High-temperature service options

## MSBG remote-mount series manifold

Ensure positive flow shutoff in process instrumentation loops

- Angle vent valve for panel mounting
- High-temperature service options
- Compact design

## Mod 85 modular manifold

Maintain pressures in process instrumentation loops

- Allows pre-assembly that can reduce field installation and costs
- 2- and 4-valve options



# Instrumentation Valves



## J6 distribution manifold >

Maximize your fluid or gas distribution options

- Compact versatile distribution manifold for liquid and gas applications
- Four to eighteen needle valves and outlet connections

## 6P series gauge valves >

Connect gauges to measure system pressure

- Non-rotating ball-tip and plug-tip stem designs
- Straight-through (“roddable”) plug-tip design
- Lagging extension body available for insulation clearance
- Schedule 160 pipe wall or heavier on valve inlet fitting for strength

## 6DB instrumentation blow down valve >

Maintain safety while stabilizing pressure

- GRAFOIL® packing for high-temperature performance
- Union bonnet construction for safety

## 4P and 5P series rising plug valves >

Maintain maximum system fluid flow for greater throughput

- Straight-through (“roddable”) orifice
- Replaceable seals and seats

## 0, 1, and 18 series integral bonnet-needle valves >

Ensure system safety with high-pressure shutoff

- Live loaded packing system
- Vee, soft-seat, and regulating stem options

## 60 series ball valve >

Achieve reliable process information with dependable valve action

- Quarter-turn
- Live loaded, two-piece stem packing
- Compensating seat design
- Pneumatic and electric actuator options





# Fittings



## Flange adapters

Transition smoothly from pipe to tubing for continuous process flow

- Threadless, weldless transition from flanged piping systems to tubing systems
- Meets ASME, DIN, EN and JIS standards
- One-piece integrally machined forged body

## Calibration fittings

Reduce the time necessary for calibration set-up

- Only the bleed port tap requires removal to access transmitter ports
- Eliminates galling of transmitter NPT body threads

## Tube fittings

Ensure fluid system integrity by reducing potential leak points

- Suitable for use in a variety of process instrumentation applications
- Unique geometry for a robust tube grip and leak-tight seal
- Specially designed for vibration resistance

## Pipe fittings

Easily connect pipe for optimum fluid system layout without welding

- Angles on elbows, tees, and crosses manufactured for accurate piping layout
- Smooth thread flanks provide sealing and minimize galling
- Meets ASME B1.20.1 and SAE AS7105 standards

# Swagelok maximizes system performance

You're never alone when you choose Swagelok. Not only do we have the products, but we provide customized solutions, too. We consider your operating environment and account for factors such as vibration, temperature extremes, and the accessibility of devices. Our products, like the directly mounted manifold that reduces the effects of vibration, are especially optimized for process instrumentation loops. Temperature- and pressure-rated components allow installation even in harsh environments. And Swagelok's ongoing commitment to quality helps ensure that your data is reliable— every time.

**Select the right products.** Choose products and connect with a single source to authorized Swagelok Sales and Service Centers worldwide. Product selection tools right where and when you need them, to help you choose the exact product for your job. Learn more at [swagelok.com/services/product-selection-support.aspx](http://swagelok.com/services/product-selection-support.aspx). >

**Keep products on hand or within arms' reach.** Dynamic processes require available products. Swagelok can provide customized inventory management services as well as just-in-time delivery for optimum stock levels. Learn more at [swagelok.com/services/supply-chain-management.aspx](http://swagelok.com/services/supply-chain-management.aspx). >

**Learn what you need to know.** Help your employees or contactors acquire skills in fluid system technologies, orbital welding, valve selection, steam fundamentals, and tube bending, among more than a hundred other class offerings. Learn more at [swagelok.com/services/training-education.aspx](http://swagelok.com/services/training-education.aspx). >

**Keep your process instrumentation system up and running all the time.** Rent backup equipment from us to keep your processes up and running smoothly. Learn more at [swagelok.com/services/plant-maintenance-efficiency.aspx](http://swagelok.com/services/plant-maintenance-efficiency.aspx). >

**We're Global. And Local.** Isn't it good to know you can count on Swagelok for availability and support? A world-class manufacturer with global representation and over 200 local sales and service centers. So expertise and support is always close at hand— wherever in the world you are.

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