

Champion Valves, Inc.

Single Disc Short Pattern Check Valve Model SDS

INSTALLATION AND OPERATION MANUAL



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CHAMPION VALVES, INC.

SINGLE DISC SHORT PATTERN CHECK VALVE – MODEL SDS
APPLICATION, OPERATION AND INSTALLATION INSTRUCTIONS

APPLICATION AND OPERATION

The Champion Check – Model SDS valve is a self operating check valve designed to prevent the backflow of gas or liquid media. Initial opening of the Wafer Check – Model SDS’s disc begins when the upstream pressure exceeds the downstream pressure and the effective torque from the weight of the disc. This pressure is called the “cracking” pressure. Once the Check – Model SDS’s disc opens, flow velocity determines the position and stability of the disc.

If the flow velocity upstream of the Check – Model SDS decreases and/or stops, gravity and back flow forces the disc to a closed position. Ideally, the disc will be fully closed just prior to flow reversal, thus alleviating the potential for water hammer.

LIMITATIONS AND PRECAUTIONS

Check – Model SDS valves are not recommended for the following service conditions.

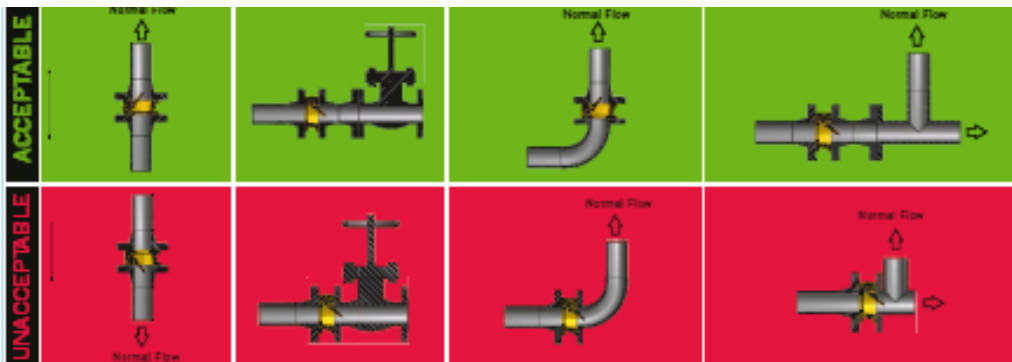
- Pulsating Flows
- Service condition requiring a “Full Port” opening
- Installation directly to a Butterfly valve or other piping accessory that may interfere with the opening or closing of Wafer Check discs
- Vertical Flow DOWN without prior Factory Approval

The following precautions should be taken to insure long service life of Check – Model SDS valves.

- Accurate sizing of Check – Model SDS is crucial to ensure an acceptable pressure drop and a long service life.
- Flow velocities should be in the following ranges:

MEDIA	FLOW RATE
Liquid	5 to 11 feet/second
	.91 to 3.35 m/second
Gas	50 to 250 feet/second
	6.1 to 76.2 m/second

- A minimum of 5 (five) pipe diameters should be maintained between the Wafer Check – Model SD and likely causes of turbulence (i.e. pump discharge, reducers, elbows, and tees, etc.).



INSTALLATION

1. Remove the valve from carton or packing skid.
2. The protective rust proof coating on the internal parts of steel or iron valves should be removed by brushing out with any standard petroleum solvent (Varsol, Kerosene), and air dry. Insure internal parts operate freely.
3. Stainless Steel or Bronze valves need only to be wiped clean and installed.
4. In horizontal flow installation, the hinge pin must be horizontal.
5. Insert the valve between two companion flanges of the same series as the valve and place gaskets on flange faces. The arrow on the valve or name plate indicating direction of flow should coincide with line flow. Install studs through companion flanges and tighten, using standard industry practice.
6. In liquid service we recommend valve be installed at least five (5) pipe diameters downstream from a pump discharge and/or other pipe fittings for maximum service life.

