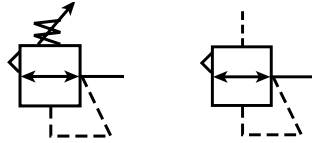


Regulators



- Pipe Sizes 1/8 thru 2 Inch
- Flows to 1000 SCFM
- Pressures to 250 PSIG

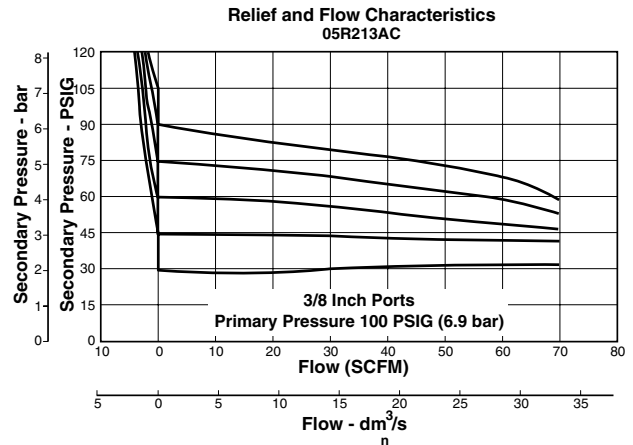
Air regulators are designed to provide quick response and accurate pressure regulation for the most demanding industrial applications.

- Miniature 14R Series, 1/8 and 1/4 Inch
- Miniature 20R Series, 1/8 and 1/4 Inch
- Economy 05R Series, 1/4 and 3/8 Inch
- Compact 06R Series, 1/4, 3/8 and 1/2 Inch
- Standard 07R Series, 3/8, 1/2 and 3/4 Inch
- Hi-Flow P3NR Series, 3/4, 1 and 1-1/2 Inch
- Hi-Flow 09R Series, 2 Inch
- Precision 27R Series, 1/4 and 3/8 Inch
- Compact 3550 Series, 1/4 Inch
- Pilot Controlled 10R, 11R, 12R, P3NR Series, 1/4 thru 1-1/2 Inch

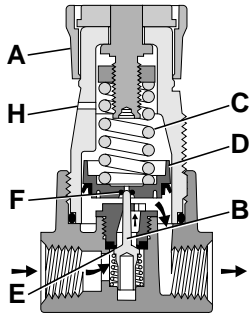
Regulator Selection

1. Determine maximum system flow requirements.
2. Determine maximum allowable pressure drop at rated flow in SCFM.
3. Refer to flow chart and select regulator by choosing the curve that offers minimum pressure drop at desired flow in SCFM.

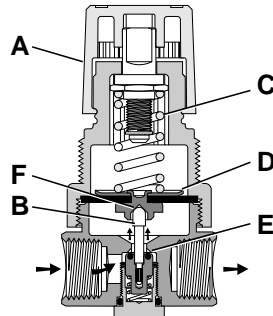
Reading Flow Charts to Size Regulators



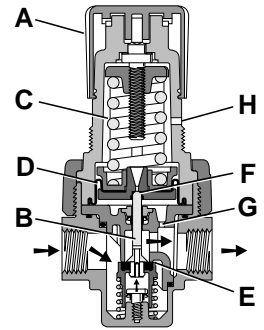
Once the required flow is determined for a pneumatic application the regulator or filter/regulator can be selected by using the flow chart. The chart serves two different purposes. To read the flow, use the right side of the chart. To read the relief characteristics use the left side of the chart. When reading the flow chart, first determine the secondary pressure that will be used. Find the appropriate pressure curve on the graph. Given an acceptable pressure drop for an application, follow the flow curve until it intersects the pressure drop point. This will give the flow at that particular pressure drop.



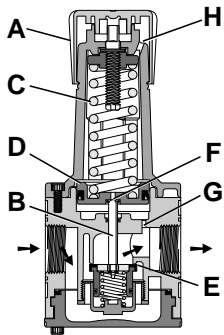
14R



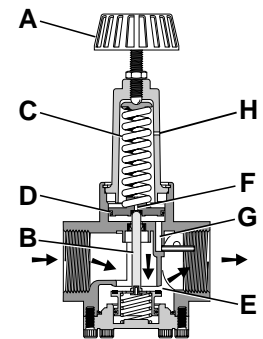
20RC



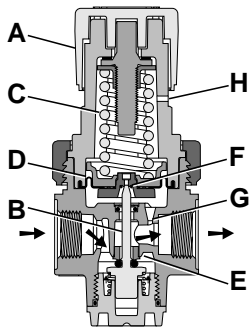
05R, 06R, 07R



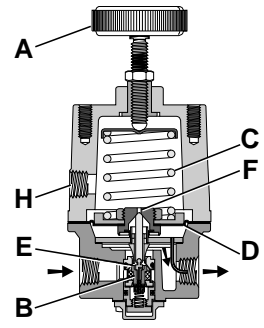
P3NR



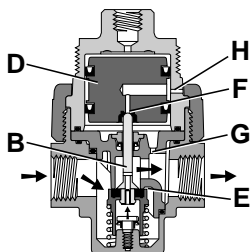
09R



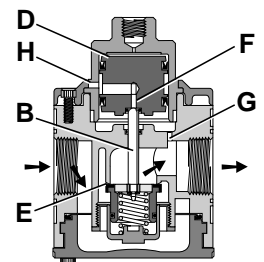
27R



3550



10R, 11R, 12R



P3NR Air Pilot

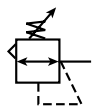
With the adjusting knob (A) turned fully counterclockwise (no spring load), and pressure supplied to the regulator inlet port, the valve poppet assembly (B) is closed. Turning the adjusting knob clockwise applies a load to control spring (C). This load causes the piston / diaphragm (D) and the valve poppet assembly (B) to move downward allowing flow across the seat area (E) created between the poppet assembly and the seat. Pressure in the downstream line is sensed below the piston / diaphragm (D) and offsets the load of spring (C). As downstream pressure rises, poppet assembly (B) and control piston (C) move upward until the area (E) is closed and the load of the spring (C) and pressure under piston / diaphragm (D) are in balance. A reduced outlet pressure has now been obtained, depending on spring load. Creating a demand downstream, such as opening a valve, results in a reduced pressure under the piston / diaphragm (D). The load of control spring (C) now causes the poppet assembly to move downward opening seat area (E) allowing air to flow to meet the downstream demand. The flow of downstream air is metered by the amount of opening (E).

During low flow requirements, the amount of opening at the seat (E) is small, while at high flows it is large. The downstream pressure signal, which regulates the amount of opening, requires an adjustment over this range, in order to attempt a constant output. This adjustment is the orifice (G), which is sized and located in such a manner as to provide a compensation to the downstream pressure signal transmitted to the piston. This effect is called aspiration and its effect is to maintain downstream pressure nearly constant over a wide range of flow demands.

Should downstream pressure exceed the desired regulated pressure, the excess pressure will cause the piston / diaphragm (D) to move upward against control spring (C), open vent hole (F), and vent the excess pressure to atmosphere through the hole in the bonnet (H). (This occurs in the relieving type regulator only.)

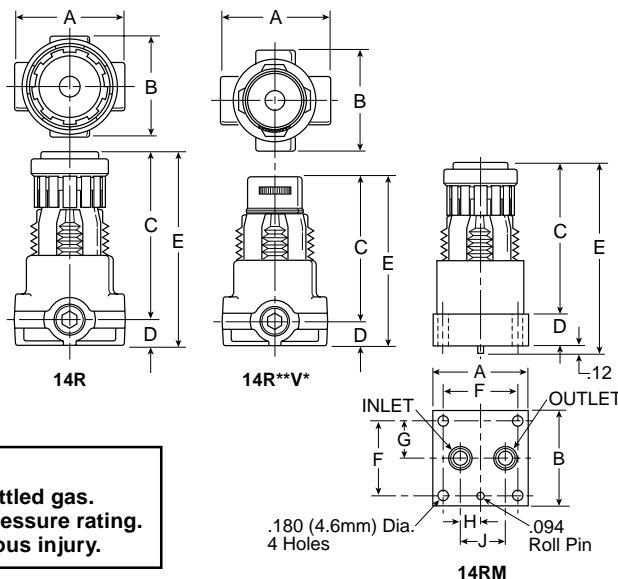
W

14R Regulators – Miniature



Features

- Unbalanced poppet standard.
- Solid control piston with lip seal for extended life.
- Non-rising adjusting knob.
- Compact, 2.9 inch (74mm) high by 1.65 inch (42mm) wide.
- Easily serviced.
- High Flow: 1/8" – 13 SCFM §
 1/4" – 15 SCFM §



WARNING
 Do not connect regulator to bottled gas.
 Do not exceed maximum primary pressure rating.
 Product rupture can cause serious injury.

Port Size	NPT	BSPP
Without Gauge		
1/8"	14R013FC	14R013FC1
1/4"	14R113FC	14R113FC1
With 160 PSI Gauge		
1/8"	14R018FC	14R018FC1
1/4"	14R118FC	14R118FC1

14R Regulator Dimensions					
14R	A	B	C	D	E
	1.65 42mm	1.56 40mm	2.50 63,5mm	.38 10mm	2.88 73mm
14R**V*	A	B	C	D	E
	1.65 42mm	1.56 40mm	2.30 58,4mm	.38 10mm	2.68 68mm
14RM	A	B	C	D	E
	1.50 38mm	1.50 38mm	2.36 60mm	.50 13mm	2.98 73mm
	F	G	H	J	
	1.188 30mm	.594 15mm	.325 8mm	.725 18mm	

Standard part numbers shown, for other models refer to ordering information below.

NOTE: 1.218 Dia. (31mm) hole required for panel mounting.

§ SCFM = Standard cubic feet per minute at 100 PSIG inlet, 90 PSIG no flow secondary setting and 10 PSIG pressure drop.

Ordering Information



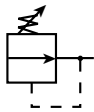
Port Size	Pressure Range	Adjustment	Engineering Level	Port Type	Options
0. 1/8 Inch Pipe, 1/8 Inch Gauge Port 1. 1/4 Inch Pipe, 1/8 Inch Gauge Port B. 1/4 Inch Pipe, 1/4 Inch Gauge Port C. 1/8 Inch Pipe, No Gauge Port D. 1/4 Inch Pipe, No Gauge Port M. Manifold Mounting	Without Gauge Yellow Knob Black Knob 10. 30 PSIG B0. 30 PSIG 11. 60 PSIG B1. 60 PSIG 12. 15 PSIG B2. 15 PSIG 13. 125 PSIG B3. 125 PSIG With Gauge (14R Only) 15. 30 PSIG B5. 30 PSIG 16. 60 PSIG B6. 60 PSIG 17. 15 PSIG B7. 15 PSIG 18. 125 PSIG B8. 125 PSIG	F. Non-Rising Knob, Unbalanced Poppet, Relieving G. Non-Rising Knob, Unbalanced Poppet, Non-Relieving V. ‡ Factory Preset, Non-Adjustable, Unbalanced, Relieving ‡ Specify inlet and outlet (set) pressures.	C. Current	Blank. NPT 1. BSPP 2. BSPT	Blank - No Options S. † Pressure Limiter Max. Adjustable T. † Pressure Limiter Max. Non-Adjustable † Specify inlet and outlet (set) pressures as well as maximum limited pressure.

NOTE: Shaded items are standard.

CAUTION:

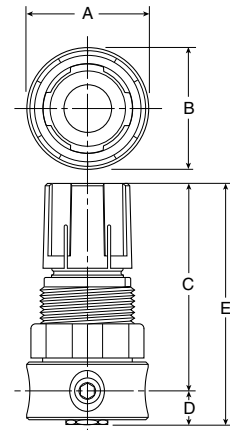
REGULATOR PRESSURE ADJUSTMENT – The working range of knob adjustment is designed to permit outlet pressures within their full range. Pressure adjustment beyond this range is also possible because the knob is not a limiting device. This is a common characteristic of most industrial regulators, and limiting devices may be obtained only by special design.

