



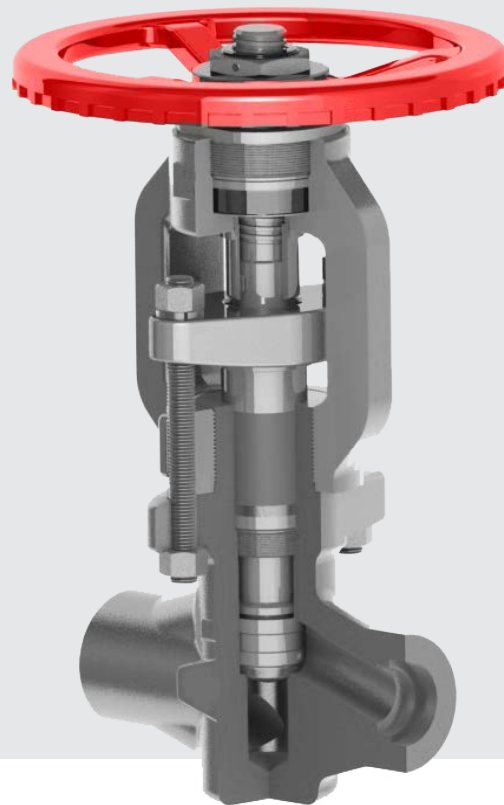
LADISH VALVES

CONTROLLED QUALITY • CORROSION RESISTANT

TO MARK PROGRESS

Forged Steel High Pressure Valves

CATALOG 231



 7603 Bluff Point Dr., Houston, TX 77086

 281.880.8560

 ladishvalves.com

 sales@ladishvalves.com



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LADISH MALT
LADISH MALTING CO.
MILWAUKEE, WIS.

THERE IS
NO SUBSTITUTE
FOR FINE

Malt

THE LADISH MALTING CO. MILWAUKEE, WIS.

LADISH

1. HEAT CODE PROTECTION—Heat code protection is provided by the use of a special heat resistant material in the construction of the valve body. This material is chemically resistant to the action of the steam and is capable of withstanding the high temperatures of the steam without softening or becoming brittle.
2. FULL FLANGE CONNECTIONS—The valve is provided with full flange connections for easy installation and removal.

LADISH

CORROSION RESISTANT

VALVES

VALVES AVAILABLE IN
LOW CARBON
STEEL
STAINLESS
STEEL
TITANIUM
BRASS



ONE REEL
PLAY LIST

LADISH

QUALITY

FLOUR





TO MARK PROGRESS

LADISH VALVES

A Heritage Brand

Herman W. Ladish was born in Milwaukee, Wisconsin in 1880 and began his career in the bustling malting industry at the age of 16. Herman quickly established himself in the business, climbing the corporate ladder and assuming the role of superintendent at The American Malting Company. Ladish folklore has it that Herman's interest in metalworking was born from a problematic crankshaft that consistently halted production. Herman's search for an alternative manufacturing method led him to metal forging, and the birth of a metal working conglomerate of forgings, flanges, fittings and industrial valves was born.

Today, Ladish Valves is proud to have a history dating back to 1961 in Cynthiana, Kentucky. After experiencing a crippling flood of the Ohio River and several changes in ownership, Ladish Valves moved its headquarters to Houston in 2007.

With a foundation of more than 60 years of industrial valve production, Ladish Valves continues to be the industry benchmark for stainless steel and high nickel alloy industrial valves. The Ladish Valves trademark symbolizes a reputation that is emblematic of the highest quality standards, unmatched design and metalworking craftsmanship. Our history is important to us and we pay homage to it daily.

The Ladish Valves product line is specifically designed and manufactured to meet the stringent demands of the most corrosive service environments and high temperature applications. Our product is produced under rigorous metallurgical and manufacturing controls that assure a consistent, high degree of performance and dependability. The quality of the material we receive is critical to the quality of our product. With domestic source foundries and strictly monitored international vendors, Ladish Valves is relentless about the quality of materials sourced from its vendor community.

WHAT IT MEANS TO MARK PROGRESS

Ladish Valves is a responsive company that prides itself in being "local" with an exhaustive commitment to our customers and our product.

This means that no matter where you are, our team in Houston will provide a customized, clear response in a timely manner.

We pride ourselves in serving our customers and taking on the challenges of unconventional projects.

LADISH COMPLETE LINE OF PRODUCTS

Manufactured to the Ultimate in Quality Standards

A WIDE RANGE OF VALVE TYPES, SIZES, RATINGS & MATERIALS

Processes

CAST • FORGED
BAR STOCK

End Types

THREADED ENDS
SOCKET ENDS
FLANGED ENDS
BUTTWELD ENDS
FLAT FACE ENDS

Handwheel Options

RISING HANDWHEEL
NON-RISING HANDWHEEL

Disc Options

SOLID WEDGE DISC
FLEX WEDGE DISC
SPLIT WEDGE DISC
PLUG DISC
TEFLON DISC

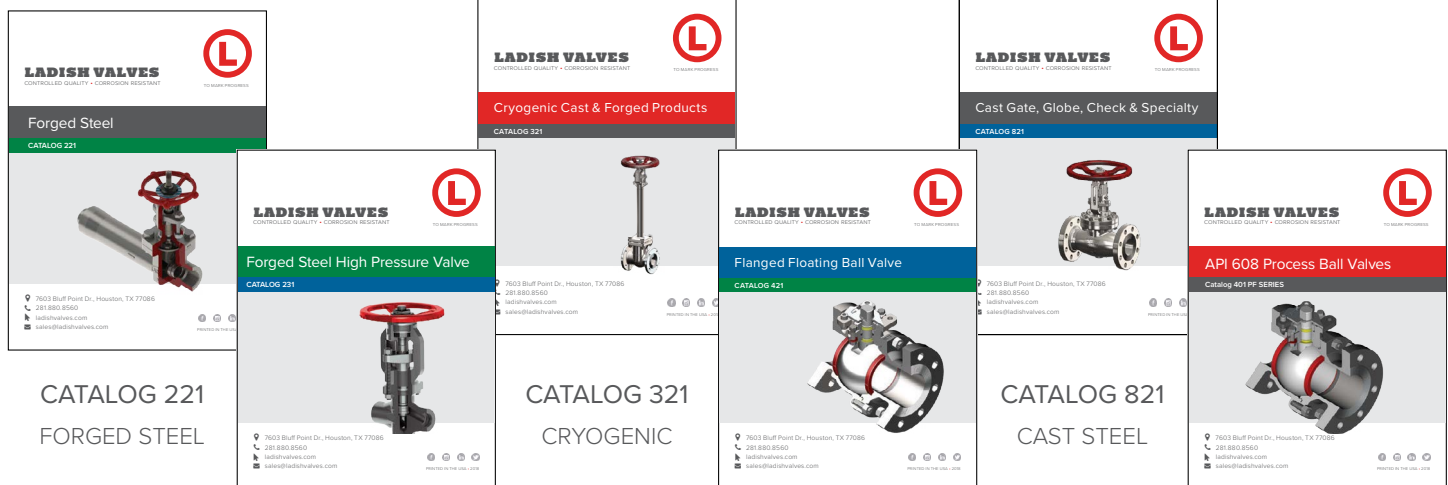
Size and Class Options

½"–36"
CL150—CL2500

Materials

CARBON STEEL
STAINLESS STEEL
ALLOY 20 • DUPLEX
HIGH NICKEL ALLOY
TITANIUM • ZIRCONIUM
CHROME
LOW TEMP

Ladish Product Line Catalogs



CATALOG 221
FORGED STEEL

CATALOG 231
HIGH PRESSURE

CATALOG 321
CRYOGENIC

CATALOG 421
FLOATING BALL VALVE

CATALOG 821
CAST STEEL

CATALOG 401 PF
PROCESS BALL VALVES



TO MARK PROGRESS

LADISH VALVES

Why We're Different

One-stop Manufacturing, Controlled Quality.

Ladish Valves is a premier manufacturer of multi-turn and quarter-turn valves. Our valves are widely used in the chemical and petrochemical markets, spanning from upstream extraction through midstream transportation and downstream processing. Ladish has a long history of supplying products to these markets, in addition to the power and pulp & paper industries.

Ladish has a full complement of value-added services to address the many challenges that often delay projects. Our team specializes in quick turnaround deliveries—even on challenging orders—with the confidence of controlled quality through in-house design and manufacturing.

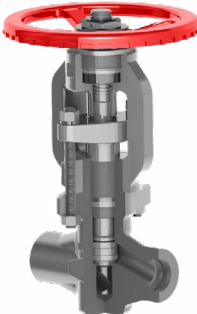
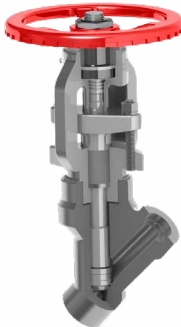
We're a Step Above the Competition. Here's Why.

Ladish is local. Our manufacturing facility is located in Houston, giving us the flexibility to design, machine, assemble, test, verify and expedite our customers' orders—setting us apart from everyone else. Our other differentiators include:

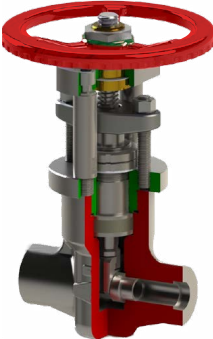
- One of the largest (stocked) stainless and exotic alloy inventories in the U.S.
- In-house machining: Cryo extensions, end connections, modifications, etc.
- Same-day deliveries available
- Custom valve solutions using Ladish engineering & design teams
- Fully compliant clean room (oxygen, chlorine, hydrogen peroxide and others)
- Extensive in-house NDE capabilities

CATALOG 231 FORGED STEEL HIGH PRESSURE VALVE

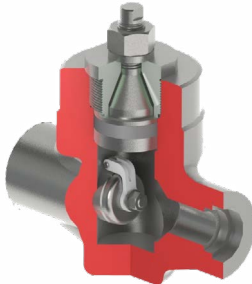
Catalog 231 serves to highlight the Ladish Valves forged steel high-pressure valves. Typical design for Ladish high pressure valve would be bonnetless, pressure seal or welded bonnet configuration, either in a T-pattern or Y-pattern design.



GLOBES Y-PATTERN AND T-PATTERN



GATE VALVES WELDED BONNET AND PRESSURE SEAL



CHECK VALVES Y-PATTERN AND T-PATTERN

FORGED STEEL HIGH PRESSURE VALVES

Oil & Gas, Refining, Chemical & Power Markets

APPLICATIONS

Typical applications for Ladish forged steel high pressure valves span the oil & gas, chemical, refining and power markets. In addition, high pressure valves are frequently demanded for difficult services:

- Hot gasses
- Hydrogen
- Heavy oil upgrading
- Olefin plants
- Steam
- Sour gas & oil

BASIC DESIGN

T-Pattern, Y-Pattern and Pressure Seal Designs.

