

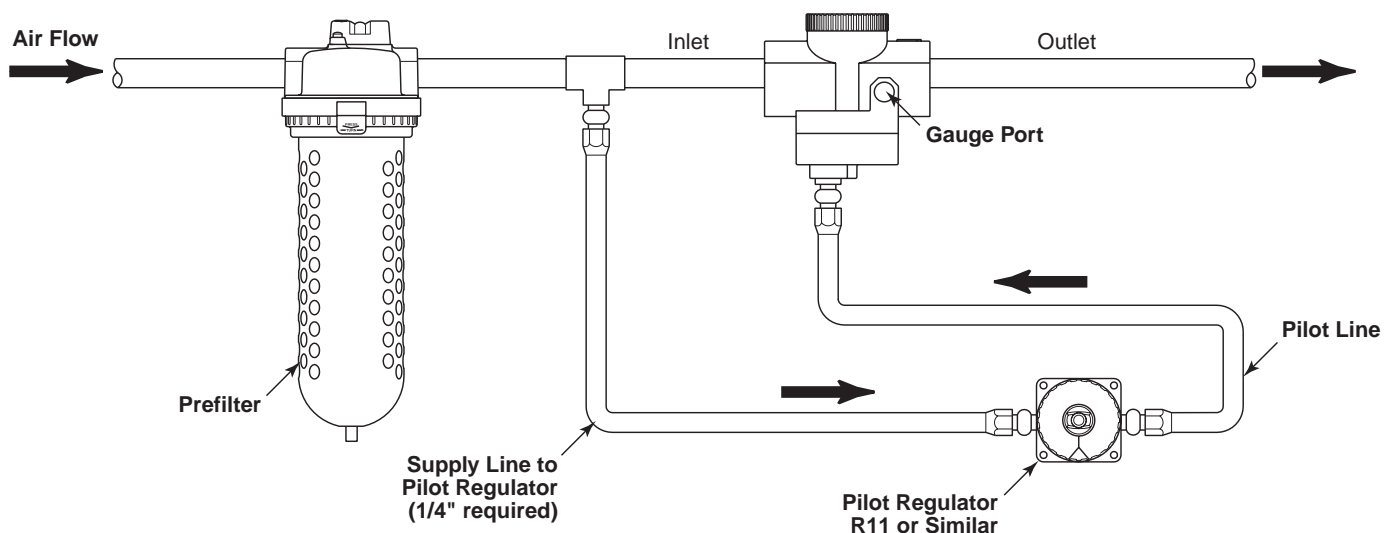
# R21 / 31 / 41-XX-RXX

## Principal Regulator (Remote Operated)

### Remote-control Dial-Air™ Regulator

Incorporates all the features of the standard Dial-Air™ Regulator plus the additional advantage of remote installation using the R11 model Pilot Regulator. Maximum inlet operating pressure and temperature ratings are 300 PSIG (20.7 bar) and 150°F (65.5°C).

The Remote-control Dial-Air™ Regulators are available in five pipe sizes, with 1/4" NPT connections on the pilot regulator and pilot port of remote-controlled regulators. Typical installation is shown below. For other remote models, see R21, R31 & R41.

