

- Tight Shut-off
- Easy Installation
- Leak Detection
- Low Seat Leakage
- Gas or Liquid Service
- Inline Maintenance
- NACE Capability
- Low Temperature Version Available

Applications

- On-Off or Throttling Control
- Heater Fuel Valve Control
- Gas Distribution

P119	↑	↑	0	0					
	06							Port Size	
	08							3/4 NPT	
	12							1 NPT	* 1-1/4" Available in Iron Bodies Only
								1-1/4 NPT*	
								Spring Range	
								PSIG	BAR
	015							3 - 15	.20 - 1.03
	020							5 - 20	.34 - 1.38
	035							5 - 35	.34 - 2.41
	060							30 - 60	2.07 - 4.14
			0	0				Orifice	
		2						1/8"	
		3						3/16"	
		4						1/4"	
		5						5/16"	
		6						3/8"	
		8						1/2"	
		9						9/16"	
								Seat/Diaphragm Material	
		00						Nitrile	
		22						Fluorocarbon	
		LL						Low Temperature**	**Must order LCC Body
								Body Material	***Units with a Steel Body selection will automatically be provided with internal parts conforming to NACE MR0175. Orifice and Seat Housing will be made from 316SS.
		0						Iron	
		2						Steel***	
		6						LCC Steel****	**** 1 NPT Only, NACE Standard

Body	Cast Iron, WCB Steel, LCC Steel
Housing	Aluminum
Bonnet	Aluminum
Disk Holder Assembly	Aluminum and Nitrile (standard), Stainless Steel and Nitrile, Stainless Steel and Fluoroelastomer, Aluminum and Fluoroelastomer, or Stainless Steel with Low Temperature Neoprene
Orifice	Aluminum (Standard) or 316 Stainless Steel
Diaphragm	Nitrile, Fluoroelastomer
O-rings	Nitrile, (Standard) or Fluoroelastomer
Stem Wiper	TFE
Adjusting Screw	Steel
Spring	Steel



Body Sizes and End Connection Styles	3/4, 1 or 1-1/4 NPT screwed	
Maximum Inlet Pressure	150 PSIG	10.3 BAR
Maximum Pressure Drop	150 PSIG	10.3 BAR
	For all port diameters	
Maximum Housing Pressure	150 PSIG	10.3 BAR
Spring Ranges	See Table	
Material Temperature Capabilities	With Nitrile Seat / Diaphragm	
	-20 to 170 °F	-29 to 77 °C
	With Fluoroelastomer Seat / Diaphragm	
	40° to 250 °F	4.4 to 121 °C
	Low Temperature Version	
	-40° to +170 °F	-40° to +77 °C
	Note: Not for use with hot water or ammonia.	
Orifice Size and Flow Coefficients	See Table	
Pressure Setting Adjustment	May be adjusted throughout each spring range by rotating the adjusting screw	
Actuator Pressure Connection	1/4 NPT female	
Spring Case and Bonnet Vents	1/4 NPT female	
Weight	lbs.	kg.
3/4"	4.8	2.2
1"	4.8	2.2
1-1/4"	4.7	2.1

P119 Flow Coefficients

Orifice Size		3/4 Inch Body	1 Inch Body	1-1/4 Inch Body
Inches	mm	C _v	C _v	C _v
1/8	3.2	0.45	0.45	0.45
3/16	4.8	0.93	0.93	0.93
1/4	6.4	1.6	1.6	1.6
5/16	7.9	2.7	2.7	2.7
3/8	9.5	3.3	3.4	3.6
1/2	12.7	4.6	5.0	5.7
9/16	14.3	5.7	6.0	7.0

P119 Spring Selection

Spring Range		Spring Part Number	Spring Color Code
PSIG	BAR		
3 - 15	0.2 - 1.0	655-689-000	Red
5 - 20	0.3 - 1.4	655-676-000	Silver
5 - 35	0.3 - 2.4	655-703-000	Blue
30 - 60	2.1 - 4.1	655-690-000	Green