Rating

- CL1500 and CL2500 standard and special class according to ASME B16.34
- CL4500 standard class according to EN 12516-1

Optional Features*

- Needle disc flow control
- Stop-check design
- Live loading adaptation

HIGHEST QUALITY STANDARDS

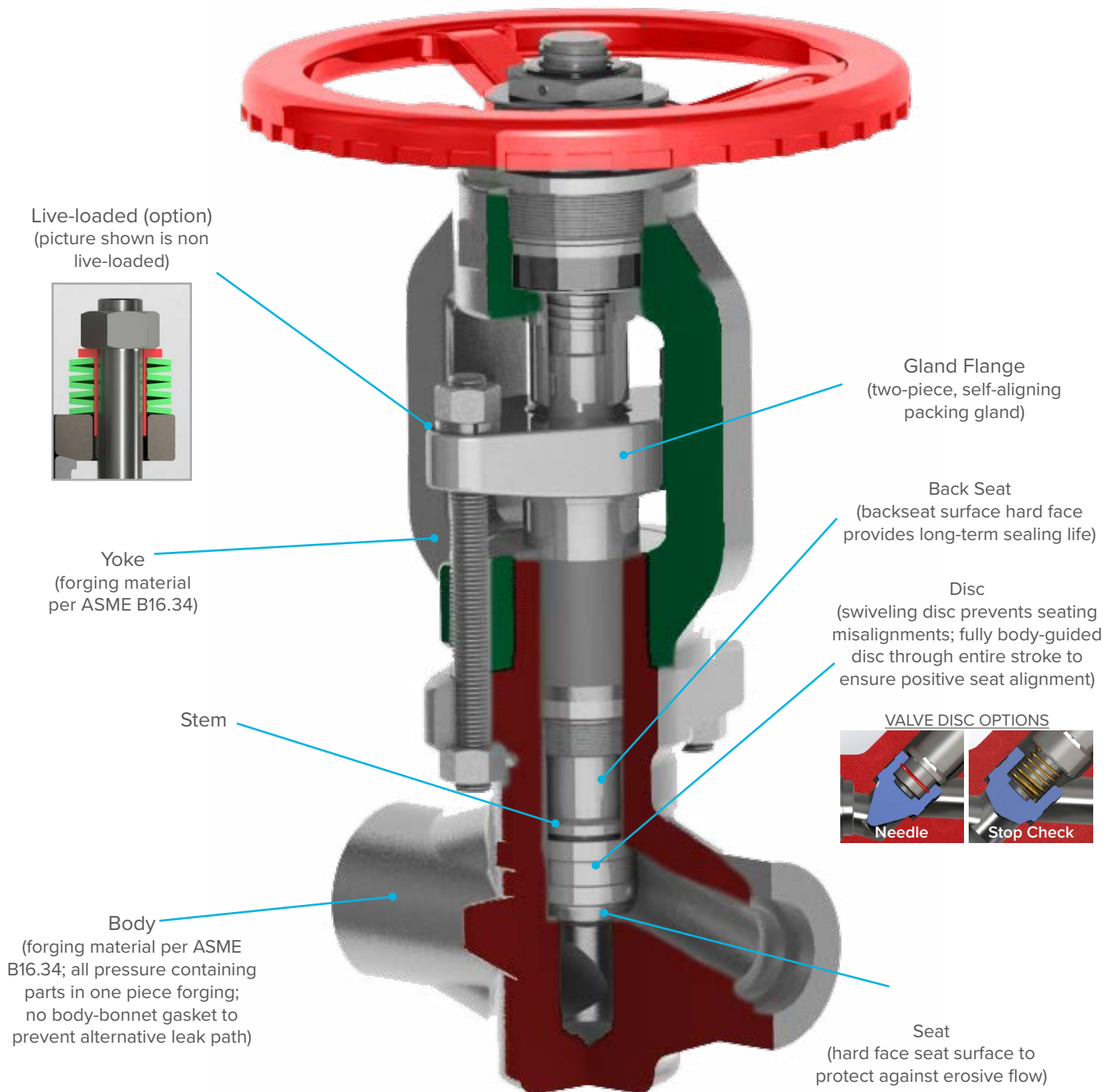
The Ladish manufacturing facility combines a large and diverse product offering with on-site machining, product assembly, testing and material conformance control to meet our customers' specifications and requirements. With in-house non-destructive examination (NDE) capabilities and a fully integrated machine shop, quick deliveries and customer requirements are achieved in a timely, quality controlled manner.

Ladish Valves designs and manufactures its forged steel high pressure valves to industry standards ASME and API.



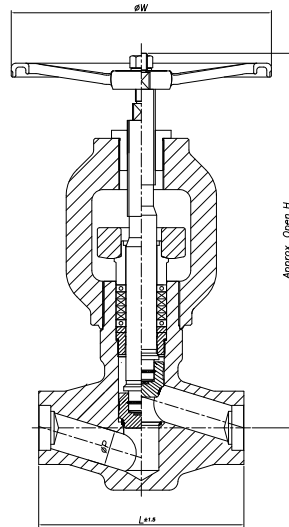
DESIGN & CONSTRUCTION

High Pressure Bonnetless Globe Valves



DIMENSIONAL DATA

High Pressure Bonnetless Globe Valves



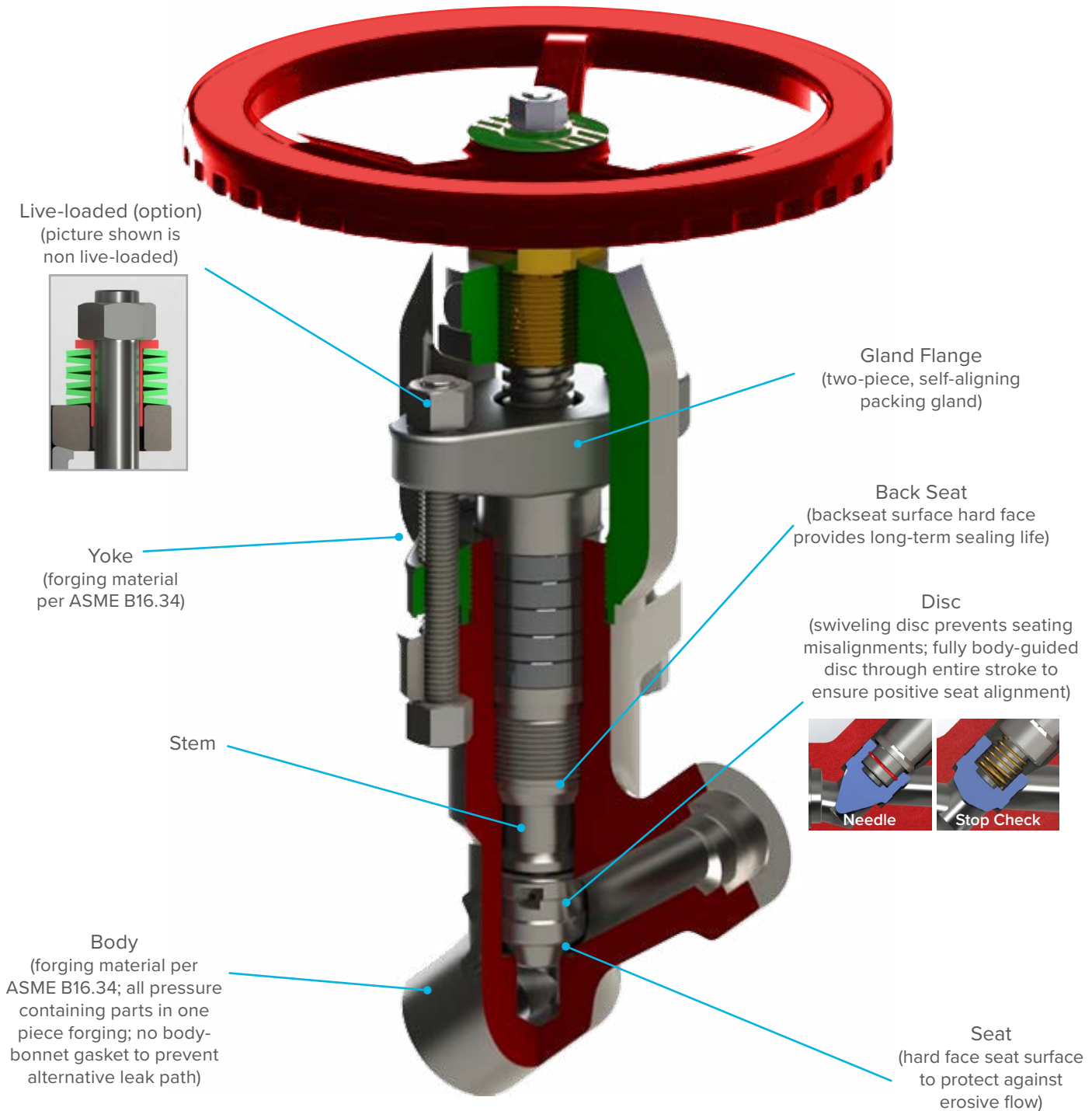
Class 1500 Ladish 7510/7511							
Full Port	Size	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
End-to-End	L	6.30	6.30	6.30	9.45	9.45	9.45
Handwheel	ØW	9.84	9.84	9.84	12.40	12.40	12.40
Approx. Open	H	12.60	12.99	12.99	15.35	15.35	17.32
Approx. Weight	Lbs	31	31	30	71	71	77

Class 2500 Ladish 7010/7011							
Full Port	Size	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
End-to-End	L	6.30	6.30	6.30	9.45	9.45	9.45
Handwheel	ØW	9.84	9.84	9.84	12.40	12.40	12.40
Approx. Open	H	12.60	12.99	12.99	15.35	15.35	17.32
Approx. Weight	Lbs	31	31	30	71	71	77

Class 4500 Ladish 7D10/7D11							
Full Port	Size	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
End-to-End	L	6.30	6.30	9.45	9.45	9.45	–
Handwheel	ØW	9.84	9.84	12.40	12.40	12.40	–
Approx. Open	H	12.60	11.42	14.96	15.35	16.93	–
Approx. Weight	Lbs	31	31	71	71	77	–

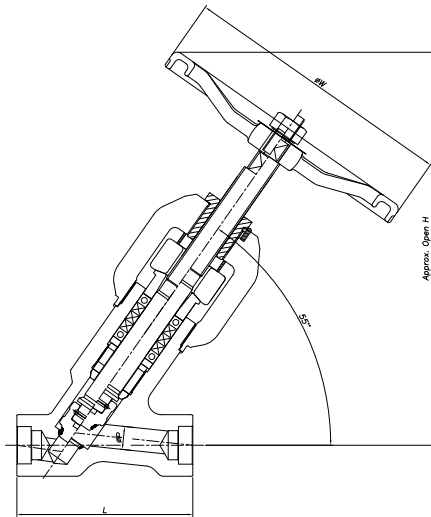
DESIGN & CONSTRUCTION

High Pressure Bonnetless Y Pattern Globe Valves



DIMENSIONAL DATA

High Pressure Bonnetless Y Pattern Globe Valves



Class 1500 Ladish 6510/6511

Full Port	Size	½"	¾"	1"	1¼"	1½"	2"
End-to-End	L	6.30	6.30	6.30	9.45	9.45	9.45
Handwheel	ØW	9.84	9.84	9.84	12.40	12.40	12.40
Approx. Height	H	13.78	14.17	14.17	16.93	16.93	18.50
Approx. Weight	Lbs	32	32	31	75	75	82

