

High Pressure Products

Over Pressure Protection

General Description

Versa's Over Pressure Protection product is an engineered custom assembly to protect systems from unsafe pressures. The OPP circuit is a fully integrated system made up of three modules.

The first module is the Gas Preparation Module. This module incorporates a high pressure filter, regulators and relief valves. Filter drain valves are also available.

Module two focuses on the actuator shutdown valve. The valve can be pilot and or solenoid operated, with or without a latching feature. Actuator speed controls are always an available option.

The last module is the Pressure Sensing Module. The main component of this module is the pressure sensor. This module may also be equipped with a block & bleed for an isolation and test function. All module components are assembled and tested in one package.

In operation, the process gas is connected to the OPP system. Versa's high pressure filter removes debris to improve reliability. The clean process gas is then connected to the pressure sensor and high pressure regulators, all internal to OPP system. The pressure sensor is adjusted to a high limit setpoint to monitor the system for an unsafe high pressure condition (high-low monitoring is also available). The dual high pressure regulators (or high pressure regulator and filter regulator) supply a low pressure signal for the actuator control circuit, all included in OPP system. A block and bleed valve can be attached to the high pressure filter supply and sensor and act as an isolation and test port.

When the setpoint of the pressure sensor is exceeded,

the sensor shifts removing the system control signal to the actuator shutdown valve's pilot port. The pressure sensor valve vents, the latching actuator shutdown valve shifts to the de-energized position shutting down the process valve. When the pressure sensor signal has dropped below the high limit setpoint to a safe pressure, the system is restored by manually resetting the latch on the actuator shutdown pilot valve. A solenoid ExPilot operated actuator shutdown valve is also an option. This option is used when local or remote electrical e-stop is required. A relief valve or relief valve auxiliary port can be included as required for customer's specifications.

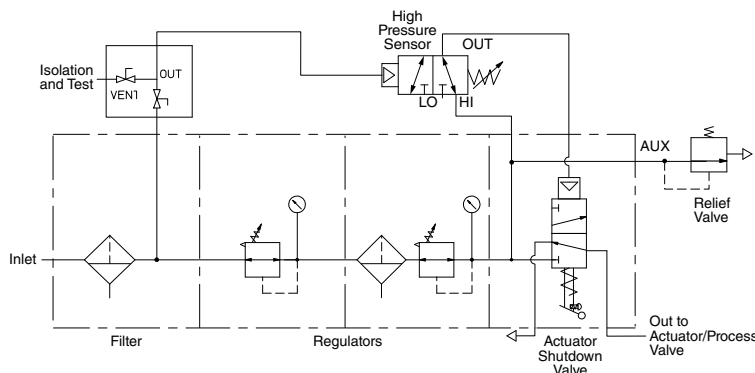
Modules

- I Gas Prep Module
 - Filter with Drain
 - Regulator, First Cut
 - Regulator, Second Cut
 - Relief Valve
- II Control Valve Module
 - Actuator Shutdown Valve, Pilot actuated with Manual Latch Options
 - Speed Control
- III Pressure Sensing Module
 - Pressure Sensor
 - Isolation and Test Valve

Specifications

Media:	Gas/Air
Pressure:	To 1600 psi
Materials:	316 Stainless Steel

Typical Circuit

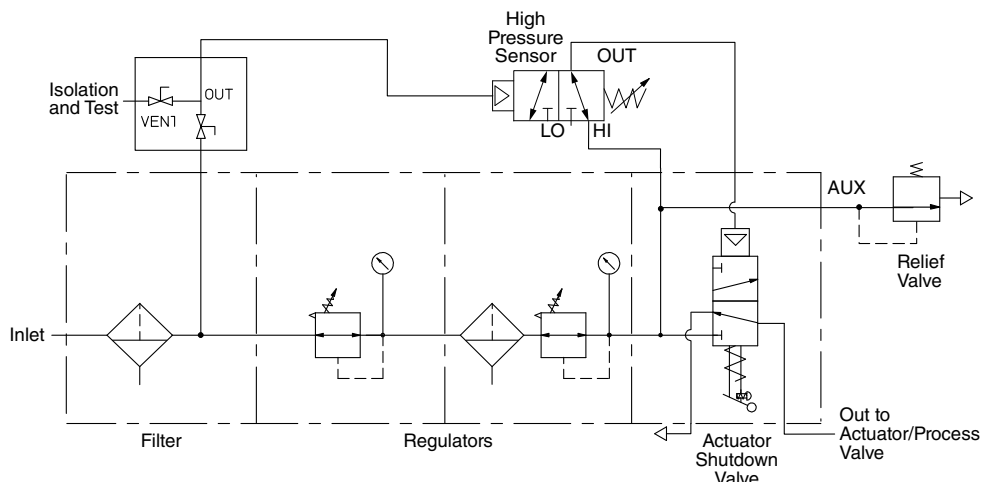


Typical Assembly

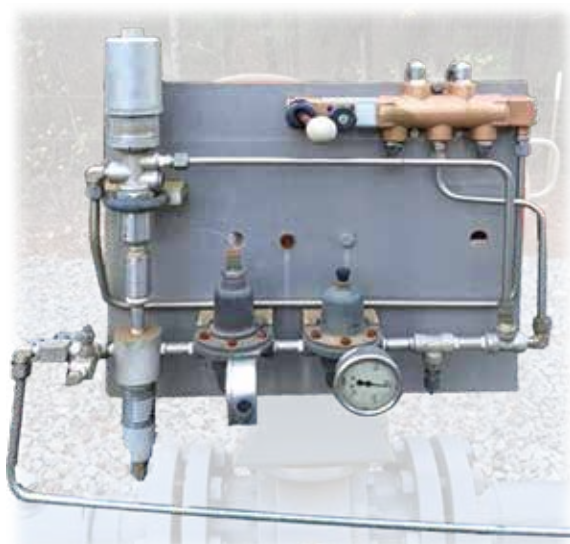


OVER PRESSURE PROTECTION

Typical Circuit



Current OPP Control Panel



- Inconsistency in design
- Bulky, very large assemblies
- Multiple vendors for components
- Labor intensive construction
- Expensive fittings and tubing
- Difficult to remove and service
- Multiple leakage points
- Different materials

Versa's OPP Modular Package

- Competitive cost
- Four bolt mounting
- One part number for complete assembly
- One vendor
- Factory designed, assembled and tested
- Reduced fittings, tubing and labor costs
- Small in size - light in weight
- Field proven design
- Components SIL capable
- Easy component replacement and serviceability
- All 316 stainless steel