20R Regulators – Miniature (Water Service)



Features

- Rugged brass body for water service.
- Diaphragm operated for fast response.
- Non-rising adjusting knob.
- Compact, 3.06 inch (77.79mm) high by 1.56 inch (39.8mm) wide.
- High Flow: 1.25 GPM



Port Size	NPT	BSP
Without Gauge		
1/8"	20R013GC	20R013GC1
1/4"	20R113GC	20R113GC1

20R Regulator Dimensions		
A	B	C
1.56 39.8mm	1.56 39.8mm	2.56 65mm
D	E	
.50 12.7mm	3.06 77.7mm	

Standard part numbers shown, for other models refer to ordering information below.

NOTE: 1.25 Dia. (32mm) hole required for panel mounting.

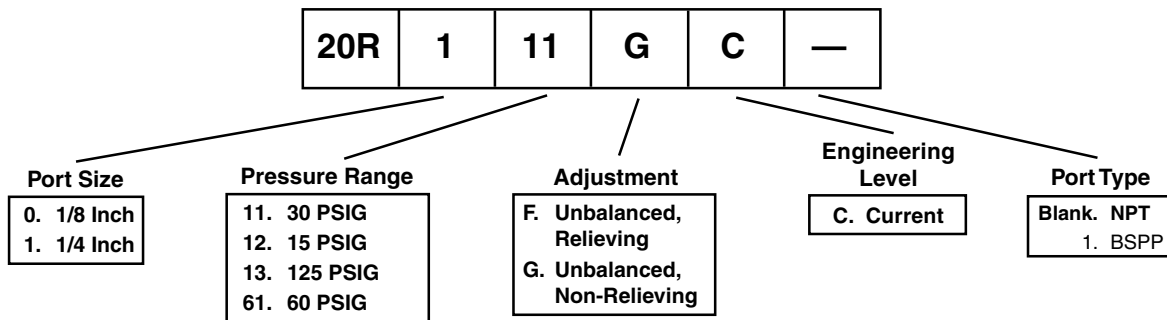
⚠ WARNING

Do not connect regulator to bottled gas.

Do not exceed maximum primary pressure rating.

Product rupture can cause serious injury.

Ordering Information

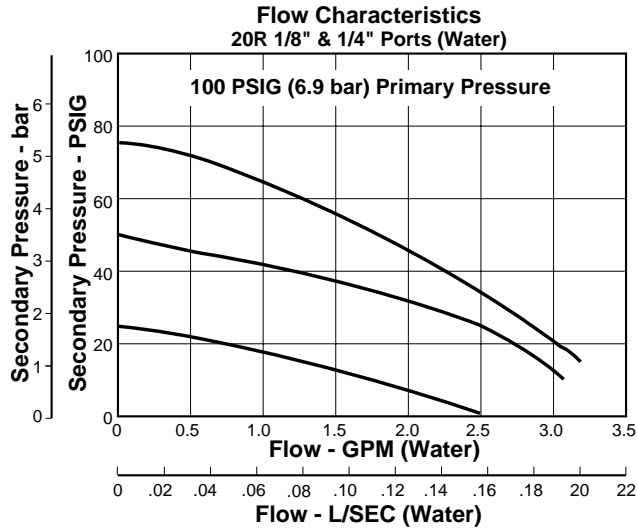


CAUTION:

REGULATOR PRESSURE ADJUSTMENT – The working range of knob adjustment is designed to permit outlet pressures within their full range. Pressure adjustment beyond this range is also possible because the knob is not a limiting device. This is a common characteristic of most industrial regulators, and limiting devices may be obtained only by special design.

NOTE: BOLD OPTIONS ARE STANDARD.

Technical Information



20R Regulator Kits & Accessories

Bonnet Kit	PCKR364Y
Bonnet Tamperproof Kit	PCKR364T
Panel Mount Nut	PR05X51
Mounting Bracket Kit	SA161X57
Repair Kits –	
Relieving	PRKR164Y
Non-Relieving	PRKR163Y

Specifications

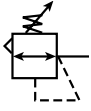
Gauge Ports (2)	1/8 Inch
Port Threads	1/8 & 1/4 Inch
Pressure Rating – Maximum	0 to 300 PSIG (0 to 2068 kPa)
Secondary Pressure Ranges –	
Standard Pressure	2 to 125 PSIG (14 to 863 kPa)
Medium Pressure	1 to 60 PSIG (6.9 to 414 kPa)
Medium Pressure	1 to 30 PSIG (6.9 to 207 kPa)
Low Pressure	1 to 15 PSIG (6.9 to 104 kPa)
Temperature Ratings	32°F to 125°F (0°C to 52°C)
Weight	5 lb. (.23 kg)



Materials of Construction

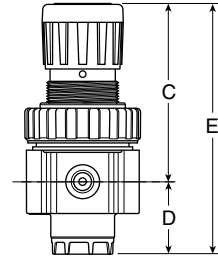
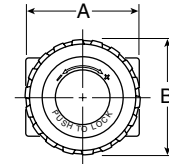
Adjusting Nut & Stem	Steel
Body, Valve Poppet, Bottom Plug, Diaphragm Button	Brass
Bonnet, Knob	Plastic
Seals, Diaphragm	Buna N
Springs	Steel

05R Regulators – Economy



Features

- Secondary aspiration plus balanced poppet provides quick response and accurate pressure regulation.
- Rolling diaphragm for extended life.
- Removable non-rising knob for panel mounting and tamper resistance.
- Easily serviced.
- Reverse Flow.
- High Flow: 1/4" – 30 SCFM[§]
 3/8" – 40 SCFM[§]



Port Size	NPT	BSPP
Without Gauge		
1/4"	05R113AD	05R113AD1
3/8"	05R213AD	05R213AD1
With 160 PSI Gauge		
1/4"	05R118AD	05R118AD1
3/8"	05R218AD	05R218AD1

05R Regulator Dimensions		
A 2.00 51mm	B 2.06 52mm	C 3.16 80mm
D 1.28 32mm	E 4.44 113mm	

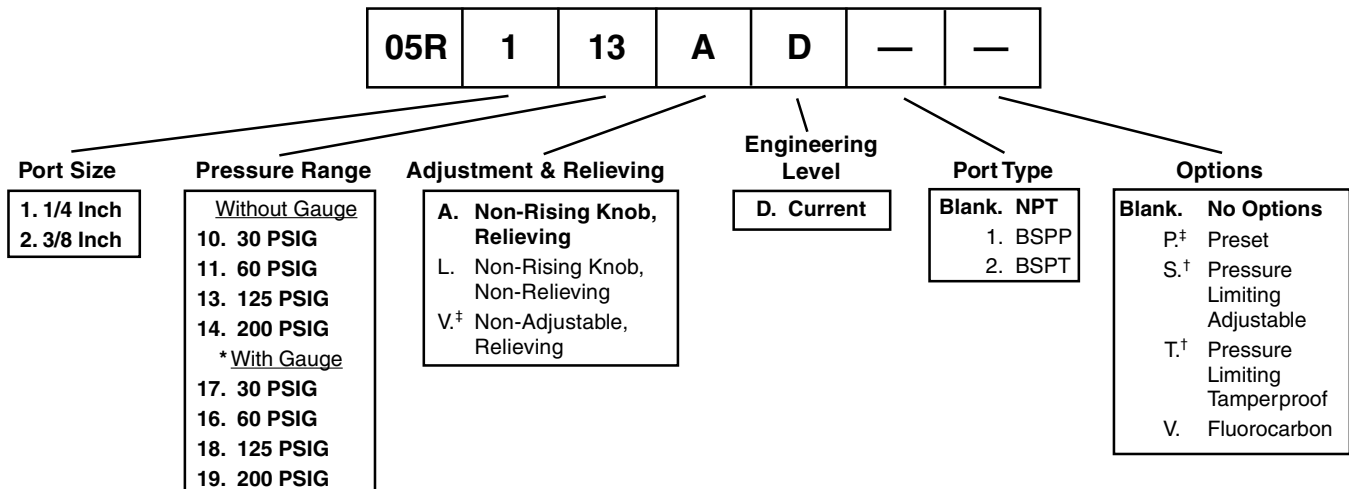
⚠ WARNING
Do not connect regulator to bottled gas.
Do not exceed maximum primary pressure rating.
Product rupture can cause serious injury.

Standard part numbers shown, for other models refer to ordering information below.

NOTE: 1.53 Dia. (39mm) hole required for panel mounting.

§ SCFM = Standard cubic feet per minute at 100 PSIG inlet, 90 PSIG no flow secondary setting and 10 PSIG pressure drop.

Ordering Information



* Includes 2-1/2" Dial Face Gauge

‡ Specify inlet and outlet (set) pressures.

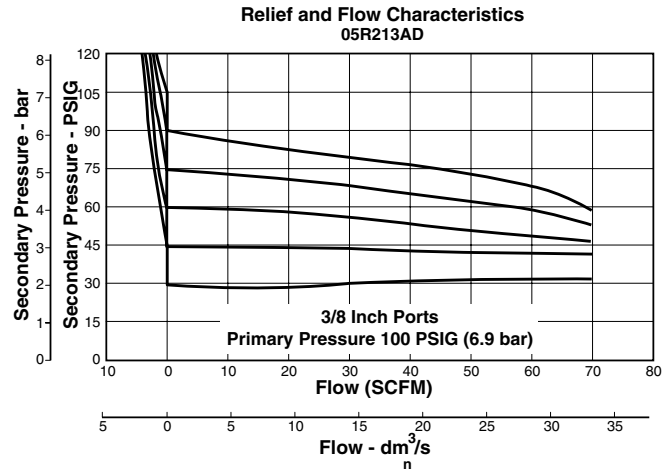
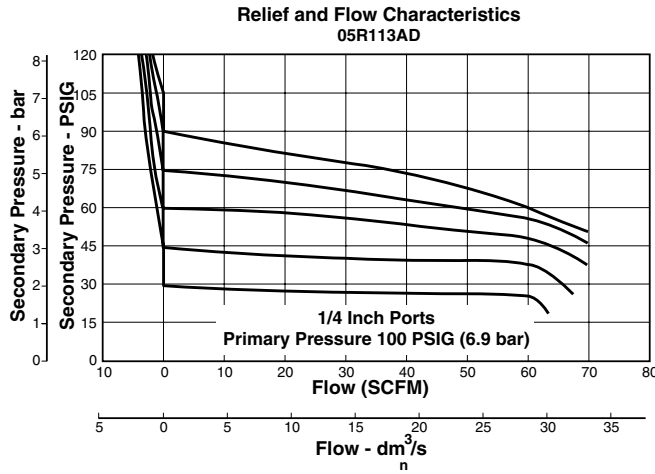
† Specify inlet and limited pressures.

NOTE: BOLD OPTIONS ARE STANDARD.

CAUTION:

REGULATOR PRESSURE ADJUSTMENT – The working range of knob adjustment is designed to permit outlet pressures within their full range. Pressure adjustment beyond this range is also possible because the knob is not a limiting device. This is a common characteristic of most industrial regulators, and limiting devices may be obtained only by special design.

