

# Airpel<sup>®</sup> -FFR Overview

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Airpot's pneumatic accessories and filter/regulator systems offer engineers, designers and manufacturing professionals the precise control, optimal air quality and properly sized components needed to get the most from Airpot's unique Anti-Stiction<sup>®</sup> and low friction technology. Each Airpel-FFR system is a complete modular air preparation system composed of components selected by Airpot<sup>®</sup> engineers, based on years of application experience with low friction pneumatic motion control products. These systems are especially suited for use with Airpot actuators and Airpel cylinders where low friction/low hysteresis, sensitive response, long life, clean operation, and extreme temperatures are critical requirements. Offered in both compact and standard configurations for moderate and high flow, Airpel-FFR systems are available with standard or precision regulators for precise control and sensitivity for the most demanding applications, even those in which very low speed, and or pressure requirements exist. All Airpel-FFR systems are equipped with dual filtration modules that remove particles, dust, oil, moisture and mist down to 0.01 micron assuring that the recommended quality of clean, dry compressed air is delivered to the actuators and cylinders.

## Features

### FFR system:

- Compact and high flow versions with both standard and high precision regulators
- Compact and modular, 40 mm x 40 mm envelope per component (compact systems)
- Simple, two fastener bracket attachment system
- Components can be easily upgraded or rearranged
- Port connections are available with NPT or G threads

### Regulators:

- Standard and high precision
- Manual pressure adjustment
- No tools required
- Push to lock operation (standard regulators)
- Pressure range of 0.005 to 0.7 MPa and a sensitivity within 0.1% of the full scale (high precision regulators)

### Filters:

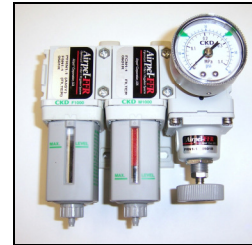
- Two stage filtration system comprised of a 5 micron particle filter and a 0.01 micron oil/water mist filter
- Media transitions from coarse outer surface to fine interior structure to reduce clogging, prolonging element life
- Corrosion resistant filter bowl guard
- Easy to replace filter elements

### Gauges:

- Highly visible, field-adjustable limit marks (high precision regulators)
- Flat face, non-protruding gauge design (standard regulators)
- MPa or psi display

# Airpel® -FFR Price List

<b>Compact Filter-Regulator Systems</b>		
<b>Airpot Model #</b>	<b>Description</b>	<b>Price Ea.</b>
PFRN1-1	With High Precision Regulator (NPT ports) 60 psi	\$214.95
PFRG1-1	With High Precision Regulator (G ports) 0.4 MPa	\$214.95
PFRN1-2	With High Precision Regulator (NPT ports) 100 psi	\$214.95
PFRG1-2	With High Precision Regulator (G ports) 0.7 MPa	\$214.95
SFRN1-1	With Standard Regulator (NPT ports)	\$138.55
SFRG1-1	With Standard Regulator (G ports)	\$138.55



PFRN1-1



SFRN1-1

<b>High Flow Filter-Regulator Systems</b>		
<b>Airpot Model #</b>	<b>Description</b>	<b>Price Ea.</b>
PFRN3-1	With High Precision Regulator (NPT ports)	\$331.40
PFRG3-1	With High Precision Regulator (G ports)	\$331.40
SFRN3-1	With Standard Regulator (NPT ports)	\$199.10
SFRG3-1	With Standard Regulator (G ports)	\$199.10



