

# Pilot Regulators

Pressure control for Pilot  
Operated Regulators 1/4" port size

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R40 and R41



11-400 and 20AL



11-104

- Pilot regulators are used to control the outlet pressure of a pilot operated regulator (ordered separately)
- The pilot regulator is installed in an accessible location in the compressed air system; pilot operated regulator is installed at any point without regard to accessibility
- Conventional pilot regulator provides good pressure regulation, rapid response to changing flow demands, and excellent stability.
- Feedback pilot regulator provides superior pressure regulation under changing flow demands where changes in flow demand are not sudden or cyclic.
- Constant bleed feature provides maximum sensitivity to system changes
- Relief feature allows reduction of downstream pressure when the system is dead-ended



**Ordering Information.** Models listed are relieving with constant bleed, 10 to 250 psig (0.7 to 17 bar) outlet pressure adjustment range \*, PTF ports.

Port Size	Type	Model	Flow <sup>1</sup> scfm (dm <sup>3</sup> /s)	Weight lb (kg)
1/4"	Conventional Pilot	R40-200-BNSA	6.4 (3)	1.66 (0.75)
1/4"	Feedback Pilot	R41-204-BNSA††	6.4 (3)	1.66 (0.75)

† Typical flow with 100 psig (7 bar) inlet pressure, 90 psig (6.3 bar) set pressure and 15 psig (1 bar) droop from set.

†† Do not use the R41 feedback pilot regulator to control outlet pressures at or less than 100 psig (7 bar). Use the 11-104 feedback pilot regulator at those pressures.

### Alternative Models

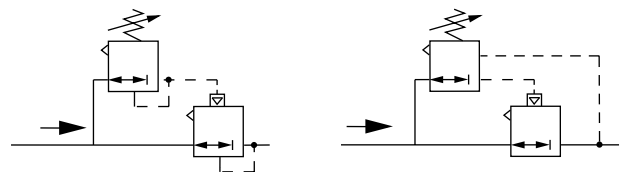
Type	Substitute	Threads	Substitute
R40 Conventional	40	PTF	A
R41 Feedback	41	ISO Rc taper	B
		ISO G parallel	G
Mounting/Type	Substitute	Outlet Pressure Adjustment Ranges*	Substitute
Remote/R40 Conventional	00	2 to 50 psig (0.1 to 3.5 bar) R40 only	E
Remote/R41 Feedback	04	5 to 125 psig (0.3 to 8.5 bar) R40 only	L
		10 to 250 psig (0.7 to 17 bar)	S

\* Outlet pressure can be adjusted to pressures in excess of, and less than, those specified. Do not use these units to control pressures outside of the specified ranges.

### Feedback Pilot Regulator Warning

The feedback line must sense the pilot operated regulator outlet pressure and must be connected before turning on the air supply. If the feedback line is not connected, the pilot operated regulator outlet pressure will rapidly increase to the inlet pressure when the adjusting knob on the pilot regulator is turned clockwise.

### ISO Symbols



R40 Conventional Pilot Regulator with Pilot Operated Regulator

R41 Feedback Pilot Regulator with Pilot Operated Regulator

**See Section ALE-25 for Accessories**



## Technical Data

Fluid: Compressed air

Inlet pressure range: 10 psig (0.7 bar) to 450 psig (31 bar) maximum\*

\* For best performance, inlet pressure should be at least 10 psig (0.7 bar) greater than the desired regulated pressure, but must not exceed the specified maximum.

Operating temperature: 0° to 175°F (-20° to 80°C) \*\*

\*\* Air supply must be dry enough to avoid ice formation at temperatures below 35°F (2°C).

Typical flow with 100 psig (7 bar) inlet pressure, 90 psig (6.3 bar) set pressure and 15 psig (1 bar) droop from from set: 6.4 scfm (3 dm<sup>3</sup>/s)

Maximum bleed rate at 50 psig (3.5 bar) outlet pressure: 0.25 scfm (0.12 dm<sup>3</sup>/s)†

†Maximum bleed rate occurs under dead-end (no flow) conditions.

