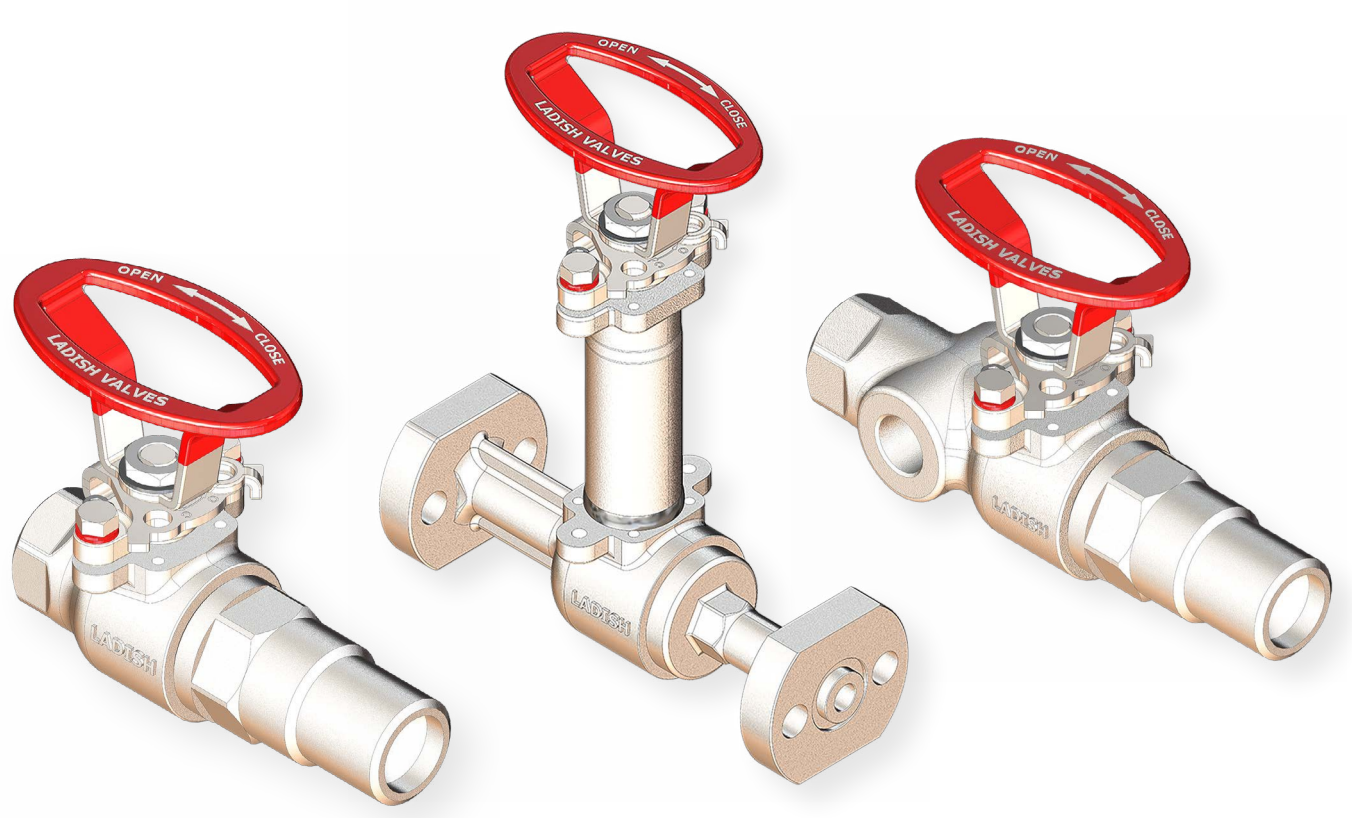
LADISH VALVES

CONTROLLED QUALITY • CORROSION RESISTANT

TO MARK PROGRESS

Instrument Isolation Valves

CATALOG 461



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
LADISH
QUALITY
FLOUR
LADISH
VALVES