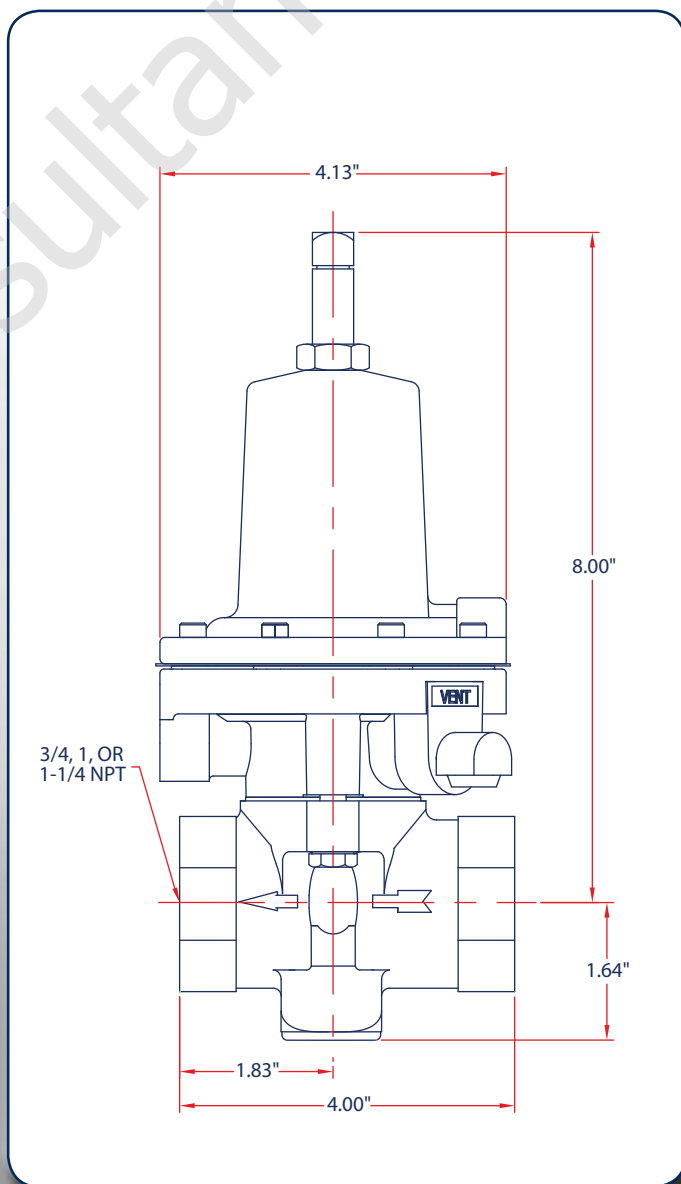
P119 Gas Sizing Equation

$C_v = (Q / 963) \sqrt{\frac{(S G) (T)}{(\Delta P) (P_1 + P_2)}}$		
C _v	Flow Coefficient	
Q	Gas Flow Rate, (SCFH)	
SG	Specific Gravity	
P1	Inlet Pressure (PSIA)	
P2	Outlet Pressure (PSIA)	
Δ P	Pressure Drop, (PSI)	
T	° Rankin (° F +460)	
Useful Conversions for Gas Flow		
To Convert	Multiply By	To Obtain
SCFD	0.04167	SCFH
SCFS	3600	SCFH
SCFM	60	SCFH
M³/Hr.	35.34	SCFH
Lb./Hr.	19.52	SCFH
Kg./Hr.	43.04	SCFH

P119 Control Valve Rebuild Kits

	Part Number	Kit Includes
1/8" - 3/8" Orifice, Nitrile	971-P11-900	Diaphragm assembly, seat assembly, O-rings, hairpin clip, retaining ring and stem seal wiper.
1/2" - 9/16" Orifice, Nitrile	971-P11-901	
1/8" - 3/8" Orifice, Fluorocarbon	971-P11-902	
1/2" - 9/16" Orifice, Fluorocarbon	971-P11-903	
1/8" - 3/8" Orifice, Nitrile/NACE	971-P11-904	
1/2" - 9/16" Orifice, Nitrile/NACE	971-P11-905	
1/8" - 3/8" Orifice, Fluorocarbon/NACE	971-P11-906	
1/2" - 9/16" Orifice, Fluorocarbon/NACE	971-P11-907	
1/8" - 3/8" Orifice, Neoprene LL/NACE	971-P11-908	
1/2" - 9/16" Orifice, Neoprene LL/NACE	971-P11-909	

