

Customer Requirements: A manufacturer of dairy products needed to maintain the flow of product through a process line. They did this by injecting a stream of Nitrogen gas into the process line and by varying the pressure of the Nitrogen gas as needed to maintain the required flow. Pressure range of the gas needed was 50-400 psig. The problem was that every time they needed to change the pressure someone would need to go out to the production floor and manually adjust the pressure.

Solution: Stanley M. Proctor Co. designed and built equipment that provided the customer with the ability to remotely monitor and control pressure of the Nitrogen gas being injected into the process line. The pressure control system utilized a Tescom 26-2000 series pneumatically operated pressure reducing regulator and a Tescom ER5000 electro-pneumatic controller to provide closed-loop pressure control of customer supplied Nitrogen gas. The system had an inlet pressure rating of 1,000 psig and was capable of output pressures ranging from 50-400 psig. The system was sized to provide Nitrogen flow rates of 0.1-0.5 lbs./hr. The regulator, controller, and all the associated system components were housed in a 16" tall x 20" wide x 8" deep Stainless Steel NEMA 4X enclosure. System electrical components were mounted in a NEMA 1 enclosure residing inside the NEMA 4X enclosure. The system included a 500 psig pressure transducer for system output pressure feedback. The pressure transducer had a full scale accuracy of 0.1% and output a 0-20mA signal. The customer was able to wire the 4-20mA pressure transducer signal back to their existing control system. The pressure control system required the customer to supply a 4-20mA signal to set system output pressure. The customer also supplied shop air at 80 psig and 110 VAC for the system to operate. Process gas lines and fittings were Stainless Steel.