Class 2500 Ladish 6010/6010

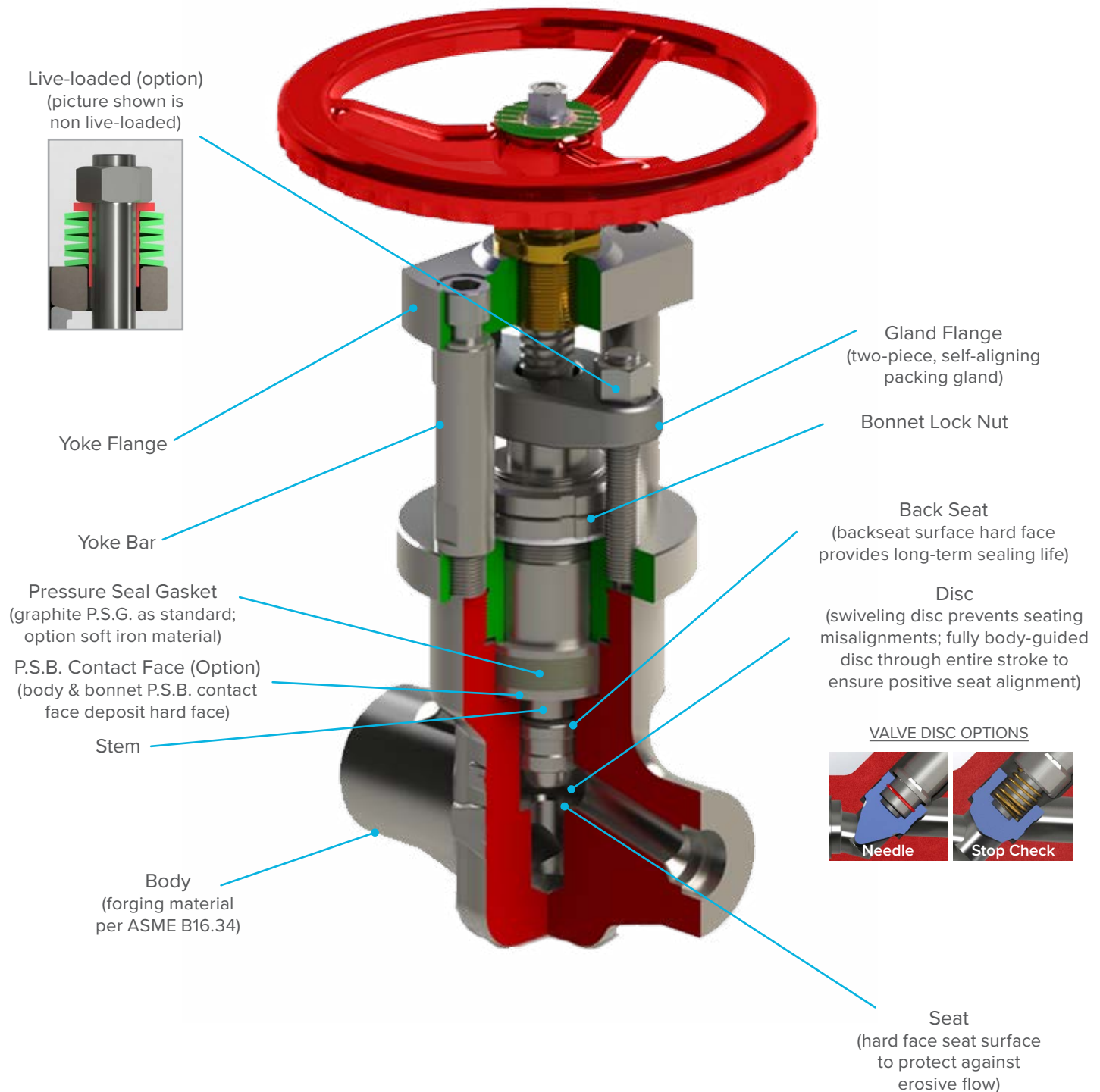
Full Port	Size	½"	¾"	1"	1¼"	1½"	2"
End-to-End	L	6.30	6.30	6.30	9.45	9.45	9.45
Handwheel	ØW	9.84	9.84	9.84	12.40	12.40	12.40
Approx. Height	H	13.78	14.17	14.17	16.93	16.93	19.29
Approx. Weight	Lbs	32	32	31	75	75	88

Class 4500 Ladish 6D10/6D11

Full Port	Size	½"	¾"	1"	1¼"	1½"	2"
End-to-End	L	6.30	6.30	9.45	9.45	9.45	–
Handwheel	ØW	9.84	9.84	12.40	12.40	12.40	–
Approx. Height	H	13.78	13.78	21.06	21.26	21.26	–
Approx. Weight	Lbs	32	32	75	75	88	–

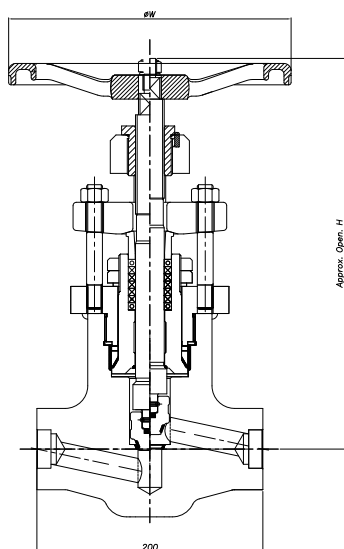
DESIGN & CONSTRUCTION

Pressure Seal Bonnet Globe Valves



DIMENSIONAL DATA

Pressure Seal Bonnet Globe Valves



Class 1500 Ladish 7520/7521

Full Port	Size	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
End-to-End	L	5.51	6.30	7.87	9.45	9.45	9.45
Handwheel	ØW	7.87	7.87	9.84	12.40	12.40	13.98
Approx. Open	H	11.81	12.20	13.78	17.32	17.72	18.50
Approx. Weight	Lbs	31	35	51	66	66	991

Class 2500 Ladish 7020/7021

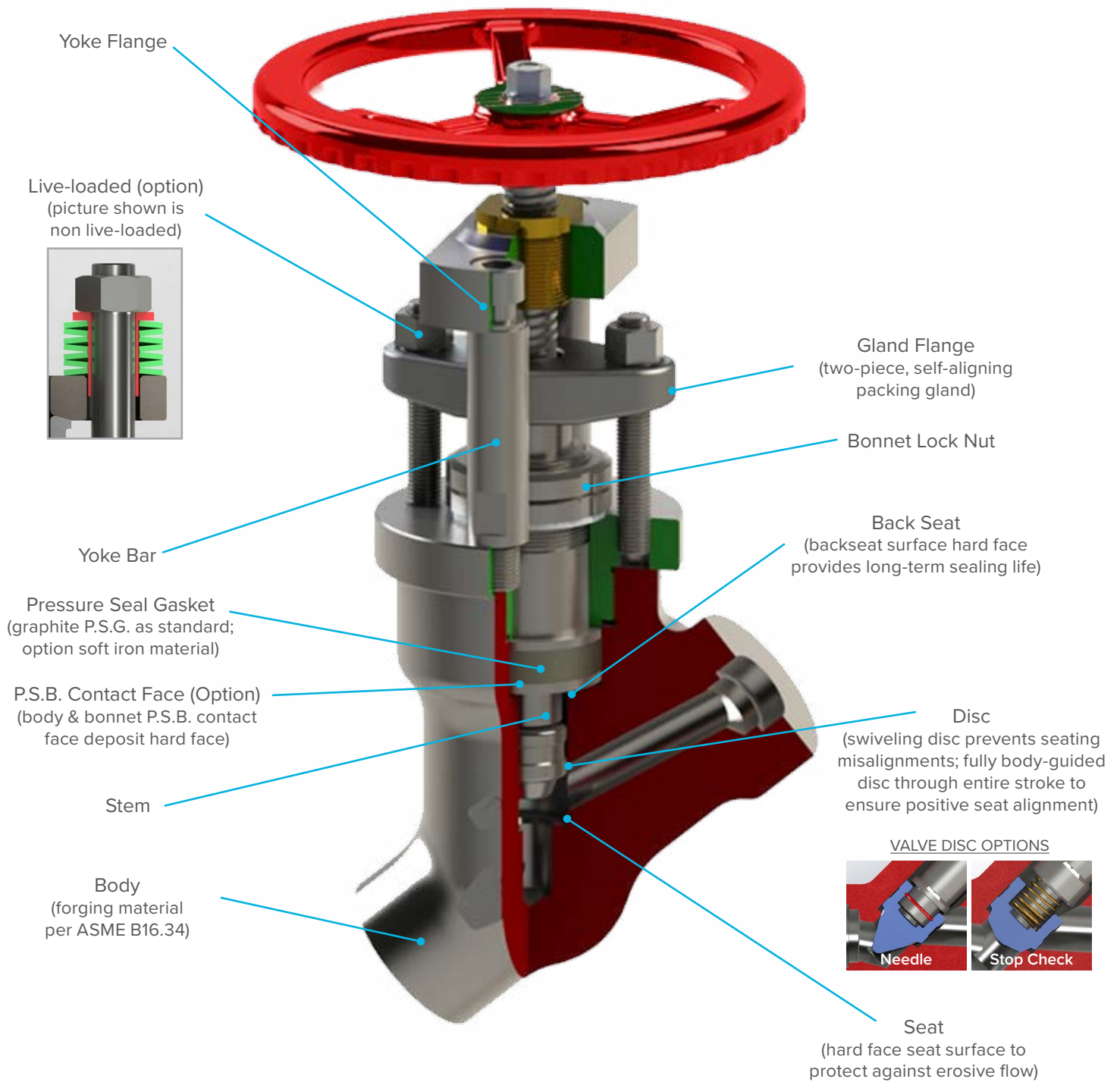
Full Port	Size	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
End-to-End	L	5.51	6.30	7.87	9.45	9.45	11.02
Handwheel	ØW	7.87	7.87	9.84	12.40	12.80	13.98
Approx. Open	H	11.81	12.20	13.78	17.32	17.72	20.87
Approx. Weight	Lbs	31	35	51	66	66	99

Class 4500 Ladish 7D20/7D21

Full Port	Size	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
End-to-End	L	6.30	7.87	9.45	9.45	11.02	–
Handwheel	ØW	7.87	9.84	12.40	13.98	13.98	–
Approx. Open	H	11.81	13.39	16.93	17.32	20.08	–
Approx. Weight	Lbs	35	46	68	68	101	–