P119 Dimensions



P119 Parts

Item	Description		Qty.	Part Number
1	Adjustment Screw		1	648-487-000
2	Lock Nut		1	634-179-000
3	Spring Guide		1	626-079-000
4	Range Spring	3-15 PSIG, Red	1	655-689-000
		5-20 PSIG, Silver		655-676-000
		5-35 PSIG, Blue		655-703-000
		30-60 PSIG, Green		655-690-000
5	Screen		1	647-023-000
6	Machined Bonnet		1	604-237-000
7	Housing		1	629-226-000
8	Bushing		2	608-074-000
9	Stem Wiper		2	649-305-000
10	Seat Assemblies Aluminum	Aluminum/Nitrile for 1/8" to 3/8" Orifice	1	822-023-000
		Aluminum/Fluorocarbon for 1/8" to 3/8" Orifice		822-023-001
		Aluminum/Nitrile for 1/2" & 9/16" Orifice		822-023-002
		Aluminum/Fluorocarbon for 1/2" & 9/16" Orifice		822-023-003
11	Seat Assemblies Stainless	316SS/Nitrile for 1/8" to 3/8" Orifice	1	822-024-000
		316SS/Fluorocarbon for 1/8" to 3/8" Orifice		822-024-001
		316SS/Neoprene (Low Temp) for 1/8" to 3/8" Orifice		822-047-000
		316SS/Nitrile for 1/2" & 9/16" Orifice		822-024-002
		316SS/Fluorocarbon for 1/2" & 9/16" Orifice		822-024-003
		316SS/Neoprene (Low Temp) for 1/2" to 9/16" Orifice		822-047-001
12	O-ring, (Stem)	Nitrile	2	649-303-001
		Fluorocarbon		649-304-001
13	Retaining Ring		2	644-057-000
14	Hair Pin - NACE		1	635-066-000
15	Orifice Aluminum	1/8"	1	688-013-004
		3/16"		688-013-003
		1/4"		688-013-002
		5/16"		688-018-000
		3/8"		688-013-001
		1/2"		688-013-000
		9/16"		688-018-001
16	Orifice 316 Stainless Steel	1/8"	1	688-014-004
		3/16"		688-014-003
		1/4"		688-014-002
		5/16"		688-019-000
		3/8"		688-014-001
		1/2"		688-014-000
		9/16"		688-019-001
17	Body	Steel - 3/4 NPT	1	664-320-000
		Steel - 1 NPT		664-320-001
		Iron - 3/4 NPT		664-318-000
		Iron - 1 NPT		664-318-001
		Iron - 1-1/4 NPT		664-319-000
		LCC - 1 NPT		664-392-001
18	Build Screws		8	648-466-004
19	O-ring, (Housing)	Nitrile	1	649-303-000
		Fluorocarbon		649-304-000
20	Vent Assembly		1	836-004-000
21	Body Bolts	Iron Body	2	648-463-005
		Steel Body		648-463-008
22	NACE Tag (Not Shown)		1	632-503-000
23	Lock Nut		1	634-180-000
24	Stem	Aluminum	1	651-098-000
		Stainless Steel		651-099-000
25	Washer, Flat		1	662-213-001
26	Washer		1	662-213-000
27	Diaphragms	Nitrile	1	618-074-000
		Fluorocarbon		618-074-001
28	Piston		1	637-306-000
29	Spring Retainer		1	643-191-000
30	Belleville Washer		1	662-212-000
31	Washer, StatOSeal	Nitrile	1	662-214-000
		Fluorocarbon		662-214-001
32	Disk, Teflon Fluorocarbon		1	619-056-000
33	Blank Label, Brady (Not Shown)		1	632-456-000