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

GATE • GLOBE • CHECK
BALL • PRESSURE SEAL
BELLOW SEAL • CRYOGENIC

CAST • FORGED
BAR STOCK

THREADED ENDS
SOCKET ENDS
FLANGED ENDS
BUTTWELD ENDS
FLAT FACE ENDS

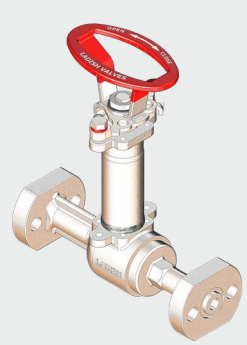
RISING HANDWHEEL
NON-RISING HANDWHEEL

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

½"–36"
CL150 — CL2500

CARBON STEEL
STAINLESS STEEL
ALLOY 20 • DUPLEX
HIGH NICKEL ALLOY
TITANIUM • ZIRCONIUM

CATALOG 461
INSTRUMENT ISOLATION VALVES

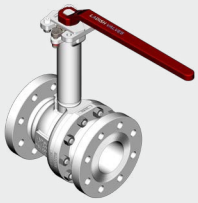


STANDARD BORE

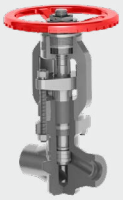
ALSO AVAILABLE

FORGED STEEL
CATALOG 221

CAST STEEL
CATALOG 821



CRYOGENIC
CATALOG 321



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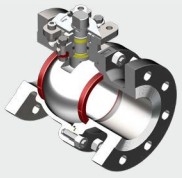
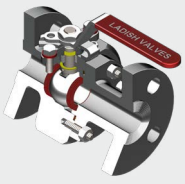


BALL VALVES
CATALOG 421



BAR STOCK BALL VALVES
CATALOG 451

METAL & GRAPHITE SEATED BALL VALVES
CATALOG 411

INSTRUMENT ISOLATION VALVES

Oil & Gas, Petrochemical & Chemical Markets

Catalog 461 serves to highlight the Ladish Valves line of Instrument Isolation Valves. In response to fugitive emissions concern for instrumentation valves in the industry, Ladish has designed the Instrument Isolation Valve line to meet the demand in the market.

Ladish Instrument Isolation Valves are manufactured, assembled and tested in the USA in order to provide strict compliance and integrity.

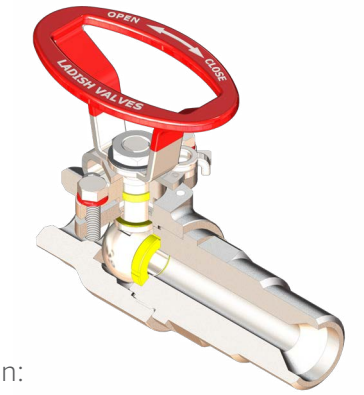
Instrument Isolation Valves can be used in a variety of applications including vents, drains and block valves for instrument connections for pressure, level and flow measurement. With a variety of configurations including threaded, MSWE, BWE, I-Flange, and Multi-Port, Ladish can meet your design criteria.

Why Ladish Valves?

	LADISH VALVES	COMPETITOR A	COMPETITOR B	COMPETITOR C
B16.34	✓	✗	✓	✗
API 607 Firesafe	✓	✓	✗	✓
API 641 (STD.)	✓	✗	FE Bonnet Only	ISO 15848-1
Oval Handle	✓	✓	✓	✓
ISO 5211 MTG PAD	✓	✗	✓	✓
Blowout Proof Stem	✓	✗	✓	✓
Dual Packing (STD)	✓	✗	FE Bonnet Only	✗
Adjustable Live Load Packing	✓	✗	FE Bonnet Only	✗
Seal Welded Body	✓	✓	✓	✓
Self Relieving Seats	✓	✗	✗	✓
Bi-Directional Seating	✓	✓	✓	✓
Locking Device	✓	Not all models	✓	✓

