RITE® SERIES 205
SINGLE DOOR WAFER TYPE SWING CHECK VALVE
SEAT RING SOFT SEAT

OVERVIEW

The Rite® Series 205 wafer combination swing check valves are flow activated and Rite® sized. The Rite® Series Check Valve inlet ports and disc have been shape optimized to achieve a fully open position at low flow rates (3 ft/s on average).

SPECIFICATIONS

Size Range	NPS 2" to 48"
	25mm to 1200mm
Temperature Range	-240 to 400 °F (-151 to 204 °C) (Pending Materials Selected)
Operating Pressure	ASME (150, 300, 600, 900, 1500)
	DIN (PN10, 16, 25, 40, 64, 100, 150, 250)
Body Style	One-Piece Wafer Body Seat Ring Type
Leakage Rate	Zero Leakage

APPLICATIONS

- Chemical Processing
- Electrolysis
- Facilities/Skid
- HVAC
- Marine
- Nuclear
- Oil Transport
- Petrochemical
- Power Generation
- Refrigeration
- Storage & Transport
- Tank Trucks
- Water

MEDIA

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

DESIGN FEATURES

The Series 205 soft seated check valves offer:

SINGLE DOOR DESIGN:

Below numbered list can be referenced on various figures throughout document

1. Combination design utilizing both gravity + spring makes the valve easy to open/close, reducing water hammer.
2. Limited movement of internal parts during operation extends service life.
3. Elliptical inlet shape designed to accelerate line media through the valve.
4. Optimal diameter for high flow capacity.
5. Short face to face, reducing weight and space between flanges.
6. Low cracking pressure design.
7. Quick response time (ideal for process lines with varying flows & control valves).
8. Customizable modular design, allows for adding optional special accessories to meet customer application requirements.
9. Cost & energy efficiency, requiring only one set of flange studs which span the valve, reducing in-service vibration.
10. A mechanically dynamic seal, contained in a specially designed groove.
11. Maintenance is simple as the o-ring is easily removed and replaced when worn.
12. As pressure is applied to the valve disc, the seal is compressed into the groove ensuring a consistent and uniform seal.
13. The load on the seal is controlled, reducing wear for longer life.

Figure 01: Seat Ring Soft Seat Cutaway Front View.

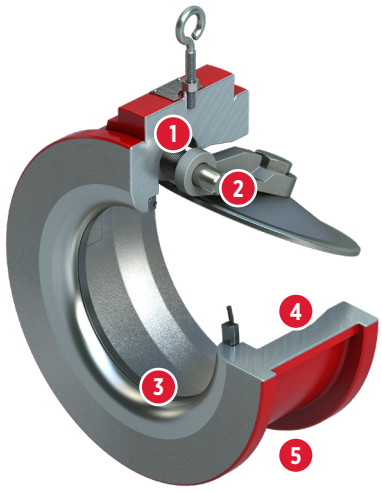
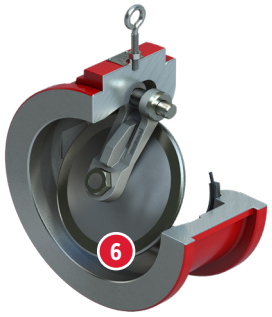


Figure 02: Seat Ring Soft Seat Cutaway Rear View.



DESIGN STANDARDS

Valve Design	API 594
Accessories Available	H100, SA01, SA1, SA2, SA3, SA4, SA4A, SA6, SA7, SA10, SA16, SA40, SA40A, SA50, SA54, etc.
Testing Standard	API 598, ASME B16.34
Face-to-Face	API 594

CERTIFICATIONS AND APPROVALS

Certifications	API 6FD (Carbon Steel Body)
	CE/PED
	CRN
Approvals	NSF-61

Additional information is available in the Bray Rite® Ltd. Technical Sales Manual.

MATERIAL OPTIONS[1]

Body Material determines whether design is integral type, or seat ring type. See below chart:

Body	Carbon Steel (ASTM A216 WCB)
	Ductile Iron (ASTM A395)
Hinge	Stainless Steel (ASTM A351 CF8M)
Seat Ring	Stainless Steel (ASTM A240 304)
Spring	**Valve size:** ≤12": Stainless Steel (ASTM A313 316) standard duty
	Valve size: ≥14"+: Stainless Steel (ASTM A313 17-7 PH)
Spacer	Stainless Steel (ASTM A479 316), PTFE optional
Pin	Stainless Steel (ASTM A479 316)
Plug	Steel
Lock Nut	Steel Zinc Plated
Eye Bolt	Steel Zinc Plated
Nameplate	Stainless Steel (SS 316)
Disc	Stainless Steel (ASTM A351 CF8M)
Rivet	Steel Zinc Plated
O-Ring	BUNA-N, EPDM, FKM-A, HNBR, Neoprene
	PTFE-virgin, Teflon encapsulated silicone, Viton
Disc Nut	Stainless Steel (ASTM F594 316)

Rite® Series Check Valve seat ring type part number:
V0215SBZ205 (For 2", Class 150, Carbon Steel ASTM A216 WCB Body, BUNA-N Seat, SS Spacer, Series 205)

Note: [1] Dimensions available in ASME and DIN sizes.

Figure 03: Seat Ring Soft Seat Exploded View.

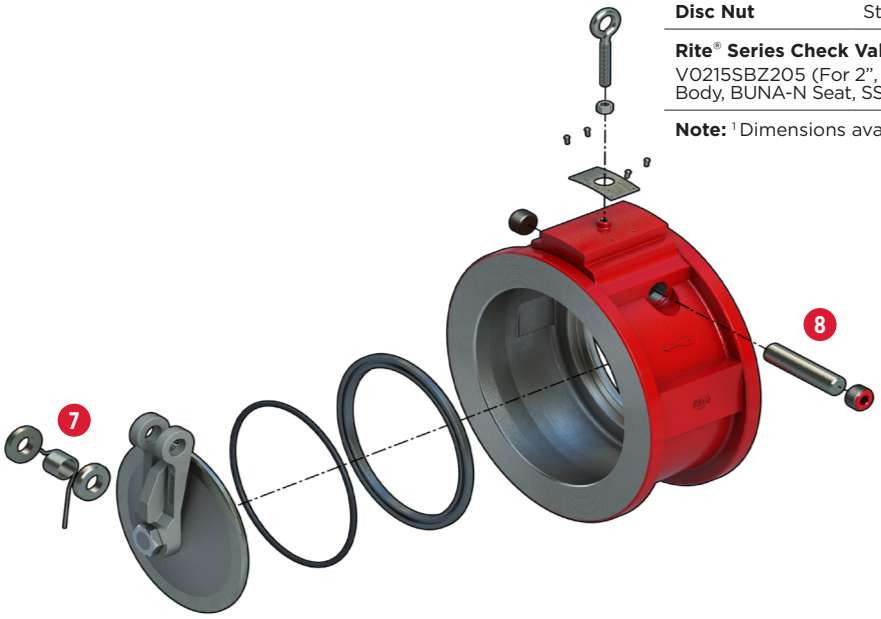


Figure 04: Seat Ring Soft Seat In-Pipe View.

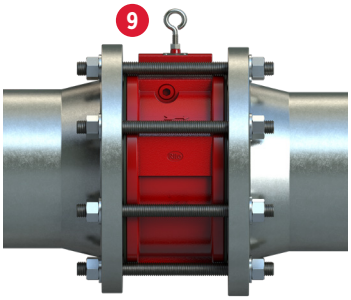


Figure 05: Seat Ring Soft Seat Close-Up Cutaway Views.