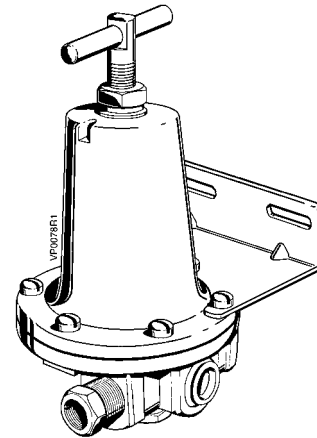


Powers™ Controls

RV 201 Pressure Reducing Valve



Description	The RV 201 Pressure Reducing Valve (PRV) is a diaphragm-operated regulator designed for precision control of air supply pressure to pneumatically operated equipment.	
Features	<ul style="list-style-type: none"> • Instant response to sudden volume demands with negligible pressure drop. • Supply pressure variations do not affect the stability of the reduced pressure. • Built-in air relief feature makes it an excellent regulator for dead-end service. • Die-cast aluminum with internal parts of brass. 	
Product Number	201-1000 PRV (with mounting bracket).	
Specifications	Air connections	
	In and out	1/4" NPT
	Outlet gauge ports	
	"L" plug	1/4" NPT
	"R" reducing bushing	1/4" to 1/8" NPT
	Maximum inlet pressure	250 psi (1724 kPa)
	Reduced pressure range	3 to 60 psi (21 to 414 kPa)
	Factory setting	18 psig (124 kPa)
	Operating temperature range	40 to 120°F (4 to 49°C)
	Capacity	8 cfm with pressure drop of 1 psi
	Stability	with variations in inlet pressures from 25 to 100 psi (172 to 690 kPa) the reduced pressure deviation is approx. 0.5 psi (3.4 kPa)

Specifications	Material	
	Diaphragm	Buna-N
	Disc	Buna-N
	Built-in relief for dead-end service	Approx. 3 psi (21 kPa) differential
	Weight	2 lb (0.9 kg)
Dimensions	See Figure 1	

Mounting and Installation	<ul style="list-style-type: none"> • Install a shut-off valve ahead of all equipment. It is recommended that a filter be installed directly ahead of the PRV. • Install the PRV as near as practical to the point of use or to the equipment it is supplying. • Be sure pipe ends are reamed clean to assure a smooth flow. • Always blow out line to remove scale or other foreign matter. • Apply pipe compound to male threads only and only enough to make tight joints. • The piping connections are marked in each port on the underside of the PRV body. The valve should be installed in the line so that the airflow is from IN to OUT. Tappings L and R are normally for gauge use but may also be used for outlet or service purposes in certain applications.
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Adjustment	Changes in reduced pressures on the PRV can be made upward or downward without bleeding or venting the reduced pressure system. To increase pressure, turn the adjusting screw clockwise. To decrease pressure, turn the adjusting screw counter-clockwise.
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Troubleshooting	If the PRV pressure becomes unsteady, reduced, or deviates in excess of the normal observed setting, replacement of the internal parts may be required. See Table 1.
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Table 1. Troubleshooting.

Complaint	Check	Probable Cause	Corrective Action
Reduced Pressure	Diaphragm	Diaphragm stiff or swollen	Replace diaphragm
	Inner valve	Inner valve dirty or worn, Seat is scored	Clean and/or replace
	Filter	Filter is dirty	Clean filter
	Supply valve	Supply valve not fully open	Make sure the supply valve is wide open
	Air leakage through vent in cage	Dirty or worn inner valve allows constant relief	Clean and/or replace

Service

To obtain best efficiency and longest periods of trouble-free service, the air supply must be kept clean. Use a filter ahead of the PRV. Clean the filter periodically.

Replacement of Diaphragm

See Table 2.

1. Release spring tension by turning adjusting screw (1) counterclockwise.
2. Loosen the flange screws (5) and separate the upper (6) and lower housing (9).
3. Remove diaphragm assembly (7) and replace it with a new assembly.
4. Reassemble the upper and lower housing and tighten the flange screws.
5. Reset the PRV as instructed in the *Adjustment* section.

Replacement of Inner Valve

See Table 2.