Technical Information



05R Regulator Kits & Accessories

Bonnet Assembly Kit	PS915P
Control Knob	P04420
Gauges – 1-1/2" Dial Face	
30 PSIG (0 to 200 kPa)	RRP-96-663
60 PSIG (0 to 400 kPa)	RRP-96-664
160 PSIG (0 to 1100 kPa)	RRP-96-665
300 PSIG (0 to 2000 kPa)	RRP-96-666
2" Dial Face	
60 PSIG (0 to 400 kPa)	P781641
160 PSIG (0 to 1100 kPa)	P781642
300 PSIG (0 to 2000 kPa)	P781643
Mounting Bracket Kit	PS963P
Panel Mount Nut – Metal	PS964P
Springs – 1-30 PSIG Range	P04427
1-60 PSIG Range	P04426
2-125 PSIG Range	P04425
2-200 PSIG	P02934
Service Kit –Relieving	PS908P
Relieving (Fluorocarbon)	PS908VP
Non-Relieving	PS909P
Non-Relieving (Fluorocarbon)	PS909VP

Specifications

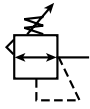
Gauge Ports	Two Ports 1/4"
Port Threads	1/4", 3/8"
Primary Pressure Rating –	
Maximum Primary Pressure	250 PSIG (17.2 bar) Max.
For Secondary Pressure Ranges see above charts.	
Temperature Rating	32°F to 175°F (0°C to 80°C)
Weight	1.1 lb. (.49 kg)

Materials of Construction

Adjusting Stem	Brass
Bonnet	Plastic
Body	Zinc
Collar, Knob	Plastic
Diaphragm	Nitrile
Poppet & Cap	Plastic
Seals	Nitrile
Springs – Poppet & Control	Steel

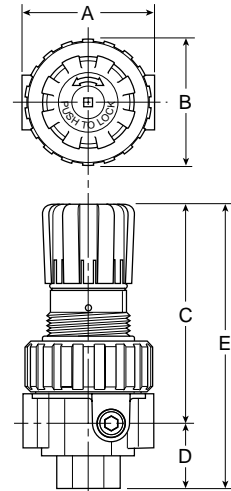


06R Regulators – Compact



Features

- Secondary aspiration plus balanced poppet provides quick response and accurate pressure regulation.
- Rolling diaphragm for extended life.
- Two high flow 1/4" gauge ports can be used as additional outlets.
- Easily serviced.
- Removable non-rising knob for panel mounting and tamper resistance.
- High Flow: 1/4" – 53 SCFM §
 3/8" – 60 SCFM §
 1/2" – 75 SCFM §



Port Size	NPT	BSPP
Without Gauge		
1/4"	06R113AC	06R113AC1
3/8"	06R213AC	06R213AC1
1/2"	06R313AC	06R313AC1
With 160 PSI Gauge		
1/4"	06R118AC	06R118AC1
3/8"	06R218AC	06R218AC1
1/2"	06R318AC	06R318AC1

06R Regulator Dimensions		
A	B	C
2.81 71mm	2.74 70mm	4.69 119mm
D	E	
1.39 35mm	6.08 154mm	

⚠ WARNING
 Do not connect regulator to bottled gas.
 Do not exceed maximum primary pressure rating.
 Product rupture can cause serious injury.

Standard part numbers shown, for other models refer to ordering information below.

NOTE: 2.00 Dia. (51mm) hole required for panel mounting.

§ SCFM = Standard cubic feet per minute at 100 PSIG inlet, 90 PSIG no flow secondary setting and 10 PSIG pressure drop.

Ordering Information

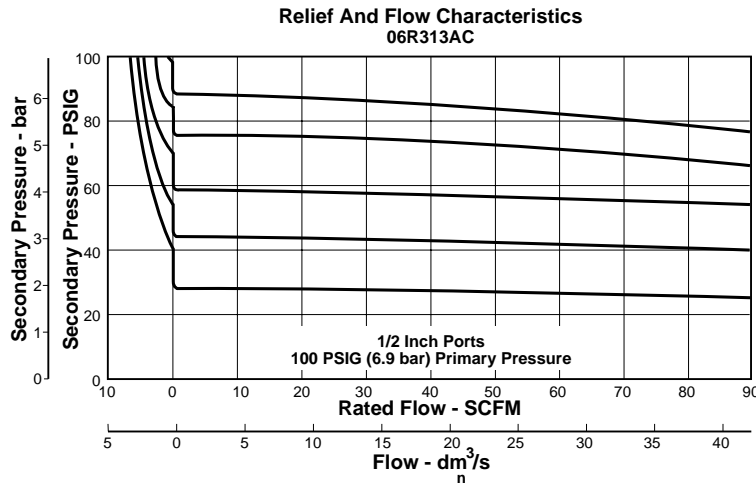
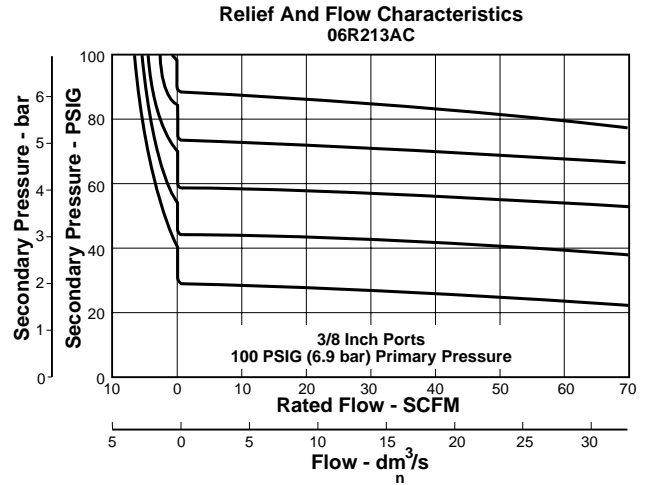
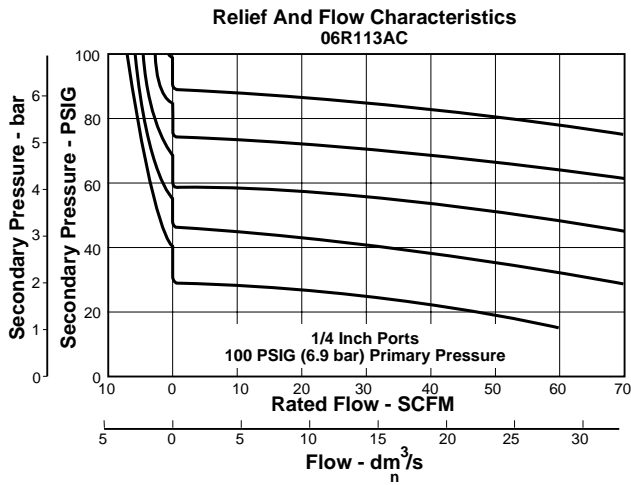
06R 1 13 A C — —						
Port Size	Pressure Range		Adjustment & Relieving	Engineering Level	Port Type	Options
1. 1/4 Inch 2. 3/8 Inch 3. 1/2 Inch	Without Gauge 10. 30 PSIG 11. 60 PSIG 13. 125 PSIG 15. 250 PSIG 24. 30 PSIG Non-Adjustable (Use with V option only)	With Gauge 17. 30 PSIG 16. 60 PSIG 18. 125 PSIG 21. 250 PSIG	A. Non-Rising Knob, Relieving L. Non-Rising Knob, Non-Relieving V. Non-Adjustable, Relieving	C. Current	Blank. NPT 1. BSPP 2. BSPT	Blank. No Options R. Reverse Flow

CAUTION:

REGULATOR PRESSURE ADJUSTMENT – The working range of knob adjustment is designed to permit outlet pressures within their full range. Pressure adjustment beyond this range is also possible because the knob is not a limiting device. This is a common characteristic of most industrial regulators, and limiting devices may be obtained only by special design.

NOTE: Shaded items are standard.

Technical Information



06R Regulator Kits & Accessories

Bonnet Assembly Kit	PS715P
Control Knob	P04069B
Gauges – 60 PSIG (0 to 400 kPa)	P781641
160 PSIG (0 to 1100 kPa)	P781642
300 PSIG (0 to 2000 kPa)	P781643
Mounting Bracket Kit (Includes Panel Mount Nut)	PS707P
Panel Mount Nut – Plastic	P04082
Metal	P04079B
Reverse Flow Service Conversion Kit – Relieving	PS708RP
Non-Relieving	PS709RP
Service Kit – Relieving (Includes Poppet)	PS708P
Non-Relieving (Includes Poppet)	PS709P
Springs – 1-30 PSIG Range	P01698
1-60 PSIG Range	P04062
2-125 PSIG Range	P04063
5-250 PSIG Range	P04064
Tamperproof Kit	PS737P

Specifications

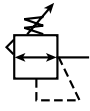
Gauge Ports	Two Ports 1/4"
(Can be used as additional High Flow 1/4 Inch Outlet Ports)	
Port Threads	1/4", 3/8", 1/2"
Primary Pressure Rating –	
Maximum Primary Pressure	250 PSIG (1725 kPa)
Secondary Pressure Ranges –	
Standard Pressure	2 to 125 PSIG (14 to 863 kPa)
Low Pressure	1 to 60 PSIG (6.9 to 414 kPa)
High Pressure	5 to 250 PSIG (35 to 1725 kPa)
Temperature Rating	32°F to 175°F (0°C to 80°C)
Weight	1.6 lb. (.7 kg)

Materials of Construction

Adjusting Stem	Steel
Body	Zinc
Bonnet, Piston Stem, Valve Poppet & Cap	Plastic
Collar, Knob	Plastic
Diaphragm	Nitrile
Seals	Nitrile
Springs – Poppet	Stainless
Control	Steel

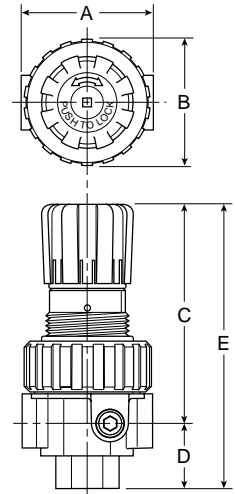


07R Regulators – Standard



Features

- Secondary aspiration plus balanced poppet provides quick response and accurate pressure regulation.
- Rolling diaphragm for extended life.
- Two high flow 1/4" gauge ports can be used as additional outlets.
- Easily serviced.
- Removable non-rising knob for panel mounting and tamper resistance.
- High Flow: 3/8" – 70 SCFM §
 1/2" – 90 SCFM §
 3/4" – 90 SCFM §



Port Size	NPT	BSPP
Without Gauge		
3/8"	07R213AC	07R213AC1
1/2"	07R313AC	07R313AC1
3/4"	07R413AC	07R413AC1
With 160 PSI Gauge		
3/8"	07R218AC	07R218AC1
1/2"	07R318AC	07R318AC1
3/4"	07R418AC	07R418AC1

07R Regulator Dimensions		
A	B	C
3.24 82mm	2.74 70mm	4.79 122mm
D	E	
1.61 41mm	6.40 163mm	

⚠ WARNING
Do not connect regulator to bottled gas.
Do not exceed maximum primary pressure rating.
Product rupture can cause serious injury.

Standard part numbers shown, for other models refer to ordering information below.

NOTE: 2.00 Dia. (51mm) hole required for panel mounting.

§ SCFM = Standard cubic feet per minute at 100 PSIG inlet, 90 PSIG no flow secondary setting and 10 PSIG pressure drop.

Ordering Information

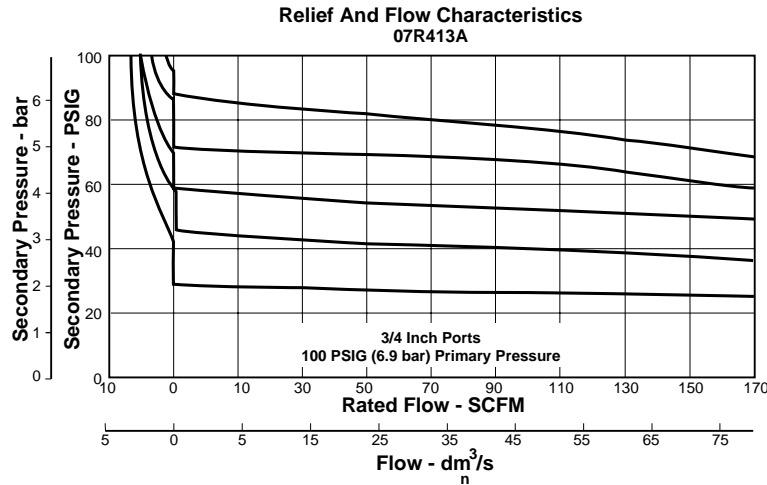
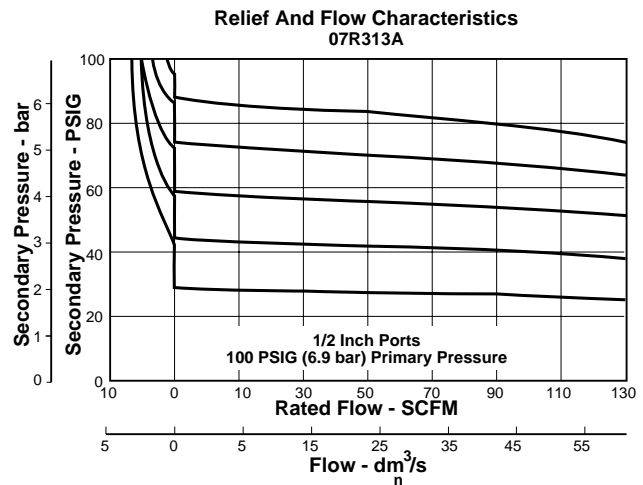
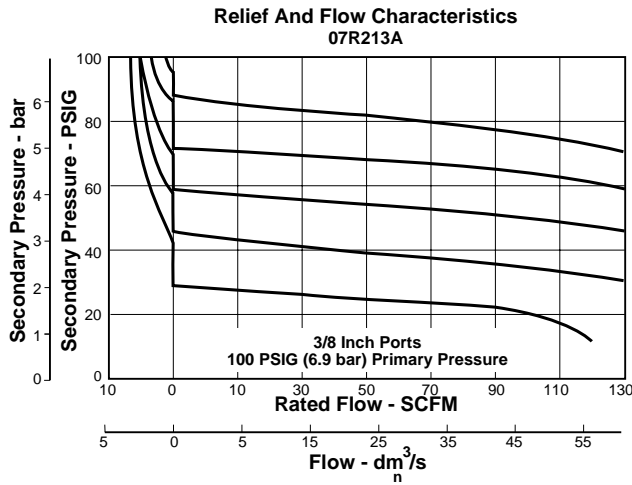
07R							3		13		A		C		—		—	
Port Size		Pressure Range				Adjustment & Relieving			Engineering Level		Port Type		Options					
2. 3/8 Inch 3. 1/2 Inch 4. 3/4 Inch		Without Gauge		With Gauge		A. Non-Rising Knob, Relieving			C. Current		Blank. NPT 1. BSPP 2. BSPT		Blank. No Options R. Reverse Flow					
		10. 30 PSIG		17. 30 PSIG		L. Non-Rising Knob, Non-Relieving												
		11. 60 PSIG		16. 60 PSIG		V. Non-Adjustable, Relieving												
		13. 125 PSIG		18. 125 PSIG														
		15. 250 PSIG		21. 250 PSIG														
		24. 30 PSIG Non-Adjustable (Use with V option only)																