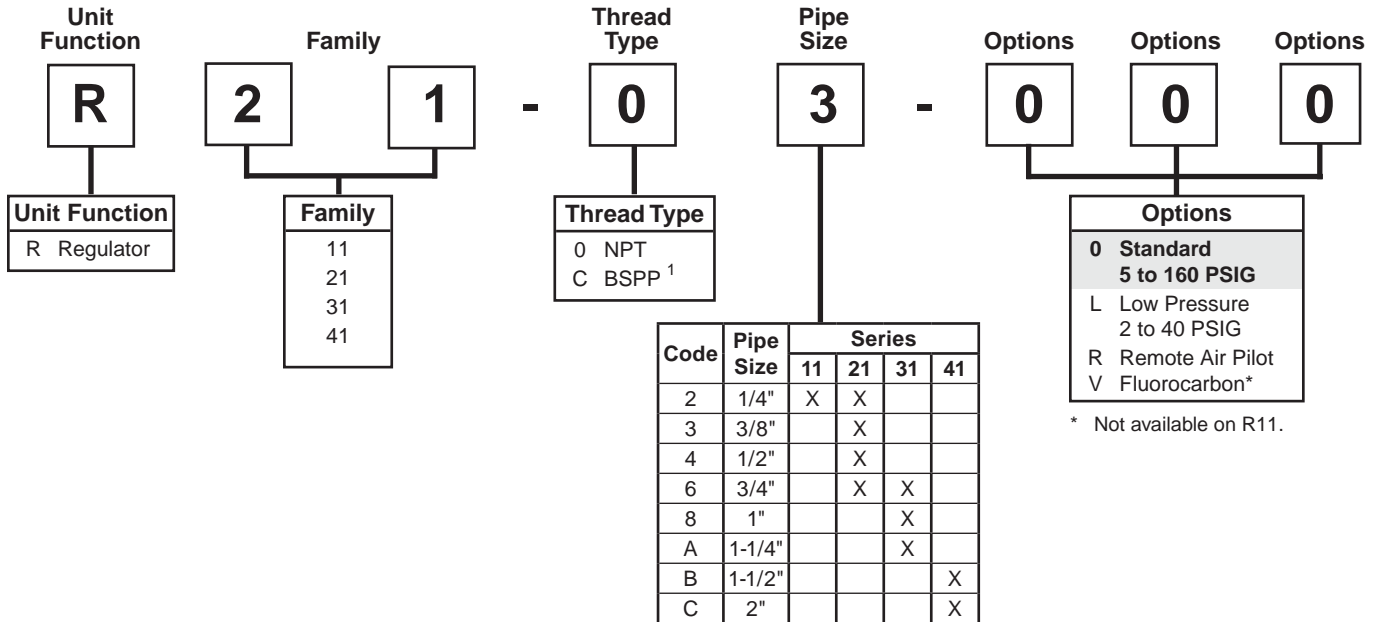


### Dial-Air™

Dial-Air™ regulators feature a transparent, pressure-calibrated, non-rising adjustment dial for quick adjustment of secondary pressure. If a gauge (R21, R31, R41) is required for monitoring reasons, two 1/4" gauge ports are provided; however, these are usually used for additional outlet ports. The full reduced pressure range can be dialed in less than 270° of dial rotation. This feature is particularly advantageous if secondary pressure must be changed frequently. The transparent dial can be color or graphics coded for easy reference to required pressure changes. Dial-Air™ regulators can be mounted in any position so dial face is always visible. All Dial-Air™ units have a slight constant air bleed: 0.05 SCFM (0.024 dm<sup>3</sup>/s), @100 PSIG (6.9 bar) inlet and 90 PSIG (6.2 bar) outlet.

# Dial-Air™ Regulator Numbering System

   = "Most Popular"



**B**  
Filters, Regulators, Lubricators

<sup>1</sup> ISO, R228 (G Series)

**NOTE:** Standard pressure adjustment is plastic "snap lock" knob and plastic bonnet with plastic panel mount nut.

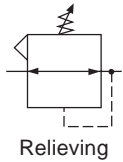
**NOTE:** When selecting from the options columns, please enter letters in alphabetical order for positions 6, 7, and 8.  
**For example:**

**R21 - 0 3 - 0 0 0**

# Dial-Air™ Regulator

## R11

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R11-02-000

### Features

- Pressure Reference Indicating Dial Face
- Non-rising Pressure Adjustment Knob
- Self-Relieving
- Full Pressure Adjustment in Less Than One Full Turn
- Recommended for Pilot-Air Applications (Low Flow)

### Specifications

Flow Capacity*	1/4	0.8 SCFM (0.377 dm <sup>3</sup> /s)
Adjusting Range Pressure	0 to 40 PSIG (0 to 2.8 bar)	0 to 160 PSIG (0 to 11 bar)
Bleed Rate		0.05 SCFM (0.024 dm <sup>3</sup> /s)
Maximum Supply Pressure		300 PSIG (20.7 bar)
Operating Temperature		32° to 150°F (0° to 65.5°C)
Port Size	NPT / BSPP-G	1/4
Weight	lb. (kg)	1.3 (0.5)

\* Inlet pressure 100 PSIG (6.9 bar). Secondary pressure 90 PSIG (6.2 bar).

### Materials of Construction

Body	Zinc
Bonnet	Zinc / Brass
Piston	Acetal
Seals	Nitrile
Springs	Steel
Valve Assembly	Brass / Nitrile / Acetal

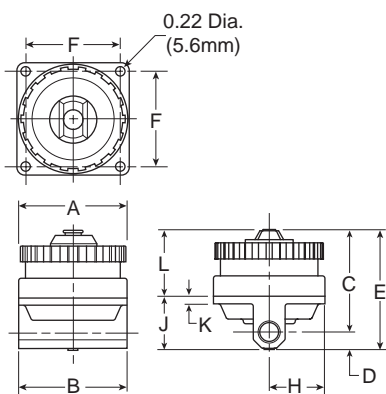
**⚠ WARNING**

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

### 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.

For best performance, regulated pressure should always be set by increasing the pressure up to the desired setting.



**NOTE:** Panel mounting requires (2) 11/16" (69mm) diameter holes and (4) 7/32" (5.5mm) screw holes. Unit can be mounted on material up to 1-1/4" (32mm) thick.