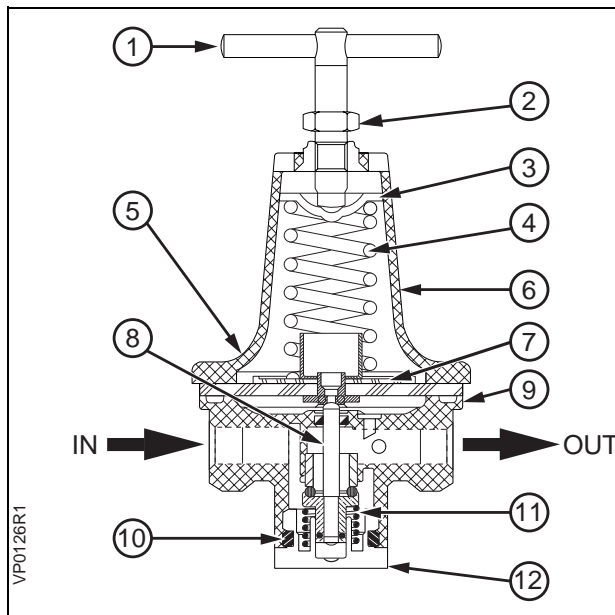
1. Remove bottom plug (12), poppet spring (11), and inner valve (8).
2. Wipe seat clean. Insert a new inner valve (8).
3. Reassemble the poppet spring (11) and bottom plug (12) with a new gasket (10).
4. Reset the PRV as instructed in the *Adjustment* section.

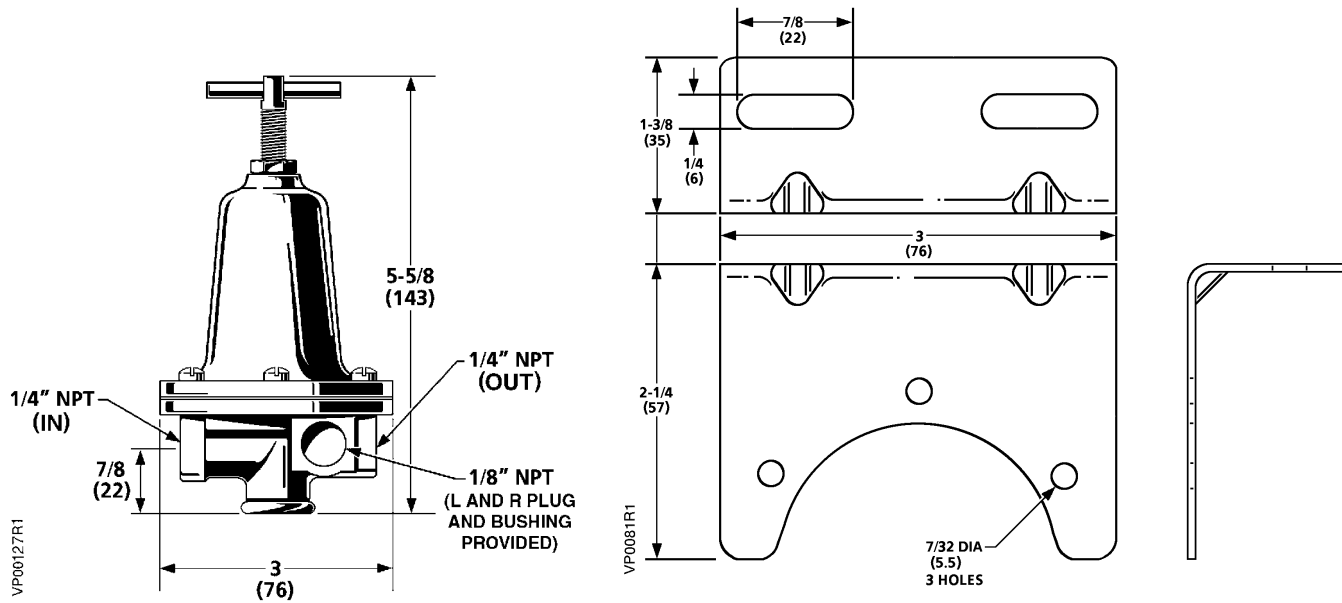
Repair Parts

For information on repair parts, contact:

Watts Fluid Air
9 Cutts Road
Kittery, ME 03904-0902
Phone: (207) 439-9511
Fax: (207) 439-5632

Table 2. Parts of the Pressure Reducing Valve.

	Item	Description
	1	Adjusting screw
	2	Check nut
	3	Spring washer
	4	Adjusting spring
	5	Flange screw
	6	Upper housing
	7	Diaphragm assembly
	8	Inner valve
	9	Lower housing
	10	Bottom plug gasket
	11	Poppet spring
	12	Bottom plug



**Figure 1. Dimensions of the Pressure Reducing Valve and Mounting Bracket.
 Dimensions in Inches (Millimeters).**

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