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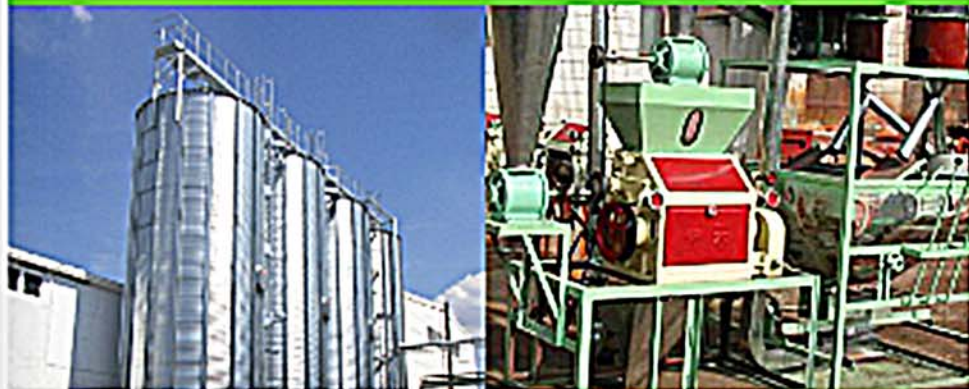
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## Hardy Process Solutions increases flour mill productivity with improved flow and feed rate

How Hardy's HI 4050 weigh controllers improve process efficiency

A large global processor and exporter of grains and oilseeds was experiencing inconsistencies in timing for discharging wheat from a scale hopper, which resulted in an inconsistent flow rate. If the scale hopper was filled prior to the period set in the flow rate, the dump gate was delayed until a timer ran out. If the feed rate to the scale hopper was slow and the timer ran out prior to the draft load being satisfied, the dump gate would open only after the set point had been reached and the actual weight of the draft recorded. These inconsistencies in material flow and feed rate were slowing production, creating waste, and causing variations in actual weight.

### The Solution

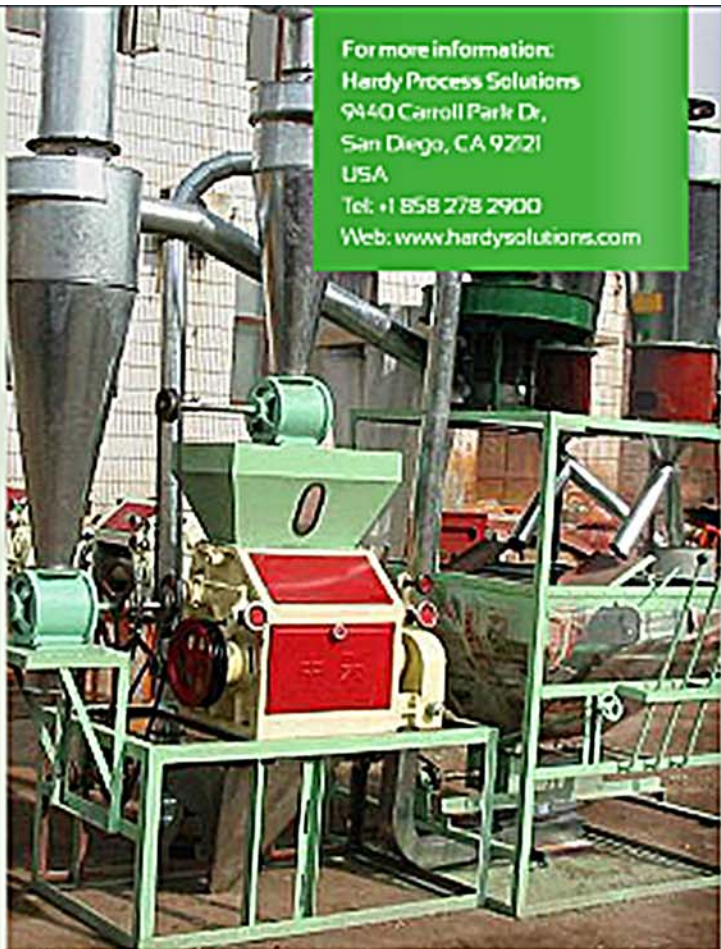


Hardy Process Solutions recommended utilizing five HI 4050 weight controllers in the flour mill. The variables recorded by the HI 4050s include time start, total weight accumulated, and actual flow rate in tons per hour. These variables are monitored on a PC via the HI 4050's embedded web server and on a Microsoft Excel spreadsheet utilizing a utility provided by Hardy.