PFRN3-1



SFRN3-1

# Airpel® -FFR Product Specifications



PFRN1-1



SFRN1-1

Compact System Specifications	System Components				
	High Precision Regulator (60 psi / 0.4 MPa)	High Precision Regulator (100 psi / 0.7 MPa)	Standard Regulator (120 psi / 0.85 MPa)	5 micron Filter	0.01 micron Coalescing Filter
System # PFRN1-1 (NPT ports)	PRN1-1	n/a	n/a	F5N1-1	FCN1-1
System # PFRG1-1 (G ports)	PRG1-1	n/a	n/a	F5G1-1	FCG1-1
System # PFRN1-2 (NPT ports)	n/a	PRN1-2	n/a	F5N1-1	FCN1-1
System # PFRG1-2 (G ports)	n/a	PRG1-2	n/a	F5G1-1	FCG1-1
System # SFRN1-1 (NPT ports)	n/a	n/a	SRN1-1	F5N1-1	FCN1-1
System # SFRG1-1 (G ports)	n/a	n/a	SRG1-1	F5G1-1	FCG1-1
Working Fluid	Clean Compressed Air	Clean Compressed Air	Compressed Air	Compressed Air	Compressed Air
Max. Working Pressure	150 psi / 1 MPa	150 psi / 1 MPa	150 psi / 1 MPa	150 psi / 1 MPa	15 to 150 psi / 0.1 to 1.0 MPa
Min. Working Pressure	Set Pressure + 15 psi / 0.1 MPa	Set Pressure + 15 psi / 0.1 MPa	n/a	n/a	n/a
Withstanding Pressure	220 psi / 1.5 MPa	220 psi / 1.5 MPa	220 psi / 1.5 MPa	220 psi / 1.5 MPa	220 psi / 1.5 MPa
Ambient Temp. Range/Fluid temp.	-5 to 60 °C (to be unfrozen)	-5 to 60 °C (to be unfrozen)	5 to 60 °C	5 to 60 °C	5 to 60 °C
Set Pressure Range	.7 psi to 60 psi / 0.005 to 0.4 MPa	.7 psi to 100 psi / 0.005 to 0.7 MPa	7 psi to 120 psi / 0.05 to 0.85 MPa	n/a	n/a
Sensitivity	.06 psi / 0.0004 MPa	.06 psi / 0.0004 MPa	n/a	n/a	n/a
Repeatability	.3 psi / 0.002 MPa	.3 psi / 0.002 MPa	n/a	n/a	n/a
Air Consumption	≤ 1.3 Std. L/min	≤ 1.3 Std. L/min	n/a	n/a	n/a
Filtration Rating	n/a	n/a	n/a	5 micron	0.01 micron
Relief Mechanism	Included	Included	Included	n/a	n/a
Drain Capacity	n/a	n/a	n/a	12 cm <sup>3</sup>	3 cm <sup>3</sup>
Port Size NPT or G	1/4	1/4	1/4	1/4	1/4
Product Weight	250 g	250 g	160 g	87 g	96 g
Standard Accessories	n/a	n/a	Pressure gauge, nut for panel mount	Bowl Guard	Bowl Guard
Maximum Flow Rate Primary Side Pressure 0.7 MPa / Pressure Drop 0.01 MPa	n/a	n/a	n/a	150 Std. L/min	150 Std. L/min
Secondary Side Oil Concentration	n/a	n/a	n/a	n/a	≤ 0.01 mg/m <sup>3</sup>

