



INTELLIGENT VALVE CONTROL FOR CARBON CAPTURE IN CEMENT PRODUCTION

BACKGROUND

Process Instrument Solutions recently partnered with Valve Solutions Ltd to deliver a package of instrumentation for a carbon capture project being supplied to a cement plant in Greece. As part of this joint venture, we supplied 14 Siemens SIPART PS2 electro-pneumatic intelligent valve positioners to be fitted to Valve Solutions Ltd's 110 Series globe control valves. Each valve was sized and manufactured against detailed process parameters to ensure optimal performance for the application.



CHALLENGE

The project required a highly reliable and precise valve control solution suitable for a demanding process environment. The instrumentation had to deliver accurate positioning, minimise energy consumption, and provide advanced diagnostic features to support ongoing plant performance. Given the critical nature of the valves in the carbon capture process, the system also needed to include comprehensive monitoring and feedback capabilities, as well as certification for use in hazardous areas.

SOLUTION

The Siemens SIPART PS2 was selected for its proven track record in challenging applications. With EX certification, the SIPART PS2 ensures safe operation while delivering excellent accuracy and control. One of its key advantages is its virtually zero air consumption during steady-state operation, using air only when making controlled adjustments.

The SIPART PS2 also provides advanced diagnostic and monitoring features, including a stroke counter to support predictive maintenance and optimise valve service intervals. Any air leakage can be detected and alarmed, further enhancing reliability. Additional functionality includes digital input capability, which allows defined commands to be sent directly to the positioner, and position feedback via a 4–20 mA output with HART communication for seamless integration into the plant's control system.





INTELLIGENT VALVE CONTROL FOR CARBON CAPTURE IN CEMENT PRODUCTION

RESULT

By combining Valve Solutions Ltd's 110 Series globe valves with Siemens SIPART PS2 positioners, the project has delivered a robust and efficient valve control package tailored to the needs of the cement plant's carbon capture process. The customer now benefits from accurate valve positioning, reduced energy consumption, enhanced diagnostics, and advanced communication features. This solution provides not only immediate performance improvements but also the tools for long-term reliability and easier maintenance planning.



EQUIPMENT SUPPLIED

Siemens SIPART PS2 Electropneumatic Positioner

Valve Solutions Series 110 Globe Control Valve

Unparalleled Services & Solutions

Process Instrument Services delivers expertise, precision and reliability, tailored to meet your needs. Experience the difference with us.



Jon Tayler
Managing Director