Pilot ports: 1/4" PTF, ISO G, or ISO Rc

R41 feedback port: 1/8" PTF, ISO G, or ISO Rc

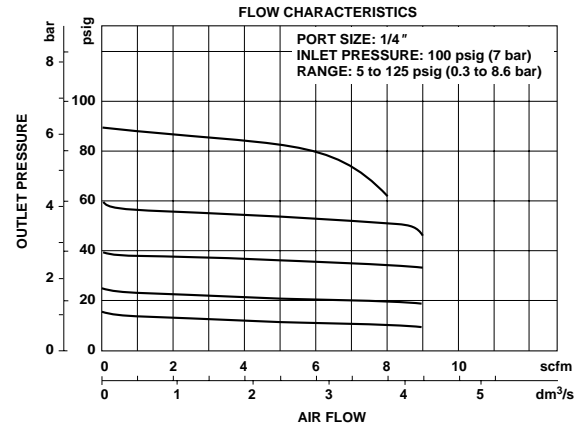
### Materials

Body, bonnet: Aluminum

Valve: Teflon

Elastomers: Nitrile

## Typical Performance Characteristics



## Service Kits

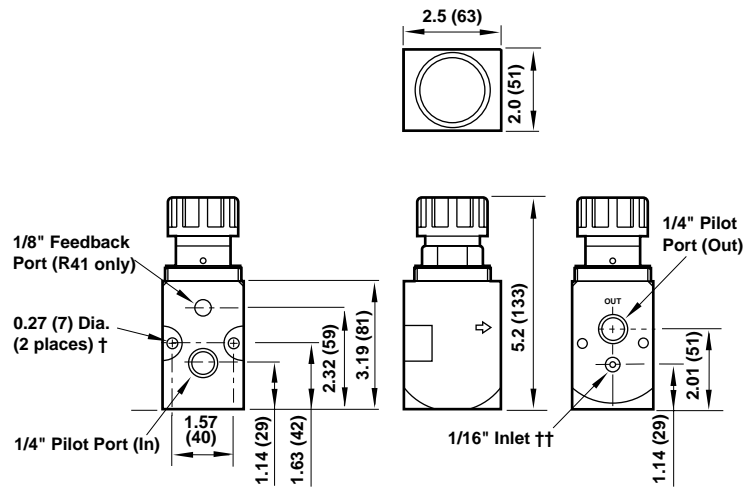
Type	Part number
R40, R41	5945-41

Service kit contains diaphragm, valve spring, guide bushing, valve, valve spring, filter screen, and all o-rings.

All Dimensions in Inches (mm)

Panel mounting hole diameter: 1.89" (48 mm)

Maximum panel thickness: 0.13" (3 mm)



† Mounting holes for subbase mounting.

†† Air inlet for subbase mounting.

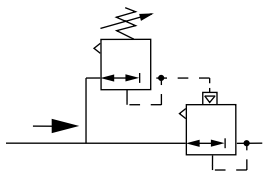
- Pilot regulators are used to control the outlet pressure of a pilot operated regulator (ordered separately)
- The pilot regulator is installed in an accessible location in the compressed air system; pilot operated regulator is installed at any point without regard to accessibility
- Conventional pilot regulator provides good pressure regulation, rapid response to changing flow demands, and excellent stability.
- Constant bleed feature provides maximum sensitivity to system changes
- Relief feature allows reduction of downstream pressure when the system is dead-ended



**Ordering Information.** Models listed are relieving with constant bleed, PTF threads, without gauge.

Port Size	Model Number	Range psig (bar)	Weight lbs (kg)
1/4"	11-400-2G/AC103	1 to 30 (0.06 to 2)	1.98 (0.90)
1/4"	11-400-2G/AE103	1 to 60 (0.06 to 4)	2.07 (0.94)
1/4"	11-400-2G/AG103	2 to 100 (0.16 to 7)	2.2 (1.00)
1/4"	20AL-X2G/AK103	100 to 300 (7 to 20)	2.3 (1.05)

#### ISO Symbol



Conventional Pilot Regulator  
with Pilot Operated Regulator

**See Section ALE-25 for Accessories**



**Technical Data**

Fluid: Compressed air filtered to 5µm

Maximum inlet pressure: 360 psig (25 bar)

Operating temperature: 0° to 175°F (-20° to 80°C) \*

\* Air supply must be dry enough to avoid ice formation at temperatures below 35°F (2°C).