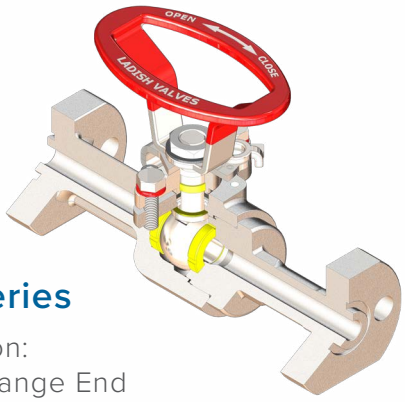
LADISH VALVES

Isolation Valve Series



NPT Series

End Connection:
3/4” MSWE x 1/2” Threaded End
3/4” BWE x 1/2” Threaded End

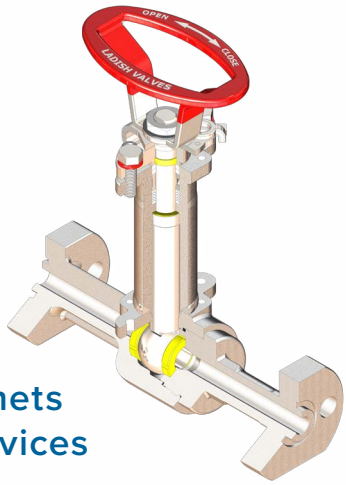


I-Flange Series

End Connection:
1” MSWE x I-Flange End
1” BWE x I-Flange End
3/4” I-Flange End

Multi-Port Series

End Connection:
1” MSWE x 1/2” Threaded End



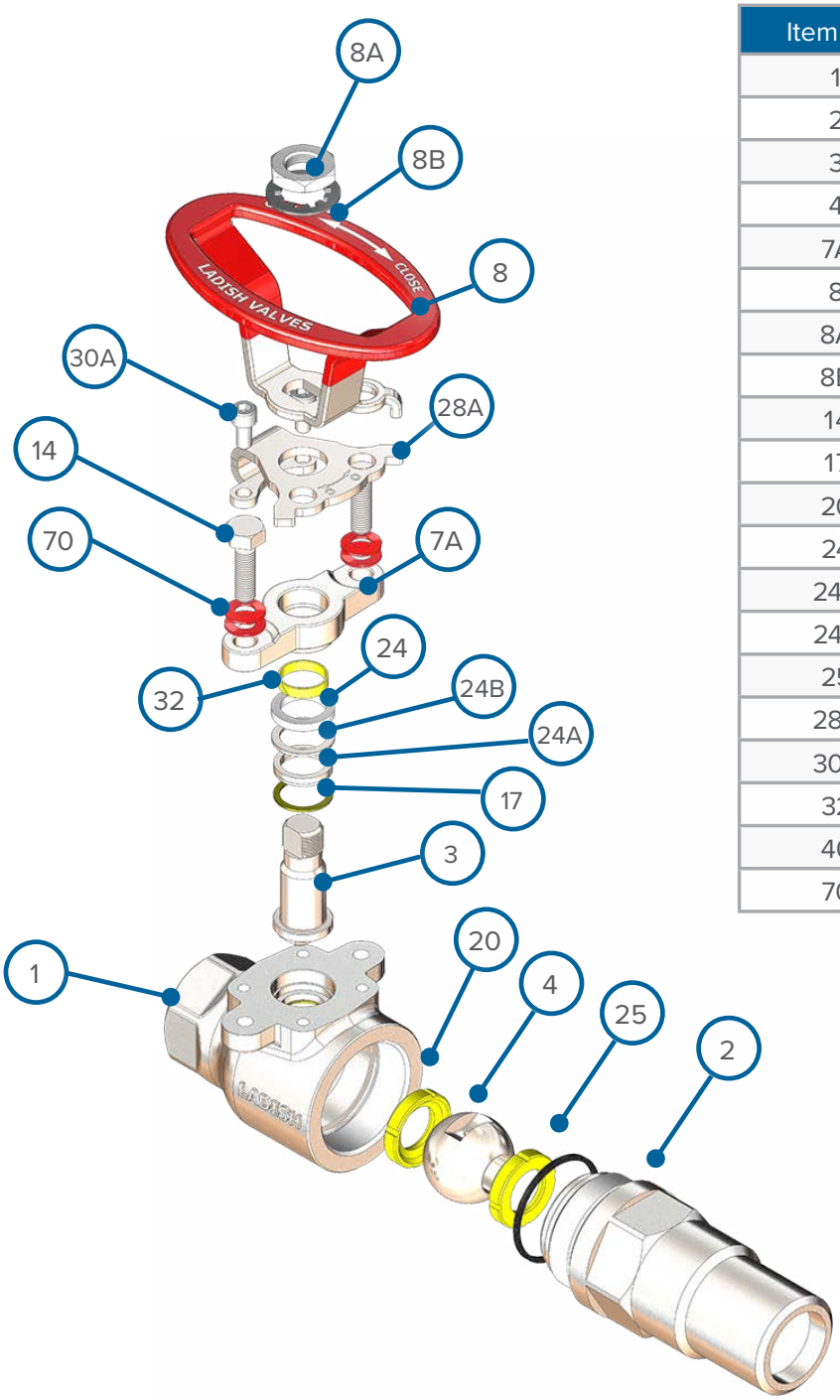
Extended Bonnets for Special Services

Features:

- Design to ASME B16.34
- ISO5211 Mounting Pad
- API 607
- API 641
- Oval Handles with Visual Position Indicator
- Blowout proof stem
- Live-load packing
- Lockable
- Self relieving seats
- Easy access to Gland Nut for Packing Adjustments
- Seal Welded Body
- Dual Packing
- Extended Bonnets as required
- Customized End Connection
- Bi-Directional Seating

INSTRUMENT ISOLATION VALVE

Parts & Materials



Item No.	Description
1	Body
2	Cap
3	Stem
4	Ball
7A	Gland Flange
8	Oval Handle
8A	Stem Nut Locknut
8B	Stem Nut Lockwasher
14	Gland Flange Bolt
17	Thrust Bearing
20	Seat
24	Packing (Secondary)
24A	Packing (Primary)
24B	Packing Spacer
25	Gasket
28A	Stop Bracket
30A	Bracket Bolt
32	Stem Bearing