CAUTION:

REGULATOR PRESSURE ADJUSTMENT – The working range of knob adjustment is designed to permit outlet pressures within their full range. Pressure adjustment beyond this range is also possible because the knob is not a limiting device. This is a common characteristic of most industrial regulators, and limiting devices may be obtained only by special design.

NOTE: Shaded items are standard.

Technical Information



07R Regulator Kits & Accessories

Bonnet Assembly Kit	PS715P
Control Knob	P04069B
Gauges – 60 PSIG (0 to 400 kPa)	P781641
160 PSIG (0 to 1100 kPa)	P781642
300 PSIG (0 to 2000 kPa)	P781643
Mounting Bracket Kit (Includes Panel Mount Nut)	PS807P
Panel Mount Nut – Plastic	P04082
Metal	P04079B
Reverse Flow Service Conversion Kit – Relieving	PS808RP
Non-Relieving	PS809RP
Service Kit – Relieving (Includes Poppet)	PS808P
Non-Relieving (Includes Poppet)	PS809P
Springs – 1-30 PSIG Range	P01698
1-60 PSIG Range	P04062
2-125 PSIG Range	P04063
5-250 PSIG Range	P04064
Tamperproof Kit	PS737P

Specifications

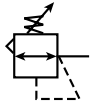
Gauge Ports	Two Ports 1/4"
(Can be used as additional High Flow 1/4 Inch Outlet Ports)	
Port Threads	3/8", 1/2", 3/4"
Primary Pressure Rating –	
Maximum Primary Pressure	250 PSIG (1725 kPa)
Secondary Pressure Ranges –	
Standard Pressure	2 to 125 PSIG (14 to 863 kPa)
Low Pressure	1 to 60 PSIG (6.9 to 414 kPa)
High Pressure	5 to 250 PSIG (35 to 1725 kPa)
Temperature Rating	32°F to 175°F (0°C to 80°C)
Weight	2.5 lb. (1.1 kg)

Materials of Construction

Adjusting Stem	Steel
Body	Zinc
Bonnet, Piston Stem, Valve Poppet & Cap	Plastic
Collar, Knob	Plastic
Diaphragm	Nitrile
Seals	Nitrile
Springs – Poppet	Stainless
Control	Steel

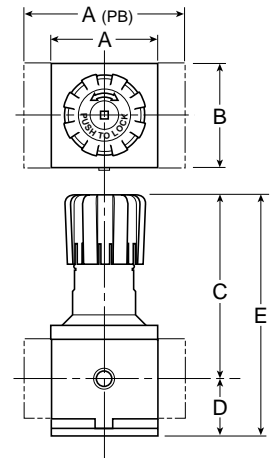


P3NR Regulators – Hi-Flow



Features

- Port blocks (PB) available to provide 1-1/2" port extension to 1" ported bodies.
- Self relieving feature plus balanced poppet provides quick response and accurate pressure regulation.
- Solid control piston for extended life.
- High Flow: 3/4" – 200 SCFM §
 1" – 300 SCFM §
 1-1/2" – 300 SCFM §



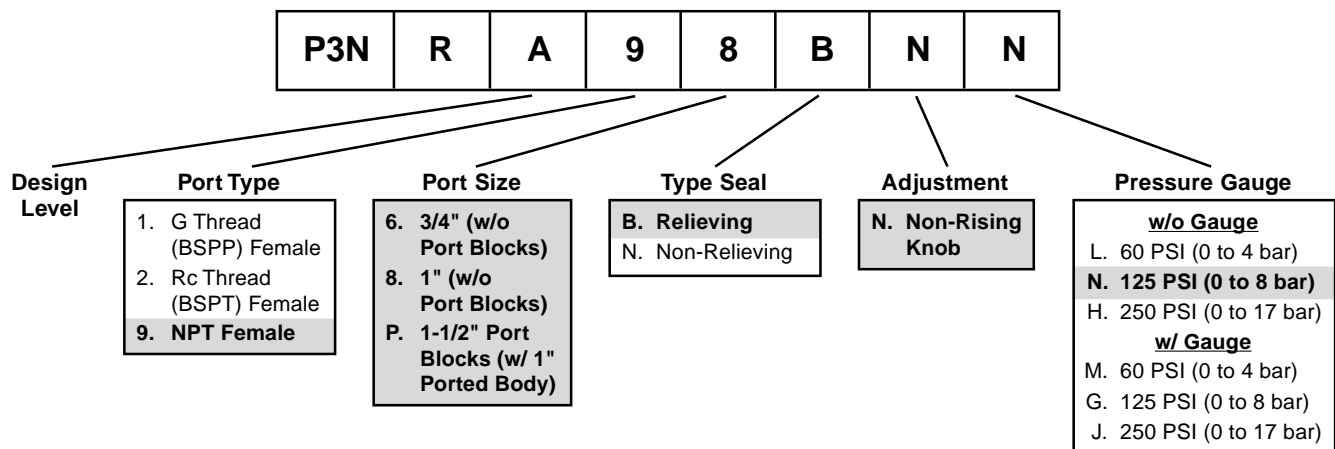
Port Size	NPT	BSPP
Without Gauge		
3/4"	P3NRA96BNN	P3NRA16BNN
1"	P3NRA98BNN	P3NRA18BNN
1-1/2" #	P3NRA9PBNN	P3NRA1PBNN
With 160 PSI Gauge		
3/4"	P3NRA96BNG	P3NRA16BNG
1"	P3NRA98BNG	P3NRA18BNG
1-1/2" #	P3NRA9PBNG	P3NRA1PBNG

P3NR Regulator Dimensions		
A	A (PB)	B
3.62 92mm	5.59 142mm	3.62 92mm
C	D	E
6.38 162mm	2.08 53mm	8.46 215mm

⚠ WARNING
Do not connect regulator to bottled gas.
Do not exceed maximum primary pressure rating.
Product rupture can cause serious injury.

Standard part numbers shown, for other models refer to ordering information below.
 # 1" Port Body with 1-1/2" Port Block.
 § SCFM = Standard cubic feet per minute at 100 PSIG inlet, 90 PSIG no flow secondary setting and 10 PSIG pressure drop.

Ordering Information

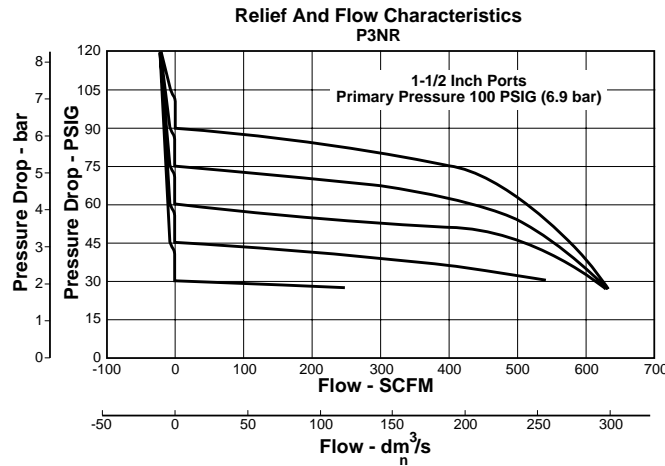
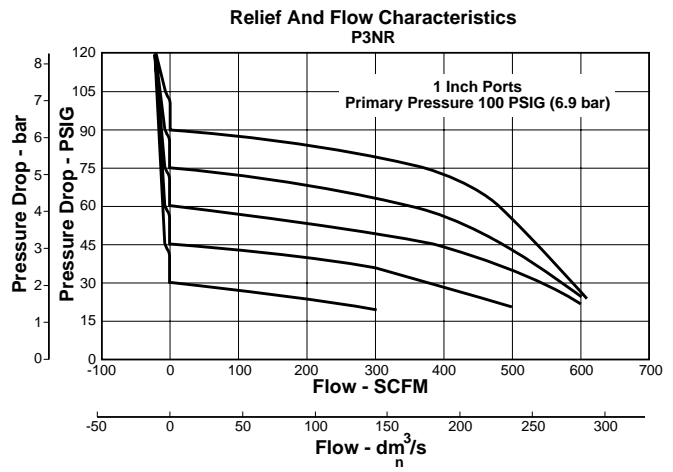
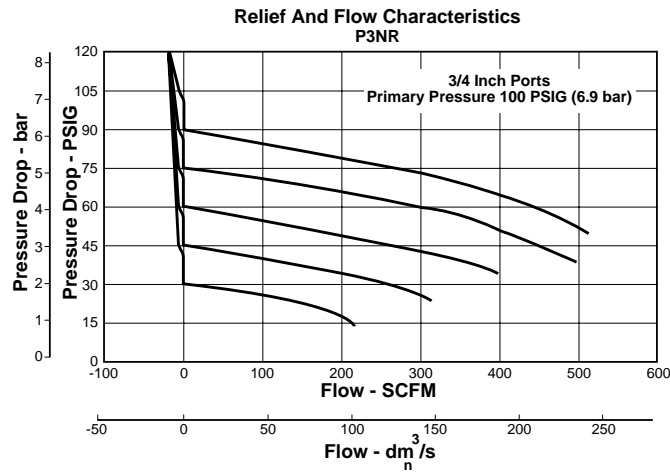


CAUTION:

REGULATOR PRESSURE ADJUSTMENT – The working range of knob adjustment is designed to permit outlet pressures within their full range. Pressure adjustment beyond this range is also possible because the knob is not a limiting device. This is a common characteristic of most industrial regulators, and limiting devices may be obtained only by special design.

NOTE: Shaded items are standard.

Technical Information



P3NR Regulator Kits & Accessories

Control Knob	P3NKA00PN
Gauges – 60 PSIG (0 to 400 kPa)	P781641
160 PSIG (0 to 1100 kPa)	P781642
300 PSIG (0 to 2000 kPa)	P781643
Mounting Bracket Kit	P3NKA00MW
Service Kit – Relieving	P3NKA00RR
Non-Relieving	P3NKA00RN
Springs – 1-60 PSIG Range	C10A1304
2-125 PSIG Range	C10A1308
5-250 PSIG Range	C10A1317

Specifications

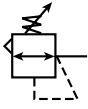
Gauge Ports	Two Ports 1/4"
(Can be used as additional High Flow 1/4 Inch Outlet Ports)	
Port Threads	3/4", 1", 1-1/2"
Primary Pressure Rating –	
Maximum Primary Pressure	250 PSIG (1725 kPa)
Temperature Rating	32°F to 175°F (0°C to 80°C)
Weight – 3/4"	4.2 lb. (1.9 kg)
1"	4.2 lb. (1.9 kg)
1-1/2" #	5.3 lb. (2.4 kg)

Materials of Construction

Adjusting Stem	Steel
Body	Aluminum
Bonnet	Aluminum
Knob	Plastic
Piston	Plastic
Poppet Assembly	Brass
Seals	Nitrile
Springs – Poppet & Control	Steel
# 1" Port Body with 1-1/2" Port Block.	

