



**brands you trust.**



Saunders<sup>®</sup> S360 Actuator  
DN8-DN100 (0.25" to 4.00")

**CRANE**<sup>®</sup>

Crane ChemPharma & Energy

[www.cranecpe.com](http://www.cranecpe.com)

## Saunders<sup>®</sup> S360 Actuator Overview

The Saunders<sup>®</sup> S360 piston actuator permits remote operation of the valve, either as an alternative to manual operation or as an integral part of a control system. The S360 is a compact, lightweight, piston-type pneumatic actuator which has been developed to deliver superior performance for sterile BioPharm applications.

### Key Features

- 1 Modular range delivers compact dimensional envelope to reduce dead-leg between associated valves and optimises system design.
- 2 Maintenance free piston technology provides powerful closure performance.
- 3 Smooth corrosion resistant profile optimises cleanability.



The Saunders<sup>®</sup> S360 housing is manufactured from polished 316 Stainless Steel producing a robust design, a clean OD profile and an attractive appearance. It can withstand typical industry wash down regimes.

The S360 is a piston-type actuator that provides reliable performance, high cycle life, lower air consumption and more compact design versus diaphragm type actuators.

The modular design offers two different spring-to-close versions; the S360 Lite with compact, lightweight design for typical applications and the S360 Power for maximum high pressure duty or for severe closure applications.

The S360 range also includes normally open, double acting, and options for limiting travel and direct switch mount variations. All models have a bright yellow visual indicator as standard.



## Saunders<sup>®</sup> S360 Actuator Features and Benefits

### Full 360° Rotation DN15-DN50 (0.5" - 2.0")

The Saunders<sup>®</sup> S360 features the ability to fully rotate the actuator head by 360°, enabling flexible installation and air port alignment.

This in turn reduces installation cost and optimizes incorporation into compact valving arrays or skid arrangements.



### Easy Compressor Change

The Saunders<sup>®</sup> S360 has a unique compressor attachment that permits easy conversion of the compressor between rubber and PTFE diaphragms.

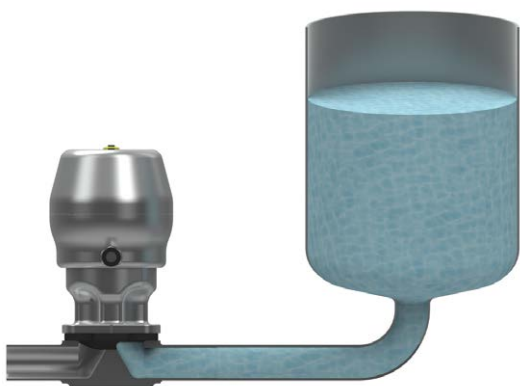


*Refer to the Installation, Operation, and Maintenance Manual for complete instructions on 360° rotation and compressor conversion.*

## Saunders<sup>®</sup> S360 Actuator Typical Applications

The Saunders<sup>®</sup> S360 Actuator has been designed and engineered to deliver optimum performance over the full range of operating conditions found in bioprocess plants. The diaphragm in a weir type diaphragm valve has a large wetted surface that is exposed to pressure in the process line. This means that line pressure has a large impact on required actuator opening and closing forces.

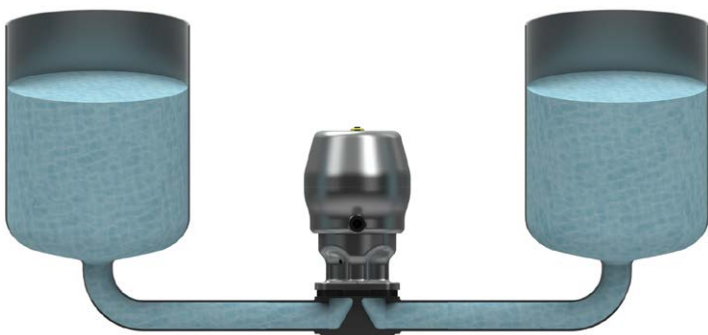
The majority of applications produce pressure on one side of the weir only. This condition is typically called 100% pressure drop, or 100%  $\Delta P$ . When this occurs, only half the wetted area of the diaphragm is exposed to line pressure.



