

# VALV-TROL BACK PRESSURE RELIEF VALVES

**FOR WATER, 95/5, OIL OR OTHER LIQUIDS  
PRESSURES TO 25,000 PSI (1,724 Bar)**

The **Valv-Trol Back Pressure Relief Valve** is sometimes called a Back Pressure Regulator or Bypass Valve. It is used to regulate the discharge pressure of a positive displacement pump.

The valve is mounted in a branch off the main discharge pipe, and acts as a modulating relief valve. If pressure tries to rise above the set point, the valve relieves only enough fluid to prevent a pressure rise. This is accomplished without the full lift and excessive blowdown of a spring loaded relief. The valve comes complete with precision air regulator or pressure transducer and does not require any outside controller or feedback loop.

**Ideal for applications requiring pressure regulation with large or frequent flow variations.**

**Wide range of optional features, such as body and trim materials, port connections, flow rates, and pressure ratings.**

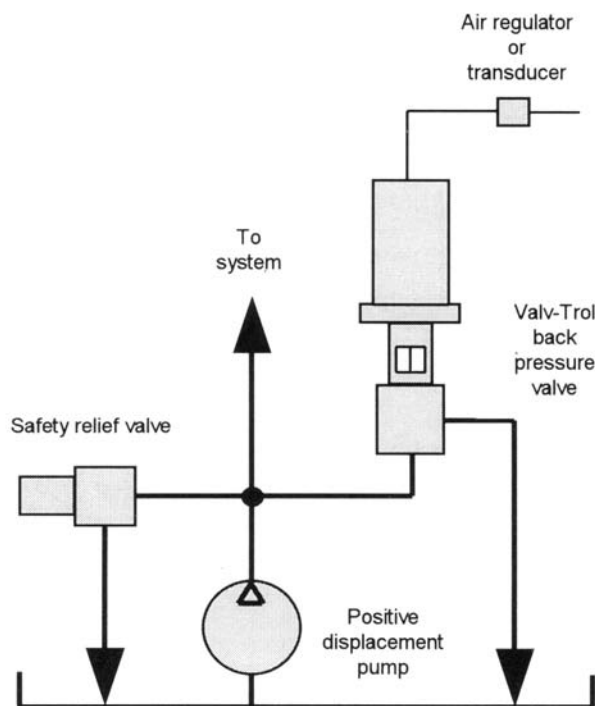
Allows you to choose the best valve for your application.

**The valve is simple in concept.**

*Requires no special tools for maintenance.*



Model C-0274 shown with optional "top hat" air chamber



Typical application

Our valves are all subjected to 100% pressure testing to ensure proper operation before we ship to our customers.

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# BACK PRESSURE RELIEF VALVES

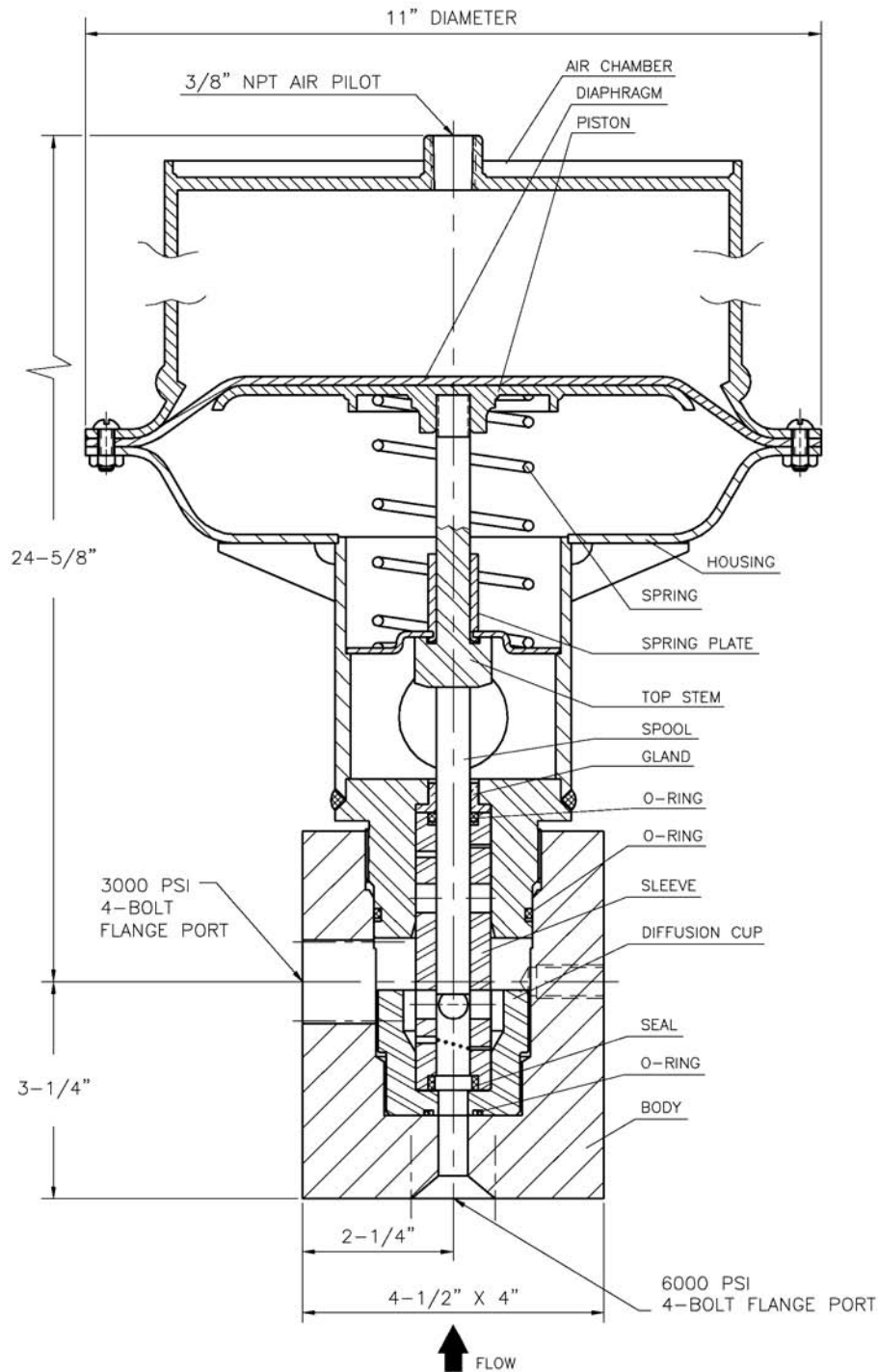


Illustration shows a typical valve. Please consult Valv-Trol for other features not shown.

## BACK PRESSURE VALVES—PRINCIPLE OF OPERATION

The valve operates by balancing the liquid system pressure and a constant air pressure applied to the diaphragm by the precision regulator. An internal spool is positioned to adjust the effective orifice size for proper flow.

The pump is usually oversized slightly to allow some bypass flow through the valve under normal conditions. Once the pump is running and a constant air pressure is applied, the spool finds its balancing point, and the pressure stabilizes. The higher the air pressure, the higher the liquid system pressure.

If system demand increases (more nozzles added, valves opened, etc.), the spool moves down to close off more holes and prevents a pressure drop. If system demand decreases, the spool moves up to open more holes and prevents a pressure rise.