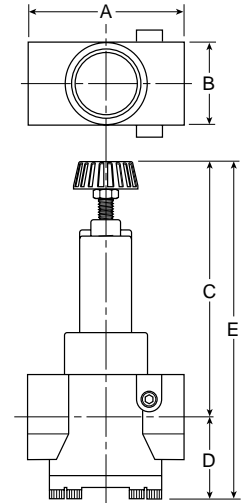


09R Regulators – Hi-Flow



Features

- Piston design for reduced downtime.
- High flow.
- Balanced poppet for quick and accurate regulation.
- Two full flow 1/4" gauge ports which can be used as additional outlets.
- Self relieving piston standard.
- High Flow: 2" – 1000 SCFM[§]



Port Size	NPT
Without Gauge	
2"	09R813BA

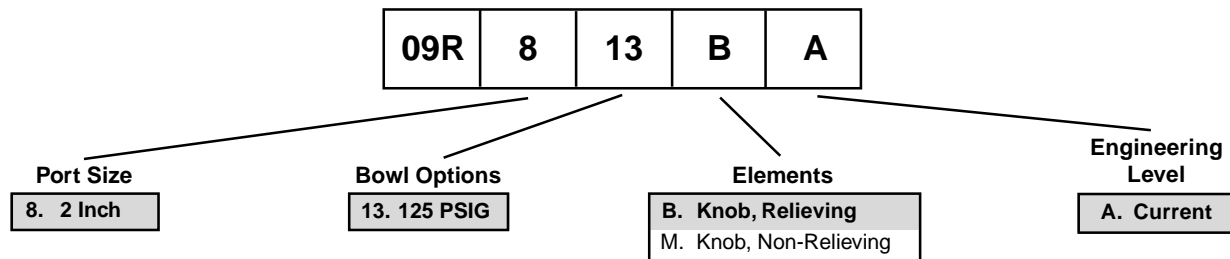
⚠ WARNING
 Do not connect regulator to bottled gas.
 Do not exceed maximum primary pressure rating.
 Product rupture can cause serious injury.

09R Regulator Dimensions		
A	B	C
5.30 135mm	3.60 91mm	9.10 231mm
D	E	
2.80 71mm	11.90 302mm	

Standard part numbers shown, for other models refer to ordering information below.

[§] SCFM = Standard cubic feet per minute at 100 PSIG inlet, 90 PSIG no flow secondary setting and 10 PSIG pressure drop.

Ordering Information

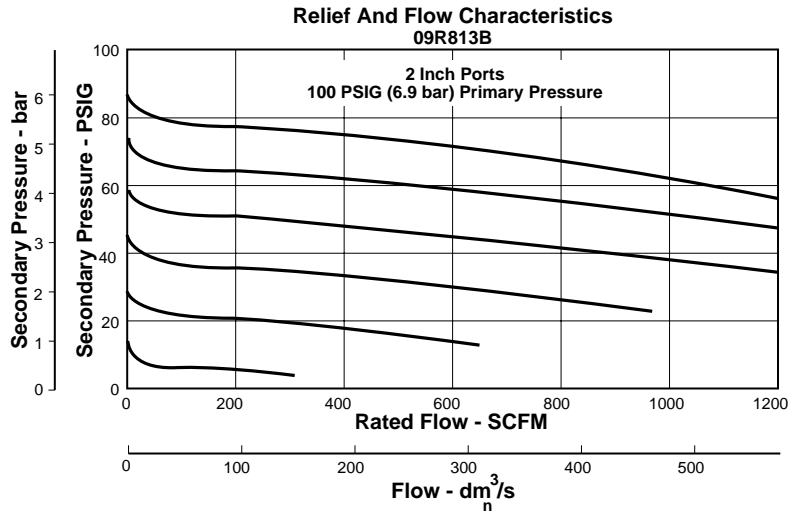


CAUTION:

REGULATOR PRESSURE ADJUSTMENT – The working range of knob adjustment is designed to permit outlet pressures within their full range. Pressure adjustment beyond this range is also possible because the knob is not a limiting device. This is a common characteristic of most industrial regulators, and limiting devices may be obtained only by special design.

NOTE: Shaded items are standard.

Technical Information



09R Regulator Kits & Accessories

- Body Service Kit PS603P
- Gauges – 160 PSIG (0 to 1100 kPa) P781642
- Mounting Bracket Kit PS605P
- Service Kit – Non-Relieving PS604P
- Springs – 2-125 PSIG Range PS602P

Specifications

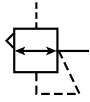
- Gauge Ports Two Ports 1/4"
 (Can be used as additional Full Flow 1/4 Inch Outlet Ports)
- Port Threads 2"
- Primary Pressure Rating –
 Maximum Primary Pressure 250 PSIG (1725 kPa)
- Secondary Pressure Range – 10 to 125 PSIG (69 to 863 kPa)
- Temperature Rating 32°F to 150°F (0°C to 66°C)
- Weight 10.82 lb. (53 kg)

Materials of Construction

- Adjusting Stem & Springs Steel
- Body Zinc Alloy, Die Cast
- Bonnet, Piston Stem, Valve Poppet & Cap Aluminum
- Piston, Cap Plastic
- Seals Nitrile

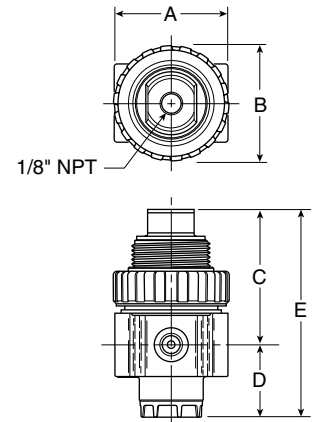


10R Pilot Controlled Regulator – Economy



Features

- Unique balanced poppet valve minimizes secondary pressure fluctuations.
- Solid control piston with resilient seat for service-free operation.
- Easily serviced.
- High Flow: 1/4" – 50 SCFM[§]
 3/8" – 50 SCFM[§]



Port Size	NPT	BSPP
Without Gauge		
1/4"	10R115PB	10R115PB1
3/8"	10R215PB	10R215PB1
With 160 PSI Gauge		
1/4"	10R121PB	10R121PB1
3/8"	10R221PB	10R221PB1

10R Regulator Dimensions		
A	B	C
2.00 51mm	2.06 52mm	2.43 61mm
D	E	
1.28 32mm	3.71 93mm	

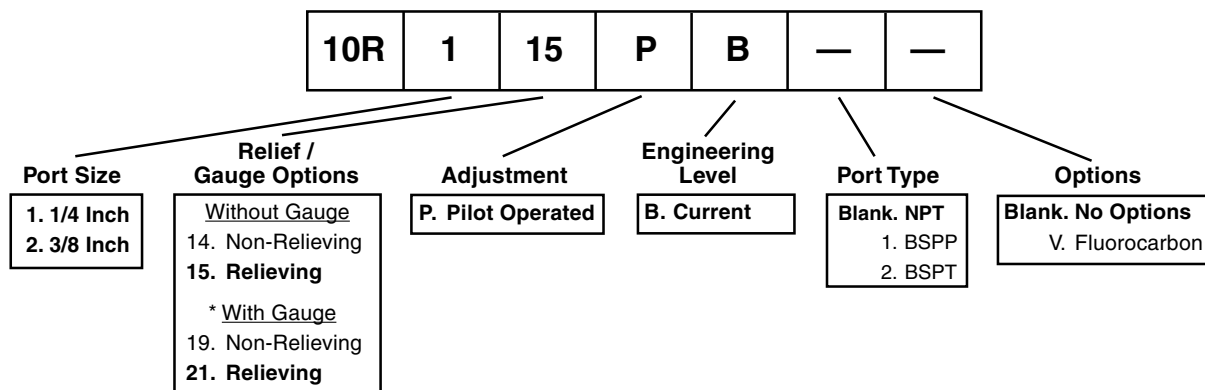
⚠ WARNING
 Do not connect regulator to bottled gas.
 Do not exceed maximum primary pressure rating.
 Product rupture can cause serious injury.

Standard part numbers shown, for other models refer to ordering information below.

NOTE: 1.53 Dia. (39mm) hole required for panel mounting.

§ SCFM = Standard cubic feet per minute at 100 PSIG inlet, 90 PSIG no flow secondary setting and 10 PSIG pressure drop.

Ordering Information



* Includes 2-1/2" Dial Face Gauge

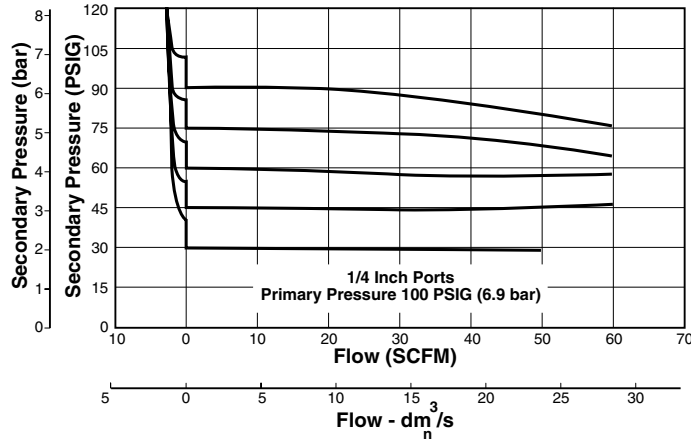
CAUTION:

REGULATOR PRESSURE ADJUSTMENT – The working range of knob adjustment is designed to permit outlet pressures within their full range. Pressure adjustment beyond this range is also possible because the knob is not a limiting device. This is a common characteristic of most industrial regulators, and limiting devices may be obtained only by special design.

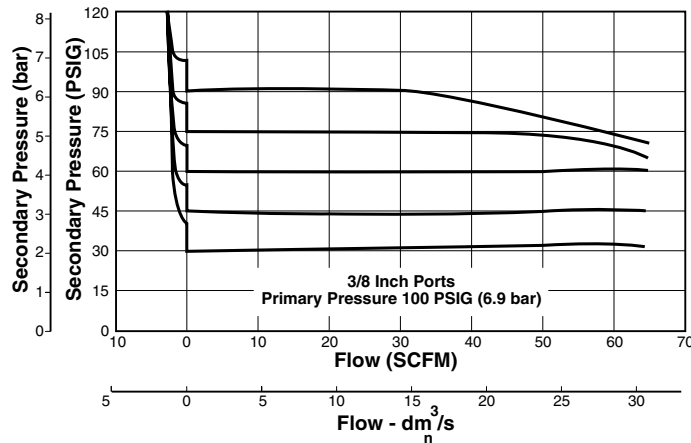
NOTE: BOLD OPTIONS ARE STANDARD.