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PUB# FFRRS-04R

# Airpel<sup>®</sup> -FFR Product Specifications



PFRN3-1

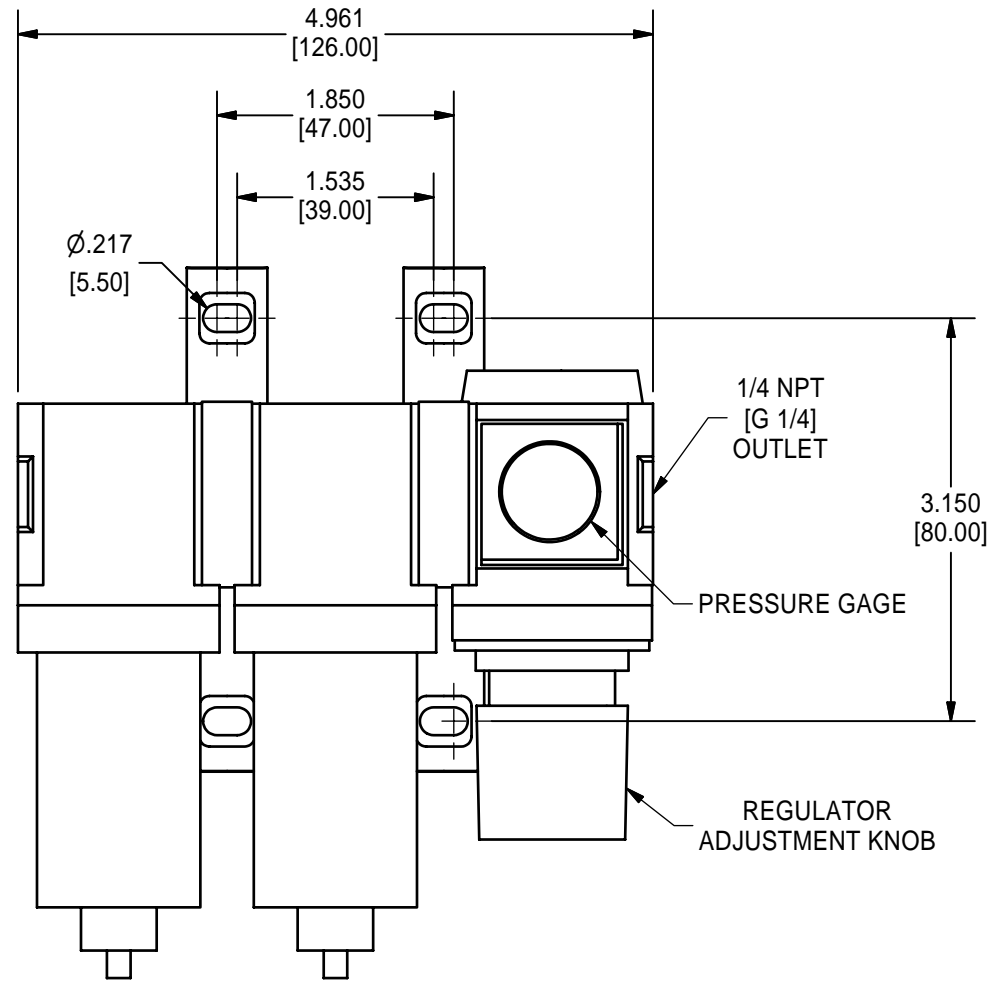
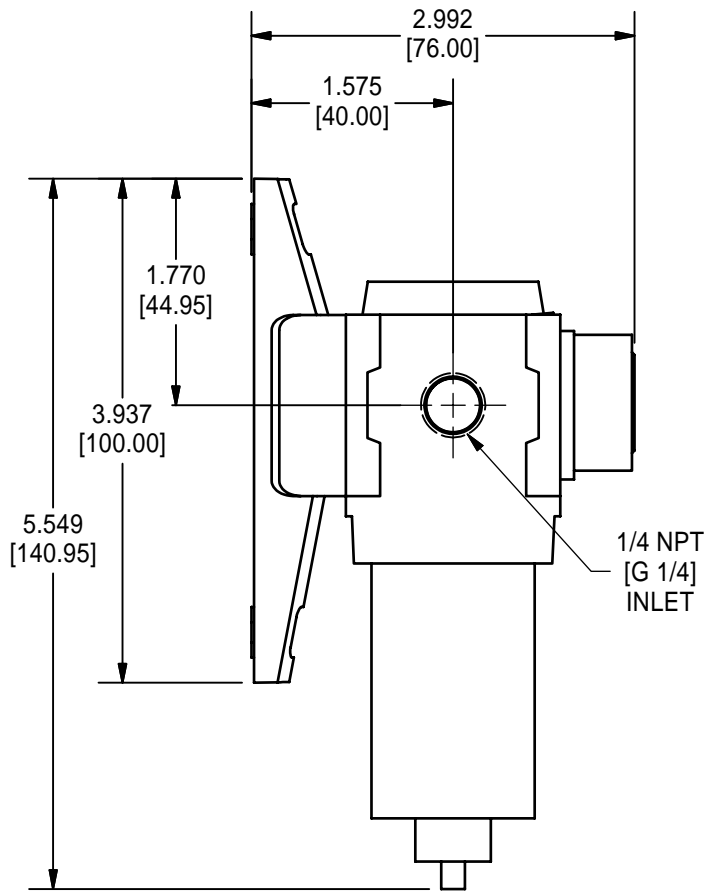