Typical flow with 100 psig (7 bar) inlet pressure, 23 psig (1.6 bar) set pressure and 1.5 psig (0.1 bar) droop from from set: 4.2 scfm (2 dm<sup>3</sup>/s)

Gauge ports: 1/8" PTF

Materials:

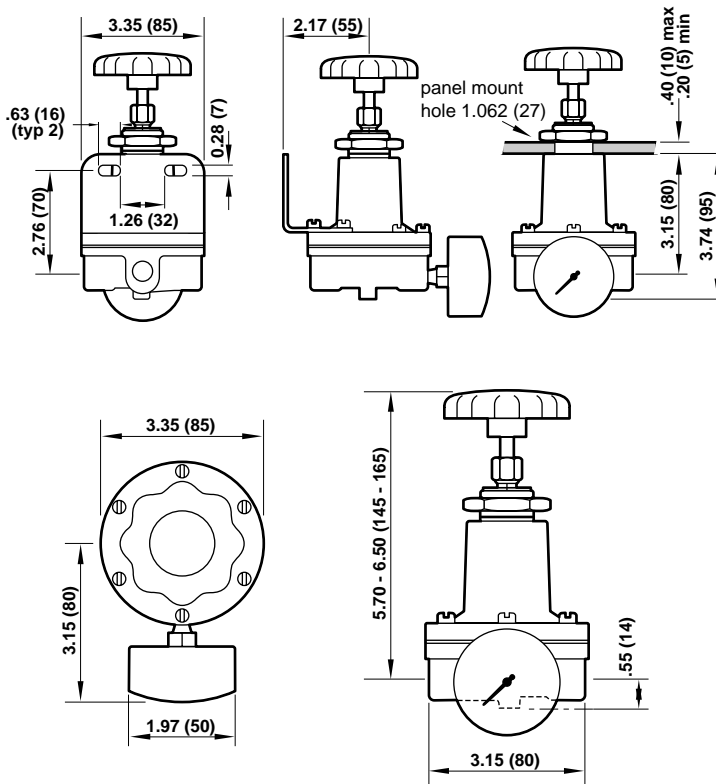
Body, bonnet: Zinc

Elastomers: Nitrile

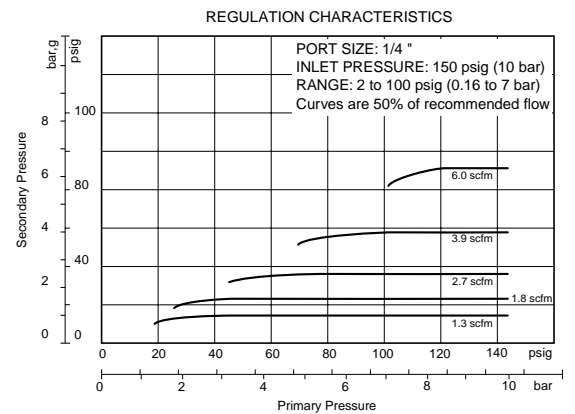
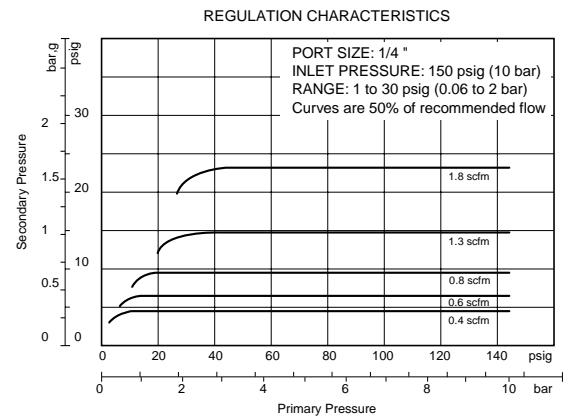
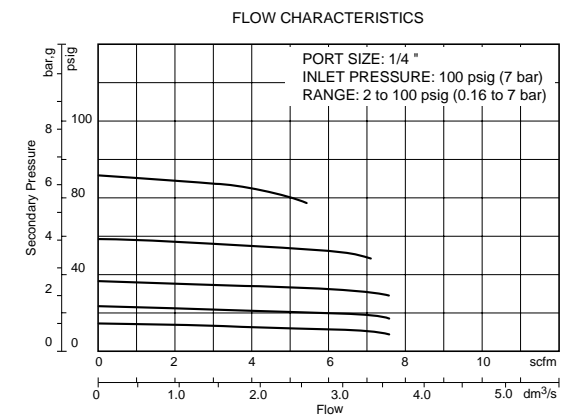
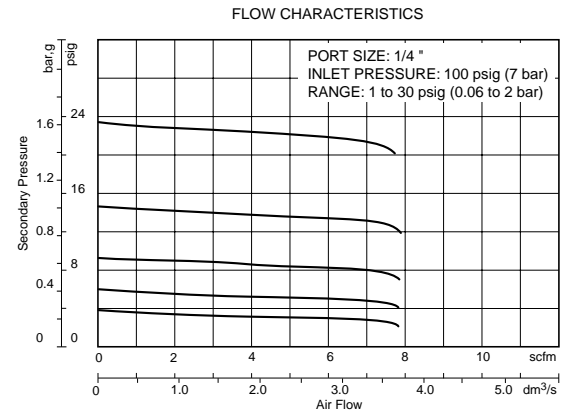
All Dimensions in Inches (mm)