40	Name Plate (not shown)
70	Spring Washer

HOW TO ORDER

Ladish Instrument Isolation 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:

PK91-V063-DC03-A07M

3/4" CL900 ISC VALVE THREAD X MALE SW ENDS, A351, CF3M, CARBON FILLED TFMC FIRE SAFE NACE

VALVE STYLE	CONSTRUCT & VALVE TYPE	ANSI CLASS	END CONNECT	OPER.	BODY/CAP MATERIAL	TRIM	PACKING & GASKET
P	**K**	**9**	**1**	**V**	**06**	**3**	**D**
P – Packing	J – Floater, Instrumentation, Full Port K – Floater, Instrumentation, Reduced Port L – Floater, Instrumentation, Reduced Port, Fugitive Emission Body	9 – 900	1 – THD X MSWE 2 – THD X MNPT 3 – NPT 4 – SWE 7 – THD-SWE D – BWE-S80 H – MSWE-iFLG I – iFLG-iFLG K – FSWE-iFLG L – MTHD-iFLG M – FTHD-iFLG O – MSWE	B – Bare Stem V – Oval	06 – A351-CF3M 15 – A351-CN7M 30 – A494-M35-1 71 – A216-WCB/ Phosphate	0 – Same as Body 3 – 316SS 5 – 316SS/ Duplex 7 – 316/17-4PH 8 - 316SS Ball w/ Nitronic 60 Stem A – Alloy 20 D – DUPLEX S32205 H – Hastelloy C276 K – Monel 400 Ball K500 Stem M – Monel 400	D – Dual Packing Primary: TFE Secondary: GRF F – Dual Packin Primary: GRF Secondary: GRF G – Graphoil T – PTFE **OTHER MATERIALS AVAILABLE UPON REQUEST**