SFRN3-1

High Flow System Specifications	System Components			
	High Precision Regulator	Standard Regulator	5 micron Filter	0.01 micron Coalescing Filter
System # PFRN3-1 (NPT ports)	PRN3-1	n/a	F5N3-1	FCN3-1
System # PFRG3-1 (G ports)	PRG3-1	n/a	F5G3-1	FCG3-1
System # SFRN3-1 (NPT ports)	n/a	SRN3-1	F5N3-1	FCN3-1
System # SFRG3-1 (G ports)	n/a	SRG3-1	F5G3-1	FCG3-1
Working Fluid	Clean Compressed Air	Compressed Air	Compressed Air	Compressed Air
Max. Working Pressure	150 psi / 1 MPa	150 psi / 1 MPa	150 psi / 1 MPa	15 to 150 psi / 0.1 to 1.0 MPa
Min. Working Pressure	Set Pressure +14.5 psi / 0.1 MPa	n/a	n/a	n/a
Withstanding Pressure	220 psi / 1.5 MPa	220 psi / 1.5 MPa	220 psi / 1.5 MPa	220 psi / 1.5 MPa
Ambient Temp. Range/Fluid temp.	-5 to 60 °C (to be unfrozen)	5 to 60 °C	5 to 60 °C	5 to 60 °C
Set Pressure Range	5 to 120 psi / 0.03 to 0.85 MPa	7 to 120 psi / 0.05 to 0.85 MPa	n/a	n/a
Sensitivity	.25 psi / 0.0017 MPa	n/a	n/a	n/a
Repeatability	.63 psi / 0.0043 MPa	n/a	n/a	n/a
Air Consumption	≤ 5 Std. L/min	n/a	n/a	n/a
Filtration Rating	n/a	n/a	5 micron	0.01 micron
Relief Mechanism	Included	Included	n/a	n/a
Drain Capacity	n/a	n/a	45 cm <sup>3</sup>	45 cm <sup>3</sup>
Port Size NPT or G	3/8	3/8	3/8	3/8
Product Weight	470 g	450 g	250 g	280 g
Standard Accessories	n/a	Pressure gauge, nut for panel mount	Bowl Guard	Bowl Guard
Maximum Flow Rate Primary Side Pressure 0.7 MPa / Pressure Drop 0.01 MPa	n/a	n/a	360 Std. L/min	360 Std. L/min
Secondary Side Oil Concentration	n/a	n/a	n/a	≤ 0.01 mg/m <sup>3</sup>

SFRN1-1 (ENGLISH)

[SFRG1-1] (METRIC)