### Dimensions

Model	Inches (mm)	A	B	C	D	E	F	H	J	K	L
Standard Unit R11-02-000		2.60 (66)	2.60 (66)	2.40 (60.9)	.40 (10)	2.80 (71)	2.20 (55.9)	1.30 (33)	1.25 (31.8)	.18 (4.6)	1.56 (39.6)

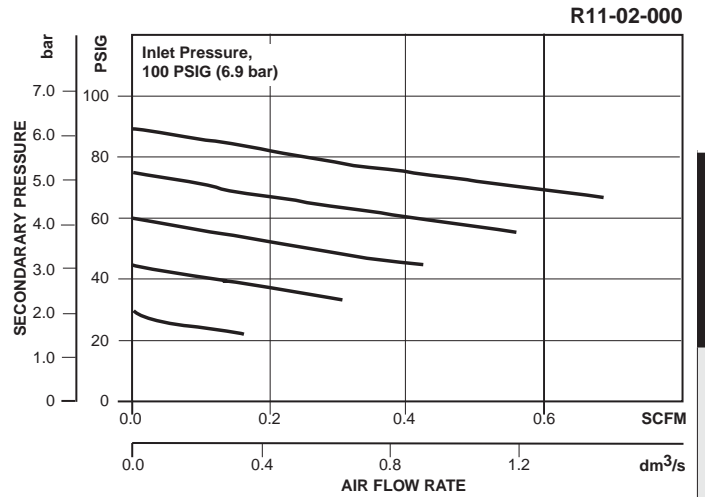
= "Most Popular"

### Replacement Kits

- Conversion Kit (Series A to Series B) ..... RRP-95-765
- O-ring, Repair Kit ..... GRP-95-260
- Spring, Regulating, Belleville Washer –  
 2 to 40 PSIG (0.1 to 3 bar) ..... RRP-95-906
- 5 to 160 PSIG (0.4 to 11 bar) ..... RRP-95-905
- Valve, Pilot with O-ring and Valve Spring ..... RRP-96-934

### Accessories

- Tamper Resistant Kit ..... RRP-95-585



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### Ordering Information

Model Type	Port Size	Standard Pressure 5 to 160 PSIG (0.4 to 11 bar)	Low Pressure 2 to 40 PSIG (0.1 to 3 bar)
Pilot	1/4	R11-02-000	R11-02-L00

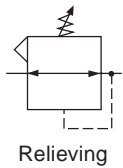
Options - To order an option supplied with the unit model, add the appropriate coded suffix letter in the designated position of the model number.



# Dial-Air™ Regulator

## R21

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R21-02-000

### Features

- Balanced Valve Design
- Non-Rising Pressure Adjusting Dial
- High-Relief Flow (3/16" Relief Orifice)
- Two 1/4" NPT Gauge Ports, Usually Used for Additional Outlets
- Piston Operated

### Specifications

Flow Capacity*	1/4	117 SCFM (55 dm <sup>3</sup> /s)
	3/8	180 SCFM (85 dm <sup>3</sup> /s)
	1/2	195 SCFM (92 dm <sup>3</sup> /s)
	3/4	220 SCFM (103 dm <sup>3</sup> /s)
Adjusting Range Pressure	0 to 40 PSIG (0 to 2.8 bar)	
	0 to 160 PSIG (0 to 11 bar)	
Bleed Rate	0.05 SCFM (0.024 dm <sup>3</sup> /s)	
Gauge Port (2 ea.)	NPT / BSPT-Rc	1/4
Maximum Supply Pressure	300 PSIG (20.7 bar)	
Operating Temperature	32° to 150°F (0° to 65.5°C)	
Port Size	NPT / BSPP-G	1/4, 3/8, 1/2, 3/4
Weight	lb. (kg)	2.3 (1.04)

\* Inlet pressure 100 PSIG (6.9 bar). Secondary pressure (1/4, 1/2 & 3/4) 90 PSIG (6.2 bar); (3/8) 80 PSIG (5.5 bar).

### Materials of Construction

Body	Zinc
Bonnet	Zinc / Brass
Piston	Acetal
Seals	Nitrile
Springs	Steel
Valve Assembly	Brass / Nitrile / Acetal

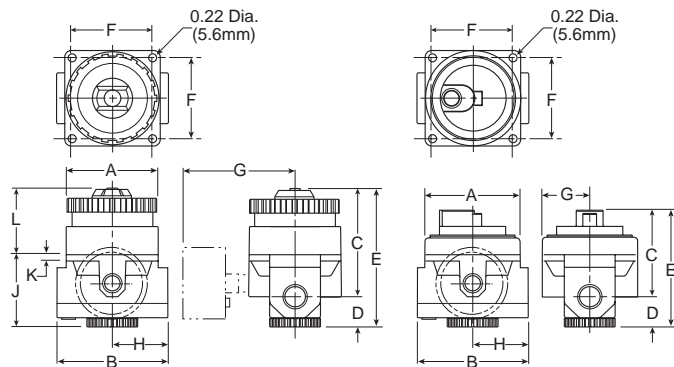
### WARNING

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

### 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.

For best performance, regulated pressure should always be set by increasing the pressure up to the desired setting.



