SSVs

Severe Service Valves

CGIS

The World's Best Valves®

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The term Severe Service Valve (SSV) is commonplace in the industrial valve industry. The problem is, no one really knows exactly what it means.

As the SSV task force leader for the Manufacturers Standardization Society (MSS), CGIS is at the forefront of establishing the benchmark and rating system to identify what constitutes a Severe Service Valve, how it differs from a General Purpose Valve, and the objective criteria required to identify severe service applications.

The Building Blocks of SSVs

Severe Service Valves can be broken down into three main categories. To maintain consistency across the industry, we recommend using the following abbreviations:

SSCVs

Severe Service Control Valves (SSCVs)

SSIVs

Severe Service Isolation Valves (SSIVs)

SSCKVs

Severe Service Check Valves (SSCKVs)

The World's Best Severe Service Valves

We proudly serve customers on six continents in a variety of industries including oil & gas, pulp & paper, chemical, hydrometallurgy, manufacturing, mining and wastewater. Our vast experience in supplying valves to severe service applications has led us to assemble a collection of the finest valve manufacturers from around the globe. Meet our all-star team below.

ADAMS · DSS VALVES · KPC VALVE · NOVA HYDROMET · oliver valves · VALV TECHNOLOGIES

Six Key Factors for Selecting a Severe Service Valve

We'll be the first to tell you that Severe Service Valves aren't always the right valve for the application. General Purpose Valves can often fit the bill depending on a variety of circumstances.

So how do you know when to consider an SSV? Over the past four decades we've identified these six key factors to aid your decision making process.

CYCLING

How often your valve is required to open and close plays a factor in deciding what type of valve you should select. Frequent cycling can wear a valve out faster than you think. However, infrequent use can be just as concerning. Valves can seize and fail to operate when they remain open or closed for extended periods of time.

COST

Can you afford to shut down your operations on a regular basis to replace faulty valves? Is your valve considered to be a single point of failure for the process line or entire plant? Unfortunately, these important questions are often overlooked when comparing the initial cost of the valve, leading to much larger financial losses down the road.

SOLIDS

When processing media that contain solids in solution or suspension, you have to be prepared for the possibility of detrimental buildup and damage to occur. Your valve may be required handle solids like scale or other sediment to form a proper seal.

CORROSIVE MATERIALS

Many industrial processes involve the transport and modification of toxic and corrosive materials. Make sure you never put your workers or the environment in danger with valves that do not provide absolute zero-leakage.

PRESSURE

Differential pressure scenarios can not only cause leakage, but can be catastrophic to the lifespan of your valve. Selecting a valve that can control drastic changes in pressure is important in a variety of industrial processes.

TEMPERATURE

Extreme temperatures, whether hot or cold, can impact valve performance. This applies to both the media you are transporting, the process your media is undergoing, and the environment your valve is operating in.

Over the past twenty years, CGIS has been at the forefront in determining what constitutes a Severe Service Valve, and which applications they should be used in.

Our mission to create an objective industry standard is set to come together with the release of a Standard Practice by the Manufacturers Standardization Society (MSS) of the Valve and Fittings Industry.

This process didn't happen over night; it took countless hours and dedication. Some of the important milestones that went into the creation of this Standard Practice are listed below for reference.

2024

MSS releases SP-161 "Guidelines for Classifying the Severity of Valve Service Conditions."

2021

CGIS added to Valve Manufacturers Association technical committee with a focus on Severe Service Valves.

2018

CGIS is included in the MSS inaugural Severe Service Valve Committee.

2016–2018

SSV speaking engagements at ALTA Conference in Perth, Valve World Dusseldorf and Houston, ITC and the Canadian Valve Users Group.

2016

CGIS leads task force to establish new standards for what separates a Severe Service Valve from a General Purpose Valve.

2015

CGIS calls for an official Severe Service Valve category designation during Valve World Americas Expo in Houston while speaking on a panel about severe service applications.

2003

CGIS acts as an expert witness in a hydrometallurgy valve failure case.

Pre 2000

CGIS authors a paper on Valve Leakage and completes industry wide training on the topic.

CGIS

CGIS shares its SSV knowledge by participating in the following organizations:

MSS

Voting member since 2010 on the following committees:

- C-114: Steel Valves
- C-203: Non-Ferrous Industrial Valves
- C-304: Quality Standards
- C-409: Knife Gate Valves
- C-410: Severe and Special Service Valves

Former Task Chairman of project “Defining Severe Service Valves”

Vice Chairman of Severe and Special Service Valves

ASTM INTERNATIONAL

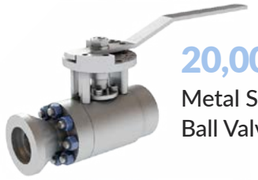
Voting member on ASTM Committee G04 on Compatibility and Sensitivity of Materials in Oxygen Enriched Atmospheres

VMA

Volunteer on VMA technical committee with a focus on Severe Service Valves

Severe Service Valves Sold to Date

75,000
Guided Shear Gate Valves



20,000
Metal Seated Ball Valves

5,000
Severe Service Check Valves

1,000
Severe Service Control Valves

3,000
Triple Offset Valves

Case Studies

Bayer Process Alumina

Greenlane Biogas

Ravensthorpe Nickel Mine

El Teniente Lime Plant

PotashCorp

Marsulex Ammonium Sulphate Plant

Articles

Valve Selection in Severe Abrasive Service

Severe Service Valves: From a Concept to a Realization

Selection of Severe Service Valves in the Chemical Industry

US Foundry Best Practices for High Alloy Severe Service Valves

Finding the Right Severe Service Valves for LNG applications

Task Force Created to Establish Standards for Severe Service Valves

Speaking Roles & White Papers

Severe Service Applications

Valve Selection in Severe Abrasive Service

The Advantages of SSKGVs in Hydrometallurgy

Severe Service Valve Specifications for Hydrometallurgy Applications

Severe Service Valves for Applications with High Percentages of Solids

Implementing an SSV Standard Practice for the Hydrometallurgy Industry

Summary

If any of the key factors (cycling, temperature, pressure, cost, solids and corrosive materials) are making you think twice about your current valve selection, you should consider upgrading to a Severe Service Valve.

Increase your confidence by selecting a valve that is designed to last longer. You'll benefit from reduced downtime, and ensure your workers and the environment are not put at risk.

CGIS OFFICES

CANADA

Brampton, ON	289-401-3616
Calgary, AB	403-271-6695
Edmonton, AB	780-462-1014
Fort McMurray, AB	780-719-9222
Montréal, QC	514-353-4196
Prince George, BC	250-562-8261
Saint John, NB	506-608-7808
Saskatoon, SK	306-570-2003
Vancouver, BC	604-263-1671

AUSTRALIA

Adelaide, SA	+61 428-355-583
Brisbane, QLD	+61 894-141-309
Perth, WA	+61 894-141-309

Valves & Automation — Inspections, Repairs & Preventative Maintenance

24-Hour Service Line: 1-888-663-1671 | service@cgis.ca

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Email **sales@cgis.ca** for online enquiries.
We look forward to working with you.

bsi ISO 9001 Quality Management Systems CERTIFIED

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