Technical Information

Relief And Flow Characteristics
10R115PB



Relief And Flow Characteristics
10R215PB



10R Pilot Regulator Kits & Accessories

Gauges – 1-1/2" Dial Face

- 30 PSIG (0 to 200 kPa) RRP-96-663
- 60 PSIG (0 to 400 kPa) RRP-96-664
- 160 PSIG (0 to 1100 kPa) RRP-96-665
- 300 PSIG (0 to 2000 kPa) RRP-96-666

2" Dial Face

- 60 PSIG (0 to 400 kPa) P781641
- 160 PSIG (0 to 1100 kPa) P781642
- 300 PSIG (0 to 2000 kPa) P781643

- Mounting Bracket Kit PS963P
- Non-Relieving Service Kit PS947P
- Panel Mount Nut – Metal PS964P
- Pilot Conversion Kit PS945P
- Relieving Service Kit PS949P

Specifications

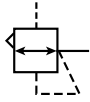
- Gauge Ports 1/4"
- Port Threads 1/4", 3/8"
- Pressure & Temperature Rating – 0 to 250 PSIG (0 to 17.2 bar)
32°F to 175°F (0°C to 80°C)
- Weight90 lb. (.41 kg)

Materials of Construction

- Body Zinc
- Piston & Poppet Plastic
- Seals Nitrile
- Spring – Poppet Steel

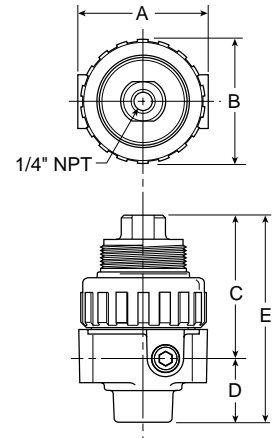


11R Pilot Controlled Regulator – Compact



Features

- Balanced poppet provides quick response and accurate pressure regulation.
- Pilot controlled regulators can be mounted “out of reach” with pilot regulator installed in a convenient location.
- Solid control piston for extended life.
- Two full flow 1/4" gauge ports can be used as additional outlets.
- Pilot port 1/4 Inch.
- High Flow: 1/4" – 85 SCFM[§]
 3/8" – 95 SCFM[§]
 1/2" – 95 SCFM[§]



Port Size	NPT	BSP
Without Gauge		
1/4"	11R115PC	11R115PC1
3/8"	11R215PC	11R215PC1
1/2"	11R315PC	11R315PC1
With 160 PSI Gauge		
1/4"	11R121PC	11R121PC1
3/8"	11R221PC	11R221PC1
1/2"	11R321PC	11R321PC1

11R Regulator Dimensions		
A 2.81 71mm	B 2.74 70mm	C 3.05 77mm
D 1.39 35mm	E 4.44 113mm	

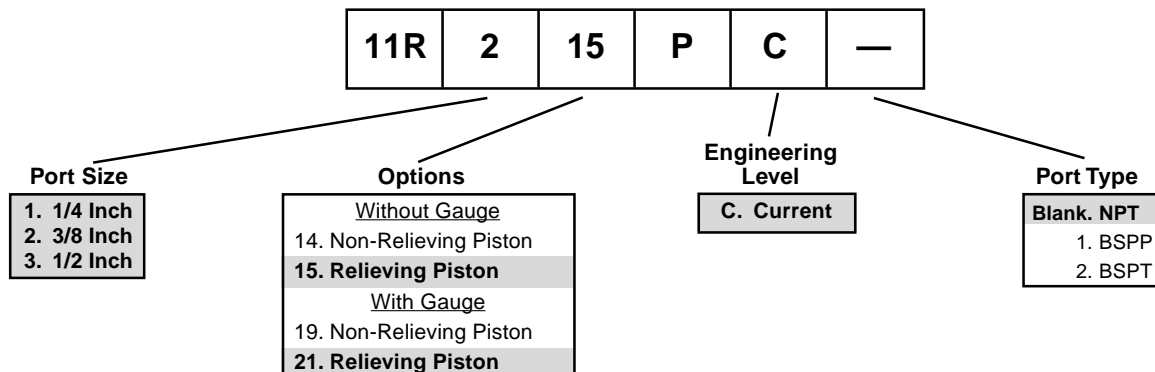
⚠ WARNING
Do not connect regulator to bottled gas.
Do not exceed maximum primary pressure rating.
Product rupture can cause serious injury.

Standard part numbers shown, for other models refer to ordering information below.

NOTE: 2.00 Dia. (50,8mm) hole required for panel mounting.

§ SCFM = Standard cubic feet per minute at 150 PSIG inlet, 90 PSIG no flow secondary setting and 10 PSIG pressure drop.

Ordering Information

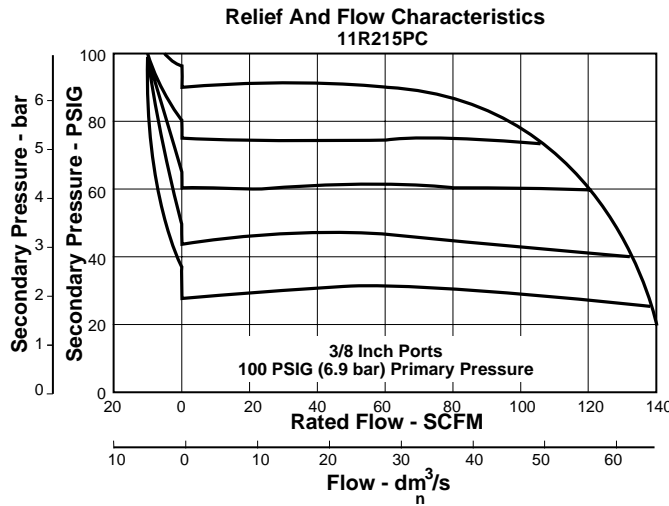
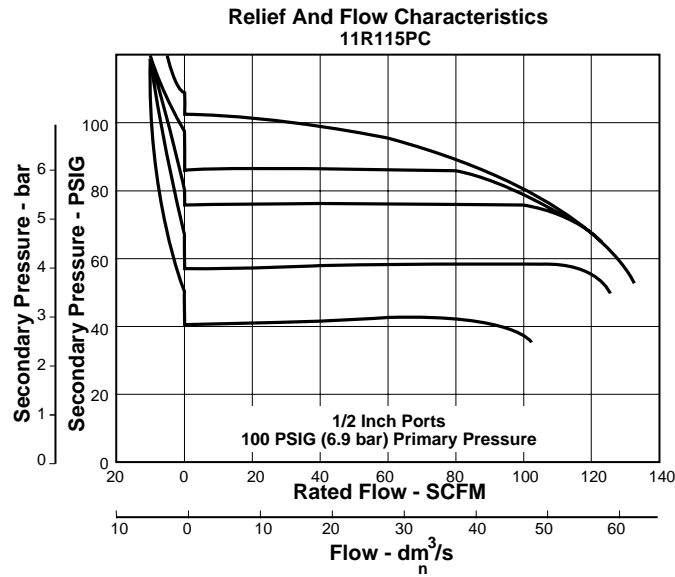


CAUTION:

REGULATOR PRESSURE ADJUSTMENT – The working range of knob adjustment is designed to permit outlet pressures within their full range. Pressure adjustment beyond this range is also possible because the knob is not a limiting device. This is a common characteristic of most industrial regulators, and limiting devices may be obtained only by special design.

NOTE: Shaded items are standard.

Technical Information



11R Pilot Regulator Kits & Accessories

Body Service Kits – Seat Insert Kit	PS713P
Gauges – 60 PSIG (0 to 400 kPa)	P781641
160 PSIG (0 to 1100 kPa)	P781642
300 PSIG (0 to 2000 kPa)	P781643
Mounting Bracket Kit (Includes Panel Mount Nut)	PS707P
Panel Mount Nut – Plastic	P04082
Metal	P04079
Pilot Conversion Kit –Relieving	PS745
Service Kits – Non-Relieving	PS747P
Relieving	PS749P

Specifications

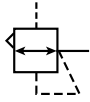
Gauge Ports	Two Ports 1/4"
(Can be used as additional Full Flow 1/4 Inch Outlet Ports)	
Port Threads	1/4", 3/8", 1/2"
Pressure & Temperature Rating –	0 to 250 PSIG (0 to 1725 kPa)
	32°F to 175°F (0°C to 80°C)
Weight	1.3 lb. (.58 kg.)

Materials of Construction

Body & Pilot Cap	Zinc
Piston, Valve Poppet, & Collar	Plastic
Seals	Nitrile
Springs	Steel

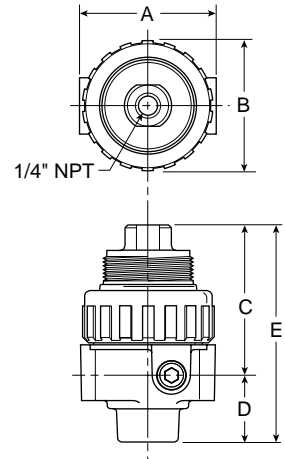


12R Pilot Controlled Regulator – Standard



Features

- Balanced poppet provides quick response and accurate pressure regulation.
- Pilot controlled regulators can be mounted “out of reach” with pilot regulator installed in a convenient location.
- Solid control piston for extended life.
- Two full flow 1/4" gauge ports can be used as additional outlets.
- Pilot port 1/4 Inch.
- High Flow: 3/8" – 120 SCFM §
 1/2" – 140 SCFM §
 3/4" – 140 SCFM §



Port Size	NPT	BSPP
Without Gauge		
3/8"	12R215PB	12R215PB1
1/2"	12R315PB	12R315PB1
3/4"	12R415PB	12R415PB1
With 160 PSI Gauge		
3/8"	12R221PB	12R221PB1
1/2"	12R321PB	12R321PB1
3/4"	12R421PB	12R421PB1

12R Regulator Dimensions		
A	B	C
3.24 82mm	2.74 70mm	3.15 80mm
D	E	
1.61 41mm	4.76 121mm	

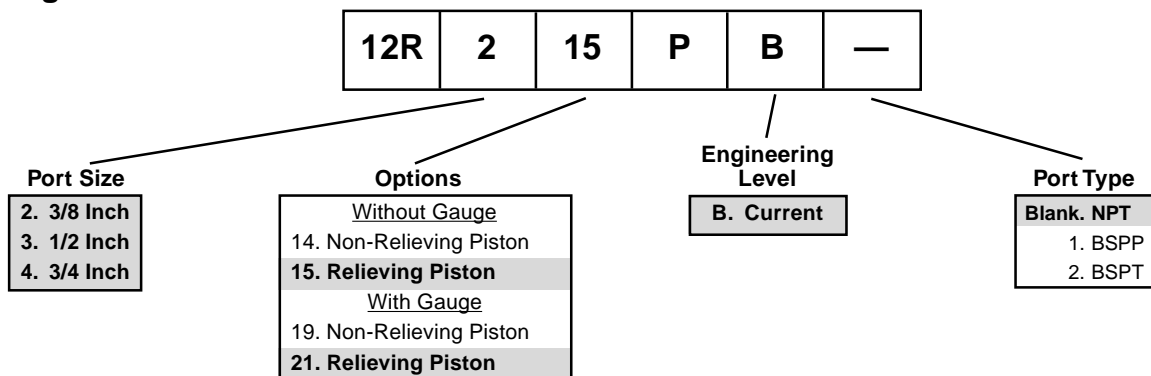
⚠ WARNING
Do not connect regulator to bottled gas.
Do not exceed maximum primary pressure rating.
Product rupture can cause serious injury.

Standard part numbers shown, for other models refer to ordering information below.

NOTE: 2.00 Dia. (50,8mm) hole required for panel mounting.

§ SCFM = Standard cubic feet per minute at 150 PSIG inlet, 90 PSIG no flow secondary setting and 5 PSIG pressure drop.

Ordering Information



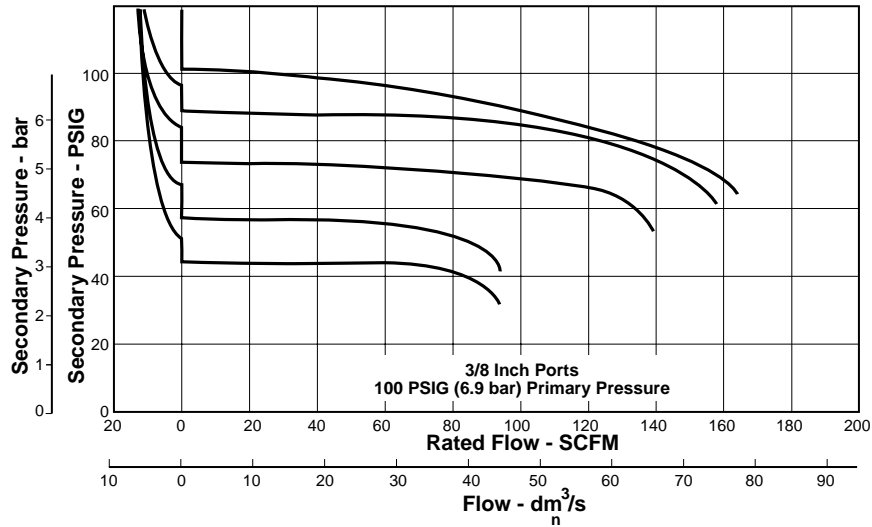
CAUTION:

REGULATOR PRESSURE ADJUSTMENT – The working range of knob adjustment is designed to permit outlet pressures within their full range. Pressure adjustment beyond this range is also possible because the knob is not a limiting device. This is a common characteristic of most industrial regulators, and limiting devices may be obtained only by special design.

