MetalsMaster integrated solutions for sheet and foil rolling achieve higher speeds, tighter gauge quality, improved flatness and higher yields.

**Product Brief**
Automatic Flatness Control (AFC) provides a supervisory control of multiple actuator sets to maintain the measured strip cross-directional flatness at the target settings. Depending on mill and operating mode, the actuators will include combinations of work roll coolant spray flows, roll bending, mill tilt (differential roll gap or rolling load) and variable-crown roll. AFC involves managing a complex set of interactions between thermal and mechanical actuators. MetalsMaster does this and, due to the seamless integration of AFC with Automatic Gauge Control (AGC) in MetalsMaster’s high-speed real-time controller, can manage interactions between AGC and AFC variables for total mill optimization.

**Features and Benefits**
- Closed-loop control of strip flatness using any combination of coolant sprays, mill tilt, roll bending and variable crown rolls, plus Edge Calcoil which assists with edge flatness control.
- Multi-Variable modeling isolates various mechanical and thermal actuators including bend, tilt and sprays.
- Available variable-crown (VC) roll controls provide enhanced flatness control performance, especially during transition operations of the mill, such as when changing widths or thickness requiring time to stabilize at a new thermal equilibrium in the mill rolls.
- Interface to common shapemeters, including solid-roll and air-bearing designs. Profibus, TCP/IP or hard-wired interfaces are available.
- Available interface to common spray bars, via Profibus or analog signals
- Integrated with AGC for optimization of speed consistent with good gauge and flatness quality
- Intelligent pulse width modulation of spray solenoids emulates flow control with minimal disturbance to coolant supply pressure
• Optional Coolant Temperature and Pressure controls
• Available manual spray panel for remote operation of coolant spray flows.
• Single-window AFC Operator Interface
• Total Mill Optimization by optimizing bending, sprays levels and load to achieve the fastest mill speeds

**Edge Flatness Control - Calcoil**
• Provides localized precision heating of work rolls near the strip edges, without contacting either the rolls or the strip
• Fast response for instantaneous correction of flatness errors
• Rapid correction of work roll thermal profile when changing widths or passes
• Eliminates the need to use edge “hot oil sprays”
• Significant energy savings versus edge hot oil sprays
• Improves flatness quality
• Reduces strip breaks for higher yields, reduced splices and higher productivity via increased rolling speeds.

**Description**
**High Performance**
MetalsMaster utilizes a high-performance controller with real-time operating system to provide cycle times as fast as 1 ms.

**Flexible Applications**
Multiple I/O methods include analog (hard wired), Profibus DP, TCP/IP links and customized communications to most common spray bars and shapemeters.

On-screen engineering tools allow engineers to monitor and/or modify I/O assignments, optimization and control parameters, quality data, control mode selection and fault conditions and diagnostics.

**For More Information**
Learn more about how Honeywell’s MetalsMaster integrated solutions can help you achieve improved quality and higher yields, visit our website [www.honeywellprocess.com](http://www.honeywellprocess.com) or contact your Honeywell account manager.

**Honeywell Process Solutions**
Honeywell
1250 West Sam Houston Parkway South
Houston, TX 77042

Honeywell House, Arlington Business Park
Bracknell, Berkshire, England RG12 1EB

Shanghai City Centre, 100 Junyi Road
Shanghai, China 20051

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

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**Enhanced Visibility**

Real-time, intuitive human-machine interface (HMI) provides instant visibility into mill operating state, AGC and AFC performance, trends, alarms and process information so operators know what’s happening and can take quick action in the event of abnormal situations.

**Easy Configuration**

Alloy Recipe Handling - Product information for sensor calibration and control tuning parameters are stored by alloy and gauge thickness in easy-to-manage recipes.