

OVERVIEW

The Rite® Series SA1 check valve accessory with spring and weight is designed to add cracking pressure & closing force to the disc. This is used for applications needing flexibility to decrease/increase closing time, & which may include solid/liquid handling applications. Design can be used on downward flow applications.

SPECIFICATIONS

Size Range	NPS 2" to 12"
	50mm to 300mm
Temperature Range	Pending Materials Selected
Operating Pressure	Pending Pressure Class Selected
Body Style	One-Piece Flanged or Wafer Body
Compatibility	Bray 205, 210, or 211 Series
Leakage Rate	API 598

APPLICATIONS

- > Fast Closures
- > Industrial Waste
- > Sewage Treatment
- > Solids handling
- > Wastewater

MEDIA

- > Dry Chlorine (Gas or Liquid)
- > Gases
- > Hydrogen
- > Oxygen
- > Water

DESIGN FEATURES

The Rite® Series SA1 check valve accessory offers single door check valve design modification to alter flow conditions:

APPLICATION:

The purpose of equipping a standard Rite® Series Single Door Wafer or Flanged Type Swing Check Valve with an external spring & weight, is to provide external control, which is field adjustable, in applications such as: multiple pumping installations terminating in common headers where transient forces are difficult to ascertain and control. Other applications include those that require fast closure such as solid/liquid handling, & wastewater. The basic principle is to start closing the valve as soon as the flow starts to decrease. With the external spring it is possible to close the valve before the flow reverses. This reduces or eliminates water-hammer and the associated problems. The weight provides an additional onsite adjustment of the torque to close the disc.

GENERAL DESCRIPTION:

The model SA1 is a standard Rite® Series Single Door Swing Check Valve that has been converted, featuring a positive hexagon drive at the disc/hinge/shaft connection. The shaft extends through and is supported by the body at one end, by a bushing in the body, and by a ball bearing designed to reduce friction mounted in a bracket on the opposing side. O-rings seal the shaft, seal bushing and the body to prevent leakage. An external spring and weight are mounted on the shaft via a hexagonal connection and anchored via the eye bolt to the bracket to allow pre-load adjustment and facilitate rapid disc closure.

Figure 01: SA1 Rear View Closed (Right Hand Mount Displayed and Provided As Standard).

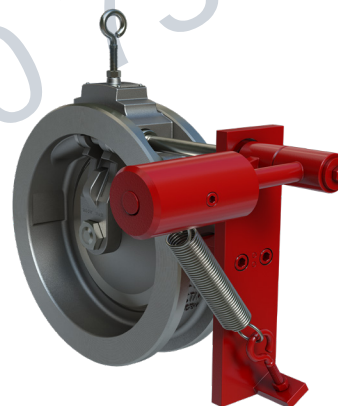


Figure 02: SA1 Rear View Open.



RITE® SPECIAL APPLICATION SERIES SA1
EXTERNAL SPRING AND WEIGHT
CHECK VALVE ACCESSORY



For body/trim materials user must first refer to and select the appropriate model from the foundation unit Sales Data Sheets.

Series 205	Integral Hard Seat (IHS)
	Seat Ring Hard Seat (SRHS)
	Integral Soft Seat (ISS)
Series 210	Seat Ring Soft Seat (SRSS)
	Integral Hard Seat (IHS)
	Seat Ring Hard Seat (SRHS)
Series 211	Integral Soft Seat (ISS)
	Seat Ring Soft Seat (SRSS)
	Integral Hard Seat (IHS)
	Seat Ring Hard Seat (SRHS)
Series 211	Integral Soft Seat (ISS)
	Seat Ring Soft Seat (SRSS)
	Integral Hard Seat (IHS)
	Seat Ring Hard Seat (SRHS)