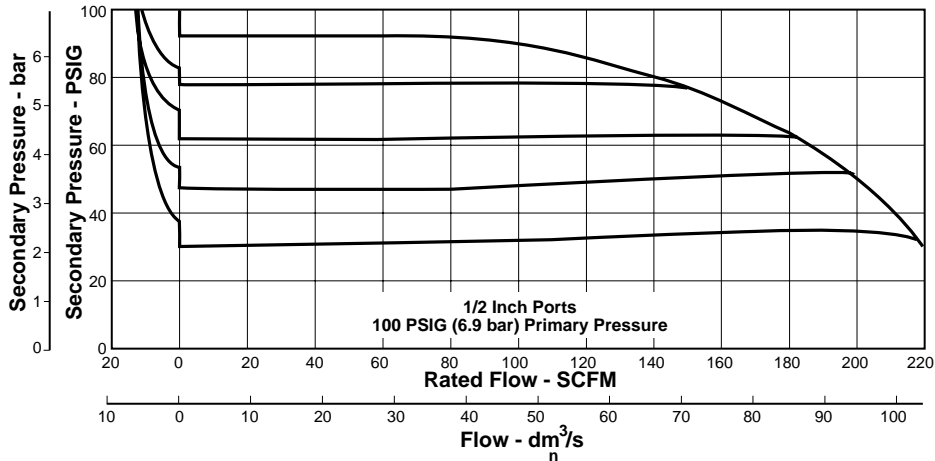
NOTE: Shaded items are standard.

Technical Information

**Relief And Flow Characteristics
 12R215PB**



**Relief And Flow Characteristics
 12R315PB**



12R Pilot Regulator Kits & Accessories

Body Service Kits – Seat Insert Kit	PS813P
Gauges – 60 PSIG (0 to 400 kPa)	P781641
160 PSIG (0 to 1100 kPa)	P781642
300 PSIG (0 to 2000 kPa)	P781643
Mounting Bracket Kit (Includes Panel Mount Nut)	PS807P
Panel Mount Nut – Plastic	P04082
Metal	P04079
Pilot Conversion Kit – Relieving	PS745P
Service Kits – Non-Relieving	PS847P
Relieving	PS849P

Specifications

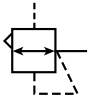
Gauge Ports	Two Ports 1/4"
(Can be used as additional Full Flow 1/4 Inch Outlet Ports)	
Port Threads	3/8", 1/2", 3/4"
Pressure & Temperature Rating – 0 to 250 PSIG (0 to 1725 kPa)	
32°F to 175°F (0°C to 80°C)	
Weight	2.0 lb. (.91 kg)

Materials of Construction

Body & Pilot Cap	Zinc
Piston, Valve Poppet, & Collar	Plastic
Seals	Nitrile
Springs	Steel

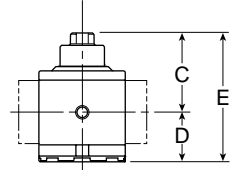
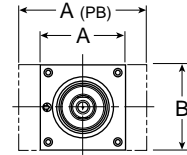


P3NR Pilot Controlled Regulator - Hi-Flow



Features

- Port blocks (PB) available to provide 1-1/2" port extension to 1" ported bodies.
- Self relieving feature plus balanced poppet provides quick response and accurate pressure regulation.
- Solid control piston for extended life.
- High Flow: 3/4" – 300 SCFM §
 1" – 300 SCFM §
 1-1/2" – 350 SCFM §



Port Size	NPT	BSP
Without Gauge		
3/4"	P3NRA96BPP	P3NRA16BPP
1"	P3NRA98BPP	P3NRA18BPP
1-1/2"	P3NRA9PBPP	P3NRA1PBPP
With 160 PSI Gauge		
3/4"	P3NRA96BPG	P3NRA16BPG
1"	P3NRA98BPG	P3NRA18BPG
1-1/2"	P3NRA9PBPG	P3NRA1PBPG

P3NR Regulator Dimensions		
A 3.62 92mm	A (PB) 5.59 142mm	B 3.62 92mm
C 3.38 86mm	D 2.08 53mm	E 5.46 139mm

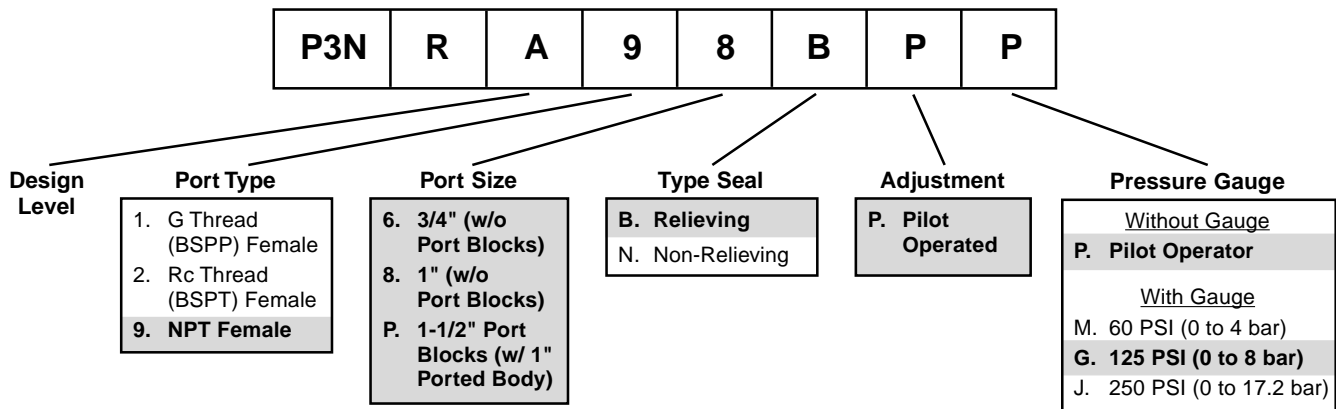
⚠ WARNING
Do not connect regulator to bottled gas.
Do not exceed maximum primary pressure rating.
Product rupture can cause serious injury.

Standard part numbers shown, for other models refer to ordering information below.

1" Port Body with 1-1/2" Port Block.

§ SCFM = Standard cubic feet per minute at 100 PSIG inlet, 90 PSIG setting and 10 PSIG pressure drop.

Ordering Information

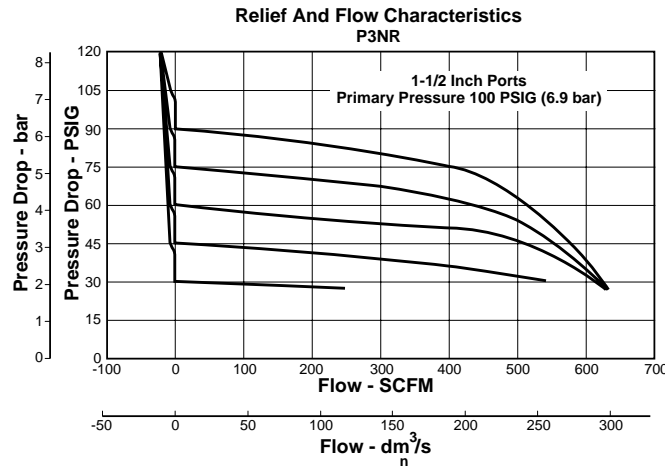
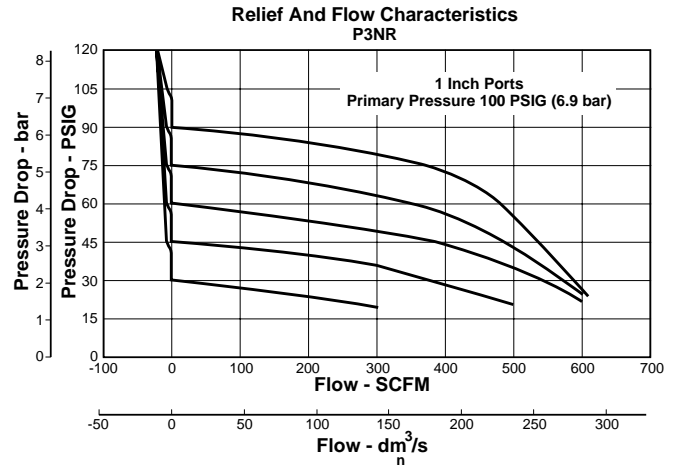
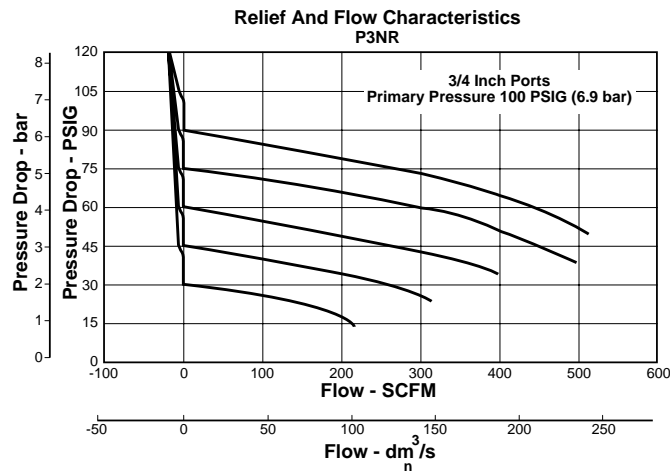


CAUTION:

REGULATOR PRESSURE ADJUSTMENT – The working range of knob adjustment is designed to permit outlet pressures within their full range. Pressure adjustment beyond this range is also possible because the knob is not a limiting device. This is a common characteristic of most industrial regulators, and limiting devices may be obtained only by special design.

NOTE: Shaded items are standard.

Technical Information



P3NR Pilot Regulator Kits & Accessories

Gauges – 60 PSIG (0 to 400 kPa)	P781641
160 PSIG (0 to 1100 kPa)	P781642
300 PSIG (0 to 2000 kPa)	P781643
Mounting Bracket Kit	P3NKA00MW
Service Kit – Relieving	P3NKA00RR
Non-Relieving	P3NKA00RN

Specifications

Gauge Ports	Two Ports 1/4"
Port Threads	3/4", 1", 1-1/2" #
Primary Pressure Rating –	
Maximum Primary Pressure	250 PSIG (17.2 bar) Max.
Temperature Rating	32°F to 175°F (0°C to 80°C)
Weight –	
3/4"	3.3 lb. (1.5 kg)
1"	3.3 lb. (1.5 kg)
1-1/2" #	4.4 lb. (2.0 kg)

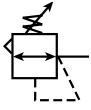
Materials of Construction

Adjusting Stem	Steel
Body	Aluminum
Bonnet	Aluminum
Piston	Plastic
Poppet Assembly	Brass
Seals	Nitrile
Springs – Poppet	Steel

1" Port Body with 1-1/2" Port Block.

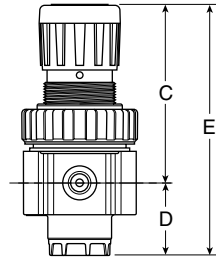
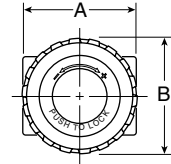


27R Regulator – Precision



Features

- Fine adjustment sensitivity.
- Good repeatability and minimal pressure drop.
- High flow capacity.
- Two 1/8" gauge ports.
- Brass Poppet for long life.
- High Flow: 25 SCFM[§]
- Modular with 05 Series FRL.
- Non-rising, removable knob.
- Multiple porting options.