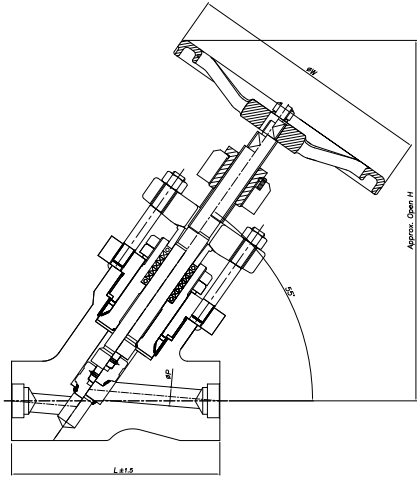
DESIGN & CONSTRUCTION

Pressure Seal Bonnet Y Pattern Globe Valves



DIMENSIONAL DATA

Pressure Seal Bonnet Y Pattern Globe Valves



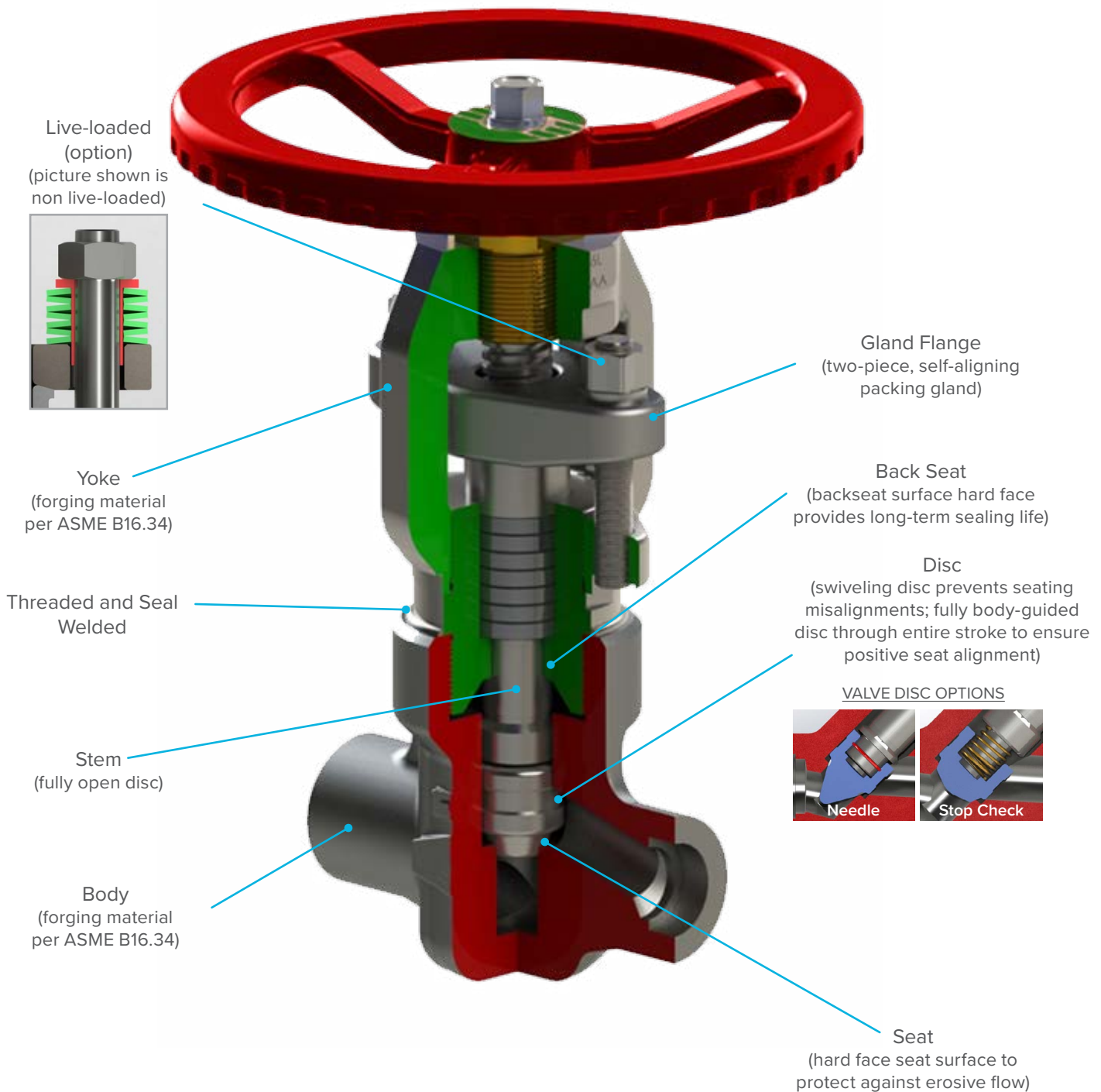
Class 1500 Ladish 6520/6521							
Full Port	Size	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
End-to-End	L	5.51	5.51	8.27	9.45	9.45	11.02
Handwheel	ØW	5.51	7.87	9.84	12.40	12.40	13.98
Approx. Height	H	13.78	14.17	14.17	21.46	21.46	21.46
Approx. Weight	Lbs	29	33	42	68	68	110

Class 2500 Ladish 6020/6021							
Full Port	Size	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
End-to-End	L	5.51	5.51	8.27	9.45	9.45	11.02
Handwheel	ØW	5.51	7.87	9.84	12.40	12.40	13.98
Approx. Height	H	13.78	14.17	14.57	21.46	21.46	21.46
Approx. Weight	Lbs	29	33	44	68	68	110

Class 4500 Ladish 6D20/6D21							
Full Port	Size	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
End-to-End	L	5.51	8.27	9.45	9.45	11.02	–
Handwheel	ØW	7.87	9.84	12.40	12.40	13.98	–
Approx. Height	H	13.78	13.78	21.06	21.26	21.26	–
Approx. Weight	Lbs	33	46	71	71	115	–

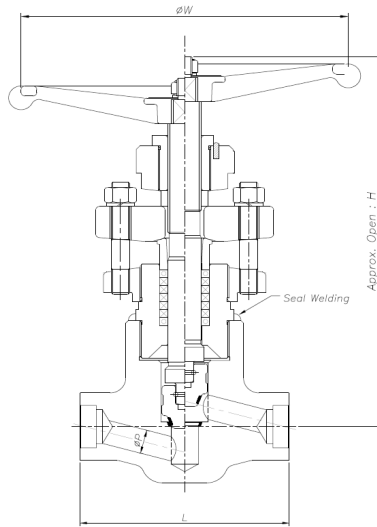
DESIGN & CONSTRUCTION

Welded Bonnet Globe Valves



DIMENSIONAL DATA

Welded Bonnet Globe Valves



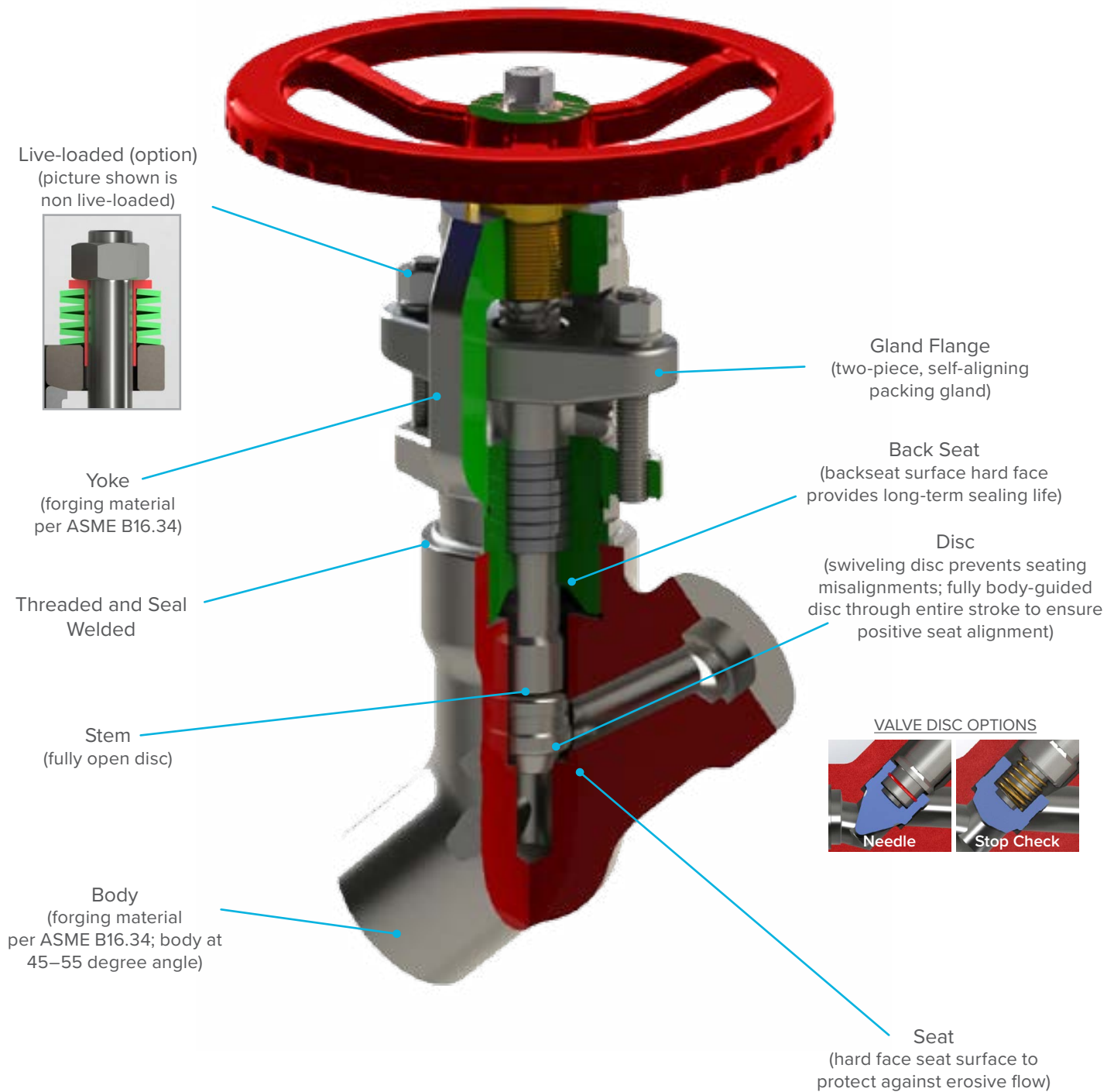
Class 1500 Ladish 7160/7161							
Full Port	Size	½"	¾"	1"	1¼"	1½"	2"
End-to-End	L	5.51	5.51	6.30	7.87	7.87	11.02
Handwheel	ØW	5.51	5.51	7.87	9.84	9.84	12.40
Approx. Open	H	9.25	9.25	11.22	12.40	12.40	15.35
Approx. Weight	Lbs	18	18	33	57	57	112

Class 2500 Ladish 7460/7461							
Full Port	Size	½"	¾"	1"	1¼"	1½"	2"
End-to-End	L	5.51	5.51	6.30	9.45	9.45	11.02
Handwheel	ØW	5.51	7.87	7.87	12.40	12.40	13.78
Approx. Open	H	9.25	11.02	11.81	15.35	15.35	17.32
Approx. Weight	Lbs	18	21	35	66	66	121

Class 4500 Ladish 7A60/7A61							
Full Port	Size	½"	¾"	1"	1¼"	1½"	2"
End-to-End	L	5.51	6.30	7.87	9.45	9.45	–
Handwheel	ØW	7.87	7.87	9.84	13.78	13.78	–
Approx. Open	H	11.02	11.81	13.98	17.72	17.72	–
Approx. Weight	Lbs	21	35	62	84	84	–

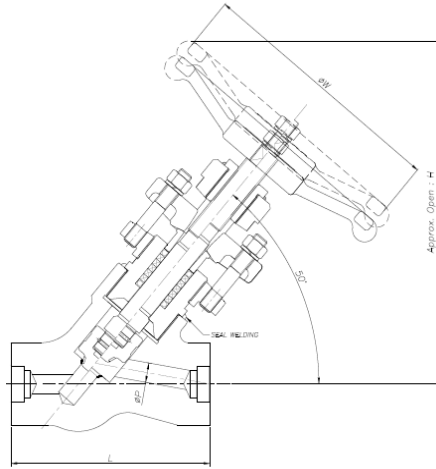
DESIGN & CONSTRUCTION

Welded Bonnet Y Pattern Globe Valves



DIMENSIONAL DATA

Welded Bonnet Y Pattern Globe Valves



Class 1500 Ladish 6160/6161

Full Port	Size	½"	¾"	1"	1¼"	1½"	2"
End-to-End	L	5.51	5.51	8.27	9.45	9.45	11.02
Handwheel	ØW	7.87	7.87	9.84	13.78	13.78	13.78
Approx. Height	H	11.42	12.20	13.39	16.93	16.93	19.88
Approx. Weight	Lbs	29	33	45	77	77	141