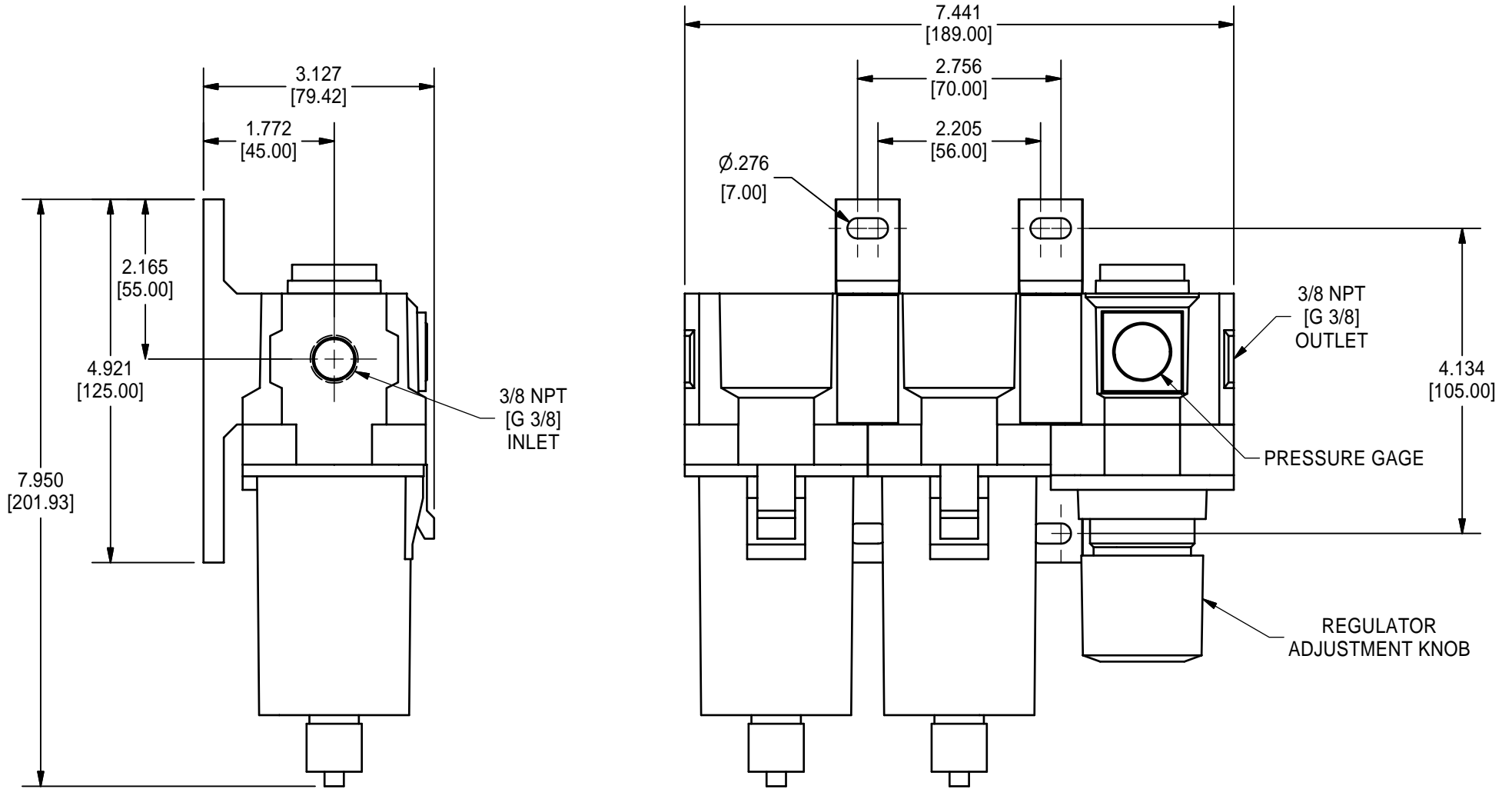


DESCRIPTION:  
COMPACT FILTER-REGULATOR SYSTEM  
WITH STANDARD REGULATOR

UNITS: IN / [MM]  
SCALE 1:1.5  
REV A

SFRN3-1 (ENGLISH)

[SFRN3-1] (METRIC)

