The PFA Gauge Protectors are designed for use in high purity semiconductor applications, and are also ideally suited for use in ultra-pure water and aggressive chemicals. They protect sensitive gauges from corrosive chemicals and are offered with or without a gauge. They can be fitted with factory supplied gauges and can also be fitted with customer specified or customer supplied gauges upon request.

# Features

#### **Benefits**

One piece precision machined diaphragm manufactured from the latest technology modified PTFE, provides over five times the flexural life as compared to conventional PTFE. Higher cycle life resulting in less downtime and lower replacement costs.

PTFE and PFA wetted surfaces.

Eliminates contamination and fluid compatibility issues.

Tongue and groove diaphragm to body seal. Assures barrier between operating fluid and isolation media.

Suitable for pressure, vacuum, and dual range operation.

Reduces number of device installations for varying pressure ranges.

# **Specifications**

Materials of Construction: Wetted Surfaces - PFA, Modified PTFE External Surfaces - PFA, PVDF, EPR (Fill screw seal)

#### Pressure Range:

0 to 160 PSIG (11 bar)

Pressure ranges above are for operation at ambient temperature. For use at higher temperatures consult Pressure/Temperature chart on page 3.

#### **Temperature Ranges:**

0° - 212° F (-17° -100° C) Ambient 0° - 400° F (-17° - 204° C) Fluid







1



Model Number	Process Port Configuration	Gauge Pressure (PSIG)	Model Number	Process Port Configuration	Gauge Pressure (PSIG)-XX	
GP-130-00	1/4" FNPT		GP-131-XX	1/4" FNPT	01 = 0-30 PSIG 02 = 0-60 PSIG	
GP-530-00	1/4" MNPT	NONE	GP-531-XX	1/4" MNPT		
GP-630-00	1/4" Parflare		GP-631-XX	1/4" Parflare	03 = 0-160 PSIG	

Isolation Fluid: 50/50 mix of deionized water and isopropyl alcohol (Standard unless otherwise specified.)

Factory Gauge: 2-1/2" dial

Brass movement Painted steel case Glass lens 1/4" MNPT lower mount



The PFA In-line Gauge Protectors are designed for use in high purity semiconductor applications, and are also ideally suited for use in ultra-pure water and aggressive chemicals. The in-line design allows for quick cut-in installation and helps prevent entrapment of fluids. They are offered with or without a gauge. They can be fitted with factory supplied gauges and can also be fitted with customer specified or customer supplied gauges upon request.

# Features

#### **Benefits**

One piece precision. machined diaphragm manufactured from the. latest technology modified PTFE, provides over five times the flexural life as compared to conventional PTFE.

Higher cycle life resulting in less downtime and lower replacement costs.

Modified PTFE and PFA wetted surfaces.

Eliminates contamination and fluid compatibility issues.

Assures barrier between

operating fluid and iso-

lation media.

Tongue and groove diaphragm to body seal.

Suitable for pressure, vacuum, and dual range operation.

Reduces number of device installations for varying pressure ranges.

In-line operation.

Reduces connections and entrapment areas.

# Specifications

Materials of Construction: Wetted Surfaces - PFA, Modified PTFE External Surfaces - PFA, PVDF, EPR (Fill screw seal)

#### Pressure Range:

0 to 160 PSIG (11 bar)

Pressure ranges above are for operation at ambient temperature. For use at higher temperatures consult Pressure/Temperature chart on page 3.