Remote Operated

**NOTE:** Panel mounting requires (2) 1 1/16" (69mm) diameter holes and (4) 7/32" (5.5mm) screw holes. Unit can be mounted on material up to 1-1/4" (32mm) thick.

### Dimensions

Models	Inches (mm)	A	B	C	D	E	F	G	H	J	K	L
Standard Unit R21-XX-000		2.60 (66)	3.19 (81)	3.14 (79.8)	.95 (24)	4.09 (104)	2.20 (55.9)	—	1.61 (41)	2.08 (52.8)	.18 (4.6)	2.07 (52.6)
With Gauge (order separately) R21-XX-XXX		2.60 (66)	3.19 (81)	3.14 (79.8)	.95 (24)	4.09 (104)	2.20 (55.9)	2.70 (68.5)	1.61 (41)	2.08 (52.8)	.18 (4.6)	2.07 (52.6)
Remote Operated R21-XX-R00		2.60 (66)	3.19 (81)	2.24 (56.9)	.95 (24)	3.19 (81)	2.20 (55.9)	1.33 (33.8)	1.61 (41)	2.08 (52.8)	.18 (4.6)	1.11 (28.2)

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### Replacement Kits

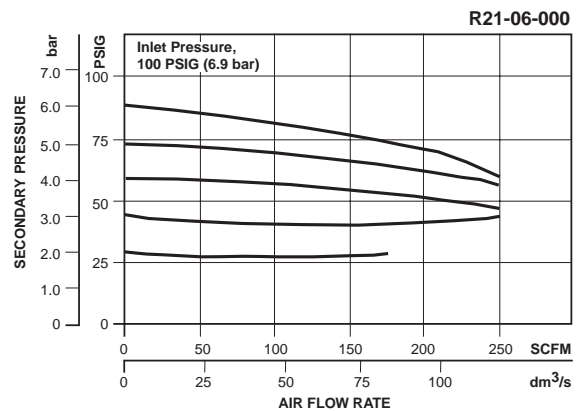
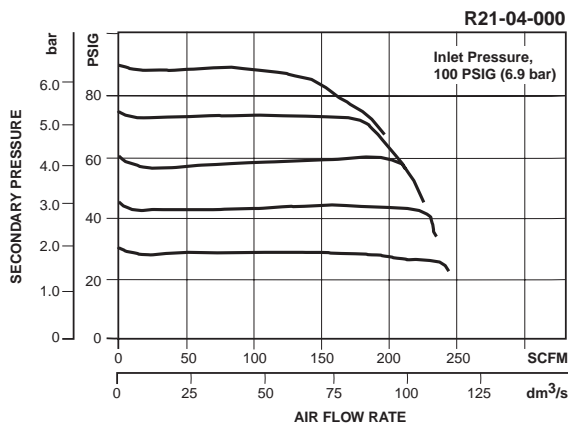
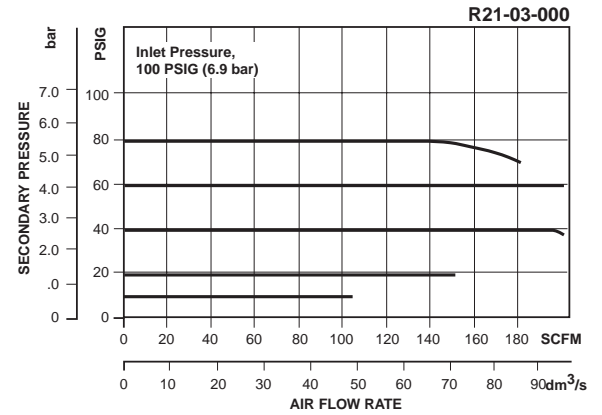
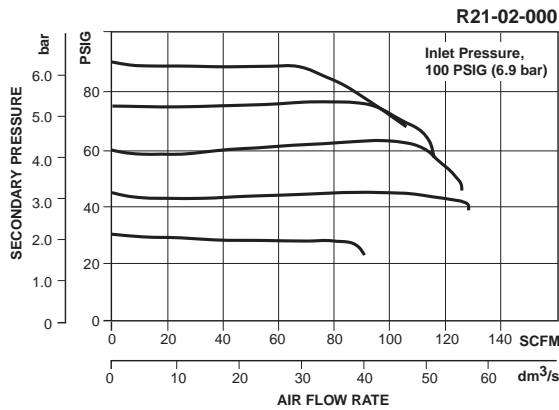
- Adjustment Dial Knob ..... RRP-16-024-000
- Conversion Kit (Series A to Series B) ..... RRP-95-766
- Cover Kit (Remote) –
  - Bonnet and Nitrile, O-ring (Series B) ..... RRP-95-910
  - Bonnet and Fluorocarbon, O-ring (Series B) ..... RRP-95-911
- O-ring, Repair Kit ..... GRP-95-260
- Piston, Bottom and O-ring Seal ..... RRP-95-192
- Spring, Regulating, Belleville Washer –
  - 2 to 40 PSIG (0.1 to 3 bar) ..... RRP-95-906
  - 5 to 160 PSIG (0.4 to 11 bar) ..... RRP-95-905
- Valve, Main with U-cup Seal ..... RRP-95-151
- Valve, Main with U-cup Seal and Bottom Plug –
  - Nitrile Elastomers ..... RRP-95-914
  - Fluorocarbon Elastomers ..... RRP-95-915
- Valve, Main (Remote) with U-cup Seal ..... RRP-96-952