Class 2500 Ladish 6460/6461

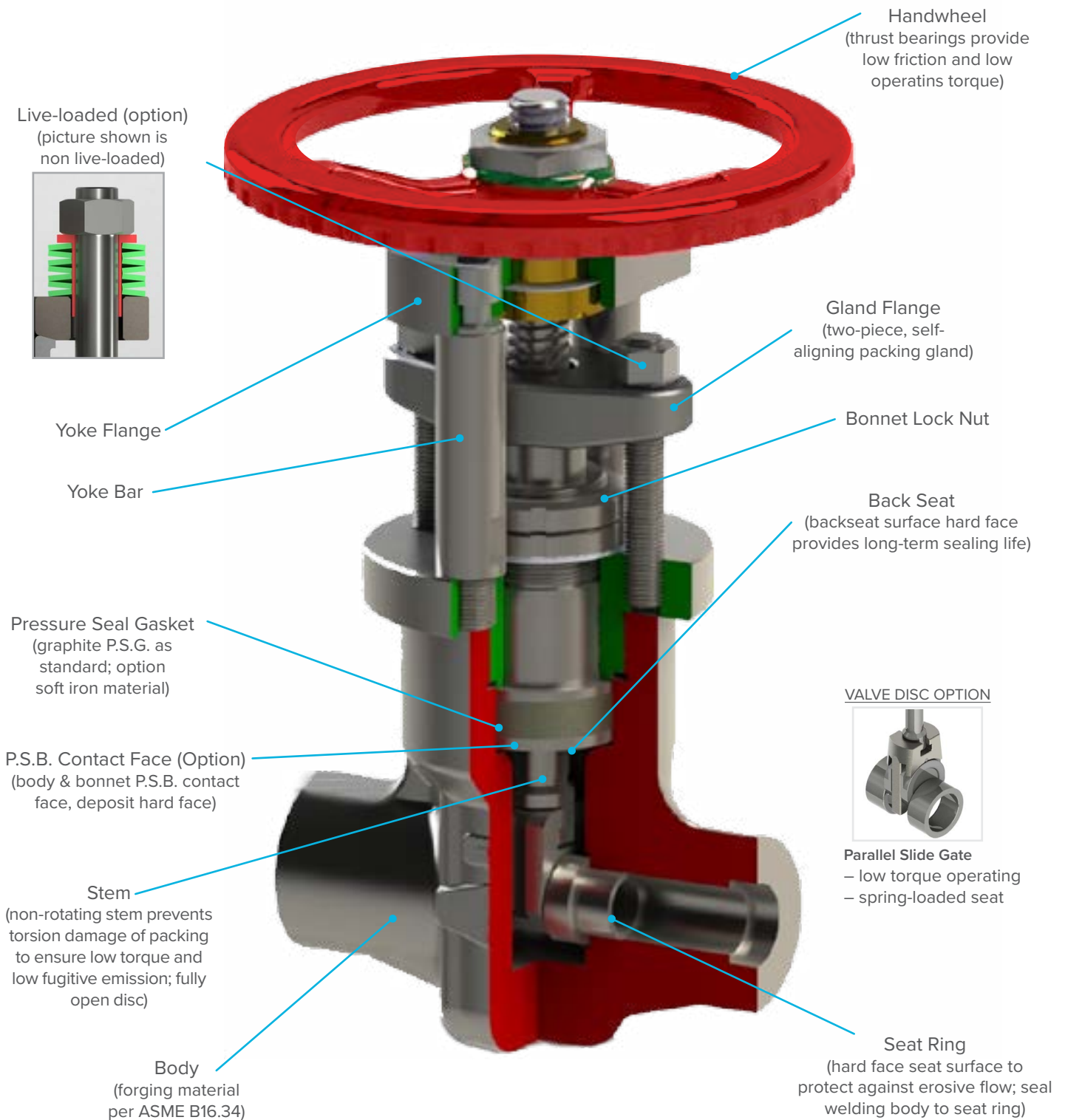
Full Port	Size	½"	¾"	1"	1¼"	1½"	2"
End-to-End	L	5.51	5.51	8.27	9.45	9.45	11.02
Handwheel	ØW	7.87	7.87	9.84	13.78	13.78	13.78
Approx. Height	H	11.42	12.20	13.39	16.93	16.93	19.88
Approx. Weight	Lbs	29	33	45	77	77	143

Class 4500 Ladish 6A60/6A61

Full Port	Size	½"	¾"	1"	1¼"	1½"	2"
End-to-End	L	5.51	8.27	9.45	9.45	11.02	–
Handwheel	ØW	7.87	9.84	13.78	13.78	13.78	–
Approx. Height	H	11.81	12.99	16.54	16.54	19.69	–
Approx. Weight	Lbs	31	42	75	75	148	–

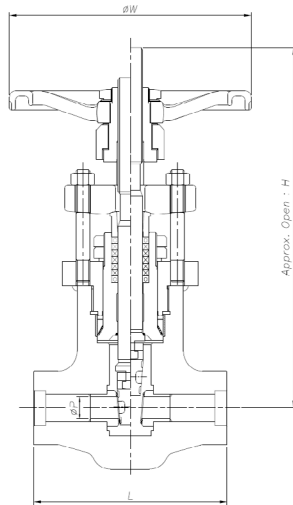
DESIGN & CONSTRUCTION

Pressure Seal Bonnet Gate Valves



DIMENSIONAL DATA

Pressure Seal Bonnet Gate Valves



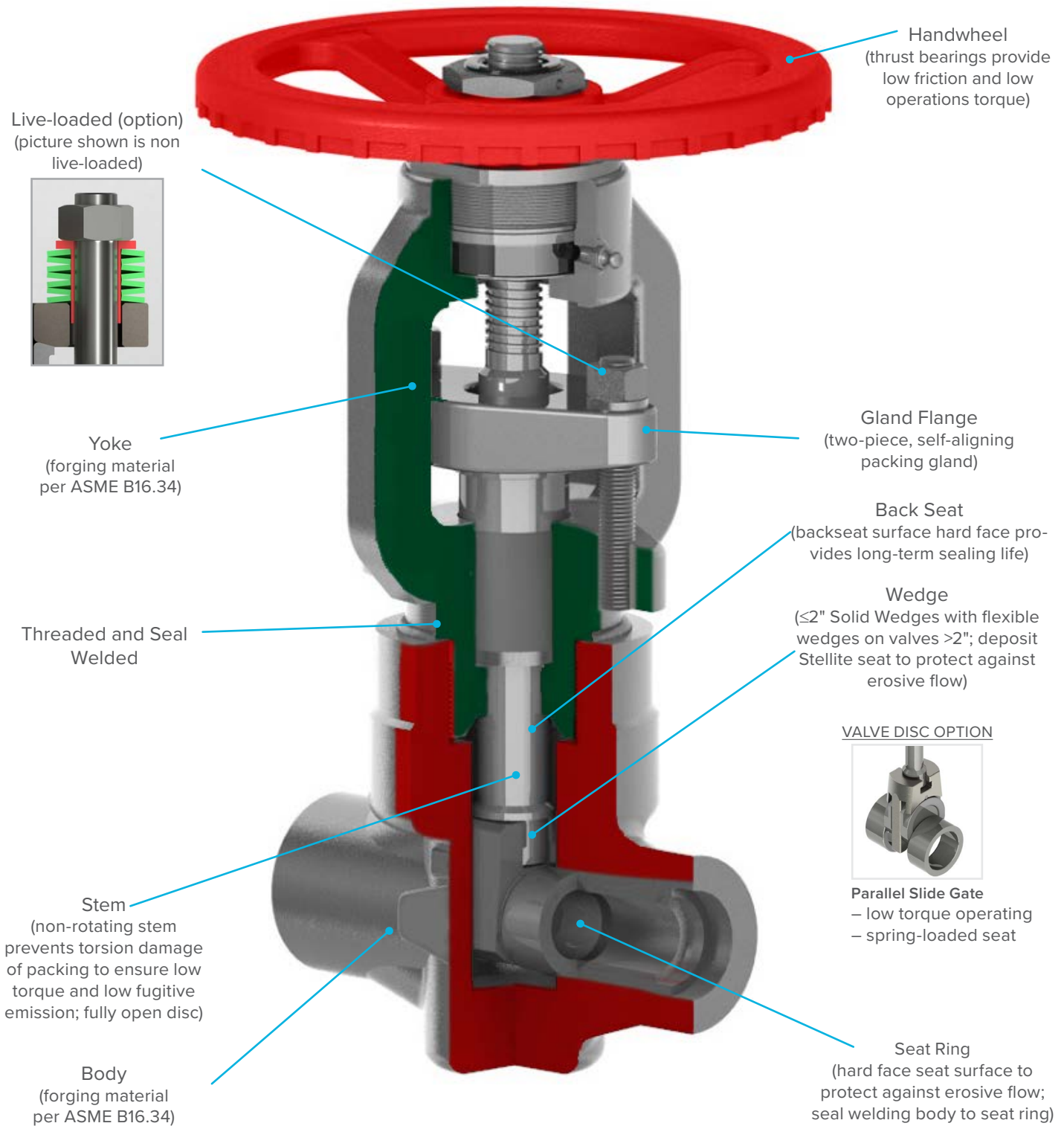
Class 1500 Ladish 8523/8524							
Full Port	Size	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
End-to-End	L	5.51	6.30	7.87	9.45	9.45	9.45
Handwheel	ØW	7.87	7.87	9.84	12.40	12.40	13.98
Approx. Open	H	11.81	12.20	14.17	17.32	17.72	20.08
Approx. Weight	Lbs	31	35	51	66	66	99

Class 2500 Ladish 8023/8024							
Full Port	Size	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
End-to-End	L	5.51	6.30	7.87	9.45	9.45	11.02
Handwheel	ØW	7.87	7.87	9.84	12.40	12.80	13.98
Approx. Open	H	11.81	12.20	14.17	17.32	17.72	20.87
Approx. Weight	Lbs	31	35	51	66	66	99

Class 4500 Ladish 8D23/8D24							
Full Port	Size	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
End-to-End	L	6.30	7.87	9.45	9.45	11.02	–
Handwheel	ØW	7.87	9.84	12.40	13.98	13.98	–
Approx. Open	H	11.81	13.39	16.93	17.32	20.08	–
Approx. Weight	Lbs	35	46	68	68	101	–

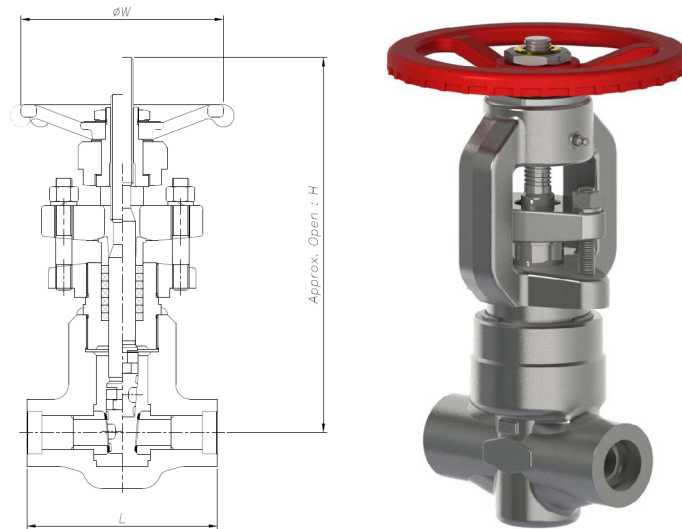
DESIGN & CONSTRUCTION

Welded Bonnet Gate Valves



DIMENSIONAL DATA

Welded Bonnet Gate Valves



Class 1500 Ladish 8163/8164							
Full Port	Size	½"	¾"	1"	1¼"	1½"	2"
End-to-End	L	5.51	5.51	6.30	7.87	7.87	9.45
Handwheel	ØW	5.51	6.69	6.69	9.84	9.84	9.84
Approx. Open	H	9.45	11.42	11.81	13.78	13.78	16.54
Approx. Weight	Lbs	15	20	35	40	40	71

