

Valve and Flow Component Testing

With more than 30 years of experience in testing of valves and other flow components, Southwest Research Institute® (SwRI®) is a world leader in providing independent and confidential validation and development testing of flow products for a variety of industries.

SwRI offers standard and specialized testing services to evaluate products such as:

- Valves
- Piping
- Gaskets
- Seals
- Pumps
- Actuators

Benefits of Testing at SwRI

- Independent, third-party testing services
- Complete confidentiality
- Technical excellence
- Access to world-class resources

CRYOGENIC AND FUGITIVE EMISSIONS TESTING

SwRI performs cryogenic and fugitive emissions testing on valves and other products for the downstream oil and gas industry.

Testing can be performed on:

- Valves with ratings up to Class 2500 (1/4 in. to >24 in.)
- Actuators
- Pipes
- Seals
- LNG products

Capabilities

- Testing from elevated temperature down to full liquid nitrogen immersion (-320°F to $>650^{\circ}\text{F}$)
- Design and fabrication of custom cold boxes
- Cryogenic testing to BS 6364 or customer specification
- Fugitive emissions testing to ISO 15848 or customer specification

FLOW COEFFICIENT (Cv) TESTING

SwRI provides tests for determining the flow capacity of valves and other flow-limiting devices. Both compressible and incompressible test media are available.

Testing generally follows the procedure outlined in ANSI S75.02, though custom test procedures can be accommodated. SwRI can also provide custom-built test spools to meet specifications.

Cv testing can be performed with water or nitrogen. For water tests, flows in excess of 3,000 gpm are available.



SwRI conducts fugitive emissions testing on valves and other products that handle greenhouse gases.



Testing is performed on a variety of products to determine operation and seal integrity at temperatures as low as -320°F .



SwRI performs flow coefficient (Cv) testing on a variety of products with either water or nitrogen.



DOI 17490

SwRI's gas blowdown facility allows for high-velocity, high-pressure-drop testing of valves, downhole tools, and other oilfield products.



DOI 17391

This test stand is used for liquid testing of safety valves and other flow products. Both water and sand slurry flows are available for use in testing.



Southwest Research Institute is an independent, nonprofit, applied engineering and physical sciences research and development organization using multidisciplinary approaches to problem solving. The Institute occupies 1,200 acres in San Antonio, Texas, and provides more than 2 million square feet of laboratories, test facilities, workshops and offices for more than 3,200 employees who perform contract work for industry and government clients.

GAS BLOWDOWN AND GAS LIFT TESTING

SwRI has a unique blowdown facility capable of generating large differential pressures and high gas stream velocities. High-pressure nitrogen gas is injected into the flow article and then discharged to atmosphere. Upstream and downstream pressure control and flow control are available. This setup allows for low-cost testing of a variety of products at field or near-field conditions.

Testing can be performed on:

- Safety valves
- Downhole tools
- Gas lift valves
- Chokes
- Control valves
- Eductors

Capabilities

- Operating pressures up to 3,000 psig
- Flow rates up to 230 MMSCFD
- Differential pressures >2,000 psi
- Gas source volume 1,125 ft³

SAFETY VALVE TESTING

SwRI is accredited through API to perform validation testing for both surface and subsurface safety valves. SwRI can also perform experimental safety valve testing to assist clients with design and validation. Testing is available for pressures up to 20,000 psi.

Operation and use of the valve test laboratory is in accordance with API 14A / ISO 10432 and API 6AV1. SwRI's safety valve facilities can accommodate experimental gas or liquid flow testing applications.

We welcome your inquiries. For additional information, please contact:

Shane Siebenaler
Senior Research Engineer
(210) 522-5758
ssiebenaler@swri.org

Fluids & Machinery Engineering Department Mechanical Engineering Division

Southwest Research Institute
6220 Culebra Road
San Antonio, Texas 78238-5166

swri.org
valvetest.swri.org



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