Pressure	1/4" NPT	1/4" BSPP
15 PSIG	27R112AD	27R112AD1
30 PSIG	27R110AD	27R110AD1
60 PSIG	27R114AD	27R114AD1
125 PSIG	27R113AD	27R113AD1

27R Regulator Dimensions		
A	B	C
2.00 51mm	2.06 52mm	3.16 80mm
D	E	
1.28 32mm	4.44 113mm	

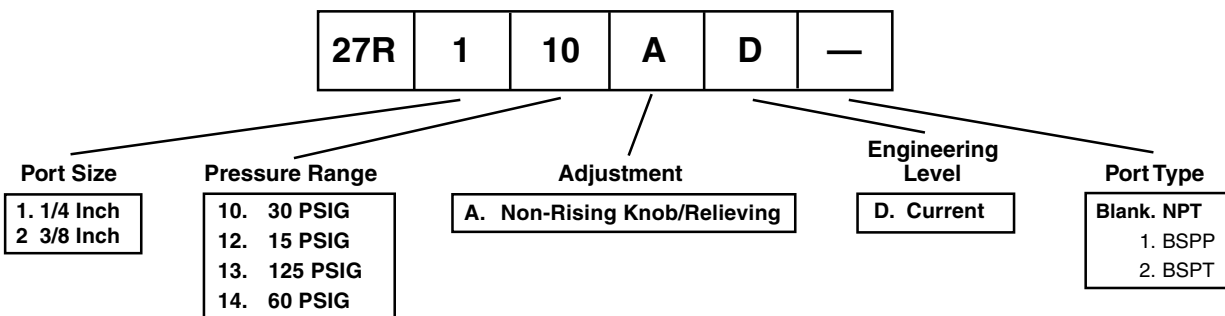
Standard part numbers shown, for other models refer to ordering information below.

NOTE: 1.53 Dia. (39mm) hole required for panel mounting. Maximum panel thickness 1/4"

§ SCFM = Standard cubic feet per minute at 150 PSIG inlet, 90 PSIG no flow secondary setting and 5 PSIG pressure drop.

⚠ WARNING
Do not connect regulator to bottled gas.
Do not exceed maximum primary pressure rating.
Product rupture can cause serious injury.

Ordering Information



CAUTION:

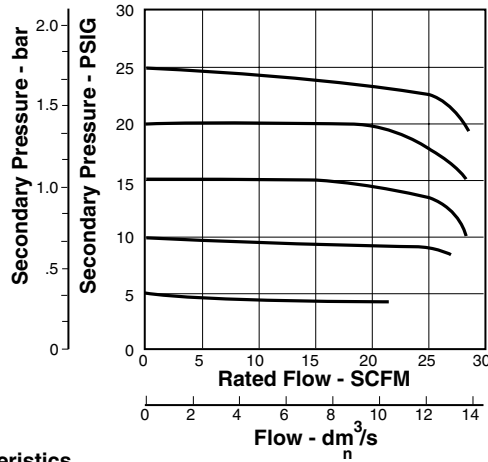
REGULATOR PRESSURE ADJUSTMENT – The working range of knob adjustment is designed to permit outlet pressures within their full range. Pressure adjustment beyond this range is also possible because the knob is not a limiting device. This is a common characteristic of most industrial regulators, and limiting devices may be obtained only by special design.

NOTE: BOLD OPTIONS ARE STANDARD.

Technical Information

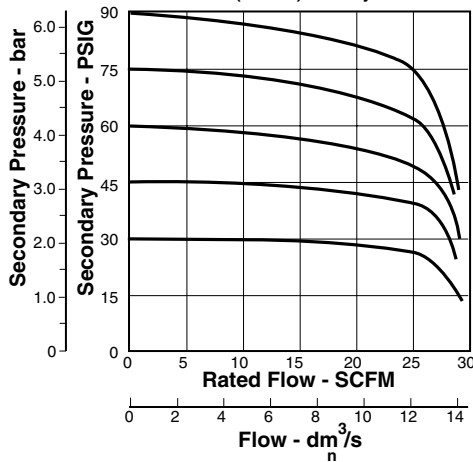
Flow Characteristics

27R110AD
1/4 Inch Ports
100 PSIG (6.9 bar) Primary Pressure



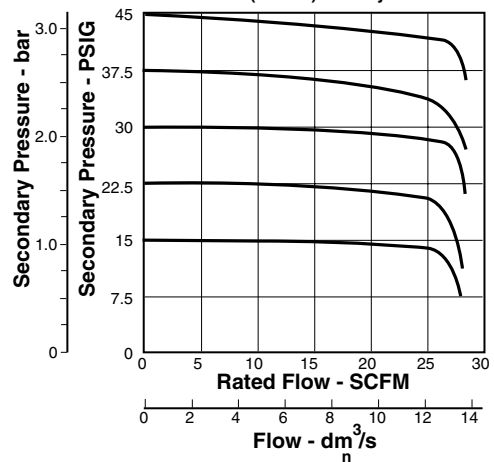
Flow Characteristics

27R113AD
1/4 Inch Ports
100 PSIG (6.9 bar) Primary Pressure



Flow Characteristics

27R114AD
1/4 Inch Ports
100 PSIG (6.9 bar) Primary Pressure



27R Regulator Kits & Accessories

Bonnet Assembly Kit	PS910P
Control Knob	P0442001
Gauges – 1-1/2" Dial Face	
30 PSIG (0 to 200 kPa)	RRP-96-663
60 PSIG (0 to 400 kPa)	RRP-96-664
160 PSIG (0 to 1100 kPa)	RRP-96-665
300 PSIG (0 to 2000 kPa)	RRP-96-666
2" Dial Face	
60 PSIG (0 to 400 kPa)	P781641
160 PSIG (0 to 1100 kPa)	P781642
300 PSIG (0 to 2000 kPa)	P781643
Mounting Bracket Kit	PS963P
Panel Mount Nut – Metal	PS964P
Service Kit	PS907P
Springs – 1-30 PSIG Range	P04427
1-15 PSIG Range	P04428
0-60 PSIG Range	P04426
2-125 PSIG Range	P04425

Specifications

Bleed Rate	2.0 SCFH
Gauge Ports	Two Ports 1/4"
Effect of Supply Pressure Variation –	
0.5 PSIG (3.5 kPa) for 25 PSIG (173 kPa) change in P ₁	

Relief Capacity –

0.5 SCFM (0.24 dm^3/s) @ 5 PSIG (35 kPa) increase in P₂

Flow Capacity –

28 SCFM (13.2 dm^3/s) @ 100 PSIG (690 kPa) P₁

and 20 PSIG (138 kPa) P₂ **Port Threads** 1/4", 3/8"

Maximum Inlet Pressure

Relief Flow

Repeatability

Response –

The valve will open to full flow and fill a volume of 100 in³

Temperature Rating

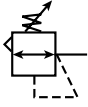
Weight

Materials of Construction

Poppet	Brass
Bonnet	Plastic
Body	Zinc
Collar, Knob	Plastic
Diaphragm	Nitrile
Bottom Cap	Plastic
Seals	Nitrile
Springs – Poppet & Control	Steel



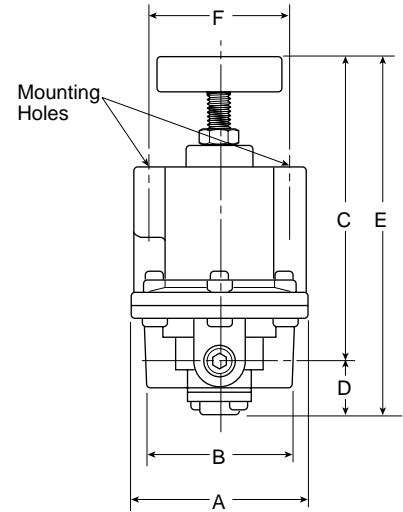
3550 Regulator – Compact Precision



⚠ WARNING
 Do not connect regulator to bottled gas.
 Do not exceed maximum primary pressure rating.
 Product rupture can cause serious injury.

Features

- Adjusting knob.
- Diaphragm design for good repeatability, response and sensitivity.
- Balanced poppet.
- Two full flow gauge ports.
- Precise regulation; will sense a decrease in downstream pressure as small as 1/8" of water.
- High flow capacity; flows of 40 SCFM attainable with minimal drop.
- Sensitive relief. Downstream pressure buildup, down to 0.01 PSIG above the set pressure, is automatically vented through an integral relief valve.
- Superior flow response, quick reaction to high flow demands. Desired downstream pressure levels maintained through the use of a venturi type aspirator tube.



3550 Regulator Dimensions		
A	B	C
3.00	2.55	5.56
76mm	65mm	141mm
D	E	F
.94	6.50	2.25
29mm	165mm	57mm

Ordering Information

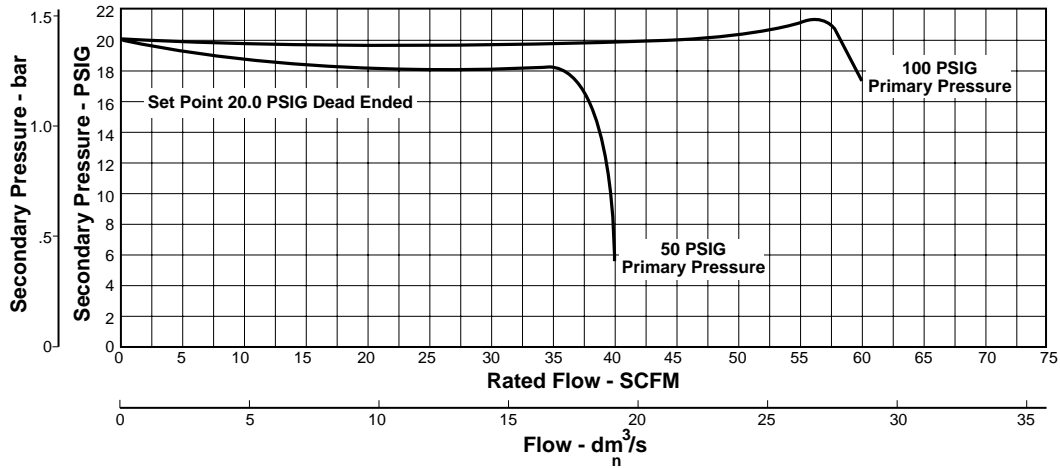
Port Size	1/2 to 30 PSIG Relieving	1/2 to 30 PSIG Non-Relieving	1 to 60 PSIG Relieving	1 to 60 PSIG Non-Relieving	2 to 150 PSIG Relieving	2 to 150 PSIG Non-Relieving
1/4 Inch	03550 1020	03550 3020	03550 1030	03550 3030	03550 1040	03550 3040

CAUTION:

REGULATOR PRESSURE ADJUSTMENT – The working range of knob adjustment is designed to permit outlet pressures within their full range. Pressure adjustment beyond this range is also possible because the knob is not a limiting device. This is a common characteristic of most industrial regulators, and limiting devices may be obtained only by special design.

NOTE: Shaded items are standard.

Technical Information



3550 Regulator Kits & Accessories

- Mounting Bracket Kit 035500400
- Service Kit – Non-Relieving 035508009
- Relieving 035508000

Specifications

- Bleed Rate 0.02 SCFM
- Gauge Ports Two Ports 1/4"
 (Can be used as additional Full Flow 1/4 Inch Outlet Ports)
- Effect of Supply Pressure Variation –
 Less than 0.1 PSIG for 100 PSIG change
- Exhaust Capacity –
 5.5 SCFM with downstream pressure 5 PSIG above set pressure.
 Exhaust commences at 0.01 PSIG above set pressure.
- Flow Capacity –
 27 SCFM (12.7 dm³/s) @ 100 PSIG (690 kPa) P₁
 and 20 PSIG (138 kPa) P₂
- Operating Temperature Range – -40°F to 200°F (-4°C to 93°C)
- Operating Pressure Range –

		PSIG	kPa
Primary –	Maximum	500	3450
Secondary –			
30 PSIG Spring	Minimum	0.5	3.4
	Maximum	30	207
60 PSIG Spring	Minimum	1	6.9
	Maximum	60	414
150 PSIG Spring	Minimum	2	14
	Maximum	150	1035

- Port Threads 1/4"
- Pressure Rating 0 to 250 PSIG (0 to 1725 kPa)
- Relief Flow 1.0 SCFM
- Repeatability ±0.02 PSIG (±0.014 bar)
- Response 250 ms
 The valve will open to full flow and fill a volume of 1250 cm³
- Sensitivity 0.125" Water Column
- Weight 1.6 lb. (.73 kg)

Materials of Construction

- Adjusting Stem & Spring Steel
- Biased Spring Stainless Steel
- Body, Bonnet Aluminum
- Control Knob Plastic
- Diaphragm Nitrile and Dacron, Convoluted
- Seals Nitrile
- Valve Poppet Brass
- Valve Poppet Seat Fluorocarbon