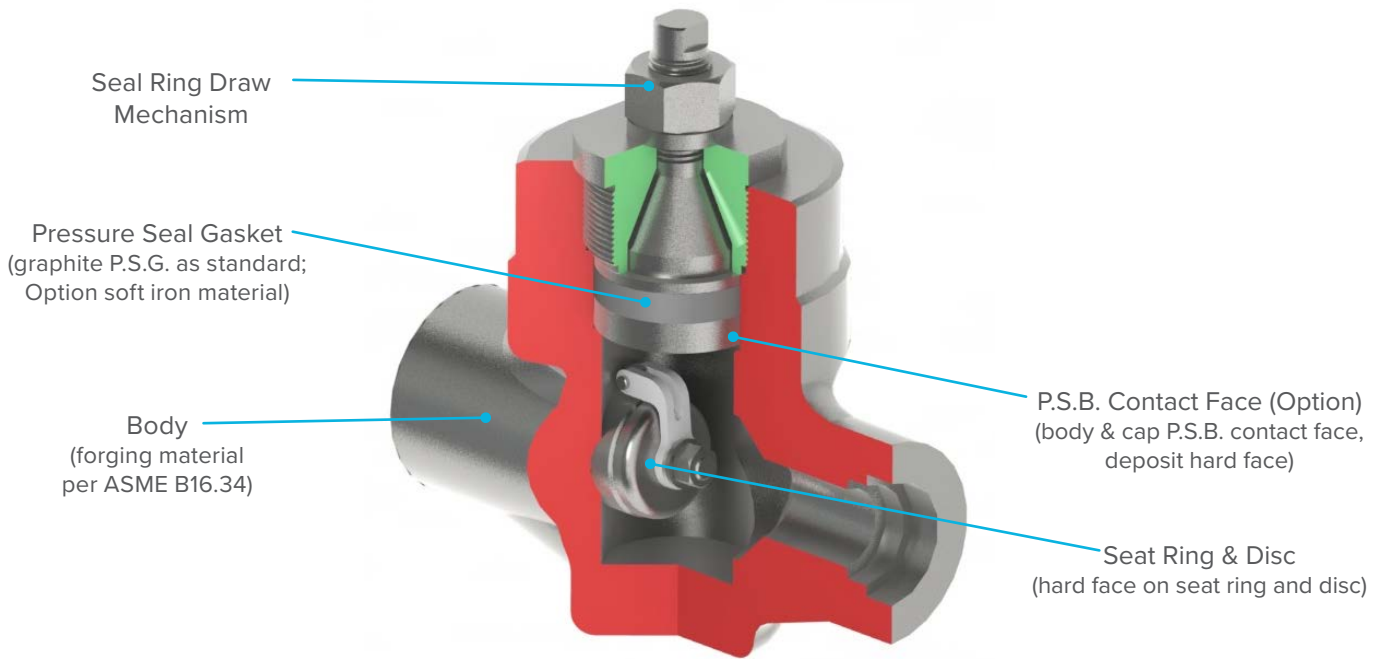
Class 2500 Ladish 8463/8464							
Full Port	Size	½"	¾"	1"	1¼"	1½"	2"
End-to-End	L	5.51	5.51	6.30	9.45	9.45	11.02
Handwheel	ØW	5.51	6.69	6.69	9.84	9.84	13.78
Approx. Open	H	9.45	11.42	11.81	14.96	14.96	18.90
Approx. Weight	Lbs	15	20	35	68	68	121

Class 4500 Ladish 8A63/8A64							
Full Port	Size	½"	¾"	1"	1¼"	1½"	2"
End-to-End	L	5.51	6.30	7.87	11.02	11.02	–
Handwheel	ØW	6.69	9.84	9.84	13.78	13.78	–
Approx. Open	H	10.63	11.81	13.78	17.72	17.32	–
Approx. Weight	Lbs	22	40	42	75	121	–

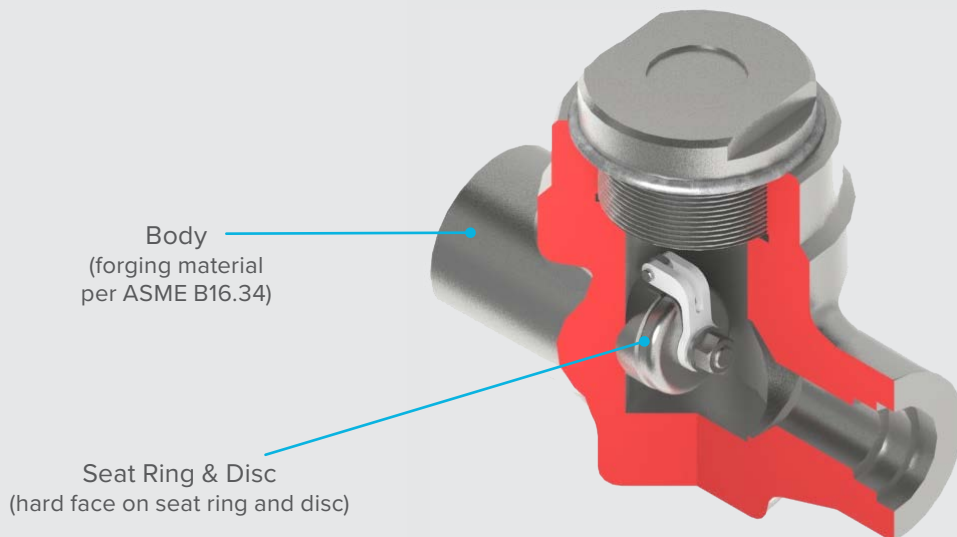
DESIGN & CONSTRUCTION

Swing Check Valves

Pressure Seal Cap Swing Check Valves

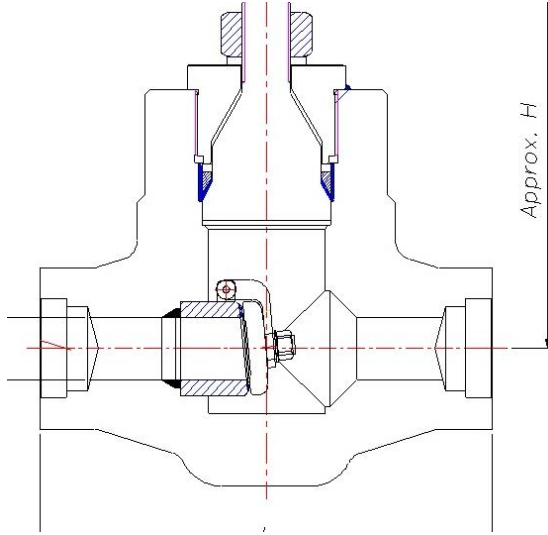


Threaded & Seal Welded Cap Swing Check Valves

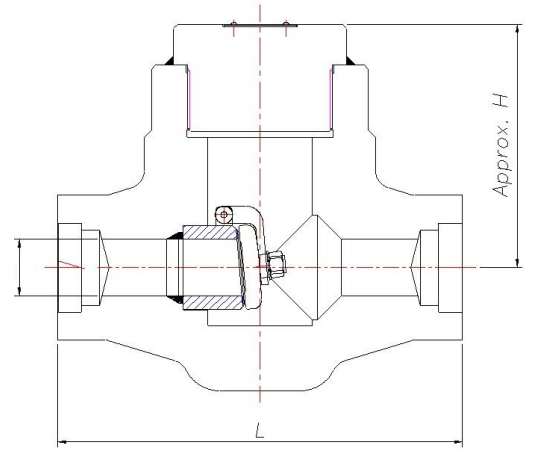


DIMENSIONAL DATA

Swing Check Valves



PSB Swing Check



Threaded & Welded Cap Swing Check

Class 1500 Ladish 5520/5521							
Full Port	Size	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
End-to-End	L	5.51	6.30	7.87	9.45	9.45	9.45
Approx. Height	H	4.72	5.51	5.91	7.09	7.09	8.86
Approx. Weight	Lbs	15	21	29	37	37	73

Class 1500 Ladish 5170/5171							
Full Port	Size	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
End-to-End	L	5.51	5.51	6.30	7.87	7.87	9.45
Approx. Height	H	3.54	3.94	4.33	5.51	5.51	6.69
Approx. Weight	Lbs	13	20	26	33	33	64

Class 2500 Ladish 5020/5021							
Full Port	Size	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
End-to-End	L	5.51	6.30	7.87	9.45	9.45	11.02
Approx. Height	H	4.72	5.51	5.91	7.09	7.09	8.86
Approx. Weight	Lbs	15	21	29	37	37	75

Class 2500 Ladish 5470/5471							
Full Port	Size	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
End-to-End	L	5.51	5.51	6.30	9.45	9.45	11.02
Approx. Height	H	3.54	3.94	4.33	5.51	5.51	6.69
Approx. Weight	Lbs	13	20	26	33	33	66

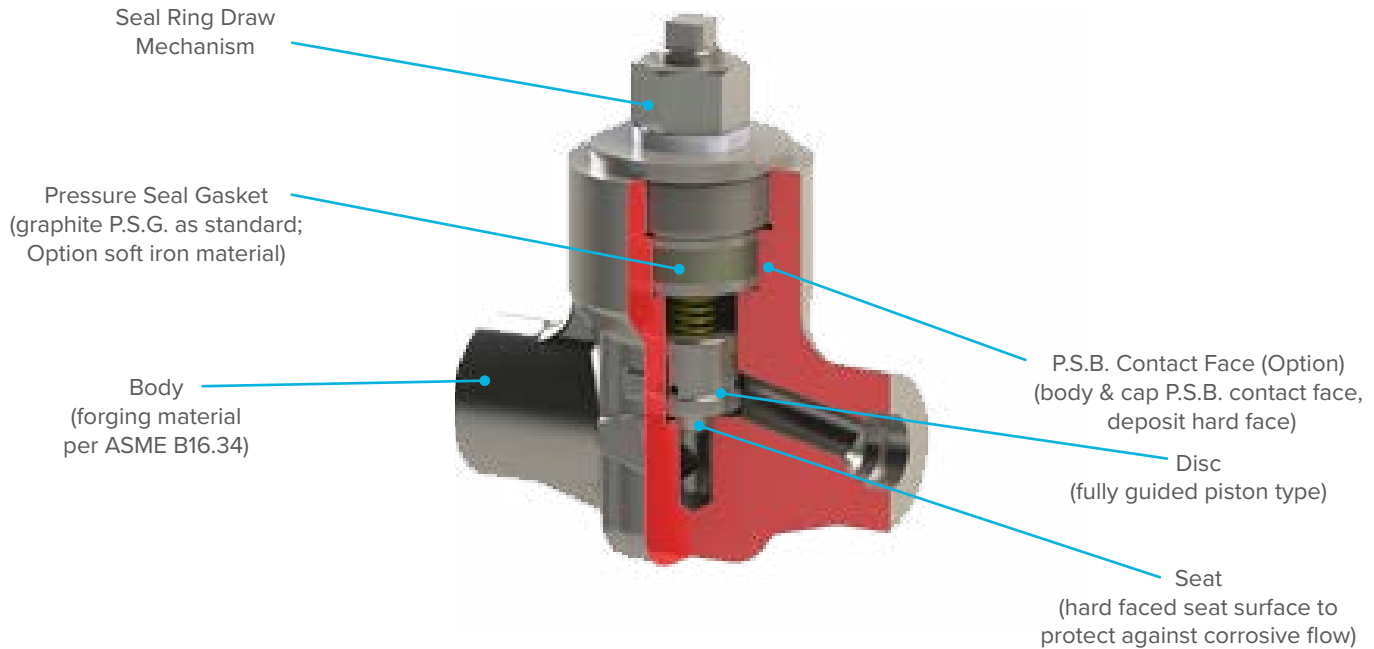
Class 4500 Ladish 5D20/5D21							
Full Port	Size	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
End-to-End	L	6.30	7.87	9.45	9.45	11.02	-
Approx. Open	H	5.51	5.91	7.09	7.09	8.86	-
Approx. Weight	Lbs	24	31	40	40	77	-

Class 4500 Ladish 5A70/5A71							
Full Port	Size	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
End-to-End	L	5.51	6.30	7.87	11.02	11.02	-
Approx. Height	H	3.94	4.33	5.51	5.51	6.69	-
Approx. Weight	Lbs	21	29	35	66	68	-