#### **Temperature Ranges:**

 $0^{\circ} - 212^{\circ}$  F (-17° -100° C) Ambient  $0^{\circ} - 400^{\circ}$  F (-17° - 204° C) Fluid







# **GPIL In-line Gauge Protector**





Model Number Housing		Port Configuration	Gauge Pressure (PSIG)-XX
GPIL-6644-XX	1	1/4" Parflare	
GPIL-6666-XX	1	3/8" Parflare	00 = NONE 01 = 0-30 PSIG
GPIL-6688-XX	2	1/2" Parflare	02 = 0-60 PSIG
GPIL-661212-XX	2	3/4" Parflare	

**Isolation Fluid:** 50/50 mix of deionized water and isopropyl alcohol (Standard unless otherwise specified.) **Factory Gauge:** 2-1/2" dial

Brass movement Steel case Glass lens 1/4" MNPT lower mount



The PFA Nitrogen Gun is suitable for use in high purity semiconductor applications. The design utilizes a molded high purity PFA body with precision machined sealing areas. Interior surfaces are PFA and a one piece machined modified PTFE diaphragm/poppet. This design eliminates the need for elastomer seals, while providing excellent flexibility and long life. The SG-1 is available with 1/4" FNPT or 3/8" Parflare connections. Additional options include a .2, or .5 micron filter and a coiled hose assembly.



# **Features**

# **Benefits**

High cycle life.

One piece precision machined diaphragm/ poppet manufactured from the latest technology modified PTFE. Provides over five times the flexural life as compared to conventional PTFE. Wiper seat for positive through flow shut off and diaphragm to body seal.

Lower replacement costs.

# Less downtime.

**Specifications** Materials of Construction:

Interior Surfaces - PFA, Modified PTFE, (optional HDPE filter element) External Surfaces - PFA, PVDF, and PET handle retention screw.

Other Materials - Stainless steel spring

#### Pressure Ranges:

0 PSIG (0 bar) to 80 PSIG (5.5 bar)

Pressure range above is for operation at ambient temperature. For use at higher temperatures consult Pressure/Temperature chart on page 3.

#### Temperature Ranges:

0° - 150° F (-17° - 66° C) Ambient 0° - 200° F (-17° - 93° C) Fluid



**Reversible/removable** hanger.

Allows hanging in either direction.





3/8" PARFLARE

Model Number	End Connection	Description			
0.0 /					
SG-1-03	1/4" FNP1	Spray Gun only (No Filter)			
SG-1-04	3/8" Parflare	Spray Gun only (No Filter)			
SG-1-03-X	1/4" FNPT	Spray Gun with Filter (Add -2, or -5 for 0.2, or 0.5 Micron Element)			
SG-1-04-X	3/8" Parflare	Spray Gun with Filter (Add -2, or -5 for 0.2, or 0.5 Micron Element)			
1002-0161	N/A	8' FEP Coil only			
4999-0114	и	0.5 Micron Replacement Element			
4999-0115	Ш	0.2 Micron Replacement Element			



The PFA DI Water Spray Gun is suitable for use in high purity semiconductor applications. The design utilizes a molded high purity PFA body with precision machined sealing areas. A one piece machined modified PTFE diaphragm/poppet provides excellent flexibility and long life. Wetted surfaces are PFA and modified PTFE thus eliminating the need for elastomer seals. The SG-1 is available with either 1/4" FNPT or 3/8" Parflare connections. Optional coiled hoses, with or without recirculation feature are also available.



#### Features

One piece precision machined diaphragm/ poppet manufactured from the latest technology modified PTFE. Provides over five times the flexural life as compared to conventional PTFE. Wiper seat for positive through flow shut off and diaphragm to body seal.

Reversible/removable hanger.

Optional recirculation kit.

Benefits High cycle life.

Lower replacement costs.

Less downtime.

Pressure Ranges: 0 to 80 PSIG (5.5 bar)

**Specifications** 

Materials of Construction:

Wetted Surfaces - PFA, Modified PTFE

External Surfaces - PFA, PVDF, Stainless Steel Spring

Pressure range above is for operation at ambient temperature. For use at higher temperatures consult Pressure/Temperature chart on page 3.

#### Temperature Ranges: 0° - 150° F (-17° - 66° C) Ambient 0° - 200° F (-17° - 93° C) Fluid

Allows hanging in either direction.

Provides low dead volume, purity maintaining circulation.