- Valve, Main (Remote) with U-cup Seal and Bottom Plug –
  - Nitrile Elastomers ..... RRP-95-912
  - Fluorocarbon Elastomers ..... RRP-95-913
- Valve, Pilot with O-ring and Valve Spring ..... RRP-96-934

### Accessories

- Wall Mounting Bracket, Gauge Port Adapter,
  - 1/4 NPT ..... RRP-95-590
- Gauge, Pressure –
  - 0 to 60 PSIG (0 to 4 bar), 2" Dial Face,
    - 1/4 NPT, CBM ..... K4520N14060
  - 0 to 160 PSIG (0 to 11 bar), 2" Dial Face,
    - 1/4 NPT, CBM ..... K4520N14160
- Tamper Resistant Kit ..... RRP-95-585

**B**  
Filters, Regulators, Lubricators



### Ordering Information

Model Type	Port Size	High Flow 5 to 160 PSIG (0.4 to 11 bar)	Low Pressure 2 to 40 PSIG (0.1 to 3 bar)	Remote 5 to 160 PSIG (0.4 to 11 bar)
<b>Relieving</b>	1/4	R21-02-000	R21-02-L00	R21-02-R00
	3/8	R21-03-000	R21-03-L00	R21-03-R00
	1/2	R21-04-000	R21-04-L00	R21-04-R00
	3/4	R21-06-000	R21-06-L00	R21-06-R00

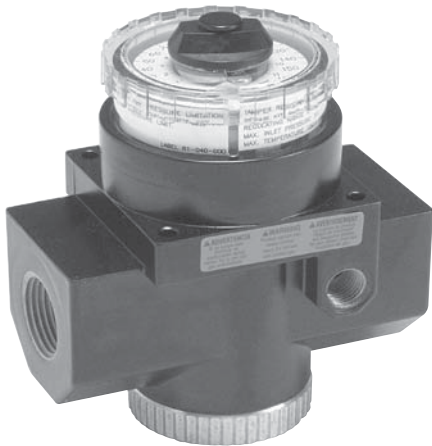
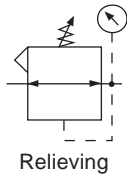
Options - To order an option supplied with the unit model, add the appropriate coded suffix letter in the designated position of the model number.



# Dial-Air™ Regulator

## R31

= "Most Popular"



R31-06-000

### Features

- Balanced Valve Design
- Non-Rising Pressure Adjusting Dial
- High-Relief Flow (3/16" Relief Orifice)
- Two 1/4" NPT / BSPT-Rc Gauge Ports, Usually Used for Additional Outlets
- Piston Operated

### Specifications

Flow Capacity*	3/4	400 SCFM (189 dm <sup>3</sup> /s)
	1	650 SCFM (307 dm <sup>3</sup> /s)
	1-1/4	700 SCFM (330 dm <sup>3</sup> /s)
Adjusting Range Pressure	0 to 40 PSIG (0 to 2.7 bar) 0 to 160 PSIG (0 to 11 bar)	
Bleed Rate	0.05 SCFM (0.024 dm <sup>3</sup> /s)	
Gauge Port (2 ea.)	NPT / BSPT-Rc	1/4
Maximum Supply Pressure	300 PSIG (20.7 bar)	
Operating Temperature	32° to 150°F (0° to 65.5°C)	
Port Size	NPT / BSPP-G	3/4, 1, 1-1/4
Weight	lb. (kg)	4.0 (1.8)

\* Inlet pressure 100 PSIG (6.9 bar). Secondary pressure 80 PSIG (5.5 bar).

