

Case Study

ADR 150NA automatic acetylene pressure regulating station High and stable acetylene pressure and high reliability for industrial heat treatment

SAPIO has installed a WITT 150NA pressure regulating station for a company in the Italian automotive supply industry to reliably supply acetylene to the heat treatment furnaces. The combination of dome-loaded pressure regulation technology and redundant design with automatic changeover meets the high requirements of the application: high and stable acetylene gas pressure and maximum supply reliability.

Large quantities of acetylene at a stable working pressure of 1.3 bar are required to operate the furnaces – a value that is often difficult to achieve safely with conventional pressure regulators. This is due, on the one hand, to the relatively high pressure loss and, on the other hand, to difficulties with excessive closing pressure. When the machines are switched off, the back pressure can then rise above the 1.5 bar permitted for acetylene – a considerable safety risk. In real operation, the working pressure of such regulators is therefore often below the requirements or fluctuates too much. The result is frequent alarms, deterioration in the process quality of the furnaces and significantly more rejects.

The ADR 150 dome pressure regulator prevents that: with extremely low pressure drop and reliable control characteristics at the closing pressure, it keeps the outlet pressure stable and within the narrow limits. The high performance of up to 150 m³/h provides sufficient flow rate. At the same time, the redundantly designed station with automatic switching between 2 × 7 gas cylinder bundles ensures maximum supply reliability. Pressure transmitters continuously monitor the gas pressures. If necessary, the station automatically switches between the two rows of bundles via motor-driven ball valves. This ensures that the gas supply to the furnaces remains uninterrupted at all times and without any drop in pressure. As the empty bundles can be changed during operation, there are no downtimes – a significant economic advantage and a guarantee of consistently high product quality. For maximum safety, the system is equipped with high-quality WITT safety equipment, including the HDS17 slam shut valve, type 85-30 flashback arrestors and non-return valves.

Vito Campanella from SAPIO: "The reliability of WITT systems has been proven over many years and was a decisive factor in our selection. Our technical solution gave the customer so much confidence that we were even able to replace a supplier who had been supplying them for 25 years."