#### SPRAY PATTERN









Model Number	End Connection	Description		
SG-1-01	1/4" FNPT	Spray Gun only		
SG-1-02	3/8" Parflare	Spray Gun only		
SG-1-02-01	3/8" Parflare	Spray Gun with complete 1002-0158 Recirculation Assembly		
FBMTR-2G64	N/A	Recirculating Tee Connector only		
1002-0158	н	Complete Recirculation Kit with FMBTR-2G64 and 8' FEP Coil		
1002-0161	н	8' FEP Coil only		



The 1/4" Pressure Regulators are designed for use in high purity semiconductor applications, and are also ideally suited for ultra-pure water and aggressive chemicals. The design utilizes a machined PFA body with precision machined seat.

## **Features**

# Benefits

One piece precision machined diaphragms manufactured from the latest technology modified PTFE. High cycle life.

Less downtime.

Lower replacement costs.

Provides over five times the flexural life as compared to conventional PTFE.

Non-relieving design-

requires a 10 psi differ-

ential across the valve.

Stabilizes system pressure. Ideal for use in DI water systems.

Tongue and groove diaphragm.

Seal provides protection for springs and adjust-

ing screw.

Low hysteresis.



# **Specifications**

#### Materials of Construction:

Wetted Surfaces - PFA, Modified PTFE Non Wetted Surfaces - ABS, Brass, SS, PVDF, SS Spring, Chrome Vanadium Die Spring, HDPE.

#### Pressure Ranges:

Max Primary Pressure - 120 PSIG (8.3 bar) Secondary Pressure Options - 0 to 30 PSIG and 0 to 60 PSIG

Pressure ranges above are for operation at ambient temperature. For use at higher temperatures consult Pressure/Temperature chart on page 3.

#### Temperature Ranges:

 $0^{\circ}F - 150^{\circ}F (-17^{\circ}C - 66^{\circ} C)$  Ambient  $0^{\circ}F - 266^{\circ}F (-17^{\circ}C - 130^{\circ} C)$  Fluid







Model Number	Trim Material	Port Configuration	Secondary Pressure-X	
PR-1-2214-X		1/4" FNPT		
PR-1-2264-X	HDPE	1/4" Parflare	1 = 0 to 30 PSIG 2 = 0 to 60 PSIG	
PR-1-2266-X		3/8" Parflare		



The PR-3 Pressure Regulators are designed for use in high purity semiconductor applications, and are also ideally suited for ultra-pure water and aggressive chemicals. The design utilizes a machined PTFE body with precision machined seat and diaphragm sealing area. The large diaphragm allows for quicker reaction time to changes upstream, preventing the effects of pressure surges to be transferred downstream.

## **Features**

# **Benefits**

One piece precision machined diaphragms manufactured from the latest technology modified PTFE. High cycle life.

Less downtime.

Lower replacement costs.

Provides over five times the flexural life as compared to conventional PTFE.

Non-relieving design

requires a 10 psi differ-

ential across the valve.

Stabilizes system pressure. Ideal for use in DI water systems.

Low hysteresis.

Tongue and groove diaphragm.

Seal provides protection of springs and adjusting screw.

# **Specifications**

Materials of Construction:

Wetted Surfaces - PTFE, Modified PTFE Non Wetted Surfaces - Anodized Aluminum, ABS, Brass, SS, PVDF, SS Spring, Chrome Vanadium Die Spring, HDPE.

#### Pressure Ranges:

Max Primary Pressure - 120 PSIG (8.3 bar) Secondary Pressure Options - 0 to 30 PSIG and 0 to 60 PSIG

Pressure ranges above are for operation at ambient temperature. For use at higher temperatures consult Pressure/Temperature chart on page 3.