**Mounting Dimensions**

(Shown with optional gauge and mounting bracket)



**Typical Performance Characteristics**



**Service Kits**

Type	Part number
11 400-20AL-X	11 400-100

Service kit includes: diaphragm assemblies, valve assembly, valve spring o-rings and valve seats for pilots.

- Pilot regulators are used to control the outlet pressure of a pilot operated regulator (ordered separately)
- The pilot regulator is installed in an accessible location in the compressed air system; pilot operated regulator is installed at any point without regard to accessibility
- Feedback pilot regulator provides superior pressure regulation under changing flow demands where changes in flow demand are not sudden or cyclic.
- Constant bleed feature provides maximum sensitivity to system changes
- Relief feature allows reduction of downstream pressure when the system is dead-ended



**Ordering Information** Model listed is relieving, constant bleed, 5 to 100 psig (0.3 to 7 bar) outlet pressure adjustment range†, with PTF ports.

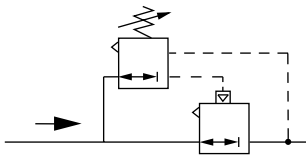
Port Size	Type	Model	Weight lb (kg)
1/4" PTF	Feedback Pilot	11-104-001	3.38 ( 1.53)

† Outlet pressures can be adjusted to pressures in excess or, and less than, those specified. Do not use these units to control pressures outside of the specified ranges.

### Feedback Pilot Regulator Warning

The feedback line must sense the pilot operated regulator outlet pressure and must be connected before turning on the air supply. If the feedback line is not connected, the pilot operated regulator outlet pressure will rapidly increase to the inlet pressure when the adjusting knob on the pilot regulator is turned clockwise.

### ISO Symbols



11-104 Feedback Pilot Regulator  
with Pilot Operated Regulator

**See Section ALE-25 for Accessories**



**Technical Data**

Fluid: Compressed air

Inlet pressure range: 10 psig (0.7 bar) to 400 psig (27.6 bar) maximum\*

\* For best performance, inlet pressure should be at least 10 psig (0.7 bar) greater than the desired regulated pressure, but must not exceed the specified maximum.

Operating temperature: 0 to 175°F (-20° to 80°C) \*\*

\*\* Air supply must be dry enough to avoid ice formation at temperatures below 35°F (2°C).

Maximum bleed rate at 50 psig (3.5 bar) outlet pressure:

0.25 scfm (0.12 dm<sup>3</sup>/s)†

†Maximum bleed rate occurs under dead-end (no flow) conditons.

Pilot ports: 1/4" PTF

Feedback port: 1/8" PTF

**Materials**

Body, bonnet: Zinc

Valve seat: Brass

Valve ball: Stainless steal

Elastomers: Nitrile

**Service Kits**

Type	Part number
11-104	1970-11

Service kit contains diaphragm, valve pin, valve springs, valve seat, valve ball, and all o-rings.

All Dimensions in Inches (mm)

Panel mounting hole diameter: 1.06" (27 mm)

Maximum panel thickness: 0.38" (10 mm)

