



[HOME](#) > [ENGINEERING & TECHNICAL](#) > [TECHNICAL ARTICLES](#) > [PRESSURE REGULATOR VS. BACKPRESSURE REGULATOR](#)

Technical Articles

January 19, 2016

Pressure Regulator vs. Backpressure Regulator

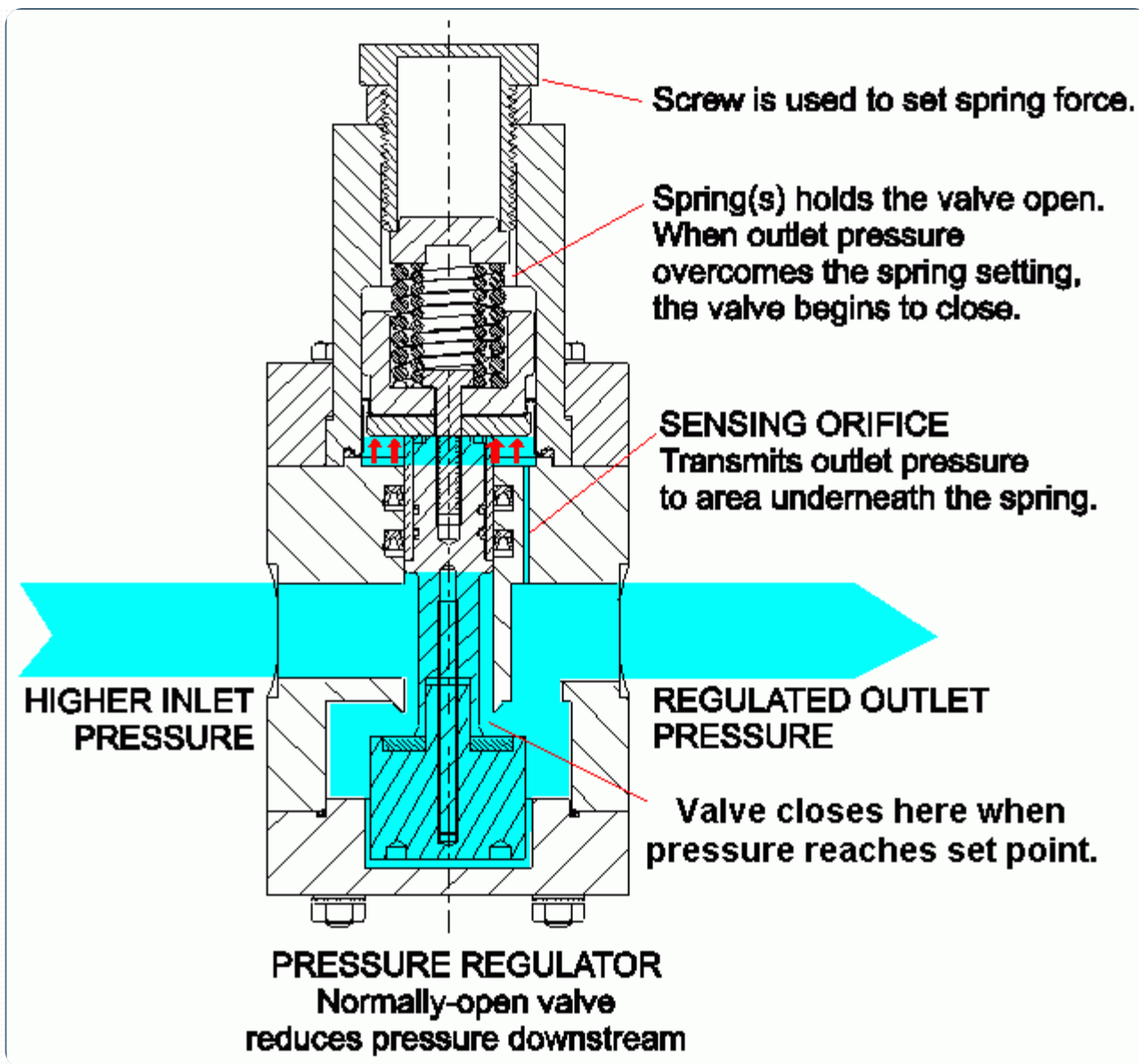
When to use one or the other...and when to use both!

Pressure regulators are often misunderstood and misapplied. Somebody might call it a “pressure sustaining valve,” still another might know it as a “pressure reducer valve.” To make matters worse, backpressure regulators are commonly mistaken for pressure regulators.