#### Temperature Ranges:

0°F - 150°F (-17°C - 66°C) Ambient 0°F - 266°F (-17°C - 130°C) Fluid

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		DIMENSIONS (in.)			DIMEN	ISIONS	(mm.)
	STYLE	A	В	С	A	В	С
PR-3-1118-1	1	Ø 3.25	1.60	6.52	Ø 82.55	40.64	165.61
PR-3-1118-2	1	Ø 3.25	1.60	6.52	Ø 82.55	40.64	165.61
PR-3-1168-2	2	Ø 4.35	1.81	6.63	Ø 110.49	45.97	168.40
PR-3-1218-1	1	Ø 3.25	1.60	6.52	Ø 82.55	40.64	165.61
PR-3-1218-2	1	Ø 3.25	1.60	6.52	Ø 82.55	40.64	165.61
PR-3-1268-1	2	Ø 4.35	1.81	6.63	Ø 110.49	45.97	168.40
PR-3-11116-1	1	Ø 4.50	2.45	7.92	Ø 114.30	62.23	201.17
PR-3-11116-2	1	Ø 4.50	2.45	7.92	Ø 114.30	62.23	201.17
PR-3-3118-1	1	Ø 3.25	1.60	6.52	Ø 82.55	40.64	165.61
PR-3-3118-2	1	Ø 3.25	1.60	6.52	Ø 82.55	40.64	165.61
PR-3-3168-2	2	Ø 4.35	1.81	6.63	Ø 110.49	45.97	168.40
PR-3-3268-2	2	Ø 4.35	1.81	6.63	Ø 110.49	45.97	168.40
PR-3-4118-1	1	Ø 3.25	1.60	6.52	Ø 82.55	40.64	165.61
PR-3-4118-2	1	Ø 3.25	1.60	6.52	Ø 82.55	40.64	165.61
PR-3-4218-1	1	Ø 3.25	1.60	6.52	Ø 82.55	40.64	165.61
PR-3-4218-2	1	Ø 3.25	1.60	6.52	Ø 82.55	40.64	165.61

Model Number	Style	Port Configuration	Secondary Pressure (PSIG)	Trim Material
DD 2 1110 1	1	1/2" ENDT	0.20 PSIC	
FR-3-1110-1	1		0-30 F31G	
PR-3-1118-2	1	1/2" FNPI	0-60 PSIG	Anodized Aluminum
PR-3-1168-2	2	1/2" Parflare	0-60 PSIG	Anodized Aluminum
PR-3-1218-1	1	1/2" FNPT	0-30 PSIG	Anodized Aluminum
PR-3-1218-2	1	1/2" FNPT	0-60 PSIG	Anodized Aluminum
PR-3-1268-1	2	1/2 Parflare	0-30 PSIG	Anodized Aluminum
PR-3-11116-1	1	1" FNPT	0-30 PSIG	Anodized Aluminum
PR-3-11116-2	1	1" FNPT	0-60 PSIG	Anodized Aluminum
PR-3-3118-1	1	1/2" FNPT	0-30 PSIG	PVDF
PR-3-3118-2	1	1/2" FNPT	0-60 PSIG	PVDF
PR-3-3168-2	2	1/2" Parflare	0-60 PSIG	PVDF
PR-3-3268-2	2	1/2" Parflare	0-60 PSIG	PVDF
PR-3-4118-1	1	1/2" FNPT	0-30 PSIG	PVDF Coated Aluminum
PR-3-4118-2	1	1/2" FNPT	0-60 PSIG	PVDF Coated Aluminum
PR-3-4218-1	1	1/2" FNPT	0-30 PSIG	PVDF Coated Aluminum
PR-3-4218-2	1	1/2" FNPT	0-60 PSIG	PVDF Coated Aluminum

Parflare models are supplied with PVDF nuts. For PFA add -T to final suffix of model number (i.e. PR-3-3268-2-T). Please consult factory for other available configurations or trim materials.

The 1/4" PTFE Back Pressure Regulators are designed for use in high purity semiconductor applications, and are also ideally suited for ultra-pure water and aggressive chemicals. The design utilizes a PFA body with precision machined seats.



#### **Specifications**

Materials of Construction:

Wetted Surfaces - PFA, Modified PTFE Non Wetted Surfaces - ABS, Brass, SS, PVDF, SS Spring, Chrome Vanadium Die Spring, HDPE.

