BONITRON

Aggregate & Cement

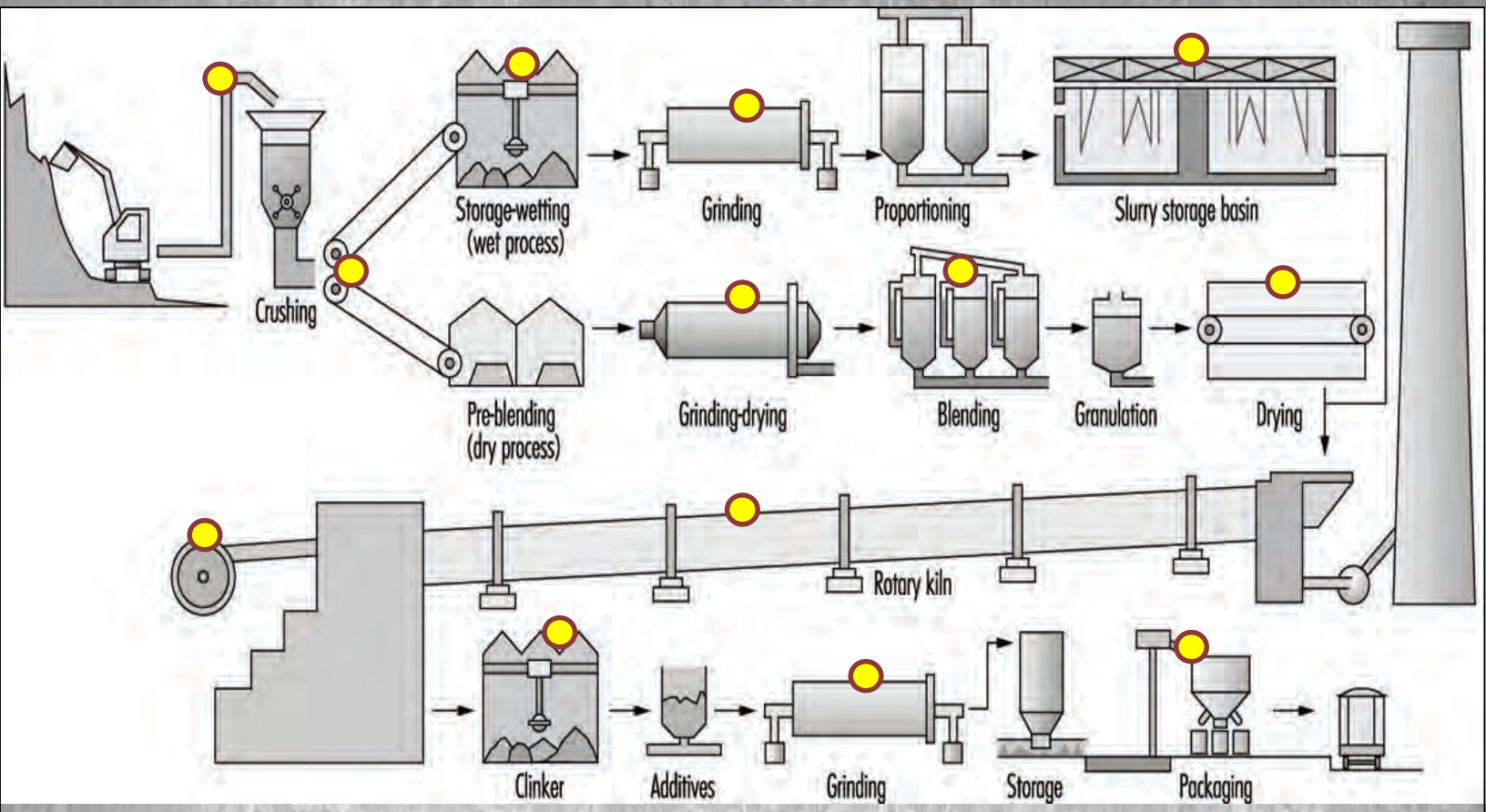
- *Enhance AC drive and process reliability.*
- *Maximize uptime with Bonitron UPDs.*
- *Save energy with Line Regen.*
- *Reduce cost, wiring, component count with Common DC Bus*

Products

Braking Resistors
Braking Transistors
Power Supplies
Sharing Diodes
Line Regeneration

Mixing
Conveyors
Rotary Kilns
ID Fans
Separators
+ More!

