

INDUSTRIAL RELIEF VALVE (STAINLESS)
1/4" and 1/2" NPT
-4 and -8 Metal To Metal Face Seal
1/4" and 1/2" Bi-Lok Dual Ferrule Tube
10 - 750 Psig (0.69 - 51.7 Bar)

SERIES
 IRV
 STAINLESS

Description

The Generant Series Stainless Steel IRV, Industrial Relief Valve is a spring reference over pressure protection device. The valve can be ordered with set pressures ranging from 10 to 750 Psig (0.69 to 51.7 Bar) and come factory preset and permanently locked. Relief pressure can not be altered or adjusted in the field. Seat and poppet geometry combined with optimized spring ranges provide high flow rates with minimum pressure accumulation. Compact design and availability of a variety of inlet and outlet configurations reduces size and piping requirements. Relief pressure can be discharged to atmosphere or to a downstream connection. The IRV is supplied with FKM seals. For severe service applications and set pressures above 50 Psig (3.45 Bar), specify optional PTFE seals.

Features

- Supplied Factory Preset Set and Permanently Locked for Tamper Proof Service
- 100% Factory Tested for Leakage, Crack and Reseal Performance
- High Flow Capacity and Excellent Reseal Performance
- Available in NPT, Metal to Metal Face Seal and Bi-Lok Dual Ferrule Tube Connections
- Discharge to Atmosphere or a Wide Variety of Inline Piping Configurations
- Optional Deflector Cap available for Diverting Exhausted Gas to Atmosphere
- Available Cleaned and Packaged for Oxygen Service

Technical Data

Set Pressure Range:
 FKM: 10 - 750 Psig (0.69 to 51.7 Bar)
 PTFE: 50 - 750 Psig (3.45 to 51.7 Bar)
 Factory Set Tolerance: +/- 5% of Specified Pressure
 Zero Leakage to 95% of Set Pressure
 Full Rated Flow @ 110% of Set Pressure, unaffected by up to 10% Back Pressure
 Reseal: FKM seals 90% of Set Pressure
 PTFE seals 80% of Set Pressure
 Temperature Rating: -60° F to 375° F (-51° C to 190° C)
 based on seal material (see how to order)
 Lubricant: Krytox®

Materials of Construction

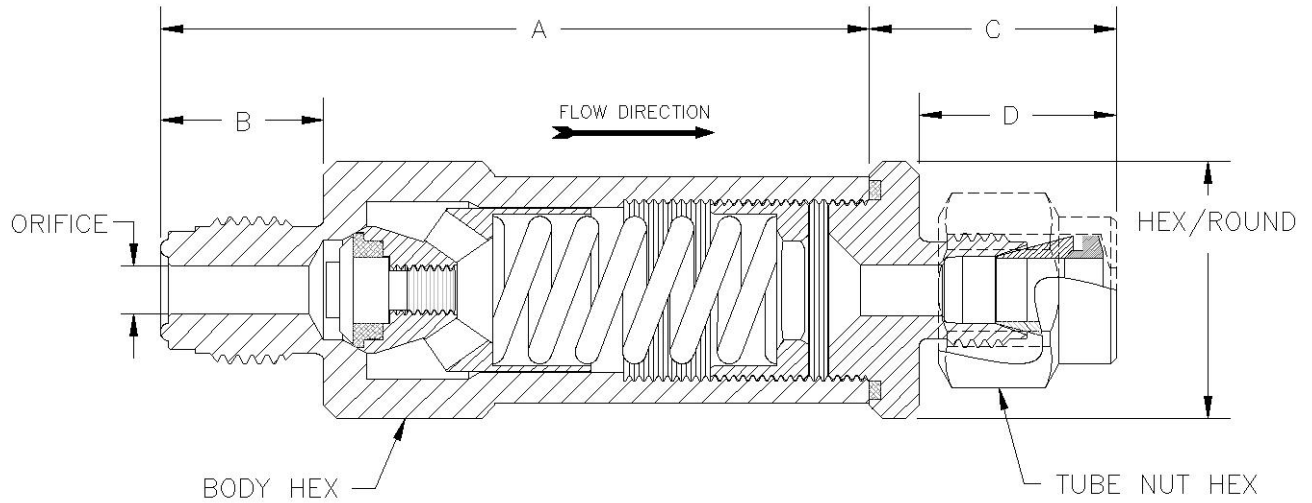
Component	Material
Body, Poppet, Seat Screw, Spring Retainer, In-Line Adapter ¹ , Nuts and Ferrules	316 Stainless Steel, ASTM A479 ²
Adjustment Spring	302 or 17-7 PH Stainless Steel, ASTM A313
Seals	FKM or PTFE

¹ Inline Adapters utilize FKM O-ring seals. Metal to Metal Face Seal Inline Adapters are Electro Polished to 10 Ra Max.