#### Pressure Ranges:

Max Primary Pressure - 120 PSIG (8.3 bar) Secondary Pressure Options - 0 to 30 PSIG and 0 to 60 PSIG

Pressure ranges above are for operation at ambient temperature. For use at higher temperatures consult Pressure/Temperature chart on page 3.

#### Temperature Ranges:

 $0^{\circ}$ F - 150°F (-17°C - 66° C) Ambient  $0^{\circ}$ F - 266°F (-17°C - 130° C) Fluid

Provides over five times the flexural life as compared to conventional PTFE.

**Features** 

One piece precision

latest technology

modified PTFE.

machined diaphragm

manufactured from the

Non-relieving design requires a 10 psi differential across the valve.

pressure. Ideal for use in DI water systems.

Stabilizes system

Low hysteresis.

**Benefits** 

costs.

High cycle life.

Less downtime.

Lower replacement

Tongue and groove diaphragm.

Seal provides protection for springs and adjusting screw.





Model Number	Trim Material	Port Configuration	Secondary Pressure-X	
BR-1-2214-X		1/4" FNPT		
BR-1-2264-X	HDPE	1/4" Parflare	1 = 0 to 30 PSIG 2 = 0 to 60 PSIG	
BR-1-2266-X		3/8" Parflare		



The 1/2" and 1" PTFE Back Pressure Regulators are designed for use in high purity semiconductor applications, and are also ideally suited for use in ultrapure water and aggressive chemicals. The design utilizes a machined PTFE body with precision machined seat and diaphragm sealing area. The larger diaphragm allows for quicker reaction time to changes upstream, preventing pressure surges from affecting and changing upstream processes.

# Features

# **Benefits**

One piece precision machined diaphragm manufactured from the latest technology modified PTFE. High cycle life.

Less downtime.

Lower replacement costs.

Provides over five times the flexural life as compared to conventional PTFE.

Non-relieving design

differential across the

requires a 10 psi

valve.

Stabilizes system. Ideal for DI water systems.

Low Hysteresis.

Tongue and groove diaphragm.

Seal provides protection of springs and adjusting screw.

# Specifications

Materials of Construction:

Wetted Surfaces - PTFE, Modified PTFE Non Wetted Surfaces - Anodized Aluminum, ABS, Brass, SS, PVDF, SS Spring, Chrome Vanadium Die Spring, HDPE.

#### Pressure Ranges:

Max Primary Pressure - 120 PSIG (8.3 bar) Secondary Pressure Options - 0 to 30 PSIG and 0 to 60 PSIG

Pressure ranges above are for operation at ambient temperature. For use at higher temperatures consult Pressure/Temperature chart on page 3.

#### Temperature Ranges:

 $0^{\circ}F - 150^{\circ}F (-17^{\circ}C - 66^{\circ} C)$  Ambient  $0^{\circ}F - 266^{\circ}F (-17^{\circ}C - 130^{\circ} C)$  Fluid







# **BR-3 Back Pressure Regulator**

BRACKETED DIMENSIONS ARE IN mm.



Model Number	Style	Trim Material	Port Configuration	Secondary Pressure-X	А	В	С
BR-3-1118-X	1	Anodized Aluminum	1/2" FNPT		Ø 3.50 [88.90]	.75 [19.05]	6.52 [165.61]
BR-3-1168-X	1	Anodized Aluminum	1/2" Parflare	1 = 0-30 PSIG 2 = 0-60 PSIG	Ø 3.50 [88.90]	.75 [19.05]	6.65 [168.91]
BR-3-11116-X	2	Anodized Aluminum	1" FNPT		Ø 5.00 [127.00]	1.25 [31.75]	8.15 [207.01]
BR-3-3118-X	1	PVDF	1/2" FNPT		Ø 3.50 [88.90]	.75 [19.05]	6.52 [165.61]
BR-3-3168-X	1	PVDF	1/2" Parflare		Ø 3.50 [88.90]	.75 [19.05]	6.65 [168.91]

