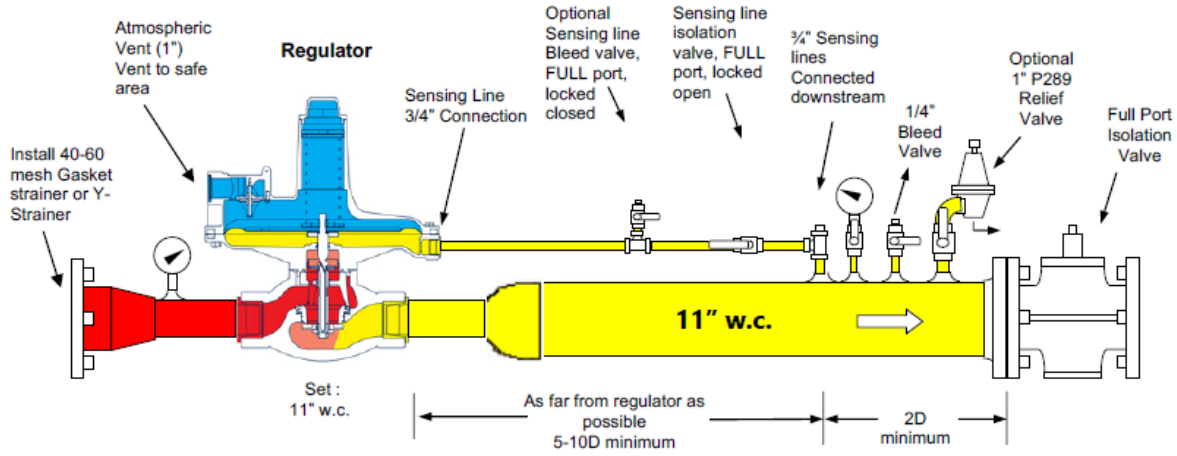
Typical BelGAS P133 Regulator with Downstream Token Relief Valve



Description

The 133 is a high flow, direct acting regulator with external sensing line. The sensing line should be ½" or ¾" black iron, steel pipe or SS tubing and should be connected in the downstream piping. The relief valve is piped downstream of the main regulator. Its purpose is to relieve gas to atmosphere should the main regulator fail to close, thus keeping the downstream piping from over-pressurizing. The relief valve should be sized so that it can relieve enough gas to keep the downstream pipe pressure from exceeding an unsafe limit.

Installation Considerations

1. Gas lines should be thoroughly blown out prior to introducing gas to the regulator. If space permits, a Y strainer should be installed upstream of the regulator.
2. Pressure gauges should be installed on inlet, and on the outlet.
3. Sensing lines should be connected in straight unobstructed section of pipe as far down the pipe as practical with at least 5-10 pipe diameters downstream from the regulator, with an additional 2 pipe diameters of straight pipe after the sensing line connections. If the pipe flares up after the regulators, then sensing lines should be installed in this larger diameter pipe. ¾" steel pipe or ½" SS tubing can be used. It is important to keep sensing lines straight and avoid installing where there is turbulence.
4. Isolation Shutoff valves can be installed on the sensing lines but they must be FULL port and locked in the open position during normal operation to ensure they are never accidentally closed – this can cause regulator to go wide open. A needle valve may need to be installed in the event of instability.
5. Bleed valves can be added to the sensing lines to facilitate maintenance. They should be locked in the closed position and plugged. Bleed valves on sensing lines should only be used to remove pressure from the sensing line during maintenance not to adjust set pressure.
6. A Primary Bleed valve can be installed downstream of the set. This can be used to maintain flow while making adjustments. It can also be used as a back-up sense line connection point should an instability issue arise with the original sense line location.
7. An appropriately sized Relief Valve can be installed on the outlet side of the set to protect the downstream piping from over pressurizing should the main regulator fail open.
8. If installed inside, vent lines should be piped to the closest safe outside location (to minimize overall length) and piping should be designed to minimize 90's. Terminate with bug screen to protect vent from water, ice and bugs. Vent pipe diameter should be increased 1 size every 10 effective feet. Straight pipe with a union should be run out of the vent 12-18" before the first 90. Failure to adhere to good venting guidelines can lead to regulator instability.

Note: *all adjustments should be made with gas flowing (either downstream equipment running or using the main bleed valve. If using a small bleed valve keep in mind that it may take some time to relieve the line pack).*