Typical Applications



- Potential locations for applying Bonitron's Dynamic Braking and\or Line Regeneration modules.

* Conveyors get used continuously in the cement making process. Both with handling raw and finished material.

* Induced Draft Fans are used to control air flow.

* Kiln; is a long cylinder rotating about its axis once every minute or two. The axis is inclined at a slight angle, the end with the burner being lower. The rotation causes the raw meal to gradually pass along where it enters at the cool end, to the hot end where it eventually drops out and cools.

Separators

A large rotating drum that separate fine particles from coarse particles. Starting and stopping are done using VFD's.

Line Regeneration
- M3545
- M3645

Braking Transistors
- M3452
- M3675T
- M3575T

Braking Resistors
- M3775R

Mixers

Mixers blend limestone, shale, fly ash, and bauxite. VFD's start and stop the mixing process.

Braking Transistors
- M3452
- M3675T
- M3575T

UPD Ride-Thru
- M3460R

3-Phase Power Supplies
- M3713

Rotary Kilns

VFD's provide controlled torque and speed to the kiln. Kiln's are huge rotating furnace often called the heart of cement making process.

Braking Resistors
- M3775R

Braking Transistors
- M3452
- M3675T
- M3575T

Conveyors

Conveyors carry limestone from the quarry to the cement plant. After the manufacturing process conveyors carry the material to the storage silos.

Line Regeneration
- M3545
- M3645

Braking Transistors
- M3452
- M3675T
- M3575T

Braking Resistors
- M3775R

ID Fans

Fans in the cement industry are heavy duty and perform two basic functions. This is to supply air or removal of exhaust gases and material handling. VFD's provide starting and stopping.

Braking Transistors
- M3452
- M3675T
- M3575T

3-Phase Power Supplies
- M3713

Finishing Mills

Cement Mills is the equipment used to grind the hard, nodular clinker from the cement kiln into that fine grey powder that is cement.

Line Regeneration
- M3545
- M3645

Braking Transistors
- M3452
- M3675T
- M3575T

Undervoltage Solutions

Bonitron Undervoltage Ride-Thru Solutions, also know as Uninterruptible Power for Drives, include a DC Voltage Regulator (M3534) that monitors the drive. If the drive voltage sags or disappears, the Voltage Regulator becomes active and provides power to the DC bus. This allows critical processes to never see the disturbance and can continue operating at full power. Thanks to Bonitron's parallel connection, very low standby power and long product life can be expected.

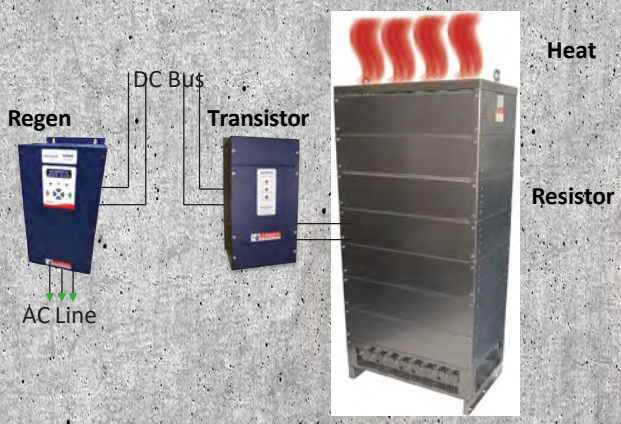
Overvoltage Solutions

Whether you use a transistor and resistor or a regen is dependent on the application and a cost benefit analysis. Using a transistor and resistor combination is typically less expensive on the front end, but it has a larger footprint and extra energy must be expended to cool the room housing the resistors. A regen costs more up front but saves on operating costs and can ultimately pay for itself over time. The regen also has a smaller footprint and requires significantly less cooling of the control room. Each is suited to different applications and Bonitron will work with you to find the best solution for your application.

Braking Transistor
- M3452
- M3575T
- M3675T

Braking Resistor
- Case Resistors
- M3575R
- M3775R

Line Regeneration
- M3545
- M3645



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