The first scale weighs dirty wheat at a set flow rate. This is achieved by timing the discharge of the hopper. The dirty wheat is cleaned and processed, then held in a silo that feeds the second scale. The same variables are recorded. However, the flow rate on this scale is important since it sets up the flow rate to the flour mill. If the mill is fed too fast the line backs up, if too slow, the mill will scorch flour. The remaining three scales are used to receive the flour from the mill. On the three flour scales, the flow rate measured is the actual rate of flour from the mill (in other words, we take the flour as fast or as slow as the mill will give it).

With the data from all five scales, the customer is able to calculate the yield from stage to stage. The change in flow rates alerts the millers to possible mill problems, which they can immediately investigate.

The MS Excel utility proved crucial for the system. Once the



For more information:  
Hardy Process Solutions  
9440 Carroll Park Dr,  
San Diego, CA 92121  
USA  
Tel: +1 858 278 2900  
Web: www.hardysolutions.com

SAP system is brought on line globally, the data in the Excel spreadsheet utility can be viewed in real-time at a central location.

Installation of the five HI 4050 weight controllers provided this mill the following benefits:

- Consistent flow and feed rates
- Improved production
- Minimized waste
- Accurate weight readings

The HI 4050 weight controller includes Hardy's core technologies:

- **WAVERSAVER®** - eliminates the effects of unwanted vibration on or around the scale by permitting the instrument to "see" through the unwanted vibration signals - as low as 0.25Hz while yielding a fast and stable actual reading.
- **Electronic Calibration** without the need for test weights - C2® enables a fast, accurate, electronic calibration of the scale. This saves system start-up costs and aggravation.
- **Secure Memory Module** with Secure Digital (SD) card (SMM® - SD), which allows manual transfer of configuration data to another instrument or PC using SD technology

• **INTEGRATED TECHNICIAN® (IT)** for system diagnostics and troubleshooting - In conjunction with an IT® Junction Box, the controller provides built-in system diagnostics that let you troubleshoot and diagnose your weighing system right from its front panel, your intranet, or the Internet. Read individual load sensor voltages and weights, make comparisons, verify the scale zero and isolate individual system components for quick and easy troubleshooting.

The HI 4050 weigh controller can act as a front end to a PLC, PC or DCS system, or as a stand-alone for simple control or weight monitoring. Only three inches deep, the HI 4050 general-purpose weight controller is used in tank farm, batching/blending, filling/dispensing, check weighing, level by weight, and force measurement applications.

To meet your specific installation needs, the HI 4050 is available with AC or DC power and in panel, remote or blind DIN rail mounting packaging configurations. Installations are simplified with no special tools required to cut rectangular holes. Just use the included template to drill standard holes and install. The controller includes a standard Ethernet 10/100 Base T with an embedded web server and an RS 232 printer or scoreboard display port. Optional network communications over Ethernet/IP, DeviceNet, Modbus TCP or Analog are also available.

**Ease of Setup** - With its embedded web server, all the instrument's parameters can be set up from anywhere on the Ethernet network. Front panel keys and graphic display with simple menus provide quick, easy setup with process weight and parameter display.

**Accessibility** - The embedded Ethernet communications port in the HI 4050 Series weight controller enables users to easily share data across a production facility, eliminating the time and costs associated with new network wiring. The embedded Ethernet Web server also gives users remote access to control information, instrument parameters and diagnose problems, further optimizing production efficiency by sharing real-time data on the plant floor with OEM partners or off-site maintenance personnel.

**Expandable Secure Memory Module (SMM®-SD)** - rear panel accessible SMM is more than just a memory card. It's a network media that connects SD enabled products. The SMM now uses a standard Secure Digital (SD) memory card, which allows easy expansion, transfers of data from one instrument to another and is readable by your PC.

**100 Updates per Second** - Provides more data for faster applications but not too much data that is of no use to the system.

Hardy Process Solutions has been a leader in weighing solutions for over 85 years and is best known for its innovative approaches to precision weighing solutions and vibration monitoring equipment. An ISO 9001-certified manufacturer, Hardy Process Solutions is based in San Diego, California. For more information about Hardy Instruments, please visit,

[www.hardysolutions.com](http://www.hardysolutions.com)



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As well as looking at events and shows we look at companies involved in agriculture, food production and animal production as well as the feed industry and veterinary aspects of farming and agriculture.

The blog runs side by side with our online resource Global Milling Annual. Publishing press releases from key companies and key figures in the agriculture world, books releases and information from global sources. As well as looking at the ever-changing face of agriculture, through GMO's, research and other innovative approaches to agriculture.

Another aspect of the agriculture world is the ever-changing effect of climate change on the industry, and as natural disasters occur, such as droughts, floods, hurricanes we keep you updated.

Contact Martin ([mlittle@globalmilling.com](mailto:mlittle@globalmilling.com)) with your latest news!