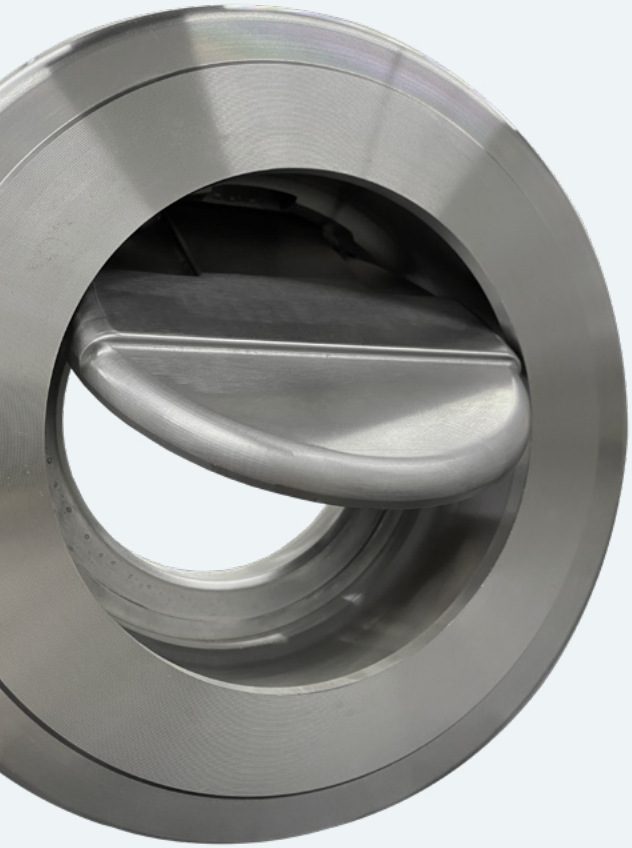
DSS®
VALVES

Severe Service Check Valves

SSCKVs

DSSVALVES.COM

TABLE OF CONTENTS



Introducing DSS Severe Service Check Valves

DSS would like to introduce our latest product addition: the Severe Service Check Valve (SSCKV). The DSS SSCKV is the premier check valve on the market today and is engineered to perform where conventional check valves fail.

With our decades of experience in designing and manufacturing Severe Service Valves (SSVs) and employing staff who have spent entire careers studying check valves, the time has come to improve this portion of the industry.

Engineered SSCKVs

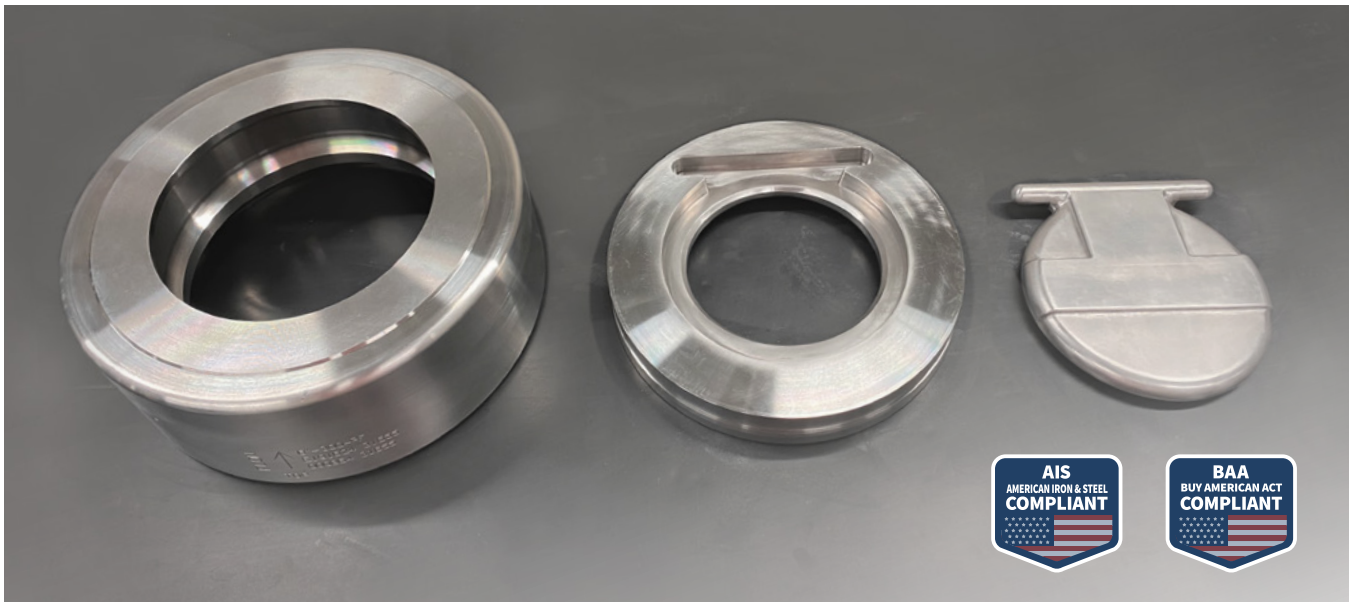
Check Valves are often overlooked during the design of piping systems because conventional designs are prone to failures and do not provide reliable non-return function as they should. It's a foregone conclusion that Check Valves do not work, and end users put little or no thought into their selection. This thinking often leads to pump damage, process inefficiencies, or even catastrophic failures in some cases.

