

PTA PRODUCTION PLANT PURIFICATION PROCESS LINE

Purified Terephthalic Acid (PTA) production is a highly demanding chemical process. High temperatures, elevated pressures, and aggressive media create a challenging environment where valve performance is critical to plant efficiency and continuity. In this complex setting, the AJ Series Triple Eccentric Valves have been selected as the optimal solution for both isolation and control duties.

The PTA purification process involves multiple chemical reactions, including oxidation and purification stages, where operating conditions are particularly severe. The valves must reliably withstand temperatures up to 475°C and pressure classes ranging from ASME Class 150 to Class 900. In addition, they handle a wide variety of media, including steam and inert gases, nitrogen mixed with oxygen and organic compounds, acetic acid, and PTA solid particles.

This demanding combination of high temperature, high pressure, and corrosive substances requires carefully engineered material selection and a robust valve design to ensure tight shut-off, precise control performance, and long service life.

A major PTA producer in China selected the AJ Series as the preferred solution for its PTA purification process line. The AJ Series was chosen due to its friction-free sealing principle, which ensures tight shut-off capability and precise control performance while minimizing seat wear.

Special attention was given to material selection to withstand the corrosion risks inherent to the PTA process. In addition to stainless steel bodies and discs, the configuration includes Duplex and Super Duplex shafts for enhanced corrosion resistance, as well as Monel K500 components and nickel-alloy welding overlay in critical areas. This comprehensive material concept ensures durability and operational integrity even under highly aggressive conditions.

A total of 88 triple eccentric valves of the AJ series were delivered for the project. All valves are pneumatically actuated and manufactured according to a stringent delivery schedule, fully compliant with the latest TSG China certification requirements.

Application

PTA (Purified Terephthalic Acid) Production – Purification Process Line

Challenge

High temperature (up to 475°C), high pressure, corrosive and chemically aggressive media, simultaneous on-off and control requirements

Solution

- Triple Eccentric Butterfly Valve, AJ Series 985, Primary, double Flanged, DN300 up to DN1300
- Triple Eccentric Butterfly Valve, AJ Series 985, Primary, Wafer, DN200 -DN400