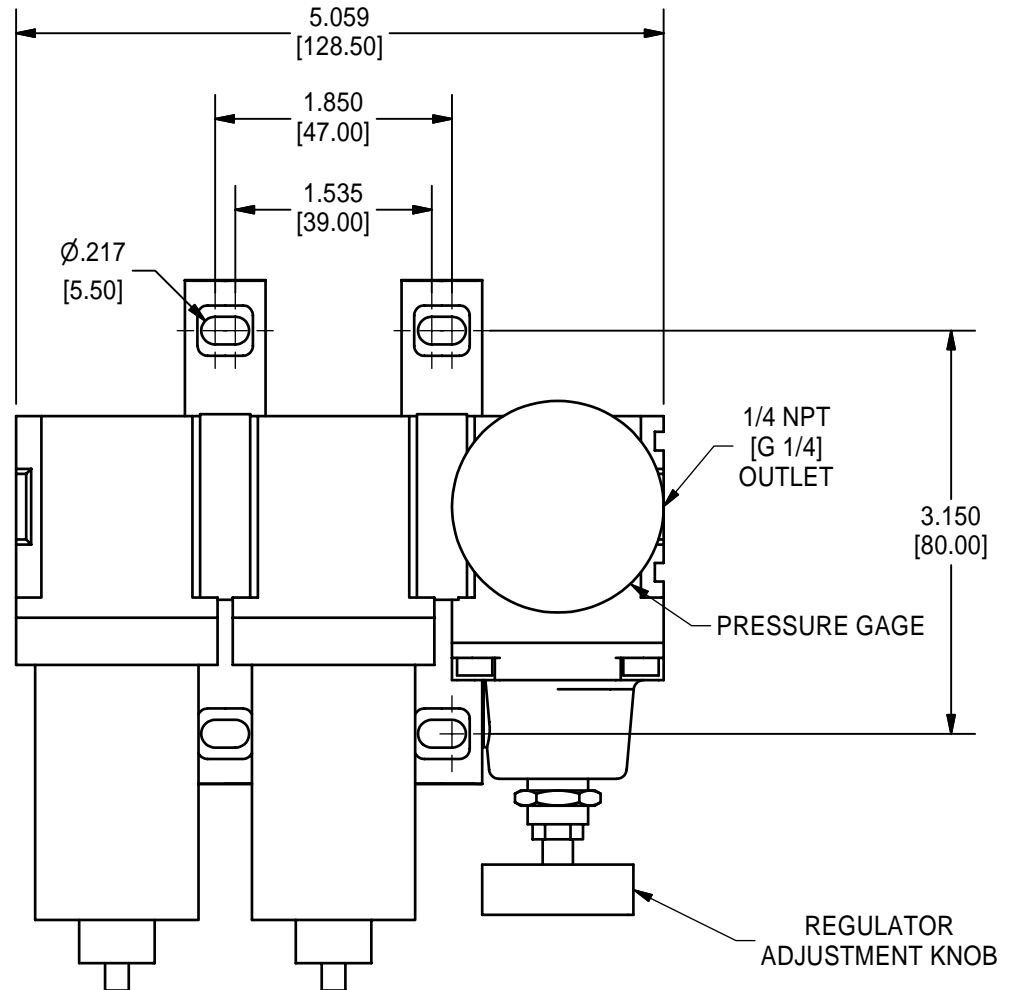
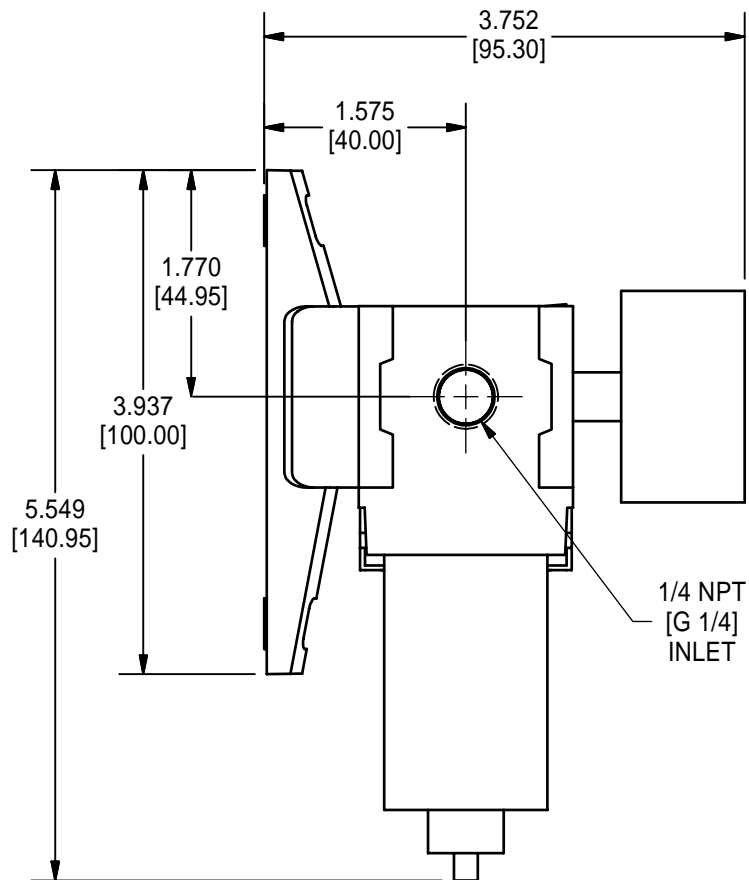


