SINGER VALVE

Result-Based Solutions. Globally.™

Single Rolling Diaphragm



- **Ideal for managing low flow situations**
- **Prevents water loss and leakage**
- **Eliminates the need for a low flow bypass valve**

singervalve.com

SRD
Single Rolling Diaphragm

Smooth. Steady. Precise.

Our Single Rolling Diaphragm (SRD) Pressure Reducing Valves provide smooth, steady and precise pressure control from maximum to virtually zero flow without the need for low-flow bypass valves. By eliminating the seat chatter at low flows, the SRD avoids injecting small pressure pulses into the piping, which, over time, may increase leakage, losses or pipe bursts.



Single Rolling Diaphragm

Unprecedented Engineering Design

Singer Valve introduced the revolutionary rolling diaphragm design to the automatic control valve industry in 1983. Although rolling diaphragm technology has been used in railway air brakes for more than a century, Singer is the only pilot operated control valve company to adapt the technology for control valves. With water loss management a global priority and the accompanying need for precise pressure management, Singer Valve's pioneering design and engineering is leading the way.

Since the first Singer rolling diaphragm control valve in 1983 to the introduction of the rolling diaphragm technology on 6" / 150 mm, 8" / 200 mm in addition to our existing range from 10" / 250 mm to 36" / 900 mm, Singer has been steadfast in its dedication to offer precise pressure management. The advantage of rolling diaphragm technology in contrast to flat diaphragm, or traditional piston-style valves, is the incredible stability throughout a complete range of flows.

Singer's rolling diaphragm can control pressures with flows as high as any product offering in the marketplace today; however, the Singer difference is on extremely low flows. During the night most distribution systems have low flow and higher pressures. Traditional automatic control valves will often have seat chatter. At low flows the valve will chatter and vibrate. As a result, a smaller bypass valve is needed to control the lower flows.

A Singer rolling diaphragm pressure reducing valve will provide stable, reliable and precise pressure control from maximum to virtually zero flow without the complication of additional low-flow bypass valves.

Why Use Singer's SRD Technology

- Save the cost, space and complication of bypass valves in your Pressure Reducing Stations.
- The 6" / 150 mm and 8" / 200 mm S106-PG (SRD) design controls down to the lowest industry published flows* (substantially lower than industry published competitive low flow data) with no hunting or seat chatter. These valves have been added to our single rolling diaphragm technology from 10" / 250 mm up to 36" / 900 mm.
- Pressure management can be one of the most cost effective methods in reducing water loss. The Singer S106-PR (Single Rolling Diaphragm)Pressure Reducing Valve provides smooth stable pressure from the minimum night flows up to your maximum peak flows. By eliminating the seat chatter at low flows, the SRD avoids injecting small pressure pulses into the piping, which, over time, may increase leakage and losses as well as pipe bursts.
- Metering applications are becoming popular utilizing diaphragm operated control valve technology. The use of Singer Rolling Diaphragm Technology is becoming an industry requirement to ensure stability and accuracy of measurement at low flows.

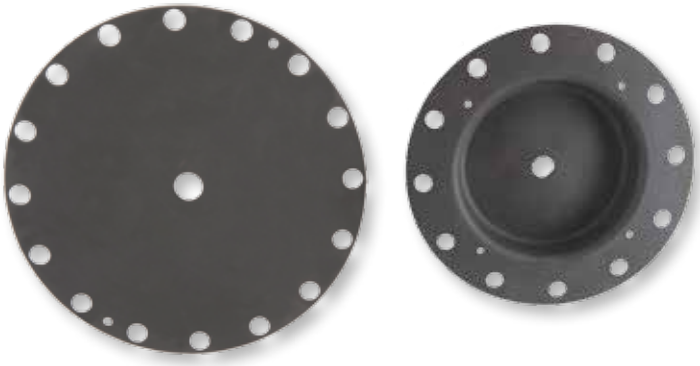
*Tested in our lab over a wide range of inlet and outlet pressures.

ROLLING DIAPHRAGM: PROVEN TECHNOLOGY

In 1880, the Rolling Diaphragm Technology was utilized by Westinghouse Air Brake Company in its railway air brakes. Singer Valve adapted and then incorporated the technology for the Automatic Control Valve industry in the 1980s.