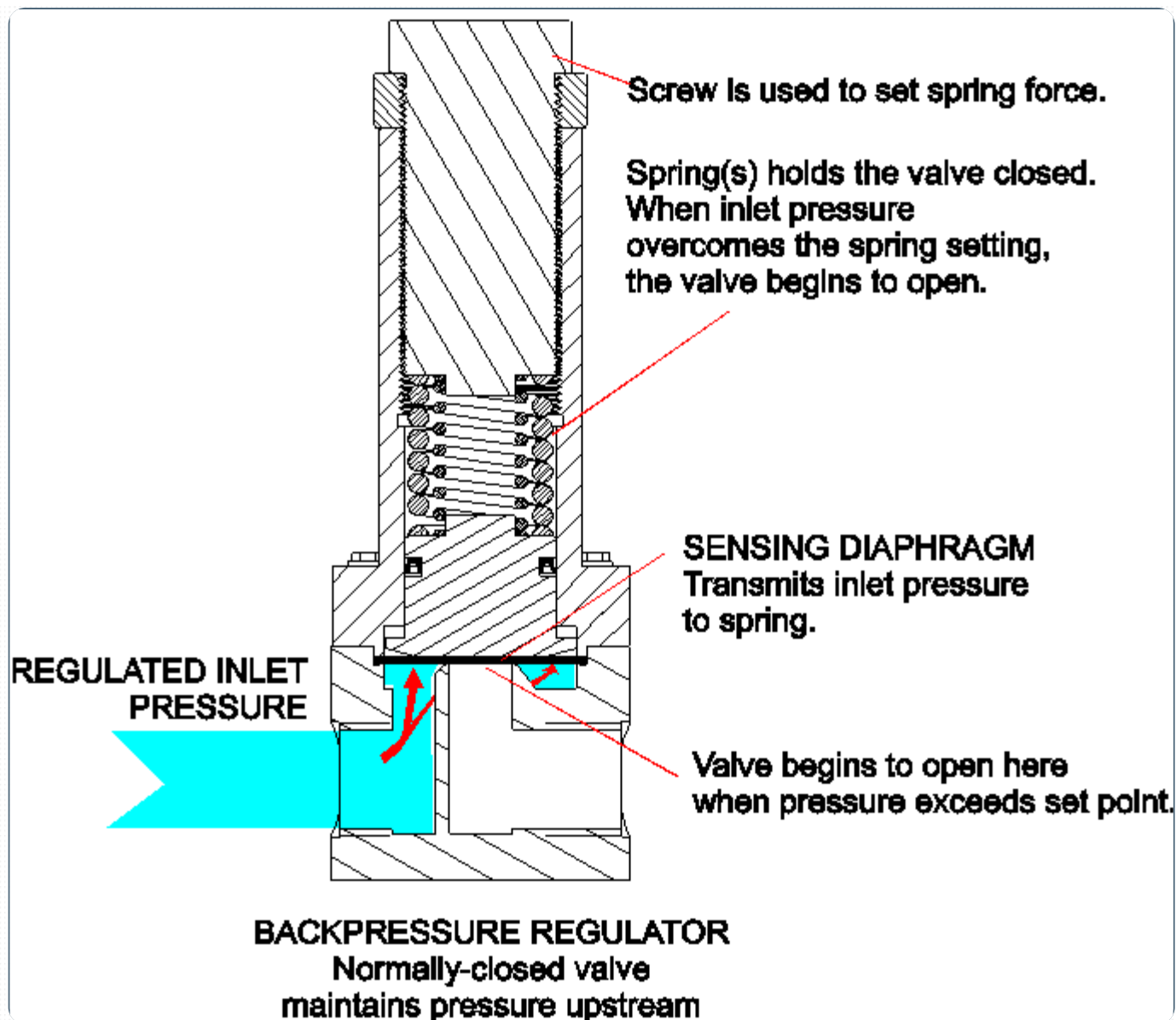
The pressure regulator is a *normally-open* valve and is installed at the START of a system or before pressure sensitive equipment to regulate or reduce undesirable higher upstream pressure.

The backpressure regulator is a *normally-closed* valve installed at the END of a piping system to provide an obstruction to flow and thereby regulate upstream (back) pressure. The backpressure regulator is called upon to provide pressure in order to draw fluid off the system.

Function of a Pressure Regulator:



Function of a Backpressure Regulator:



USES OF EACH

Where an obstruction will benefit everything prior to the valve, for example, at the end of a return line and just prior to the tank, a backpressure regulator should be used to provide an obstruction so that all the equipment prior will have sufficient pressure. When pressure is too high, the backpressure regulator opens and dumps into the tank. Too often, a pressure regulator is installed at this point instead. In this case, the pressure regulator will simply stay wide open and just send liquid straight into the tank without maintaining upstream pressure...just a very expensive fitting.

Where an obstruction will benefit everything after the valve, a pressure regulator should be used so that all the equipment after it will not have excessive pressure. Used where it should be — at the beginning of a process — the pressure regulator will ensure safe downstream pressure.

BALANCING A SYSTEM

The combination of a pressure regulator at the beginning of a system, and a backpressure regulator at the end of a system, will ensure balanced pressure throughout the system. This is a simplification, of course, and the specifics within any given system can vary greatly.

Our Technical Group is on hand to assist you in specifying the right valve for the job.

Please call **973-256-3000**.

Please note that the features listed above apply to many manufacturers' valves, but the specifics refer only to Plast-O-Matic products. For the purposes of this comparison, certain specifications inherent to specialized or unusual models are not addressed.