MATERIALS OF CONSTRUCTION

71	A216 WCB/WCC	16	A351 CK3MCUN	26	A494 N7M	37	A494 CZ100	60	B367 GRC2
72	A352 LCC/LCB	17	A351 CN3MN	30	A494 M35-1	38	A494 CY40 CL.2	61	B367 GRC3
05	A351 CF8M / A182 F316	20	A494 CW12MW	31	A494 M35-2	52	A995 CD4MCUN-GR1B	62	B367 GRC7
06	A351-CF3M	21	A494 CW6M	32	A494 M30C	53	A995 CE8MN-GR2A	63	B752 GR702C
10	A351 CG8M	22	A494 CW2M	33	A494 CY40	54	A995 CD6MN-GR3A	65	A351 CF8M
11	A351 CG3M	23	A494 CX2MW	34	A494 CW6MC	55	A995 CD3MN-GR4A	69	A216 WCB
12	A351 CF8C	24	A494 CX2M	35	A351 CT15C	56	A995 CE3MN-GR5A		
15	A351 CN7M	25	A494 N12MV	36	A494 CU5MCuC	57	A995 CD3MWCUN-GR6A		

BAR STOCK EQUIVALENTS ALSO AVAILABLE

SEAT	BOLTING & NUTS	MISC. OPTION	SIZE	DESIGN FIRE-SAFE NACE ①
C	**03**	**A**	**07**	**M**
C – Carbon Filled TFMC D – Delrin® F – Virgin TFM G – Carbon Graphite K – Kel-F (PCTFE) M - HF Chrome Carbide (Ball/ Seat) N – Nylon Devlon® P – PEEK® R – Glass Filled PTFE T – PTFE U – HF Hard Chrome (Ball /Seat) V – Vespel W – HF Tungsten Carbide (Ball/Seat) X – HF Chrome Carbide (Ball/Seat) Z – HF Nickel Chrome (Ball/Seat)	03 – A193 B8MCL1/GRF 06 – A193 B8M/2HM 07 – ALLOY 20 12 – HAST C 15 – K-MONEL	A – N/A B – Cleaned I – IEC Flange P – Multi-Ports: (3) 1/2” NPT Instrument Isolation Ports Q – FNPT End Connection	05 – ½" 07 – ¾" 10 – 1"	M – B16.34 Fire Safe, NACE N – B16.34 Fire Safe, Non-NACE P – B16.34 Non-Fire Safe, NACE Q – B16.34 Non-Fire Safe, Non-NACE