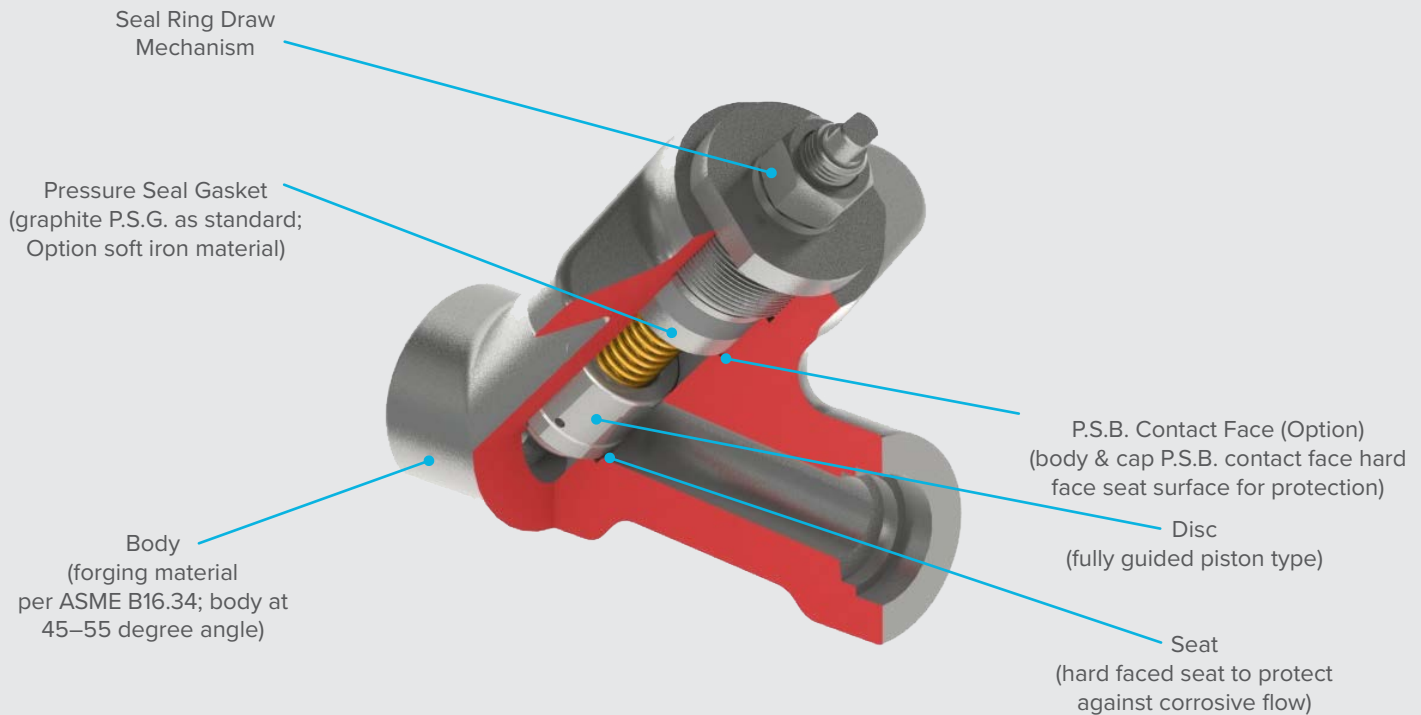
DESIGN & CONSTRUCTION

Pressure Seal Lift Check Valves

Pressure Seal Lift Check Valves

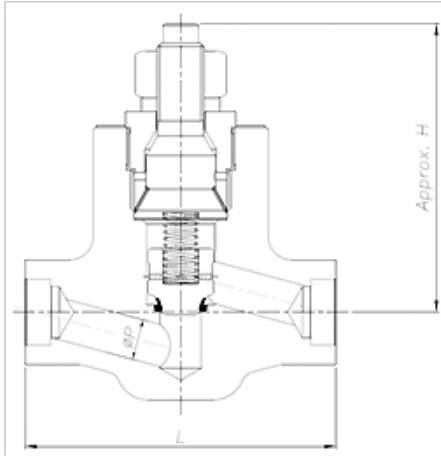


Pressure Seal Y-Lift Check Valves

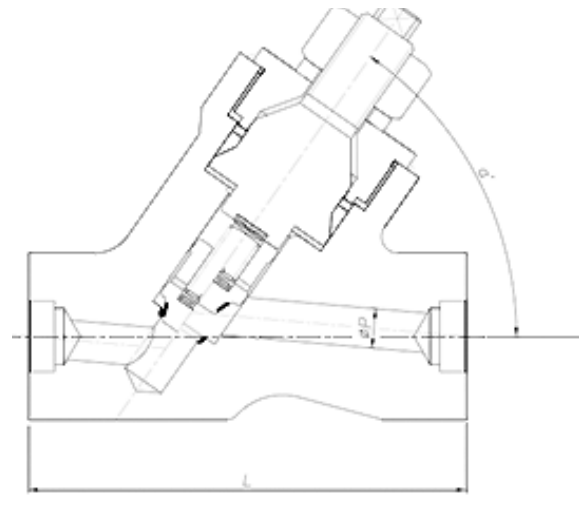


DIMENSIONAL DATA

Pressure Seal Lift Check Valves



Pressure Seal Lift Check



Pressure Seal Y Pattern Lift Check

Class 1500 Ladish 55B0/55B1							
Full Port	Size	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
End-to-End	L	5.51	6.30	7.87	9.45	9.45	9.45
Approx. Height	H	5.51	6.30	6.69	7.87	7.87	9.65
Approx. Weight	Lbs	13	18	21	31	31	62

Class 1500 Ladish 35B0/35B1							
Full Port	Size	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
End-to-End	L	5.51	5.51	8.27	9.45	9.45	11.02
Approx. Height	H	4.33	5.51	5.91	7.09	7.09	7.87
Approx. Weight	Lbs	11	15	21	24	24	55.

Class 2500 Ladish 50B0/50B1							
Full Port	Size	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
End-to-End	L	5.51	6.30	7.87	9.45	9.45	11.02
Approx. Height	H	5.51	6.30	6.69	7.87	7.87	9.65
Approx. Weight	Lbs	13	18	21	31	31	64

Class 2500 Ladish 30B0/30B1							
Full Port	Size	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
End-to-End	L	5.51	5.51	8.27	9.45	9.45	11.02
Approx. Height	H	4.33	5.51	5.91	7.09	7.09	7.87
Approx. Weight	Lbs	11	15	21	24	24	53


Class 4500 Ladish 5DB0/5DB1							
Full Port	Size	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
End-to-End	L	6.30	7.87	9.45	9.45	11.02	–
Approx. Open	H	6.30	6.69	7.87	7.87	9.65	–
Approx. Weight	Lbs	20	24	33	33	66	–

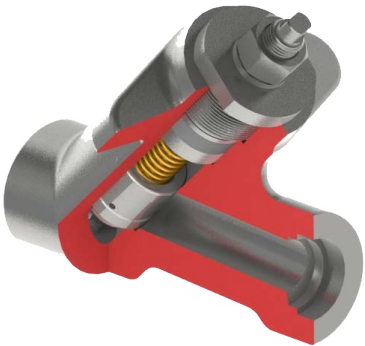
Class 4500 Ladish 3DB0/3DB1							
Full Port	Size	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
End-to-End	L	5.51	8.27	9.45	9.45	11.02	–
Approx. Height	H	5.51	5.91	7.09	7.09	7.87	–
Approx. Weight	Lbs	18	21	26	26	55	–


CRACKING PRESSURE

Check Valves

Unit Kg/cm²

LIFT CHECK		SIZE	1/2"	3/4"	1"	1 1/2"	2"
	Non Spring Loaded		0.2	0.2	0.2	0.25	0.3
	Spring Loaded		0.5	0.5	0.5	0.6	0.6

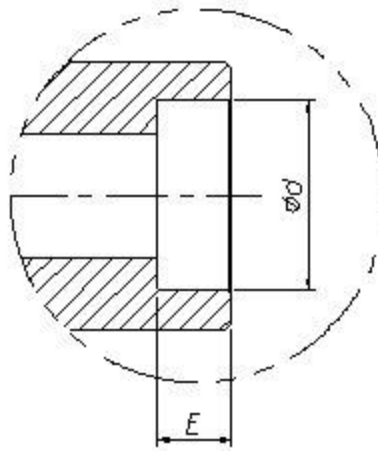
Y-LIFT CHECK		SIZE	1/2"	3/4"	1"	1 1/2"	2"
	Non Spring Loaded		0.25	0.25	0.25	0.3	0.3
	Spring Loaded		0.5	0.5	0.5	0.6	0.6

SWING CHECK		SIZE	1/2"	3/4"	1"	1 1/2"	2"
	Swing Check		0.05	0.05	0.05	0.05	0.06

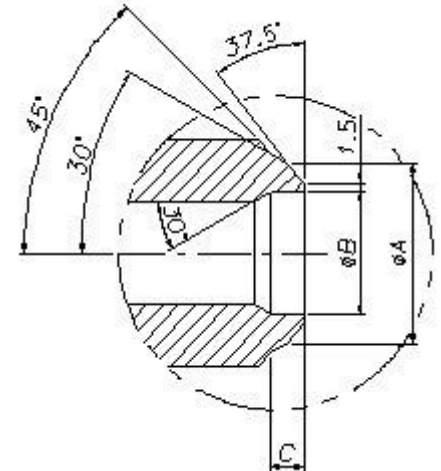
END DETAIL

Check Valves

Socket Weld (S.W.) ANSI B16.11		
SIZE / DN	Ød (+0.5)	E (Min.)
½" / 15	0.86	0.39
¾" / 20	1.07	0.51
1" / 25	1.33	0.51
1¼" / 32	1.68	0.51
1½" / 40	1.92	0.51
2" / 50	2.41	0.63
3" / 80	3.54	0.63
4" / 100	4.54	0.75



SOCKET WELDING



BUTT WELDING

Butt Weld (B.W.) ANSI B16.25												
SIZE / DN	sch. 40			sch. 80			sch. 160			sch.xxs		
	ØB	ØA	C	ØB	ØA	C	ØB	ØA	C	ØB	ØA	C
½" / 15	0.6205	0.8386	0.1634	0.5449	0.8386	0.2201	0.4622	0.8386	0.2823	0.2504	0.8386	0.4409
¾" / 20	0.8252	1.0512	0.1693	0.7433	1.0512	0.2307	0.6134	1.0512	0.3283	0.4354	1.0512	0.4618
1" / 25	1.0488	1.3150	0.1996	0.9567	1.3150	0.2685	0.8150	1.3150	0.3748	0.5992	1.3150	0.5366
1¼" / 32	1.3811	1.6614	0.2102	1.2795	1.6614	0.2862	1.1614	1.6614	0.3748	0.8976	1.6614	0.5728
1½" / 40	1.6118	1.9016	0.2173	1.5016	1.9016	0.3000	1.3394	1.9016	0.4217	1.1024	1.9016	0.5992
2" / 50	2.0661	2.3740	0.2307	1.9378	2.3740	0.3272	1.6858	2.3740	0.5161	1.5024	2.3740	0.6535
2½" / 65	2.4677	2.8740	0.3047	2.3220	2.8740	0.4138	2.1236	2.8740	0.5626	1.7701	2.8740	0.8280
3" / 80	3.0677	3.5000	0.3240	2.9000	3.5000	0.4500	2.6236	3.5000	0.6571	2.3000	3.5000	0.9000
4" / 100	4.0260	4.5000	0.3567	3.8260	4.5000	0.5055	3.4378	4.5000	0.7965	3.1520	4.5000	1.0110
5" / 125	5.0472	5.5630	0.3866	4.8126	5.5630	0.5626	4.3126	5.5630	0.9378	4.0630	5.5630	1.1248
6" / 150	6.0661	6.6260	0.4197	5.7622	6.6260	0.6476	5.1882	6.6260	1.0783	4.8976	6.6260	1.2961
8" / 200	7.9819	8.6260	0.4831	7.6260	8.6260	0.7500	6.8142	8.6260	1.3587	6.8756	8.6260	1.3126
10" / 250	10.0181	10.7480	0.5154	9.5598	10.7480	0.8909	8.4976	10.7480	1.6878	8.7480	10.7480	1.5000