MATERIAL OPTIONS¹

Seal Bushing	Stainless Steel (ASTM A479 316)
Seal O-Rings (x4)	BUNA-N, EPDM, FKM-A, HNBR, Neoprene
Spring Adaptor	Steel
Weight Lever	Steel
Retaining Plate	Steel
Bracket	Steel
Socket Head Screws (x4)	Steel Zinc Plated
Dowel Pins (x2)	Steel Zinc Plated
Ball Bearing	Steel
Round Head Screw	Steel Zinc Plated
Eyebolt	Steel Zinc Plated
Nut (x2)	Steel Zinc Plated
Valve size: ≤12"	Stainless Steel (ASTM A313 316) standard duty
Valve size: ≥14" +	Stainless Steel (ASTM A313 17-7 PH)
Spring	
Weight	Steel

Note: ¹ Dimensions available in ASME and DIN sizes.
All external components can be offered in SS where required.
* Previous Models before July 2024 may have included slightly different material configurations/parts callout lists.

Rite® Series Check Valve Integral Hard Seat type part number: V0215XBZ205**SA1** (For 2", Class 150, Stainless Steel (ASTM A351 CF8M) Body, BUNA-N O-Ring, SS Spacer, Series 205, **Special Application Series SA1**).

Figure 03: SA1 Exploded View.

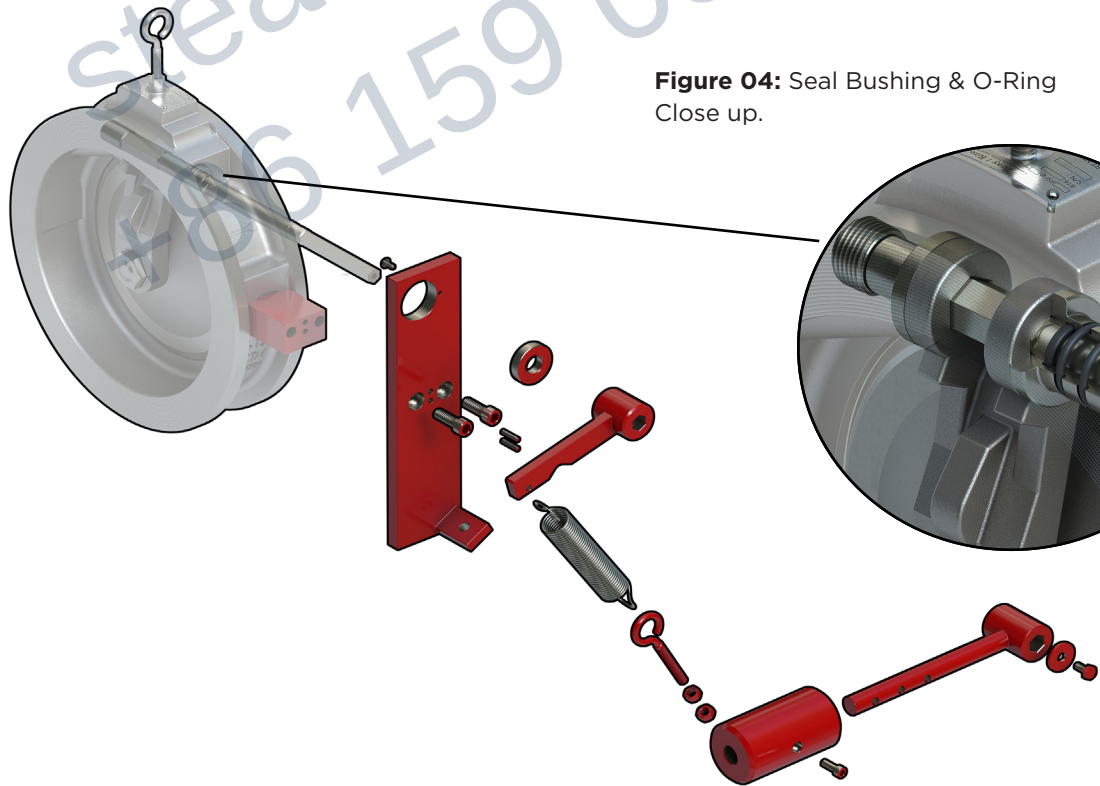


Figure 04: Seal Bushing & O-Ring Close up.