### Materials of Construction

Body	Zinc
Bonnet	Zinc / Brass
Piston	Acetal
Seals	Nitrile
Springs	Steel
Valve Assembly	Brass / Nitrile / Acetal

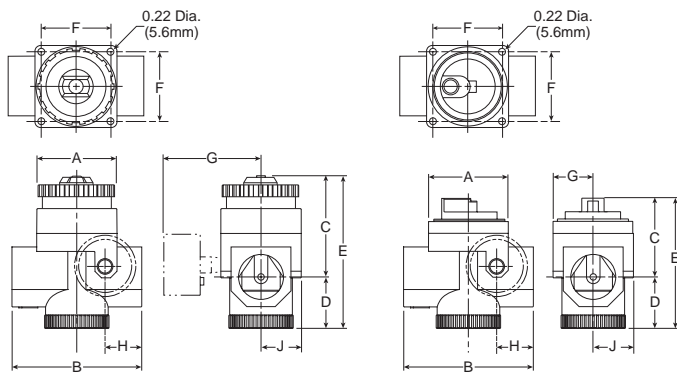
### WARNING

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

### 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.

For best performance, regulated pressure should always be set by increasing the pressure up to the desired setting.



Remote Operated

**NOTE:** Panel mounting requires (2) 11/16" (69mm) diameter holes and (4) 7/32" (5.5mm) screw holes. Unit can be mounted on material up to 1-1/4" (32mm) thick.

### Dimensions

Models	Inches (mm)	A	B	C	D	E	F	G	H	J
Standard Unit R31-XX-000		2.59 (66)	4.29 (109)	3.50 (88.9)	1.69 (43)	5.19 (132)	2.20 (55.9)	—	1.23 (31.2)	1.31 (33.3)
With Gauge (order separately) R31-XX-XXX		2.59 (66)	4.29 (109)	3.50 (88.9)	1.69 (43)	5.19 (132)	2.20 (55.9)	3.00 (76)	1.23 (31.2)	1.31 (33.3)
Remote Operated R31-XX-R00		2.59 (66)	4.29 (109)	2.63 (66.8)	1.69 (43)	4.32 (109.7)	2.20 (55.9)	1.33 (33.7)	1.23 (31.2)	1.31 (33.3)



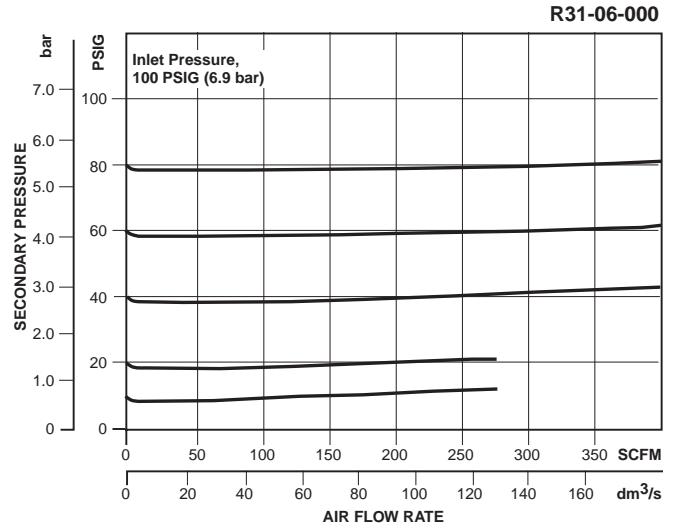
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### Replacement Kits

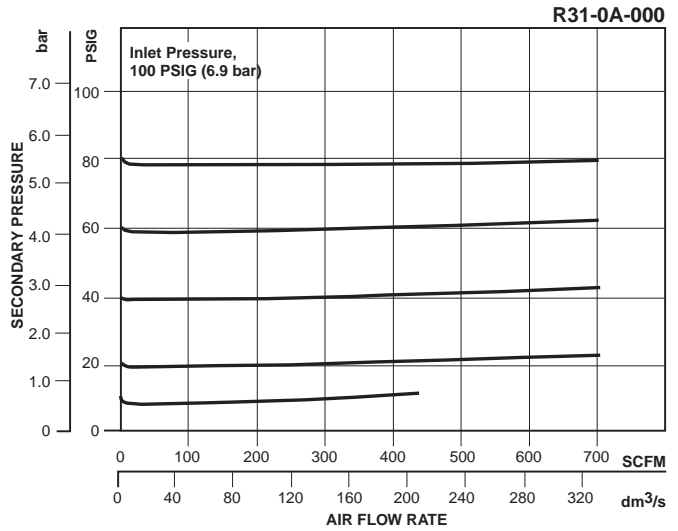
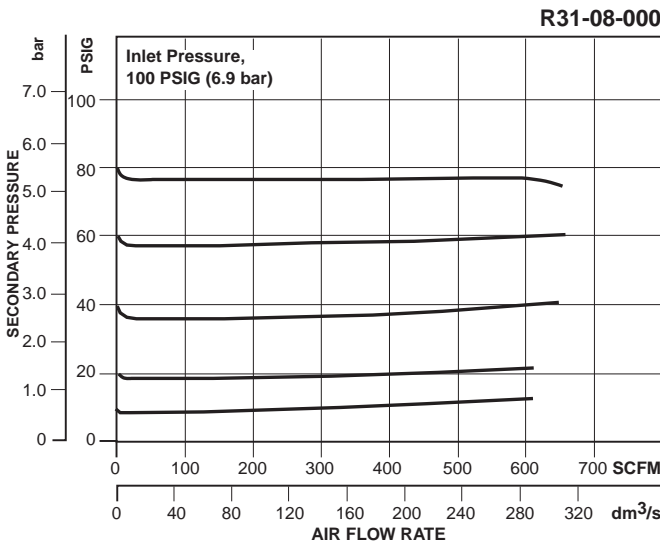
- Adjustment Dial Knob ..... RRP-16-024-000
- Conversion Kit (Series A to Series B) ..... RRP-95-766
- O-ring, Repair Kit ..... GRP-95-261
- Piston, Bottom and O-ring seal ..... RRP-95-192
- Spring, Regulating, Belleville Washer –
  - 2 to 40 PSIG (0.1 to 3 bar) ..... RRP-95-906
  - 5 to 160 PSIG (0.4 to 11 bar) ..... RRP-95-905
- Valve, Main with O-ring Seal ..... RRP-95-152
- Valve, Main (Remote) with O-ring Seal ..... RRP-96-950
- Valve, Pilot with O-ring and Valve Spring ..... RRP-96-935