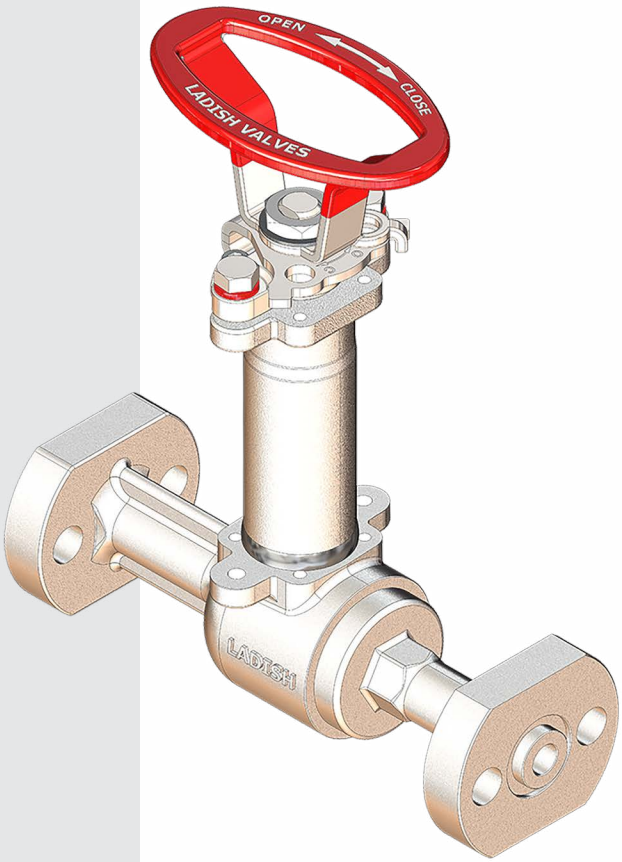
① API 608 compliant, AS Applicable

ENGINEERING INFORMATION

Ladish Instrument Isolation Valves

Ladish specializes in design and manufacturing of a wide variety of speciality valves and is known for its ability to work with suppliers and end-users to solve difficult applications. The Ladish Instrument Isolation valve line was developed for use with instrument hardware and connection systems to reduce measurement errors and corrosive effects of tubing pipe away runs.

Ladish Instrument Isolation Valves provide a safe, reliable compact design with welded body construction. The design meets stringent safety requirements including B16.34 wall thickness, API 607 fire safe and API 641. With full manufacturing capabilities in Houston, Ladish can configure the instrument isolation valve to meet specific customer requirements.

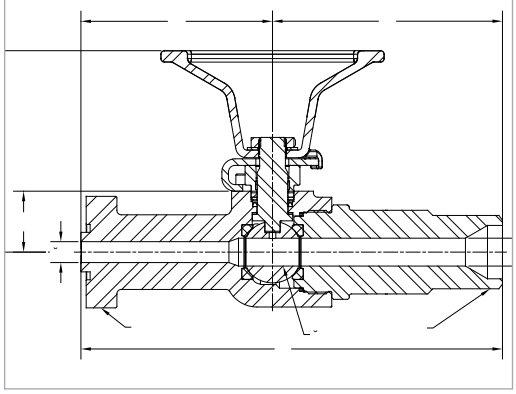


			Valve Torque (in lbs)			
Instrument Side	Process Side	CV	TFM	TFMC	DEVLON	PEEK
NPT	MSWE	9	60	75	90	125
	BWE					
Multi-Port	MSWE	9				
	BWE					
I-Flange	I-Flange	6				
	MSWE	8.5				
	BWE					

