



Model GP-2000WIP

Non Electric Self Controlled Shut Down Device for Water Pressure Loss to Fixed Steam Pressure Heat Exchangers

This bulletin should be used by experienced personnel as a guide to the installation of the Model GP-2000WIP Pressure Reducing Valve. Selection or installation of equipment should always be accompanied by competent technical assistance. You are encouraged to contact Armstrong International, Inc. or its local representative for additional information.

The problem that many facilities experience today with their hot water supply is keeping their water supply at the correct temperature for their needs. This problem can be caused by many variables. One in particular is the water pressure that is used for fixed steam pressure and feedforward instantaneous water heaters.

All feedforward instantaneous steam water heaters on the market today operate with the water pressure higher than the steam pressure. The common recommendation is to have the water pressure at least 10-20 PSI greater than the steam pressure to prevent the water in the tubes of the water heater from boiling. With control of the water pressure, you can prevent damage to the unit, as well as boiling of the water, leading to personal injury. In the past, many applications that needed to control the water pressure and steam pressure relationship used a pressure switch in the supply water to activate a solenoid valve or electric actuated valve to shut off the steam supply. The Armstrong GP-2000W1P is a self-controlled shut down device avoiding the need for electricity to control any of these systems, making it an even more economical solution.

How the system works

The system, when piped as shown in the drawing, will provide a safe dependable shut down of the main steam valve when the water pressure fails or drops rapidly on a fixed pressure steam water heater. Unlike a solenoid application, which shuts the steam down when the water pressure drops below a pre-set point, the GP-2000W1P offers another benefit that it allows the system to keep producing hot water even when the water pressure is below the set pressure. The GP-2000W1P Combination valve essentially lets the steam pressure modulate below the water pressure by 2 or 3 pounds, allowing a water heater to supply hot water even when water pressure is low.

The GP-2000W1P combination valve is piped together with a Feedforward type instantaneous hot water heater. Incoming cold water is piped into the hot water heater with a sample line piped to the K1 Pilot of GP-2000W1P. At the same time the cold water is supplying the water heater its pressure; it is also supplying the K-1 Pilot. When the pressure of the incoming cold water decreases, the K-1 Pilot modulates down the supply of steam to the pressure pilot controlling the main steam valve, acting as a non-electric self-controlled shutdown device. Ultimately, this valve eliminates the use of any electricity and gives the customer safe control of their hot water supply when water pressure loss or fluctuating water pressure conditions exist.

