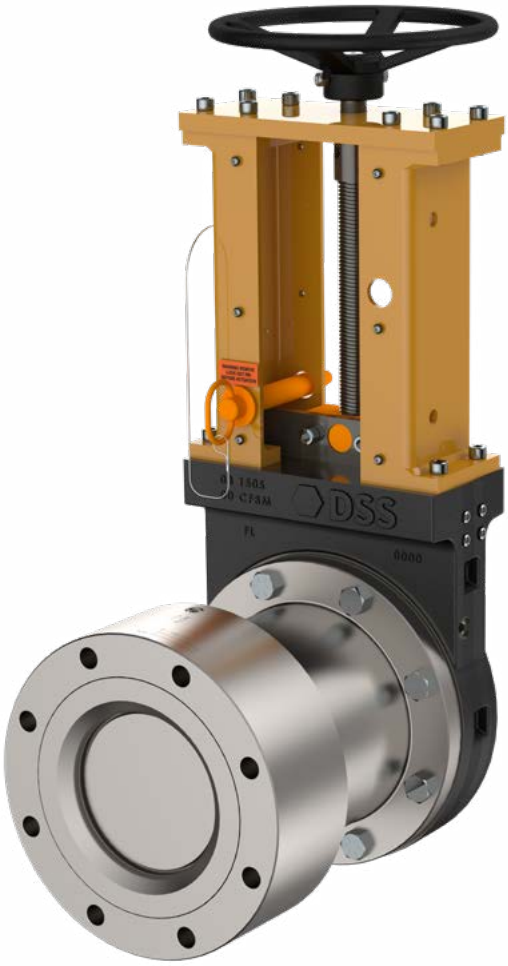
SSKGV and SSCKV — The Perfect Match

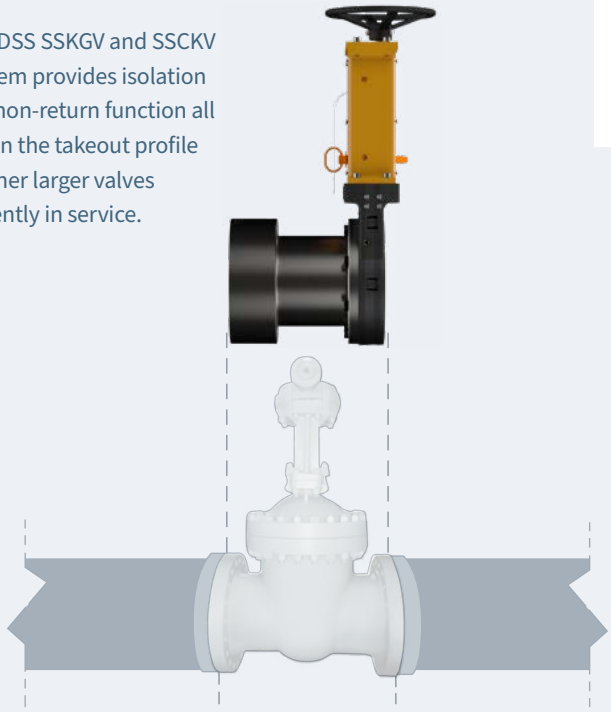
Sometimes it takes two Severe Service Valves (SSVs) to get the job done right.

DSS Valves is a streamlined team of engineering and manufacturing professionals dedicated to creating premier Severe Service Knife Gate Valves (SSKGVs). In addition to our SSKGV offerings, we also provide industry leading check valve technology. Our Severe Service Check Valves (SSCKVs) provide repeatable non-return function in high pressure and temperature applications, and our material options can withstand the most corrosive media in your processes.

Occasionally, it makes sense to pair our SSKGV and SSCKV in tandem. For instance, if an application requires zero-leakage isolation and a unidirectional flow, the two valves operate seamlessly.



This DSS SSKGV and SSCKV tandem provides isolation and non-return function all within the takeout profile of other larger valves currently in service.



When the Severe Service Knife Gate Valve is open, flow is maximized in one direction. The Check Valve operates to prevent backflow and cross contamination in case of a potential pressure drop or reversal of flow.

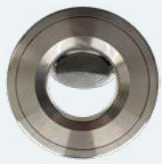
While our Check Valves are capable of sealing far greater than industry standards require, it isn't industry best practice to rely on Check Valves for isolation. By combining the two valves, the SSKGV adds the additional assurance of zero leakage isolation when closed.

PROBLEMS WE SOLVE

PROBLEM: **Fugitive Emissions**

SOLUTION: • Retainerless body • Engineered interference fit between body and seat insert

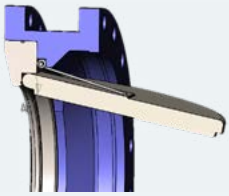
Eliminating fugitive emissions is a major focus of the industry and our retainerless body removes potential leakage paths that exists in other Check Valves.



PROBLEM: **Pressure Drop**

SOLUTION: • Minimally obstructed bore • Engineered flow path

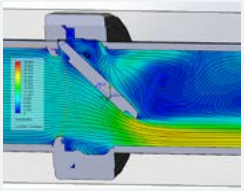
Our disc swings mostly out of the flow path producing a large bore with minimal obstructions; this results in very low pressure drop. Additionally, we have engineered the geometry of the bore using CFD software to improve flow characteristics over previous generation Severe Service Check Valves.



PROBLEM: **Disc/Obturator Breakage**

SOLUTION: • Single piece disc/shaft/hinge

Conventional Check Valves use discs that are comprised of as many as seven 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 based on experience and with the aid of FEA tools 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 size of our disc and the geometry of our inlet to overcome many of these slamming concerns. 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.

AIS AMERICAN IRON & STEEL COMPLIANT

BAA BUY AMERICAN ACT COMPLIANT

INDUSTRIES WE SERVE

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DSS Valves
1800 Mayflower Road, Niles, MI 49120 USA
DSSVALVES.COM

TEL: 269-409-6080
FAX: 269-409-6099
info@dssvalves.com

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