² Valves supplied with Metal to Metal Face Seal connections have Electro Polished Inlet, Poppet and Seat Screw to 10 Ra Max.



INDUSTRIAL RELIEF VALVE (STAINLESS)



Configuration Shown IRV4T-4V

Dimensional Data

Inlet Size	Designation	Orifice	A	B	Body Hex	Tube Nut Hex
1/4" NPT	4	.312 (7.93)	2.65 (65.02)	0.59 (14.99)	7/8"	N/A
1/2" NPT	8	.400 (10.16)				
-4 Face Seal	4V	.180 (4.57)	2.68 (68.07)	0.62 (15.75)		9/16"
1/4" Bi-Lok	4T	.180 (4.57)	3.35 (85.09)	0.70 (17.78)		
1/2" Bi-Lok	8T	.400 (10.16)	3.51 (89.15)	0.86 (21.84)	7/8"	
-8 Face Seal	8V	.400 (10.16)	2.82 (71.63)	0.75 (19.05)	1"	N/A

Configuration	Outlet	C	D	Hex/Round	Tube Nut Hex
IRV	Vent to Atmosphere			N/A	
IRVD	Deflector Cap	0.75 (19.05)	N/A	7/8" Hex	N/A
IRV4	1/4" FNPT	0.37 (9.40)			
IRV6	3/8" FNPT	0.67 (17.02)			
IRV8	1/2" FNPT	0.74 (18.80)			
IRV4V	-4 Face Seal	0.80 (20.32)	0.62 (15.75)	7/8" Hex	9/16"
IRV4T	1/4" Bi-Lok	0.89 (22.61)	0.70 (17.78)		7/8"
IRV8T	1/2" Bi-Lok	1.05 (26.67)	0.86 (21.84)		7/8"
IRV8V	-8 Face Seal	0.94 (23.88)	0.75 (19.05)	1" Hex	N/A

Note: Dimensions shown with Bi-Lok nuts finger-tight. Dimensions are in inches (millimeters), for reference only and subject to change.
NPT Threads per ASME B1.20.1

Flow Data

Set Pressure Range (Psig)		Discharge Coefficient, Kd		
From	To	.180 Orifice (4.57mm)	.312 Orifice (7.92mm)	.400 Orifice (10.16mm)
8	19	0.05	0.44	0.25
20	28	0.30	0.57	0.30
29	45	0.30	0.57	0.34
46	62	0.34	0.57	0.34
63	89	0.60	0.57	0.34
90	130	0.60	0.57	0.34
131	180	0.60	0.55	0.28
181	275	0.57	0.55	0.28
275	400	0.37	0.43	0.28
401	615	0.37	0.28	0.25
616	750	0.37	0.17	0.12

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How To Order

IRV4 - 4V - V - 300 - X

Series _____

- IRV Vent to Atmosphere
- IRVD Deflector Cap
- IRV4 1/4" Female NPT In-Line Adapter
- IRV6 3/8" Female NPT In-Line Adapter
- IRV8 1/2" Female NPT In-Line Adapter
- IRV4V -4 Face Seal In-Line Adapter
- IRV4T 1/4" Bi-Lok In-Line Adapter
- IRV8T 1/2" Bi-Lok In-Line Adapter
- IRV8V -8 Face Seal In-Line Adapter

Inlet Size Designation _____

- 4 1/4" NPT Male Inlet
- 8 1/2" NPT Male Inlet
- 4V -4 Metal to Metal Face Seal
- 4T 1/4" Bi-Lok Dual Ferrule Tube
- 8T 1/2" Bi-Lok Dual Ferrule Tube
- 8V -8 Metal to Metal Face Seal

Seals _____

- V - FKM, -10° to 375° F (-23° to 190° C)
- T - PTFE, -60° to 375° F (-51° to 190° C)

Specify Set Pressure _____

- 10-750 Psig (0.69 to 51.7 Bar) for Seal Material V
- 50-750 Psig (3.45 to 51.7 Bar) for Seal Material T

Cleaning Option _____

- X - Clean and Packaged for Oxygen Service

PROPER COMPONENT SELECTION – When specifying a component, the total system design must be considered to ensure safe and trouble-free performance. Intended component function, materials compatibility, pressure ratings, installation, environment and maintenance are the responsibility of the system designer.



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