Flat vs. Single Rolling Diaphragms

(Scaled), 6” / 150 mm



Diaphragms
Flat (left) & Rolling (right)



106-PG 6" / 150 mm
Flat (left) & Rolling (right) diaphragms

Minimum Low Flows—Better Rangeability // US Measurements

Continuous Low Flow - usgpm	6”	8”	10”	12”	14”	16”	20”	24”	30”	36”
Singer Valve	0.5	1	5	5	5	5	50	50	50	75
Typical Published Competitive Data	115	200	300	400	500	650	900	1750	2100	2900

Minimum Low Flows—Better Rangeability // Metric Measurements

Continuous Low Flow - l/s	150 mm	200 mm	250 mm	300 mm	350 mm	400 mm	500 mm	600 mm	750 mm	900 mm
Singer Valve	0.03	0.06	0.32	0.32	0.32	0.32	3.15	3.15	3.15	4.73
Typical Published Competitive Data	7.2	13	19	25	32	41	57	110	132	180

WHY SINGER DOES IT BETTER!

Effective area of a single rolling diaphragm remains constant so the bonnet is much smaller and lighter than a flat diaphragm version. Measured quantity into bonnet control chamber always gives the same smooth movement of inner valve through the entire stroke.

KEY FEATURES & BENEFITS OF SINGER’S SRD

- Shape molded from pattern
- Smaller overall diameter
- EPDM / Buna material
- Stable and longer life
- Eliminates the need for low flow bypass
- Smaller bonnet, lighter and safer for maintenance
- Faster times to respond to changing pressures due to smaller control chambers

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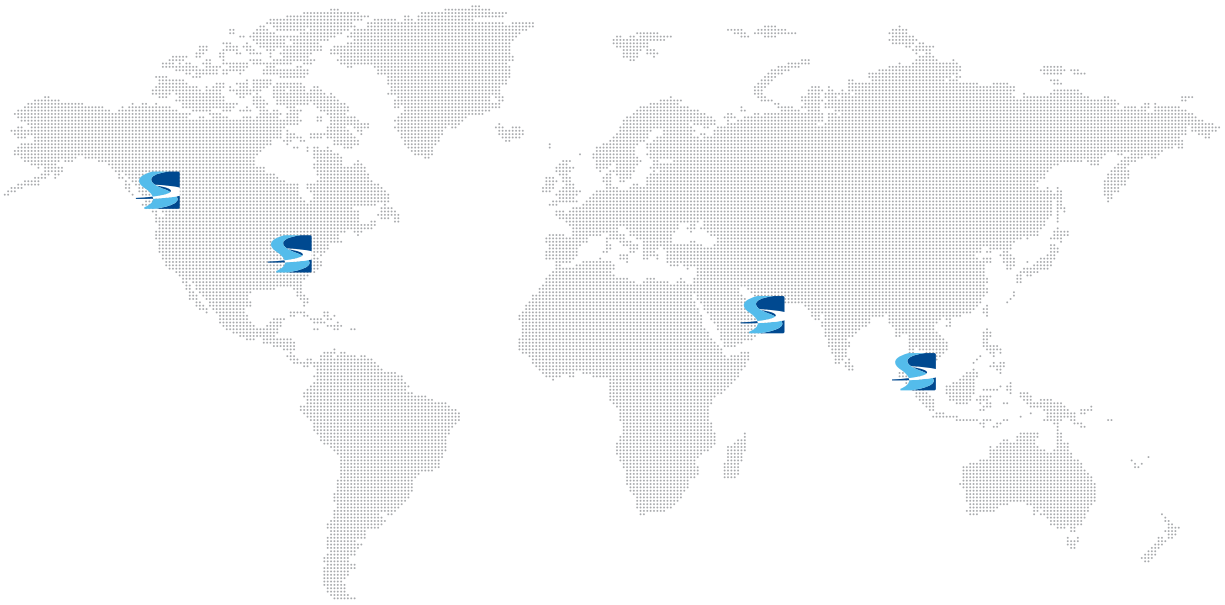

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