

ARTICLE

Powering the pharmaceutical industry

Power conditioning solutions for the pharmaceutical manufacturing industry.



The pharmaceutical manufacturing industry is an essential component of healthcare systems around the world, as pharmaceutical companies develop and produce a number of medicinal and other health-related products that save the lives of millions of people every year.

Most pharmaceutical production plants are highly automated. Milling and micronizing machines, which pulverize substances into extremely fine particles, are used to reduce bulk chemicals to the required size. These finished chemicals are then combined and processed further in mixing machines. The mixed ingredients may then be mechanically capsulated, pressed into tablets, or made into solutions. One type of machine, for example, automatically fills, seals, and stamps

capsules. Other machines fill bottles with capsules, tablets, or liquids, and seal, label, and package the bottles.

Voltage sags and short interruptions are, by far, the most common types of power quality disturbances and the most frequent causes of disrupted operation of many industrial processes, particularly those using power electronics equipment. Pharmaceutical manufacturing is a highly sensitive process that involves a number of precisely controlled steps, as well as the prerequisite to comply with the stringent sterility standards set by various drug regulatory bodies. Therefore the requirement to source a suitable power protection solution to produce a continuous production output without any interruption is critical.

What are your power protection options?

ABB's power protection product portfolio consists of a comprehensive range of UPSs and power conditioners that can protect the pharmaceutical manufacturing facility from disturbances in the electrical supply.

The PCS100 Active Voltage Conditioner (AVC) is a "battery free" solution designed to correct the most common utility problems, which includes voltage sags, along with swell protection and continuous voltage regulation. The PCS100 AVC-40 provides instant voltage sag and surge correction, ensuring maximum productivity. It offers +/- 10% constant voltage regulation as well as a full correction of 3 phase sags down to 60% of the remaining voltage. The PCS100 AVC-20 is designed for industrial and large commercial operations in environments where an unstable network or utility voltage affects productivity. It ensures a continual, regulated supply of utility voltage where the electric infrastructure is stressed, unstable or unreliable.

The PCS100 UPS-I is tailored towards the demands of industrial applications such as sensitive tools, motors, drives etc. It also provides protection during deep sag and swell events, plus outages lasting between seconds and minutes depending on storage (super capacitors or batteries) and system loading. Payback time for a PCS100 UPS-I is typically less than 12 months as the problems it protects the plant from can be so expensive. The ultra-fast transfer time of less than 2 milliseconds, the exceptionally small footprint – 50 percent smaller than competing solutions, and the long and more economical operating life are also attractive features of the PCS100 UPS-I.

A solid relationship is key

ABB has developed and installed many power protection solutions for the pharmaceutical industry, including Apotex Inc, the largest Canadian-owned pharmaceutical company. A large 4.8 MVA AVC-40 was supplied to Apotex which immediately corrected voltage fluctuations and within six weeks of commissioning it compensated for forty-two events and the total installed cost was paid back within three months.

To find out more about ABB's power protection solutions:

Web: www.abb.com/ups

Email: powerconditioning@abb.com



Additional information

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