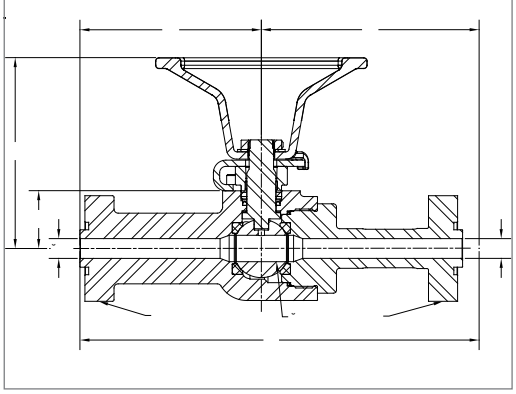
DIMENSIONAL DATA

NPT, MULTI-PORT, I-FLG

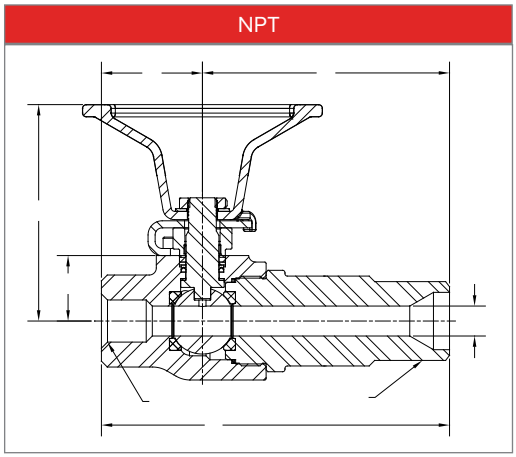
I-FLG - MSWE, BWE



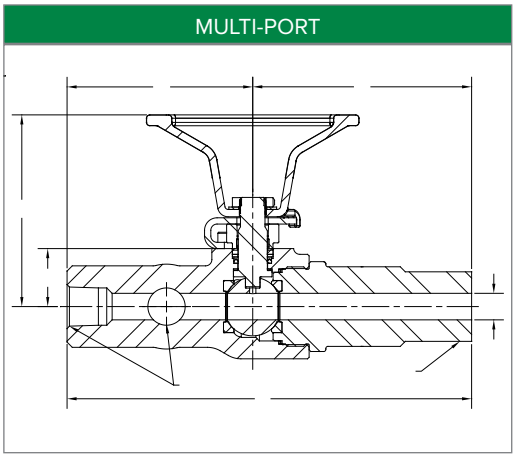
I-FLG - I-FLG



NPT



MULTI-PORT



I-FLG - MSWE, BWE										
ISO	A	B	C	D	E	F	F1	F2	G	H
F03	1.09	3.62	4.13	3.44	7.56	½"	⅜"	½"	I-FLG	¾" - 1" MSWE ¾" - 1" BWE

I-FLG - I-FLG										
ISO	A	B	C	D	E	F	F1	F2	G	H
F03	1.09	3.62	3.44	4.13	7.25	⅜"	⅜"	½"	I-FLG	I-FLG

NPT								
ISO	A	B	C	D	E	F	G	H
F03	1.09	3.62	1.69	4.13	5.81	½"	½" FNPT	¾" - 1" MSWE ¾" - 1" BWE

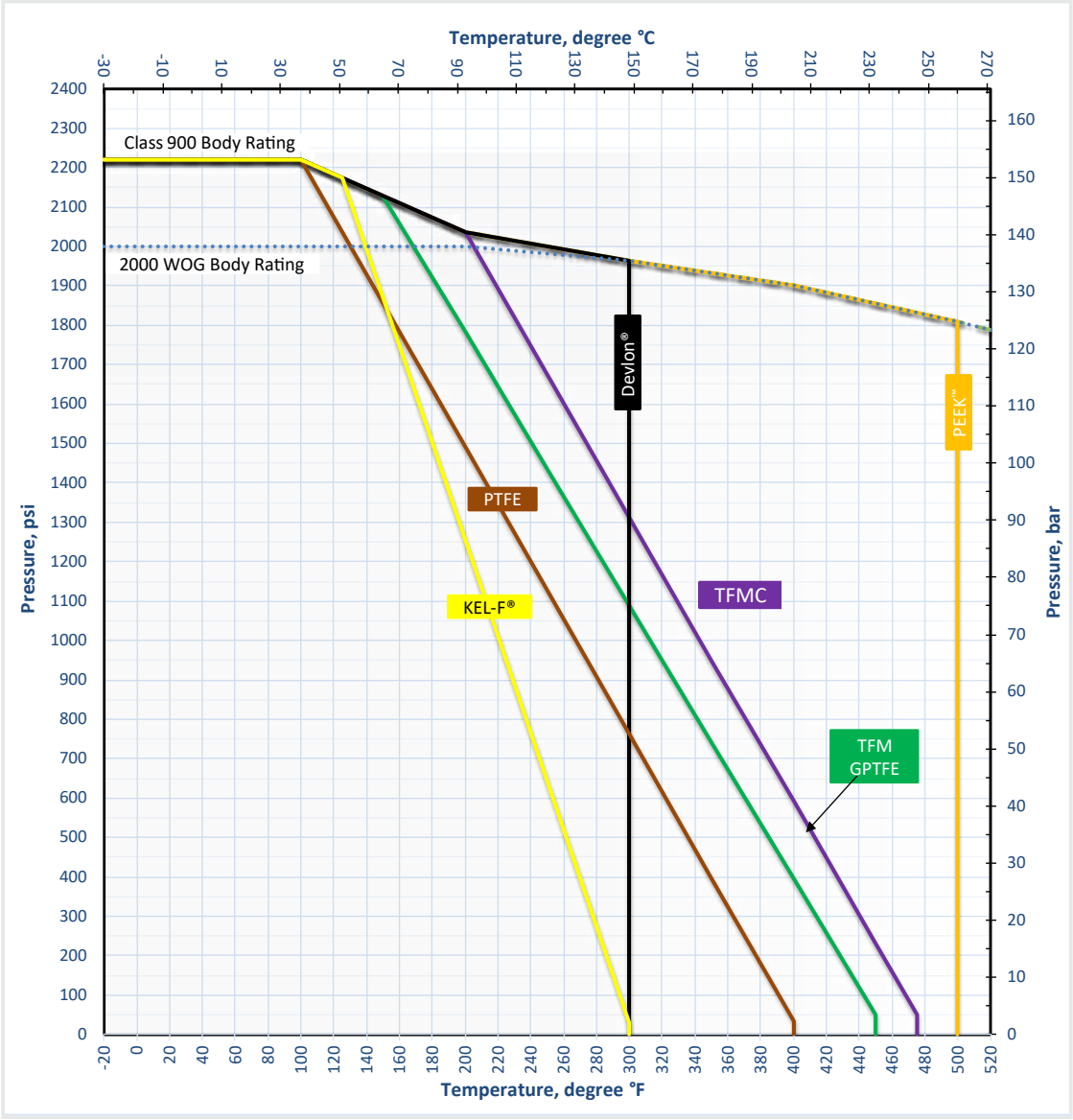
MULTI-PORT								
ISO	A	B	C	D	E	F	G	H
F03	1.09	3.62	3.5	4.13	7.63	½"	(3) ½" FNPT	¾" - 1" MSWE ¾" - 1" BWE

