

Manufacturing Applications

For ABB Adjustable Speed AC Drives

Frequency converter drive increases a steel mill's production

ABB AC Drives

Objective

In a steel mill, roller tables transport steel profiles between workstations. The production line includes two roller tables between the extruder and the packaging machine. On the first roller table, extruded steel profiles are cut with shears. On the second table, a hot saw finishes the cut of the profiles.

With conventional control systems, optimum speed and accurate positioning of the tables is difficult. Inaccurate and slow control results in poor profile measurement and productivity.

ABB AC Drives improve process control

The roller tables are driven by 82 identical squirrel cage motors, with speed control provided by two ABB AC drives.

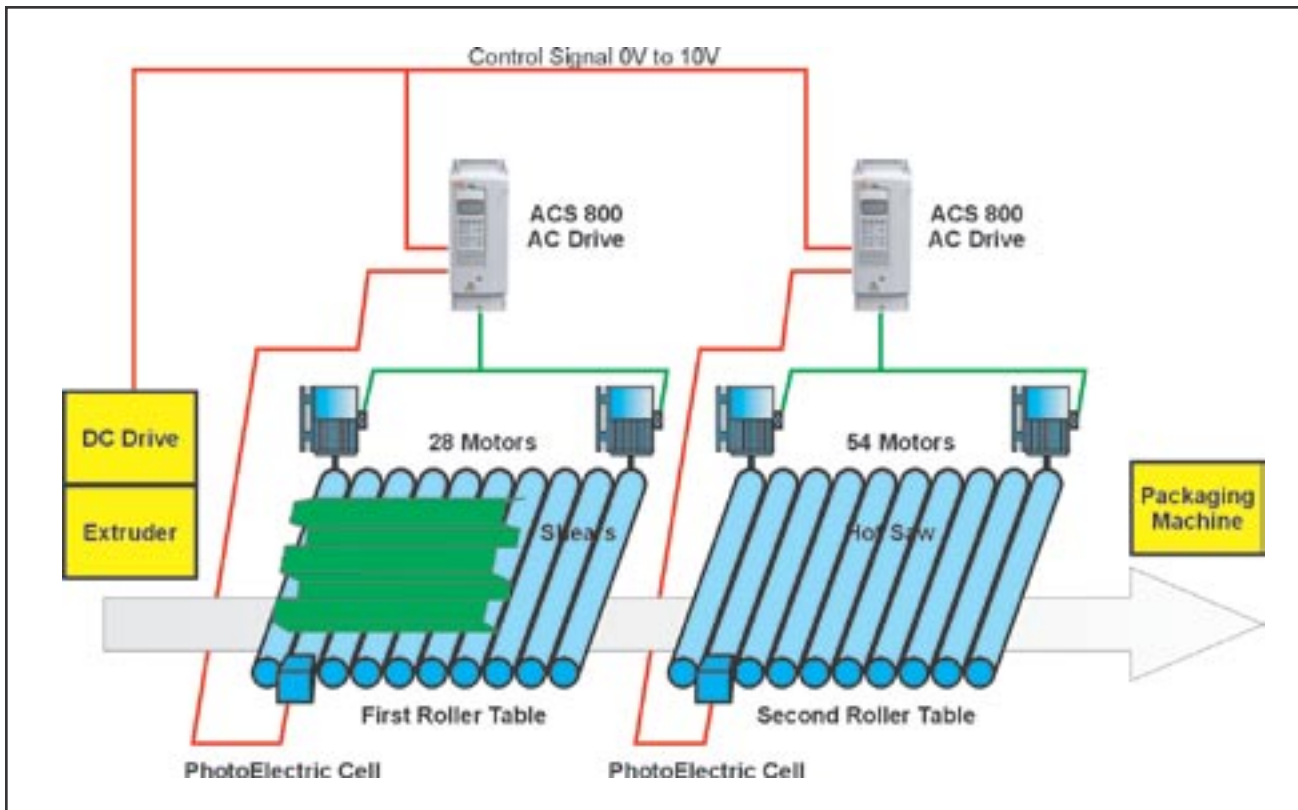
The Drives control the roller tables according to a speed reference signal from the extruder. When a photoelectric cell at the start of the roller table senses the head of a profile coming onto the table, a braking signal is sent to the Drive, which stops the roller table for the profile to be cut to the desired size.

A flexible control system

The extruder at the start of the production line has a DC drive. The user can increase the speed reference signal by up to 20% to ensure the roller tables always operate at optimum speed regardless of the material in production.

The ABB AC Drives' stepless speed control of the roller tables allows the production rate to be easily changed to meet any demand and production plan.





Regenerative braking saves energy

As the Drives stop the second table for profile cutting, the kinetic energy of the table and steel profile during braking is converted, through the motors and the ABB Drive, into electrical energy which is fed back into the supply network.

Normally, about 200 profiles pass the roller tables every hour, with approximately one braking action every 18 seconds. Under these conditions, the regenerative braking provided by the ABB drives produces considerable energy savings.



Total Customer Satisfaction

The quality of ABB drives is backed by a company-wide commitment to total customer satisfaction. ABB's 24-hour customer support line, plus an extensive sales and service network, provide a wealth of drives applications expertise and personalized assistance that will ensure your continued success.

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