

How ABB helps influence paper properties

AC 800M at the heart of production of fine chemical ingredient in paper



Nanometer calcium carbonate, also known as superfine calcium carbonate, is a chemical compound widely used in the paper industry. With its very fine particle size and microporous properties, nanometer calcium carbonate is useful as a coating agent in papermaking to improve the paper's whiteness and opacity.

Furthermore, it increases paper softness, reduces paper moisture absorption and degree of deformation, as well as improve the paper's ink absorption retention rate. As a raw material, it is cheaper than wood fiber and greatly reduces the use of pulp in papermaking. The special chemicals industry is another industrial application that uses nanometer calcium carbonate.

Shanghai DSSUN Group, founded in 2001, is a producer and distributor of special chemical products. Its main products are papermaking additives, coating and construction material additives, to name a few. Its production plant in Shandong Yanzhou produces 160,000 tons of calcium carbonate annually.

Challenges

At the heart of the operation is the control system. And like the plant that contains it, the control system is old. Its aged condition prevents Shanghai DSSUN from meeting production demand and ensuring product quality.

Snapshot of the benefits of AC 800M

1. Modular AC800M controllers boast a broad set of communication functions as well as redundancy
2. Support for a wide range of I/O systems
3. A common language runtime supports standard IEC61131-3 and other programming languages

Another challenge posted was the application level of Shanghai DSSUN's operators. They required significant support to enhance their abilities to handle or manage the application.

Why ABB?

Shanghai DSSUN wanted a new system to improve production efficiency and product quality. It also looked to reduce labor and operational costs in the long term.

ABB leveraged its references in industrial applications, including pulp and paper applications. The AC 800M controller, under the Compact Product Suite portfolio, was selected for its compact size and competitive price.

The results

The solution includes three AC 800M controllers, one engineering station and three operator stations with third-party HMI iFix, a total of 2,311 I/O signals and S800 remote I/O stations are connected to controllers via Profibus DP.



Workshop in plant

“The system is easy to extend, it has a full range of redundant solution and HMI selection, the engineering efficiency is very high.”

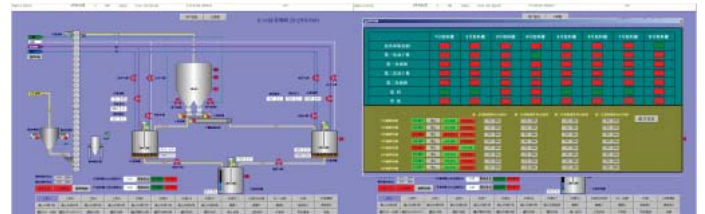
Shanghai DSSUN

The modular AC 800M controller boasts a broad set of communication functions as well as full redundancy and support for a wide range of I/O systems. A common language runtime supports standard IEC 61131-3 and other programming languages.

By using Compact Product Suite solution, Shanghai DSSUN greatly improved not only product quality but more importantly, operational efficiency. With their ability to directly monitor production process data, operators can make decisions on how to improve productivity and maximize resources to run at optimum performance.

Shanghai DSSUN was very satisfied with the ABB local engineering and service capability. The customer said, “The system is easy to expan. It has a full range of redundant solution and HMI selection. As a result, engineering efficiency is very high.”

Production came online in August 2012.



Process graphics for operator

Systems integrator Shanghai Deba Automation Technology Co. Ltd, in partnership with ABB, joined the project engineering and commissioning.



On-site commissioning

Contact us

www.abb.com/compactproductsuite

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