**100% Pressure Drop**  
line-pressure is on one side of weir  
only

This is the most common service  
condition.

The force on the diaphragm is greatest when there is pressure on both upstream and downstream sides of the weir. This condition is generally called 0% pressure drop, or 0%  $\Delta P$ . When this occurs the total wetted area of the diaphragm is exposed to line pressure. This is not a common condition in BioPharm applications.



**0% Pressure Drop**  
line-pressure is on both sides of  
weir

Maximum force is working  
against actuator.

Please contact Saunders<sup>®</sup> directly or review actuator sizing charts and data sheets for additional information regarding actuator selection. Technical information, sizing charts, and datasheets can be accessed or downloaded at [www.cranebiopharm.com](http://www.cranebiopharm.com).

# Saunders<sup>®</sup> S360 Actuator Technical Specifications

## Modular Design

The Saunders<sup>®</sup> S360 modular range delivers optimum dimensional envelope and closure performance. There are two different normally closed versions available; the S360 Lite and S360 Power actuator that delivers industry leading closure performance and allows complete flexibility to suit a wide range of pressure and flow conditions.



### Saunders<sup>®</sup> S360 Lite

The S360 Lite range provides standard closure for normally closed applications in a very compact, lightweight package and is ideal for most applications. The S360 Lite fits into tight piping arrays – and its compact size can even help reduce block valve design and is available through sizes DN8 – DN100 (0.25" – 4.00").



DN8 (0.25")   DN15 (0.50")   DN20 (0.75")   DN25 (1.00")   DN40 (1.50")   DN50 (2.00")   DN65 (2.50")   DN80 (3.00")   DN100 (4.00")

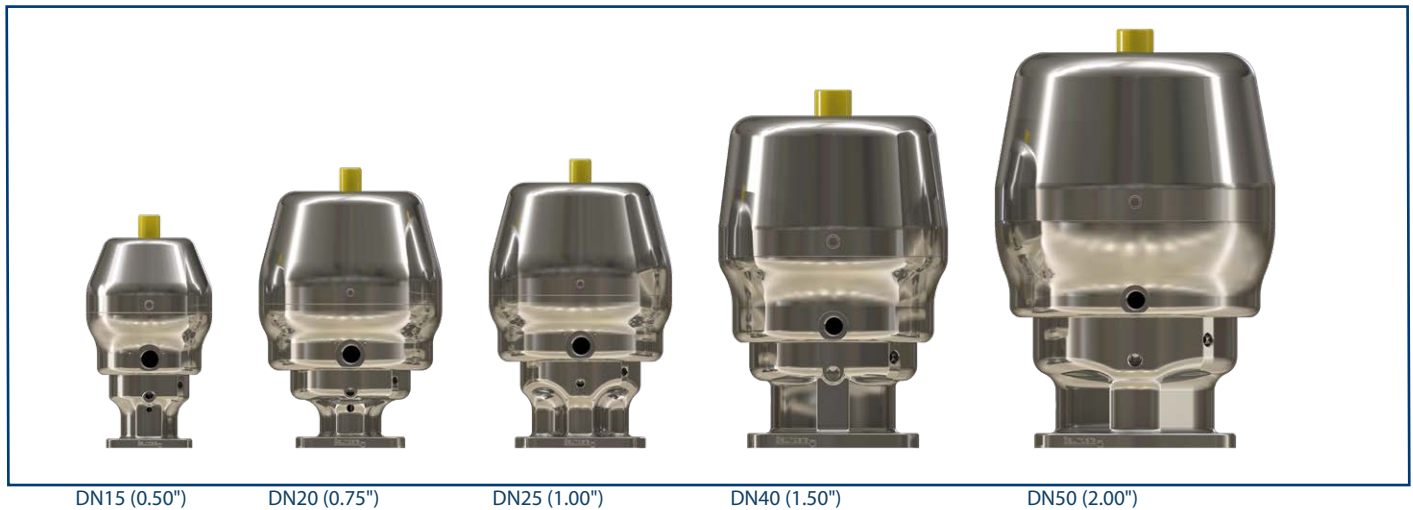
Closure Performance (Saunders <sup>®</sup> S360 Lite Normally Closed)				
Size	Line Pressure		Control Pressure	Weight
	PTFE	Rubber		
DN8 (0.25")	16bar (232psi)	16bar (232psi)	6bar (87psi)	0.6kg (1.32lbs)
DN15 (0.50")	8bar (116 psi)	8bar (116 psi)	6bar (87psi)	1.20kg (2.6lbs)
DN20 (0.75")	8bar (116 psi)	8bar (116 psi)	6bar (87psi)	2.10kg (4.62lbs)
DN25 (1.00")	8bar (116 psi)	8bar (116 psi)	6bar (87psi)	2.3kg (5.06lbs)
DN40 (1.50")	8bar (116 psi)	8bar (116 psi)	6bar (87psi)	3.50kg (7.7lbs)
DN50 (2.00")	8bar (116 psi)	8bar (116 psi)	6bar (87psi)	7.70kg (17lbs)
DN65 (2.50")	8bar (116 psi)	8bar (116 psi)	6bar (87psi)	17.5kg (38.6lbs)
DN80 (3.00")	8bar (116 psi)	8bar (116 psi)	6bar (87psi)	32kg (70.6lbs)
DN100 (4.00")	8bar (116 psi)	8bar (116 psi)	6bar (87psi)	35.8kg (78.9lbs)

