

Gas Booster Flow Monitor

Applications:

- Gas Booster Flow Monitor
- Gas Booster Flow Switch
- Gas Booster Flow Control

Application Background:

Gas booster systems are used to keep up with demand in downstream piping as the process changes. Typically a gas flow switch is installed downstream from the gas booster fan. Once the downstream demand is met, the flow equalizes and there is no more flow at the switch. A relay in the switch can shut the booster system fan off until flow is needed again.

Application Solution:

There are many flow switch monitoring technologies including: flappers, displacers, turbines, etc. All have proven to work with varying degrees of success. Some have mechanical parts and are prone to wear, hang-up, and failure. Some do not work well or for long in the elevated temperatures of this application.

A better solution for flow detection in a gas booster system is the Thermal Differential Switch. The TD switch has two thermal sensing devices (RTD's) encased in stainless steel tips. One sensor detects the temperature of the process air while the second has a small current applied to create a thermal differential above the process air temperature. The differential temperature between air at no flow and air that is flowing is different. Therefore detection of flow and no flow across the sensor probe is a simple, reliable technique for air flow monitoring and control.

With a single process connection to the gas flow pipe a TD probe can be strategically located to monitor the gas flow in the process. The gas booster fan will stay running until the flow across the TD sensor equalizes and the flow stops. At that point the relay output of the flow switch can turn off the booster fan.

Any of the Delta M Corporation microtuf® and Versa-Switch® gas flow product models can provide the solution in this application. The dual channel Versa-Switch® has the added feature of a second relay contact for a Failure Alarm (FA) option to watchdog the unit for power failure or interrupt, sensor failure, electronics failure, etc. This combination provides for the best security and assurance that the flow switch is ready at all times to provide for the gas booster system control.

See the products section to select your model and configuration to meet your specific needs.