PRESSURE TEMPERATURE RATING

Forged Steel High Pressure Valves

Material: ATSM-A105 Carbon			
Class Temp (°F)	1500	2500	4500
100	3705	6170	11100
200	3395	5655	10185
300	3270	5450	9815
400	3170	5280	9505
500	3015	5025	9040
600	2840	4730	8515
650	2745	4575	8240
700	2665	4425	7960
750	2535	4230	7610
800	2055	3430	6170

Material: A182-Gr.F11			
Class Temp (°F)	1500	2500	4500
100	3750	6250	11250
200	3750	6250	11250
300	3610	6015	10830
400	3465	5775	10400
500	3325	5540	9965
600	3025	5040	9070
650	2940	4905	8825
700	2840	4730	8515
750	2660	4430	7970
800	2540	4230	7610

Material: A182 F316, F317			
Class Temp (°F)	1500	2500	4500
100	3600	6000	10800
200	3095	5160	9290
300	2795	4660	8390
400	2570	4280	7705
500	2390	3980	7165
600	255	3760	6770
650	2210	3680	6625
700	2170	3620	6515
750	2135	3560	6410
800	2110	3520	6335

Material: A182-F316L, 317			
Class Temp (°F)	1500	2500	4500
100	3000	5000	9000
200	2555	4260	7670
300	2280	3800	6840
400	2100	3500	6300
500	1970	3280	5905
600	1860	3100	5580
650	1825	3040	5470
700	1800	3000	5400
750	1765	2940	5290
800	1730	2880	5185

Material: B564-N08020			
Class Temp (°F)	1500	2500	4500
100	3750	6250	11250
200	3710	6180	11125
300	3550	5920	10655
400	3410	5680	10225
500	3275	5460	9830
600	3025	5040	9070
650	2940	4905	8825
700	2840	4730	8515
750	2660	4430	7970
800	2540	4230	7610

B564-N10276, N06225, N08825			
Class Temp (°F)	1500	2500	4500
100	3750	6250	11250
200	3750	6250	11250
300	3640	6070	10925
400	3490	5820	10475
500	3325	5540	9965
600	3025	5040	9070
650	2940	4905	8825
700	2840	4730	8515
750	2660	4430	7970
800	2540	4230	7610

For reference only.



TO MARK PROGRESS

LADISH VALVES

Fugitive Emissions

Since the introduction of the U.S. Clean Air Act in 1963, the U.S. Environmental Protection Agency (EPA) and individual states have set increasingly stringent consent decrees for fugitive emissions from industrial facilities. Many companies have implemented Leak Detection and Repair (LDAR) programs, and industry groups have focuses efforts on helping member companies decrease valve emissions.

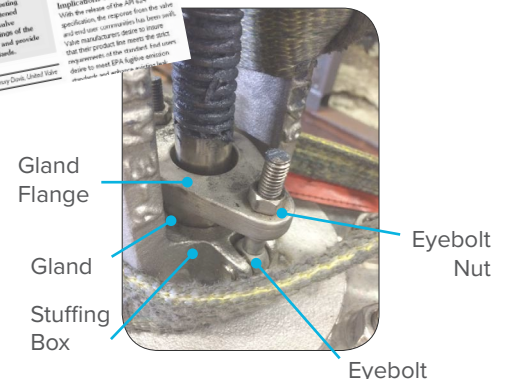
Ladish Valves was one of the first companies to help in assisting companies, by testing our valves to meet or exceed low fugitive emission in our valves. Ladish Valves has successfully tested our product, to the following industries standards.

- **API 624**
- **API 641**
- **ISO-15848-1**
- **TA-LUFT**



Low Fugitive Emission seals require that each element of the sealing system is precisely manufactured for straightness, surface finish and concentricity.

Ladish Valves utilizes an API-622 approved inter-braided graphite packing as standard, with machine surface stem finishes of better than 32 Ra and stuffing box wall finishes to 125 Ra ensuring maximum sealing effectiveness.



For reference only.

HOW TO ORDER


LADISH FORGED STEEL HIGH PRESSURE VALVE

Ladish Valves are identified by a 16-digit alpha-numeric code, detailed in the table below. Our aim is to accurately fill your order, so if you need assistance, please contact our knowledgeable sales staff at ☎281.880.8560. Provide us with the leading four digits and we can guide you through the rest.

EXAMPLE: **8863-6C06-CG04-Ai0** 1" CL800 THD GATE B564 N10276 TR HHF GRF B8MCL2 RP

VALVE TYPE & PRESSURE CLASS		CONSTRUCT & STEM ACTION	END CONNECT & CLOSURE TYPE	
88		6	3	
GATE BONNET CONFIGURATION 82-CL150 83-CL300 86-CL600 88-CL800 89-CL900 85-CL1500 80-CL2500 8D-CL4500 87-CL800 WB 81-CL1500 WB 84-CL2500 WB 8A-CL4500 WB	CHECK BONNET CONFIGURATION (CON'T) 51-CL1500 WB 54-CL2500 WB 5A-CL4500 WB Y-PATTERN GLOBE BONNET CONFIGURATION 62-CL150 63-CL300 66-CL600 68-CL800 69-CL900 65-CL1500 60-CL2500 6D-CL4500 67-CL800 WB 61-CL1500 WB 64-CL2500 WB 6A-CL4500 WB Y-PATTERN CHECK BONNET CONFIGURATION 32-CL150 33-CL300 36-CL600 38-CL800 39-CL900 35-CL1500 30-CL2500 3D-CL4500 37-CL800 WB 31-CL1500 WB 34-CL2500 WB 3A-CL4500 WB	GATE 2 – Pressure Seal 4 – Bellows Seal 6 – OS&Y THD/SWE (≥CL300) 7 – OS&Y THD/SWE/BWE (CL150) & RF/BWE (ALL CL) 9 – CRYO GLOBE 1 – Bonnetless 2 – Pressure Seal 4 – Bellows Seal 6 – OS&Y THD/SWE/BWE (≥CL300) 7 – OS&Y THD/SWE/BWE (CL150) & RF (ALL CL) 8 – Angle 9 – CRYO Y Pattern Globe 1 – Bonnetless 2 – Pressure Seal 4 – Bellows Seal 6 – OS&Y THD/SWE/BWE (≥CL300) 7 – OS&Y THD/SWE/BWE (CL150) & RF (ALL CL) 9 – CRYO CHECK 2 – Pressure Seal-Swing Check 3 – Stop Type 5 – Lift Type 7 – Swing Type 9 – CRYO 4 – Ball check B – Pressure seal lift check Y-CHECK 2 – Pressure Seal-Swing Check 3 – Stop Type 5 – Lift Type 7 – Swing Type 9 – CRYO 4 – Ball check B – Pressure Seal Lift Check	GATE 3 – THD, Solid 4 – SWE, Solid 5 – RF, Solid 9 – BWE, Solid 0 – THD, Split 1 – SWE, Split 2 – RF, Split 6 – BWE, Split 7 – THDxSWE, Solid 8 – Ext body (FTHxMP) 9 – BWE, Solid GLOBE 3 – THD, PTFE 4 – SWE, PTFE 5 – RF, PTFE 9 – BWE, PTFE 0 – THD, Plug 1 – SWE, Plug 2 – RF, Plug 6 – BWE, Plug 7 – THDxSWE, Plug 9 – BWE, PTFE Y Pattern Globe 3 – THD, PTFE 4 – SWE, PTFE 5 – RF, PTFE 9 – BWE, PTFE 0 – THD, Plug 1 – SWE, Plug 2 – RF, Plug 6 – BWE, Plug 7 – THDxSWE, Plug 9 – BWE, PTFE	CHECK 3 – THD, PTFE 4 – SWE, PTFE 5 – RF, PTFE 9 – BWE, PTFE 0 – THD, Metal 1 – SWE, Metal 2 – RF, Metal 6 – BWE, Metal 7 – THDxSWE, Metal 9 – BWE, PTFE Y-CHECK 3 – THD, PTFE 4 – SWE, PTFE 5 – RF, PTFE 9 – BWE, PTFE 0 – THD, Metal 1 – SWE, Metal 2 – RF, Metal 6 – BWE, Metal 7 – THDxSWE, Metal 9 – BWE, PTFE
GLOBE BONNET CONFIGURATION 72-CL150 73-CL300 76-CL600 78-CL800 79-CL900 75-CL1500 70-CL2500 7D-CL4500 77-CL800 WB 71-CL1500 WB 74-CL2500 WB 7A-CL4500 WB				
CHECK BONNET CONFIGURATION 52-CL150 53-CL300 56-CL600 58-CL800 59-CL900 55-CL1500 50-CL2500 5D-CL4500 57-CL800 WB				



DESIGN STD.	MAT.	TRIM & PAINT	PACKING TYPE	GASKET TYPE	BOLTING & NUTS	MISC. OPTION	SIZE
6	C0	6	C	G	04	A	10
1 – API603 2 – API600 3 – B16.34 4 – API6D 5 – API608 6 – API602 7 – API594 8 – API623		1 – Std Trim Full Port 2 – Half Hard Full Port 3 – Full Hard Full Port 4 – Std Trim Red Port 5 – Half Hard Red Port 6 – Full Hard Red Port	A – N/A G – Teadit API 622 GRF P – Pillar API 622 GRF B – Generic GRF E – Garlock EVSP H – High Temp T – Teflon V-Ring F – Teflon Braided C – Garlock API 622	A – N/A G – GRF H – High Temp T – PTFE R – Metal (Ring Joint)	00 – N/A 01 – B8CL1/8 02 – B8CL2/8 03 – B8MCL1/8M 04 – 8MCL2/8M 05 – B7/2H 06 – B7M/2HM 07 – ALLOY 20 08 – MONEL 400 09 – GR660 10 – L7/7 11 – INC 800 12 – HAST C 13 – B6/6 14 – B16/16 15 – K500 16 – A320 B8CL2/8 17 – B8CL2/8A 18 – B16/7 20 – L7M/7M	A – N/A B – Clean G – Gear Op H – Flat Face J – RTJ K – Actuator L – Live Load M – Acid Shield O – IREBxTHD R – 100% RT S – Spring Load V – Vent Wedge W – Chain Wheel OP 1 – BWE S10 4 – BWE S40 5 – BWE S5 6 – BWE S160 8 – BWE S80 D – FTHDx MTHD	02 – 1/8" 03 – 3/8" 04 – 1/4" 05 – 1/2" 07 – 3/4" 10 – 1" 12 – 1 1/4" 15 – 1 1/2" 20 – 2" 22 – 2 1/4" 25 – 2 1/2" 30 – 3" 40 – 4" 50 – 5" 60 – 6" 80 – 8" 81 – 10" 82 – 12" 83 – 14" 84 – 16" 85 – 18" 86 – 20" 87 – 24" 88 – 26" 89 – 28" 90 – 30" 91 – 32" 92 – 34" 93 – 36"

MATERIALS OF CONSTRUCTION

A1 A182-F304	B0 A182-F317DL	C0 B564-N10276	F6 A182-F53	J2 A182 F22
A2 A182-F304L	B1 A182-F317L	D0 B564-N04400	F7 A182-F55	J5 A182 F5
A3 A182-F304H	B2 A182-F347H	D3 B564-N06600	F8 A182-F60	J9 A182 F9
A4 A182-F310	B4 A182-F309	D4 B564-N06625	H0 A105	H9 A182 F91
A5 A182-F316DC	B5 B462-N08020	D6 B564-N08825	H1 A106	MORE AVAILABLE UPON REQUEST
A6 A182-F316L	B6 A182-F44	F2 A182-F61	H2 A350 LF2 CL 1	
A7 A182-F316H	B8 A182-F321	F5 A182-F51	J1 A182 F11 CL 2	

LADISH VALVES

CONTROLLED QUALITY • CORROSION RESISTANT



TO MARK PROGRESS

-  7603 Bluff Point Dr., Houston, TX 77086
-  281.880.8560
-  ladishvalves.com
-  sales@ladishvalves.com

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