All pressures are gauge pressures. Line pressure values were determined with pressure on one side of the weir only. This condition is called 100% pressure drop, or 100% ΔP. Information on line pressure applied to both upstream and downstream sides of the weir is available on request.

## Saunders® S360 Actuator Technical Specifications

### Saunders® S360 Power

The Saunders® S360 Power range offers higher operating closure performance in a compact package for high operating pressure or atypical closing conditions with high pressure on both sides of the weir. The S360 Power normally closed actuator is available through sizes DN15 – DN50 (0.50" – 2.00").



Closure Performance (Saunders® S360 Power Normally Closed)				
Size	Line Pressure		Control Pressure	Weight
	PTFE	Rubber		
DN15 (0.50")	16bar (232psi)	16bar (232psi)	6bar (87psi)	1.2kg (2.6lbs)
DN20 (0.75")	16bar (232psi)	16bar (232psi)	6bar (87psi)	2.8kg (6.2lbs)
DN25 (1.00")	16bar (232psi)	16bar (232psi)	6bar (87psi)	2.9kg (6.4lbs)
DN40 (1.50")	16bar (232psi)	16bar (232psi)	6bar (87psi)	5.8kg (12.8lbs)
DN50 (2.00")	16bar (232psi)	16bar (232psi)	6bar (87psi)	9.7kg (21.4lbs)

*All pressures are gauge pressures. Line pressure values were determined with pressure on one side of the weir only. This condition is called 100% pressure drop, or 100% ΔP. Information on line pressure applied to both upstream and downstream sides of the weir is available on request.*

The Saunders® S360 actuator is also available in normally open and double acting modes of operation through sizes DN8 – DN100 (0.25" – 4.00"). Please refer to Saunders® data sheets for additional information on S360 normally closed and double acting variants. Technical information, sizing charts, and datasheets can be accessed or downloaded at [www.saundersS360.com](http://www.saundersS360.com).

PDF dimensional drawings, 2D AutoCAD, and 3D IGES Files of the Saunders® S360 actuator are available at [www.SaundersDrawings.com](http://www.SaundersDrawings.com).



## Saunders<sup>®</sup> S360 Actuator Accessories



DN100 S360 Actuator with  
Adjustable Limit Open Stop

### Marking

Identification label adhered to actuator and contains the following:

- Valve Size
- Model Identification
- Maximum Air Supply

### Available Accessories

- Position Feedback
- Adjustable Limit Open and Close Stop
- Valve Positioners
- Manual Override
- Other Accessories on Request



Direct Mount I-VUE

Visit [www.saundersS360.com](http://www.saundersS360.com) for additional information on other Saunders<sup>®</sup> products, including technical datasheets, drawing library, and product selection tools.



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