NOTES:

1. I-FLG per IEC 61518 Type A
2. Consult factory for other I-FLG seal standards

PRESSURE & TEMPERATURE RATINGS

The pressure temperature ratings for the Ladish Valves Instrument Isolation Valve product line are determined by a combination of the body, seal and seating material. The charts below serve as a representative of our most common seat materials. For ratings on other materials, please contact a Ladish team member.



NOTES:

1. The body ratings shown are for A216 WCB and A351 CF8M. For other shell materials, refer to the latst edition of ASME B16.34
2. The body pressure rating of the valve at service temperatures below -20˚F (-29˚C) shall not exceed the ASME B16.34 pressure rating at -20˚F (-29˚C).
3. The seat and seal pressure ratings of the valve at service temperatures below -20˚F (-29˚C) shall not exceed the above pressure rating at -20˚F (-29˚C)

TFM	-328°F	**PTFE**	-328°F		**KEL-F**	-418°F	**PEEK®**	-148°F
TFMC	-328°F	**GPTFE**	-328°F		**Devlon®**	-50°F		

4. For -320˚F (-196˚C) service, recommend to use KEL-F for seats.
5. Valve series is the first two digits or letters of valve figure number.

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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.

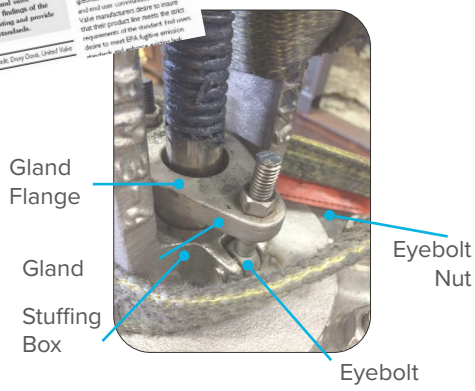
Ladish Valves was one of the first companies to help in assisting companies, by testing our valves to meet or exceed low fugitive emission in our valves. Ladish Valves has successfully tested our product, to the following industries standards.

- API 622
- API 641
- ISO-15848-1
- TA-LUFT

Fugitive emissions testing: Its origins, current realities and the future

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.



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2021 REV_SEPTEMBER