### Accessories

- Gauge, Pressure –
  - 0 to 60 PSIG (0 to 4 bar), 2" Dial Face, 1/4 NPT, CBM ..... K4520N14060
  - 0 to 160 PSIG (0 to 11 bar), 2" Dial Face, 1/4 NPT, CBM ..... K4520N14160
- Tamper Resistant Kit ..... RRP-95-585
- Wall Mounting Bracket, Gauge Port Adapter, 1/4 NPT ..... RRP-95-590



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Filters, Regulators, Lubricators



### Ordering Information

Model Type	Port Size	High Flow 5 to 160 PSIG (0.4 to 11 bar)	Low Pressure 2 to 40 PSIG (0.1 to 3 bar)	Remote 5 to 160 PSIG (0.4 to 11 bar)
Relieving	3/4	R31-06-000	R31-06-L00	R31-06-R00
	1	R31-08-000	R31-08-L00	R31-08-R00
	1-1/4	R31-0A-000	R31-0A-L00	R31-0A-R00

Options - To order an option supplied with the unit model, add the appropriate coded suffix letter in the designated position of the model number.

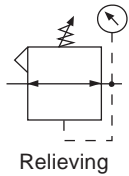




# Dial-Air™ Regulator

## R41

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R41-0B-000

### Features

- Balanced Valve Design
- Non-Rising Pressure Adjusting Dial
- High-Relief Flow (3/16" Relief Orifice)
- Two 1/4" NPT / BSPT-Rc Gauge Ports, Usually Used for Additional Outlets
- Piston Operated

### Specifications

Flow Capacity*	1-1/2, 2	1600 SCFM (755 dm <sup>3</sup> /s)
Adjusting Range Pressure		0 to 160 PSIG (0 to 11 bar)
Bleed Rate		0.05 SCFM (0,024 dm <sup>3</sup> /s)
Maximum Supply Pressure		300 PSIG (20.7 bar)
Operating Temperature		32° to 150°F (0° to 65.5°C)
Port Size	NPT / BSPP-G	1-1/2, 2
Gauge Port (2 ea.)	NPT / BSPT-Rc	1/4
Weight	lb. (kg)	9 (4.1)

\* Inlet pressure 100 PSIG (6.9 bar). Secondary pressure 80 PSIG (5.5 bar).

### Materials of Construction

Body	Zinc
Bonnet	Zinc / Brass
Piston	Zinc
Seals	Nitrile
Springs	Steel
Valve Assembly	Brass / Nitrile / Acetal

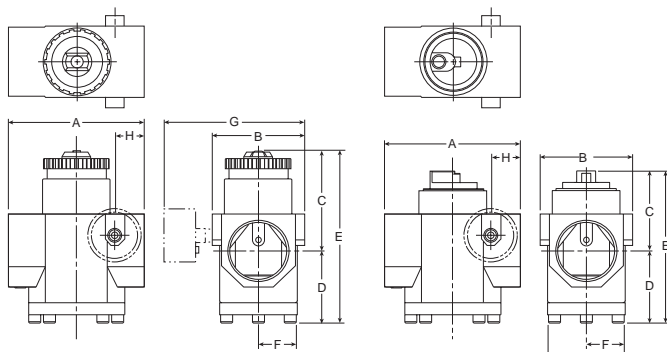
### WARNING

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

### 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.

For best performance, regulated pressure should always be set by increasing the pressure up to the desired setting.