DESCRIPTION:  
HIGH FLOW FILTER-REGULATOR SYSTEM  
WITH STANDARD REGULATOR

UNITS: IN / [MM]  
SCALE 1:2  
REV A

PFRN1-1 / PFRN1-2 (ENGLISH)

[PFRG1-1 / PFRG1-2] (METRIC)

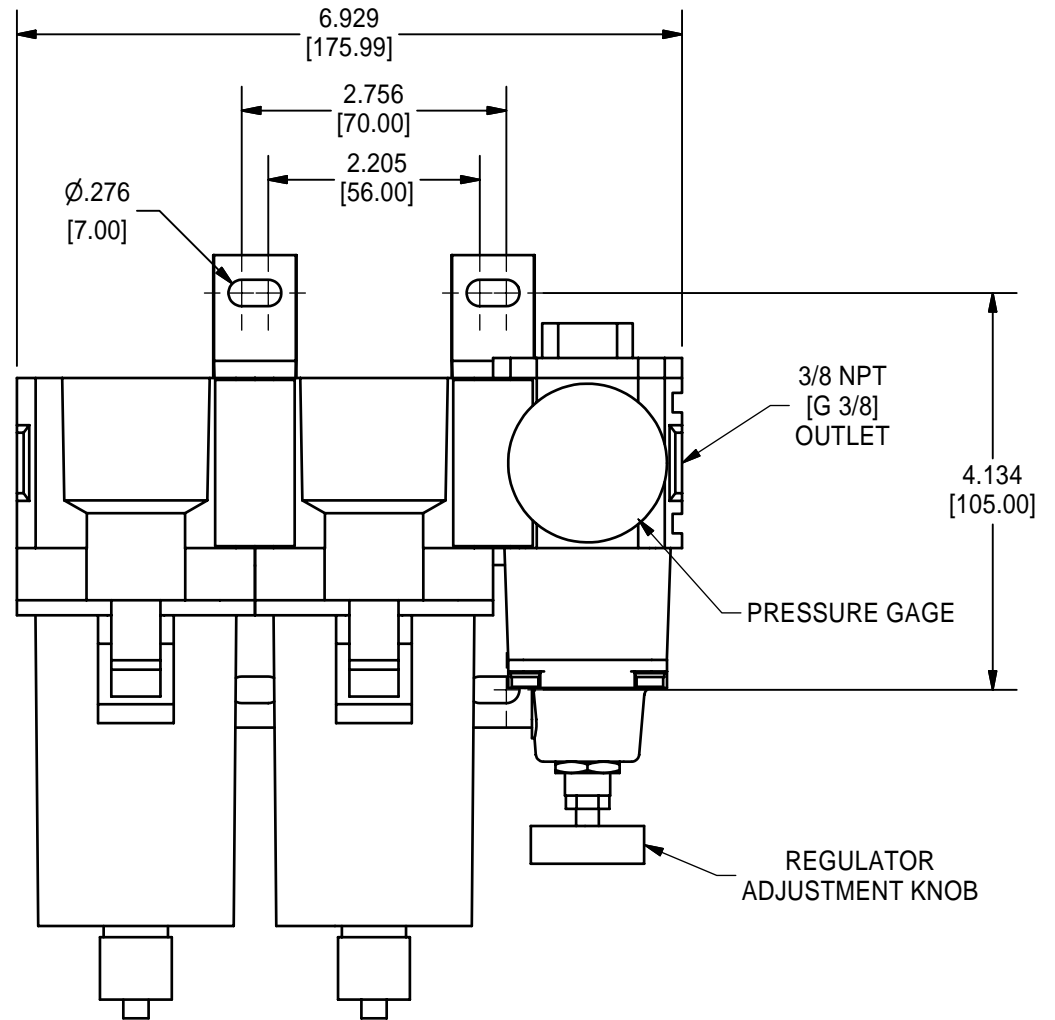
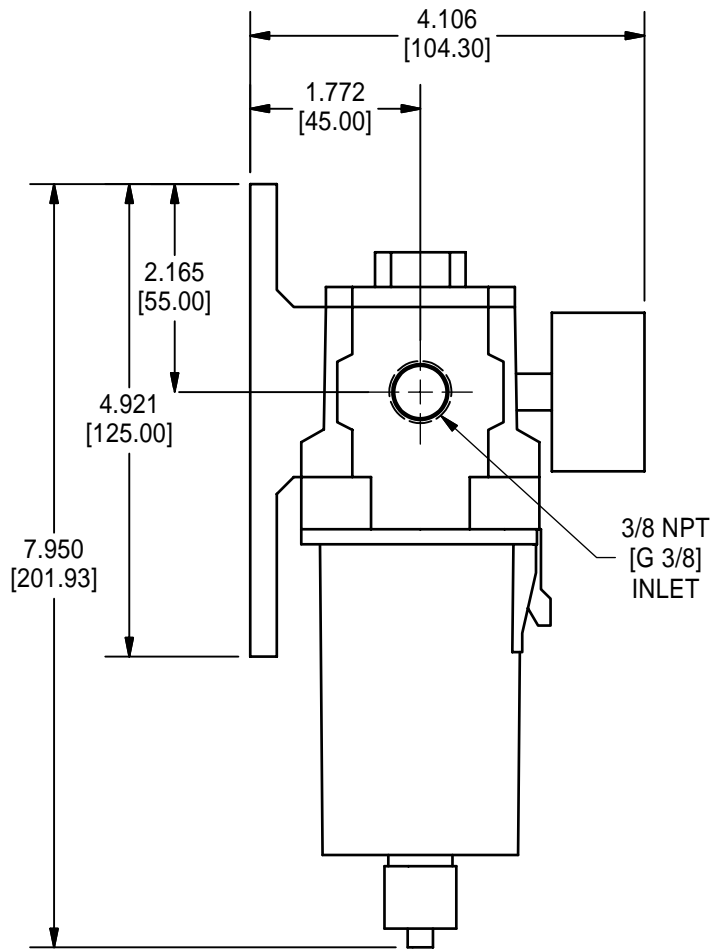


DESCRIPTION:  
 COMPACT FILTER-REGULATOR SYSTEM  
 WITH HIGH PRECISION REGULATOR

UNITS: IN / [MM]  
 SCALE 1:1.5  
 REV A

PFRN3-1 (ENGLISH)

[PFRG3-1] (METRIC)



DESCRIPTION:  
HIGH FLOW FILTER-REGULATOR SYSTEM  
WITH PRECISION REGULATOR

UNITS: IN / [MM]
SCALE 1:2
REV A