

## FLOW/PRESSURE CONTROLLERS



Flow/pressure controllers are optional systems pressure controls used in conjunction with the individual compressor or system controls described previously. A flow/pressure controller does not directly control a compressor and is generally not included as part of a compressor package. A flow/pressure controller is a device that serves to separate the supply side of a compressor system from the demand side. This may require compressors to be operated at an elevated pressure and therefore, increased horsepower, while pressure on the demand side can be reduced to a stable level to minimize actual compressed air consumption.

Storage, sized to meet anticipated fluctuations in demand, is an essential part of the control strategy. Higher pressure supply air enters the primary storage tanks from the air compressors and is available to reliably meet fluctuations in demand at a constant lower pressure level.

A well designed and managed system needs to include some or all of the following: overall control strategy, demand control, good signal locations, compressor controls, and storage. The goal is

to deliver compressed air at the lowest stable pressure to the main plant distribution system and to support transient events as much as possible with stored higher pressure compressed air. Primary storage replacement should utilize the minimum compressor horsepower to restore the primary pressure to the required level.

Each compressed air system differs in supply, distribution and demand aspects which require proper evaluation of the benefits to the system of a flow/pressure controller. Additional primary and/or secondary air receivers may also address intermittent loads, which can affect system pressure and reliability, and may allow operating the compressor at the lowest possible discharge pressure and input power.

Flow/pressure controllers, as used in compressed air systems, should be distinguished from simple pressure regulators as used in FRLs (Filter/Regulator/Lubricators). While flow/pressure controllers also sense and control downstream pressure, their rate of response and control characteristics are more sophisticated and precise, allowing control of system-wide downstream pressure, usually within +/- 1 psi. Regulators in the traditional sense are applied at the point of use for specific applications.