Remote Operated

### Dimensions

Models	Inches (mm)	A	B	C	D	E	F	G	H
Standard Unit R41-XX-000		5.31 (135)	3.58 (91)	4.02 (102)	2.79 (71)	6.81 (173)	1.79 (45.7)	—	1.15 (29.2)
With Gauge (order separately) R41-XX-XXX		5.31 (135)	3.58 (91)	4.02 (102)	2.79 (71)	6.81 (173)	1.79 (45.7)	5.29 (134.6)	1.15 (29.2)
Remote Operated R41-XX-R00		5.31 (135)	3.58 (91)	3.11 (78.9)	2.79 (71)	5.90 (149.8)	1.50 (38)	3.00 (76)	1.15 (29.2)

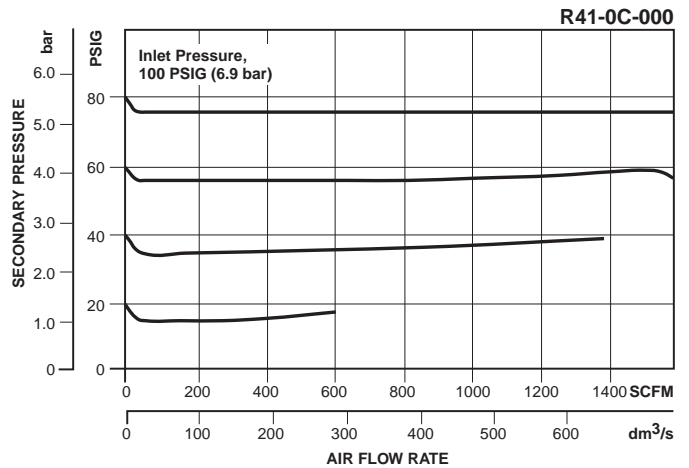
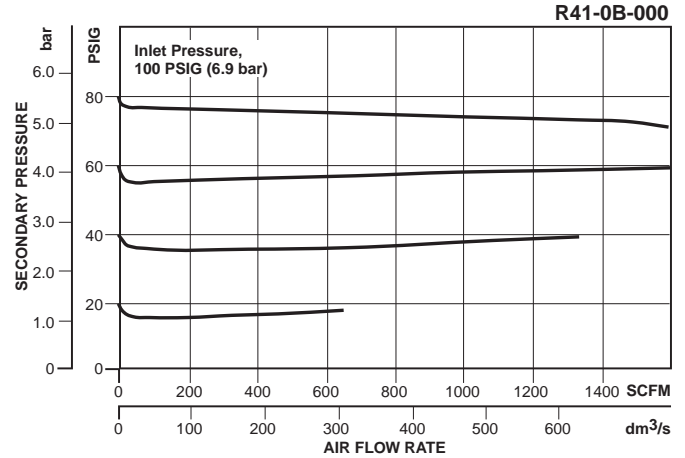
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### Replacement Kits

- Adjustment Dial Knob ..... RRP-16-024-000
- Conversion Kit (Series A to Series B) ..... RRP-95-766
- O-ring, Repair Kit ..... GRP-95-262
- Piston, Bottom and O-ring Seal ..... RRP-95-192
- Spring, Regulating, Belleville Washer –
  - 2 to 40 PSIG (0.1 to 3 bar) ..... RRP-95-906
  - 5 to 160 PSIG (0.4 to 11 bar) ..... RRP-95-905
- Spring, Valve ..... RRP-95-024
- Valve –
  - Main with O-ring Seal ..... RRP-95-153
  - Main (Remote) with O-ring Seal ..... RRP-96-951
  - Pilot with O-ring and Valve Spring ..... RRP-96-935

### Accessories

- Gauge, Pressure–
  - 0 to 60 PSIG (0 to 4 bar), 2" Dial Face, 1/4 NPT, CBM ..... K4520N14060
  - 0 to 160 PSIG (0 to 11 bar), 2" Dial Face, 1/4 NPT, CBM ..... K4520N14160
- Tamper Resistant Kit ..... RRP-95-585
- Wall Mounting Bracket, Gauge Port Adapter, 1/4 NPT ..... RRP-95-590



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Filters, Regulators, Lubricators

### Ordering Information

Model Type	Port Size	High Flow 5 to 160 PSIG (0.4 to 11 bar)	Low Pressure 2 to 40 PSIG (0.1 to 3 bar)	Remote 5 to 160 PSIG (0.4 to 11 bar)
Relieving	1-1/2	R41-0B-000	R41-0B-L00	R41-0B-R00
	2	R41-0C-000	R41-0C-L00	R41-0C-R00

Options - To order an option supplied with the unit model, add the appropriate coded suffix letter in the designated position of the model number.



# Notes

**B**

Filters, Regulators, Lubricators