



AW-LAKE
PROCESS FLOW MEASUREMENT



APPLICATION SPOTLIGHT

Clamp-On Ultrasonic Flow Meters Improve System Insight in Steel Mill Cooling Loops



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APPLICATION:

Steel mills depend on high-volume cooling water systems to protect critical equipment in furnace, casting, and rolling operations. These systems circulate large volumes of water through large-diameter piping, branch circuits, heat exchangers, and recirculation loops to remove heat and maintain stable operation.

Reliable flow is essential. If cooling water does not reach each point at the required rate, the result can be overheating, thermal stress, reduced equipment life, and unplanned downtime.

Accurate flow measurement helps engineers and plant managers verify system performance, balance circuits, identify restrictions, and confirm that critical assets are receiving proper cooling.

PRODUCT SUPPLIED:

- AW-Lake Clamp-On Ultrasonic Flow Meters

CHALLENGE:

The customer had limited visibility into actual flow rates across the cooling water system. Water was circulating, but there was no reliable way to confirm whether each loop and branch was delivering the flow needed to protect critical equipment.

As these systems age, scaling, fouling, pump wear, and line restrictions can reduce flow or shift it unevenly through the network. Often, the

problem is not detected until temperatures rise, performance drops, or equipment is put at risk.

Installing traditional inline flow meters was not practical. These cooling systems operate continuously, and cutting into large-diameter pipe would require shutdowns, mechanical rework, permits, and added installation cost.

SOLUTION:

AW-Lake Clamp-On Ultrasonic Flow Meters gave the plant real-time flow measurement without cutting pipe or shutting down operations. Mounted on the outside of the pipe, the sensors were installed quickly and safely with no process interruption.

Installation was completed in less than two hours per point. This allowed the customer to add measurement at key locations throughout the cooling system without invasive modifications.

With real-time flow data, the plant could verify cooling performance, confirm flow rates, and identify underperforming circuits before they created larger problems. The meters also helped reveal issues tied to scale buildup, restricted lines, and declining pump performance.

The result was better control of the cooling system, improved process reliability, lower installation risk, and a stronger foundation for proactive maintenance. The plant also gained insight needed to improve system efficiency.