DSS Valves understands typical Check Valve failure modes and has engineered a technologically advanced product to succeed where typical Check Valves do not.

Made in the USA

Our SSCKV is 100% designed and manufactured in the USA from domestic or DFARS compliant raw materials. We take no chances and cut no corners when it comes to ensuring quality.

DSS VALVES



Designed for Severe Service

DSS Valves is comprised of industry veterans who have spent decades learning and perfecting Severe Service Valves.

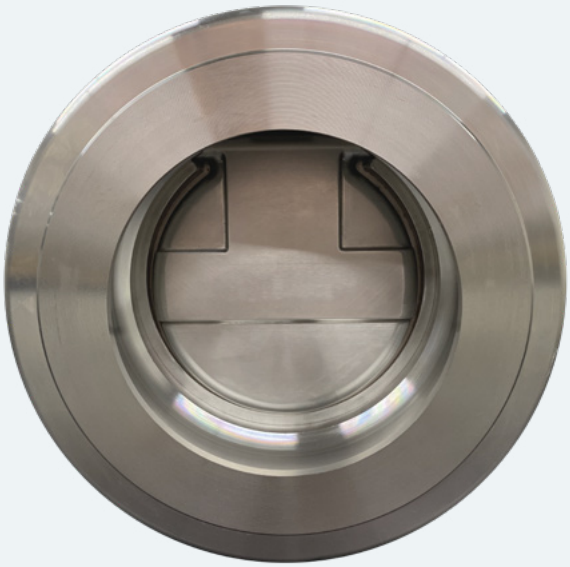
Our company has built a reputation for starting with the building blocks of a Severe Service Valve, and then improving it to the next generation. This is the same approach we have taken with our SSCKV design.

AIS/BAA Compliant

DSS is dedicated to creating North American Made Severe Service Valves. When it comes to our Severe Service Check Valves, 100% of the components are sourced from US-based vendors, with the final assembly taking place in Niles, MI. We are fully compliant with American Iron and Steel (AIS) provisions, and are proud to also be compliant with the Buy American Act (BAA).

Why a Severe Service Check Valve?

Our experience has shown there are many severe service applications where conventional Check Valves are unacceptable based on the risk they impose on the piping system. In designing the DSS SSCKV, we understand the industry has a need for a check valve that can handle high pressures, temperatures, corrosivity, and toxic media. In addition, the final design also needs to provide repeatable non-return function and cannot release fugitive emissions to atmosphere.



Problems We Solve

PROBLEM: Fugitive Emissions

SOLUTION:

- Retainerless body
- Engineered interference fit between body and seat insert

Eliminating fugitive emissions is a major focus of the industry and our retainerless body removes potential leakage paths that exists in other check valves. Previous generations of Severe Service Check Valves had inherent design flaws and were never truly *engineered*.

PROBLEM: Pressure Drop

SOLUTION:

- Minimally obstructed bore
- Engineered flow path

Our disc swings mostly out of the flow path producing a large bore with minimal obstructions; this results in very low pressure drop. Additionally, we have engineered the geometry of the bore using CFD software to improve flow characteristics over previous generation Severe Service Check Valves.

PROBLEM: Disc/Obturator Breakage

SOLUTION:

- Single piece disc/shaft/hinge

Conventional Check Valves use discs that are comprised of as many as 7 different components, and they're usually built to sloppy tolerances. It is common to find Check Valve disc components that have traveled downstream causing damage to pumps and other equipment. DSS replaces all of these components with one integral piece that cannot come loose and travel downstream. We have also engineered this component using FEA to make improvements to critical locations to provide the longest service life.

PROBLEM: Failures Due to Slamming

SOLUTION:

- Proper Check Valve sizing

The leading cause of Check Valve failures is due to oversized bores which leads to slamming. We have optimized the weight and size of our disc and the geometry of our inlet to overcome many of these slamming concerns using our standard design. Additionally, we have the capability to run sizing calculations using CFD software to create custom sized bores while maintaining external dimensions to remove the need for piping modifications.

PROBLEM: Lead Time

SOLUTION:

- Integrated supply chain
- Investment in inventory

Previous generation Severe Service Check Valves typically come with very long lead times. Utilizing our nimble supply chain and multiple manufacturing partners within driving distance of our factory, we can provide large bore valves, high alloys, and high-pressure class valves in a fraction of the time it takes our competitors.

About DSS Valves

Based in Niles, Michigan, DSS Valves is a team of engineering and manufacturing professionals with decades of experience in creating premier Severe Service Knife Gate Valves and Severe Service Check Valves for Oil & Gas, Mining, Steel, Pulp & Paper, and Water/Wastewater industries.

We specialize in creating valves that thrive in the harshest environments and our products are known for handling high differential pressure scenarios, corrosive materials, and extreme temperatures.

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