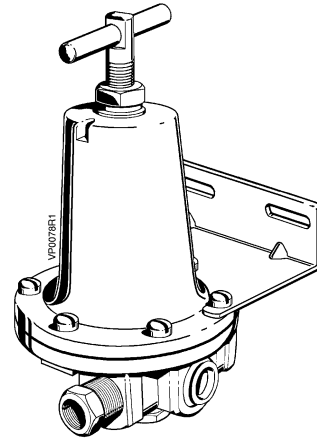


POWERS® Controls

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	<table border="0"> <tr> <td data-bbox="454 1302 1023 1354">Air connections</td> <td data-bbox="1023 1302 1479 1354"></td> </tr> <tr> <td data-bbox="454 1354 1023 1396"> In and out</td> <td data-bbox="1023 1354 1479 1396">1/4" NPT</td> </tr> <tr> <td data-bbox="454 1396 1023 1438"> Outlet gauge ports</td> <td data-bbox="1023 1396 1479 1438"></td> </tr> <tr> <td data-bbox="454 1438 1023 1480"> L plug</td> <td data-bbox="1023 1438 1479 1480">1/4" NPT</td> </tr> <tr> <td data-bbox="454 1480 1023 1522"> R reducing bushing</td> <td data-bbox="1023 1480 1479 1522">1/4" to 1/8" NPT</td> </tr> <tr> <td data-bbox="454 1522 1023 1564">Maximum inlet pressure</td> <td data-bbox="1023 1522 1479 1564">250 psi (1724 kPa)</td> </tr> <tr> <td data-bbox="454 1564 1023 1606">Reduced pressure range</td> <td data-bbox="1023 1564 1479 1606">3 to 60 psi (21 to 414 kPa)</td> </tr> <tr> <td data-bbox="454 1606 1023 1648">Factory setting</td> <td data-bbox="1023 1606 1479 1648">18 psig (124 kPa)</td> </tr> <tr> <td data-bbox="454 1648 1023 1690">Operating temperature range</td> <td data-bbox="1023 1648 1479 1690">40 to 120°F (4 to 49°C)</td> </tr> <tr> <td data-bbox="454 1690 1023 1732">Capacity</td> <td data-bbox="1023 1690 1479 1732">8 cfm with pressure drop of 1 psi</td> </tr> <tr> <td data-bbox="454 1732 1023 1829">Stability</td> <td data-bbox="1023 1732 1479 1829">With variations in inlet pressures from 25 to 100 psi (172 to 690 kPa) the reduced pressure deviation is approximately 0.5 psi (3.4 kPa)</td> </tr> </table>	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 approximately 0.5 psi (3.4 kPa)
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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

(Also see *Installation Instructions 129-136*)

- 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.
- Ensure 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 external 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.

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.

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.

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	Ensure 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.

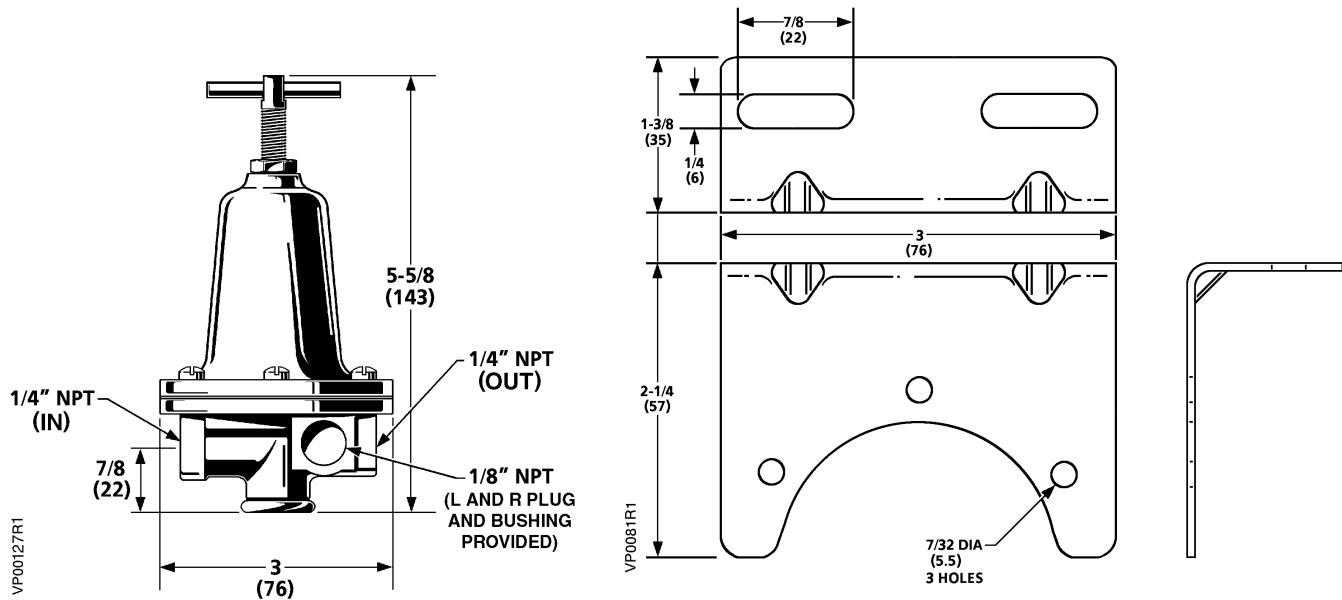
Repair Parts

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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