

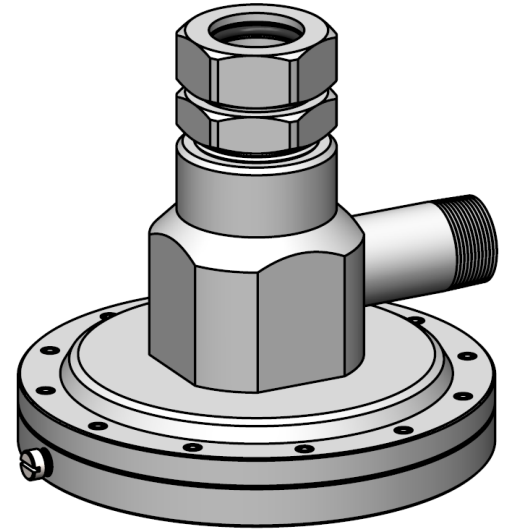


## Series 3000 Differential Pressure Regulator & Vacuum Trim Valve

A differential pressure regulator maintains a constant pressure drop across the control orifice, providing a consistent gas flow rate regardless of variations in upstream or downstream pressure.

### Benefits & Features

- Maintains a steady gas flow rate for high capacity gas feed systems
- Machined PVC bodies for maximum durability
- Vacuum connections are a 1.5" pipe compression fitting w/ O-ring seal for easy installation and adjustments
- Additional 1/4" NPT port for vacuum gauge to measure vacuum levels
- For systems up to 10,000 PPD (200 Kg/h)



### Description of Operation

Most gas feed systems depend on sonic regulation which requires maintaining enough ejector suction ( $\geq 14$ " Hg) to accelerate the gas to MACH 1, the speed of sound (i.e. sonically) through the control orifice so that a variation in vacuum will not cause a variation in feed rate.

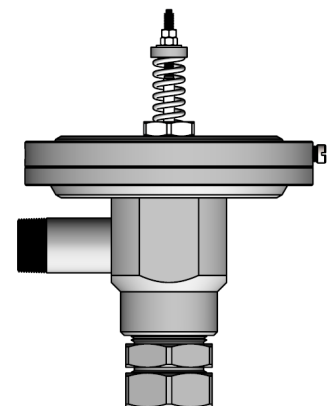
With larger capacity systems a differential pressure regulator may be required as the pressure differential across the control orifice will begin to equilibrate the more open it becomes; eventually reaching a point where the gas will no longer travel sonically. For these systems the gas flow becomes more susceptible to fluctuations in ejector performance causing undesirable variations in the gas feed rate.

A differential pressure regulator controls the ejector vacuum to maintain a constant pressure drop across the variable control orifice. This ensures that the flow of gas through the control orifice is entirely the function of the size of the orifice as determined by its position; assuring that the gas feed rate will be maintained at its desired setting.

### Vacuum Trim Valve

A vacuum trim valve is used to supplement the differential pressure regulator. It is installed between the ejector and the differential pressure regulator to reduce the ejector vacuum to a more controllable range for the differential pressure regulator to operate.

A vacuum trim valve is recommended for systems feeding more than 4,000 PPD (80 Kg/h) or in high capacity systems using a differential pressure regulator where ejector vacuum levels may reach 14" Hg or more.



## Ordering Information

Part Number	Description
DPR-10K-CL2	Differential pressure regulator 10,000 PPD (200 kg/h) max.
VTV-10K-CL2	Vacuum trim valve 10,000 PPD (200 kg/h) max.

## Flow Diagram

