

**CONTROL DEVICES, INC.**  
**VR SERIES**  
**VACUUM AND PRESSURE RELIEF VALVES**

**DESCRIPTION**

VR series valves are used in systems where a predetermined level of vacuum or low pressure (less than 20 psi) is required. They are proportional relief valves and as such the relief flow is proportional to degree of excess vacuum or over-pressure. (NOTE: VR series valves are not "pop" type safety valves, which open to full capacity very quickly in order to relieve dangerous overpressure conditions.)

VR valves are assembled in the factory in the Vacuum Relief configuration (they are not, however, preset at any particular setting). They are easily converted to the Pressure Relief configuration following instructions on the back of this sheet.

**WARNING!**  
**IT IS IMPERATIVE THAT THE PROPER VALVE CONFIGURATION (VACUUM OR PRESSURE) BE ESTABLISHED BEFORE INSTALLATION. FAILURE TO DO SO MAY RESULT IN EQUIPMENT DAMAGE OR POSSIBLE SEVERE PERSONAL INJURY.**

**Materials of construction:**

- Body, Adjusting Screw, Locknut — Brass
- Spring — Zinc Plated Music Wire
- Poppet — Nylon (VR38 and VR75 only)
- Séal — Nitrile Rubber (VR 38 and VR75 only)
- Ball — Chrome Steel (VR25 only)

Maximum Temperature — 250°F.

**APPLICATION**

**VACUUM** — Select appropriate size VR valve from table below. If necessary, re-configure the valve to the vacuum configuration as shown on the back of this sheet. Install valve in "tee" of inlet line of vacuum pump. Adjust vacuum to desired level by loosening locknut and turning adjustment screw clockwise to increase vacuum level, counterclockwise to reduce vacuum level.

| Grainger Stock No. | Model No. | Inlet Size | Vacuum Range | Max Recommended Vac. Pump HP |
|--------------------|-----------|------------|--------------|------------------------------|
| 5Z763              | VR25      | 1/4 NPT    | 0-30 in. Hg  | 1/4                          |
| 5Z764              | VR38      | 3/8 NPT    | 0-30 in. Hg  | 1 HP                         |
| 5Z765              | VR75      | 3/4 NPT    | 0-30 in. Hg  | 3 HP                         |

**PRESSURE** — Select appropriate size VR valve from table below. If necessary, re-configure the valve to the pressure configuration as shown on the back of this sheet. Install valve in "tee" of the outlet line of the compressor or directly into the air receiver. Adjust pressure to desired level by loosening locknut and turning adjustment screw clockwise to increase pressure, counterclockwise to decrease pressure.

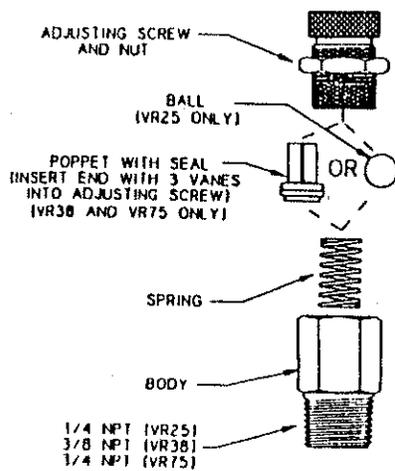
| Grainger Stock No. | Model No. | Inlet Size | Cracking Pressure Range | Flow at 5 psi Past Cracking Pressure |
|--------------------|-----------|------------|-------------------------|--------------------------------------|
| 5Z763              | VR25      | 1/4 NPT    | 0-20 psig               | 2 SCFM                               |
| 5Z764              | VR38      | 3/8 NPT    | 0-20 psig               | 5 SCFM                               |
| 5Z765              | VR75      | 3/4 NPT    | 0-20 psig               | 10 SCFM                              |



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## VACUUM RELIEF CONFIGURATION



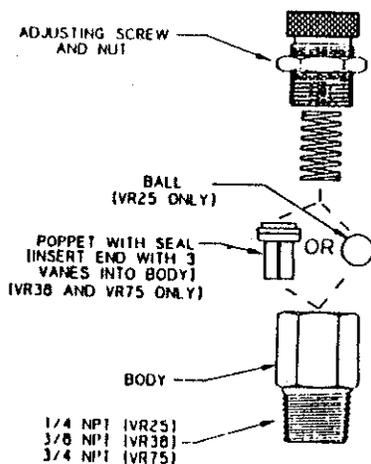
### TO CONFIGURE FOR VACUUM RELIEF

1. Completely remove adjusting screw, spring and poppet/seal or ball from body.
2. Place adjusting screw upside-down on flat surface and install poppet/seal or ball into the adjusting screw (make sure the three vanes on the poppet/seal are home in the screw through-hole).
3. Place spring over end of poppet/seal or onto ball.
4. Carefully thread body onto screw and adjust as required.

### VERIFICATION OF VACUUM RELIEF

CONFIGURATION may be made by looking into through hole of adjusting screw. The three vanes of the end of the poppet/seal or the chrome steel ball is all that should be visible (the spring should not be visible).

## PRESSURE RELIEF CONFIGURATION



### TO CONFIGURE FOR PRESSURE RELIEF

1. Completely remove adjusting screw, spring and poppet/seal or ball from body.
2. Place body on flat surface and install poppet/seal or ball into the body (make sure the three vanes on the poppet/seal are home in the body inlet through-hole).
3. Place spring over end of poppet/seal or onto ball.
4. Carefully thread screw into body and adjust as required.

### VERIFICATION OF PRESSURE RELIEF

CONFIGURATION may be made by looking into through hole of adjusting screw. The view should be clearly into the interior of the valve. The spring should be visible, and seen resting on top of the poppet or ball.

### WARNING!

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